



**Asian Bond Markets Initiative
Group of Experts (GoE) Report
for Task Force 4**

**April 2010
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Asian Development Bank

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Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel: +63 2 643 4444
Fax: +63 2 636 2183
GoE website: <http://asean3goe.adb.org>
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Preface

The Group of Experts on Cross-border Bond Transactions and Settlement Issues (GoE) was established in 2008 by the Asian Bond Markets Initiative (ABMI). While pursuing the overarching goal of developing regional bond markets in ASEAN+3, ABMI has been deliberating how to improve the cross-border bond settlement infrastructure and produced various policy reports, including “Minimizing Foreign Exchange Settlement Risk in the ASEAN+3 Region” (ADB TA Report 6338). This report put forward for consideration three options for a regional settlement intermediary (RSI) and suggested organizing a group of market experts for further investigation of these options. In late 2007 the ABMI decided to form the GoE and each ASEAN+3 country was invited to nominate one or two institutions to represent its own local market. Two missions were given to the GoE: 1) to evaluate the feasibility, particularly the business case, of selected RSI options and 2) to identify the barriers to cross-border bond transactions and settlement in the region.

In April 2008 the GoE national members held the first meeting in Kuala Lumpur, Malaysia. The national members elected Republic of Korea, represented by the Korea Securities Depository, as chair. They decided to invite international players in the settlement industry, mainly ICSDs and global custodians, to join the GoE. A number of global custodians, based on their presence in the region, were invited to join, together with two ICSDs (Clearstream and Euroclear) as ‘international members’. The ADB, secretariat to the ABMI, was also invited and agreed to join the GoE, providing secretariat and technical supports. The institutions participating in the GoE were as follows.

<i>National Members</i>	<i>International Members</i>
People's Republic of China China Government Securities Depository Trust and Clearing Monetary Authority of Hong Kong, China (HKMA)	Asian Development Bank
Indonesia Indonesia Clearing Guarantee Corporation (KPEI) Indonesian Central Securities Depository (KSEI)	Citibank CLS Group Clearstream Euroclear Bank J.P. Morgan Mizuho Corporate Bank
Japan Japan Securities Depository Center Merrill Lynch Japan Securities	Standard Chartered Bank
Republic of Korea Korea Securities Depository	S.W.I.F.T.
Lao PDR Bank of the LAO P.D.R. and Securities Market Establishment Committee	
Malaysia CIMB Investment Bank Deutsche Bank, Malaysia	
Philippines Deutsche Bank AG, Manila Philippine Securities Settlement Corporation	

Singapore

Singapore Exchange
United Overseas Bank

Thailand

Thailand Securities Depository
Bangkok Bank

Viet Nam

Viet Nam Securities Depository

In July 2008, the GoE held its second meeting in Seoul, attended by the international as well as the national members. Two working groups, the 'RSI' group and the 'Barrier' group, were formed. Since then, until the end of 2009, GoE met every quarter to consider and approve discussion materials produced by the two working groups. The RSI group was responsible for evaluating the feasibility of RSI options while the Barrier group worked on identifying barriers to cross-border transactions and settlement in the region. To provide background information, the RSI group also attempted to estimate cross-border bond settlement costs in ASEAN+3.

The interim results of GoE activities were made public in June 2009 at the Asian Bond Clearing and Settlement Conference 2009 held in Hong Kong, China which was supported by the Monetary Authority of Hong Kong, China (HKMA). The estimated cross-border bond transaction costs and the identified barriers were reported at the conference. Also, the operational specification of the RSI options and the implications of the RSI options on cross-border transaction costs and risks were presented. Overall feedback obtained through the conference confirmed that the methodology used by the GoE was reasonable, and that the interim results were plausible.

The final results of the GoE work are presented in this report. PART I contains the result of the estimation of cross-border transaction costs in ASEAN+3. PART II discusses the results of the feasibility study of the RSI options and presents recommendations for the next step. Finally, PART III presents the list of major barriers to cross-border bond transactions and settlement and a set of recommendations to address them. Although the three parts are interrelated, each covers a topic independent enough to be discussed separately. Thus, each part carries its own introduction and summary. Also policy recommendations are formulated separately for the RSI and the barrier study and contained in PART II and PART III.

Though there existed a conceptual division between the two groups, all the GoE members were requested to participate and were willing to contribute equally to the two working groups. Therefore, this report should be regarded as the result of the concerted efforts of all the GoE members. The contributions of KSD and JASDEC, the leader of the RSI and the Barrier group respectively, are gratefully acknowledged. Also the secretariat and technical support provided by ADB, and mediated by Mr Satoru Yamadera, is gratefully acknowledged. Finally, it should be noted that no part of the report represents the official views of any institution which participated as a GoE member.

April 2010

ABMI Group of Experts
Final report

Part I
Estimation of Cross-Border Bond
Transaction Costs in ASEAN+3

April 2010

Group of Experts (GoE)

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Acknowledgements

The generosity of those custodian banks which provided their fee schedules for this study is gratefully acknowledged. Respecting the confidential nature of the data, we do not disclose their identities.

I. Introduction

1. The purpose of this study is: 1) to survey cross-border bond transaction costs in ASEAN+3 countries; 2) to compare these costs to those prevailing in other regions; and 3) to identify possible causes for the current situation. As part of its task of formulating recommendations to improve the efficiency of cross-border bond transactions and the settlement-related environment in the ASEAN+3 region, the Group of Experts (GoE) decided to examine transaction costs as one of the initial steps. Transaction costs are one measure of market efficiency. Therefore, analyzing the level of transaction costs in the region, in comparison to more developed markets, provides a way to assess the efficiency of current cross-border transaction and settlement arrangements in the region.

2. The EU experience illustrates the importance of assessing transaction costs as a tool for forming a public consensus on how to improve market environment and infrastructure. For example, the Giovannini Report (2001) and the T2S (Target 2 Securities) project justified their reforming proposals on the grounds that transaction costs would be reduced. In contrast, it is hard to find any study which systematically estimates cross-border transaction costs for the ASEAN+3 region. In fact, as far as we know, this study is the first attempt to estimate cross-border bond transaction costs in the region¹.

3. The survey results show that cross-border bond transaction costs in the ASEAN+3 region are generally higher than those of the US or the EU (for example, in Germany). Even within the ASEAN+3 markets, considerable variation is found across countries. The study provides some possible explanations on why cross-border transaction costs are higher in the region. Possible reasons include: 1) the technology of the custodian industry; 2) the general operational efficiency of each national market; 3) country-specific regulations; and 4) regional policy coordination. The rest of the paper is structured as follows: in Section I, the methodology used to estimate transaction costs is explained; Section II presents the key findings; and Section III discusses why cross-border transactions costs are higher in the ASEAN+3 region than in the US and the EU.

II. Methodology

A. Top-Down vs. Bottom-Up Approach

4. Two approaches can be used to measure cross-border transaction costs: top-down or bottom-up. The top-down approach estimates cross-border transaction costs by computing an average price charged by the settlement industry on the basis of overall industry data. Among existing studies, ECB (2008) provides an example of this approach. The bottom-up approach estimates cross-border transaction costs by identifying the standard cost that a typical cross-border transaction incurs. Among existing studies, Clearstream (2002) provides an example of this approach, although its focus is on equity transactions. Each of the two approaches has its pros and cons, which may be summarized as follows:

¹ ADB (2005) reviewed global custody fees, but this was limited to Japanese customers.

Top-Down

- Singular view of data
- Requires transparency of relevant market infra data
- Markets and data should be comparable/compatible
- Result is one number that may not easily be compared against peer data

Bottom-Up

- Allows multiple views of data
- Requires access to individual fee components in given market(s)
- Allows for diversity in markets and transactions studied
- Generates multiple outcomes most of which can easily be compared against peer data

5. In this study, we chose to employ the bottom-up approach, for the following reasons:

- a. The ASEAN+3 markets are far more heterogeneous than the European or US markets, and the bottom-up approach was judged to be significantly more beneficial for dealing with a number of diverse environments.
- b. There is no common currency among ASEAN+3 countries, contrary to the situation in the EU or in the US; thus, the required data may not be available in comparable formats (here: currency and market standards). This could subject a top-down approach to significant data variations from foreign exchange conversion rates.
- c. Cross-border bond transactions can be tracked only between selected markets. There is no equal participation by countries and investors across all ASEAN+3 markets. The bottom-up approach looks at each country's individual market data only, and then puts all markets in perspective.
- d. The data required for a top-down approach, such as industry-wide transaction volumes and profit margins, may not be available across the region as a whole. In contrast, access to fee information in individual markets was good, due to the standing of the GoE members and the market contacts of the consultants.

B. Definition of Transaction Costs

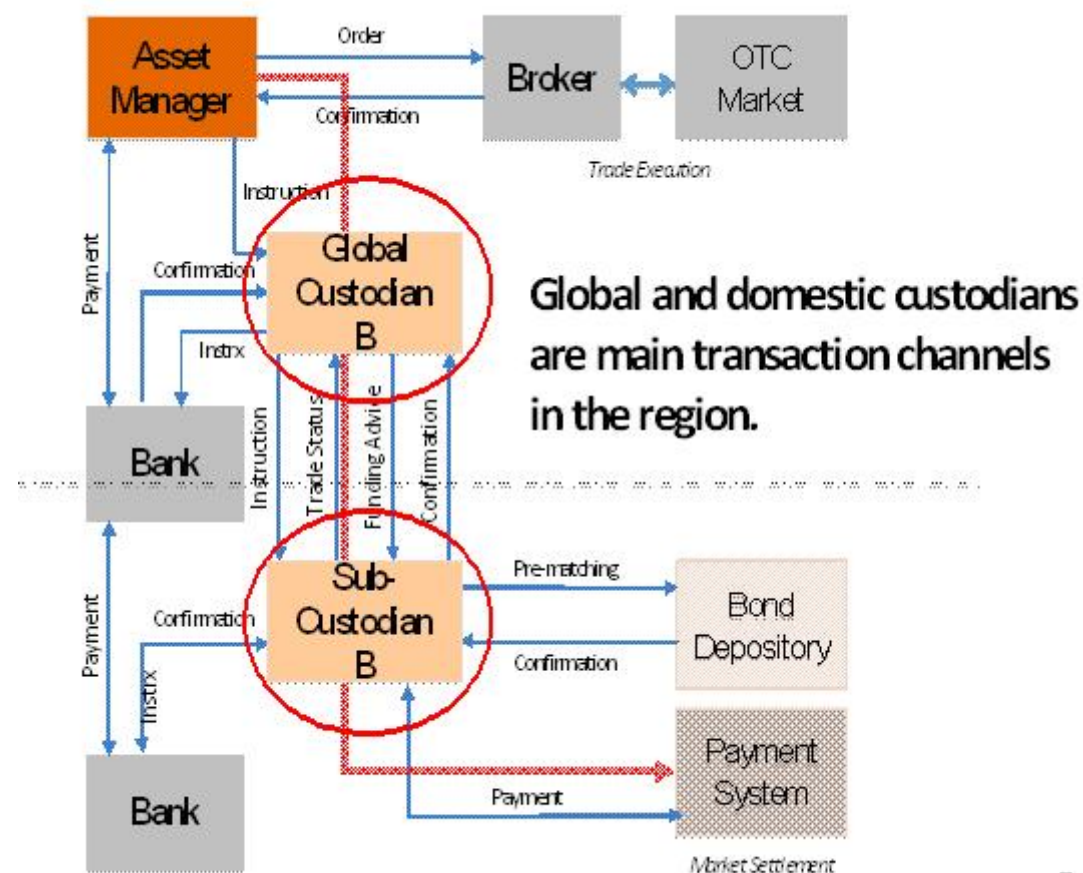
6. Completion of a single cross-border bond transaction in the ASEAN+3 region requires execution of a series of sub-transactions: the trading of the bonds, foreign exchange conversion, settlement and custody. Since each sub-transaction eventually incurs a cost to the end investor, the cost of the cross-border bond transaction should be defined as the sum of all sub-transaction costs. This study, however, focuses only on the costs of settlement and custody, reflecting the scope of the GoE mission. Throughout the remainder of this report, 'transaction cost' will mean the cost of settlement and custody services, unless otherwise defined.

C. Identification of the Prevailing Cross-Border Bond Transaction Channel

7. The bottom-up approach requires identification of the typical channel prevailing in the region for cross-border bond transactions. Market consultations confirmed that most cross-border bond transactions in the region are settled through global custodians (Figure 1). However, in Europe, most cross-border bond transactions are settled through the International Central Securities Depositories (ICSDs) Euroclear and Clearstream, while the global custodian channel plays a minor role.

8. In serving cross-border investors, global custodians appoint domestic (local) custodians in each market in order to deal effectively with local regulations and practices (Figure 1). As a result, global custodian fees include domestic custodian fees. Despite this, we collected domestic custodian fees separately. This was partly because domestic custodians can also function as an independent cross-border transaction channel. Domestic custodians may have direct relationships with foreign clients, such as large institutional investors, and so directly settle their cross-border transactions. More importantly, we hoped that we could gauge the reliability of the collected data by comparing the two data sets.

Figure 1: Cross-Border Trading through Global Custodians



D. Definition of Custodian Fees

9. Global custodians provide various value-added services, such as securities lending, collateral management, and fund administration, in addition to the traditional transaction and safekeeping services. Since the latter two services constitute the core custody services required for completing cross-border bond transactions (Table 1), our examination of custodian fees focused only on those charged for transaction and safekeeping services, ignoring fees for other ancillary services. Reflecting this, 'custodian fees' in the remainder of this report will mean either transaction fees or safekeeping fees. In other words, this report takes the costs of cross-border bond transactions as being custodians' transaction fees and safekeeping fees. We provide specific definitions of custodian transaction fees and safekeeping fees as follows:

**Table 1: Custodians' Transaction and Safekeeping Services
(Detailed Composition)**

Fee Type	Underlying Cost Factors
Transaction Fee	<ul style="list-style-type: none">• Settlement activities, incl.<ul style="list-style-type: none">• Transaction capture, processing• Pre-matching, matching efforts• Transaction reporting (e.g. SWIFT MT548)• Applicable CSD charges related to transactions
Safekeeping Fee	<ul style="list-style-type: none">• Safekeeping of assets• Asset Servicing (incl. corporate actions)• Client Services<ul style="list-style-type: none">• Account maintenance• Documentation• CRM• Applicable CSD charges relating to assets• Operations resources• Technology cost (e.g. SMAC, interfaces)

10. **Transaction Fee** – charged per individual transaction, or trade, by the custodian or settlement intermediary for the service of settling in an organized market (via a Central Securities Depository) or directly with counterparties, based on a client instruction or broker contract note. The transaction fee is intended to defray the direct settlement costs of the custodian, including instruction capture and processing, securities position or cash balance verification and pre-matching.

11. **Safekeeping Fee** – charged on the value (or volume) of the portfolio that clients maintain with the custodian or settlement intermediary, typically at the end of a month or accounting period, for the service of safekeeping (in either physical or electronic, book-entry form) and reporting on the clients' assets. The portfolio fee or safekeeping fee is intended to defray general service and infrastructure costs; these costs relate to technology and banking infrastructure, but also to asset servicing and the client services team. Asset servicing includes the processing of corporate actions, including verifying whether individual transactions have a bearing on eligible client

positions, and the disposal of income proceeds (as a separate transaction). The client service team contacts clients when clarification on transactions is needed, and in cases of position shortfalls, and tends to communicate transaction reporting to clients.

E. Data Collection Procedure

12. Custodians maintain standard fee schedules which reflect the market and the size of the client mandate². However, these fee schedules are not disclosed as they are considered one of the custodian's core business strategies. Given this secrecy, our study relied on individual consultation with custodians operating in the region. We selected institutions based on their established presence and service scope in the target markets or, in the case of global custodians, for their coverage of markets in the region.³

13. To ensure consistency across the sample, we took care to obtain fee quotes for a standard client mandate. We also collected fee data from three different information sources for each market (except for the People's Republic of China). The survey was conducted from December 2008 to mid-March 2009, and so the collected data reflects the market conditions at the time. Once collected, the data was checked with Clearstream and Euroclear, if their fee schedules for the relevant markets were available. For global custodians, we checked that they were not using the same sub-custodians. Finally, we validated the data by asking GoE members whether the collected fee levels were plausible based on their experiences⁴. Although the sample size is small, we believe that the data is reasonably representative of recent market conditions in the region.

III. Results of the Survey

A. Raw Data

14. Tables 2 to 5 present raw data from the survey of custodians. Some fees were quoted as a range, in which case we took the mid-point in computing a market's mean and variance. Custodians charge safekeeping fees by multiplying pre-determined rates with the sizes of assets under custody. In contrast, they compute transaction fees by applying a flat nominal price per transaction. Reflecting market practices, safekeeping fees are reported in basis points (bp), while transaction fees are in USD. As would be expected, global custodian fees are generally higher than domestic custodian fees. However, for the US, some domestic custodian transaction fees appear to exceed some global custodian transaction fees. These are clear

² From the data collection, investor domicile did not appear to be a significant factor for the fee level. Instead, large mandate size, specific service level and overall business relationship tended to be the main factors. In our survey, such client-specific factors were excluded.

³ For business confidentiality reasons, the information sources cannot be disclosed.

⁴ As an interim step, we held the Asian Bond Clearing and Settlement Conference 2009 in Hong Kong, China on 24 June, 2009, and presented our methodology and data. The data was regarded as reasonable by the participants.

anomalies, since domestic custodian fees are included in global custodian fees. Nonetheless, we have kept them in the sample since we could not identify the reasons for the anomaly.

Table 2: Global custodian safekeeping fees (basis points)

	Quote 1	Quote 2	Quote 3	lowest	Highest	Spread (H-L)
PRC	5.0-7.0			5.0	7.0	2.0
Hong Kong, China	3.0-3.5	2.5-3.0	2.0	2.0	3.5	1.5
Indonesia	12.5-15.0	11.0	8.0	8.0	15.0	7.0
Japan	1.0-2.0	2.0	1.5	1.0	2.0	1.0
Republic of Korea	8.0-10.0	5.0-8.0	3.0	3.0	10.0	7.0
Malaysia	4.5-6.0	7.0	4.0	4.0	7.0	3.0
Philippines	5.5-7.0	8.0-10.0	5.0	5.0	10.0	5.0
Singapore	2.0-5.0	3.0	3.0	2.0	5.0	3.0
Thailand	4.5-5.5	6.0	3.0	3.0	6.0	3.0
Viet Nam	10.0-12.0	20.0	70.0	10.0	70.0	60.0
Germany	0.21-1.35	3.0	1.5	0.21	3.0	2.8
United States	0.30-1.20	1.0	1.5	0.3	1.5	1.2

PRC = People's Republic of China

Table 3: Global custodian transaction fees (USD)

	Quote 1 ⁵	Quote 2 ⁶	Quote 3	lowest	highest	Spread (H-L)
PRC	50-65			50	65	15.0
Hong Kong, China	20-45	29.7	20	20	45	25.0
Indonesia	60-110	65.9-72.5	60	60	72.5	12.5
Japan	15-30	23.1	15	15	23.1	8.1
Republic of Korea	25-30	33.0	30	25	33	8.0
Malaysia	30-40	85.7	40	30	85.7	55.7
Philippines	55-75	52.7-89.0	60	52.7	89	36.3
Singapore	25-45	29.7-46.1	30	25	46.1	21.1
Thailand	50-75	65.9	35	35	75	40.0
Viet Nam	40-50	131.8	225	40	225	185.0
Germany	2.2-9.3	33	25	2.2	33	30.8
United States	9.3-15.79	16.5	10	9.3	16.5	7.2

PRC = People's Republic of China

⁵ The original fee data for Germany and US were denominated in Euro. The fees were converted into USD using the rate EUR/USD=1.3671 (as at 19 March 2009)

⁶ Where transaction fees were quoted in local currencies, conversion into USD was effected at the central bank FX rates on 19 or 20 March 2009.

Table 4: Domestic custodian safekeeping fees (basis points)

	Quote 1	Quote 2	Quote 3	lowest	highest	Spread (H-L)
PRC		2.5				
Hong Kong, China	2.0-4.0	0.4-3.0	5.0	2.0	5.0	3.0
Indonesia	5.0-6.0	3.4	3.0-6.0	3.0	6.0	3.0
Japan	1.0-2.0	0.4-1.0		0.4	2.0	1.6
Republic of Korea	1.5-4.0	1.75-4.0	5.0	1.5	5.0	3.5
Malaysia	3.0-4.0	2.4	3.0	2.4	4.0	1.6
Philippines	5.0-6.0	3.75	5.0	3.75	6.0	2.3
Singapore	2.0-4.0	1.9	1.0-1.5	1.0	4.0	3.0
Thailand	6.0-9.0	4.0	5.0	4.0	9.0	5.0
Viet Nam	6.0-10.0	9.0	10.0-20.0	6.0	20.0	14.0
Germany	0.40-1.4	0.4		0.4	1.4	1.0
United States		1.0	3.0			

PRC = People's Republic of China

Table 5: Domestic custodian transaction fees (USD)

	Quote 1	Quote 2	Quote 3	lowest	highest	Spread (H-L)
PRC		15				
Hong Kong, China	15-25	7-16	6-10	6	25	19
Indonesia	30-45	25	19.9-25.4	19.9	45	25.1
Japan	5-15	4.0-13.5	14.6	4	15	11
Republic of Korea	10-20	10	5	5	20	15
Malaysia	20-30	18	11	11	30	19
Philippines	30-45	29	65	29	65	36
Singapore	15-25	10	26.4-33.0	10	33	23
Thailand	20-35	14	33.0-46.1	14	46.1	32.1
Viet Nam	30-45	60	70-90	30	90	60
Germany	1.9-8.9	2.0-3.0		1.9	3	1.1
United States		3.5-5.5	25	3.5	25	21.5

PRC = People's Republic of China

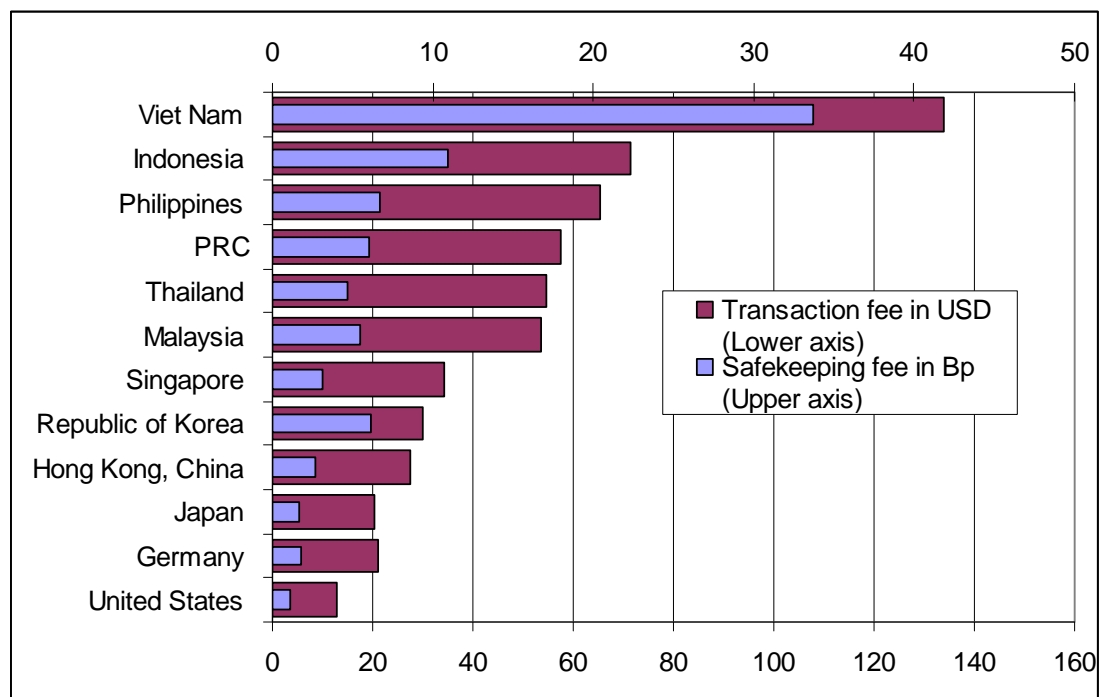
B. Key Findings

1. Levels of Custodian Fees across Markets

15. Compared to markets in other regions, such as the US and Germany, custodian fees in the ASEAN+3 region are generally higher. This is true regardless of the type of custodian, global or domestic, and the type of fee, safekeeping or transaction (Figures 2 and 3).

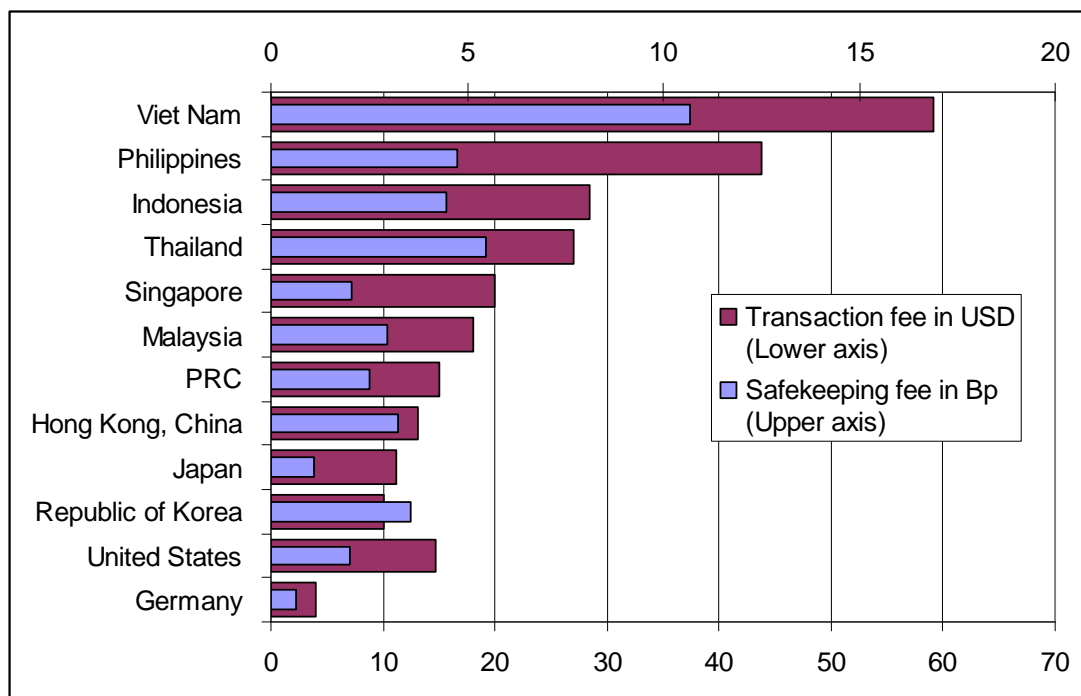
16. Within the ASEAN+3 markets, levels of custodian fees differ considerably (Figures 2 and 3). In terms of the level of custodian fees, markets in the region may be roughly categorized into three groups: 1) Japan, which is comparable to the US and Germany; 2) Hong Kong, China; Republic of Korea; Singapore; and Malaysia, where fees are lower than the net group; and 3) Thailand, People's Republic of China, Philippines, Indonesia, and Viet Nam, where fees are higher than the former group.

Figure 2: Averages of Global Custodian Fees in ASEAN+3



PRC = People's Republic of China

Figure 3: Averages of Domestic Custodian Fees in ASEAN+3



PRC = People's Republic of China

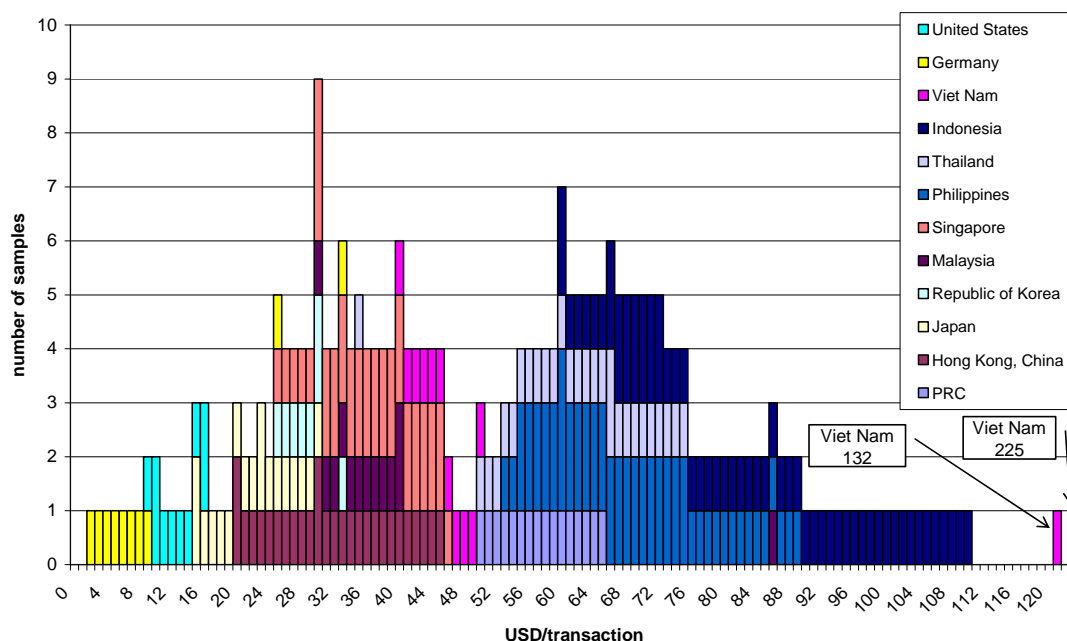
2. Distribution in Each Market, Relationships between the Type of Fees and the Type of Custodians

17. Even within the same market, fees can be significantly different between custodians. In some markets, there is a large spread between the highest and lowest fee, for both safekeeping and transaction fees. This may be because there are not enough transactions to assess reliable standard fee levels, or it may be due to inefficiency in the market which causes some variation in the fee structure.

18. There is not much difference between the patterns of transaction fees and safekeeping fees.

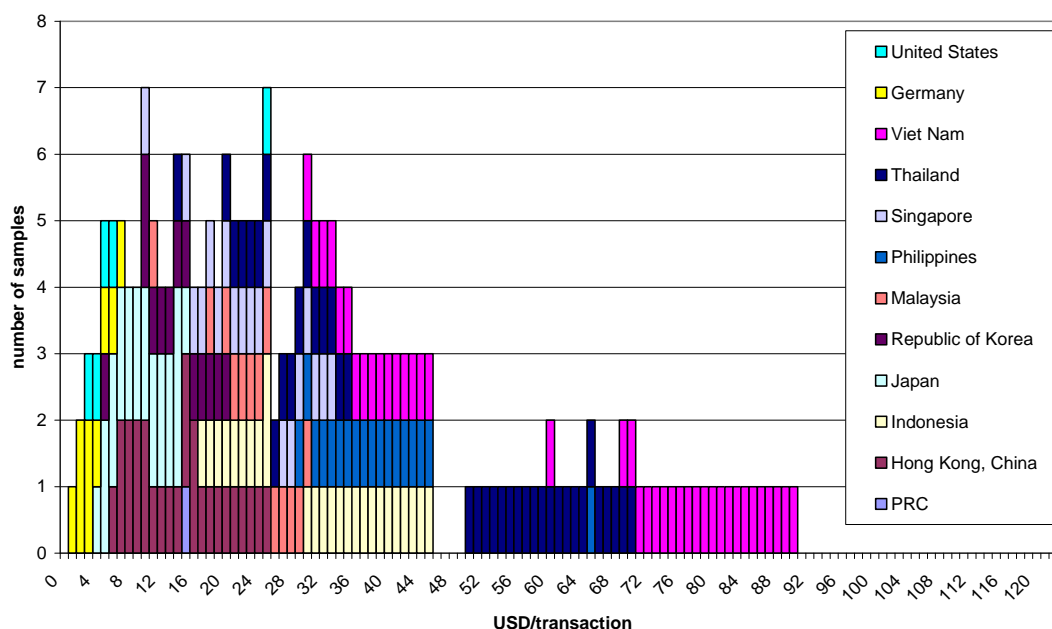
19. Likewise, there is not much difference between the patterns of global custodian fees and domestic custodian fees. However, the variance of global custody fees seems wider than that of domestic custody fees. This may be due to some country-specific requirements which global custodians need to meet.

Figure 4: Standard Transaction Fees of Global Custodians



PRC = People's Republic of China

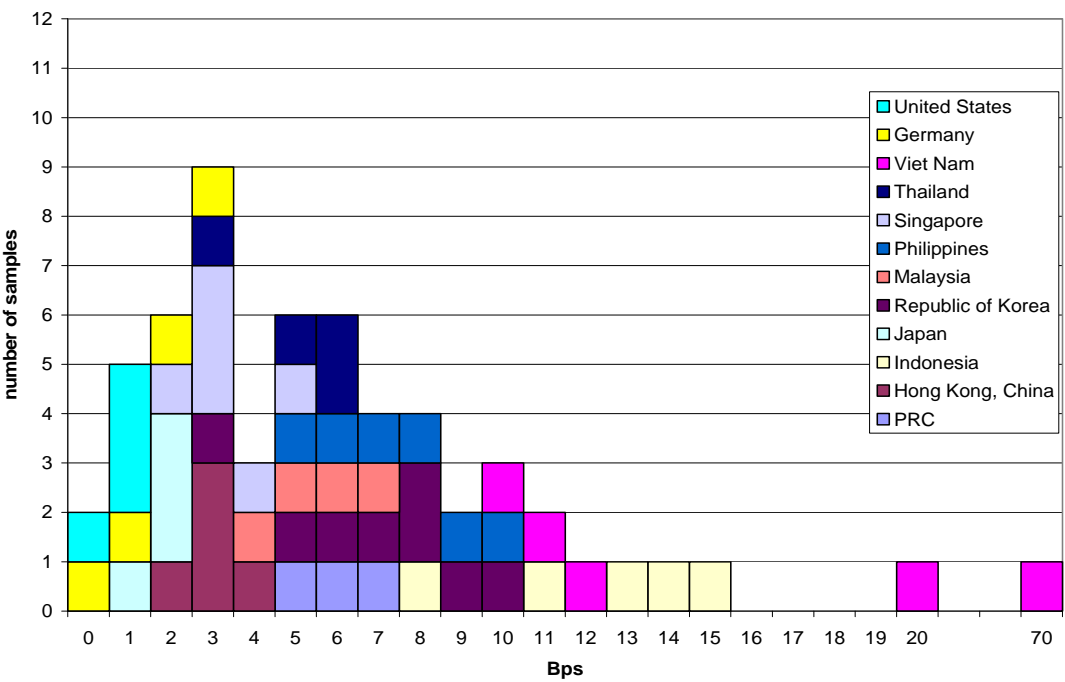
Figure 5: Standard Transaction Fees of Domestic Custodians



PRC = People's Republic of China

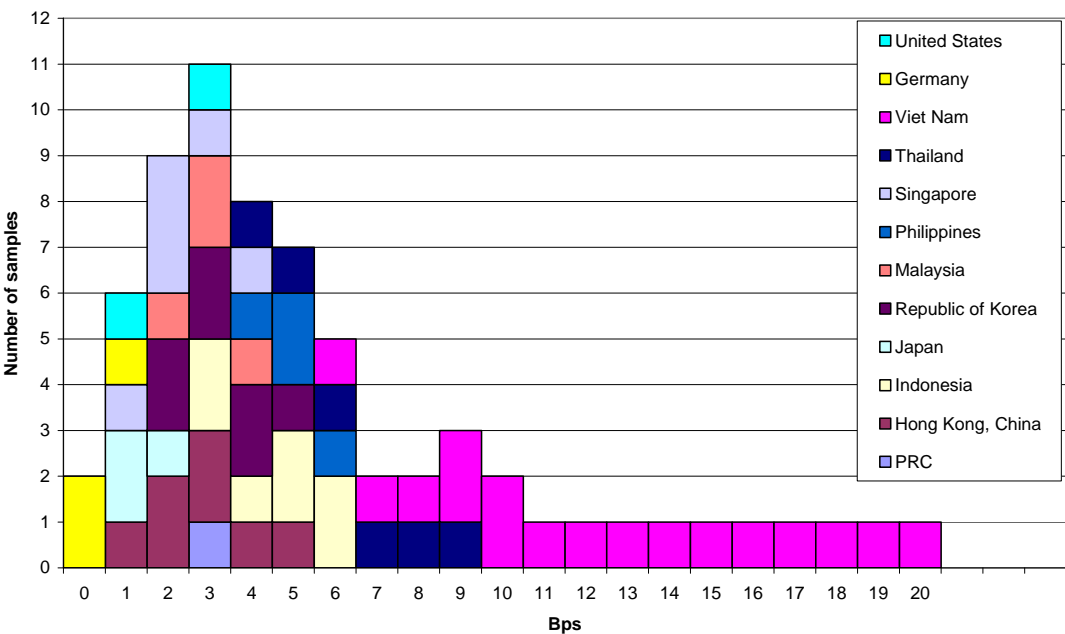
Note: The distribution shows the range of fee quotes. For example, if the fee quote was 10 to 20, it was assumed that there was an equal distribution of fees between 10 and 20.

Figure 6: Standard Safekeeping Fees of Global Custodians



PRC = People's Republic of China

Figure 7: Standard Safekeeping Fees of Domestic Custodians



PRC = People's Republic of China

IV. Possible Explanations for the Findings

20. Our finding shows that the custodian fees in the ASEAN+3 region are generally higher than in other developed markets such as the US and Germany. In this section, we attempt to provide explanations for the findings. Considering the nature of the custodian business and cross-border bond investment, factors that may be responsible for higher custodian fees include: 1) the technology of the custodian industry; 2) the general operational efficiency of each national market; 3) country-specific regulations; and 4) region-wide regulation or regional policy coordination. Below, we explain how each factor may affect custodian fees and examine its plausibility.

A. Technology of the Custodian Industry: Economy of Scale

21. The custodian business requires sizeable investment, and so is subject to 'economy of scale'. Hence, higher custodian fees in the region, relative to the US and Germany, may be due to lower transaction volumes. Similarly, across the ASEAN+3 markets, custodian fees for investing in some countries are higher than others simply because cross-border transaction flows vary substantially between countries.

22. Before checking for an inverse relationship between transaction volumes and custodian fees, we constructed aggregate annual custodian fees for a standard mandate, which we defined as USD 100 million in assets under custody and 1,000 transactions per year⁷. Aggregate custodian fees are computed for each market and for each type of custodian by applying their average level of transaction and safekeeping fees to the standard mandate. This is summarized in Table 6.

Table 6: Aggregate Custodian Fees (USD per year)

	Domestic custodian fees	Global custodian fees
PRC	40,000	117,500
Hong Kong, China	45,500	54,052
Indonesia	72,542	180,566
Japan	22,138	36,855
Republic of Korea	45,417	91,817
Malaysia	47,665	107,724
Philippines	91,333	132,782
Singapore	40,390	65,965
Thailand	82,010	101,134
Viet Nam	165,833	470,601
Germany	10,325	38,831
United States	34,750	23,805

⁷ The standard asset size and the frequency of transactions are determined based on the information from market practitioners.

PRC = People's Republic of China

Note: The fees are based on the standard mandate which is USD 100 million assets and 1000 transactions per year.

23. Table 7 shows cross-border bond investment flows among ASEAN+3 markets in 2006, which displays significant variance. It is not obvious from this data that there is any significant relationship between the investment amount and custodian fees. However, if we log-transform investment volumes and fit it against custodian fees, a significant negative correlation is found between the two variables, for both domestic and global categories (Figure 8).

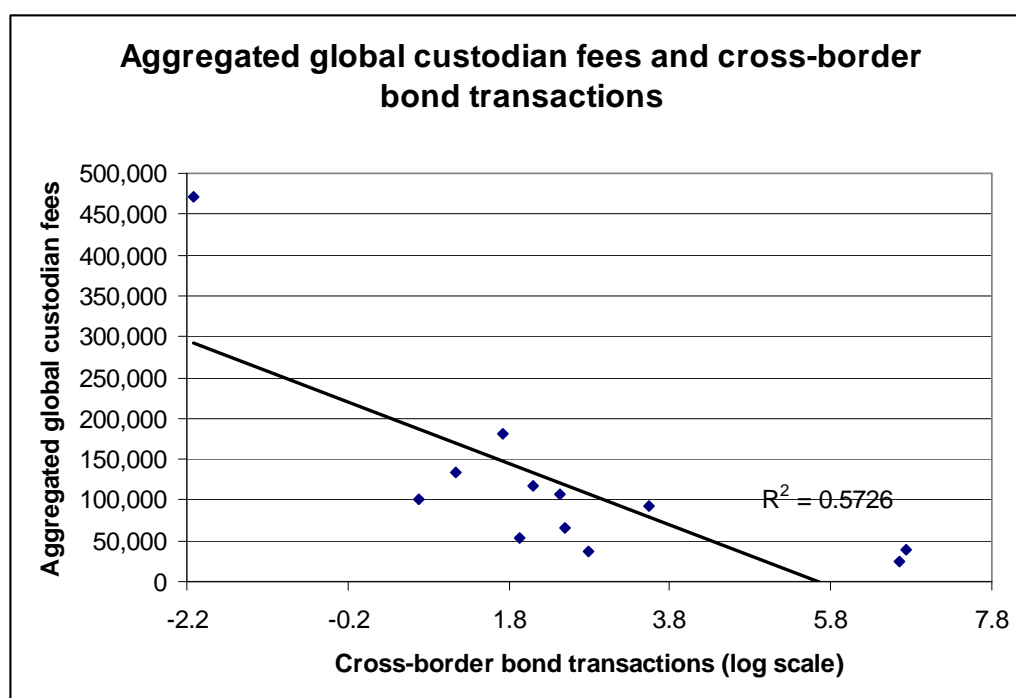
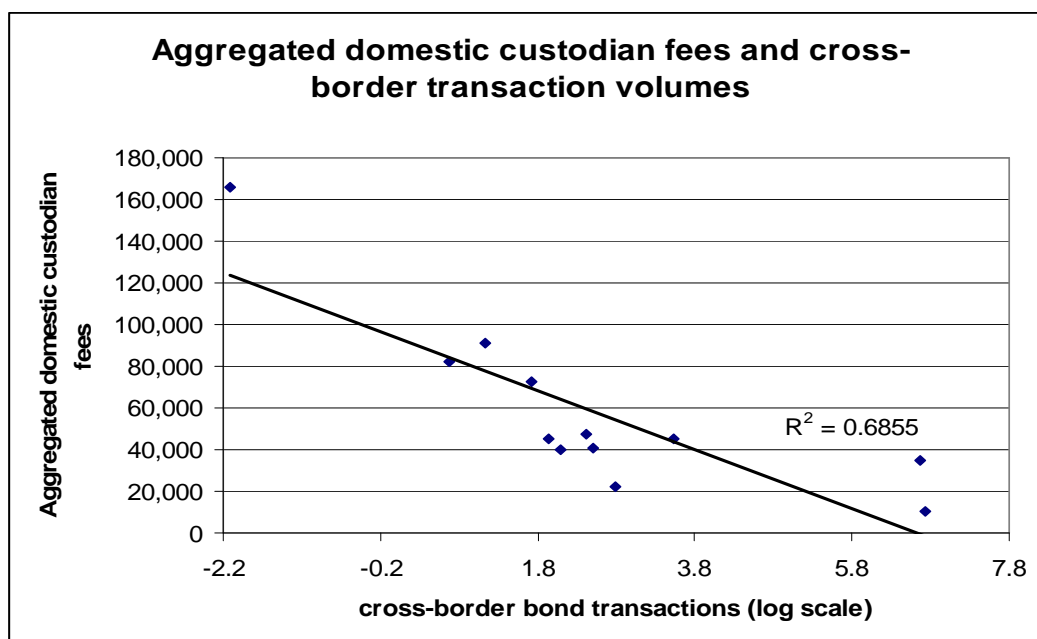
Table 7: Cross-Border Bond Investment among ASEAN+3 Economies in 2006
(USD billion)

Country	Cross-border investment from ASEAN+3
PRC	8.15
Hong Kong, China	6.88
Indonesia	5.58
Japan	16.12
Republic of Korea	34.49
Malaysia	11.31
Philippines	3.12
Singapore	12.25
Thailand	1.97
Viet Nam	0.12
Germany	845.1
United States	778.7

PRC = People's Republic of China

Data source: IMF, CPIS, 2006.

Figure 8: Relationship between Aggregate Custodian Fees and Cross-border Transaction Volumes



Source: ADB

B. Operational Efficiency of a National Market

24. Obviously there can be factors other than technical features of the custodian industry that may affect the costs incurred by custodians in providing services. In

particular, custodians' costs may reflect factors that affect the operational risk or cost of cross-border transactions. The list of such factors can include anything that is related to the operational efficiency of the local bond markets and the post-trading infrastructure. For example, if connectivity among local agents (including custodians, broker, and CSDs) is not efficient, custodians will incur higher operational risk or extra costs, and the fees for investing in such markets may in turn be higher. Despite persistent perceptions among market participants, the study did not yield evidence that CSD fees are a driver of higher fee levels in the markets.

25. Direct measures of the operational efficiency of a market, including its post-trade infrastructure, are hard to construct. Instead, as a proxy, we employed bid-ask spreads for the local bond markets. They are limited measures since they only reflect trading market efficiency (i.e. depth and liquidity). But to the extent that the operational efficiency of the bond trading process is correlated with that of the post-trading process, it can represent overall operational efficiency of each local market.

26. Table 8 describes bid-ask spreads in each bond market of the ASEAN+3 region. As expected, there appears to be a positive relationship between custodian fees and bid-ask spreads (Figure 9). In this analysis again, aggregate custodian fees for the standard mandate are used. It is interesting to note that the correlation between bid-ask spreads and custodian fees is higher for the domestic custodian group than for the global custodian group. It may indicate that local custodians are more directly exposed to local operational risk or cost and so their fees are more sensitive to such factors.

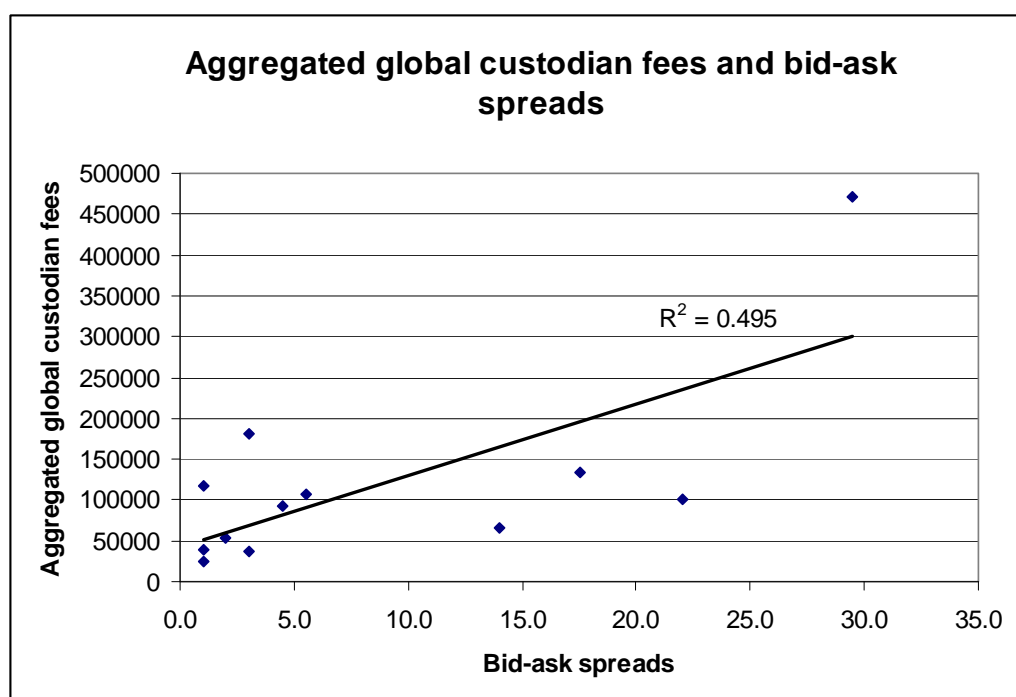
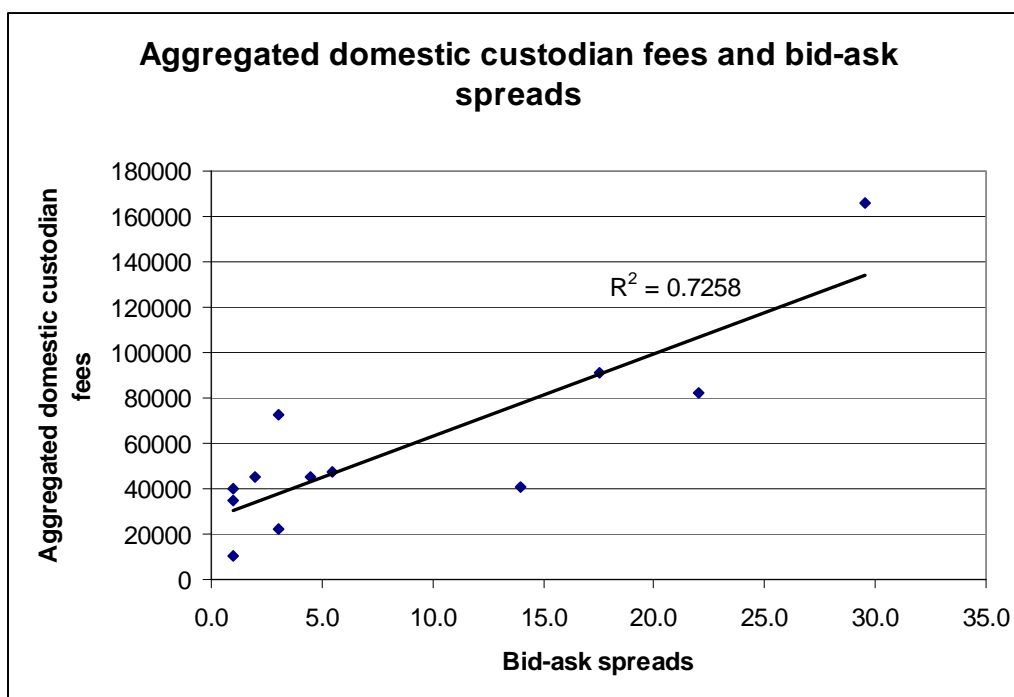
Table 8: Bid-Ask Spreads in the ASEAN+3 Bond Markets (basis points)

Country	Bid-Ask spread (average of 2006-2007)
PRC	1.0
Hong Kong, China	2.0
Indonesia	3.0
Japan	3.0
Republic of Korea	4.5
Malaysia	5.5
Philippines	17.5
Singapore	14.0
Thailand	22.0
Viet Nam	29.5
Germany	1.0
United States	1.0

PRC = People's Republic of China

Data source: www.asianbondsonline.adb.org

Figure 9: Bid-Ask Spreads and Custodian Fees



Source: ADB

C. Competition

27. Most of the ASEAN+3 securities markets are serviced by a larger number of dedicated and full-service institutions. While the study attempted to work with

standardised quotes, a competitive approach to pricing in the industry should be expected to influence fee levels on a regular basis.

D. Country-specific Regulation

28. Among many non-technical factors that can affect the operational risk and cost of cross-border transactions, arguably 'regulation' would be the most important. For example, certain taxation regulations are likely to require extra operational components and so lead to additional cost to custodians. In other words, more regulation may result in more services required by custodians to complete a cross-border bond transaction, and hence higher custodian fees. Thus it may be that some countries have higher custodian fees because they impose more regulations on cross-border bond transactions.

E. Lack of Regional Policy Coordination

29. So far we have sought to explain why custodian fees are higher in the ASEAN+3 markets than in the US and Germany. However, as mentioned in Section II, the prevailing channel for cross-border bond transactions in the EU is the ICSD channel rather than the custodian channel. Therefore, strictly speaking, to compare cross-border bond transaction costs between ASEAN+3 and the EU, one should examine custodian fees in ASEAN+3 against ICSD fees in the EU. While global custodian transaction fees in Germany range from \$2.2 to \$33 per transaction (Table 3), transaction charges for internal settlement of debt securities at the European ICSDs are less than \$2. Hence, once the difference in the prevailing transaction channel is adjusted, the gap in cross-border bond transaction costs between ASEAN+3 and the EU increases substantially.

30. A natural question, then, arises as to why such a settlement platform does not exist in ASEAN+3. Among many potential reasons, we note the lack of necessary conditions for an ICSD-type settlement arrangement to be feasible in the region. The 'Legal Feasibility Study' reveals that a number of countries in the region have legal settings not favourable (although not impossible) to the operation of an ICSD. Originally, European ICSDs evolved as settlement infrastructure for the Eurobond market, and now serve cross-border transactions in other types of bonds using the omnibus account structure. The evolution was possible as, at the minimum, there was a compatible legal environment. In addition, the evolution of the settlement industry in the EU still continues today, spurred by coordinated policy efforts like the T2S project. Such concerted policy coordination has in the past been lacking in ASEAN+3.

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All charts, flow diagrams and tables are the work of the authors.

Appendix 1 – Bond Depository Fees in ASEAN+3 and Major Markets

Bond Depository Fees in ASEAN+3				TRANSACTION FEE			SAFEKEEPING FEE			Remarks
Country	CSD	Status	Online	Unit	Amount	Divider	Unit	Amount	Divider	
PRC	CGSDTC	Gov	N	RMB		1	bp			Not available
Hong Kong, China	CCASS	Private	Y	HKD	0.20*	1	bp	1.20*	1	
Hong Kong, China	CMU	Gov	N	HKD	20.00	1	bp	0.00	1	
Indonesia	KSEI	Private	Y	IDR	20,000.00	1	bp	0.50	1	
Japan	BoJ	Gov	N	JPY	60.00	1	bp	0.00	1	
Japan	Jasdec	Private	Y	JPY	100.00	1	JPY	0.0650	JPY 10,000	Tiered fees apply
Republic of Korea	KSD	Public	N	bp	1.71	KRW 10,000	bp	0.10	KRW 10,000	
Malaysia	BNM	Gov	N	MYR	1.00*	1	MYR	1,000*	per ISIN	Indicated Minimum fees
Philippines	BTR	Gov	N	PHP	0.00	n/a	bp	0.00	n/a	
Philippines	PDTC	Private	N	PHP	100*	1	bp	0.50*	1	
Singapore	MAS	Gov	N	SGD	1.45	1	bp	0.00	1	
Singapore	SGX	Private	N	SGD	3.50	1	SGD	15.00	per DA sub a/c	
Thailand	TSD	Gov	Y	THB	45.00#	1	THB	2.50	1,000,000	Corporate bonds
Thailand	TSD	Gov	Y	THB	45.00#	1	bp	5.00	1	Gov bonds
Viet Nam	VSD	Gov	N	bp	0.75	1	VND	5.00*	per lot (10)	
Germany	CS	Private	Y	EUR	0.475	1	bp	0.80	1	Tiered fees apply
United States	DTCC	Private	Y	USD	2.35#	1	bp	0.00	1	

Correct as of 10 August 2009

* Minimum and/or maximum fees apply

Combination of 2 or more fee types

ABMI Group of Experts
Final report

Part II

**Evaluation of the Feasibility of Regional Settlement
Intermediary Options for the ASEAN+3**

April 2010

Revised June 2010

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1. Summary and Overview

Evaluation of feasibility of RSI options was carried out in two phases: the pre-feasibility study and the feasibility study phase. In the pre-feasibility study phase, GoE collected all the possible RSI options that could be conceived by experts. These included not only the RSI options recommended by the ADB TA 6338 report¹, but also additional options proposed by GoE members. Once all the options were brought together, GoE decided if some of the options could be excluded without carrying out further detailed feasibility study.

After narrowing down options through the pre-feasibility investigation, the main feasibility study was conducted in three steps: operational feasibility (specification), legal feasibility (legal requirement) and finally business feasibility study. Below, tasks and results of the pre-feasibility investigation and each step of the main feasibility study are explained briefly.

1.1. Pre-feasibility Study

Though GoE was requested by the ABMI group to evaluate feasibility of the RSI options recommended by the ADB TA 6338 report, it was understood that objects of the feasibility study did not need to be confined to the RSI options in the ADB report and that GoE had leeway to expand the list of RSI options. As the first step of the feasibility study, thus, GoE members were asked to suggest additional RSI options for consideration. Also they were also encouraged to suggest functional characteristics that should be part of any desirable RSI scheme.

For a new RSI option, a 'CSD linkage' modeled after the "Link Up Markets"² was proposed. For desirable characteristics of a RSI option, several GoE members mentioned PvP³, emphasizing the significance of foreign exchange settlement risk in the ASEAN+3 region and so potentially large benefits PvP could bring to cross-border investors. Pre-settlement matching⁴ was also mentioned by some, though views were mixed on if it should be sought as a regional project.

Since the ADB report suggested three RSI options consisting of the Asian ICSD model, the Pan-Asia CSD model, and the Asian Payment Bank model, adding the CSD Linkage option, there were four options on the table. Among the four options, the Pan-Asia CSD model and the Asian Payment Bank were decided to be excluded from the feasibility study. The main decision criterion was practicality. Applying the criterion, the Pan-Asia CSD model could be easily excluded. It was noted that even in the EU, which has a longer history of regional integration and cooperation, a single platform model for settlement is being attempted only now⁵. The Asian Payment Bank was put aside mainly because GoE was not a suitable forum for discussing the scheme. The model is to improve cash settlement arrangement in the

¹ "Minimizing Foreign Exchange Settlement Risk in the ASEAN+3" (ADB TA Report 6338)

² It refers to the "Link Up Markets" launched by multiple European CSD's in 2008. Further information can be found later in this report.

³ PvP is a mechanism in a foreign exchange settlement system to ensure that a final transfer of one currency occurs only if a final transfer of the other currency or currencies also takes place.

⁴ The pre-settlement matching service combines two aspects of the processing. It is a combination of trade matching and settlement instruction matching procedure wherein contract note or trade confirmation by brokers in electronic form is affirmed by investors and then the affirmed trade information from an electronic trading platform is converted (enriched by Standing Settlement Instruction database registered by custodians or settlement parties in advance) directly into matched settlement instructions and sent to the settlement system for execution.

⁵ Specific examples include the T2S project by the ECB and the SSE by the Euroclear.

region, and so deliberation of the feasibility of the model requires central banks' cooperation (or ideally initiative) and consideration of implications on trading of not only bonds but also other types of securities. Established by the initiative of the ABMI, the role of GoE was limited to bond-related issues and member composition reflected this, which rendered the Asian Payment Bank option irrelevant for GoE work. In the end, GoE determined that the Asian ICSD and the CSD Linkage model would be targets of the main feasibility study.

As to the PvP and the pre-settlement matching function, it was understood that they were compatible with any of the two RSI options remaining under consideration. Acknowledging potential benefits of the functions, it was noted that they could be sought as additional feature of a RSI. Whenever possible throughout the further feasibility study, consideration was given that the functions could be part of a RSI option.

1.2. Operational Feasibility Study

This segment of the study reviewed functional architecture of the selected RSI options, aimed at completing operational specification of each option. It defined the scope of services for each RSI model, identified elements necessary for delivering the services and described operational structure. Task components of the study included in general terms:

- Determine the scope of services of RSI options
- Identify main functional blocks of RSI options
- Describe interface among main functional blocks
- Describe service flows through RSI
- Identify benefits that a RSI can bring to the market

For the Asian ICSD model, the original description in the ADB TA report was critically reviewed and details were elaborated. It is fair to say that the scope of services and the operational structure of the Asian ICSD are identical to the existing ICSD's in the EU. For the CSD Linkage, the Link Up markets launched in the EU provided the benchmark operational structure.

Once operational specification of the RSI options was completed, expected benefits of each RSI option were examined in view of their implications on settlement costs and risks. The discussion was motivated by the idea that any RSI model should be socially desirable in addition to having private business case. It may be notable that in the EU proposal of a new settlement arrangement is often justified its implication on settlement costs and risk. This has been observed not only for a public initiative like the T2S project but also for a private initiative like the SSE and the Link Up Markets. It reflects the fact that, to be sustainable, a settlement arrangement should be in line with final investors' interests. In this line of

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Table 1: Implications of the RSI Options on Cross-border Settlement Risks and Costs

	Asian ICSD		CSD Linkage	
1. Cross-border Settlement related Risks				
Principal / Credit Risk	+	The solution would implement DvP within the Asian ICSD so that cross –border settlements could occur in a single system rather than using multiple CSDs or other intermediaries. DvP addresses principal risk by ensuring that delivery occurs if and only if payment occurs.	-	The DvP process for the CSD Linkage solution would require the use of cash correspondent banks and so would be essentially the same from a risk standpoint as the process today used by global custodians or local custodians.
Operational Risk	+	The solution would address operational risk for internalized transactions through the use of a single system where the securities and cash movements of a DvP transaction could be made simultaneously.	-	The CSD Linkage does not by itself change the operational risks from the current situation, although the CSD Linkage solution may act as a catalyst for standardization and harmonization of CSD regulations and practices in each market, which would in turn reduce operational risk.
FX – Herstatt Risk	++	FX risk would be addressed by ensuring that cross-border settlements within the Asian ICSD system are DvP as there would be no longer any need to use multiple systems or intermediaries. The implementation of an FX service would allow Asian ICSD clients to receive proceeds of sales or corporate events in the currency of their choice.	-	The CSD Linkage solution does not address FX risks as the CSDs would need to use local cash correspondent banks to handle the cash leg for foreign currency settlements.

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Liquidity Risk	++	The risk that a counterparty is not able to settle full value on due date is addressed by the implementation of the integrated credit facilities and automated securities lending/borrowing program at the Asian ICSD. This is similar to the role played by the European ICSDs in Europe today where the Euroclear Bank and Clearstream provide a major source of liquidity to the markets.	-	Integrated credit facilities or fails lending are not in scope, but can be offered by individual Investor CSDs based on their own business decision. Liquidity risk would only be addressed indirectly to the extent the solution aims to increase market liquidity.
2. Cross-border Settlement Costs	+	The cost structure for settlement of cross-border trades would be significantly reduced by using internal settlements within the Asian ICSD. As an example, the Euroclear Bank fee for internal settlements is between EUR 0.33 and EUR 1.50 per settlement. This compares favourably to the current costs for cross-border settlements in the ASEAN+3 region which range from USD 20 to USD 80 per transaction. .	+	The cost structure for settlement and custody would include the domestic Issuer CSD fees, a communication component to cover both the transmission to and use of the converter, the Investor CSD fees, and sufficient margins for the Investor CSD to gain a return on its investment in the converter and the CSD infrastructure. As an example, Clearstream Banking Frankfurt published a cross-border fee schedule effective April 1st that gives the total settlement fee of € 1.90, plus the external costs per market will be charged to customers.
3. Other (e.g. CCP, Collateral Management)	+	The Asian ICSD solution would include a collateral management feature that would allow pooling of collateral from across the ASEAN+3 region.	-	The CSD Linkage solution supports settlement of trades cleared on a national CCP, but neither regional CCP services nor linkage between CCPs are in scope.

reasoning, it was understood that if implemented successfully, each RSI option 50 must have had potentials of reducing cross-border settlement costs and addressing various risks involved.

The operational feasibility study showed that there existed clear differences between the two RSI options in terms of their operational structures. The Asian ICSD will operate its own settlement platform and provide banking services that are related with settlement of securities. In fact, if following European ICSD models, its legal entity will be a commercial bank specialized in operating a settlement platform. In contrast, the CSD Linkage is not an independent service provider, and essentially a mechanism that allows efficient communication and data sharing among participating CSDs. As to the relationship with local settlement systems, especially with national CSDs, the Asian ICSD is relatively independent in the sense that it is a separate organization and, thus, in principle stand-alone operation is possible. The CSD Linkage, on the other hand, every aspect of its operation will be dependent on member national CSDs. These differences between the two RSI options in the operational structures had important bearings on their potentials of reducing cross-border settlement costs and risks.

For the cross-border settlement costs, both options are common in that they envisage lowering of settlement costs. Conditions for realizing the goal of lower settlement costs would be different, though. In particular, the CSD Linkage would require harmonization among participant CSDs in their service scopes and technological infra.

As to the prospect of addressing cross-border settlement risks, the Asian ICSD was assessed to have larger potentials. By providing settlement at its own settlement platform, the Asian ICSD would provide DvP settlements, thereby reduce operational and counterparty risk. By providing short-term credit facilities and foreign exchange services, it would also ease liquidity and foreign-exchange settlement risk known as the “Herstatt” risk. The CSD Linkage did not have implications on these risks simply because they involved aspects of settlement flows that were beyond the service scope of the CSD Linkage.

1.3 Legal Feasibility Study

This segment of the study assessed legal feasibility of the selected RSI options. It provided a high level overview of the legal and regulatory feasibility of establishing either the Asian ICSD or the CSD Linkage for the ASEAN+3 markets. Subcomponents of the legal feasibility study included:

- Identify legal and regulatory ‘barriers’ for each RSI option to be operative in each ASEAN+3 market
- Assess the extent of the problem regulations or laws as ‘barriers’ for each RSI option; classify each barrier regulation into ‘HARD’ and ‘SOFT’

Not surprisingly those regulations which were identified as major regulatory barriers to cross-border bond transactions and settlements by the work of GoE subcommittee B

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Table 2: LEGAL/REGULATORY BARRIERS - COUNTRY CHART

	Asian ICSD	CSD Linkage
People's Republic of China	(HARD)* - Barriers: Non-Convertibility of Currency; Segregation by Beneficial Owner	(HARD)* - Barrier: Non-Convertibility of Currency
Hong Kong, China	No barrier	No barrier
Indonesia	(SOFT)** - additional time over Phase 1 is required due to the need to (i) set up a tracking system to ensure information on the ultimate beneficial owner is maintained by the Asian ICSD; (ii) establish a reporting functionality to comply with currency control rules: Bank Indonesia regulation No.10/28/PBI/2008 and Circular Letter No.10/42/DPD dated 27 November 2008; and (iii) obtain and file and set up a system to track renewal dates for Certificates of Tax Residency (COTR) for each beneficial owner holding via the Asian ICSD	No legal / regulatory barriers
Japan	(SOFT)** - additional time is required due need to complete the following applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located.	(SOFT)** - additional time is required due to need for Investor CSDs to complete applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located
Republic of Korea- Government Bonds	(SOFT)** - additional time is required due to the need to (i) complete application to become Qualified Foreign Intermediary (QFI) and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS)	(SOFT)** - additional time is required due need for Investor CSDs to: (i) complete application to become Qualified Foreign Intermediary (QFI); and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS)
Republic of Korea- Corporate	(HARD)* - Barrier: Segregation by Beneficial Owner	(SOFT)** - additional time is required due need for Investor CSDs to duplicate the use of segregated accounts

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Bonds		
Malaysia	No barrier	No legal barrier
Philippines	(SOFT)** - additional time is required due to the need to establish a reporting functionality to comply with currency control rules because existing central bank regulations mandate issuance/utilization of foreign investment license on per trade per registered investor. Purchase of foreign currency against sale of Philippine peso by non-residents/foreign investors needs to be supported by duly-registered foreign investment license with an approved underlying investment transaction.	No legal barrier
Singapore	No barrier	No barrier
Thailand	No barrier	No barrier
Viet Nam	(SOFT)** - additional time over Phase 1 is required because the use of omnibus accounts and the convertibility of the VND for securities market transactions is quite new (neither European ICSD has a link with Viet Nam today); it is expected that establishing a link will take some additional time to understand the relevant rules and to determine whether any special status is needed. Prior to investment foreign investors have to apply for trading codes via their custodian banks or securities firms. Further special functionality may be required to handle the capital gains tax and/or physical delivery of unlisted bonds. Illiquidity in the VND may also prove challenging.	No barrier

Note : * 'HARD' barriers require a change in law for the RSI to operate a link with the market

** 'SFOT' barriers do not require a change in law, but require additional time to obtain licenses or develop specific functionalities.

(compiled in 'PART III' later in this report) were found to be obstacles to establishing a RSI as well. Foreign exchange regulations, complicating tax regulations, other purpose record keeping or information collection requirements on foreign investors such as foreign investor registration and QFI, and restrictions on omnibus accounts would hinder the RSIs from fully operating.

Identified regulatory obstacles were categorized into either 'HARD' or 'SOFT'. 'HARD' regulation refers to the case that legal revision would be required for the RSI to serve the market. 'SOFT' means those barriers that would not prevent the RSI from establishing a link with the market, but delay its operation by requiring additional time to obtain license or develop specific functionalities. They are summarized in Table 2.

1.4 Business Feasibility Study

The business feasibility study examined whether the two RSI options would be viable as a commercial entity. Conceptually the task seemed a standard one, requiring net present valuation of the given two RSI projects, which could be done by estimating cash flows of the revenue and the cost side. Financial valuation of the two RSI models, however, was more complicating than a regular business project case. First of all, the legal feasibility study clearly showed that in some markets among the ASEAN+3 legal impediments would need to be addressed before linking with a RSI. It implied that to embark on business feasibility study of the RSI options, one had to begin with introducing a certain assumption on the future legal environment in the ASEAN+3 region. In addition, the extent of uncertainty involved in the estimation of revenue and cost side cash flows was larger than for a regular business project. This was due to the fact that the estimation required projections of future growth paths of all the bond markets plus the prospect of cross-border investment in the region.

Scenarios on the Legal Environment Change

As to the legal environment, a critical assumption was adopted that policy makers of the ASEAN+3 economies were committed to the integration of ASEAN+3 bond markets, following the spirit of the ABMI. Given the assumption, whether policy makers of the ASEAN+3 would address legal impediments for a RSI to provide services in each economy became the question of 'when', not 'whether'. Then, centered on the timing of resolution of the legal impediments, two scenarios were conceived: 'current' and 'integrated'.

The 'current' scenario presumed that the legal impediments in the region would be resolved over the next five years, where the time span of the resolution in each economy would differ by the extent of the legal impediment it has now. Namely, it was assumed that each economy would address its legal impediments in one of the three (Asian ICSD) or the four (CSD Linkage) phases as described by Table 3. It was found that for the CSD Linkage, countries in the region currently stand at different stages in terms of technical readiness while there are no such differences for the Asian ICSD. Thus, the phase determination for each economy for the CSD Linkage allowed for differences in the technical feasibility across the region as well. In contrast, the 'integrated' scenario assumed that all the economies in the region would address any legal obstacles within a year.

Table 3: The ‘Current’ Scenario for the Legal Environment Change

	Asian ICSD	CSD Linkage
Phase 1	“No Legal Barrier” Hong Kong, China; Malaysia; Singapore; Thailand	“No legal barrier + High technical feasibility” Hong Kong, China; Singapore; Thailand
Phase 2	“SOFT legal barrier” Indonesia, Japan, Korea government bonds, Philippines, Viet Nam	“SOFT legal barrier + High technical feasibility” Japan, Republic of Korea
Phase 3	“HARD legal barrier” People's Republic of China, Korea corporate bonds	“SOFT legal barrier + Medium technical feasibility” Indonesia, Malaysia, Philippines
Phase 4:	-	“HARD legal barrier” People's Republic of China

Note: The interval between Phase 1 and 2 is 1 year, between Phase 2 and 3, 3 and 4 is 2 years respectively.

It turned out that the business feasibility of the two RSI options did not differ significantly between the two scenarios. It indicates that as long as countries in the region are ready to address the required legal changes within a reasonable time frame, the current legal barriers do not pose substantial challenges for the business cases of the RSI options.

Key Underlying Factors for Revenue Side Cash Flows

Instead, the factor that mattered most in dictating the business case of the two RSI options was the future course of cross-border investment in the region. Currently, as of 2008, the ratio of cross-border holdings of domestic bonds issued in the region to the total stands at 6.4%. As a reference point, the ratio for the EU-15 was 18% as of the year of 1997 when the single currency Euro was yet to be introduced. Taking the case of the EU-15 as the maximum that cross-border investment in a region can reach without a single currency, one may assume that within the foreseeable future, cross-border holdings of local bonds in the ASEAN+3 will fall in the range of between 6.4% and 18%. Simulation results showed that the level of cross-border holdings would take a proportional impact on the net present values of the RSI options.

Another variable which would change the business case of the RSI options significantly was the ‘market shares’ of the RSI options, which referred to the portion of cross-border settlement transactions and other related services out of the total market demand that would be served by the RSI. Naturally, a larger market share would lead to a better business case of a RSI. Rather than introducing a specific assumption on the market shares of the RSI options, in the simulations the market share was treated as a ‘free’ variable. In other words, after specifying all other factors necessary to identify cash flows, the minimum level of the market share that would result in a positive business case (positive net present values) of the RSI was sought.

Key Underlying Factors for Cost Side Cash Flows

For the Asian ICSD model, the largest cost component in the simulations presented in this report is ‘reserved capital’. Since the Asian ICSD will be established as a ‘bank’, an important issue how much it should set aside as the reserved capital arises. The minimum would be the BIS requirement. However, inspection of the recent risk management practices

of the existing ICSDs, Euroclear and Clearstream, showed that to maintain the highest credit rating they held Tier 1 capitals exceeding the regulatory requirement. Taking a conservative stance, it was assumed that the Asian ICSD would follow the existing private ICSDs' practice in its capital management policy.

As expected, IT development costs explained the largest chunk of initial costs among the common cost components both for the two RSI options. Estimation of IT development costs was due to experts' views, as no preceding comparable case was found.

Key Simulation Results

Under the adopted assumptions, the Asian ICSD was found to have a business case (positive net present value) for a certain range of market shares. As Table 4 shows, if cross-border investment in the region does not expand any further so that remains at the current level of 6.4% for the next 5 years, the Asian ICSD will need to claim at least 74 % of the cross-border bond settlement market to be profitable. However, if integration across markets continues and cross-border holdings grow to, e.g., 10% in 2015, the Asian ICSD will be profitable with any market share above 59.5%.

Similar simulations results for the CSD Linkage are summarized in Table 4 as well. Apparently at each level of the given cross-border holdings the necessary market share to render the RSI commercially feasible is lower for the CSD Linkage than for the Asian ICSD. The Asian ICSD has a larger service scope, better potential of reducing cross-border settlement risks and larger revenue potential. Table 4, however, indicates that it is also more costly.

Table 4: Summary of Simulation Results

(Legal Environment: The 'Current' Scenario)

Asian ICSD	Cross-border holdings in 2015	6.40%	8.00%	10.00%	15.00%
	Necessary RSI market share*	74.00%	66.50%	59.50%	47.00%
	Revenue in 2015	197.4 m USD	201.4 m USD	205.2 m USD	216.4 m USD
	Running Cost 2015**	98.7 m USD	98.8 m USD	98.9 m USD	99.2 m USD
	Start-up Cost***	367 m USD	337.9 m USD	308.9 m USD	260.8 m USD
CSD Linkage	Cross-border holdings in 2015	6.40%	8.00%	10.00%	15.00%
	Necessary RSI market share*	63.50%	50.50%	40.50%	27.00%
	Revenue in 2015	5.8 m USD			
	Running Cost 2015**	4.0 m USD			
	Start-up Cost***	25.4 m USD			

Note : *Necessary RIS market share: the minimum market share that will result in a positive business case (positive net present values) of the RSI

** Excluding Depreciation

*** Including regulatory capital, excluding CSD and market adaptation costs

Remaining Risks of the Simulations

The simulation results of the report are subject to estimation risks as usual. Some GoE members expressed that IT development costs appeared underestimated, though specific alternative estimates were not suggested. Some questioned whether the assumption that the capital reserve for the Asian ICSD should be paid in when the venture began operating was reasonable.

Other factors that affect revenue or cost cash flows, but not specifically mentioned above were based on standard assumptions or standard source of information. They include future growth rates of primary bond markets in the region, human resource and office rental costs and inflation rates. Among them, though formal sensitivity analyses were not reported, obviously the future growth prospect of bond markets in the region has some potential of changing the simulation results of the report. Current simulations are based on the assumption that new issuance of bonds in the region will maintain the trend of the recent ten years from 1998 to 2008. To the extent that future primary bond market growth in the region outperforms (underperforms) the recent trend, the business case of the RSI options will improve (deteriorate) accordingly.

Finally, assumptions on discount rates used for computing net present values of future cash flows and tax rates were from standard sources of information, as specified in the main report. Sensitivity analyses showed that changes of the values of these variables within a reasonable range would not affect the business case of the RSI options.

1.5 Recommendations

Based on the analyses, we recommend the followings for the next step.

Recommendations

- (1) It should be acknowledged that both of the two RSI options will face legal obstacles in linking with some markets. The obstacles overlap with the regulatory barriers to cross-border bond investment. Addressing the identified legal barriers, hence, is required not only for more active cross-border investment but also for creating the necessary legal environment for the RSIs.
 - i) In this regard, we echo the General Recommendation 3 of the 'Barrier Report'⁶: each country in the region is encouraged to produce and publish a road-map for reducing the legal barriers in their markets, covering the next 3 years.
 - ii) When embarking on the next step of the feasibility study, it is desirable that the ABMI provides the commitment that each member country will take measures to address the legal impediments, necessary for linking with the selected RSI option.
- (2) The feasibility study done by the GOE is still a high-level profile work, screened by a limited number of experts. Feedbacks from other market participants and experts should be sought for the next 6 months.
- (3) Considering recent developments in the global financial markets and policy dialogues in the aftermath of the global financial crisis, policy makers in the

⁶ Refer to PART III

region, preferably the ABMI itself, should review if there can be a new perspective on the regional post-trading infra and its implications on the RSI.

- (4) Based on the feasibility study of the GOE, feedbacks from the private and further inputs from the public sector, more detailed feasibility study should be followed.
 - i) It should be acknowledged that the final feasibility study should be done by those who will ultimately take the financial risk of a venture. The team that will conduct the next step of the feasibility study should be formed by those who indicate, though tentatively, the intention to hold financial stakes in the RSI.
 - ii) It may be suggested that each ABMI member country should consult national settlement-operating bodies and other local stakeholders to nominate national representatives.

2. Operational Feasibility Study

2.1. Asian ICSD Model

2.1.1. Introduction – Role, Participant & Ownership

The purpose of the Asian ICSD would be to solve certain risks inherent in the current cross-border settlement infrastructure in the ASEAN+3 region and lay the foundation for the expansion and development of a regional bond market in Asia. In general, the operational specifications defined by the Group of Experts (“GoE”) is a more detailed version of the services for the Asian ICSD set forth in the ADB’s Regional Technical Assistance Report TA 6338 “Minimizing Foreign Exchange Settlement Risk in the ASEAN+3 Region” dated August 2007 (the “TA Report”). More specifically, the Asian ICSD is meant to address the principal risk outlined in the TA Report which is to reduce FX settlement risks in cross-border bond transactions. The operational specifications has been prepared with this purpose in mind.

The Asian ICSD addresses the existing barriers both within ASEAN+3 countries and between ASEAN+3 and US and European markets which apply to cross-border investment in bonds and other securities. These barriers arise from two principal causes: (a) inherent time zone differences between the markets, and (b) the lack of a cross-border settlement infrastructure in ASEAN+3 caused primarily by regulatory barriers in several countries.

Currently, most cross-border settlements in the region involve currencies such as the US dollar and the Euro that have to be settled in different time zones. Due to earlier time zones than the rest of the world, cross-border investors in the ASEAN+3 region are more exposed to settlement risks due to timing differences.

The principal risk that the Asian ICSD would solve is foreign exchange settlement risk linked to settlement of bond transactions. Foreign exchange settlement risk includes credit risk and liquidity risk. Credit risk is the risk that a party in an FX trade will not settle an obligation at full value either on the due date or at any time thereafter due to bankruptcy, deterioration of financial situation, etc. Liquidity risk is the risk that a participant in a settlement will not be able to settle the full value of the obligation on the due date and delay the settlement even if there is no problem with the participant’s financial soundness.

Settlement of a domestic bond trade normally involves a payment in local currency. For domestic investors, an FX transaction is not normally required, as the base currency will be the local currency. However, foreign investors wishing to buy domestic bonds will often need to purchase the local currency. The investors must therefore arrange an FX trade to settle on or before the settlement of the bond trade. Similarly, foreign sellers of bonds will normally wish to sell the local currency for their base currency, on or after settlement of the bond trade, unless they intend to reinvest immediately in the same domestic market, or to hold the local currency for future investment.

Thus cross-border investors are, in principle, exposed to two settlement risks – the settlement risk of the bond trade and the settlement risk of the FX trade. In most ASEAN+3 countries, bond trades are settled on a DvP basis at the central bank or CSD. The main problem for the international investor is the timing difference between the various securities and cash movements on settlement date (as well as currency restrictions imposed by local governments). The timing difference is compounded by the fact that most FX in ASEAN+3 currencies is transacted against the US dollar, which settles after Asian business hours.

The Asian ICSD would solve this risk as it would introduce a DVP Model 1 process where security settlement is carried out in the same time zone as the cash settlement. The use of a multi-currency settlement facility would reduce the number of FX transactions linked to bond settlement for investors in the region. An integrated FX service that can occur

Evaluation of the Feasibility of Regional Settlement Intermediary Options for the ASEAN+3

internally on the books of the Asian ICSD during Asian opening hours and can be linked to specific bond transactions would then eliminate the remaining FX settlement risk.

The Asian ICSD would also bring other important benefits including:

- A DVP Model 1 process for internal settlements reduces the costs and risks of securities settlement by using a book entry process in a single system.
- The Asian ICSD would provide a hub through which international intermediaries and investors could access a range of bond markets in the region.
- By creating book entry settlement in a single system, the Asian ICSD would contribute to the development of regional repo and securities lending by permitting cross-border collateralization.
- The establishment of the Asian ICSD would act as a catalyst to drive regulatory changes to remove existing barriers to cross-border settlement and to harmonize market practices throughout the ASEAN+3 region.

An Asian ICSD would service 3 broad groups of investors (a) investors in the ASEAN+3 region who want to invest in Eurobonds and in bonds issued in US and European markets; (b) Investors in the ASEAN+3 region who want to invest in bonds denominated in ASEAN+3 currencies outside their own domestic market; and (c) US and European investors who want to invest in bonds denominated in ASEAN+3 currencies.

The Asian ICSD would also service securities companies who are essentially traders of bonds denominated in currencies of the ASEAN+3 region. The Asian ICSD would offer same-day turn-around times, securities repo and borrowing services, credit lines and cash funding. As internal transactions are book entry, settlement cost would be low.

The central banks of the region would be able to utilize the Asian ICSD for collateral transfers to facilitate liquidity lines to their local banks if the central banks have agreed that bonds of other ASEAN+3 markets could be used as eligible collateral.

The banks of the ASEAN+3 regions could also use the Asian ICSD to diversify the sources of and types of collateral that they can provide to each other to secure a range of exposures including securities loans, swap agreements, etc.

Participants in the Asian ICSDs would be banks, central banks, securities companies, institutional investors, asset managers and some corporate treasury departments. The Asian ICSD would probably not provide a service for retail investors or individuals. Participants would need to have sufficient technical capabilities (e.g., a SWIFT connection) to be able to access the Asian ICSD. Other criteria might be: financial strength or standing, robust anti-money laundering controls and/or sufficient business volume to warrant an account with the Asian ICSD.

As set forth in the TA Report, the target securities for settlement in the Asian ICSD are government and corporate bonds issued by issuers located in the ASEAN+3 region whether denominated in local currency or USD and perhaps other currencies as well. This would include both bonds targeted at international investors in the ASEAN+3 region as well as some domestic bonds which are also attractive to investors outside the home country of the issuer. Domestic bonds with domestic investors would remain in the home market CSDs as there would be no business demand for the Asian ICSD to provide a service for such securities.

Ownership of the Asian ICSD could be comprised of shareholdings of custodian banks, central banks and securities companies throughout the ASEAN+3 region. It is expected that the Asian ICSD would be user-owned and user-governed. This model is best for the Asian ICSD because it harmonizes the interest of shareholders and management. It is important that the Asian ICSD does not pursue shareholder value only. As the shareholders would be

the main users of the system, they can direct management to maximize service quality and efficiency.

To be able to provide services such as DVP Model 1 processing, multi-currency accounts, foreign exchange and credit lines, the Asian ICSD would need to be a licensed bank. It would be a single purpose bank to avoid risks related to other activities, such as investment book risks. In keeping with a strict risk control environment, the Asian ICSD would be tightly regulated as are the European ICSDs today. As the credit facilities described in Section IX below would be substantial due to need for inter-regional liquidity, the Asian ICSD would require a significant capital base and a high rating to avoid that the creation of such an ICSD causes systemic risk for the ASEAN+3 region.

However, to be able to fully realize all potential benefits of the Asian ICSD, the markets of the ASEAN+3 would need to make a number of changes. The local central securities depositories (CSDs) of the region would need to permit the Asian ICSD to open accounts to permit the links required for the Asian ICSD to act as a regional hub. This might require communications systems at such CSDs to be upgraded to international standards such as SWIFT.

In addition, a number of regulatory barriers will also need to be lifted. These will be detailed in a later phase of the project, but in general these relate to: currency convertibility restrictions, tax processing and the need for holdings to be segregated by beneficial owner. All of these barriers would need to be removed to allow for free transferability of bonds within the ASEAN+3 region and, thus, to allow the Asian ICSD to fulfill its potential. It is understood that not all of the Asian ICSD services in the proposed scope would be feasible in the current regulatory / legal environment. The specifications shows the Asian ICSD services that would be provided if all relevant regulatory / legal barriers would be removed. Such barriers include exchange controls.

The operational specifications is meant to address certain issues in respect of the proposed Asian ICSD. In particular, it is designed to provide a basis for the cost/benefit analysis which would necessarily need to take into account competition with other market players. The specifications are not meant to address other issues in respect of the Asian ICSD such as governance, ownership or capital base. The services of the Asian ICSD can be addressed independently from decisions on these points.

2.1.2 Operation of Securities Accounts - Settlement

The Asian ICSD would operate on the basis of a DVP Model 1 system based on the definitions of the Bank of International Settlements (BIS). The GOE discussed in detail why DVP Model 1 was chosen for internal settlement between account holders of the Asian ICSD. The definitions of the three models from the BIS are:

Model 1: Systems that settle transfer instructions for both securities and funds on a trade by trade (gross) basis, with final (unconditional) transfer of securities from the seller to the buyer (delivery) occurring at the same time as final transfer of funds from the buyer to the seller (payment).

Model 2: Systems that settle securities transfer instructions on a gross basis, with final transfer of securities from the seller to the buyer (delivery) occurring throughout the processing cycle, but settle funds transfer on a net basis, with final transfer of funds from the buyer to the seller (payment) occurring at the end of the processing cycle.

Model 3: Systems that settle transfer instructions for both securities and funds on a net basis, with final transfers of both securities and funds occurring at the end of the processing cycle.

Model 1 settlement does not need to be attached to an RTGS system operated by a central bank (i.e., settlement in “central bank money”). The European ICSDs both offer DVP Model

1 settlement today in commercial bank money and it is expected that the Asian ICSD would offer the same service.

Models 2 and 3 both have netting features and the feedback from the GOE is that the Asian ICSD should not include a central counterparty function which is needed for netting of transactions. According, as there will be no netting, the Asian ICSD would offer DVP in as defined by BIS Model 1.

DVP Model 1 offers the best protection against the FX settlement risks outlined in the TA Report. Models 2 and 3 both entail settlement risks for participants.

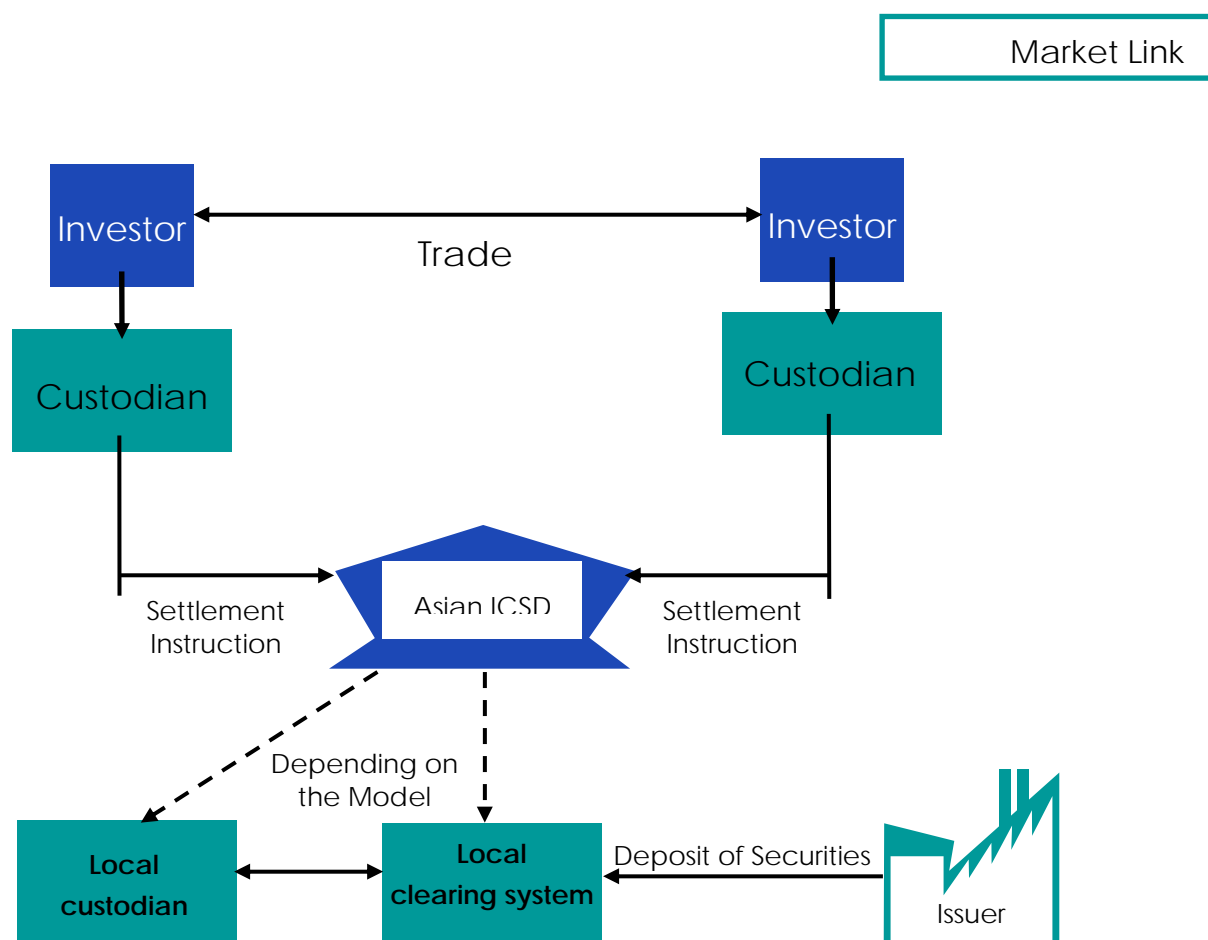
The Model 1 DVP would be applicable only to internal settlements within the Asian ICSD. External settlements through links with local CSDs in the ASEAN+3 region would follow the rules of the relevant local CSD.

Internal settlement is where both parties to the trade maintain accounts at the ICSD. In this case, final settlement is effected by book-entry transfer of securities against book-entry transfer of cash on the books of the ICSD. The possibility of internal settlement is a key attraction of an ICSD. It effectively removes settlement from the local market - no local delivery of securities or cash is involved. Internal settlement can take place whenever the ICSD runs its settlement cycles. Securities and cash are immediately available for onward settlement in the same or following settlement runs.

All securities that the Asian ICSD can access via a link and for which there is no requirement to segregate into accounts in the name of the beneficial owner would be eligible for processing as internal settlements. The only exception would be securities where there is a specific regulation prohibiting offshore transactions. The Asian ICSD would need to operate a real-time settlement process during the opening hours in Asia. It would need to have an over-night processing capability as well to permit links with the European ICSDs and/or the US market.

External settlement is where the securities are received from the local market or are delivered to the local market. This involves receipt or delivery of securities free of payment or against cash. With external settlement, the service offered by the ICSD would be either through a direct account with the CSD in the relevant local market or would be through a local custodian bank.

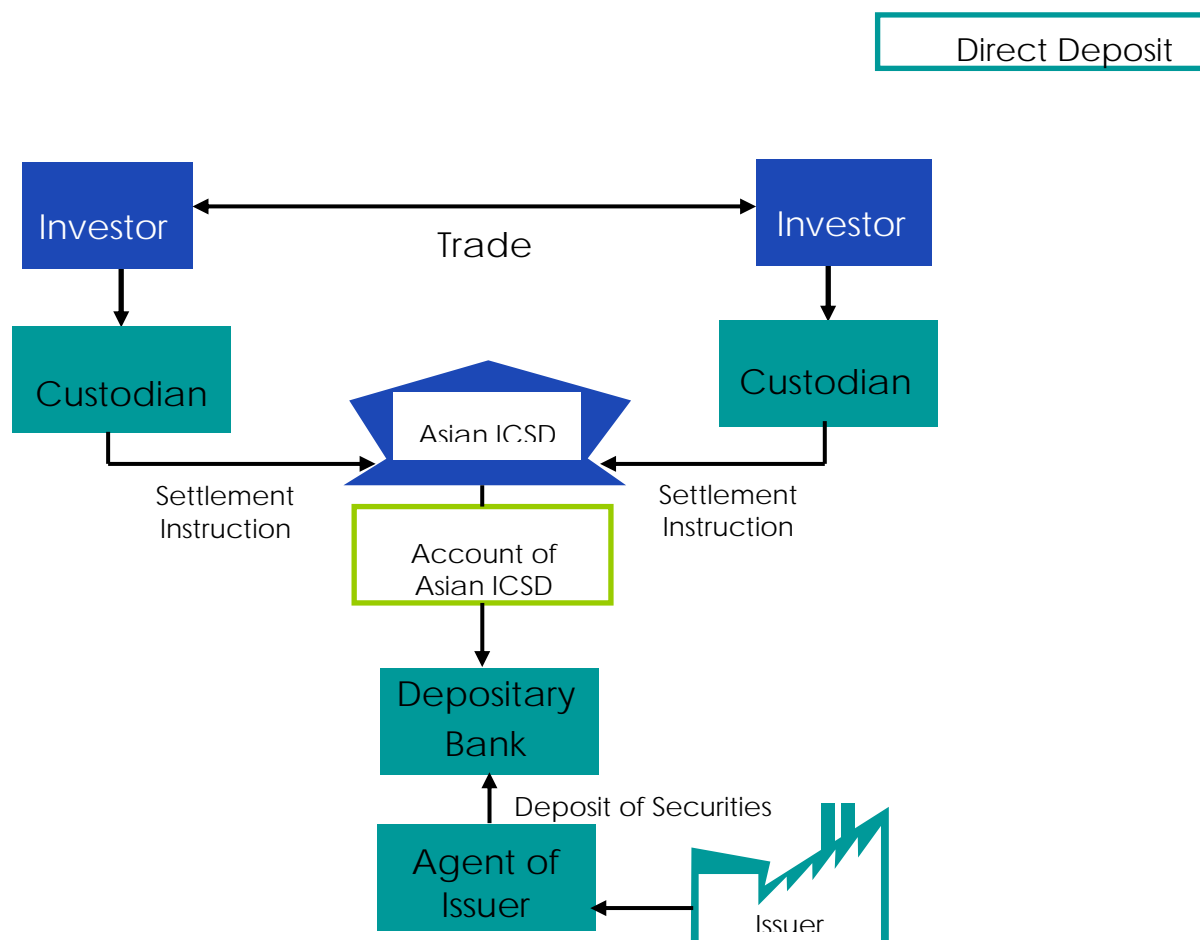
Figure 1: Diagram of Local Market Link for External Settlement



The timings and process for external settlement available at the Asian ICSD will depend on the processing capabilities and timings of the relevant CSD and/or the local custodian. The choice of whether to use a direct link or indirect link model would depend on a number of factors including: (a) whether the local CSD permits foreign members; (b) whether the local CSD supports international standard communication means; and/or (c) whether tax claims or other reports would need to be filed with the authorities in the local market. Given the complexity of the local markets in most ASEAN+3 countries in the current environment, it is likely that at least at an initial stage the Asian ICSD would mostly use the indirect link model. The choice of model does not have a direct impact on investors.

In addition to local market links, the Asian ICSD may also hold securities as primary CSD. These would be securities issued by an issuer located in an ASEAN+ country but for which the target investors are in several or more other ASEAN+3 countries. In this scenario, the issuer may choose to deposit the securities directly with the Asian ICSD rather than use a local market CSD. The structure for such an arrangement is set forth in Figure 2 below.

Figure 2: Diagram of Asian ICSD as Primary CSD



If the Asian ICSD would wish to offer a settlement service for on-exchange trades, this would normally require that the exchange provide trade details directly to the Asian ICSD. If there was a clearing system or central counterparty (CCP) involved. In this case, the trading information is compiled by the exchange and the CCP send an instruction on behalf of the accountholders in the Asian ICSD. The CCP receives a power of attorney from the ICSD accountholders in order to be able to instruct the ICSD on their behalf to effect netted settlement of the traded bonds.

With respect to stock exchange settlement, although the securities to be serviced by the Asian ICSD are limited to bonds, there are a number of exchanges in the region which list corporate bonds as well as equities. Whether or not the Asian ICSD would be able to settle on-exchange trades of corporate bonds would depend on the willingness of the relevant exchange to provide a feed / link to the proposed Asian ICSD. This cannot be determined in advance, but at least the Asian ICSD should have the ability to settle on-exchange trades if there would be in the future a willingness on the part of an exchange to provide such a feed / link.

Reporting by the Asian ICSD would be based on ISO standards and would take place via SWIFT. This would include providing information on market value and providing terminals or IT access for sending instructions and receiving reporting. If other reporting would be required, this would be at the discretion of the Asian ICSD and would depend on the specific needs of the relevant Asian ICSD client(s).

2.1.3 Operation of Cash Accounts – Funding & Withdrawal

As the Asian ICSD would offer multi-currency accounts, funding could take place in any eligible currency. The standard process for handling of cash would be for the Asian ICSD clients to deliver into the system the minimum cash needed of the relevant currency for settlement. That means that additional cash is paid in and surplus cash is withdrawn frequently several times per business day. Accordingly, the Asian would need to have a robust money transfer system.

There are, in principle, 2 possible models available to the Asian ICSD for cash funding and withdrawal. They are: (a) direct participation in the local real-time gross settlement cash system (RTGS) or (b) using a local correspondent bank. Ideally, the Asian ICSD should consider offering settlement in central bank money where feasible. This is a service not currently offered by the European ICSDs for most markets as it requires the ICSD to be a member of the central bank's RTGS system for the relevant currency. While it is not possible today in most ASEAN+3 markets for foreign banks to be members of the local RTGS, this would be the only way to completely eliminate the FX settlement risks identified in the TA Report.

As remote membership in RTGS systems is rarely permitted, in most cases the Asian ICSD will use a local cash correspondent. This means that cash settlement both in the Asian ICSD and externally would take place in commercial bank money (CoBM) and there a custodian risk on the relevant cash correspondent would remain.

The procedure would be that such cash is transferred between the client's correspondent bank for the relevant currency and the Asian ICSD's designated cash correspondent bank for such currency. Often the transfer between those banks in the local market would entail a delivery and receipt of the cash in the local RTGS. Note that the Asian ICSD's cash correspondent bank may or may not be the same as the local custodian bank. The ICSD may appoint a custodian on the basis of settlement ability and a separate correspondent bank on the basis of cash management services, credit rating, interest rates on credit and debit balances and/or the ability to support the needed liquidity levels.

In terms of the currencies available for internal settlement, the currencies of the ASEAN+3 region would need to be included. As noted above, this would require that current currency convertibility barriers in some ASEAN+3 markets be removed. Otherwise the Asian ICSD service would be limited to those regional currencies which are freely convertible and do not include significant exchange control reporting requirements.

The Asian ICSD would also offer USD and EUR services (as contemplated in the TA Report) and potentially other currencies, such as GBP, CHF, AUD, NZD, depending on client demand and cost. The opening of a new settlement currency would require the Asian ICSD to establish a relationship with at least one cash correspondent in the relevant market.

A denomination currency is a reporting device to show the specific currency in which the bonds have been denominated by the issuer. Unlike settlement currencies, this does not require that the Asian ICSD establish a cash correspondent relationship. A denomination currency affects just the reporting as settlements (both internal and external) and payments would need to take place in a settlement currency. All ASEAN+3 currencies, even those with exchange controls in place, could be made available at the Asian ICSD as denomination currencies.

The timings and process for wire transfers of cash into and out of the Asian ICSD will depend on the processing capabilities and timings of the relevant RTGS and local cash correspondent. This will vary substantially market-to-market.

2.1.4 Operation of Principal Custodial Services - Corporate Actions and Income / Redemption Payments

With respect to the custody operations of the Asian ICSD, the operational specifications is designed to provide a general idea of what might be available. The Asian ICSD would need to define in detail precisely how corporate actions and income / redemption payments might work as this will depend on the specifics of the securities, currencies and market practices.

Upon receipt of securities into the Asian ICSD, there would be a review of the terms and conditions of such securities to determine the principal features. This review would assess the following items and input the information into a securities database operated by the Asian ICSD and accessible to all accountholders:

- Issued amount: nominal - unit
- Instrument type
- Legal form: bearer or registered
- Tax regime
- Closing date
- Maturity date
- Issue price
- Redemption price & type
- Currency (denomination / payment)
- Denominations
- Name of agent (if any)
- Interest rate & frequency
- First coupon date
- Name and address of issuer

Based on the above information, the securities database can create automatic announcements to accountholders in respect of corporate events foreseen in the terms and conditions of the securities (referred to as “static” events).

For non-static or unpredictable events, the Asian ICSD would need to rely on announcements by issuers or agents, information received from their local market custodians or the local CSD or data vendors such as Bloomberg.

Corporate actions and income payments would be notified to accountholders of the Asian ICSD by means of ISO standard SWIFT messages. Instructions in respect of corporate actions with options would also be received from account holders via SWIFT messages.

In order to be able to service the bonds issued by issuers in the ASEAN+3 region, the Asian ICSD would need to be able to process a full ranges of corporate events and income payments. These would include:

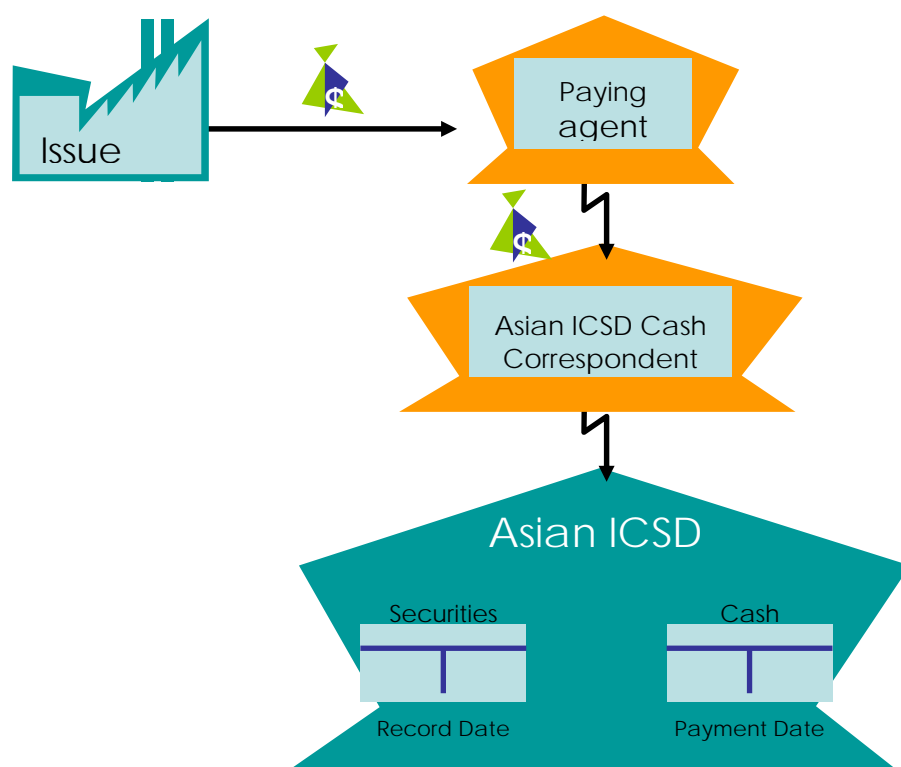
- Puts / calls / drawings (early redemptions full or partial)
- Bondholder meetings & consents (voting)
- Conversions / reorganizations
- Certifications
- Offers: tender offers (repurchases), rights, etc.

For securities held through the local market link structure described above, the Asian ICSD would credit cash or other proceeds received due to a corporate event when these are received in the local market at the Asian ICSD's cash correspondent bank, local subcustodian or at the local CSD whichever is applicable. For securities held in the primary deposit structure described above, the cash or other proceeds would be received by the Asian ICSD directly from the issuer or the issuer's agent.

Payments can be credited by the Asian ICSD either upon receipt of funds or can be advanced on a provisional basis by the Asian ICSD in certain cases. For example, income or redemption payments on USD or EUR denominated securities may need to be advanced to allow Asian investors to receive these on payment date during Asian business hours. If the Asian ICSD would pay upon receipt of funds, the Asian investors would not receive the funds until payment date+1 due to the time zone differences. However, to maintain proper risk control, the Asian ICSD would need to carefully assess the credit risks on the issuer and the credit risks on the accountholders before it could advance any payment.

Figure 3: Income and redemption payments at the Asian ICSD

Income and redemption payments



In case the proceeds of the corporate event would not be eligible in the Asian ICSD, the Asian ICSD would need to advise the relevant accountholders and request delivery details from them. These delivery instructions could then be passed on the issuer or agent and the proceeds would be distributed outside the Asian ICSD system.

The accountholders of the Asian ICSD would need to keep track of restrictions in terms of holding or participating in a corporate event. This is because in most cases such restrictions would be on the type, nationality or residency of the ultimate end investor. The Asian ICSD would not normally have information about the ultimate end investor and so could not monitor or enforce such restrictions. It would be up to the end investors to determine if they are permitted to hold the securities that they wish to invest in.

In some cases, the issuers or agents would request information about the Asian ICSD accountholders and, in order to permit transparency, the Asian ICSD should be permitted to provide this information as needed. In addition, the issuers or agents may also request that the Asian ICSD collect certifications (e.g., that the end investors are not US persons) from its accountholders so the Asian ICSD should be able to process certification requests.

Many of the above custody services would be possible only if the Asian ICSD would use the services of a local custodian bank. The Asian ICSD, like the existing European ICSDs, would use this model in many cases. This is Model A as defined in the TA Report.

2.1.5 Operation of Other Custodial Services

In terms of other custodial services, the Asian ICSD could provide foreign investor registration assistance on the basis of the services provided to it by its local custodian and/or the local CSD in the relevant market.

For portfolio valuation information, the Asian ICSD could make use of information through a data vendor such as Bloomberg and/or use the services provide to the Asian ICSD by its local custodian and/or the local CSD.

The Asian ICSD could offer a cash sweep service based on a standing instruction from the relevant accountholder. The accountholder would instruct the Asian ICSD to move cash from one account or a group of accounts into a single account at the end of each business day. This can be linked to the FX service described below under Section X.

For compensation or market claims for securities held in a market link structure, the Asian ICSD would need to follow the local market rules and would need to rely on the services provide to it by its local custodian and/or the local CSD.

For compensation or market claims for securities held in a direct deposit structure, the Asian ICSD would need to determine which rules would be applicable to trades of such securities and could decide to process compensation or market claims for internal settlements automatically or allow the relevant trade counterparties to handle compensation or market claims on a bilateral basis.

Depending on the applicable rules of the relevant market and the terms and conditions of the securities, the Asian ICSD may be able to provide an electronic proxy voting service for bondholder meetings. In this service, the Asian ICSD would collect voting instructions from clients holding the relevant security on the applicable record date for the meeting and would then pass on the vote totals to the issuer or responsible agent or registrar.

If there would be a payment default or issuer insolvency for securities held in the Asian ICSD, the Asian ICSD would need to follow the local market rules and would need to rely on the services provide to it by its local custodian and/or the local CSD. For securities held in a direct deposit structure, the Asian ICSD would provide statements of account or other proofs to relevant accountholders so that they or their clients could make claims against the issuer or administrator or liquidator in the relevant forum.

2.1.6 Operation of Tax Processing

To provide information on tax rules applicable to the securities held in the Asian ICSD system, the Asian ICSD would need to follow the local market rules and would need to rely on the services provide to it by its local custodian and/or the local CSD.

Based on such rules, the Asian ICSD would collect information or certifications from its clients in respect of their tax status or the tax status of the ultimate end investor. The Asian ICSD would then provide this information either directly to the relevant tax authorities or to the issuer or agent or would provide this information its local custodian and/or the local CSD to be passed on to the relevant tax authorities or to the issuer.

The type of and level of tax assistance that the Asian ICSD would be able to provide would depend very much on the applicable rules and the services provided to it by its local custodian and/or the local CSD. Ideally, the Asian ICSD should be able to process (a) standard reclaims; (b) quick reclaims; and (c) relief at source filings. Definitions are below:

Relief at source: Tax relief is provided at the time the income is credited by the issuer. Full or partial withholding tax relief can be granted at source (at the time of the interest payment); or through refund of all or part of the tax that was withheld at the time of payment. Generally, applications consist of certificates and documents to support these certifications.

Quick refund: A quick refund is typically handled by the withholding agent before the withholding tax with respect to a particular income payment has been paid to the tax authorities. It generally results in the excess withholding tax being refunded within a shorter period of time than refunds received via a standard refund procedure.

Standard refund: Tax relief is provided after the income has been credited by the issuer net of the applicable maximum rate of withholding tax.

Reporting to clients on tax reclaims would be by ISO standard SWIFT messages and would depend on the information received from the issuer, relevant tax authorities, the Asian ICSD's local custodian and/or the local CSD.

The tax procedures are particularly problematic and important. The Asian ICSD would need to assess whether such services are possible on a market-by-market basis and whether the benefits of providing such services would support the costs also market-by-market and even instrument type-by-instrument type. One benefit of an RSI would be that it can be a driver of standardization and a definer of market practices so there would be a possibility that the introduction of the RSI would provide the impetus to streamline custody and/or tax procedures on a regional basis.

2.1.7 Operation of the Securities Lending and Borrowing Program

This is an important feature of the Asian ICSD in order to avoid fails. The Asian ICSD's securities lending and borrowing program would be a fail-driven product that is established solely to support the Asian ICSD's settlement service by decreasing the amount of failed deliveries. This program automatically matches the lendable supply of securities in the Asian ICSD system with the borrowing demand created due to pending failed deliveries. The program is designed to improve the efficiency of securities settlement.

Asian ICSD accountholders would be able to set the terms of participation based on their needs. Accountholders could be a lender, a borrower or both, or decide not to participate in the program at all. The program could be set up so that lenders can choose to lend eligible securities on an automatic or opportunity basis and borrowers can choose to participate on the same basis. Automatic participation means that the relevant accountholder does not need to monitor lending opportunities or borrowing needs. Opportunity lenders and borrowers choose specific transactions in which to participate and need to monitor lending/borrowing opportunities as they arise.

Lenders would use the Asian ICSD lending and borrowing program to increase the yield on their portfolios without losing ownership benefits and related entitlements on lent securities. Safeguards to ensure return of lenders assets would be a normal feature of the system. To reduce risk, the Asian ICSD would guarantee lenders the return of lent securities (or the cash equivalent), related entitlements (or the cash countervalue) paid by issuers, as well as payment of lending fees.

Securities could be made eligible for the lending and borrowing program so long as there is sufficient liquidity and so long as there are no rules prohibiting the lending/borrowing of such securities. Securities would only be eligible for the securities lending and borrowing program if permitted under local law.

2.1.8 Operation of Collateral Management Services

The purpose of the Asian ICSD collateral management service is to allow clients to collateralise exposures across products, instruments and counterparties using one collateral pool. The triparty collateral management system would be a tool for participants to manage their collateral. It would remain the responsibility of the participants to decide which collateral to accept from which counterparties under which conditions. The determination of the value of the collateral would also remain the responsibility of the relevant participants, although the Asian ICSD could provide general market value information and could mark-to-market collateral on the basis of such information.

The service would be limited to those securities which would be eligible for internal settlement at the Asian ICSD. This is because the Asian ICSD would need to be able to effect the transfer of ownership of the securities from the collateral giver to the collateral taker for the system to be effective. Some GOE members believed that this feature is not essential for the Asian ICSD and could be added at a later phase. However, given the emphasis on collateral and liquidity management in the current market environment, this service could have a significant impact on the business case for the Asian ICSD.

The Asian ICSD compares the triparty messages of both the collateral giver and the collateral taker to ensure that they agree on the terms of the deal. The Asian ICSD verifies that the securities submitted by the collateral giver as collateral comply with the eligibility criteria. Concentration limits are valued by using the applicable margins as specified in the relevant triparty agreement. The Asian ICSD would then generate and process against payment or free of payment securities transaction instructions to transfer the collateral.

Once the triparty transaction is initiated, the Asian ICSD then can perform a daily mark-to-market of the collateral securities to ensure that the transaction is sufficiently collateralized. Valuation would be derived from various sources including data vendors, local custodians and/or local CSDs. The Asian ICSD would provide daily reports to accountholders reflecting the daily mark-to-market results and the occurrence of any collateral deficits or excesses.

The Asian ICSD collateral management service could include a feature where there is an automatic detection of the need for collateral substitutions due to pending settlement instructions and/or corporate events without request from the collateral giver. The Asian ICSD would then automatically generate appropriate against payment securities transaction instructions to ensure that the transaction remains fully collateralized at all times during the processing of the substitution.

The Asian ICSD would be able to simplify the management of custody operations and the administration of income payments and redemptions by automatically transferring from the collateral taker to the collateral giver all income and other distributions on securities used as collateral.

Asian ICSD clients would be able to define specific risk profiles by combining different eligibility criteria such as the rating, tenor, instrument type, currency, issuer country, etc. For example, an Asian ICSD client that acted as collateral taker could select to use A-rated sovereign bonds with a maximum remaining time to maturity of 10 years or BBB-rated bonds, denominated in JPY and KRW, from issuers incorporated in Japan, Republic of Korea or the United States.

The Asian ICSD client could also limit the risk on certain categories of securities accepted for collateral management purposes by establishing concentration limits (either in absolute terms or as a percentage of the transaction's size). For example, you can specify a SGD 100

million limit on any BBB-rated security, 20% on all BB-rated securities, and/or 25% on all securities issued by a specific Chinese corporate issuer.

The Asian ICSD collateral management service would allow client to specify haircuts (margin percentages) by cross-currency, quotation age and/or security characteristics (e.g. rating, issuer type, instrument type, remaining time to maturity and security code). For example, a collateral taker can select a 2% margin for cross-currency collateral combined with an extra 5% margin for A-rated corporate debt or an extra 10% margin for specific bonds. The client can apply different risk control options to different pools of securities, all within the same account.

2.1.9 Operation of Credit / Liquidity Facilities

Because it is a bank, the Asian ICSD could offer credit facilities to its clients in order to facilitate securities settlement and custody operations. The experience of the European ICSDs shows that such credit facilities are needed to achieve a high level of settlement efficiency. This would be even more important in the ASEAN+3 region due to the wider variations of time zone and currencies. Without such credit facilities, clients will need to pre-fund their accounts sometime one day before settlement day which will reduce liquidity in the region and tie-up client cash unnecessarily.

Clients would not be required to enter into credit arrangements with the Asian ICSD and depending on financial strength some clients may not be allowed to receive such credit lines. These credit facilities would not intended to cover other financing needs and could be used solely within the Asian ICSD system. For risk control reasons, credit facilities would be offered by the Asian ICSD only on an uncommitted and secured basis. Credit decisions would remain at the discretion of the Asian ICSD.

Recommendation 9 of the CPSS-IOSCO Recommendations for securities settlement systems dated November 2001 provides that:

The most reliable approach to controlling potential losses and liquidity pressures from participants' failures to settle is a combination of collateral requirements and limits. To control potential credit exposures in this approach, any credit extensions on the funds or securities sides are fully collateralised. To ensure that credit exposures are, in fact, fully collateralised, the CSD applies haircuts to collateral values that reflect the price volatility of the collateral.

Based on this requirement, it is anticipated that the Asian ICSD would fully secure its credit facilities including for intra-day credits and using actual collateral rather than pre-advice of funds. This is the procedure in place at the European ICSDs and, as noted by GOE members, the Asian ICSD should have risk controls in place at least as robust as the existing ICSDs.

Asian ICSD accountholders would be able to pledge securities held in the Asian ICSD system to the Asian ICSD as collateral to secure such credit facilities. The securities eligible to be used as collateral would need to be reviewed on a daily basis by the Asian ICSD credit department. If deemed as eligible collateral, appropriate haircuts would need to be taken for low rated or unrated bonds.

The actual process of collateralizing the credit lines could come in one of several forms including pledges, repos, letters of credit, parent guarantees, liens (if available under local law in the place where the Asian ICSD is organized) and auto-collateralization. Depending on the needs of the participants, the Asian ICSD would probably need to offer a range of possibilities.

There would also need to be controls in place to assess the legal risk on collateral and to ensure that pledged collateral is proprietary assets of the participants and not client assets which cannot be pledged. These controls already exist in the European ICSDs so it should be feasible for the Asian ICSD to establish similar procedures. The specific credit support mechanism would depend on the availability of such arrangements under local law in the place where the Asian ICSD is organized as well as a legal analysis of the insolvency laws in the country where the relevant Asian ICSD accountholder is located.

The Asian ICSD would need to provide a regular credit report to all accountholders with a credit facility. The report would provide information on the usage and availability of credit and collateral and a projection of next-day settlement activity.

2.1.10 Operation of PvP / FX Service

The Asian ICSD may also decide to offer a payment-versus-payment (PvP) mechanism for some or all of the currencies it can service. PvP is a mechanism in a foreign exchange settlement system to ensure that a final transfer of one currency occurs only if a final transfer of the other currency or currencies also takes place. A foreign exchange settlement system, like CLS Bank, matches trades of one currency for another currency and makes the transfer of the currency between accountholders.

This service would be cash-versus-cash DVP foreign exchange settlement system. It would be designed to ensure that a final transfer of one currency occurs only if a final transfer of the other currency or currencies also takes place. The PvP foreign exchange settlement system would match trades of one currency for another currency and makes the transfer of the currency between Asian ICSD accountholders.

The specific Asian ICSD accountholders would arrange for FX trades with counterparties that are also Asian ICSD accountholder or that have access indirectly through an accountholder. Both accountholders would instruct the Asian ICSD to process the transaction delivering cash in one currency for cash in another currency. Credits to the cash accounts of the relevant accountholders would be made on a book-entry basis by the Asian ICSD. The Asian ICSD could also link a specific FX transaction with a securities settlement transaction or with incoming proceeds from a corporate event.

In addition to the PvP service, the Asian ICSD could also offer an integrated foreign exchange service. This would be a foreign exchange facility provided by the Asian ICSD to convert cash balances in one currency into cash balances in another currency. For example, upon an instruction from the participant (or a standing instruction) the Asian ICSD would convert a payment received in JPY into USD for its client by using foreign exchange settlement through CLS Bank or via correspondent banks.

Upon an instruction from the Asian ICSD accountholder (or a standing instruction) the Asian ICSD would convert a payment received in one eligible currency into another eligible currency for its client by using foreign exchange settlement through its cash correspondent banks. This service could be integrated with securities settlement transactions or with incoming proceeds from corporate events.

As this service may entail certain foreign exchange risks for the Asian ICSD which would need to be carefully managed. This could be done through posting of collateral by the clients that instruct FX transactions with the Asian ICSD. Regulatory and licensing restrictions for some currencies may also limit the range of currencies for which the Asian ICSD can provide this service.

2.1.11 Operation of Regional Pre-Settlement Matching Utility

The Asian ICSD might also be able to offer a regional pre-settlement matching service (PSMS) which combines two aspects of the processing. This is a combination trade

matching and settlement instruction matching procedure. This is different than the normal settlement instruction matching system which is an essential feature of the Asian ICSD and which is covered under Section 1 above. The main difference being that trade information received directly from an electronic trading platform is used for settlement matching as opposed to information input for the sole purpose of settlement by participants in the ICSD.

The service would entail a contract note or trade confirmation received from a broker in electronic form or trade information from an electronic trading platform being affirmed by the Asian ICSD accountholder and then converted directly into matched settlement instructions within the Asian ICSD system.

The PSMS service might also be based on set of standing instructions from Asian ICSD accountholders that link up specific broker confirmations with specific custodian details for settlement purposes so that the trade confirmation can be automatically converted into settlement instructions.

The purpose of the PSMS is to create a straight-through-processing (STP) environment for certain bond trades in the ASEAN+3 region whereby input of a trade confirmation by the broker would create a settlement instruction in the Asian ICSD without additional input by the Asian ICSD accountholder.

The PSMS might be limited at first as it requires brokers in the ASEAN+3 region to be able to send the Asian ICSD an electronic trade confirmation in a specific format which the Asian ICSD would need to develop. To expand the scope of the PSMS, formatted trade information from electronic trading platforms like Bloomberg or MTS would also need to be provided to the Asian ICSD. Finally, it would take some time for custodians to provide sufficiently detailed standing settlement instruction to create a large enough database within the Asian ICSD to allow for a true STP procedure.

A number of GOE members questioned the usefulness of a PSMS for the Asian ICSD as such systems exist already at the national level. In addition, the Asian ICSD would need the cooperation of the broker community and/or several electronic trading platforms to capture a significant number of bond trades in the region. It is not clear whether such entities would be willing or able to provide this information to the Asian ICSD.

2.1.12 Cost Implications

The Asian ICSD will need a technical platform to process the settlements, receive instructions and send notifications. The cost for such a platform is difficult to assess with certainty without information on projected volumes. However, the cost can be estimated based on similar projects. The ECB expects costs of in total €203 million for the complete development phase (2008 – 2013) of the Target2Securities securities settlement platform which is projected to process between 345-640 million settlement instructions annually.⁷

However, there are off-the-shelf technical software packages available to support securities market infrastructure which could be utilized by the Asian ICSD, for example, Tata Consultancy Services TCS BaNCS Market Infrastructure. This is a component-based, layered architecture scalable solution. It can support global standards such as ISINs and ISO 15022. The cost for a basic version of this product (both license and implementation) is USD 3.5-5.5 million.⁸ Extra functionalities such as PvP and PSMS would require customization and would add to this cost.

⁷ Source: T2S Economic Impact Assessment, 07 May 2008

⁸ Source: Malini Raman, Solution Head, TCS BaNCS Market Infrastructure, Tata Consultancy Services

Please note that there would be other substantial costs in establishing an Asian ICSD beyond the above-estimated development costs of the technical platform (e.g., capitalization of the bank, staff costs, physical space, etc.)

Developing an Asian ICSD would significantly impact the transaction costs for cross-border bond settlements in the ASEAN+3 region. Current global custodian transaction fees in the region range from over USD 80/per transaction in Indonesia to around USD 20/per transaction in Japan. If one compares this to transaction charges for internal settlement of debt securities at the European ICSDs of between EUR 0.33-1.50,⁹ it appears that there could be a significant cost savings to internalize cross-border settlements in the ASEAN+3 region.

The trading volumes for bonds in the ASEAN+3 region is approximately USD 6047 billion.¹⁰ If it is assumed that an average ticket size of USD 5 million, there would be approximately 1.2 million bond settlement transactions in the region on an annual basis. The average ownership of bonds by non residents in the region is 13.2%.¹¹ If it is assumed that the holding percentage is similar to the trading percentage, there could be approximately 160,000 cross-border bond settlements annually in the ASEAN+3 region.

If the Asian ICSD could reduce the costs of such transactions from USD 20/per transaction (lowest global custodian cost) to USD 3/per transaction (highest ICSD cost), the annual cost savings for the region could be approximately USD 2.7 million.

⁹ Source: Euroclear Bank website: www.euroclear.com

¹⁰ Source: www.asianbondsonline.adb.org/asiabondindicators

¹¹ Source: www.asianbondsonline.adb.org/asiabondindicators

2.2. CSD Linkage (RSI) Model

SERVICE SCOPE AND OPERATIONAL SPECIFICATIONS

2.2.1 Introduction

Purpose and Roles

The purpose of the CSD Linkage solution would be to improve the cross-border bond trading infrastructure of the ASEAN+3 region, addressing certain risks inherent in the current infrastructure and increasing access to cross-border trade between countries, thereby promoting increases in local currency issuance and further development of the regional bond market.

A CSD has a link with another if it is owner of a custody account operated by the other CSD. This allows the participants of a CSD to hold foreign instruments in accounts at their home-country CSD alongside their domestic accounts, as their home CSD settles transactions and services assets seamlessly between the domestic and foreign markets.

On April 2nd, 2008 the Link Up Markets initiative was announced. This initiative includes a joint venture called Link-Up Capital Markets S.L., originally between seven leading European CSDs, and as of end 2009 expanded to nine CSDs including STRATE of South Africa as the first non-European member. The initiative consists of the activities of the CSDs to establish links with each other, as well as the activities of the joint venture to establish a common infrastructure allowing for easy implementation of links between CSD markets and introducing efficient cross-border processing capabilities.

The role of the CSD Linkage infrastructure is as a communication and information platform connecting CSDs, routing and converting messages to absorb differences in formats between the CSDs, and storing data that are relevant to all of the participating CSDs. It is important to note that the CSD services would not be provided by this converter but by its CSD participants.

By connecting to the common infrastructure, each participating CSD would gain access to the services of the other participating CSDs across all asset classes except derivatives. The CSD Linkage infrastructure would absorb differences in communication standards across the markets, while leveraging the existing infrastructures and processes of CSDs. As a result, the solution could be provided quickly and with minimal adaptations for participating markets.

Participating CSDs would assume two distinct roles. As Issuer CSDs, they would provide services to other participating CSDs for the securities for which they are the ultimate depository. As Investor CSDs, they would provide their customers with CSD services in markets other than their own by using the services provided by other issuer CSDs. In each case the service would be provided by the Issuer CSD to the Investor CSD and following that from the Investor CSD to its participants.

The target market for Investor CSDs would be those that need full settlement capability across a large set of regional markets. The retail and private banks in the market of the Investor CSD, as well as local and regional custodian banks could fit this profile.

Risks Addressed

The CSD Linkage option is an extension of what already exists today in that there are already links between CSDs in the ASEAN+3 region. In the ADB's Technical Assistance Report Project Number: 39312, August 2006 - Minimizing Foreign Exchange Settlement Risk in the ASEAN+3 Region (Financed by the Japan Special Fund), it is clearly pointed out that, "There are currently several means for cross-border bond settlement: (i) global custodians, (ii) local agents (financial institutions in the local market), (iii) direct access, (iv) international

central securities depositories (ICSDs), and (v) linkages of central securities depositories (CSDs) in the region.”

The use of CSD links assumes that both the securities and cash legs of the transaction are in the same currency at the amount agreed by the buyer and seller, as this is required for matching to take place. All markets in ASEAN+3 have their own currency, unlike the benchmark case in Europe where many of the participating CSDs share a currency. As a result, each DvP transaction could require a cash leg in commercial bank money (CoBM) as provided by a cash correspondent bank and therefore may require a foreign exchange transaction on at least one side in order to either fund the purchase or convert the proceeds, unless the foreign currency is already available or is intended for re-investment, respectively.

The DvP process would not address the foreign exchange settlement risk inherent in this part of the transaction; rather the foreign exchange settlement risk would be addressed by the selection of cash correspondent banks that are CLS members. In the ASEAN+3 region CLS eligible currencies include JPY, HKD, SGD, and KRW (THB is in process for implementation). The alternative to CLS (i.e. for non-eligible currencies) would be to use cash correspondent banks that have bi-lateral netting agreements in place for other ASEAN+3 currencies. However, while bi-lateral netting reduces Herstatt risk it does not remove it completely.

The CSD Linkage solution would reduce the concentration risk inherent in a small number of Global Custodians handling all of the cross-border transactions, as the CSD links would increase the number of options available for cross-border trades. The increase in competition across the region for cash correspondent services for the market participants that use CSD links could have a similar effect of reducing concentration risk, assuming that either the participant or the investor CSD chooses the cash correspondent rather than the Issuer CSD. The structure whereby the cash correspondent is appointed centrally by the Issuer CSD would lead to concentration risk and therefore is ruled out. In the case where the Investor CSD would appoint the agent, adequate anti-money laundering and know-your-customer processes would have to be ensured.

Participation and Ownership

As a pre-requisite to participate in the CSD Linkage Solution as an Issuer and Investor CSD, the regulators must allow foreign CSDs to open accounts in the CSDs as remote participants and vice-versa, and the currency must be fully convertible (i.e. no foreign exchange restrictions). In order to participate as Issuer and Investor CSD, the respective CSDs would have to provide each other with a consistent level of service. Finally, in order to ensure the possibility of a positive business case for all CSDs and in line with the ABMI target to promote local currency issuance, each CSD must agree to provide Issuer CSD services for all other CSDs that are members, subject to a bilateral agreement between Issuer CSD and Investor CSD.

The CSD Linkage Solution is based on the concept of a stand-alone utility to develop and operate the central converter/router on behalf of its member CSDs. Only CSDs would participate in the solution directly, with investors participating via their existing channel through custodian banks, brokers, investment funds, etc. according to existing market practice. Since the use of CSD links is based on the concept of settlement finality in the CSDs (i.e. no new settlement engine), the regulatory regime for each CSD that participates remains its home market. As such, the utility can be based wherever it is most advantageous from the perspective of administration, infrastructure, and network cost as well as considerations such as proximity to participants. As a result, the legal form is open to any company structure that meets the governance requirements discussed below, however it does not require an SSS (Securities Settlement System) status or banking license.

The concept is based on the utility being owned by its direct CSD participants, who would hold all of the voting rights and should be shareholders in order to participate. This structure would allow the direct users of the utility to control details important to them such as the technical specifications, while avoiding conflicts of interest that could arise if market participants with differing goals share ownership. The utility would be run on a cost-plus basis, allowing a margin per transaction to ensure that costs are covered in the event that volumes are lower than forecast, and paying rebates or dividends of the excess profits at the end of the year to adequately reward both financial investments and the volumes of scale that high volume CSDs provide. In order to qualify as a new shareholder any prospective shareholder should have to:

- Perform the function of a CSD, as a facility (or an institution) for holding securities, which enables securities transactions to be processed by book entry. Physical securities may be immobilised by the depository or securities may be dematerialised (i.e. so that they exist only as electronic records). In addition to safekeeping, a central securities depository may incorporate clearing and settlement. CSDs perform also a notary function i.e., the registration of ownership of securities on a legal record.
- Be subjected to an adequate degree of regulation and supervision as well as adequate Anti Money Laundering regulations and supervision by a national authority

A multi-phase and multi-level approach to the governance would account for the various stages of readiness of ASEAN+3 CSDs to implement links. The governance should account for the dual nature of the initiative as both company and project, by having a Board of Directors to run the company separate from an Advisory Committee that discusses technical details and assists new members with implementation. The overall structure should allow for CSDs to partner with third party service providers such as banks in order to ensure that they can meet the requirements to participate as Issuer CSD (see section XII and XIII below).

The ASEAN+3 markets are comprised of 17 CSDs, plus the one or more required for Lao PDR depending on the market structure it implements. Given the current experience in Europe with Link-Up Capital Markets, the solution would aim for 4 to 8 CSDs as initial founders for a first phase, with approximately one year of releases to have all of the links established within this group. The founding CSDs would take on a higher portion of the project risk, for which they should be rewarded by having 100% of the voting and dividend rights at the founding. However, as additional CSDs join and are thereby required to purchase shares, the founder's shareholding would be reduced either by capital injection if additional investment funding is required (dilution), or by sale of existing shares from founding CSDs to new joiners. The exact distribution of shares would depend on the number of phases and the number of CSDs per phase, and may also require different stake levels (e.g. full, half, and/or quarter stakes) in order to account for capital investment resources and expected volume developments in CSDs of differing sizes. The exact details would eventually be subject to negotiation between the various CSDs.

The benchmark Link Up Capital Markets was designed to facilitate CSDs compliance with the European Code of Conduct for Clearing And Settlement signed on 7 November 2006. While there is no similar agreement amongst ASEAN+3 infrastructure providers, it is relevant to point out the principles of the European Code that should be respected for a successful CSD Linkage solution. These include open access and inter-operability including the granting of access on the basis of non-discriminatory, transparent criteria and prices. In order to provide for each CSD to have a feasible business case for its participation, Issuer CSDs will apply the same service categories, fees, rebates and discounts to Investor CSDs as they do their domestic customers although some exceptions can be made if there is a need for customized services.

Benefits

The cost structure for settlement and custody would include the domestic charges for the Issuer CSD, a communication component to cover both the transmission to and use of the converter, the processing charges for the Investor CSD, and sufficient margins for the Investor CSD to gain a return on its investment in the converter and the CSD infrastructure. Actual fees would depend on the specific markets for a transaction and the total volume of cross-border transactions over which the converter is able to distribute its costs. However, given that CSD fees are much lower than custodian fees, commensurate with service level, and the relatively low investment cost of the solution, it has the potential to produce significant savings.

Link-Up Markets, the joint venture between 8 European Central Securities Depositories (CSDs) and European benchmark for a CSD Linkage solution, successfully launched on March 30, 2009. Clearstream Banking Frankfurt (Germany), OeKB (Austria), SIX SIS (Switzerland) and VP (Denmark) started connectivity, with connectivity of the other CSDs to follow soon. The Link Up Markets infrastructure announced that investments were below Euro 10 million, providing a reasonable estimate for a CSD Linkage solution. In parallel, Clearstream Banking Frankfurt published a fee schedule effective April 1st that gives the total settlement fee of € 1.90, plus the external costs per market will be charged to the customers.

The target market for Investor CSDs would be those clients that need full settlement capability across a large set of regional markets. The retail and private banks in the market of the Investor CSD, as well as local and regional custodian banks could fit this profile. The benefits to these clients would be access to settlement and custody services for foreign securities, with positions held in their domestic CSD alongside their domestic assets, requiring only minor adaptations to their existing interfaces. Custodians could leverage the CSD Linkage solution to service multiple ASEAN+3 markets from a single or reduced number of locations, thereby simplifying and reducing infrastructure investment and maintenance.

Technical Requirements

The core of the CSD Linkage Solution would be its technical infrastructure, with a converter that performs the functions of format validation, data conversion and mapping, message routing and delivery, and life cycle management and error handling. There would be a common format ("converter format") defined per message type. Each CSD would map inbound and outbound formats against this converter format. Management of the mapping rules would remain the responsibility of the participating CSDs. During transformation of incoming formats to outgoing target formats, the converter might need to introduce some additional translation logic. The individual mapping rules would not be impacted by changes in other markets or by the addition of new markets.

The converter would support ISO 15022, ISO20022, and proprietary message formats. The rules for data conversion and mapping would have a Graphical User Interface (GUI), so that experts on processes and messaging at the CSDs would be able to maintain them without requiring programming knowledge. The life cycle management functionality would not replace the life cycle management at the CSDs, rather it would provide technical ack/nak (acknowledgement / non-acknowledgement) and error handling specific to the converter's internal processes. The CSDs would retain their existing business life cycle management. The converter ack/nak functionality would also allow CSDs to ensure that messages they send to other participating CSDs outside of normal hours are correct in format and ready to be received when the CSD opens, thereby absorbing time zone differences in operating hours.

In order to support the converter a number of services would be required, including configuration data, communication channels, an information platform, and other supporting services. The configuration data would store the mapping rules described above and CSD users would be able to maintain using the GUI. The communication channels would include SWIFT and proprietary networks and allow CSDs to send and receive using individual messages or text files. The information platform would centralise market guides and CSD information releases so that all participating CSDs could refer to a single source for such information. The other supporting services would include logging, system management (e.g. performance tuning, security), reporting and statistics, auditing, and billing. It should be noted that SWIFT has limited conversion capability, although the core messaging functionality could be provided by SWIFT. As a result, if SWIFT were to be used on its own instead of a central converter, then many functions described here for the converter would have to be developed multiple times in the participating CSDs.

The converter could be extended to non-core components providing basic business reference data services for managing securities and participant data, and introducing functional modules for sharing Corporate Action information (event calendar; proxy voting meeting information). These non-core modules would re-use parts of the core infrastructure (converter message transformation, logging, auditing, error handling etc.).

In addition to the cost of developing the above services the CSD Linkage solution would have to consider the costs of adapting the existing CSDs and the ongoing operations of the converter. The cost of adaptations at the individual CSDs would be an internal and in most cases confidential matter for the CSDs to consider for their own business case. The ongoing operations of the converter would include administration (non-IT) and IT operations costs. The administration costs would depend both on the location of the converter and on the amount of responsibility the CSDs would like the converter to assume. Certain costs such as facilities, management, legal and accounting fees would be mandatory, while other costs would be optional. For example the CSD Linkage solution could include expert consultants for product management, or alternatively the CSDs could supply these resources on an as-needed basis, and this decision would depend on the actual needs and resources of the participating CSDs. For initial calculations the annualised IT operations costs could be calculated using an estimate of 15% of the total investment cost including both hardware and software. At a later stage the IT operating costs could be estimated in more detail using the technical specifications.

2.2.2 Operation of Securities Accounts - Settlement

The core settlement services include securities and cash processing in DvP in the Issuer market, following the DvP Model (i.e. BIS Model 1, 2, 3) of the existing local process in the Issuer CSD.

The CSD Linkage solution would be capable of both external settlement, and internal settlement. Internal settlement refers to the ability of an Investor CSD to internalize a trade and it depends on the account structures of both the Issuer and Investor CSD.

In case both parties to the settlement are customers of the same Investor CSD, settlement can be internalized if in accordance with the home market principle. This depends on the account setup chosen by the Investor CSD in the Issuer CSD. In case of omnibus accounts, settlement can be internalized. In case the Investor CSD chooses to use segregated accounts (i.e. separate accounts for different customers), then the settlement has to be executed in the Issuer CSD in case different accounts are involved. Each Investor CSD can choose what is more appropriate for their service.

Internalization is desirable because the Investor CSD can process transactions without the cash-leg having a cross-border component (although foreign exchange transactions that

may be required to fund the purchase or convert the proceeds would still be subject to the same considerations stated in the Introduction). Internalization is best supported by omnibus account structures, i.e. where the Investor CSD opens one account in its own name with the Issuer CSD. However, in several cases the legal and regulatory framework or existing market practice require accounts to be segregated on an investor/beneficial owner level or on the level of the direct client of the Investor CSD. The existence of segregated account structures is relevant in two different aspects:

- Segregated accounts are required on the level of the beneficial/investor level within the Investor CSD: In this case the Investor CSD already today maintains accounts per investor. As long as the Issuer CSD does not require segregated accounts, the Investor CSD would still only have to maintain omnibus account with the issuer CSD, but may wish to mirror its own account structure and open segregated accounts per investor.
- Segregated accounts within the issuer CSD: In this case Investor CSDs would be required to open accounts either per investor or per each of their clients (according to market requirements) with the Issuer CSD.

For the single relationships between two CSDs, four scenarios can be differentiated:

- Both CSDs operate on an omnibus account basis. The Investor CSD, as a consequence would hold an omnibus account with the issuer CSD and internalization is possible.
- The Investor CSD operates on a segregated account structure on beneficial owner level; the Issuer CSD does not require segregated accounts. In this case, the assets segregated on Investor CSD level could be pooled in an omnibus account at the Issuer CSD. However, the Investor CSD may wish to mirror the segregated structure so the possibility to internalize depends on the Investor CSD process.
- The Investor CSD operates on an omnibus account basis, but the Issuer CSD requires segregated accounts. The Investor CSD would then have to open segregated accounts per beneficial owner with the Issuer CSD and consequently would have to switch to a segregated account structure for those customers that hold assets in the respective Investor CSD market. In this case the possibility to internalize would depend on whether the Investor CSD and Issuer CSD could create a process wherein the Investor CSD only has to make position re-alignments at the Issuer CSD. However, due to complexity it would be preferable to address the legal and regulatory restrictions to Investor CSDs holding omnibus accounts.
- Both markets require segregated accounts. In this case the Investor CSD would also have to mirror their segregated structure when setting up the account structure with the Issuer CSD. As long as the level of the required segregation is the same for both CSDs, no changes would need to be made to the account structure of the Investor CSD vis-à-vis its customers. In this case the possibility to internalize would also depend on whether the Investor CSD and Issuer CSD could create a process wherein the Investor CSD only has to make position re-alignments at the Issuer CSD.

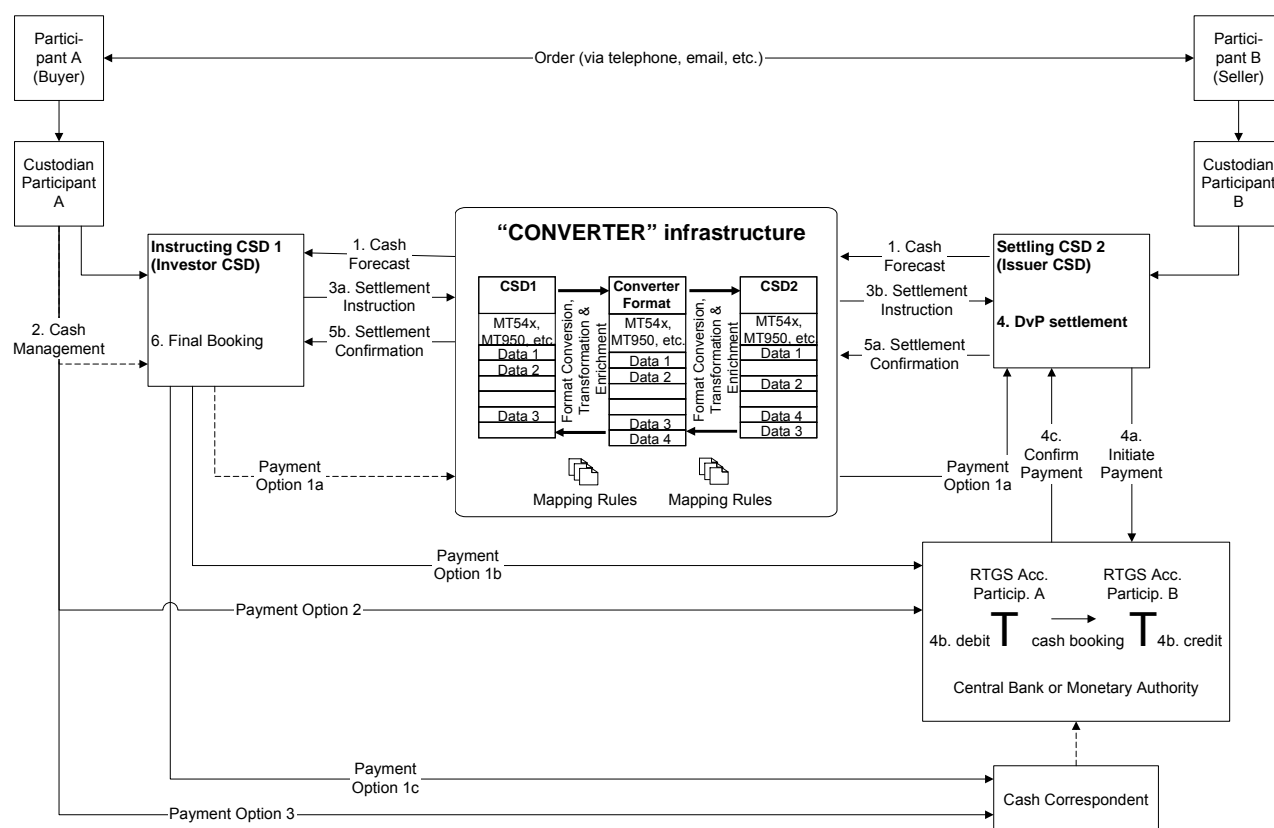
CSD links can fit into fully integrated local infrastructures with automated information flows direct from exchanges or via central counterparties to CSDs and payment systems. OTC is still the prevalent trading form for bonds although electronic markets are increasingly important. Assuming no CCP involvement in the post trade processing of OTC trades, it is the responsibility of the trading parties to submit correct settlement instructions to the CSDs (so called bilateral input). With bilateral input it is important to ensure through a matching process that settlement instructions conform to the intentions of the trading parties. Matching is the topic of scope item 5.2. For a detailed discussion of the settlement process flows, refer to the ECSDA CSD link documentation.

If the Investor CSD would wish to offer a settlement service for on-exchange trades, this would normally require that the exchange, or the clearing system or central counterparty (CCP) involved, provide trade details directly to the Investor CSD. The trading information would be compiled by the exchange and the exchange or CCP would send instructions on behalf of the accountholders in the Investor CSD. The exchange or CCP would receive a power of attorney from the Investor CSD accountholders in order to be able to instruct the Investor CSD on their behalf to effect settlement of the traded bonds, gross in the case of an exchange or netted in the case of a CCP. The settlement process would then proceed as described below.

Matching is the process of comparing the instruction details for settlement provided by counterparties to ensure they agree with respect to the terms of the transaction. In cross-border situations one CSD instructs while the other matches. The one that matches, the settling CSD, in this context is the Issuer CSD. The instructing CSD in this context is the Investor CSD. Both participants submit instructions as early as possible to the respective CSDs (this is one of the cornerstones of the ESF/ECSDA matching standards). The Investor CSD passes the instruction of its participant immediately to the Issuer CSD where matching takes place. Unmatched transactions in the Issuer CSD give rise to alleged settlement instructions. The flow of the settlement allegation depends on the sequence in which settlement instructions reach the Issuer CSD. For a more detailed discussion of the process flows, refer to the ECSDA documentation on CSD links and the ESF/ECSDA documentation on matching standards.

Investors CSDs would provide cross-border settlement to their participants by advising securities delivery only upon receipt of confirmation from Issuer CSDs. In the case of an internalized transaction where the Investor CSD operates an omnibus account in the Issuer CSD, the process would differ in that messages would not be passed through the CSD Linkage Infrastructure, and both payment initiation and confirmation would be processed by the Investor CSD.

Figure 1: Converter Based CSD-Link Settlement(OTC Transaction)



Securities Leg Steps:

- Cash Forecast – Issuer SSS provides continuous Cash Forecast to the Investor SSS for transactions settling on S (same day). The Investor SSS informs Participant A cash requirements
- Cash Management – Participant A responsible for cash management on RTGS accounts in the NCB
- Release of Settlement Instruction: the Investor SSS releases the instruction in the Issuer SSS
- DvP-Settlement at Issuer SSS – the Issuer SSS executes Cash and Securities Settlement between Investor CSD and Participant B. As part of the DVP settlement, the Issuer CSD initiates a mandated payment from the RTGS account of Participant A to the RTGS account of Participant B in the cash settlement system of the NCB
- Settlement Confirmation – After successful settlement, the Issuer SSS sends Settlement Confirmations to the Investor SSS
- Final Bookings at Investor SSS – After confirmation of Settlement at Issuer CSD, the Investor SSS performs FOP bookings between Participant A and Investor CSD

Transaction of securities in the example above (Figure 4) is for a gross / gross basis. However, in some cases where DVP settlement in CSDs is executed on a netted basis (securities and/or funds) the Investor CSD would submit the netted transactions to their Issuer CSD.

The list of eligible securities would include all domestic securities in the participating CSDs, excluding those that have foreign investment restrictions. Issuer CSDs would have to block the restricted securities from the securities master data they provide to Investor CSDs via the converter in order to avoid showing them as eligible.

The types of settlement would include Delivery versus Payment (DvP) and Free of Payment (FoP). The external links should include all markets in ASEAN+3, as it is recommended that all CSDs be required to link to all markets as a pre-requisite to implementing the solution. However, given the multi-phase approach described in the introduction, the initial scope of markets would be limited and it would increase as regulatory issues are addressed and CSDs develop the required capabilities.

The settlement model (i.e. BIS Model 1,2, or 3) may differ per market as the CSD Linkage solution would not implement a new settlement engine. The details per market are explained in further detail in the Comparison to EU Benchmark Country Details document.

The deadlines for internal and external transactions would typically be the same, and would be determined by the deadline in the Issuer CSD plus the processing time required by the Investor CSD. As a result, the exact deadline would differ per market. However, given the partnership approach there is an opportunity to harmonise opening hours and cut-off times in the medium term.

Instructions would be sent and received and reports provided according to current market practices, although some extensions and new developments may be required to handle foreign markets. It is recommended that new developments be implemented using ISO 15022 or ISO 20022 standards but this is not a pre-requisite for the CSD Linkage solution.

The converter would have the capability to handle the following message types, in ISO 15022 format, which the participating CSDs would have the corresponding business processes to support:

Category	Message type	Description	Converter action
Account Servicing	MT 508	Intra-Position Advice	Pass through
	MT 530	Transaction Processing Command	Pass through
Settlement	MT 540	Receive Free	Format conversion
	MT 541	Receive Against Payment	Format conversion
	MT 542	Deliver Free	Format conversion
	MT 543	Deliver Against Payment	Format conversion
	MT 544	Receive Free Confirmation	Format conversion
	MT 545	Receive Against Payment Confirmation	Format conversion
	MT 546	Deliver Free Confirmation	Format conversion
	MT 547	Deliver Against Payment Confirmation	Format conversion
	MT 548	Settlement Status and Processing Advice	Format conversion
Allegements	MT 578	Settlement Allegement	Format conversion
	MT 586	Statement of Settlement Allegements	Format conversion

Initially the format conversion would only need to be available for settlement related message types. However, the converter format could be extended to other message types, especially custody in order to leverage the standardization work done by the Securities Market Practice Group (SMPG).

2.2.3 Operation of Cash Accounts – Funding & Withdrawal

In the benchmark European case the Issuer CSD and/ or Investor CSD can arrange for funds transfer in CeBM (via Target 2 Cash for euro). In ASEAN+3 Central Bank Money may be accessed in the form of a physical or logical RTGS payment system not immediately identifiable as central bank operated. The concept implemented in Europe as the benchmark needs to be adapted for ASEAN+3 to accept such arrangements. For specific examples refer to the country details such as HKCIL in Hong Kong, China; MEPS+ in Singapore; or RENTAS in Malaysia.

Delivery versus Payment without a delay between the securities and cash legs at Issuer CSDs is necessary in order to ensure that no undue risk is imposed on Investor CSDs. From the perspective of the Issuer CSD the cash leg is final when it is confirmed by its home market central bank or monetary authority. In the case where the Investor CSD has direct access to the RTGS in the Issuer market, the transaction is processed in central bank money. However, in all cases for ASEAN+3 there will be a foreign currency involved, requiring a CSD with a banking license or the involvement of a correspondent bank. Any time there is a commercial bank money component between the Investor CSD and the Issuer's Central Bank, the transaction is defined as a commercial bank money transaction from the Investor CSD and its participant's perspective.

If the Investor CSD has a banking license its clients may hold cash accounts in foreign currencies. For Investor CSDs without a banking license, a cash correspondent for foreign currencies is required. That agent may be appointed either:

- By the Issuer CSD for all of its respective Investor CSDs
- By the Investor CSD
- By the participant at the Investor CSD

Structures whereby the cash correspondent is appointed centrally by the Issuer CSD may lead to concentration risk and therefore might be ruled out. In either case where the Issuer or Investor CSD appoints the agent, adequate anti-money laundering and know-your-customer processes must be ensured.

All currencies of the Issuer CSD markets would have to be made available, hence the requirement that currencies be fully convertible. Additional currencies (e.g. USD and EUR) could be included depending on the bi-lateral link agreement between Issuer and Investor CSD, and the services made available by the relevant cash correspondent banks to Investor CSDs and their participants.

The concept of denomination currency does not exist for CSD links as it does for an ICSD. Transactions are typically processed in the currency of the denomination of the instrument, which is typically the currency of the Issuer CSD market. Some instruments in the ASEAN+3 markets are denominated in currencies other than that of the Issuer CSD market instruments (e.g. Yen denominated Korean collateralised bond obligations or "Korean CBO"), and some counterparties may also agree to a transaction in a currency other than the denomination currency. In these cases as long as the currencies match and amounts are within matching tolerance the CSDs should have the capability to settle the transaction. However, in comparison to an ICSD transaction using a denomination currency (i.e. rather than a full settlement currency), there is always a cash leg to the CSD Linkage transaction in the denomination currency.

Referring to figure 1 (above) the cash leg options are as follows:

- 1a to 1c – The investor uses CoBM deposited with the Investor CSD. This possibility is available with Investor CSDs that offer banking services. The Investor CSD maintains for that purpose an omnibus cash account in the issuer country and acts as paying agent for its participants. The omnibus cash account may be with either:
 - 1a – The Issuer CSD (CoBM)

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- 1b – The Central Bank (CeBM)
- 1c – A cash correspondent bank (CoBM)
- 2 and 3 – The investor CSD has no active role in the payment process if investors have accounts with:
 - Commercial banks (including Issuer CSD) in the issuer country (option 3), or
 - The central bank in the issuer country (option 2)

The timing for cash transfers would typically be in the afternoon of the day of settlement, but exact timing would depend on time zone differences, settlement cycles and the specific services offered by cash correspondent banks.

From Issuer CSD perspective the settlement may be in central bank money, from the Investor CSD perspective, however, either remote access to the RTGS or a local branch with access to the RTGS would be required in the Issuer market in order to provide a full CeBM transaction. Otherwise, the service provided by the Investor CSD to its participants would be defined as being in commercial bank money.

The converter would have the capability to handle the following message types, in ISO 15022 format, which the participating CSDs would have the corresponding business processes to support:

Category	Message type	Description	Converter action
Financial	MT 200	Fin. Inst. Transfer for its Own Account	Pass through
Institution	MT 202	General Financial Institution Transfer	Pass through
Transfers	MT 210	Notice to Receive	Pass through
Cash Management and Customer Status	MT 950	Cash statement	Pass through

2.2.4 Operation of Corporate Actions / Income Payments

Each Issuer CSD would provide services for all Corporate Action and Income Event types that are processed in that Issuer CSD. The services comprise the following activities:

- Send notifications about upcoming Corporate Actions and Income Events on securities in which Investor CSDs have positions in an agreed number of days (as per link agreement) in advance if the information is available, but at least one day after publication of the information in the market.
- Process Mandatory Corporate Actions and Income Events on the accounts of Investor CSDs and distribute related cash and securities proceeds.
- Process Voluntary Corporate Actions and Income Events on the accounts of Investor CSDs, according to the instructions received from the Investor CSDs.
- Additional information is required regarding transfer agent / registrar / paying agent infrastructure in order to determine if this can be allowed in selected markets.

Support from Issuer CSDs would include all compulsory cash and stock distributions, optional stock distributions and other corporate actions and cash proceeds. In the primary context of bonds for ASEAN+3 this includes income events. Processing and reporting of Corporate Actions and Income Events would be performed as per SMPG-guidelines.

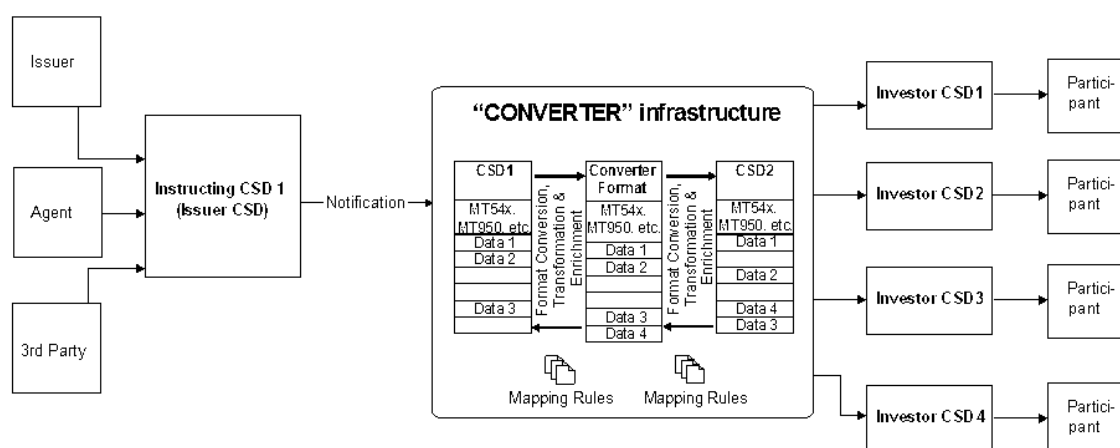
For the events described in the terms and conditions of the securities (referred to as "static" events), the Issuer CSD would notify those Investor CSDs that have positions via the

converter of the upcoming event according to the agreed SLA (Service Level Agreement) between the two CSDs. For each security that is eligible (i.e. does not have a foreign investment restriction) the Issuer CSD would also provide this information to the converter for storage in a central database that could be queried by Investor CSDs.

For non-static or unpredictable events, the Issuer CSD would need to rely on announcements by issuers or agents or data vendors such as Bloomberg, and it would notify those Investor CSDs that have positions via the converter of the upcoming event, also according to the agreed SLA between the CSDs.

Corporate actions and income payments would be notified via the converter to all Investor CSDs that have a position in the given security. Instructions in respect of corporate actions with options would be received from the Investor CSD according to its market practice (e.g. ISO 15022 or proprietary formats) and be passed through to the Issuer CSD via the converter.

Figure 5: Converter Based CSD-Link CA/Income Events Notification



In order to be able to service the bonds issued by issuers in the ASEAN+3 region, both Issuer and Investor CSDs would need to be able to process a full ranges of corporate events and income payments, including:

- Puts / calls / drawings (early redemptions full or partial)
- Bondholder meetings & consents (voting)
- Conversions / reorganizations
- Certifications
- Offers: tender offers (repurchases), rights, etc.

Notification messages would be according to SMPG guidelines and include the following elements:

- Announcement Type (mandatory)
- Announcement Status (mandatory)
- Event Category (mandatory)
- Event Type (mandatory)
- Reference: Senders Reference (mandatory) - Unique corporate action reference (Mandatory)
- Identification of the underlying securities via an ISIN (and description)

- Account (single account, all accounts- not identified individually)
- Balance (Optional)
- Event details

Issuer CSDs would credit cash or other proceeds received due to a corporate event when these are received at the Issuer CSD, via the Investor CSD and its cash correspondent or the cash correspondent of its participant, as applicable.

Investor CSDs would keep track of restrictions in terms of holding or participating in a corporate event, because in most cases such restrictions would be on the type, nationality or residency of the ultimate end investor. If this were not a possibility, as in the case where the Investor CSD would not have information about the ultimate end investor and so could not monitor or enforce such restrictions, this responsibility would lie with the Investor CSD accountholders.

In some cases, the issuers or agents would request information about the Investor CSD accountholders and, in order to permit transparency, the Investor CSD should be permitted to provide this information as needed. In addition, the issuers or agents may also request that the Investor CSD collect certifications (e.g., that the end investors are not US persons) from its accountholders so the Investor CSDs should be able to process certification requests.

Issuer CSDs would be equipped to send notifications on which Investor CSDs have positions in an agreed number of days (as per link agreement) in advance if the information is available. Existing SLAs require information to be forwarded by settlement intermediaries within 1.5 hours.

The converter platform could also introduce functional modules for sharing Corporate Action information (e.g. event calendar; proxy voting meeting information). These non-core modules would re-use parts of infrastructure of the Core Functionality (Converter message transformation, logging, auditing, error handling etc.). The converter would have the capability to handle the following message types, in ISO 15022 format, which the participating CSDs would have the corresponding business processes to support:

Category	Message type	Description	Converter action
Corporate Actions	MT 564	Corporate Action Notification	Pass through
	MT 565	Corporate Action Instruction	Pass through
	MT 566	Corporate Action Confirmation	Pass through
	MT 567	CA Status and Processing Advice	Pass through
	MT 568	Corporate Action Narrative	Pass through

Furthermore, as investor CSDs need to transact complicated CA procedures related to bondholder rights, such as classification of participants and tax refund etc., adding format conversion to the above-mentioned functions to the converter could have considerable benefits.

Issuer CSDs would provide Investor CSDs with accurate and up to date data for all Corporate Actions and Proxy Voting within the home market of the Issuer CSD where an investor CSD has a holding in an instrument. Issuer CSDs would also provide the CSD Linkage infrastructure with accurate and up to date data for all Corporate Actions and Proxy Voting within the home market of the Issuer CSD. The CSD Linkage infrastructure would provide a central repository for this data as a service to the Investor CSDs for data queries. Databases would have to be updated as soon as possible after the information has been received by the Issuer CSD. Depending on the Issuer CSD's internal system structure, this

could be real time or after the next batch, but at least within a minimum SLA of 1 day after the information was received. This central information platform would be an ancillary service only, and would not replace the standard data provisioning by the issuer CSD where an investor CSD has a holding in an instrument. These databases would also be add-ons for queries where Investor CSDs would not otherwise get the information, i.e. where there is no holding in the Investor CSD.

2.2.5 Operation of Custodial Services

This section explains the services in scope for Issuer CSDs to provide to Investor CSDs, in order for Investor CSDs to provide adequate services to their customers. GOE members noted that many of the proposed custody services would be possible only if the proposed RSI would use the services of a local custodian bank.

In terms of other custodial services, Investor CSDs could provide foreign investor registration assistance on the basis of the services provided by Issuer CSDs and/or third-party providers in the relevant market.

For portfolio valuation information, Investor CSDs could make use of information services provided by Issuer CSDs, or a data vendor such as Bloomberg.

For compensation of market claims for securities, Investor CSDs would need to follow the local market rules and would need to rely on the services provide by Issuer CSDs.

The Issuer CSD would provide management of data and events including collection, validation, matching, enrichment, and a guarantee that information is from the issuer.

Depending on the applicable rules of the relevant market and the terms and conditions of the securities, Investor CSDs would provide electronic proxy voting services for shareholder and bondholder meetings. Investor CSDs would collect voting instructions from clients holding the relevant security on the applicable record date for the meeting and would pass on the vote totals to the Issuer CSD issuer via the converter.

If there would be a payment default or issuer insolvency for securities held in an Investor CSD, the Investor CSD would need to follow the local market rules and would need to rely on the services provided to it by the Issuer CSD.

Holdings Disclosure is a special topic for ASEAN+3 as the regulatory requirements are considerably different from the benchmark case. Due to harmonization efforts in Europe the benchmark case treats holding disclosure as an asset servicing activity. In ASEAN+3 the regulatory reporting to support cross-border activities will be met by either the participant, the Issuer CSD, the Investor CSD, or by an agent appointed by one of the three.

The converter would have the capability to handle the following message types, in ISO 15022 format, which the participating CSDs would have the corresponding business processes to support:

Category	Message type	Description	Converter action
Transaction Processing and Reporting	MT 535	Statement of Holdings	Pass through
	MT 536	Statement of Transactions	Pass through
	MT 537	Statement of Pending Transaction	Pass through
Proprietary	MT 598	Proprietary message	Pass through
and Free	MT 599	Free format	Pass through

2.2.6 Operation of Tax Processing

To provide information on tax rules applicable to the securities held in an Investor CSD, the Investor CSD would need to follow the local market rules and would need to rely on the services provided to it by its Issuer CSDs.

Based on such rules, the Investor CSDs would collect information or certifications from their clients in respect of their tax status or the tax status of the ultimate end investor. The Investor CSD would then provide this information to the Issuer CSD, who would provide this information to the relevant tax authorities or to the issuer.

Issuer CSDs would then provide either reclaim or relief at source, or both if applicable, to Investor CSDs according to market practice as follows:

- **Relief at source:** Tax relief is provided at the time the income is credited by the issuer. Full or partial withholding tax relief can be granted at source (at the time of the interest payment); or through refund of all or part of the tax that was withheld at the time of payment. Generally, applications consist of certificates and documents to support these certifications.
- **Reclaim:** Tax relief is provided after the income has been credited by the issuer net of the applicable maximum rate of withholding tax.

Reporting to clients on tax reclaims would be from the Issuer CSD to the Investor CSD via the converter, and then from the Investor CSD to its clients according to current market practice. It would be recommended that those CSDs that do not currently provide tax reporting (i.e. because it is not required), implement it using ISO 15022 or ISO 20022 standards but this is not a pre-requisite for the CSD Linkage solution.

2.2.7 Operation of the Securities Lending and Borrowing Program

This service is not in scope for the CSD Linkage solution to provide, but can be offered by individual Investor CSDs based on their own business decision and the eligibility of securities in the Issuer CSD markets.

2.2.8 Operation of Collateral Management Services

This service is not in scope for the CSD Linkage solution to provide, but can be offered by individual Investor CSDs based on their own business decision.

2.2.9 Operation of Credit / Liquidity Facilities

This service is not in scope for the CSD Linkage solution to provide, but can be offered by individual Investor CSDs based on their own business decision.

2.2.10 Operation of PvP / FX Service

The CSD Linkage solution would not provide Payment versus Payment (PvP) services for foreign exchange transactions. However, such a service is provided for some ASEAN+3 currencies by CLS Bank and may be leveraged by either CSDs with banking licenses, or by CSD participants regardless of whether the CSD has a banking license.

As explained above, each CSD link transaction may require a foreign exchange transaction in order to fund transactions or convert proceeds from redemptions, income payments, etc. into other currencies. The cases that would not require foreign exchange are:

- Internalized transactions in the local currency of the Investor CSD,
- Funding of a purchase when the required foreign currency is already available, and
- Retention of sales or income proceeds in the foreign currency with the intent to re-invest.

Although these foreign exchange transactions are not an integral part of the securities settlement process, Investor CSDs may choose to offer these related services to their customers. One option to do so would be for CSDs to join CLS as members or third party members. In order to join as members, the CSD would require a banking license, and it would become a settlement participant in the CLS system on behalf of customers. In order to join as third party member, the CSD would select a CLS member. The selected CLS Member would submit instructions relating to the CSD participant's trades and provide the CSD with an interface to a system allowing the CSD to submit trades and see real-time trade status and settlement information.

In the ASEAN+3 region CLS eligible currencies include JPY, HKD, SGD, and KRW (THB is under consideration for implementation and CLS is reviewing opportunities for other currencies). The alternatives to CLS include using a correspondent bank that is a CLS member or using a cash correspondent bank that has bi-lateral netting agreements in place for other ASEAN+3 currencies. However, while bi-lateral netting reduces Herstatt (cross-currency settlement) risk it does not remove it completely.

2.2.11 Operation of Regional Pre-Settlement Matching Utility

A Pre-Settlement Matching Utility (PSMS) would collect data from various electronic feeds and act as a trade data entry platform for phone, fax and email trades. After enriching the data according to participant and instrument data it would create settlement instructions in the Investor and Issuer CSDs. As a result, it would benefit the CSD Linkage solution by addressing issues at the trading layer, as its purpose is to create a straight-through-processing (STP) environment for certain bond trades in the ASEAN+3 region. Based on further input from the GOE a separate PSMS may be pursued either now or at a later stage, but the service is not in scope for the CSD Linkage solution to provide.

2.3. Implications on Settlement Costs and Risks

2.3.1 Introduction

The attached chart “RSI Options – Comparison to ABMI Criteria seeks to show the differences between the two RSI options assessed by the GOE -- Asian ICSD and CSD Linkage – as against the criteria set forth by the ABMI in the Regional Technical Assistance Report TA 6338 - Minimizing Foreign Exchange Settlement Risk in the ASEAN+3 Region.

One of the primary goals of the ABMI technical assistance project is to reduce regional financial vulnerabilities by identifying ways to minimize clearing and settlement risk in the ASEAN+3 region, and thus to encourage cross-border transactions in bonds denominated in the local currencies of the region. Accordingly, a key criterion in determining the effectiveness of an RSI option to assessing its value in terms of risk reduction.

As shown on the attached chart, the RSI Option Asian ICSD addresses the risks identified by the ABMI more comprehensively than the RSI Option CSD Linkage. This is not surprising as the Asian ICSD is a more extensive and costly development for the region’s clearing and settlement infrastructure.

The CSD Linkage option is an extension of what already exists today in that there are already links between CSDs in the ASEAN+3 region. In the ADB’s Technical Assistance Report Project Number: 39312, August 2006 - Minimizing Foreign Exchange Settlement Risk in the ASEAN+3 Region (Financed by the Japan Special Fund), it is clearly pointed out that, “There are currently several means for cross-border bond settlement: (i) global custodians, (ii) local agents (financial institutions in the local market), (iii) direct access, (iv) international central securities depositories (ICSDs), and (v) linkages of central securities depositories (CSDs) in the region.”

Assessing this current infrastructure situation in the region, the August 2006 report concludes that, “heavy reliance on existing operators will continue Herstatt risk and slow bond market development within the region.”

The August 2006 report also notes that, “In cross-border transactions, different time zones mean different operational hours for national payment systems, leaving trading parties faced with potential FX losses (Herstatt risks). Thus, true delivery versus payment (DVP) rarely occurs. The development of a well-functioning FX settlement system -- where transactions are timely, definitive, and cost-efficient -- can help minimize this risk and contribute to a more efficient bond market.”

2.3.2 Risk Criteria

The attached chart assesses risk reduction in 4 areas: trading stage, clearing and settlement stage and cross-border settlement stage. As noted above, it is the last of these categories which has been the focus of the work of the ABMI in previous technical assistance projects.

The first trading stage category shows that as settlement intermediaries neither RSI option will have an impact on the operational risks at the trading level. This is not surprising as both options are purely settlement option. If a pre-settlement matching system (PSMS) was introduced, there would then be risk reduction for operational risks at the trading level. The scope and impact of such risk reductions would be dependent on the scale and comprehensiveness of the PSMS.

With respect to principal/credit risks and custody risks at the clearing and settlement stage, neither RSI option would have a significant advantage over the situation today. Throughout the region, local CSDs generally address such risks effectively for their markets.

The situation with respect to liquidity risks is different. The Asian ICSD, as a bank, can extend credit to its account holders and, thus, inject cash liquidity to facilitate settlement efficiency to improve versus the local market CSDs. Moreover, since it can offer multi-currency facilities, an ICSD can allow account holders to use collateral in one denomination currency to create liquidity in another currency without the need for FX transactions. Automated securities lending and borrowing facilities at the ICSD can also improve liquidity on the securities side if there are sufficient account holders with holdings which agree to act as lenders in the ICSD lending and borrowing program. The CSD Linkage RSI option does not offer the same features and, therefore, the liquidity risks will remain as today.

There are differences at the cross-border settlement stage as well. The Asian ICSD option can improve principal/credit risks by offering a simultaneous DvP service for internal settlements (not for external settlements) with multiple settlement currencies. The CPSS definition of “delivery versus payment” is “a link between a securities transfer system and a funds transfer system that ensures that delivery occurs if, and only if, payment occurs.”¹²

The CSD Linkage option cannot offer a DvP service based on this definition because it would require multiple cash correspondents for an Investor CSD account holder to receive sale proceeds in its own local currency. For example, the securities would be debited from the account of the Investor CSD at the Issuer CSD (and also from the seller’s account at the Investor CSD) and such debit would be contingent on the cash movement in the local currency of the Issuer CSD. However, the seller in the Investor CSD would not receive its cash until the cash correspondent of the Investor CSD converts it into the local currency of the Investor CSD. If such cash correspondent fails prior to converting such currency, the seller in the Investor CSD will have lost its securities and not received its cash. The fact that this risk exists in the CSD Linkage option means that the links created in this option will not meet the CPSS definition of delivery versus payment.

It should be noted that DvP is possible for CSD Linkage when transactions are internalized in an Investor CSD where the Issuer CSD allows omnibus accounts and the Investor CSD allows internal settlements of non-local securities. However, in practice, internal settlements within the Investor CSD may be rare. In Asia it will be unlikely. This is because the Investor CSD will usually not be able to offer against payment settlement in a currency other than its local currency. In this case, if the Investor CSD internalizes settlements in foreign bonds, it will be because both buyer and seller agree to buy/sell the foreign currency denominated bonds in the local currency of the Investor CSD. It is unusual to have transactions in bonds denominated in one LCY occur in another LCY (USD is not so uncommon) because sales of bonds usually take into account accrued interest which necessarily will be paid in the denomination currency. Sales of such bonds in currencies other than the denomination currency create an FX mismatch for the buyer whereby it would need to take on a possibly long-term FX risk as it pays the seller the accrued interest in one LCY and then waits until interest payment date to receive the other LCY.

For external settlements, the Asian ICSD will face the same constraints as described above for the CSD Linkage.

The Asian ICSD can offer improvements in operational risks at the cross-border settlement stage by allowing many of such transactions to be internalized in a single settlement system. This is a primary advantage offered by the two European ICSDs today. The CSD Linkage option does not offer internalized settlements so operational risks will not be reduced in the same manner. If the CSD Linkage option is accompanied by standardization and harmonization, then there would be improvements in operational risks for cross-border settlement flows. Of course, it is possible to gain these benefits through standardization and harmonization even without implementing CSD Linkage.

¹² Committee on Payment and Settlement Systems, “A glossary of terms used in payments and settlement systems,” March 2003

In terms of legal risks, the cross-border transactions in the region today take advantage of the finality rules applicable to the local CSDs. The CSD Linkage option would also use the same process so there would be no change to legal risks. The Asian ICSD option would need a robust legal framework to ensure finality of settlements, but it is not expected that this will be substantially different than the frameworks which support local market CSDs today.

In terms of FX or Herstatt risk, as noted in the August 2006 ADB report, CSD links do not solve this problem. This is because most CSDs do not offer multi-currency services so cross-currency settlements require the use of FX or cash correspondent banks appointed by the CSDs. The FX risks are the same as settlements through custodians. ICSDs like the Asian ICSD offer a multi-currency simultaneous settlement service for internal settlements and so proceeds can be received by sellers immediately in their local currency, thus, eliminating FX risks created by timing differences.

As noted above at the clearing and settlement level, internal settlements at the Asian ICSD offers substantial risk reduction for liquidity risks which the CSD Linkage solution cannot offer. Asian ICSD external settlements do not offer a similar level of risk reduction.

The counterparty risk section of the chart illustrates that, despite the development of sophisticated infrastructure solutions such as the two RSI options, risks will remain in either scenario. Neither RSI option can solve the issue of intermediary default risk. As both options make use of third party providers (cash correspondent banks, local subcustodians, etc.) such risks will need to be adequately assessed by market participants.

In terms of concentration risks, both options would improve the situation from the current conditions. Both options would add a new channel for cross-border settlements and, thus, create competition for existing providers.

2.3.3 Other Criteria

Beyond the risks elements identified by the ABMI, the chart also shows other advantages of the options. In the transaction cost criteria, both options should improve the costs versus the current situation in that both should be able to offer cross-border settlements at lower fees than today.

For the functional elements, the DvP function is noted on the chart as discussed above. The add-on services of PvP and PSMS could both be added to the Asian ICSD solution, although neither is in the scope used in the business feasibility study. A PSMS could also be added to the CSD Linkage solution, but also is not part of the scope used for this RSI option in the business feasibility study. As noted in the chart, a PvP service could not be added on to the CSD Linkage solution.

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Table 5: RSI Options –Comparison to ABMI Criteria

ABMI Criteria	Asian ICSD		CSD Linkage	
1. Risk Reduction				
Trading Stage				
Operational Risk	-	The solution would not address operational risks at the trading level as it would be limited in scope to the settlement level. Note that if the solution would include implementation of regional PSMS utility it would reduce operational risk at the trading level.	-	The solution would not address operational risks at the trading level as it would be limited in scope to CSDs.
Clearing and Settlement Stage				
Principal / Credit Risk	-	Principal risk would be addressed via the requirement for DvP at the Asian ICSD. DvP addresses principal risk by ensuring that delivery occurs if and only if payment occurs. As most of the CSDs in the region operate DvP systems today this is not a significant improvement over the current situation.	-	The solution would avoid creating principal risk via the pre-conditional requirement for DvP at the Issuer CSD. DvP addresses principal risk by ensuring that delivery occurs if and only if payment occurs. As most of the CSDs in the region operate DvP systems today this is not a significant improvement over the current situation.
Custody Risk	-	The Asian ICSD would hold securities with local market CSDs so the custody risks would be the same as the current situation.	-	Investor CSDs would hold securities with local market CSDs so the custody risks would be the same as the current situation.
Liquidity Risk	++	Liquidity risk would be significantly reduced due to the integrated credit facilities and automated securities lending/borrowing program at the Asian ICSD. This is similar to the role played by the European ICSDs in Europe today where the Euroclear Bank and Clearstream provide a major source of liquidity to the markets.	-	Integrated credit facilities or fails lending are not in scope, but can be offered by individual Investor CSDs based on their own business decision. Liquidity risk would only be addressed indirectly to the extent the solution aims to increase market liquidity.

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ABMI Criteria	Asian ICSD		CSD Linkage	
Cross-border Settlement Stage				
Principal / Credit Risk	+	The solution would implement DvP within the Asian ICSD so that cross –border settlements could occur in a single system rather than using multiple CSDs or other intermediaries. DvP addresses principal risk by ensuring that delivery occurs if and only if payment occurs.	-	The DvP process for the CSD Linkage solution would require the use of cash correspondent banks and so would be essentially the same from a risk standpoint as the process today used by global custodians or local custodians.
Operational Risk	+	The solution would address operational risk for internalized transactions through the use of a single system where the securities and cash movements of a DvP transaction could be made simultaneously.	-	The CSD Linkage does not by itself change the operational risks from the current situation. Standardization and harmonization would reduce operational risk for cross-border settlement through proper provisioning; automated message format conversion; and life cycle management (ack/nak) for messages between CSDs both during and outside of regular operating hours. Such standardization and harmonization could occur without CSD Linkage, although the CSD Linkage solution may act as a catalyst for standardization and harmonization.
Legal Risk	-	Legal risk would be addressed by the ensuring that internal settlements within the Asian ICSD are subject to finality rules under the rules of the Asian ICSD. This would be similar to the situation today as most of the CSDs of the region have sufficient legal framework regarding settlement finality and bankruptcy protection for counterparties to a trade.	-	The solution would avoid creating legal risk via the pre-conditional requirement that for a CSD to participate as both Investor and Issuer CSD, and therefore to include a market in the overall solution, there must be a sufficient legal framework regarding settlement finality and bankruptcy protection for counterparties to a trade.

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ABMI Criteria	Asian ICSD		CSD Linkage	
FX – Herstatt Risk	++	FX risk would be addressed by ensuring that cross-border settlements within the Asian ICSD system are DvP as there would be no longer any need to use multiple systems or intermediaries. The implementation of an FX service or a PvP service would allow Asian ICSD clients to receive proceeds of sales or corporate events in the currency of their choice.	-	The CSD Linkage solution does not address FX risks as the CSDs would need to use local cash correspondent banks to handle the cash leg for foreign currency settlements. This is essentially the same as today where global custodians also use local cash correspondent banks. To the extent that the CSDs or the global custodians select cash correspondent banks that are CLS members and the related cash is CLS-eligible, FX risks are reduced as the FX transactions can take place via the central bank RTGS systems.
Liquidity Risk	++	The risk that a counterparty is not able to settle full value on due date is addressed by the implementation of the integrated credit facilities and automated securities lending/borrowing program at the Asian ICSD. This is similar to the role played by the European ICSDs in Europe today where the Euroclear Bank and Clearstream provide a major source of liquidity to the markets.	-	Integrated credit facilities or fails lending are not in scope, but can be offered by individual Investor CSDs based on their own business decision. Liquidity risk would only be addressed indirectly to the extent the solution aims to increase market liquidity.
Existing Settlement Models				
Counterparty Risk	-	The Asian ICSD solution would not address intermediary default risk; the risk that a sub-custodian, being organised as a commercial bank, goes bankrupt and their customers do not have access to the securities deposited with them as most investors will still hold securities and cash with custodian banks or securities brokers.	-	The CSD Linkage solution would not address intermediary default risk; the risk that a sub-custodian, being organised as a commercial bank, goes bankrupt and their customers do not have access to the securities deposited with them as most investors will still hold securities and cash with custodian banks or securities brokers.

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ABMI Criteria		Asian ICSD		CSD Linkage
Concentration Risk	+	The concentration risk inherent in a small number of Global Custodians handling all cross-border transactions would be addressed by increasing the number of options available for cross-border trades.	+	The concentration risk inherent in a small number of Global Custodians handling all cross-border transactions would be addressed by increasing the number of options available for cross-border trades. The increase in competition across the region for cash correspondent services for the market participants that use CSD links could have a similar effect.
2. (Transaction) Cost Reduction	+	The cost structure for settlement of cross-border trades would be significantly reduced by using internal settlements within the Asian ICSD. As an example, the Euroclear Bank fee for internal settlements is between EUR 0.33 and EUR 1.50 per settlement. This compares favourably to the current costs for cross-border settlements in the ASEAN+3 region which range from USD 20 to USD 80 per transaction. .	+	The cost structure for settlement and custody would include the domestic Issuer CSD fees, a communication component to cover both the transmission to and use of the converter, the Investor CSD fees, and sufficient margins for the Investor CSD to gain a return on its investment in the converter and the CSD infrastructure. As an example, Clearstream Banking Frankfurt published a cross-border fee schedule effective April 1st that gives the total settlement fee of € 1.90, plus the external costs per market will be charged to customers.

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ABMI Criteria		Asian ICSD		CSD Linkage
3. Functions				
DvP	+	The solution includes DvP within the Asian at ICSD and DvP between the Asian ICSD and regional CSDs where possible.	-	The DvP process for the CSD Linkage solution would require the use of cash correspondent banks and so would be essentially the same as the process today used by global custodians or local custodians. As there is an intervening FX transaction, the process does not meet the CPSS definition of “delivery versus payment”: a link between a securities transfer system and a funds transfer system that ensures that delivery occurs if, and only if, payment occurs. ¹³
PvP	-	This would depend on whether the solution would provide a Payment versus Payment (PvP) services for foreign exchange transactions.	-	The solution would not provide Payment versus Payment (PvP) services for foreign exchange transactions.
PSMS	-	This would depend on whether the solution would provide a regional PSMS utility.	-	Based on further input from the GOE a PSMS may be pursued either now or at a later stage, but the service is not in scope for the CSD Linkage solution to provide.

¹³ Committee on Payment and Settlement Systems, “A glossary of terms used in payments and settlement systems,” March 2003

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ABMI Criteria		Asian ICSD		CSD Linkage
4. Ownership	n/a	The solution is based on the concept of a single-purpose bank acting as Asian ICSD on behalf of its users. The utility would be owned by its direct participants. The ownership structure of the CSDs would not have to change.	n/a	The solution is based on the concept of a stand-alone utility to develop and operate the central converter on behalf of its member CSDs. The utility would be owned by its direct CSD participants. The ownership structure of the CSDs themselves would not have to change.
5. Governance	n/a	The Asian ICSD users would hold all of the voting rights. This structure would allow the direct users of the Asian ICSD to control details important to them such as the technical specifications while avoiding conflicts of interest that could arise if the Asian ICSD was a publicly traded company where shareholder goals diverged from the interests of the users.	n/a	The CSDs would hold all of the voting rights and should be shareholders in order to participate. This structure would allow the direct users of the utility to control details important to them such as the technical specifications, while avoiding conflicts of interest that could arise if market participants with differing goals share ownership.
6. Participants	n/a	Participants in the Asian ICSD would be banks, central banks, securities companies, institutional investors, asset managers and some corporate treasury departments.	n/a	Only CSDs would participate in the solution directly, with investors participating via their existing channel through banks, brokers, investment funds, etc. according to existing market practice. To ensure the possibility of a positive business case for all CSDs and in line with the ABMI target to promote local currency issuance, each CSD must agree to provide Issuer CSD services for all other CSDs that are members, subject to a bilateral agreement between the CSDs.

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7. Benefits to Equity Markets	-	The solution is asset-class neutral and therefore would benefit equity markets to the same extent as debt markets. The European ICSDs today offer similar services for both debt instruments and equities. In practice the European ICSDs are used primarily for holding bonds rather than equities so it may be expected that the Asian ICSD would also be primarily for bonds. Also, the regulatory and legal barriers for the Asian ICSD to service equities will be more difficult to overcome than for bonds.	-	The solution is asset-class neutral and therefore would benefit equity markets to the same extent as debt markets. In markets with more than one CSD these benefits would depend on either all CSDs joining or for one CSD with full instrument coverage to join.
8. Benefits to FX Markets	++	The FX markets would benefit greatly as transactions could occur in a single settlement system and could be linked to securities transactions and/or corporate events such as income or redemption payments.	-	Additional FX services (e.g. access to PvP services) are not in scope, but can be offered by individual Investor CSDs based on their own business decision. The FX markets may benefit indirectly via the additional transactions caused by securities settlement transactions.
9. Other (e.g. CCP, Collateral Management)	+	The Asian ICSD solution would include a collateral management feature that would allow pooling of collateral from across the ASEAN+3 region.	-	The CSD Linkage solution supports settlement of trades cleared on a national CCP, but neither regional CCP services nor linkage between CCPs are in scope.

Appendix 2-1: Comparison of the Asian ICSD to the EU Benchmark

I. Introduction

The attached matrix is designed to show the differences between the current ICSD bond service offerings for European bonds and Asian bonds versus the proposed service offering for the Asian ICSD.

The matrix uses Euroclear Bank as an example of current ICSD services. The Euroclear Bank services described herein and on the matrix are the services in place as of end of 2009. Euroclear Bank is in the process of developing additional services for the ASEAN+3 region for 2010 and beyond.

The Asian ICSD service offering is based on the proposed scope of services. The matrix shows the services in a best case scenario. Not all of the Asian ICSD services in the matrix would be feasible in the current regulatory / legal environment. The matrix shows the Asian ICSD services that would be provided if all relevant regulatory / legal barriers would be removed.

The matrix also shows the main differences between the current ICSD bond service offerings in Europe versus the current ICSD bond services offerings in Asia.

II. Euroclear Bank¹⁴ Service Gap Analysis Europe vs. ASEAN+3 Region

The principal differences in terms of the bond service offering of Euroclear Bank in Europe versus the Euroclear Bank bond service offering in the ASEAN+3 region are related to the scope of coverage of markets, instrument classes and currencies.

The limitations on the Euroclear Bank service offering are caused primarily by various regulatory, fiscal and legal barriers in the ASEAN+3 region markets. Unless removed, these barriers would impact the Asian ICSD scope of services as well.

A. Market / Instrument Coverage

In Europe, Euroclear Bank covers all major markets.

For the ASEAN+3 markets, the ICSD provides the following services for the markets:

- People's Republic of China: No service / link due to need for QFII status and currency convertibility issues.
- Hong Kong, China: Full service for all instruments.
- Indonesia: No current service due to tax issues and requirement to segregate by beneficial owner.

¹⁴ A more detailed description of Euroclear Bank can be found at Annex 1.

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- Japan: Full service for all instruments except (i) municipal bonds which are not yet accepted due to licensing regime and tax status and (ii) except JGBs which are not eligible for securities lending and borrowing service.
- Republic of Korea: Full service for government bonds. No services for corporate bonds due to requirement to segregate accounts by beneficial owner.
- Malaysia: Full service for all instruments.
- Philippines: Full service for government bonds.
- Singapore: Full service for all instruments, except no eligibility for securities lending and borrowing service.
- Thailand: Full service for government bonds.
- Viet Nam: No service/ link due to currency convertibility issues.

B. Settlement Currency Coverage

In Europe, Euroclear Bank accepts all major currencies as settlement currencies. For the ASEAN+3 markets, the ICSD accepts the following currencies as settlement currencies:

Indonesian Rupiah (IDR)
Hong Kong Dollar (HKD)
Korean Won (KRW)
Japanese Yen (JPY)
Malaysian Ringgit (MYR)
Philippine Peso (PHP)
Singapore Dollar (SGD)
Thai Baht (THB)

Due to exchange controls and/or foreign exchange reporting requirements, the following ASEAN+3 currencies are accepted only as denomination currencies:

Chinese Yuan (CNY)
Vietnamese Dong (VND)

C. Money Transfer Timing

In Europe, Euroclear Bank input deadlines for money transfer instructions are same-day deadlines for straight-through (STP) formats. Currently, for the ASEAN+3 currencies Euroclear Bank offers same-day deadlines for HKD, JPY, MYR and SGD.

IDR, KRW, PHP and THB have money transfer instruction input deadlines on X-1 because the transaction volumes on these currencies at this time do not justify the extra cost for the service. The extra cost for the service is due to manual processing.

D. Settlement Timing

The current Euroclear Bank deadlines for input of internal settlement instructions are:

- 20:30 in order to be included in an Overnight Securities Settlement Processing
- 13:30 for mandatory inclusion in the Real-time Processing without Daylight Indicator; and
- 17:30 in order to be included in the Real-time Processing with Daylight Indicator.

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The times are Central Europe Time (CET). The timings are the same for both European and Asian securities. There are no different input deadlines for internal settlement of different types of securities. All internal settlement instructions in Euroclear Bank have the same deadlines.

The input deadlines for Euroclear Bank external settlement instructions in most of the Eurozone and other major Western European markets is in the afternoon between 13:00 and 18:00 CET. These markets include:

- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Hungary
- Italy
- Netherlands
- Norway
- Poland
- Portugal
- Russia
- Slovenia
- Spain
- Sweden
- Switzerland
- UK

Input deadlines for Euroclear Bank external settlement instructions in the smaller volume markets of Central and Eastern European markets are usually in the morning between 09:30 and 12:00 CET. These markets include:

- Czech Republic
- Greece
- Romania
- Slovak Republic

For the ASEAN+3 region, the input deadlines for Euroclear Bank external settlement instructions are same-day for Hong Kong, China; Japan and Singapore. For the other markets the deadline is on S-1 so clients need to instruct at least 1 day prior to settlement date. The deadlines for these markets are (all times are CET):

- Hong Kong, China: 06:30 on S
- Japan – corporate bonds: 16:30 on S-1 for against payment / 20:30 on S-1 for free of payment
- Japan – government bonds: 03:15 on S for against payment / 06:30 on S for free of payment
- Republic of Korea: 07:30 on S-1 for against payment / 06:30 on S for free of payment
- Malaysia: 10:30 on S-1
- Philippines: 10:00 on S-1 for against payment / 20:30 on S-1 for free of payment
- Singapore – corporate bonds: 20:30 on S-1 for against payment / 07:30 on S for free

of payment

- Singapore – government bonds: 04:15 on S
- Thailand: 06:30 on S-1

III. Detail on the Possible Additional Services for Asian ICSD

In addition to the services currently provided by the ICSDs in Europe, the GOE is considering certain additional services for the Asian ICSD. The below section provides (i) a description of the service; and (ii) a description of current status of these services in Europe.

A. Pre-Settlement Matching Service (PSMS)

As described in the presentation by JASDEC dated 11 July 2008, the pre-settlement matching service combines two aspects of the processing. It is a combination trade matching and settlement instruction matching procedure wherein information from an electronic trading platform is converted directly into matched settlement instructions and sent to the settlement system for execution.

In Europe, trade matching is conducted electronically by exchanges or multilateral trading platforms. These trades are often converted directly into settlement instructions and settled in a CSD. This is the typical processing for trading and settlement of listed equities.

Bonds (including listed bonds) in Europe are still mostly traded over-the-counter (OTC) so there is no electronic trading platform involved. As the involvement of a electronic trading platform is a requirement of a PSMS, there is no centralized PSMS in Europe today. In addition, the fact that the settlement parties are often custodian banks while the trading parties are brokerage companies can complicate the conversion of the matched trade information into matched settlement instructions.

To a certain extent, the functions of a PSMS for bonds in Europe are handled by certain of the multilateral trading facilities such as MTS. Settlement of trades on the various MTS platforms can be settled in the ICSDs. In this case, the trading information is compiled by MTS and MTS send an instruction on behalf of the accountholders in the relevant ICSD. MTS receives a power of attorney from the ICSD accountholders in order to be able to instruct the ICSD on their behalf to effect settlement of the traded bonds.

B. PvP Service

PvP is a mechanism in a settlement system to ensure that a final transfer of one currency occurs only if a final transfer of the other currency or currencies also takes place. A PvP settlement system, like CLS Bank, matches trades of one currency for another currency and makes the transfer of the currency between accountholders.

In Europe, PvP settlement is handled by CLS Bank or via correspondent banks where the two legs of the transaction settle separately in the relevant RTGS or through bank clearing houses such as the Clearing House Association Payments System (CHAPS) in the UK.

The ICSDs do not currently offer a PvP settlement service because the service is already provided by CLS Bank and it involves a number of regulatory requirements to become a member of the various RTGS systems for the currencies. As most foreign exchange transaction are not linked to securities settlement activity, offering a PvP service is not seen as within the core functions of the ICSDs.

C. FX Service

An FX service is an automatic foreign exchange facility provided by a commercial bank, often a custodian bank, to, to convert cash balances in one currency into cash balances in another currency.

This means that, for example, the custodian bank would convert a payment received in JPY into USD for its client by using foreign exchange settlement through CLS Bank or via correspondent banks.

Euroclear Bank has recently begun offering a foreign exchange direct dealing service to its clients. Euroclear Bank also provides a service whereby clients can convert their positions in some eligible currencies into other currencies based on the rate received in the relevant local market; clients do not get to fix the rate. There is also a service for automatic conversion of coupon (interest) payments, but the client needs to have sufficient cash one day prior to payment date to cover the risk of non-payment by the issuer.

Annex 1 – Description of Euroclear Bank ICSD

Euroclear Bank is an International Central Securities Depository (ICSD), offering clients in more than 80 countries a single access point to post-trade services for equities in 25 countries, debt securities in 30 countries, as well as international securities.

Euroclear Bank is incorporated under and subject to Belgian law. Its activities are supervised by the Belgian Banking, Finance and Insurance Commission and the National Bank of Belgium. It is rated AA+ by Fitch as of October 2008.

Euroclear Bank is based in Brussels and is part of the Euroclear group. The Euroclear group also includes Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Nederland, Euroclear Sweden and Euroclear UK & Ireland, the CSDs of Belgium, Finland, France, the Netherlands, Sweden and the United Kingdom and Ireland, respectively.

A. Participants in the Euroclear System

Admission criteria to become a Participant in the Euroclear Systems are as follows:

- (i) Financial resources: an applicant must demonstrate its ability to maintain adequate financial strength to support the use of Euroclear Bank's services;
- (ii) Technical and operational capability: an applicant must demonstrate it has both the staff and the technological infrastructure to meet Euroclear Bank's operational requirements for the applicant's intended use;
- (iii) Need for Euroclear Bank's services: an applicant must show that it expects to derive material benefit from direct access to Euroclear Bank and to generate a sufficient volume of depot or transactions to justify admission;
- (iv) Reputation in the market: an applicant must have a good name in the market. The regulatory status is taken into account when evaluating an applicant's reputation; and
- (v) Anti-money laundering programme: an applicant must have an anti-money laundering programme in place designed to comply with local law on the prevention and detection of money laundering, and to provide sufficient identification, control and reporting procedures.

There are approximately 1500 Euroclear Bank Participants including 900 banks and 400 broker-dealer firms.

The contractual rights and obligations between Euroclear Bank and its participants are established by the Terms and Conditions Governing the Use of Euroclear ('Terms and Conditions'), the Operating Procedures ('OPs') and various supplementary contractual documents for specific services. Other documents are also provided to participants on a regular basis. However, these are generally not part of the contractual documentation unless they are explicitly referred to in the OPs.

B. Euroclear Bank Ownership and Governance

Euroclear Bank SA/NV is wholly-owned by Euroclear SA/NV. Euroclear SA/NV is owned by Euroclear Investments SA which in turn is owned by Euroclear plc. Euroclear plc is wholly-owned by 216 user shareholders (86.9%) and Sicovam Holdings (13.1%), a consortium representing various former owners of Sicovam (now Euroclear France).

Euroclear Bank and Euroclear SA/NV are supervised by the Belgian Banking, Finance and Insurance Commission (BFIC). The BFIC is responsible for ensuring that financial institutions doing business in Belgium maintain internal control systems that ensure safe and prudent banking operations and compliance with applicable laws and regulations. The supervision by the BFIC extends to all activities of Euroclear Bank, including those related to settlement, securities lending and borrowing, money transfer, custody and banking services. Representatives of the BFIC meet with the Bank's management, internal auditors and external auditors on a regular basis.

In addition, Euroclear Bank, in its capacity as operator of the Euroclear system, and its parent company Euroclear SA/NV, in its capacity as an organisation assimilated to a settlement organisation, are subject to the supervision of the National Bank of Belgium. The Board of Directors of Euroclear Bank has appointed independent external auditors who report to the shareholders, represented by the Board Members, on the fair presentation of financial statements and on other matters. The external auditors are required by law to report to the BFIC on Euroclear Bank's compliance with various regulatory requirements and on the effectiveness of its internal control environment.

Members of the Board are elected on the basis of their particular knowledge, expertise and experience, with a view to ensuring a balanced Board which, as a whole, has the optimum mix of skills and experience appropriate for the requirements of the Company's business. The Board comprises nine members. The majority of those members are non-executive directors one of whom is independent. As prescribed by the Belgian banking law, the four members of the Management Committee also sit on the Board.

Board members are appointed by the shareholders. The Board submits its proposals regarding appointment and re-election of Board members, supported by a recommendation of the Nominations Committee, to the shareholders. When a Board member leaves the Board before the end of their term the Board can appoint a new Board member to fill the vacancy with such appointment being confirmed by the shareholders at their next general meeting. The nomination of a Board member is subject to the positive advice of the BFIC.

Directors are appointed for a term of not more than two years, or such longer period as is necessary to have such term expire at the end of the Annual General Meeting immediately succeeding such two year term. Each year the General Meeting proceeds to the re-election or replacement of at least half of the Directors. The Directors can be re-elected.

C. Euroclear Bank Services

Settlement

Euroclear Bank offers settlement (DVP Model 1) of transactions in internationally-traded securities. Product and service features include:

- stock exchange and Over-The-Counter (OTC) settlement, including Multi-listed Securities;
- multi-currency settlement in more than 30 currencies;
- settlement in commercial bank money, with full access to intra-day liquidity;
- settlement of physical securities;
- bilateral financing instructions; and
- the Euroclear Trade Capture and Matching System (ETCMS).

Custody

In addition to the safekeeping of securities, Euroclear Bank also offers custody services such as:

- collection of income and redemption proceeds;
- market claims management;
- corporate actions;
- proxy voting; and
- default management.

Euroclear Bank offers the following tax services:

- withholding tax relief at source (before payment) or via quick or standard refunds;
- extensive information about withholding tax treatment (and other taxes, e.g. transfer taxes);
- notification and reminders of information and certification to benefit from tax exemptions or reductions;
- continual follow-up to ensure that tax reclaims are processed as efficiently and speedily as possible; and
- customised and automated reporting providing details on the status of claims (i.e. valid, invalid or introduced with authorities).

Securities Lending and Borrowing

Euroclear Bank offers an automated Securities Lending and Borrowing Programme to improve the efficiency of securities settlement by matching the lendable supply of securities in Euroclear Bank with borrowing demand, enabling borrowers to meet their settlement needs.

Euroclear Bank guarantees the return of lent securities (or their cash equivalent), related entitlements paid by issuers (or their cash countervalue), as well as payment of lending fees to the Lender. The Programme is integrated into the securities settlement process for all

eligible securities and currencies to ensure that borrowings occur only if a delivery instruction would otherwise fail.

Collateral Management

Euroclear Bank offers collateral management services in support of bilateral agreements, covering the following range of products:

- repo;
- securities lending;
- secured loan / pledge;
- derivatives support / swap credit support annexes; and
- collateral service agreements.

In its capacity as neutral triparty agent, Euroclear Bank will:

- match the terms of the deal;
- allocate collateral securities in accordance with eligibility criteria;
- settle instructions;
- process margin calls in response to daily price fluctuations; and
- process corporate actions.

The collateral management service includes the ability to tailor eligibility profiles to meet specific risk appetites and an integrated re-use capability to maximise trading opportunities.

EUROCLEAR SERVICES - GAP ANALYSIS WITH PROPOSED ASIAN ICSD SERVICES

Services	Euroclear Bank Services for European Securities	Euroclear Bank Services for Asian Securities	Proposed Services of Asian ICSD
1. Settlement			
Target Securities	most instruments	most bonds issued by ASEAN+3 issuers (and some equities)	bonds issued by ASEAN+3 issuers ¹⁵
Multi-Currency Settlement	Y	all but CNY & VND	Y
Internal Settlement in EUR & USD	Y	Y	Y
Internal Settlement – Commercial Bank Money during business hours of ASEAN+3 region	Y	Y	Y
External Settlement – Commercial Bank Money	most markets	some markets	Y
People's Republic of China		N	Y
Hong Kong, China		Y	Y
Indonesia		N	Y
Japan		all debt securities except municipal bonds	Y
Republic of Korea		government bonds only	Y
Malaysia		Y	Y
Philippines		government bonds only	Y
Singapore		Y	Y
Thailand		government bonds only	Y
Viet Nam		N	Y
External settlement during business hours of ASEAN+3 region	n/a	For Hong Kong, China; Japan and Singapore	Y

¹⁵ This would include bonds which are exchange listed as well as bonds settled OTC

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DVP Link with Euroclear/Clearstream	Y	Y	Y ¹⁶
Internal or External Settlement – Central Bank Money	Belgium only	N	where feasible
Money Transfer Service	Y	Y	Y
Same-day Cash Deadlines	Y	for HKD, JPY, MYR, and SGD	Y
IT systems or terminals for sending / receiving instructions and reporting	Y	Y	Y
2. Custody			
Assistance with foreign investor registration (where needed)	N	N	Y
Market value information	Y	Y	Y
Cash sweep option to move currency from one account to another account at end of day	Y	Y	Y
Collection of income and redemption proceeds	Y	Y ¹⁷	Y
Market claims management	Y	Y ³	Y
Corporate action notification and processing	Y	Y ³	Y
Voting and consent collection	Y	Y ³	Y
Default management	Y	Y ³	Y
Tax Services	most markets	Hong Kong, China & Japan only	Y
3. Securities Lending & Borrowing¹⁸	most securities	all except Singapore and Japanese Government Bonds	Y
4. Collateral Management¹⁹	Y	Y	Y
5. Integrated Credit Facilities²⁰	Y	Y	Y

¹⁶ During business hours of ASEAN+3 region if feasible

¹⁷ Provided in the markets with external links in place.

¹⁸ Eligibility of securities for automated lending & borrowing program operated by ICSD

¹⁹ Eligibility of securities for triparty collateral management system operated by ICSD

²⁰ Used solely for the purpose of facilitating settlement and fully secured with pledges of securities

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6. PVP / FX Services			
PvP Service ²¹	N	N	to be decided
FX Service ²²	Y	Y	to be decided
7. Pre-Matching Utility²³	N	N	to be decided
8. CCP or Netting Features	N	N	N ²⁴
9. Cash Pooling or Sweep Capabilities	N	N	N ⁸
10. Services for Derivatives	matching service	N	N ⁸

²¹ Service by which trades between one accountholder and another accountholder of one currency for another currency can be matched and settled. See CLS Bank presentation.

²² Service by which the custodian automatically or as instructed can execute an exchange transaction for its client

²³ Service where trades details can be matched prior to settlement (not the same as matching of settlement instructions). See JASDEC description

²⁴ Based on feedback from GOE, these proposed services can be dropped from Scope of Services for Asian ICSD

Appendix 2-2: CSD Linkage for Asia – Comparison to the EU Benchmark

I. General

The purpose of this document is to explain the context and provide additional details regarding the Comparison to EU Benchmark Country Details Table. The descriptions of specific services are contained in the separate Service Scope document.

The EU benchmark represents the services planned by the eight CSDs participating in the Link-Up Capital Markets joint venture including Clearstream Banking AG Frankfurt (Germany), CSE (Cyprus), Hellenic Exchanges S.A. (Greece), IBERCLEAR (Spain), Oesterreichische Kontrollbank AG (Austria), SIS SegalInterSettle AG (Switzerland), VP Securities Services (Denmark) and VPS (Norway).

This benchmark takes the service scope as agreed by the Link-Up Capital Markets participant CSDs to be provided at the time they implement their connection to the infrastructure described in the General section of the Service Scope document. The benchmark aims to provide a competitive cross-border service offering, not to reflect existing services at European CSDs before the launching of the Link-Up Capital Markets initiative. At the time of the founding of the joint venture each CSD had its own service gaps, and as a result each CSD agreed to an internal “CSD readiness” project over and above the joint initiative of infrastructure implementation. As a result, the benchmark represents a proposed end state for the services offered by ASEAN+3 CSDs via a CSD Linkage solution, rather than a pre-requisite for starting such an initiative.

Unless otherwise specified, the table takes the default perspective of whether or not a CSD, or the combination of CSDs in multi-CSD markets, is prepared to offer a service as both Issuer CSD and Investor CSD.

Of the eight CSDs in the European Benchmark, three have banking licenses including Clearstream Banking AG Frankfurt (Germany), Oesterreichische Kontrollbank AG (Austria), and SIS SegalInterSettle AG (Switzerland). It can therefore be seen that the majority of the benchmark European CSDs will focus their offering on the core settlement and custody services.

II. Specific Services

A. Settlement

A.1 Securities Settlement

A.1.1 Stock exchange and OTC transactions

OTC and stock exchange settlement are in scope in order to ensure that all government and corporate debt is covered, including exchange traded bonds. This results in a total scope of 17 CSDs plus the one or more CSDs that Lao PDR will require for the founding of its capital market. This compares to a total scope of eight CSDs for the benchmark Link-Up Capital Markets, however, the benchmark is open to new membership.

A.1.2 Matching and settlement based on Issuer Model

This item lists the settlement model per market and highlights the potential issues regarding the Issuer CSDs providing DvP settlement without a lag between the securities and cash legs. Unless this issue is addressed the Issuer CSDs will pose undue risk on the Investor CSDs. The processes in People's Republic of China and Viet Nam are of particular concern, as are the bi-lateral processing for unlisted corporate bonds in Philippines and the TA (Transfer Agent) model for unlisted corporate debt in Indonesia.

A.1.3 Internalization possibilities

Due to the ability to use omnibus accounts in seven of the eleven ASEAN+3 markets, most Investor CSDs will have the possibility to internalize transactions, thereby reducing their external costs and allowing price incentives for their own customers. However, the use of omnibus accounts is not required, as the benchmark case shows. The Operational Specification document explains the account structure options in further detail.

A.1.4 Settlement principles (European Code of Conduct as benchmark)

All of the benchmark European CSDs signed the Code of Conduct, which is not in scope for ASEAN+3. For a more detailed description of the principles that are applicable refer to the Service Scope document.

A.2 Provision of cash forecasts

In the benchmark European case the Issuer CSDs provide cash forecasts to Investor CSDs, and Investor CSDs incorporate the details in the cash forecasts they send to their participants. The three ASEAN+3 CSDs that have existing outbound links are assumed to provide services to a sufficient level. For the remaining ASEAN+3 CSDs indications are mixed as to whether or not the service levels are sufficient.

A.3 Cash Settlement

A.3.1 Access to central bank money

In the benchmark European case the Issuer CSD and/ or Investor CSD arranges for funds transfer in central bank money (via Target 2 Cash for euro). In ASEAN+3, central bank money is accessed via the physical or logical RTGS payment system described in the matrix. The areas of concern include Bursa Malaysia Depository, which plans to adapt its process to access RENTAS in Q3/Q4 of 2009, and CDP in Singapore which accesses MEPS+ via bank payment system.

A.4 DvP settlement between CSDs

Delivery versus Payment without a delay between the securities and cash legs at Issuer CSDs is necessary in order to ensure that no undue risk is imposed on Investor CSDs.

A.4.1 In central bank money

In the context of the European benchmark this item refers to cross-border settlement in central bank money via the TARGET-2 RTGS system operated by the Eurosystem. In the current context for ASEAN+3 which does not have a common currency, or central bank money links between central banks, it is not applicable.

A.4.2 In commercial bank money

The European benchmark case includes Swiss Francs, Danish Kroner, and Norwegian Koruna. As a result of the requirement that all CSDs offer Investor CSD services to all Issuer CSD markets, this results in all of the CSDs in the benchmark case having or developing multi-currency capabilities. The three ASEAN+3 CSDs that have existing outbound links will have already developed commercial bank money and multi-currency capabilities. In addition, the Singapore market processes transactions in US dollars. For all of the other ASEAN+3 CSDs this item requires both internal development, and the use of cash correspondent banks.

B. Custody

B.1 Asset Servicing

The comparison of custody services is limited to a high level analysis. A full assessment of what would be required for individual CSDs to offer a competitive service would go to the level of detail of status notifications (match status, fail reasons, etc.), and statements (settlement dated, trade dated; reconciliation files in absence of full SWIFT processing capabilities; etc.). As a result this assessment would require technical experts and market consultation on a per market basis. In the benchmark European case the individual CSDs performed such an analysis as input to their own CSD readiness projects.

In addition, most ASEAN+3 CSDs presently notify and process corporate actions at the depository participant level. However, this may result in a gap to individual service for Investor CSDs depending on the account structure and level of segregation.

B.2 Corporate Actions and Proxy Voting

In the context of the ABMI focus on the bond market, this category includes income events and bondholder meetings. In the European benchmark case each CSD is the sole depository for its market, and is therefore responsible to provide all Corporate Action and Proxy Voting data for all securities within its market. In contrast, seven of the ASEAN+3 markets would include two CSDs in order to cover the full fixed income scope of the ABMI targets. CSDs will typically not keep records of any securities they do not administer themselves, so the proposed ASEAN+3 solution is to ensure that each CSD provide data for all of the securities where it is the issuer.

B.3 Tax services

The three ASEAN+3 CSDs that have existing outbound links are assumed to provide either relief at source or reclaim services to the Investor CSDs according to market practice, with the exception of Hong Kong, China where neither is required.

B.4 Notification of general meetings, proxy services

In the context of the ABMI focus on the bond market, this category includes income events and bondholder meetings. The Issuer CSDs will provide to the Investor CSDs information about all upcoming AGMs and EGMs for securities in which Investor CSDs have a holding.

B.5 Holdings Disclosure

Holdings Disclosure is a special topic for ASEAN+3 as the regulatory requirements are considerably different from the benchmark case. The three ASEAN+3 CSDs that have existing outbound links are assumed to provide adequate services as Issuer CSDs where market practice

requires it, and some CSDs provide reporting to their domestic clients that would service the needs of Investor CSDs (e.g. Viet Nam, Indonesia). All other ASEAN+3 CSDs would have to develop such reporting, if applicable, according to market practice.

C. Securities Lending and Borrowing

This service is not in scope for the European benchmark or for the CSD Linkage solution to provide, but can be offered by individual Investor CSDs based on their own business decision and the eligibility of securities in the Issuer CSD markets.

D. Collateral Management

This service is not in scope for the European, but can be offered by individual Investor CSDs based on their own business decision.

E. Integrated Credit Facilities

This service is not in scope for the European benchmark, but can be offered by individual Investor CSDs based on their own business decision.

F. PvP / FX Services

PvP for foreign exchange transactions is not offered by any of the European benchmark CSDs, including those that have banking licenses. Foreign exchange services may be provided by the European benchmark CSDs or ASEAN+3 CSDs based on their own business decision.

G. Pre-Settlement Matching Services (PSMS)

Pre-Settlement Matching Services are not offered by the European benchmark CSDs or the Link-Up Capital Markets infrastructure. As per the Service Scope document, matching always takes place in the Issuer CSD according to the home market principle.

H. Other Services

The benchmark European solution and its participating CSDs do not plan any service with respect to regional CCP or links between CCP.

Technical Feasibility (summary of the above)

The technical feasibility is a high level estimate using a high-medium-low scale of readiness to join as both Issuer and Investor CSD. This is a high level ranking, and in the case of multiple CSDs in one market does not differentiate between the CSDs but applies to the market as a whole. A low ranking indicates that considerable cost and adaptation time would be required due to the development of new capabilities such as Asset Servicing. A high ranking indicates that most of the service scope is already covered.

Legal and Regulatory Feasibility

The legal and regulatory feasibility is a high level estimate using a high-medium-low scale of whether or not issues with local market practice would be a constraint on joining a CSD Linkage solution as both Issuer and Investor CSD. A low ranking indicates considerable constraints such as lack of currency convertibility that would prevent the market from being included in a CSD Linkage solution. A medium ranking indicates complexity, for example cash accounts or tax processing, that would add cost but not be a constraint. A high ranking indicates that no legal or

regulatory issues are foreseen. For further details per topic and per market please see the document refer to the document “CSD Linkage - legal and Regulatory Feasibility Study”.

Estimated Overall Readiness

The estimated overall readiness is a combination of the Technical Feasibility and the Legal and Regulatory Feasibility described above, allowing the half-scale measures of Medium-Low and Medium-High. Markets which have the same ranking do not necessarily have the same issues to address or investments to consider. CSDs in those markets ranked medium-high, and high would most likely face similar adaptation costs and timelines to the European benchmark CSDs. However, as this is a high level analysis those CSDs would have to investigate further in order to confirm their own readiness.

CSD Linkage for Asia – Comparison to EU Benchmark Country Details Table

	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
1. Settlement											
1.1. Securities Settlement											
1.1.1. Stock exchange and OTC transactions	Yes	CDC – gov't, unlisted corp SD&C – on exchange	CMU – gov't, unlisted corp CCASS – on exchange	SSS – gov't TA model - corp KSEI – on exch.	BoJ – gov't JASDEC - corp	Listed Corporate Securities-money settlement by Bursa Malaysia Securities Clearing while securities by Bursa Malaysia Depository for the clearing house. RENTAS – unlisted debt sec. regardless the tenure	ROSS – gov't PDTC – all incl. link to ROSS Registrar – unlisted fixed income securities	MAS – gov't SGX-CDP – corporate	KSD	BAHTNET – gov't TSD – corp listed Bi-Lat OTC – corp unlisted	VSD
Total Number 17 + Lao PDR		2	2	2	2	2	1	2	1	2	1
1.1.2. Matching and settlement based on Issuer Model	Yes	Securities transferred on trade date and cash on trade date +1	CMU is a DvP system. Both real-time and end-of-day DvP are available. Real-time DvP are BIS Model 1 (Gross-Gross); end-of-day DvP are BIS Model 3 (Net-Net)	BIS Model 3 Net-Net	JGB at BOJ and Corporate bond at JASDEC are BIS Model 1 DVP (Gross-Gross) and Model 3 DVP in case via JGBCC.	Listed bond: BIS Model 2. Listed Corp.-Direct Business Transaction: BIS Model 1. Novated Trade: BIS Model 2. Unlisted debt securities: BIS Model 1.	BIS Model 1 (Gross-Gross) for Government Securities and for listed Corp. Bonds. Unlisted Corp. Bonds subject to mutual agreement	BIS Model 2 (Gross-Net)	OTC : BIS Model 1 (Gross-Gross) Exchange : BIS Model 3 (Net-Net)	TSD provides BIS Model 1 and Model 3	Settlement done automatically by STC/VSD (securities) and by BIDV (cash). Model DVP3 is used.
1.1.3. Internalization possibilities	Yes – in case of omnibus; No – in case of segregated	Segregated required – name of beneficial owner	CMU members are required to maintain separate a/c	Omnibus allowed; Segregated advised for tax / legal	Omnibus allowed but Custodians open segregated	Omnibus allowed	Omnibus allowed	Omnibus allowed	Omnibus allowed for Clearstream and Euroclear	Omnibus allowed	Segregated required – name of beneficial owner.

²⁵ Please refer to the Explanatory Note below for further details
GOE – RSI Feasibility Study

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	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
			for their own and clients' holdings. Omnibus is allowed for the clients' holdings.		accounts for non-resident investors to prepare tax exemptions.				only for Government Bonds and Monetary Stabilization Bonds		Omnibus account allowed for CSD which want to open an account in VSD for its customers.
1.1.4. Settlement principles (European Code of Conduct as benchmark)	Yes	Not Applicable									
1.2. Provision of cash forecasts	Yes	No	Yes	Yes through C-BEST	Yes	Bursa ISS system- Yes, RENTAS - not applicable	No, RoSS is purely registry	CDP confirms net obligation between 2:00 pm and 3:00 pm but this is by Depository Agent number not by client	Yes	No	No
1.3. Cash Settlement											
1.3.1. Access to central bank money	Yes	Yes, HVPS (High-value Payment System)	Yes, CHATS RTGS final settlement across books of HKMA	Yes, RTGS (Real-Time Gross Settlement)	Yes, BoJ Net	Yes, RENTAS (Real Time Electronic Transfer of Funds and Securities)	Yes, BSP RTGS via PhilPaSS restricted to bankswith demand deposit accounts with the central bank (BSP)	Yes, MEPS+ (MAS Electronic Payment System) except CDP via bank payment	Yes, BOK Wire	Yes, BAHTNET II	No, BIDV is the only settlement bank in Viet Nam. No settlement through central bank.
1.4. DvP settlement between CSDs											
1.4.1. In central bank money	Yes within Eurozone	No – remote/direct membership in the RTGS systems of ASEAN+3 is not available in any of the respective markets.									
1.4.2. In commercial bank money (with multi-currency capability)	Yes outside of Eurozone	No, currency not fully convertible	For CMU, Yes – as per existing links	No settlement – only in IDR	No DvP settlement in commercial bank money. JASDEC has CSD links only for non- Japanese equities / DRs / ETFs / covered warrants listed in Japan but no	No inter-CSD links for Bursa No inter-CDS links for RENTAS	PHP only, Currency convertible but BSRD reporting required for buy of foreign exchange transactions against sale PHP by non-	Yes – SGD and USD	Yes – as per existing links	No settlement – only in THB	Currency not convertible. All securities transactions in Viet Nam must be done by VND only. Dollar bonds are in

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	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
					CSD links for bonds		residents				transaction recently.
2. Custody											
2.1. Asset Servicing											
2.1.1. Income Collection / Cash and stock distributions	Yes	No	Yes	Yes	BOJ: Yes JASDEC: Yes (Paying Agents make payments to JASDEC- participants via BOJ-NET)	Yes for RENTAS No for others Some payments via cheque	No Some payments via cheque	Yes	Yes	No Some payments via cheque	No
2.1.2. Information management of data and events	Yes	No	Yes	No	Yes	No	No	Yes	Yes	No	No
2.1.3. Processing and reporting as per SMPG-guidelines	Yes	No	Yes	No	Yes	No	No	Yes	Yes	No	No
2.1.4. Instruction processing	Yes	No	Yes	Yes	Yes	Yes for RENTAS No for others	Yes, credit of participant account	Yes	Yes	No	No
2.2. Corporate Actions & Proxy Voting											
2.2.1. CA data for all securities where CSD is the primary issuer (including income events data)	Yes for all securities in home market as there is one CSD per market	No	No	No	Yes, per CSD participant	No	No	Yes	Yes	No	No
2.2.2. PV data for all securities where CSD is the primary issuer (including bondholder meetings)		No	No	No	Yes	No	No	No	Yes	No	No
2.3. Tax services: relief at source and reclaim services according to market practice	Yes as per market practice	No	Not applicable for local securities. Yes for ICSD linkages	No	Relief at source :Yes Reclaim services: No	RENTAS – Yes for withholding tax deduction (limited cases) and NO for reclaim services	No, practical application is complicated and client specific	Not applicable	Yes – with- holding tax, foreigners are exempted on application	No	No, securities companies collect and pay taxes on behalf of institutional investors. (Taxes not applied on investor

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	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
											level)
2.4. Notification of general meetings, proxy services	Yes	No meetings; Yes proxy voting	No for local securities. Yes for ICSD linkages.	No	Yes	No	No	Notifications from both SGX-CDP and issuer	Yes	No	Issuers send information to VSD. VSD notifies its members, who are obliged to notify each investor.
2.5. Holdings Disclosure	No - Special Asia topic	N/A for bond, equity monitored by Stock Exchange	N/A for local bond. Yes for ICSD linkages and local equities	Yes, KSEI reports on equities via a custodians	No	RENTAS – Yes, disclosure of holdings at aggregate level (member level) to Lead Arranger/ Facility Agent and trustee only No for others	No	N/A for bond, equities reported by SGX	Yes	No	Yes
3. Securities Lending and Borrowing											
3.1. Eligibility	Yes – generally all securities in Europe eligible	No – not allowed	For CMU, Yes – Allowed	Yes – Allowed	Yes – Allowed	Yes – Allowed	Yes – Allowed	Yes – Allowed	Yes – Allowed	Yes – Allowed	VSD gives assistance for participants temporarily in default.
3.2. Participation	Yes – Investor CSD with banking license only	N/A	The CMU provides securities lending and borrowing service for CMU members.	No – KPEI provides the securities lending	N/A	Under the regulatory framework, Bursa Malaysia Securities Clearing acts as the Central Lending Agency- brokers are borrowers. Yes for RENTAS – Allowed for all RENTAS members to settle their SBL	No – offered by exchange, not by CSD. The Securities Borrowing and Lending (SBL) program on fixed income securities is administered by Philippine Dealing & Exchange Corporation (PDEX).	Institutional sub-account holders, through nominees or custodians, can participate if their custodian has signed up to participate in securities lending with the depository	Yes – offered by KSD	No – not offered. Non- Residents subject to BoT regulations to prevent Baht speculation. Non- Residents able to borrow securities from broker (not to exceed THB 10 m per	VSD's member has right to receive assistance in defaulting position from VSD by borrowing securities.

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	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
						transactions with counterparties via RENTAS				Non- Resident group).	
4. Collateral Management	Yes – CSD with banking license only	Not applicable	Yes. CMU provides automated collateral management system to support intra- day and over- night repo for bank-to- HKMA and bank-to-bank repo services to its members.	Not applicable	No information	Bursa - Only for collaterals received under Bursa's SBL CLA system. RENTAS – only for intraday credit.	No	No – Securities Lending and Borrowing is for fails only	Yes	No information	VSD enters securities in the collateral accounts of members.
5. Integrated Credit Facilities	Yes - CSD with banking license only	No	No	No	BOJ: Yes, per account holder JASDEC: No	No	No	No	No	No	No
6. PvP / FX Services	No PvP; CSD with banking license can offer FX services ²⁶										
7. Pre-Settlement Matching Services (separate from standard settlement matching)	No	No	No	No	Yes	No	No	No	No	No	No
8. Other Services	No	No	No	No	No	No	No	No	No	No	No
Technical Feasibility (summary of the above)	N/A	Low feasibility, high cost to adapt is expected	High Feasibility, low to medium development cost expected, further investigation by CSDs required to confirm	Medium feasibility, high developmen t costs for custody expected	High Feasibility, low to medium development cost expected, further investigation by CSDs required to confirm	Medium feasibility, high development costs for custody expected	Medium feasibility, high development costs for custody and cash forecast expected	High Feasibility, low to medium development cost expected, further investigation by CSDs required to confirm	High Feasibility, low to medium development cost expected, further investigation by CSDs required to confirm	Low feasibility, high cost to adapt is expected	Low feasibility, high cost to adapt is expected
Legal and Regulatory Feasibility²⁷	N/A	Low feasibility due to	High feasibility, no	Medium feasibility,	Medium feasibility, no	Medium feasibility,	Medium feasibility,	High feasibility, no	Medium feasibility,	High feasibility, no	Low feasibility

²⁶ For Malaysia, PvP is available for RM-USD via RENTAS-HKMA CHATS link

²⁷ Please refer to the document “CSD Linkage - Legal and Regulatory Feasibility Study” for further details

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	Benchmark EU CSD ²⁵	People's Republic of China	Hong Kong, China	Indonesia	Japan	Malaysia	Philippines	Singapore	Republic of Korea	Thailand	Viet Nam
		currency restrictions, and registration and disclosure regulations	issues foreseen	issues not foreseen except Rupiah can only be traded onshore	issues foreseen except tax may be complex for Investor CSDs	issues not foreseen except Ringit can only be traded onshore	issues not foreseen except tax may be complex for Investor CSDs	issues foreseen	Won can only be traded onshore, regulatory constraint on corporate bonds	issues foreseen	due to currency and foreign investment restrictions
Estimated Overall Readiness	N/A	Low	High	Medium	Medium-High	Medium	Medium	High	Medium-High	Medium	Low

3. Legal Feasibility Study

3.1. *Asian ICSD Model*

3.1.1 General and Pre-requisites

This report provides a high level overview of the legal and regulatory feasibility of establishing an Asian ICSD for the ASEAN+3 markets. It focuses on the possible individual impediments per market that may prevent such an ICSD from providing its full range of services as set forth in the Operational Specification.

This document is intended as an indication of the legal and regulatory changes that may be required in order for the proposed Asian ICSD to provide a full range of services in all the markets of the ASEAN+3 region. This document is not a legal opinion regarding any of the laws or regulations cited in the document or referred to implicitly. It should not be relied on for legal advice or analysis.

3.1.2. Settlement - Overview

In respect of establishing a settlement link with a specific market, in order to be able to provide its full range of services an ICSD has two general requirements: (i) acceptance of omnibus accounts; and (ii) acceptance or recognition of an multi-tiered or intermediated (also referred to as nominee concept) holding structure where the ultimate end investor (referred to herein in common law terms as the “beneficial owner”) does not need to be specifically identified.

An omnibus account is needed because for the ICSD to provide its core function as a securities settlement systems it needs to be able to transfer ownership interests in securities in book-entry or electronic from one account to another account within an ICSD (referred to as “internal settlement”). If a jurisdiction requires accounts to be segregated in the name of the beneficial owner, the ICSD cannot open an account in its name in such market because it is not itself the ultimate end investor. For segregated account markets, the ICSD can act as agent for the beneficial owner and open an account in the name of the beneficial owner, but it cannot then fulfil its core function because it cannot offer an internal settlement service as the ICSD itself does not have any ownership interest in the local market which it can transfer from one ICSD account to another ICSD account. For the same reason, for markets where segregated accounts are required, the ICSD cannot offer collateral management or securities lending services. As services for segregated account markets are so limited, in most cases ICSDs do not establish links with markets unless omnibus accounts are permitted. If an ICSD does establish a link with a segregated account markets, its use by ICSD clients is quite limited.²⁸

Recognition or acceptance of intermediated holdings under local law is also usually a requirement for an ICSD to open a market link with a specific market. This is because the ICSD does not act for its own account. If intermediated holdings are not recognized, this means that the beneficial owners holding through the ICSD may not have all the rights of investors in the local market. Where intermediated holdings are recognized, the law in the place of the issuer will grant rights which can be transferred to each intermediary in the custody chain. This ensures that the beneficial owners receive the full set of rights of any investor. Where intermediated holdings are not recognized, the account holder in the local

²⁸ Examples of such links are the Euroclear Bank link with Poland and the Clearstream Bank link with Korea.

market may be treated as the beneficial owner which can raise asset protection concerns in case of insolvency of the account holder. In other cases, an intermediated holding structure may be allowed but only subject to reporting and disclosure requirements. If the ICSD has an account in the local market, it may be required to provide reporting which is costly or cumbersome such as per transaction reporting of the beneficial owners. The ICSD systems are anonymous systems and the ICSD normally does not itself have information about the beneficial owners. Collecting such information from ICSD account holders is difficult (many have banking secrecy or confidentiality obligations) and expensive. Thus, where such requirements exist, the ICSD usually does not establish a link or if such a link is established the volumes must be limited due to the need for manual processing/intervention.

Accordingly, the market-by-market assessment below of whether or not the Asian ICSD can open a link with a specific market is based primarily on the above two points. If a link with reduced services may be possible this is noted in the text. The analysis is the same whether the link is a direct link (ICSD account in CSD) or indirect link (ICSD account with local subcustodian bank). There is no significant difference in the service level for the ICSD account holders if the link is direct or indirect, although there is impact on cost, deadlines, etc. Where the Asian ICSD would be permitted to have an account in the CSD, this is noted, but this is not a key criterion for the ICSD to establish a settlement link with a particular market. As the place of incorporation of the Asian ICSD is not known, it has been assumed for this analysis that the Asian ICSD is an offshore (foreign) entity in all cases.

3.1.3. Settlement - Securities Accounts

External Settlement / Market Links

People's Republic of China

Neither European ICSD has a link with People's Republic of China. Accounts must be segregated in name of beneficial owner.²⁹ However, the Chinese government has taken a number of recent steps to begin opening up the bond market. In May 2009, the government decided to permit locally incorporated foreign lenders to issue CNY bonds on the mainland or in Hong Kong, China. In January 2009, listed Chinese banks were allowed to trade exchange-listed bonds rather than being limited to trading in the interbank market. In December 2008, Chinese regulators announced that foreign banks may underwrite and trade corporate bonds.

The laws and regulations set out by the China Securities Regulatory Commission (CSRC) and the circulars of the People's Bank of China (PBOC) do not permit foreign entities such as the Asian ICSD to act directly as account holder in either the China Securities Depository and Clearing Co., Ltd. (CSDCC) or the China Government Bond Depository Trust and Clearing Co., Ltd (CDC).

In addition, the Qualified Foreign Institutional Investor (QFII) certification and the rules under which foreign investors can hold securities in People's Republic of China are structured around having a single custodian (QFII trustee) in the domestic market per QFII for both the securities and cash accounts.

This would mean that the Asian ICSD would either (1) itself need to be certified as a QFII or (2) would need to apply for QFII status on behalf of its clients or the beneficial owner. In situation (1), while this may be possible, it will be difficult for the ICSD to manage as the QFII application requires a commitment to a certain level of investment in People's Republic of China and an ICSD usually does not have control over what its clients will or will not decide to invest in. The Asian ICSD would have to provide its clients' investment plans to the State

²⁹ See Market Comparison Matrices (for Bond) GoE Subcommittee B

Administration of Foreign Exchange (SAFE) and would need to find a method to allocate its QFII investment quota to certain account holders.

In situation (2), the accounts will be segregated in the name of the QFII and, thus, the Asian ICSD will not be able to provide an internal settlement service, a collateral management service or a securities lending facility.

For the Asian ICSD to provide a full service in People's Republic of China, omnibus accounts would need to be permitted and the QFII certification requirement and attendant investment quotas would need to be lifted or modified.

Hong Kong, China

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The link can be direct or indirect.

Indonesia

Euroclear Bank does not have a link. Clearstream Banking has recently opened a link. Omnibus accounts are permitted, but it has been indicated that segregated accounts are advisable.³⁰

Government and corporate bonds are listed and traded on the Indonesia Stock Exchange. Settlement of government bonds takes place at the Central Bank of Indonesia (BI)-Scripless Securities Settlement System (BI-SSSS) and the settlement of corporate bonds is handled by KSEI's Central Depository and Book-Entry Settlement System (C-BEST). The main law is Law No. 8/1995 on the Capital Market. Supervision of capital market is the responsibility of Bapepam-LK which is to ensure an orderly, fair and efficient capital market and protects the interests of the investors and public. From 01 September 2006, all corporate bonds and government bonds transactions must be reported to Bapepam-LK through the stock exchange.

The central depository (KSEI) requires direct participants (custodian banks, brokers) to open accounts for their clients. Such accounts are on account level and not on final beneficiary basis so the Asian ICSD could open an omnibus account with a subcustodian bank in Indonesia. Asian ICSD clients would need to open a sub-account showing the name of the final beneficiary in order to benefit from any Double Taxation Treaty agreement.³¹

Act Number 24 of 2002 concerning Government Securities and Act Number 19 of 2008 concerning Government Sharia Securities authorize BI as auction agent for the issuance of scripless Government Securities and the recording of its ownership electronically (Book Entry System).

As the central registry for Government Bonds and Bank Indonesia Certificates, Bank Indonesia maintains an electronic registration system which consists of individual accounts of banks, individual account of Bank Indonesia, and individual accounts of sub-registries (omnibus account) in Bank Indonesia-Scripless Securities Settlement System (BI-SSSS). The sub-registries maintain the account details of each beneficial owner in its internal system. Bank Indonesia regulates and supervises sub-registry activities by submission of daily transaction report from each sub-registry to Bank Indonesia.

³⁰ See Market Comparison Matrices (for Bond) GoE Subcommittee B

³¹ Source: Clearstream Banking Market Guide

The Asian ICSD should be able to open a link with Indonesia, although it may be costly or cumbersome to manage if the beneficial owner information would need to be maintained.

Japan

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The Asian ICSD cannot link directly to the JGB book-entry system (please see "Requirements for Establishing Direct Participants' Accounts and Customers' Accounts and Requirements for Approval as Indirect Participants and Foreign Indirect Participants in the JGB Book-Entry System"). For corporate and municipal bonds, foreign institutions also can not be direct participants of JASDEC because Qualified Foreign Intermediaries (QFIs) are limited to Foreign Indirect Account Management Institutions by the tax regulations. Therefore, the Asian ICSD link to Japan would need to be an indirect link. There are various steps that the Asian ICSD would have to go through to establish a link with the Japanese market.

For government bonds (JGBs), the Asian ICSD would need to submit an application to the Bank of Japan seeking admission as a foreign indirect participant (FIP) in the JGB book-entry system.³² The Bank of Japan determines whether the applicant satisfies the requirements set out in the "Requirements for Admission as a Participant in the JGB Book-Entry System," and grants admission as a FIP if the applicant has satisfied the requirements.

An entity applying to the Bank of Japan to become a Foreign Indirect Participant must satisfy two requirements for approval as a Foreign Indirect Participant: (a) the applicant is an entity described in Article 44, Paragraph 1, Item 13 of the Act on Transfer of Bonds, Shares, etc. and (b) participation of the applicant in the JGB Book-Entry System does not threaten the credibility of the system or hinder its smooth operation and orderly administration.

The Asian ICSD would also need to become an Account Management Institution. To obtain this status, the Asian ICSD is required to be designated by competent ministers under Article 44, Paragraph 1, item 13 of the Act on Transfer of Bonds, Shares, Etc.

Finally, the Asian ICSD would need to apply for status as a Qualified Foreign Intermediary (QFI). A QFI is a foreign financial institution, etc., such as a global custodian, which has been:

- designated as the account management institution prescribed in the Act on Transfer of Bonds, Shares, Etc.; and
- approved by the Bank of Japan (BOJ) as a foreign indirect participant (FIP) in the JGB Book-entry System,

and approved by the District Director of the Nihombashi Tax Office as satisfying the requirements, including having a head office or main office in a counterparty country that has a tax treaty with the article on the exchange of information with Japan. The tax exemption scheme for interest on book-entry transfer JGBs is only applicable to those who hold JGBs in the book-entry transfer account opened with a JGB Book-entry System participant in Japan or with a QFI. Therefore, it will not apply to cases where JGBs are held in transfer accounts opened with foreign financial institutions without QFI status.

In order to obtain approval to become a QFI, a foreign financial institution is required to submit the Application Form for Approval to the District Director of the Nihombashi Tax Office via the BOJ. The Application Form for Approval must be accompanied by a document certifying the approval by the BOJ as a FIP, a document stating the commitment to submit promptly upon the request of the District Director the necessary documents to determine

³² Act on Transfer of Bonds, Shares, etc. (Act No. 75 of 2001)

whether the tax exemption scheme is fairly applied, a document stating the commitment to verify the identity of the investor who has submitted the Application Form for Withholding Tax Exemption, and other relevant documents

For JGBs, the Asian ICSD could only offer services for tax exempt instruments which means that all Asian ICSD account holders would also need to have been approved as QFIs.

For corporate bonds held in the Japan Securities Depository Center, Inc. (JASDEC), the Asian ICSD would need to apply for status as an Account Management Institute if it were to open a direct link with JASDEC. For an indirect link through a local subcustodian bank, the Asian ICSD may decide to apply for status as Foreign Indirect Account Management Institution.

Starting in 2008, the interest on municipal bonds owned by non-resident or foreign corporations which settled by the book-entry system can be exempted from withholding tax. Similar to JGBs, non-resident investors can enjoy tax exemption only when they hold municipal bonds through a direct participant of JASDEC (i.e., a local sub-custodian in Japan) or via a designated Foreign Indirect Account Management Institution /QFI (i.e., a global custodian).

In order to obtain approval to become a QFI, a FIAMI is required to submit Application Form for Qualified Foreign Intermediary to the District Director of the tax office where the issuer is located, via JASDEC.

Republic of Korea

Euroclear Bank does not have link. Clearstream Banking has a limited link using segregated accounts. There have been a number of recent changes in the market to facilitate access by foreign investors.

For corporate bonds, each Investment Registration Certificate (IRC) holder's transactions and holdings should be reported to the Financial Supervisory Service (FSS), and practically such reporting is performed by each IRC holder's local brokers and local custodians. Each foreign investor must apply for an IRC under its own name in Republic of Korea to invest in local securities. Foreigners or foreign corporations need to register their personal details with the Financial Services Service in advance when they intend to acquire or dispose of securities listed on the securities market or securities to be listed, including the securities subject to a public offering or secondary distribution for the listing on the securities market.³³ As personal details need to be provided, the rules in Republic of Korea require segregation in the name of the ultimate end investor.

As from 01 January 2008 under the amended regulations, foreign investors who invest in Korean Treasury Bonds or Monetary Stabilization Bonds through an omnibus account of an international central securities depository are exempt from the foreign investor registration requirement.³⁴ Foreign investors can invest in government bonds and MSBs through an ICSD's omnibus account opened with the KSD under the ICSD's IRC. In such case, each foreign investor is not required to apply for an IRC under its own name. Amended trading rules also enacted as of 01 January 2008 allow off-exchange securities trading where a foreign investor transacts listed bonds with another foreign investor through an omnibus account of an international central securities depository.³⁵

Thus, an ICSD is permitted to open an omnibus account for Korean Treasury Bonds or Monetary Stabilization Bonds, but segregated accounts must be used for all other bonds. Assuming that the Asian ICSD would benefit from the same exemption as the European

³³ Investment Registration by Foreigners, article 188

³⁴ Regulation on Supervision of Securities Business, amended §7-10

³⁵ Regulation on Supervision of Securities Business, amended §7-8

ICSDs, it could open a link for government bonds. A link for corporate bonds would require segregation by beneficial owner and so would have very limited service.

To open an omnibus account under the same conditions as the European ICSDs, the Asian ICSD would need to obtain an IRC in its own name and would need to obtain status as a Qualified Foreign Intermediary (QFI) from the tax authorities National Taxation Service (NTS). The process and requirements to obtain such status have not yet been published in English.

The Asian ICSD would need to file a report to the FSS on a monthly basis which includes each transaction details including the beneficial owner name. A quarterly report on holdings would need to be filed by the Asian ICSD with the NTS also showing the names of the beneficial owners. Finally, ICSDs who open exclusive accounts for investment according to the article 7-37 (1) of the Regulation on Foreign Exchange Transaction must report transaction details and holdings of the funds by each foreign investor to the Governor of the Bank of Korea by the 10th day of the following month.³⁶

Due to the above reporting requirements, the Asian ICSD would need to have full information on the beneficial owners at all times which is inconsistent with the anonymous holding structure used by the ICSDs today. This will limit the services that the Asian ICSD could provide for government bonds because special accounts or sub-accounts in the name of the beneficial owner (instead of ICSD account holder) will be required. It may also make it impossible for some ICSD clients to use the link.

Malaysia

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The link can be direct or indirect.

Philippines

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The link can be direct or indirect.

Thailand

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The link can be direct or indirect.

Singapore

Both European ICSDs have links today. Omnibus accounts are supported. No legal/regulatory issues are foreseen. A link is feasible. The link can be direct or indirect.

Viet Nam

Neither European ICSD has a link. There have been several recent steps to help develop the market. A direct account in VSD is allowed for other CSDs. This is omnibus account for each CSD for its customers. VSD manages all investor accounts in form of omnibus account. Indirect investment account which each foreign investors open with commercial banks may be omnibus accounts as well. Listed bonds are settled by book-entry, but unlisted bonds still require physical delivery.

³⁶ Regulation on Foreign Exchange Transaction, article 7-39(4)

The enactment of the Securities Law of January 2007 and the modernization of the 2005 Law on Investment and the 2005 Law on Enterprise established a legal framework for the capital markets. Under the Securities Law, the Ministry of Finance (MOF) is responsible for the state administration of securities and the securities market, while the State Securities Commission (SSC) regulates securities markets under the Ministry of Finance. The SSC regulates and supervises the two stock exchanges (the HOSE and the HaSTC) and the CSD (Viet Nam Securities Depository, VSD). The Securities Law has reinforced securities market regulations through the broadening of the definition of “securities” intended to regulate and establish consistency for all securities market. The Law also improved disclosure, streamlined licensing and prudential regulation and specified punishments for market misconduct.³⁷

The Government of Viet Nam has announced that it will continue to strengthen the development of capital markets on following aspects: (1) to complete the institutional, policy and legal framework; (2) to strengthen the inspection and monitoring for healthy and sustainable development of securities market; (3) to facilitate for enterprise’s listing on domestic and international stock exchanges; and (4) to research for linking Viet Nam stock exchange with regional securities trading centers and having cross listed with some eligible companies.

Links with European ICSDs

Links with both ICSDs are legally feasible. Please note that the eligibility criteria for acceptance at an ICSD would be the following³⁸:

- (i) Financial resources: an applicant must demonstrate its ability to maintain adequate financial strength to support the use of the ICSD's services.
- (ii) Technical and operational capability: an applicant must demonstrate it has both the staff and the technological infrastructure to meet the ICSD's operational requirements for the applicant's intended use.
- (iii) Need to use the ICSD's services: an applicant must show that it expects to derive material benefit from direct access to the ICSD and to generate a sufficient volume of depot or transactions to justify admission.
- (iv) Reputation in the market: an applicant must have a good name in the market. The regulatory status is taken into account when evaluating an applicant's reputation.
- (v) Anti-money laundering programme: an applicant must have an anti-money laundering programme in place designed to comply with local law on the prevention and detection of money laundering, and to provide sufficient identification, control and reporting procedures.

This means that the Asian ICSD would need to have sufficient capital to be deemed to have adequate financial strength and would have to have sufficient business volumes to justify direct access to the European ICSDs.

Stock Exchange Trades

In many cases, the ASEAN+3 stock exchanges do not permit settlement of on-exchange trades outside of the designated settlement system appointed by such stock exchange. With respect to those ASEAN+3 countries where an Asian ICSD settlement link is currently

³⁷ Source: IFC Viet Nam Capital Market Diagnostic Review, August 2007

³⁸ The Operating Procedures of the Euroclear System, section 3.1(a)

feasible, there are legal/regulatory barriers or stock exchange rules which would prevent the Asian ICSD from directly settling (internal settlements) on-exchange trades in all cases.

3.1.4. Settlement - Cash Accounts

Commercial Bank Money

People's Republic of China

Convertibility of the RMB and restrictions on remittances will prevent the Asian ICSD from establishing a cash link with People's Republic of China at this time. The Chinese government has recently accelerated the time period for RMB convertibility. The Chinese government has facilitated the use of the RMB as a settlement currency for trade and other current account transactions in Asia and beyond. RMB-denominated lines of credit have been extended to several neighboring countries and bilateral local currency swaps totaling about \$95 billion have been negotiated with Argentina; Belarus; Hong Kong, China; Indonesia; Republic of Korea; and Malaysia. Banks in 6 eastern Chinese cities have been assigned to try out RMB trade financing. It is expected that these steps will continue and that the RMB will reach full convertibility at some point in the future.

Hong Kong, China

No legal/regulatory issues are foreseen. A link is feasible.

Indonesia

Local regulations do not permit an overdraft in non-resident investor accounts so the Asian ICSD would need to pre-fund its activity using cleared funds. Incoming IDR transfers between or to a non-resident are not allowed unless the funds are intended for an underlying economic activity in Indonesia supported by valid documentation or the IDR transfers are between the accounts of same foreign investor

Bank Indonesia regulation No.10/28/PBI/2008 and Circular Letter No.10/42/DPD dated 27 November 2008 govern the Purchase of Foreign Currency against Rupiah in Banks. Purchase of foreign currency (FCY) against IDR by non-residents for amount above USD 100,000 or equivalent per month per customer can only be executed with underlying transactions, including investment-related activities such as capital gains, coupon payments, interest payments and cash dividends. Supporting documentation of the underlying transactions and written declaration with stamp duty or through authenticated document must be attached as from 01 December 2008. The written declaration with stamp duty signed by non-resident's authorized signer, or through authenticated document, validating the truthfulness of the supporting document provided and declaring that the same document is used for purchase of foreign currencies, with the maximum nominal amount stated in the document, in the banking system in Indonesia. For non-resident customers of custodian banks, written declaration from non-resident for purchases of FCY against IDR for the amount up to USD 100,000 and above USD 100,000 or equivalent per month per non-resident can be submitted once per calendar year.

The above requirements for FX documentation will make the IDR cash link for the Asian ICSD cumbersome and expensive, but it would be feasible.

Japan

No legal/regulatory issues are foreseen. A link is feasible.

Republic of Korea

The Regulation on Foreign Exchange Transaction, subsection 3, article 7-37(1) provides, “Any foreign investor may deposit or dispose of investment funds through an exclusive external account for investment and an exclusive non-resident domestic currency account for investment (hereinafter “exclusive account for investment”) **in his own name** opened at a forex bank in order to make an investment in domestic currency securities issued in Republic of Korea (including remittance of sales proceeds of securities to foreign countries) and to pay the funds, etc. related to admitted securities lending and borrowing transaction of securities.” Thus, no Asian ICSD KRW cash link is feasible for corporate bonds as cash accounts must be segregated in the name of the ultimate beneficial owner. The Investor Registration Certificate (IRC) of the securities account must match the IRC of the exclusive KRW account for investment.

With respect to government bonds, the Regulation on Foreign Exchange Transaction, subsection 3, article 7-37(1) further provides, “However, in case ICSDs trade the Korean Government Bonds or the Monetary Stabilization Bonds according to the article 69 of the Bank of Korea Act on behalf of foreign investor may deposit or dispose of investment funds through exclusive account for investment in the name of ICSDs.” In this case, the IRC of the ICSD’s omnibus account for Korean Government Bonds or the Monetary Stabilization Bonds is linked to the exclusive account for investment in the name of the ICSD. Thus, if the Asian ICSD would benefit from the same exceptions currently offered to the European ICSDs, a modified cash link for Korean government bonds is feasible.

Transfers of KRW from one party to another within Republic of Korea are not possible (only possible if no change of Investor Registration Certificate). KRW needs to be converted into USD and cannot be remitted outside Republic of Korea. Due to these legal/regulatory barriers, the Asian ICSD would not be allowed to offer a full money transfer service. As KRW is not be permitted to be transferred within Republic of Korea by non-residents, funding of purchases of government bonds and MSBs would need to be in USD with conversion into KRW. Coupon, redemption and sales proceeds in KRW would need to be exchanged into USD to be remitted by the Asian ICSD to its clients.

Malaysia

No legal/regulatory issues are foreseen. A link is feasible.

Philippines

A link is feasible. The Asian ICSD can open a Peso Account with a cash correspondent bank. However, transactions in such Peso Account should be supported by an approved underlying investment/securities transaction. Documentation can be voluminous because existing central bank regulations mandate issuance/utilization of foreign investment license on per trade per registered investor. Pre-registration is required for remittances and foreign exchange transactions.³⁹ Purchase of foreign currency against sale of Philippine peso by non-residents/foreign investors should be supported by duly-registered foreign investment license with an approved underlying investment transaction. Issuance of the foreign

³⁹ See Market Comparison Matrices (for Bond) GoE Subcommittee B

investment license (called the Bangko Sentral ng Pilipinas {BSRD}) may be by the local custodian bank or the Bangko Sentral ng Pilipinas.

Thailand

A link is feasible. The Asian ICSD could open a Non-Resident Baht Account for Securities Activity (NRBS) account with a cash correspondent bank. Sale of FX/THB for value same day or value tomorrow, or purchase of FX/THB value forward without underlying transaction is subject to an overall outstanding limit of THB 300 million per non-resident entity group per onshore financial institution. Purchase of FX/THB for value same day or value tomorrow, or sale of FX/THB value forward without underlying transaction is subject to an overall outstanding limit of THB 10 million per non-resident entity group per onshore financial institution.

Singapore

No legal/regulatory issues are foreseen. A link is feasible.

Viet Nam

A scheme to both improve the convertibility of the VND and to mitigate the dollarization of the national economy was approved under Prime Minister's Decision No. 98/2007/QD-TTg on July 4, 2007 approving the scheme on raising the convertibility of Viet Nam dong and reducing the dollarization in the economy. This goal of this policy is that by 2010 the VND will be fully convertible domestically with possible convertibility in the world market sometime thereafter. VND is freely convertible in securities market. The main purpose of Decision No.98/2007/QD-TTg is that improving the value of VND in the world market.

Central Bank Money

As in most jurisdictions around the world, remote/direct membership in the RTGS systems of ASEAN+3 region is not available to non-resident banks in any of the respective markets. The Asian ICSD would require a local banking license to offer Central Bank Money services in each of the ASEAN+3 markets unless it would be able to obtain an exemption from this rule from one or more central banks. Accordingly, it is expected that at least in the initial stage the Asian ICSD will settle only in commercial bank money as the European ICSDs primarily do today.

In Japan, obtaining a local banking license seems to be a possible way to fulfill a prerequisite to access the RTGS system. Please be noted, however, that BOJ determines the Asian ICSD's eligibility to access the RTGS system on its own criteria (such as soundness of financial condition, operational capabilities etc.) and all the local banking licensees in Japan are not always permitted to access BOJ's RTGS system.

Non-ASEAN+3 Currencies – USD, EUR, GBP, CHF, AUD, NZD

No legal/regulatory issues are foreseen. Subject to cost / benefit calculation and client demand, the Asian ICSD should be able to open cash links for the above-mentioned non-Asian currencies.

3.1.5. Corporate Actions & Custodial Services

Foreign Investor Registration

Foreign investor registration would be needed in People's Republic of China, Republic of Korea and Viet Nam. No legal/regulatory issues are foreseen for the Asian ICSD to assist with this process. The Asian ICSD would likely need assistance from its local subcustodian for assistance with the registration process.

Portfolio Valuation

No legal/regulatory issues are foreseen. The Asian ICSD would need to negotiate contractual arrangements with the relevant service providers.

Tax Processing

(for those markets where a settlement link is possible)

Hong Kong, China

No legal/regulatory issues are foreseen.

Indonesia

Corporate and government bond interest and dividend income are subject to tax withheld at source. The Asian ICSD would need to rely on the services of a local subcustodian bank to complete tax reclaim filings and may need to develop complex tax processing capabilities which will be costly and cumbersome.

The withholding tax for fixed income is 20% for residents and 20% for non-residents unless reduced by tax treaty. The capital gains tax on fixed income instruments is 20% for residents and 20% for non-residents unless reduced by tax treaty. There is also a stamp duty: for trades with a value of less than IDR 1 million a duty of IDR 3,000 and for trades with a value of greater than IDR 1 million a duty of IDR 6,000. There is a transaction tax of 0.1% is applied on gross sale proceeds on equity sale transactions executed on the stock exchange and a final withholding tax of 5% is applied on gross sales proceeds on sales of unlisted shares unless reduced by the tax treaty.

Finally, there is an issue with the interpretation of double tax agreements (DTA). The Indonesian Government has signed such agreements with more than 50 countries. However, a corporate entity residing in a country which has a DTA with Indonesia does not automatically enjoy the DTA rates. The entity will need to submit a Certificate of Tax Residency (COTR) issued by its local tax authority to benefit from the DTA provisions.

The COTR needs to be renewed when it expires. For banks, however, the COTR has no maturity date and therefore COTR for the banks need not be renewed unless the bank has changed its address. For non-banks, Currently, there are two different interpretations in relation to the period covered by a COTR. One interpretation is that the COTR is valid for one year starting from the issue date printed on the document. The second interpretation is that a COTR is valid for a specific tax year, i.e. the year it is issued. The current tax regulations do not state clearly which one is the accepted interpretation. The Central Depository adopts the first interpretation however; some tax offices apply the second

interpretation. The tax office is in the process of formulating a new regulation to clarify the matter. Until such time as this is clarified, the application or non-application of the DTAs remains a barrier to cross-border investment in Indonesia and could limit the volumes of an Asian ICSD link with this market.

Japan

For JGBs, in order to ensure that the beneficial owners are tax exempt, the Asian ICSD would have to limit its services to those ICSD account holders that have Qualified Foreign Intermediary (QFI) status.

Republic of Korea

On 26 February 2009, the Korean government announced that government bonds and MSBs would be tax exempt for foreign investors. The Asian ICSD would need to apply for and obtain QFI status and would need to provide quarterly reports to the Korean tax authorities.

Malaysia

Non-resident investors are exempt from withholding tax on government bonds. The Asian ICSD would need to rely on the services of a local subcustodian bank to complete tax reclaim filings.

Philippines

Taxes are withheld at source on dividends and fixed income instruments, and capital gains are taxed. The Asian ICSD would need to rely on the services of a local subcustodian bank to complete tax reclaim filings. The high withholding tax and vague tax reclaim process/period may deter investors and thus reduce potential volumes for the Asian ICSD. Capital gains tax and tax processing issues for withholding tax for corporate bonds may limit or prevent Asian ICSD service for such securities.

Thailand

Government bonds and government agency bonds are tax exempt for all non-resident investors. Investors domiciled in Singapore and most other ASEAN countries are also exempt from withholding tax on corporate bond interest. For other investors, the Asian ICSD would need to rely on the services of a local subcustodian bank to complete tax reclaim filings.

Singapore

The Asian ICSD would need to rely on the services of a local subcustodian bank for at source tax relief and to complete tax reclaim filings. There is a 15% withholding tax on corporate and government bonds, with exemptions for non-resident investors on qualifying debt securities.

Securities Lending and Borrowing

With respect to those ASEAN+3 countries where an Asian ICSD settlement link is currently feasible, no legal/regulatory barriers which would prevent the Asian ICSD from allowing the eligibility of such securities in an offshore securities lending and borrowing program have been identified.

The Asian ICSD would not be able to participate in local securities lending and borrowing programs in Malaysia⁴⁰ or Japan and restrictions on participation would apply in the Philippines and Thailand.

Collateral Management

With respect to those ASEAN+3 countries where an Asian ICSD settlement link is currently feasible no legal/regulatory barriers which would prevent the Asian ICSD from allowing the eligibility of such securities in a collateral management service have been identified. However, the lack of an internationally recognized master repo agreement and/or ongoing legal uncertainties about the enforceability of such agreements may reduce the value of this service for some key securities such as Japanese and Korean government bonds.

Integrated Credit Facilities

With respect to potential Asian ICSD participants/account holders from ASEAN+3, no legal/regulatory barriers which would prevent the Asian ICSD from offering credit lines / liquidity facilities to such institutions have been identified. In the Philippines, authorized agent banks in the Philippines cannot grant peso loans to non-residents. Furthermore, overnight overdraft is not allowed under existing central bank regulations. Overdrafts for non-residents are also not permitted in People's Republic of China, Indonesia, Republic of Korea and Viet Nam.⁴¹ In Thailand, the Bank of Thailand allows banks to provide overdrafts to non-residents for up to THB 300 million per group of non-residents. However, legal uncertainties as regards validity, enforceability and/or realization of collateral in case of insolvency in Republic of China, Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Thailand and Viet Nam may prevent or limit the Asian ICSD from offering full value on securities pledged by commercial institutions from such countries as collateral to support such credit lines / liquidity facilities⁴². No such issues have been identified for potential Asian ICSD participants from Hong Kong, China; and Singapore.

3.1.6. PVP / FX Services

With respect to those ASEAN+3 countries where an Asian ICSD cash link is currently feasible, no legal/regulatory barriers have been identified which would prevent the Asian ICSD from offering a PVP or FX service for HKD, SGD and JPY.

Offshore FX is not permitted for IDR, MYR or KRW. Purchases/sales of foreign currencies would require local licenses for PHP and THB.⁴³

⁴⁰ Asian ICSD could apply to be a RENTAS member to participate in local securities lending and borrowing programs in Malaysia.

⁴¹ See Market Comparison Matrices (for Bond) GoE Subcommittee B

⁴² In order to eliminate the above-mentioned legal uncertainties, an unification of conflicts of law rules is of significance; in some countries, such rules do not exist at all in respect of collateral issues; in some others, there are discussions as to the governing law on pledges of securities held with intermediaries, but no clear answer has not yet been found in their legislations or court cases. Such non-existence or unclarity of conflicts of law rules could cause legal risks; for example, a customer who did perfect pledge of a security under the law of country A could not be protected in the case of insolvency proceedings where the law of country B should be applied to the effectiveness of the pledge.

⁴³ See Market Comparison Matrices (for Bond) GoE Subcommittee B

3.1.7. Pre-Settlement Matching Services (PSMS)

No legal/regulatory barriers have been identified which would prevent the Asian ICSD from offering a pre-settlement matching utility.

In the Philippines, where the information required from the local brokers relate to pre-settlement matching details, this is considered acceptable market practice. For the Asian ICSD, that would be the electronic matching facility available in the Asian ICSD system.

3.2. CSD Linkage Model

3.2.1 General and Pre-requisites

This report attempts to address the legal and regulatory feasibility of establishing a CSD Linkage solution for ASEAN+3 markets. It focuses on the possible individual impediments per market that may prevent CSDs from participating in such a solution from a general sense. The intended scope of this analysis according to ABMI targets is fixed income instruments. However, some references are made to equities since the CSD Linkage has a scope that could potentially include equities. These references to equities are to be taken as an indication as to whether equities could be included in order to improve the business feasibility of the CSD Linkage solution, and are not used in any interpretation or ranking regarding legal and regulatory feasibility for fixed income instruments.

Due to the number of markets it is not feasible to report on the legal feasibility of each individual bi-lateral link. This document is neither to be taken as a substitute to bi-lateral negotiations between CSDs to establish link agreements and service level agreements (SLAs), nor as a full inventory of the potential issues that may be encountered on negotiating such agreements. Rather this document is intended as an indication of the legal and regulatory changes that may be required in order to include particular markets in a CSD Linkage solution. Finally this document does not constitute a legal opinion regarding any of the laws or regulations cited in the document or referred to implicitly.

3.2.2. Settlement - Securities Accounts

External Settlement / Market Links

People's Republic of China

The feasibility to include People's Republic of China in a CSD Linkage solution must consider whether the scope should include one or both of its CSDs. The China Securities Depository and Clearing Co., Ltd. (the CSDCC) performs settlement of stock exchange transactions including equities and listed corporate debt (e.g. convertible bonds). The China Government Bond Depository Trust and Clearing Co., Ltd (the CDC) maintains the master record for government and corporate debt (other than the listed on the exchange) and therefore CSDCC records are sub-accounts of CDC records. Assuming a focus solely on debt instruments and due to the gap in bonds listed on exchange, either coverage of both CSDs would be required or CDC would have to become the master record for bonds listed on an exchange. Assuming the focus is extended to both debt and equities, both CSDs would have to be in scope.

Regarding inbound investment, a review of the laws and regulations set out by the China Securities Regulatory Commission (CSRC) for the CSDCC and the circulars of the People's Bank of China does not indicate any law or regulation that would allow foreign CSDs or ICSDs to act directly as account holders in either CSD.

The foreign CSD that wants to establish itself as Investor CSD would be required to become a qualified securities company and file QFII applications on behalf of its clients. This is because the alternative, where an Investor CSD would apply as QFII, would require it to provide a consolidation of its clients' investment plans to the State Administration of Foreign Exchange (SAFE) as well as divide its investment quota amongst its clients, and potentially limits the Investor CSD's business case. In order to have a feasible structure the foreign CSDs would require a status whereby they could act as intermediary to facilitate their clients QFII applications, whereas the current rules and regulations do not indicate how or if foreign entities, for example CSDs, could become qualified securities companies. In addition, the Qualified Foreign Institutional Investor (QFII) certification and the rules under which foreign

investors can hold securities in People's Republic of China are structured around having a single custodian (QFII trustee) in the domestic market per QFII for both the securities and cash accounts⁴⁴, which runs counter to the CSD Linkage concept of keeping securities accounts with the Investor CSD and cash accounts with a cash correspondent bank.

It would be beneficial to allow foreign CSDs to operate omnibus accounts, in order to reduce cost and complexity while making the internalization process simpler at Investor CSDs, possibly reducing the need for Free of Payment transfers and thereby reducing risk. However, this is a cost concern rather than a constraint to proceeding as the CSD Linkage solution does support segregated account structures.

Regarding outbound investment, the existing link from CDC to the Monetary Authority of Hong Kong, China (HKMA) Central Money market Unit is a one-way outward link from CDC. This indicates that CDC is authorized as an Investor CSD, as this link enables Chinese mainland financial institutions authorised to deal in foreign exchange transactions to hold and settle debt securities in Hong Kong, China. Past statements by the CDC also indicate that this is not limited to Hong Kong, China but can be applied in a more general sense to other foreign markets: "The CDC is empowered by the Ministry of Finance to operate a nationwide government securities registration and settlement system... It also handles the custodian, registration and settlement arrangements for foreign currency fixed income securities as well as related fund settlement and international business."⁴⁵ Regarding similar Investor CSD status for CSDCC, the Securities Depository and Clearing Rules of the CSRC do not indicate any such status, nor is there a precedent set by existing links.

Hong Kong, China

A positive precedent has been set by the existing inbound and outbound links. Omnibus accounts are supported.

Indonesia

Inbound investment into Indonesia would involve the creation of an account in KSEI – Kustodian Sentral Efek Indonesia. BAPEPAM (The Capital Market Supervisory Agency) defines a client Investor as the recognized holder of securities account at a Participant, a Securities Company or Custodian Bank that has opened a securities account at KSEI⁴⁶. This regulation along with KSEI's operation of sub-accounts at Indonesia Central Securities Depository indicates that a single link to KSEI should be sufficient to cover all of the government debt, exchange traded debt securities and equities in the Indonesian market. However, pending further investigation into the operational details a link to SSSS (4S) at Indonesia Central Securities Depository for government bonds may still be required. Unlisted corporate debt would not be covered as it follows a Transfer Agent model which is outside of these two systems, and in the event their inclusion in the scope is desired this would best be accomplished by immobilization in KSEI. KSEI participants include Brokers (Securities Companies), Custodian Banks and Other parties as approved by BAPEPAM. Other parties approved by BAPEPAM include KPEI for the function of Stock Exchange Transaction Settlement and Foreign CSDs for cross-border settlement.⁴⁷

Omnibus accounts are supported under local capital markets law. Securities in Collective Custody at a Central Securities Depository can be recorded in the Issuer's registry of

⁴⁴ Circular of the CSRC, 24 Aug 2006

⁴⁵ Joint CDC HKMA Press Release 15 Jan 2002

⁴⁶ Rule No III.C.7 regarding Sub Account at ICSD – Indonesian Central Securities Depository

⁴⁷ "Account Structure in KSEI – ACG Cross Training – Bangkok, 27-28 June 2006", www.acgcsd.org/data/AccountKSEI.ppt

Security-holders in the name of the Central Securities Depository as the representative of its account-holders⁴⁸.

Regarding Investor CSD activities, Indonesian law allows for a Central Securities Depository to provide “other services” in accordance with BAPEPAM rules, including such things as the distribution of voting proxies and annual reports, the processing of pre-emptive subscription rights, the receipt of Securities in a tender offer, and settlement services for foreign central Custodians⁴⁹.

Japan

A positive precedent has already been set by the existing inbound and outbound links. Omnibus accounts are supported. However, many sub-custodians open segregate accounts for non-resident investors so that sub-custodians can prepare documents for tax exemption.

Republic of Korea

A positive precedent has been set by the existing links and the outbound custodian services provided by KSD. It would be beneficial to allow foreign CSDs to operate omnibus accounts for government bonds if possible, giving them the same status as the ICSDs. This would reduce cost and complexity while making the internalization process simpler at Investor CSDs, possibly reducing the need for Free of Payment transfers and cross-border payments and thereby reducing risk. However, this is a cost and risk reduction concern rather than a constraint, as the CSD Linkage solution does support segregated account structures. Apart from government bonds, in KSD the Investor CSD could not open an account per beneficial owner because the beneficial owner is required to open the account itself. This is a regulatory constraint that will prevent Investor CSDs from including corporate bonds in scope.

Malaysia

All unlisted debt securities are deposited, cleared and settled at the Scripless Securities Trading and Settlement System [SSTS], which is part of RENTAS, operated by the Central Bank⁵⁰. Listed bonds are cleared and settled at subsidiaries of Bursa Malaysia. Inbound investment into Malaysia is allowed. Bursa Depository Rule 25 states that the depository must classify a depositor as a foreigner on the application form for the opening or updating of a securities account. The depositor must ensure that the said representation is in accordance with the Foreign Ownership Regulations⁵¹. However, Bursa Depository Rule 25 does not apply to OTC bonds settled via RENTAS, so the Foreign Ownership Regulations would only apply to the optional addition of equities to the scope. Currently, RENTAS participation comprises Licensed Financial Institutions and active capital market players. Further liberalization is also feasible to extend the membership to a non-resident entity such as Investor CSDs connecting via CSD Linkage. Omnibus accounts are supported.

Regarding the participation of Bursa Malaysia and RENTAS as Investor CSDs, they are able to hold foreign securities according to Malaysian law⁵². Bursa Malaysia Central Depository System (CDS) Procedures, however, are limited to dual listing and conversion between Malaysian and foreign listings. As such, in order to participate in a CSD Linkage solution as

⁴⁸ Law Number 8 Year 1995 of The Republic of Indonesia regarding Capital Market

⁴⁹ Law Of The Republic Of Indonesia Number 8 Year 1996 Concerning The Capital Market

⁵⁰ RENTAS operation has been outsourced to Malaysian Clearing Corporation Sdn. Bhd. (MyClear), a wholly-owned subsidiary of BNM, since October 2008.

⁵¹ Bursa Malaysia, Rules of Bursa Malaysia Depository Sdn Bhd, Part V Rules Relating To Depositors Chapter 25

⁵² Securities Industry (Central Depositories) Act 1991 Securities Industry (Central Depositories) (Foreign Ownership) Reg. 1996

Investor CSD, the Bursa Malaysia Rules and Procedures may need to be amended to allow participants to hold foreign securities via an account maintained by Bursa Malaysia over a CSD link, and the RENTAS System Participation and Operation Rules as issued by BNM may require similar amendment.

Philippines

According to the BIS, the Philippine Depository & Trust Corporation (PDTC) is permitted to operate as a non-bank financial institution with authority to perform quasi-banking functions, trust and other fiduciary business, and investment management activities⁵³, thereby fulfilling the requirements for both Issuer CSD and Investor CSD activities. Omnibus accounts are supported for securities and cash. Unlisted corporate debt would not be covered as it follows a Transfer Agent model. For against payment transactions, cash settlement can be done by opening PHP account with any of the PDTC-approved cash settlement banks. Otherwise, securities settlement can just be on free of payment basis.

Thailand

Regarding inbound investment, by including TSD in the scope of the CSD Linkage solution both government and listed corporate debt securities would be included, as BOT transferred the depository and securities settlement services to TSD on May 15, 2006. With cooperation between BOT and TSD, the linkage is established to link the BAHTNET and TSD systems to facilitate Delivery Versus Payment for government securities on RTGS basis, given that only funds settlement resulting from securities transaction is sent to be settled in BAHTNET in order to effect the securities settlement in the TSD systems⁵⁴. Corporate unlisted securities are traded bi-laterally on the OTC market, and their inclusion would require their immobilization in TSD.

Regarding inbound links, the Thai regulation allows accounts for juristic person operating business as the Depository in domestic and other countries⁵⁵. In addition, the separate definitions for “Thai securities depository account” and “foreign securities depository account” were repealed from the law on February 28, 2006. The Thai regulation regarding depositing securities of a customer in the securities depository stipulates that the depositor keep the accounts of its customers separately from its own account⁵⁶. The law makes no mention of account per customer; therefore it is possible that omnibus accounts are supported.

Regarding outbound investment, the TSD rules do not limit eligibility to domestic securities nor does it or explicitly exclude foreign securities. As a result it should be possible for TSD to be authorized to act as an investor CSD⁵⁷.

Singapore

CPD had link with Japan Securities Settlements & Custody, Inc. (JSSC). JSSC is planning to be dissolved in 2010. “These links are for the purposes of custodising the foreign securities to facilitate the trading in American, Japanese and Chinese securities in the Singapore

⁵³ BIS Papers No 28, 8-9 December 2005 Basel, Switzerland.

⁵⁴ http://www.bot.or.th/English/PaymentSystems/PSServices/bahtnetSystem/Pages/BAHTNET_2.aspx

⁵⁵ Notification of The Stock Exchange of Thailand Re: Persons which the Securities Depository Center may Accept as Depositor, 2000

⁵⁶ Regulations of The Thailand Securities Depository Company Limited Re: Operation As Depository Center, 2000, Provision 3(4), article 17

⁵⁷ Notification of The Stock Exchange of Thailand Re: Securities Which the Securities Depository Center may Accept for Depositing, 2006

market. It is not for cross-border trades”⁵⁸. While these links are not for cross-border trading in the same sense as for a CSD link, they do indicate CDP’s authorization to work as an Issuer CSD and as an Investor CSD, and this precedent is confirmed by the CDP link to an ICSD. Finally, the upcoming proposed link to Bursa Malaysia may act as a precedent as well.

Viet Nam

Regarding inbound investment, foreign investors must open cash and custody accounts at depository members. Depository members are securities firms and custodian banks. If one chooses to open the above mentioned accounts at a custodian bank, they need to open a securities trading account at a securities firm respectively for their securities purchase and sale activities at the Stock Exchange in accordance with provisions of applicable laws on securities and the securities market⁵⁹. The deposit of securities by investors at VSD is managed at two levels, the investors deposit securities with a Depository Member (DM), and the members redeposit the securities of investors with VSD. Though so far no foreign CSDs have opened accounts at VSD, they are allowed to be VSD direct members and can open direct accounts at VSD if deemed appropriate in accordance with VSD Members Management Regulation.

Regarding outbound investment, Viet Nam encourages its economic organizations conduct offshore investment in sectors which export a lot of labour; which stimulate effectively the traditional industries and crafts of Viet Nam; which expand the market, exploit natural resources in the invested countries; and which encourage the increase of export potential and the earning of foreign currency⁶⁰. The use of State owned capital to make offshore investments must comply with the law on management and use of State owned capital.⁶¹ As a result, outbound investment for domestic investors in Viet Nam is allowed; however, VSD would have to gain authorization to act as intermediary and then would have to monitor investments to ensure clients compliance in order to establish Investor CSD services.

Stock Exchange Trades

If the Investor CSD would wish to offer a settlement service for on-exchange trades, this would require the exchange, clearing system or central counterparty (CCP) involved to provide trade details directly to the Investor CSD. The trading information would be compiled by the exchange and the exchange or CCP would send instructions on behalf of the accountholders in the Investor CSD. The exchange or CCP would receive a power of attorney from the Investor CSD accountholders in order to be able to report to the Investor CSD on their behalf to effect settlement of the trade.

In addition, in order to provide a full range of services the Investor CSD must either offer trading services to its customers or these services must be available from brokers in the Investor CSD market. As a result, remote access to the stock exchange must be possible either directly as is the case in Japan’s Tokyo Stock Exchange (TSE) as of December 2008⁶², or indirectly through domestic brokers as is the case for the Stock Exchange of Thailand⁶³. However, remote access does not constitute an agreement to settle outside of the domestic CSD, which each Investor CSD would have to negotiate individually with each stock

⁵⁸ Responses to Key Questions on Implementation of CPSS-IOSCO Recommendations for Securities Settlement Systems, www.cdp.com.sg/user/fsap.pdf

⁵⁹ Decision No 87/2007/QĐ-BTC and 1550/2004/QĐ-NHNN: Securities accounts of foreign investors in Viet Nam securities market

⁶⁰ Law No. 59-2005-QH11 on investment as amended and added to by Resolution 51-2001-QH10 article 75-1

⁶¹ Ibid, article 76-3

⁶² Press release: “TSE to Introduce Remote Membership in Dec.”, Jiji Press, JCN, Sept 30, 2008

⁶³ SET Website, Brokers' Responsibilities: http://www.set.or.th/en/education/brokers/brokers_p1.html

exchange. These requirements may prevent Investor CSDs from developing the capability to include stock exchange transactions.

Internalization

Internalization of settlement transactions in an Investor CSD is possible for any Issuer CSD that allows omnibus accounts as described above in section 3.2.2. For all Issuer CSDs that require segregated accounts, the ability to internalize transactions would depend on whether the Investor CSD and Issuer CSD could create a process wherein the Investor CSD only has to make position re-alignments at the Issuer CSD. However, due to complexity it would be preferable to address the legal and regulatory restrictions to Investor CSDs holding omnibus accounts.

3.2.3. Settlement - Cash Accounts

Commercial Bank Money

People's Republic of China

Lack of convertibility of the RMB and restrictions on remittances will prevent Investor CSDs from establishing links with People's Republic of China. Cash movements must also be linked to securities movement, which may not be an issue in itself but would add development and administrative costs. QFII trustee requirements coupled with Chinese rules on foreign exchange may also limit the provision of cash correspondent services to Chinese mainland custodians.

Recently, Chinese State Council announced a pilot program allowing certain importers and exporters to settle RMB offshore, which would normally benefit a CSD Linkage solution, but the policy is still in its early stages and would only be available to specific companies through a few specific banks⁶⁴. People's Republic of China also recently authorized the issuance of US dollar-denominated bonds by domestic non-financial firms⁶⁵. However, the ABMI goal is to promote local currency issuance, these recent reforms do not address QFII concerns, and these changes are too recent to be useful in predicting how volumes will develop. As a result, these changes do not significantly impact the concerns listed above.

Hong Kong, China

A positive precedent has already been set by the existing inbound links, which indicate that suitable cash correspondent services may be available. There are no restrictions on the Hong Kong Dollar, so no legal or regulatory issues are foreseen.

Indonesia

Local regulations do not permit an overdraft in non-resident investor accounts so Investor CSD participants would need to pre-fund their activity using cleared funds. Incoming IDR transfers between or to a non-resident are not allowed unless the funds are intended for an underlying economic activity in Indonesia supported by valid documentation or the IDR transfers are between the accounts of same foreign investor

⁶⁴ China International Business, The first step towards a global currency, June 10, 2009

⁶⁵ China International Business, A different type of debt, June 10, 2009

Bank Indonesia regulation No.10/28/PBI/2008 and Circular Letter No.10/42/DPD dated 27 November 2008 govern the Purchase of Foreign Currency against Rupiah in Banks. Purchase of foreign currency (FCY) against IDR by non-residents for amounts above USD 100,000 or equivalent per month per customer can only be executed with underlying transactions, including investment-related activities such as capital gains, coupon payments, interest payments and cash dividends. Supporting documentation of the underlying transactions and written declaration with stamp duty or through authenticated document must be attached as from 01 December 2008. The written declaration with stamp duty signed by non-resident's authorized signer, or through authenticated document, validating the truthfulness of the supporting document provided and declaring that the same document is used for purchase of foreign currencies, with the maximum nominal amount stated in the document, in the banking system in Indonesia. For non-resident customers of custodian banks, written declaration from non-resident for purchases of FCY against IDR for the amount up to USD 100,000 and above USD 100,000 or equivalent per month per non-resident can be submitted once per calendar year.

The above requirements for FX documentation will make the IDR cash link for Investor CSDs and their participants cumbersome and expensive, but it would be feasible.

Japan

A positive precedent has already been set by the existing inbound links, which indicate that suitable cash correspondent services may be available. There are no restrictions on the Japanese Yen, so no legal or regulatory issues are foreseen.

Republic of Korea

The Regulation on Foreign Exchange Transaction, subsection 3, article 7-37(1) provides, "Any foreign investor may deposit or dispose of investment funds through an exclusive external account for investment and an exclusive non-resident domestic currency account for investment (hereinafter "exclusive account for investment") **in his own name** opened at a forex bank in order to make an investment in domestic currency securities issued in Republic of Korea (including remittance of sales proceeds of securities to foreign countries) and to pay the funds, etc. related to admitted securities lending and borrowing transaction of securities." The Investor Registration Certificate (IRC) of the securities account must match the IRC of the exclusive KRW account for investment. Thus, the KRW cash link for corporate bonds as cash accounts must be segregated in the name of the ultimate beneficial owner by itself, which is not a technical constraint but may be cost prohibitive for some Investor CSDs and their cash correspondents to provide.

With respect to government bonds, the Regulation on Foreign Exchange Transaction, subsection 3, article 7-37(1) further provides, "However, in case ICSDs trade the Korean Government Bonds or the Monetary Stabilization Bonds according to the article 69 of the Bank of Korea Act on behalf of foreign investor may deposit or dispose of investment funds through exclusive account for investment in the name of ICSDs." In this case, the IRC of the ICSD's omnibus account for Korean Government Bonds or the Monetary Stabilization Bonds is linked to the exclusive account for investment in the name of the ICSD. Thus, if foreign Investor CSDs would benefit from the same exceptions currently offered to the European ICSDs, the cash links for Korean government bonds could be greatly simplified.

Transfers of KRW from one party to another within Republic of Korea are not possible (only possible if no change of Investor Registration Certificate). KRW needs to be converted into USD and cannot be remitted outside Republic of Korea. As KRW is not permitted to be transferred within Republic of Korea by non-residents, funding of purchases of government bonds and MSBs would need to be in USD with conversion into KRW. Coupon, redemption and sales proceeds in KRW would need to be exchanged into USD to be remitted to (foreign)

Investor CSD clients. However, a positive precedent has already been set by the existing inbound links, which indicate that suitable cash correspondent services may be available.

Malaysia

There are no restrictions on repatriation of capital, profits and income. Foreign investors can freely remit funds from their local cash accounts. However, the Malaysian Ringgit can only be traded onshore through approved institutions.

Philippines

The Philippines Peso is fully convertible but foreigners can only repatriate capital, profits and income only if a Bangko Sentral Registration Document (BSRD) has been issued by the local custodian bank or the Bangko Sentral ng Pilipinas for the underlying securities/investment transaction. Foreign investors can only remit funds/convert PHP to foreign currency for outward repatriation from their local cash accounts based on BSRD evidence and documentary proof of the underlying securities/investment transaction. PHP cash accounts of non-residents can only be funded by inward remittance of foreign currency converted into pesos or proceeds of sale/cash dividends/interests of duly registered investments.

Thailand

Bank of Thailand regulation requires that a non-resident can maintain a THB balance of no more than THB 300 million at the end of each day (not intra-day). If a bond matures and the client fails to convert the THB into foreign currency or re-invest intra-day, they will breach the regulation and be subject to a penalty. The cash correspondents' banks would have to open a Non-Resident Baht Account for securities activity and monitor the balance on behalf of the Investor CSD. There are no restrictions on the repatriation of capital and income.

Singapore

A positive precedent has been set by the proposed link with Bursa Malaysia, which indicates that suitable cash correspondent services may be available. There are no restrictions on the Singapore dollar, so no legal or regulatory issues are foreseen.

Viet Nam

Lack of convertibility of the Vietnamese Dong will prevent Investor CSDs from establishing links with Viet Nam. There is no restriction on amount or time for any conversions to securities investors in Viet Nam. However, all securities transactions must be done by VND only. VND is relatively illiquid but the situation is improving.

Central Bank Money

A review of the available information shows that remote/direct membership in the RTGS systems of ASEAN+3 is not available in any of the respective markets. As a result, in order to offer Central Bank Money services in ASEAN+3 an Investor CSD would require a banking license as well as a local branch in the market in question, which is cost prohibitive in general, and also subject to regulatory constraints in most markets.

Non-ASEAN+3 Currencies – USD, EUR, GBP, CHF, AUD, NZD

Investor CSDs would be able to offer services in any fully convertible currency for which they are able to develop the technical capability and source cash correspondent banking services.

3.2.4. Corporate Actions & Custodial Services

Foreign Investor Registration

Investor registration would be required for People's Republic of China, Republic of Korea, Philippines, and Viet Nam. The registration process to support cross-border activities could be met by either the participant, the Issuer CSD, the Investor CSD, or by an agent appointed by one of the three. In the case of the Philippines the responsibility to complete the BSRD lies with the cash correspondent bank and is FX related, not due to securities investment. In Malaysia the Bursa Rule 25 does not apply to OTC bonds settled via RENTAS.

Holdings Disclosure

People's Republic of China

Convertible bond holdings of over 20% of the total issued and equity holdings of over 5% have considerable reporting requirements that may prevent Investor CSDs from developing the capability to include them.

Hong Kong, China

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% are not responsibility of the CSD.

Indonesia

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% may prevent some Investor CSDs from developing the capability to include equities; however, reporting is already handled through KSEI and is therefore not expected to be an issue.

Japan

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5%, or 10% for the purposes of control, may prevent Investor CSDs from developing the capability to include equities.

Republic of Korea

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% and 10% may prevent Investor CSDs from developing the capability to include equities.

Malaysia

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% may prevent Investor CSDs from developing the capability to include equities. However, the responsibility/onus to report on substantial holdings ultimately remains with the investor / Ultimate Beneficial Owner and do not apply to CSDs / intermediaries.

Philippines

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% may prevent Investor CSDs from developing the capability to include equities.

Thailand

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over any multiple of 5% may prevent some Investor CSDs from developing the capability to include equities.

Singapore

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5% may prevent Investor CSDs from developing the capability to include equities.

Viet Nam

There are no holdings disclosure requirements for bonds. Reporting requirements for equities holdings of over 5%, and for each additional 1% thereafter, may prevent Investor CSDs from developing the capability to include.

Investment Restrictions

People's Republic of China

A-share Market foreign investment is restricted to 10% per listed company per QFII and 20% per listed company in aggregate shareholding. Since monitoring is done by the Stock Exchange, this will not present a constraint to establishing CSD links.

Hong Kong, China

There are no investment restrictions for bonds.

Indonesia

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Japan

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Republic of Korea

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Malaysia

There are no investment restrictions for bonds. Restriction on equities holdings (30% foreign ownership limit for most companies and 49% for local insurance companies) may prevent Investor CSDs from developing the capability to include equities.

Philippines

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Thailand

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Singapore

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Viet Nam

There are no investment restrictions for bonds. Restriction on equities holdings may prevent Investor CSDs from developing the capability to include equities.

Income Events / Cash and Stock Distribution

The expected constraints on income events, cash and stock distribution include the cash processing issues detailed above, please refer to the section 3.2.3. In addition, markets where payments are made using cheques and/or where collection processes involve paying agents may introduce further constraints. These include but may not be limited to:

- Philippines – Manager's cheques to registered owners (electronic payment also possible but at higher cost),
- Thailand – payment via cheque for corporate bonds.

Income Payment in Malaysia is credited to participants' accounts directly at RENTAS on value date itself – unlike equities. However, for equities there is an initiative for these to be paid electronically directly to the end beneficiaries' bank account.

Tax Services

People's Republic of China

Income sourced from People's Republic of China by non-resident corporate investors is subject to withholding tax. Taxes are imposed on cash and stock dividends and deposit interest and coupon interest from enterprise and corporate bonds paid to QFIs. The sub-custodian must refer to the procedure for tax payment in the announcement made by the

listed companies on a case-by-case basis. In addition, there are exchange levies and transfer fees. All investors are exempt from stamp duty on investment in funds, warrants, and bonds. Interest on Treasury bonds is tax-exempt. As a result, Investor CSDs would have to develop complex tax processing capabilities which may be cost prohibitive or could encounter regulatory constraints based on the Investor CSD being a foreign entity.

Hong Kong, China

There is no withholding tax on any financial instrument, interest income is not subject to personal income tax, and there is no capital gains tax. Under the profit tax exemption/concession scheme, interest income and trading profits derived from Exchange Fund Papers, Government Bonds and HKD debt instruments issued by multilateral agencies fulfilling certain criteria enjoy profit tax concession or exemption, except for companies whose principal business is in the area of financial trading. In such cases, profit generated from such financial activities is subject to profit tax, but this is the responsibility of the individual investors rather than CSD.

Indonesia

Corporate and government bond interest and dividend income are subject to tax withheld at source. Investor CSD would need to rely on the services of the local CSDs, or find third party agents, to complete tax reclaim filings. As a result, Investor CSDs would have to develop complex tax calculation and processing capabilities, which may be cost prohibitive or encounter regulatory constraints depending on the country of the Investor CSD.

The withholding tax for fixed income is 20% for residents and 20% for non-residents unless reduced by tax treaty. The capital gains tax on fixed income instruments is 20% for residents and 20% for non-residents unless reduced by tax treaty. There is also a stamp duty: for trades with a value of less than IDR 1 million a duty of IDR 3,000 and for trades with a value of greater than IDR 1 million a duty of IDR 6,000. There is a transaction tax of 0.1% is applied on gross sale proceeds on equity sale transactions executed on the stock exchange and a final withholding tax of 5% is applied on gross sales proceeds on sales of unlisted shares unless reduced by the tax treaty.

Finally, there is an issue with the interpretation of double tax agreements (DTA). The Indonesian Government has signed such agreements with more than 50 countries. However, a corporate entity residing in a country which has a DTA with Indonesia does not automatically enjoy the DTA rates. The entity will need to submit a Certificate of Tax Residency (COTR) issued by its local tax authority to benefit from the DTA provisions.

The COTR needs to be renewed when it expires. For banks, however, the COTR has no maturity date and therefore COTR for the banks need not be renewed unless the bank has changed its address. For non-banks, currently there are two different interpretations in relation to the period covered by a COTR. One interpretation is that the COTR is valid for one year starting from the issue date printed on the document. The second interpretation is that a COTR is valid for a specific tax year, i.e. the year it is issued. The current tax regulations do not state clearly which one is the accepted interpretation. The Central Depository adopts the first interpretation however; some tax offices apply the second interpretation. The tax office is in the process of formulating a new regulation to clarify the matter. Until such time as this is clarified, the application or non-application of the DTAs remains a barrier to cross-border investment in Indonesia and could limit the volumes of Investor CSDs with this market.

Japan

In order to provide tax exemptions to their customers, Investor CSDs would have to apply for Qualified Foreign Intermediary (QFI) status, be approved by the Bank of Japan (BOJ) as a foreign indirect participant (FIP) in the JGB Book-entry System, and be approved by the District Director of the Nihombashi Tax Office as satisfying the requirements, including having a head office or main office in a counterparty country that has a tax treaty with the article on the exchange of information with Japan.⁶⁶ Many sub-custodians open segregated accounts for non-resident investors to prepare documents for tax exemption; and Investor CSDs are expected to have to do the same, which may be cost prohibitive.

Republic of Korea

Investor CSDs would have to develop the capability to file applications for tax exemptions would need to apply for and obtain QFI status and would need to provide quarterly reports to the Korean tax authorities, which may be cost prohibitive.

Malaysia

There is neither withholding tax for non-resident investors on interest on government bonds, nor capital gains tax. Convertible bonds are subject to withholding taxes. In order to offer reclaim services to their customers, Investor CSDs would have to hire a local tax consultant to file tax reclaims directly with the Malaysian tax authority, which may be cost prohibitive or encounter regulatory constraints depending on the country of the Investor CSD.

Philippines

Taxes are withheld at source on dividends and fixed income instruments, and capital gains are taxed. Investor CSDs would have to develop complex tax processing capabilities for the relief at source and reclaim processes, which may be cost prohibitive or encounter regulatory constraints depending on the country of the Investor CSD.

Thailand

Non Resident Investors are subjected to withholding tax on corporate bond interest at the rate of 15% or other rates that may be reduced by the relevant Double Taxation Agreement. Investor CSDs would have to develop the capability to file applications for tax exemptions.

Singapore

There is a 15% withholding tax on corporate and government bonds, with exemptions for non-resident investors on qualifying debt securities. Capital gains are tax exempt and tax relief at source is available. In order to provide tax exemptions for their customers, Investor CSDs would have to develop services for tax relief at source and reclaim, which may be cost prohibitive.

Viet Nam

Income taxes are applicable to government and municipal bonds as well as interest earned on cash deposits. Sub-custodians are responsible for making and collecting tax payments. Investor CSDs would have to develop complex tax processing capabilities for the relief at

⁶⁶ <http://www.mof.go.jp/english/bonds/qfi-e.htm>

source and reclaim processes, which may be cost prohibitive or encounter regulatory constraints depending on the country of the Investor CSD.

3.2.5. Other Services

The following services are not in scope for the CSD Linkage option, although Investor CSDs may offer them based on their own decision. As a result of their being optional the legal and regulatory feasibility is not discussed in detail:

Securities Lending and Borrowing

Collateral Management

Integrated Credit Facilities

PvP / FX Services

Pre-Settlement Matching Services (PSMS)

4. Business Feasibility Study

4.1. Methodology

Structure:

CSD Linkage – under the assumption that the CSD Linkage is not incorporated as a bank, the business feasibility study should use a Discounted Cash Flow. Since the fees paid to the CSD Linkage entity would cover only the cross-border infrastructure component of what a participant pays to their CSD, a total market calculation must be used to determine all-in prices to CSD participants. A rough estimate of the communication fee charged by the CSD Linkage to the CSDs can be used to show positive cash and profits on pro forma financial statements, but the NPV would be a total for all of the participating CSDs. This will give an estimate of the value and payback of the venture while avoiding having to determine how the benefits are distributed.

Asian ICSD – under the assumption that the ICSD is incorporated as a bank, the business feasibility study should use an Equity Cash Flow, so that before profits would be taken some equity could be diverted to reserves. This applies on an ongoing basis, including the terminal value calculation, under the assumption that the intent of the venture is to create a going concern rather than to cash out at the end of the explicit planning period. The level of reserves should be set at an agreed and reasonable level, based on credit commitments. Modelling the credit commitments is possible by estimating the rate of fails from the expected turnover. The NPV would be a total of the benefits to the Asian ICSD and its sub-custody network. This will give an estimate of the value and payback of the venture while avoiding having to determine how the benefits are distributed.

Methodological Assumptions:

The CSD Linkage solution would rely on the participating CSDs to cover all customer relationship, customer service, securities and cash account operations, and custody functions. As a result it should take the assumption of a lean model with minimal staff and outsourced operations, and it should use a serviced office in order to keep facilities costs to a minimum. This would allow it to take advantage of economies of scale available in the regional financial services industry that may not otherwise be accessible for a business of its size.

The Asian ICSD would be of the scale that would justify its own office space and data centre. In keeping with current trends for sale and leaseback of commercial real estate, the Asian ICSD investment plan should consider facilities as leased rather than purchased. This will simplify the business case by expensing facilities at published commercial rent rates rather than requiring real estate property valuation to be considered in the initial investment and payback period. The Asian ICSD should consider the direct rates for equipment, telecommunications, etc., as serviced office rates are generally uneconomical for business of over 40 people.

From a calculation perspective the following assumptions are required:

- Cost of capital – discussions to date indicate between 6% and 10%, take 8% and sensitivity of +/- 2%
- Corporate tax rate – take median for the region of 27% and do sensitivity between 17.5% and 35%
- Inflation rate for goods and services – suggestion of 5% and sensitivity of +/-3% to cover wide differences between possible countries of incorporation
- Inflation rate for salaries – suggestion of 6% and sensitivity of +/-3% to cover wide differences between possible countries of incorporation
- Terminal growth rate – historically a value of 4% has been used as an approximation of long-term GDP growth in industrialized countries. In the current business environment 3% is typical for a mature firm but in order to cover higher growth possibilities 3.5% is taken with a sensitivity of +/- 0.5%

Note: Inflation rates apply only to the explicit planning period, after which the terminal growth rate over-rides them.

In the case of the Asian ICSD the following assumptions are also required:

- Loan book / credit commitments (using fails as % of turnover, and credit provision for other services)
- Reserve requirement as percentage of loan book / credit commitments

Scenarios:

The CSD Linkage solution would take a phased approach. Referring to the Country details table, the phases for the “current scenario” would be based on the feasibility as follows, with multiple years between the first and last phases:

- Phase 1: “High” Legal and Regulatory Feasibility –Hong Kong, China; Singapore; Thailand
- Phase 2: “Medium” Legal and Regulatory, “High” Technical Feasibility – Japan, Republic of Korea
- Phase 3: “Medium” Legal and Reg., “Medium” or “Low” Technical – Indonesia, Malaysia, Philippines
- Phase 4: “Low” Legal and Regulatory Feasibility – People’s Republic of China, Viet Nam

For the Phase 2 countries the extra time versus the Phase 1 markets would be required due to the following constraints:

- Japan – Investor CSDs would have to complete applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located.
- Republic of Korea – The use of segregated accounts would have to be duplicated in the Investor CSDs for their Korean holdings, and Investor CSDs would have to: (i) complete application to become Qualified Foreign Intermediary (QFI); and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS).

For the Phase 3 countries the extra time versus the Phase 1 markets would be required largely for technical reasons in order to develop the required multi-currency settlement functionality, and custody functionality as defined in the CSD Linkage Service Scope.

For the Phase 4 countries the extra time versus the Phase 1 markets would be required to allow the regulatory to adapt currency convertibility restrictions, and for the CSDs to develop the required DvP, multi-currency, custody, and cash forecast functionality as defined in the CSD Linkage Service Scope.

The sensitivity analysis for the “integrated case” assumes that all legal and regulatory barriers have been lifted prior to commencement of operation of the CSD Linkage, and would then adjust the phasing to consider only the technical feasibility as follows, with all phases completed within one year:

- Phase 1: “High” technical feasibility –Hong Kong, China; Japan; Republic of Korea; Singapore
- Phase 2: “Medium” technical feasibility – Indonesia, Philippines, Malaysia
- Phase 3: “Low” technical feasibility – People's Republic of China, Thailand, Viet Nam

The CSD adaptation costs would be estimated at a very high level, with CSDs requested to verify that the estimates are in the correct range for the scenario where there are no legal and regulatory barriers. The CSD adaptation cost estimate should include the following:

- Establishing a leased line or SWIFT connection to the converter,
- Developing Settlement and Custody capabilities in order to meet the requirements as stated in the attached Service Scope document
- Populating the mapping tables in the converter to map inbound and outbound formats against a central converter format
- Developing the capability to send participant and security data to the converter and keep it up to date
- Resource cost for negotiating bi-lateral Link Agreements and SLAs with the other CSDs

The suggestion for the ranges is as follows but is subject to further discussion:

- “High” technical feasibility: between 0.5 and 2.5 mn USD
- “Medium” technical feasibility: between 2.5 and 5 mn USD
- “Low” technical feasibility: between 5 and 7.5 mn USD

The current scenario would be adjusted for legal and regulatory feasibility according to the Country Details table as follows, with CSDs requested to verify that the estimates are in the correct range:

- High feasibility – no adjustment
- Medium feasibility – initial suggestion of 0.5 mn USD per investor CSD connecting to these markets
- Low feasibility – initial suggestion of 1 mn USD per investor CSD connecting to these markets

In addition, the CSD adaptation cost should allow for the range to be over-ridden based on the input of the CSD. For further scenarios which include equity markets, the CSD Linkage solution should be adjusted for the adaptation cost of additional CSDs, if applicable.

The Asian ICSD solution would also take a phased approach due to legal/regulatory feasibility. Technical constraints should not affect the Asian ICSD option as use of an indirect link through a subcustodian means that only the subcustodian would need to have technical (SWIFT) capability. It is assumed that sub-custodians in all relevant markets today already have SWIFT capability. Similarly, customers of the Asian ICSD would also need SWIFT capability and it is assumed that regional market players today already have such capability. Thus, the only constraints for the Asian ICSD to establish a link (account) with a specific market in the region are legal and regulatory feasibility.

In the current scenario based on the Legal Feasibility Analysis, the phases would be based on the legal and regulatory feasibility as follows, with 1 year between Phase 1 and Phase 2 and 2-3 years between Phase 2 and Phase 3:

- Phase 1: “High” Legal and Regulatory Feasibility – Hong Kong, China; Malaysia; Singapore; Thailand
- Phase 2: “Medium” Legal and Regulatory – Indonesia, Japan, Korea government bonds, Philippines, Viet Nam
- Phase 3: “Low” Legal and Regulatory Feasibility – People’s Republic of China, Korea corporate bonds

The above is based on a time to market calculation where the Asian ICSD could establish a direct or indirect link to Phase 1 countries immediately. Phase 2 countries would require longer due to the need to develop specialized reporting and/or obtain certain licenses and

statuses. For the Phase 3 countries, the Asian ICSD would not be able to establish a link without changes in local law and/or regulation.

For the Phase 1 countries, the Asian ICSD would need to select a subcustodian and open an account with the subcustodian or the CSD. For these countries, there is no need to develop specialised reporting functionalities or to complete applications or approvals to obtain special statuses. It is expected that the Asian ICSD can open links (account) with these markets within a year after becoming operational.

For the Phase 2 countries the extra time versus the Phase 1 markets would be required due to the following constraints:

- Indonesia – The additional time over Phase 1 countries is required due to the need to (i) set up a tracking system to ensure information on the ultimate beneficial owner is maintained by the Asian ICSD; (ii) establish a reporting functionality to comply with currency control rules: Bank Indonesia regulation No.10/28/PBI/2008 and Circular Letter No.10/42/DPD dated 27 November 2008; and (iii) obtain and file and set up a system to track renewal dates for Certificates of Tax Residency (COTR) for each beneficial owner holding via the Asian ICSD.
- Japan – The additional time over Phase 1 countries is required due need to complete the following applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located.
- Korea government bonds – The placement of the Korea government bond link in Phase 2 assumes that there has been a law change which would allow the Asian ICSD to open an omnibus account for government bonds monetary stabilisation bonds as is the case today for the two European ICSDs. The additional time over Phase 1 countries is required due to the need to (i) complete application to become Qualified Foreign Intermediary (QFI); and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS).
- Philippines – The additional time over Phase 1 countries is required due to the need to establish a reporting functionality to comply with currency control rules because existing central bank regulations mandate issuance/utilization of foreign investment license on per trade per registered investor. Purchase of foreign currency against sale of Philippine peso by non-residents/foreign investors needs to be supported by duly-registered foreign investment license with an approved underlying investment transaction.
- Viet Nam – The use of omnibus accounts and the convertibility of the VND for securities market transactions is quite new. Neither European ICSD has a link with Viet Nam today. Accordingly, it is expected that establishing a link will take some additional time to understand the relevant rules and to determine whether any special status is needed. Prior to investment foreign investors have to apply for trading codes via their custodian banks or securities firms. Further special functionality may be required to handle the capital gains tax and/or physical delivery of unlisted bonds. Illiquidity in the VND may also prove challenging.

For the Phase 3 countries, in each of these cases omnibus accounts are not currently permitted. An omnibus account is needed because for the Asian ICSD to provide its core function as a securities settlement systems it needs to be able to transfer ownership interests in securities in book-entry or electronic form from one ICSD account to another ICSD account (referred to as “internal settlement”). Where accounts must be segregated in the name of the

beneficial owner, the Asian ICSD cannot open an account in its own name in such market because it is not itself the ultimate end investor. For such segregated account markets, the Asian ICSD can act as agent for the beneficial owner and open an account in the name of the beneficial owner, but it cannot then fulfil its core function because it cannot offer an internal settlement service as the Asian ICSD itself does not have any ownership interest in the local market which it can transfer from one ICSD account to another ICSD account. For the same reason, for markets where segregated accounts are required, the Asian ICSD would not be able to offer collateral management or securities lending services.

As services for the segregated account markets, Chinese bonds and Korean corporate bonds are limited, it is assumed that the Asian ICSD would launch these links in a final phase. If the Asian ICSD were to set up links on the basis of a segregated account structure, this would require additional technology development for the Asian ICSD. Such developments would take additional time. It is expected that the delay would be a delay of between 2-3 years. This does not assume a law change to permit the use of omnibus accounts as this could take possibly more time than 2-3 years, but rather assumes that the Asian ICSD would establish links with the segregated account markets even without a law change. Note that in this case, the use of the link by the Asian ICSD account holders would likely be quite limited.

The integrated case assumes that all legal and regulatory barriers have been lifted prior to commencement of operation of the Asian ICSD. As the Asian ICSD is not technical development dependent, this would then mean that the Asian ICSD could launch all market links in single Phase which could be completed within one year:

- Phase 1: People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; Viet Nam

Cost Components:

Technical Environment – includes all Hardware and Software for operating both the core system and its data centre including:

- Network infrastructure
- Hardware purchase or lease
- Licenses for hardware, software, databases, and operating systems

An assumption of leased hardware can be used to reduce initial investment outlay and simplify replacement costs. In the event leasing is not practical, then amortization for both hardware and software over five years is recommended. An assumption of outsourcing the technical environment is possible for the CSD Linkage option. It is also reasonable for the Asian ICSD to consider an outsourcing arrangement.

Software Development – in the case of the Asian ICSD includes:

- Customer connectivity (message, file transfer, online) and static data (participants)
- Custody platform including securities and cash accounts
- Settlement engine
- Bridge to Clearstream and Euroclear
- Sub-custody network connections per market within scope
- Triparty collateral management reporting & tools
- Securities lending and borrowing
- Risk management reporting
- Credit & collateral usage and valuation tools
- Regulatory reporting
- Financial and accounting reporting and tools

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Software Development – in the case of the CSD Linkage includes:

- Connectivity (message, file transfer, online) and static data (participants)
- Routing and conversion engine

Software Development – in both cases includes:

- Information platform (ISINs, event data, proxy voting, query engine)
- Security and audit trail
- Billing

CSD adaptation cost – in the case of the CSD Linkage includes:

- Software development cost as a one time cost (see “Scenarios” above)
- Network cost (e.g. SWIFT) on an ongoing basis

Project Management costs are applicable to both options and include specification, development, documentation end-to-end testing, and migration.

IT Operating Costs include:

- IT Staff costs – wage and non-wage costs
- 24x7 operations for hardware and data centre
- Data centre facilities costs including rent and utilities
- Network / leased line and SWIFT costs
- Software, database and operating system maintenance charges

Non-IT Operating Costs include:

- Staff costs (excluding IT) – wage and non-wage costs (see below for details)
- Board member remuneration
- Office rent / leasing occupancy cost* (including rent, maintenance, property taxes, etc.) estimated per FTE (Full Time Equivalent) per year, derived from the CB Robert Ellis published rates per square foot (e.g. 126 sq. ft/FTE is the European average including meeting space, 100 sq. ft./FTE is used for Asia)
- Other facilities costs* including training, travel & entertainment, telecom land lines and mobiles, office cleaning, security, etc. are estimated at 10% of the combined Staff and Office Occupancy Cost.
- Office PC workstations, network and business system* are estimated at 100 to 200 USD per PC per month with maintenance, and ERP systems such as SAP cost between 150 USD and 300 USD per person per month, a reasonable range of 3000 to 6000 USD per year is suggested. Assuming other costs such as networking, file servers, print servers, printers, etc. must be included, it is recommended to take the top end of the range at 6000 USD per person per year.
- External legal and professional services
- Audit and financial – including fees for outside auditors
- Company founding, including initial reserves for Asian ICSD option
- License fees or other regulatory costs (if any)
- Insurance fees

* included in serviced office costs where applicable

Approximate all-in salary levels including benefits are required for staff. It is recommended to take the average salary levels for the region as follows from data published by Robert

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Walters recruitment consultancy, and do sensitivity analysis for the top and bottom of the range, for the following positions:

Salary Cost (USD / Yr)	Top of Range	Average	Bottom of Range
General Manager	467,000	239,000	59,000
Management	234,000	115,000	29,000
Product Development	156,000	73,000	23,000
Customer Service	104,000	46,000	18,000
Information Technology	125,000	58,000	20,000
Accounting / Technical	104,000	46,000	18,000
Admin / Clerical	78,000	27,000	10,000

For approximate all-in occupancy cost it is recommended to take the average levels for the median-cost countries in the region as follows from data published by CB Robert Ellis real estate consultancy, and do sensitivity analysis for the top and bottom of the range, as follows:

Average USD/sq. ft/yr	High (HK, JP)	Median (CN, SG, SK, VN)	Low (rest of region)
Occupancy Cost	166.98	66.03	21.51

Revenue Components:

Transaction fees – are applicable to both options, as the Asian ICSD would charge a fee per settlement, and the CSD Linkage would charge a communication fee per transaction (settlement, income event, etc.) to the CSDs.

Custody Fees – are applicable only to the Asian ICSD option, which would charge investors a fee in basis points of assets in safe custody.

Membership / Connectivity Fees – are applicable to both options. The Asian ICSD may charge fees per customer, per terminal, per query, etc., whereas the CSD Linkage may charge an annual fee to members in order to cover its network infrastructure costs and/or a fee per data query.

For the Asian ICSD, interest income on cash balances and interest charged to clients for credit extensions will also be sources of revenue, as will collateral management and tri-party repo services.

In order to better estimate total benefits to the market, the fees for transactions on domestic securities should be taken gross for the NPV calculation and net for the balance sheet view. As a result, the NPV will not reflect the discreet company valuation, but rather the total value of the initiative to both the RSI and its sub-custodians.

Volume determination:

Potential market size is calculated using a combination of data from BIS, Asian Bonds Online, and data collected from market participants in order to gauge outstanding debt, volume /

turnover, and percent cross-border holdings. European (EU-15) market size and cross-border holdings pre-Euro adoption were analysed as a potential guide to future integration possibilities.

The BIS data for Domestic and International Outstanding Debt Securities was taken from 1998 through 2008, and a simple linear regression performed per country and category (government, financials, and corporates) to forecast the outstanding debt from 2009 through 2015. The dataset contains all countries in scope except for Viet Nam. In the domestic markets this results in a forecast for a slight reduction in outstanding debt in 2009, which is actually not likely given current market conditions. However, the current year is not relevant to the two RSI options, and the long term total domestic market prediction for the ASEAN+3 countries in scope is a reasonable, if not conservative, 3.9% compound annual growth rate (4.9% Government debt, -0.5% financial, and 2.0% corporates). The long term total international market prediction for the ASEAN+3 countries in scope is a reasonable 4.8% compound annual growth rate (5.4% Government debt, 6.8% financial, and -1.2% corporates). Note that for International Corporate debt in Indonesia the linear regression would result in negative values in the forecast period, so the ten year average from 1998 through 2008 was taken. This should not have a material effect on the results as it represented 0.3% of the 2008 total international debt for countries in scope.

Cross-border holdings of Local Currency debt was taken from Asian Bonds Online for Indonesia, Japan, Republic of Korea, Malaysia, and Thailand. Estimates were provided by market participants for People's Republic of China; Hong Kong, China; Philippines; Singapore; and Viet Nam. The total cross-border holdings as a percentage of the total outstanding debt for 2008 was 6.x%, and this is multiplied against the forecast totals in order to estimate the total custody potential of the RSI option in the current scenario. For the integrated case this figure will be extrapolated from its current level to 18% in 2015, the approximate level in the EU-15 in the year before the euro was adopted as a currency for financial reporting (banknotes were introduced in 2002). For the Asian ICSD option the total holdings are classified as cross-border.

Potential market size in number of transactions is not reported consistently for the region, and across various sources such as the CPSS Red Book for Group of Ten CSDs, and the ECB Blue Book for European CSDs the reporting methods vary. As a result, turnover in USD Billions, turnover ratios and average sizes per transaction are used in order to estimate the number of transactions in a consistent way. Turnover and turnover ratios are published on Asian Bonds Online for all countries except Viet Nam. The 2008 turnover ratios per country are multiplied by the forecasted total outstanding debt for 2009 through 2015. The published turnover ratios for government debt are multiplied by the forecast for domestic government debt outstanding, while the published ratio for corporate debt was multiplied by the sum of the domestic financial and corporate debt. The turnover for international debt was calculated at approximately 31 times, using the turnover and assets under custody figures from the Euroclear 2008 annual report. This results in an implicit assumption that turnover ratios will not increase during the forecast period.

Transaction volumes are estimated per market using an assumption of average ticket size, which are set per country. An average ticket size of:

- 2.5 mn USD is recommended for the larger more liquid domestic market of Japan,
- 1.0 mn USD for all other domestic markets
- 6.7 mn USD for all international markets (calculated from the Euroclear 2008 annual report)

Initial findings indicate that the domestic transaction volume is highly sensitive to the values for People's Republic of China and Japan for this assumption, due to the relative size of these two markets. Sensitivity analysis of +/- 0.5 mn USD is recommended for domestic markets and +/- 1 mn for international markets.

The total transaction volume is then multiplied against the same cross-border holdings percentage that is used for the outstanding debt, in order to arrive at the settlement volume expected for the CSD Linkage option. This is a proxy for the cross-border transaction volume, which is not published. For the Asian ICSD option the total transaction volume is classified as cross-border.

The estimates of the volumes that would flow through the RSI option, and be used to calculate revenue potential, require an estimate of the eventual market share of the RSI option. Since there is no reference or precedent for this figure, an objective approach is required. Initial discussions indicate that the best way to confirm if an RSI option is not feasible is to set this value to 100%, and then in the case that an option looks feasible at 100% this figure should be reduced in increments of 5% in order to determine the “break-even” point.

For the Asian ICSD, these resulting custody and settlement volumes will also be used to calculate the potential cash balances, and collateral management and securities lending and borrowing outstanding.

Price determination:

In the case of the Asian ICSD, the prices for internal settlement, custody of instruments issued at the ICSD, and all value-added services could be determined independently, whereas the external settlement and custody fees would be dependent on the sub-custodians. The internal transaction rates could be determined, once the costs and volumes are available, by setting prices that provide sufficient net present value and a reasonable payback time on an equity cash flow calculation and comparing them to the current published ICSD fee schedules for validation. The external settlement and custody fees would have to be set to include the following components, applied once each for both settlement and custody:

- The Asian ICSD internal transaction costs
- The external sub-custodian
- Mark-up to cover the Asian ICSD sub-custody network investment

In the case of the CSD Linkage, the fees to CSDs could be determined, once the costs and volumes are available, by setting prices that provide positive cash and profits in a specified time frame, as the net present value and payback time would apply to the venture as a whole including CSD costs and revenues. In order to determine the total cross-border settlement and custody fees via CSD Linkage, the current fees of the CSDs and their adaptation costs would be used.

4.2. Asian ICSD Model

4.2.1 Introduction:

This document estimates the costs and benefits of an Asian ICSD, as an option for Regional Settlement Intermediary (RSI) in ASEAN+3. The separate document “Business Feasibility Study Methodology” defines the assumptions and scenarios that are common to the RSI options. This document lists the values defined for assumptions such as cost of capital and tax rate to the extent that they are required to explain scenarios and sensitivity analysis, but for further detail of the reasoning please refer to the Methodology document. The estimates taken for this analysis took published figures from both Euroclear and Clearstream as a base wherever possible, or from one of the two if required. This feasibility study also relies on a number of assumptions regarding future cost of capital, inflation rates, salary levels, real estate costs, etc. To the extent that the unknown elements in these forecasts are quantifiable,

sensitivity analysis is used to determine the risk associated with actual values developing differently from the forecast.

Under the assumption that the ICSD is incorporated as a bank, the business feasibility study uses an Equity Cash Flow, so that before profits would be taken some equity could be diverted to reserves. This applies on an ongoing basis, including the terminal value calculation, under the assumption that the intent of the venture is to create a going concern rather than to cash out at the end of the explicit planning period. The level of tier 1 capital required is set according to the yearly turnover, at the same proportion as used by Euroclear Bank. This implicitly assumes that the Asian ICSD would aim to have a similar credit rating as the existing ICSDs in order to be competitive, and that it would base its tier 1 capital requirements on its Securities Settlement System (SSS) status rather than setting aside reserves as a commercial bank would. The NPV is limited to the benefits to the Asian ICSD's direct shareholders, as it was not possible to estimate the total cost to adapt or the benefits to the Asian ICSD's customers and sub-custody network. This will give an estimate of the value and payback that is limited to the venture itself.

This feasibility study is intended to be taken as a basis of whether to recommend an RSI option for further detailed work rather than as a business plan or a benchmark against which to measure future results.

4.2.2 Methodological Assumptions:

The macroeconomic parameters are as follows:

	Current Scenario	Integrated Scenario	Sensitivity
Cost of Capital	8%	8%	+/- 2%
Corporate Tax Rate	27%	27%	From 17.5% to 35%
Inflation rate for Goods and Services	5%	5%	+/- 3 %
Inflation Rate for Salaries	6%	6%	+/- 3%
Terminal Growth Rate	4%	4%	+/- 0.5%
2015 % X-Border	6.4%	18%	None
RSI Share of X-Border 2015	Calculate percent where NPV Explicit Planning Period is zero	Calculate percent where NPV Explicit Planning Period is zero	N/A

4.2.3 Cost Components:

The Asian ICSD would take the assumption of a lean model with minimal staff and outsourced operations, as discussed in the Methodology document. However, the requirement for considerable ongoing investment would be met by having a complete IT staff by the time the operation is up and running. With IT operations outsourced, the IT staff figures represent only software development and support.

IT Investment and Running costs

The key assumptions are the number of days of software specification and development, as this is the major start-up cost as well as the basis for the outsourcing of the ongoing IT operating costs. In the case of the Asian ICSD, the development times and costs are estimated by industry experts. They are as follows:

- Customer Connectivity and Static Data – USD 2,500,000
- Settlement Engine (ICSD Only) – USD 5,000,000
- Bridge to Clearstream & Euroclear (ICSD Only) – 150 person/days
- Sub-custody Network Connections (ICSD Only) – 1,000 person/days
- Triparty Collateral Management Reporting & Tools (ICSD Only) – 5,000 person/days
- Securities Lending and Borrowing (ICSD Only) – 5,000 person/days
- Credit & Collateral Usage & Valuation Tools (OCSD Only) – 5,000 person/days
- Financial and Accounting Reporting & Tools (ICSD Only) – USD 10,000,000
- Information platform (ISINs, event data, proxy voting, query engine) – USD 1,500,000
- Security and audit Trail – 2,000 person/days
- Pricing / Billing – USD 300,000
- 24/7 Running – 250 person/days
- Project Management (Coordination, E2E-Testing) – 1,000 person/days
- Tech. Environment Requirements - HW, SW (L,M,H) – USD 1,000,000 mn

The resulting initial development cost, using an estimate of 750 USD per day⁶⁷, would be 34.9 mn USD.⁶⁸

Based on this estimate for the cost to establish the operating environment, the yearly running cost of outsourcing IT operation is estimated at 15% of the initial costs of Technical Environment hardware, operating systems, etc., which is 20.3 mn USD, and of the total person/days for the initial developments, which is 19,400 person/days. In addition, 50k USD per year per connected sub-custodian/agent bank should be added for SWIFT or leased network lines. For the first and second year, the running costs are divided by the days of the developments in the respective year.

Staffing Model

The numbers of operational staff are estimated using the following model, where a measure such as the number of markets, ISINs, or events drives the capacity requirement in a particular department.

	Measure	Value	/ Month / FTE	/ Year / FTE	Multiplier
Network Management	Markets	12			1
New Issues	Number of ISIN	1,100	5	60	0.01667
Custody Operations	Markets	12			3.5

⁶⁷ The development cost per day can be varied; in the case of Asian ICSD, it is estimated at 750 USD/person/day, which is lower than the case of CSD Linkage as 1,000 USD/person/day, because it is expected to have its own IT department.

⁶⁸ This is very low in comparison to the figures discussed to date for Target2-Securities. The ECB expects costs of in total €203 million for the complete development phase (2008 – 2013) of the Target2Securities securities settlement platform which is projected to process between 345-640 million settlement instructions annually (T2S Economic Impact Assessment, 07 May 2008). However, the systems vary by orders of magnitude in the scale of the volumes they should handle, and the mandate of T2S does not include similar custody functionality on which to base a valid comparison.

ABMI Group of Experts Final Report
Evaluation of the Feasibility of Regional Settlement Intermediary Options for the ASEAN+3

Income / Corporate Events	Events	22,000	20	240	0.004167
Settlement Support	Volume	6,346,123	15,000	180,000	0.000006
Settlement & Banking	Markets	12			4
Customer Service	Markets	12			10

The number of markets is 12 rather than 10 under the assumption that links to Clearstream and Euroclear will consume similar staff resources as the links to the individual country markets. The number of events assumes 2 events per ISIN per year and includes XS-ISINs (International) only, with the total of 1,100 ISINs outstanding being an estimate based on data supplied by Clearstream. This implies that these resources are sufficient to also cover data enrichment of domestic market instruments.

The customer service staff estimate assumes 4 first line support people per market, plus one second line person each for settlement, custody, corporate actions, income, collateral management, and connectivity. The model and the multipliers were developed based on the estimates of industry experts based on having a Greenfield system with some learning curve required for the staff.

The number of staff in other areas is also based on the estimates of industry experts in order to support the operational staff determined above.

Salary data

Based on the potential locations for the RSI, salary costs (per person) would be estimated as follows:

Salary Cost (USD / Yr)	No. of FTE ⁶⁹	Timing	Top of Range	Average	Bottom of Range
General Manager	1	Start of project	467,000	239,000	59,000
Management	5	Start of project	234,000	115,000	29,000
Product Development	40	Start of phase 1	156,000	73,000	23,000
Customer Service	~120	Ramps up as markets are added	104,000	46,000	18,000
Information Technology	300	Start of phase 1	125,000	58,000	20,000
Accounting Technical /	50	Start of phase 1	104,000	46,000	18,000
Operations	~240	Ramps up as volume increases	104,000	46,000	18,000
Reception & Admin	50	Start of phase 1	78,000	27,000	10,000

Source: Robert Walters Salary Survey 2009⁷⁰

⁶⁹ Full Time Equivalent

⁷⁰ http://www.robertwalters.com/global_salarysurvey.do

In order to estimate total salary plus benefits (e.g. special health insurance, meal allowance, etc.) the salaries are increased by 36%. Due to lack of data for Asia, we use the EU average⁷¹ as default.

Non-Wage Labor Costs

Country	Non-Wage Labor Costs (per €100 Euro gross wages)
EU Average	36
France	50
Sweden	50
Belgium	45
Italy	45
Germany	32
Netherlands	31
United Kingdom	28
Finland	28

Source: Germany Federal Statistics Office (2008)

Occupancy costs

The space required for employees is estimated at approximately 100 square feet (37 m²)⁷² x Full Time Equivalent (persons), resulting in the following occupancy cost:

Average USD/sq. ft/yr	High (HK, JP)	Median (CN, SG, SK, VN)	Low (rest of region)
Occupancy USD/sq. ft/yr	166.98	66.00	21.50
Service Office USD/sq. ft/yr	250.00	99.00	32.25
Total Cost Per Year	16,700 USD/person/year	6,600 USD/person/year	2,150 USD/person/year

Source: "Asia MarketView Q1 2009", CBRE RESEARCH – ASIA, CB Robert Ellis (2008)

⁷¹ It is likely that non-wage cost in Asia would be lower than that of the EU. However, there are different ways of measuring non-wage labor costs even in the EU; the ratio of non-wage cost to wage may be higher or lower than the outcome measured by Germany Federal Statistics Office. Therefore, as for our estimation, we use the EU average.

⁷² According to CB Robert Ellis, 100 sq. ft./FTE is used for Asia while 126 sq. ft./FTE is used for the European average including meeting space,

Office PC workstations, network and business system including costs such as networking, file servers, print servers, printers, etc. are estimated at 6000 USD per person per year. This is because office PC workstations, network and business system are estimated at 100 to 200 USD per PC per month with maintenance; and ERP systems such as SAP cost between 150 USD and 300 USD per person per month. Assuming other costs such as networking, file servers, print servers, printers, etc. must be included, the top end of the range at 6000 USD per person per year is chosen.

Other costs such as training and travel, etc

Other costs including training and travel, etc. are estimated at 10% of the combined Staff and Office Occupancy Cost, while telecom costs including mobiles are estimated as 5% of the same cost base. The ratio is based on the review of Clearstream, and KSD.

Consulting fees include legal, tax, and audit

External legal and professional consulting service fees are estimated at 1.5 mn USD per year, and audit and financial at 1.9 mn USD per year. Company founding fee is estimated at 25k USD. These are roughly estimated based on the experiences by Link-Up Markets in Europe. License fees or other regulatory costs are not expected. Insurance fees are not expected in addition to what is implicitly covered in the employee benefits, serviced office costs, board member remuneration and other costs.

Board member remuneration

Board member remuneration is estimated at 1.5 mn USD, using the Deutsche Börse annual report for 2008 for a reference example.

Start-up costs and Development costs

Start-up costs are estimated as costs during the days up to the cutover of phase 1, i.e., the costs in the first year and the first half of the second year. Development costs are estimated as the costs during the days up to the cutover of the phase 1 and market adaptation costs among CSDs. The adaptation costs may be incurred after phase 1 as the adaptation takes place in several phases. The start-up cost including working capital and initial capitalization adds one month worth of the first full-year revenues, plus the tier 1 capital which is required for Securities Settlement System (SSS) status until volumes are sufficient to fund increases in reserves directly from the income of the Asian ICSD.

4.2.4 Current Scenario:

In the current scenario based on the Legal Feasibility Analysis, the phases would be based on the legal and regulatory feasibility as follows, with 1 year between Phase 1 and Phase 2 and 2-3 years between Phase 2 and Phase 3:

- Phase 1: “High” Legal and Regulatory Feasibility – Hong Kong, China; Malaysia; Singapore; Thailand
- Phase 2: “Medium” Legal and Regulatory – Indonesia, Japan, Korea government bonds, Philippines, Viet Nam
- Phase 3: “Low” Legal and Regulatory Feasibility – People's Republic of China, Korea corporate bonds

The above is based on a time to market calculation where the Asian ICSD could establish a direct or indirect link to Phase 1 countries immediately. Phase 2 countries would require longer due to the need to develop specialized reporting and/or obtain certain licenses and statuses. For the Phase 3 countries, the Asian ICSD would not be able to establish a link without changes in local law and/or regulation.

For the Phase 1 countries, the Asian ICSD would need to select a subcustodian and open an account with the sub-custodian or the CSD. For these countries, there is no need to develop specialised reporting functionalities or to complete applications or approvals to obtain special statuses. It is expected that the Asian ICSD can open links (account) with these markets within a year after becoming operational.

For the Phase 2 countries the extra time versus the Phase 1 markets would be required due to the following constraints:

- Indonesia – The additional time over Phase 1 countries is required due to the need to (i) set up a tracking system to ensure information on the ultimate beneficial owner is maintained by the Asian ICSD; (ii) establish a reporting functionality to comply with currency control rules: Bank Indonesia regulation No.10/28/PBI/2008 and Circular Letter No.10/42/DPD dated 27 November 2008; and (iii) obtain and file and set up a system to track renewal dates for Certificates of Tax Residency (COTR) for each beneficial owner holding via the Asian ICSD.
- Japan – The additional time over Phase 1 countries is required due need to complete the following applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located.
- Korea government bonds – The placement of the Korea government bond link in Phase 2 assumes that there has been a law change which would allow the Asian ICSD to open an omnibus account for government bonds monetary stabilisation bonds as is the case today for the two European ICSDs. The additional time over Phase 1 countries is required due to the need to (i) complete application to become Qualified Foreign Intermediary (QFI); and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS).
- Philippines – The additional time over Phase 1 countries is required due to the need to establish a reporting functionality to comply with currency control rules because existing central bank regulations mandate issuance/utilization of foreign investment license on per trade per registered investor. Purchase of foreign currency against sale of Philippine peso by non-residents/foreign investors needs to be supported by duly-registered foreign investment license with an approved underlying investment transaction.
- Viet Nam- The additional time over Phase 1 countries is required. The use of omnibus accounts and the convertibility of the VND for securities market transactions is quite new. Neither European ICSD has a link with Viet Nam today. Accordingly, it is expected that establishing a link will take some additional time to understand the relevant rules and to determine whether any special status is needed. Prior to investment foreign investors have to apply for trading codes via their custodian banks or securities firms. Further special functionality may be required to handle the capital gains tax and/or physical delivery of unlisted bonds. Illiquidity in the VND may also prove challenging.

For the Phase 3 markets, in each of these cases omnibus accounts are not currently permitted. An omnibus account is needed because for the Asian ICSD to provide its core function as a securities settlement systems it needs to be able to transfer ownership interests in securities in book-entry or electronic form from one ICSD account to another ICSD account (referred to as “internal settlement”). Where accounts must be segregated in the name of the beneficial owner, the Asian ICSD cannot open an account in its own name in such market because it is not itself the ultimate end investor. For such segregated account markets, the Asian ICSD can act as agent for the beneficial owner and open an account in the name of the beneficial owner, but it cannot then fulfil its core function because it cannot offer an internal settlement service as the Asian ICSD itself does not have any ownership interest in the local market which it can transfer from one ICSD account to another ICSD account. For the same reason, for markets where segregated accounts are required, the Asian ICSD would not be able to offer collateral management or securities lending services.

As services for the segregated account markets, Chinese bonds and Korean corporate bonds, are limited, it is assumed that the Asian ICSD would launch these links in a final phase. If the Asian ICSD were to set up links on the basis of a segregated account structure, this would require additional technology development for the Asian ICSD. Such developments would take additional time. It is expected that the delay would be a delay of between 2-3 years. This does not assume a law change to permit the use of omnibus accounts as this could take possibly more time than 2-3 years, but rather assumes that the Asian ICSD would establish links with the 3 segregated account markets even without a law change. Note that in this case, the use of the link by the Asian ICSD account holders would likely be quite limited

Due to the lower market volume in the current scenario, the number of employees and related costs such as occupancy and travel are adjusted downwards proportionally.

4.2.5 Integrated Scenario:

The more integrated scenario assumes that all legal and regulatory barriers have been lifted prior to commencement of operation of the Asian ICSD. As the Asian ICSD is not technical development dependent, this would then mean that the Asian ICSD could launch all market links in single Phase which could be completed within one year:

- Phase 1: People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and Viet Nam

4.2.6 Revenue Components:

Transaction fees – based on current market rates, the Asian ICSD would be able to charge an average of 1.07 USD per internal settlement and 10 USD per domestic settlement via its sub-custody network. The average cost to the Asian ICSD of 5 USD per domestic settlement is based on the transaction cost study, resulting in a net external fee income of 5 USD per transaction.

Custody Fees – the Asian ICSD would charge investors a fee in basis points of assets in safe custody. Internal custody would be charged at 1.03 b.p. whereas external custody via the sub-custody network would have a fee of 1 b.p. at a cost of 0.5 b.p., resulting in a net external custody income of 0.5 b.p. on the domestic assets under custody.

SBL and Collateral Management Revenue – the Asian ICSD would earn a spread in basis points for every Securities Lending and Borrowing transaction, mostly driven by fails lending and the ICSD's own lending desk, as well as for Collateral Management transactions which enable Tri-Party Repo for ICSD customers. This income is approximated at 8% of the gross revenue from transaction fees and custody, which is in keeping with the long-term averages seen at Clearstream until 2007 – where 2008 has been excluded due to effects of the

financial crisis on Clearstream's "Euro CG Pooling" volumes (which are specific to the Eurozone and Clearstream's relationship to Eurex as sister company within Group Deutsche Börse).

Other Revenue – the Asian ICSD would charge yearly connectivity fees as well as communication fees, possibly per message, transaction, or per text file depending on the format chosen by its customers. The Asian ICSD may also charge for custom reporting and other ad-hoc requests from customers. This income is approximated at 13% of the gross revenue from transaction fees and custody, which is in keeping with the long-term averages seen at Clearstream.

For the Asian ICSD, interest income on cash balances and interest charged to clients for credit extensions will also be sources of revenue, as will collateral management and tri-party repo services. Net interest income is approximated as 27% of the gross total revenue, which is higher than what would be possible in the current low interest rate environment, but reflects the long term averages for Clearstream and Euroclear assuming that the current environment is a short to medium term anomaly. The income from collateral management and tri-party repo services are priced at 0.53 b.p. and 0.55 b.p., respectively. Both assume that the related outstandings are approximately 1.5% of assets under custody, again reflecting the long-term averages of Clearstream and Euroclear.

4.2.7 Volume Development:

BIS figures were taken for custody holdings in all markets. Foreign holdings were taken from the website www.AsiaBondsOnline.com for the markets where figures were available.

Potential market size is calculated using a combination of data from BIS, Asian Bonds Online, and data collected from market participants in order to gauge outstanding debt, volume / turnover, and percent cross-border holdings. European (EU-15) market size and cross-border holdings pre-Euro adoption were analysed as a potential guide to future integration possibilities.

The BIS data for Domestic and International Outstanding Debt Securities was taken from 1998 through 2008, and a simple linear regression performed per country and category (government, financials, and corporates) to forecast the outstanding debt from 2009 through 2015. The dataset contains all countries in scope except for Viet Nam. In the domestic markets this results in a forecast for a slight reduction in outstanding debt in 2009, which is actually not likely given current market conditions. However, the current year is not relevant to the two RSI options, and the long term total domestic market prediction for the ASEAN+3 countries in scope is a reasonable, if not conservative, 3.9% compound annual growth rate (4.9% Government debt, -0.5% financial, and 2.0% corporates). The long term total international market prediction for the ASEAN+3 countries in scope is a reasonable 4.8% compound annual growth rate (5.4% Government debt, 6.8% financial, and -1.2% corporates). Note that for International Corporate debt in Indonesia the linear regression would result in negative values in the forecast period, so the ten year average from 1998 through 2008 was taken. This should not have a material effect on the results as it represented 0.3% of the 2008 total international debt for countries in scope.

Cross-border holdings of Local Currency debt was taken from Asian Bonds Online for Indonesia, Japan, Republic of Korea, Malaysia, and Thailand. Estimates were provided by market participants for People's Republic of China; Hong Kong, China; Philippines; Singapore; and Viet Nam. The total cross-border holdings as a percentage of the total outstanding debt for 2008 was 6.4%, and this is multiplied against the forecast totals in order to estimate the total custody potential of the RSI option in the current scenario. For the integrated case this figure will be extrapolated from its current level to 18% in 2015, the approximate level in the EU-15 in the year before the euro was adopted as a currency for

financial reporting (banknotes were introduced in 2002). For the Asian ICSD option the total holdings are classified as cross-border.

Potential market size in number of transactions is not reported consistently for the region, and across various sources such as the CPSS Red Book for Group of Ten CSDs, and the ECB Blue Book for European CSDs the reporting methods vary. As a result, turnover in USD Billions, turnover ratios and average sizes per transaction are used in order to estimate the number of transactions in a consistent way. Turnover and turnover ratios are published on Asian Bonds Online for all countries except Viet Nam. The 2008 turnover ratios per country are multiplied by the forecasted total outstanding debt for 2009 through 2015. The published turnover ratios for government debt are multiplied by the forecast for domestic government debt outstanding, while the published ratio for corporate debt was multiplied by the sum of the domestic financial and corporate debt. The turnover for international debt was calculated at approximately 31 times, using the turnover and assets under custody figures from the Euroclear 2008 annual report. This results in an implicit assumption that turnover ratios will not increase during the forecast period.

Transaction volumes are estimated per market using an assumption of average ticket size, which are set per country. An average ticket size of:

- 1.0 mn USD for all domestic markets
- 5.0 mn USD for all international markets (estimated to be slightly lower than the 6.7 mn USD calculated from the Euroclear 2008 annual report)

In addition, the foreign holdings for People's Republic of China and Philippines were estimated at 5% to be in the same range as Japan, Republic of Korea and Thailand. Singapore and Hong Kong, China, were assumed to be more open markets were estimated at 15% to be in the same range as Indonesia and Malaysia.

The Current Scenario extrapolates future volumes remaining at the 2008 cross-border holdings level of 6.4%, and removes the South Korean, Indonesian, and Philippine corporate and financial debt due to the constraints described in the Legal and Regulatory Feasibility Study.

The Integrated Scenario extrapolates from the 2008 cross-border holding level of 6.4% up to an eventual level of 18% in 2015 and does not remove any securities from the scope due to legal or regulatory constraints.

The number transactions are estimated as the bond market size x the current turnover ratio x the share of cross-border holdings / 1 million USD, which is considered as standard transaction unit. Minimum turnover ratio for each market can be considered for various estimates.

The assets under custody are estimated as the bond market size x the share of cross-border holdings.

The sensitivity analysis for the cross-border holdings investigates increases to 8% and 10% for the current scenario and 10% and 15% for the integrated scenario.

The number of transactions and the assets under custody of Asian ICSD is estimated as the market share of RSI multiplied by the overall figures.

4.2.8 Minimum Capitalization Amount

Tier 1 capital is calculated based on the transaction volume of Euroclear and Clearstream compared to their respective volumes. Euroclear capital is 1.5 bn EUR, to which the ratio to the turnover, 282 tr EUR, is 0.0005% for 2008. The ECB Blue Book published figure for Clearstream's turnover for 2008 was 55 trillion EUR, and at this rate the tier 1 capital of Clearstream amounts to 0.00072% of the turnover. This is slightly higher than the 0.0005%

calculated from Euroclear's annual report; however, the ECB reporting is done in a different way that would actually result in a 0.0006% ratio for Euroclear.

4.2.9 Starting Capitalization Amount

The starting capitalization is designed to take into account the start-up costs plus the requirements that during the explicit planning period the available working capital must remain above the working capital required. The available working capital is taken as total cash minus the tier 1 requirement calculated above, and the requirement for working capital is taken as one twelfth of the yearly revenue. As a result this method considers both the start-up costs as well as the long term cash balance of the venture. In order to set this starting capitalization amount correctly, the goal seek function in Excel is used to determine the point at which the difference between required and available working capital is zero.

4.2.10 Results for Current Scenario:

In the Current Scenario at the present value within the explicit planning period is positive above the 74.0% market share level, there is a positive net present value for the venture with a payback of 5 years.

4.2.11 Results for Integrated Scenario:

In the Integrated Scenario at the 43.5% market share level, there is a positive net present value in the explicit planning period (to end 2015 or six years) with a payback of 5.1 years.

4.2.12 Results of Sensitivity Analysis:

With respect to the net present value during the explicit planning period, the Salary Cost has the highest impact followed by the Occupancy Cost. Both are functions of the number of staff required, therefore it follows that varying the year-on-year salary increase by +/- 3% has an impact of over 10% of the NPV. However, only applying the high salary cost has the potential to change the NPV from positive to negative.

The WACC and Terminal Growth Rate have significant effects but do not have the potential to change the NPV from positive to negative.

4.3. CSD Linkage Model

4.3.1 Introduction:

This document estimates the costs and benefits of a CSD Linkage solution, as an option for Regional Settlement Intermediary (RSI) in ASEAN+3. The separate document “Business Feasibility Study Methodology” defines the assumptions and scenarios that are common to the RSI options. This document lists the values defined for assumptions such as cost of capital and tax rate to the extent that they are required to explain scenarios and sensitivity analysis, but for further detail of the reasoning please refer to the Methodology document. This feasibility study relies on a number of assumptions regarding future cost of capital, inflation rates, salary levels, real estate costs, etc. To the extent that the unknown elements in these forecasts are quantifiable, sensitivity analysis is used to determine the risk associated with actual values developing differently from the forecast.

This feasibility study is intended to be taken as a basis of whether to recommend an RSI option for further detailed work rather than as a business plan or a benchmark against which to measure future results.

4.3.2 Methodological Assumptions:

The macroeconomic parameters are as follows:

	Current Scenario	Integrated Scenario	Sensitivity
Cost of Capital	8%	8%	+/- 2%
Corporate Tax Rate	27%	27%	From 17.5% to 35%
Inflation rate for Goods and Services	5%	5%	+/- 3 %
Inflation Rate for Salaries	6%	6%	+/- 3%
Terminal Growth Rate	4%	4%	+/- 0.5%
2015 % X-Border	6.4%	18%	None
RSI Share of X-Border 2015	Calculate percent where NPV Explicit Planning Period for Stakeholders is zero	Calculate percent where NPV Explicit Planning Period for Stakeholders is zero	N/A

4.3.3 Cost Components:

The CSD Linkage solution would take the assumption of a lean model with minimal staff and outsourced operations, as discussed in the Methodology document.

IT Investment and Running costs

The key assumptions are the number of days of software specification and development, as this is the major start-up cost as well as the basis for the outsourcing of the ongoing IT operating costs. In the case of the CSD Linkage the estimated development times are as follows⁷³:

- Connectivity (message, file transfer, online) and static data (participants) – 2,000 person/days
- Routing and conversion engine – 4,000 person/days
- Information platform (ISINs, event data, proxy voting, query engine) – 3,000 person/days
- Security and audit trail – 300 person/days
- Billing – 200 person/days
- Technical Environment capable of 24x5 operations – 1,000 person/days
- Project Management (coordination, E2E-testing) – 4,000 person/days
- Technical Environment hardware, operating systems, etc. – 2.5 mn USD

The Technical Environment consists mostly of database systems such as Oracle and communications middleware such as MQ Series, WebMax, Connect:Direct, Secure File Transfer Protocol, etc. The hardware and operating systems required to run such systems could include HP, IBM, Sun or similar servers running Unix or Linux operating systems. The capacity estimates are based on peak volumes typical in financial markets rather than the yearly volumes discussed for the revenue model.

The resulting initial development cost, using an estimate of 1,000 USD per day⁷⁴, would be 17 mn USD. This compares well to the published figures of Link-Up Markets in Europe (approximately 10 mn EUR) as this figure represents a build from scratch approach and may include costs that were internalized by the European CSDs.

Based on this estimate for the cost to establish the operating environment, the yearly running cost of outsourcing IT operation is estimated at 15% of the initial costs of Technical Environment hardware, operating systems, etc., which is 2.5 mn USD, and of the total person/days for the initial developments, which is 14,500 person/days. In addition, 50k USD per year per connected CSDs should be added for SWIFT or leased network lines. For the first and second year, the running costs are divided by the days of the developments in the respective year.

The ability to use the SWIFT network and its messaging capability may lead to some confusion why the CSDs don't use on SWIFT without investing in a converter. In this context it should be noted that SWIFT has limited conversion capability, and if SWIFT were to be used on its own instead of a central converter, then many of the investments described here for the converter would have to be made multiple times in the participating CSDs.

Salary data

With IT outsourced, a lean organization with few employees would allow the use of a serviced office to reduce start-up investment, while provide professional reception and secretarial services, office equipment and meeting facilities. As a result, the staff requirement

⁷³ It is necessary to note that standards, trading and operating practices, and service scope of CSDs in Europe are much more harmonized than these of Asia. It is likely to have more development person/days in Asia.

⁷⁴ The development cost per day can be varied; in the case of Asian ICSD, it is estimated at 750 USD/person/day as it is expected to have its own IT department.

could be kept to one General Manager, two Product Managers to support the CSDs, and one Accountant / Clerk once the RSI is operational to provide billing and reporting.

Based on the potential locations for the RSI, salary costs (per person) would be estimated as follows:

Salary Cost (USD / Yr)	No. of FTE ⁷⁵	Timing	Top of Range	Average	Bottom of Range
General Manager	1	Start of project	467,000	239,000	59,000
Product Development	2	Start of project	156,000	73,000	23,000
Accounting Technical /	1	Start of phase 1	104,000	46,000	18,000

Source: Robert Walters Salary Survey 2009⁷⁶

In order to estimate total salary plus benefits (e.g. special health insurance, meal allowance, etc.) the salaries are increased by 36%. Due to lack of data for Asia, we use the EU average⁷⁷ as default.

Non-Wage Labor Costs

Country	Non-Wage Labor Costs (per €100 Euro gross wages)
EU Average	36
France	50
Sweden	50
Belgium	45
Italy	45
Germany	32
Netherlands	31
United Kingdom	28
Finland	28

Source: Germany Federal Statistics Office (2008)

Occupancy costs

In order to estimate serviced office costs, we assume a ratio of approximately 1.5x the occupancy cost.⁷⁸

⁷⁵ Full Time Equivalent

⁷⁶ http://www.robertwalters.com/global_salariesurvey.do

⁷⁷ It is likely that non-wage cost in Asia would be lower than that of the EU. However, there are different ways of measuring non-wage labor costs even in the EU; the ratio of non-wage cost to wage may be higher or lower than the outcome measured by Germany Federal Statistics Office. Therefore, as for our estimation, we use the EU average.

⁷⁸ This multiplier is estimated from the published data of CB Robert Ellis (2008). The published data provides office rent / leasing occupancy cost (including rent, maintenance, property taxes, etc.) per FTE (Full Time Equivalent) per year per square foot.

The space required for four employees is estimated at approximately 100 square feet (37 m²)⁷⁹ x Full Time Equivalent (persons), resulting in the following occupancy cost at the start of operation:

Average USD/sq. ft/yr	High (HK, JP)	Median (CN, SG, SK, VN)	Low (rest of region)
Occupancy USD/sq. ft/yr	166.98	66.00	21.50
Service Office USD/sq. ft/yr	250.00	99.00	32.25
Total Cost Per Year (Service Office)	150,000 USD/person/year	59,400 ⁸⁰ USD/person/year	19,400 USD/person/year

Source: "Asia MarketView Q1 2009", CBRE RESEARCH – ASIA, CB Robert Ellis (2008)

Office PC workstations, network and business system including costs such as networking, file servers, print servers, printers, etc. are estimated at 6000 USD per person per year. This is because office PC workstations, network and business system are estimated at 100 to 200 USD per PC per month with maintenance; and ERP systems such as SAP cost between 150 USD and 300 USD per person per month. Assuming other costs such as networking, file servers, print servers, printers, etc. must be included, the top end of the range at 6000 USD per person per year is chosen.

Other costs such as training and travel, etc

Other costs including training and travel, etc. are estimated at 10% of the combined Staff and Office Occupancy Cost, while telecom costs including mobiles are estimated as 5% of the same cost base. The ratio is based on the review of Euroclear, Clearstream, and KSD.

Consulting fees include legal, tax, and audit

External legal and professional consulting service fees are estimated at 50k USD per year, and audit and financial at 25k USD per year. Company founding fee is estimated at 25k USD. These are roughly estimated based on the experiences by Link-Up Markets in Europe. License fees or other regulatory costs are not expected. Insurance fees are not expected in addition to what is implicitly covered in the employee benefits, serviced office costs, board member remuneration and other costs.

Board member remuneration

Board member remuneration was omitted for the time being, under the assumption that all board members are employees of the CSDs that take an ownership stake in the venture.

(Start-up costs and Development costs)

Start-up costs are estimated as costs during the days up to the cutover of phase 1, i.e., the costs in the first year and the first half of the second year. Development costs are estimated as the costs during the days up to the cutover of the phase 1 and market adaptation costs

⁷⁹ According to CB Robert Ellis, 100 sq. ft./FTE is used for Asia while 126 sq. ft./FTE is used for the European average including meeting space,

⁸⁰ The serviced office charge for the first year is estimated as 22,468 USD, and the second year is 52,060 USD as the office space is expected to expand as the FTE number increase.

among CSDs. The adaptation costs may be incurred after phase 1 as the adaptation takes place in several phases.

4.3.4 Current Scenario

The CSD Linkage solution would take a phased approach as follows, with the first phase taking one year in order to include the founding of the venture, the infrastructure development, and connection of the first CSDs:

- Phase 1: Hong Kong, China; Singapore; Thailand⁸¹ – One year after project start
- Phase 2: Japan, Republic of Korea – six months after Phase 1
- Phase 3: Indonesia, Malaysia, Philippines – six months after Phase 2
- Phase 4: People's Republic of China, Viet Nam – six months after Phase 3

For the Phase 2 countries the extra time versus the Phase 1 markets would be required due to the following constraints:

- Japan – Investor CSDs would have to complete applications: (i) for government bonds, a Foreign Indirect Participant (FIP) with the Bank of Japan and a Qualified Foreign Intermediary (QFI) with the Nihombashi Tax Office; (ii) for corporate bonds, Foreign Indirect Account Management Institution (FIAMI) with JASDEC; and (iii) for municipal bonds, a Qualified Foreign Intermediary (QFI) with the district director of each tax office where each municipal bond issuer is located.
- Republic of Korea – The use of segregated accounts would have to be duplicated in the Investor CSDs for their Korean holdings, and Investor CSDs would have to: (i) complete application to become Qualified Foreign Intermediary (QFI); and (ii) to develop reporting functionality for reports to be provided to the Bank of Korea (BOK), the Korean National Tax Service (NTS) and the Financial Supervisory (FSS).

For the Phase 3 countries the extra time versus the Phase 1 markets would be required largely for technical reasons in order to develop the required multi-currency settlement functionality, and custody functionality as defined in the CSD Linkage Service Scope.

For the Phase 4 countries the extra time versus the Phase 1 markets would be required to allow the regulatory to adapt currency convertibility restrictions, and for the CSDs to develop the required DvP, multi-currency, custody, and cash forecast functionality as defined in the CSD Linkage Service Scope.

CSD adaptation costs according to technical feasibility are estimated as follows:

The CSD adaptation cost estimate should include the following:

- Establishing a leased line or SWIFT connection to the converter,
- Developing Settlement and Custody capabilities in order to meet the requirements as stated in the attached Service Scope document
- Populating the mapping tables in the converter to map inbound and outbound formats against a central converter format
- Developing the capability to send participant and security data to the converter and keep it up to date
- Resource cost for negotiating bi-lateral Link Agreements and SLAs with the other CSDs

⁸¹ Thailand is included in the phase 1 because their technical readiness seems high if legal and regulatory problems are cleared.

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	Current Scenario	Sensitivity
High Technical Feasibility	1.5 mn USD	+/- 1.0 mn USD
Medium Technical Feasibility	3.75 mn USD	+/- 1.25 mn USD
Low Technical Feasibility	6.25 mn USD	+/- 1.25 mn USD

The Current Scenario would then be adjusted for legal and regulatory feasibility as follows:

- High feasibility – no adjustment
- Medium feasibility – 0.5 mn USD per investor CSD connecting to these markets
- Low feasibility – 1 mn USD per investor CSD connecting to these markets

The resulting CSD adaptation costs per phase for the Current Scenario are estimated as follows:

	Current Scenario	Sensitivity
Phase 1	9.25 mn USD	+/- 3.25 mn USD
Phase 2	5.0 mn USD	+/- 2.0 mn USD
Phase 3	13.25 mn USD	+/- 3.75 mn USD
Phase 4	20.5 mn USD	+/- 2.50 mn USD
Total CSD Adaptation Cost	48.0 mn USD	+/- 11.5 mn USD

Due to the lower market volume in the current scenario, the Technical Environment Requirements cost is reduced by 10%.

4.3.5 Integrated Scenario:

The sensitivity analysis for the “integrated case” assumes that all legal and regulatory barriers have been lifted prior to commencement of operation of the CSD Linkage, and would then adjust the phasing to consider only the technical feasibility as follows, with all phases completed within one year:

The sensitivity analysis for the Integrated Scenario would adjust the phasing as follows:

- Phase 1: Hong Kong, China; Japan; Republic of Korea; Singapore – One year after project start
- Phase 2: Indonesia, Philippines, Malaysia – six months after Phase 1
- Phase 3: People's Republic of China, Thailand⁸², Viet Nam – six months after Phase 2

No adjustment would be made to the CSD adaptation cost for legal and regulatory feasibility. The resulting CSD adaptation costs per phase for the Current Scenario are estimated as follows:

⁸² Contrary to the integrated scenario, Thailand needs to have a lot of legal and regulatory adjustments which pushes them to the phase 3.

	Current Scenario	Sensitivity
Phase 1	6.0 mn USD	+/- 4.0 mn USD
Phase 2	11.25 mn USD	+/- 3.75 mn USD
Phase 3	18.75 mn USD	+/- 3.75 mn USD
Total CSD Adaptation Cost	36.0 mn USD	+/- 11.5 mn USD

4.3.6 Revenue Components

Transaction fees – based on current market rates, the Investor CSDs would be able to charge an average of 10 USD per settlement for the type of service being provided. The average cost is based on the transaction cost study. The CSD Linkage would charge a communication fee per transaction (settlement, income event, etc.) to the CSDs of a portion of this, estimated at 5 USD for the purposes of this study. Although in practice this is considered to be high, it could be adjusted up or down according to volume development. As the result, the net transaction fee is estimated at 5 USD. The Investor CSDs would also have to pay the Issuer CSD and cash correspondent charges out of this 10 USD total price, however, since the total benefit to all stakeholders is being considered it is not necessary to split this cost out as a separate component (as it would be for the business case of an individual CSD).

Custody Fees – are applicable only to the CSDs, as the Investor CSDs would charge investors a fee in basis points of assets in safe custody, and the Investor CSDs would in turn be charged the domestic custody rate by their respective Issuer CSDs. Based on current market rates, the Investor CSDs would be able to charge an average of 1 basis points (bp) for the type of service being provided. The average charge is also based on the transaction cost study. As with transaction fees, since the total benefit to all stakeholders is being considered it is not necessary to split this cost out as a separate component (as it would be for the business case of an individual CSD). The custody holdings in the various CSDs would trigger various income and corporate action transactions in the RSI. However, as the volume of these messages would be in the range of only 5% of the total transactions, as a simplification they are not priced separately.

Membership / Connectivity Fees – the CSD Linkage may charge an annual fee to members of approximately 100k USD in order to cover its network infrastructure costs and data queries. Although in practice this is considered to be a high, it could be adjusted up or down according to volume development.

The fees are paid according to the number of days participated in the Linkage.

4.3.7 Volume Development

BIS figures were taken for custody holdings in all markets. Foreign holdings were taken from the website www.AsiaBondsOnline.com for the markets where figures were available.

Potential market size is calculated using a combination of data from BIS, Asian Bonds Online, and data collected from market participants in order to gauge outstanding debt, volume / turnover, and percent cross-border holdings. European (EU-15) market size and cross-border holdings pre-Euro adoption were analysed as a potential guide to future integration possibilities.

The BIS data for Domestic and International Outstanding Debt Securities was taken from 1998 through 2008, and a simple linear regression performed per country and category

(government, financials, and corporates) to forecast the outstanding debt from 2009 through 2015. The dataset contains all countries in scope except for Viet Nam. In the domestic markets this results in a forecast for a slight reduction in outstanding debt in 2009, which is actually not likely given current market conditions. However, the current year is not relevant to the two RSI options, and the long term total domestic market prediction for the ASEAN+3 countries in scope is a reasonable, if not conservative, 3.9% compound annual growth rate (4.9% Government debt, -0.5% financial, and 2.0% corporates). The long term total international market prediction for the ASEAN+3 countries in scope is a reasonable 4.8% compound annual growth rate (5.4% Government debt, 6.8% financial, and -1.2% corporates). Note that for International Corporate debt in Indonesia the linear regression would result in negative values in the forecast period, so the ten year average from 1998 through 2008 was taken. This should not have a material effect on the results as it represented 0.3% of the 2008 total international debt for countries in scope.

Cross-border holdings of Local Currency debt was taken from Asian Bonds Online for Indonesia, Japan, Republic of Korea, Malaysia, and Thailand. Estimates were provided by market participants for People's Republic of China; Hong Kong, China; Philippines, Singapore; and Viet Nam. The total cross-border holdings as a percentage of the total outstanding debt for 2008 was 6.4%, and this is multiplied against the forecast totals in order to estimate the total custody potential of the RSI option in the current scenario. For the integrated case this figure will be extrapolated from its current level to 18% in 2015, the approximate level in the EU-15 in the year before the euro was adopted as a currency for financial reporting (banknotes were introduced in 2002). For the Asian ICSD option the total holdings are classified as cross-border.

Potential market size in number of transactions is not reported consistently for the region, and across various sources such as the CPSS Red Book for Group of Ten CSDs, and the ECB Blue Book for European CSDs the reporting methods vary. As a result, turnover in USD Billions, turnover ratios and average sizes per transaction are used in order to estimate the number of transactions in a consistent way. Turnover and turnover ratios are published on Asian Bonds Online for all countries except Viet Nam. The 2008 turnover ratios per country are multiplied by the forecasted total outstanding debt for 2009 through 2015. The published turnover ratios for government debt are multiplied by the forecast for domestic government debt outstanding, while the published ratio for corporate debt was multiplied by the sum of the domestic financial and corporate debt. The turnover for international debt was calculated at approximately 31 times, using the turnover and assets under custody figures from the Euroclear 2008 annual report. This results in an implicit assumption that turnover ratios will not increase during the forecast period.

Transaction volumes are estimated per market using an assumption of average ticket size, which are set per country. An average ticket size of:

- 2.5 mn USD is recommended for the larger more liquid domestic market of Japan,
- 1.0 mn USD for all other domestic markets
- 6.7 mn USD for all international markets (calculated from the Euroclear 2008 annual report)

In addition, the foreign holdings for People's Republic of China and Philippines were estimated at 5% to be in the same range as Japan, Republic of Korea and Thailand. Singapore and Hong Kong, China were assumed to be more open markets were estimated at 15% to be in the same range as Indonesia and Malaysia.

The Current Scenario extrapolates future volumes remaining at the 2008 cross-border holdings level of 6.4%, and removes the South Korean, Indonesian, and Philippine corporate and financial debt due to the constraints described in the Legal and Regulatory Feasibility Study.

The Integrated Scenario extrapolates from the 2008 cross-border holding level of 6.4% up to an eventual level of 18% in 2015 and does not remove any securities from the scope due to legal or regulatory constraints.

The number transactions are estimated as the bond market size x the current turnover ratio x the share of cross-border holdings / 1 million USD, which is considered as standard transaction unit. Minimum turnover ratio for each market can be considered for various estimates.

The assets under custody are estimated as the bond market size x the share of cross-border holdings.

The sensitivity analysis for the cross-border holdings investigates increases to 8% and 10% for the current scenario and 10% and 15% for the integrated scenario.

The number of transactions and the assets under custody of CSD Linkage is estimated as the market share of RSI multiplied by the overall figures.

Transaction Revenue Goss External is estimated as the number of transactions in each year multiplied by 10 USD. Custody Revenue Goss External is estimated as the amount in custody in each year times 1bp.

4.4. Further Sensitivity Analyses

We have two scenarios: the current case which assumes the current level of 6.4 % of cross-border bond holding will continue, which is very conservative; the integrated case which assumes the market will be integrated and cross-border bond holding will increase to the similar level of the EU before the monetary union, which is 18%.

In each of the two scenarios, we conducted sensitivity analyses; we changed one of the key variables while keeping others the same and see how the change affected the result.

In our analyses, for the reference point, we seek for the market share of the RSI at which its present value becomes positive. For example, in the case of Asian ICSD current case, to be profitable the ICSD needs to gain 74% of cross-border transactions and cross-border custody business of ASEAN+3 bonds if the cross-border bond holding continues to be the current level of 6.4% for the next 5 years.

The summary of the sensitivity analyses is as follows:

4.4.1 Asian ICSD

Current case

Asian ICSD Current Case

Sensitivity Analysis	Base-line scenario			
Cross-border holding after 5 years	6.4%	8.0%	10.0%	15.0%
Necessary RSI Market share to make the venture's present value positive	74.0%	66.5%	59.5%	47.0%
Starting capitalization amount	367,775,435	337,870,703	308,926,673	260,768,660
WACC	8.0%	6.0%	10.0%	
Necessary RSI Market share to make the venture's present value positive	74.0%	72.5%	76.0%	
Starting capitalization amount	367,775,435	366,152,722	369,939,054	
Transaction fee (Gross) USD	\$10	\$12	\$8	
Necessary RSI Market share to make the venture's present value positive	74.0%	73.0%	75.0%	
Starting capitalization amount	367,775,435	363,861,626	371,766,834	
Custody fee(gross external) (bps)	1bp	2bps	0.75	
Necessary RSI Market share to make the venture's present value positive	74.0%	59.5%	79.0%	
Starting capitalization amount	367,775,435	301,916,007	389,790,485	
IT investment costs (USD)	34,850,000	70,000,000	100,000,000	
Necessary RSI Market share to make the venture's present value positive	74.0%	91.0%	> 100	
Starting capitalization amount	367,775,435	447,738,020		
Net Interest Income ratio to gross revenue	27%	20%	10%	
Necessary RSI Market share to make the venture's present value positive	74.0%	79.5%	89%	
Starting capitalization amount	367,775,435	392,991,458	436,570,995	
Connectivity revenue ratio to gross revenue	13%	10%	5%	
Necessary RSI Market share to make the venture's present value positive	74.0%	76.5%	81.0%	
Starting capitalization amount	367,775,435	378,567,725	398,063,173	
SBL and collateral management revenue ratio to gross revenue	8%	6%	4%	
Necessary RSI Market share to make the venture's present value positive	74.0%	75.5%	77.0%	
Starting capitalization amount	367,775,435	374,622,856	381,824,785	

The base-line scenario shows that Asian ICSD needs to have the market share of 74% if the cross-border bond holding remains the current level of 6.4 % for the next 5 years. If the cross-border bond holding increases to 8%, the necessary market share declines to 66.5%. Likewise, if the cross-border holding goes up to 10%, the market share becomes 59.5%.

The starting capitalization is expected to be around \$300- 400 million in the most of the cases. This needs to cover the initial investments and regulatory capital to maintain high rating as the other ICSDs.

If the initial IT cost goes above \$100 million, it is unlikely to make the business viable in 5 years.

Integrated case

Asian ICSD Integrated Case

Sensitivity Analysis	Base-line scenario			
Cross-border holding after 5 years	18.0%	15.0%	10.0%	8.0%
Necessary RSI Market share to make the venture's present value positive	43.5%	49.0%	62.0%	69.0%
Starting capitalization amount	256,518,168	272,030,294	321,103,807	350,708,825
WACC	8.0%	6.0%	10.0%	
Necessary RSI Market share to make the venture's present value positive	43.5%	42.5%	45.5%	
Starting capitalization amount	256,518,168	256,778,245	256,057,253	
Transaction fee (Gross) USD	\$10	\$12	\$8	
Necessary RSI Market share to make the venture's present value positive	43.5%	43.0%	44.0%	
Starting capitalization amount	256,518,168	253,953,603	258,341,348	
Custody fee(gross external) (bps)	1bp	2bps	0.75	
Necessary RSI Market share to make the venture's present value positive	43.5%	32.5%	48.5%	
Starting capitalization amount	256,518,168	217,334,355	270,368,325	
IT investment costs (USD)	34,850,000	70,000,000	100,000,000	
Necessary RSI Market share to make the venture's present value positive	43.5%	52.0%	59.5%	
Starting capitalization amount	256,518,168	311,049,228	357,536,427	
Net Interest Income ratio to gross revenue	27%	20%	10%	
Necessary RSI Market share to make the venture's present value positive	43.5%	47.0%	53%	
Starting capitalization amount	256,518,168	269,153,393	293,331,230	
Connectivity revenue ratio to gross revenue	13%	10%	5%	
Necessary RSI Market share to make the venture's present value positive	43.5%	45.0%	48.0%	
Starting capitalization amount	256,518,168	258,869,342	268,502,222	
SBL and collateral management revenue ratio to gross revenue	8%	6%	4%	
Necessary RSI Market share to make the venture's present value positive	43.5%	44.5%	45.5%	
Starting capitalization amount	256,518,168	259,922,779	263,501,122	

The integrated case assumes higher level of cross-border bond holding, the required market share of Asian ICSD is lower than the current case. And the starting capitalization is lower.

As the integration case expects all investments and personnel recruitments from the early stage, the initial costs are larger than the current case.

4.4.2 CSD Linkage

CSD Linkage provides cross-border transaction services, but custody business of cross-border bonds is important revenue source. Therefore, in our estimation, we examined the present value of CSD Linkage + the CSDs linked, i.e, the present value of stakeholders.

In addition, the level of the market share to make the CSD Linkage's net income zero is examined. This is the level that the CSDs do not have to share their custody incomes to support the CSD Linkage.

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Current case

CSD Linkage Current Case

Sensitivity Analysis	Base-line scenario			
Cross-border holding by foreigners	6.4%	8.0%	10.0%	15.0%
Necessary RSI Market share to make stakeholders' present value positive	34.0%	28.5%	24.0%	17.0%
Necessary RSI Market share to make CSD Linkage's net income = zero	63.5%	50.5%	40.5%	27.0%
WACC	8.0%	6.0%	10.0%	
Necessary RSI Market share to make stakeholders' present value positive	34.0%	32.5%	36.0%	
Transaction fee (Gross) USD	\$10	\$12	\$8	
Necessary RSI Market share to make stakeholders' present value positive	34.0%	33.5%	35.0%	
Necessary RSI Market share to make CSD Linkage's net income = zero	63.5%	52.5%	78.5%	
Custody fee (bps)	1bp	2bps	0.5bp	
Necessary RSI Market share to make stakeholders' present value positive	34.0%	18.0%	61.5%	
IT investment costs	17,000,000	30,000,000	50,000,000	
Necessary RSI Market share to make stakeholders' present value positive	34.0%	43.0%	57.0%	
Necessary RSI Market share to make CSD Linkage's net income = zero	63.5%	> 100	>100	
Start-up costs	25,369,950	52,116,783	93,265,757	

The current case shows that the CSD Linkage needs to have 34% of the market share to make the present value of stakeholders' value positive. This market share is much smaller than Asian ICSD because CSD Linkage does not require large initial investments and recruitment of personnel. In our model, the most of the operations are outsourced.

The start-up costs are also small compared to Asian ICSD because the CSD linkage is not a bank and it does not have a large reserve.

In addition to the start-up costs, each CSD needs to bear the initial market adaptation costs.

If the IT investments are much higher than the base-line scenario, it is very difficult to make the CSD net income positive in the five years. The CSDs need to support the CSD Linkage.

Integrated case

CSD Linkage Integrated Case

Sensitivity Analysis	Base-line scenario		
Cross-border holding by foreigners	18.0%	15.0%	10.0%
Necessary RSI Market share to make stakeholders' present value positive	11.5%	13.5%	19.0%
Necessary RSI Market share to make CSD Linkage's net income = zero	23.0%	28%	41.5%
WACC	8.0%	6.0%	10.0%
Necessary RSI Market share to make stakeholders' present value positive	11.5%	11.0%	12.0%
Transaction fee (Gross) USD	\$10	\$12	\$8
Necessary RSI Market share to make stakeholders' present value positive	11.5%	11.0%	11.5%
Necessary RSI Market share to make CSD Linkage's net income = zero	23.0%	19.0%	28.5%
Custody fee (bps)	1bp	2bps	0.5bp
Necessary RSI Market share to make stakeholders' present value positive	11.5%	6.0%	20.0%
IT investment costs	17,000,000	30,000,000	50,000,000
Necessary RSI Market share to make stakeholders' present value positive	11.5%	14.5%	20.0%
Necessary RSI Market share to make CSD Linkage's net income = zero	23.0%	38.0%	62.0%
Start-up costs	25,369,950	52,116,783	93,265,757

As cross-border bond holding is much higher, the required market share is much smaller than the current case.

5. Recommendations

Based on the analyses, we recommend the followings for the next step.

Recommendations

- (1) It should be acknowledged that both of the two RSI options will face legal obstacles in linking with some markets. The obstacles overlap with the regulatory barriers to cross-border bond investment. Addressing the identified legal barriers, hence, is required not only for more active cross-border investment but also for creating the necessary legal environment for the RSIs.
 - i) In this regard, we echo the General Recommendation 3 of the 'Barrier Report'⁸³: each country in the region is encouraged to produce and publish a road-map for reducing the legal barriers in their markets, covering the next 3 years.
 - ii) When embarking on the next step of the feasibility study, it is desirable that the ABMI provides the commitment that each member country will take measures to address the legal impediments, necessary for linking with the selected RSI option.
- (2) The feasibility study done by the GOE is still a high-level profile work, screened by a limited number of experts. Feedbacks from other market participants and experts should be sought for the next 6 months.
- (3) Considering recent developments in the global financial markets and policy dialogues in the aftermath of the global financial crisis, policy makers in the region, preferably the ABMI itself, should review if there can be a new perspective on the regional post-trading infra and its implications on the RSI.
- (4) Based on the feasibility study of the GOE, feedbacks from the private and further inputs from the public sector, more detailed feasibility study should be followed.
 - i) It should be acknowledged that the final feasibility study should be done by those who will ultimately take the financial risk of a venture. The team that will conduct the next step of the feasibility study should be formed by those who indicate, though tentatively, the intention to hold financial stakes in the RSI.
 - ii) It may be suggested that each ABMI member country should consult national settlement-operating bodies and other local stakeholders to nominate national representatives.

⁸³ Refer to PART III

ABMI Group of Experts
Final report

Part III

**Barriers to cross-border investment and settlement in the
ASEAN+3 bond markets**

April 2010
(Revised July 2010)

Asian Development Bank

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Appendices

Appendix I: Market survey results

Appendix II: Market profiles

Appendix III: Market assessments

List of abbreviations

Summary and overview

The principal aims of this study were to identify and assess the main barriers to cross-border investment and settlement in the ASEAN+3 bond markets, and to propose practical recommendations for their reduction or removal.

This report presents the results of this study. It contains:

- An account of the work that was done;
- A description of the barriers;
- An explanation of how these barriers were identified and selected for study; and
- Recommendations for the way forward.

The main overall findings of the study can be summarised as follows:

- There are important barriers to cross-border investment and settlement in many of the ASEAN+3 bond markets.
- Some markets have made significant and rapid progress in recent years towards reducing their barriers.
- There are perception gaps. In particular, market participants may not always be aware of the progress made.
- Gaining - and retaining - cross-border investors' confidence in a market is critical. A negative perception about a market may survive for a long time.
- Reducing the barriers requires a combination of regulatory and private sector initiatives.

These barriers to some extent discourage cross-border investment. This in turn may hold back the development of vibrant, liquid and economically beneficial local bond markets in these countries. There would therefore be benefits in removing, or at least reducing, these barriers.

In this report we present an outline roadmap for barrier reduction which we believe is both practical and effective.

In the main body of this report we include references to a number of key documents which are in the Appendix to this report. These include:

- Summary results from the market survey
- Market profiles
- Market assessments

This report is not intended to be the final word on barrier reduction. It aims to provide a basis for further discussions with market participants and market authorities.

1 Methodology

The study team used a sequential, step by step approach.

1. Identify the major barriers;
2. Gain an understanding of the nature of these barriers, how important they are, and why;
3. Establish the facts about each market and how it operates;
4. Assess the degree of barrier for each market, as far as possible in an objective way; and
5. Produce recommendations aimed at reducing or eliminating these barriers.

1.1 Identifying the barriers: Market survey

A key tool used early in the study to identify the barriers was the market survey.

A comprehensive questionnaire of around 100 questions covering 25 subject areas was sent out to major market players in the region. Many of the questions were structured and aimed at identifying the degree to which respondents regarded various factors as a barrier ("to what extent is X a barrier?"). Other questions aimed at identifying the reason for the barrier and the markets in which the barrier was regarded as a particular problem. Respondents were given opportunities to make open comments on each aspect.

The 25 question areas were as follows:

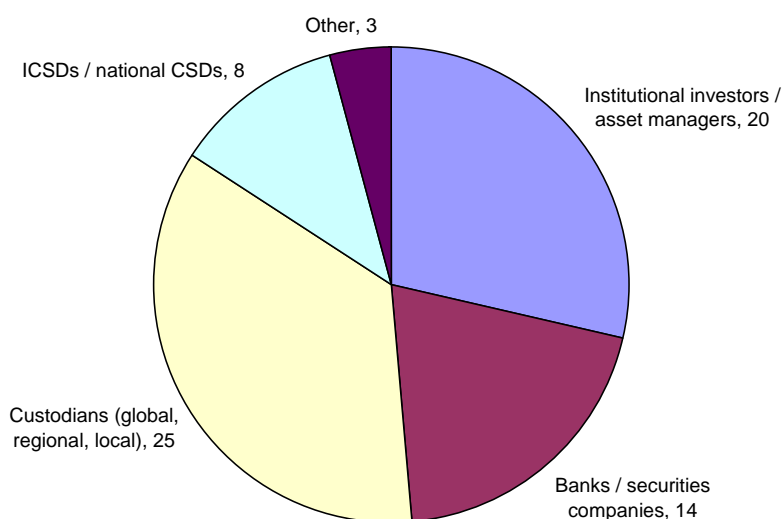
1. Message formats	14. Income payments
2. Securities numbering	15. Corporate events
3. Operating hours	16. Currency convertibility
4. Settlement cycles	17. Currency repatriation
5. Trade matching	18. Local currency borrowing
6. Settlement matching	19. FX settlement
7. Physical certificates	20. Bond lending and repo
8. Settlement model	21. Derivatives
9. Omnibus accounts	22. CCP
10. Direct access	23. Disclosure standards
11. Investor registration	24. Issuing process
12. Taxes	25. Trade reporting
13. Legal framework	

The questionnaire was distributed via GOE members to market participants in each ASEAN+3 market.

A total of 58 responses was received. Multiple responses from one institution were allowed if the institution was active in more than one market. The breakdown by industry role is shown below. Note: The numbers total to 70 as some respondents had multiple roles (e.g. as asset manager and securities company, or as global and local custodian):

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Institutional investor	9
Securities company/broker dealer	4
Commercial bank	10
Global custodian	3
Regional custodian	4
Local custodian	18
ICSD	2
National CSD	6
Other	3
TOTAL	70



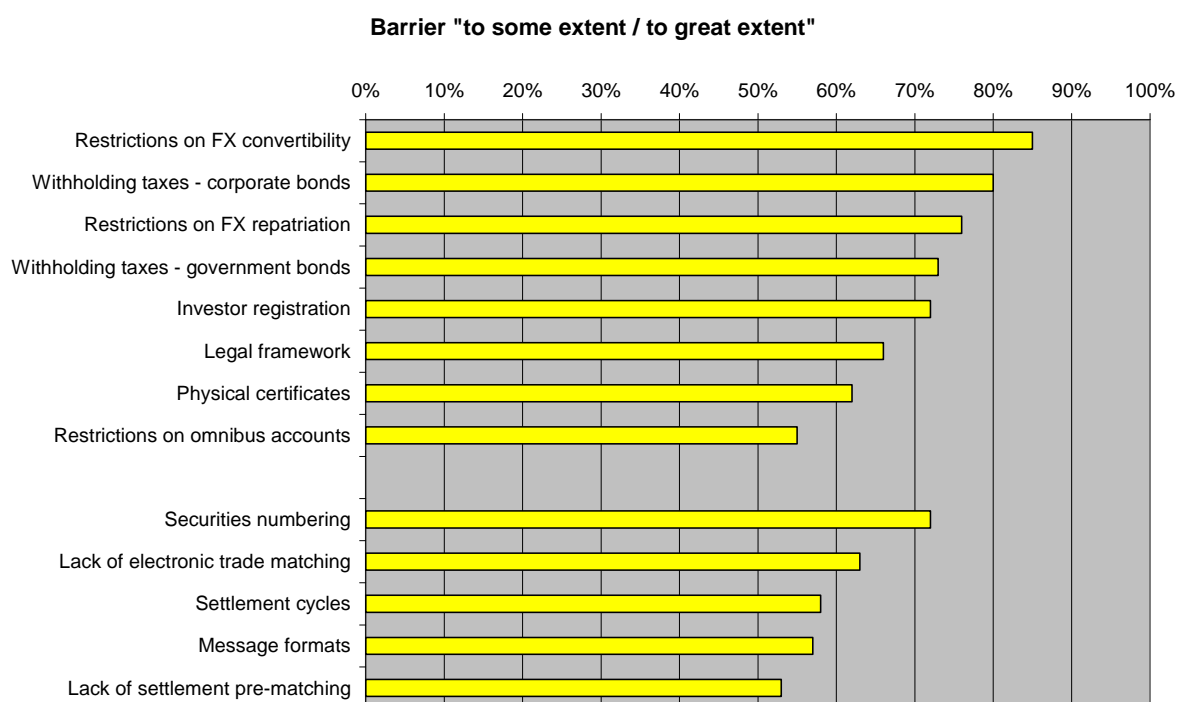
The respondents were located in 10 ASEAN+3 markets. They were split fairly equally between the 'ASEAN' and the '+3' markets. Japan, Singapore and Hong Kong, China were the most common locations.

The respondents were active in a total of 11 ASEAN+3 bond markets. The most common markets were Singapore and Japan (around 20 respondents each), followed by Hong Kong, China; Republic of Korea; Indonesia; Malaysia and Thailand (10-15 respondents each), and Philippines and Viet Nam (5-10 respondents). Only 3 respondents were active in People's Republic of China (PRC).

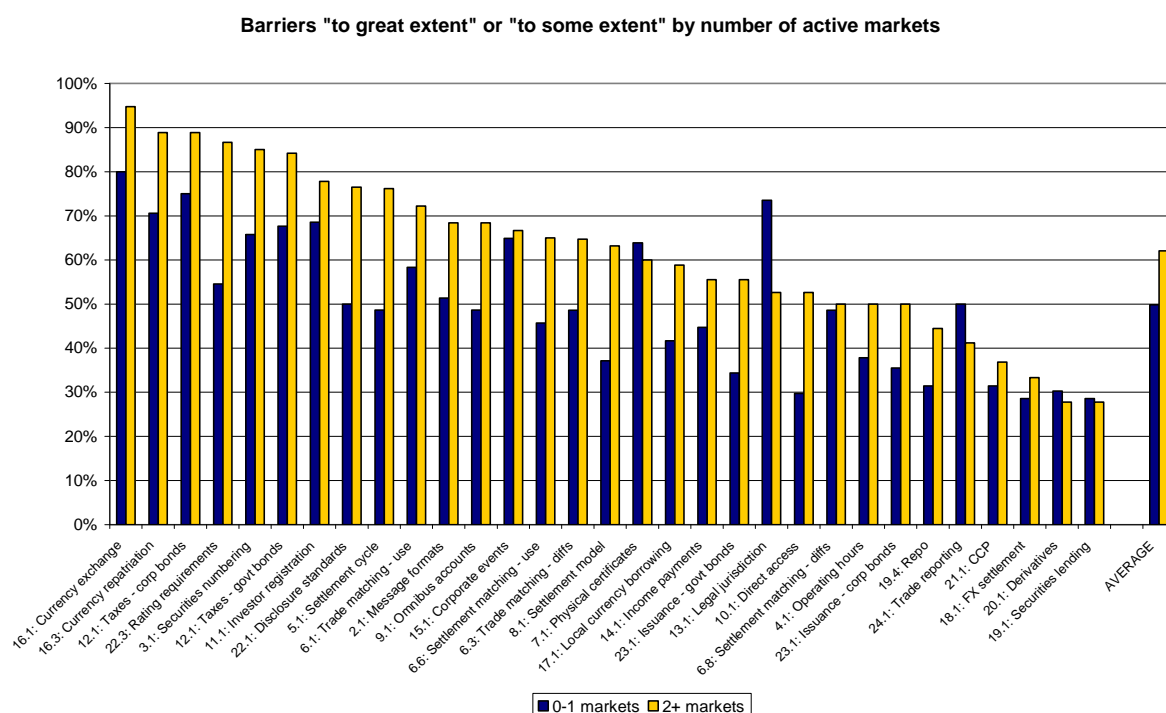
Importantly, around 40% of respondents were active in bond markets in 2 or more countries, and therefore were cross-border participants. The remaining 60% were active in a single market only - generally, their domestic market.

The main barriers identified in the survey were as follows. The following chart shows the percentage of respondents who regarded the factors as a barrier "to a great extent" or "to some extent":

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Interestingly, those respondents that were active in 2 or more markets (i.e. cross-border participants) were significantly more likely to regard most factors as a barrier to cross-border investment and settlement. The following chart shows the complete list of factors, in descending order in terms of the percentage of cross-border participants regarding them as a barrier:



Please see the Appendix for a detailed analysis of the survey results.

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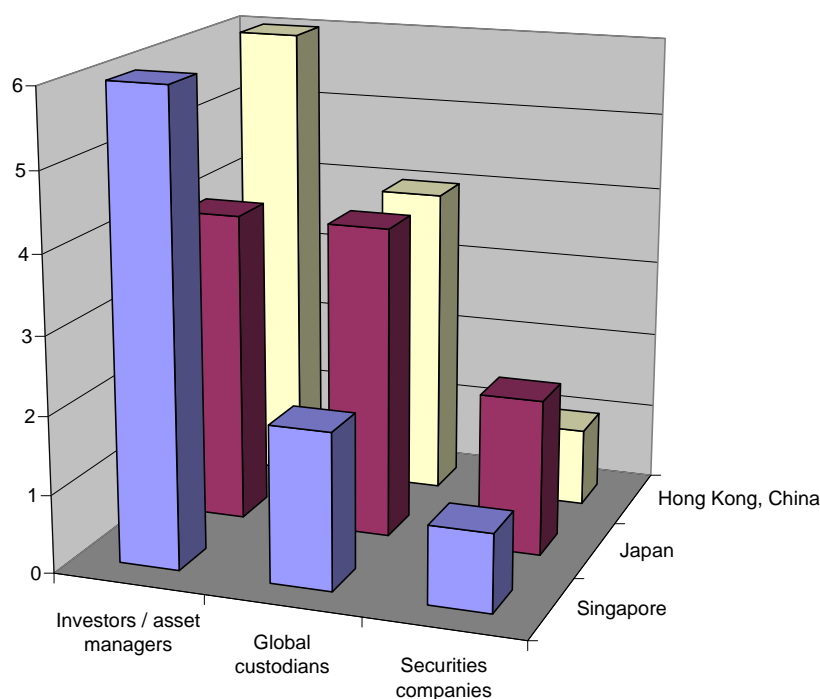
The main value of the market survey to the overall study was:

- It indicated the main barriers to cross-border investment, in the perception of a broad range of market participants, and their relative importance.
- It helped to generate some initial ideas for a roadmap for reducing these barriers.
- It provided, via comments received, information on areas of particular concern, on which to base further investigation.
- It provided contact points for face-to-face follow up discussions.

1.2 *Understanding the barriers: Market interviews*

Following an initial analysis of the survey, market interviews were conducted in 3 locations: Singapore, Japan and Hong Kong, China, through January to February 2009.

These covered 30 market participants, comprising a range of market intermediaries and institutional investors. Some of them had earlier completed the survey, while some had not. The following chart shows the number of respondents by type and by location:



The market interviews reinforced the results of the market survey. Besides this, a number of interesting and important additional findings emerged from the market interviews:

- It emphasised that the focus of most cross-border investors - especially in the current climate - is on government rather than corporate bonds. There is little appetite for credit risk.
- Among Japanese institutions - well represented in the interviews and an important investor class - there is a growing interest in regional bonds.
- Local insurance companies have a strong demand for long-term bonds, to match their long-term liabilities. In many ASEAN+3 markets, there is a shortage of such paper. This means that the insurance companies do not have access to the same range of investing opportunities that they may have in other markets.
- Market participants on the whole understand the local need for certain regulations including withholding tax and some of foreign exchange controls, and they can accept

them. It is the way that these taxes and controls are implemented and operated that causes most problems. We discuss this in more detail later.

- An important factor in determining whether a market is attractive for investment is inclusion in a market index. In the case of bonds, such indices include the Markit iBoxx and Citigroup World Government Bond indices.

Finally, a point that emerged very strongly in the market interviews was the importance of regulatory stability. Investors want to feel that the regulatory framework will not be subject to sudden changes at very little notice. They do not want to find themselves locked into a market. They also want regulations to be clear and unambiguous, so that they can operate with confidence. Investors can accept currency and rate risk, and to some extent credit risk. They do not want to be exposed to regulatory risk.

Most markets are 'workable' if investors (or their intermediaries) understand the rules. However, this takes time and effort, and can itself be a barrier.

The main value of the market interviews to the overall study was:

- It helped to validate the survey findings and provided clarification of some comments made in the survey
- It allowed the study team to gain a better understanding of the nature of the barriers and how they impact market participants
- It allowed a more free-ranging discussion of the barriers, which covered market aspects (such as liquidity) which were outside the market survey.

1.3 Identifying the facts: Market profiles

Following completion of the survey and interviews, the study team were concerned that some responses appeared inconsistent. Different respondents reported different conditions in certain markets. It was felt that, possibly, some of the comments were based on an incomplete or out-of-date understanding of these markets.

A decision was therefore made to gather the facts about each market, as objectively and as systematically as possible. In particular, we wished to separate fact from perception.

These so-called 'perception gaps' work both ways. Market participants may not be fully up to date or accurate in their knowledge of how a market works and the relevant rules and regulations. This is especially likely if they are not regular or recent investors in that market. Equally, regulators may not fully appreciate the impact that their regulations have on market participants, and the barriers they can create. While regulators and market participants may have different perspectives and priorities, it is beneficial if they move towards a common understanding of market conditions.

Compilation of the market profiles started in March 2009 and was completed in August.

The profiles covered 10 ASEAN+3 markets: PRC; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and Viet Nam. For each of these markets, the barriers were grouped and discussed under the headings: market access, FX restrictions, cash account and overdraft restrictions, taxes, settlement and custody, messaging and securities numbering, and other issues.

The information in the market profiles was initially derived from publically available documents, including a number of guides published by global custodians for their clients.

In the market survey and market interviews, many comments had been made by respondents about individual markets, which constituted additional source of information in drafting the profiles. These were all collated and listed in the market profiles document under the relevant section of the profiles report. Then, GOE members were asked to address each

of these comments, to make sure the report reflected the latest regulatory developments, and finally to validate the revised report.

Completion and validation of the market profiles provided a solid foundation for moving forward.

1.4 *Assessing the barriers in each market: Market assessments*

Following the compilation and validation of the market profiles, the markets were assessed. The work took place during the period May - September 2009.

The main purpose of the market assessment analysis was:

- To summarise the main barriers in each market as revealed by the market profile exercise, and in particular to provide an overview;
- To assess the degree of seriousness of each barrier; and
- To provide an indication of the main issues to be tackled in a local market roadmap.

As explained in the Appendix, the barriers in each market were assessed in two ways: an expert-view approach and a scoring approach.

Firstly, an overall assessment was made by the study team on the existence or seriousness of each barrier in each market. This was a judgemental exercise, taking into account the market profiles, survey and interview responses, and other available information.

Secondly, again based on the market profiles, a structured questionnaire was sent to GOE national members. This questionnaire asked a number of questions regarding each barrier area in their local bond market. All questions were intended to be answered by "yes" or "no". There were 78 questions in total, divided between 13 barrier areas. The responses were then used to produce a score for each barrier in that market.

There proved to be a high degree of correlation between the two assessment processes. Out of 130 areas covered in the Market Assessment Questionnaire, there were only 14 differences between the 'objective' questionnaire scores and the 'subjective' barrier assessments.

Where a barrier was found to be present, it was classified as HIGH or LOW, as follows:

- 'HIGH'
The current situation in this area is likely to have a significant impact on the attractiveness or accessibility of this market, which therefore may deter some foreign investors from this market.
- 'LOW'
The current situation in this area is likely to add to costs or operational difficulties, which is not likely to prevent foreign investment in this market but may make it relatively less attractive than other markets.

The assessments are primarily intended as a starting point for addressing the barriers in each respective market. They are not intended to provide a comparison between markets, except as a cross-check on the reasonableness of the assessments.

1.5 *Removing the barriers: Recommendations*

The draft recommendations were formulated from July to September 2009.

The recommendations have three main aspects:

- A set of guidelines, addressing each barrier, which are intended to provide a region-wide framework for barrier reduction;

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- Each individual market to produce its own detailed and specific roadmap, following the guidelines; and
- The proposal to set up a Co-ordinating Body to assist and oversee progress towards implementation, and to provide a forum for further research.

One theme that runs through many of the recommendations is that of transparency. It is important that rules and regulations are fully published, and readily available to market participants. This is one way of addressing the 'perception gap' referred to earlier.

The full list of recommendations is shown later in this report.

1.6 *Asian Bond Clearing and Settlement Conference 2009*

An important milestone in the study was a public conference, Asian Bond Clearing and Settlement Conference 2009, which was held in Hong Kong, China on 23 June 2009, and was attended by 70 participants from 40 institutions.

This event produced a lively exchange of ideas and was very useful in gaining further feedback from the market.

2 What barriers were included?

A wide range of factors exist that might be classified as barriers to cross-border bond investment and settlement. The study team has not attempted to cover them all. Various types of barriers were excluded for a number of reasons.

A number of potential barriers relate to trading and market conditions. These include: market depth and liquidity, trading practices (especially price transparency), current and prospective yields, current outlook for the local currency, the availability of suitable bonds, and the availability of hedging instruments. These may be regarded as 'trading factors'. It was decided that these factors were out of scope of the present study, which was intended to focus on the post-trade process. However, in defining 'post-trade factor', we took a broad perspective. Rather than narrowly focusing on the direct components of settlement processes, we included important regulations that could affect the behaviour of market participants in the post-trade industry.

In this respect, tax is both a trading factor and a post-trade factor. It is a trading factor to the extent that it affects net yields. It is a post-trade factor viewed from the regulatory and procedural aspect. Given its clear importance in the latter respect, it was included. Currency convertibility restrictions and credit controls for foreign investors are similar examples.

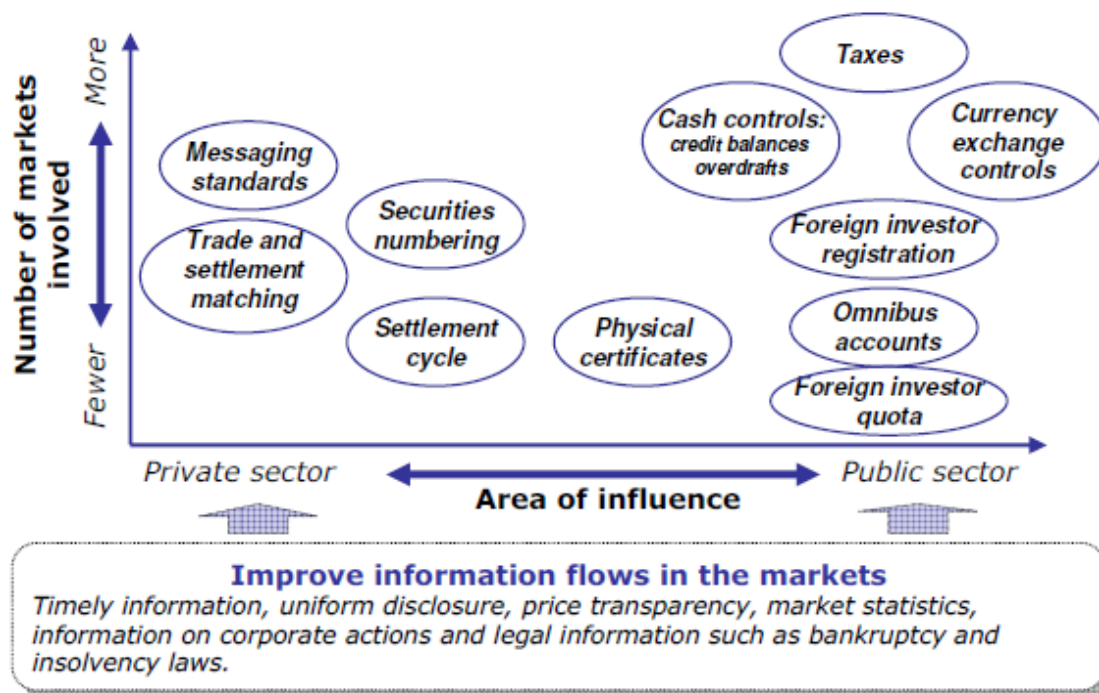
Finally, some factors, which were within scope, did not appear as critical issues either in the market survey responses or in the market interviews. These include: income processing, corporate event processing, the availability of securities lending and borrowing, remote access to local settlement systems, and use of a central counter-party (CCP).

The GOE therefore focused on barriers in the following areas. It was convenient to divide the barriers into two groups. We called these 'regulatory barriers' and 'settlement-related' barriers:

Regulatory barriers	Foreign investor quota Foreign investor registration Currency exchange controls Cash controls - credit balances Cash controls - overdrafts Tax Omnibus accounts Regulatory framework Legal framework
Settlement barriers	Messaging standards Securities numbering Settlement cycle Trade and settlement matching Physical certificates

The following chart shows these barriers schematically:

Identification of Major Barriers



3 Description of the barriers

The purpose of this section is to explain clearly the nature of the barriers that are discussed in this report, and to indicate the problems that may potentially be caused to non-resident investors.

A full account of the barriers in each individual market is provided in the Market Profiles appendix. This section is intended only to provide an understanding of the nature of each barrier. The descriptions of local market conditions in this section are as of June 2009.

Foreign investor quota

This refers to the existence of limits on the amount of investment that a non-resident investor (or non-resident investors as a whole) may make into a local market.

The existence of a quota implies an application process and, potentially, a period of waiting for a quota to become available.

Only one market in ASEAN+3 (PRC) operates a quota system for non-resident investors.

Note: Limits on total foreign investment are commonly found for individual equities. These may arise from local regulations (especially in respect of 'strategic' industries such as banks, media or telecommunications), or from individual company decisions to limit such investment. However, such limits are rarely imposed on bond holdings. We were not concerned with limits that may be imposed on individual securities, since these are unlikely to be major constraints, but rather with limits that apply to overall investment.

Foreign investor registration

This refers to the registration process that is sometimes needed for a non-resident investor to access the market for the first time.

As with quotas, the existence of a registration requirement implies an application process and a period of waiting for approval.

The requirement for investor registration may potentially cause problems such as:

- Onerous or unclear documentation requirements
- Length of time needed to gain approval
- Uncertainty of timing or outcome

Three markets in ASEAN+3 (PRC, Republic of Korea and Viet Nam) operate a registration system for non-resident investors.

Currency exchange controls

This refers to restrictions or procedural rules on the convertibility of the local currency.

Typically, currency conversion requires evidence of an underlying securities trade. It may apply to the purchase of local currency for investment, or the sale of local currency ('repatriation') on sale or redemption of the investment, or on receipt of an income payment.

In this area, market participants may potentially experience difficulties caused by:

- The need for pre-approval by a market authority (such as the central bank)
- Delays or uncertainty in the time taken to secure such approval
- Onerous documentation or reporting requirements, before or after conversion
- Lack of flexibility in the amount (e.g. if the conversion must be for the exact amount of the trade)

A number of ASEAN+3 markets impose some form of restriction on foreign exchange conversion, either in the purchase of local currency or subsequent sale of local currency for repatriation.

In the market assessments, we divided this barrier into two - conversion and repatriation - as the restrictions are sometimes different in each case.

Cash controls - credit balances

This refers to restrictions on non-residents holding credit balances in local currency or short term investments in money market instruments.

Investors will not normally set out to hold cash balances. They will normally wish to be fully invested in the markets. However, cash balances may arise for a number of reasons, essentially all due to timing differences:

- The maturity of one bond before another bond becomes available
- The receipt of a coupon payment
- The failed or delayed settlement of a purchase
- Different settlement dates on purchase and sale, e.g. sale of a government bond for T+1 and purchase of a corporate bond or equity for T+3.

Where cash credit balances are held, investors will normally wish to deposit the cash in an interest-bearing account or purchase money market instruments, to ensure that the cash is earning some income.

In this area, market participants may potentially experience difficulties caused by:

- Rules setting a limit (either individually or in aggregate) on the local currency balances that may be held by non-resident investors.
- Restrictions on investment in money market instruments
- Restrictions on interest-bearing accounts

Two ASEAN+3 markets (Indonesia and Thailand) impose limits on cash credit balances. Others may restrict investment in interest-bearing accounts or money market instruments.

Cash controls - overdrafts

This refers to restrictions or prohibitions on non-residents borrowing in local currency.

The need for borrowing in local currency may arise in a number of ways:

- The failed or delayed settlement of a sale, where the proceeds are intended for use in a purchase for the same settlement date
- Different settlement dates on purchase and sale, e.g. purchase of a government bond for T+1 and sale of a corporate bond or equity for T+3

Most markets in ASEAN+3 impose some form of restriction on local currency borrowing by non-residents. This can make it more difficult and expensive to operate in a market, as pre-funding may be required.

Tax

This refers to withholding taxes imposed on non-resident investors, whether in connection with income or capital gains.

One obvious problem that may arise with tax is the rate of tax, which reduces the effective yield on the investment. Market consultations suggested that when a rate is higher than around 15-20%, it starts to have a significant yield effect on the attractiveness of local market bonds.

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However, the problems with taxes go much further than this and in fact yield was not the main issue mentioned by participants. The major concerns were:

- unclear regulations, sometimes interpreted differently by different parties
- difficulty and length of time to reclaim taxes paid (coupled with uncertainty of outcome)
- difficulty of establishing qualification for tax treaty rates or exemptions
- the need to track historic trades in order to calculate the tax on a sale
- market distortion that may occur through different classes of investors, or different classes of securities, being taxed at different rates.

Some markets in ASEAN+3 (Hong Kong, China; Malaysia; Singapore; Thailand) effectively exempt non-resident investors from taxes on income and capital gains on government debt and some other debt securities. Republic of Korea has also proposed this and the legislation is in process.

Omnibus accounts

This refers to restrictions on the use of omnibus accounts for non-resident investors.

These restrictions may be imposed at two levels: (1) on the accounts that local custodians hold at the local securities depository (or central bank system for bond settlement), and (2) on the accounts that local custodians operate in their own books for their non-resident customers.

The latter case is a more serious restriction. For example, it may mean that, instead of operating a single account in the name of a global custodian, the local custodian must open and operate a number of individual 'segregated' accounts in the names of the global custodian's clients. This considerably increases the cost of custody. For tax reasons, a certain degree of segregation may be advisable, but custodians rarely wish to operate on a fully segregated basis.

Two ASEAN+3 markets (PRC and Republic of Korea) impose restrictions on the use of omnibus accounts for non-residents. Certain other markets may impose restrictions for local investors, but exempt non-residents.

The impact of omnibus account restrictions is on the settlement process. However, we classify it as a regulatory restriction because it is governed by regulations rather than local market practice.

Messaging standards

This refers to the use (or rather, non-use) of international standards for securities messaging in a local market.

The international standard message formats such as ISO20022 are regarded as necessary for enabling straight-through processing (STP) in securities post-trade processing. This involves not only settlement, but also pre-matching and corporate events messaging. If local, proprietary standards are used, there is a need for interface and translation either at the global custodian or local custodian, with associated costs of development and maintenance, and the risk of error is greater.

In some cases, the local CSD does not use ISO messaging standards.

Securities numbering

This refers to the use (or rather, non-use) of international standards for securities numbering in a local market.

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The international standard is ISIN ('International Securities Identification Number'), in accordance with ISO 6166, which provides a globally unique identification to all securities. As with securities messaging, lack of ISIN use makes STP more difficult and increases the risk of error.

Most ASEAN+3 markets now have established local agencies for issuing and administering ISIN numbers for locally-issued securities. The limitations may be:

- ISIN's are not available on the issue date of the bonds, making trading and settlement more difficult.
- ISIN's are not widely used by local market participants.
- ISIN's are not used by the local CSD.

Settlement cycle

This refers to the number of days between trade date and settlement date. Most markets operate a standard settlement cycle. Typically this is T+1 for government bonds and T+2 or T+3 for corporate bonds (and equities).

A short settlement cycle is better for local market participants, as it reduces counterparty risk. However, non-resident investors may find it difficult to settle on T+1 if they or their global custodian are located in a different time zone. For this reason, such investors look for the ability to negotiate a longer settlement period (T+2 or T+3 is the favoured cycle).

Trade and settlement matching

This refers to the matching of trade details between counterparties. Matching may take two forms:

Trade matching: Details of the trade are compared between the counterparties to ensure that there is no misunderstanding of the terms of the trade. This should of course be performed as soon as possible after the trade is executed, and in any event before the end of the business day. With automated trading systems (e.g. exchange systems or electronic OTC systems) matching is done at the time of trade, so there is no need for subsequent trade matching. However, many bond trades are done by telephone.

Pre-settlement matching: Details of the agreed trade are compared between the counterparties' settlement agents (e.g. local custodian and local broker) to ensure that all information needed for settlement is in place.

Most markets in ASEAN+3 operate some form of matching systems but some do not, and this can create uncertainty. The absence of automated matching is likely to lead to increased settlement fails and make it more difficult to shorten the settlement cycle.

Physical certificates

Most bonds today are in dematerialised form, held in book-entry at the local securities depository or central bank system, or (in the case of most international bonds) on the books of the ICSDs.

Some bonds are still in paper certificate form. The disadvantage of physical certificates are obvious - the need for manual examination, risk of loss, damage or forgery, and cost of storage. Typically, these remaining physical bonds are not of great interest to cross-border investors, and indeed are unlikely to be traded at all.

The ideal situation, clearly, is dematerialisation. An intermediate step is to hold physical certificates, where they exist, in the vaults of the local securities depository (immobilisation).

Regulatory framework

'Regulatory risk' refers to the perceived risk of sudden changes in regulations that adversely affect non-residents, and, in the worst case, may prevent them exiting a market without substantial penalty.

Investors naturally prefer a stable, consistent and unambiguous regulatory framework.

One important point that emerged from market consultations was that memories of sudden regulatory changes stay in the memory of investors for a long time, and can discourage investment in a market for many years to come.

Legal framework

The legal framework in a sense provides the fundamental infrastructure in a market.

Aspects of the legal framework that are particularly important to cross-border investors are:

- Finality of settlement
- Insolvency provisions
- Rule of law

Finality of settlement is all about certainty that, when settlement (securities or cash) has occurred, it will not be subsequently reversed. This might conceivably occur, for example, if a counterparty is found to be insolvent or operating illegally. This provides an important part of the legal foundation for traded markets. A growing number of jurisdictions (including the EU and UK) have introduced explicit legislative backing for finality in designated settlement or payment systems. In fact, this is a requirement for currency CLS-eligibility. However, many ASEAN+3 jurisdictions do not yet have this provision.

Insolvency provisions are important in deciding what happens in the event of insolvency, especially in respect of client assets held by a local broker or custodian. Investors naturally wish to know that their assets are protected.

Finally, rule of law is vital in providing confidence that the provisions of the law will be upheld by the local courts on a fair and impartial basis.

4 Recommendations

We have classified the barriers into two groups: regulatory barriers and settlement-related barriers.

For the regulatory barriers, we accept that each ASEAN+3 member country will preserve its own policy objectives and preferences. The recommendations are intended as a guide to regional best practices.

For the settlement-related barriers, the proposed Co-ordinating Body, individual market authorities and private stakeholders should form a consensus on the best practice as soon as possible, and establish a road map.

References are shown to comparable recommendations of the Group of Thirty (G30).

General recommendations

1. A Co-ordinating Body should be established with a mandate to set realistic goals and timescales for the reduction of barriers to cross-border bond investment across the region. This Co-ordinating Body could perhaps be established under ABMI.
2. The Co-ordinating Body should liaise with regulatory authorities and private sector industry representatives, and monitor and publish regular reports on progress. It should encourage individual market authorities to improve the transparency of regulations and to establish best practices and standards. Its main focus should be on barriers in the regulatory domain of influence, but it should also encourage private-sector initiatives.
3. The Co-ordinating Body should encourage individual market authorities to produce and publish a road-map for reducing the barriers in their markets, covering the next 3 years. A starting-point could be the 'Summary of Barriers' table in the main GOE report.
4. The market scoring exercise (with refinements) should be repeated on an annual basis by the Co-ordinating Body, and the results published.
5. The market survey (in a shortened form) should be repeated on an annual basis by the Co-ordinating Body.
6. The existence of perception gaps should be recognised. A number of steps should be taken to minimise these perception gaps by improving information flows, including:
 - ADB, through the AsianBondsOnline web site, should provide a leading regional resource for information on current market conditions, including regional regulatory developments.
 - The relevant regulatory bodies in ASEAN+3 should make all current rules and regulations readily available on their web sites, in English, in addition to the local language.
 - Private sector industry associations should also consider collating and publishing market information on their web sites, where relevant.

Note: While much information is already published and available online, there appears to be no central source and the information available on individual sites tends to be fragmentary. In all cases, it is important that information is kept up to date.

Specific recommendations¹

Note:

The following recommendations have been developed specifically for bond investment. However, in most cases the same recommendations would also apply to investment in equities and other securities.

Unless otherwise specified, we use the term 'bonds' to include short-term money market instruments (such as Treasury bills and CDs) as well as longer term bonds, and to include convertible and other hybrids as well as straight debt instruments.

We have grouped our recommendations into two groups: regulatory barriers and settlement-related barriers.

Regulatory barriers relate mainly to such areas as market access, controls on FX, cash and overdrafts, and tax. We also include regulatory stability and legal framework in this group. These barriers are more likely to be 'showstoppers', discouraging inward investment, if they are onerous (or are perceived to be onerous by potential investors). Addressing these barriers is primarily the responsibility of the **public sector**, including local regulators.

Settlement-related barriers relate mainly to areas such as trade and settlement matching, settlement cycles, messaging and numbering formats, and existence of physical certificates. These barriers are perhaps unlikely to prevent inward investment, but they add to the costs of investing, and therefore reduce market efficiency and attractiveness. Addressing these barriers is primarily the responsibility of **private sector** market participants (including exchange and CSD operators, local custodians and other intermediaries) but local regulators can also play a key facilitating role.

We have referred to relevant G30 recommendations, from 2003.

Regulatory barriers

Foreign investor registration

1. All requirements, documentation, and procedures for investors to register and obtain an investor ID should be clearly defined and published. All the information should be easily accessible to market participants.
2. A service standard for the initial registration and renewal should be adopted: e.g. 15 days for registration and 5 days for renewal.

FX controls

1. All requirements, documentation, and procedures for pre-approval from the central bank or other authority should be clearly defined and published. All the information should be easily accessible to market participants.
2. When matching FX trades against securities trades is required, the authority should consider the reporting burden. Technology can play a role to minimize this burden

¹ The G30 recommendations are taken from the Group of Thirty's report Global Clearing and Settlement – A plan of action (Copyright © 2003 Group of Thirty)

without compromising policy objectives. (For example, the use of ISO messaging with appropriate transaction information may facilitate electronic reporting by linking details of both the FX and the underlying securities trade. In this way, practical barriers to the use of a third-party bank for FX may be removed.)

3. Consideration should be given to the development of on-shore hedging instruments to allow non-resident investors to minimise their FX risks.
4. As far as possible, responsibility for ensuring that FX controls are complied with should be delegated to the local custodian bank, who will have access to trade and FX confirmation details. Pre-approval from the central bank or other authority should not be required on a case-by-case basis.

Cash and overdraft controls

1. All requirements, documentation, and procedures for the cash and overdraft controls should be clearly defined and published. All the information should be easily accessible to market participants.
2. Where controls are in place, authorities should consider allowing a limited balance of local currency to be held by non-resident investors, to allow for short gaps between sales and purchases.
3. Authorities should consider allowing temporary overdrafts in local currency to be available to non-resident investors, to allow for failed trades or mismatches in maturity dates or settlement dates.

Tax

1. All requirements, documentation, and procedures for taxation on bonds should be clearly defined and published. All the information should be easily accessible to market participants.
2. Where a market maintains an investor registration requirement, the information required for market entry and tax status should be combined, so that the investor need only make (or renew) a single application.
3. Clear procedures should be established for investors to obtain relief at source (via lower tax treaty rates), and to claim repayments. Service standards (such as a 30-day turnaround period) should be adopted. In processing relief at source, repayments, renewals of tax status etc, transmission of documents in electronic form should be encouraged as far as possible.
4. For simplicity, the 'pro-rata temporis' method of computing tax should be avoided. The calculation of tax should not require historical trade data or details of previous holders.
5. As far as possible, the same rules and procedures should apply to all types of bonds.
6. Each market should consider carefully whether there would be a net advantage in abolishing withholding tax completely on bonds for non-resident investors.

Omnibus accounts

1. Omnibus accounts for non-residents should be allowed. Specifically: (a) Local custodians should be allowed to maintain one or more omnibus accounts at the CSD (or central bank system for bond settlement) in which to hold securities for their non-resident customers; and (b) Local custodians should be allowed to maintain one or more omnibus accounts on their own books in the name of an intermediary (e.g. a global custodian) in which to hold securities for non-resident customers of that intermediary. Such omnibus accounts could be conveniently structured in line with tax status.
2. All requirements, documentation, and procedures for the establishment and use of omnibus accounts should be clearly defined and published. All the information should be easily accessible to market participants.

Regulatory framework

Note: Market consultations indicated that 'regulatory risk' can be an important barrier to cross-border bond investment. Regulatory risk in this context refers to uncertainty that market participants may have regarding future regulations, and the fear that unfavourable rules may be introduced at short notice.

1. Regulators should consider adopting an explicit policy objective of reducing perceived 'regulatory risk' for cross-border bond investors.
2. All regulations should be clear and unambiguous. Different government departments and agencies should have the same interpretation. Where there is uncertainty, this should be cleared up as soon as possible.
3. Before introducing new or changed regulations, regulators should consult the market as far as possible. Regulators should consider publishing a consultation paper, setting out their objectives, listing the options they are considering, and inviting comments from local banks and other domestic market participants who would be able to reflect the views of both domestic and international investors. The consultation process should be open and transparent. The market should be given as much advance notice as possible of new regulations, or of changes in existing regulations.
4. Regulations should follow a consistent roadmap towards achieving long-term policy objectives. These objectives should be stable, and not be subject to sudden changes.

Legal framework

1. Consideration should be given to introducing a clear legislative basis for finality of settlement, for both securities and payments. This will be needed at some stage if the local currency is to become eligible for CLS settlement. (Models of such legislation are readily available in other jurisdictions, e.g. the EU.)
2. Each market should study the issues arising in the event of insolvency of an intermediary (such as a local broker or custodian), and the protection available to market participants, including the legal enforceability of netting arrangements and rights over collateral.

Please note comparable G30 recommendations:

ABMI Group of Experts report:
Barriers to cross-border investment and settlement in ASEAN+3 bond markets

G30 Recommendation 11:

Ensure final, simultaneous transfer and availability of assets

Providers of securities settlement services should reduce to the lowest possible level the credit risk created if securities or cash are delivered without receipt of corresponding assets, by linking securities transfers to funds transfers in a way that achieves effective delivery versus payment (DvP) and by making transparent the point at which finality of transfer is achieved. Once finality of transfer is fully assured, the rules should enable a receiver to re-use securities and cash without further delay.

G30 Recommendation 14:

Strengthen assessment of the enforceability of contracts

Market participants should ensure that due diligence procedures examine contract enforceability, including basic formation and validity, as well as power and authority to contract.

G30 Recommendation 15:

Advance legal certainty over rights to securities, cash or collateral

Market participants must be able to determine, with certainty and reasonable cost and effort, what law defines and governs their rights to securities, cash or collateral in a clearing and settlement system or other intermediary, what those rights are, and how to perfect and enforce them.

Settlement-related barriers

Trade and settlement matching

1. Market authorities and the private sector should encourage the use of electronic trade matching and pre-settlement matching systems.
2. Where such systems are established, they should use ISO standards rather than proprietary standards for messaging.
3. Where such systems are established, consideration should be given to making their use mandatory, especially for pre-settlement matching.

Please note comparable G30 recommendations:

G30 Recommendation 5:

Automate and standardize institutional trade matching

Market participants should collectively develop and use fully compatible and industry-accepted technical and market practice standards for the automated confirmation and agreement of institutional trade details on the day of the trade.

Physical certificates

1. Each market should adopt a target of achieving 100% dematerialisation of all bonds issued by government and quasi-government entities and by listed companies. A 3-year target date (i.e. by 31 March 2013) is suggested.
2. It should be a regulatory requirement that all new issues of all bonds issued by government and quasi-government entities and by listed companies, should be in

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dematerialised form. Possible conflicts between securities laws and companies laws that may hinder this process should be addressed.

Please note comparable G30 recommendations:

G30 Recommendation 1:

Eliminate paper and automate communication, data capture and enrichment

Infrastructure providers and relevant public authorities should work with issuers and securities industry participants to eliminate the issuance, use, transfer and retention of paper securities certificates without delay. All market participants should seek to automate elements of the process, such as confirmations and trade allocations, that introduce other forms of paper into the securities processing transaction flow as technology safely allows. All market participants should use electronic communication to transmit information for all instruments and transaction types. They should identify opportunities to streamline processes by avoiding duplicative recording of data and manual addition of supplementary information at each stage of the value chain.

Messaging format

1. Efforts should be made to achieve market-wide use of ISO messaging standards for bond transactions.
2. Key market participants, such as the central bank, local securities exchange, clearing house, CCP, CSD and other market utilities should set a lead to the local market by implementing these standards in all communications.
3. Market authorities and relevant industry working groups should engage in discussions to identify the key obstacles to the universal use of ISO message standards in the local market, and to produce an action plan to achieve this.
4. A target of 5 years is proposed (i.e. by 31 March 2015) for universal implementation of ISO message standards for bond transactions across the ASEAN+3 region.

Please note comparable G30 recommendations:

G30 Recommendation 2:

Harmonize messaging standards and communication protocols

All market participants should adopt ISO 15022 (the data field dictionary and message catalogue for securities information flows) as the global standard for straight-through securities messaging across the entire securities life cycle.¹ Over time, XML (extensible mark-up language) should be used as the language to describe standardized messages.² All market participants should support and use communication networks that adopt open, standardized, IP-based protocols for securities transactions.

Securities numbering

1. Efforts should be made to achieve market-wide use of ISIN numbering for bond transactions.
2. Key market participants, such as the central bank, local securities exchange, clearing house, CCP, CSD and other market utilities should set a lead to the local market by implementing these standards in all communications.
3. ISINs should be made available for all existing bonds issued by government and quasi-government entities and by listed companies. ISINs should be available on or before the issuance of new bonds, so that trading can start immediately on issue.

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ISINs for government bonds and Treasury bills should be published with the auction announcement.

4. Market authorities and relevant industry working groups should engage in discussions to identify the key obstacles to the universal use of ISIN in the local market, and to produce an action plan to achieve this.
5. A target of 5 years is proposed (i.e. by 31 March 2015) for universal implementation of ISIN for bond transactions across the ASEAN+3 region.

Please note comparable G30 recommendations:

G30 Recommendation 3:

Develop and implement reference data standards

Market participants should collectively identify, develop and adopt universal securities, counterparty and relevant generic reference data standards that fully meet the needs of all relevant users. Issuers, exchanges and other originators and distributors of data should make all relevant information available to the market in compliance with these standards for a fair price and on a timely basis.

Settlement process

1. Local laws and regulations, settlement procedures and market practices should be reviewed to ensure that there is no market barrier to T+2 or T+3 settlement.
2. Restrictions on free-of-payment transfers of securities should be removed.

Please note comparable G30 recommendations:

G30 Recommendation 4:

Synchronize timing between different clearing and settlement systems and associated payment and foreign exchange systems

Providers of clearing and settlement services, and linked or otherwise associated payment and foreign-exchange systems should collectively ensure that their design, procedures, operational timetables and funding and cut off times are such that the operation of one system does not materially reduce the efficiency or increase the risk of settlement in another. Market participants should work together to develop a comprehensive action plan to increase the efficiency and safety of cross-border securities transactions where the foreign-exchange settlement cycle is not synchronized with the securities settlement cycle.

The G30 recommendations are taken from the Group of Thirty's report Global Clearing and Settlement – A plan of action (Copyright © 2003 Group of Thirty)

/end

ABMI Group of Experts
Barriers to cross-border investment and settlement in
ASEAN+3 bond markets

Appendix I: Market survey results

April 2010

Asian Development Bank

Survey on Barriers to Cross-Border Trading and Settlement in ASEAN+3 Bond Markets

This survey was undertaken from November 2008 - January 2009.

Around 100 questionnaires were issued and 58 responses were received.

Respondents were asked to provide their company details, address and country, and contact details (for main and alternate contact) for follow-up.

Respondents were asked to complete the form electronically, using a cross ("X") in the tables and with comments in English, and to return it to JASDEC as co-ordinating agency by 10 December 2008. Due to the holiday period this deadline was subsequently extended to January 2009.

The respondents were not a homogeneous group. The role of a national CSD, for example, is very different from that of an end investor, and we would expect their perceptions and priorities to be somewhat different. For this reason, besides an analysis of the overall responses, we have provided a breakdown between business sectors.

Some care must be taken in these comparisons, as the numbers of respondents in some sectors are small. Nevertheless, the results indicate broad market sentiment.

The main value of the survey to the overall study was:

- It indicated the main barriers to cross-border investment, in the perception of a broad range of market participants.
- It provided, via comments received, information on which to base further investigation.
- It provided contact points for face-to-face follow up discussions.

This document provides a summary of the results, with a commentary.

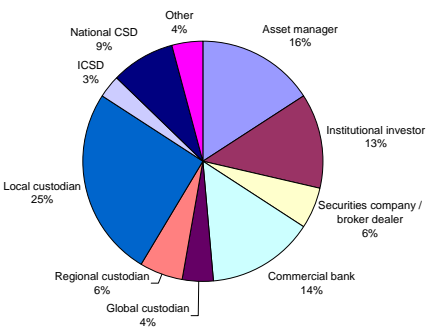
Note that totals may sometimes be different from the sum of component numbers because of rounding.

Introductory questions

These initial questions were intended to facilitate understanding of the respondent (business, location, activity etc).

1 Business profile

1.1 Which business sector(s) is your organisation operating in?

<p>Q 1.1 [may select more than one]</p> <p>Around half of the respondents are involved in settlement (i.e. as custodian, ICSD, or national CSD) and half are involved as end investor or as intermediary, such as broker dealer.</p>																							
<p>Q 1.1 (continued)</p> <p>The numbers total to 70 as some respondents had multiple roles (e.g. as asset manager and securities company, or as global and local custodian).</p> <p>Summarising, the breakdown was as follows:</p> <p>19 institutional investors / asset managers</p> <p>14 banks / securities companies</p> <p>26 custodians (global, regional, local)</p> <p>8 ICSDs / national CSDs</p> <p>3 other</p>	<table> <tr> <td>Asset manager</td><td>11</td></tr> <tr> <td>Institutional investor</td><td>9</td></tr> <tr> <td>Securities company/broker dealer</td><td>4</td></tr> <tr> <td>Commercial bank</td><td>10</td></tr> <tr> <td>Global custodian</td><td>3</td></tr> <tr> <td>Regional custodian</td><td>4</td></tr> <tr> <td>Local custodian</td><td>18</td></tr> <tr> <td>ICSD</td><td>2</td></tr> <tr> <td>National CSD</td><td>6</td></tr> <tr> <td>Other</td><td>3</td></tr> <tr> <td>TOTAL</td><td>70</td></tr> </table>	Asset manager	11	Institutional investor	9	Securities company/broker dealer	4	Commercial bank	10	Global custodian	3	Regional custodian	4	Local custodian	18	ICSD	2	National CSD	6	Other	3	TOTAL	70
Asset manager	11																						
Institutional investor	9																						
Securities company/broker dealer	4																						
Commercial bank	10																						
Global custodian	3																						
Regional custodian	4																						
Local custodian	18																						
ICSD	2																						
National CSD	6																						
Other	3																						
TOTAL	70																						

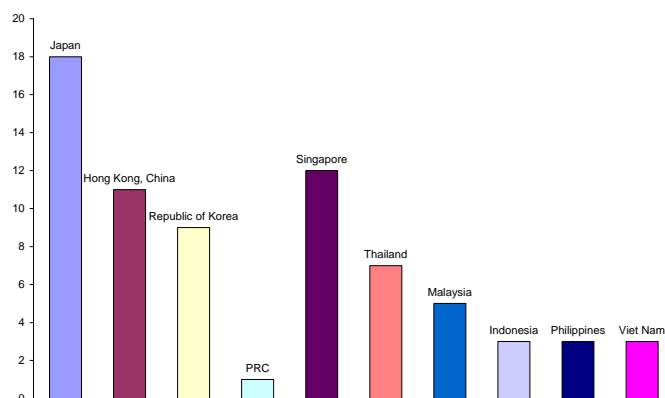
1.2 *Where are you located?*

Q 1.2

Respondents were located in 10 ASEAN+3 markets (including Hong Kong, China). They were split fairly equally between the 'ASEAN' (33 respondents) and the '+3' markets (39 respondents).

Japan, Singapore and Hong Kong, China were the most common locations.

Note that some respondents were located in more than one market.



1.3 *Over the past 3 months, approximately how many bond transactions has your organisation handled in each of the following local markets?*

The objective of this question was to identify in which bond markets an organisation was currently or recently 'active'. The volume of bond trades in the past 3 months was taken as an indication of this, being a reasonably objective measure of activity.

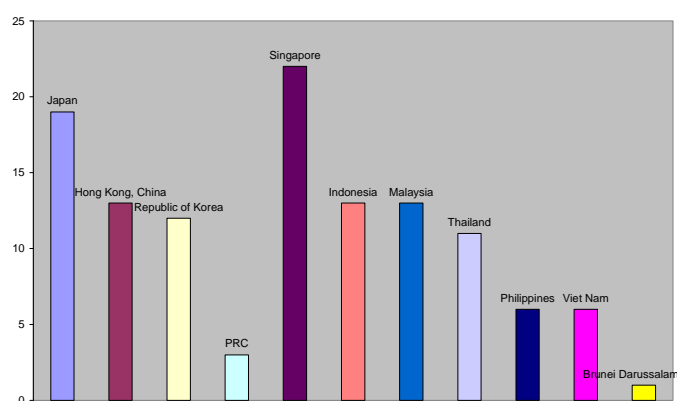
This question was also useful in showing which respondents were engaged in cross-border activity (as opposed to purely domestic activity), or in multiple markets (where they would perhaps be more aware of comparisons between markets).

Q 1.3

Respondents were active in a total of 11 ASEAN+3 bond markets.

The most common markets were Singapore and Japan.

Note that some respondents were active in more than one market.



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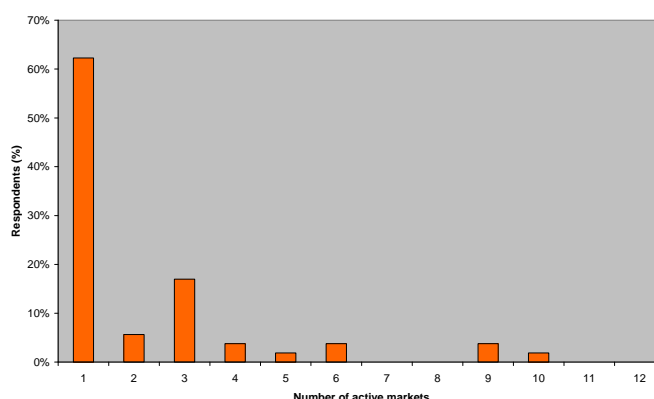
Barriers to cross-border investment and settlement in ASEAN+3 bond markets

Q 1.3 (continued)

Almost 40% of respondents were recently active in multiple local bond markets. Individual respondents were active across up to 10 markets.

The other 60% were in a single market only (generally, their domestic market).

The most active bond investors were located in Japan and Singapore.



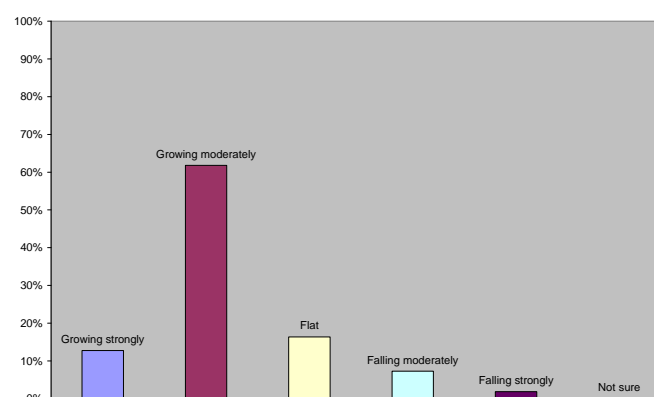
1.4 What has been the trend of this business over the past 3 years?

1.5 How do you expect the business to develop over the next 3 years?

Q 1.4

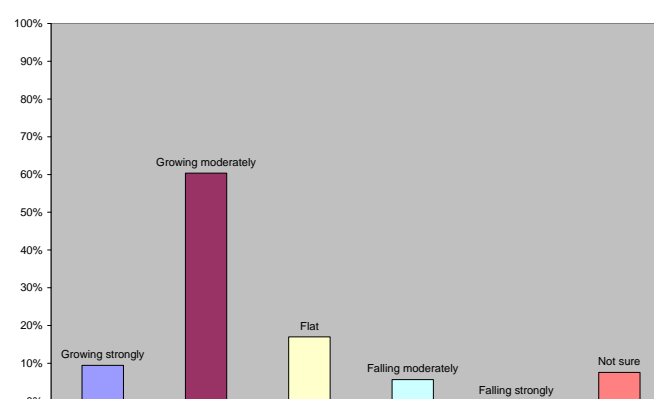
75% reported that business in the local bond markets had increased moderately or strongly over the past 3 years.

Only 10% reported a fall.



Q 1.5

70% expected their activity in local bond markets to increase either moderately or strongly over the next 3 years.



Taken together, these responses indicate that local bond market activity is growing. This was also confirmed in our market consultations.

1.6 *What have been the main driving factors for this trend?*

"Increased demand from local currency bonds as investors seek alpha in investing in Asian denominated currency bonds. On the supply side, some Asian markets are also trying to develop their bond markets."

"Trading volume in the secondary market had risen for the last decade before the downtrend of interest rate in recent years. For the past 3 years, supply side of primary market has increased in order to finance the budget deficit of the government and stabilize the financial sector by the central bank's monetary policy. However, the secondary market is growing moderately since the investors prefer holding rather than trading bonds in the market."

"More clients are interested in bond investment."

1.7 *What will be the main driving factors in the future?*

"In the near term, the shut down of the dollar market to Asian issuers should increasingly help issuers turn to the local bond market for funding."

"More of the pension funds are expected to shift allocation to fixed income from equities."

"With the global economic crisis leading parts of the world into recession coupled with the turmoil of financial institutions, Central bank bonds will dominate the market more than the corporate bond as the investors are more risk averse and are watching the weakening of certain corporate sector very closely."

"Internationalisation of markets in Asia Pacific will require a secure interoperable platform to ensure efficiency and standardisation. Volume driven by the need for further automation and cost savings."

Main analysis

2 Message formats

SWIFT is becoming a standardized message format in Asian bond market. However, some markets still use non-standard proprietary message formats.

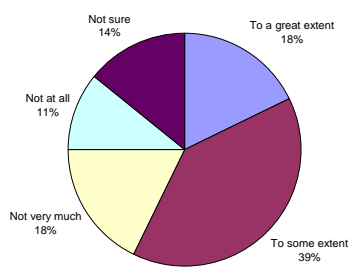
Giovannini / CPSS-IOSCO: National differences in the information technology and interfaces used by clearing and settlement providers should be eliminated.

The G30 have also identified the need for common protocols.

2.1 To what extent is the lack of standardisation of message formats a barrier?

2.2 In which market(s) is this a problem?

2.3 If message standards are harmonised, which standard do you prefer?

<p>Q 2.1</p> <p>57% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Message formats - extent of problem</p>  <table border="1"> <caption>Message formats - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>39%</td> </tr> <tr> <td>To a great extent</td> <td>18%</td> </tr> <tr> <td>Not very much</td> <td>18%</td> </tr> <tr> <td>Not at all</td> <td>11%</td> </tr> <tr> <td>Not sure</td> <td>14%</td> </tr> </tbody> </table>	Extent	Percentage	To some extent	39%	To a great extent	18%	Not very much	18%	Not at all	11%	Not sure	14%
Extent	Percentage												
To some extent	39%												
To a great extent	18%												
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Not at all	11%												
Not sure	14%												
<p>Q 2.2</p> <p>Indonesia and Thailand were the markets most commonly mentioned.</p> <p>Only corporate action announcements have been distributed in SWIFT format by the Indonesian Central Securities Depository (KSEI), not for settlement of transactions yet.</p> <p>The Thailand Securities Depository (TSD) uses SWIFT format for clearing and settlement, but not for corporate actions.</p> <p>Hong Kong, China was also mentioned, possibly because communications between the CSD for equities (CCASS) and participants is in proprietary format, though CMU (CSD for bonds) uses SWIFT format.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>5</td> </tr> <tr> <td>Thailand</td> <td>3</td> </tr> <tr> <td>Hong Kong, China</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>All markets</td> <td>1</td> </tr> </tbody> </table>	Indonesia	5	Thailand	3	Hong Kong, China	2	Republic of Korea	1	Philippines	1	All markets	1
Indonesia	5												
Thailand	3												
Hong Kong, China	2												
Republic of Korea	1												
Philippines	1												
All markets	1												
<p>Q 2.3</p> <p>The overwhelming choice was for SWIFT message standards. All 37 respondents who specified a preferred standard indicated SWIFT as their preference.</p>	<table border="1"> <tbody> <tr> <td>SWIFT</td> <td>37</td> </tr> </tbody> </table>	SWIFT	37										
SWIFT	37												

2.4 *Selected comments*

"In most Asian markets, local stockbrokers are not Swift member and as such communication / pre-matching between custodian banks and local participants are still performed via telephone / fax."

"Full availability of SWIFT and ISO standards for Bond Clearing & Settlement in ASEAN +3 is currently limited to Hong Kong, China, Thailand, Japan, Singapore, Republic of Korea. Projects are underway with most other ASEAN +3 countries."

"It would be more efficient in all markets if the swift messaging format could be used as the standard between the settlement and trading platforms and the investors and custodians."

"Lack of standardisation of message formats may not be a barrier, additional costs of setting up different message formats for different countries may be incurred."

"If the counterparty does not use SWIFT, we should have significant trouble in implementing the trade."

"Majority of financial institutions uses Swift as a common standard, thus this is the easiest way to be connected and getting changes implemented world wide."

"A huge barrier evidenced by feedback from our customers."

3 Securities numbering

ISIN is becoming increasingly used as a security identification code in the Asian bond markets but some markets still use local securities numbering schemes. ISIN is not always allocated on a real time basis. Only a few markets have a direct link between issuing agents, dealers and settlement systems.

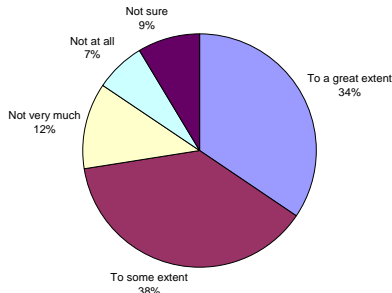
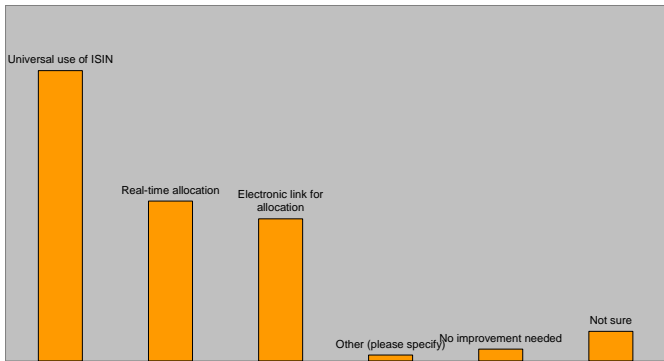
Giovannini / CPSS-IOSCO:

- National differences in securities issuance practice, in particular in relation to allocation of ISINs, should be eliminated.
- Electronic links between issuing agents, dealers and settlement systems should be standardized so as to enable the speedy exchange of issuance information and ISIN codes.

3.1 To what extent is the use of non-ISIN numbering schemes a barrier?

3.2 What improvements would you like to see in the way securities numbers are allocated?

3.3 In which market(s) is this a problem?

<p>Q 3.1</p> <p>72% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p style="text-align: center;">Securities numbering - extent of problem</p>  <table border="1"> <caption>Securities numbering - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>34%</td> </tr> <tr> <td>To some extent</td> <td>38%</td> </tr> <tr> <td>Not very much</td> <td>12%</td> </tr> <tr> <td>Not at all</td> <td>7%</td> </tr> <tr> <td>Not sure</td> <td>9%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	34%	To some extent	38%	Not very much	12%	Not at all	7%	Not sure	9%		
Extent of problem	Percentage														
To a great extent	34%														
To some extent	38%														
Not very much	12%														
Not at all	7%														
Not sure	9%														
<p>Q.3.2 [may select more than one]</p> <p>The most common concerns centred around the use of ISIN in the local markets and the speed and method of allocation of ISIN.</p>	<p style="text-align: center;">Securities numbering - type of problem</p>  <table border="1"> <caption>Securities numbering - type of problem</caption> <thead> <tr> <th>Type of problem</th> <th>Relative frequency</th> </tr> </thead> <tbody> <tr> <td>Universal use of ISIN</td> <td>High</td> </tr> <tr> <td>Real-time allocation</td> <td>Medium-High</td> </tr> <tr> <td>Electronic link for allocation</td> <td>Medium</td> </tr> <tr> <td>Other (please specify)</td> <td>Low</td> </tr> <tr> <td>No improvement needed</td> <td>Very Low</td> </tr> <tr> <td>Not sure</td> <td>Low</td> </tr> </tbody> </table>	Type of problem	Relative frequency	Universal use of ISIN	High	Real-time allocation	Medium-High	Electronic link for allocation	Medium	Other (please specify)	Low	No improvement needed	Very Low	Not sure	Low
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Electronic link for allocation	Medium														
Other (please specify)	Low														
No improvement needed	Very Low														
Not sure	Low														
<p>Q 3.3</p> <p>Indonesia was specified by many respondents. The stock exchange (IDX), the clearing house (KPEI) and the CSD (KSEI) in Indonesia are</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>8</td> </tr> <tr> <td>Philippines</td> <td>4</td> </tr> </tbody> </table>	Indonesia	8	Philippines	4										
Indonesia	8														
Philippines	4														

ABMI Group of Experts report:

Barriers to cross-border investment and settlement in ASEAN+3 bond markets

<p>all using local codes.</p> <p>Philippines, Thailand, People's Republic of China (PRC) and Viet Nam were also commonly mentioned.</p> <p>In the Philippines, local codes are required for trade and settlement, though most systems would have both local codes and corresponding ISINs.</p> <p>In Viet Nam, ISIN has not been generally used yet. The Viet Nam Securities Depository (VSD) became an official partner of ANNA in November 2008.</p>	Thailand	4
	People's Republic of China	3
	Viet Nam	3
	Hong Kong, China	2
	Malaysia	2
	Japan	1

3.4 *Selected comments*

"Standardisation of ISIN will facilitate searching and trading of bonds in different markets."

"We prefer the ISIN should be allocated simultaneously when the new bond is issued."

"We use ISIN code with non-resident clients, but use rather issuer name in domestic."

"System not able to STP instruction to custodian. Need to issue manual instruction via SWIFT to custodian."

"There needs to be a push for the use of ISIN and an education on the benefit of having an international standard naming convention. The fund manager's systems are most probably not set up to use ISIN as the primary code, rather the local code. The brokers are probably the same."

"ISIN allocation at the time of bond creation would be ideal. Not necessarily real time."

4 Operating hours of settlement systems (bonds/cash)

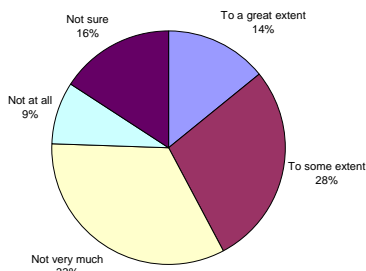
Settlement system operating hours (for both bonds and cash) and instruction deadlines vary by market.

Giovannini / CPSS-IOSCO: Operating hours and settlement deadlines should be harmonized, using TARGET hours as the benchmark. ECSDA (European Central Securities Depositories Association) should take the lead in this initiative, in close co-ordination with the ESCB (European System of Central Banks).

4.1 To what extent are different local operating hours a barrier?

4.2 In which market(s) is this a problem?

4.3 If local operating hours are harmonised, which market(s) do you prefer as a model?

<p>Q 4.1</p> <p>42% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Local operating hours - extent of problem</p>  <table border="1"> <caption>Local operating hours - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>14%</td> </tr> <tr> <td>To some extent</td> <td>28%</td> </tr> <tr> <td>Not very much</td> <td>33%</td> </tr> <tr> <td>Not at all</td> <td>9%</td> </tr> <tr> <td>Not sure</td> <td>16%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	14%	To some extent	28%	Not very much	33%	Not at all	9%	Not sure	16%
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To a great extent	14%												
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Not sure	16%												
<p>Q 4.2</p> <p>Australia and New Zealand, although outside the ASEAN+3 region, were also mentioned, possibly reflecting time zone differences.</p>	<table border="1"> <tbody> <tr> <td>Republic of Korea (GMT+9)</td> <td>3</td> </tr> <tr> <td>Japan (GMT+9)</td> <td>2</td> </tr> <tr> <td>People's Republic of China (GMT+ 8)</td> <td>1</td> </tr> <tr> <td>Australia (GMT+ 10)</td> <td>3</td> </tr> <tr> <td>New Zealand (GMT+ 12)</td> <td>3</td> </tr> <tr> <td>Taipei, China (GMT+ 8)</td> <td>1</td> </tr> </tbody> </table>	Republic of Korea (GMT+9)	3	Japan (GMT+9)	2	People's Republic of China (GMT+ 8)	1	Australia (GMT+ 10)	3	New Zealand (GMT+ 12)	3	Taipei, China (GMT+ 8)	1
Republic of Korea (GMT+9)	3												
Japan (GMT+9)	2												
People's Republic of China (GMT+ 8)	1												
Australia (GMT+ 10)	3												
New Zealand (GMT+ 12)	3												
Taipei, China (GMT+ 8)	1												
<p>Q 4.3</p> <p>There was broad support for Singapore as a model, and also for Hong Kong, China and Malaysia. These choices may well reflect the convenience of the respondents.</p>	<table border="1"> <tbody> <tr> <td>Singapore (GMT+ 8)</td> <td>8</td> </tr> <tr> <td>Hong Kong, China (GMT+ 8)</td> <td>4</td> </tr> <tr> <td>Malaysia (GMT+ 8)</td> <td>3</td> </tr> <tr> <td>Japan (GMT+ 9)</td> <td>2</td> </tr> <tr> <td>Euro market (GMT+ 1)</td> <td>3</td> </tr> </tbody> </table>	Singapore (GMT+ 8)	8	Hong Kong, China (GMT+ 8)	4	Malaysia (GMT+ 8)	3	Japan (GMT+ 9)	2	Euro market (GMT+ 1)	3		
Singapore (GMT+ 8)	8												
Hong Kong, China (GMT+ 8)	4												
Malaysia (GMT+ 8)	3												
Japan (GMT+ 9)	2												
Euro market (GMT+ 1)	3												

4.4 *Selected comments*

"We as a local custodian think it is better that operating hours to be kept as it is now (for us, it is Japanese time). If we are to change operating hours, we will have to change internal business flows and it will also cost a lot."

"The operating hours should be per market and should not be harmonized as each market has different payment cut off times and 1 hour difference in time will impact the settlement of both securities and cash."

"Each market operates in their own time zone with timeframes for trading and settlement based on local time and payment system cut offs. At present we do not see this as having any direct effect on the investment community interest in the market. A common trading and settlement timing across all the named markets would add efficiency but may not increase the volume."

5 Settlement cycles

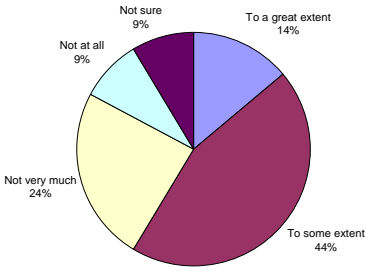
Settlement cycles (= usual number of days between trade and settlement) vary by market.

Giovannini / CPSS-IOSCO: Settlement periods for all equity markets within the EU should be harmonized. However, the choice of the appropriate settlement period remains open and the alternative of managing the costs and risks associated with different settlement periods requires further study.

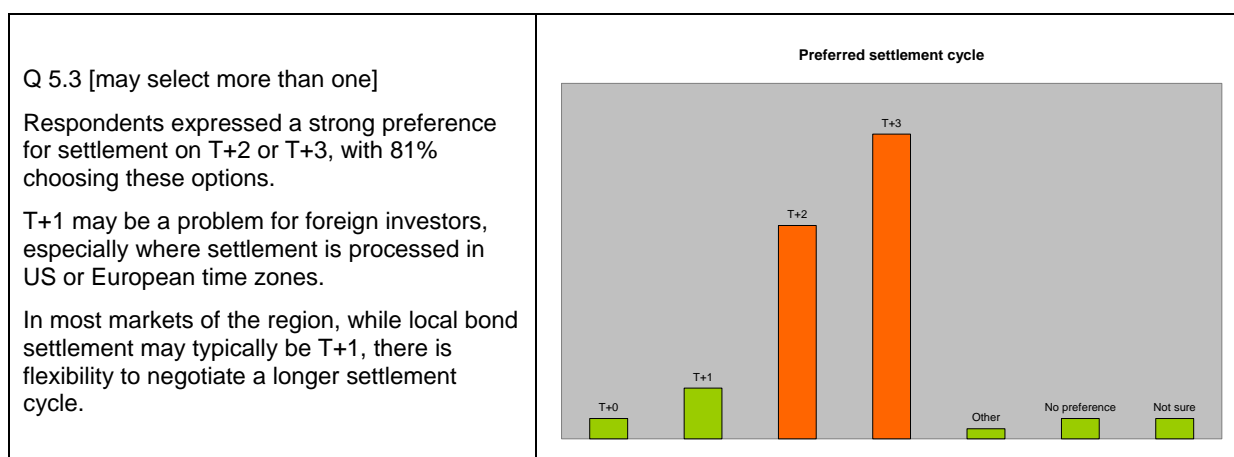
5.1 To what extent are different settlement cycles a barrier?

5.2 In which market(s) is this a problem?

5.3 If local settlement cycles are harmonised, what is your preference?

<p>Q 5.1</p> <p>58% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Different settlement cycles - extent of problem</p>  <table border="1"> <caption>Different settlement cycles - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>44%</td> </tr> <tr> <td>To a great extent</td> <td>14%</td> </tr> <tr> <td>Not very much</td> <td>24%</td> </tr> <tr> <td>Not at all</td> <td>9%</td> </tr> <tr> <td>Not sure</td> <td>9%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To some extent	44%	To a great extent	14%	Not very much	24%	Not at all	9%	Not sure	9%
Extent of problem	Percentage												
To some extent	44%												
To a great extent	14%												
Not very much	24%												
Not at all	9%												
Not sure	9%												
<p>Q 5.2</p> <p>No market was regarded as being particularly a problem in this respect.</p>	<table> <tbody> <tr> <td>Japan (T+3)</td> <td>1</td> </tr> <tr> <td>Republic of Korea (T+1 or by agreement)</td> <td>1</td> </tr> <tr> <td>Indonesia (T+2 or by agreement)</td> <td>1</td> </tr> <tr> <td>People's Republic of China (securities on T+0, cash on T+1)</td> <td>1</td> </tr> <tr> <td>Taipei, China (up to Feb 2009, securities on T+1, cash on T+2, now both on T+2)</td> <td>2</td> </tr> </tbody> </table>	Japan (T+3)	1	Republic of Korea (T+1 or by agreement)	1	Indonesia (T+2 or by agreement)	1	People's Republic of China (securities on T+0, cash on T+1)	1	Taipei, China (up to Feb 2009, securities on T+1, cash on T+2, now both on T+2)	2		
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Barriers to cross-border investment and settlement in ASEAN+3 bond markets



5.4 Selected comments

"In order to meet the transaction, I usually need time to convert one currency into another with usually T+2 settlements. So T+3 would be appropriate."

"Harmonisation takes priority over the length of the settlement cycle."

"Difference in settlement cycle is not the barrier for the settlement process especially in gross settlement. Moreover, settlement cycle in Asean+3 mostly are the same at T+2."

"T+3 would provide sufficient time to investors from different time zones to transmit fund instructions on time."

"Allow sufficient time to pre-match."

"In the current environment, with cross border trading of bonds, T + 3 seems to be the safest period to reduce fail trades. A shorter settlement cycle would be preferred if there is a mechanism in place to allow the foreign investors to expedite the movement of settlement instructions."

6 Electronic trade-matching / Settlement pre-matching

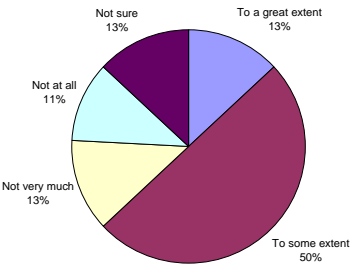
Some markets do not perform electronic trade-matching and/or settlement pre-matching. Also, the meaning of pre-matching status varies by market.

6.1 To what extent is the lack of electronic trade-matching a barrier?

6.2 In which market(s) is this a problem?

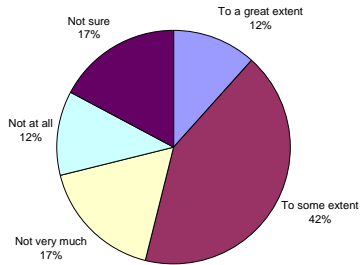
6.3 To what extent are differences in the method of trade-matching a barrier?

6.4 If trade-matching processes are harmonised, which market(s) do you prefer as a model?

<p>Q 6.1</p> <p>63% of respondents identified the lack of trade matching as a barrier to some extent or to a great extent.</p>	<p>Lack of electronic trade matching - extent of problem</p>  <table border="1"> <caption>Lack of electronic trade matching - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>50%</td> </tr> <tr> <td>To a great extent</td> <td>13%</td> </tr> <tr> <td>Not very much</td> <td>13%</td> </tr> <tr> <td>Not at all</td> <td>11%</td> </tr> <tr> <td>Not sure</td> <td>13%</td> </tr> </tbody> </table>	Extent	Percentage	To some extent	50%	To a great extent	13%	Not very much	13%	Not at all	11%	Not sure	13%				
Extent	Percentage																
To some extent	50%																
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Not sure	13%																
<p>Q 6.2</p> <p>A wide range of markets were mentioned here, with no clear consensus.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>3</td> </tr> <tr> <td>Republic of Korea</td> <td>2</td> </tr> <tr> <td>Malaysia</td> <td>2</td> </tr> <tr> <td>Thailand</td> <td>2</td> </tr> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Japan</td> <td>1</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>Singapore</td> <td>1</td> </tr> </tbody> </table>	Indonesia	3	Republic of Korea	2	Malaysia	2	Thailand	2	People's Republic of China	1	Japan	1	Philippines	1	Singapore	1
Indonesia	3																
Republic of Korea	2																
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People's Republic of China	1																
Japan	1																
Philippines	1																
Singapore	1																

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<p>Q 6.3</p> <p>54% of respondents identified differences in the method of trade matching a barrier to some extent or to a great extent.</p>	<p>Differences in the method of trade matching - extent of problem</p>  <table border="1"> <caption>Data for Q 6.3 Pie Chart</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>42%</td> </tr> <tr> <td>Not very much</td> <td>17%</td> </tr> <tr> <td>Not at all</td> <td>12%</td> </tr> <tr> <td>Not sure</td> <td>17%</td> </tr> <tr> <td>To a great extent</td> <td>12%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To some extent	42%	Not very much	17%	Not at all	12%	Not sure	17%	To a great extent	12%		
Extent of problem	Percentage														
To some extent	42%														
Not very much	17%														
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<p>Q 6.4</p> <p>There was some support for Japan and Republic of Korea as a model. However, the matching service offered by the ICSDs was the most popular choice.</p>	<table border="1"> <tbody> <tr> <td>Japan</td> <td>3</td> </tr> <tr> <td>Republic of Korea</td> <td>2</td> </tr> <tr> <td>Hong Kong, China</td> <td>1</td> </tr> <tr> <td>Malaysia</td> <td>1</td> </tr> <tr> <td>Singapore</td> <td>1</td> </tr> <tr> <td>Euroclear / Clearstream</td> <td>5</td> </tr> <tr> <td>Australia</td> <td>1</td> </tr> </tbody> </table>	Japan	3	Republic of Korea	2	Hong Kong, China	1	Malaysia	1	Singapore	1	Euroclear / Clearstream	5	Australia	1
Japan	3														
Republic of Korea	2														
Hong Kong, China	1														
Malaysia	1														
Singapore	1														
Euroclear / Clearstream	5														
Australia	1														

6.5 Selected comments

"Thailand - currently the pre-matching is done on the phone prior to releasing the Swift instruction to the PTI system. If the market is going to grow in volume and size, there is a real need for electronic pre-matching to reduce the time wasted on the phone and human error."

"The ideal model would be electronic trade order matching, electronic instruction delivery, with electronic pre-matching and settlement in the shortest time window. Once designed, it should be mandatory for all participants."

"It is not easy to conclude which model is suitable for Asian bond market at this phase. But whatever model is, pre-matching functions are very important to run STP work flow smoothly."

"Even though trade-matching system can facilitate cross-border transaction, the harmonization is not required."

"Apparently, investors accounts with brokers and custodian may appear to use different names which can be problem for electronic pre-matching."

"In the Philippines, electronic pre-matching only means that the trade details actually match but it is not an assurance that there is sufficient securities or cash to settle the trade on settlement date."

"To avoid settlement failures, it is better to have some form of electronic trade confirmation matching once a trade is executed. This will enable discrepancies to be detected and resolved promptly before settlement date."

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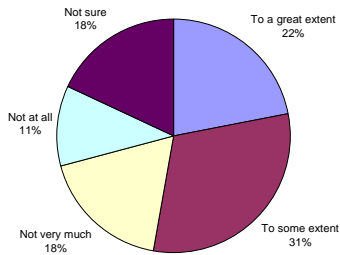
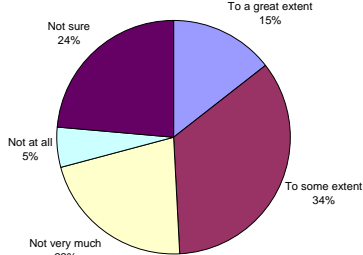
Barriers to cross-border investment and settlement in ASEAN+3 bond markets

6.6 To what extent is the lack of settlement pre-matching a barrier?

6.7 In which market(s) is this a problem?

6.8 To what extent are differences in settlement pre-matching systems a barrier?

6.9 If settlement pre-matching processes are harmonised, which market(s) do you prefer as a model?

<p>Q 6.6</p> <p>53% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of settlement pre-matching - extent of problem</p>  <table border="1"> <caption>Lack of settlement pre-matching - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>22%</td> </tr> <tr> <td>To some extent</td> <td>31%</td> </tr> <tr> <td>Not very much</td> <td>18%</td> </tr> <tr> <td>Not at all</td> <td>11%</td> </tr> <tr> <td>Not sure</td> <td>18%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	22%	To some extent	31%	Not very much	18%	Not at all	11%	Not sure	18%
Extent	Percentage												
To a great extent	22%												
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Not very much	18%												
Not at all	11%												
Not sure	18%												
<p>Q 6.7</p> <p>Interestingly, not many markets were singled out here. It may be that respondents had already provided their input under trade matching.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>2</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>Thailand</td> <td>1</td> </tr> </tbody> </table>	Indonesia	2	Republic of Korea	2	Philippines	1	Thailand	1				
Indonesia	2												
Republic of Korea	2												
Philippines	1												
Thailand	1												
<p>Q 6.8</p> <p>49% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Differences in settlement pre-matching systems - extent of problem</p>  <table border="1"> <caption>Differences in settlement pre-matching systems - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>15%</td> </tr> <tr> <td>To some extent</td> <td>34%</td> </tr> <tr> <td>Not very much</td> <td>22%</td> </tr> <tr> <td>Not at all</td> <td>5%</td> </tr> <tr> <td>Not sure</td> <td>24%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	15%	To some extent	34%	Not very much	22%	Not at all	5%	Not sure	24%
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Not very much	22%												
Not at all	5%												
Not sure	24%												
<p>Q 6.9</p> <p>As with trade matching, there was considerable support for Japan. However, the matching service offered by the ICSDs was a popular choice of model. Australia was also mentioned by several respondents.</p>	<table border="1"> <tbody> <tr> <td>Japan</td> <td>5</td> </tr> <tr> <td>Hong Kong, China</td> <td>2</td> </tr> <tr> <td>Singapore</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Malaysia</td> <td>1</td> </tr> <tr> <td>Euroclear / Clearstream</td> <td>5</td> </tr> </tbody> </table>	Japan	5	Hong Kong, China	2	Singapore	2	Republic of Korea	1	Malaysia	1	Euroclear / Clearstream	5
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Malaysia	1												
Euroclear / Clearstream	5												

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	Australia	5
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6.10 *Selected comments*

"We only know Japanese system, but we believe PSMS of JASDEC is quite an excellent system."

"Electric pre-matching is necessary and it is preferable to have electric trade matching process in addition, however, it depends on the time schedule. Implementation of those processes must be done to the extent that it does not make the settlement cycle longer than how it is done currently. The need for unification of matching depends on how to harmonise. If ICSD uses local CSDs, harmonisation might be not necessary."

"Most market have pre-matching process but it is done manually over the phone. Only Japan, Australia, Singapore and Hong Kong, China have electronic pre-matching system currently. In Hong Kong, China, the pre-matching system is not mandatory so not widely used by market participants"

"Having centralised pre-settlement matching using a common platform e.g. Accord would bring maximum benefit."

7 Physical certificates

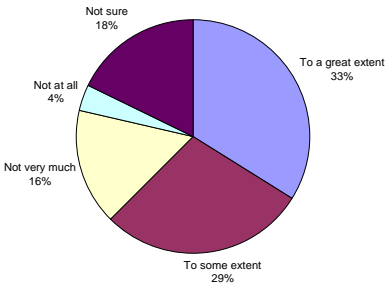
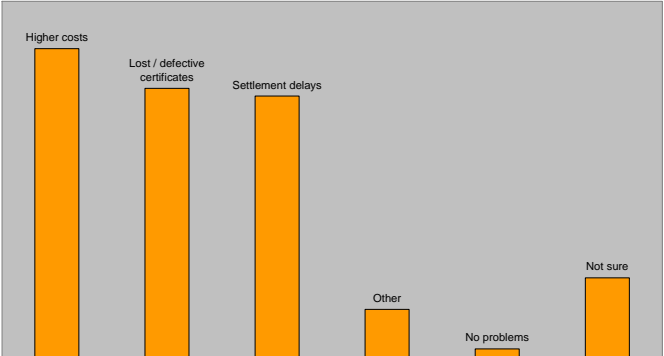
Most bonds issued in Asian markets are in book-entry form. But in some markets, physical certificates still exist.

Giovannini / CPSS-IOSCO: Securities should be immobilized or dematerialized and transferred by book entry in CSDs to the greatest extent possible.

7.1 To what extent is the existence of physical bonds a barrier?

7.2 What are the main problems you experience with physical certificates?

7.3 In which market(s) is this a problem?

<p>Q 7.1</p> <p>62% of respondents identified this as a barrier to some extent or to a great extent.</p> <p>There are now few physical bonds in the local ASEAN+3 markets, especially among internationally-invested issues. We believe that many respondents interpreted this question in a theoretical way, i.e. physical certificates <u>would</u> be a barrier.</p>	<p>Existence of physical bonds - extent of problem</p>  <table border="1"> <caption>Existence of physical bonds - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>33%</td> </tr> <tr> <td>To some extent</td> <td>29%</td> </tr> <tr> <td>Not very much</td> <td>16%</td> </tr> <tr> <td>Not at all</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>18%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	33%	To some extent	29%	Not very much	16%	Not at all	4%	Not sure	18%		
Extent of problem	Percentage														
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Not sure	18%														
<p>Q 7.2 [may select more than one]</p> <p>As expected, higher cost, risk of lost or damaged certificates, and delays were the major problems identified.</p>	<p>Problems with physical certificates</p>  <table border="1"> <caption>Problems with physical certificates</caption> <thead> <tr> <th>Problem</th> <th>Frequency (Relative)</th> </tr> </thead> <tbody> <tr> <td>Higher costs</td> <td>High</td> </tr> <tr> <td>Lost / defective certificates</td> <td>High</td> </tr> <tr> <td>Settlement delays</td> <td>High</td> </tr> <tr> <td>Other</td> <td>Low</td> </tr> <tr> <td>No problems</td> <td>Very Low</td> </tr> <tr> <td>Not sure</td> <td>Low</td> </tr> </tbody> </table>	Problem	Frequency (Relative)	Higher costs	High	Lost / defective certificates	High	Settlement delays	High	Other	Low	No problems	Very Low	Not sure	Low
Problem	Frequency (Relative)														
Higher costs	High														
Lost / defective certificates	High														
Settlement delays	High														
Other	Low														
No problems	Very Low														
Not sure	Low														
<p>Q 7.3</p> <p>Thailand was mentioned most frequently. Some corporate bonds in Thailand - depending on the registrar agents - are not dematerialised.</p> <p>Indonesia was also mentioned. We understand that this market is effectively scripless, but physical certificates still exist if issued prior to 2000.</p>	<table border="1"> <tbody> <tr> <td>Thailand</td> <td>5</td> </tr> <tr> <td>Indonesia</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Malaysia(secondary market)</td> <td>1</td> </tr> </tbody> </table>	Thailand	5	Indonesia	2	Republic of Korea	1	Malaysia(secondary market)	1						
Thailand	5														
Indonesia	2														
Republic of Korea	1														
Malaysia(secondary market)	1														

7.4 *Selected comments*

"Bonds in most Asian markets are scripless."

"Currently the ratio of physical securities settlement & safekeeping is minimal. In addition, by the planned introduction of electronic securities registration system in Republic of Korea, the current small barrier in handling the physical certificates is anticipated to be diminished."

"In the Philippines, almost 98% of the bond issues are already in scripless form."

"As long as central depository system and book-entry system are implemented, existence of physical certificate is acceptable."

8 Settlement model

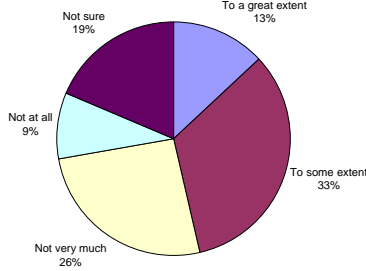
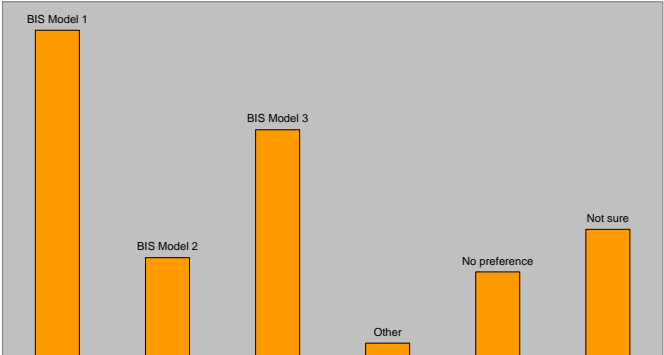
The type of settlement model used for bond transactions varies by market. It may be BIS model 1 (gross-gross), BIS model 2 (gross securities - net funds), BIS model 3 (net-net).

Giovannini / CPSS-IOSCO: CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment. Intra-day settlement finality in all links between settlement systems within the EU should be guaranteed. ECSDA should coordinate necessary measures. These measures should be drawn up in close consultation with the ESCB/CESR Joint Working Group.

8.1 To what extent is the existence of different settlement models a barrier?

8.2 In which market(s) is this a problem?

8.3 If settlement models are harmonised, which model do you prefer?

<p>Q 8.1</p> <p>46% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Different settlement models - extent of problem</p>  <table border="1"> <caption>Different settlement models - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>13%</td> </tr> <tr> <td>To some extent</td> <td>33%</td> </tr> <tr> <td>Not very much</td> <td>26%</td> </tr> <tr> <td>Not at all</td> <td>9%</td> </tr> <tr> <td>Not sure</td> <td>19%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	13%	To some extent	33%	Not very much	26%	Not at all	9%	Not sure	19%		
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<p>Q 8.2</p> <p>Only two respondents mentioned specific markets here.</p>	<table> <tr> <td>Republic of Korea (OTC: BIS1, Exchange: BIS3)</td> <td>1</td> </tr> <tr> <td>Thailand (BIS1 / BIS3)</td> <td>1</td> </tr> </table>	Republic of Korea (OTC: BIS1, Exchange: BIS3)	1	Thailand (BIS1 / BIS3)	1										
Republic of Korea (OTC: BIS1, Exchange: BIS3)	1														
Thailand (BIS1 / BIS3)	1														
<p>Q 8.3 [may select more than one]</p> <p>There was no strong consensus re settlement model. The most common choice was Model 1 (gross cash against gross securities), which is used by the ICSDs.</p>	<p>Preferred settlement model</p>  <table border="1"> <caption>Preferred settlement model</caption> <thead> <tr> <th>Model</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>BIS Model 1</td> <td>5</td> </tr> <tr> <td>BIS Model 2</td> <td>1</td> </tr> <tr> <td>BIS Model 3</td> <td>3</td> </tr> <tr> <td>Other</td> <td>0.5</td> </tr> <tr> <td>No preference</td> <td>1</td> </tr> <tr> <td>Not sure</td> <td>1</td> </tr> </tbody> </table>	Model	Count	BIS Model 1	5	BIS Model 2	1	BIS Model 3	3	Other	0.5	No preference	1	Not sure	1
Model	Count														
BIS Model 1	5														
BIS Model 2	1														
BIS Model 3	3														
Other	0.5														
No preference	1														
Not sure	1														

8.4 Selected comments

"Net funds minimise the costs of foreign exchange."

"We as a global custodian deal with Asian bond through local custodians, so we can't see barriers in each local market directly."

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Barriers to cross-border investment and settlement in ASEAN+3 bond markets

"Having a consistent settlement model throughout the various markets would be ideal. BIS 1 is the least risky, BIS 2 is the ideal (efficient). Model1:Minimum Risk, least efficiency, Model 2:Ideal model (efficiency)."

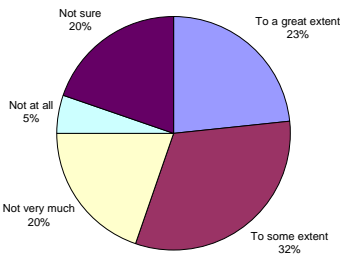
"Currently the existing models in each market are acceptable. Preference would be for a BIS model that offers true DVP."

9 Omnibus accounts

Some markets do not permit custodians to operate an omnibus account.

9.1 To what extent is the lack of omnibus accounts a barrier?

9.2 In which market(s) is this a problem?

<p>Q 9.1</p> <p>55% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of omnibus accounts - extent of problem</p>  <table border="1"> <caption>Lack of omnibus accounts - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>23%</td> </tr> <tr> <td>To some extent</td> <td>32%</td> </tr> <tr> <td>Not very much</td> <td>20%</td> </tr> <tr> <td>Not at all</td> <td>5%</td> </tr> <tr> <td>Not sure</td> <td>20%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	23%	To some extent	32%	Not very much	20%	Not at all	5%	Not sure	20%
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<p>Q 9.2</p> <p>Republic of Korea was the most frequently mentioned market. PRC, Viet Nam and Indonesia were also mentioned, although we understand that omnibus accounts are permitted in the last 2.</p>	<table> <tr> <td>Republic of Korea</td> <td>8</td> </tr> <tr> <td>People's Republic of China</td> <td>2</td> </tr> <tr> <td>Viet Nam</td> <td>2</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Taipei, China</td> <td>1</td> </tr> </table>	Republic of Korea	8	People's Republic of China	2	Viet Nam	2	Indonesia	1	Taipei, China	1		
Republic of Korea	8												
People's Republic of China	2												
Viet Nam	2												
Indonesia	1												
Taipei, China	1												

9.3 Selected comments

"We currently do not invest on the markets that prohibit omnibus account, such as Korean market."

"Omnibus accounts allow greater flexibility for both clients and broker dealers. Also more cost effective."

"It would be good if markets could allow custodians to open and operate omnibus accounts for clients' with different tax obligations so that the correct withholding tax, capital gain tax and other taxes can be deducted with ease to facilitate the processing of corporate actions in a timely manner."

"There is extra cost involved in maintaining segregated accounts. Also, operational processing like account opening, trades processing, stock reconciliation etc take longer time for completion."

10 Direct access to local settlement system

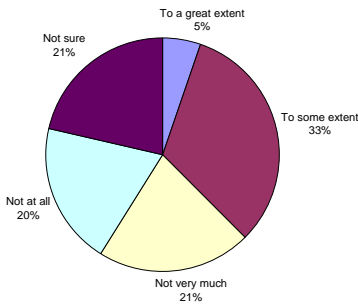
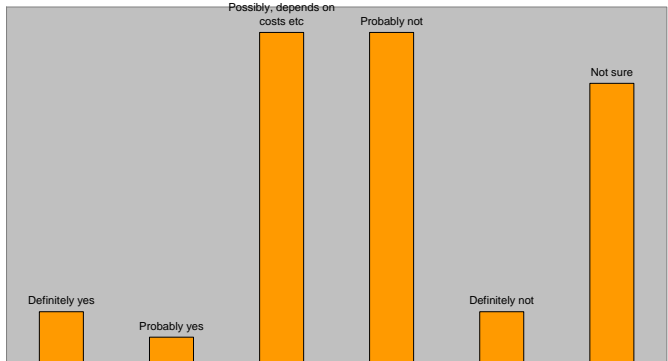
Many markets do not permit non-resident institutions to become participants in the local settlement system.

Giovannini / CPSS-IOSCO: Practical impediments to remote access to national clearing and settlement systems should be removed in order to ensure a level playing field. Such impediments result in a duplication of costs for investors, particularly when it is necessary to establish a presence in the country where a relevant system is located.

10.1 To what extent is the lack of remote access a barrier?

10.2 In which market(s) is this a problem?

10.3 If direct access is permitted, will you want to become a member in some markets?

<p>Q 10.1</p> <p>38% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of direct access - extent of problem</p>  <table border="1"> <caption>Lack of direct access - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>5%</td> </tr> <tr> <td>To some extent</td> <td>33%</td> </tr> <tr> <td>Not very much</td> <td>21%</td> </tr> <tr> <td>Not at all</td> <td>20%</td> </tr> <tr> <td>Not sure</td> <td>21%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	5%	To some extent	33%	Not very much	21%	Not at all	20%	Not sure	21%		
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Not sure	21%														
<p>Q 10.2</p> <p>There was no clear consensus here.</p>	<table border="1"> <tbody> <tr> <td>People's Republic of China</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>2</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>Viet Nam</td> <td>1</td> </tr> </tbody> </table>	People's Republic of China	2	Republic of Korea	2	Indonesia	1	Philippines	1	Viet Nam	1				
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Republic of Korea	2														
Indonesia	1														
Philippines	1														
Viet Nam	1														
<p>Q 10.3</p> <p>Respondents were lukewarm about this option, with only 7% indicating a definite or probable intention.</p>	<p>Direct access - interest in becoming a member</p>  <table border="1"> <caption>Direct access - interest in becoming a member</caption> <thead> <tr> <th>Response</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Definitely yes</td> <td>7%</td> </tr> <tr> <td>Probably yes</td> <td>7%</td> </tr> <tr> <td>Possibly, depends on costs etc</td> <td>33%</td> </tr> <tr> <td>Probably not</td> <td>33%</td> </tr> <tr> <td>Definitely not</td> <td>7%</td> </tr> <tr> <td>Not sure</td> <td>21%</td> </tr> </tbody> </table>	Response	Percentage	Definitely yes	7%	Probably yes	7%	Possibly, depends on costs etc	33%	Probably not	33%	Definitely not	7%	Not sure	21%
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Possibly, depends on costs etc	33%														
Probably not	33%														
Definitely not	7%														
Not sure	21%														

10.4 *Selected comments*

"Under Netting and Guarantee settlement, direct access to the local settlement system increases counterparty risk and legal enforcement risk."

"It is desirable that Non-resident participant could directly participate to local settlement system. "

"Since some of the works are handled by sub-custodian, we are not sure that direct accesses will increase even if permitted. And if we consider the legal procedure in the case of default, direct access of non-residents might be difficult."

"To have direct access to local settlement systems, the participating institutions would need to comply with the local regulatory as well as payment and settlement requirements which the local authorities may impose. Participants will also need to invest in technical infrastructure especially when a common service provider like SWIFT is not being used."

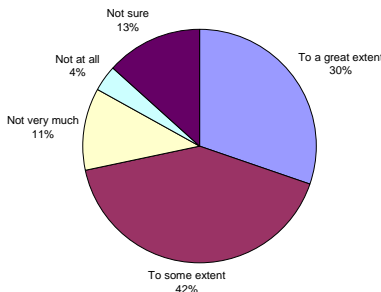
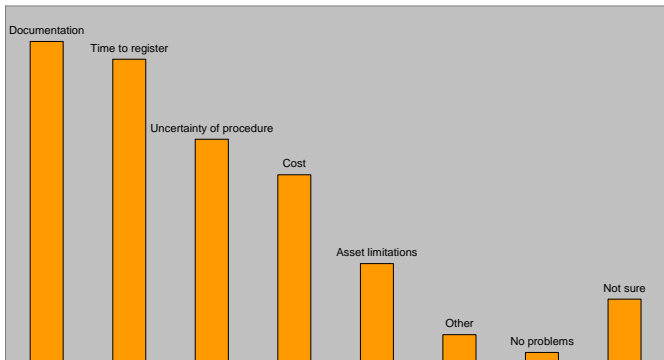
11 Foreign investor registration

In many markets, foreign investors must apply for registration in order to start trading.

11.1 To what extent is the need for pre-registration a barrier?

11.2 What are the main problems you experience with investor registration?

11.3 In which market(s) is this a problem?

<p>Q 11.1</p> <p>72% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Investor registration - extent of problem</p>  <table border="1"> <caption>Investor registration - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>30%</td> </tr> <tr> <td>To some extent</td> <td>42%</td> </tr> <tr> <td>Not very much</td> <td>11%</td> </tr> <tr> <td>Not at all</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>13%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	30%	To some extent	42%	Not very much	11%	Not at all	4%	Not sure	13%						
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<p>Q 11.2 [may select more than one]</p> <p>Respondents' concerns centred around documentation requirements, time to process and lack of certainty in procedures.</p>	<p>Investor registration - type of problem</p>  <table border="1"> <caption>Investor registration - type of problem</caption> <thead> <tr> <th>Type of problem</th> <th>Relative frequency</th> </tr> </thead> <tbody> <tr> <td>Documentation</td> <td>High</td> </tr> <tr> <td>Time to register</td> <td>High</td> </tr> <tr> <td>Uncertainty of procedure</td> <td>Medium-High</td> </tr> <tr> <td>Cost</td> <td>Medium</td> </tr> <tr> <td>Asset limitations</td> <td>Low-Medium</td> </tr> <tr> <td>Other</td> <td>Low</td> </tr> <tr> <td>No problems</td> <td>Very Low</td> </tr> <tr> <td>Not sure</td> <td>Low</td> </tr> </tbody> </table>	Type of problem	Relative frequency	Documentation	High	Time to register	High	Uncertainty of procedure	Medium-High	Cost	Medium	Asset limitations	Low-Medium	Other	Low	No problems	Very Low	Not sure	Low
Type of problem	Relative frequency																		
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<p>Q 11.3</p> <p>Republic of Korea was most frequently mentioned, followed by PRC and Viet Nam. The registration processes for these markets are detailed in the Market Profiles document.</p> <p>We understand that there are no requirement for foreign investor registration in Indonesia and Thailand, but requirements on anti-money laundering might be felt as cumbersome.</p> <p>Outside the ASEAN+2 region, India and Taipei,China were also mentioned as problem markets.</p>	<table border="1"> <tbody> <tr> <td>Republic of Korea</td> <td>9</td> </tr> <tr> <td>People's Republic of China</td> <td>5</td> </tr> <tr> <td>Viet Nam</td> <td>4</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>Thailand</td> <td>1</td> </tr> <tr> <td>India</td> <td>3</td> </tr> <tr> <td>Taipei,China</td> <td>3</td> </tr> </tbody> </table>	Republic of Korea	9	People's Republic of China	5	Viet Nam	4	Indonesia	1	Philippines	1	Thailand	1	India	3	Taipei,China	3		
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Indonesia	1																		
Philippines	1																		
Thailand	1																		
India	3																		
Taipei,China	3																		

11.4 *Selected comments*

"Foreign investor registration seems to link with the restriction on opening omnibus accounts."

"Registration is normally a one-off event and the procedures have to be clear and precise to encourage foreign participation."

"We cannot imagine to invest in countries which has asset limitation and difficulty for us to register."

"Some markets require too much documentation, which result in the high cost and time consuming."

"The registration procedure should be simple."

12 Taxes

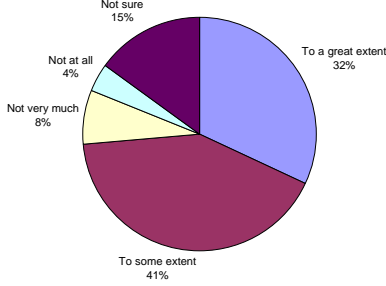
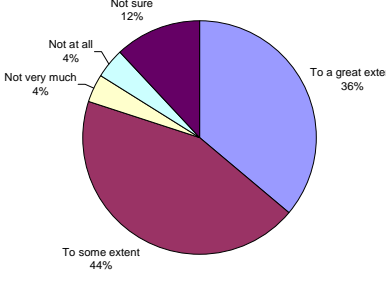
In many markets, foreign investors are subject to withholding and other taxes. Double tax treaties cover around 50 - 80 countries.

Giovannini / CPSS-IOSCO: All financial intermediaries established within the EU should be allowed to offer withholding agent services in all of the Member States so as to ensure a level playing field between local and foreign intermediaries. The majority of Member States restricts withholding responsibilities to entities established within their own jurisdiction. In consequence, foreign intermediaries are disadvantaged in their capacity to offer at-source relief from withholding tax by the significant extra cost of using a local agent or local representative in the discharge of their withholding obligations.

12.1 *To what extent is withholding tax a barrier?*

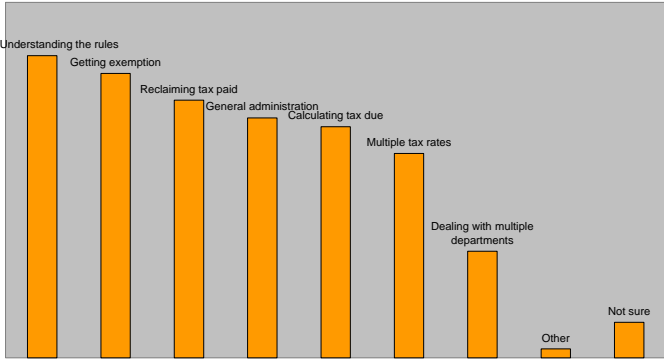
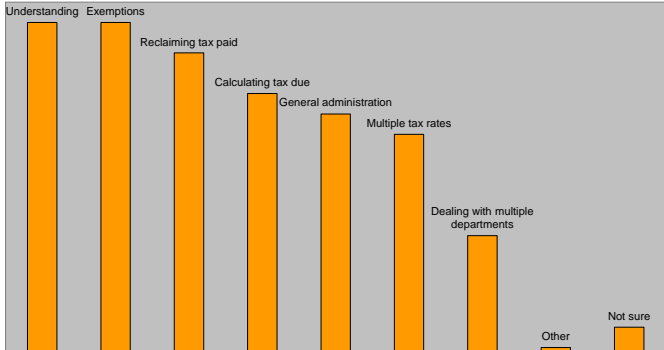
12.2 *What are the major problems associated with withholding taxes?*

12.3 *In which market(s) is this a problem?*

<p>Q 12.1</p> <p>Government bonds:</p> <p>73% of respondents identified this as a barrier to some extent or to a great extent.</p> <p>Note that the questionnaire asked this question separately for government and corporate bonds.</p>	<p>Withholding taxes (government bonds) - extent of problem</p>  <table border="1"> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>32%</td> </tr> <tr> <td>To some extent</td> <td>41%</td> </tr> <tr> <td>Not very much</td> <td>8%</td> </tr> <tr> <td>Not at all</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>15%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	32%	To some extent	41%	Not very much	8%	Not at all	4%	Not sure	15%
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<p>Q 12.1</p> <p>Corporate bonds:</p> <p>80% of respondents identified this as a barrier to some extent or to a great extent.</p> <p>Responses were similar to government bonds, although there was slightly more perception of problems with corporate bonds.</p>	<p>Withholding taxes (corporate bonds) - extent of problem</p>  <table border="1"> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>36%</td> </tr> <tr> <td>To some extent</td> <td>44%</td> </tr> <tr> <td>Not very much</td> <td>4%</td> </tr> <tr> <td>Not at all</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>12%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	36%	To some extent	44%	Not very much	4%	Not at all	4%	Not sure	12%
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<p>Q 12.2 [may select more than one]</p> <p>Government bonds:</p> <p>Respondents' concerns centred around complexity, and procedures for exemptions and reclaims.</p>	<p>Withholding taxes (government bonds) - major problems caused</p> 																								
<p>Q 12.2 [may select more than one]</p> <p>Corporate bonds:</p> <p>Responses were very similar to those for government bonds.</p>	<p>Withholding taxes (corporate bonds) - major problems caused</p> 																								
<p>Q 12.3</p> <p>A wide range of markets were mentioned here, covering 7 markets in ASEAN+3 and 3 markets outside the region.</p> <p>Indonesia, Republic of Korea and Philippines were the most frequently mentioned.</p> <p>For Japan and Thailand, in each case, one respondent specified that the problem was for corporate bonds.</p> <p>Note that non-resident investors are exempt from withholding tax on government securities in Thailand.</p>	<table> <tbody> <tr> <td>Indonesia</td> <td>6</td> </tr> <tr> <td>Republic of Korea</td> <td>6</td> </tr> <tr> <td>Philippines</td> <td>5</td> </tr> <tr> <td>Japan</td> <td>2</td> </tr> <tr> <td>Japan (corporate bonds)</td> <td>1</td> </tr> <tr> <td>Thailand</td> <td>2</td> </tr> <tr> <td>Thailand (corporate bonds)</td> <td>1</td> </tr> <tr> <td>People's Republic of China</td> <td>2</td> </tr> <tr> <td>Viet Nam</td> <td>2</td> </tr> <tr> <td>Italy</td> <td>1</td> </tr> <tr> <td>Taipei, China</td> <td>1</td> </tr> <tr> <td>US market</td> <td>1</td> </tr> </tbody> </table>	Indonesia	6	Republic of Korea	6	Philippines	5	Japan	2	Japan (corporate bonds)	1	Thailand	2	Thailand (corporate bonds)	1	People's Republic of China	2	Viet Nam	2	Italy	1	Taipei, China	1	US market	1
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12.4 Selected comments

"I really believe all withholding taxes among international investor should be eliminated like developed countries like US, EUR, UK market for developing the local bond market. Generally speaking the process of getting exemption is very complex and time consuming. In

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Barriers to cross-border investment and settlement in ASEAN+3 bond markets

managing the mutual fund, It's important for calc NAV and Unit price of fund and I feel difficult to calc the tax receivable accurately."

"There should be a centralised source of information for withholding tax apply to different types of bonds in different countries with details of reclaim process etc."

"In the Philippines, for foreign investors to avail of preferential tax treaty rates on their investments in government securities, they must confirm to the Bureau of Treasury that it's "buy-to-hold" portfolio. Otherwise, application at source of DTA is not allowed. Tax reclaims can be very tedious and require the legal services of tax lawyers. Documentation requirements can also be arbitrary. A tax ruling is also required on per transaction basis."

"For non-Japanese global custodian, it is legally required to obtain Qualified Foreign Intermediary tax status to apply withholding tax exemption measure for municipal bonds. To obtain such tax status, non-Japanese global custodian must submit special application form to each issuer's tax authorities. There are more than 70 major issuers in the Japanese municipal bonds market, so it means that at least 70 (today, up to 800 issuers are registered as an issuer.) documentations have to be done to apply withholding tax exemption. And such withholding tax exemption measure is not applicable to corporate bonds."

"The withholding tax computation procedures are too long as they require many information that may not be readily made available by bond dealers to custodians of clients and vice versa. A simplified approach and exemption would be great."

"Indonesia -There are some ambiguities in the tax regulation creating different interpretation and application amongst tax withholders."

13 Legal jurisdiction

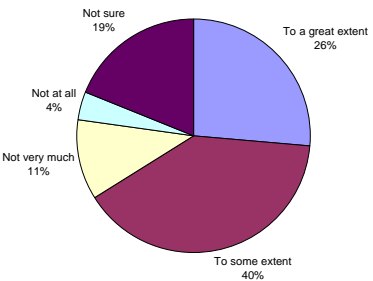
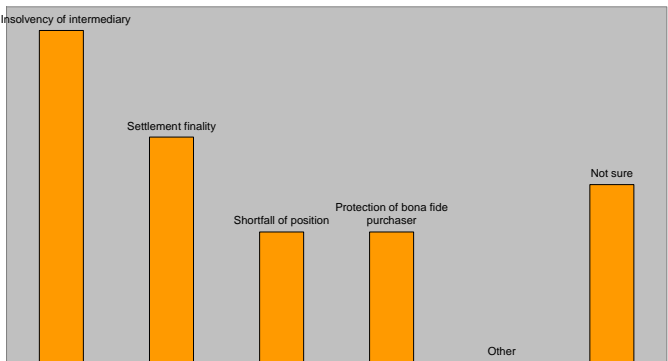
Differences in legal systems may be an issue for some investors and their intermediaries. For example: Is the international investor protected against the insolvency of a local intermediary? Does the concept of finality apply to transfers of securities, and how clear is the legal basis? What rules protect a transferee acting in good faith? What are the limits of the bona fide protections?.

13.1 To what extent are differences in legal systems a barrier?

13.2 What are the major concerns?

13.3 In which market(s) is this a problem?

13.4 If legal systems are harmonised, which market(s) do you prefer as a model?

<p>Q 13.1</p> <p>66% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Differences in legal framework - extent of problem</p>  <table border="1"> <caption>Differences in legal framework - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>26%</td> </tr> <tr> <td>To some extent</td> <td>40%</td> </tr> <tr> <td>Not very much</td> <td>11%</td> </tr> <tr> <td>Not at all</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>19%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	26%	To some extent	40%	Not very much	11%	Not at all	4%	Not sure	19%		
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<p>Q 13.2 [may select more than one]</p> <p>Respondents were concerned about a range of risks, including insolvency of an intermediary (broker etc), and the issue of legal finality of settlement.</p>	<p>Differences in legal jurisdiction - type of problem</p>  <table border="1"> <caption>Differences in legal jurisdiction - type of problem</caption> <thead> <tr> <th>Type of problem</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Insolvency of intermediary</td> <td>4</td> </tr> <tr> <td>Settlement finality</td> <td>3</td> </tr> <tr> <td>Shortfall of position</td> <td>1</td> </tr> <tr> <td>Protection of bona fide purchaser</td> <td>1</td> </tr> <tr> <td>Other</td> <td>1</td> </tr> <tr> <td>Not sure</td> <td>1</td> </tr> </tbody> </table>	Type of problem	Count	Insolvency of intermediary	4	Settlement finality	3	Shortfall of position	1	Protection of bona fide purchaser	1	Other	1	Not sure	1
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Not sure	1														
<p>Q 13.3</p> <p>There was no clear consensus here.</p>	<table border="1"> <tbody> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Japan</td> <td>1</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> </tbody> </table>	People's Republic of China	1	Indonesia	1	Japan	1	Republic of Korea	1						
People's Republic of China	1														
Indonesia	1														
Japan	1														
Republic of Korea	1														
<p>Q 13.4</p>	<table border="1"> <tbody> <tr> <td>Singapore</td> <td>3</td> </tr> </tbody> </table>	Singapore	3												
Singapore	3														

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Preference was shown for the legal systems of Singapore and Hong Kong, China as a model, with Japan and Australia also mentioned.	Hong Kong, China	2
	Japan	1
	Australia	1

13.5 Selected comments

"Domestic legal system is always a priority for trading in that country."

"Legal clarity needs to be ensured. Insolvency of an intermediary, Shortfall, and settlement finality should be standardized. (approach of UNIDROIT)."

"Each market varies in legal systems and administrative laws, and this could be a problem, however, unification of rules or laws might not be realistic."

14 Income payments

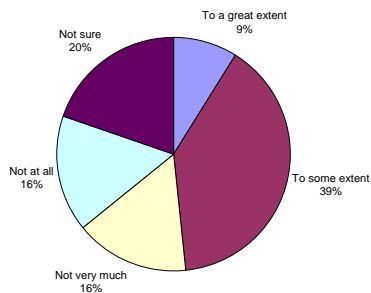
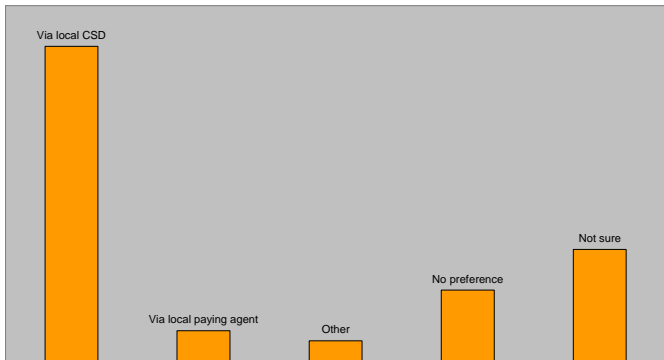
In most markets, the local CSD distributes income payments to bond holders (or custodians), while in other markets a separate paying agent performs this role.

Giovannini / CPSS-IOSCO: National rules relating to corporate actions processing should be harmonized - the variety of rules, information requirements and deadlines for corporate actions.

14.1 To what extent is the different handling of income payments a barrier?

14.2 In which market(s) is this a problem?

14.3 Which method of income distribution do you prefer?

<p>Q 14.1</p> <p>48% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Differences in handling of income payments - extent of problem</p>  <table border="1"> <caption>Differences in handling of income payments - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>9%</td> </tr> <tr> <td>To some extent</td> <td>39%</td> </tr> <tr> <td>Not at all</td> <td>16%</td> </tr> <tr> <td>Not very much</td> <td>16%</td> </tr> <tr> <td>Not sure</td> <td>20%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	9%	To some extent	39%	Not at all	16%	Not very much	16%	Not sure	20%
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To a great extent	9%												
To some extent	39%												
Not at all	16%												
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Not sure	20%												
<p>Q 14.2</p> <p>Few markets were specified here.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> </tbody> </table>	Indonesia	1	Republic of Korea	1								
Indonesia	1												
Republic of Korea	1												
<p>Q 14.3</p> <p>The clear choice (57%) was for income payments to be made via the local CSD.</p>	<p>Preferred method of income distribution</p>  <table border="1"> <caption>Preferred method of income distribution</caption> <thead> <tr> <th>Method</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Via local CSD</td> <td>57%</td> </tr> <tr> <td>Via local paying agent</td> <td>9%</td> </tr> <tr> <td>Other</td> <td>2%</td> </tr> <tr> <td>No preference</td> <td>16%</td> </tr> <tr> <td>Not sure</td> <td>16%</td> </tr> </tbody> </table>	Method	Percentage	Via local CSD	57%	Via local paying agent	9%	Other	2%	No preference	16%	Not sure	16%
Method	Percentage												
Via local CSD	57%												
Via local paying agent	9%												
Other	2%												
No preference	16%												
Not sure	16%												

14.4 Selected comments

"Most important of all, investors received income payments timely, regardless of methods."

"Paying Agents are varied, risk involve is higher than having a local CSD to distribute income."

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"Local CSD is the perfect body to handle the distribution for the payment as it has the economy of scale and the fee is low. Using a local paying agent would only add another layer the custodian will need to work with in case of problems which could delay the process."

15 Corporate events

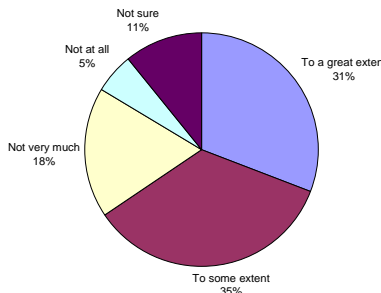
Markets vary in how information (on corporate events etc) is published, and on the timeliness and reliability of this information. (In the case of bonds, corporate events may include rate-fixing, exercise of issuer call options and convening the meetings of bondholders, etc.)

Giovannini / CPSS-IOSCO: National rules relating to corporate actions processing should be harmonized - the variety of rules, information requirements and deadlines for corporate actions. These differences may require specialized local knowledge or the lodgement of physical documents locally, and so inhibit the centralization of securities settlement. The G30 report proposes the establishment of templates for electronic dissemination of information, based on ISO 15022 guidelines. ECSDA has done a significant amount of work on this through their Working Group 5. The local agent banks, via the ECSA, and ECSDA should be responsible for coordinating the private sector proposals.

15.1 To what extent is the availability of information on corporate events a barrier?

[Remember we are asking about the bond markets rather than the equity markets]

15.2 In which market(s) is this a problem?

<p>Q 15.1</p> <p>66% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Availability of information on corporate events - extent of problem</p>  <table border="1"> <caption>Data for Q 15.1 Pie Chart</caption> <thead> <tr> <th>Extent of Problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>31%</td> </tr> <tr> <td>To some extent</td> <td>35%</td> </tr> <tr> <td>Not very much</td> <td>18%</td> </tr> <tr> <td>Not at all</td> <td>5%</td> </tr> <tr> <td>Not sure</td> <td>11%</td> </tr> </tbody> </table>	Extent of Problem	Percentage	To a great extent	31%	To some extent	35%	Not very much	18%	Not at all	5%	Not sure	11%
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<p>Q 15.2</p> <p>Few markets were specified here.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>2</td> </tr> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>All Asian markets</td> <td>3</td> </tr> </tbody> </table>	Indonesia	2	Republic of Korea	2	People's Republic of China	1	All Asian markets	3				
Indonesia	2												
Republic of Korea	2												
People's Republic of China	1												
All Asian markets	3												

15.3 Selected comments

"Transparency and timeliness of information are important factors in attracting participants to the local bond market."

"The corporate events information should be distributed in a standard message format."

"Most of the time corporate events are subject to changes, error and cost could occur when the updated information and not well distribute to concerning parties."

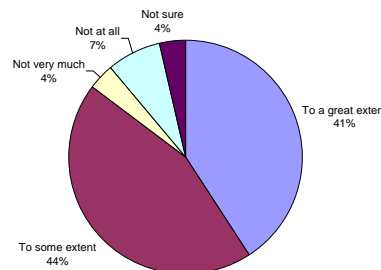
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16 Currency convertibility and remittance

Some markets impose restrictions on the convertibility of their local currency (for buying and/or selling). Markets may also impose restrictions on the repatriation of the cash when bonds are sold or mature.

16.1 To what extent are currency exchange restrictions a barrier?

16.2 In which market(s) is this a problem?

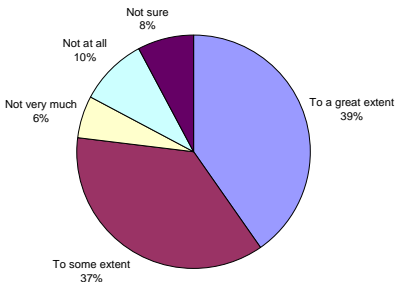
<p>Q 16.1</p> <p>85% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Currency exchange restrictions - extent of problem</p>  <table border="1"> <caption>Currency exchange restrictions - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>41%</td> </tr> <tr> <td>To some extent</td> <td>44%</td> </tr> <tr> <td>Not at all</td> <td>7%</td> </tr> <tr> <td>Not very much</td> <td>4%</td> </tr> <tr> <td>Not sure</td> <td>4%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	41%	To some extent	44%	Not at all	7%	Not very much	4%	Not sure	4%						
Extent of problem	Percentage																		
To a great extent	41%																		
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<p>Q 16.2</p> <p>A wide range of markets were specified, with Thailand, Republic of Korea and Indonesia most commonly mentioned.</p> <p>We note that FX-related restrictions in Republic of Korea have been relaxed since December 2007</p>	<table border="1"> <tbody> <tr> <td>Thailand</td> <td>10</td> </tr> <tr> <td>Republic of Korea</td> <td>9</td> </tr> <tr> <td>Indonesia</td> <td>8</td> </tr> <tr> <td>Philippines</td> <td>5</td> </tr> <tr> <td>Malaysia</td> <td>4</td> </tr> <tr> <td>Viet Nam</td> <td>4</td> </tr> <tr> <td>People's Republic of China</td> <td>2</td> </tr> <tr> <td>Taipei, China</td> <td>2</td> </tr> <tr> <td>India</td> <td>1</td> </tr> </tbody> </table>	Thailand	10	Republic of Korea	9	Indonesia	8	Philippines	5	Malaysia	4	Viet Nam	4	People's Republic of China	2	Taipei, China	2	India	1
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People's Republic of China	2																		
Taipei, China	2																		
India	1																		

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16.3 To what extent are restrictions on the repatriation of the cash a barrier?

16.4 In which market(s) is this a problem?

<p>Q 16.3</p> <p>76% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Currency repatriation restrictions - extent of problem</p>  <table border="1"> <caption>Extent of problem data</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>39%</td> </tr> <tr> <td>To some extent</td> <td>37%</td> </tr> <tr> <td>Not at all</td> <td>10%</td> </tr> <tr> <td>Not very much</td> <td>6%</td> </tr> <tr> <td>Not sure</td> <td>8%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	39%	To some extent	37%	Not at all	10%	Not very much	6%	Not sure	8%						
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<p>Q 16.4</p> <p>Again, a wide range of markets were specified, with Thailand, Indonesia and Republic of Korea most commonly mentioned.</p> <p>We understand that, since December 2007, there are no restrictions on the repatriation of Korean won.</p>	<table border="1"> <tbody> <tr> <td>Thailand</td> <td>8</td> </tr> <tr> <td>Indonesia</td> <td>6</td> </tr> <tr> <td>Republic of Korea</td> <td>4</td> </tr> <tr> <td>Philippines</td> <td>3</td> </tr> <tr> <td>Viet Nam</td> <td>3</td> </tr> <tr> <td>Malaysia</td> <td>2</td> </tr> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Taipei, China</td> <td>3</td> </tr> <tr> <td>India</td> <td>1</td> </tr> </tbody> </table>	Thailand	8	Indonesia	6	Republic of Korea	4	Philippines	3	Viet Nam	3	Malaysia	2	People's Republic of China	1	Taipei, China	3	India	1
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India	1																		

16.5 Selected comments

"Free markets are preferred over markets with controls and restrictions."

"This is critical for foreign investors considering Asian investment."

"Restrictions on FX transactions (On-shore only and etc.) and wire transfers of money are contributing to impair active bonds trading in the region."

"Obviously, investors are more cautious about investing in markets with currency restrictions."

"The Bank of Thailand regulation requires that a non-resident must maintain a THB balance of no more than THB 300 million per day. If a bond matures and the client fails to convert the THB into FCY, they will be breaching the regulation and will be subject to penalty. It is a rigid rule and places the task of monitoring on the custodian banks."

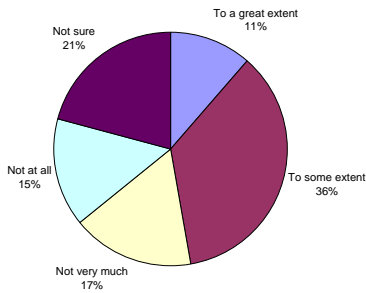
17 Local currency borrowing

Some markets do not permit local currency borrowing (intra-day credit / overnight credit etc) for investment in securities.

17.1 To what extent is the lack of local currency borrowing a barrier?

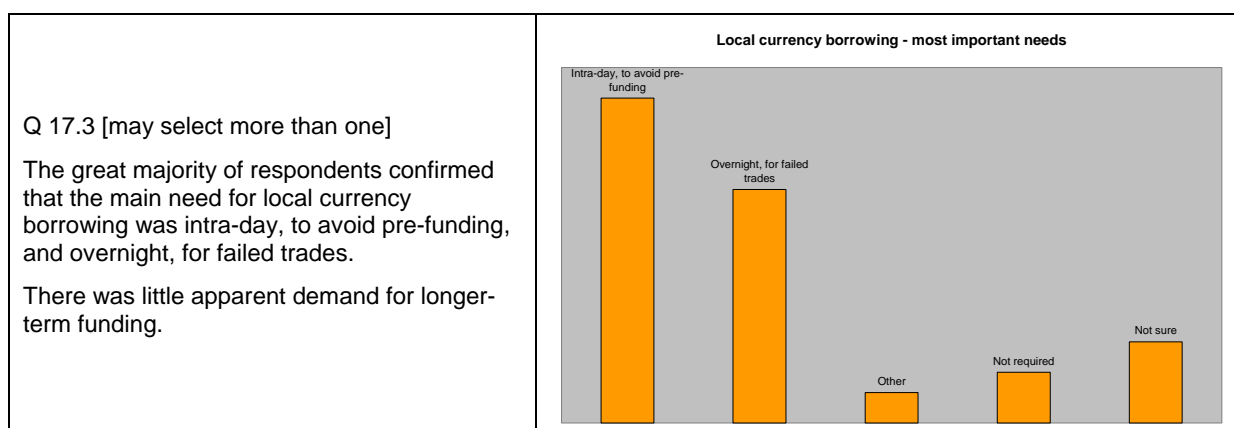
17.2 In which market(s) is this a problem?

17.3 What are your most important needs for local currency borrowing?

<p>Q 17.1</p> <p>47% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Local currency borrowing - extent of problem</p>  <table border="1"> <caption>Local currency borrowing - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>36%</td> </tr> <tr> <td>To a great extent</td> <td>11%</td> </tr> <tr> <td>Not very much</td> <td>17%</td> </tr> <tr> <td>Not at all</td> <td>15%</td> </tr> <tr> <td>Not sure</td> <td>21%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To some extent	36%	To a great extent	11%	Not very much	17%	Not at all	15%	Not sure	21%						
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<p>Q 17.2</p> <p>A wide range of markets were mentioned here, indicating a general need for local currency borrowing to assist cross-border investment activity.</p>	<table border="1"> <tbody> <tr> <td>Republic of Korea</td> <td>3</td> </tr> <tr> <td>Malaysia</td> <td>3</td> </tr> <tr> <td>Indonesia</td> <td>2</td> </tr> <tr> <td>Philippines</td> <td>2</td> </tr> <tr> <td>Thailand</td> <td>2</td> </tr> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Viet Nam</td> <td>1</td> </tr> <tr> <td>India</td> <td>1</td> </tr> <tr> <td>Taipei, China</td> <td>1</td> </tr> </tbody> </table>	Republic of Korea	3	Malaysia	3	Indonesia	2	Philippines	2	Thailand	2	People's Republic of China	1	Viet Nam	1	India	1	Taipei, China	1
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17.4 Selected comments

"Local currency borrowings will encourage trading activities in bond markets."

"The lack of overdrafts does not prevent us from opening the link, but it does reduce the attractiveness of the market for international investors and, thus, transaction volumes remain low."

"Foreign broker-dealer clients which do intraday trading are especially affected by this restriction - 'peso loans to non-residents are not allowed'. In case of turnaround trades where the sale side fails, the foreign broker-dealer client has to sell foreign currency and buy PHP to cover the PHP shortfall. In case the sale side settles the following day, the foreign broker-dealer client is left with PHP long position which he cannot sell until they apply for special one-off approval from central bank to convert the PHP to foreign currency. This process may take time and can be rather challenging."

"If local currency borrowing is permitted, custodians operating the clearing & settlement systems in such markets may consider the following options for cash borrowing arrangements which are currently made available to investors in other markets: (1) borrowing cash versus collateral up to an agreed credit line, based on the current value of collaterals held in the account (2) borrowing cash versus collateral held within a dedicated collateral account only (3) borrowing cash from the custodian based on the investor's credit rating (4) borrowing cash from an external bank to cover any intraday over-drawings allowed by the custodian (within a specified a credit limit) by the end of the day."

"We as a global custodian deal with Asian bond through local custodians, so we don't care of intra-day money. We only need O/N money for failed trades. We as a local custodian think the intra-day borrowing with free of charge and O/N borrowing with charge is necessary. For both of those cases, collateral is prerequisite."

"Currency borrowing is sometimes very useful for reducing failed trades caused by intraday or temporary funding issues."

"Local currency borrowing, in most of these markets, is required to avoid pre-funding or to avoid failing trades. However, given that most of these markets have restricted currency, this is not freely offered to investors."

18 Settlement of FX trades

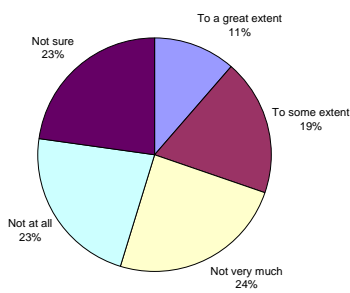
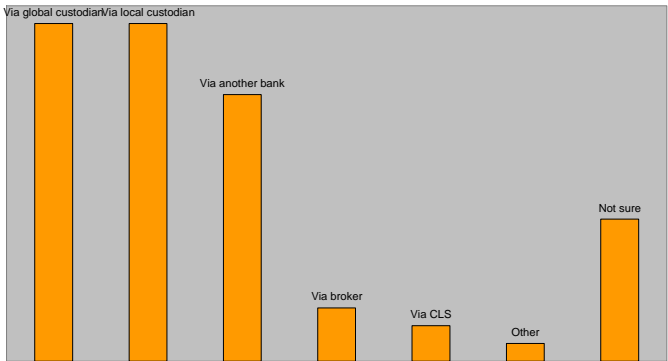
Only 4 Asian currencies are currently eligible for CLS settlement. This limits the availability of payment versus payment settlement for FX transactions. However, local payment vs payment systems are available in some markets.

18.1 To what extent is the lack of CLS eligibility a barrier?

18.2 In which market(s) is this a problem?

18.3 How do you generally execute your FX requirements for local bond market transactions in Asia?

18.4 In the past 3 months, have you used any local payment vs payment facilities (non- CLS) for FX settlement in Asian currencies (e.g. HKMA's HKD vs USD system)?

<p>Q 18.1</p> <p>30% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of CLS eligibility - extent of problem</p>  <table border="1"> <caption>Lack of CLS eligibility - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>11%</td> </tr> <tr> <td>To some extent</td> <td>19%</td> </tr> <tr> <td>Not very much</td> <td>24%</td> </tr> <tr> <td>Not at all</td> <td>23%</td> </tr> <tr> <td>Not sure</td> <td>23%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	11%	To some extent	19%	Not very much	24%	Not at all	23%	Not sure	23%		
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Not sure	23%														
<p>Q 18.2</p> <p>It was surprising that Republic of Korea was mentioned by 3 respondents, as the Korean won is CLS-eligible.</p>	<table border="1"> <thead> <tr> <th>Market</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Indonesia</td> <td>3</td> </tr> <tr> <td>Republic of Korea</td> <td>3</td> </tr> <tr> <td>Malaysia</td> <td>1</td> </tr> </tbody> </table>	Market	Count	Indonesia	3	Republic of Korea	3	Malaysia	1						
Market	Count														
Indonesia	3														
Republic of Korea	3														
Malaysia	1														
<p>Q 18.3</p> <p>As expected, most respondents generally execute their FX via their (global or local) custodian bank, although use of a third party bank is also fairly common.</p>	<p>How do you generally execute your FX for LCY bonds?</p>  <table border="1"> <caption>How do you generally execute your FX for LCY bonds?</caption> <thead> <tr> <th>Method</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Via global custodian/via local custodian</td> <td>10</td> </tr> <tr> <td>Via another bank</td> <td>5</td> </tr> <tr> <td>Via broker</td> <td>2</td> </tr> <tr> <td>Via CLS</td> <td>1</td> </tr> <tr> <td>Other</td> <td>1</td> </tr> <tr> <td>Not sure</td> <td>3</td> </tr> </tbody> </table>	Method	Count	Via global custodian/via local custodian	10	Via another bank	5	Via broker	2	Via CLS	1	Other	1	Not sure	3
Method	Count														
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Via CLS	1														
Other	1														
Not sure	3														
<p>Q 18.4</p> <p>Few respondents gave specific examples here.</p>	<table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>yes</td> <td>5</td> </tr> <tr> <td>no</td> <td>11</td> </tr> </tbody> </table>	Response	Count	yes	5	no	11								
Response	Count														
yes	5														
no	11														

18.5 *Selected comments*

"The inclusion of more Asian currencies for settlement under CLS would facilitate DVP and PVP settlement in the Asian bond market thereby eliminating the risk of loss of value of securities or FX transactions. This will also help to further strengthen global payment and settlement infrastructure so that it can be more resilient to settlement disruptions."

"We as a global custodian don't deal with customer's FX, because our customers trade FX in markets directly. We are not aware of any barriers for settlement of FX trades. We as a local custodian neither."

"We do not handle settlement directly. Settlement done by fund manager."

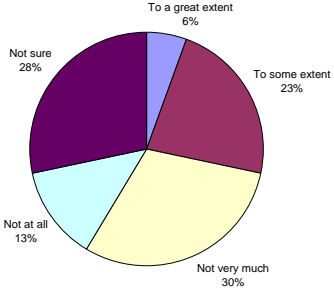
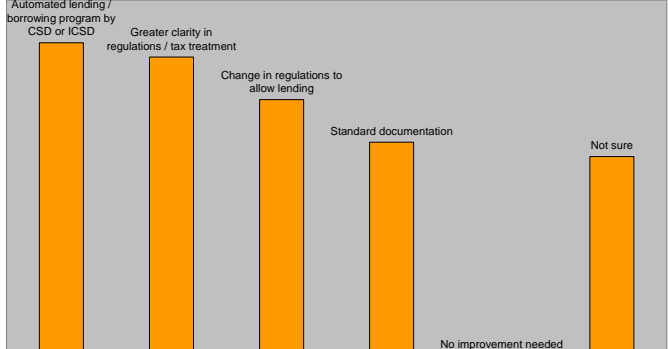
19 Securities lending and repo

Securities lending and repo facilities are not always available in local bond markets.

19.1 To what extent is the lack of securities lending a barrier?

19.2 In which market(s) is this a problem?

19.3 What are the main improvements needed?

<p>Q 19.1</p> <p>29% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of securities lending - extent of problem</p>  <table border="1"> <caption>Lack of securities lending - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>6%</td> </tr> <tr> <td>To some extent</td> <td>23%</td> </tr> <tr> <td>Not at all</td> <td>13%</td> </tr> <tr> <td>Not very much</td> <td>30%</td> </tr> <tr> <td>Not sure</td> <td>28%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	6%	To some extent	23%	Not at all	13%	Not very much	30%	Not sure	28%		
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<p>Q 19.2</p> <p>Few specific markets were mentioned here.</p>	<table border="1"> <tbody> <tr> <td>Thailand</td> <td>2</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>All markets</td> <td>2</td> </tr> </tbody> </table>	Thailand	2	Republic of Korea	1	All markets	2								
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<p>Q 19.3 [may select more than one]</p> <p>The most popular calls were for automated lending programs run by the CSD / ICSD, clarity in regulations and tax, the removal of regulatory barriers to lending, and use of an industry-standard agreement.</p>	<p>Securities lending - main improvements needed</p>  <table border="1"> <caption>Securities lending - main improvements needed</caption> <thead> <tr> <th>Improvement</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Automated lending / borrowing program by CSD or ICSD</td> <td>4</td> </tr> <tr> <td>Greater clarity in regulations / tax treatment</td> <td>4</td> </tr> <tr> <td>Change in regulations to allow lending</td> <td>3</td> </tr> <tr> <td>Standard documentation</td> <td>2</td> </tr> <tr> <td>Not sure</td> <td>2</td> </tr> <tr> <td>No improvement needed</td> <td>1</td> </tr> </tbody> </table>	Improvement	Count	Automated lending / borrowing program by CSD or ICSD	4	Greater clarity in regulations / tax treatment	4	Change in regulations to allow lending	3	Standard documentation	2	Not sure	2	No improvement needed	1
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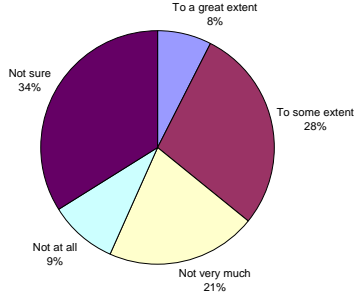
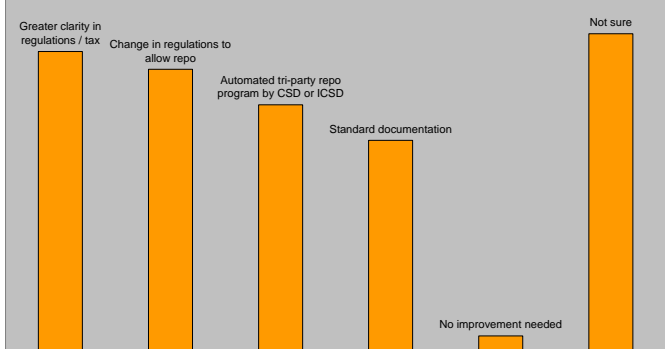
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19.4 To what extent is the lack of repo a barrier?

19.5 In which market(s) is this a problem?

19.6 What are the main improvements needed?

<p>Q 19.4</p> <p>36% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of repo - extent of problem</p>  <table border="1"> <caption>Lack of repo - extent of problem</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>8%</td> </tr> <tr> <td>To some extent</td> <td>28%</td> </tr> <tr> <td>Not very much</td> <td>21%</td> </tr> <tr> <td>Not at all</td> <td>9%</td> </tr> <tr> <td>Not sure</td> <td>34%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	8%	To some extent	28%	Not very much	21%	Not at all	9%	Not sure	34%				
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<p>Q 19.5</p> <p>Thailand and Republic of Korea were most often mentioned.</p> <p>We understand that the repo market in Republic of Korea is active, but that many foreign participants do not use it due to the lack of an internationally validated master agreement.</p>	<table border="1"> <tbody> <tr> <td>Thailand</td> <td>4</td> </tr> <tr> <td>Republic of Korea</td> <td>3</td> </tr> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Japan</td> <td>1</td> </tr> <tr> <td>Malaysia</td> <td>1</td> </tr> <tr> <td>Philippines</td> <td>1</td> </tr> <tr> <td>All markets</td> <td>1</td> </tr> </tbody> </table>	Thailand	4	Republic of Korea	3	People's Republic of China	1	Indonesia	1	Japan	1	Malaysia	1	Philippines	1	All markets	1
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<p>Q 19.6 [may select more than one]</p> <p>The most popular calls were for the removal of regulatory barriers to repo, clarity in regulations and tax, tri-party repo programs run by CSD / ICSD, and use of an industry-standard agreement.</p>	<p>Repo - main improvements needed</p>  <table border="1"> <caption>Repo - main improvements needed</caption> <thead> <tr> <th>Improvement</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Greater clarity in regulations / tax</td> <td>4</td> </tr> <tr> <td>Change in regulations to allow repo</td> <td>3</td> </tr> <tr> <td>Automated tri-party repo program by CSD or ICSD</td> <td>2</td> </tr> <tr> <td>Standard documentation</td> <td>1</td> </tr> <tr> <td>No improvement needed</td> <td>1</td> </tr> <tr> <td>Not sure</td> <td>4</td> </tr> </tbody> </table>	Improvement	Count	Greater clarity in regulations / tax	4	Change in regulations to allow repo	3	Automated tri-party repo program by CSD or ICSD	2	Standard documentation	1	No improvement needed	1	Not sure	4		
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Standard documentation	1																
No improvement needed	1																
Not sure	4																

19.7 Selected comments

"Access to securities lending and repo will boost trading activities."

"Most of less liquidity in domestic bond market in Asia comes from no lending and repo market in these markets. All government should make good repo market to let its dealers

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make short any bonds in their position when the investor comes in the market and wants to buy the bond."

"The lack of legal certainty for Japan and Republic of Korea repos has reduced the attractiveness of JGBs and Korean Government Bonds."

"Many countries have their administrative currency control to limit speculation which also deter securities lending activities."

"We as a global custodian think that the volume of transaction might be a key rather than implementation of the market itself. It is preferable to have lending facilities limited to cover the failed trade, at least. We as a local custodian cannot distinguish simple bond trades from repo trades."

"At present, there are no detailed regulations on repo for listed securities. Although, repo is available in Viet Nam mostly for treasury bills in banking system. About securities lending, this is only permitted for failed trades."

"Securities lending and repos are currently not allowed in most markets or do not see any volumes."

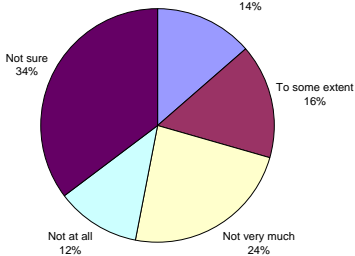
"Japan - Securities lending and repo of Japanese fixed income instruments are broadly allowed. Because of account segregation required for tax purpose, lenders (typically global custodians) are not able to achieve efficient stock lending at present. Also, auto lending by CSDs may be required to facilitate timely settlements."

20 Derivative instruments

Interest rate and credit derivatives are not available for many local bond markets.

20.1 To what extent is the lack of such derivative instruments a barrier?

20.2 In which market(s) is this a problem?

<p>Q 20.1</p> <p>30% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of derivative instruments - extent of problem</p>  <table border="1"> <caption>Lack of derivative instruments - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>14%</td> </tr> <tr> <td>To some extent</td> <td>16%</td> </tr> <tr> <td>Not very much</td> <td>24%</td> </tr> <tr> <td>Not at all</td> <td>12%</td> </tr> <tr> <td>Not sure</td> <td>34%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	14%	To some extent	16%	Not very much	24%	Not at all	12%	Not sure	34%
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<p>Q 20.2</p> <p>Only Republic of Korea was specified. This is somewhat ironic as Republic of Korea has a more developed derivatives market than many others.</p>	<table border="1"> <tbody> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>All Asian bond markets</td> <td>2</td> </tr> </tbody> </table>	Republic of Korea	1	All Asian bond markets	2								
Republic of Korea	1												
All Asian bond markets	2												

20.3 What derivatives would you most like to see introduced?

[open]

"Interest rate swap (IRS) and credit default swap (CDS), currency swap."

"Long or middle Bond future. Which bond future is good for each country hardly depend on domestic investor and issuance plan of governments. However Just one future will be good to let the future be liquid"

"We would like free access to on shore forward market."

"IRS(Interest rate swaps), Futures, ELS, ETF"

"Government bond futures across the yield curves from short to the long end. Onshore interest rate swaps that are accessible by foreign investors. Credit derivatives for local currency credits."

"Liquid and cost effective FX instrument to hedge FX risks"

20.4 Selected comments

"Hedging from interest rate risk, credit risk and currency risk associated with the securities is very important to investors."

"Derivative instruments should be introduced for hedging purpose especially in cross-border transactions."

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"It depends on volatility of the market. For non-volatile market, the lack of instrument might not be a problem. We as a local custodian don't deal with derivative trades."

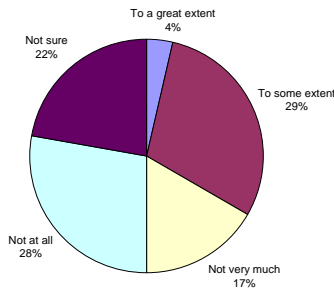
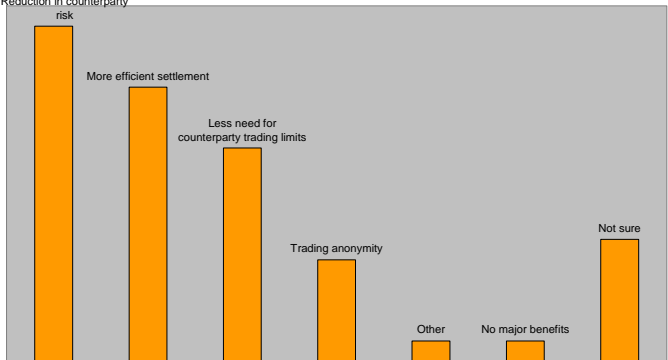
21 CCP

Many markets use a central counter-party (CCP) for exchange-traded equities. However, most markets do not currently use a CCP for bond trading.

21.1 To what extent is the lack of a CCP for bond trades a barrier?

21.2 In which market(s) is this a problem?

21.3 What do you see as the main benefits of a CCP for the bond markets?

<p>Q 21.1</p> <p>33% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of CCP - extent of problem</p>  <table border="1"> <caption>Lack of CCP - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>4%</td> </tr> <tr> <td>To some extent</td> <td>29%</td> </tr> <tr> <td>Not very much</td> <td>17%</td> </tr> <tr> <td>Not at all</td> <td>28%</td> </tr> <tr> <td>Not sure</td> <td>22%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	4%	To some extent	29%	Not very much	17%	Not at all	28%	Not sure	22%				
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<p>Q 21.3 [may select more than one]</p> <p>The main perceived benefits were: reduction in counterparty risk and greater settlement efficiency. A number of respondents agreed that CCP reduced the need for bilateral trading limits.</p>	<p>CCP - main benefits perceived</p>  <table border="1"> <caption>CCP - main benefits perceived</caption> <thead> <tr> <th>Benefit</th> <th>Relative Frequency</th> </tr> </thead> <tbody> <tr> <td>Reduction in counterparty risk</td> <td>High</td> </tr> <tr> <td>More efficient settlement</td> <td>Medium-High</td> </tr> <tr> <td>Less need for counterparty trading limits</td> <td>Medium</td> </tr> <tr> <td>Trading anonymity</td> <td>Low-Medium</td> </tr> <tr> <td>Other</td> <td>Low</td> </tr> <tr> <td>No major benefits</td> <td>Very Low</td> </tr> <tr> <td>Not sure</td> <td>Low</td> </tr> </tbody> </table>	Benefit	Relative Frequency	Reduction in counterparty risk	High	More efficient settlement	Medium-High	Less need for counterparty trading limits	Medium	Trading anonymity	Low-Medium	Other	Low	No major benefits	Very Low	Not sure	Low
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21.4 Selected comments

"Reduce the barrier for entry of new participants as counterparty limit need not be established."

"CCP helps to reduce counter party risk for Repo, and is necessary for the securities with high-volume trades. However, the consideration how to actualize the function is necessary for cross-border securities."

"Banks generally use brokers for trading anonymity, however, their trading volume therefore becomes limited because of lower counterparty trading limits. The concept of CCP could be introduced which may actually increase trading volume and provides an attraction to the foreign investors."

"We have seen the benefits of CCPs adopted in the settlement of equities markets and would think that the driving force behind the introduction of CCPs for the bond market is clearly for the reduction of risk and monetary savings associated with net trade settlement. The

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committee can explore how CCPs can be introduced within more domestic markets, regionally through a cooperation between a number of domestic CCPs and globally involving a number of regional CCPs. Such links supporting securities clearing will enable institutions to participate in various markets without having to be member of more than one CCP."

"In general, the country risk is relatively high in Asian markets, therefore implementation of CCP might not be a main factor. We as a local custodian don't think CCP is necessary if all settlements would be DVPs."

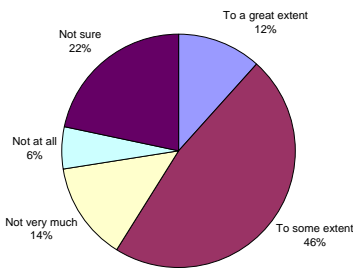
"CCP will mitigate individual counterparty risk and the requirement to have a limit with each counterparty. Further, the settlement process is expected to be more efficient."

22 Disclosure standards

Markets have different disclosure standards for corporate bond issuance. Many (but not all) markets require corporate public bond issues to be rated, but the requirements are not uniform.

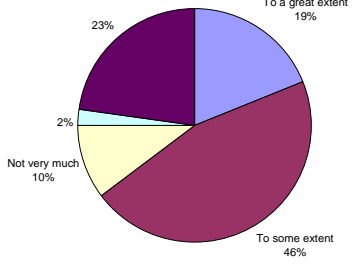
22.1 *To what extent is the lack of uniform disclosure standards for bond issues a barrier?*

22.2 *In which market(s) is this a problem?*

<p>Q 22.1</p> <p>58% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Disclosure standards - extent of problem</p>  <table border="1"> <caption>Disclosure standards - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>46%</td> </tr> <tr> <td>To a great extent</td> <td>12%</td> </tr> <tr> <td>Not sure</td> <td>22%</td> </tr> <tr> <td>Not very much</td> <td>14%</td> </tr> <tr> <td>Not at all</td> <td>6%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To some extent	46%	To a great extent	12%	Not sure	22%	Not very much	14%	Not at all	6%
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<p>Q 22.2</p> <p>There was no clear consensus here.</p>	<table border="1"> <tbody> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Singapore</td> <td>1</td> </tr> <tr> <td>Thailand</td> <td>1</td> </tr> </tbody> </table>	People's Republic of China	1	Republic of Korea	1	Singapore	1	Thailand	1				
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22.3 *To what extent is the lack of uniform rating requirements for bond issues a barrier?*

22.4 *In which market(s) is this a problem?*

<p>Q 22.3</p> <p>65% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Uniform rating standards - extent of problem</p>  <table border="1"> <caption>Uniform rating standards - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To some extent</td> <td>46%</td> </tr> <tr> <td>To a great extent</td> <td>19%</td> </tr> <tr> <td>Not sure</td> <td>23%</td> </tr> <tr> <td>Not very much</td> <td>10%</td> </tr> <tr> <td>Not at all</td> <td>2%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To some extent	46%	To a great extent	19%	Not sure	23%	Not very much	10%	Not at all	2%
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While many respondents had mentioned this area as a barrier, few markets were specified.	Republic of Korea	1
	Thailand	1

22.5 Selected comments

"Minimum rating requirements is common for investment in bonds."

"Establishment of rating agencies and standardized rating rule are important. Disclosure should be equally prepared for local investors and foreign investors."

"Uniform rating and disclosure will help enhance the market transparency and the confidence of investors."

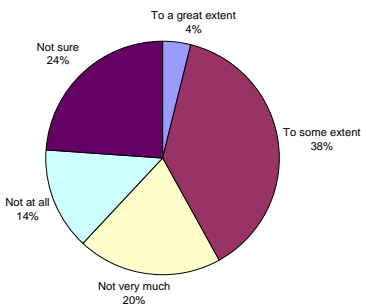
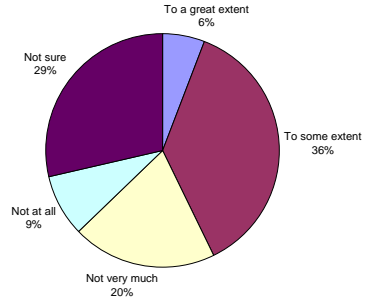
"Most markets do not consider this to be critical. Where applicable, disclosures / rating is normally conducted through reputable agencies. However, consistency across markets, like the requirement for a 'rating' would be useful."

23 Issuing process

The issuance and subscription process for bonds differs from market to market, both as to timing and procedure.

23.1 To what extent is the lack of a uniform issuance process for bond issues a barrier?

23.2 In which market(s) is this a problem?

<p>Q 23.1 (government bonds)</p> <p>42% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of uniform issuance process (government bonds) - extent of problem</p>  <table border="1"> <caption>Extent of problem for government bonds</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>4%</td> </tr> <tr> <td>To some extent</td> <td>38%</td> </tr> <tr> <td>Not very much</td> <td>20%</td> </tr> <tr> <td>Not at all</td> <td>14%</td> </tr> <tr> <td>Not sure</td> <td>24%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	4%	To some extent	38%	Not very much	20%	Not at all	14%	Not sure	24%
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<p>Q 23.1 (corporate bonds)</p> <p>42% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of uniform issuance process (corporate bonds) - extent of problem</p>  <table border="1"> <caption>Extent of problem for corporate bonds</caption> <thead> <tr> <th>Extent</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>6%</td> </tr> <tr> <td>To some extent</td> <td>36%</td> </tr> <tr> <td>Not very much</td> <td>20%</td> </tr> <tr> <td>Not at all</td> <td>9%</td> </tr> <tr> <td>Not sure</td> <td>29%</td> </tr> </tbody> </table>	Extent	Percentage	To a great extent	6%	To some extent	36%	Not very much	20%	Not at all	9%	Not sure	29%
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<p>Q 23.2</p> <p>There was no clear consensus here.</p>	<table border="1"> <tbody> <tr> <td>People's Republic of China</td> <td>1</td> </tr> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Thailand</td> <td>1</td> </tr> </tbody> </table>	People's Republic of China	1	Indonesia	1	Republic of Korea	1	Thailand	1				
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23.3 Selected comments

"No impact at this point, however uniform process would ease the administrative burden on the part of investors."

"If we can have enough liquidity in secondary market, we do not feel much inconvenience."

"The uniformed process of the issuance of the corporate bonds does not exist in the market. Hence, we (as the standing proxy of foreign clients) need to clarify the required process for the subscription with the issuing company case by case."

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"Best market practices should be incorporated into general guidelines to be issued to all parties involved in the issuance and subscription process for bonds so that an acceptable level of service can be delivered to investors."

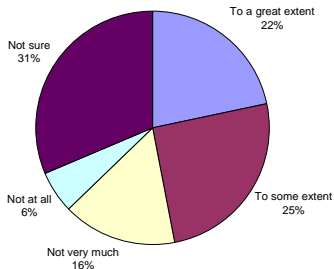
"From a commercial bank or a commission bank (including fiscal agent) at Japanese market point of view, it might be helpful for the Japanese issuers if a uniform issuance process exists, however it is not the main barrier at this moment."

24 Trade reporting

Many markets require the reporting of bond trades, and price disclosure, within a specified time period (e.g. 15 minutes) after trading. However, some markets do not have or may not effectively enforce such rules, and the rules differ between markets.

24.1 To what extent is the lack of trade reporting and price transparency for bond issues a barrier?

24.2 In which market(s) is this a problem?

<p>Q 24.1</p> <p>47% of respondents identified this as a barrier to some extent or to a great extent.</p>	<p>Lack of trade reporting and price transparency - extent of problem</p>  <table border="1"> <caption>Lack of trade reporting and price transparency - extent of problem</caption> <thead> <tr> <th>Extent of problem</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>To a great extent</td> <td>22%</td> </tr> <tr> <td>To some extent</td> <td>25%</td> </tr> <tr> <td>Not very much</td> <td>16%</td> </tr> <tr> <td>Not at all</td> <td>6%</td> </tr> <tr> <td>Not sure</td> <td>31%</td> </tr> </tbody> </table>	Extent of problem	Percentage	To a great extent	22%	To some extent	25%	Not very much	16%	Not at all	6%	Not sure	31%
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<p>Q 24.2</p> <p>There was no clear consensus here. It was surprising to see Malaysia and Singapore mentioned, as these are relatively transparent markets.</p>	<table border="1"> <tbody> <tr> <td>Indonesia</td> <td>1</td> </tr> <tr> <td>Republic of Korea</td> <td>1</td> </tr> <tr> <td>Malaysia</td> <td>1</td> </tr> <tr> <td>Singapore</td> <td>1</td> </tr> <tr> <td>Most markets</td> <td>2</td> </tr> </tbody> </table>	Indonesia	1	Republic of Korea	1	Malaysia	1	Singapore	1	Most markets	2		
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Most markets	2												

24.3 Selected comments

"Lack of trade reporting and price transparency may lead to manipulation of prices and volume."

"Market transparency is essential for reinforcing bond market development."

"Price transparency is critical to traders making a decision as to whether to get in or out of certain markets. Execution is another factor. Cross border investors should be able to check whether done deals were executed at the best price and confident that volume of done deals available in Bloomberg actually represents the market and not just a sector in the market, i.e., dealers trades excluding trades with the public."

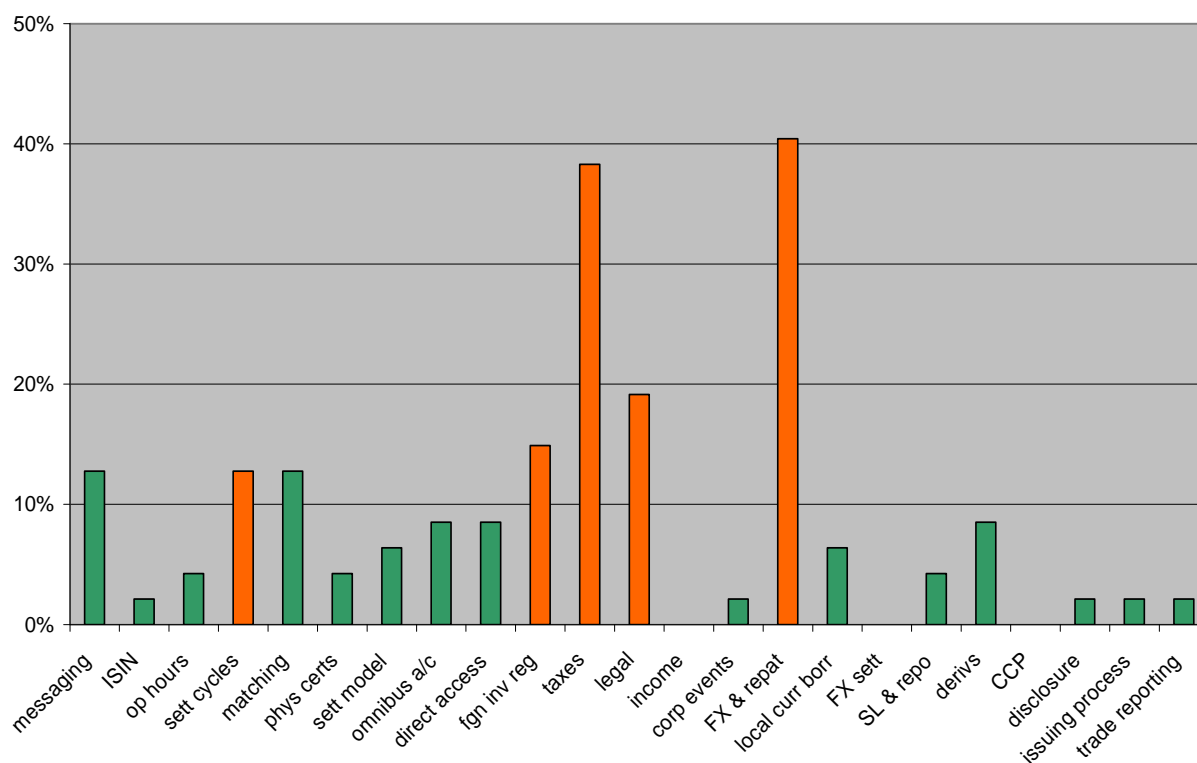
25 General

25.1 What aspects of the ASEAN+3 local currency bond markets would you most like to see improved?

[Please place the most important barrier first]

Rank	For government bonds	For corporate bonds
1 (= most important)		
2		
3		
4		
5		

The responses are summarised in the chart below. The most frequently mentioned issues were FX controls and taxes, followed by differences in legal jurisdiction, investor registration requirements, and different settlement cycles.



25.2 *Are there any other features of the local currency bond markets that you consider to be a barrier?*

Selected comments

"Domestic bond market is still inactive."

"Availability and consistency of bond issuance."

"Lack of liquidity and diversity of issuers"

"We think that features to get rid of country risks are more important for investors than technical improvement of settlement system"

"Highlighting the importance of secondary market liquidity for both ASEAN+3 government and corporate bond markets:... (applicable to most other ASEAN+3 markets) the underlying government bond curve is too illiquid and needs to be addressed as a priority. As a potential remedy, the overall number of individual government bond issues needs to be reduced, replaced by increased issuance/depth within each of the remaining issues."

"The valuation for OTC bonds and liquid bonds"

"Different trading system and time zone."

"Limited choice of high quality securities."

"Lack of depth and breadth of the local bond market generally."

"Ability to hedge FX risks and the cost and liquidity of the instruments. Insurance companies generally require the matching of asset and liability currency exposure."

25.3 *Do you have any further comments?*

Selected comments

"We will start to invest in many Asian government bonds from January 2009. But we have already have some difficulties to trade in domestic bond market. Mostly the reason is less liquidity. That means many investor cannot buy and sell bonds which investor want to trade."

"1. Improve the infrastructure of Asian bond markets for settlement, corporate actions and accounting standards etc. 2. Elevate the liquidity of Asian bonds by credit guarantee 3. Strengthen mutual cooperation between Asian countries. Etc."

"Our capacity is an intermediary (local and or global custodian), that means we only act as direct or non-direct agent of the investors and therefore our comments do not reflect investors' point of view. It might be important to pay attention with high regards to the comments from investors (especially institutional investors) in order for us to make our recommendation to ABMI more effective, since they are the ones who have money and make investment decision in the market. We believe things that investors feel barriers are the "real barriers" in question and unless we take them away, investment might not be induced."

"Direct access to local settlement via Central Banks. Require endorsement from all Central banks. Settlement model preferably under T+2. Electronic trade matching /settlement pre-matching via SWIFT."

Business sector analysis

For an analysis by business sector, we divided the respondents into two broad groups:

- "Investor Group"

This consisted of institutional investors, asset managers, banks, and broker dealers

- "Custodian Group"

This consisted of custodians (local, regional and global), and depositories (international CSDs and national CSDs)

The first group is involved more in investing and trading; the second in settlement and custody. We believe this split gives a valid contrast due to their different experience and perspectives.

A number of respondents had multiple roles. The division was based on the respondents main business profile, as detailed below:

Main sector	Number
Investor	26
Broker dealer	3
Custodian	20
ICSD	2
National CSD	6
Other	1
TOTAL	58

For the purpose of this analysis, we also divided the questions into 3 broad groups:

- 12 questions asked about 'settlement-related factors' (e.g. messaging, pre-matching, settlement cycles)
- 7 questions asked about 'regulatory factors' (e.g. investor registration, FX controls, taxes)
- 8 questions asked about 'trading factors' (e.g. derivatives, ratings, price transparency).

Differences between the groups (1)

Looking at the overall % of respondents in each group who rated a factor as a barrier ("to a great extent" or "to some extent") we found little significant difference between the two groups.

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Barriers to cross-border investment and settlement in ASEAN+3 bond markets

	Settlement-related factors	"to great extent / to some extent"	
Ref	Question	Investor group	Custodian group
2.1	To what extent is the lack of standardisation of message formats a barrier?	59%	55%
3.1	To what extent is the use of non-ISIN numbering schemes a barrier?	77%	72%
4.1	To what extent are different local operating hours a barrier?	40%	48%
5.1	To what extent are different settlement cycles a barrier?	67%	52%
6.1	To what extent is the lack of electronic trade-matching a barrier?	57%	69%
6.3	To what extent are differences in the method of trade-matching a barrier?	56%	54%
6.6	To what extent is the lack of settlement pre-matching a barrier?	50%	56%
6.8	To what extent are differences in settlement pre-matching systems a barrier?	48%	50%
7.1	To what extent is the existence of physical bonds a barrier?	60%	68%
8.1	To what extent is the existence of different settlement models a barrier?	52%	43%
9.1	To what extent is the lack of omnibus accounts a barrier?	48%	66%
10.1	To what extent is the lack of remote access a barrier?	45%	28%
	Average across all questions:	55%	55%

	Regulatory factors	"to great extent / to some extent"	
Ref	Question	Investor group	Custodian group
11.1	To what extent is the need for pre-registration a barrier?	67%	75%
12.1G	To what extent is withholding tax a barrier? (government bonds)	72%	70%
12.1C	To what extent is withholding tax a barrier? (corporate bonds)	79%	75%
13.1	To what extent are differences in legal systems a barrier?	61%	77%
16.1	To what extent are currency exchange restrictions a barrier?	93%	77%
16.3	To what extent are restrictions on the repatriation of the cash a barrier?	75%	81%
17.1	To what extent is the lack of local currency borrowing a barrier?	36%	63%
	Average across all questions:	69%	74%

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	Market factors	"to great extent / to some extent"	
Ref	Question	Investor group	Custodian group
19.1	To what extent is the lack of securities lending a barrier?	24%	38%
19.4	To what extent is the lack of repo a barrier?	32%	42%
20.1	To what extent is the lack of such derivative instruments a barrier?	38%	17%
22.1	To what extent is the lack of uniform disclosure standards for bond issues a barrier?	68%	54%
22.3	To what extent is the lack of uniform rating requirements for bond issues a barrier?	74%	54%
23.1G	To what extent is the lack of a uniform issuance process for bond issues a barrier? (government bonds)	39%	46%
23.1C	To what extent is the lack of a uniform issuance process for bond issues a barrier? (corporate bonds)	37%	50%
24.1	To what extent is the lack of trade reporting and price transparency for bond issues a barrier?	48%	52%
	Average across all questions:	45%	44%

Differences between the groups (2)

However, for many of the factors, there was a significantly higher percentage of 'not sures' among the investor group when compared to the custodian group. This may reflect more familiarity with the issues among custodians and depositories.

When the 'not sures' are excluded, the 'investor' group appears to show more concern about the barriers than the 'custodian' group.

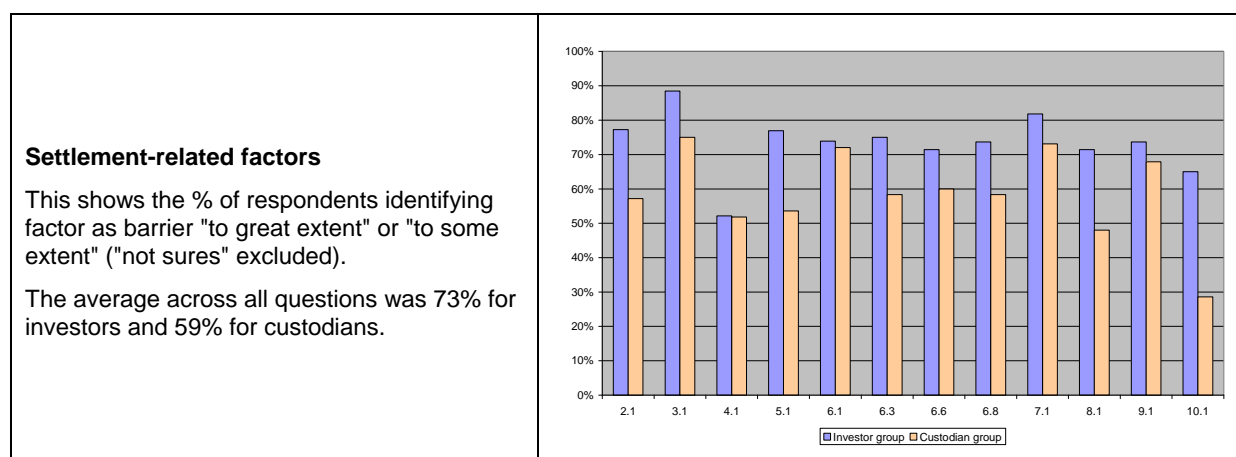
This may be due to a number of reasons.

- The investor group appear to be more involved in cross-border bond activity than the custodian group (as local custodians and CSDs are typically only in a single domestic market). Their perspective is therefore different.
- Investors are more likely to perceive problems as barriers, as they have the option of not investing in a market. Custodians do not have the same choice, and may therefore be less conscious of the impact of the problem.
- Custodians may have more familiarity with how a market really works (as they are closer to it on a regular basis), and how to operate within the restrictions. What may appear as a barrier to an investor may appear simpler to a custodian.

We found that if 'not sures' are excluded, then for most of these factors, the 'investor' group were more likely to identify them as barriers than the custodian group. The results are shown below.

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	Settlement-related factors	"to great extent / to some extent"	
Ref	Question	Investor group (Excl "not sure")	Custodian group (Excl "not sure")
2.1	To what extent is the lack of standardisation of message formats a barrier?	77%	57%
3.1	To what extent is the use of non-ISIN numbering schemes a barrier?	88%	75%
4.1	To what extent are different local operating hours a barrier?	52%	52%
5.1	To what extent are different settlement cycles a barrier?	77%	54%
6.1	To what extent is the lack of electronic trade-matching a barrier?	74%	72%
6.3	To what extent are differences in the method of trade-matching a barrier?	75%	58%
6.6	To what extent is the lack of settlement pre-matching a barrier?	71%	60%
6.8	To what extent are differences in settlement pre-matching systems a barrier?	74%	58%
7.1	To what extent is the existence of physical bonds a barrier?	82%	73%
8.1	To what extent is the existence of different settlement models a barrier?	71%	48%
9.1	To what extent is the lack of omnibus accounts a barrier?	74%	68%
10.1	To what extent is the lack of remote access a barrier?	65%	29%
	Average across all questions:	73%	59%

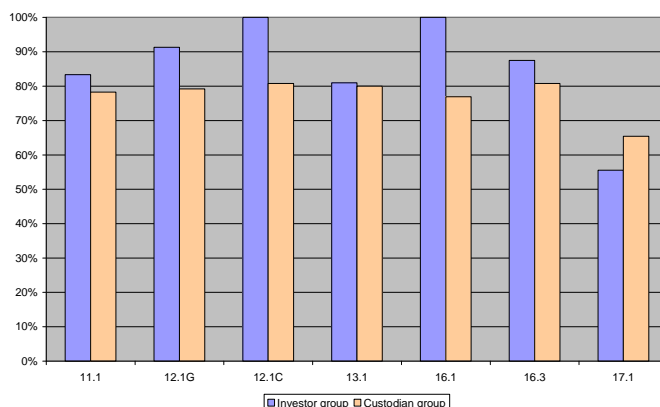
ABMI Group of Experts report:

Barriers to cross-border investment and settlement in ASEAN+3 bond markets

Regulatory factors

This shows the % of respondents identifying factor as barrier "to great extent" or "to some extent" ("not sures" excluded).

The average across all questions was 86% for investors and 77% for custodians.

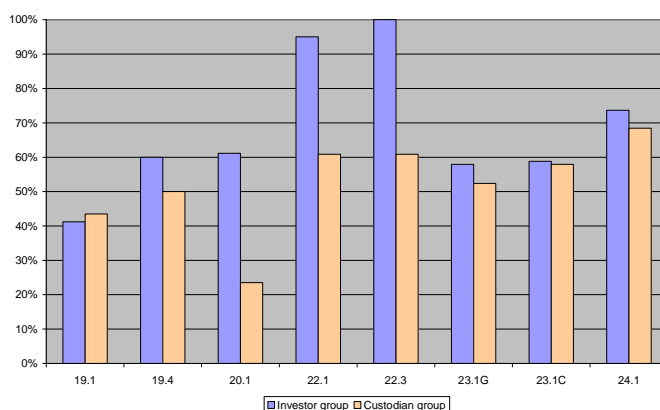


Regulatory factors		"to great extent / to some extent"	
Ref	Question	Investor group (Excl "not sure")	Custodian group (Excl "not sure")
11.1	To what extent is the need for pre-registration a barrier?	83%	78%
12.1G	To what extent is withholding tax a barrier? (government bonds)	91%	79%
12.1C	To what extent is withholding tax a barrier? (corporate bonds)	100%	81%
13.1	To what extent are differences in legal systems a barrier?	81%	80%
16.1	To what extent are currency exchange restrictions a barrier?	100%	77%
16.3	To what extent are restrictions on the repatriation of the cash a barrier?	88%	81%
17.1	To what extent is the lack of local currency borrowing a barrier?	56%	65%
Average across all questions:		86%	77%

Market factors

This shows the % of respondents identifying factor as barrier "to great extent" or "to some extent" ("not sures" excluded).

The average across all questions was 69% for investors and 52% for custodians.



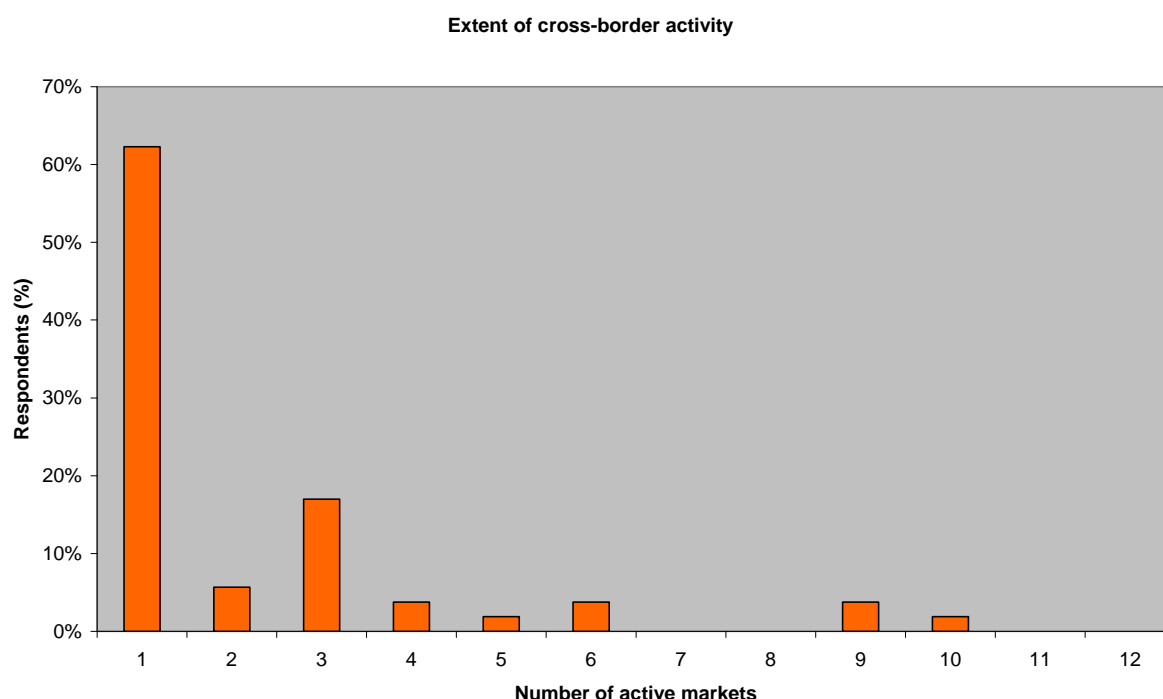
ABMI Group of Experts report:
Barriers to cross-border investment and settlement in ASEAN+3 bond markets

	Market factors	"to great extent / to some extent"	
Ref	Question	Investor group (Excl "not sure")	Custodian group (Excl "not sure")
19.1	To what extent is the lack of securities lending a barrier?	41%	43%
19.4	To what extent is the lack of repo a barrier?	60%	50%
20.1	To what extent is the lack of such derivative instruments a barrier?	61%	24%
22.1	To what extent is the lack of uniform disclosure standards for bond issues a barrier?	95%	61%
22.3	To what extent is the lack of uniform rating requirements for bond issues a barrier?	100%	61%
23.1G	To what extent is the lack of a uniform issuance process for bond issues a barrier? (government bonds)	58%	52%
23.1C	To what extent is the lack of a uniform issuance process for bond issues a barrier? (corporate bonds)	59%	58%
24.1	To what extent is the lack of trade reporting and price transparency for bond issues a barrier?	74%	68%
	Average across all questions:	69%	52%

Cross-border activity analysis

One further analysis that was done was to compare the responses between two groups: those active in a single market and those active in more than one market:

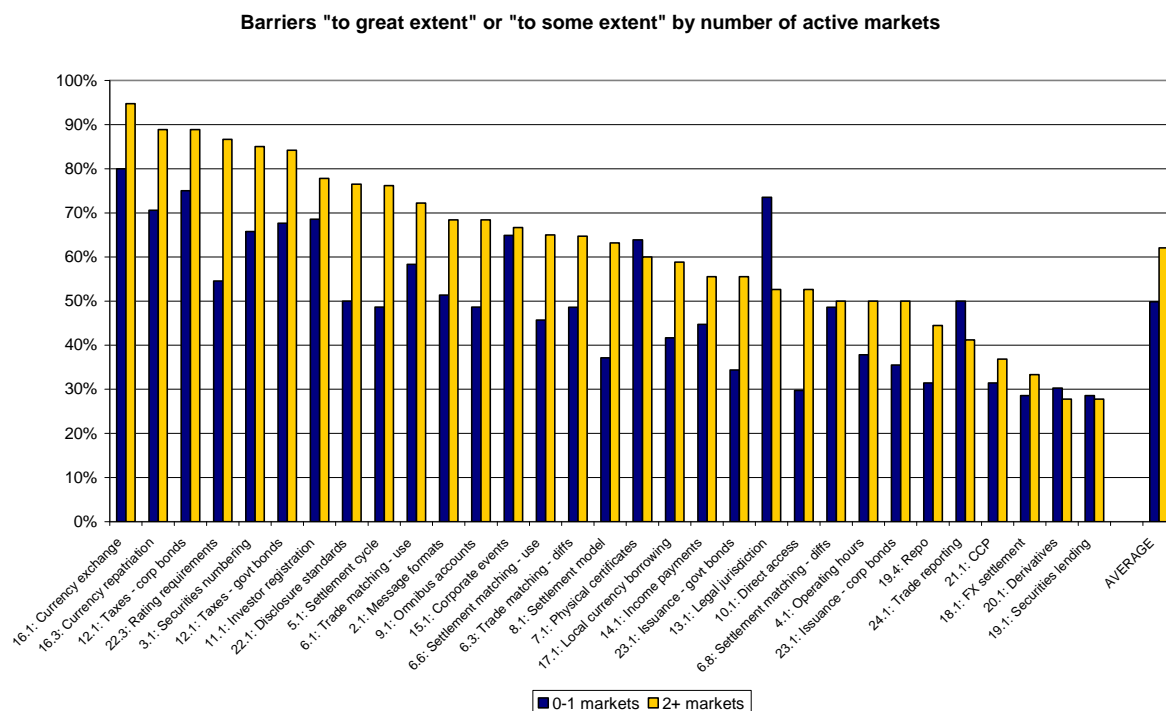
Importantly, around 40% of respondents were active in the bond markets of 2 or more countries, and therefore were cross-border participants. The remaining 60% were active in a single market only - generally, their domestic market. The following chart is repeated from Q1.3 earlier in this document, and shows the distribution of respondents in terms of the number of bond markets in which they were active:



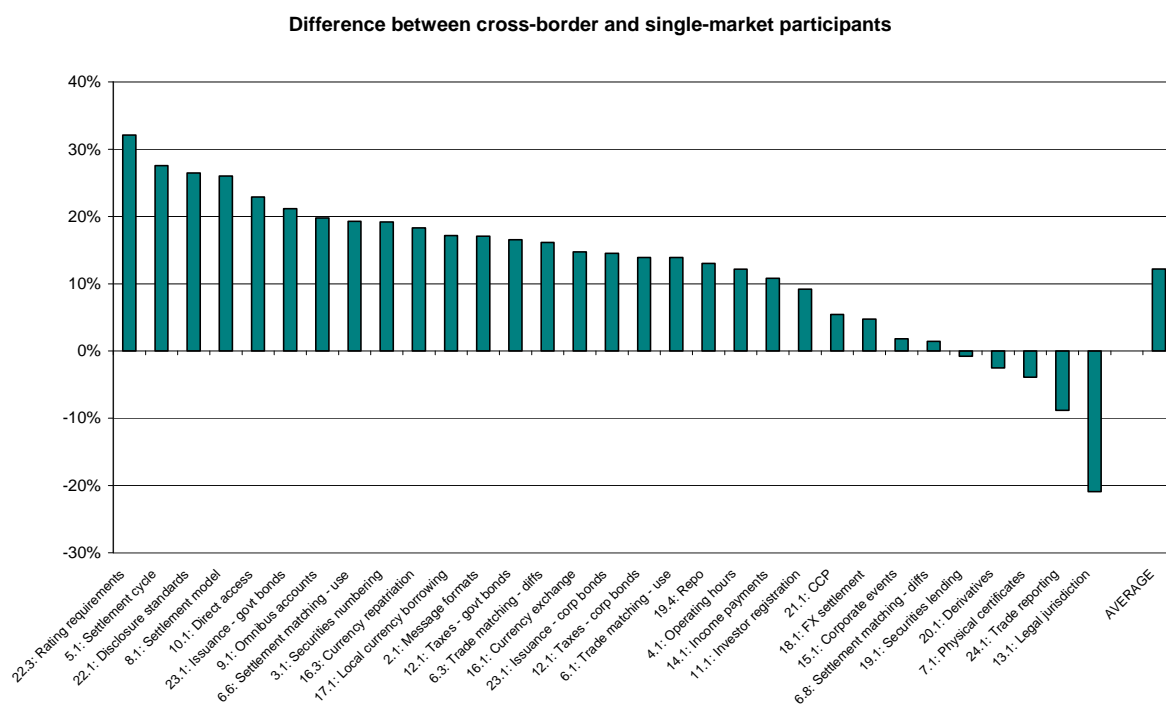
Interestingly, those respondents that were active in 2 or more markets (i.e. cross-border participants) were significantly more likely to regard most factors as a barrier to cross-border investment and settlement. The following chart shows the complete list of factors, in descending order in terms of the percentage of cross-border participants regarding them as a barrier:

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Barriers to cross-border investment and settlement in ASEAN+3 bond markets



Across all the factors, on average, 62% of cross-border participants regarded them as barriers against 50% of single-market participants. The following chart shows the differences by factor:



Overall, these results indicate that awareness of barriers is higher among those respondents who are active on a cross-border basis, which is in line with expectations.

/end

ABMI Group of Experts
Barriers to cross-border investment and settlement in
ASEAN+3 bond markets

Appendix II: Market profiles
Incorporating feedback from market consultations and
responses from domestic market experts

April 2010
(Revised July 2010)

Asian Development Bank

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Introduction

This document covers the following ASEAN+3 local currency bond markets:

People's Republic of China

Hong Kong, China

Indonesia

Japan

Republic of Korea

Malaysia

Philippines

Singapore

Thailand

Viet Nam.

For each of these markets, it currently covers the following topics:

Market access and foreign investor registration

FX restrictions

Cash account and overdraft restrictions

Taxes

Settlement and custody

Other issues.

Acknowledgement

This market profile document contains factual information about the current conditions and regulations in each market.

In compiling this, we have drawn on a number of publications produced by global custodians, including:

Citigroup - Guide to Asian Bond and Currency Markets 2007

JPMorgan - Market Profiles

Standard Chartered - Securities Services Market Information

State Street - Guide to Custody in World Markets

We have also extracted information from:

IMF - Status under IMF Articles of Agreement
for the relevant markets.

We would like to express our thanks to all the above for their kind assistance and permission to use this information. We are also grateful to the many national members of the ABMI Group of Experts who provided comments and guidance on their local markets.

We wish to express our thanks also to HSBC Securities Services who provided valuable comments on all sections of this document.

1 People's Republic of China (PRC)

Note: Relatively few market participants involved in our market consultations had actual experience of investing in local currency bonds in the PRC. Most comments related to the QFII requirement.

1.1 *Market access and foreign investor registration*

QFII

Qualified Foreign Institutional Investors (QFII) refers to overseas asset management institutions, insurance companies, securities companies, commercial banks and other institutional investors which are approved by the China Securities Regulatory Commission (CSRC) for investing in the securities markets, and granted an investment quota by the State Administration of Foreign Exchange (SAFE).

Foreign investors may invest in A-shares and in the domestic bond market only through the QFII system.

Each QFII is allocated an investor code.

QFII may only purchase bonds that are traded on a stock exchange and registered under the investor's code. Currently, all treasury bonds (T-bonds) are registered under the investor's code. All enterprise and corporate bonds listed on the Shanghai Stock Exchange are also available to QFII. However, some enterprise and corporate bonds listed on the Shenzhen Stock Exchange are still registered under the broker's name and are therefore not available to QFII.

Market Entrance Requirements

QFII applicants must submit applications to both the CSRC and SAFE through their sub-custodian. The CSRC will determine whether or not to grant approval within 20 working days from the date of submission of complete documentation. However, the actual reviewing date is subject to CSRC and may take as long as 12 months, and there are frequent requests for further information.

After obtaining the CSRC license, SAFE will further review the application and determine the quota amount, which may take another 2-3 months. SAFE will notify the applicants in writing of their permitted investment quota and issue a foreign exchange registration certificate to the applicant. The securities investment license issued by the CSRC will automatically become void if an applicant is unable to apply for investment quota from SAFE within one year after the license is granted.

After receiving approval from the CSRC and SAFE, the sub-custodian will submit account opening applications to the CSDCC Shanghai and Shenzhen Branches. The account-opening fees are CNY 400 and CNY 500, respectively. The sub-custodian will also apply to the PBOC Shanghai branch for a CNY account. The PBOC Shanghai branch charges an application fee of CNY 50.

QFII applicants must meet the following criteria:

- The applicant should have sound financial and credit status, should meet the requirements set by the CSRC for asset size and other factors (see below).
- Employees of the applicant should meet the requirements for professional qualifications set by its home country/region.
- The applicant should have a sound management structure and internal control system, should conduct business in accordance with the relevant regulations, and should not

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have received any substantial penalties by regulators in its home country/region during the three years prior to application.

- The applicant's home country/region should have a sound legal and regulatory system, and its securities regulator should have signed a memorandum of understanding with the CSRC and should have maintained an efficient regulatory and co-operative relationship with the CSRC.
- Other criteria as stipulated by CSRC based on prudent regulatory principles.

The 'asset scale and other factors' criteria referred to in item one above are as follows.

Institution type	Requirement
Fund management institutions	<ul style="list-style-type: none">▪ be established for at least five years, and▪ have greater than USD 5 billion in assets under management in the last fiscal year.
Insurance companies	<ul style="list-style-type: none">▪ be established for at least five years, and▪ have greater than USD 5 billion in securities assets under management in the last fiscal year.
Other institutional investors (e.g. pension funds, charitable foundations, endowment funds, trust institutions, government investment management companies)	<ul style="list-style-type: none">▪ be established for at least five years, and▪ hold or manage securities assets of not less than USD 5 billion in the last fiscal year.
Securities companies	<ul style="list-style-type: none">▪ be established for at least 30 years,▪ have paid-up capital of at least USD 1 billion, and▪ have greater than USD 10 billion in securities assets under management in the last fiscal year.
Commercial banks	<ul style="list-style-type: none">▪ be one of the world's top 100 banks by capitalisation, and▪ have greater than USD 10 billion in securities assets under management in the last fiscal year.

Investment Quota

A QFII must apply for an investment quota. This should be at least USD 50 million in its initial application. The State Administration of Foreign Exchange (SAFE) may adjust the allowable maximum and minimum investment quota based on the status of the international balance of payments. The government has an internal aggregate quota ceiling and approval from the State Council is required for any increase in the quota ceiling.

Inward remittances must be made within six months after the applicant has received SAFE approval. A QFII must remit at least USD 20 million before it starts trading and the QFII should, within 10 working days prior to its investment, convert the foreign currency in its foreign currency account into CNY and deposit it into the special CNY account. A QFII must

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notify SAFE three working days before remitting principal that equals or exceeds USD 50 million in a single day.

If the QFII does not remit up to USD 50 million (or USD 20 million for open-ended funds) within the six-month period, the QFII must dispose of its assets within one month from the last date of the quota validity period and repatriate all the funds. If a QFII allows its approved quota to expire, the following will occur:

- the approved quota shall be reduced by the amount of quota that was not inwardly remitted during the six-month period,
- the QFII must apply to SAFE to have its quota reinstated, and
- the QFII will not be able to remit foreign currency into the market until its application for reinstatement is approved by SAFE.

QFIIs should strictly follow their original investment plan submitted as part of the QFII application. If investment in debt securities is not mentioned in the original investment plan, QFIIs must submit an updated investment plan to the CSRC prior to investing in debt securities.

Repatriation Process

A QFII can only repatriate investment and profits after the lock-up period. For an open-ended fund, the lock-up period is 3 months, and is calculated from the date of the initial inward remittance of USD 20m (or above). For other types of QFII, the lock-up period is one year (except for closed-ended funds for which the lock-up period is 3 years), and is calculated from remittance in of the full amount of the investment.

SAFE's pre-approval is needed for all repatriations, except for monthly repatriation of open-ended funds of less than USD 50 million. QFII (except for open-ended funds) should submit a new quota application if they wish to make further inward remittances after they have partially or fully repatriated their investment.

QFII (except for open-ended funds) can repatriate accumulated post-tax profits once a year upon completion of a fiscal year-end audit by a local audit firm and the tax clearance process. The accounting year ends on December 31.

Market feedback

Comments on QFII:

"It takes a long time to get QFII status and this deters many investors."

"The investment quotas may be too small for effective bond investment."

"QFII quotas tend to be used only for equities. Brokers get a higher commission so bonds are ignored."

"Investors can only start selling after a period (1 year?) and can only sell a proportion (25%?) each quarter. So investors are effectively locked in for 2 years. This is a problem for pooled funds."

"Repatriation is a big issue (slow, limited amounts)."

Comment on the market feedback

"It takes a long time to get QFII status and this deters many investors."

Application procedure is subject to the clear and concise regulations, which conform with the Law of Administration Permission. However, the actual application process could be deferred as a result of incomplete documentation, insufficient qualification, or less cooperative regulators in the countries and regions where QFII managing company comes from.

"The investment quotas may be too small for effective bond investment."

"QFII quotas tend to be used only for equities. Brokers get a higher commission so bonds are ignored."

Bond investment tends to be block trade which often finds its place in OTC market. The small size of exchange market, relatively low quota, broker's less stimulus contribute to the low bond investment from QFII.

"Investors can only start selling after a period (1 year?) and can only sell a proportion (25%?) each quarter. So investors are effectively locked in for 2 years. This is a problem for pooled funds."

"Repatriation is a big issue (slow, limited amounts)."

It is justified by the aim of the policy to cap the speculation and encourage the long-term investment.

Most of the description (in the original version of this document, and in some published market profiles) is based on old rules stipulated by SAFE in 2002. However, SAFE has implemented new measures though no formal announcement has been made.

"Investors can only start selling ... pooled funds." is believed to be based on the old rules stipulated by SAFE in 2002, which are obsolete. As per the prevailing practices, it shall be like "Investors can only apply for repatriation after the lock-up period and the approval is subject to SAFE's review on a case-by-case basis. This could cause a liquidity issue for most investors".

1.2 FX restrictions

The yuan (CNY) is not freely convertible. Fund injections and repatriations require approval and are subject to monitoring.

FX is allowed based on 'real demand'. There must be underlying securities trades. A single FX trade may be effected for a number of securities trades with the same settlement date. However, no tolerance is allowed in the amount - it must be for the exact amount of the underlying trades.

The sub-custodian must have evidence of the underlying trades before an FX is executed, and prior approval is required from market authorities.

Although there is no explicit regulation prohibiting third-party foreign exchange to obtain CNY, CSRC regulations require a sub-custodian to execute foreign exchange for its QFIIs. Therefore, it is effectively not possible to execute third-party FX to obtain CNY.

According to current market practices, the value date is T+2 for FX.

Offshore FX trades are not permitted.

Market feedback

"Fund flows must be linked to securities trades."

"Currency restrictions are a problem."

Comment on the market feedback

"Currency restrictions are a problem."

As long as FX regulation exists, currency restrictions can be a problem. Anyway, QFII is a transitional arrangement between the ban on foreign securities investment to free capital flow.

1.3 Cash account and overdraft restrictions

There are no restrictions on non-resident investors holding CNY credit balances.

Overdrafts and loans in CNY to non-residents are not allowed.

Market feedback

No specific feedback was received in this area.

Are there any restrictions on lending CNY to QFIIs, including intra-day and overnight CNY overdrafts?

Yes, financial institutions are not allowed to provide financing to QFII.

Lending CNY to QFII is not possible, otherwise the quota would be broken.

Are there any restrictions on holding cash credit balances in accounts?

Currently, there is no specific restriction. However, SAFE requests all new QFII to clearly state their asset allocation plan in the investment plan (part of the application documents), which include the cash vs. total assets ratio. Also, QFII are expected to stick to their cash vs total assets ratio indicated in the investment plan.

Are there any restrictions on QFIIs opening multiple cash accounts with different banks?

Yes. QFII can only open one foreign currency account and one special CNY account with the local custodian bank. Therefore, QFII cannot open multiple cash accounts with other banks.

According to the regulation, one QFII must use one custodian bank, and it can replace the bank.

1.4 Taxes

Interest on Treasury bonds is tax-exempt.

For domestic individual investors, dividends from A shares are subject to a 10% tax, and interest from enterprise, corporate, and convertible bonds is subject to a 20% tax, withheld by the issuer.

Withholding tax is not imposed on domestic institutional investors, as this income is subject to income tax (15% to 25%) and business tax (5%) at the corporate level. Income tax is imposed on the net profits and gains, including ordinary business income, capital gains, and other income, i.e., interests and dividends. Business tax is imposed on realized gains of financial institutions from securities investments.

Income sourced from the PRC by non-resident corporate investors is subject to a 10% withholding tax. As a result, taxes are imposed on cash and stock dividends and deposit interest and coupon interest from enterprise and corporate bonds paid to QFII.

Since there is no fixed rule regarding the procedure of tax payment, the sub-custodian must refer to the procedure for tax payment in the announcement made by the listed companies on a case-by-case basis.

Capital gains are currently tax-exempt.

All investors are exempt from stamp duty on investment in funds, warrants, and bonds.

In addition, there are exchange levies and transfer fees.

Tax relief at source is available, subject to double tax treaties, and tax may be reclaimed. However, the procedures for exemption and reclaim are not clearly defined and published.

The tax rules for non-resident investors are not always clear.

Recent developments

On 23 January 2009, the State Administration of Taxation issued a circular¹(Circular 47) which clarifies the withholding income tax treatment of PRC-sourced dividends, bonus and interest paid by a resident listed company to a QFII under the Enterprise Income Tax Law (EITL) and its Implementation Rules, which came into effect in January 2008.

Circular 47 provides that PRC-sourced dividends, bonus payments and interest received by a QFII are subject to a 10% withholding income tax pursuant to the EITL. The tax on dividends shall be withheld and paid by the listed company which issues the dividends and bonus payments. In case of interest payments, the tax shall be withheld and paid on the payment date or the due date.

Circular 47 further provides that if a QFII is eligible for a reduced withholding tax rate under a double tax treaty or arrangement, the QFII can lodge an application with the relevant tax bureau.

However, Circular 47 does not state its effective date which leaves open the question as to whether the provisions apply retrospectively.

Market feedback

"Taxation is often unclear to investors."

Comment on the market feedback

"Taxation is often unclear to investors."

True, but it is even more complicated for developed countries. Investors should always get the tax information from the tax consultant. As for the recent development regarding Circular 47, tax law is currently simple for foreign investors.

Taxation is gradually being clarified.

1.5 Settlement and custody

Omnibus accounts are not permitted. Accounts must be in the name of the end investor.

LCY bond settlement is centralized. All interbank trades are settled at the China Government Securities Depository Trust & Clearing Co. All stock exchange trades are settled at the China Securities Depository & Clearing Co (CSDCC). Currently, QFII are only allowed to trade bonds via the stock exchange.

Bonds are settled on trade date (T) with cash settlement on T+1.

For interbank trades, DVP model 1 has been achieved, using RTGS and central bank money. For exchange trades, DVP is planned, using multilateral netting and commercial bank money. The CSDCC is working on a T+1 DVP settlement cycle, but no implementation timetable has been announced. In January 2008, the CSDCC held a meeting to discuss the development of T+1 DVP and the draft CSDCC Settlement and Clearing Rule.

Registration is effected automatically at the CSDCC during the evening on TD in the name of the QFII or QFII fund. Shareholding is through book entry in the CSDCC. The depository account is opened in the name of the QFII or QFII fund. The CSDCC depository records are utilized to form the registration records.

Inter-account transfers between two accounts not belonging to the same beneficial owner must cross the exchange.

All listed securities are dematerialized at the CSDCC.

There are trade matching and pre-settlement matching systems for bonds.

1.6 Messaging and securities numbering

The CSD, and most local market participants, do not use ISO 15022 / 20022 message formats.

ISIN codes are available for all local bond issues. However, the CSD, and most local market participants, do not use ISIN codes in securities messages.

Market feedback

"Accounts must be segregated."

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Comment on the market feedback

Yes, a direct depository relationship is the dominant form of securities custody

1.7 Other issues

Aspect	Market feedback
Liquidity	<p>"Bonds are mostly government issued, or with a government (or government-owned bank) guarantee."</p> <p>"Market is developing slowly. Very low volume in secondary market."</p> <p>"No repo market as legal system does not allow set-off / netting."</p> <p>"The trading system for government bonds is not very good."</p> <p>"Effectively 2 separate fixed income markets: OTC and exchange-traded. Foreign investors can only use the exchange-traded market, where there is no liquidity."</p>
Transparency	<p>"Lack of price transparency."</p> <p>"Credit analysis is difficult. Need rating agencies. Need more transparency (balance sheets etc)."</p> <p>"the market is split - big players get good access to issues, others get 'secondary' access, underwriting not always equitable, don't get allocation."</p>
Risk management	"Hedging is expensive."
Regulation	"The regulations are often unclear to investors."

Comment on the market feedback (the comments below are confined to the exchange market)

"No repo market as legal system does not allow set-off / netting."
Repo exists in exchange market, but QFIIs do not participate in it.

"The trading system for government bonds is not very good."
"Effectively 2 separate fixed income markets: OTC and exchange-traded. Foreign investors can only use the exchange-traded market, where there is no liquidity."
Exchange market has its disadvantage to support the large scale bond trades. It proves that large scale bond trade either cannot be executed or causes the great volatility of price.

"Lack of price transparency."
Transparency is good as bond quotation is displayed on e-screen in the same way as equities are done.

"Credit analysis is difficult. Need rating agencies. Need more transparency (balance sheets etc)."
It's not the case. The requirement of rating and disclosure is a MUST for all credit bonds.

"the market is split - big players get good access to issues, others get 'secondary' access, underwriting not always equitable, don't get allocation."
It is understood as international practice that syndicate dominate the dissemination of the credit bonds.

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"Hedging is expensive."

True, since bond futures or options does not exist. However, in OTC market, investors can take part in the forward bond trade, IRS etc.

"The regulations are often unclear to investors."

All the regulations have been disclosed to the public.

2 Hong Kong, China

Note: Not many comments were received from market participants as Hong Kong, China was not generally regarded as a market with significant barriers to cross-border bond investment.

2.1 *Market access and foreign investor registration*

No distinction is made between resident and non-resident investors. There are no foreign investor registration requirements. Non-resident investors are free to invest in any local bond issues.

2.2 *FX restrictions*

There are no exchange control restrictions on residents or non-residents. The Hong Kong dollar (HKD) is freely convertible, through onshore and offshore transactions. There are no reporting requirements.

There is no requirement for or limitation on the repatriation of funds.

There are no restrictions against booking third party FX.

The forward exchange market operates on private sector initiatives, and the government has no official role.

2.3 *Cash account and overdraft restrictions*

Non-residents may open accounts in HKD or in foreign currency.

Credit balances and overdrafts are allowed.

There is no distinction made between residents and non-residents.

Pre-funding is not required.

2.4 *Taxes*

There is no withholding tax on any financial instrument. Interest income is not subject to personal income tax.

There is no capital gains tax.

Under the profits tax exemption/concession scheme, interest income and trading profits derived from Exchange Fund Papers, Government Bonds and HKD debt instruments issued by multilateral agencies fulfilling certain criteria will enjoy profit tax concession or exemption, except for companies whose principal business is in the area of financial trading. In such cases, profit generated from such financial activities is subject to profits tax.

2.5 Settlement and custody

There are no restrictions on omnibus accounts.

Government securities (e.g. exchange fund bills and notes issued by the HKMA) are cleared and settled through the Central MoneyMarkets Unit (CMU), a scripless clearing and settlement system operated by the HKMA. Eligible certificates of deposit, corporate bonds, and commercial paper are also cleared and settled through the CMU.

Settlement of SEHK-listed debt securities is on a T+2 basis, with debt instruments following the same settlement procedures as equities.

Domestic debt securities are settled via the CMU. The settlement cycle is:

- T+2 for listed debt securities
- Generally T+0 to T+2 for unlisted debt securities, although the settlement period is negotiable between the parties.

Depending on market practice, trades may be pre-matched with the counterparties by telephone on the trade date.

Settlement through the CMU is either free of payment (FoP) or delivery versus payment (DvP) via a real-time gross settlement system whereby securities are released against good funds. The real time DvP arrangement for CMU transactions conforms to BIS Model 1. The end-of-day DvP arrangement conforms to BIS Model 3.

CMU offers both proprietary account and specific custody account for members to segregate clients' holdings from the member's own holdings.

Securities held in CMU are either immobilised (i.e. immobilised physical notes representing the entire issue) or dematerialised.

There is no trade matching system for the local bond market. CMU pre-matches forward dated settlement instructions.

All fixed income instruments are either dematerialised or immobilised at the CSD.

2.6 Messaging and securities numbering

CMU uses SWIFT for settlement messages, and plans to introduce SWIFT for corporate events messages from November 2009. Most local market participants use SWIFT format.

ISIN are available for most local bond issues. ISIN are allocated at the time of issue or auction.

CMU and local market participants use ISIN, but the local numbering (CMU Issue Number) is also commonly used.

2.7 Other issues.

None identified.

3 Indonesia

There are no restrictions on foreign participation in the fixed income markets. However, restrictions exist with regards to exchange controls, currency movements, and credit facilities extended to non-residents.

3.1 *Market access and foreign investor registration*

There is no regulatory restriction for non-residents to invest in the Indonesian Capital Market. Non-residents can easily invest in Indonesia without any need to obtain prior approvals from any authority, and can invest in any bond issues, including money market instruments.

There is no requirement for foreign investor registration.

Market feedback

"Setting up in Indonesia is cumbersome".

Comment on the market feedback

The comment is not accurate.

Since a non-resident needs to become a customer of a local custodian bank or a local broker in order to participate in securities trading, the non-residents need to satisfy varying requirements set by the custodian banks or the brokers,

Custodian Banks need to adhere to Central Bank's requirement on anti-money laundering, and therefore, will require complete information from the non-residents prior to accepting its application. Similar to that, local Brokers would also require certain set of documentation to satisfy Capital Market Authority's regulation on anti-money laundering.

If the non-resident is a legitimate entity (not a money-laundering vehicle), these requirements should be easy to complete as they mostly consists of submission of founding documentations, such as the article of association, certificate of registration, etc., which should have been readily available.

In particular, are you aware of any regulations which may make initial investment or opening accounts in Indonesia a problem?

None. There is no such regulation issued by either the Central Bank, Tax Office or Capital Market Authorities. The existing regulations are in favour of foreign investors as well as local investors. In some cases such as tax treaty arrangement, foreign investors even benefit from certain advantages over local investors.

3.2 *FX restrictions*

The rupiah (IDR) is not fully convertible. Non-resident investors may only contract FX trades in support of underlying investment activity.

A single FX trade may be effected for a number of securities trades with the same settlement date. However, no tolerance is allowed in the amount - it must be for the exact amount of the underlying trades.

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The sub-custodian must have evidence of the underlying trades before an FX is executed. However, prior approval is not required from market authorities.

All FX transactions must be done onshore with licensed banks, with payment to an on-shore account. Offshore foreign exchange transactions are prohibited.

FX may be executed on a same day, next day, or spot basis.

Forward transactions are allowed, provided that the value date of the forward transaction is the same as the settlement date of the underlying economic transaction and the transactions are supported by authenticated documents.

Third-party FX trades are allowed. However, given the restrictions and risks associated with the movement of funds in the market, some custodians may not support third party FX transactions.

Banks can only deal in FX up to 20% of their total capital in aggregate per day. This figure would be shared between all the bank's customers. Therefore, sub-custodians may require customers to advise ahead of time if they wish to book a large amount of FX in order to reserve the position.

Restrictions on the local banks may mean there is limited liquidity in the same-day and next-day FX markets. This would depend on the bank's capital pool. The larger the capital, the more likely it can absorb FX requests.

Hedging transactions using derivatives and forwards are allowed only for the purpose of investment in Indonesia for a minimum tenor of three months and must be accompanied by documents supporting the hedging and investment.

Reporting

If the total accumulated funds credited to a non-resident account on a single given day exceeds IDR 500 million (i.e. about USD 50,000), the investor must provide authenticated supporting documentation, such as a copy of the purchase or sale agreement for direct investments, a copy of the securities purchase or sale confirmation from a broker or other authorized party for securities portfolio transactions, or a copy of the dividend payment confirmation from the issuing company. For smaller amounts, supporting documentation is not required, but a declaration on the underlying economic transactions should be provided.

In practice, this is not as complicated as it sounds. The local sub-custodian uses the DVP/RVP instruction as the supporting document, and the investor does not need to provide additional documents.

Bank Indonesia (BI) requires that all investors who purchase foreign currency against IDR equivalent to more than USD 100,000 per calendar month provide documents stating that all FX activity is supported by underlying investments and a letter declaring the validity of all supporting documents provided. This declaration is made once a year (at the beginning of the year) to cover the whole year. There is no need to declare on every FX. As for the supporting underlying investments, the local custodian uses the client's instructions, and no additional documentation is required from the client.

Reports on IDR transfers are submitted on a monthly basis. Reports on FX transactions are submitted on a daily basis. This is also done by the local custodian bank, as part of the mandatory reporting requirements to BI.

The responsibility to submit the reports to BI lies with the local sub-custodian. Whilst the underlying investor will not be seen in the market if the global custodian operates omnibus accounts, it is possible that if an investor has effected clean cash movements such that documentary evidence has been provided to the sub-custodian, then BI may ask to see this supporting documentation at any time.

Additional information for repatriation of IDR

Regulations have recently been tightened. BI regulation no 10/28/PBI/2008 (effective December 2008) requires investors (resident and non-resident) to provide the following documentation in respect of purchase of foreign currency:

Less than USD100,000 per month:

- Statement from the investor (resident or non-resident) confirming that they do not purchase the foreign currency for more than the equivalent of USD100,000. For non-resident investors, the statement can be provided through an authenticated message (e.g. SWIFT MT599).

More than USD100,000 per month:

- Supporting documents for the underlying transaction in the amount of equivalent or more of the particular purchase of the foreign currency.
- Copy of clients ID and tax ID number (NPWP)
- Signed statement with stamp duty paid confirming the authenticity of the supporting documents, and that the particular supporting documents will only be utilized to purchase foreign currency up to the nominal amount of the underlying transaction. For non-resident investors, the statement can be provided through an authenticated message (e.g. SWIFT MT599).

Non-resident custody clients may provide an annual blanket confirmation statement / declaration covering a period of one calendar year.

Non-residents who intend to repatriate IDR held in their cash account must satisfy the requirements above prior to executing the FX deal.

Market feedback

"Currency controls in Indonesia are a problem."

"Has been some tightening of the currency rules, declaration is needed"

"FX must be booked via custodian, maybe next day, so have currency risk since currency is volatile."

Comment on the market feedback

The comments are not necessarily true. FX can be performed as long as there is an underlying transaction that supports the FX.

"Has been some tightening of the currency rules, declaration is needed"

True, but the declaration is only made once a year for selling IDR. It should not be much of an effort.

"FX must be booked via custodian, maybe next day, so have currency risk since currency is volatile."

Non-residents may still choose to do same day, next day, spot or forward

In particular, are you aware of any regulations which may make operation of the exchange restrictions a problem?

No.

3.3 *Cash account and overdraft restrictions*

Central bank regulations prohibit transfers of IDR between two non-resident accounts and from residents to non-residents, unless the transfers are related to economic activities in Indonesia, such as direct investments or payments related to transactions involving IDR-denominated securities. The receiving bank must obtain appropriate documentation to support the receipt of IDR.

Transfers of funds between accounts owned by the same non-resident are allowed.

Offshore transfers of IDR are prohibited.

A non-resident's IDR current account cannot, under any circumstances, be overdrawn overnight.

Intraday overdrafts are allowed. The client may opt to use the proceeds from a sale to fund a purchase. However, in practice, sales proceeds cannot be used to fund purchases of the same value date due to the settlement cut-off time. Therefore, while pre-funding in the sense that funds are needed prior to settlement date is not required, non-resident investors must ensure that sufficient IDR funds are in their account on settlement date, without allowing for any sales proceeds due on that day. Turnaround trades may be possible in the OTC market, but are difficult for exchange trades.

IDR received from an FX trade which is to be used for the purchase of securities can be held in a non-resident account for up to 2 working days. Investors can therefore execute a purchase of IDR on SD-2.

Failed trades are not common in the Indonesian market. However, if a purchase trade fails, the non-resident can either use the existing fund to purchase other securities, or book another FX to remit back the funds offshore. The IDR cannot remain in the account, nor be used to fund a future purchase. The IDR cannot be held in an interest-bearing account.

Market feedback

"not allowed to overdraw in LCY... should allow overdrafts for non-residents"

Comment on the market feedback

This is covered above.

3.4 *Taxes*

Two withholding taxes are applied on the sale or maturity of bonds. Both are deducted from the sales or redemption proceeds:

- a tax on the 'discount' (defined as the positive difference between clean sale price and the clean purchase price of the bond), and
- a tax on the accrued interest earned for the period the bond was held. The accrued interest on the sale of a bond is taxed based on the actual holding period.

A negative discount (i.e. where the clean sale price is less than the clean purchase price) can be offset against the accrued interest.

For non-resident investors, a withholding tax of 20% is levied on both discount and accrued interest. Double-taxation treaties can reduce this to as low as 10%, if appropriate documentation is submitted (see below). The same rates are applied to government and

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corporate bonds. (Note: Under Government Rule No 16-2009, the standard rate for domestic investors has been reduced to 15%.)

There is also a 20% withholding tax on gains (discount) on short-term Treasury bills.

The tax is the responsibility of the seller and is paid by the seller's custodian to the buyer's custodian on settlement date. The buyer's custodian will remit the withholding tax to the state treasury and report it to the tax office after settlement.

Historical information is needed to calculate the amount of tax payable, as it depends on investor status and time held.

Double tax treaties are in place with more than 50 countries. Procedures are clearly defined, but are regarded as onerous.

The omnibus account structure may impact the ability of investors to obtain tax relief under a treaty.

Reclaims of tax are possible but it is a very lengthy and cumbersome process.

Documentation

Non-residents may benefit from the tax treaty rate by submitting an original Certificate of Residency. This Certificate may be in the customary form of the taxpayer's country, but at least must state that the taxpayer is actually resident in that country pursuant to valid provisions of the tax treaty, with date and signature of the competent issuing authority. The Certificate is valid for one year, unless to the Taxpayers Bank. To the Taxpayers Bank, the Certificate is valid as long as the bank still has the same address. For proof of beneficial ownership, another document may be required as indicated in the new income tax law which became effective on 1 January 2009. However, the implementation guideline has not yet been announced.

Market feedback

"There are some ambiguities in the tax regulation creating different interpretation and application among tax withholders."

"Tax is complex and high."

"Need to track historic trades in order to calculate the tax on a sale."

"T-bills come with WHT - as a result, participants tweak pricing process and systems"

"Capital gain taxes are imposed."

"Terminology can be unclear."

"The double tax treaties help."

"Has got better in recent times".

"Local custodians tend not to be conclusive on tax matters, often must ask MOF for clarification."

Comment on the market feedback

It is true that there are some ambiguities in the tax regulation in Indonesia and tax reclaim are cumbersome and very lengthy process.

Clarification from the Tax Office is often required,

These are genuine feedbacks from active non-resident market players.

Are you aware of any ambiguities in the tax regulations or lack of clarity in the terminology?

Yes. The following is the sample of an ambiguity in the tax regulation:

According to Indonesian Capital Market and Financial Institution Supervisory Agency (BAPEPAM-LK) no VI.A.3, Beneficial Ownerships of securities is the rights of the account owner. While according to Tax Office's understanding, beneficial ownerships concept refers to the final-party/entity who enjoys the privilege of owning the particular shares (i.e. cash dividend distribution, etc).

According to Circular Letter from Directorate General of Taxation no SE-03/PJ.03/2008, dated 22 August 2008, tax withholder must satisfy themselves in having the appropriate supporting documentation (i.e. COD + other supporting documentations) when granting a special tax rate based on DTT to a non-resident tax-payer.

3.5 Settlement and custody

Omnibus accounts are permitted. Non-resident investors' securities are generally held in an omnibus account maintained by the global custodian. However, for tax reasons it may be advisable to open individual accounts.

If there are no omnibus accounts that match the treaty rate of the investor's domicile, the investor may open a segregated account, which will add to documentation requirements and costs. Investors who do not elect to have a segregated account will default to a non-treaty account and may lose treaty benefits.

The nominee concept is not supported by law in Indonesia. The account holder as reflected on the books of the sub-registry (i.e. the sub-custodian) is seen as the legal owner of securities in the account. However, the market does accept there may be underlying beneficial owners.

The settlement cycle for bonds is negotiated, normally on T+2, but can be settled between T+1 to T+7.

The settlement method is book-entry. Physical certificates still exist (if issued prior to 2000).

There are trade matching and pre-settlement matching systems for bonds.

All bonds are dematerialised.

3.6 Messaging and securities numbering

The CSD, and most local market participants, do not currently use ISO 15022 / 20022 message formats.

The Indonesian Central Securities Depository (KSEI) is the securities numbering agency for bonds.

ISIN codes are available for all local bond issues, and are available at the time of issue. However, the CSD, and most local market participants, do not currently use ISIN codes in securities messages.

Market feedback

"Communications between market participants and depository / clearing house are not in SWIFT format"

"Local code is required for trade settlement"

"Lack of ISIN is a problem."

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"Rules on nominee names - appears to be a difference in opinion between Bapepam and MOF - lack of clarity."

Comment on the market feedback

It is true that communication between the market participant and the depository are not in SWIFT format.

Market participant normally have a system interface with the depository system to facilitate settlement. For security reasons, the Central Depository and Clearing House implements a closed Virtual Private Network that is isolated from normal internet line. It is not possible to access this system through a normal global Internet line.

KSEI (see below) have implemented SWIFT format messages, in early stages. Corporate action announcements are distributed in SWIFT format. KSEI are now exploring how to implement SWIFT format for settlement of transactions.

SWIFT and ISIN are generally used by local custodian banks. However, brokers do not usually have access to SWIFT due to cost constraints. Brokers also use the Stock Exchange code, instead of ISIN, as it is the most common code in the market.

"Local code is required for trade settlement"

"Lack of ISIN is a problem."

This is not isolated issue to Indonesia. Securities code is indeed required.

The Indonesian Central Securities Depository (KSEI) is the securities numbering agency for bonds and equities. ISIN is used on all corporate bond and majority of government bond (some old physical bond may not have an ISIN). As a member of ANNA (Association of National Numbering Agency), KSEI is acting as securities numbering agency (ISIN) for all securities listed in Indonesia.

KSEI reports that ISIN codes are not yet used in its main system (C-BEST: Central depository & Book Entry Settlement System), yet. KSEI still uses local codes to maintain securities holdings and transactions. This is in line with the code that are used in IDX (Indonesia Stock Exchange) and clearing house (KPEI). Another reason why KSEI do not use ISIN is that IDX uses one single local code even if there are several different nominal values for one equity, and they are fungible in transaction and the settlement process. To accommodate this kind of situation, KSEI uses local codes. Custodian banks that receive SWIFT messages from their clients which containing ISIN code, have to convert the ISIN code into local code. Then the custodian bank can upload it into the KSEI system.

For bonds, there are two different issuers: corporation and government. Corporate bond are normally in scripless form and are safekept at KSEI as the central depository.

For Government Bonds (i.e. SUN), they are mostly in scripless form.

Market participants have options whether to keep their scripless bonds with Indonesian central bank's settlement system (BI-SSSS) (normally for local banks and money- brokers use Central Bank), or via Central Depository/KSEI.

"Rules on nominee names - appears to be a difference in opinion between Bapepam and MOF - lack of clarity."

There are no nominee rules, and nominees are not recognized. Account names are considered the name of the beneficial owner.

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Some custodian banks as KSEI participants are still using omnibus account for their foreign clients. But now, many foreign investors have opened individual securities account in the KSEI system (through custodian banks) and they have treaty benefits.

3.7 Other issues

Aspect	Market feedback
Liquidity	<p>The bond market is relatively small, especially the corporate bond market.</p> <p>Liquidity not good, low transaction volume, can be difficult to buy more than 1 million dollar worth at one time. No liquidity in recap bonds</p> <p>Large ask-bid spread, 50 bps or more</p> <p>Government appreciates the need to develop the T-bill curve</p> <p>Better long term bond market. Regular issues of 30 year bonds.</p> <p>Some zero coupons (attractive to insurance companies as long duration)</p> <p>Recent medium term note program is useful.</p>
Transparency	Lack of price transparency.
Risk management	Lack of currency hedge tools (eg long bonds can only be hedged using 3-months instruments)
Regulation	<p>Perceived regulatory risk, especially fear of capital controls, is a factor</p> <p>"Often make immediate regulatory changes, and rules can be ambiguous."</p> <p>"BI may send auditors to watch trading, traders would want to show that they hedge trades but hedging instruments may not be available - so traders may not trade at all."</p>
Other	"Feeling that local market participants may close ranks towards cross-border investors."

Comment on the market feedback

Lack of price transparency only applies to the OTC market..

FX hedging can be conducted at a minimum tenor of 3 months, or longer, as long as the maturity date of the hedging matched with the underlying instruments.

The above highlighted information does not seem to be very accurate. As bond transactions are mostly conducted over the counter, there is limited information available on the liquidity/price. However, please find below some data for Government Debt Securities, inclusive of regular GDS, retail GDS, short-term GDS, regular Sukuk, and retail Sukuk that we are able to gather from IDX:

No	Month (2009)	Listed and traded amounts (in IDR)	Volume (in IDR billions)	Frequency	No of trading days	Average volume per day	Average frequency per day
1	January	534,894,726,000,000	45,352.06	2,779	19	2,386.95	146
2	February	551,351,016,000,000	52,133.73	3,073	20	2,606.69	154

4 Japan

4.1 *Market access and foreign investor registration*

There are no market entrance requirements for non-resident investors. Non-resident investors are free to invest in any local bond issues.

Market feedback

No specific feedback was received in this area.

4.2 *FX restrictions*

The yen (JPY) is freely convertible. There are no foreign exchange restrictions. Both third-party FX and offshore FX transactions are possible.

There are no reporting requirements.

Sale proceeds or income from investments can be freely repatriated.

Market feedback

No specific feedback was received in this area.

4.3 *Cash account and overdraft restrictions*

Foreign investors can freely open cash accounts in JPY. Credit balances and overdrafts are allowed without restriction.

Market feedback

No specific feedback was received in this area.

4.4 *Taxes*

Withholding tax

The statutory at-source withholding rate for non-resident investors is 15% on bond and credit balance interest. Interest on foreign bonds and Eurobonds is exempt from tax.

Tax on Japanese Government Bond (JGB) interest is withheld at the statutory rate of 15% for non-resident investors and 20% for resident investors.

However, for JGB held in the Bank of Japan Financial Network System (BOJ-Net), the withholding rate is 0% for eligible non-resident investors and Japanese-resident Designated Financial Institutions (DFI). Most Japanese banks and financial companies qualify as DFI. Non-financial domestic corporations capitalised at JPY 100 million or more may also be exempt from the withholding tax.

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Treasury bills and Financial bills have been integrated and are now called 'Treasury Discount Bills' (T-bills). T-bills can be held by tax-exempt non-resident investors. Withholding tax is not applicable for these instruments.

Non-resident eligibility for holding JGB in a tax-exempt status in BOJ-Net is limited to certain categories of non-resident investors. Individuals, incorporated entities, sovereigns, pension funds, trusts, and any non-resident entity that is tax-exempt in its country of residence may be eligible to participate in BOJ-Net with tax-exempt status, if appropriate documentation is submitted. This area is discussed in more detail below.

Tax on municipal bond interest is withheld at the statutory rate of 15% for non-resident investors. Tax exemption, with similar criteria to those applicable for JGB, is available to non-residents holding municipal bonds, provided that the bonds are held in JASDEC¹.

Historical information may be required in exceptional cases.

Capital Gains Tax

Capital gains tax is not imposed on non-residents. However, in some special cases, Japanese corporate tax or income tax may be imposed if no double taxation treaty is available.

Tax exemption for JGB

Japanese tax law provides a mechanism through which eligible non-resident investors may gain a tax withholding exemption on JGB coupon payments by allowing non-resident investors to deposit their JGB in BOJ-Net. The legislation provides for two intermediary statuses, Foreign Indirect Participant (FIP) and Qualified Foreign Intermediary (QFI), for foreign financial institutions. These statuses allow such institutions (e.g. global custodian banks) to act as intermediaries between direct participants (e.g., local sub-custodian banks) and non-resident investors.

In connection with the tax legislation, the BOJ and the Japanese tax authorities have strict controls governing the identification of legal owners of JGB. To enforce its regulations, the BOJ has delegated responsibilities to both direct and foreign indirect participants in BOJ-Net.

As an FIP, a foreign institution is required to identify the legal owners of JGB held in its custody. In order to validate tax-exempt status on behalf of end investors, FIP are required to obtain approval as a QFI.

An FIP/QFI must be in the position to provide constitutive documents and complete individual records of its clients' JGB settlements and holdings, including deposit dates and the duration of holding within BOJ-Net, upon request of the market regulators.

Many sovereign entities, supra-nationals, and central banks are already accorded a tax-exempt status. These entities are exempt from withholding tax whether they hold JGB in dematerialized form in either the BOJ's Registry System or in BOJ-Net. The BOJ recognizes these entities as eligible for participation in the BOJ-Net system.

A similar structure exists for municipal bonds held in JASDEC via an Account Management Institution (AMI) or a Foreign Indirect Account Management Institution (FIAMI) that has received QFI status from the local tax office covering the relevant municipality.

¹ In December 2009 Japanese Government announced the New Japanese Bond Income Tax Exemption Scheme (J-BIEM). According to the announcement the interest from corporate bonds issued in Japan will be tax exempted for foreign investors as the same as the current tax treatments of municipal bonds in Japan.

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Foreign investors that do not meet the criteria for tax exemption may still access BOJ-Net as a taxable entity. To gain access to BOJ-Net and, if eligible, to the exemption from withholding tax, these investors are required to submit:

- confirmation of name, address, domicile, formal legal organization, confirmation of non-solicitation in Japan, and statement of location of public subscription for the purpose of application to the NTA,
- confirmation that BOJ-Net guidelines will be followed, including the requirements of relevant laws, and
- an official document evidencing the entity's legal status as a corporation, and place of incorporation.

In addition to JGB, eligible non-resident investors may also hold Treasury Discount bills through accounts with FIP / QFI. However, these instruments may only be held by tax-exempt investors. Eligibility is, therefore, restricted to sovereign entities, corporate entities, and trusts that have a corporate type trustee and have met the Ministry of Finance's criteria for a foreign investment trust.

There are documentation requirements for participation in BOJ-Net through a third-party intermediary, e.g. through a global custodian.

BOJ requires investors to submit several documents to become a non-resident investor of JGB. However, the purpose is to obtain "foreign investors' tax exemption status" rather than to obtain "BOJ-Net participants' status". For the same reason, JASDEC requires to submit several documents to become a non-resident investor of corporate bonds (municipal bonds only) in order to obtain "foreign investors' tax exemption status".

Double tax treaties

Double taxation agreements may reduce the statutory withholding tax rates for eligible investors. Reduction at source is available with applicable double taxation treaty in place.

Double tax treaties are in place with 56 countries.

While relief at source can be obtained, tax reclaims are exceptional. The process would take 2-3 months, depending on the tax office.

Tax regulations, requirements and procedures are published but in most cases only in Japanese.

Market feedback

"Good model for tax."

"Tax is a challenge."

"Tax exemption procedure [is a problem]"

"Tax is collected based on issuers, but it is better if designated custodian collects all taxes."

"Rule of Identification of non-resident should be eased because some sovereign investors cannot issue such identification."

Comment on the market feedback

Covered in the description above.

4.5 Settlement and custody

Note: Japanese Government Securities (JGS) comprise both Japanese Government Bonds (JGB) and Treasury Discount bills (T-bills).

All JGS are dematerialized. They are cleared and settled at the Bank of Japan Financial Network System (BOJ-Net), the central bank's book-entry system.

JGB can be bearer, dematerialized in the BOJ Registry System, or dematerialized in BOJ-Net. However, bearer JGB and JGB held in the registry system are very rare. All JGB are now issued in book-entry form in BOJ-Net.

BOJ-Net uses BIS Model 1. The settlement cycle is T+3.

The sub-custodian conducts pre-matching of settlement instructions by telephone or electronically via the Pre-Settlement Matching System (PSMS) prior to settlement date (SD). On SD, the selling party enters trade details into BOJ-Net, and the receiving party must accept the delivery and confirm the transfer of the position.

Settlement between dealers occurs on SD through the BOJ's RTGS system. Transfer of both bonds and cash is gross on a DVP/RVP basis.

In general, there are no restrictions on the size of JGS trades. However, for settlement using BOJ-Net's RTGS system, guidelines established by the JSDA stipulate that any single trade should not exceed JPY 5 billion in order to allow for smooth settlement.

The deposit of JGB to BOJ-Net is voluntary on the part of investors. However, once deposited into BOJ-Net, they can never be withdrawn.

As explained above, foreign investors may participate in BOJ-Net in both taxable and tax-exempt statuses. Direct participants maintain both taxable and tax-exempt accounts in BOJ-Net. If a JGB is transferred from a taxable to a non-taxable investor between coupon dates, it must first be placed into a taxable account. A JGB can only be moved from a taxable to a tax-exempt account on a coupon payment date or the day after a coupon payment date. When a JGB is deposited in a taxable account in this situation, the investor will receive the next coupon payment net of withholding tax, but can reclaim that tax. Entities with tax exemption in BOJ-Net only may reclaim the withholding from the date of deposit until the coupon payment date. Sovereign entities may reclaim the entire tax withholding. The sub-custodians automatically initiate the tax reclaim process for all JGB temporarily deposited in taxable accounts in BOJ-Net.

Most corporate bonds and municipal bonds are held in Japan Securities Depository Centre (JASDEC) in dematerialized form. Physical bonds have not been issued for several years.

Book-entry convertible bonds settle on a T+3 cycle, similar to equities.

Free of payment transfers are allowed.

Omnibus accounts are permitted at sub-custodians.

There are trade matching and pre-settlement matching systems for bonds.

4.6 Messaging and securities numbering

JASDEC (the CSD for corporate bonds), and most local market participants, use SWIFT message formats. However, BOJ-Net (the CSD for government bonds) does not use SWIFT formats.

ISIN codes are available for all local bond issues, and are available at the time of issue

JASDEC, and most local market participants, use ISIN. However, BOJ-Net does not use ISIN.

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Market feedback

"Settlement cycle should be shortened to T+2 or less."

Comment on the market feedback

JASDEC point out that shortening the settlement cycle might cause serious problems. e.g. increase number of fail trade especially for the cross border transactions.

4.7 Other issues.

Aspect	Market feedback
Other	"Some funny rules, but market otherwise ok." (no details forthcoming) "JGB are an example of a successful bond market. International investors, part of the index. However, yields are low and there is withholding tax."

5 Republic of Korea

Note: This section was distributed by KSD to MOSF (Ministry of Finance and Strategy), FSS (Financial Supervisory Service), BOK (Bank of Korea) and 3 local custodians including HSBC, Citibank and SC Firstbank for review and comment. The comments reflect the combined comments from these organisations.

Foreign investors have access to all fixed-income instruments, and there is no ownership limit for foreigners.

Foreign investors' participation in the cash bond market has, however, remained fairly limited due to a perception of cumbersome procedures in market access and high withholding tax. However, foreigners are active in Treasury bond futures and the interest rate swap market.

Comments on the above

The government has been placing a lot of efforts to promote foreign investment into the bond market during the last few years. The above seems to be a perception, and it is correct if there had been no changes recently in the bond market.

Re: "cumbersome procedures in market access"

In principle, securities and cash accounts must be opened at the end-investor (i.e. Investment Registration Certificate ("IRC") holder level and omnibus securities and cash accounts are not permitted. However, from 1 January 2008, foreign investors are able to use an omnibus account opened in the name of International Central Securities Depositories (ICSDs), such as Euroclear and Clearstream, so that purchases of Treasury Bonds and Monetary Stabilisation Bonds can be executed on behalf of multiple foreign investors. So in this case foreign investors don't need to obtain IRC and open local custodian account any more. Recently KSD and ICSDs are in working to open an omnibus account at KSD and build a direct link. KSD expects the date to be around June as soon as the tax revision exempting the withholding tax and capital gain tax on foreign investors' investment in Government bond and Monetary Stabilization bond is completed. In short, foreign investors will only need to appoint ICSDs who would be able to use an omnibus account to trade and settle investments in the government bond and Monetary Stabilisation Bond.

Therefore, foreign investors contemplating to invest in government bond and Monetary Stabilisation bond will not longer requiring to go through the process of obtaining an "investment registration certificate (IRC)." They may contact an ICSD so that an omnibus account can be used in placing orders and trade settlements.

Re: "high withholding tax"

The government has been reducing the withholding tax on bonds during the past few years. Effective from 1 January 2007, interest income tax on bonds has been reduced from 27.5% to 15.4%.

In addition, effective from 21 May 2009, foreign investors will be waived from paying interest income tax and capital gains tax altogether in case their investment is in Treasury bonds and monetary stabilisation bonds.

5.1 Market access and foreign investor registration

Foreign investors must obtain an investment registration certificate (IRC), also known as a certificate of investment registration, prior to investing. The IRC contains a unique identification number, which codes the investor's nationality and other information.

The IRC number is used in all trading, settlement and registration activities. Foreign investors may apply for a single IRC covering both equities and bonds. A non-resident investor holding an IRC for investing in stocks and/or bonds does not need to obtain a separate IRC specifically for short-term securities.

Foreign investors may also submit a certificate of residency (COR) with the application for an IRC. A COR proves the residency of an investor and allows access to benefits granted under any applicable double taxation treaties.

In principle, IRCs are only required for investment in KRX-listed securities. However, in practice, local brokers require a copy of an IRC to execute off-market transactions, in order to identify a non-resident investor.

Each non-resident investor can appoint a standing proxy to apply for an IRC, exercise shareholder rights, report account activities (including tax payments) to regulators, and legally represent the shareholder. The sub-custodian serves as the investor's standing proxy.

The documentation required for the IRC application is as follows:

- IRC application (FSS form);
- Standing proxy appointment letter (Power of Attorney);
- Investment companies and pension funds must produce a certificate of incorporation, and are not required to submit other notarized documents;
- Investment vehicles established as trusts or unit trusts may submit a notarized copy of the trust agreement executed by trustee and manager.

Only the Power of Attorney document requires a notarisation.

The sub-custodian can process the application.

The IRC application may be submitted to FSS via an online system. FSS will review and issue an IRC within 4 hours as long as the documents are complete.

IRC holders, at the individual and aggregate level, may own 100% of the outstanding shares of most listed and unlisted companies, as well as short-term instruments. However, issuer- and industry-specific ownership limits may also apply.

IRC renewal is a straightforward process.

Parent / child issue

In general, if a 'parent' entity holds an investment ID card, then no 'child' entity under its direct control can hold an investment ID card, and vice versa. This is an extension of the 'One Investor, One ID' rule, which seeks to prevent the duplication of investment ID's essentially under the control of a single investing entity.

In the opinion of some market participants, the parent/child relationship has not been clearly defined by the authorities, which leaves a grey area in interpretation of the rule. The rule most often becomes of concern where an investor wishes to break-out an investment which they hold under a single investment ID card, into a number of new investment ID cards which they have obtained for a number of sub-funds or sub-entities, or in reverse, where an investor controls a number of investment ID cards and wishes to consolidate holdings and apply for a single investment ID card.

Comment on the above

A lot of questions are related to the parent/child relationships and clear responses have been provided by the Financial Supervisory Service on this area. The FSS is once again wondering why such an issue is a grey area when they have provided clear answers.

In any case, the FSS is currently looking at introducing omnibus accounts. This will eliminate all of the above concerns because foreign investors will be permitted to use omnibus accounts.

Market feedback

"The market is accessible but the process to get a foreign investor ID is time-consuming."

"Many fund managers avoid investment in Republic of Korea as it can take a long time to apply for an account, and to get approval for FX."

"Foreign investor limits also discourage investment."

Comment on the market feedback

Please refer to comments made above.

There seems to be some misperception on the "market accessibility" criteria.

The IRC can be obtained in 1 business day after submission to the FSS. There seems to be some timing issue at global custodians who may require their systems to reflect account opening, etc. Upon submission of an IRC to the FSS, the IRC can be obtained in one business day, including opening of accounts at the local custodian bank.

Documents submitted can be in English. Languages other than English should be translated in Korean or English; however local custodians provide a translation service for the other languages.

In principle IRC should be obtained in the name of the beneficial owner so if the parent obtained IRC the child should not obtain IRC.

A lot of questions are related to the parent/child relationships and clear responses have been provided by the Financial Supervisory Service on this area.

5.2 FX restrictions

The won (KRW) is a freely convertible currency.

Effective from 17 December 2007, purchase of the KRW no longer requires to be related to underlying securities investments. Non-resident investors can buy KRW for any amount, keep it as a cash balance, fund a specific purchase trade, or re-convert it back into a foreign currency.

Pre-funding, in the sense that funds are needed prior to settlement date, is not required. Sales proceeds can be used to fund purchase trades having the same settlement date.

There is an active same day and next day FX market because some investors only book the FX after pre-matching of the trade has been indicated as successful from the client.

A non-resident investor may also enter into forward FX contracts with multiple FX banks or the local sub-custodian as counterparty. Forward contracts may be used to hedge currency

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risk. In order to execute forward FX deals, non-resident investors are required to establish a credit line and enter into a contract with the selected FX institution.

Foreign investors may purchase KRW offshore (NDF market). However, according to local regulations, it is not possible to remit such KRW into an investor's cash account to be used for securities investments.

There is no restriction on the repatriation of income or proceeds from the sale of securities. Sales proceeds converted into foreign currency can either be remitted overseas or held in onshore foreign currency accounts.

The Bank of Korea (BOK) has implemented a comprehensive foreign exchange monitoring system. Reports are submitted through a stand-alone personal computer which was installed on all bank premises by the BOK in April 1999. Reporting content include full details of ALL transactions which impact foreign exchange, including trade settlements (ID card number/stock identifier/broker identity/KRW account number etc.) and repatriation of securities sale proceeds and income/capital gains.

Third-party FX

A registered non-resident investor may execute FX deals with any bank licensed to engage in FX business. The investor must open a cash account with the third-party FX bank.

In practice, some global custodians recommend that the custodian bank and the foreign exchange bank are the same. This facilitates smooth settlement of trades, especially given the tight settlement timeframe and the series of penalties that can result from failed trades. For these reasons, third-party FX is extremely uncommon.

There are two key risk considerations which impede execution of third-party FX by non-resident investors: Pre-matching and same-day payment cut-off times, and the prohibition of overdrafts.

- For purchases, local custodian banks must ensure that the investor has sufficient funds to pay for their purchases prior to pre-matching individual transactions, and where funds are due to be received from a third-party FX bank, the process of pre-matching is stalled until receipt of funds is confirmed. For sales, bank cheques can be received from the selling broker at any time during the day, and potentially after the closure of the BOKWire system at 4:30pm on settlement date. Thus, payment of funds to a third-party FX bank for repatriation may well be delayed until the day after funds are received.
- Extension of credit to non-resident investors is prohibited by law. If the third-party FX bank failed to wire the necessary KRW by 10:00am on settlement date, the purchase trade settlement will fail due to insufficient funds. On the other hand, any repatriation of proceeds not received by 10.00am will necessitate the reversal of the original FX for same day value, which may result in exchange losses.

Therefore, while the market in theory permits third-party FX, global custodians do not generally support this practice.

Market feedback

"FX is a particular problem".

"Must show that the bonds have been bought before executing the FX order. Need for segregated accounts makes this more complex."

"Can get FX approval within 1 day."

"Requirements have been relaxed recently."

Comment on the market feedback

Re: Must show that the bonds have been bought before executing the FX order

It is not true as foreign investors can purchase KRW without underlying transactions effective Dec 17, 2007.

Re: FX approval

This comment is not relevant as there is no FX approval related to portfolio investment. The real demand principle was removed as from December 2007.

Foreign investors can purchase the won at any time, and they may choose to (1) fund a securities purchase trade, (2) keep it as cash balance, or (3) convert it into a foreign currency and repatriate the funds. In addition, foreign investors can sell the won as long as their cash account is not over-drawn. As to won sales proceeds, entitlements such as dividends, etc, as long as there is not overdraft, such won funds can be converted into foreign currency at any time.

Market feedback may be a reflection of the perception on the past market. These restrictions were indeed implemented in the past, which is now no longer in place.

We confirm that foreign investors are able to appoint any local bank to perform their FX trades. It is up to the decision of the foreign investor to execute their trades.

The government has been constantly promoting the liberalization of the FX. The above market feedback is no longer correct.

5.3 Cash account and overdraft restrictions

Local sub-custodians open demand deposit accounts for non-resident investors. These cash accounts are exclusively for investment. They may be interest bearing. All FX transactions will be passed through these accounts.

The source of funds must be documented. This requirement is normally fulfilled automatically by the sub-custodian, who maintains detailed records.

Intra-day and overnight overdrafts on non-resident investors' cash accounts are not allowed.

Market feedback

"Currency restrictions are very onerous, cannot leave a temporary balance in won."

"No LCY overdraft allowed."

Comment on the market feedback

According to the Foreign exchange Act, the amount that the offshore investors can borrow from the bank without any kind of hindrance is KRW 1 billion. And up to KRW 30 billion, they can borrow with the prior notification to the bank, which is not so difficult or complicated. But according to Article 38, 4 of the Bank Act, banks are not allowed to give any overdraft to foreign investors with "speculative" purpose in securities and commodities. Since it's hard to distinguish 'speculation' and 'investment', the extension of credit to FIs does not happen in reality. But FSC (Financial Services Commission) has submitted the revised version of the Bank Act lifting this restriction to the National Assembly already which is still pending in court.

5.4 Taxes

Tax is charged on both interest income and capital gains.

Non-resident investors are subject to a statutory withholding tax rate of 15.4% on interest income from fixed income investment. This consists of a 14% withholding tax and a 10% 'inhabitant's tax surcharge'.

Sales of fixed income securities between a non-resident and a resident are subject to capital gains tax (CGT). For such trades, CGT is levied regardless whether the bond is traded on-exchange or over-the counter. Sales of fixed income securities between two non-residents are exempt from CGT.

For exchange transactions, non-resident investors are exempt from capital gains tax on listed equity positions comprising less than 25% of an issue's total outstanding shares, regardless of the period of time they have held the security.

For transactions executed on the OTC market, non-resident investors are taxed at 11% (or the treaty rate) of the sale proceeds or 22% of the capital gains, net of transaction charges, whichever is lower. These rates include the 10% inhabitant's tax surcharge. Thus the effective rate of capital gains tax is between 11% and 22%.

Whenever a bond transaction is made, the selling broker needs to calculate and withhold the CGT. The tax deduction is included in the net price of the transaction.

Republic of Korea operates a 'pro-rata temporis' system. The amount of tax (both interest and capital gains) will depend on the time period the seller has held the bond.

The rates of withholding tax (on interest and capital gains) may be reduced under applicable double taxation agreements, provided that appropriate documentation is submitted. Certain double taxation agreements may also eliminate the 10% inhabitant's tax surcharge. The tax domicile of the investor is established during the application for an IRC.

Double tax treaties are in place with 70 countries.

There is no officially recognised tax reclaim procedure. Taxes can be reclaimed on a case by case basis, although the reclaim is not always guaranteed.

A 0.30% securities transaction tax is applied to exchange sales and a 0.50% securities transaction tax is applied to off-market sales. The selling broker deducts the tax from the sale proceeds and pays the local tax authority on the tenth day of the month following the transaction.

Market feedback

Both withholding and capital gains taxes are levied, "too many taxes"

"WHT is high and seriously impacts the yield curve."

"We closed our office because of 27% CGT"

"Playing field is not level between local and foreign investors - foreign investors must pay withholding tax while domestic financial institutions are tax-exempt."

"Clients tend to contract Total Return Swaps (TRS) rather than access the market directly; a direct result of taxation which is seen as prohibitive."

"Have reduced the tax a little recently."

Comment on the market feedback

Re: level playing field

This comment is not true as domestic financial institutions are filing tax separately for the income for its fiscal year while there is no withholding on payment date. Accordingly, it's not tax exemption on domestic financial institutions.)

Re: tax rates

The default tax rate to foreign investors is as follows:

22% on cash balance interest and dividends

15.4% on interest income on fixed incomes

The government proposes to abolish WHT for foreign investors - is this correct and is it expected that this will pass through the legislature and become law?

The government has amended the tax rules such that foreign investors will be waived from paying any interest and capital gains tax where the investment is in Treasury bonds and monetary stabilisation bonds, effective 21 May 2009.

5.5 Settlement and custody

Omnibus accounts in general are not permitted.

However, as from 1 January 2008, omnibus accounts in the name of ICSDs at KSD are permitted for non-resident investors buying and selling government bonds and Monetary Stabilization bonds. Accounts must be held on an individual basis at the sub-custodian, with the global custodian designation.

Free of payment transactions, or free cash movements between accounts in different investor names, are prohibited, apart from where sanctioned due to change in custodian, or official change in company structure e.g. merger.

The settlement cycle for bonds traded on-exchange is T+1 and over-the-counter is in the ranged of T+1 to T+30 (or by agreement).

The settlement method is book-entry.

Market settlement is supposed to happen without any fail but there might be fail trades between broker and custodian on behalf of non-resident investors due to mismatching instructions or insufficient funds.

For trades on OTC, settlement is made through BOK-wire, the Bank of Korea financial network, and bonds are delivered at the same time through the KSD's SAFE-Line. This is known as DVP (Delivery Versus Payment) method. Almost all bonds are dematerialised, or immobilised at KSD.

5.6 Messaging and securities numbering

Both SWIFT and ISIN are used.

KSD, and most local market participants, use SWIFT message formats. KSD uses SWIFT for both settlement and corporate event messages.

Korea Exchange (KRX) is the securities numbering agency for bonds. ISIN codes are available for all local bond issues, and are available at the time of issue. ISIN can be allocated at any time through the online allocating system of the KRX.

KSD, and most local market participants, use ISIN.

Market feedback

"Accounts must be maintained locally on a segregated basis, i.e. showing the underlying investor. This increases costs."

Comment on the market feedback

Re: omnibus accounts

As mentioned above, the government allowed ICSDs to open an omnibus account at KSD for investing government bond and Monetary Stabilization bond on January 1, 2008. Recently, thanks to the announcement of Government to exempt the withholding tax and capital gain tax on foreign investors' investment on Government bonds and Monetary Stabilization bonds KSD and ICSDs have built a direct link, to allow foreign investors to hold and settle the government bond and Monetary Stabilization bond offshore since September 2009.

KSD signed the MOU with Euroclear and Clearstream so that foreign investors are able to use an omnibus account opened in the name of ICSDs to purchase Treasury Bonds and Monetary Stabilisation Bonds. There were actual trades since September 2009 in the name of Euroclear and since February 2010 in the name of Clearstream. It is expected to be active going forward.

Re: trade fails

Market trade fails are allowed in case of insufficient securities. When there is shortage of securities for settlement, the KSD shall issue "Due Bill" to cover market fails. When a settlement member is in default due to insufficient fund, the KRX and the KSD shall use "Joint Compensation Fund" or "Settlement Stabilization Fund" in order to complete the settlement.

In case of settlement between a broker and clients, trades may fail due to lack of securities or fund.

5.7 Other issues

Aspect	Market feedback
Liquidity	<p>The bond market is regarded as fairly well developed bond market. There is generally good liquidity, including the longer end.</p> <p>However, restrictions on short sales reduce liquidity.</p> <p>There seems to be a market convention of large trade size (USD 10 million). Investors want to trade USD 0.5 - 2 million. Market makers will quote in smaller size, but the spreads are wider.</p>
Risk management	"Can hedge with the 3-year bond futures, but not longer term."
Other	<p>"The local market is complex."</p> <p>"Severe penalties for not being 100% compliant".</p> <p>"Local custodians take a very cautious view of the regulations."</p> <p>"It costs 50-300 bp more to hold assets on the balance sheet, because of the inability to</p>

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Aspect	Market feedback
	<p>finance the positions."</p> <p>"It seems that domestic players are protected and some transactions can be executed only by domestic financial institutions."</p>

Do you have any comment on the market feedback?

Re: penalties

There has been no case where the government has penalised any foreign investor since the local market was first opened in 1992. Therefore, the comment "Severe penalties for not being 100% compliant" this is not a true statement. The government has confirmed that they have not revoked or restricted any foreign investor because they have not complied to local regulations.

Re: financing assets

It is true that it may be partially correct to say 'It costs 50-300 bp more to hold assets on the balance sheet, because of the inability to finance the positions.' We confirm that the government has amended regulations allowing foreign investors to borrow KRW 30 billion of securities from local lenders, effective 17 December 2009.

We confirm that there are no countries that permit cross –border transactions and it is not fair to say that "It seems that domestic players are protected and some transactions can be executed only by domestic financial institutions." Our understanding is that all trades must ultimately be executed via an investment company which has obtained a license to do investment trading or brokerage business under Financial Investment Services and Capital Markets Act (FSCMA).

Re: hedging

Foreign investors are able to agree/contract forward deals with whatever terms and conditions with a local counterparty bank. Regulations on this have been removed. It is more of a commercial decision by the local counterparty bank to agree to forward deals exceeding certain duration/times with their counterparts. There are 5-year bond futures and 10-year bond futures for long term hedging, however, there is no liquidity.

Re: "market convention of large trade size (USD 10 million)."

Foreign investors can also trade bonds in small size.

6 Malaysia

6.1 *Market access and foreign investor registration*

There is no requirement for foreign investor registration.

However, any foreign fund managers intending to market a foreign fund in Malaysia require prior approval from the Securities Commission.

Market feedback

Most feedback indicated this area was not a barrier. But comments from Japanese investors: “It seems there is lack of understanding of collective investment scheme. They ask to identify trustors under trust scheme”

“It takes too much time to open an account”

Comment on the market feedback

Most schemes constituted in Malaysia are Unit Trust Funds (which are offered to the general public) and Wholesale Funds (which are only offered to “qualified investors” eg. high net worth individuals and prescribed investment schemes/pension funds/licensed institutions). Securities Commission’s prior approval must be obtained before the launch and offer/marketing of these schemes.

A Unit Trust Fund requires a Trustee. Wholesale Funds however may be administered under a trust structure or the fund manager may appoint a custodian for the safekeeping of the assets of the fund. The function of the Trustee is to take custody and control of the fund’s assets and hold it in trust for the unit holders. The Trustee’s obligations include actively monitoring the operation and management of the fund to safeguard the interests of unit holders.

The SC’s “Guidelines for the Offering, Marketing and Distribution of Foreign Funds” allows a collective investment scheme (CIS) that is constituted in a foreign jurisdiction to be offered, marketed and distributed in Malaysia provided certain criteria are met. CIS is defined in the said Guidelines and does not require the scheme to be in the form of a trust.

Re time taken to open an account: Malaysia has adopted international standards for all client adoption processes whereby stricter AML Guidelines have been imposed on financial institutions, who are required to apply proper due diligence practices to their account opening procedures.

6.2 *FX restrictions*

There are no restrictions on the purchase and sale of ringgit (MYR) by non-resident investors. The purchase of MYR must be executed with a licensed onshore bank. MYR may be freely bought and sold (or held) without evidence of underlying securities trades.

Non-resident investors may also purchase or sell MYR with an appointed overseas branch of a licensed onshore banking group to facilitate settlement of MYR assets.

There are no restrictions on the transfer of MYR between non-residents’ MYR accounts (known as External Accounts) for settlement of purchase or sale of MYR assets and for other permitted purposes.

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Non-resident investors are free to repatriate capital, profits and income arising from their investments in Malaysia. Non-resident investors can freely convert MYR in their External Accounts into foreign currency with licensed onshore banks and remit the funds abroad.

Third-party FX is possible, but is not common. The remitting and receiving banks must ensure that the MYR transfer falls under one of the approved sources/uses of funds (such as underlying securities transactions) prior to execution. Due to these restrictions regarding the movement of funds, third party FX may not be supported by custodians.

An effective forward FX market is available onshore where liquidity is good up to six months. Forward markets beyond six months are available with low liquidity and less frequency in trading. Non-residents are free to invest in MYR assets and are free to hedge their MYR exposures with licensed offshore banks based on firm underlying commitment.

Market feedback

Investors noted that fund flows must be linked to securities trades. However, the currency restrictions are generally regarded as ok. Can get FX approval within 1 day.

But comments from Japanese investors:

"Investors must submit a proof that the foreign exchange transaction is based on real investment, not a speculative action."

"To minimize the reporting burden, we are forced to choose their local custodian as foreign transaction counterpart"

"The reporting burden discourages investment, and it becomes a barrier"

"Because of the reporting burden, the settlement procedure takes T+3, which is longer than our preference, thus, we do not trade Malaysian bond even it is included in the Citi index"

Comment on the market feedback

Comment with regards to "The reporting burden discourages investment..."

For compilation of balance of payments statistics, BNM requires the submission of daily reports from licensed onshore banks on payments and receipts between residents and non-residents. Non-resident investors are not required to submit any reports. Reporting is facilitated and completed by the local custodian.

All FX contracts involving the MYR must be contracted onshore via licensed onshore banks.

Local financial institutions will thus take on the reporting function to the central bank. Banks would extract remittance information from the data warehouse, populate the relevant transfer codes (as stipulated by Bank Negara Malaysia) and thereafter feed the information into the central bank's system.

Comment with regards to "Because of the reporting burden, the settlement procedure takes T+3..."

The settlement cycle for MGS (Malaysian Government Securities) is not defined, and is left to the buyer and seller to mutually agree on a value date. However, settlement would generally follow a T+1 cycle. Incidentally, reporting to the central bank is completed on Settlement Date +1 (after settlement takes place). As such, we are unsure as to why settlement is delayed by the reporting to the central bank, as highlighted by the participants interviewed in this survey.

6.3 *Cash account and overdraft restrictions*

Non-residents are allowed to hold credit balances in MYR, and to place MYR funds in interest-bearing deposits. There are no restrictions on investment in money market instruments or other MYR instruments.

Payments between different beneficial owners are allowed. However, they are subject to "Permitted Reasons for Transfers" as prescribed under ECM4 (Exchange Control Notices of Malaysia).

MYR borrowing by non-residents is allowed, subject to ECM6, Exchange Control Notices of Malaysia.

Licensed onshore banks may extend any amount of MYR overdraft facilities to non-resident stockbroking companies and custodian banks for settlement of securities on Bursa Malaysia and RENTAS for the purpose of financing funding gaps due to unforeseen or inadvertent delays on the receipt of funds from the non-resident investors.

Market feedback

"For now, we have experienced difficulty in Malaysia but we will face the same kind of difficulty if we start to invest in other areas."

"Cannot have LCY overdraft... should allow overdrafts for non-residents"

"Still some restrictions on moving cash around, but can repatriate the proceeds."

"Now the market is very easy, investor-friendly, except for cash".

Comment on the market feedback

This is covered in the text above.

6.4 *Taxes*

There is no withholding tax for non-resident investors on interest on government bonds and on approved corporate bonds.

Interest income from convertible loan stocks is subject to the statutory withholding tax rate of 15%.

Double tax treaties are in place with 60 countries, and tax relief at source may be obtained.

Tax may be reclaimed based on applicable tax treaties. However, local tax laws state that only an 'approved tax agent' can act on behalf of a tax payer. As such, sub-custodians who are not 'approved tax agents' are not allowed to facilitate tax reclaim filings on behalf of an investor. Treaty-eligible investors must independently hire a local tax consultant to file tax reclaims directly with the Malaysian tax authority. No official forms are available, and reclaims may take up to one year.

There is no capital gains tax in Malaysia.

Market feedback

Investors noted that there is no withholding tax.

Comment on the market feedback

This is covered in the text above.

6.5 Settlement and custody

There are no restrictions on the use of omnibus accounts for non-resident investors.

Free of payment transfers are allowed.

The settlement cycle for bonds is:

- Listed: T+3
- Unlisted debt securities: negotiable (market practice is T+2).

The settlement method is:

- Listed bonds: Book-entry at Bursa Malaysia Depository Sdn Bhd.
- Unlisted debt securities: Book-entry at Bank Negara Malaysia (BNM)

There is an electronic platform for trade matching.

Settlement pre-matching for bonds is carried out by telephone.

All unlisted debt securities are dematerialised, except for some CP / MTN programmes issued before April 2006.

6.6 Messaging and securities numbering

The CSD, and most local market participants, do not use SWIFT message formats.

In October 1996, Bursa Malaysia was appointed the National Numbering Agency for all types of instruments in Malaysia. ISIN codes are available for all local bond issues, and are available at the time of issue. Most local market participants use ISIN codes in securities messages, but the CSD does not.

Market feedback

"Communications between market participants and depository / clearing house are not in SWIFT format"

"Bonds in Malaysia are also identified via ISIN."

"Malaysia - usage of ISIN will ensure consistency in the markets and facilitate faster exchange of issuance information and ISIN codes"

Comment on the market feedback

This is largely covered in the text above.

6.7 Other issues

Aspect	Market feedback
Liquidity	"Good sized bond market, sustained by need for government borrowing to finance its budget."

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Aspect	Market feedback
	"Liquidity is moderate, similar to Singapore." "Trade sizes ok."
Risk management	"Maturity date of KLIBOR future does not match 3-months bank rate, i.e. mismatch between hedging instruments and underlying rates."
Regulation	"No more capital controls - investors may still think they exist, though; some investors have lost significant money when controls were implemented in Sep 1998, and may not have taken another look at Malaysia just yet" "BNM is checking trades and may question purpose – this might inhibit interest in the market."
Other	"One of the more open and attractive bond markets." "No real distinction between local and foreign players."

Comment on the market feedback

This is largely covered in the text above.

Foreign exchange administration reporting is handled by the transacting bank who may revert to their clients for information if they do not have sufficient details of the transaction. This should in no way hinder a legitimate transaction. If it is transacted in the normal course of business it will be reported within the approved purpose codes of the Central Bank.

7 Philippines

7.1 *Market access and foreign investor registration*

Note: Strictly speaking, the registration requirements described in this section relate to FX control rather than investor access.

No restrictions are placed on non-residents investing in Philippine securities. They are free to invest in any local bond issues.

Foreign investments need not be registered with the Bangko Sentral ng Pilipinas (BSP) unless the foreign exchange needed to service the repatriation of capital and the remittance of dividends, profits and earnings is purchased from the banking sector, i.e., authorised agent banks (AABs) or AAB-subsidary/affiliate forex corporations (AAB-forex corps).

In other words, registration is needed for the repatriation of funds, not for the initial inward investment.

Summary

Foreign investor registration is effected by means of a Bangko Sentral Registration Document (BSRD) issued by the BSP. An investor is issued a BSRD licence number when he makes his initial investment.

Registration is essential in order to qualify for sourcing of FX from AABs and AAB-forex corps for the repatriation of sale and redemption proceeds, interest and dividends, etc.

The BSRD is a document evidencing registration of inward foreign investments.

The BSRD is maintained by the investor's local custodian. The custodian sends the information to the BSP, which also maintains a ledger of the investor's activity.

The BSRD allows the investor's original capital plus related income and profits to be repatriated via the banking system.

When a transaction takes place, the custodian must send one copy of the updated BSRD, together with supporting documents to the BSP within 2 business days (i.e. SD+2).

These supporting documents are (i) certificate of inward remittance (CIR) which details the receipt of foreign funds, including the currency, date of receipt, and rate of exchange applied, and (ii) securities trade contract note (purchase invoice or confirmation of sale).

The BSP retains one copy for its records, and updates a copy for the custodian.

For the purchase of an investment with an existing BSRD, the delivering counterparty sends a BSRD letter advice, which is forwarded to the BSP in lieu of the CIR and proof of investment.

In addition to the documents, the custodian also sends a soft copy of the summary via electronic mail to the BSP.

BSRDs can take a week or longer to issue.

[Extract from regulations provided by GOE national member]

Categories of Inward Foreign investments

For purposes of registration, foreign investments may be in the form of (1) foreign direct investments in Philippine firms or enterprises; (2) investments in peso-denominated government securities; (3) investments in securities listed in the Philippine Stock Exchange (PSE); (4) investments in peso-denominated money market instruments; and (5) investments in peso time deposits with AABs with a minimum tenor of ninety (90) days.

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A foreign investment is considered BSP-registered upon issuance of a Bangko Sentral Registration Document (BSRD) by the BSP or a designated custodian bank. Inward foreign investments under categories 2, 3 and 5 shall be registered with an investor's designated custodian bank on behalf of BSP while inward foreign investments under categories 1 and 4 shall be registered directly with BSP.

BSRD registration is on per transaction basis. (Note: For purposes of this paper, we shall only cover investments in (2) peso-denominated government securities and (4) investments in peso-denominated money market instruments.)

For Registration directly with BSP.

Investments in money market instruments which refer to all peso-denominated debt instruments, such as but not limited to bonds, bills payable, promissory note (PNs) and non-participating preferred shares issued onshore by private resident firms shall be registered directly with BSP supported by the following documents:

- Original Certification of Inward Remittance (CIR) of foreign exchange and its conversion to pesos through an AAB in the BSP prescribed format
- Contract /Certificate of Investments

For bonds or P/Ns issued by private domestic firms that were purchased from local creditor banks, the following additional documents are required:

- Copies of bonds or PNs;
- Purchase Price Letter/Agreement;
- Deed of Assignment of the Loan;
- Notice of Assignment of the Loan; and
- Acknowledgment by debtor of the Notice of Assignment

Reinvestment of divestment/sale proceeds or profits/earnings of duly registered investments (The following documentation requirements are in lieu of the CIR and in addition to the required documentation for the specific form/type of instrument):

- Original BSRD;
- Sworn certification signed by the original investee firm's authorized officer attesting to the divestment/sale by the foreign investor, and;
- Proof of divestment/sale of foreign investments; or
- Matured contract/certificate of investment/proof of redemption for money market instruments.

For dividends/profits/earnings:

- Copy of BSRD; and
- Sworn certification signed by the investee firm's authorised officer declaring the distribution of profits, to include relevant excerpts of the covering Board Resolution; or
- Proof of interest/coupon payments for investment/s in money market instruments.

BSP-registered investments sold/transferred to another foreign investor if payment is made offshore in foreign exchange:

- Original BSRD;
- Sworn certification from the authorized officer of the investee firm, attesting to the transfer/assignment of the investments from the selling foreign investor to the buyer, in the books of the investee firm; and
- Deed of Sale/Assignment.

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Subject to submission of complete documents, processing by BSP may take more than one week or longer depending on how complicated is the underlying transaction. While there is a standard list of required documents, BSP may still require additional documents to validate the application.

For Registration with Custodian Banks

Inward foreign investments in peso-denominated government securities, PSE-listed securities and peso time deposits with tenor of at least 90 days shall be registered with custodian banks designated by the foreign investors. A custodian bank may be any authorized agent bank or an offshore banking unit appointed by the foreign investor to register his investments and to hold the securities for and on his behalf and to represent him in all the necessary actions in connection with his investments in the Philippines.

The BSRD to be issued by a custodian bank on behalf of BSP shall be in the prescribed pre-numbered form purchased by the custodian bank from BSP.

Issuance of BSRDs (for purchase)/BSRD Letter Advice (for sale) by custodian banks is generally done on Settlement Date (SD). For selling transaction and interest payments, outward repatriation of foreign currency equivalent can be done on SD or latest SD +1 by the custodian bank.

Registration Procedures

All underlying securities transactions are issued corresponding BSRDs by the custodian banks and reported on daily basis. In the books of the custodian bank, a foreign investor will have one BSRD license number where subsidiary ledgers are maintained per security (ISIN). All buy and sell transactions are monitored and reported daily to BSP including corporate-action related activities like cash/stock dividends, stocks splits/reverse stock splits, stock rights, interest collection, property dividends.

To qualify for a BSRD, the original/initial investment must be funded by inward remittance of foreign currency and converted to peso through the banking sector. The BSRD is a document evidencing the registration of inward foreign investments. The BSRD is maintained by the investor's local custodian. The custodian sends the information to the BSP, which also maintains a ledger of the investor's activity. The duplicate copy of the new BSRD issued by the custodian banks together with the requisite supporting documents shall be submitted to BSP within two (2) banking days from date of registration for post audit purposes. The original copy of the BSRD shall remain in the custody of the issuing custodian bank.

The "one-BSRD-per-investor-per-custodian bank" rule

The "one-BSRD-per-investor-per-custodian bank" rule shall be followed for the registration of investments with custodian banks.

Additional inward foreign exchange remittances of a foreign investor through a custodian bank, which had earlier issued to that investor a BSRD, shall be considered BSP-registered after annotating such investments in said BSRD, and reporting to the BSP by said custodian bank within two (2) banking days from transaction date under the "Consolidated Daily Foreign Portfolio Investment Registration and Outward Remittance Report".

Changes in the composition of the registered investment holdings of the foreign investor that do not involve inward remittance of foreign exchange such as stock dividends, stock splits, or reverse stock splits, shall be annotated in the same BSRD and reported by the custodian bank to the BSP.

Surrender of BSRD to BSP

Whenever the BSP-registered investments have been fully divested (redeemed/ sold/ withdrawn) by the foreign investor, the custodian of the original copy of the BSRD shall surrender said BSRD to BSP for cancellation within two (2) banking days from date of full remittance of divestment proceeds.

Documentary Requirements: Investments in peso-denominated government securities (GS)

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- Accredited dealer's Confirmation of Sale (COS);
- Original CIR of foreign exchange and its conversion to pesos through the banking sector in the prescribed format;
- Authority to disclose Information in the prescribed format or equivalent document, i.e., certified true copy of the signed Custody Agreement that allows disclosure of client information to the regulators.

[end of extract]

Market feedback

This is included under FX restrictions (below).

Why do BSRDs sometimes take a week or longer to issue?

Please see comments above.

7.2 FX restrictions

The inward investment may be accompanied by an FX trade for more than the amount required. The surplus amount may be retained and used for subsequent purchases. Thus there is no need to match amounts exactly.

The repatriation of funds, including sale and redemption proceeds and income, must be accompanied by a BSRD together with the required supporting documents.

Subject to submission to BSP of the above documentation, there are no restrictions on the amount of currency that can be remitted or repatriated.

In addition to the documents, the custodian also sends a soft copy of the summary via electronic mail to the BSP.

Third-party FX trades are permitted. In that case, the third-party bank must send the CIR to the custodian bank at the same time as it transfers the PHP. Unless a CIR is provided it is not possible to issue a BSRD license, thereby preventing repatriation of subsequent sales and income through the banking system.

Offshore foreign exchange transactions (PHP/USD) are allowed provided PHP cover is done onshore.

Purchases of PHP intended for securities investments that are ultimately cancelled cannot be repatriated unless there is a special authority from the BSP to effect such repatriation. BSRD-eligible transactions include investments in listed securities, government debt, and time deposits or money market instruments with a maturity of 90 days or more.

If a BSRD is lost, the sub-custodian will file an affidavit of loss and continue to use the original BSRD number. The original BSRD is surrendered to the central bank only upon closure of the account.

[Extract from regulations provided by GOE national member]

Documentary Requirements

For divestment/sale proceeds of foreign investment in peso-denominated GS:

- Original BSRD or BSRD Letter Advice from the registering custodian bank, and

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- Photocopy of Confirmation of Purchase issued by the GS dealer.

For divestment/sale proceeds of foreign investment in Money-Market instruments:

- Original BSRD; and
- Photocopy of Matured Contract.

For profits/earnings/interest:

- Original BSRD or BSRD Letter Advice;
 - Photocopy of PSE-cash dividends notice and Phil. Central Depository (PCD) printout of cash dividend payment or computation of interest earned issued by MMI issuer or bank;
 - Photocopy of secretary's sworn statement on the Board Resolution covering the dividend declaration;
 - For direct foreign equity investments, photocopy of clearance from BSP-SES (for non-PSE listed banks), Insurance Commission (for insurance companies), Department of Energy or from the National Power Corporation (for oil/natural gas/geothermal companies).
 - Detailed computation of the amount applied for in the attached format

Deposit of Divestment/Sale Proceeds:

- Pending reinvestment or repatriation, divestment/sale proceeds of duly-registered foreign investments, including dividends, profits/interests and earnings may be deposited temporarily with any authorized agent banks. The eventual repatriation thereof including interest earned net of taxes, may be remitted in full through the banking sector without prior BSP approval.

Reinvestment:

- Foreign investors may reinvest divestment/ sale proceeds or remittable dividends/ profits or earnings of duly registered investments. The reinvestments shall be registered with BSP or the investors' designated custodian banks, as applicable, if the foreign exchange needed to service the repatriation of capital and the remittance of dividends, profits and earnings which accrue thereon shall be purchased from AABs and AAB-forex corps.

Foreign Exchange Forwards and Swaps involving PHP

Customers including non-residents may through FX forwards, hedge their market risks arising from foreign exchange obligations and/or exposures: Provided, that forward sale of FX (deliverable and non-deliverable) may only be used when the underlying transaction is eligible for servicing using FX purchased from AABs and AAB-forex corps. Customers may likewise cover their funding requirements through foreign exchange swaps. AABs may only engage in foreign exchange forwards and swap transactions with customers if the latter is hedging market risk or covering funding requirements. There shall be no double/multiple hedging such that at any given time, the total notional amount of the foreign exchange derivatives transactions shall not exceed the amount of the underlying foreign exchange obligation/exposure.

The customer shall no longer be allowed to buy foreign exchange from the banking sector for foreign exchange obligations/exposures that are fully covered by deliverable foreign exchange forwards and foreign exchange swaps.

Original BSRD has to be presented to the dealing bank by the customer on or before deal date.

Tenor/Maturity and Settlement shall not be longer than the maturity of the underlying foreign exchange obligation or the approximate due date or settlement of the foreign exchange

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exposure. For deliverable foreign exchange forward contracts, the tenor/maturity shall be co-terminus with the maturity of the underlying obligation or the approximate due date or settlement of the foreign exchange exposure. This shall not preclude pre-termination of the contract due to prepayment of the underlying obligation or exposure.

There shall be no restriction on tenor for foreign exchange swaps.

All NDF contracts with residents shall be settled in pesos.

All forward contracts to sell foreign exchange to non-residents with no full delivery of principal, including cancellations, roll-overs/renewals shall be submitted to BSP for prior clearance. However, every roll-over of short-term (ST) deliverable forward contracts with non-residents do not require prior BSP approval: provided, that:

- The underlying transaction for each ST deliverable foreign exchange forward contract is a foreign investment in long-term (LT) peso-denominated government securities for which a BSRD has been issued;
- The roll-over is effected during the tenor of the underlying LT peso-denominated government securities;
- The actual delivery/settlement of the forward contract coincides with the date of the intended capital repatriation of the BSP-registered investments;
- The value of the forward contract does not exceed the foreign currency equivalent of the maturity value value/net proceeds of the BSP-registered investments computed at the agreed forward exchange rate; and
- The repatriation of capital and remittance of income for the BSP-registered investment complies with documentary requirements under existing BSP rules.

Banks authorized to engage in derivative transactions such as foreign exchange forward and swap contracts shall report electronically in excel format to BSP within prescribed period. Failure to do so will be subject to monetary and administrative sanctions.

[\[end of extract\]](#)

Market feedback

Investors noted that fund flows must be linked to securities trades.

Currency restrictions were generally regarded as ok, "can get FX same day".

"In the Philippines, foreign investors are exposed to additional FX risks. Investments in bonds by foreign investors are registered with the central bank. Pending release of the registration document/foreign investment license, the foreign investors can sell the position but they are prohibited from doing a FX deal to sell the PHP vs foreign currency until after receipt of the BSRD. Furthermore, there is no standard processing period which may range from one week to two weeks for government securities and longer for corporate bonds."

"Existing central bank regulations on investments in fixed income securities by foreign investors only allow the foreign investors to contract a FX deal to sell PHP and buy foreign currency upon actual receipt of the license to be issued by central bank. Processing may take from one to two weeks for government securities and longer for corporate bonds. Central bank may also require additional documentation which makes the process rather arbitrary. Foreign investors are also prohibited from doing a forward in the absence of such foreign investment license – term used is BSRD. From the custodian's perspective, operationally, this becomes challenging because each securities transaction of its foreign investor clients that affect PHP with corresponding FX component have to be monitored/accounted for and reported to central bank and failure/delay to do so within the required period can result to penalties including suspension of the signing officers. Custodian

banks have also to do regular reconciliation to ensure clients assets under custody are supported by BSRDs. That include monitoring BSRD for interest, cash and stock dividends, stock rights, debt to equity swaps, etc."

Comment on the market feedback

In particular, is the description of the burden of BSRD maintenance accurate, and, if so, are there any plans to improve this process?

BSP issued Circular 645 on 19 February 2009 which allows custodian banks to issue the BSRD for inward foreign investments in peso-denominated government securities on behalf of BSP. Foreign investors can now get the FX equivalent on SD. Status quo on corporate bonds which fall under "money market instruments". Since over 90% of the peso fixed income market is dominated by GS, the change was welcomed by the market.

There is an ongoing dialogue between BSP and the custodian banks to streamline the reporting requirements.

7.3 Cash account and overdraft restrictions

PHP cash credit balances are permitted.

Non-resident investors can open interest-earning cash accounts. This Interim Peso Deposit (IPD) account is where investors can place their excess PHP pending re-investment. Custodian banks also issue a BSRD for such accounts provided the pesos are either sale proceeds or interest/ dividends/ profits/ earnings from BSP-registered investments.

PHP overdrafts and loans to non-residents are not permitted. This means that non-resident investors must ensure that cash accounts are adequately funded (i.e. cleared funds) prior to settlement date.

Market feedback

Investors noted the restriction on LCY overdrafts.

"...allow overdrafts for non-residents"

"Foreign broker-dealer clients which do intraday trading are especially affected by this restriction - 'peso loans to non-residents are not allowed'. In case of turnaround trades where the sale side fails, the foreign broker-dealer client has to sell foreign currency and buy PHP to cover the PHP shortfall. In case the sale side settles the following day, the foreign broker-dealer client is left with PHP long position which he cannot sell until they apply for special one-off approval from central bank to convert the PHP to foreign currency. This process may take time and can be rather challenging."

Comment on the market feedback

With the recent regulation allowing non-residents to do FX swap, the above concern would have been addressed.

7.4 Taxes

Both resident and non-resident investors are subject to a statutory withholding tax of 20% on the interest from government bonds, and 30% on the interest from corporate bonds.

For government bonds, the withholding tax is paid by the Government Securities Eligible Dealer (GSED) when purchased in the primary market (i.e. deducted at source). The bonds remain in an account maintained by the GSED at the BSP. The GSED reclaims the withholding tax from the secondary investor on the portion of the income transferred.

We understand that the government is currently studying the possibility of removing withholding tax on government bonds.

For non-residents, the withholding tax rate may be reduced under a double taxation agreement. To obtain a reduced treaty rate, eligible investors must submit all necessary documentation to the Bureau of Internal Revenue (BIR). The required documents required include, but are not limited to, the following:

- An original certificate of tax residence (COR) issued by the tax authority of the investor's country of residence or a copy of the articles of incorporation, duly certified by the regulatory body of the investor's country of residence equivalent to the Philippine SEC and consularized by a Philippine consulate/embassy of the investor's country of residence. If the COR is dated with a specific year, it must be renewed annually.
- An original copy of certification from the Philippine SEC that the income recipient is not registered to engage in business in the Philippines.

Double tax treaties are in place with 31 countries.

Tax reclaims are available via direct filing with the Bureau of Internal Revenue (BIR). The burden of proof to establish the legal and factual basis of the claims lies with the investor and may only be processed on a per transaction basis. The investor must hire a local tax consultant to perform this filing, which may take several years to resolve and may lead to protracted litigation. We understand that this is largely due to limited available budget for non-resident investors.

Gains from trading government securities are exempt from capital gains tax. For other debt securities, off-exchange trades are subject to a capital gains tax of 5% for the first PHP 100,000 and 10% thereafter. Transactions executed on the PSE are not subject to capital gains tax.

There are sometimes differences in interpretation of tax regulations.

Market feedback

Investors report that tax is a disincentive to investment in Philippines LCY bonds.

Tax has to be paid before repatriating funds.

"Tax exemption is available. However, the procedure to get exemption is not clear".

"In principle, WHT can be claimed back, but it seems no foreign investor has ever received a refund."

"In the Philippines, for foreign investors to avail of preferential tax treaty rates on their investments in government securities, they must confirm to the Bureau of Treasury that it's 'buy-to-hold' portfolio. Otherwise, application at source of DTA is not allowed. Tax reclaims can be very tedious and require the legal services of tax lawyers. Documentation requirements can also be arbitrary. A tax ruling is also required on per transaction basis."

"Philippines - tax treaty relief for government bonds is not available. Tax reclaim is also a long and tedious process. For corporate bonds, this will depend on submission of supporting documents to the issuer."

It was observed that withholding tax on LCY government bonds is 20%, but there is no tax on USD government bonds: "NB this creates an arbitrage opportunity - buy USD and hedge back to PHP"

Comment on the market feedback

There was actually one successful case – Bankers Trust - but it took them over two years to get the tax ruling.

Until the relevant tax regulations are put in place to amend/improve existing regulations, issuers including the Bureau of Treasury will be in a difficult situation to do otherwise because by default, the burden of withholding the correct tax lies with the Issuer/Debtor and any shortfall can be assessed against them by the tax authorities. Furthermore, there is difficulty in determining holding period by the foreign investor for which the appropriate lower WHT rate shall be applied. The government also fears that local investors will set up offshore SPVs to avail of the potential tax arbitrage, hence, the final 20% withholding tax rate.

7.5 Settlement and custody

Non-resident investors can use omnibus accounts.

Free of payment trades are permitted. It is generally accepted market practice among custodian banks that delivery of underlying securities in case of free of payment transactions should be accompanied by the delivery of the original BSRD Letter Advice issued by the registering custodian bank provided the initial investment was duly registered with BSP or the designated custodian bank.

The settlement cycle is:

- For cross-border bond trades is: T+2 (or by agreement).
- Onshore: T+0.

The settlement method is:

- Government securities: book-entry in RoSS or in PDTC.
- Scripless Corporate Bonds: Book-entry in PDTC
- Physical corporate bonds: endorsement and actual delivery of physical certificates with duly notarised Deed of Assignment

A securities borrowing and lending (SBL) market exists to address possible fails. SBL may be contracted offshore.

There is a trade matching system for government securities and some listed corporate bonds.

There is a pre-settlement matching system for government securities among Government Securities Eligible Dealers (GSEDs).

Not all bonds are dematerialised or immobilised.

7.6 Messaging and securities numbering

The local CSD and most local market participants do not use SWIFT.

There is no securities numbering agency for bonds. The only official securities numbering agency is the PSE but it does not assign numbers for bonds. The Bureau of Treasury issues its own ISIN-like numbering for government securities. For corporate securities listed in PDEX, PDEX assigns a series name following the same convention (so this is at best a local

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securities code). For non-listed corporate securities, the registrar assigns a series name which is descriptive of the issue.

Market feedback

"Communications between market participants and depository / clearing house are not in SWIFT format"

"Local code is required for trade settlement"

"There is a time lag between issuance of bonds and ISIN registration. During this period, cannot trade."

There was some comment on the "cross-custodian rule" (believed to refer to regulations under BSP Circular 392, whereby banks cannot hold securities in custody that they have themselves traded with their customers). It was noted that this has led to a network of reciprocity arrangements in the industry.

Comment on the market feedback

SWIFT and ISIN usage

"Local code is required for trade settlement". This is actually correct. But most systems would have both local codes and corresponding ISINs.

Most domestic investors are not on SWIFT and trades settlement among GSEDs and custodian banks are done electronically via RoSS using the Reuters-provided connectivity. Settlement with non-RoSS participant is done physically by faxing the Confirmation of Sale (COS) by the Seller) and Confirmation of Purchase (COP) by the buyer to the Bureau of Treasury.

ISIN issuance

ISIN-like codes are available on Issue Date in the website of the Bureau of Treasury (www.treasury.gov.ph).

Cross-custodian rule

BSP mandated delivery of securities sold to an independent BSP-accredited third party custodian bank. This means that a Selling Bank cannot be the same as the custodian bank. This rule applies only for onshore investors.

The cross-custodian rule applies only to onshore investors. Offshore investors are exempted from this regulation

7.7 Other issues

Aspect	Market feedback
Liquidity	The bond market is small and illiquid. However, it is easier to trade now. Long bonds are available but spreads are very wide. Very few corporate issuers.

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Aspect	Market feedback
	Dept of Finance enhance liquidity in government bonds buy buying back and reissuing at benchmarks. "Useful to do this but must avoid surprises to the market."
Transparency	Auction schedules are not always clear. Need to make them more 'visible'. Government may cancel auction in a long term bond after seeing the bids, if not happy with the rates. This 'adds to the challenge'. Lack of price transparency.
Risk management	Lack of currency hedge tool.
Regulation	Rules and regulations are clear. However, there can be abrupt regulatory changes which creates regulatory risk.

Do you have any comment on the market feedback?

Auction schedules are dependent on funding requirements of the government.
Price transparency in the secondary market has improved since inter-dealer trades are now mapped in PDEX.
BSP now exposes draft rules to the market including the Bankers Association of the Philippines to avoid surprises.

Are risk management tools available?

Settlement of trades in peso government securities done in the Registry of Scriptless Securities (RoSS) among RoSS participants is on delivery against payment basis where the participants' demand deposit accounts with BSP are linked to their RoSS securities accounts.

In case where cash settlement happens ahead of the securities, there is an existing reciprocal "Continuing Letter of Undertaking" among counterparties that failure to deliver the underlying securities within an agreed time shall entitle the buyer to issue a stop payment instruction on the cash payment.

For onshore investors, BSP came up with the mandatory 3rd party custodian requirement to address possible double/multiple sale of securities. Offshore investors would generally designate independent custodian banks and take counterparty risk on their appointed custodian banks.

8 Singapore

Note: Not many comments were received from market participants as Singapore was not generally regarded as a market with significant barriers to cross-border bond investment.

8.1 *Market access and foreign investor registration*

There are no market entrance requirements for foreign investors. Non residents can invest in any issues in the local bond market without approval from the regulatory authorities and they can also obtain funding to finance their bond purchases.

Market feedback

No specific feedback received in this area.

8.2 *FX restrictions*

There are no foreign exchange controls in Singapore. The Singapore dollar (SGD) is freely convertible. Offshore FX is permitted.

There are no restrictions on clients executing third party FX and this is supported by custodians.

Sale proceeds and dividend income can be freely remitted out of Singapore.

Market feedback

Investors noted that there are no foreign exchange restrictions.

"Only Singapore meet our requirement for free cash transfer."

8.3 *Cash account and overdraft restrictions*

There is no restriction on SGD cash balances for non-residents.

Overdrafts for non-resident accounts may be limited for certain activities, but such restrictions do not apply to overdrafts which are due to investment-related activity.

MAS Notice 757 and its related Notices, which were originally designed to discourage the internationalization of the SGD, has been progressively liberalized since 1998. The notice has only two remaining restrictions, namely:

- the capping of lending by financial institutions to non-resident financial institutions including related entities) to SGD 5 million per institution (MAS can be asked for exemptions in case of e.g. a large IPO or other placement where a mismatch of outgoing and incoming funds is expected), and
- SGD proceeds raised by non-resident financial institutions must be swapped into foreign currency before the funds are repatriated abroad.

Both restrictions are targeted at discouraging speculation against the SGD and not against genuine capital market activities.

Market feedback

No specific feedback received in this area.

8.4 Taxes

The standard withholding rate for interest income is 15%.

Non-residents, including those with permanent establishment in Singapore, are exempt from withholding tax on qualifying debt securities (QDS), provided that such securities were not purchased with funds resulting from a local business owned by the non-resident investor.

Interest on QDS issued between 28 Feb 1998 and 31 Dec 2008 is tax-exempt until 31 Dec 2013. From 16 Feb 2008 to 31 Dec 2013, the incentive is enhanced to exempt all investors from income tax on QDS that are: (i) debt securities with a term of at least 10 yrs, or (ii) Islamic bonds.

Capital gains are tax-exempt.

Tax, if payable, is based on an investor's holdings at record date. Historical information is not required.

Tax relief at source is available. Double tax treaties are in place with 69 countries.

Tax reclaims are available for non-resident investors whose double taxation treaties specify a lower withholding rate, subject to the discretion of IRAS.

Market feedback

No specific feedback received in this area.

8.5 Settlement and custody

Omnibus accounts are allowed (for non-resident institutions only).

MAS is the government bonds depository. CDP holds corporate bonds. CDP holds universal certificates for physical bonds.

The settlement cycle for bonds is:

- Corporate debt: T+3 for (typically).
- Government bonds: T+1 (negotiable).

The settlement method is book-entry for government bonds.

There are trade matching and pre-settlement matching systems for bonds.

All bonds are dematerialised.

8.6 Messaging and securities numbering

Communications between market participants and depository / clearing house are in SWIFT format, for settlement of government bonds, and for settlement of corporate bonds via the Debt Securities Clearing and Settlement System (DCSS). There are plans to progress to a SWIFT format in Phase 2 of the domestic pre-settlement matching system. Most local market participants use SWIFT.

SGX is the securities numbering agency for bonds.

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ISIN codes are available for all local bonds, and are available for new issues at issue date.
The CSD and most local market participants use ISIN.

Market feedback

No specific feedback received in this area.

8.7 Other issues

Aspect	Market feedback
Liquidity	Good liquidity, including longer end. Banks hold only about 50% of issues (based on MAS data) Not many issues, helps to concentrate liquidity per issue. Active repo market Defined yield curve provides benchmark
Transparency	The market is regarded as open and transparent.

9 Thailand

9.1 *Market access and foreign investor registration*

There is no requirement for foreign investor registration.

However, documentation required for custodian account opening in Thailand needs to be notarised and consularised.

Market feedback

No specific feedback received in this area.

Comment on the above

Account-opening is a costly and time-consuming process.

It is the AML/KYC practice to make best efforts to verify clients for non face-to-face account opening. The level of KYC can be different depending on each company's policy.

The documents are also required by the registrar agent for bond re-registration, and for some corporate actions events like bonds conversion, exercise warrants and rights subscription. Documents must be updated every year.

It is a costly time consuming process especially then they need to be updated every year. TSD have suggested that it should be relaxed for large and well-known institutions, or required to be updated every two or three years.

9.2 *FX restrictions*

The baht (THB) is not freely convertible.

Each foreign exchange (FX) or non-FX related payment transaction of USD 20,000 or greater must be reported by the sub-custodian to the Bank of Thailand (BOT), stating the purpose of the transaction.

Foreign investors may net a number of security transactions against a single FX, provided that all the settlement dates are the same.

Same-day, next day and forward value FX are permitted if there is an underlying transaction (up to the value of the transaction). If there is no underlying transaction, then for buying THB for value same day, next day, or selling THB forward, FX is permitted altogether up to THB 300 million per non-resident entity group per commercial bank. For selling THB for value same day, next day, or buying THB forward, FX is permitted up to THB 10 million per non-resident entity group per commercial bank.

Spot FX (both purchases and sales of THB) is permitted with no underlying transaction.

Third party FX trades with resident financial institutions require proof of underlying investment activity. However, while third party FX is permitted, it may not be supported by custodians. This is due to the restriction that the funds credited or debited from a non-resident's account must be backed by, for example, details of FX from the third party FX bank, or details of underlying trade from custodian to third party FX bank.

THB may be purchased offshore.

There are no restrictions on the repatriation of capital and income.

Market feedback

Investors noted that fund flows must be linked to securities trades.

"Currency controls are a problem."

"FX is difficult"

Comment on the market feedback

Many banks or investors must have two types of accounts (NRBS and NRBA), therefore there is more reporting and control. Funds must be managed separately and can not be transferred across account type, therefore there is less utilisation of local currency in each type of account.

The measurements have an impact on foreign investors' mood for their investment in Thailand especially when it was first announced but once they have adjusted their plan to the rules it is still manageable.

9.3 Cash account and overdraft restrictions

Non-residents are permitted to maintain a Non-Resident Baht Account for Securities (NRBS) or a Non-Resident Baht Account (NRBA). All cash related to securities trading and settlement activity must go through the NRBS cash account. An NRBA may also be used for other purposes.

Funds can only be transferred between the same types of non-resident accounts, i.e. NRBS to NRBS or NRBA to NRBA. Such transfers are allowed irrespective of whether the paying and receiving accounts are at the same or different institutions. Transfers from NRBA to NRBS or vice versa are not allowed.

All clean cash movements in and out of NRBS or NRBA accounts require a 'purpose code' / supporting documentation of the underlying transaction. If there is no purpose code, the purpose of the transfer must be stated.

Such documentation is required for THB cash transfers from non-resident THB cash accounts to resident THB cash accounts of THB 5 million or more. Documentation is also required for all THB cash transfers from resident THB cash accounts to non-resident THB cash accounts.

THB balances for a non-resident entity must not exceed THB 300 million per account type across all accounts for the same account type (NRBA and NRBS). The BOT may force non-resident investors with balances in excess of THB300 million per account type to sell the excess THB to the BOT at a penalty rate.

Overdrafts are permitted for a non-resident but would be included in the above 'no underlying transactions' allowance of up to THB 300 million per entity group. Overdraft facilities provided by Thai financial institutions to non-resident investors are capped at THB300 million per bank (i.e. across all non-resident accounts at that bank).

Overdraft over THB 300 million requires approval from the BOT which must be based on exceptional circumstances.

Thai financial institutions are not allowed to extend direct THB-denominated loans to non-residents.

Financial institutions are not allowed to pay interest on non-resident investors' accounts, including current and savings accounts and term deposits.

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Local financial institutions are not allowed to engage in the following transactions with non-resident investors:

- issuing short-term debt instruments to non-residents
- THB non-deliverable forwards
- sell- and buy-back transactions for any type of debt instrument.

Market feedback

"In Thailand, separate cash accounts must be maintained for bond trading."

"The BOT regulation requires that a non-resident must maintain a THB balance of no more than THB 300 million per day. If a bond matures and the client fails to convert the THB into FCY, they will be breaching the regulation and will be subject to penalty. It is a rigid rule and places the task of monitoring on the custodian banks."

"The BOT does allow for lending and overdraft for non-residents, however, the rule still restricts the limit to only THB 300 million which has to also include all outstanding FX such as swaps and forwards. The monitoring the lines are then manual and difficult to control operationally and as a result, most commonly not offered to the investors."

"Simplification of cash account structure in Thailand [is an issue]."

"THB 300 million daily cash limit for each foreign investor account, with penalties for exceeding."

Comment on the market feedback

Separate cash accounts:

It is not separated, only NRBS cash account type available for all type of securities tradings.

THB 300 million limit:

This limit is per account type across all accounts per entity.

Lending and overdrafts for non-residents:

The monitoring is manual and difficult to control operationally and as a result, most commonly not offered to the investors. Some financial institutions have the ability and develop internal system to monitor and control.

Custodian banks can request for 1 day long balance on behalf of non resident investor if there is an evidence of next day trade or it is a US public holiday, etc.

9.4 Taxes

All non-resident investors are exempt from withholding tax on interest and capital gains tax from government bonds and government agencies bonds.

Corporate bond interest (including state enterprise bonds) is taxed at 15%, withheld at source. The tax may be exempted or reduced to 10% by tax treaties. In particular, investors domiciled in Singapore and in most other ASEAN countries are exempt from withholding tax.

Government bonds (and state enterprise bonds) are exempt from capital gains tax for non-resident investors.

Generally, for other securities transactions executed in Thailand, including debentures and bonds, gross capital gains are subject to a 15% capital gains tax. This is collected by the selling broker / bond dealer. As the tax is imposed on the gains earned on the sale of

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securities inside Thailand, trading activities offshore or outside Thailand may not be subject to tax.

The capital gains tax is calculated by the broker / dealer after settlement and is usually debited within three days after the pre-advice of capital gains tax calculations.

Double tax treaties are in place with 52 countries. The process for obtaining relief at source is clearly defined and published.

Tax reclaims are available but may take up to 2 years.

Market feedback

Investors noted that Thailand has reduced withholding tax to zero for many investors (eg those domiciled in Singapore)

Comment on the market feedback

Covered by the above description.

9.5 Settlement and custody

Dealers are required to report all bond transactions to the Thai Bond Market Association (TBMA), which monitors, compiles and disseminates bond prices to the public, at the end of the trading day.

Government securities and Corporate Bonds can be traded through both the BEX and OTC. In case of BEX trades, intermediaries can choose to settle either on a netting or on a gross basis, via the Post Trade Integration (PTI) system. The majority of trades in BEX are settled on a multilateral netting basis, which is proceeded by the TCH, while gross settlement is subject to certain conditions. Bond transactions in netting process are pre-matched by telephone and the PTI system.

For OTC trades, TCH members are able to submit the settlement instruction by using swift message to execute such settlement in PTI system on trade-by-trade basis

Omnibus accounts are allowed. Free of payment transfers are also allowed.

The settlement cycle for bonds is T+2 (or by agreement)

The settlement method is book-entry:

- BIS Model 3 for the multilateral netting settlement system
- BIS Model 1 for the PTI gross settlement system.

All government (and some corporate bonds - depending on the registrar agents) are dematerialised.

There are trade matching and settlement pre-matching systems for bond trades.

9.6 Messaging and securities numbering

The Thailand Securities Depository (TSD) uses SWIFT format for settlement messages but not for corporate event messages. Local market participants in general do not use SWIFT, apart from custodians.

The TSD is the securities numbering agency for bonds.

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ISIN are available for all local bond issues, and are available on issue date. The CSD and most local market participants use ISIN.

Market feedback

"Communications between market participants and depository / clearing house are not in SWIFT format"

"PTI is working very well for the Thai market for bond settlement. It is user friendly and as close as we can come to a true DVP environment"

"Thailand [is a problem] as the majority of the market player, local fund manager and custodians are still using the local codes"

"In Thailand, TSD is responsible for ISIN issuance. Fixed income securities traded in Thai market always use ISIN for reference"

"Thailand - there needs to be a push for the use of ISIN and an education on the benefit of having an international standard naming convention. The fund manager's systems are most probably not set up to use ISIN as the primary code, rather the local code. The brokers are probably the same."

Comment on the market feedback

TSD uses SWIFT format for clearing and settlement but not for corporate actions.

SWIFT and ISIN codes are used among banks and custodian in instructions for bonds and equity settlements and reports, but might not be used in equities trading with brokers due to higher cost.

Some short term instruments do not have ISIN codes.

9.7 Other issues

Aspect	Market feedback
Liquidity	Short end is liquid but not the long end. Market benchmark issue in the past, now BOT supports BahtFix which has been well received by the market. Traders have become more versatile. Local market participants tend to clique against cross-border investors, possibly resulting in unattractive quotes and yields for foreign investors
Regulation	Perceived regulatory risk, especially fear of capital controls, is a factor that scares away investors. "The threat of controls causes a rush to get out, for fear of being locked in." The regulations can be complex and unclear. Regulations are changed too often and sometimes without enough notice. As a result, investors feel confused and insecure, lose confidence in the market.
Other	"The market forms a significant part of local emerging market indices."

10 Viet Nam

10.1 *Market access and foreign investor registration*

There is no quota for non-resident investors. There is no legal restriction on investment in any bond issue. However, by law, each issuer may decide on an overall limit for non-resident investors in their bonds.

Non-resident investors must obtain a trading code. This is granted within 1-2 weeks of validly completed applications - 10 days for institutions, 7 days for investment funds, and 5 days for individuals.

The Viet Nam Securities Depository (VSD) uses this trading code to monitor foreign ownership limits in the market.

Investors must inform the VSD of any changes in their particulars.

On receiving the trading code, investors open custody accounts and cash accounts. Securities are held in custodians' accounts with the VSD.

The investor may open a custody account and trading account with one broker, or may open a custody account in one custodian bank and a trading account in another. In the first case, all trade orders must be placed with this one broker. In the second case, investors can place order with more than one broker, but all orders must be referred to the custody account.

Details of procedure

Pursuant to Ministry of Finance Decision 121/2008/QD-BTC, dated 24 December 2008, non-resident investors must submit the following documents to the VSD to apply for a securities trading code:

Individual investors: Registration Application for Securities trading code made by individual investors (as form in Appendix II- Decision 121); Registration Application for Securities trading code made by Depository Member (DMs); Police Certification and a copy of valid passport.

Institutional investors: Registration Application for Securities trading code made by individual or institution investors. (as form in Appendix I- Decision 121); Registration Application for Securities trading code made by Depository Member (DMs); a copy of Depository Agreement with domestic DM;

(a) For a securities investment fund: A valid copy of Certificate of fund or equivalent documents which can prove the legal establishment of the institution. Alternatively, they can submit one of the following documents:

- Copy from home country regulator website or;
- Prospectus, trust agreement or Memorandum for private placement; or
- Tax Registration.

(b) For a hedge fund, the following document must be added: The Articles of Incorporation or Memorandum for private placement.

(c) For other types of funds: a copy of Certificate for Business Registration or Certificate of incorporation or branch in Viet Nam; or The Articles of Incorporation; and Tax Certification.

(d) If the institutional investor mandates a trading delegate person (optional), the following documents are also needed:

- Mandate for Appointment of Delegated person.
- Information on Delegated person (notarised).

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- Copy of valid identity card or passport.
- Police Certification.

Two files must be submitted, one original and one copy. Each file includes one file in Vietnamese and another in English.

All documents under a, b, c, and d above must be notarized by a consulate, except for the Prospectus, Trust Deed, Memorandum for private placement, Articles of Incorporation, and Fund Charter. All documents above are just notarised according to home country law.

All Vietnamese translations must be notarised by the Vietnamese State Notary Public office.

Market feedback

The market is generally viewed as open to foreign investors. However:

"Documentation can be difficult and long waiting time. "

"Language is an issue, takes a long time to translate things. "

"Unexplained registration problems have discouraged some big investors."

"Application for opening account is admitted only after the public offer of fund, and it takes two weeks to one month"

"Institutional investors in different countries and territories may have different corporate structures. Viet Nam current regulation does not cover this so there is uncertainty in execution."

"Viet Nam - Foreign investors are required to obtain Securities Trading Code (STC) approval from the VSD before starting trading of listed securities. However, the documentation is very complicated with the requirement on legalisation. There is a lack of standard procedures for each type of applicants including fund, trust, fund – sub-fund...etc, hence, most of the time VSD process the application and require supporting documents on a case by case basis. With regards to trading of unlisted securities, foreign investors are required to obtain Capital Contribution Account (CCA) approval from the State Bank of Viet Nam (SBV). In fact, it takes the SBV several weeks to consider and approve."

Comment on the market feedback

The market is open to all foreign investors. The Vietnamese regulators need comprehensive information in order to define the legal personality of foreign investors so maybe there are some detailed documents which caused difficulties for foreign investors. We are in the process of improving our regulations and procedures base on the international practices.

In Decision no.121/2008/QD-BTC, we have standard procedures for each type of applicants including securities investment fund, hedge fund, subsidiary company with wholly owned by multinational economics group which has trading code already. Therefore, it is not correct that most of the time, VSD process the application and require supporting documents on a case by case basis.

Basically, all procedures are more simple and the feed back from domestic custodian are settled appropriately.

10.2 FX restrictions

The dong (VND) is not freely convertible.

VND cannot be traded offshore. Investors must execute foreign exchange between VND and foreign currency-denominated accounts. The FX must be in support of an underlying securities transaction and prior approval is required.

Foreign investors are only able to execute FX transactions for same-day, next day, or spot value. Commercial banks are not permitted to buy or sell foreign currency forwards to non-resident investors.

Foreign currency can be remitted and exchanged for VND for further payment to a local third party at a prevailing exchange rate within a fixed margin of $\pm 3\%$ of the official exchange rate fixed by the SBV on a daily basis. Foreign investors are allowed to convert foreign currency to VND in order to trade on the two exchanges, the HOSE and the HNX.

Foreign investors can freely repatriate their principal investment, profits and income earned from securities investments after payment of necessary taxes. Tax certification is required for repatriation.

Third-party FX is possible. However, although there are currently no restrictions against this practice, it is not common. There are no clearly defined procedures or documentation requirements, and as a single payment system does not exist, third-party FX may be problematic.

The VND NDF market is evolving but liquidity is very tight.

Market feedback

Investors noted that fund flows must be linked to securities trades.

"Foreign currencies are freely converted into VND for trades settlement purpose. However, the VND once converted into foreign currencies must be repatriated immediately."

"Because VND constantly trading at upper end of trading band, FX requests are placed in a queue that may take ages to be considered."

"The way that capital controls work also causes problems - last year, the rate bands were not adjusted and the central bank would not sell USD at the unadjusted rates, so the market dried up."

"Hard to get out, no liquidity in FX."

"Access via funds is possible, but they have the same FX issue."

Comment on the market feedback

In our new Decision No. 622/QD-NHNN promulgated on 23 March 2009 by State Bank of Viet Nam (SBV), SBV has adjusted the currency band between USD and VND from $\pm 3\%$ to $\pm 5\%$ in comparison with the official exchange rate fixed by the SBV on the daily basis. This Decision become effective as from March 24th 2009.

Foreign investors can freely on the repatriation of sale proceeds, dividends and interest after paying some necessary taxes.

Pursuant to Decree no.160/2006/ND-CP of Prime Minister dated December 28th 2006, 13th provision is stipulated that VND once converted into foreign currencies can be repatriated in 30 days from the conversion day.

10.3 *Cash account and overdraft restrictions*

Foreign investors can open VND and foreign currency accounts (including USD, EUR and JPY). VND accounts can only be maintained with designated banks and the payments for securities investments must be carried out only through these accounts.

There are no restrictions on the holding of VND balances. Non-resident investors may hold VND in an interest-bearing account and may also invest surplus cash in money market instruments.

Foreign investors are not allowed to overdraw their cash accounts. Intra-day overdrafts are not allowed and pre-funding is required.

Foreign investors may use their foreign currency account to:

- Receive funds remitted from outside Viet Nam
- Receive funds remitted from other foreign currency accounts in Viet Nam
- Remit funds out of Viet Nam

Foreign investors may use their VND account to:

- Receive VND that has been converted from the FCY account
- Receive income from the sale of securities, dividends, interest and other income related to the purchase and sale of securities
- Purchase securities traded on the exchanges
- Pay for expenses in Viet Nam.

Market feedback

"The need for pre-funding adds to the difficulty."

"To make an investment, a deposit is necessary. Besides, the deposit cannot be appropriated for the purchase."

"The securities market permits currency borrowing for failed trades. In case of borrowing for securities investment, permission will depend on the current market situation. For example, if the borrowing rate is too high and risky, SBV will limit currency borrowing for investment in securities."

Comment on the market feedback

Pursuant to 33th provision in Decision no. 27/2007/QD-BTC, Securities companies only accept its customers order if they have enough securities and money in their account. We know that it maybe cause some difficulties to the foreign investors but in young securities market like Viet Nam market, pre-funding makes the prevention of default.

10.4 *Taxes*

For taxable government bonds and municipal bonds held by non-resident investors:

- Sale transactions are subject to a tax of 0.10% on the gross proceeds of sale.
- Interest income is subject to a tax of 0.10% on the par value (i.e. the principal amount of the bond) plus the interest amount.

It should be noted that, in both cases, the above tax applies to the total value of the bond. In practice, all bonds purchased by non-resident investors are likely to be taxable.

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The tax payment must be made to the General Department of Tax within 30 days of receipt of the sale proceeds. Investors cannot repatriate sale proceeds until the tax payment has been remitted.

For both listed and unlisted taxable bonds, if the brokers are providing a registrar service to the issuing company, the brokers are responsible for collecting and making the payment to the General Department of Tax on behalf of the investors. Otherwise, sub-custodians are responsible for collecting and making the tax payment.

Income tax of 20% is withheld by fund management companies on the net income (i.e., excluding share dividends and bond interest) distributed to listed fund holders. Fund management companies are responsible for income tax payment to the General Department of Tax.

Corporate income tax of 10% is imposed on the interest earned on cash account deposits. Banks are responsible for withholding this tax before paying the interest to depositors.

There are no provisions for tax reclaims or for relief at source.

Market feedback

Investors expressed conflicting views:

"Tax is an issue to some extent, but less than some other markets."

"Tax structure very complicated, the tax on interest is ok and typical but there is also tax on the principal."

Comment on the market feedback

We just apply taxes on institutional investors, not for individual investors. In Circular 27/2009/TT-BTC, individual investors can delay their taxes until 31st May 2009.

Although we apply tax to the principal amount of the bonds, we just apply 0,1% income tax, it is lower in comparison with other countries. All bond transfer transactions are not calculated on the corporate income tax.

10.5 Settlement and custody

Omnibus accounts are allowed. However, there is no nominee concept in Vietnamese law.

Investors are only allowed to open an account at a single custodian bank.

The settlement cycle for bonds is T+1.

The settlement method is book-entry.

There is a trade matching system but not a settlement matching system for bonds.

All bonds are now issued in dematerialised form. Existing issues must be deposited into the VSD (and dematerialised) if they are to be traded.

10.6 Messaging and securities numbering

SWIFT message formats are not currently used by the CSD or by local market participants.

The Viet Nam Securities Depository (VSD) is the securities numbering agency for bonds. VSD has been recognised as an official partner of ANNA since the beginning of November, 2008. It is currently in the process of allocating ISIN codes for Vietnamese securities. ISIN codes are not available until the bonds are registered at VSD.

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ISIN codes are not currently used by the CSD or by local market participants.

Market feedback

"Communications between market participants and depository / clearing house are not in SWIFT format"

"Lack of ISIN is a problem."

"Can only use one custodian."

"Regulations require that all bond trades are made via Hanoi STC. In practice, the trades are done OTC and both sides then input to the HASTC. This enables one side to delay input and then repudiate the trade before settlement as in law, a valid trade has not been made until it is input."

Comment on the market feedback

It is correct that SWIFT and ISIN are not generally used because VSD becomes an official partner of ANNA since the beginning of November 2008 and sign MOU with SWIFT in January 8th 2009. We are in the process of issuing ISIN code for our securities and researching types of SWIFT message. In the near future, VN securities market will try to apply most of the international practices.

10.7 Other issues

Aspect	Market feedback
Liquidity	"Liquidity is not good, especially over past 2 years." "Too many government bond issues, market not deep enough."
Transparency	"Lack of price transparency."
Risk management	"Lack of currency hedge tool."
Regulation	"Regulations may be unclear. Different market intermediaries may interpret regulations differently."
Other	"Have looked at it but have not gone in. Discouraged by currency restrictions and tax issues." "Have gained synthetic exposure through total return swaps."

Comment on the market feedback

Re: hedging tool

Pursuant to Decision no. 1133/2003/QD-NHNN dated 30th September 2003 by The Governor of SBV, we have regulation on executing interest swap transactions, applied with commercial banks, branches of foreign bank in Viet Nam, joint-venture banks against enterprises which established and operated according to Vietnamese law; between banks; banks against foreign credit organizations.

In fact, there is no hedging tool for securities transactions. Pursuant to Decision no.128/2007/QD-TTg dated 2nd August 2007 by Prime Minister, there is a plan for developing Viet Nam capital market to 2010 and vision to 2020. Inside, there is a plan for developing derivatives.

/end

ABMI Group of Experts
Barriers to cross-border investment and settlement in
ASEAN+3 bond markets

Appendix III: Market assessments

April 2010

Asian Development Bank

GOE final report: Summary of barriers in each market

The main purpose of this section is

- To summarise the main barriers in each market as revealed by the market profile exercise;
- To assess the degree of seriousness of each barrier; and
- To provide an indication of the main issues to be tackled in a local market roadmap.

We present below, for each market, a description of the current situation with respect to each potential barrier area. We also show 'Market Assessment Questionnaire scores' and 'Overall barrier assessment'.

The purpose of the scores and assessments is to highlight where barriers exist in each market, and to indicate the relative degree of each barrier within the respective market. The assessments are made based on the information collected as of June 2009 on our best efforts basis; thus, they may not reflect recent changes. They are intended to provide a useful starting point for the construction of each local market roadmap. The methodology behind these assessments is explained in more detail later.

In some cases, a market is scored 'HIGH' in one column and 'LOW' in the other. This reflects a difference between the results of a systematic scoring process and an overall judgement of market conditions. Again, this is explained later. However, the important point is that these assessments should be taken as a starting point for addressing the barriers in the respective market, rather than as its comparative position to the other markets.

Broadly speaking, it is intended that the barrier assessments should be interpreted as follows:

- 'HIGH'
The current situation in this area is likely to have a significant impact on the attractiveness or accessibility of this market, which therefore may deter some foreign investors from this market.
- 'LOW'
The current situation in this area is likely to add to costs or operational difficulties, which is not likely to prevent foreign investment in this market but may make it relatively less attractive than other markets.

An assessment of HIGH does not necessarily indicate that foreign investment is prevented. It indicates that the barrier is regarded by foreign investors as a serious issue when evaluating investment in that market.

An assessment of LOW does not mean that the barrier is unimportant. However, it indicates that the barrier is likely to be less serious in that market than a barrier assessed as HIGH.

An assessment of 'OK' in an area does not mean that a market functions perfectly in that area and that no further improvement is needed. It simply indicates that, in our judgement, there is no significant barrier in that area to cross-border bond investment. For example, several markets are scored 'OK' in the area of ISIN usage, although not all local market participants may be using ISIN. Our overall recommendations in these areas would apply to these markets too. These areas should therefore not be ignored in the construction of the local roadmaps.

Note that the Market Assessment Questionnaire did not include questions on the regulatory framework.

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Market assessment - People's Republic of China (PRC)

Potential barrier area	Current situation	Market Assessment Questionnaire scores ¹	Overall barrier assessment ²
Quotas	<p>Foreign investors may invest in A-shares and in the domestic bond market only through QFII. QFII may only purchase bonds that are traded on a stock exchange and registered under the investor's code.</p> <p>Applicants must submit an investment plan which should be strictly followed. The minimum investment quota is USD 50 million, and this must be remitted inwards within 6 months. Applications are reviewed by CSRC and SAFE which may take 12 months or more.</p> <p>QFII quotas tend to be used only for equities. Brokers get a higher commission on equities so bonds tend to be ignored.</p>	HIGH	HIGH
Investor registration	There are extensive documentation requirements for QFII. Investors commented that it takes a long time to get QFII status.	HIGH	HIGH
FX controls - conversion	<p>The CNY is not freely convertible. Fund injections and repatriations require approval and are subject to monitoring. FX is allowed based on underlying securities trades.</p> <p>Although there is no explicit regulation prohibiting third-party FX to obtain CNY, CSRC regulations require a sub-custodian to execute foreign exchange for its QFIIs. Therefore, effectively, it is not possible to execute third-party FX.</p>	HIGH	HIGH
FX controls - repatriation of funds	<p>Investors can only apply for repatriation after the lock-up period and approval is subject to SAFE's review on a case-by-case basis. Depending on the type of QFII, the lock-up period starts from 3 months to 3 years after the inward remittance of funds.</p> <p>Many investors mentioned the lock-up period as a problem.</p>	LOW	HIGH
Cash controls - credit balances	<p>Currently, there is no specific restriction.</p> <p>However, SAFE requests all new QFII to clearly state their asset allocation plan in the investment plan (part of the application documents), which include the cash vs. total assets ratio. Also, QFII are expected to stick to their cash vs total assets ratio indicated in the investment plan.</p>	OK	OK
Cash controls - overdrafts	Financial institutions are not allowed to provide financing to QFII. Lending CNY to QFII would break the quota.	HIGH	HIGH
Taxes	<p>Interest on Treasury bonds is tax-exempt. Capital gains are tax-exempt. Foreign investors are subject to a withholding tax of 10% on income from deposit interest and coupons.</p> <p>Taxation for foreign investors has often been unclear but is</p>	HIGH	LOW

¹ The methodology used in deriving these scores is described later.

² The methodology used for the overall barrier assessment is described later.

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Potential barrier area	Current situation	Market Assessment Questionnaire scores ¹	Overall barrier assessment ²
	gradually being clarified.		
Omnibus accounts	Omnibus accounts are not allowed.	HIGH	HIGH
Settlement cycle	Bonds are settled on trade date (T) with cash settlement on T+1. The CSDCC is working on a T+1 DVP settlement cycle, but no implementation timetable has been announced.	LOW	LOW
Message formats	The CSD, and most local market participants, do not use ISO 15022 / 20022 message formats.	LOW	LOW
Securities numbering	ISIN codes are available for all local bond issues. However, the CSD, and most local market participants, do not use ISIN codes in securities messages. Lack of ISIN use was mentioned by several market participants.	LOW	LOW
Matching	There are trade matching and pre-settlement matching systems for bonds.	OK	OK
Dematerialisation	All listed securities are dematerialised at the CSDCC.	OK	OK
Regulatory framework	The regulations are often unclear to investors. However, steady progress is being made.	-	LOW

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Market assessment - Hong Kong, China

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no quotas on foreign involvement in the local market.	OK	OK
Investor registration	There are no foreign investor registration requirements.	OK	OK
FX controls - conversion	There are no exchange control restrictions on residents or non-residents. HKD is freely convertible.	OK	OK
FX controls - repatriation of funds	There is no restriction on the repatriation of funds.	OK	OK
Cash controls - credit balances	Non-residents may open accounts in HKD or in foreign currency. Credit balances are allowed.	OK	OK
Cash controls - overdrafts	Overdrafts are allowed.	OK	OK
Taxes	There is no withholding tax on any financial instrument. There is no capital gains tax.	OK	OK
Omnibus accounts	Omnibus accounts are allowed.	OK	OK
Settlement cycle	The settlement cycle is T+2 for listed debt securities.	OK	OK
Message formats	CMU uses SWIFT for settlement messages, and plans to introduce SWIFT for corporate events messages from November 2009. Most local market participants use SWIFT format.	OK	OK
Securities numbering	ISIN are available for most local bond issues. ISIN are allocated at the time of issue or auction. CMU and local market participants use ISIN, but the local numbering (CMU Issue Number) is also commonly used.	OK	OK
Matching	There is no trade matching system for the local bond market. CMU pre-matches forward dated settlement instructions.	LOW	LOW
Dematerialisation	All fixed income instruments are either dematerialised or immobilised at the CSD.	LOW	LOW
Regulatory framework	The regulatory regime is regarded as stable and consistent and no adverse comments were received in this area.	-	OK

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Market assessment - Indonesia

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no quotas on foreign involvement in the local market. There are no significant limits on foreign investor holdings in individual issues.	OK	OK
Investor registration	There is no requirement for foreign investor registration.	OK	OK
FX controls - conversion	<p>Foreign exchange activities of each bank are restricted to 20% of total capital per day, shared between the bank's customers.</p> <p>Offshore foreign exchange transactions are prohibited.</p> <p>Third-party FX trades are allowed. However, given the restrictions and risks associated with the movement of funds in the market, custodians may not support third party FX.</p> <p>Investors who purchase foreign currencies against IDR more than the equivalent of USD 100,000 per calendar month must make a declaration stating that all FX activity is supported by underlying investments and a letter declaring the validity of all supporting documents provided. Non-resident custody clients can provide an annual blanket confirmation.</p> <p>Reports on IDR transfers are submitted on a monthly basis by custodian banks. Reports on FX transactions effected are submitted on a daily basis.</p> <p>Comments from market participants indicated some investor perception of these currency controls being problematic. 8 survey responses mentioned Indonesia as a problem in this area.</p>	HIGH	HIGH
FX controls - repatriation of funds	<p>Similar controls are imposed on repatriation of funds.</p> <p>6 survey responses mentioned Indonesia as a problem in this area.</p>	LOW	LOW
Cash controls - credit balances	<p>IDR received from an FX which is to be used for the purchase of securities can only be held in the non-resident account for a maximum of 2 working days. Failed trades are not common in the Indonesian market, but should a purchase trade not have settled by SD+1, the custodian will be forced to reverse the initial FX and sell the IDR same-day. The IDR cannot remain in the account, although it can be used to fund another purchase.</p> <p>There are significant restrictions on credit balances, but some flexibility.</p>	LOW	LOW
Cash controls - overdrafts	<p>A non-resident's IDR current account cannot, under any circumstances, be overdrawn overnight.</p> <p>Intra-day overdrafts are allowed. However, in practice, sales proceeds cannot be used to fund purchases of the same value date due to limited cut-off time of securities settlement. Therefore, while pre-funding in the sense that funds are needed prior to settlement date is not required, foreign</p>	LOW	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	investors must ensure that sufficient IDR funds are in their account on SD, without allowing for any sales proceeds due in that day, to ensure purchases are settled. However, this restriction can be avoided by using omnibus accounts.		
Taxes	<p>Withholding taxes are applied both when selling bonds and at the maturity of bonds. Market participants need to track historic trades in order to calculate the tax on a sale.</p> <p>For foreign investors, the standard rate of withholding tax is 20%. Double-taxation treaties can reduce this to 10% or even 0%, depending on each agreement. Exemption is currently obtained by submitting an original Certificate of Domicile/Residency. Additional documentation may be required under the new Indonesian income tax law (as from 1 January 2009), but the implementation guidelines have not yet been issued.</p> <p>It appears there are ambiguities in the tax regulations in Indonesia and tax reclaim is a cumbersome and lengthy process. Investors commented that tax is complex and high and terminology can be unclear. 6 survey responses mentioned Indonesia as a problem in this area. It was also mentioned that there have been some improvements in recent years.</p>	HIGH	HIGH
Omnibus accounts	Omnibus accounts are permitted. However, for tax reasons it may be advisable to open individual accounts, and many investors now do so.	OK	OK
Settlement cycle	The settlement cycle for bonds is negotiated, normally on T+2, but can be settled between T+1 to T+7.	OK	OK
Message formats	The CSD, and most local market participants, do not currently use ISO 15022 / 20022 message formats.	LOW	LOW
Securities numbering	ISIN codes are available for all local bond issues, and are available at the time of issue. However, the CSD, and most local market participants, do not currently use ISIN codes in securities messages.	LOW	LOW
Matching	There are trade matching and pre-settlement matching systems for bonds.	OK	OK
Dematerialisation	As of December 31st 2009, based on KSEI data, percentage of corporate bonds in physical form was only 1.33% of the IDR 87.23 trillion total corporate bonds outstanding. In addition, the entire government bond outstanding of IDR 550 trillion is in scripless form.	LOW	OK
Regulatory framework	<p>Perceived regulatory risk, especially fear of capital controls, is a factor in investors' minds.</p> <p>It was commented that immediate regulatory changes are often made, and rules can be ambiguous.</p>	-	HIGH

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Market assessment - Japan

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no market entrance requirements for foreign investors.	OK	OK
Investor registration	There are no registration requirements for foreign investors.	OK	OK
FX controls - conversion	The yen (JPY) is freely convertible. There are no foreign exchange restrictions. Both third-party FX and offshore FX transactions are possible.	OK	OK
FX controls - repatriation of funds	As above. Sale proceeds or income from investments can be freely repatriated.	OK	OK
Cash controls - credit balances	Foreign investors can freely open cash accounts in JPY. Credit balances are allowed.	OK	OK
Cash controls - overdrafts	There are no restrictions on overdrafts for non-residents.	OK	OK
Taxes	Tax generally works well. However, extensive documentation may be required for exemptions. In particular, gaining exemption for municipal bond issues is onerous. As a result, ICSDs do not currently provide a service for these bonds. The calculation of tax requires historical information in some exceptional cases.	LOW	LOW
Omnibus accounts	Omnibus accounts are permitted.	OK	OK
Settlement cycle	The settlement cycle is T+3.	OK	OK
Message formats	JASDEC (the CSD for corporate bonds), and most local market participants, use SWIFT message formats. However, BOJ-Net (the CSD for government bonds) does not use SWIFT formats.	OK	OK
Securities numbering	ISIN codes are available for all local bond issues, and are available at the time of issue JASDEC, and most local market participants, use ISIN. However, BOJ-Net does not use ISIN.	OK	OK
Matching	There are trade matching and pre-settlement matching systems for bonds.	OK	OK
Dematerialisation	Almost all corporate bonds and municipal bonds are held in Japan Securities Depository Centre (JASDEC) in dematerialized form. Physical bonds have not been issued for several years.	OK	OK
Regulatory framework	The regulatory regime is regarded as stable and consistent and no adverse comments were received in this area.	-	OK

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Market assessment - Republic of Korea

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	Foreign investors have access to all fixed-income instruments, and there is no ownership limit for foreigners.	OK	OK
Investor registration	<p>Foreign investors must obtain an investment registration certificate (IRC) prior to investing. The IRC contains a unique identification number, which notes the foreign investor's nationality and other information. The IRC number is used in all trading, settlement and registration activities. Foreign investors may apply for a single IRC covering both equities and bonds.</p> <p>The requirements are well defined and do not appear onerous - e.g. only one document needs notarisation. We are told that IRC can be issued 1 day after submission. However, there is an investor perception of difficulties in this area.</p> <p>Appears to be some controversy over 'parent child' area regarding splitting or consolidating holdings over a number of sub-funds.</p> <p>Perception gap - there appears to be a perception among many investors that registration requirements are onerous.</p>	LOW	LOW
FX controls - conversion	<p>Since December 2007, foreign investors are allowed to buy the KRW without any underlying securities trade.</p> <p>Perception gap - there appears to be a perception among many investors that FX controls are still in place.</p>	OK	OK
FX controls - repatriation of funds	There is no restriction on the repatriation of income or proceeds from the sale of securities. Sales proceeds converted into foreign currency can either be remitted overseas or held in onshore foreign currency accounts.	OK	OK
Cash controls - credit balances	Foreign investors can buy an unlimited amount of KRW, keep it as cash, fund a purchase trade or re-convert back into FCY.	OK	OK
Cash controls - overdrafts	<p>Sales proceeds can be used to fund purchase trades having the same settlement date.</p> <p>In theory, foreign investors can borrow up to KRW 1 billion without any restriction, and up to KRW 30 billion with prior notification to the central bank. However, banks are not allowed to lend to foreign investors for a "speculative" purpose in securities, which is not clearly defined, and hence in practice overdrafts are not provided.</p> <p>There is a current proposal to the National Assembly to lift this restriction.</p>	LOW	LOW
Taxes	The default tax rate to foreign investors is 22% on cash balance interest and dividends and 15.4% on interest income on debt securities. The rates of withholding tax and CGT may be reduced under applicable double taxation agreements, subject to documentation.	LOW	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	<p>Historical information is needed to calculate the tax.</p> <p>There is no officially recognised tax reclaim procedure. Taxes may be reclaimed on a case by case basis, although the reclaim is not guaranteed.</p> <p>There is a perception among foreign investors that tax is high. This appears to be incorrect and may reflect previous higher rates.</p> <p>The government has proposed that foreign investors will be exempt from interest and capital gains tax for income from government bonds and monetary stabilisation bonds.</p>		
Omnibus accounts	<p>Omnibus accounts in general are not permitted.</p> <p>However, as from 1 January 2008, omnibus accounts in the name of ICSDs at KSD are permitted for foreign investors buying and selling government bonds and monetary stabilization bonds. Accounts must be held on an individual basis at the sub-custodian, with the global custodian designation. Due to tax and other restrictions, ICSDs have been slow to open links although these have now been announced.</p> <p>The government is currently reviewing the rules to allow omnibus accounts to be introduced later this year.</p>	HIGH	HIGH
Settlement cycle	The settlement cycle for bonds is: T+1(or by agreement).	OK	OK
Message formats	KSD, and most local market participants, use SWIFT message formats. KSD uses SWIFT for both settlement and corporate event messages.	OK	OK
Securities numbering	<p>ISIN codes are available for all local bond issues, and are available at the time of issue. ISIN can be allocated at any time through the online allocating system of the KRX.</p> <p>KSD, and most local market participants, use ISIN.</p>	OK	OK
Matching	There is no trade matching or pre-settlement matching system for bonds.	LOW	LOW
Dematerialisation	Almost all bonds are dematerialised, or immobilised at KSD.	OK	OK
Regulatory framework	<p>The regulatory regime is regarded as stable and consistent although some investors mentioned high penalties for non-compliance, and that local custodians take a very cautious view.</p> <p>It is clear that the government is making serious efforts to attract foreign investors.</p>	-	OK

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Market assessment - Malaysia

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no significant restrictions on foreign ownership of bonds.	OK	OK
Investor registration	There is no requirement for foreign investor registration. There were comments from some investors regarding account-opening, identification of beneficial owner and other issues. It is believed these reflect restrictions introduced 10 years ago and which have now largely been repealed. The general feedback was that Malaysia was now an investor-friendly market with few difficulties.	OK	OK
FX controls - conversion	There are no restrictions on the purchase of MYR by non resident investors, provided the FX is executed with a licensed onshore bank. In this case, MYR may be freely bought and sold (or held) without evidence of underlying securities trades. Third-party FX is possible, but not common. Perception gap - there appears to be a perception among many investors that FX controls are more onerous.	LOW	OK
FX controls - repatriation of funds	There are no restrictions on repatriation of capital, profits and income. Foreign investors can freely remit funds from their local cash accounts. MYR can be freely sold for FCY.	OK	OK
Cash controls - credit balances	Clean cash payments between different beneficial owners are not prohibited. However, they are subject to "Permitted Reasons for Transfers" as prescribed under ECM4, Exchange Control Notices of Malaysia..	LOW	OK
Cash controls - overdrafts	Overdrafts for non-resident accounts are limited. Overdraft facilities are only permitted for financing funding gaps due to unforeseen or inadvertent technical or administration errors, and funds must be repaid within 2 business days. Licensed onshore banks may extend any amount of ringgit overdraft facilities to non-resident stock-broking companies and custodian banks for settlement of ringgit securities on Bursa Malaysia and RENTAS due to inadvertent delays on receipt of funds from non-resident investors. This area was the one most often singled out by investors as a problem.	LOW	LOW
Taxes	There is no withholding tax for non-resident investors on interest on government bonds and on approved corporate bonds. However, there is a 15% tax on convertible loan stock interest. There is no capital gains tax in Malaysia.	OK	OK
Omnibus accounts	There are no restrictions on the use of omnibus accounts for non-resident investors.	OK	OK

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Settlement cycle	The settlement cycle for listed bonds is T+3 and for unlisted bonds is negotiable (market practice is T+2).	OK	OK
Message formats	The CSD, and most local market participants, do not use SWIFT message formats.	LOW	LOW
Securities numbering	ISIN codes are available for all local bond issues, and are available at the time of issue. Most local market participants use ISIN codes in securities messages, but the CSD does not.	LOW	OK
Matching	There is an electronic platform for trade matching. Settlement pre-matching for bonds is carried out by telephone.	OK	OK
Dematerialisation	All unlisted debt securities are dematerialised, except for some CP / MTN programmes issued before April 2006.	OK	OK
Regulatory framework	Investor comments on the regulatory regime were generally favourable. There are, however, still memories of the controls introduced 10 years ago.	-	OK

Note: Apart from the area noted above, there is some general perception gap for Malaysia.

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Market assessment - Philippines

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	No restrictions are placed on foreigners investing in Philippine securities.	OK	OK
Investor registration	Foreign investments need not be registered with the BSP unless the FCY needed to service the repatriation of capital and the remittance of dividends, profits and earnings is purchased from the banking sector. These restrictions are therefore covered under repatriation of funds.	OK	OK
FX controls - conversion	<p>FX requires evidence of an underlying securities transaction, if the funds are to be eligible for subsequent repatriation.</p> <p>Third-party foreign exchange trades are permitted. The third-party bank must send the Certificate of inward Remittance (CIR) to the sub-custodian bank at the same time it transfers the PHP, otherwise it is not possible to raise a BSRD, thereby preventing subsequent repatriation. Offshore FX (PHP/USD) is allowed provided PHP cover is done onshore.</p> <p>Circular 645 (issued February 2009) allows local custodians to issue the BSRD for inward foreign investments in government securities on behalf of BSP.</p> <p>We note that there is an ongoing dialogue between BSP and the custodian banks to streamline the reporting requirements.</p>	LOW	LOW
FX controls - repatriation of funds	<p>There are no restrictions on the amount of currency that can be remitted or repatriated subject to submission to BSP of required documentation. However, the repatriation of funds must be accompanied by a BSRD together with the required supporting documents.</p> <p>The regulations only allow the foreign investors to sell PHP and buy FCY upon actual receipt of the license to be issued by the BSP - there is no standard processing period which may range from one week to two weeks for government securities and longer for corporate bonds. The BSP may also require additional documentation, giving the impression that the process is somewhat arbitrary.</p> <p>Purchases of PHP intended for securities investments that are ultimately cancelled cannot be repatriated unless the PHP is first re-invested.</p> <p>Overall, a considerable burden is placed on the custodian bank.</p> <p>It is at the time of repatriation, rather than the original inward investment, that problems are most likely to occur.</p>	LOW	HIGH
Cash controls - credit balances	<p>Cash credit balances are permitted.</p> <p>BSRD-eligible transactions include investments in listed securities, government debt, and time deposits or other money market instruments with maturities of 90 days or greater.</p> <p>Foreign investors can open interest-earning accounts.</p>	LOW	OK

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Cash controls - overdrafts	<p>PHP overdrafts to non-residents are not permitted. This means that foreign investors must ensure that cash accounts are adequately funded (cleared funds) prior to settlement date. Foreign broker-dealer clients which do intraday trading are especially affected by this restriction, and difficulties arise if the sale side fails.</p> <p>Market authorities have pointed out that with the recent regulation allowing non-residents to do FX swaps, the above concern has been addressed.</p>	LOW	HIGH
Taxes	<p>Both resident and non-resident investors are subject to withholding tax of 20% on the interest from government bonds, and 30% on the interest from corporate bonds (recently reduced from 35%). These rates are high by international standards.</p> <p>For non-residents, the withholding tax rate may be reduced under a double taxation agreement. Eligible investors must submit all necessary documentation to the Bureau of Internal Revenue (BIR). The documentation is fairly onerous. Investors have also commented that the requirements are not clear. For government securities, investors must also confirm to the Bureau of Treasury that it is a 'buy-to-hold' portfolio.</p> <p>Tax reclaims are available via direct filing with the BIR, but take years and are rarely successful.</p> <p>A number of market participants mentioned Philippines as a problem in this area.</p>	HIGH	HIGH
Omnibus accounts	Foreign investors are permitted to use omnibus accounts.	OK	OK
Settlement cycle	The settlement cycle for local bond trades is T+0. However, for cross-border bond trades it is T+2 (or by agreement).	OK	OK
Message formats	<p>The local CSD and most local market participants do not use SWIFT.</p> <p>A number of market participants mentioned Philippines as a problem in this area.</p>	LOW	LOW
Securities numbering	<p>ISIN codes are available for all local bonds, and are available for new issues at issue date.</p> <p>Most local market participants use ISIN. However, the local CSD uses local securities codes.</p>	LOW	LOW
Matching	<p>There is a trade matching system for government securities and some listed corporate bonds.</p> <p>There is a pre-settlement matching system for government securities among Government Securities Eligible Dealers (GSEDs).</p>	OK	OK
Dematerialisation	Not all bonds are dematerialised or immobilised.	LOW	LOW
Regulatory framework	Investors commented that rules and regulations are clear. However, there can be abrupt regulatory changes which create regulatory risk.	-	LOW

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Market assessment - Singapore

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no quotas on foreign involvement in the local market.	OK	OK
Investor registration	There are no market entrance requirements for foreign investors. Non residents can invest in the SGD market without approval from the regulatory authorities.	OK	OK
FX controls - conversion	There are no exchange control restrictions on residents or non-residents. SGD is freely convertible.	OK	OK
FX controls - repatriation of funds	There is no restriction on the repatriation of funds.	OK	OK
Cash controls - credit balances	Non-residents may open accounts in SGD or in foreign currency. Credit balances are allowed. The rules have been progressively liberalized since 1998 and there are few remaining restrictions.	OK	OK
Cash controls - overdrafts	Overdrafts for non-resident accounts may be limited, but such restrictions do not apply to overdrafts due to securities settlement activity.	OK	OK
Taxes	Non-residents, including those with permanent establishment in Singapore, are exempt from withholding tax on qualifying debt securities (QDS), provided that such securities were not purchased with funds resulting from a local business owned by the non-resident investor.	LOW	OK
Omnibus accounts	Omnibus accounts are allowed.	OK	OK
Settlement cycle	The settlement cycle for bonds is T+1 for government bonds (negotiable) and typically T+3 for corporate debt.	LOW	OK
Message formats	Communications between market participants and depository / clearing house are in SWIFT format, for settlement of government bonds, and for settlement of corporate bonds via the Debt Securities Clearing and Settlement System (DCSS). There are plans to progress to a SWIFT format in Phase 2 of the domestic pre-settlement matching system. Most local market participants use SWIFT.	OK	OK
Securities numbering	ISIN codes are available for all local bonds, and are available for new issues at issue date. The CSD and most local market participants use ISIN.	OK	OK
Matching	There are trade matching and pre-settlement matching	OK	OK

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	systems for bonds.		
Dematerialisation	Most bonds are dematerialised. However, some physical bonds are not immobilised at the CSD.	LOW	LOW
Regulatory framework	The regulatory regime is regarded as stable and consistent and no adverse comments were received in this area.	-	OK

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Market assessment - Thailand

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are no restrictions on foreign investment in local bonds.	OK	OK
Investor registration	There is no requirement for foreign investor registration. However, the documentation required for custodian account opening in Thailand needs to be notarised and consularised. Account-opening is a costly and time-consuming process. These documents are also required by the registrar agents for bond re-registration, and for some corporate events. Documents must be updated every year. This is strictly speaking not an investor registration issue.	OK	OK
FX controls - conversion	<p>FX must be linked to securities trades.</p> <p>Each FX (or non-FX related payment transaction) equal to or greater than USD 20,000 must be reported by the sub-custodian to the Bank of Thailand (BoT), stating the purpose of the transaction.</p> <p>Foreign investors may net security transactions against a single foreign exchange, provided that all the settlement dates are the same.</p> <p>Same-day, next day and forward value FX transactions are permitted if there is an underlying transaction (up to the value of the transaction). If there is no underlying transaction, then for buying THB for value same day, next day, or selling THB forward, FX is permitted altogether up to THB 300 million per non-resident entity group per commercial bank. For selling THB for value same day, next day, or buying THB forward, FX is permitted up to THB 10 million per non-resident entity group per commercial bank.</p> <p>Third party FX trades with resident financial institutions require proof of relevant underlying investment activity. However, while third party FX is permitted, it may not be supported by custodians.</p> <p>Investors commented that currency controls are a problem and that FX is difficult.</p>	LOW	LOW
FX controls - repatriation of funds	As noted above, FX other than spot value must be supported by an underlying securities transaction. Otherwise, for selling THB to commercial banks, FX is permitted up to THB 10 million across accounts per non-resident entity group per commercial bank.	LOW	LOW
Cash controls - credit balances	<p>Many banks or investors must have two types of accounts (NRBS and NRBA), therefore there is more reporting and control. Funds must be managed separately and cannot be transferred across account type.</p> <p>Cash balances held by foreign investors are capped at THB300 million (c USD 9 million) across all accounts for the same account type (NRBA and NRBS) across all onshore banks. The BoT may force non-resident investors to sell THB in excess of this limit to the BoT at the penalty rate.</p> <p>Many investors mentioned Thailand as a problem in this</p>	HIGH	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	area.		
Cash controls - overdrafts	Overdraft facilities provided by Thai financial institutions to foreign investors are capped at THB300 million (c USD 9 million) per group of non-residents per onshore bank. Overdrafts over THB 300 million require approval from the BOT which must be based on exceptional circumstances. Custodian banks can request for 1 day long balance on behalf of non resident investor if there is an evidence of next day trade or it is a US public holiday, etc. The monitoring is manual and difficult to control operationally and as a result, commonly not offered to the investors. Several investors mentioned Thailand as a problem in this area.	LOW	LOW
Taxes	All non-resident investors are exempted from withholding tax on interest and capital gains tax from government and government agency bonds. Corporate bond interest (including state enterprise bonds) is taxed at 15%, withheld at source. The tax may be exempted or reduced by tax treaties.	LOW	LOW
Omnibus accounts	Omnibus accounts are allowed.	OK	OK
Settlement cycle	The settlement cycle for bonds is T+2 (or by agreement)	OK	OK
Message formats	The Thailand Securities Depository (TSD) uses SWIFT format for settlement messages but not for corporate event messages. Local market participants in general do not use SWIFT, apart from custodians.	LOW	LOW
Securities numbering	ISIN are available for all local bond issues, and are available on issue date. SWIFT and ISIN codes are used among banks and custodians in instructions for bonds. However, investors commented that this area was a problem as most market players were still using the local codes. Several market participants mentioned Thailand as a problem in this area.	OK	LOW
Matching	There are trade matching and settlement pre-matching systems for bond trades.	OK	OK
Dematerialisation	All government (and some corporate bonds - depending on the registrar agents) are dematerialised.	LOW	LOW
Regulatory framework	The perceived regulatory risk, especially fear of capital controls, is a factor that deters foreign investors. Investors commented that the regulations can be complex and unclear, and that regulations are changed too often and sometimes without enough notice.	-	HIGH

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Market assessment - Viet Nam

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	There are foreign ownership limits on equities but not on bonds, unless the issuer chooses to set a limit. The market is generally viewed as open to foreign investors.	LOW	OK
Investor registration	Foreign investors need to obtain a trading code. This is granted within 1-2 weeks of validly completed applications. The documentation requirements were previously onerous (requiring consularisation of documents) and requirements for certain types of entities were not clear. However, the requirements have been simplified under new regulations issued in December 2008.	LOW	LOW
FX controls - conversion	Foreign investors are allowed to convert FCY to VND in order to trade on the Hanoi and Ho Chi Minh exchanges. The rate must be within a fixed margin of $\pm 5\%$ of the official exchange rate fixed by the SBV on a daily basis (previously 3%). Foreign investors are only able to execute FX transactions for same-day, next day, or spot value. FCY forwards cannot be sold to foreign investors. Third-party FX is possible, but uncommon. There are no clearly defined procedures or documentation requirements, and as a single payment system does not exist, third-party FX may be problematic.	LOW	LOW
FX controls - repatriation of funds	Sales proceeds, dividends and interest may be freely repatriated, subject to tax certification. However, the FX market can be highly illiquid. This is of major concern to investors. "Because VND constantly trades at upper end of trading band, FX requests are placed in a queue that may take ages to be considered." "The way that capital controls work in Viet Nam also causes problems - last year, the rate bands were not adjusted and the central bank would not sell USD at the unadjusted rates, so the market dried up." It is not so much the regulations, but market liquidity, due to the narrow rate bands, that causes the problems. The wider 5% band may improve the situation.	LOW	HIGH
Cash controls - credit balances	There are no restrictions on foreign investors maintaining credit balances in VND, or in investing surplus cash balances in interest-bearing accounts or money market instruments.	OK	OK
Cash controls - overdrafts	Foreign investors are not allowed to overdraw their cash accounts. Pre-funding is required for all securities trades. Securities companies only accept its customers order if they have enough securities and money in their account. This regulation is intended to prevent the possibility of default.	HIGH	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Taxes	<p>Foreign investors are taxed at the rate of 0.1% on the gross proceeds of all sale transactions of taxable bonds (i.e. principal as well as gain). Interest income received from taxable bonds is subject to a tax of 0.1% calculated on the par value (i.e. the principal amount of the bond) plus the interest amount. Effectively, all bonds are taxable.</p> <p>While 0.1% is relatively small, the fact that it is applied to the principal on sale of bonds discourages trading.</p> <p>Investors view the tax system as being complex, but this may reflect the unfamiliar rules rather than inherent complexity.</p> <p>There is no provision for relief at source or for reclaims.</p>	HIGH	HIGH
Omnibus accounts	Omnibus accounts are allowed. Global custodians and ICSDs can operate omnibus accounts provided the custodian / ICSD registers as an investor. However, there is no nominee concept in Vietnamese law.	OK	OK
Settlement cycle	<p>The settlement cycle for bonds is T+1.</p> <p>Market participants have commented that it is possible for trades to be repudiated as, in law, a trade is not valid until it has been input into the Hanoi exchange system.</p>	LOW	LOW
Message formats	SWIFT message formats are not currently used by the CSD or by local market participants.	LOW	LOW
Securities numbering	<p>ISIN codes are not currently used by the CSD or by local market participants.</p> <p>VSD is in the process of allocating ISIN codes for Vietnamese securities. However, ISIN codes are not available until the bonds are registered at VSD.</p>	HIGH	HIGH
Matching	There is a trade matching system but not a settlement matching system for bonds.	LOW	LOW
Dematerialisation	All bonds are now issued in dematerialised form. Existing issues must be deposited into the VSD (and dematerialised) if they are to be traded.	OK	OK
Regulatory framework	Regulations may be unclear. Different market intermediaries may interpret regulations differently. However, overall, the market is consistently moving towards international standards.	-	LOW

Methodology

We assessed the barriers in two ways. Approach 1 was based on the responses to the detailed Market Assessment Questionnaire, issued to GOE members in May 2009. This questionnaire is shown later in the Annex.

Approach 1: Market Assessment Questionnaire

This is based on the GOE members' responses to the Market Assessment Questionnaire. The Questionnaires for each market were completed by the relevant GOE national members, in consultation with market participants.

This approach is intended to provide, as far as possible, an objective assessment of the degree of barrier, for each **potential barrier area**, across the 10 ASEAN+3 bond markets.

There were 12 barrier areas covered by the Questionnaire, listed A to L in the left column of the table. (Area L covered both matching and dematerialisation, which are split out in later tables.)

In the Questionnaire, each question could be answered "Yes" or "No". Depending on the question, the responses were scored 1 for "Yes" and 0 for "No", or 0 for "Yes" and 1 for "No". These scores were then added to provide a **barrier score** for each market for each potential barrier area. Note that the number of questions in each barrier area varied between 2 and 18.

The results of the scoring are summarised below. The scores for each market in each area are shown on the right.

Chart 1: Market Assessment Questionnaire scores and barrier thresholds

Potential barrier area	Total number of questions in area	Threshold 1: 'High barrier'	Threshold 2: 'Low barrier'	Barrier scores									
				CN	HK	ID	JP	KR	MY	PH	SG	TH	VN
A Quotas	6	4	2	4	-	-	-	-	-	-	-	1	2
B Investor registration	7	3	1	5	-	-	-	1	-	-	-	-	2
C FX controls - conversion	11	6	3	8	-	7	-	2	5	4	-	3	5
D FX controls - repatriation	5	3	1	2	-	2	-	-	-	1	-	1	2
E Cash controls - credit balances	6	5	3	-	-	3	-	-	4	4	-	5	-
F Cash controls - overdrafts	5	4	2	4	-	3	-	3	3	3	-	2	4
G Taxes	18	6	3	8	-	8	3	4	-	13	5	5	6
H Omnibus accounts	5	4	2	4	-	-	-	4	-	-	-	-	-
I Settlement cycle	2	2	1	1	-	-	-	-	-	-	1	-	1
J Message formats	3	4	2	3	-	3	1	-	3	3	-	2	3
K Securities numbering	6	4	2	3	-	3	1	-	2	2	-	-	4
L Matching	2	-	1	-	2	-	-	2	1	-	-	-	1
M Dematerialisation	2	-	1	-	1	1	1	-	1	2	1	1	1

Key:

- CN People's Republic of China
- HK Hong Kong, China
- ID Indonesia

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JP	Japan
KR	Republic of Korea
MY	Malaysia
PH	Philippines
SG	Singapore
TH	Thailand
VN	Viet Nam

Having calculated the scores, we then established 2 **threshold scoring levels** for each area. Threshold 1 denotes the score at which we regard the market as having a **'high barrier'** in that particular area. For example, PRC scores 4 in area A and so is regarded as having a 'high barrier' in the area of quotas.

Threshold 2 denotes the score at which we regard the market as having a **'low barrier'** in that particular area. For example, Viet Nam scores 2 in area B and so is regarded as having a 'low barrier' in the area of investor registration.

The selected threshold levels are inevitably somewhat subjective, but are intended to highlight the relative barriers across the region.

Using the table above, the following pattern emerges, based purely on the scores:

Chart 2: Market barriers based on Market Assessment Questionnaire scores

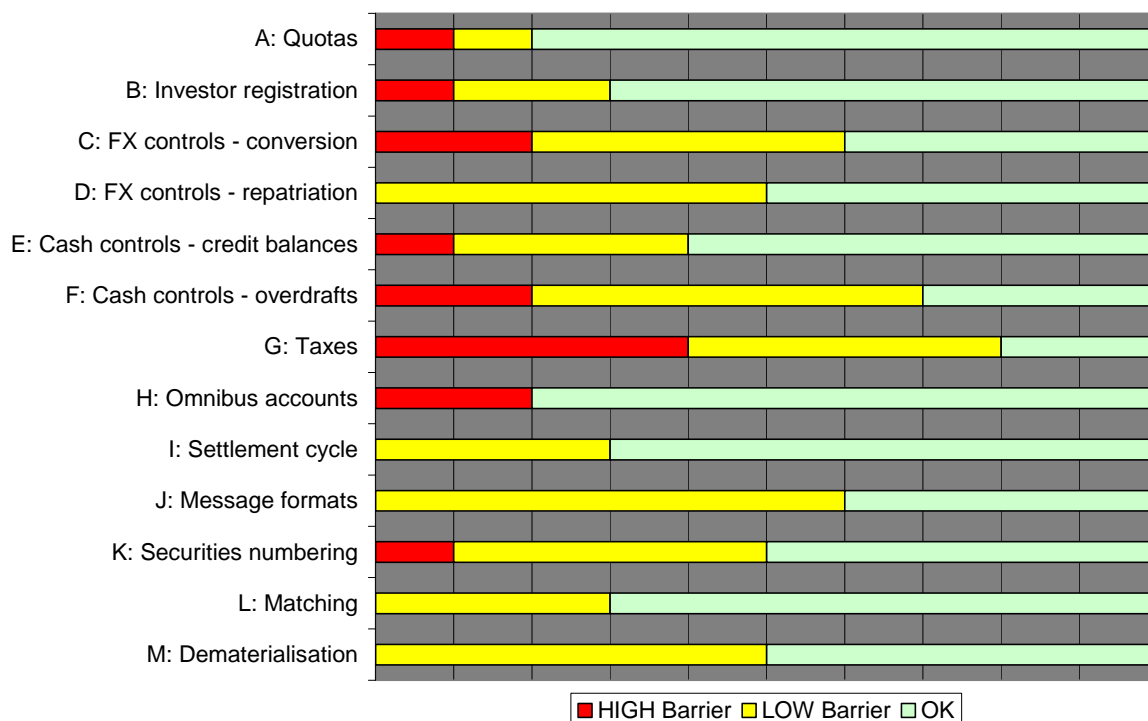
Market:	CN	HK	ID	JP	KR	MY	PH	SG	TH	VN
A: Quotas	HI									LO
B: Investor registration	HI				LO					LO
C: FX controls - conversion	HI		HI			LO	LO		LO	LO
D: FX controls - repatriation	LO		LO				LO		LO	LO
E: Cash controls - credit balances			LO			LO	LO		HI	
F: Cash controls - overdrafts	HI		LO		LO	LO	LO		LO	HI
G: Taxes	HI		HI	LO	LO		HI	LO	LO	HI
H: Omnibus accounts	HI				HI					
I: Settlement cycle	LO							LO		LO
J: Message formats	LO		LO			LO	LO		LO	LO
K: Securities numbering	LO		LO			LO	LO			HI
L: Matching		LO			LO					LO
M: Dematerialisation		LO	LO				LO	LO	LO	
HIGH barriers:	6	0	2	0	1	0	1	0	1	3
LOW barriers:	4	2	6	1	4	5	7	3	6	7
Total barriers:	10	2	8	1	5	5	8	3	7	10

Key:	
'High' barrier	HI
'Low' barrier	LO

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An alternative way of looking at this is to show the number of markets with high and low barriers in each potential barrier area:

Chart 3: Frequency of market barriers across ASEAN+3



This chart shows how widely spread the various barriers are. For example, for taxes (area G), 80% of markets have some sort of barrier (high or low), while for omnibus accounts (area H), only 20% of markets have a barrier.

Approach 2: Overall subjective assessment based on market profiles

We were not entirely satisfied that the scoring process outlined in Approach 1 accurately reflected actual market conditions in all cases. This was mainly due to a number of reasons:

- Not all questions carried equal importance in determining the degree of barrier. For example: "Are special cash accounts required for foreign investors?" may be felt to be less important than "Can foreign investors hold surplus LCY in an interest-bearing account?" as an indicator of a barrier.
- Some questions may overlap to some extent. For example: "Are the tax regulations clear and unambiguous?" and "Are there sometimes differences in interpretation between market authorities, or between intermediaries?" are obviously related, although both were felt to be useful as potential indicators of barriers.
- The answers to some questions needed some interpretation beyond a simple 'Yes' or 'No'. For example: "Is there any restriction on conversion of LCY to FCY by foreign investors" may involve either minor or major restrictions.

We decided therefore to make an overall judgement in addition to the scores. This was made on the basis of all available information, including the scores but also including other information from the market profiles and feedback from market participants. These assessments are shown in the 'Overall barrier assessment' column in the Tables.

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Chart 4: Market barriers based on overall assessments

Market:	CN	HK	ID	JP	KR	MY	PH	SG	TH	VN
A: Quotas	HI									
B: Investor registration	HI				LO					LO
C: FX controls - conversion	HI		HI				LO		LO	LO
D: FX controls - repatriation	HI		LO				HI		LO	HI
E: Cash controls - credit balances			LO						HI	
F: Cash controls - overdrafts	HI		HI		LO	LO	HI		LO	HI
G: Taxes	LO		HI	LO	HI		HI		LO	HI
H: Omnibus accounts	HI				HI					
I: Settlement cycle	LO									LO
J: Message formats	LO		LO			LO	LO		LO	LO
K: Securities numbering	LO		LO				LO		LO	HI
L: Matching		LO			LO					LO
M: Dematerialisation		LO					LO	LO	LO	
Regulatory framework	LO		HI				LO		HI	LO
HIGH barriers:	6	0	4	0	2	0	3	0	2	4
LOW barriers:	5	2	4	1	3	2	5	1	7	6
Total barriers:	11	2	8	1	5	2	8	1	9	10

Key:

'High' barrier	HI
'Low' barrier	LO

As before, the definitions of these barriers are as follows.

- 'HIGH'
The current situation in this area is likely to have a significant impact on the attractiveness or accessibility of this market, which therefore may deter some foreign investors from this market.
- 'LOW'
The current situation in this area is likely to add to costs or operational difficulties, which is not likely to prevent foreign investment in this market but may make it relatively less attractive than other markets.

The assessment is of course to some extent subjective, and may be subject to further discussion and amendment. We have tried to make the assessment on a consistent basis, but inevitably there are areas of debate.

However, as with Approach 1, the aim is to provide a guide for the construction of a roadmap to reducing the barriers, rather than a definitive judgement.

Please note that the scores and barrier assessments are NOT intended primarily to provide a basis of comparison BETWEEN markets. They are intended to focus attention on the relative importance of the various barriers WITHIN each market.

Explanation of differences between Questionnaire scores and Overall Barrier Assessment

Out of 130 areas covered in the Market Assessment Questionnaire, there were 16 differences between the Questionnaire scores and our Overall barrier assessments, as follows:

Market Assessment Questionnaire scores	Overall barrier assessment	Number
HIGH	OK	0
OK	HIGH	0
HIGH	LOW	1
LOW	HIGH	6
LOW	OK	8
OK	LOW	1

The individual differences are explained below:

People's Republic of China (2 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
FX controls - repatriation of funds	<p>Investors can only apply for repatriation after the lock-up period and approval is subject to SAFE's review on a case-by-case basis. Depending on the type of QFII, the lock-up period starts from 3 months to 3 years after the inward remittance of funds.</p> <p>Many investors mentioned the lock-up period as a problem.</p> <p>The onerous restrictions on FX repatriation lead us to assign a HIGH barrier.</p> <p>In particular, investors may wish to review their country asset allocation from time to time and the repatriation restrictions effectively prevent this.</p>	LOW	HIGH
Taxes	<p>Interest on Treasury bonds is tax-exempt. Capital gains are tax-exempt. Foreign investors are subject to a withholding tax of 10% on income from deposit interest and coupons.</p> <p>Taxation for foreign investors has often been unclear but is gradually being clarified. Therefore we assess this area as LOW.</p>	HIGH	LOW

Indonesia (2 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Cash controls - overdrafts	<p>A non-resident's IDR current account cannot, under any circumstances, be overdrawn overnight.</p> <p>Intra-day overdrafts are allowed. However, in practice, sales</p>	LOW	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	<p>proceeds cannot be used to fund purchases of the same value date due to limited cut-off time of securities settlement. Therefore, while pre-funding in the sense that funds are needed prior to settlement date is not required, foreign investors must ensure that sufficient IDR funds are in their account on SD, without allowing for any sales proceeds due in that day, to ensure purchases are settled.</p> <p>The strictness of the rules governing overnight overdrafts, and the practical difficulties of same-day turnaround, lead us to assign a HIGH barrier. Overdraft facilities are important in cases of failed trades.</p> <p>The overdraft restrictions in Indonesia are comparable with those of PRC, Philippines and Viet Nam, all of which have a HIGH barrier rating in this area.</p>		
Dematerialisation	<p>All government bonds and 99% of corporate bonds are now dematerialised.</p> <p>The extent of the dematerialisation leads us to assess this area as OK.</p>	LOW	OK

Republic of Korea (1 difference)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Taxes	<p>The default tax rate to foreign investors is 22% on cash balance interest and dividends and 15.4% on interest income on debt securities. The rates of withholding tax and CGT may be reduced under applicable double taxation agreements, subject to documentation.</p> <p>Historical information is needed to calculate the tax.</p> <p>There is no officially recognised tax reclaim procedure. Taxes may be reclaimed on a case by case basis, although the reclaim is not guaranteed.</p> <p>There is a perception among foreign investors that tax is high. This appears to be incorrect and may reflect previous higher rates.</p> <p>The government has proposed that foreign investors will be exempt from interest and capital gains tax for income from government bonds and monetary stabilisation bonds.</p> <p>Our HIGH barrier is based on the existing tax rules, which involve historical data for calculation, and do not provide clear procedures for reclaims. Republic of Korea was mentioned as a problem market for tax by a number of survey respondents. However, the expected new rules exempting non-residents will likely change this assessment in future.</p>	LOW	HIGH

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Malaysia (3 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
FX controls - conversion	<p>There are no restrictions on the purchase of MYR by non resident investors, provided the FX is executed with a licensed onshore bank. In this case, MYR may be freely bought and sold (or held) without evidence of underlying securities trades.</p> <p>Local custodians must submit daily reports on the movement of MYR onshore and repatriation of funds. This appears to be an efficient process. There are no reporting requirements for investors.</p> <p>Third-party FX is possible, but not common.</p> <p>Perception gap - there appears to be a perception among many investors that FX controls are more onerous.</p> <p>FX appears to work smoothly and to present no barrier to investors. Therefore we assess this area as OK.</p>	LOW	OK
Cash controls - credit balances	<p>Clean cash payments between different beneficial owners are not prohibited. However, they are subject to "Permitted Reasons for Transfers" under the exchange regulations.</p> <p>While there are some restrictions, they do not appear to affect most investors. The "permitted reasons" include investment in MYR assets. Investors are also permitted to place funds in an interest-bearing account. Therefore we assess this area as OK.</p>	LOW	OK
Securities numbering	<p>ISIN codes are available for all local bond issues, and are available at the time of issue. Most local market participants use ISIN codes in securities messages, but the CSD does not.</p> <p>The questionnaire scores reflected the fact that the CSD does not use ISIN. However, since ISIN is widely used by local market participants, we assess it as OK.</p>	LOW	OK

Philippines (3 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
FX controls - repatriation of funds	<p>There are no restrictions on the amount of currency that can be remitted or repatriated subject to submission to BSP of required documentation. However, the repatriation of funds must be accompanied by a BSRD together with the required supporting documents.</p> <p>The regulations only allow the foreign investors to sell PHP and buy FCY upon actual receipt of the license to be issued by the BSP - there is no standard processing period which may range from one week to two weeks for government securities and longer for corporate bonds. The BSP may also require additional documentation, giving the impression that the process is somewhat arbitrary.</p> <p>Purchases of PHP intended for securities investments that are ultimately cancelled cannot be repatriated unless the</p>	LOW	HIGH

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	<p>PHP is first re-invested.</p> <p>Overall, a considerable burden is placed on the custodian bank.</p> <p>It is at the time of repatriation, rather than the original inward investment, that problems are most likely to occur.</p> <p>Our assessment of HIGH reflects the fact that the BSRD is needed for repatriation of funds, and investor comments on uncertainties in the operation of the BSP approval process.</p>		
Cash controls - credit balances	<p>Cash credit balances are permitted.</p> <p>BSRD-eligible transactions include investments in listed securities, government debt, and time deposits or other money market instruments with maturities of 90 days or greater.</p> <p>Foreign investors can open interest-earning accounts.</p> <p>While there are restrictions, they are relatively minor. We therefore assess this area as OK.</p>	LOW	OK
Cash controls - overdrafts	<p>PHP overdrafts to non-residents are not permitted. This means that foreign investors must ensure that cash accounts are adequately funded (cleared funds) prior to settlement date. Foreign broker-dealer clients which do intraday trading are especially affected by this restriction, and difficulties arise if the sale side fails.</p> <p>Market authorities have pointed out that with the recent regulation allowing non-residents to do FX swaps, the above concern has been addressed.</p> <p>The strictness of the rules governing overdrafts lead us to assign a HIGH barrier to this area. Overdraft facilities are important in cases of failed trades.</p> <p>The overdraft restrictions in Philippines are comparable with those of PRC, Indonesia and Viet Nam, all of which have a HIGH barrier rating in this area.</p>	LOW	HIGH

Singapore (2 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Taxes	<p>Non-residents, including those with permanent establishment in Singapore, are exempt from withholding tax on qualifying debt securities (QDS), provided that such securities were not purchased with funds resulting from a local business owned by the non-resident investor.</p> <p>The majority of bond investments will be exempt from tax and the tax rate in any event is not high. We therefore assess this area as OK.</p>	LOW	OK
Settlement cycle	<p>The settlement cycle for bonds is T+1 for government bonds (negotiable) and typically T+3 for corporate debt.</p>	LOW	OK

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Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
	There appears to be no problem for investors in this area. We therefore assess this area as OK.		

Thailand (1 difference)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Securities numbering	<p>ISIN are available for all local bond issues, and are available on issue date. SWIFT and ISIN codes are used among banks and custodians in instructions for bonds.</p> <p>However, investors commented that this area was a problem as most market players were still using the local codes. Several market participants mentioned Thailand as a problem in this area.</p> <p>Our assessment of LOW barrier here reflects the fact that local market participants do not use ISIN. In the market survey, Thailand was mentioned by a number of markets as a problem in this area.</p>	OK	LOW

Viet Nam (2 differences)

Potential barrier area	Current situation	Market Assessment Questionnaire scores	Overall barrier assessment
Quotas	<p>There are foreign ownership limits on equities but not on bonds, unless the issuer chooses to set a limit. The market is generally viewed as open to foreign investors.</p> <p>The questionnaire answers reflected the equity market. Foreign investors are effectively not subject to a quota on bonds. We therefore rate this area as OK.</p>	LOW	OK
FX controls - repatriation of funds	<p>Sales proceeds, dividends and interest may be freely repatriated, subject to tax certification.</p> <p>However, the FX market can be highly illiquid. This is of major concern to investors.</p> <p>"Because VND constantly trades at upper end of trading band, FX requests are placed in a queue that may take ages to be considered."</p> <p>"The way that capital controls work in Viet Nam also causes problems - last year, the rate bands were not adjusted and the central bank would not sell USD at the unadjusted rates, so the market dried up."</p> <p>It is not so much the regulations, but market liquidity, due to the narrow rate bands, that causes the problems. The wider 5% band may improve the situation.</p> <p>The practical difficulties of repatriation lead us to assess this area as a HIGH barrier.</p>	LOW	HIGH

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Market assessment questionnaire

The questions in each area are listed below:

A: Quotas

Note: Limits on foreign investors share of equity in individual companies should be ignored.

		Questions
A	1	Is there a quota on the involvement of individual foreign investors in the local market?
A	2	Is there a quota on the overall involvement of foreign investors in the local market?
A	3	Are foreign investors free to invest in any local bond issues?
A	4	Do foreign investors need more than one week to get approval?
A	5	Is the period from application to approval fixed?
A	6	Is the qualification to apply for a quota published?

B: Investor registration

Note: This refers to registration needed for market access. Registration for FX purposes (e.g. Philippines BSRD) or for tax purposes (e.g. Japan municipal bonds) are covered in other sections.

		Questions
B	1	Is there a registration requirement for foreign investors to allow them to purchase local securities?
B	2	Is the requirement clearly defined and published? (i.e. a list of documents and a well-defined procedure)
B	3	Is the process subject to frequent requests for additional information?
B	4	If the application is in order, is the time to approve generally within 1 week?
B	5	Is renewal a straightforward process? (e.g. confirmation of no change)
B	6	Do foreign investors have to renew the registration after a certain period?
B	7	Is the period from application to approval fixed?

C: FX controls - conversion

Note: FX restrictions on local investors are disregarded here.

		Questions
C	1	Is there any restriction (by amount, purpose or method) on conversion of FCY to LCY by foreign investors?
C	2	Must FX be in support of an actual underlying trade?
C	3	Can a single FX trade be effected against a number of securities trades with the same settlement date?
C	4	Must the FX be for the exact amount? (i.e. no tolerance)
C	5	Must the local custodian have evidence of the securities trade before the FX trade is executed?
C	6	Must approval be obtained from a market authority (e.g. central bank) before the FX trade is executed?
C	7	If approval is required from a market authority, does this generally have a quick turnaround?
C	8	Is third-party FX allowed?
C	9	If third-party FX is allowed, is it generally practical and supported by custodians, given local regulations and settlement practices?
C	10	Can FX for securities investments be purchased offshore?
C	11	Are periodic reports to market authorities on FX transactions required? (e.g. from local custodians to central bank)

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D: FX controls - repatriation

Similar to FX conversion but with the following variations:

		Questions
D	1	Is there any restriction on sale of local securities by foreign investors (apart from those arising from FX controls)?
D	2	Is there any restriction on conversion of LCY to FCY by foreign investors?
D	3	When securities are sold, must the LCY be converted immediately to FCY?
D	4	Apart from regulatory controls, are there any practical difficulties in conversion of LCY to FCY? (e.g. lack of market liquidity, long approval times)
D	5	Can FCY, when obtained, be repatriated freely, at the investor's option?

E: Cash controls - credit balances

		Questions
E	1	Are there any restrictions on foreign investors (or their agents) holding LCY?
E	2	Can foreign investors hold LCY temporarily (e.g. overnight) pending settlement of a securities purchase?
E	3	Can foreign investors hold surplus LCY in an interest-bearing account?
E	4	Are there restrictions on foreign investors investing in money market instruments? (e.g. short-term T-bills, CDs)
E	5	Are special cash accounts required for foreign investors?
E	6	Are there any restrictions on the movement of LCY into, out of, and between accounts held by foreign investors?

F: Cash controls - overdrafts

		Questions
F	1	Are there any restrictions on foreign investors borrowing LCY?
F	2	Are overdrafts allowed for overnight fails in securities settlement?
F	3	Are intra-day overdrafts allowed? (e.g. for back to back trades, using proceeds of sale to fund a purchase)
F	4	Is full pre-funding required in the local securities market by regulation?
F	5	Is pre-funding required as a matter of practicality, given settlement cut-off times, market practices etc?

G: Taxes

Note: This covers taxes on income and capital gains, as applied to foreign investors. Taxes on local investors are disregarded. Other fees (stamp duties, exchange levies etc) are also not covered.

		Questions
G	1	Are foreign investors subject to withholding tax on income?
G	2	Does the tax rate significantly reduce yields? (e.g. by 20% or more)
G	3	Is the tax on income and capital gains as applied to foreign investors simple and straightforward?
G	4	Are there many different tax rates for different classes of bonds or types of investors?
G	5	Is historical information needed in calculating the amount of tax to be withheld? (e.g. who has held the security and for how many days since the last income date)
G	6	Are the tax regulations clear and unambiguous?
G	7	Are there sometimes differences in interpretation between market authorities, or between intermediaries?
G	8	Is tax relief available at source (e.g. per double tax treaties)?
G	9	Is the procedure required to obtain tax relief at source clearly defined and published?

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G	10	Is the procedure required to obtain tax relief at source regarded as complex or onerous?
G	11	Can tax generally be reclaimed after it has been deducted and paid?
G	12	Is the procedure required to reclaim tax clearly defined and published?
G	13	Is the procedure required to reclaim tax regarded as complex or onerous?
G	14	If the application is in order, is there a fixed timeframe to obtain tax reclaims?
G	15	In general, are foreign investors disadvantaged compared to local investors?
G	16	Are foreign investors subject to tax on capital gains?
G	17	Is the tax regulation published?
G	18	Can foreign investors know how much tax can be reclaimed beforehand?

H: Omnibus accounts

		Questions
H	1	Are there any restrictions on the use of omnibus accounts for foreign investors?
H	2	Can local custodians operate omnibus accounts at the CSD for their foreign customers? (i.e. an account at the CSD covering a range of customers that does not indicate the identity of the customer)
H	3	Can global custodians / ICSDs operate omnibus accounts at the local custodian for their foreign customers? (i.e. an account at the local custodian covering a range of customers that does not indicate the identity of the customer)
H	4	Are all restrictions on omnibus accounts clearly defined and published?
H	5	Is there any documentation / certification required in connection with this process?

I: Settlement cycle

		Questions
I	1	Are cross-border transactions generally settled on T+2 / T+3?
I	2	Are there any other timing issues that may make it difficult for investors based overseas to operate? (e.g. local operating hours)

J: Message formats

		Questions
J	1	Does the local CSD use ISO 15022 / 20022 format for settlement messages?
J	2	Does the local CSD use ISO 15022 / 20022 format for other messages? (e.g. corporate events)
J	3	Do most local market participants (custodians, brokers) use ISO 15022 / 20022 format messages?

K: Securities numbering

		Questions
K	1	Is there an appointed issuer of ISIN codes for the local market?
K	2	Are ISIN codes now available for all local bonds, including existing issues?
K	3	Are ISIN codes available at the time that bonds are issued or auctioned?
K	4	Does the local CSD use ISIN codes for settlement messages?
K	5	Does the local CSD use ISIN codes for other messages? (e.g. corporate events)
K	6	Do most local market participants (custodians, brokers) use ISIN codes?

L: Additional settlement questions

		Questions
L	1	Is there a trade matching system for the local bond market?

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L	2	Is there a settlement pre-matching system for the local bond market?
L	3	Are all bonds dematerialized?
L	4	If there are physical bonds, are they all immobilized in the CSD?

/end

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List of abbreviations

AAB	Authorised agent bank (Philippines)
ABMI	Asian Bond Markets Initiative
ADB	Asian Development Bank
AML	Anti money laundering
ANNA	Association of National Numbering Agencies
ASEAN	Association of Southeast Asian Nations
ASEAN+3	ASEAN + People's Republic of China, Japan, and Republic of Korea
BAHTNET	Bank of Thailand Automated High-value Transfer Network
BAPEPAM-LK	Indonesian Capital Market and Financial Institution Supervisory Agency
BEX	Bond Electronic Exchange (Thailand)
BI	Bank Indonesia
BIS	Bank for International Settlements
BM	Bursa Malaysia
BNM	Bank Negara Malaysia
BOJ	Bank of Japan
BOK	Bank of Korea
BOT	Bank of Thailand
BRSD	Bangko Sentral registration document
BSP	Bangko Sentral ng Pilipinas
CGT	Capital gains tax
CIR	Certificate of inward remittance (Philippines)
CLS	Continuous linked settlement / CLS Bank
CMU	Central MoneyMarkets Unit
COR	Certificate of tax residence (Philippines)
CP	Commercial paper
CPSS	Committee on Payment and Settlement Systems
CSD	Central securities depository
CSDCC	China Securities Depository & Clearing Co
CSRC	China Securities Regulatory Commission
DTT	Double tax treaty
DVP	Delivery versus payment
ECB	European Central Bank
EMEAP	Executives' Meeting of East Asia-Pacific Central Banks
FCY	Foreign currency
FIP	Foreign indirect participant (Japan)
FOP	Free of payment
FSS	Financial Supervisory Service (Korea)
FX	Foreign exchange
GC	Global custodian

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GOE	Group of Experts, set up by ABMI
GSED	Government securities eligible dealer (Philippines)
HKEx	Hong Kong Exchanges and Clearing Limited
HKMA	Monetary Authority of Hong Kong, China
HNX	Hanoi Exchange
HSBC	The Hongkong and Shanghai Banking Corporation Limited
HSX	Ho Chi Minh City Stock Exchange
ICSD	International central securities depository
IDX	Indonesia Stock Exchange
IRC	Investment registration certificate (Korea)
IRS	Interest rate swap
ISIN	International Securities identification Number
ISO	International Standards Organisation
JASDEC	Japan Securities Depository Centre
JGB	Japanese government bonds
JGS	Japanese government securities
KRX	Korea Exchange
KSD	Korea Securities Depository
KSEI	Indonesian Central Securities Depository
KYC	Know your customer
LCY	Local currency
MAS	Monetary Authority of Singapore
MGS	Malaysian government securities
MOF	Ministry of Finance
MTN	Medium term note
NCSD	National central securities depository
NDF	Non-deliverable forward
NRBA	Non-resident baht account
NRBS	Non-resident baht account for securities
OTC	Over the counter
PBOC	People's Bank of China
PDEX	Philippine Dealing and Exchange Corporation
PDTC	Philippine Depository & Trust Corporation
PRC	People's Republic of China
PTI	Post Trade Integration (Thailand)
PVP	Payment versus payment
QDS	Qualifying debt securities (Singapore)
QFI	Qualified foreign intermediary (Japan)
QFII	Qualified financial institutional investor (China)
RC	Regional custodian
ROSS	Register of Scripless Securities (Philippines)

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RSI	Regional settlement intermediary
RTGS	Real time gross settlement
SAFE	State Administration of Foreign Exchange
SBL	Securities borrowing and lending
SBV	State Bank of Viet Nam
SD	Settlement date
SEC	Securities and Exchange Commission
SEHK	Stock Exchange of Hong Kong
SGX	Singapore Exchange Limited
SSE	Single Settlement Engine
STP	Straight through processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication
T+1, 2, 3	Trade date plus 1, 2, 3 days
TA	Technical Assistance (ADB)
T-bills, T-bonds	Treasury bills, Treasury bonds
TD	Trade date
TF4	ABMI Task Force 4
TSD	Thai Securities Depository
VSD	Viet Nam Securities Depository
WG3	ABMI Working Group 3 (on Foreign Exchange Transactions and Settlement Issues)
WHT	Withholding tax

Currencies

CNY	Chinese yuan
EUR	Euro
HKD	Hong Kong dollar
IDR	Indonesian rupiah
JPY	Japanese yen
KRW	Korean won
MYR	Malaysian ringgit
PHP	Philippines peso
SGD	Singapore dollar
THB	Thai baht
USD	US dollar
VND	Vietnamese dong