

**Concluding Workshop on RETA 5869
Strengthening and Collection of Financial and Monetary Statistics
in Selected Developing Member Countries (DCMCs)**

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**COMPILATION, ANALYSIS AND INTERPRETATION OF COMMONLY AGREED MACRO
PRUDENTIAL INDICATORS**

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The purpose of MPI was to monitor the soundness of the monetary and financial sector in a country.

In response to financial crises that experienced by Asian countries starting in 1997, there is an increasing need to a set of indicators that can monitor the upcoming crises, hence the country can prepare the appropriate policy to anticipate the coming crises or to minimize the impact of crises

The MPI consists of 67 indicators, classified, as follows:

- External debt & Financial flows (6 indicators)
- Money (15 indicators)
- Banking (12 indicators)
- Interest Rates (8 indicators)
- .Stock market and Bonds (7 indicators)
- Trade, Exchange and International Reserves(10 indicators)
- Business Survey Data (9 indicators)

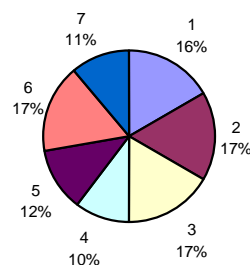
Additional indicators (43 indicators) as follows:

- External debt and Financial flows (2 indicators)
- Money and Credit (2 indicators)
- Banking (7 indicators)
- Interest rates (4 indicators)
- Stock markets and Bonds (5 indicators)
- Business Survey Data (4 indicators)
- Supervisory Surveys (1 indicator)
- Additional topics from IMF indicator list (17 indicators)
- Other: Real Estate Price Index (1 indicator)

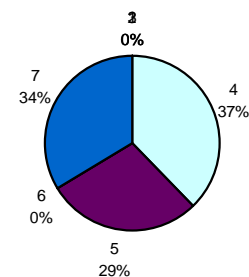
COMMONLY AGREE INDICATORS

No.	Indicator	Total Avail.			Share (%)	
		NA	Avail.	NA	Avail.	NA
1	Ext.Debt &Financ. Flow	6	6	0	100	-
2	Money & Credit	13	13	0	100	-
3	Banking	14	14	0	100	-
4	Interest Rate	8	5	3	63	38
5	Stock Market & Bonds	7	5	2	71	29
6	Trade, Exch. & Int'l Flow	10	10	0	100	-
7	Business Survey data	9	6	3	67	33
	Sub Total	67	59	8	88	12

AVAILABILITY

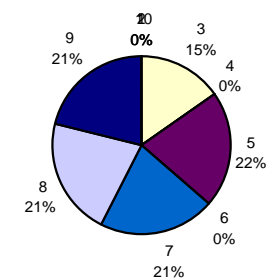
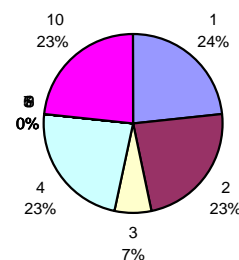


NON AVAILABILITY



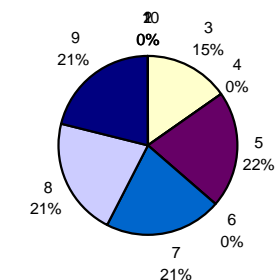
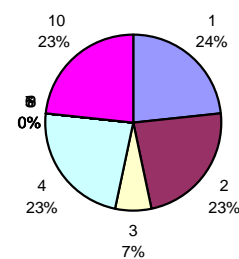
ADDITIONAL INDICATORS

1	Ext.Debt &Financ. Flow	2	2	0	100	-
2	Money & Credit	2	2	0	100	-
3	Banking	7	2	5	29	71
4	Interest Rate	4	4	0	100	-
5	Stock Market & Bonds	5	0	5	-	100
6	Trade, Exch. & Int'l Flow	0	0	0	-	-
7	Business Survey data	4	0	4	-	100
8	Supervisory Survey	1	0	1	-	100
9	IMF Indicator list	17	0	17	-	100
10	Real Estate Price Index	1	1	0	100	-
	Sub Total	43	11	32	26	74



TOTAL INDICATORS

1	Ext.Debt &Financ. Flow	8	8	0	100	-
2	Money & Credit	15	15	0	100	-
3	Banking	21	16	5	76	24
4	Interest Rate	12	9	3	75	25
5	Stock Market & Bonds	12	5	7	42	58
6	Trade, Exch. & Int'l Flow	10	10	0	100	-
7	Business Survey data	13	6	7	46	54
8	Supervisory Survey	1	0	1	-	100
9	IMF Indicator list	17	0	17	-	100
10	Real Estate Price Index	1	1	0	100	-
	Total	110	70	40	64	36



With respect to MPI, **about 88% of total indicators complete.**

The rest can not be completed due to several reasons:

- The indicator of central bank lending rate (indicator # 34) is not relevant since the central bank is no longer extending credit to bank according to existing new law (law #23 of 1999).
- Indicator of USD-international market/Domestic Real Dep. Interest rate (indicator #39) needs a clear definition about the component of the indicator.
- The rate of Bond/ Treasury Bill Yield (indicator #40) is also not relevant and inapplicable due to undeveloped bond market in Indonesia and unavailability of Treasury Bill instrument in Indonesia.
- Composite Stock Price Index in USD (indicator #46) is not available, but it is available in domestic currency as shown in indicator # 44.

-Business survey is conducted by Bank Indonesia quarterly, and the result is concluded by using net balance method that calculates the difference between the percentage of respondents choosing the increase answer to those choosing decrease answer.

-With regard to MPI, the survey produces the indicator (in term of net balance) the assessment of current business situation (indicator #59), expectation on business situation in next quarter (indicator#60), and selling price as well as employment in future tendency as shown in indicator # 64 and 65 respectively.

-The other indicators as of assessment of order books (indicator#63), financial situation (indicator #66) and access to credit (indicator #67) are not available currently.

2. COMPILATION OF MPI

a. Sources of Data

Several institutions that prepare/produce the data.

-The data related to monetary indicators and banking activities are produced by Bank Indonesia based on the balance sheet of Bank Indonesia as a monetary authority and banks financial reports submitted to Bank Indonesia monthly.

-The data for real sector indicators including gross domestic product (GDP), production index, wages, etc, are produced by Central Bureau of Statistics,

- The data related to fiscal sector are produced by Ministry of Finance. BAPEPAM produces data that related to activities in stock market and bond market.

In Bank Indonesia it self some directorates/divisions collect and process data/information.

Some of the data, especially macroeconomic and monetary statistics, have been already maintained in economic and monetary computer databases and files at the Directorate of Economic and Monetary Statistics.

The rest are maintained at other divisions/directorates such as Directorate of Foreign Affaires for data related to external debt and Directorate of Banking Licencing and Information for data related to banking supervision.

b. Methodology

All data from various sources are obtained through email facility, except data from Directorate of Information Technology are obtained through online ftp transmission.

Those various data are sent to Data Processing Division at Directorate of Economic and Monetary Statistics, where data are integrated, processed and converted into an excell format. Finally the excell format data are sent to ADB.

c. Problems

Mostly problems occur in collection of the data since the data are from various sources and they are processed in different databases that take place in different directorates within Bank Indonesia (as mentioned above) and different agencies/institutions outside Bank Indonesia.

This problem also causes different data time-lag for each particular data. In this regard, extra effort is forced to obtain the data and to keep the timeliness of the data. The problem will be heavier if the data is an unpublished data or treated as a temporary confidential.

In addition to the problem is different definition of an terminology might be applied by different source of data. As an example, term of credit might have different definition according bank supervision and monetary concept. In this regard, the compiler of MPI should have knowledge to identify those two concepts

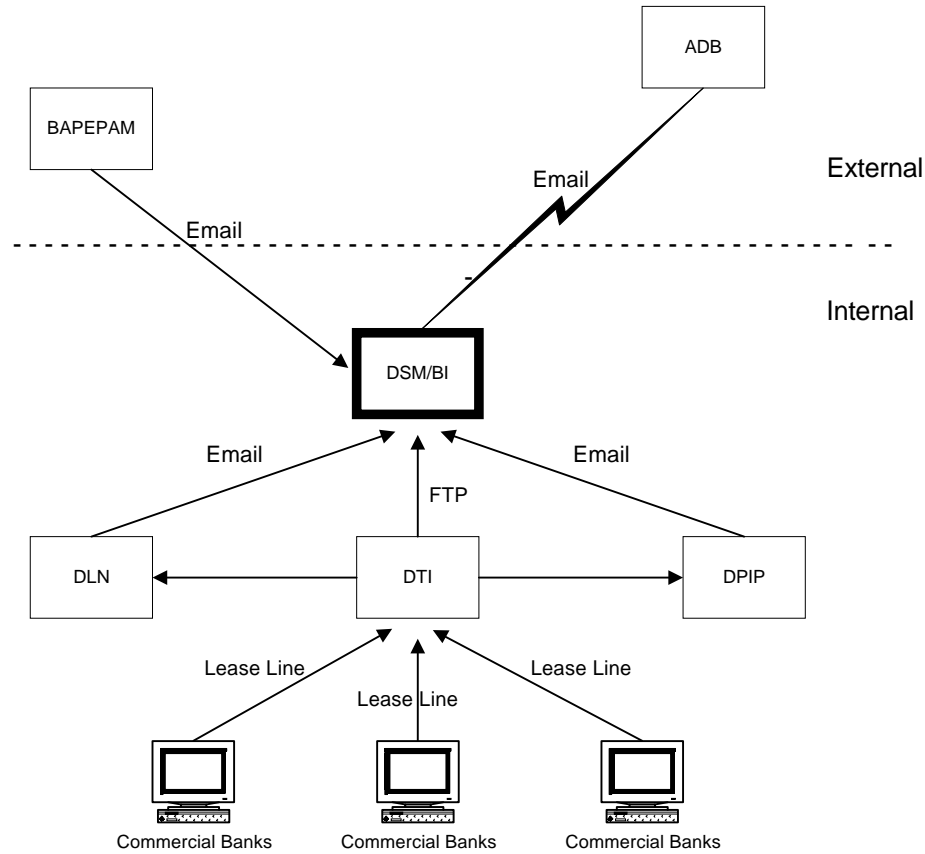
d. Data dissemination

The Economic and Monetary data and information are disseminated in the form of hard copy/publication and through Bank Indonesia's website and intranet. The commonly agreed indicators or Macro Prudential indicators (MPI) are sent to ADB through email.

See the flowchart

We have just developed datawarehouse where data can be accessed and analyzed freely by internal users and reports can be displayed through web technology. Because the datawarehouse is still in its beginning/early stage, the data coverage is still very limited, so data needed for MPI are not yet populated into the datawarehouse. Therefore MPI data still involve meticulous manual procedures.

FLOW CHART OF MPI DATA



DSM : Directorate of Economic Monetary Statistics
 DLN : Directorate of Foreign Affairs
 DTI : Directorate of Information Technology
 DPIP : Directorate of Banking Licence & Information
 BAPEPAM : Capital Market Supervisory Agency

3. ANALYSIS AND INTERPRETATION

a. Analysis

Basically, the indicators can be analyzed into 2 different approach, namely quantitative analysis and qualitative analysis.

Quantitative analysis use statistical method or econometric model. Qualitative analysis does not need mathematics or econometric model. No single approach of analysis is the best for all.. The best approach is a combination of both of them.

With regard to MPI indicators, they can be analyzed in two ways as of time series data analysis and cross section data analysis. Time series analysis describe the movement of indicators in a certain period of time. Moreover by using an econometric tool, the estimated of the indicator could also be predicted.

Cross section analysis need the ability of the analyst to analyze the inter- relationship between one indicator to another indicator, and also the inter- relationship among indicators.

b. Interpretation

The interpretation of MPI can be described as follow:

See the paper

4. IMF-MPI SURVEY (MPIs SURVEY)

For the purpose of monitoring the financial condition for its member countries, the Fund has proposed and introduced Macro Prudential Indicators (MPIs)

The MPIs comprises both aggregate micro prudential indicators of the health/soundness of financial institution and macroeconomic variables associated with financial system vulnerability.

The aggregate micro prudential indicators consist of 5 groups of indicators, as of capital adequacy, asset quality, profitability, liquidity and sensitivity to market risk. Each group of indicators describes the related aspect of financial condition of the financial institution.

The macroeconomic indicators aim at capturing events that can become a source of vulnerability for financial system, assuming that macroeconomic developments have often preceded banking crises.

Selected macroeconomic variables will be evaluated, particularly the indicators that can be described as factors that affect an economy's vulnerability to capital flow reversals and currency crises, such as trends in economic growth and balance of payment, level and volatility of prices, interest and exchange rate, etc.

MPIs Survey Result

MPIs survey had been conducted by Bank Indonesia in response to IMF letter dated on June 2000 about the MPI survey. The questionnaires were distributed to several institutions that represent financial sector supervisor, analyst and policy officials within central bank, financial market participants and analyst in academia.

The survey result concluded that the availability of MPIs would be needed by respondent. The indicators were either useful or very useful and could be provided regularly.

The respondents are doing research on the health/soundness and stability of the financial system and focusing mainly on the banking sector, due to their significant roles in the soundness of financial system and the availability of the data.

- Respondent from banking supervision sector mentioned that in addition to aggregation method, analysis on group of banks is needed to be explored. They adopt analysis not only using CAMEL, but also incorporating risk assessment for market risk using statistical method.

- Adjusted international standard is a preferable norm to be used for MPIs.

- For presentation of MPI, respondents prefer single point estimations and ratios.

- Composite measures is also needed as an addition tool.

- For a comparison and as an additional information, business survey result is also used to supplement the analysis of MPIs.

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The Feasibility of MPIs

- MPIs might be useful both for IMF and for member countries.
- The Fund staff would make use of the MPIs for monitoring financial condition of member countries.
- Member countries might use the MPIs for analysis financial condition of the country as well as to predict and to prevent economic crises.

However, criticism (if any) should be taken into account and it could be useful as an input for improving the MPIs.

Some critical view might arise, as follows:

- The MPIs could not be used as a single tool to compare the financial condition of a country to those of another. Each country has its own prudential regulation and the regulation is defined according to the view that is specific only to the country's situation. In this regard, the MPIs should be developed continually on the basis of evidence of best practices that are comparable across countries.
- Since the MPIs is using aggregation method, it should be noted that the information would be probably misleading. The aggregation for groups of banks might be used as an alternative to avoid misleading conclusion.
- Due to limitations in information system, some information might not be available currently in some countries.. For example, information of borrowing institutions (including households) might not be available, or if they are available they could not be provided regularly.
- Due to incomplete data, some information might be treated as temporary confidential information. The information might be misleading and it could give the bias perception on banking sector.

5. FUTURE PLAN ACTIVITIES

- Test the MPI for a period of time

MPI should be tested whether it can give the signs of up-coming financial crises.

- Evaluate the relevancy and adequacy of the indicators.

The indicators should be evaluated for their relevancy in describing financial condition whether the amount of indicators is enough to give signals on financial and currency crises.

- Dissemination of MPI indicators must not be done before they can be concluded as best indicators.

- In our experience with SDDS, it is very difficult to maintain the observance of the IMF-SDDS requirements especially in the aspect of timeliness and periodicity due to spread out sources and less commitment of data sources.