## ASEAN+3 Bond Market Forum (ABMF) – eXtensible Business Reporting Language (XBRL)
### Joint Workshop on Data Exchange

**Venue:** Auditorium Zone B-D

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<td>Registration</td>
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<td>09:00 – 09:10</td>
<td>Welcome remarks by ADB</td>
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<td>09:10 – 9:50</td>
<td>Session 1: Global Trends in data management: how big data can transform the society by Mr. John Turner, CEO, XBRL International</td>
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<td>9:50 – 10:10</td>
<td>Session 2: Trends in Asia by Mr. Yoshiaki Wada, NTT Data, XBRL</td>
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<td>Session 3: Case Studies 1 Update from US, FDIC, Mr. Mark Motoya (Video participation)</td>
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<td>Session 4: Importance of standardization for efficient data exchange by Mr. Satoru Yamadera, ADB</td>
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<td>Session 5: Role of XBRL International in standardization by XBRL International, Mr. John Turner, CEO, XBRL International</td>
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<td>Session 6: Special Session - EXTRACTING CHARACTERISTIC OF BANKRUPT FIRMS BY TEXT MINING &amp; FURTHER RESEARCH USING XBRL, Cindy Yoshiko Shirata, MBA, Ph.D., Researcher of Hosei University, Member of Education Committee XBRL Japan, Council Chairman, the Road Tax Rating Council of Tokyo Regional Taxation Bureau</td>
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<td>12:15 – 13:30</td>
<td>Lunch (EDR Coffee Lounge, 2nd Floor)</td>
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<td>Session 7: Case Studies (20minutes × 4)</td>
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<td>13:30 – 13:50</td>
<td>Case study 1: Bank of England, Mr. Beju Shah (Video participation)</td>
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<td>Case study 2: Ana Credit, BR-AG, Mr. Michal Piechocki (Video participation)</td>
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<td>14:10 – 14:30</td>
<td>Case Study 3: Reserve Bank of India, Mr. Kumar</td>
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<td>14:30 – 14:50</td>
<td>Case Study 4: Indonesia Stock Exchange, Mr. Ronny Djojomartono</td>
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| 15:25 – 16:45 | Panel Discussion: How to create enabling environment for more efficient data exchange  
|               | Mr. John Turner, Prof. Cindy Shirata, Mr. Lim Kok Eng, Mr. Ronny Djojomartono, Mr. K. Pernendu, Mr. S. Yamadera (moderator), Mr. Yoshiaki Wada (co-moderator)  
|               | - Experiences of various markets for successful new standard implementation  
|               | - Role of regulators and private sector  
|               | - Challenges and prospects in Asia                                       |
| 16:45 – 17:00 | Closing by ADB                                                          |
SESSION 1
BIG DATA
BIG CHANGES

ABMF | XBRL INTERNATIONAL WORKSHOP

JOHN TURNER
CEO
13 OCTOBER 2017

OVER THE HORIZON
Our purpose is to improve the accountability and transparency of business performance globally, by providing the open data exchange standard for business reporting.

Our standards are freely licensed. We operate in the public interest as a not-for-profit global consortium.

https://www.xbrl.org

1. BIG DATA, FINANCE & REGULATION
Does this mean?
Or this?

TO COMPLETE YOUR REGISTRATION, PLEASE TELL US WHETHER OR NOT THIS IMAGE CONTAINS A STOP SIGN:

NO  YES

ANSWER QUICKLY—OUR SELF-DRIVING CAR IS ALMOST AT THE INTERSECTION.

SO MUCH OF "AI" IS JUST FIGURING OUT WAYS TO OFFLOAD WORK ONTO RANDOM STRANGERS.

Perhaps it's this?

+  =  

Augmented Age
Algorithmic Co-Design

- Lightweight
- Very specific strength needs
- Millions of prototypes
- Testing against requirements

Source: Autodesk, Airbus & Wired Magazine

This is not a new idea

- We aren’t good at scale
- We aren’t good at routine
- We aren’t good at all the details
- We ARE great at creativity
- We ARE great at pattern identification
- We ARE great at combining disciplines

JCR Licklider coined the term “Augmented Intellect” in 1960 which might be a much more comforting definition of AI.
We aren't there yet!

• Finance, generally, suffers from massive legacy data management issues, as well as cyber risks and privacy risks that are far higher than for many other sectors.

• First generation AI is largely where we are today.
Big Data and Finance?

Customer

Scoring

Avoid  Cross Sell  Up Sell  Segment

Big Data and Finance?

Trade

Backtest

Identify  Arbitrage  Lower Risk  Lower Cost
All too often
Outsource?

Regtech Big Data

- “Clean slate” technology stacks
- Typically cloud access/SaaS model
- Pool certain data
- Some examples:
  - Real time examination of text messages and email to identify possible collusion/manipulation.
  - Alert system based on text analytics of global enforcement actions.
  - Real time analysis of trade finance documentation for AML risks.

However

- True integration often requires significant re-work for financial institution.
- Full benefits of big data will only come about through breaking down silos.
- Privacy and cyber issues are uppermost in management’s risk analysis.
- “Walled Gardens” don’t provide the cost efficiencies of standards.
- Standardisation + RegTech AI + Big Data “Lakes” are perhaps a more logical medium term outcome.
BIG DATA INSIDE THE ENTERPRISE

Regulatory Reporting

Regulated Entities:
- Diverse Systems
- Geographically dispersed
- Different levels of business complexity
- Different levels of IT sophistication
- Different sizes
- Different languages
- Different approaches
- Different business lines

Regulator

XBR-L Provides:
- Consistent definitions.
- Built-in basic validation.
- Pervasive advanced validation rules run prior to submission and on submission.
- Multi-lingual support.
- Multi-dimensional reporting.
- Human and Machine readable.
- System to system
Enterprise Reporting

Meanwhile, in China...
The Problem

Taxonomy-driven Big Data Analytics

Why not have the taxonomy, owned by users, manage the near-real time aggregation process?
A Data Lake

Data Standards to Organise The Lake
Management Information

- Pull data from 20+ source systems in near real time.
- Rapid identification of attempted fraud.
- Analytics on sales, expenditure, logistics, risk and profit now available.
- Finance owns taxonomy – but system breaks down silo habits.

Breaking Down Silos
Key findings

- Single definitions in a taxonomy mean there isn’t a requirement to have a single software platform in the enterprise. It’s system independent.
- Control data quality for better information and analytics.
- Taxonomies provide high quality definitions owned by the business across the business.
- Big data provides ability to conduct real-time analysis to support management decisions.

Big Data...

- Provides extraordinary insight
- Requires huge quantities of data across the organisation (or economy)
- Requires organising principles – standards – to scale.
- Requires collaboration across silos
- Is the foundation for much of the digital age.
What will Augmented Insight Mean?

• Identifying need for commercial finance before management does?

• Regulatory algorithms to identify new kinds of anomalies?

• Continuous monitoring of individual trades, with alerts that work hand in hand with regulators?

• Your imagination is better than mine!
The great news!

- These ideas are passing around the world at an extraordinary pace.
- Asia likely has significant advantages in applying these new technologies.
- Open source software, tough competition amongst vendors and cheap computing power means that the cost is largely in innovation, leadership and organisational change, not technology.

Join Us

Don’t miss Data Amplified 2017 for presentations, demonstrations, discussion and debate on the future of XBRL, the Business Reporting Standard.
• Questions?

Our purpose is to improve the accountability and transparency of business performance globally, by providing the open data exchange standard for business reporting. Our standards are freely licensed. We operate in the public interest as a not-for-profit global consortium.

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SESSION 2
XBRL and Recent Data Trends in Asia and the World

October 13th 2017

Yoshiaki Wada, NTT DATA SYSTEM TECHNOLOGIES & Chair for XBRL Asia Round Table

Today’s Topics

• Some Back Ground Story
• XBRL in Asia
• XBRL in Data Supply Chain
• New Trend in XBRL and Data Technologies
• Toward the Future
Some Background Story

3 Important Keywords

- Fintech
- Regtech
- Robotics

How these factors are related?

- Customers/Counterparties
- Financial Institutions/C
- Regulators

How to harmonize and make efficient Business and Regulatory Framework?
Important point is... Good Example of Regtech Approach “Standardization” of “Information”

ISO20022(XML) as Messaging

XBRL as Reporting

XBRL members in Asia and Middle East

5 Jurisdictions and 14 Direct Members

ACRA: Accounting and Corporate Regulatory Authority
ARDF: Accounting Research and Development Foundation
BI: Bank Indonesia
IDX: Indonesia Stock Exchange
SSM: Companies Commission of Malaysia
SCM: Securities Commission of Malaysia

In addition to above, other ASEAN countries including Thailand, Philippines are also planning to implement XBRL.
Major Information Supply Chain and XBRL

New Trend in XBRL

Changes in Data Demand
Major Events Affected Regulatory Framework

- Diversification and Volume Increase of Data
- Financial Crisis
- Accounting Scandals

Stage of XBRL/XML
- 1998~early 2000: Stage I of XBRL/XML
- Early = Middle 2000: Stage II
- Late 2000~Early 2010: Stage III
- Middle of 2010~

Changes in Data Demand

In terms of...
- Data Granularity
- Reporting/Sampling Frequency
- Data Type
- Data Traceability

Increasing Data Volume & Complexity

Increasing variety of Reports
New Challenges in Information Supply Chain and XBRL Reporting

- Regulatory Policy
- Financial Regulator
- Society
- Data Link
- Financial Institutions
- ESG Data Disclosure
- Loan
- Tax Agency
- Disclosure Agency
- Disclosure
- Information Platform
- Investor - Analyst
- Investment
- In-house Reporting
- Reporting Entity
- Filing
- Tax Investigation
- Transaction Data Monitoring
- Reporting
- Statistics
- Feed-back
- Information (XBRL)
- Information (Non-XBRL)

New Challenges (1)

- Financial/Non-financial Institutions
  - Fundamental Aspect
    - Traditional Business Report (i.e. B/S, P/L)
    - Risk Profile Report
    - Transaction Report
    - Enterprise business report
  - Operational/Business Aspect
    - Technically challenging area
  - Non-Financial Aspect
    - CSR Report
    - ESG Report
    - Still manually prepared but manageable
Technical Case Study (2) Filing Side

Non-financial/Non-numeric Information

New possibility of XBRL for Non-numeric/Non-financial Information is emerging

Such as ESG reporting

E : Environment
S : Social
G : Governance

Financial Report
Integrated Report
Case in Japan----Environment Report in XBRL(1)

The world’s first initiative that has succeeded in the acquisition and analysis of the environmental information as well as in direct communication at a practical level.

Case in Japan----Environment Report in XBRL(2)

The kickoff event of FY2017 was held on August 29 in Tokyo. Over 600 people attended the event.
Case in Japan---Environment Report in XBRL(3)

Not only Japanese participants, but also overseas organizations such as global investors, CDP, IIRC are participating.

Toward the Future

Beyond Data Supply Chain
Before ending, I have one question:

What do you think is the most difficult factor to measure/visualize?

Among ESG, I think it is “S”, the social factor.

And, my another interest is deeply related to Social Chain.
Thank you for your attention!

And, again, Great Thanks!
SESSION 3
FDIC and XBRL

Mark Montoya
Chief, Data Strategy
Division of Insurance and Research
FDIC

Outline

• Background on the FDIC’s XBRL project
• Key parts of the XBRL system
• Data validation
• Reportability rules
• Current status
• Future thoughts
Background on the FDIC’s XBRL Project

- The Federal Financial Institutions Examination Council (FFIEC) Central Data Repository (CDR)
  - 3 U.S. federal financial regulatory agencies
  - Reports of Conditions and Income for Banks with Domestic Offices (and Foreign Offices)
  - Also known as the “Call Report”
  - Uniform Bank Performance Report
  - Summary of Deposits Survey

What is the Call Report?

- Structured financial report
  - Balance sheet and income statement
  - Sub schedules
- No report extensions
  - Bank cannot add to additional financial items
- Explicit instructions
  - Defined set of guidance
  - .......Bank and analyst correspondence
Key Parts of the XBRL System

• The Central Data Repository uses XBRL for:
  • Meta data exchange
  • Data collection
  • Data validation
  • Data dissemination

Data Validation

• Data quality checks
  • Validity
  • Quality

• Reportability rules
  • Based on prior and current bank financial and structure information

• Same data validation criteria
  • Vendor software
  • Central Data Repository XBRL system
Reportability Rules

• Meta data driven
  • Analysts can change collection requirements without system or application updates
• Adapt to quarterly financial report changes
  • Analysts can create a single formula for multiple financial reports

Current Status

• XBRL service broker
  • Allows developers to build applications solutions without innate knowledge of the data.
• Examiner Toolkit Suite
  • Shared by U.S. federal and state regulatory agencies
  • Call Reports
  • Uniform Bank Performance Reports (Inline XBRL)
• Summary of Deposits Survey
  • Annual survey of bank deposits
  • XBRL dimensions
Future Thoughts

• AI and Blockchain
  • Next generation of reporting
• Interoperability with other standards
  • How can we converge?
Day 3: Session 4: Importance of standardization for efficient data exchange

Satoru (Tomo) Yamadera
Principal Financial Sector Specialist, ERCD, ADB
ABMF – XBRL International joint workshop on data exchange
Manila, Philippines
13 October 2017

Technological driver of innovation

- **Exponential growth of data, storage, and expansion of network**
  - Cost of exploring and storing information reduced drastically.
  - Existing database and networks becoming obsolete.
- **Advances in network analysis**
  - Customers’ information can be collected from both open and closed sources.
  - Traffic data, relationship, dynamics of network can be monitored and analyzed to understand relationships.
Changes made by IT innovation

• From static to dynamic
  – Classification of data needs to be more flexible as relationship may change
  – Data mining, text mining
• Real time data collection
  – Forecasting to nowcasting
• Human to machine reading
  – High frequent data and fast data processing requires analysis by artificial intelligence.
  – Limitation of human capacity to process data.
  – Human interface is no more necessary but data needs to be machine-readable.

Impact of IT innovations on finance

(Tentative observation)

• More and more physical forms and human processing will be transformed to digital, which can be processed by machines.
• Rapid IT innovations reduces costs of operations of FIs, but it also reduces cost of entry (Internet banking, insurance, and brokers).

(Organized market)
• Closed market (such as stock exchange) to more open market (such as OTC and online brokerage)
• High Frequency Trading by AI.

(Banking)
• Closed network of banking is facing challenges from more open networks such as telecom and other nonbanks.
• Economy of scope in banking model will be eroded.

(Other financial services)
• Financial intermediation and payment may not be a dedicated business for banks. New financial intermediary service will emerge.
• More advanced risk management will be required, thanks to availability of various data.
Steps towards machine-reading

Human interface to machine interface

Human brain to artificial intelligence

From Human to Machine-readable

- URI, XML
- Linked Open Data

From Human to machine reading

- XML
- HTML
- XBRL

– Information with definition

<food>
  <name>Beef steak</name>
  <price>1,000</price>
</food>

<food>
  <name>Kare-Kare</name>
  <price>300</price>
</food>

Source: http://5stardata.info/
Importance of standardization

- Standards are strategic tools that reduce costs by minimizing waste and errors and increasing productivity.

- Standardization help companies to access new markets, level the playing field for developing countries and facilitate free and fare global trade.

Source: ISO website

Standardization will promote IT innovations, and IT innovation requires standardization.

Difficulties without standards
## Financial service related standards created by ISO

- ISO 4217: Codes for the representation of currencies and funds
- ISO 6166: International Securities Numbering System (ISIN)
- ISO 9362: Business identifier code (BIC)
- ISO 9564: Personal Identification Number (PIN)
- ISO 10383: Codes for exchanges and market identification (MIC)
- ISO 10962: Classification of Financial Instruments (CFI code)
- ISO 13616: International bank account number (IBAN)
- ISO 15022: Scheme for messages (Data Field Dictionary)
- ISO 20022: Universal financial industry message scheme
- ISO 17442: Legal Entity Identifier (LEI)
- ISO/IEC 27000-series: Information security management systems
- ISO/IEC 7810: Identification cards
- ISO/IEC 7816: Smart card
- ISO/IEC 14443: Contactless integrated circuit cards

## Why standards are becoming more important?

- Increase in cross-border transactions
  - Standards to reduce entry barriers.
  - Network externality: the larger, the better.
- De-facto vs de-jure standards
  - Survival through competition may take time.
- Shifts in use, scope, and influence of standards from hardware to software
  - Standardization may affect business model, policies and social activities.
- Involvement of the public authorities
  - Standards can be incorporated in regulations
- Changes in intellectual property management
  - Close and open IP management
  - Free and sharing economy
Heterogeneous Asia

- *Hello*
- Magandang umaga po
- Xin chào
- 您(你)好
- สวัสดีครับ
- 你好
- Selamat siang
- こんにちは
- 안녕하십니까

Even if you do not understand languages, data exchange is possible by using XML. But you need to define the rule, i.e., taxonomy.

<name>Yamadera, Satoru</name>
<name>ヤマデラ サトル</name>
<name>山寺 智</name>

Garbled texts as a result of miscommunication

- Garbled text is a result of unintended decoding due to difference in encoding system.

- Although data may be available, miscommunication can happen due to lack of proper communication rule.
- Even the same word may have different meaning.
Why Asia should take part in the standardization process

- Opportunities created by IT innovation need to be shared fairly.
- Merits of innovations need to be distributed equally.
- Standards may affect business process and business model.
- Standards may affect business costs.
- Standards may have legal effect.
  - ISO standards may have certain legal effect under WTO Agreement on Technical Barriers to Trade.

Regional approach in Standardization

Asia should engage standard setting more closely
Khob khun Krab
ขอบคุณ ครับ
Thank you
Terima kasih
ありがとうございます
謝謝
WHAT CAN YOU DO WITH THE BUSINESS REPORTING STANDARD?

JOHN TURNER

OUR PURPOSE IS TO IMPROVE THE ACCOUNTABILITY AND TRANSPARENCY OF BUSINESS PERFORMANCE GLOBALLY, BY PROVIDING THE OPEN DATA EXCHANGE STANDARD FOR BUSINESS REPORTING.

OUR STANDARDS ARE FREELY LICENSED. WE OPERATE IN THE PUBLIC INTEREST AS A NOT-FOR-PROFIT GLOBAL CONSORTIUM.

https://www.xbrl.org
WHAT IS THE BUSINESS REPORTING STANDARD?

A Barcode
A barcode for reporting finances...

USD1,000,000

A Barcode for reporting text....

Citigroup Inc. (Citigroup and, together with its subsidiaries, the Company) is a diversified global financial services holding company whose businesses provide a broad range of financial services to consumer and corporate...
A Barcode with clear definitions

- Dividends Paid
- Monetary
- Credit Item
- IAS7 Paragraph 31

A Barcode with multi-lingual definitions

- Dividends Paid
- Dividendas Pagados
- 支付的股息
- أرباح الأسهم المدفوعة
- Dividenden gezahlt
A Barcode with relationships to other barcodes

A Barcode with extra barcodes
A Barcode with business rules

9788679912077 + 9788679912077 = 9788679912077

XBRL?

NO THANKS!
STRUCTURED DATA AND EXECUTABLE BUSINESS RULES?

YES!!

SPECIFICATIONS

DICTIONARIES

REPORTS
IMPORTANTLY!
FUNDAMENTALLY

CLEAR DEFINITIONS BUILT INTO TAXONOMIES + PUBLIC BUSINESS RULES BUILT INTO TAXONOMIES + MULTIDIMENSIONAL DEFINITIONS AND TRANSPORT

EXTENSIBILITY

STANDARDS vs NIHS

Nahhh...I don't think it will work. Let's do something different...something smarter...something cooler!
XBRL IS NOT XML... OR EXCEL!

WHAT DOES THE BUSINESS REPORTING STANDARD PROVIDE?
Originally XBRL allowed

- The creation of reporting definitions in a dictionary.
- The provision of disclosure labels in multiple languages.
- The creation of reports (like financial statements) using those definitions.
- The strict and automatic validation of those reports against those definitions.

Change labels....
• The ability to also define dimensions, or categories that reporting terms need to be reported against.
• The ability to create formula, or business rules that allow the creation of complex validation rules and derived fact creation.

\[ \frac{\sum(x_1 \ldots x_n)}{y} > 1.5 \]
Accrual Items used in Investing/Financing Cash flow Reconciliation

This rule tests whether a presentation child element of IncomeStatementAbstract and StatementOfStockholdersEquityAbstract from the US-GAAP taxonomy is used as a child of any of the following elements in the company’s calculation linkbase:

1. NetCashProvidedByUsedInInvestingActivities
2. NetCashProvidedByUsedInFinancingActivities
3. NetCashProvidedByUsedInInvestingActivitiesContinuingOperations
4. NetCashProvidedByUsedInFinancingActivitiesContinuingOperations

International definitions

IFRS Foundation publishes illustrative tagging for IFRS 17 Insurance Contracts
And then we added...

- **Smart Disclosures**, or Inline XBRL

So then we added...

- **Smart Templates**, or the Table Linkbase
And now we are working on…

- Modernisation
- Simplification
- Additional formats
- Comparability
- Making XBRL highly Fintech/Regtech friendly…

WHAT CAN YOU USE IT FOR?
Securities Regulation & Exchanges

INFORMING MARKETS

Financial Regulators

FINANCIAL STABILITY & SOUNDNESS
Business Registrars

Creating Trust

Corporations Tax

Enhanced Analytics/Depth of Insight
Standardised Business Reporting

Cut Red Tape

Non Financial Reporting

Discovery & Comparability
SME Bank Lending

Improve Capital Position

Enterprise Reporting

New Insights Break Silos
What’s next?

Your Project Here

KEY POINTS

• Flexible Framework
• Purpose Built for Reporting of All Kinds
• Supported by International Not-For-Profit Standards Organisation
• Proven in ~140 projects worldwide
• Substantial ecosystem
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SESSION 6
EXTRACTING CHARACTERISTIC OF BANKRUPT FIRMS BY TEXT MINING & FURTHER RESEARCH USING XBRL

Cindy Yoshiko Shirata, XBRL Japan, Education Committee
Ex-Secretary General, Science Council of Asia
Hironori Takeuchi, IBM Japan
Shiho Ogino, IBM Japan
Hideo Watanabe, IBM Japan

Contents

1. Backgrounds
2. Purpose of This Study
3. Previous Literatures and New type of Research
4. Empirical Analysis by Text Mining
5. Summary and Conclusion
BACKGROUND

XBRL can support our traditional research with quantity-base analysis, but also can assist our new type quality-base research, too.

E.g. Text-Mining with AI Technology

New type of research!!

Purpose of This Study

Remote Cause
- Failure of Management Strategy
  - Failure of Investments
  - Bad Risk Management
  - Poor Management

External Factors
- Delay of technology/new market needs
- Diversification Failure
- Bad Stock Control
- Competing with foreign-made products/big companies
- Industry slump

Proximate Cause
- Poor sales / Slump in export
- Bankruptcy

Discover hidden factors

External Factors
- Exchange rate
- Stock Price

Failure of Financing
- External Factors
- Exchange rate
- Stock Price

In Court
- Court

Out of Court
- Out of Court
Background: New Presentation from 2011

Balance Sheet
- Current Assets
- Long-term Assets
- Current Liabilities
- Long-term Liabilities
- Owners’ Equity

Statement of Financial Positions
- Operating Assets
- Operating Liabilities
- Investment Assets
- Investment Liabilities
- Financing Assets
- Financing Liabilities
- Disposal Business
- Equity

No more Liquidity Ratio, ROA and so on.

Previous Literatures using TEXT Mining Technique(1)
- Analyzed the President Letters/Chairman’s Statements to shareholders to examined a range of textual characteristics of letters/statements.
- Analyzed Financial Reports in order to see whether the textual part of the report contains some indication of future financial performance.
- Studied the effect of messages posted on Yahoo! Finance and Raging Bull
  - Antweiler and Frank (2004)
- Studied the effect of messages written by security analysts, headlines in newspapers, and messages from financial information companies
  - Takahashi et al. (2006)
Previous Literatures using TEXT Mining Technique(2)

[Shirata & Sakagami 2006]

- Analyzed text data of Annual Reports of 21 Japanese bankrupt companies and 24 Japanese non-bankrupt companies
- They extracted key words to discriminate between two groups by using MORPHOLOGICALLY ANALYSIS.
- They found that the Dividend Section of the Japan annual report showed the peculiar explanation to show their financial position. Observation of the results of their analysis reveals that such terms as “dividends,” and “retained earnings” are among the terms with prominent differences in appearance frequencies between the two groups.

Sample Data

Bankrupt Companies: 90 listed firms
- Bankrupt during 1999-2005 in Japan
- Two years financial reports are available before bankrupt

Non-bankrupt Companies: 90 listed firms were extracted:
1. A bankruptcy prediction analysis was performed on all listed corporations using the SAF2002 model
2. SAF values were ranked from the highest to the lowest, and systematic extraction were performed at equal intervals
TOOL
IBM OminiFind Analytic Edition (OAE)

1. Extract Key Words (from [Shirata & Sakagami 2006])
   - Dividend
   - Retained Earnings

2. Analyze by Conditional Probability Method

Conditional Probability Method

“As for retained earnings this year, we are planning to use it for effective investment for future business development.”

- retained earnings ...future...
- retained earnings....business expansion
- retained earnings... effective investment
Combination with “Dividend”

| Non-bankrupt companies | interim dividend, year-end dividend, including, [number of shares], basic strategy, add up, [amount in Yen], consider, decide, stockholder, turnover, additional, increasing dividend, based on, retained earning |

Regret → Excuse

Combination with “Retained Earnings”

| Bankrupt companies | basic, enrich, react, stable, revenue, reimbursement, status |
Summary and Conclusion

☑ Conditional probability technique would be useful to distinguish bankruptcy and non-bankruptcy companies.

☑ Excuses frequently found in Bankrupt companies' report by using “to our regret”. This explanation shows worse financial position.

☑ Appearing "research and development”, “capital investment” and “new business” with "dividend" and “retained earnings” means non-bankrupt firms.

REFERENCE


Current on-going NEW research using Big-Data Analysis (text-mining)

Focusing on:
- Integrated Report
- ESG

Data from Pilot Program
Ministry of Environment JP & NTT Data

Sample Results:
Analyzing co-occurrence of key words
Another New Project using XBRL data

Ratio of Real Property to Total Assets of Japanese Firms are so huge!
And there is a big issue....!!

- IFRS ≠ Japan Standards
- Disclose by Historical Cost (never revaluated)

Land per Total Assets/Real Property to Long-term Assets in Japan unit:%

<table>
<thead>
<tr>
<th>Cap Size(US $)</th>
<th>100K – 200K</th>
<th>200K – 500K</th>
<th>500K – 1M</th>
<th>1M-10M</th>
<th>Over 10M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land to Assets</td>
<td>15.99</td>
<td>15.33</td>
<td>15.04</td>
<td>12.44</td>
<td>8.35</td>
</tr>
<tr>
<td>Real Property to Asset</td>
<td>47.19</td>
<td>44.68</td>
<td>43.75</td>
<td>43.64</td>
<td>61.71</td>
</tr>
</tbody>
</table>

Source: Corporate Statistics Historical data - 01-03/2012
All industry except Banking business

Anyone around the world can check the current value of the lands in Japan.
We can not complete the Qualitative Analysis without XBRL!!
Looking forward to having more government Data by XBRL!!

Thank you!

https://www.researchgate.net/profile/Cindy_Shirata
http://www.rosenka.nta.go.jp/
SESSION 7
Case Study 1
(Via Videocon)
Bank of England update to ADB / ABMF / XART

Disclaimer

This session is presented under Chatham House rules therefore no comments or content should be attributed to the presenter.

The views expressed here are those of the speaker and not necessarily those of the Bank of England.
Introduction

- Head of Data Collection and Publication in Technology
- UK & BoE Representative(s) to the technical committees and working groups for
  - EBA (European Banking Authority)
  - EIOPA (European Insurance & Occupational Pensions Authority)
  - ECB (European Central Bank)
  - ESMA (European Securities and Markets Authority)
  - ISO 20022 Standards Evaluation Group (SEG)
  - LEI Regulatory Oversight Committee (LEI ROC)
- Contact: beju.shah@bankofengland.co.uk

The Bank’s role and responsibilities

- The UK is a major global hub for financial services.
- Our role as a prudential regulator is notable in terms of both
  - the scale of the firms we supervise
  - the complexity of the issues we address
- Prudential supervision of several global financial institutions
  - Four UK GSIBs
  - Two UK GSIIs
  - UK acts as host regulator to all internationally head-quartered G-SIBs
- The UK insurance sector is the largest in Europe and 3rd largest in the world
- The UK banking sector is both large and international. It has the 3rd largest banking sector on a residency basis, with banking assets standing at around <400% of GDP in 2015
Supervision of Banks and Insurers in the UK


Regulatory Technology (RegTech)

- Regulation = ongoing change. It has to be easier, faster and cheaper….. to be sustainable and deliver more value

- Applications of Regulatory Technologies a.k.a. RegTech offers that opportunity

- Regulatory reporting is key domain of RegTech which could be sub-divided into:
  - Trade and transaction
  - Prudential
  - Statistical
  - Risk

- Standardisation of data and technology is key to unlocking the opportunities of RegTech in this domain. Sets a solid foundation.

- XBRL is RegTech. It is that key to make ‘delivery of regulatory requirements more efficiently and effectively than existing capabilities’
RegTech Call for Input - Firms ask for more XBRL!!!

RegTech is a sub-set of FinTech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities.

What RegTech could be introduced?

4.1. The innovative and disruptive potential of the technologies is not limited to the use of online portals and greater use of XBRL (see glossary) for importing through to the use of more complex and more resilient technologies such as artificial intelligence, shared utilities and the cloud.

Integrate, standardise and understand

Technology that fills the gaps by closing the gap between ingestion and interpretation

- Semantic tech and data models
- Technology that converts regulatory text into a programming language.
- Machine learning, AI data allows exponential improvements in data understanding.
- Cloud DBs help improve performance and personalisation requirements and data management.

Shared data ontology

- A formal naming and definition of the types, properties, and interrelationships of entities.
- Sharing common understanding or the structural regulation rationale improves transparency, reduces delay, and helps reduce ambiguity.

Maslow's / Data Hierarchy of Needs – Setting Good Foundations

Most data users start here

Love / belonging / friends / gratification

Security, safety

Food, water, warmth, rest, shelter

Adapted from an article by Linda Powell CDO CFPB
Data Collection Strategy

- 3 year roadmap and investment plan
- Reduction in proprietary formats and Excel
- Stopping multiple formats for same ‘domain’ i.e. Banking data collections currently happen in XBRL, XML, Excel, XML mapped Excel etc.
- Standardising data collection e.g. XBRL, ISO20022 etc. using the right format where appropriate
- A model based / data centric approach
- Adoption of identifiers such as LEI and embedding across all collections
- Plans to consolidation of multiple data collection systems to a single platform
- Plans for centralised collection and management of all data

What have we implemented so far

- Strategic adoption of XBRL for new regulatory reporting
- Strategic adoption of ISO20022 for new reporting for market infrastructures
- UK Banking XBRL Taxonomy
- UK Stress Testing XBRL Taxonomy
- Granular data collection for CCPs using ISO20022
- Strategic investments being finalised for new data collection and XBRL processing platform with procurements in flight or being launched
Case Study: UK Stress Testing

- ~25 templates
- ~130 tables
- > 1000 validation rules (though some are not true validation rules)
- Some tables re-using COREP with additional scenario and time dimensions
- Some tables re-using FINREP with additional scenario and time dimensions
- Majority of tables however are of our own design

Case Study: UK Stress Testing

- Capital and Other Projections
- Balance Sheet and Other Projections
- Material Misconduct Costs and Projections
- Market Risk Stressed P&L
- Counterparty Credit Risk Losses
- Revenues & Costs for Investment Banking Divisions
- Stressed PVA
- Market Risk and CVA RWAs
- Counterparty Credit Risk RWAs
- AFS - FVO Gains and Losses
- AFS RWA
- Traded Risk Reconciliations
- Supplementary Op Risk and Pensions
- Supplementary Pensions
- UK Capital Impact Projections
- Retail Mortgage Data Request
- Retail Excluding Mortgage Data Request
- Retail Credit PQR - UK Secured, Non UK Secured, Unsecured
- Wholesale Data request
- Structured Finance Data request
- Operational Risk Data request
- Material Misconduct Historical
- ALM Liquidity Data request
- Pensions Actuals
Case Study: Stress Testing - Why the need for change

- Inconsistent design and documentation of templates
- Data quality and the data validation process needed to be made more efficient
- 50% of time taken up with quality and validation
- Manual processes
- Firms asked for a taxonomy – we listened
- Firms asked for greater consistency with CRDIV where relevant
- Supports firm BCBS239 implementations
- Tried an XML approach (less said about that the better)

Case Study: UK Stress Testing XBRL taxonomy

- Need for stabilisation of templates, reduce year on year change
- Focus on CORE templates i.e. those that will not change or change that much
- Listened to firms – their preference was to use XBRL
- XBRL has reduced the number of rules by 50% for a given template – and improved data quality by design. Increased automation and standardisation is also helping realise resource efficiencies
- 2017 is a pilot... If pilot is a success, we will switch to XBRL from 2018..... Pilot was a success!! We are going live!!
- Improved data quality and positive response from firms.
Case Study: UK Banking Taxonomy

• Move from Excel to XBRL

• All templates and data point model meta data re-used existing data, template and rule definitions from the EBA CRDIV Taxonomy
  • Capital+ was 90% re-use of templates and dictionary items
  • Financial Forecasts is around 90% re-use of templates and dictionary items

• Software vendor who has ~50% market share of banks and building socs in the UK stood up new reporting in their software in 4 hours

• XBRL quicker for industry to implement. Any other format would have taken longer.

• New reporting requirements to be built into this taxonomy and it will grow in time

• LEI is also key to all new reporting requirements

Case Study: Others

• Retiring FSA001, FSA002, FSA014 and FSA015 reuses 100% of existing EBA templates

• FSB Data Gaps - Firms cited XBRL as saving them 20% effort / cost compared with non-XBRL solutions

• Stress Test firms indicated this supports them in the BCBS239 programmes and may also help them integrate their finance and risk systems.

XML and XBRL may not be the cutting edge of FinTech, but by enabling greater usability and transparency, they are drivers for scale and industry growth from behind the scenes.
Principle 2 and 3 of BCBS239

- **Principle 2:** 33. A bank should establish integrated data taxonomies and architecture across the banking group, which includes information on the characteristics of the data (metadata), as well as use of single identifiers and/or unified naming conventions for data including legal entities, counterparties, customers and accounts.

- **Principle 3:** 37. As a precondition, a bank should have a “dictionary” of the concepts used, such that data is defined consistently across an organisation.

ISO20022 Standard for granular CCP reporting

- Central counterparties (CCPs) are increasing in global systemic importance
- The teams in the Bank responsible for supervising CCPs require consistent, comprehensive, and granular data to inform supervisory work
- Publishing a set of ISO20022 reporting messages to allow CCPs to regularly report data to the Bank in a standardised and automated manner
- The scope of the messages covers the full spectrum of CCP activities
- Each CCP will be required to submit the following set of messages to the Bank on a daily or monthly basis
ISO20022 Standard for granular CCP reporting

<table>
<thead>
<tr>
<th>Report name</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Statement &amp; Capital Adequacy Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Daily Cash Flows Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Investments Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Liquidity Stress Testing Definition Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Liquidity Stress Testing Result Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Available Financial Resources Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Back Testing Definition Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Back Testing Result Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Clearing Member Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Portfolio Stress Testing Definition Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Portfolio Stress Testing Result Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Member Requirements Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Collateral Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Member Obligations Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Account Position Report</td>
<td>Daily</td>
</tr>
<tr>
<td>Cleared Product Report</td>
<td>Daily</td>
</tr>
</tbody>
</table>

- 75% daily reports

- The data collected contains the following information:
  - Financial performance of the CCP and its capital requirements
  - Cash flows and exposures
  - Investment activities
  - Stress testing & Back testing scenarios and results
  - Resources available upon default of a clearing member
  - Identity, status and positions of clearing members
  - Requirements and obligations of clearing members
  - Collateral posted by clearing members
  - Financial instruments cleared by the CCP

- Data collection also adopt the LEI
Challenges with implementing ISO20022 for CCPs

- Breadth, depth and complexity of the data collection requirements
- Excel based templates are different to XML representations
- First time publishing ISO messages and the related process
- Data being loaded on to a new Hadoop based data architecture

What we are working on...

- XBRL Taxonomy releases for:
  - Ring Fencing of Banks
  - Pillar II Liquidity Reporting
  - MREL (Minimum requirements for eligible liabilities and own funds) – Resolution
  - Stress Testing 2018 / 2019
  - UK Insurance
- Granular data
  - Securities statistics
- ISO20022
  - SFTR
  - CSDR
Collaboration is key

- **Stress Testing**
  - Working groups every 6 – 8 weeks for Stress Test firms and their software vendors
  - Industry testing of files to highlight technical issues with files and transmission
  - Some challenges with design of template resulting in the reporting of thousands of sheets and the resulting processing issues
  - Need to get the firms involved in the template design to prevent these issues earlier

- **CCPs**
  - CCPs were involved with the development and review of the messages at all stages including production of sample data with regular dialogue
  - CCPs keen to get involved in the ISO20022 SEG process

Questions
SESSION 7
Case Study 3
Implementation of the XBRL System at RBI

Purnendu Kumar
RESERVE BANK OF INDIA

On-line Data Submission in RBI

- The Reserve Bank of India collects various fixed format data (called 'Returns') from commercial banks, financial institutions, authorised dealers and non-banking financial institutions.
- The On-Line Return Filing System (ORFS) started in 2006.
- Although ORFS helped in many ways, the system has shortcomings:
  - No standardization as far as the data elements are concerned.
  - Repetitive information gets submitted to various departments of RBI, increases data inconsistency.
Why XBRL at RBI?

- XBRL was introduced at RBI to meet the following objectives:
  - To act as an online single point data submission by regulated entities following the international standards of data sharing
  - To ensure uniformity in the data received from banks in a timely manner
  - To disseminate/share the stored complete information (data as well as metadata) with all stakeholders (within/outside the RBI).

XBRL Project Status

- **Phase I of XBRL project** started in May 2008 with 7 returns related to Banking Supervision, Regulation, Foreign Exchange and Financial Statements of the banks
- **Phase II of XBRL project** started in March 2012 with 42 returns related to Banking Supervision, Regulation, Foreign Exchange, Co-operative Bank Supervision and Regulation. Later 48 returns more returns were taken up.
- Out of the 97 returns taken up so far, all are under live/parallel run after UAT sign-off
- The XBRL based submission related to 30 more returns are completed & going to be live soon
- In terms of number of returns – 1/2 under XBRL (out of total 256)
- In terms of elements captured (7000) – more than 2/3 under XBRL
- Hosted at Data Centre, integrated to DW for Analytics
As per the IT Vision document (2011-17) of RBI

- To ensure smooth flow of quality data in a timely manner to the users, it is essential that:
  - Uniform data reporting standards are developed
  - Data flow is automated from the source systems of banks to their MIS server
  - Data is submitted to the Reserve Bank in an automated manner without any manual intervention.
Benefits of XBRL at RBI

- Enables **standardisation of code-masters** across returns/banks/RBI departments
- Provides **comprehensive information on each data element** through availability of core taxonomy
- Enables **rationalisation of returns** to reduce reporting burden of banks. (34 returns of DCBS reduced to 23 returns. Similarly, 85 DBS returns reduced to 72)
- Ensures **data consistency** (within return) through proper validations
- Provides a **Single point of data submission and dissemination**
- Helps in identifying unique data items across returns, common data items across returns, etc. aiding **harmonisation of banking statistics**.

---

Benefits of XBRL at RBI

- Data Analysis with more **granular information** is possible
- Generating **standard and ad-hoc reports** as and when required
- Maximum possible **automation of processes**
- More analysis facilitated since **less data related issues** are expected
- **Ease of incorporating data** for various analytical studies and periodic reports
- **Quicker access of data** to the regulatory and other departments.
Uses of XBRL Data

6 Major systems moved to XBRL are related to Commercial Banks, Co-operative Banks, and Primary Dealers (Financial/ Non-Financial, Text/ Numeric, Accounting Disclosures, Attachment, etc.)

- **Statutory returns** – CRR, SLR, Financial statement, etc of DBR.
- Supervision of Commercial Banks & Financial Institutions (OSMOS) – 32 returns
- Supervision of Urban Co-operative Banks (OSS) – 34 returns
- Supervision of Primary dealers – 6 returns
- **Fraud Reporting** Monitoring System – 7 returns – aggregated data shared with banks
- Central Repositories of Information on Large Credit (CRILC) –
  - aggregated data shared with banks,
  - on-line PAN validation,
  - SMA2 alert, RFA, JLF, etc.
  - Implemented for NBFC also & testing for Insurance
  - Got international award for same.

**Uses of XBRL Data**

- Banking Regulation
- Supervision of Commercial Banks
- Regulation and Supervision of Urban Co-operative banks
- Regulation and Supervision of Primary Dealers
- Regulation and Supervision of Banks and Authorised Dealers related to External Sector
I) Uses of XBRL Data - Banking Regulation

- Compilation of CRR for banks (Form A)
- Compilation of SLR for banks (Form VIII)
- Financial Statement of Banks
- Unclaimed deposits at banks (Form IX)
- Monthly assets and liabilities of domestic operations, estimation of household financial savings (Form X)

II) Uses of XBRL Data - Banking Supervision

- Returns related to Off-Site Monitoring And Surveillance System (OSMOS), which involves the receipt, review and analysis of financial statements and statistical returns.
- The analysis of this information facilitates the monitoring of each bank’s performance and of its observance of supervisory requirements over time, so that emerging problems may be identified
- Returns related to Fraud Monitoring System
- Returns related to Supervision of Financial Institutions
III) Uses of XBRL Data - OSMOS

OSMOS returns include
- Asset Liability Exposure
- Report on Capital Adequacy – Basel III
- Report on quality Operating Results
- Report on Large Credit
- Report on Connected Lending
- Report on Ownership and Control
- Interest Rate Sensitivity (Rupee & Forex)
- Report on Subsidiaries (Indian Operation)
- Statement of Structural Liquidity
- Problem Credit and Investments
- Return on Profitability
- Report on Fraud
- Consolidated Prudential Report
- Balance Sheet Analysis
- Short Term Dynamic Liquidity
- Risk Based Supervision

Department of Statistics and Information Management, Reserve Bank of India

IV) Uses of XBRL Data - CRILC

The Central Repository of Information on Large Credits (CRILC) has been created within RBI to collect, store and disseminate data on all borrowers' credit exposures including Special Mention Accounts (SMA 0, 1 & 2) having aggregate fund-based and non-fund based exposure of Rs.50 million and above.

- The repository is expected to help in track and review exposures/impairment of such large borrowers more effectively across banking institutions and also NBFCs so that timely remedial measures can be taken.
- SMA2 alert is generated in near real-time
- The same is being implemented for NBFC & Insurance companies, as advised by FSDC

Department of Statistics and Information Management, Reserve Bank of India
The following 3 reports are displayed in the CRILC Module and have been made available to banks:

- Bank’s exposure to a borrower
- SMA-2 borrowers during a period
- Status of Classification of a Borrower
  - All instances of SMA-2 classification of the specified borrower by different banks
  - The Asset classification as reported by different banks based on latest 2 quarterly filings of CRILC return

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Interfacing with NSDL

- Developed functionality for NSDL verification of PAN numbers
- PAN details not present in existing PAN Master are added by banks through this module
- The PANs uploaded by banks are then verified with NSDL twice on daily basis
- If the PAN is correct as per NSDL, it is inserted in the PAN Master else it is rejected
- In both the cases, an email is sent to concerned bank which uploaded the PAN, In case of rejected PAN, the correct name as per NSDL is also provided in the email

Features available in PAN Module

- Interface for adding PAN details/Downloading Master
- Bulk PAN Upload Screen - for uploading multiple PANs together
- Facility for banks to add borrower details and request PAN if borrower PAN is not available
- Facility for RBI to approve/reject unique PANs - for PAN pertaining to foreign entities/regulatory bodies
CRILC - Group Module

- Group details are also captured in CRILC Reports wherein individual borrowers are associated with groups
- Banks upload group details through the Group module and the mapping is approved by RBI

Features available in Group Module

- Interface for adding Group details
- Download Master Facility
- Bulk Group Upload Screen - for uploading multiple Groups together
- Facility for RBI to approve/reject unique PAN mapping to groups
  - In case of approval of PAN mapping to groups, the records are added to Group Master

Recent Changes - CRILC system is improved by making provisions for on-line capturing/reporting, on-going basis, of – (i) changed/latest status of SMA-2 borrowers, (ii) changed/latest status of non-cooperative borrowers, (iii) changed/latest status of red flagged accounts (RFA), and (iv) progress of JLFs constituted.

V) Uses of XBRL Data – Central Fraud Registry

- CFR displays frauds declared by the commercial banks involving amounts of Rs. 1 lakh and above, as soon as it is reported by the banks.
- CFR has options enabling banks to view data (a) Date wise / Date range wise and (b) entity wise for their MIS purposes.
- The data displayed are based on input criteria to be given by the user.
  - Reported Date (Date from / Date to)
  - Name of Perpetrator
- combined with an option for the amount involved as given below:
  - All frauds
  - Rs. 1 lakh to less than Rs. 50 lakh
  - Rs. 50 lakh and above.
VI) Uses of XBRL Data – **Regulation and Supervision of UCBs**

- Compilation of CRR for banks (Form A)
- Compilation of SLR for banks (Form VIII)
- Financial Statement of Banks
- Unclaimed deposits at banks (Form IX)
- Monthly assets and liabilities of domestic operations, estimation of household financial savings (Form X)
- OSMOS
- Inspection of UCBs

VII) Uses of XBRL Data – **Regulation and Supervision of PDs**

- Statement on Sources and Application of Funds
- Statement on Securities Market Turnover
- Statement on Capital Adequacy
- Statement on Select Financial and Balance Sheet Indicators
- Stress Test
- Interest Rate Sensitivity Test
VIII) Uses of XBRL Data – External Sector

- Statement showing the details of remittances effected towards import
- Money Transfer Service Scheme Return
- Consolidated information relating to exposures of corporates in foreign currency
- Remittances under Rupee Drawing Arrangements
- Market value of FVCI
- Monitoring of disinvestments by Overseas Corporate Bodies
- Import of gold by EOUs, units in SEZ/EPZ and nominated agencies
- Statement on guarantees letter of undertaking letter of comfort issued by authorised dealer bank
- Non-resident deposits comprehensive single return on NR/FCNR deposits and their transactions in a month

IX) Uses of XBRL Data – Recent additions

- Under phase III, 6 major systems are related to banks & NBFC are being added
  - Regulation & supervision of NBFC – 16 returns + Regulatory approval process
  - Monitoring Payment system – 9 returns
  - Financial Market – 9 returns
  - Monetary policy – 6 returns
  - Currency Management – 5 returns
  - Risk based supervision & Returns related to Liquidity coverage - 12
Survey of Banks on XBRL Implementation

Recently, the Reserve Bank conducted a survey on the benefits of XBRL implementation. Following are the highlights:

- **Increase in the efficiency of the overall system – 96%**
  - To great extent-45%,
  - To a certain extent- 51%

- **Increase in the effectiveness of business decision making – 83%**
  - To great extent- 19%,
  - To a certain extent- 64%

- **Aid in research and analysis – 79%**
  - To great extent- 19%,
  - To a certain extent- 60%

- **Reduction of errors in data reporting – 96%**
  - To great extent- 58%,
  - To a certain extent- 38%

- **Facilitation of audit and reviews – 99%**
  - To great extent- 50%,
  - To a certain extent- 49%

---

**Going Forward!**

ADF Server - Storage of elements

Submission through XBRL system

Storage and report generation

Dissemination to users
**Going Forward!**

- Banks are going to generate the data through ADF and seamlessly report through XBRL.
- Taxonomies will be used as a guide for specifying and communicating the data reporting formats in a standard manner.
- Creation of metadata from the taxonomy
- Migrate from ‘Return based reporting’ to ‘Element based reporting’.
- Bring remaining returns, related to Monetary policy, External Sector, Financial Inclusion, NBFC, Payment System, Financial Market, Currency Management, etc. under XBRL
- Conduct regular consultations with all stakeholders to facilitate the process.

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**Thanks!**

purnenduk@rbi.org.in
SESSION 7
Case Study 4
## XBRL Implementation Milestones

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Released first version of IDX Taxonomy in April 2014, Public Review of IDX Taxonomy, Started development of XBRL Reporting System</td>
</tr>
<tr>
<td>2016</td>
<td>First taxonomy maintenance in February 2016, Parallel filing of XBRL extended until end of 2016, Development of Evaluation and Monitoring Dashboard</td>
</tr>
<tr>
<td>2017</td>
<td>Full implementation of XBRL filing, Second taxonomy maintenance, Implementation of Evaluation and Monitoring Dashboard</td>
</tr>
<tr>
<td>2018</td>
<td>Third taxonomy maintenance, Continuous improvements on surrounding applications to optimize filers experience</td>
</tr>
</tbody>
</table>
Why IDX implemented XBRL?

- Attract Investors
- Process Efficiency
- Information Dissemination Speed
- Information Quality
- Reporting Integration
- Investor Protection

IDX Taxonomy

1. General
2. Property
3. Infrastructure
4. Finance & Sharia
5. Securities
6. Insurance
7. Collective
8. Financing

1. Statement of Financial Position
2. Statement of Comprehensive Income
3. Statement of Changes in Equity
4. Statement of Cash Flow
FLOW OF XBRL REPORTING AT IDX

XBRL Filing Process at IDX

- Client side XBRL application is not needed for ease of use
- XBRL conversion process is done entirely in IDXnet
Methods of Input Available for Listed Companies

1. Excel Template
2. XBRL Instance Document
3. IDXnet Web form

Publication of XBRL on IDX Website

1. PDF
2. Excel Format
3. XBRL Instance
4. Inline XBRL
UTILIZATION OF XBRL DATA AT IDX

What we are able to do with XBRL data so far?

Evaluation and monitoring of listed companies financial performance:
• Financial summary report (horizontal, vertical, ratios)
• Industrial Benchmark
• Alerts and watchlist
CURRENT IMPLEMENTATION CHALLENGES
Current Implementation Challenges

- Quality of XBRL Data
- Optimization of XBRL data
- Limitation on available tools for analysis
- Taxonomy and formula maintenance
- Enhance surrounding applications to improve filers experience

MOVING FORWARD
Lessons learned

• **Support and training**
  – Routine training on a monthly basis
  – Helpdesks
  – User guides
  – List of FAQs

• **Continuous communications and assistance to the Reporting Companies**
  – Email and phone
  – One on one meetings
  – Company visit

Moving Forward

• **Taxonomy maintenance 2018**
  – Add necessary elements to accommodate Listed Companies Financial report;
  – Update according to the current Indonesia Accounting Standards; and
  – Optimizing validation formula to enhance accuracy.

• **To provide summary of financial analysis from XBRL filings for the listed companies and Investors** - using XBRL data received form Issuers as part of IDX’s listing services.

• **Expand IDX Taxonomy to include Notes to Financial Statements** (priority based)
Information needed by IDX’s stakeholders (Survey Result)

- Listed Companies: 78%
- Securities Firms: 14%
- Media: 2%
- Data Vendors: 2%
- Investors: 5%
- Custodian Bank: 2%

- Stock ownership above 5%: 2.12%
- Announcements of Securities Trading Status: 2.54%
- Information of Public Offering: 3.39%
- Trading information: 6.08%
- Corporate Action: 7.63%
- Annual Reports: 11.86%
- Information Disclosures: 12.56%
- Announcements on IPO, Delisting, and Relisting: 15.25%
- Financial Reports: 39.83%

Challenges in Data Processing (Survey Result)

- Manual Input: 46%
- Format: 28%
- Language: 5%
- Others: 21%
### Desired Format of Information (Survey Result)

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### THANK YOU

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