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**62nd ISI WORLD
STATISTICS
CONGRESS 2019**

18 – 23 August 2019, Kuala Lumpur

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STS 552

Compilation of Sectorisation and Information Granularities on Portfolio Investment Statistics

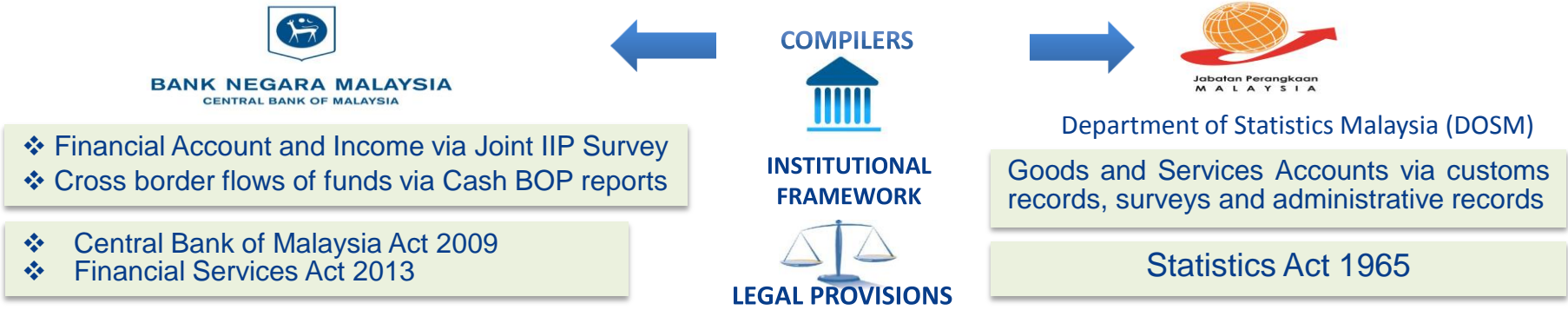
Norhayati Razi
Bank Negara Malaysia
22nd August 2019, 2.00 pm – 3.40 pm

Outline/Content

- i. Introduction
- ii. External Sector Statistics (ESS) Data Compilation Framework
- iii. Information Granularities on Portfolio Investment Statistics
- iv. The System Architecture
- v. Challenges and Moving Forward

Malaysia's ESS Data Compilation Framework

Collaborative effort in compilation, quality assessment and dissemination in accordance to SDDS :



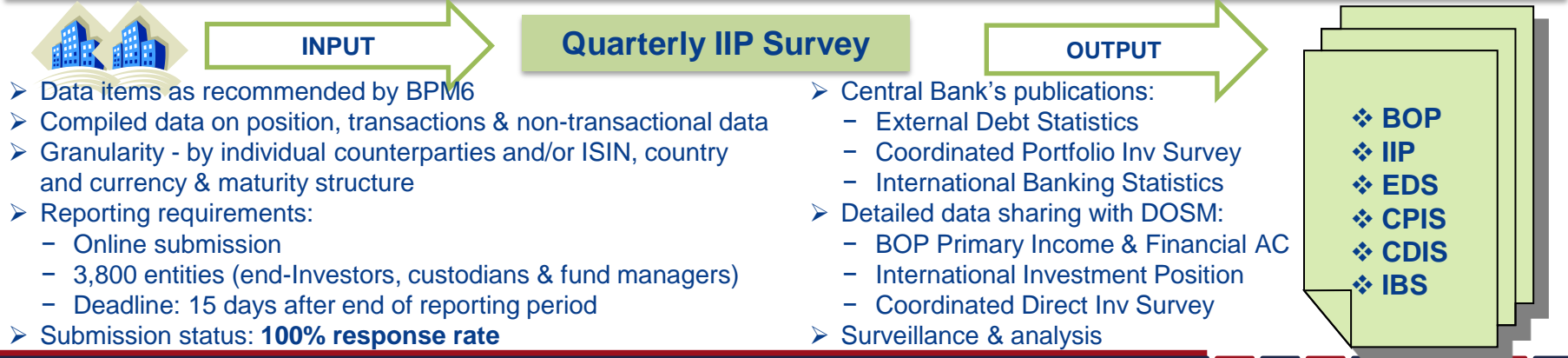
- ❖ Financial Account and Income via Joint IIP Survey
- ❖ Cross border flows of funds via Cash BOP reports

- ❖ Central Bank of Malaysia Act 2009
- ❖ Financial Services Act 2013

- Goods and Services Accounts via customs records, surveys and administrative records

Statistics Act 1965

... BNM-DOSM joint effort in compilation to reduce reporting burden, improve quality and turnaround time



- Data items as recommended by BPM6
- Compiled data on position, transactions & non-transactional data
- Granularity - by individual counterparties and/or ISIN, country and currency & maturity structure
- Reporting requirements:
 - Online submission
 - 3,800 entities (end-Investors, custodians & fund managers)
 - Deadline: 15 days after end of reporting period
- Submission status: **100% response rate**

- Central Bank's publications:
 - External Debt Statistics
 - Coordinated Portfolio Inv Survey
 - International Banking Statistics
- Detailed data sharing with DOSM:
 - BOP Primary Income & Financial AC
 - International Investment Position
 - Coordinated Direct Inv Survey
- Surveillance & analysis

- ❖ BOP
- ❖ IIP
- ❖ EDS
- ❖ CPIS
- ❖ CDIS
- ❖ IBS

Information Granularities on Portfolio Investment Statistics

Securities Issued in International Markets

1. Data provider:
 - i. End-investor
 - ii. Custodians and fund managers
(declaration on list of institutional investors to avoid double counting)
2. Types of instruments:
 - i. Equity and Debt Securities issued by **non-residents** in international market
 - ii. Equity and Debt Securities issued by **residents** in international market:
 - ✓ *Reported by the resident issuer under **PI liabilities***
 - ✓ *Reported by the resident subscriber under **PI assets***

- Details of reporting:
1. Transactions (credit/debit), Other Changes and Position
 2. Maturity structure (debt securities)
 3. Granularity
 - i. Issuer Name
 - ii. Issuer Institutional Sector
 - iii. Country
 - iv. Currency
 - v. *ISIN Code (optional)*
 - vi. *LEI (optional)*
 4. Investment Income by NR counter-party



Securities Issued in Malaysia

1. Solely custodian reporting
2. Types of instruments:
 - i. Equity and Debt Securities **issued by residents** in Malaysia
 - ii. Equity and Debt Securities **issued by non-residents** in Malaysia

- Details of reporting:
1. Transactions (credit/debit), Other Changes and Position
 2. ISIN Code (provided by the Central Bank at Reporting Portal)
 3. Investment Income by ISIN code

Supported by the Central Bank's Entity Db

1. Entity Profiles:
 - i. Name
 - ii. Business Registration No.
 - iii. Address
 - iv. Business Sector (ISIC)
 - v. Institutional Sector
 - vi. ISIN code for entities listed in stock market
 - vii. List of ISIN for any issuance of debt securities
2. ISIN database for securities issued in Malaysia
 - i. ISIN code
 - ii. Issuer Name
 - iii. Issuer Business Reg. No.
 - iv. LEI (if any)
 - v. Maturity structure (debt securities)
3. ISIN database for securities issued in international markets (reported by REs & from **IMF Database**)
 - i. ISIN code
 - ii. Issuer Institutional Sector
 - iii. Issuer Country

Information Granularities on Portfolio Investment Statistics

Quarterly Compilation

Portfolio Investment Assets

Residents' holdings of Equity and Debt Securities **issued by NR** in Malaysia and international market

Portfolio Investment Liabilities

Non-residents' holdings of Equity and Debt Securities **issued by residents** in Malaysia & int. market
Minus: Residents subscription of Equity and Debt Securities issued by another residents in international market (identified through ISIN code)



Data Dissemination in Accordance with BPM6 and Complied with SDDS

Compiler	Report	Periodic	Timeliness
By BNM	EDS	Quarterly	7 th week after end of quarter
	IBS	Quarterly	12 th week after end of quarter
	CPIS	Semi - Annual	6 months after ref. period

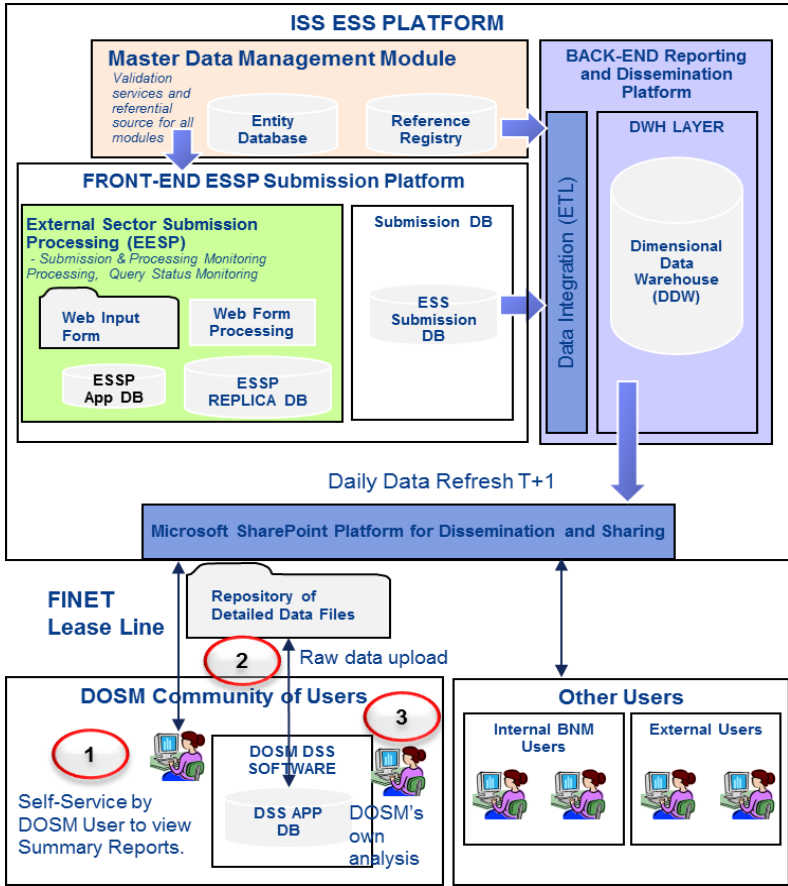
Compiler	Report	Periodic	Timeliness
By DOSM	BOP	Quarterly	7 th week after end of quarter
	IIP	Quarterly	7 th week after end of quarter
	CDIS	Annual	9 months after ref. year

Semi – Annual CPIS Disclosures

Mandatory
Table 1: PI Assets by Economy of NR Issuer

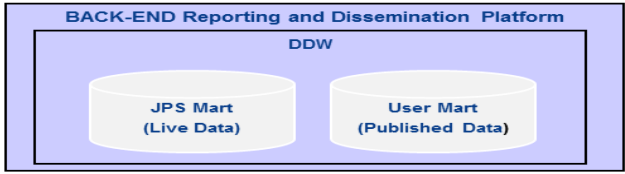
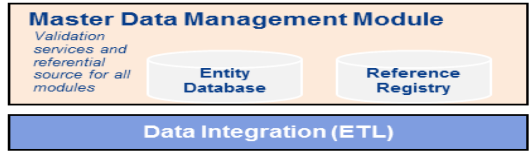
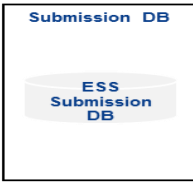
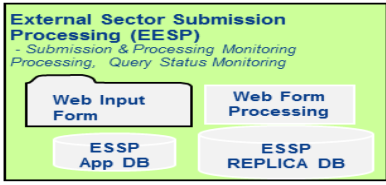
Encourage
Table 2: Currency Breakdown of PI Assets; **Table 3:** PI Assets by Sector of Holder and Economy of NR Issuer
Table 4: PI Liabilities by Economy of NR Holder; **Table 5:** PI Assets by Sector and Economy of NR Issuer
Table 6: PI Assets by Sector of Holder, and Economy of NR Issuer for Specific Economies

Overview of Integrated ESS Data Compilation System



System Infrastructure of ISS ESS:	
Front-End Components	
Submission Platforms:	<ul style="list-style-type: none"> ➤ Online reporting via <ul style="list-style-type: none"> ✓ ESS Portal (internet base) for NB entities; and ✓ ESS DSS (client application – installed at banking institutions) ➤ Validation of records through the query module, entity data and ISIN profiles stored in Entity Database.
Report Generation Module (FE SSRS) and Submission Database	<ul style="list-style-type: none"> ➤ Flexible platform to allow raw data ➤ Once submission completed, data will be harmonized to prepare for processing at DDW in Submission Database
Master Data Management Components	
Entity Database	➤ Centralised repository for entity data and securities profile (ISIN issued in domestic and international market) used throughout the ISS ESS platforms
Reference Registry	➤ Centralised repository for storage of reference codes/report rules
Back-End Components	
Integrated Cubes and Dynamic Reports	<ul style="list-style-type: none"> ➤ Cubes built based on the ESS subject areas i.e. IIP, FA, EDS, Income Account, and Cash BOP ➤ Interlinked cubes to ensure consistency across ESS ➤ Excel-base reports for users with active cube connection to allow for dynamic analysis
Data Sharing Platform	<ul style="list-style-type: none"> ➤ Data transfers to DOSM to support the Joint-IIP Survey ➤ Allow for data sharing through secured channel

ESS System Workflows and Production of Reports



Submission Components

Data captured based on accounting principles with presentation similar to a balance sheet – assets/liabilities approach:

- | Assets | Liabilities |
|---|--|
| <ul style="list-style-type: none"> Direct Investment Portfolio Investment Fin. Derivatives Other Investment Reserve Assets (assets only) | |
| | <ul style="list-style-type: none"> Income Components (Dividend, Interest) |

Reporting Entities

- Banking Institutions
- Selected Non-Bank Institutions
- Labuan Offshore Entities
- Government Agencies
- Central Bank

Processing Components

Hierarchy Codes, Ref Registry

Descriptions	ESS Code (IIP5)
A. ASSETS	
1. DIRECT INVESTMENT ABROAD	IIP5A
2. PORTFOLIO INVESTMENT	IIP5A1DI
3. FINANCIAL DERIVATIVES (OTHER THAN RESERVES) AND EMPLOYEE STOCK OPTIONS	IIP5A2PI
4. OTHER INVESTMENT	IIP5A3FD
5. RESERVE ASSETS	IIP5A4OI
B. LIABILITIES	
1. DIRECT INVESTMENT IN REPORTING ECONOMY	IIP5L
2. PORTFOLIO INVESTMENT	IIP5L1DI
3. FINANCIAL DERIVATIVES (OTHER THAN RESERVES) AND EMPLOYEE STOCK OPTIONS	IIP5L2PI
4. OTHER INVESTMENT	IIP5L3FD
Unknown	IIP5L4OI
Grand Total	UNK

Submitted Data + Hierarchy Codes + Business Rules

Business Rules Mapping, ETL

Data Items	Members
Functional Category	DI, PI, FD, OI or RA
Instrument Type	Equity, Debt, Others
Reporting Category	A/L, End-Inv/Custodian
Relationship	Related/Non-related
Institutional Sector	DTCs, CB, GV, OFC, NF, NPISHs
Maturity	Short-/Long-Term
Residency Status	Resident/Non-Resident
Hierarchy Code	IIP, BOP FA & Income, EDS (BPM5 and BPM6)

Output Generation

IIP/FA:

Descriptions
A. ASSETS
1. DIRECT INVESTMENT
2. PORTFOLIO INVESTMENT
3. FINANCIAL DERIVATIVES (OTHER THAN RESERVES) AND EMPLOYEE STOCK OPTIONS
4. OTHER INVESTMENT
5. RESERVE ASSETS
B. LIABILITIES
1. DIRECT INVESTMENT
2. PORTFOLIO INVESTMENT
3. FINANCIAL DERIVATIVES (OTHER THAN RESERVES) AND EMPLOYEE STOCK OPTIONS
4. OTHER INVESTMENT
Unknown
Grand Total

Investment Account (IA):

Descriptions
1. PRIMARY INCOME (BALANCE ON PRIMARY INCOME (+ SURPLUS; - DEFICIT))
1.1 COMPENSATION OF EMPLOYEES
1.2 INVESTMENT INCOME
1.2.1 DIRECT INVESTMENT
1.2.2 PORTFOLIO INVESTMENT
1.2.3 OTHER INVESTMENT
1.2.4 RESERVE ASSETS
Unknown
Grand Total

CPIS:

Reporting Period	Submitted Data	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	CPIS	
2018																					

Challenges and Moving Forward

1 Securities Issued in Malaysia

- When the change of securities' ownership are not fully settled through domestic custodians and no cross-border flow of funds
- Pertinent mainly by the players from European markets

2 Securities Issued in International Market

- Hampered by insufficient details, mainly if the funds is further entrusted to another NR custodians
- Minimize reporting burden faced by REs

3 Data Accuracy

- Critical need to maximise the accuracy on data compilation as Portfolio Investment data is part of the integrated BOP, IIP and EDS.
- Data to aligned with other market indicators

4 Sustainable Compilation System

- System design to meet long-term statistical needs
- Simplified compilation approach that facilitate understanding by REs
- Adequacy of resources, talent and IT support

1 Integrated with Other Critical Databases

- Direct integration with the Bond Data Warehouse and Bursa Malaysia to obtain ISIN codes and details of securities
- Integration with **Companies Commission of Malaysia** as source of entity information and validation
- Close collaboration with the REs and market players

2 Compilation system flexibility

- Establish ISIN information database, compiled based on reporting by REs and collaboration with IMF
- System ability to check and enforce mandatory data submission to ensure sufficient compilation of data granularity

3 Micro-level Data QC & Engagements with REs

- Compilers to ensure consistent trend with domestic securities market
- Data analysis at granular level to ensure data accuracy
- Comprehensive Guidelines as reference to REs
- Regular training and engagement session with REs

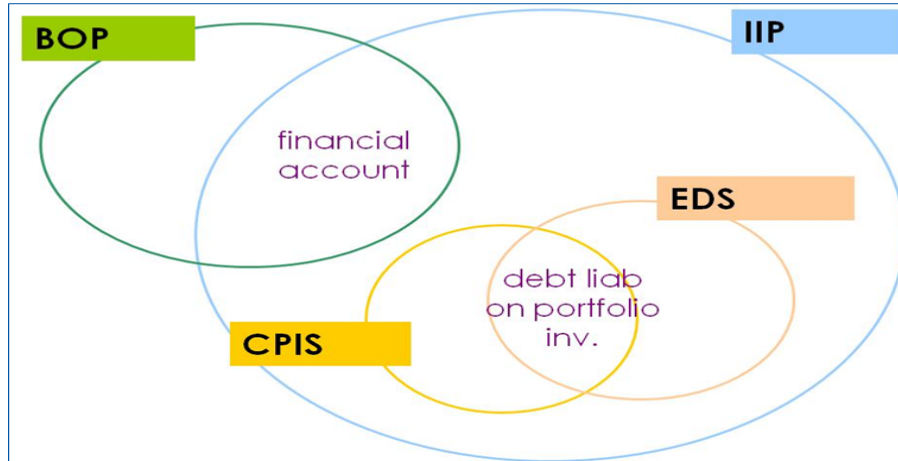
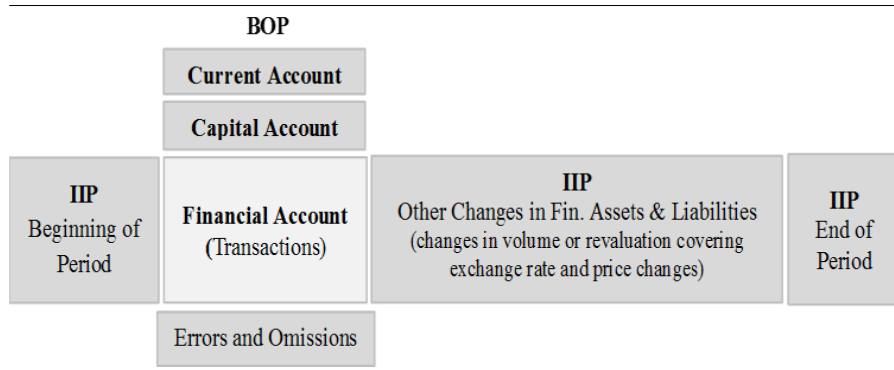
4 Integrated Compilation System

- Flexible data submission system for detailed reporting that closely follows accounting principle for REs familiarisation.
- Centralised/maintainable reference registry to cater for changes in standard codes across system
- Data dissemination platform to transform data to ESS reports



THANK YOU

IIP as Framework for ESS Interlinkages



- Integrated approach facilitates productions from a single source to ensure quality and consistency
- From the IIP framework:
 - Flow Transactions: BOP Financial AC
 - Interest & Dividends: BOP Primary Income
 - Closing Position: IIP
 - Non-Equity Liabilities: EDS
 - Direct Investment: CDIS
 - Portfolio investment: CPIS
 - IIP of banking institutions: IBS
- As SDDS subscriber, Malaysia complies with international requirements on all ESS reports
- These include BOP, IIP, EDS, CPIS, CDIS, & IBS

Malaysia's Portfolio Investment: 2Q 2019 Position

Data	Assets (RM394.7 bil)	Liabilities (RM617.3 bil)																																
Non-Residents Countries	<table border="1"> <caption>Non-Residents Countries Assets</caption> <tr><th>Country</th><th>Percentage</th></tr> <tr><td>US</td><td>19%</td></tr> <tr><td>SG</td><td>10%</td></tr> <tr><td>HK</td><td>6%</td></tr> <tr><td>UK</td><td>5%</td></tr> <tr><td>CN</td><td>5%</td></tr> <tr><td>ID</td><td>4%</td></tr> <tr><td>Others</td><td>51%</td></tr> </table>	Country	Percentage	US	19%	SG	10%	HK	6%	UK	5%	CN	5%	ID	4%	Others	51%	<table border="1"> <caption>Non-Residents Countries Liabilities</caption> <tr><th>Country</th><th>Percentage</th></tr> <tr><td>US</td><td>23%</td></tr> <tr><td>UK</td><td>10%</td></tr> <tr><td>SG</td><td>9%</td></tr> <tr><td>HK</td><td>8%</td></tr> <tr><td>LU</td><td>5%</td></tr> <tr><td>JP</td><td>4%</td></tr> <tr><td>Others</td><td>41%</td></tr> </table>	Country	Percentage	US	23%	UK	10%	SG	9%	HK	8%	LU	5%	JP	4%	Others	41%
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CB: Central Bank; CI: Captive Financial Institution; DT: Deposit Taking Corp; FA: Financial Auxiliaries; NF: Non-Financial Corp; PF: Pension Fund