

April 2007

asianbondsonline.adb.org

The *Asia Bond Monitor* (ABM) reviews recent developments in East Asian local currency bond markets. In this issue, the theme chapter examines securitization in East Asia.

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The *Asia Bond Monitor* April 2007 was prepared by the ADB's Office of Regional Economic Integration and does not necessarily reflect the views of ADB's Board of Governors or the countries they represent.

Emerging East Asian Local Currency Bond Markets: A Regional Update

Highlights

Bond Market Development in 2006, Outlook, and Policy Options

- Emerging East Asian bond markets expanded rapidly in the second half of 2006, lifting full-year growth to 32.4%, well above the rates for both 2004 and 2005.
- Local currency government bond market growth remained strong in 2006, despite declining central government deficit financing in most countries.
- Corporate bonds outstanding surged 36% in 2006, largely the result of growth in the PRC and the trend of encouraging quasi-government corporations to issue under corporate market regulations.
- Despite the rapid growth in total bonds outstanding in 2006, turnover ratios showed no clear regional trend in the government sector, while corporate ratios were generally down.
- After yield curves steepened during the first half of 2006—the result of monetary tightening and inflationary fears—continued sound economic growth and stabilized short-term rates brought long-term rates lower, flattening yield curves.
- Local currency bond index returns were exceptionally high in 2006 across most emerging East Asian markets, reflecting flattening yield curves and currency appreciation in many markets.
- The region's financial sectors remain strong into 2007, but there are signs of uncertainty such as softer-than-expected economic growth, inflationary pressures, persistent global payments imbalances, and financial market volatility.
- Governments in emerging East Asia have shown increasing confidence in the pace of reform, expanding their focus from market deepening to broadening supply and attracting increased investor demand.

Securitization—Concepts and Development in East Asia

- Asia's use of securitization is far more modest than in Europe and North America despite its growth since the 1997/98 financial crisis. Yet structured finance holds considerable potential for regional development.
- Securitization can be applied to all defined credit risks—including delinquent assets or claims—but for costs is typically associated with risks involving similar, unconnected, and predictable cash flows.

Continued overleaf

Acronyms and Abbreviations

ABM	Asia Bond Monitor
ABS	asset-backed security
ADB	Asian Development Bank
ALB	JSC Alliance Bank
AMC	asset management company
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BIBOR	Bangkok Interbank Offered Rate
BIS	Bank for International Settlements
Cagamas	Malaysian National Mortgage Corporation
CDO	collateralized debt obligation
CDS	credit default swap
CHIBOR	China Interbank Offered Rate
CPF	Central Provident Fund
CSRC	China Securities Regulatory Commission
DPR	diversified payment right
EU	European Union
EVN	Electricite' de Vietnam
GDP	gross domestic product
HIBOR	Hong Kong Interbank Offered Rate
HKMA	Hong Kong Monetary Authority
HKMC	Hong Kong Mortgage Corporation
IMF	International Monetary Fund
JIBOR	Jakarta Interbank Offered Rate
JSX	Jakarta Stock Exchange
KAMCO	Korea Asset Management Corporation
KLIBOR	Kuala Lumpur Interbank Offered Rate
KORIBOR	Korea Interbank Offered Rate
KRX	Korea Stock Exchange
LCY	local currency
MAS	Monetary Authority of Singapore
NPL	nonperforming loan
OECD	Organisation for Economic Co-operation and Development
OREI	Office of Regional Economic Integration
PHIBOR	Philippine Interbank Offered Rate
PRC	People's Republic of China
REIT	real estate investment trust
RMBS	residential mortgage-backed security
SBI	Sertifikat Bank Indonesia
SEC	Securities and Exchange Commission
SGS	Singapore Government Security
SGX	Singapore Exchange
SHIBOR	Shanghai Interbank Offered Rate
SIBOR	Singapore Interbank Offered Rate
SME	small and medium enterprise
SPV	special purpose vehicle
SSX	Surabaya Stock Exchange
SWIFT	Society for Worldwide Interbank Financial Telecommunication
T-bill	Treasury bill
TIBOR	Tokyo Interbank Offered Rate
UK	United Kingdom
US	United States
YTD	year-to-date

bp = basis point

Note: To conform with market practice, the *Asia Bond Monitor* uses two-letter official ISO Country Codes and three-letter currency codes rather than ADB's standard symbols.

- Securitization in Asia evolved from simple profit-seeking prior to the crisis to debt recycling afterward. Future Asian securitization may have broader applications by facilitating the release of individual capital and assisting in public policy.
- National and regional policies should complement commercial trends by supporting institutional improvements; promoting common standards and applying structured finance techniques.
- In addition to institutional improvement, the promotion of common standards can both support securitization and provide incentives for improved intermediary practice, especially in data collection, documentation, and credit risk appraisal.
- Specific new initiatives to encourage the use of securitization include (i) supporting refunding through microfinance, (ii) providing credit support and refunding for long-term student loans and human resource development, and (iii) securitization of infrastructural risk.

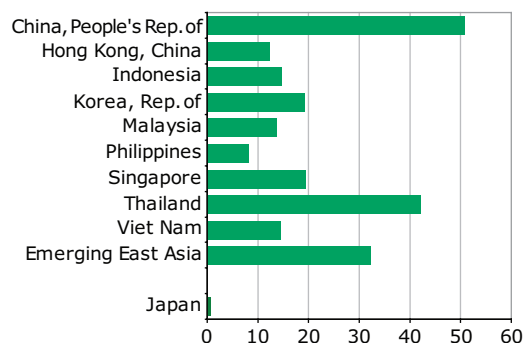
Emerging East Asian Local Currency Bond Markets: A Regional Update

Bond Market Development in 2006, Outlook, and Policy Options

Size and Composition

Emerging East Asian bond markets expanded rapidly in the second half of 2006, lifting full-year growth to 32.4%, well above the rates for both 2004 and 2005.

Figure 1: **Growth of Emerging East Asian Local Currency Bond Markets in 2006 (%)**



Sources: People's Republic of China (Bloomberg LP); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand); Viet Nam (VietComBank Securities); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Strong growth in the value of local currency bonds outstanding continued across emerging East Asia¹ during the last 6 months of 2006, reaching USD2.8 trillion as of 31 December 2006, up 32.4% from the USD2.1 trillion outstanding at end-2005 (Table 1).² Growth was strongest in the People's Republic of China (PRC) (51%) and Thailand (42%); followed by Singapore and the Republic of Korea (Korea) (19% each); Indonesia and Viet Nam (15% each); Malaysia (14%); Hong Kong, China (12%); and the Philippines (8%) (Figure 1).

Emerging East Asia's bond markets continued to grow at rates above growth in gross domestic product (GDP). Thus, the local currency bond-to-GDP ratio continued to rise, from 53.0% at end-2005 to 61.5% end-2006 (Table 2).

Foreign exchange rate appreciation was partly responsible for the large net increase in bonds outstanding in USD terms. Since the start of 2006, emerging East Asian currencies—with the exception of Hong Kong, China; and Viet Nam—have appreciated strongly against the USD. While some of these currencies weakened slightly against the USD in the first 3 months of 2007, this has not offset the general trend (Table 3).

¹ In this report, emerging East Asia is defined as People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and Viet Nam.

² To ensure the most up-to-date data, with this issue Asia Bond Monitor estimates bonds outstanding based on national and market-related sources as compared with institutional estimates, such as the Bank for International Settlements. These new estimates are slightly above those stated in previous issues, which affects growth rates and turnover ratios slightly. The new time series are available at asianbondsonline.adb.org.

Table 1: **Size and Composition of Emerging East Asian Local Currency Bond Markets**

	2004		2005		2006		Growth Rate (%)	
	Amount (\$ billion)	% share	Amount (\$ billion)	% share	Amount (\$ billion)	% share	2005	2006
China, People's Rep. of								
Total	623.76	100.00	895.54	100.00	1,350.60	100.00	43.573	50.81
Government	433.57	69.51	610.67	68.19	877.89	65.00	40.846	43.76
Corporate	190.18	30.49	284.87	31.81	472.70	35.00	49.788	65.94
Hong Kong, China								
Total	78.21	100.00	85.59	100.00	96.19	100.00	9.44	12.38
Government	15.77	20.16	16.34	19.09	16.94	17.62	3.61	3.70
Corporate	62.44	79.84	69.25	80.91	79.25	82.38	10.91	14.43
Indonesia								
Total	49.42	100.00	46.55	100.00	53.40	100.00	(5.79)	14.70
Government	43.07	87.17	40.68	87.38	46.56	87.19	(5.57)	14.46
Corporate	6.34	12.83	5.88	12.62	6.84	12.81	(7.35)	16.38
Korea, Rep. of								
Total	708.59	100.00	804.60	100.00	958.97	100.00	13.55	19.19
Government	337.18	47.58	404.14	50.23	469.13	48.92	19.86	16.08
Corporate	371.42	52.42	400.45	49.77	489.84	51.08	7.82	22.32
Malaysia								
Total	96.77	100.00	106.70	100.00	121.26	100.00	10.26	13.65
Government	48.10	49.70	52.25	48.97	60.89	50.21	8.63	16.54
Corporate	48.67	50.30	54.45	51.03	60.37	49.79	11.88	10.88
Philippines								
Total	35.32	100.00	40.53	100.00	43.88	100.00	14.74	8.27
Government	35.05	99.22	40.20	99.20	43.50	99.13	14.71	8.20
Corporate	0.28	0.78	0.32	0.80	0.38	0.87	17.56	17.71
Singapore								
Total	79.98	100.00	83.10	100.00	99.18	100.00	3.91	19.35
Government	44.25	55.33	46.90	56.44	55.92	56.38	6.00	19.23
Corporate	35.73	44.67	36.20	43.56	43.26	43.62	1.32	19.50
Thailand								
Total	66.65	100.00	78.84	100.00	112.01	100.00	18.28	42.08
Government	44.36	66.55	54.29	68.86	74.58	66.58	22.38	37.38
Corporate	22.29	33.45	24.55	31.14	37.44	33.42	10.13	52.47
Viet Nam								
Total	3.79	100.00	4.30	100.00	4.93	100.00	13.47	14.57
Government	3.77	99.50	4.20	97.52	4.50	91.28	11.22	7.24
Corporate	0.02	0.50	0.11	2.48	0.43	8.72	461.50	302.65
Total Emerging East Asia								
Total	1,742.49	100.00	2,145.76	100.00	2,840.42	100.00	23.14	32.37
Government	1,005.12	57.68	1,269.67	59.17	1,649.91	58.09	26.32	29.95
Corporate	737.37	42.32	876.09	40.83	1,190.51	41.91	18.81	35.89
Japan								
Total	7,447.42	100.00	7,046.41	100.00	7,096.10	100.00	(5.38)	0.71
Government	6,556.28	88.03	6,302.54	89.44	6,389.17	90.04	(3.87)	1.37
Corporate	891.14	11.97	743.87	10.56	706.93	9.96	(16.53)	(4.97)

Notes:

1. Please see footnote 2, page 3 for explanation of change in data sources.

2. Corporate bonds include issues by financial institutions.

Sources: People's Republic of China (Bloomberg LP); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand); Viet Nam (VietComBank Securities); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Table 2: **Size and Composition of Emerging East Asian Local Currency Bond Markets** (% of GDP)

	Amount		
	2004	2005	2006
China, People's Rep. of			
Total	32.29	40.08	52.88
Government	22.45	27.33	34.37
Corporate	9.85	12.75	18.51
Hong Kong, China			
Total	47.16	48.17	50.98
Government	9.51	9.20	8.98
Corporate	37.65	38.97	42.00
Indonesia			
Total	19.42	16.55	15.21
Government	16.93	14.46	13.26
Corporate	2.49	2.09	1.95
Korea, Rep. of			
Total	104.21	102.16	109.32
Government	49.59	51.32	53.48
Corporate	54.62	50.85	55.84
Malaysia			
Total	81.69	81.55	82.48
Government	40.60	39.93	41.42
Corporate	41.08	41.62	41.07
Philippines			
Total	40.74	41.20	37.53
Government	40.42	40.87	37.20
Corporate	0.32	0.33	0.33
Singapore			
Total	74.40	71.16	74.28
Government	41.16	40.17	41.88
Corporate	33.24	31.00	32.40
Thailand			
Total	41.22	45.54	57.57
Government	27.44	31.36	38.33
Corporate	13.79	14.18	19.24
Viet Nam			
Total	8.37	8.38	8.93
Government	8.33	8.17	8.15
Corporate	0.04	0.21	0.78
Total Emerging East Asia			
Total	49.06	52.97	61.50
Government	28.30	31.34	35.73
Corporate	20.76	21.63	25.78

Note: Corporate bonds include issues by financial institutions.

Sources: People's Republic of China (Bloomberg LP); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Philippines (Bureau of Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand); Viet Nam (VietComBank Securities); and Japan (Japan Securities Dealers Association); GDP (*World Economic Outlook*, International Monetary Fund); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Table 3: 2006/07 Appreciation (Depreciation) of Emerging East Asian Currencies (%)

Currency	Against USD	
	2006	2007 YTD
CNY	3.34	1.02
HKD	(0.30)	(0.46)
IDR	8.89	(1.40)
KRW	8.25	(1.13)
MYR	6.89	2.02
PHP	7.99	1.53
SGD	8.05	1.13
THB	14.62	9.00
VND	(0.87)	0.22
JPY	(1.11)	1.05

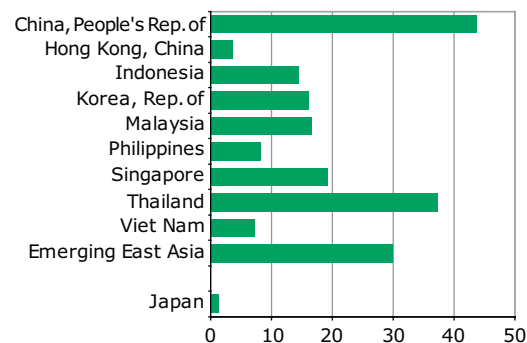
Notes:

1. Appreciation (depreciation) is computed for each year using natural logarithm of end-of-period rate/start-of-period rate.

2. 2007 YTD is as of 31 March 2007.

Source: Bloomberg LP.

Figure 2: Growth of Emerging East Asian Local Currency Government Bond Markets in 2006 (%)



Sources: People's Republic of China (Bloomberg LP); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Philippines (Bureau of Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand); Viet Nam (VietComBank Securities); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and AsianBondsOnline estimates.

Local currency government bond market growth remained strong in 2006. Although central government deficit financing declined in most countries, government agencies and several local governments issued new bonds last year.

Government bond markets in emerging East Asia grew 30% during 2006, with net issuance strongest in PRC, Thailand, Singapore, Malaysia, and Korea (Figure 2). The following market specific factors contributed to growth in 2006:

- The high growth rate in the PRC (44%) continued as the central bank (People's Bank of China) continued to issue bonds to absorb excess liquidity in the renminbi market. It was by far the largest issuer, raising twice as much in bonds as the central government. For the past 2 years, the government and policy banks' share of total government bond issuance has dropped, as the amounts raised on behalf of state-owned enterprises continued to decline. Increasingly, state-owned enterprises are allowed to issue corporate bonds directly on the capital market.
- In Thailand (37%), government issuance was significantly higher in 2006, increasing by nearly double the average annual rate for the past 2 years. The increase was evident across all issuing categories, especially in retail bonds issued by the central bank (Bank of Thailand) and for government-financed infrastructure development.
- Singapore's market growth (19%) in 2006 returned to the average annual growth trend of the past decade following the slower 6% growth in 2005. The government is continuing its policy of deepening and broadening bond markets—it offered the first 20-year bond on 1 March 2007 (the SGD2.5 billion offer was more than 100% oversubscribed). In December 2006, the government abandoned its multiple-price Treasury bill (T-bill) auction format in favor of a single price format, bringing it in line with international practice. The net increase in government T-bills outstanding accounted for about a third of market growth in 2006.
- In Malaysia (17%), the pace of growth in outstanding local currency government bonds increased significantly in 2006, overtaking the corporate bond market in overall size. Central

government bonds and government Islamic investment bonds were the largest contributors to new supply. In an effort to increase liquidity at key points on the yield curve, the government began exchanging some outstanding bonds with new issues at 3-, 5-, and 10-year tenors. It also introduced a callable bond in December 2006 with a view to eventually provide a benchmark for the private sector.

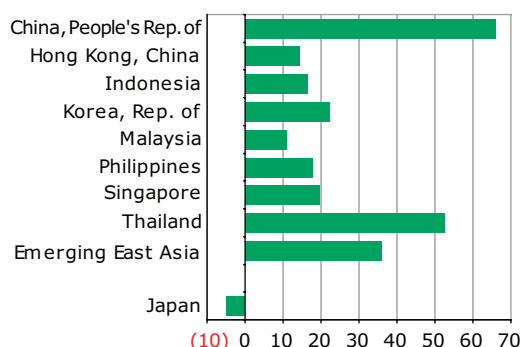
- Korea (16%) issued somewhat fewer bonds in 2006 as the government cooperated with the central bank (Bank of Korea) in cautiously tightening economic conditions. The result was a slightly slower pace of growth than in the previous 2 years,³ with total government bonds outstanding falling below that of the corporate sector. Monetary stabilization bonds were again the largest portion of public issue, with public works development projects—including provincial issues—making up the next largest sector. In March 2007, the government issued its first 20-year note and plans to issue more long-dated bonds this year in an effort to extend its yield curve beyond its current 3- to 5-year concentration.
- In Indonesia (14%), bond markets grew substantially after shrinking somewhat in 2004 and 2005. The new growth occurred despite a continuing program extending the maturity profile of government bonds. IDR14.4 trillion in bonds maturing in 2007–2011 were replaced in 2006 with bonds maturing later. To attract smaller investors to the market, the government issued its first retail bonds in August of 2006 and issued IDR6.3 trillion more in March 2007.
- The Philippine government bond market (8%) grew more moderately than in recent years, due to the declining fiscal deficit. The most notable development was the completion in the third quarter of a bond-restructuring program, which extended maturities of some outstanding peso issues and replaced older high-coupon bonds that had become illiquid. Although the percentage of government bonds issued in USD increased slightly, the restructuring of the domestic maturity profile was intended to allow a significant reduction in foreign currency bond issuance for 2007.

³ Republic of Korea bonds outstanding were restated in 2004 and 2005 to reflect issues previously not included in aggregate statistics. Previously-reported annual growth rates decreased as a result.

- In Viet Nam (7%), continued steady growth of central government issues, mostly in support of public infrastructure, drove the public bond sector higher last year. Policy bank issues in the 10-, 15- and 20-year tenors, representing over half of new government bonds, reinforced earlier efforts at yield curve extension.
- In Hong Kong, China (4%), the Hong Kong Monetary Authority (HKMA) continued increasing Exchange Fund Note and Bill issuance to maintain liquidity, concentrating issues in bills. Amounts issued remained relatively small, however, reflecting the government's confidence in reducing its deficit through tax receipts, as economic growth was strong. The focus of bond issuance remains with the private sector.
- Development in government bond markets progressed in other markets as well. The government of Brunei Darussalam, for example, continued issuing 91-day Islamic securities, raising the equivalent of USD77 million in 2006, after redemptions.

Corporate bonds outstanding surged 36% in emerging East Asia in 2006, largely the result of growth in the PRC and the trend of encouraging quasi-government corporations to issue under corporate market regulations.

Figure 3: **Growth of Emerging East Asian Local Currency Corporate Bond Markets in 2006 (%)**



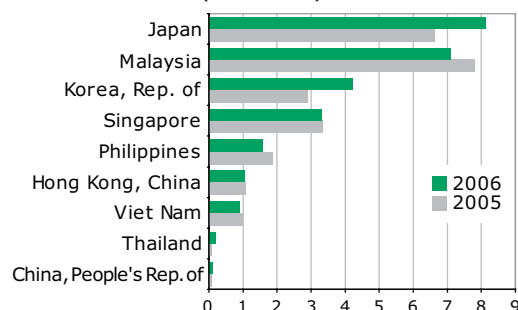
Sources: People's Republic of China (Bloomberg LP); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand); Viet Nam (VietComBank Securities); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Aside from its rapid growth in absolute terms, corporate bond market growth was well ahead of the government sector in 2006, as both strong demand using domestic savings outside the banking system and the growing need to finance infrastructure boosted supply.

The strongest growth was in the PRC, where net new corporate issuance accounted for 60% of the total for all of emerging East Asia. This was followed by solid growth in Thailand, Korea, Singapore, Philippines, and Indonesia (Figure 3).

- The high growth in PRC corporate bonds outstanding (66%) can be largely attributed to new regulations streamlining corporate issuance. Previously, all new corporate issues required National Development and Reform Commission approval prior to review by the China Securities Regulatory

Figure 4: **Securitized Notes Outstanding, 2005 and 2006** (% of GDP)

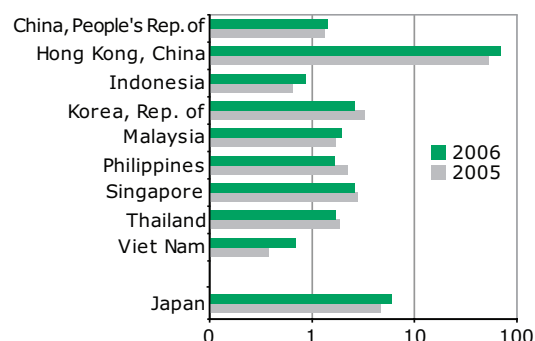


Sources: People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Philippines; Singapore; Thailand; and Viet Nam (Bloomberg LP). Malaysia (Malaysian Rating Corporation Berhad, Rating Agency Malaysia, and Bloomberg LP), Japan (Japan Securities Dealers Association, R&I, and Bloomberg LP). GDP from World Economic Outlook (International Monetary Fund).

Commission (CSRC). The CSRC is now the principal authority vetting new corporate issues. This shifts the main criterion for approving new issues from how the borrowed funds are to be used to how the issue meets disclosure and financial soundness standards to make it suitable for investors. Expanded membership in the interbank over-the-counter market also helped increase the supply from the corporate sector. The domestic securitization market grew in value to USD2.9 billion, or about 0.1% of GDP (Figure 4).

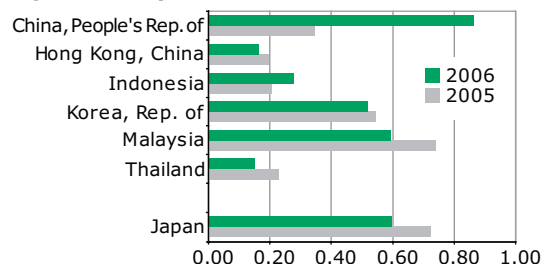
- In Thailand (52%), the corporate bond market expanded rapidly for the second consecutive year. Registration requirements for foreign issuers in the baht market were eased, allowing manufacturing and sales firms with a foreign parent or joint-venture partner to enter the market. Implementation of tax incentives and the halt to policy rate hikes also encouraged corporate issuers. Domestic securitization grew rapidly to USD375 million.
- Korea (22%) maintained its rank as the largest corporate bond market in emerging East Asia, with USD490 billion in outstanding issues. Corporate issuers returned to the market in the second half of 2006, but the majority of issuance continued to be by financial institutions rather than industrial corporations. The securitization market continued to grow rapidly, rising 61% to USD36.8 billion, accounting for 8% of the overall corporate outstandings.
- In Singapore (19%), corporate bond issuers returned to the market during 2006, after a cautious year in 2005 (again largely mimicking growth in government issues). Strong domestic economic growth attracted USD2.9 billion from new foreign issuers. Domestic property developers offered a similar volume of new supply. The securitization market grew to USD2.7 billion, a 25% increase.
- The local currency corporate bond market in the Philippines (18%) continued its moderate growth from a small base, raising USD57 million in net new issues during 2006. Government-owned and controlled corporations were the largest issuers. The Philippines continues its preference for issuing USD rather than PHP bonds.

- In Indonesia (16%), the corporate sector bounced back after shrinking more than 7% in 2005. The clarification of new investment rules for mutual funds bolstered investor confidence and eased market access for domestic issuers. Plans to start municipal bonds, Islamic bonds, and securitized instruments are expected to provide substantial new supply of corporate paper in 2007.
- Malaysia's corporate bond market growth continued at a solid, moderate pace (11%). The two largest issuers, the state-owned National Mortgage Corporation (Cagamas) and the government investment holding firm (Khazanah Nasional) issued 20–30% less than in 2005, partly in response to accusations of crowding out other corporate issuers, and partly due to rising interest rates and an exchange rate trend that reduced demand. Net new securitization in Malaysia grew by USD709 million, a 21% increase over 2005.
- Corporate bonds dominate outstanding issues in Hong Kong, China (14%), where a diverse mix of domestic issuers, ranging from power utilities to property developers and manufacturers, and the home-mortgage refinancing corporation, Hong Kong Mortgage Corporation, led new issues. Foreign issuers also contributed to the growth, attracted by slightly lower yields compared with the USD market and the HKD exchange rate peg.
- In 2006, Viet Nam began building its corporate bond market in earnest. While bonds are normally listed on the Ho Chi Minh City Securities Trading Centre, most trading occurs over the counter. At end-2005, a handful of small issues worth just under USD66 million were outstanding and almost none were listed. In 2006, USD420 million of new issues entered the market, led by Electricite' de Vietnam (EVN) with USD280 million. The market is expected to grow 300% in 2007, with EVN issuing almost USD1 billion worth of new 5-year and 10-year bonds.

Figure 5: **Government Bond Turnover Ratios**¹

¹Calculated as local currency (LCY) trading volume (sales amount only) divided by year-end LCY value of outstanding bonds.

Sources: People's Republic of China (ChinaBond.com); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Singapore (Monetary Authority of Singapore); Thailand (Thai Bond Market Association); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Figure 6: **Corporate Bond Turnover Ratios**¹

¹Calculated as LCY trading volume (sales amount only) divided by year-end LCY value of outstanding bonds.

Sources: People's Republic of China (ChinaBond.com); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Surabaya Stock Exchange); Republic of Korea (KoreaBondWeb); Malaysia (Bank Negara Malaysia); Singapore (Monetary Authority of Singapore); Thailand (Thai Bond Market Association); Japan (Japan Securities Dealers Association); Bloomberg LP; Bank for International Settlements; and *AsianBondsOnline* estimates.

Turnover

Despite the rapid growth in total bonds outstanding in 2006, turnover ratios—a measure of market liquidity—showed no clear regional trend in the government sector, while corporate ratios were generally down—with the exception of the PRC, where new quasi-government issues dominated trade, and Indonesia, which rebounded from a difficult 2005.

Turnover ratios—the ratio of trading volume to total bonds outstanding—were mixed in 2006. For government bonds, they rose in PRC; Hong Kong, China; Indonesia; Malaysia; and Viet Nam, but fell in Korea, Philippines, Singapore, and Thailand (Figure 5). The average ratio declined by 8% to 2.51 times the value of total bonds outstanding. In the corporate sector, turnover ratios rose dramatically in the PRC and more than recovered in Indonesia, raising the average for the region 40% to 0.63 (Figure 6). The disparity between government and corporate bond market liquidity remains stark, even though the growth in new corporate bond issuance is helping to gradually close the gap.

- Hong Kong, China—with the highest turnover ratio among emerging East Asian markets—saw 2006 government bond trading volumes to total government bonds outstanding rise even further (from 53.35 to 69.39). In the corporate market, however, despite higher issuance, there was a slight decline in turnover ratio (from 0.20 to 0.16). The prospect of renminbi-denominated bond issuance on the local market will require new rules, with market players anticipating much higher corporate bond turnover levels as a result.
- In Korea, the trend of rising reference rates continued into early 2007 and has had a damping effect on market activity. In 2006, turnover ratios declined for both government bonds (from 3.29 to 2.60) and corporate bonds (from 0.54 to 0.52). A related decline in the issuance of asset-backed securities lowered hedging demand and reduced the securities lending for government bonds.
- In Singapore, 2006 turnover ratios in the government bond market continued to decline from 2.80 to 2.59. The trend of rising reference rates during the first 3 quarters of the year

discouraged many potential sellers, as bond-price hedging is yet to become an established practice in the market. Monetary Authority of Singapore announcements of new products and procedures for 2007, along with increased issuance of large, long-term investment trusts may also have absorbed some bond allocations and delayed portfolio rebalancing.

- In Malaysia, the government bond turnover ratio rose from 1.69 to 1.97 times the outstanding amount. By contrast, the corporate ratio declined from 0.74 to 0.59 amid a continued rollout of new products, such as exchangeable Islamic bonds. The continued issue of new products in small amounts and the lack of reissues may have been a contributing factor to the lower turnover ratio—as investors flocked to the new issues rather than trade existing portfolios. The government market may see a dip in its turnover ratio during the first half of 2007, as the market absorbs the new Bank Negara Monetary Notes, as replacements for Bank Negara’s bills and negotiable notes.
- In Thailand, turnover ratios in 2006 declined slightly for both government bonds (from 1.86 to 1.68) and corporate bonds (from 0.23 to 0.15). This was despite a rapid increase in corporate turnover during the first half of the year. The continued rise in short-term policy rates discouraged some trading and delayed the planned launch of several fixed-income mutual funds, which would have been active participants in the markets.
- In the Philippines, the government bond market’s turnover ratio in 2006 declined from 2.26 to 1.66. A contributing factor was the government’s bond exchange program, which extended the market’s maturity profile. Also, PHP appreciation encouraged more USD issuance, diverting some potential new peso market inventory.
- In the PRC, the government bond market turnover ratio rose from 1.34 in 2005 to 1.42 in 2006.⁴ The number of participants eligible to use the interbank over-the-counter market managed by the central bank increased, as did the variety of corporate bond issues allowed to be traded. Insurance

⁴ PRC government bond turnover was revised in 2005 to reflect over-the-counter bonds not previously reported.

company premiums continued rising rapidly, increasing demand for sovereign paper to cover insurance reserves and the higher-yielding corporate paper for investment accounts. The increased supply of corporate paper led to some portfolio rebalancing as well.

- In Indonesia, partly due to better defined trading and accounting rules, mutual fund and bank trading increased in both government bonds (from 0.65 to 0.87) and corporate bonds (from 0.21 to 0.28). The significant, continuing decline in short-term reference rates throughout 2006 also stimulated bond trading, as did the introduction of retail bonds in the second half of the year. Use of a central depository has improved the efficiency of settlements (fewer failed trades), encouraging more activity. A continuing dispute between dealers and regulators—over a requirement that all bond trades be reported to the Surabaya Stock Exchange (SSX)—has likely kept trading activity below its potential.
- In Viet Nam, government bond market turnover ratios doubled in 2006 (from 0.37 to 0.70). An increase in both the number of investors and the number of tradable bonds was behind the rapid increase. Both the nascent corporate bond market and the government market grew by more than USD300 million in 2006. Viet Nam's credit rating was upgraded to BB by Standard & Poor's in September and its accession to the World Trade Organization was approved in November, both events further boosting market confidence.

Bond Yields

After yield curves steepened during the first half of 2006—the result of monetary tightening and inflationary fears—continued sound economic growth and stabilized short-term rates brought long-term rates lower, flattening yield curves and creating a conducive climate for greater bond issuance in 2007.

Short-term reference rates in emerging East Asia reached 5-year peaks either at the end of 2006 or in February 2007—with the exceptions of Indonesia and the Philippines, which began easing in

Table 4: **Short-term Interest Rates**

Market	Reference Rate	31-Dec-05	31-Dec-06	28-Feb-07
China, People's Rep. of	CHIBOR 1 Month	1.90	2.80	3.80
Hong Kong, China	HIBOR 1 Month	4.10	3.91	4.15
Indonesia	JIBOR 1 Month	13.60	9.49	8.94
Korea, Rep.of	KORIBOR 1 Month	3.80	4.65	4.74
Malaysia	KLIBOR 1 Month	3.13	3.62	3.60
Philippines	PHIBOR 1 Month	7.81	6.81	5.75
Singapore	SIBOR SGD 1 Month	3.19	3.44	3.30
Thailand	BIBOR 1 Month	4.30	5.24	4.73
Japan	TIBOR 1 Month	0.06	0.42	0.63
US	Federal Funds Rate O/N	4.25	5.17	5.25

Sources: Bloomberg LP, except KORIBOR (Korea Federation of Banks).

2006. The rise in short-term rates in 2006 contained inflationary pressures and stimulated an appreciation in most currencies (Tables 3 and 4). At the same time, persistently tight global and national resource markets in several key world economies will also likely keep monetary authorities vigilant against resurgent inflation (Figure 7).

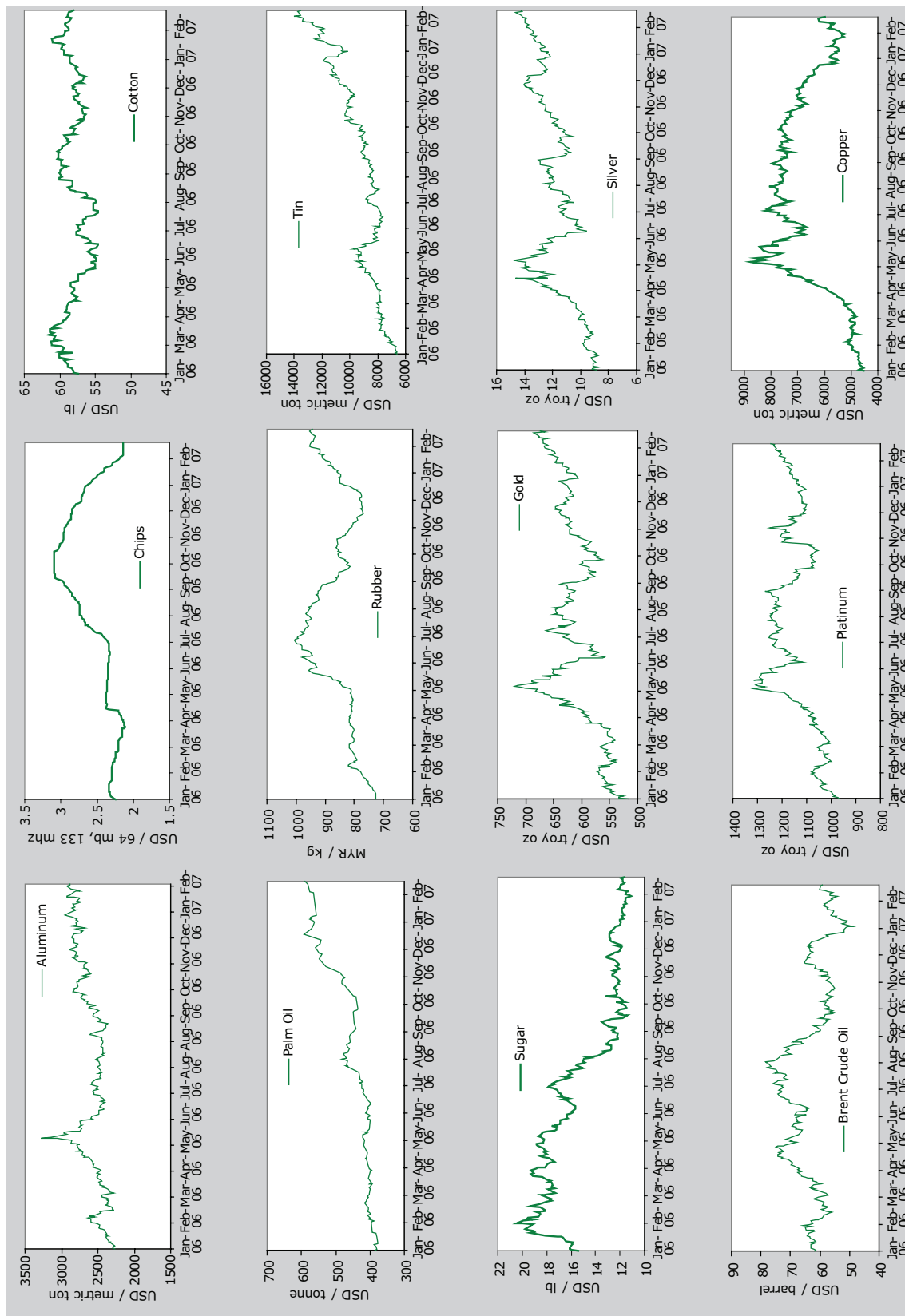
Higher yields, coupled with largely controlled inflationary pressures across emerging East Asia, have attracted both foreign and domestic investors to the region's markets, thus raising government and corporate bond prices. The higher prices in longer-dated bonds flattened yield curves across the region's markets in the second half of 2006—the continued decline in the 2-year to 10-year interest-rate spreads (Figure 8). The only exception to this trend is Indonesia, where the yield curve steepened throughout the year as rates fell (Figure 9).⁵

- In the PRC, the central bank's efforts to slow monetary growth to sustainable levels brought short-term rates to more than twice their end-2005 levels by February 2007. With the corporate bond market a new channel for companies to access credit, new issuers flocked to the market despite rising rates. Nonetheless, investor demand continues to outstrip supply and the yield curve flattened from 83 basis points (bp) at the start of 2006 to 77 bp at the end of February 2007.⁶

⁵ In October 2006, Indonesia and Malaysia issued 2-year notes. The yield curve spread calculation used here switches from the spread over the 3-year to the 2-year as of October 2006.

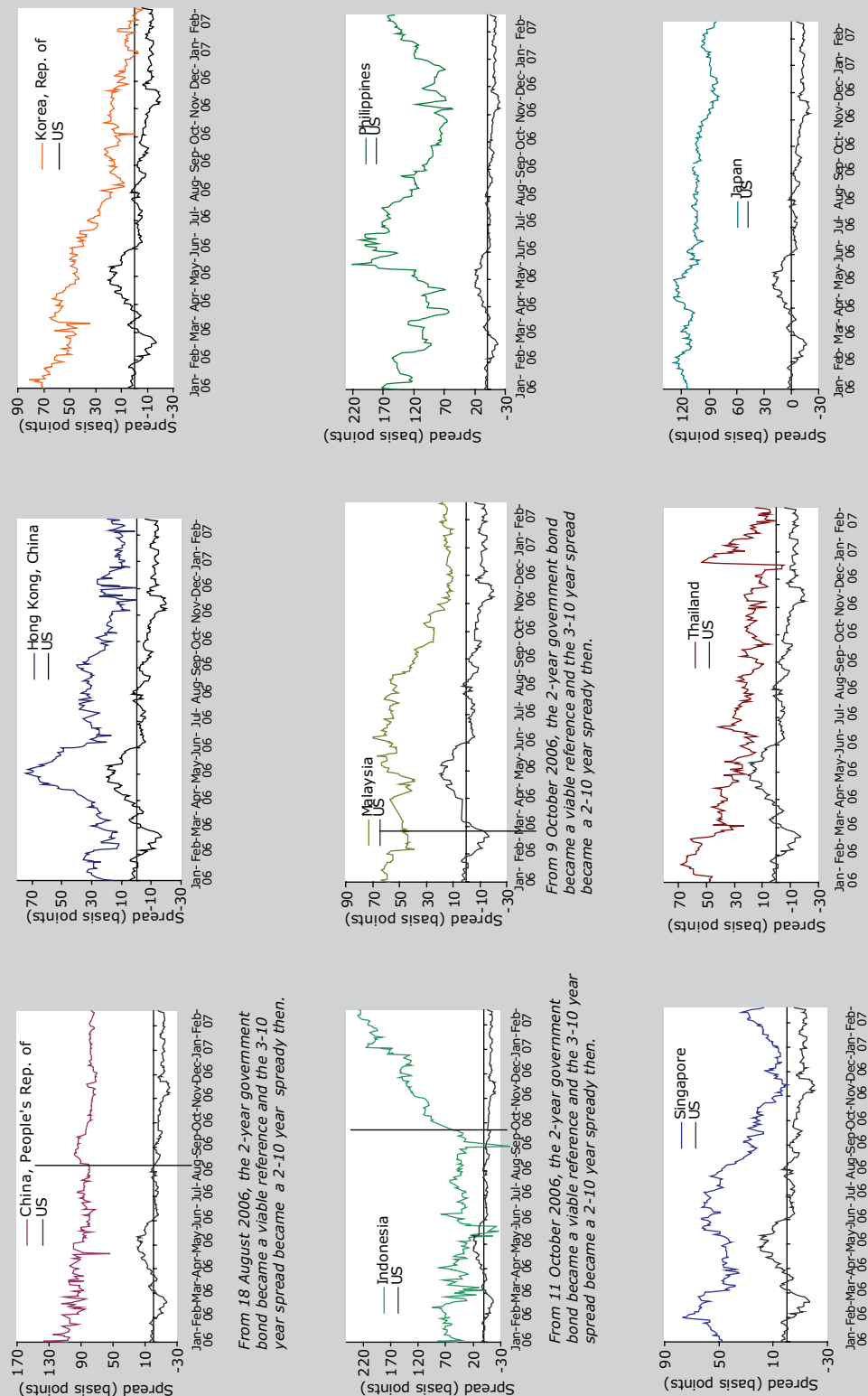
⁶ Figure 6 shows the 2–10 year yield curve spread since August 2006. Prior to that date, ChinaBond.com published the 2–12 year spread.

Figure 7: Commodities Daily Trading Prices (USD)



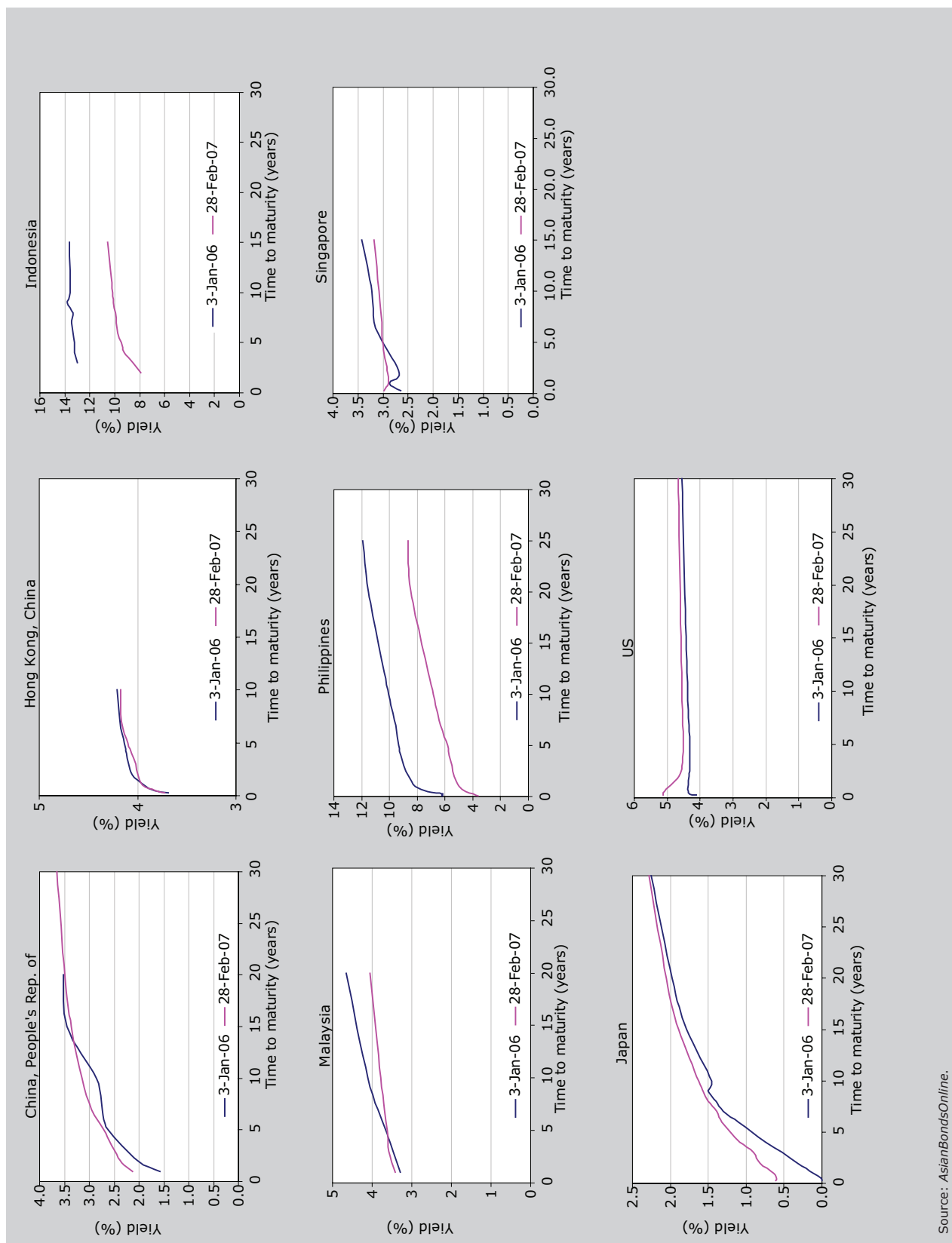
Sources: Bloomberg LP and Reuters.

Figure 8: Interest Rate Spread—2-Year and 10-Year Local Currency Bonds



Source: AsianBondsOnline.

Figure 9: Benchmark Yield Curves—Local Currency Government Bonds



Source: AsianBondsOnline.

- Hong Kong, China, with its currency board peg with the USD, has roughly tracked shifts in the US Treasury yield curve, falling from 15 bp in January 2006 to 8 bp a year later and recently rising to 18 bp at the end of February 2007.
- Indonesia's yield curve distinctly steepened in 2006. The 3–10 year yield curve spread widened from 57 bp in January 2006 to 161 bp by end-February 2007. As policy rates fell, mutual fund and institutional demand was fairly strong for older 10-year notes. This drove 10-year yields down 340 bp over 14 months, but 3-year yields have fallen even further. This may imply a significant expected inflation rate or just the preference for flexibility by the mutual fund sector.
- In Korea, rising policy rates in 2006 both slowed economic expansion and reduced inflationary pressures. This helped wipe out the 2–10 year yield curve spread over the course of the year, down from 72 bp to 0 bp at the end of February 2007. A gradual increase in issuance of longer-dated government bonds helped reduce the liquidity premium normally charged for bonds with higher maturities. Also, foreign investor participation in the bond market increased demand for these long-term notes. Together, this contributed to a reduction in the 10 year yield-to-maturity from 5.7% to 5.0% by year-end and to 4.9% by end-February.
- In Malaysia, the 3–10 year yield curve gradually flattened throughout 2006, after some fluctuation in the second quarter. The yield spread narrowed from 63 bp to 10 bp during the year, before widening slightly to 19 bp by the end of February 2007. The MYR also continued to appreciate, as regional investors were attracted by the relatively higher long-term yields.
- The Philippines also enjoyed a significant decline in short-term interest rates, despite the policy rate being held at 7.5%. The 10-year Treasury yield fell by 325 bp from the beginning of 2006 until the end of February 2007. But the 2–10 year yield curve spread moved erratically throughout the year due to a variety of policy debates—from 146 bp in January 2006 to a low of 70 bp in April, up above 200 bp in May, gradually returning to 70 bp in November, and since rising once more to 151 bp as of end-February 2007.

- In Singapore, the yield curve flattened substantially over 2006, falling from 54 bp to 17 bp at the end of February 2007. In spite of significant new supply of government and corporate paper to the market, the majority were bills and bonds with maturities less than 10 years. As a result, the relative shortage of 10-year bonds increased, drawing yields in.
- In Thailand, the tightening policy of the central bank peaked in the third quarter of 2006 and the subsequent reduction in inflation expectations pulled the spread of long-term yields over the 2-year yields down from 47 bp in January 2006 to around 10 bp in mid-December 2006. After the spike in response to new capital account restrictions, the yield curve spread had settled back to 15 bp by late February 2007. A softening of short-term policy rates and an increase in volatility surrounding the new reserve requirements for certain foreign investors has since pushed the 2-10 year yield curve spread back up a bit to 15 bp.
- In Viet Nam, the local currency government bond market consists almost entirely of 5-year issues. Thus, there is no reliable way to determine a yield curve. Although corporate bonds issued in 2006 were consistently priced about 25bp higher than the 5-year government bond, portfolio investments from abroad became significant in the second half. These inflows significantly influenced 5-year government bond yields, which fell from a stable 8.75% in the first half of the year to 8.20% by year-end, with a further drop to 7.6% by end-February 2007.

Bond Index Returns

Local currency index returns were exceptionally high in 2006 across most emerging East Asian markets, reflecting the flattening of yield curves and currency appreciation in many markets—this could entice greater investor demand in 2007.

Improving macroeconomic fundamentals and flattening yield curves provided the basis for strong returns on the medium- and long-term bonds included in the iBoxx ABF Index Family, which—on an unhedged basis—reached 13.6% for 2006 and

Table 5: iBoxx ABF Index Family Returns

Market	Modified Duration (years)	2006 Returns (%)		2007 YTD Returns (%)	
		Local Currency Bond Index	USD Unhedged Total Return Index	Local Currency Bond Index	USD Unhedged Total Return Index
China, People's Rep. of	4.47	2.32	5.73	0.21	1.01
Hong Kong, China	3.37	5.77	5.46	(0.67)	(1.12)
Indonesia	4.33	26.48	37.72	1.37	(0.18)
Korea, Republic of	3.19	6.00	14.75	1.04	(0.35)
Malaysia	4.22	4.81	12.03	0.78	1.49
Philippines	3.99	22.24	32.01	0.30	1.20
Singapore	4.57	3.73	12.08	0.49	0.87
Thailand	4.72	5.48	20.90	4.71	9.39
Pan-Asian Index	3.98	NA	13.64	NA	0.79
US Govt 1–10 years	3.40		3.52		1.27

Notes:

1. Market bond indexes are from iBoxx ABF Index Family. 2007 YTD is year-to-date returns as of 28 February 2007.

2. Annual return is computed for each year using natural logarithm of year-to-date index value/ beginning year index value.

3. Duration is as at 28 February 2007.

Sources: *AsianBondsOnline*, Bloomberg/EFAS for US Government Bond Index.

0.8% over the first 2 months of 2007 (Table 5). Local currency returns were similarly strong, led by Indonesia (26%) and the Philippines (22%). All emerging East Asia markets except the PRC and Hong Kong, China produced double-digit returns on an unhedged USD basis.

The trend of falling short-term interest rates in Indonesia and the Philippines, as several analysts had predicted, helped drive the exceptional returns in those markets. Increased investor interest as the year progressed, in turn contributed to the currency appreciation. But effective macroeconomic management could be seen generally across the region, where firm central bank responses to local inflation signals paid off in the form of only moderate tightening and enhanced bond market returns.

Institutional and Regulatory Developments

Governments in emerging East Asia have shown increasing confidence in the pace of reform. They have enhanced reforms from focusing solely on market deepening to broadening supply and attracting increased investor demand.

The pace of institutional reform accelerated across the region in 2006, as well as the breadth of areas being addressed. Local currency bond market development now includes increasing liquidity for sovereign benchmarks and easing access to foreign investors. New initiatives range from rationalizing or unifying regulatory authority and simplifying corporate bond issuance procedures to stimulating the securitization, retail, and housing finance markets.

- Regional cooperation has moved ahead toward agreeing on settlements standards and reducing transaction costs on cross-border deals. While the four Asian Bond Markets Initiative Working Groups have continued their policy consultations, various exchanges and central depositories have made considerable progress at the technical level over the past 2 years. Progress in exchange collaboration can be seen in the agreements between the Singapore Exchange (SGX), Bursa Malaysia, and Indonesia's Jakarta Stock Exchange (JSX)—which is in the process of merging with Surabaya Stock Exchange (SSX). SGX also has a memorandum of understanding with the Korea Stock Exchange (KRX) to establish joint-trading of certain derivatives. KRX has also been working directly with Bursa Malaysia, which has built up its electronic trading platform for bonds based on a version of the KRX bond trading platform. It has also signed a memorandum of understanding with Cambodia's Department of Financial Industry to develop a stock exchange that will also list bonds.
- In December 2006, the PRC central bank, the People's Bank of China, approved new rules to (i) improve the credit guarantee system for small and medium enterprises (SMEs) and (ii) establish the China Foreign Exchange Trade System's own clearing house. Both steps improve the flow of funds from bond markets to end users. For example, refined versions of existing securitization vehicles can use the credit guarantee system to create a new channel to help finance SMEs. And with cross-border flows an increasingly important part of the financial system, the new clearing house will help bond market development by limiting failed trades and building investor confidence. In addition, the new Shanghai Interbank Offered Rate (SHIBOR) launched in January 2007—replacing the CHIBOR short-term reference rate benchmark—provides a more definitive benchmark for a broader spectrum of

interest rates. Simultaneous with SHIBOR's launch, Standard Chartered Bank and HSBC traded the first non-deliverable renminbi interest rate swap based on SHIBOR.

- The Hong Kong Monetary Authority (HKMA) and the Securities and Futures Commission began discussions with PRC authorities about allowing PRC banks to issue RMB bonds in Hong Kong, China. Separately, HKMA launched a cross-border payment-vs-payment system with Malaysia's central bank (Bank Negara Malaysia) to allow simultaneous settlement of MYR against USD in securities trades and other transfers. More details of the HKMA's plans to improve local bond markets have been announced, including measures to increase competition among dealers and to shift to single-price auctions.
- The Indonesian government has confirmed plans to begin offering its first *shari'a*-compliant Treasury bonds in the second half of 2007. In the meantime, it is working through the related tax regulations needed and, in late 2006, issued 47 licenses to insurance companies to operate *shari'a* divisions. In an important step to improve pricing short-term risk, the government plans to stop issuing 3- and 9-month central bank certificates, or Sertifikat Bank Indonesia (SBI), and replace them with regular Treasury bill auctions beginning April 2007. The phased transition would replace half the SBI volume this year, giving the Treasury more control over pricing in the short-term portion of the yield curve. In preparation, Bank Indonesia will change its reference rate from the 1-month SBI to its overnight loan rate. The consolidation of the JSX and SSX stock exchanges—previously bonds were listed exclusively on the SSX—is expected to be completed by the end of 2007. This will allow a central depository and settlement system for all domestic bonds, in addition offering a single site for price discovery. This should further improve market confidence in local currency bonds.
- In December 2006, Korea established the Asset Managers' Association of Korea, a self-regulatory umbrella to coordinate the corporate pension system's operations. New guidelines include an increase in the bond allocation within these pensions as part of an emphasis on long-term stability in returns. Related plans include increasing the issuance of 10-year bonds and starting to issue 20-year bonds to match

funding requirements for public infrastructure and pension plan investment requirements. Separately, the Financial Supervisory Service plans to ease rules on asset-backed securities (ABS) to smooth funding flows and to improve market efficiency. The rise in policy rates during 2006 led to a 20% decline in domestic ABS issuance volume.

- In November 2006, Bank Negara Malaysia began allowing foreign currency bonds to be issued on domestic markets, with Islamic (*sukuk*) bonds especially encouraged. Also, for the first time, foreign governments, agencies, and multilateral development institutions can issue on the domestic market. This is part of a regional effort to increase cross-border issuance and investment. For investors, the Securities Commission announced plans to reform unit trusts to use the bond market as a cost-effective and competitive channel for retirement savings. New disclosure rules are meant to lower sales charges and improve performance reporting. In particular, the reform is meant to increase offerings of conservative investment programs suitable for individual retirement plans. These products should be more attractive to investors in other markets. The plan should also encourage more foreign funds to be offered in Malaysia.
- The Philippines announced a 5-year plan to develop its capital markets. Personal pension accounts are planned deepen the pool of long-term funds and, in particular, to offer overseas workers retirement plans. In addition, new rules took effect in December 2006 reforming the over-the-counter system through a mandatory self-regulatory organization, which dealers are required to organize during 2007. One requirement is to report all bond trades through a central system within 15 minutes of trade execution. Separately, the central bank reinstituted a bank reserve interest rate scheme that will offer progressively lower rates on reserves placed with the central bank above each of several size tiers—to move poorly intermediated funds out of the banking system and into either loans or bonds.
- In December 2006, the Monetary Authority of Singapore upgraded its real-time gross settlements system to allow larger order volumes and smoother settlement. It also now uses the Society for Worldwide Interbank Financial Telecommunication (SWIFT), the largest global custodial

messaging system. This upgrade is part of a wider strategy to extend government bond maturities and increase points of investor access, such as the e-bond program announced earlier in 2006. From January 2007, Central Provident Fund (CPF) participants will be able to buy Treasury bills directly from their CPF accounts, rather than only through bond funds.

- In Thailand, the Securities and Exchange Commission (SEC) has allowed foreign investment-grade issuers the same (3-year) shelf filing of bond issues that it accords domestic issuers. It has also allowed simultaneous offers of debt securities in Thailand and overseas under the same credit rating. Both are intended to increase the ease with which foreign firms can issue Thai domestic bonds and to facilitate cross-border liquidity. Related to this, the Ministry of Finance authorized foreign governments and their financial institutions to issue THB bonds onshore without obtaining special permission from the Ministry in advance. The SEC has also given securitization vehicles greater latitude to distribute available income to investors in a bid to increase issuance volume. In December 2006, the Bank of Thailand imposed new capital account controls to limit speculative cross-border trades by requiring domestic financial institutions to set aside 30% of certain qualified (short-term) foreign investor funds in unremunerated reserves.
- Viet Nam issued a decree in June 2006 authorizing firms with foreign equity and joint-stock companies to issue corporate bonds. A separate rule planned by the State Securities Commission would raise the minimum capital required by joint-stock companies to issue bonds or equity to the equivalent of a little more than USD3 million. These measures are part of a series of new rules to increase the amount and diversity of bonds offered and to better protect investors.

Outlook for 2007

The region's financial sectors remain strong but there are signs of uncertainty such as softer-than-expected economic growth, inflationary pressures, persistent global payments imbalances, and financial market volatility.

Overall, the global and regional economic and financial conditions remain robust and economies are now less exposed to sharp changes in debt-related capital flows than in past episodes of financial turbulence. Yet there are signs of uncertainties about global and regional economic trends. For example, US markets are jittery about the possibility that weakness in the sub-prime mortgage market will spread to the wider economy, exacerbating the expected moderation of GDP growth. So too, the more open, export-oriented economies in emerging East Asia are vulnerable to weaker-than-expected external demand, which would dampen growth in 2007 beyond the moderate slowdown expected. Also, headline and core inflation rates in key economies have dissipated but remain elevated, and although sustained government efforts to reign in excessive investment growth have had some success, there remains a risk of reacceleration, which could add to regional and global inflationary pressures. Large and persistent payments imbalances and perceived exchange rate misalignments in emerging economies will likely require both a rebalancing of global sources of growth away from the US and significant exchange rate movements.

Asia's debt markets are expected to continue to attract global investors searching for yield, but increased market volatility will likely raise the cost of financing, giving policy makers an incentive to continue deepening financial markets. Conditions for prospective issuance can also be adversely affected by higher volatility, as the uncertainty can cause companies to delay plans for raising new money. At the same time, sudden changes in risk perception in emerging markets can lead to investors fleeing for the safety of more developed, deeper markets, and safer assets. An increase in market volatility can also negatively impact securitization packages of prime mortgages, credit card loans, student loans, and other liabilities.

Policy Challenges for Bond Market Development

The current regulatory environment discourages institutional investors from trading, rather than encouraging them to manage risk prudently.

Institutional investors face strict prudential limits on the value of bonds they hold—minimum and maximum allowed levels are defined based on credit rating or a bond’s currency. For pension and insurance funds, for example, there is a sizable minimum amount of local currency government bonds required in a portfolio, and in general, there is no alternative instrument allowed for insurance reserves. While these controls are meant to protect investor assets from fund mismanagement, they arose from market conditions in the late 1970s and, in the current environment, prevent fund managers from learning to manage market risk. This reduces market flexibility as funds then tend to “hold to maturity.” In turn, this discourages the use of prudent trading strategies to rebalance portfolios to match liability profiles and changing market conditions. It also blocks the potential for greater market liquidity. In economies with fairly open capital accounts, this approach of reduced capacity and flexibility in managing portfolios actually creates a hidden systemic risk. To reduce this source of risk and provide a boost to market liquidity, measures aimed at raising the financial professionalism among examiners and policy makers could be introduced. Capacity building measures that address this risk include:

- Develop a risk-based regulatory environment that combines some degree of self-assessment with sound regulatory supervision. For example, in both cases, statistical control and process measurement techniques could be required, as Basel II proposes;
- Set a timetable for the gradual relaxation of the current mandated minimum and maximum holding levels—based on continued market stability and improvement in risk management techniques;
- Introduce and actively promote the use of tools—such as financial derivatives—to manage interest rate risk, credit risk, and foreign exchange risk; and

- Introduce separate professional certifications for financial supervisors and portfolio managers that set standards for both measurement and performance.

Expanding ways to hedge market risk can boost market liquidity.

The lack of hedging tools increases transaction and search costs, as the risk of taking the market position required to facilitate a trade is absorbed by the dealer, rather than the institutional buyer or the seller. It is logical that dealers will not carry an inventory of bonds for ready delivery to investors unless they can hedge the associated risk. By instituting new programs—or accelerating existing programs—that allow regulated short selling and onshore derivatives trading, regulators will likely see market liquidity rise as hedging markets develop and become more competitive. Without hedging, market dealers would rather act only as primary dealers than be market-makers on the secondary market. Corporate issues in particular are easier to trade if liquid market hedges exist. The lack of available hedging tools can be attributed to the low turnover ratios across the region’s corporate bond markets (with the exception of Hong Kong, China for reasons cited above). There are several measures that could improve risk-hedging options for dealers and investors:

- Allow regulated securities lending for short selling, as Korea currently does and Malaysia is about to, but on a larger scale;
- Create a formal rights and obligations agreement between regulators and the dealer market that expands available the tools dealers can use to manage the risks regulators would like them to assume;
- Implement recommendations from existing plans⁷ to create exchange-traded derivatives.

⁷ Several countries have drawn up plans for launching exchange-traded futures and options for bonds, interest rates, or currencies—the Thailand Futures Exchange and the Malaysia Derivatives Exchange—offers interest-rate and 5-year bond futures and options.

Given the current global financial climate, large capital flows can be handled with less economic disruption by promoting risk management tools—and by issuing bonds with longer maturities at amounts above funding requirements .

One of the problems faced by small economies with open capital accounts—or larger economies progressively developing capital markets—is how to handle large capital flows without disrupting the domestic economy, particularly sudden flows motivated by external events or global market perceptions. Deep markets can absorb large cross-border and cross-asset flows through two-way trading at any maturity point, thus avoiding momentum trading (of the kind recently witnessed in Thailand). Low turnover ratios are just one expression of the absence of an active two-way market in bond-risk pricing across an entire yield curve. Financial market deepening requires an abundant stock of long-dated bonds, as well as providing “space” to move them in and out of an investor’s portfolio. This space is created through repurchase and hedging markets, inter-dealer platforms and public exchanges, and bond-pricing and rating agencies. In the absence of deep domestic markets, however, central banks are hesitant to loosen capital controls and encourage greater financial integration because of the risk to financial stability. There are several measures that could lead to deeper, two-way bond markets:

- Focus government bond issuance on longer maturities, as Korea and Singapore have started;
- Issue bonds at amounts above deficit requirements—an explicit, temporary cost that develops bond market infrastructure;⁸
- Actively promote the use of tools that manage interest rate risk, credit risk, and foreign exchange risk—such as exchange-traded derivatives, commercial repo⁹ markets and regulated short-selling facilities.

⁸ Singapore has been issuing government bonds above its deficit financing needs since 1997.

⁹ Repurchase agreements, or “repos,” constitute a form of collateralized cash lending. The holder of an eligible bond sells it with an agreement to repurchase that same bond or its equivalent at a certain date and discount rate. This can provide financing to the seller during the period of the agreement. Since the buyer can replace the bond with its equivalent, he has in effect borrowed the bond and can sell it so long as he buys the equivalent back to settle the agreement at its end. In that case the “reverse repo”, as the buyer side of the agreement is called, becomes a means of securities borrowing that can facilitate regulated short selling.

Securitization—Concepts and Development in East Asia¹⁰

Asia's use of securitization is far more modest than in Europe and North America despite its growth since the 1997/98 financial crisis. Yet structured finance holds considerable potential for regional financial development.

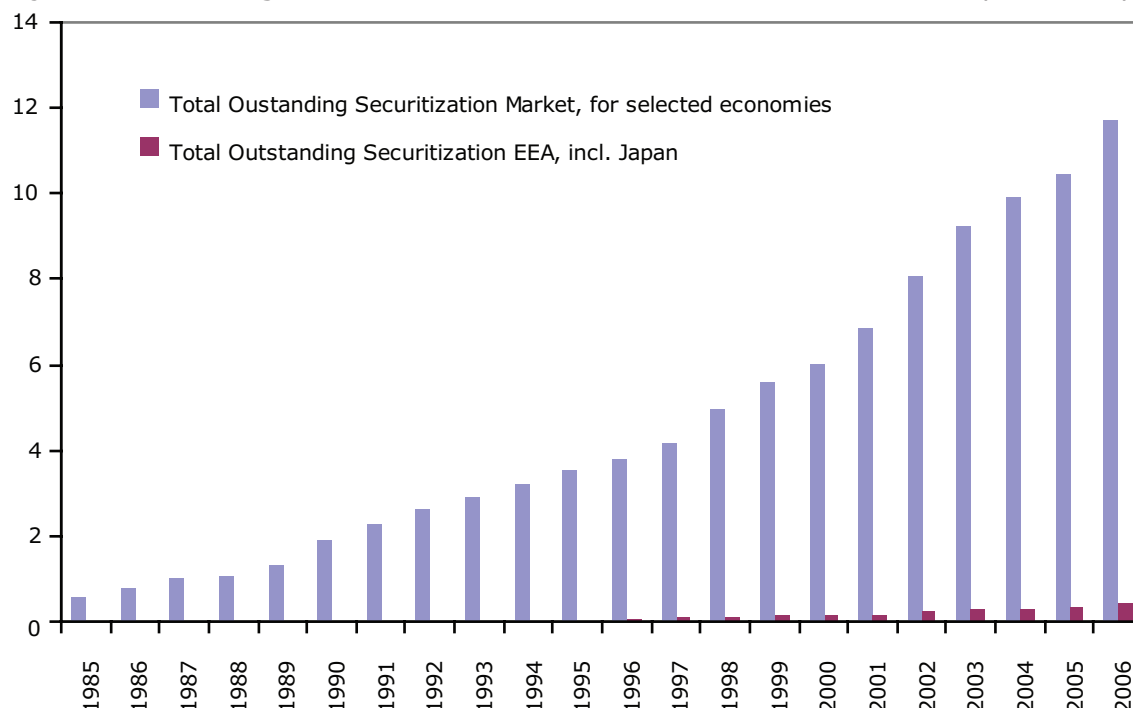
Since the 1980s, securitization has become a powerful and widely-used tool in both developed and emerging markets across the globe (Figure 10). The process usually uses pooled assets or income, configured to provide yield that investors find acceptable over extended periods of time from institutions with credible credit ratings. In Asia securitization has been used increasingly in the wake of the 1997/98 Asian financial crisis as a means to address loan losses by financial intermediaries or as a device to help bring about regional, market-based systemic reform.

Commercial and official interests have devoted considerable resources to promoting the use of securitization and smoothing its path through legal and regulatory reform. The result has been an increase in securitization in almost all East Asian jurisdictions—particularly in Korea, where it has become a useful tool in corporate and financial sector restructuring. Yet securitization in Asia remains underutilized and is often costly.

The modern history of advanced securitization is brief, but the underlying concept has been known for centuries. Medieval European monarchs raised funds through the forward sale of tax receipts, and 17th century Dutch investors made loans to Caribbean plantation owners secured against the proceeds of sales of harvested sugar. In the 1930s, the first US federal refunding agencies helped encourage bank lending for home purchases as a measure of public policy, an objective widely emulated elsewhere in various ways.¹¹

¹⁰ East Asia in this chapter refers to People's Republic of China (PRC); Hong Kong, China; Indonesia; Japan; Republic of Korea (Korea); Malaysia; Philippines; Singapore; Thailand; and Viet Nam.

¹¹ Danish and German covered transactions were first known in the 18th century and began to resemble modern transferable issues in the late 19th century.

Figure 10: **Outstanding Securitization Market in Selected Economies, 1985–2006** (USD trillions)

Note: Selected economies include Australia; Canada; Denmark; France; Germany; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and United Kingdom (UK).

Sources: Bloomberg LP, *AsianBondsOnline*.

This theme chapter examines the progress of securitization in Asia—including cash and synthetic transactions—and identifies comparable and instructive uses in developed markets and elsewhere. The study is based on a contemporary appraisal of current and prospective uses of securitized transactions in East Asia’s leading economies and seeks to identify applications that have received little attention elsewhere.

The chapter also considers the concepts underlying securitization and examines the cost attractions and drivers for such issues in Asia and elsewhere. It describes how securitization becomes feasible, the conditions allowing individual transactions to succeed, and the obstacles that cause them to fail or to become unattractive to investors. It examines the significant impact of the 1988 Basel capital accord (Basel I), which classified bank credit risk according to type, and inadvertently promoted securitization to assist portfolio management by regulated bank intermediaries. The possible impact of the introduction in Asia of the revised Basel capital accord (Basel II) is also explored.

The chapter argues that established interests in East Asia prefer the immediate rewards of the existing financial system, with

its emphasis on bank credit creation, to securitization. These interests include governments, bank and nonbank financial intermediaries, or transaction arrangers such as investment banks and their advisors, which may derive exceptional profits from their market power in fragmented or illiquid securities markets. Governments in some Asian economies also use the banking system to implement monetary or exchange rate policy—not easily possible in open economies.

Underdeveloped securities markets for securitized transactions may represent a timing problem—only within certain jurisdictions and risk segments are data sufficiently adequate and robust to assist the credit rating process, provide external credit enhancement, and thus support new and repeat transactions. For similar reasons, few credit derivatives exist for Asian risk so as to limit the creation of synthetic transactions such as collateralized debt obligations (CDOs). A lack of data makes securitization very difficult, even in relatively sophisticated markets.

The aim of this chapter is to determine why certain Asian economies make considerable use of securitization techniques for policy purposes, why others allow a broad range of commercial transactions, and what obstacles hinder similar developments elsewhere. It concludes that multilateral development institutions might usefully support further reforms to strengthen property rights, the judicial process, promote standards for pool data collection and analysis, establish common best practices in documentation and risk appraisal among financial intermediaries (especially in tandem with regulatory improvements), and encourage the use of securitization to refinance lending in certain areas of interest for public policy, notably microfinance, student loans, and infrastructural risk.

The possibility that multilateral institutions could take an intermediary role in these specific areas represents an original and non-conflicting use of official capital, with clearly identified value in terms of financial sector development in emerging market economies. These are practical schemes that are otherwise unlikely to find commercial support unless incentives are developed to persuade banks to become involved.

The scope for multilateral involvement may be constrained by conflicts associated with encouraging credit risk transfer at a time when national supervision and reporting among substandard

bank and nonbank intermediaries may need enhancement. In this respect, support for national implementation of the second and third pillars of Basel II would be beneficial, and might contribute to regional cooperation.

A note of caution is necessary in interpreting the data on securitization in this study—as it is largely based on one source and thus is not complete. Despite this limitation, data is compiled on various securitization asset types for 17 economies over a 10-year period.

1. Concepts

Securitization can support financial development, bridging the gap between prevailing Asian credit quality and investor risk preferences.

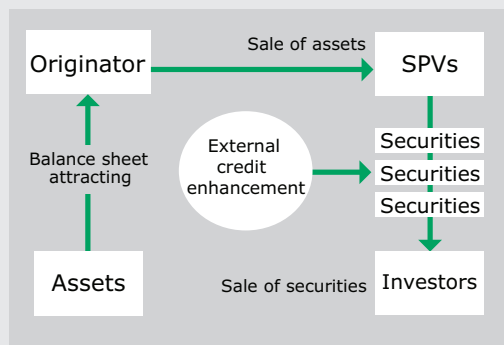
“Cash securitization” is the irrevocable transfer of defined financial assets by their originator, funded by the simultaneous sale to a third-party investor of new securities issued by the asset buyer. Neither asset buyer nor investor has transactional recourse to the originator. By contrast, “synthetic securitization” involves forms of CDOs that wholly or partly replicate for the originator the credit risk transfer involved in cash transactions, without an outright transfer of claims (Box 1).

“Covered bonds” are a related form of structured finance, have long been used in Denmark and Germany, and since the mid-1990s have become increasingly popular elsewhere in Europe. These are distinct in that they create a security interest for investors (Box 2). Covered bond holders obtain preferential rights over pools of claims that remain funded assets on the balance sheet of the originating intermediary; those assets are said to “cover” the investor’s claim as dedicated collateral but without an irrevocable transfer.

With conventional cash securitization, the asset buyer is a special purpose vehicle (SPV) in the form of a single purpose company or trust, depending on legal practice in the jurisdiction of the domicile of the assets. Securities are typically issued in tiers or tranches, known as “waterfalls”, that carry different commercial terms and risks—to extract the maximum value of the assets over time.

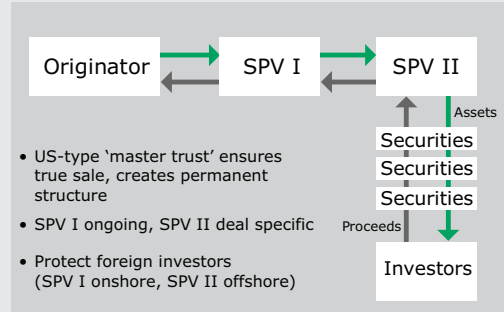
Box 1: Generic Cash and Synthetic Transactions

Figure B1.1: **Generic Cash Securitized Transactions**



- Financial assets are sold by their originator to an insubstantive domestic special purpose vehicle (SPV), then resold to a similar offshore vehicle that in turn funds the purchase—simultaneously or after a short period for asset accumulation—with an array of new securities enjoying direct claims of varying seniority over all or part of the asset pool.

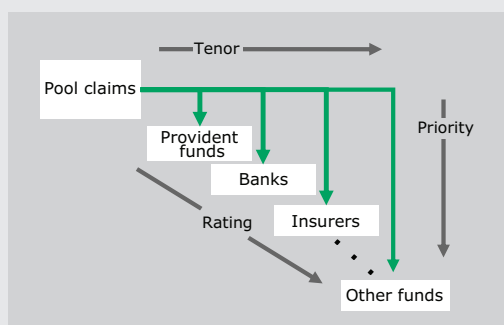
Figure B1.2: **Generic Structure: Use of Sequential SPVs**



- US-type 'master trust' ensures true sale, creates permanent structure
- SPV I ongoing, SPV II deal specific
- Protect foreign investors (SPV I onshore, SPV II offshore)

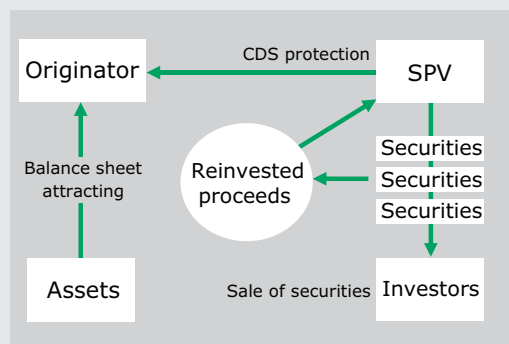
- "Cross-border" indicates the use of securitization vehicles remote from the source assets, located offshore, as a means to ensure the asset transfer is irrevocable. Securities created with the sale may be acquired at issue or later by any investor, whether or not of the same domicile from which the original assets are first sold.
- Qualifying assets may include impaired assets, commercial mortgage loans, corporate loans, and major lease receivables, among others. Asset-servicing becomes independent of the originator, who may continue to deal commercially with any ultimate debtor except in cases involving impaired assets.

Figure B1.3: **Credit rating & Risk-return Trade-off**



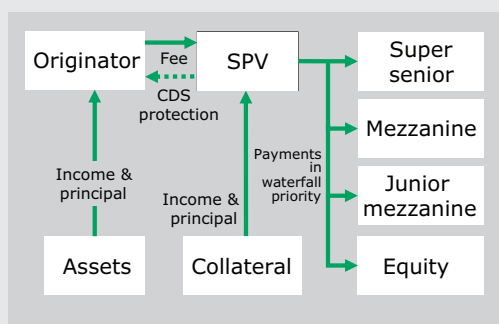
- Securities (typically notes, bonds, or commercial paper) are issued in tranches to meet required target credit ratings and the risk-return preferences of various investor classes while extracting the fullest economic use of pool cash or proceeds.
- Value is first extracted from the asset pool internally. External sources then provide additional credit support such that each series of bonds meets a target initial credit rating, achieved through iterative consultation with a rating agency.
- Credit enhancement is provided by an external provider, typically incorporated in a tax-neutral jurisdiction and managed in an Asian financial center.
- The external backing is facilitated by additional third-party support, for example by means of funded or contingent capital, guarantee, or dedicated insurance. It may cover defaults within the collateral pool or the entire transaction, including with cross-currency issues specific support to induce a counterparty to enter one or more currency swaps.
- External sources provide sufficient additional credit support for each series of bonds to meet target credit ratings. This backing is given by a third party through funded or contingent capital, financial guarantee, or insurance. It may cover defaults within a collateral pool, whole transactions, or support swap collateralization.

Figure B1.4: **Generic Synthetic Securitized Transactions**



- Synthetic transactions replicate part of the value of cash transactions for originators by alternating the risk composition of their source balance sheet through credit risk support via an array of credit derivatives. Investors similarly engage in a transaction with different legal rights to a cash securitization, but which may accurately replicate the risk-return qualities of one or more tranches of such a transaction.
- In this generic example—a template for far more complex deals—the proceeds from the sale of securities are used to buy credit protection structured to meet the expected risk performance of the originator's asset pool. In effect, the originator buys tailor-made credit protection funded by the sale of an irrevocable interest in its risk portfolio.
- The most significant difference in transaction economics between cash and synthetic deals is that with the latter, proceeds generated by the sale of securities remain within the transaction and can thus assist in servicing the claims of their investors—by making or replenishing a cash reserve for scheduled payments, for example.
- The transaction economics of synthetic structures are geared toward credit rating augmentation to a greater extent than cash deals. This requires an array of credit-default swaps, and a diversified investor base that allows the creation of subordinated tranches or equity. This may prove to be more costly under Basel II.

Figure B1.5: **Generic Synthetic Collateral Debt Obligation (CDO)**



Box 2: Covered Bonds

A form of structured finance related to securitization has long been used in Denmark and Germany, and is now popular elsewhere in Western Europe and certain transition countries. Covered bonds share one main objective of cash securitization; to assist in funding by intermediaries. But they are distinct in that they create a security interest for investors. Covered bond holders obtain preferential rights over pools of claims that remain funded assets on the balance sheet of the originating intermediary. Those assets “cover” the new transaction as dedicated collateral, without the irrevocable transfer associated with securitization. Covered bonds (first known in Germany as “pfandbriefe”) typically offer a funding cost advantage compared with securitized transactions as the bond holder retains some form of recourse to the originator. As a result, they require less intensive structuring or credit enhancement.

Covered bonds are largely a Continental European phenomenon, resulting from legislation supporting development and social policy objectives in Denmark dating from 1850 and in Germany from 1900. In the last five years, the market’s growth has been supported by European Union (EU) legislation. According to data published by the European Covered Bond Council, total covered bond outstandings in Europe exceeded EUR1.8 trillion (USD2.35 trillion) at end-2005, with German issues accounting for approximately 60% of the total. Denmark, France, Spain, and Sweden also saw significant new issue volumes. Gross European issuance was approximately EUR475 billion (USD620 billion) in 2005, with Germany and Denmark contributing the largest amounts.

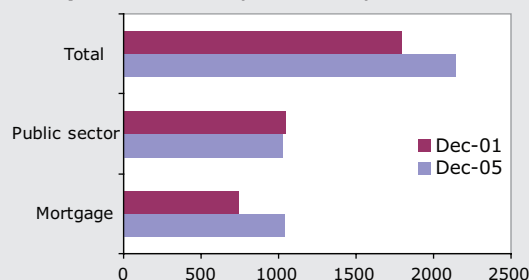
The major distinction between the covered market and securitization issues common in North America is that covered bonds require no transfer of pool assets to a special purpose vehicle (although certain national markets require pool loans to be housed in a dedicated subsidiary). Within Continental Europe, covered structures have a relatively similar importance and volume as residential mortgage-backed securities in the United States (US), where similar secured loan concepts have been used elsewhere as funding tools—by the Federal Home Loan Banks, for example.

Covered bonds are traditionally associated with civil law jurisdictions in which national legislation allows generally similar transaction structures and increasingly encourages cross-border investment. Most create their collateral pools from residential mortgages or loans for public infrastructure. As such, the concept may have relevance for civil law jurisdictions in Asia. Covered bonds also began to be common in Ireland and the United Kingdom (UK) in 2002–03, under both commercial and EU influence.

More generally, the EU’s Consolidated Banking Directive (2006/48/EC) and Capital Requirements Directive (2006/49/EC) encourage investment in covered bonds by allowing holders among EU banks a 10% risk asset weighting if the bonds meet conditions contained in the Directive on Undertakings for Collective Investment in Transferable Securities (85/611/EEC). Other EU rules permit covered mortgage bonds that conform to national laws to be used as borrowing collateral in the same way as sovereign bonds. Others exempt covered issues from prudential limits to risk concentration.

Most EU member states have enacted covered bond legislation and those remaining are now doing so, including the UK, which may become a prominent center for issuance. To date, one major US mortgage lender has also issued covered bonds in Europe. If the introduction of Basel II changes transaction economics for loan originators contemplating securitization, the major markets may see greater prominence for the covered structure, and deals that combine the advantages of both securitized and covered issues.

Figure B2: **Covered Bonds Outstanding in European Markets** (USD billion)



Note: Data includes covered bonds outstanding for Austria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Spain, Sweden, Switzerland, and United Kingdom.

Source: European Covered Bonds Council.

Internal enhancement usually takes the form of over-collateralization or a subordinated tranche that absorbs first losses. External enhancement is commonly cash collateral, third-party financial guarantees (standby letters of credit in US banking practice) or insurance policies. Guarantees, or “wraps”, are provided by specialist monoline insurers (specialist insurers doing only financial guarantees), which first appeared in the early 1970s in the US municipal bond market but have since taken on a powerful role in many structured finance markets.¹² Guarantees for mortgage-backed securities (MBS) are also provided by US corporations, such as Freddie Mac and Fannie Mae.

Although the process of securitization is not new in East Asia, it gained new impetus after the 1997/98 financial crisis, particularly for debt workouts in Korea.

The first asset-backed security (ABS) was issued in Asia in the mid-1990s. Most Asian asset-backed bonds have been negotiated as single transactions. But in the aftermath of the crisis, many impaired financial assets in Korea were used as collateral for new collateralized bond obligations. Since 2000, the volume of new Asian transactions created as part of ongoing programs has increased, notably in Hong Kong, China; Japan; Korea; and Malaysia—all involving housing loans—and a series of transactions supported by Singapore commercial property risk.

The most important conceptual aspect of forming cash and synthetic securitized transactions arises from this process—using pooled assets or income to create securities with combinations of credit ratings, yield and duration that are attractive to investors. Even comparatively simple transactions require extensive modeling of pool performance, relying heavily on robust data records and an understanding of the payment and default history on the pool or similar assets.

¹² Asian Securitization & Infrastructure Assurance Pte Limited (ASIA Limited) was an Asian regionally-orientated monoline insurer established in 1996 by ADB and certain commercial interests, later becoming dormant due to losses incurred during the Asian financial crisis. See Douglas Arner, Park Jae-ha, Paul Lejot, and Liu Qiao (eds.), *Asia's Debt Capital Markets: Prospects & Policies for Development* (Springer, 2006), pp. 284–285.

Investor assessments of risk and return are crucial to the pricing and structure of securitizations, as all parties seek to maximize their share of the assets' value.

Investor risk-return preferences provide the starting point to pricing and structuring, with originators and transaction arrangers seeking to extract the greatest value from the resources available in an asset pool. This manipulation of financial value is central to all securitized issues and partly explains their relative complexity and transactional expense. It also explains the potential for securitization to assist in general financial market transparency and development, and provide an incentive to support improved risk assessment and data collection.

This applies particularly to nonperforming loans (NPLs), a fact which is most apparent in the use of securitization. In this way, the market-determined yield given to the ultimate investor provides a transparent mechanism to value a pool of impaired assets where none otherwise existed.

The commercial and financial benefits become manifest in one or more of the following five ways:

- A means to make certain risk attractive to an investor, assuming that each potential investor has known risk-return objectives.
- A credit rating higher than its respective sovereign ceiling and/or that of the originator with appropriate political risk guarantee or insurance. This may be especially attractive in the context of infrastructure financing.
- The means to price asset pools that are difficult or impossible to value, usually to make their sale feasible. This applies particularly to NPLs and other impaired financial claims.
- A method to create capital market funding where none previously existed.
- For asset originators, a funding source where none was available at an acceptable cost, especially when lending becomes subject to quantitative regulatory constraints.

The essential commercial concept of securitization is to separate future cash flows from their originator and use the flows to generate funding resources.

In addition to single risks, entire businesses have securitized distinct parts of their commercial activities (for example, to improve an overall credit rating by reducing consolidated leverage, and to lessen the costs associated with external financing). The result may be to increase the liquidity associated with certain fixed assets or business streams, with broader results in terms of accounting, costs, and credit standing.¹³ Securitization can therefore be seen as the converse of typical corporate activity. Even simple enterprises gather together complementary specialized functions to minimize transaction costs and achieve economies of scale. Securitization is thus a mirror of vertical integration, because it separates activity from organizational concerns. It will only succeed, however, if basic institutions are in place, including reliable property rights and the means for their effective and enforceable transfer.

For financial intermediaries, securitization is similarly a separation of business activities into constituent parts.

Traditional bank intermediation involves at least three transformations involving time, credit risk, and value:

- Duration transformations arise from differences in the contractual period of loans (assets) and deposits (liabilities). An intermediary must manage the reinvestment risk associated with withdrawal of a deposit prior to repayment of the loan that it finances.
- Credit risk transformations stem from differences in concentrations of risk between lending and funding. The liability composition of many commercial bank intermediaries will be far more diverse than their loan portfolios.
- Value transformations reflect the presumption that unless an intermediary becomes insolvent, it will expect to repay liabilities at their nominal value, but may not recover the full amount of any single loan should the borrower default.

¹³ This commercial interpretation of securitization is amplified in Steven Schwarcz, "The Universal Language of Securitization," 12 Duke J. Comp. & Int'l. L. 285–308 (2002). Whole business securitizations have been attempted in Asia only in the commercial property sector.

Securitization represents one solution to these mismatches, providing a means to align duration, credit risk, and value. For this reason, the mechanics and enabling institutions of securitization require high transactional reliability and integrity. Incompleteness in these respects seems to have impeded Asian market growth.

For the financial sector, securitization is a critical mechanism for credit risk transfer.

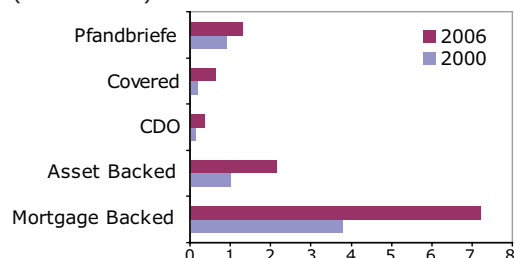
Securitization may achieve other objectives for some users or be attractive in particular phases of interest rate or credit cycles, and may have developmental or incentive features for both originators and investors or for general economic welfare. But credit risk transfer needs to be assessed in both the transactional sense of allowing users to manage more freely asset or liability portfolios, and more generally moving in and out of the regulated banking sector.

Thus, it is now common for regulators to consider the consequences of enhanced risk transfer for the dispersal of risk within and between domestic financial systems. First, there are several dimensions to this, some of which may be beneficial for efficiency and financial stability—such as lessening concentrations of geographical or sectoral risk—and includes transfers of credit risk to lightly regulated nonbank financial intermediaries or other investors. The increasing velocity of risk transfer presents first-order information problems when banks—which in this case act as transferors of credit from one party to another—are poorly regulated or their compliance standards are uncertain. This was notable in the 1997/98 financial crisis, especially where nonbank intermediaries were active in corporate lending and consumer credit.

Second, securitization may enable funding or refinancing by financial intermediaries, often involving the creation of official housing finance agencies. This may include the entry of new commercial parties into established financing sectors, such as residential mortgage finance or consumer credit, with consequences for overall efficiency and use of capital.¹⁴

¹⁴ On a larger scale than so far seen in Asia, the introduction of ABS and residential mortgage-backed securities (RMBS) in the US arose from banking and securities laws that gave an incentive to investment banks to create and securitize risks that historically were provided by commercial banks.

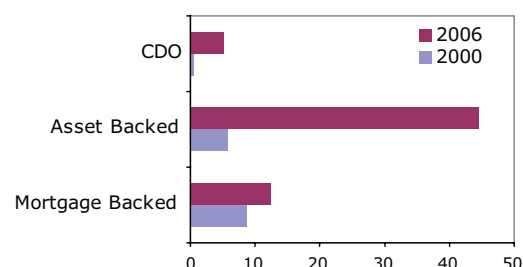
Figure 11A: **Total Outstanding Securitization by Asset Type in Selected Developed Economies, 2000 and 2006** (USD trillion)



Note: Selected developed economies include Australia, Canada, Denmark, France, Germany, UK, and US.

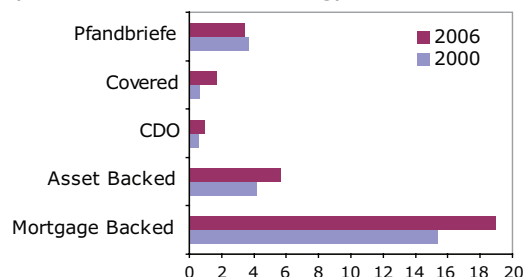
Sources: Bloomberg LP, AsianBondsOnline.

Figure 11B: **Total Outstanding Securitization by Asset Type in Emerging East Asia, 2000 and 2006** (USD billion)



Sources: Bloomberg LP, AsianBondsOnline.

Figure 11C: **Total Outstanding Securitization by Asset Type in Selected Developed Economies, 2000 and 2006** (% of total bonds outstanding)



Note: Selected developed economies include Australia, Canada, Denmark, France, Germany, UK, and US.

Sources: Bloomberg LP, AsianBondsOnline.

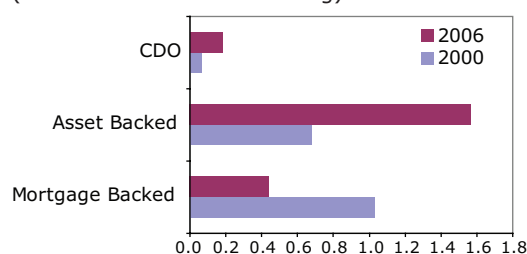
Securitization can be applied to all defined credit risks—including delinquent assets or claims—but for costs is typically associated with risks involving similar, unconnected, and predictable cash flows.

Assets commonly used in cash securitization include residential or commercial mortgage loans, credit receivables, credit card receivables, vehicle or fleet loans, certain cash receivables, air ticket sales, taxes on revenue, transport or other tolls, licensing fees, foreign worker remittances, and music royalties (Figures 11A–D). Almost all of these assets have been used in transactions in Asia during the past decade.

The technique has been applied in advanced markets to entire businesses, discrete business streams, and more widely to single large-scale commercial properties. Commercial property transactions are a potential new source of securitization in Asia given their importance to bank lending, especially if real estate investment trusts (REITs) become more popular. The use of NPLs is also a comparatively new phenomenon, even in certain Organisation for Economic Co-operation and Development (OECD) economies, and especially in civil-law jurisdictions such as Germany.

Securitization represents a complex means to achieve simple ends—in making available well-defined risk to of investors. The technique has a reputation of being overly complex. It has high

Figure 11D: **Total Outstanding Securitization by Asset Type in Emerging East Asia, 2000 and 2006** (% of total bonds outstanding)



Sources: Bloomberg LP, AsianBondsOnline.

Box 3: **Financial Market Development and Growth of Securitization in East Asia**

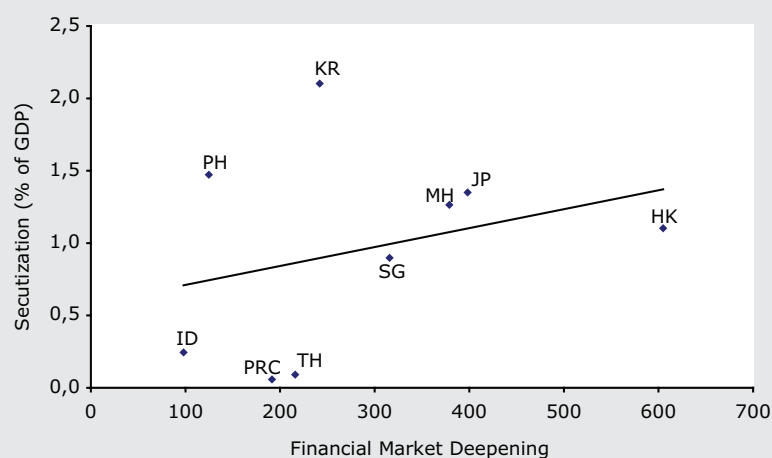
The depth of securitization is aligned with the development of financial markets as measured by financial market deepening, bond market size, and credit creation. Financial market deepening—the sum of the bond market, equity market, and the banking sector relative to gross domestic product (GDP)—tends to increase use of securitization because the availability of potentially tradable instruments increases as markets develop and transaction costs are reduced. Large corporate bond markets, in particular, tend to be a by-product of well-developed markets with defined government benchmarks. As bond markets develop, demand for assets increases—in part fuelled by the development of contractual savings. Securitization of assets can satisfy part of this demand. Credit creation also tends to increase the use of securitization by providing pooled assets to create securities with combinations of credit ratings, yield, and duration that are attractive to investors.

Since 2000, the use of securitization in new Asian transactions has increased, notably in Hong Kong, China; Japan; Republic of Korea (Korea); and Malaysia, all involving housing loans. In Korea,

securitization became a useful tool in corporate and financial sector restructuring in the crisis aftermath when a large volume of impaired financial assets was used as collateral for new collateralized bond obligations. The development or use of securitization in People's Republic of China (PRC), Indonesia, and Thailand remain nascent.

Taking data limitations into consideration, the two-tiered development in emerging East Asia with Hong Kong, China; Japan; Korea; and Malaysia on the one hand, and PRC, Indonesia, Thailand and Philippines on the other, can at least in part be attributed to the effectiveness of enabling legal provisions—which is particularly pronounced in Hong Kong, China; Korea; Malaysia; and Singapore. Legal elements typically associated with securitized transactions in advanced markets—common law review jurisdictions—are also present in Hong Kong, China; Malaysia; and Singapore.

Figure B3: **Securitization vs. Financial Market Deepening**



Note: Data are 2000–2005 averages.

Source: Office of Regional Economic Integration (OREI) staff calculations.

marginal transaction costs and development periods for one-off transactions—perhaps comprising several tranches that can extend over months or years—especially when prevailing laws hinder rather than help transactions. These obstacles have yet to be surmounted in East Asia, and multilateral development organizations have been usefully devoting resources to the task.

2. Development in East Asia

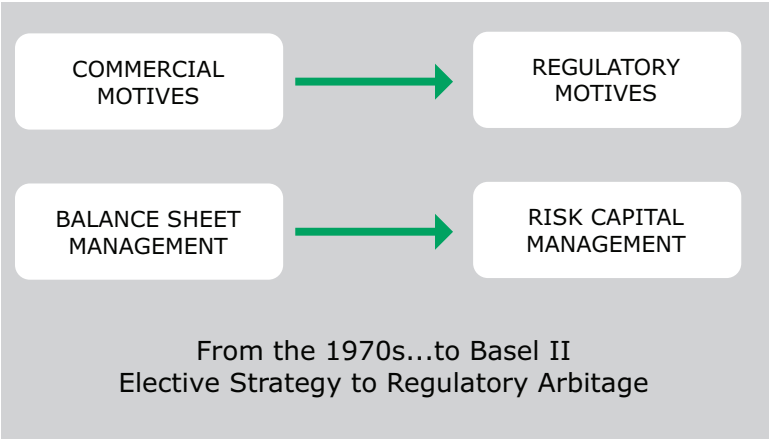
Securitization in Asia evolved from simple profit-seeking prior to the crisis to debt recycling afterward. Future Asian securitization may have broader applications by facilitating the release of individual capital and assisting in public policy.

Since the early 1990s, the driving forces behind securitization have changed, especially in Asia's emerging markets. The shift in emphasis in global drivers is shown in Figure 12, with traditional commercial motives for borrowers to use securitization as an elective part of funding strategy being supplanted by regulatory motives, largely prompted by bank capital regulations. Successive international banking crises led to increasingly common regulation of bank capital, coming to influence the nature, composition, and funding of all lending activity.

This produced a new objective for structured finance and led to a material expansion in banks and other regulated intermediaries use of securitization. Thus, the incentive to securitize shifted gradually from commercial motives to one with roots in transactional or systemic regulatory arbitrage. Rapid growth in issuance in the major developed financial sectors after the early 1990s is largely attributable to the consequences of harmonized capital regulation, including the creation of regulatory capital and the assumption of weightings for bank risk assets, and the implementation of exposure limits on sectoral and single obligors.¹⁵

¹⁵ "Recent years have seen remarkable growth in securitisation around the world." Gyntelberg & Remolona, *supra* n. 2, p. 67.

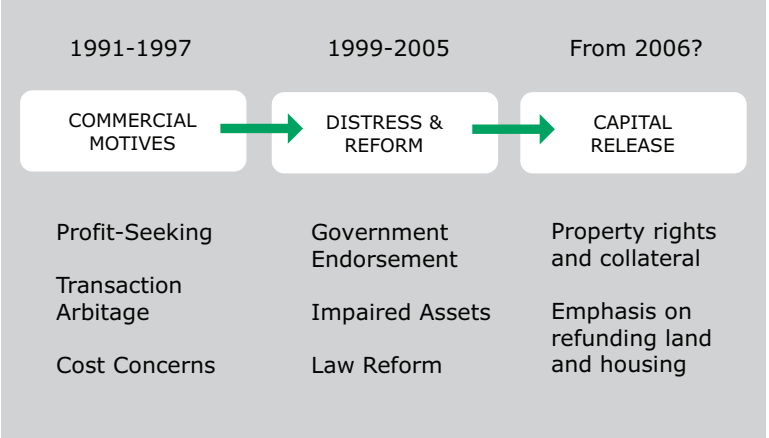
Figure 12: **Long-term Global Drivers for Securitization**



As governments sought to assist in resolving NPLs resulting from the Asian financial crisis, securitization began to expand and evolve at an ever-increasing pace.

In East Asia, where securitization’s shorter and less-developed history began in the early 1990s, a more complex pattern has emerged, involving both regulatory and other influences, especially after the 1997/98 crisis (Figure 13). Prior to the crisis, securitization resulted from commercial interests seeking to replicate deals used in more established markets—in many cases using Asian assets in offshore transactions for sale to yield-seeking non-Asian investors—rather than as part of domestic

Figure 13: **Emerging Drivers of Securitization in Asia**



financial reform. It became possible to complete securitized transactions in most jurisdictions using complex structured techniques to avoid legal or regulatory obstacles. The amounts of completed securitizations were inevitably modest.

The 1997/98 crisis provided an incentive for certain jurisdictions to use securitization to assist in resolving NPLs, and in some cases was such a strong imperative that issuance began to expand as never before.¹⁶ The result was a wave of new asset management companies (AMCs)—publicly-capitalized agencies to acquire impaired assets from public and private sector financial intermediaries, usually at steep discounts to nominal values, and then disposing of them, either by liquidation, further sale, or rehabilitation.

The importance of the emergence of AMCs is comparable to the role of the US Resolution Trust Corporation in the 1980s. The most notable were the Korea Asset Management Corporation (KAMCO), Malaysia's Danamodal Nasional Berhad, and four AMCs in the PRC created to assume defaulted loans from the four large state-owned banks.

The aim was to derive a fair clearing price from an assessment of the risk-return appetite of potential investors in securitized issues for the removal of assets from the originator's balance sheet. Under this premise, simulation models of the kind used by credit rating agencies—of the behavior and value of different asset pools—can serve as price yardsticks for the initiating asset sale. This is a more open and less controversial way of pricing than the way sales were negotiated directly between an AMC and privileged investors.

While this may not be a solution to all forms of financial distress, it has valuable qualities in a developmental sense, most clearly seen in postcrisis Korea. While the process has been widely regarded as successful, the completeness of what is involved is not always acknowledged. In certain cases, in the PRC and Indonesia, for example, NPL sales to final investors were conducted under circumstances that precluded securitization, with its underlying necessity of transparency.

¹⁶ "Issuance of ABS in the region has been dominated by Japan, Australia and Korea, which account for around two thirds of overall issuance. [...] In addition, ...(Hong Kong, China; Malaysia; the Philippines; Singapore; Taipei, China; and Thailand)...also provide a steady flow of assets for securitisation." Id.

AMCs in the PRC are sizeable undertakings, but a lack of legal support has thus far prevented them from becoming large-scale users of securitization.¹⁷ This may change if planned legal reforms occur later this year. To date, AMC financing has been opaque, and the main transaction activity has involved the auction of loans, not securities. Compared with the urgency of postcrisis objectives in fostering large-scale securitization in Korea, time has lowered PRC's imperative to resolve NPLs, aided by growth of both international reserves and state bank capital, which lessen the urgency for reform. If new securitization legislation is to produce substantial transaction volumes in the PRC, then the causes may be very different from elsewhere in Asia.¹⁸

Like much structured finance, securitization transaction expenses are usually high¹⁹—unless marginal transacting costs are reduced due to deal frequency or external legislative or regulatory support.

The postcrisis need for repairing balance sheets made transaction expenses more tolerable, resulting in a notable shift in assets, some growth in synthetic transactions, and improved bank and corporate balance sheets in certain countries—notably Korea and Malaysia. The gravity of the crisis eased cost constraints, perversely by making asset sales and the creation of ABS essential to bank balance sheet rehabilitation and corporate restructuring.

These conditions encouraged the belief in official and academic circles that the crisis-driven need for several jurisdictions to allow securitization could have a broader impact on financial market development.²⁰ In particular, it was argued within groups such as the Association of Southeast Asian Nations plus PRC, Japan, and Korea (ASEAN+3) and the Asia-Pacific Economic Cooperation (APEC) that developing securitization to deal with pressing crisis-related problems would lead to more effective debt markets and gradually help the region guard against future shocks. Asia's

¹⁷ Ma Guonan and Ben Fung, "China's Asset Management Corporations," BIS Working Papers No. 115 (2002).

¹⁸ One spur may be the demand among domestic investors for new instruments. See "China's short-term bond funds love ABS," *FinanceAsia*, 10 February 2007.

¹⁹ In the sense of expenses associated with pool data collection, deal development, and completion.

²⁰ See, for example, Arner et al, *supra* n. 5, p. 271.

postcrisis recovery and the accumulation of unprecedented levels of international reserves may have removed the urgency underlying this argument.

Furthermore, as the recovery progressed and led to improvements in credit ratings, demand has increased among established monoline insurers to wrap feasible Asian transactions, such that credit enhancement is generally not a resource constraint in the more developed economies. Availability of credit enhancement has also been encouraged by yield-seeking investors during a prolonged period of relatively low nominal interest rates. This suggests that low securitization activity relative to other markets and to bank credit creation reflects an actual or artificial shortage of poolable assets, costly impediments to transactions, or a lack of a synthetic means to replicate such assets.

In Hong Kong, China; Japan; and Singapore, commercial and residential mortgage-backed securities dominate, while ABS dominate in Korea and throughout the rest of the region (Figures 14A–16B).

Housing loans have tended to be the most consistent source for securitization based on non-distressed assets, in part due to official support.²¹ Thus, housing finance was made part of public policy in Japan in 1950 (following the US); Malaysia in 1985; Hong Kong, China from 1997; and Korea in 2004.²² Thailand's state Government Housing Bank is a substantial mortgage lender and has been planning an inaugural securitized issue.²³

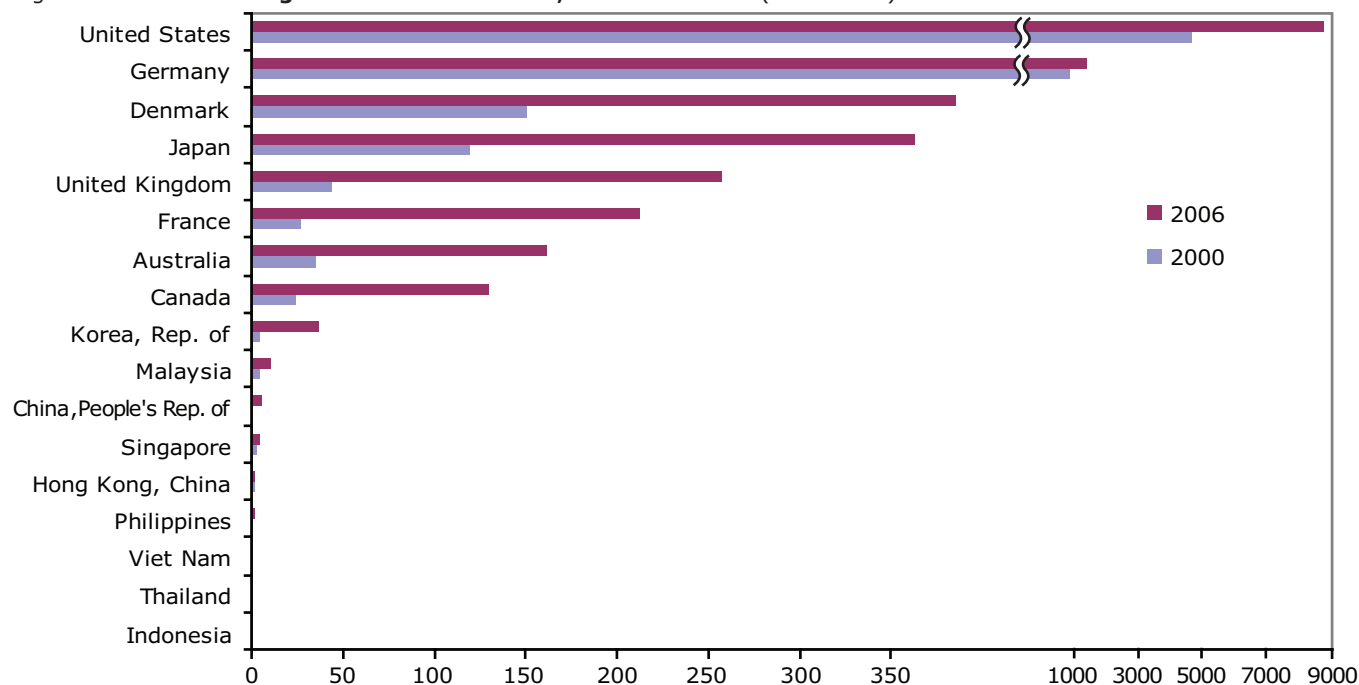
This may be due to two main reasons: (i) the ultimate funding cost provided by securitized corporate debt compares unfavorably with bank lending, especially in a period of capital accumulation among many of Asia's banks; and (ii) adequate pool data for mortgages and consumer credit is generally more available than

²¹ See Gyntelberg & Remolona, *supra* n. 2, p. 65.

²² Eric Chan, Michael Davies & Jacob Gyntelberg, "The Role of Government-supported Housing Finance Agencies in Asia," *BIS Quarterly Review* (December 2006), pp. 71–83. Publicly encouraged finance for house purchases is highly developed in Singapore, but based on a state provident fund and does not entail market-based funding or refinancing.

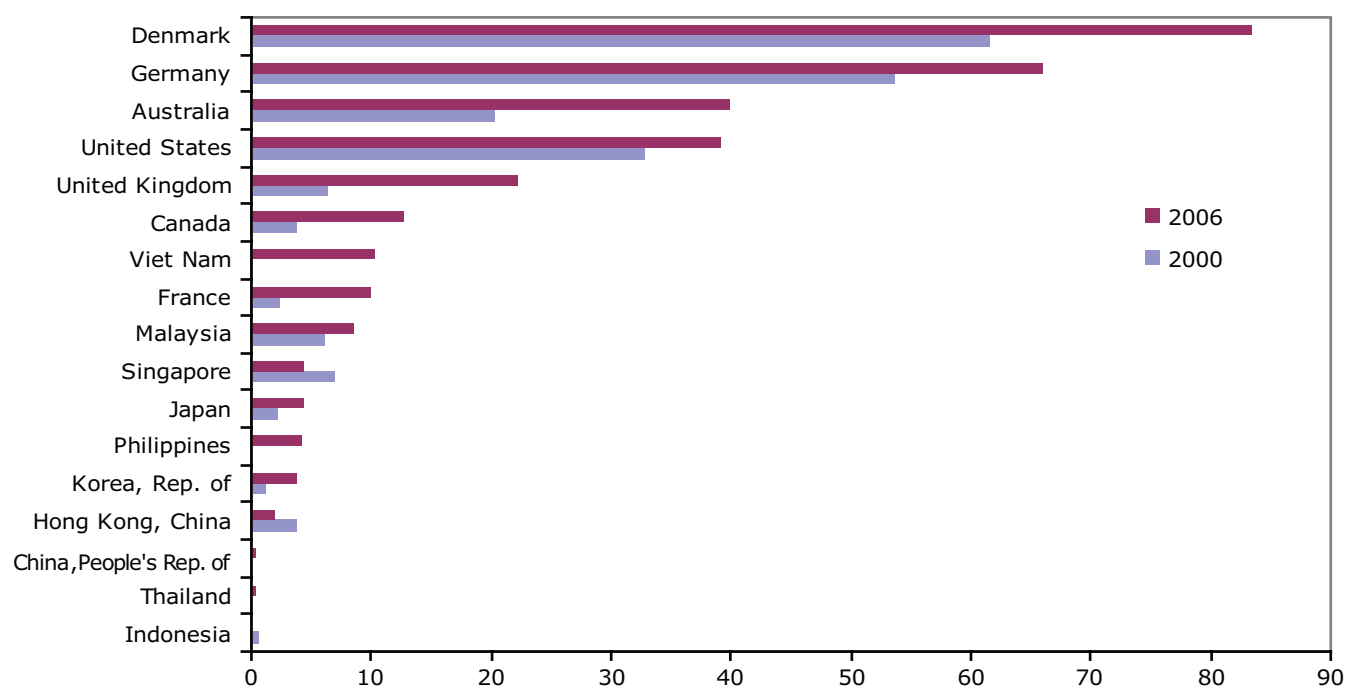
²³ "GHB prepares Asia's biggest securitisation," *International Financing Review*, 29 July 2006, based on a speech given by the bank's chair to the IMN Asia Securitisation conference; Hong Kong, China; June 2006. No issue is expected before late 2007.

Figure 14A: **Outstanding Securitization Market, 2000 and 2006** (USD billion)



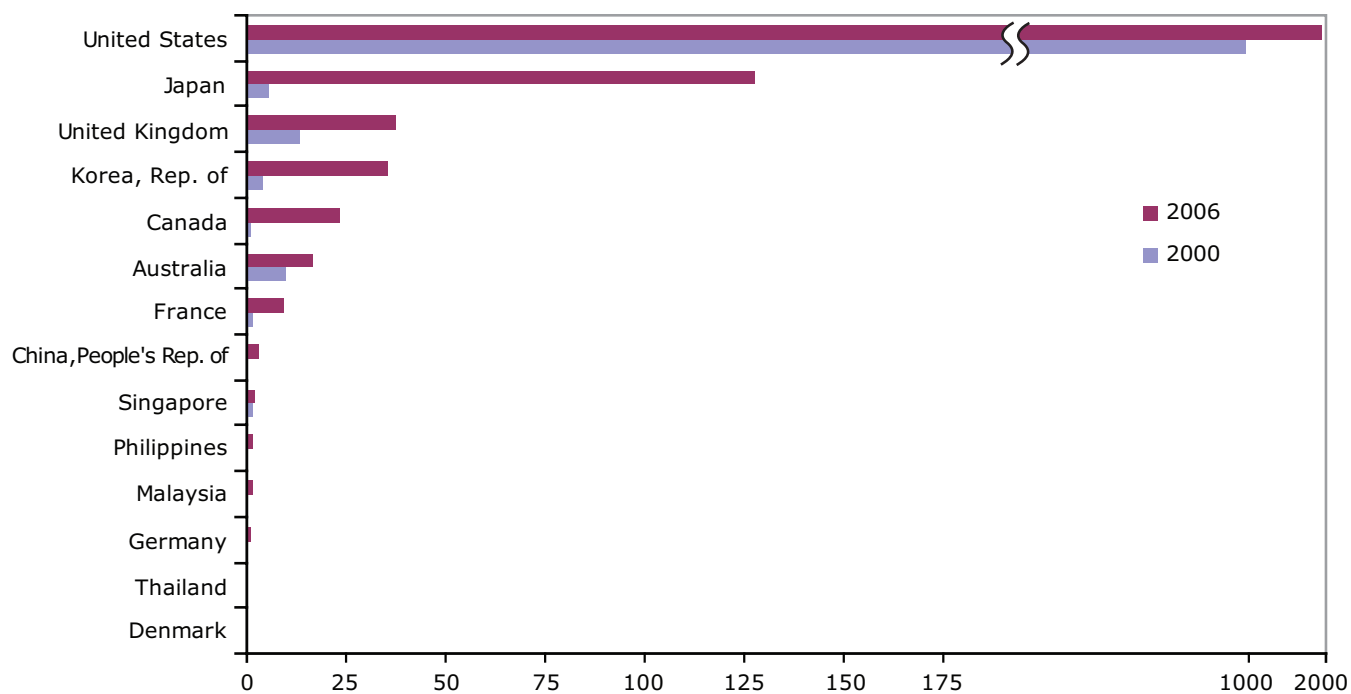
Sources: Bloomberg LP, AsianBondsOnline.

Figure 14B: **Outstanding Securitization Market, 2000 and 2006** (% total bonds outstanding)



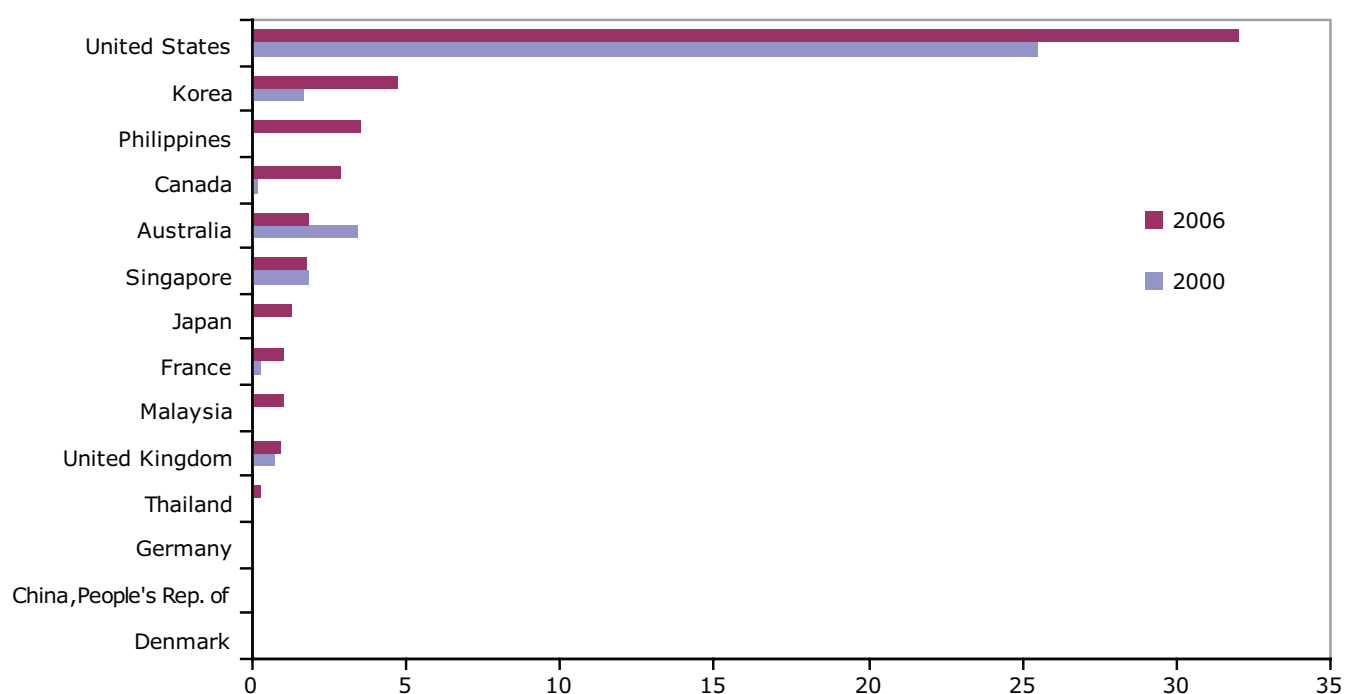
Sources: Bloomberg LP, AsianBondsOnline.

Figure 15A: **Asset-backed Securities, 2000 and 2006** (USD billion)



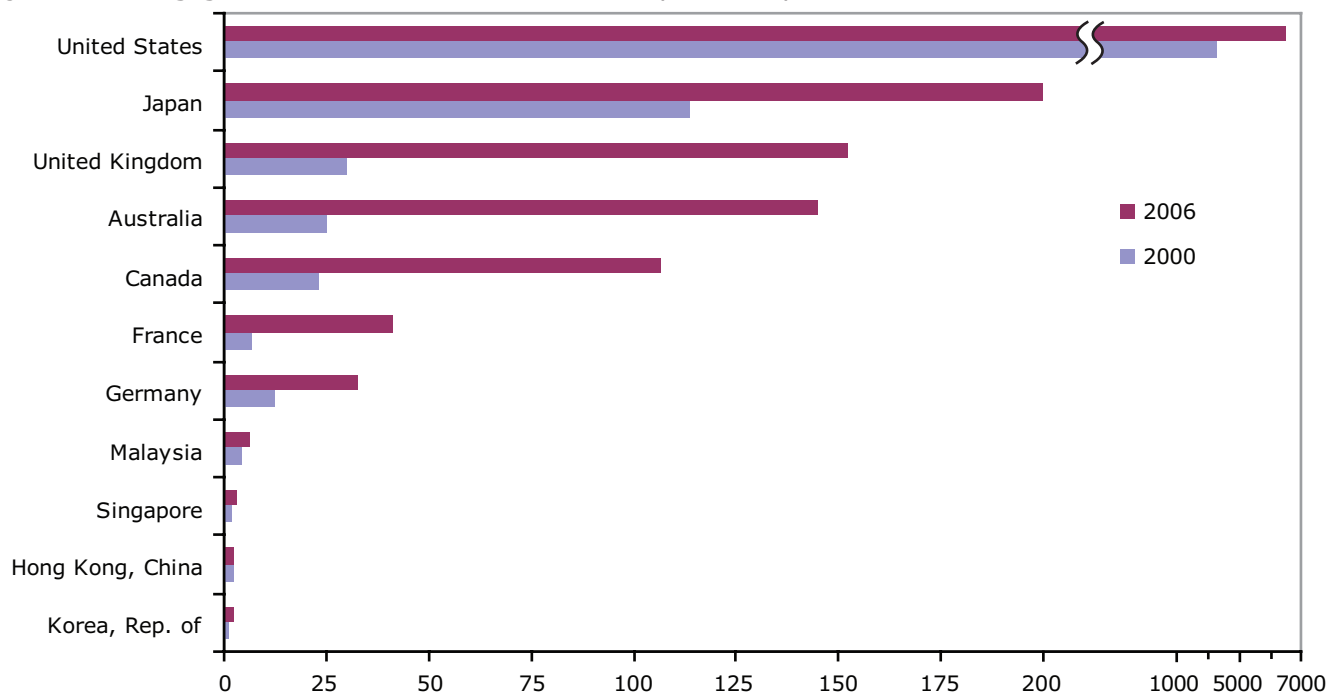
Sources: Bloomberg LP, *AsianBondsOnline*.

Figure 15B: **Asset-backed Securities, 2000 and 2006** (% total bank lending)



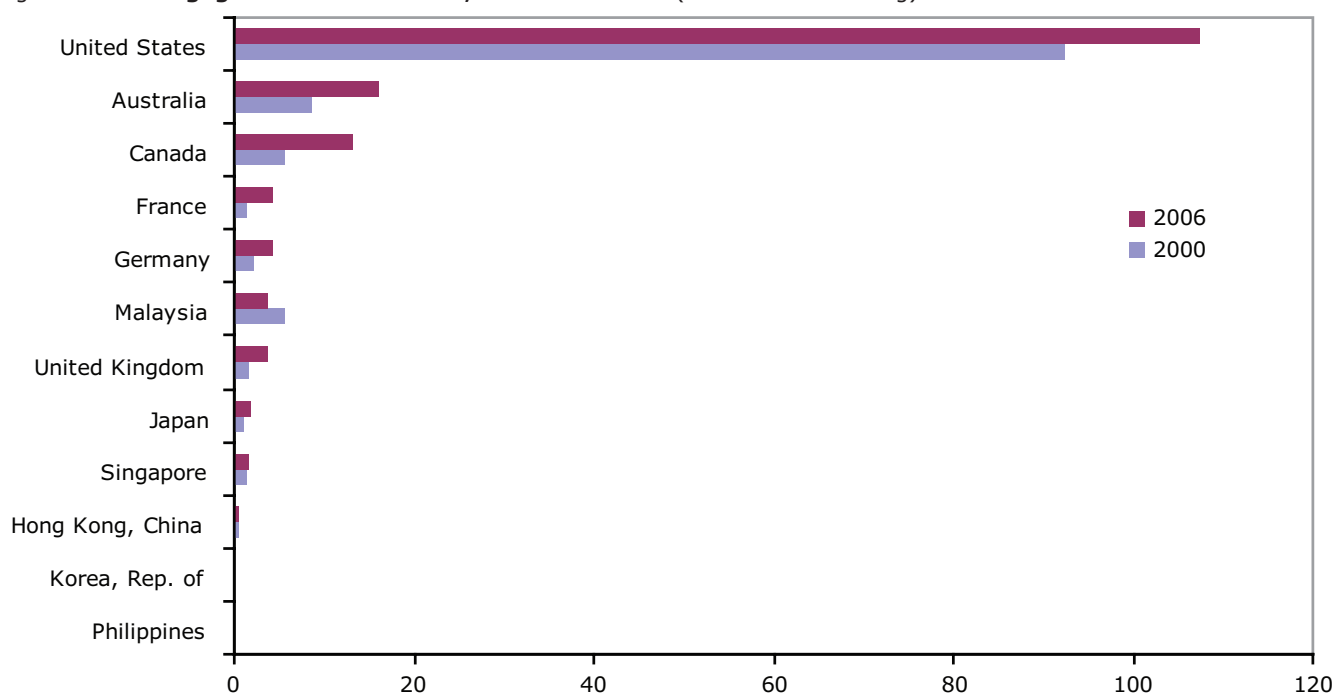
Sources: Bloomberg LP, *AsianBondsOnline*.

Figure 16A: **Mortgage-backed Securities, 2000 and 2006** (USD billion)



Sources: Bloomberg LP, *AsianBondsOnline*.

Figure 16B: **Mortgage-backed Securities, 2000 and 2006** (% total bank lending)



Sources: Bloomberg LP, *AsianBondsOnline*.

for diffuse corporate loans. As a result, securitization has focused more on liquidity and funding enhancement than the reallocation of credit risk by lenders.²⁴

Except for residential mortgage-based deals in Hong Kong, China; and Malaysia; securitization transactions have yet to be tested in a complete credit cycle.

Jurisdictions where securitization is well established—Hong Kong, China; Korea; and Malaysia—are not necessarily alike in needs or objectives. Except in the common-law jurisdictions of Hong Kong, China; Malaysia; and Singapore, offshore transactions have usually been used to circumvent institutional weakness or obstacles in law or regulation.

One way to consider Asian securitization is to look at three groups of jurisdictions: (i) those that allow cash transactions freely (Hong Kong, China; Korea; Malaysia; and Singapore); (ii) those for which offshore cash transactions have been completed in significant volumes, and (iii) those with obstacles to all or most deals. Except for residential mortgage-based deals in Hong Kong, China and Malaysia, the results have yet to be tested in a complete credit cycle. This is important in part due to a lack of credit derivative protection through single-name or index Asian credit default swaps (CDS), even in Japan, and is also a constraint to ABS growth based on corporate risk.²⁵

Section 5 of this chapter suggests reforms related to these aspects of systemic market malfunction. At the same time, it must be recognized that encouraging the transfer of credit risk to nonbank financial intermediaries may have unwanted secondary results,

²⁴ Id.

²⁵ Note also that "Securitisation that uses lower-rated corporate paper as collateral can be structured to provide largely AAA-rated note tranches for investors. Clearly, such structures only work if there are also investors who are willing to hold the subordinated tranches, including the equity tranche which absorbs the first losses." See Gyntelberg & Remolona, *supra* n. 2, p. 72. The same authors cite evidence that in KAMCO's NPL securitization deals, deeply subordinated equity tranches have been a relatively high 10-30% of nominal-issued amounts, and that KAMCO holds much of those risk portions in most NPL securitizations. Id. at 73; see Ben Fung, Jason George, Stephan Hohl & Guonan Ma, "Public Asset Management Companies in East Asia, a Comparative Study," FSI Occasional Paper, no. 3 (2004) available at <http://www.bis.org/fsi/fsipapers03.pdf>. However, while there is no doubt that KAMCO was a creation of public policy, the extent of state support for the credit risk transfer that it was able to engineer may be less widely understood.

given that lightly-regulated intermediaries were a cause of loan losses and contagion in 1997/98. This suggests a dual strategy to promote compliance and the regulatory quality aspects of Basel II,²⁶ while supporting the removal of national obstacles to securitization and regional investment in securitized instruments, especially to the extent that such a step would have broader benefits in terms of economic growth, financial stability, and poverty reduction.

3. Impact of national regulation and Basel capital standards

Basel I induced rapid expansion in securitization and credit risk transfer. Basel II aims to improve the economic rationality of regulatory incentives for credit risk transfer and require capital to reflect actual economic risk. It may also capture nonbank lending through effective bank compliance and supervision.

The effect of Basel I on securitization was rapid, profound, and largely unanticipated. This in turn influenced the nature, composition, and funding of all bank risk and altered the use of structured finance techniques by banks. Within 5 years, the application of securitization for balance sheet and capital management had greatly expanded—from approximately USD600 billion in 1985 to nearly USD2 trillion in 1990. At end-2006, the outstanding securitization market was USD12 trillion.²⁷

East Asia's financial systems have grown more sophisticated—and regulation across the region more uniform—partly driven by Basel I and increasing the demand for securitization.

Since the late 1980s, demand for securitization by regulated banks has been driven by uniform bank regulation, creating value and enabling devices for securitization to reduce transaction costs. Just as transaction costs are said to be the catalyst for the transformation of firms as economic organizations, so the effect of regulation plays a similar role among financial intermediaries.

²⁶ Primarily through Pillars II and III.

²⁷ Caution is required when interpreting securitization data, as there remains no single, complete data source on the outstanding securitization market.

The application of broad risk weightings to bank assets (primarily loans) together with standard capital provisioning—and the creation of two tiers of regulatory capital—immediately became critical in credit preferences (although not in overall credit creation), while capital-intensive instruments lost favor. The result was a profound effect on transaction costs and an incentive to separate credit origination from risk accumulation. Basel I also induced portfolio arbitrage and credit distortions, supporting the development of securitization and credit risk transfer markets.

The Basel I accord gave incentives for both systemic and transactional arbitrage, which Basel II will set out to remove.²⁸ Not only did Basel I provide banks with the means to manage their credit portfolios to meet regulatory incentives—making securitization a common tool—it also acquainted many investor classes with both securitized transactions and regulatory capital instruments. At the same time, regulatory attention to the proliferation of securitization represents a means to lessen or eliminate the three mismatches inherent in traditional bank credit creation identified in Section 1. In Asia, under both Basel I and Basel II accords, credit risk transfer and the subsequent loss of regulatory capture of risk may be more of a shared concern than the erosion of bank capital in times of crisis.

Basel II is designed to create common standards for compliance and supervision, to make required bank capital better reflect actual risks, and may affect intermediaries' retained credit portfolios.

Aside from creating compliance and supervision standards, and forcing required bank capital to accurately reflect risk, Basel II may also remove incentives to securitization that arose with Basel I and result in new shifts in intermediaries' retained credit portfolios.²⁹ In jurisdictions where Basel II is adopted, capital relief will depend on more realistic economic considerations,

²⁸ A robust quasi-official explanation of Basel II's aims in this regard appears in Andreas Jobst, "The Basle Securitisation Framework Explained: the Regulatory Treatment of Asset Securitisation," 13 *Journal of Financial Regulation and Compliance* 1 (2005).

²⁹ The largest direct effect for most banks (due to conventional balance sheet leverage) may be seen in the scope and scale of regulatory capital-raising deals. This is well underway globally and in Asia.

similar to accepted international accounting practices,³⁰ so that more granular risk weightings are part of this change.

Basel II's impact on small and medium enterprises (SMEs) is not yet known. While Basel II was being negotiated, critics of conventional capital regulation predicted that lowering the capital cost of well-rated credit risk would slow lending to "vital" small firms, especially for banks in less creditworthy economies.³¹ In many economies, SME lending relies on third-party collateral, often provided by owner-managers. The implementation of Basel II may establish to what extent SME credit creation relies on such credit risk substitution. To the extent that SME lending is based on collateral, a move toward a cash flow-based portfolio approach under Basel II could encourage greater lending.

National implementation of Basel II in Asia is likely to be uneven and subject to delay. There may be conflicts over the objectives of asset originators wishing to securitize claims but which have chosen or forced to adopt rudimentary regulation, at least while Basel II is being introduced.

Whether national regulators adopt Basel II enthusiastically in part or in whole, the most pressing questions relate to the implementation of the supervision and disclosure standards in Pillars 2 and 3. These conditions might give banks incentives to securitize new risks, including SME credit risk or trade finance receivables. Unlike Basel I, whose results are clearly understood, the outcome of portfolio changes induced by Basel II is unlikely to be known for some time.

³⁰ This can be contrasted with the narrower "true sale" criterion used by US regulators to determine capital relief, and in accordance with precepts of the International Accounting Standards Board's International Financial Reporting Standards.

³¹ See, for example, Stephany Griffith-Jones, Miguel Angel Segoviano, and Stephen Spratt, "Basel II and Developing Countries: Diversification and Portfolio Effects," Institute of Development Studies (2002), available at <http://www.ids.ac.uk/ids/global/pdfs/FINALBasel-diversification2.pdf>. This study may be influenced by depressed or negative cross-border capital flows to emerging markets during and immediately after the 1997/98 financial crisis. A recent assertion that Basel II may be deleterious to the financial systems of emerging economies includes little supporting evidence, see Stijn Claessens, Geoffrey Underhill and Zhang Xiaoke, "The Political Economy of Global Financial Governance: the Costs of Basle II for Poor Countries," World Economy and Finance Programme Working Paper No. 0015 (2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=944530&high=%20claessens. This may be challenged by more recent findings in German bank lending to emerging-market borrowers. Thilo Liebig, Daniel Porath, Beatrice Weder, and Michael Wedow, "Basel II and Bank Lending to Emerging Markets: Evidence from the German Banking Sector," 31 Journal of Banking & Finance 401-418 (2007).

Recommendations offered in Section 5 relate both to how securitization might be encouraged in Asia and to the outcome of Basel II implementation. In particular, data quality and availability is a widespread problem for all kinds of securitization. Asian banks that hope to adopt internal rating-based standards for capital adequacy will have to improve data collection and credit risk analysis.

Poor or insufficient data also hampers credit derivative growth. And finally, improvements in data gathering are hindered by a relative lack of standard loan and credit contracts, although in some cases housing finance agencies such as Malaysian National Mortgage Corporation (Cagamas) and Hong Kong Mortgage Corporation (HKMC) have now successfully promoted standard practices among loan originators.

4. Legal and regulatory issues

Securitization requires a transparent legal framework, clear accounting principles, regulatory support, and a neutral taxation setting.

The essence of a supportive legal and regulatory framework is to ensure that neither law nor regulation lessens the structural integrity of legitimate securitized transactions, and that any transfer of assets is permanent and cannot be disturbed by external events, including subsequent actions by creditors of the originator.³²

Details of cash transactions may vary among jurisdictions, but as Box 1 shows, they entail the irrevocable transfer of assets to an insubstantive SPV, to which the asset seller has no ties of ownership or control. Funding for the asset transfer is provided by the sale of securities to third party investors. The transaction must withstand legal claims in bankruptcy against the asset seller. Its economics must withstand taxes and duties on transfer and, in most cases, securities issued by the transaction SPV must provide for the dependable subordination of claims (Box 4).

³² ADB, together with the People's Bank of China (PBC), has undertaken a study to identify the legal and regulatory impediments to the successful execution of domestic ABS transactions in the PRC. This study has enabled ADB and PBC to evaluate viable options for resolving the most significant legal issues impeding the successful implementation of ABS transactions and has led to the proposal for new ABS legislation in the PRC.

In general, the elements of law typically associated with securitized transactions in advanced markets are present in the three common-law review jurisdictions, especially those affecting existing or future claims originated by financial intermediaries. However, certain future claims that cannot be specified in ways expected by current law may be seen as hazardous source material by investors or third-party monoline insurers. This has often been found with credit card receivables. In some cases, insolvency laws have caused uncertainty as to the integrity of securitized transactions using cash receivables. This is not

Box 4: Provisions for Securitization

	Sale, assignment, or other conveyance of assets to securitization vehicles				Creation and operation of SPV		Other
	Legal framework for creating, transferring, and perfecting ownership interests	Restrictions on types or terms of financial assets that can be transferred	Taxation and capital gain recognition issues by the SPV	Default, foreclosure, repossession at the level of source individual assets	Legal and regulatory impediments) e.g., bankruptcy remoteness)	Taxation or licensing requirements	Restrictions on securitization vehicles issuing multiple tranches
Cambodia	NA	NA	NA	NA	NA	NA	NA
China, People's Rep. of	1/2	1	1	1	1	2	1
Hong Kong, China	5	5	4	5	5	5	5
Indonesia	2	2	2	2	1	2	2
Korea, Rep. of	5	4	3/4	4	5	5	5
Malaysia	5	4	4	3/4	4	4	5
Philippines	2/3	2/3	1/2	2/3	2/3	1/2	2/3
Singapore	5	5	5	4	5	5	5
Thailand	3/4	3	3/4	3/4	2/3	4/5	2/3
Viet Nam	NA	NA	NA	NA	NA	NA	NA

Source: *East Asian Finance: Selected Issues* (World Bank, 2006).

The table's assessments of the effectiveness of enabling legal provisions (column 2), the enforcement of foreclosure or repossession of source assets (column 5), and ongoing threats to the integrity of transfer of assets to a special purpose vehicle (SPV) (column 6) are in each case based on transactional evidence and appraisals of governing laws.

In most jurisdictions transactional integrity has yet to be fully tested through a complete credit cycle. This would apply even in common-law jurisdictions such as Hong Kong, China; and

Singapore, for example, in relation to new rules permitting the creation of real estate investment trusts—although in each case the probability is small that a completed transaction would be successfully challenged.

currently a problem for transaction originators in Hong Kong, China; Malaysia; and Singapore, given their investment-grade credit ratings.

Where enacted, legislation in civil law jurisdictions usually allows for the creation of SPVs or trusts, which would otherwise generally not be permitted under the provisions of national civil codes. Certain jurisdictions are affected by related issues of law, tax, or financial market rules, rather than pure securitization provisions. This adds to contractual uncertainty and applies in the Philippines, for example.

Securitization transactions also require accepted commercial precepts that are not matters of legal policy, including, for example, a lack of contractual restrictions to the transfer of financial claims. These are common in all the markets reviewed except, generally, Hong Kong, China; and Singapore.

Transactional integrity with covered bond issues has a similar character, but demands that bondholders retain a contractual priority relative to other creditors of the originator. By custom and national regulation, covered transactions always require a clear legal framework. This is currently reinforced by investor demand for covered bonds being predominantly in continental Europe, and the desire of issuers to meet EU rules allowing favorable capital treatment for regulated investors. It is notable that national enabling laws differ in detail and lead to differences in structure between jurisdictions, especially in relation to the banking and administrative functions required within the covered bond issuer (Box 5).

Box 5: **Enabling Legislation and Regulations**

	Years of enactment or proclamation
Cambodia	None
China, People's Rep. of	Major bank sector securitization legislation forthcoming 2007 2-3 trial deals permitted by banking and securities regulators in 2006-07
Hong Kong, China	Generally permissive legal framework, except for future flow transactions
Indonesia	Pre-1997 securitization decrees 2002-03 securities regulator guidelines
Japan	Perfection Law 1998 Asset Liquidation Law 1998/2000 Trust Business Law (Amendment) 2004
Korea, Rep. of	1998 Asset-backed Securities Law 1999 Mortgage-backed Securities Law 2003 Korea Housing Finance Corporation law
Malaysia	Generally permissive legal framework, except for future flow transactions
Philippines	2003 Special Purpose Vehicle Act 2004 Securitization Act (largely untested) Implementing Rules and Regulations (2005) over credit rating requirements and the use of SPVs
Singapore	Generally permissive legal framework, except for future flow transactions
Thailand	1997 securitization decree 2003 Asset-backed Securitization Act 2004 Special Purpose Vehicle Act
Viet Nam	None

Source: *Innovations in Securitisation Yearbook 2006* (Kluwer, 2006).

5. Scope for development and multilateral support

National and regional policies should complement commercial trends by supporting institutional improvements; promoting common standards and applying structured finance techniques.³³

If the forms of structured finance described in this chapter are accepted as value-creating, what might advance their use in Asia, and what limits their use now? Initiatives in regional or national public policy are better sustained when they complement rather than displace commercial activity. Support for securitization as a financial development tool could then follow two streams: (i) to apply financial innovation to human resource capital and development in local communities, and (ii) to encourage financial development with assistance to meet international standards of practice. If a more robust Asian securitization market ensues, it is likely to have secondary gains in terms of regional financial harmonization and greater financial integration if cross-border investment is more open.

Continued support is needed to improve property rights and mechanisms for their deployment in fundraising, financial information, and contractual and regulatory enforcement.

Previous sections have shown how successful transactions depend on a framework of law and regulation. It is clear that while this may not exist to the optimal extent in Asia, considerable national efforts have been made in the past decade to create generally

³³ In September 2006, the ADB launched a USD10 billion Asian Currency Note Programme that will serve as the first regional platform dedicated to issuances of bonds in regional currencies. The Programme is Asia's first multi-currency bond platform since the 1997/98 Asian financial crisis that links the domestic capital markets of Singapore and Hong Kong, China; and later Malaysia and Thailand. Under the Programme, Asian currency bonds are issued in their domestic markets under a single unified framework with a common set of documents governed by English Commonwealth law. The Programme was established through the close cooperation with, and support of, regulators from Hong Kong, China; Malaysia; Singapore; and Thailand. It allows a leading issuer (for example, ADB) to launch a larger bond issue by tapping several Asian financial markets simultaneously under a single unified framework. The single structure not only provides significant savings in terms of legal and transaction costs, but allows issuers to tap into regional markets as and when market opportunities arise without the need to seek new approvals for each and every issue. The Programme is structured to accommodate other markets in the region as and when the terms are approved by regulators.

favorable settings. It is less clear that attention has focused sufficiently on the removal of impediments to domestic and cross-border investment in securitized transactions. In this context, it is especially important to support continued improvement of property rights and mechanisms to support their use as well as the legal and judicial systems necessary for effective contract enforcement.³⁴

In addition to institutional improvement, the promotion of common standards can both support securitization and provide incentives for improved intermediary practice, especially in data collection, documentation, and credit risk appraisal.

Transaction costs and expenses have clearly prevented an increase in new issues of the kind anticipated by the commercial sector. Without adequate or acceptable pool data, the economics of any feasible transaction or program will be problematic. Credit rating practices and transaction modeling depend less upon asset or cash flow quality than on credit enhancement and data history and integrity.

This may be something an external actor could help improve, especially in supporting implementation of international regulatory best practices, development of financial information infrastructure—such as accounting standards, systems and expertise—and supervisory expertise sufficient to support such practices, especially in the context of Basel II Pillars 2 and 3.

Successful securitization programs can lead to a migration among source asset originators to common standards for facility appraisal, documentation, and enforcement. What may follow is an underlying improvement in industry practice that has no negative impact on borrowers but may widen their access to funding, while at the same time improving risk assessment and management, thereby supporting both financial stability and financial development.

³⁴ For detailed discussion, see Douglas Arner, *Financial Stability, Economic Growth and the Role of Law* (Cambridge University Press, 2007).

This has been seen among long-established markets in Germany, the US, and elsewhere, and other markets with less history in structured finance, notably in Hong Kong, China, where competition in the past decade in the market for residential mortgage loans has led to a startling reduction in net loan margins. Such gains for borrowers are due in part to the creation of the HKMC, which refinances commercial housing loans and has induced the general improvement and standardization of primary loan documentation and credit appraisal—as loan originators must meet pre-advised requirements to secure credit insurance or loan sales. In due course this will assist in the diversification of investor classes, which also allows for cost-effective securitization.

It is crucial for governments and the financial industry across the region to support standardization of credit assessment and documentation.

One immediate measure that can and should merit support is the standardization of credit assessment and documentation. This can be done through industry initiatives. But in many cases, industry initiatives require support and incentives from official sources and regulations, especially in the context of internal control system requirements as envisaged via Basel II Pillar 2, and the financial information requirements using International Financial Reporting Standards.

To encourage securitization in Asia, the ensuing credit risk transfer must ensure that banking risk assets are not “lost” to national regulators on a far greater scale than elsewhere. This requires an effort to promote best practices and compliance through the adoption of Basel II Pillars 2 and 3, as well as creating appropriate standards for accountable capital mobility.

Specific new initiatives to encourage the use of securitization include (i) supporting refunding through microfinance, (ii) providing credit support and refunding for long-term bank student loans and human resource development, and (iii) securitization of infrastructural risk.

- ***Securitization may provide a commercial funding route to established microfinance intermediaries, which with freer access to funding may in turn extend their lending to small-scale borrowers.³⁵***

Structural assistance with refinancing for Asian microfinance providers would require a contingent commitment of new capital and resources to help standardize credit appraisal and loan execution. In this context, commercial lenders in many Asian economies are unfamiliar with lending to “nontraditional” borrowers such as microfinance intermediaries.

Thus, standardization of processes and external credit enhancement mechanisms—as well as appropriate regulatory guidance—could link the financing needs of microfinance intermediaries with sources available in the commercial banking sector, which is currently underleveraged in most Asian financial systems.

³⁵ Structured funding for established microfinance providers is conceptually new and modest in scale, but has been shown to be feasible by a small number of similar transactions for lenders in South Asia, Latin America, and Eastern European transition states. In some cases, funding has been arranged or supported by nonprofit, nongovernmental organizations, or public developmental intermediaries such as the Netherlands Development Finance Company (FMO) or German federal government KfW Entwicklungsbank (KfW development bank). Both of these intermediaries provided credit enhancement through partial guarantees of a 2006 pass-through loan sale program for the Bangladesh Rural Advancement Committee (BRAC), an established Bangladesh microlender. BRAC’s first tranche of short-term notes received internal credit enhancement through over-collateralization, with notes carrying pool claims of 150% their nominal value. Program issuance may eventually reach BDT12.6 billion (USD183 million), with notes expected to be issued twice annually. The most sophisticated transaction disclosed to date to securitize microfinance claims may be a USD106 million 2006 CLO for Blue Orchid Finance, a specialist lender to microfinance intermediaries, which comprises two tranches with average period of up to 5 years and that uses a pool of loans to microfinance providers in 13 different states. But unlike the BRAC program, investors in this transaction obtain claims against intermediaries, rather than any ultimate borrowers.

- ***Securitization provides a means for credit enhancement and resources for planning and implementation to assist national student funding schemes.*³⁶**

The aim would be to provide incentives to commercial lenders by means of credit risk support with financial guarantee wraps, and to allow securitization to refinance pools of new student loans. Such an approach would have the benefit of assisting in financing human capital development through education, while also providing additional financing mechanisms for schooling. Loans to students (where available in Asia) tend to be treated as unsecured personal lending and are often made on unfavorable terms. New student loan mechanisms would require incentive structures to encourage repayment, perhaps through changes to insolvency laws or taxation systems. There also may be scope for microfinance providers to engage in student loan financing which could be given by third-party credit and refunding support.

- ***Securitization techniques can help diversify financing for investment in revenue generating infrastructure.***

Traditional project finance has funded most revenue-generating Asian infrastructure, and it is well known that securitization could help engage a wider pool of investors, in some cases as part of privatization schemes. However, projects traditionally not associated with revenue generation may also be assisted more loosely through structured finance techniques, especially when central or provincial government revenue-raising requires greater efficiency.

For example, the securitization of identified future tax receipts may provide a specific funding source for major new projects, while the covered bond concept has well-established applications

³⁶ It is common for commercial or subsidized student loans to be funded or refinanced with structured finance techniques, including securitization. The example best known to the capital markets is SLM Corporation (Sallie Mae), a former government agency that is one of a number of specialist US intermediaries providing student loans with public sector support. Sallie Mae, its affiliates, and similar organizations obtain commercial funding through a variety of financing structures, including substantial student loan ABS issues and programs, and issues have been made in all major markets. Student loans have been packaged and sold as pools on more modest scales by banks and agencies elsewhere, including Korea. Separately, a number of universities in North America and Europe have borrowed in the commercial markets using as collateral forward sales of revenue, for example from student tuition and accommodation fees.

in the refinancing by specialist intermediaries of public sector claims. The result may be gains in the timing of public payments and assistance.

In these three cases, the aims are simple and involve sparking transaction programs that the commercial finance sector is unable or unwilling to create without institutional or external assistance.

Box 6. Role of ADB in Supporting Securitization in Asia and the Pacific—the Example of Kazakhstan

In 2006, the Asian Development Bank (ADB) provided credit support in a notable USD200 million future-flow securitized transaction in Kazakhstan.

The issue is backed by “diversified payment rights” (DPRs)—future foreign currency receivables originated by JSC Alliance Bank (ALB), Kazakhstan’s fourth largest commercial bank. The issuance consisted of two equal tranches of notes—USD100 million guaranteed by ADB (principal and interest) and USD100 million of unguaranteed notes. The DPRs are generated by ALB acting upon foreign currency payment orders, arising from several commercial transactions. These include exports of goods or services, foreign direct investments, overseas transportation receipts, and foreign worker remittances.

ADB’s main transaction objective is to assist in the growth of Kazakhstan’s securitization market. Although this is not the first DPR securitization of its kind, the number of issues have been limited thus far. The transaction will also educate investors and borrowers on this financing technique in other Central Asian countries. As DPR securitization has not been available in most of Asia, it may create a model for

other Asian originators, especially those affected by sub-investment grade sovereign foreign currency credit ratings, allowing access to the major currency capital markets. ADB expects that the technique can be replicated in Indonesia, Pakistan, and Philippines, for example.

A second objective of the transaction is to provide increased financing to small and medium enterprises (SMEs) by helping the DPR originator, in this case ALB, increase its credit availability to SMEs in Kazakhstan. This is line with the national government’s efforts to diversify sources of growth in the Kazakh economy, especially from extractive industries. Increased lending by banks to SMEs also improves the multiplier effects of the DPR flows and helps reduce poverty.

About the Asian Development Bank

ADB, based in Manila, is dedicated to reducing poverty in the Asia and Pacific region through pro-poor sustainable economic growth, social development, and good governance. Established in 1966, it is owned by 67 members—48 from the region. In 2006, it approved loans and grants for projects totaling \$8.5 billion, and technical assistance amounting to almost \$242 million.