The Assessment of Dissemination Practices for Economic and Financial Statistics:

Availability, Timeliness, Comparability of High Frequency Statistics and their Accelerated First Estimates in Measuring the Trends of the World Crisis.

by United Nations Statistics Division[1]

I. Introduction

At its fortieth session, the Statistical Commission initiated the assessment of existing dissemination practices for the economic and financial statistics. The objective is to review whether existing practices meet the analytical and policy needs in times of the economic and financial crisis and to propose actions to remedy identified shortcomings and data gaps. The assessment is undertaken through a transparent intergovernmental process organized around a series of seminars during 2009 and early 2010. The outcome of this assessment is expected to be submitted to the next session of the Statistical Commission in 2010 for its considerations of the recommendations for strengthening the dissemination practices of economic and financial statistics.

This initiative of the Statistical Commission arises from its oversight function of the international statistical system and its accountability to the United Nations Economic and Social Council to report on the normative and institutional strengths and weaknesses in monitoring world economic trends such as, the disproportional impact of the current economic and financial crisis on vulnerable countries and population groups.

To guide and facilitate the assessment, this paper brings together recommendations on the availability, timeliness and comparability of a broad set of high frequency statistics from existing dissemination standards on economic and financial statistics The full description of the statistical dissemination framework including the data categories, the underlying high frequency statistics and the dissemination dimensions is provided in Annex I and II.

The paper first sets the stage by briefly presenting the data requirements for monitoring global shocks, transmission mechanisms and vulnerabilities in interconnected global product and financial markets. Section III describes the purpose of the assessment. This section is followed by Section IV on the scope of the assessment of economic and financial statistics and Section V on the limitations of the assessment. Section VI elaborates on the main dimensions of the assessment of the statistical dissemination framework.

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II. Data requirements arising from the economic and financial crisis in global interconnected markets

The present economic and financial crisis can not be attributed to the lack of official data and data from commercial providers. Albeit their dissemination was fragmented and scattered, with inadequate scope and detail, timeliness and comparability. From the beginning of the financial crisis, data showed liberal monetary policies, excessive leveraging of debt through newly created financial instruments and financial institutions, inadequate regulation and supervision of the financial sector. The data signaled early on the excessive consumption in the advanced economies fuelled by bubbles in asset prices and by monies from both developed and emerging economies maintaining structural surpluses on their current accounts of the external sector.

Official statistics supported by commercial data provided insights in the de-stabilization of money and credit markets. The contagion in the money and the capital markets and the global financial freeze was observed through restricted inter bank lending and short term financing and the lack of roll-over of debt. Despite these signals from available data sources, statistics were not well developed for tracing the contagion between the domestic sectors and the spill over across borders through transmission channels created by new financial instruments.

With the escalation of the financial crisis at the global level from August 2007 to September 2008, the real economy data increasingly revealed the strain on the growth performance of production, investment and trade in many countries, with growth rates moving into negative territory since the last quarter of 2008. However, the restricted and scattered dissemination, the lack of timeliness, the limited harmonization of high frequency statistics for the real sector of the economy hampered the real time monitoring of economic development.

III. Purpose of the assessment

The fortieth session of the United Nations Statistical Commission in 2009 called for swift and coordinated statistical initiatives by countries and international organizations in response to the global economic and financial crisis. This call is even more important as the economic downturn projected in 2009 is expected to deepen further, causing a persistent risk of a prolonged recession in many countries.

These initiatives should not only focus on improving existing statistics for monitoring the course of economic and financial shocks to facilitate fiscal and monetary policy responses, but also identify the most immediate data gaps and ways of accelerating the dissemination of existing high frequency statistics.

The purpose of the assessment, therefore, is firstly to prepare a current inventory of country dissemination practices of high frequency statistics and their first estimates. This inventory should allow the review of the strengths and weaknesses of the dissemination dimensions of existing practices. Secondly, to identify data gaps and new requirements for disseminating high frequency statistics to monitor economic and financial shocks. For instance, existing high frequency statistics might be released for internal purposes but not released for official purposes for various reasons. Those reasons have to be understood. Moreover, new research might have emerged for preparing accelerated first estimates to meet the new data requirements (e.g. through improved sampling techniques, new extrapolation techniques, new techniques for integration of high frequency indicators with the compilation of quarterly GDP and quarterly institutional sector accounts).Thirdly, to propose initiatives in the short term at national (e.g. introducing a common national dissemination bill board, harmonizing the meta data descriptions, aligning the release calendars, sharing IT software tools, etc.) and at international level (e.g. undertaking a global assessment, tracking dissemination practices, etc.); and lastly to suggest medium term initiatives for developing a common research agenda and a coordinated implementation programme.

IV. Scope of the assessment

A proposed statistical dissemination framework consisting of a comprehensive set of data categories of high frequency statistics is presented in Annex I. This statistical dissemination framework is based on the *System of National Accounts 2008* (2008 SNA), which has been recently recognized by the Statistical Commission as the relevant statistical standard to meet the information needs for the monitoring of the present economic and financial crisis. The statistical framework also draws on other standards and international recommendations such as the Sixth Edition of *the Balance of Payments and International Investment Position Manual* (BPM6) for the external sector and related normative recommendations for the government sector, financial sector, prices and business statistics.

Most immediately, the statistical dissemination framework should be reviewed to consider if it meets the analytical and policy needs to identify and monitor economic and financial shocks in a timely and reliable manner. Particularly, the review should asses whether the scope, periodicity and timeliness of the framework of high frequency statistics are adequate in rendering early warning signals for the changes in trends in macroeconomic growth and stability of the real and financial economy. The dissemination framework should also be able to facilitate the identification of transfer mechanisms of risks between the sectors of the economy and identify the impact on vulnerable groups within the population.

Due to the nature of the interconnected markets and the speed with which shocks are transferred, the statistical dissemination framework is proposed to be structured along the same main data categories of economic and financial statistics for the advanced, emerging and developing countries. This approach is in line with the proposed recasting of the GDDS as a general case of

SDDS, albeit with less stringent requirements for the breakdowns of high frequency statistics and their recommended periodicity and timeliness.

Moreover, it will ensure a critical mass of a minimum set of comparable high frequency statistics to analyze macroeconomic growth, development and stability. This minimum set of comparable economic and financial statistics should be supplemented by a set of statistics that take into account the differences in vulnerabilities of economies and population groups within their societies.

The proposed statistical dissemination framework is based on traditional high frequency statistics recommended and prescribed in existing dissemination standards. Where possible, it includes accelerated releases of traditional high frequency statistics. This accelerated release of a traditional high frequency statistic is coined "a rapid or *first estimate*" defined as *an accelerated production and release of a high frequency statistic as a first estimate early after the end of the reference period*. While these first estimates might contain less detail in terms of break down, existing best practices have shown that accuracy is not necessarily compromised. The limited coverage of direct observations could be supported by extrapolation techniques. These first estimates are, however, distinct from forecasts. First estimates signal developments for past reference periods through direct observations, while forecasts refer to expected developments in future reference periods usually based on econometric techniques.

The scope of the proposed framework extends the existing dissemination standards by suggesting a supplementary set of indicators for the non-financial corporate sector and the household sector as well as for the financial and real estate market. The elaboration for the household and non-financial sector has been included to meet the analytical needs to monitor the critical transactions and positions of assets and liabilities in the balance sheets. Moreover, their inclusion has the advantage to promote the integrated compilation of the balance sheets for all domestic institutional sectors using aggregated categories for financial assets and liabilities, such as gross debt, for balancing purposes.

V. Limitations of the assessment

The present assessment focuses on high frequency statistics for monitoring the economic and financial performance of the economy using only on "historical" direct observations and known dynamic relationships in trends and cyclical patterns between the high frequency statistics. The present categories of statistics cater only to economic and financial statistics and do not cater to governance-related statistics to monitor the institutional reforms of the supervisory and regulatory frameworks of the financial sector, or to environmental-related and socio-demographic-related statistics to monitor the impacts on the environment or vulnerable population groups within the economy.

Progressively, the accumulating analytical understanding of the causes of the market failures that precipitate economic and financial shocks might identify new types of statistics for the statistical dissemination framework to capture issues such as, moral hazard ("being to big too fail"), adverse selection and agency network ("herding sentiments"). Moreover, as the crisis develop new requirements for early warning signals might emerge from the unconventional countercyclical monetary and fiscal measures, and the anticipated reforms of the accounting, supervisory and regulatory frameworks.

Where possible, the most immediate limitations of the proposed statistical dissemination framework should be identified and directions proposed to remedy the present shortcomings.

VI. Elements of the assessment of the statistical dissemination framework

The proposed statistical dissemination framework consists of 12 data categories of economic and financial indicators for real time monitoring of macroeconomic and sectoral developments through quarterly national accounts (QNA) supplemented by high frequency indicators for production, prices, markets (labour, real estate and financial markets) and sectors (government, financial, non-financial, household and external sectors). The full detail of the statistical dissemination framework is provided in Annex I.

The dissemination framework of high frequency estimates should take account of the complete revision cycle of the high frequency estimates, from first (accelerated) estimates at a higher level of aggregation or consolidation, to the preliminary release to revised release (possibly with more breakdown).

For further guidance of the assessment of the dissemination practices, a limited set of elements are provided in Table 1. The assessment should be based on these elements but not necessarily limited to these elements. Most of the elements are self explanatory except for the dissemination dimension "availability", "target audience" and "improvements".

Table 1: Elements of assessment of the dissemination dimensions

1. Availability (since when: month/year) 2. Periodicity (weekly, monthly, quarterly) 3. Timeliness (T + days, number of days after the reference period T) 4. Coverage (% of total) 5. Target audience (general public, experimental (for research only), internal administrative use only, international (rating) agencies only) 6. Advance release calendar (available, not available) 7. Meta data (available, not available) 8. Adjustments (seasonal adjustment, calendar-day adjustment) 9. Compiling agency (compiled by: national statistical institute, central bank, ministry of finance, other) 10. Improvements (improved business register and/or sample design new basic statistics, new extrapolation and related techniques, integration of high frequency statistics, IT innovations, institutional collaboration, other)

The "availability" of high frequency statistics refers to the 12 data categories and the underlying high frequency statistics included in the proposed statistical assessment framework is presented in Annex I. Detailed descriptions of the data categories are provided in terms of their scope and coverage and their related analytical and statistical framework in Annex II.

Information on "target audience" should assess whether high frequency statistics are released on a regular basis to the "general public", or whether the release on a *regular basis* is restricted to other specific purposes. For instance, the data might be released for internal administrative (government) purposes only, or to international (rating) agencies only. In some cases, the time series are prepared for experimental purposes to test the quality of the series before their official release. The reference to the concept "*regular basis*" pertains to a release during the last 6 months and with the intent to continue the release.

The review under "improvements" should allow for identifying and categorizing new and innovative developments in the work flows of the statistical production process to accelerate the first estimates and the subsequent releases of high frequency statistics. The identification of innovations can cover but should not be limited to the dissemination of high frequency statistics through improved sampling, introduction of new basic statistics, efficiency gains from IT innovations in the compilation, processing and dissemination of data, and the application of extrapolation and related techniques. Also, the synergies from the institutional collaboration (e.g. with central banks) and from the interconnected statistical properties of the different sets of high frequency indicators can be explored to improve the timeliness and quality of the statistics.

Annex 1

Data and Dissemination Dimensions of the Statistical Dissemination Framework for Economic and Financial Statistics

Data and Dissemination Dimensions for Economic and Financial Statistics

High frequency indicators		Periodicity	Timeliness
Set 1: Quarterly National Accounts			
1.1	Quarterly National Accounts: First GDP estimate	Q	60D
1.2	Quarterly National Accounts: GDP release with more breakdowns (as relevant by expenditures, production by economic activities and income components)	Q	1Q
1.3	Quarterly National Accounts: Sector accounts (as relevant, household, corporations, general government sectors)	Q	1Q
Set 2: Production and turnover indicators			
2.1	Production indexes (as relevant for industry, construction)	M	1M
2.2	Turnover indexes (as relevant industry, retail and repair, other services)	M	1M
2.3	Industrial new order index	M	1M
2.4	Commodity production, as relevant	M	1M
Set 3: Price Indicators			
3.1	Consumer price Index	M	1M
3.3	Output price indexes, as relevant for industry, services	M	1M
3.5	Import price indexes	M	1M
3.6	Commodity prices (food, energy), as relevant	M	1M
Set 4: Labour market indicators			
4.1	Unemployment rate	Q	1Q
4.2	Employment	Q	1Q
4.3	Other as relevant: labour cost index, job vacancies, etc.	Q	1Q
Set 5: External sector indicators			
5.1	Trade balance	M	1M
5.2	International investment position (IIP), specify balance and components	Q	1Q
5.3	Official reserve assets	M	1M
5.4	Template on international reserve , other foreign currency assets and predetermined drains	M	1M
5.5	External debt (by sector, maturity and foreign currency)	Q	1Q
5.6	Interest and principal payments schedule	Q	1Q
5.7	Merchandise trade	M	1M
5.8	Others as relevant		
Set 6: Financial sector indicators			
6.1	Central Bank net foreign assets	M	1M
6.2	Central Bank domestic lending	M	1M
6.3	Central Bank reserve money	M	1M
6.4	Depository corporations net foreign assets	M	1M
6.5	Depository corporations domestic lending	M	1M
6.6	Depository corporations broad money liabilities	M	1M
6.7	Other financial corporations balance sheet, assets and liabilities by sector.	Q	1Q
6.8	Others as relevant: nonperforming loans of depository corporations, capital adequacy ratios, other financial stability indicators,etc.		

Data and Dimensions for Economic and Financial Statistics (cont)

High frequency indicators		Periodicity	Timeliness
Set 7: Government sector indicators (1)			
7.1	Net operating balance (as relevant revenue, expense, and interest)	Q (Menc*)	1Q (1Menc)
7.2	Primary operating balance	Q (Menc)	1Q (1Menc)
7.3	Net lending/borrowing	Q (Menc)	1Q (1Menc)
7.4	Government deficit/surplus	Q (Menc)	1Q (1Menc)
7.5	Gross debt	Q (Menc)	1Q (1Menc)
7.6	Cash surplus/deficit (with cash receipts/payments from operating activities, net cash outflow from investments in non-financial assets)	Q (Menc)	1Q (1Menc)
7.7	Others as relevant		
Set 8 Household sector indicators			
8.1	Other as relevant: disposable income, debt service and principal payments, household debt,etc.	Q	1Q
Set 9 Non-financial corporations sector indicators			
9.1	Others as relevant: operating income before tax, debt service and principal payments, household debt,etc.	Q	1Q
Set 10 Financial market indicators			
10.1	Interest rates, as relevant short and long term money and bond market rates	M	1M
10.2	Exchange rates, as relevant spot and forward markets	M	1M
10.3	Nominal and real effective exchange rate	Q	1Q
10.4	Stock market indicators	M	1M
10.5	Others as relevant : spreads between lending and deposit rates, highest-lowest interbank rate; etc.		
Set 11: Real estate market indicators			
11.1	House sales	Qenc	1Qenc
11.2	Building permits	Qenc	1Qenc
11.3	Residential property price index	Qenc	1Qenc
11.4	Commercial real estate price index	Qenc	1Qenc
11.5	Others as relevant: residential real estate loans, commercial real estate loans, home foreclosures, etc.		
Set 12 Economic sentiment			
12.1	Consumer confidence	Qenc	1Qenc
12.2	Business confidence	Qenc	1Qenc

Note: (1) for central government, general government encouraged
Menc denotes Monthly encouraged, Qenc denotes Quarterly encouraged

Annex II

Detailed Description of the Statistical Dissemination Framework for Economic and Financial Statistics

The statistical dissemination framework identifies 12 major data categories of high frequency statistics which follow logically from the consolidation and rearrangement of the standards of the IMF and European Commission. These standards have been extended for data categories on the household and the non-financial corporate sector, and the financial and real estate markets to address some the immediate data needs arising from the causes of the financial and economic crisis.

The details of the data categories and the underlying high frequency statistics (for higher order aggregates) have been made explicit to facilitate a better understanding of the data categories and demonstrate the analytical usefulness and policy relevance of the data categories. Many data categories include an “other” for which further discussion and review of country experiences should lead to further details.

The summary presentation of the framework in Annex I suggests tentative references to periodicity and timeliness of the high frequency statistics. Those initial references are subject to further review. They are based on existing dissemination practices and periodicity of the underlying source data.

The description of the each of the main data category and the underlying statistics will be done in turn. The description will contain three parts: scope and coverage, analytical framework and statistical framework. The scope and coverage will provide a summary of the statistics in scope and the reference to the relevant comprehensive statistical standard while the statistical framework elaborates on the periodicity and timeliness dimensions and the reference to the source data. The analytical framework has been added to highlight upfront the analytical use and policy relevance of the proposed statistical framework of high frequency statistics for monitoring and reporting of economic and financial developments. It is expected that these descriptions of the data categories will be further refined in the near future to serve a dual purpose of guiding the drafting of commentaries on the observed trends in the data and the promotion of the policy relevance of the statistical dissemination framework.

National accounts

Scope and coverage: This category covers the quarterly national accounts and may include the first accelerated estimate of GDP and it subsequent releases with more breakdown by expenditure components, income and output components by industries and the quarterly institutional sector accounts covering the full sequence of accounts and balance sheets. The first estimate of GDP pertains to the accelerated release of the quarterly GDP as an aggregate measure of production. The quarterly GDP and its breakdown are made available in current prices and volume measures.

Analytical framework: The main analytical purpose of quarterly national accounts time series (QNA) is to offer an overview of recent economic and financial trends that is timelier than annual national accounts and more comprehensive than individual short-term indicators. These time series meet the analytical need to study dynamic relationships between macroeconomic aggregates in a coherent SNA framework. In particular, quarterly national accounts meet the basic data needs for business cycle analysis and for econometric modeling, whereby business cycle analysis focuses on the identification of turning points through trend-cycle analyses and the analysis of dynamic relationships between economic and financial variables such as coincidences, leads and lags and econometric modeling extends to forecasting of variables in future reference periods.

Short term indicators as we will observe in the next category of high frequency statistics are often available on a monthly basis shortly after the reference period. Although each short term indicators provides an important insight in a specific aspect of the real and financial economy, it is through their integration in a coherent and comprehensive analytical and statistical framework that these indicators are able to provide information on the dynamic relations of cause and effect.

Statistical framework: Quarterly national accounts are built on a foundation of timely and accurate quarterly source data that directly cover a high proportion of the totals. From the first to the subsequent releases of GDP and sector accounts, it is encouraged to maintain the same collection and compilation methodology to minimize unnecessary revisions. The use of econometric methods and indirect behavioral relationships should not be considered at a substitute for data collection and are out of scope of quarterly national accounts compilation.

Production and turnover indicators

Scope and coverage: This category covers indexes of industrial production, industrial new orders, construction, industrial turnover, retail trade and repair turnover, services turnover and production indexes of major commodities(as relevant). Several of the indicators, such as turnover and new orders can be subdivided between domestic and non-domestic. This distinction is extremely useful for analytical purposes as it provides valuable information on the short-term development of distinct markets, especially close to turning points.

Analytical framework: The production and turnover indicators are used for monitoring economic trends. They are generally released with a monthly frequency and cast light on recent developments in production and sales in industry, construction, trade and other services.

Whereas the production index provides information on trends in actual monthly production output (irrespective of what happens in sales), turnover is used to assess current trends in sales and thus demand.

Some high frequency statistics, such as new orders, have a forward looking property useful for assessing future movement of the economy through leading indicators.

Also at more disaggregated level of ISIC, the production and turnover indexes render further insights in the dynamic relationship between different industries and types of products these industries produce, such as intermediate, consumption and capital goods.

While each of the production and turnover indicators and their breakdowns provide valuable information on the performance of the real economy, it is with their integration in a comprehensive and coherent framework of the national accounts that the dynamic relation between these high frequency indicators is understood and used in the compilation of macroeconomic statistics, such as the quarterly national accounts.

Statistical framework: Production, turnover and new order indicators are often built on a foundation of timely and accurate monthly source data that directly cover a high proportion of the totals. Ideally, the periodicity of production indexes is monthly with a timeliness of the first estimate at 30 days after the reference period. With these indexes being an important input for the GDP first estimate, the acceleration of the GDP estimate depends critically on the acceleration of the release of the production indexes.

Prices

Scope and coverage: The consumer price index (CPI) is deliberately focused on household consumption of goods and services. Practices differ whether the imputed rents for the flows of housing services provided by owner-occupied dwellings is included in the overall index. The index provides a general measure of changes in prices of consumer goods and services acquired, used or purchased by household. The operational target for most CPIs is to measure the change over time in the total value of some specified basket of consumption goods and services purchased or acquired by households in some specified period of time.

The producer price index (PPI) may include all domestic goods- and service-producing establishments. Traditionally, the PPI has been compiled as a measure of price change for the goods producing sectors of the domestic economy. These include agriculture, forestry, and fishing; mining; manufacturing; and public utilities. The services sectors that are in scope for a PPI vary across countries. Many countries are interested in creating a corporate services price index. This restricts coverage to business services, including professional services, finance, insurance, real estate, accommodation and food, information, communications, and the transportation of goods. A more expansive definition could include all services transactions that are in intermediate demand.

The producer price indices can refer to indices related to inputs or outputs of the production process. The PPI measures for outputs pertain to the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services. these are often called 'factory gate prices' The PPI measures for inputs pertain to the average change over time in the purchasers' prices paid by domestic producers for their intermediate inputs, which can be differentiated between the domestic products and imported products..

The import price index (IPI) is an economic indicator that measures change in the prices of goods and materials imported. This index can be completed by the export price index that measures change in the prices of goods and materials exported.

Analytical framework: The CPI is an important economic indicator of price changes. The index is used in many ways by the government, businesses, and society in general. The index can affect interest rates, tax allowances, wages, state benefits, pensions, maintenance, contracts and many other payments. It also shows the impact of inflation on family budgets. The index is also used as one of the key variables for monetary policy in defining price stability and targeting an inflation rate.

The PPI is used in monitoring and measuring inflation at different stages of production. Moreover, many detailed PPIs are used in price variation clauses in trading contracts, or for internal current cost accounting. Some PPIs are compiled for stocks and fixed assets held by various industries. These PPIs assist company accountants to revalue assets from historic to replacement cost terms. The producer prices index for corporate services is a relatively new development and provides a reliable means of measuring and monitoring inflation for business-to-business services.

Statistical framework: In many countries, both the all item CPI and PPI as an aggregate are prepared on a monthly basis and released within a short period after the reference month. These indexes can be presented as year-to-year changes, month-to- month, as annual indices and annual change rates.

Some countries prepare accelerated first estimates for the CPI based on early price information relating to the reference month. The first estimation procedure combines historical information with partial information on price developments in the most recent months to give a total index for all items without further breakdown.

Labour market indicators

Scope and coverage: This data category contains unemployment rate, employment and labour cost index.

Active persons (active population) are those who are either employed or unemployed.

The ILO defines the unemployed as all persons above a specified age who during the reference period were:
- without work, that is, were not in paid employment or self employment during the reference period;
- currently available for work, that is, were available for paid employment or self-employment during the reference period; and
- seeking work, that is, had taken specific steps in a specified recent period to seek paid employment or self-employment.

The unemployment rate is the share of unemployed persons of the total number of active persons in the labour market.

The employment statistics can refer to the number of persons employed but may be approximated on a temporary basis by using the number of employees. The main difference between the number of persons employed and the number of employees results from the number of unpaid persons employed who are included in the first indicator but not in the second. The number of persons employed is defined as the total number of persons who work in the enterprise (factory, shop, office, etc.) as well as persons who work outside the unit who belong to it and are paid by it. It includes persons absent for a short period and also those on strike, but not those absent for an indefinite period. It also includes part-time workers who are regarded as such by the laws of the country concerned and who are on the payroll, as well as seasonal workers, apprentices and home workers on the payroll. The number of persons employed excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the observation unit on behalf of other enterprises, as well as those on compulsory military service.

The cost pressure arising from the employed labor is measured through Labour Cost Index (LCI). The data covered in the LCI relate to total average labour costs based on the cost categories compensation of employees and mixed income, and employers' social security contributions, and taxes paid minus subsidies received by the employer on labor.

Increasing the labor market developments are monitored through additional indicators such as job vacancies.

Analytical framework: Labour market data comprise a key set of indicators for the assessment of the cyclical situation and for macroeconomic and social policy making. Both the employment and labour cost indices play an essential role in the compilation of key indicators for the analysis of long-term economic equilibria and the movements around it, such as the NAIRU (non accelerating inflation rate of unemployment) and Phillips curve (the relationship between inflation and unemployment.

Unemployment as an indicator is a lagging indicator in the business cycle of economic activity, which could be further broken down in structural and short-term unemployed. It is closely watched because the indicator signals the build up of fiscal pressures in the near and long term.

Statistical framework: Employment data is broken down by sex and age. Data may be presented in thousand of persons and by rate (unemployment rate). Moreover percentage changes to show the evolution of this aggregate are presented. Data is disseminated on a monthly basis either non-seasonally or seasonally adjusted.

The labour cost index is disseminated on a quarterly basis. It is broken down by cost items and by economic activity. Preferably, the data is computed on the basis of the chained Laspeyres formula and presented against a reference year. Data maybe provided both in nominal and real terms and in percentage changes.

External sector indicators

Scope and coverage: The monitoring of the transactions and positions held vis-a-vis the rest of the world is guided by the international accounts represented by the balance and payments and the international investment position.

The balance of payments is a statistical statement that summarizes transactions between residents and nonresidents during a period. It consists of the goods and services account, the primary income account, the secondary income account, the capital account, and the financial account. The international investment position (IIP) is a statement that shows at a point in time the value of financial assets of residents of an economy and the liabilities of residents of an economy to nonresidents.

These two comprehensive statements are complemented by more detailed account of transactions and positions in official international reserves and external debt

Analytical framework: The international accounts provide an integrated framework for the analysis of an economy's international relationships for monitoring its international economic and financial performance, exchange rate policy, reserves and external debt management. With the emerging interconnected product and financial markets, the timely monitoring and reporting of the real and financial transactions and positions with sufficient detail by counterpart sector, foreign currency and maturity composition have become indispensable tools in assessing the external vulnerability at the national and global level.

On the current account of the balance of payments, the components and their summary measures are of critical importance for the monitoring of exports and imports of goods and services and the returns on the movement of labor and financial resources through the measurement of remittances, interest, dividend and reinvested earnings. Together with the official flows of international assistance through grants, the trends of these flows provide a timely monitor of the transmission mechanisms and vulnerabilities for the global product, labor and capital markets.

The understanding of the financial transmission mechanisms and vulnerabilities are determined by the assets and liabilities of the international investment position either presented in a financial instruments split like monetary gold, currency and deposits, debt securities, loans, etc. or by functional categories like direct investment, portfolio investment, financial derivatives, other investment and reserve assets. Tracking direct investment relationships assists in understanding the developments and exposures in production, trade and finance through external control and influence. In contrast to direct investors, portfolio investors typically have fewer roles in the decision-making of the enterprise with potentially important implications for future flows, and for the volatility of the price and volume of positions. Portfolio investment differs from other investment in that it provides a direct way to access financial markets, and so can provide liquidity and flexibility. It is associated with financial markets, and with associated service providers such as exchanges, dealers, and regulators. The nature of financial derivatives as instruments, through which risk is traded in its own right in financial markets, sets them apart from other types of investment. The monitoring of the details for the international reserve assets have the distinct motive to meet balance of payments financing needs and ability to undertake market interventions to influence the exchange rate.

By consolidating the financial liabilities except for shares, other equity and financial derivatives, gross external debt renders a summary measure of external exposure to outstanding amount of actual liabilities that require payment(s) of principal and/or interest. For analytical purposes, the external debt is reported for public and publicly guaranteed debt and private debt by original short-term and long-term maturity and by remaining-maturity. The latter elaboration provides an indication when payments will fall due, and therefore of potential liquidity risks facing the economy.

Particularly important is the debt schedule of payments with further attention for those payments due in the near term. A debt-service payment schedule projects payments on the outstanding gross external debt position at the reference date. This schedule assists in the assessment of liquidity risk from bunching of payments regardless of the original maturity of the debt instruments. Early warning of such bunching might allow countervailing action to be taken.

The monitoring of merchandise trade data serves as yet another real time tracking category for the external trade in terms of the cross border physical movement of the goods. As such another frequent and more detailed indicator of developments in the current account of the balance of payments.

Statistical framework: The quarterly release of balance of payments with a timeliness of one quarter after the reference period is encouraged. For the international investment position also a quarterly release is preferred with a timeliness of one quarter after the reference period. For countries with less developed statistical system, these recommendations might not be met but they should be encouraged to pursue a periodicity on annual basis within a release 6 to 9 months after the reference period.

The official reserve assets and the template on international reserves can follow monthly periodicity with a timeliness of one month after the reference period because of the availability of monthly source data from the central bank survey. Both the periodicity and timeliness of the official reserve assets and the template on international reserves can be increased to weeks for those countries that compile and report the central bank data at higher frequency.

With respect to the external debt data category, the dissemination of quarterly data with a one-quarter lag, covering four sectors (general government, monetary authorities, the banking sector, and other) becomes feasible with the improved monitoring of debt. Furthermore, for analytical purposes these quarterly data are to be disaggregated by original maturity—short- and long-term—by financial instrument and by private and public and publicly guaranteed debt.

Progressively countries disseminate supplementary information on future debt-service payments, in which the principal and interest components are separately identified, for instance twice yearly for the first four quarters and the following two semesters ahead, with a lag of one quarter. The data could be further broken down into sector—general government, monetary authorities, the banking sector, and other sectors. The dissemination of a domestic/foreign currency breakdown of external debt with quarterly periodicity and timeliness is also encouraged.

Total merchandise imports and total merchandise export data be disseminated within the monthly periodicity and timeliness. Dissemination of disaggregated components of imports and those of exports by major categories is encouraged, even with a slightly longer lag if needed.

Financial sector indicators

Scope and coverage: The financial sector is described by the monetary and financial statistics. The monetary statistics monitor the positions and transactions of the financial and non-financial assets and liabilities of an economy's financial corporate sector. For the dissemination of high frequency statistics, its most detailed presentation in sector balance sheet is consolidated in a survey presentation whereby the balance sheets of the central bank, other depository corporations and other financial corporations are combined and assets and liabilities aggregated to obtain meaningful monetary aggregates for the money base and broad money.

Financial statistics consist of sectoral balance sheets of all sectors of the economy with a comprehensive set of stock and flow data on the financial assets and liabilities of all sectors of an economy. The financial statistics are organized and presented in a format designed to show financial flows among the sectors of an economy and corresponding financial asset and liability positions.

The framework for monetary statistics includes the central bank survey, the depository corporations survey and the financial corporations survey. The framework classifies all financial corporations that issue liabilities included in the national definition of broad money as depository corporations and recommends the compilation of a depository corporations sectors showing, in a balance sheet format, broad-money liabilities of the depository corporations and the asset counterparts to those liabilities.

The consolidated presentation of the financial corporations sector survey provides the stock and flow data for analyzing claims on and liabilities to all other sectors of the economy and nonresidents, at the level of the entire financial corporations sector. In particular, the financial corporations survey shows a comprehensive measure of credit extended by financial corporations to other sectors. Credit measures may cover all or only a subset of financial assets that constitute forms of credit.

Analytical framework: For many countries, the depository corporations survey will constitute the principal set of monetary aggregates for macroeconomic policy related to money and credit. These monetary aggregates define the balance sheet identity with the financial liabilities of the components of national definition of broad money matching the financial assets that determine domestic credit and the net foreign assets.

The depository corporations survey aggregates the central bank survey with the survey of other depository corporations whereby the central bank survey determined the monetary base held in the form of central bank's liabilities in the form of national currency and reserve deposits held at the central bank. The monetary base is a critical monetary aggregate for monetary policy because its changes usually lead to increases in money and credit that are larger than the changes in the monetary base.

Credit measures may cover all or only a subset of financial assets that constitute forms of credit. Narrow credit measures cover claims in the form of loans, securities other than shares, and trade credit and advances. Such measures exclude deposits, shares and other equity, financial derivatives, claims on life insurance corporations and pension funds in the form of insurance technical reserves, and other accounts receivable that are not part of trade credit.

Credit measures that are important for the formulation and implementation of monetary and other macroeconomic policy are the central bank credit and the central government credit. Central bank credit may be extended to (i) provide liquidity to fund ongoing operations of other depository corporations, (ii) enable other depository corporations to respond to seasonal credit demand, (iii) influence national financial conditions and the amount of broad money, or (4) provide emergency assistance. Central governments supply credit to financial corporations by extending loans or by providing deposits that are intended to be used for credit expansion by the financial corporations. Governments also often provide credit to non financial sectors to foster public policy goals such as development of specific industries or regions or to provide emergency aid. Credit from governmental units is often granted at subsidized (i.e., below-market) interest rates. Comprehensive measures of government credit include lending by the central government and other levels of government

The analytical benefit of the financial statistics is the understanding of the interrelations between the financial corporate sub-sectors and between the financial sector and the other sectors of the economy and the non-residents. Data on loans and capital market instruments such as securities show the extent to which countries use the financial institutions and capital markets to obtain funds to finance economic activity. The data offer means for assessing the relative importance of various types of financing and for monitoring the changes in the sources of financing over time. The data indicate the sources of funds to financial corporate sector and other sectors. Forms of financial-asset accumulation, deposits, pension and life-insurance reserves, securities, and the like, are also identified. Financial statistics provide a means for examining the contribution of domestic and foreign sources of financing to a country’s current expenditures, capital formation and investments in financial instruments. Policymakers use financial statistics to analyze economic and financial developments within countries and to compare economic and financial development among countries. For example, financial statistics are an important input to the balance sheet approach to analyzing a country’s vulnerability to external or internal shocks. The financial account shows the flow of funds from net saving sectors to net borrowing sectors, channeled through intermediation in the financial sector or, to a lesser extent, through direct lending between the non financial sectors.

Statistical framework: Most countries have longstanding experience with the compilation and dissemination of balance-sheet (stock) data for the central bank and other depository corporations on a monthly basis. Some countries presently compile and report balance-sheet data for some or all categories of other financial corporations on a quarterly or annual basis or, for more advanced countries, on a monthly basis. These practices are the basis for the periodicity and timeliness dimensions identified for dissemination on a monthly basis for the central bank and other depository corporations.

Countries may experience difficulties with the development of quarterly data reporting for other financial corporations on a timely basis, given that insurance corporations, pension funds, and financial auxiliaries often report only annual data and only with lengthy reporting lags. Such data are often reported to supervisory authorities or other government agencies that have to been involved with the reporting of source data for monetary or financial statistics. For these countries, quarterly data reporting for the other financial corporations may need to be developed over the medium term, possibly entailing the establishment of direct reporting of data from other financial corporations to the compilers of the monetary statistics. Compilation of the financial statistics on a quarterly basis is applicable to countries that already have quarterly data for the current account and capital account of their national accounts statistics, or are currently working on migration from annual to quarterly national accounts statistics.

Government sector indicators

Scope and coverage: For the government sector indicators, general government operations are in-scope. In its most comprehensive statistical framework for government finance statistics, the indicators cover central, state or provincial and local government. It might be further extended with public enterprises to constitute the public sector. The statistics relate to revenue, expenditure, balance, and where relevant/feasible, domestic (with a bank/non-bank breakdown) and foreign financing.

For more frequent and timely indicators on the fiscal overview of general government operations, central government operations are used. This covers budgetary accounts and other central government units (social security and extra-budgetary units and accounts) only.

With the availability of data on central government operations on a monthly basis, most countries are encouraged to meet the monthly periodicity and timeliness. For government debt of the central government, quarterly dissemination dimensions are recommended when source data are not made available earlier.

Analytical framework: The government finance statistics framework is designed to provide statistics that enable policymakers and analysts to study developments in the financial operations, financial position, and liquidity situation of the general government sector or the public sector in a consistent and systematic manner. The framework can be used to analyze the operations of a specific level of government and transactions between levels of government as well as the entire general government or public sector. One method used in the framework to produce summary information on the overall performance and financial position of the general government or public sector is through the use of a set of balancing items, such as the net operating balance, primary operating balance, net lending/borrowing, government deficit/surplus, and the change in net worth. These balancing items measured on accrual principles are complemented by the cash surplus/deficit as a summary measure of the government operations measured on a cash basis.

Net operating balance, primary operating balance, net lending/borrowing and government deficit/surplus are summary measures of the ongoing sustainability of government operations. Net lending/borrowing is a summary measure indicating the extent to which government is either putting financial resources at the disposal of other sectors in the economy or utilizing the financial resources generated by other sectors. Government deficit/surplus is an interesting measure because it differs from the net lending/borrowing for those transactions recognized and classified as transactions in assets and liabilities for public policy purposes such as purchases of equity or provisions of loans. These latter financial transactions have become increasingly relevant in the fiscal policy responses of the government during the present crisis

While the aforementioned mentioned balances as analytical summary statistics are obtained through the recording of flows and stocks on an accrual basis, information on the sources and uses of cash is important for assessing the liquidity of the general government sector. The summary measure for liquidity is obtained from the cash balance: cash surplus/deficit. This summary measure shows the total amount of cash inflows from current operations and net cash outflows from transactions in non financial assets. These summary measures based on the transactions of the governments should be complemented by summary statistics based on the stock of financial liabilities and assets.

Statistical framework: Increasingly fiscal data are required at higher frequency than annually or quarterly to obtain the ability to detect early on, issues of solvency and liquidity and other analytical perspectives on fiscal operations and positions. The business sector and the monetary authority benefit from an early release of this fiscal stance to anticipate potential fiscal policy shocks. Countries are meeting these demand for fiscal data by disseminating monthly summary measures of budget balances for central government operations and quarterly central government debt statistics. Others have extended the scope to quarterly general government accounts with a 30 days delay.

Household sector indicators

Scope and coverage: This data category contains statistics on total disposable income, total debt, debt-services and principal payments and other statistics as relevant like defaults on home mortgages, credit card debt and car loans.

Analytical framework: With the household consumer being identified as one of the major drivers of growth, the development of household disposable income as a determinant of provide household consumption as become an important variable in socio-economic policy meeting. Also this income variable determined the present and future capacity to meet debt service payments against outstanding debt. With a significant amount of household debt determined by house mortgages, consumer credit and car loans are specific early warning signal about the present capacity to pay to meet the debt payments.

Statistical framework: The measure of household disposable income at national level has to be obtained from household surveys that are representative for the nation. The frequency of these source data has to meet the measurement of this income at quarterly periodicity. Total debt can in part be obtained from depository surveys which have a traditionally a monthly or quarterly frequency. These surveys have to be extended to other financial corporations if a large share of credit has been extended by those institutions.

Non financial sector indicators

Scope and coverage: This data category contains statistics on total operating income before tax, total debt, debt service and principal payments and other statistics as relevant such net foreign exchange exposure, number of applications for protections from creditors.

Analytical framework: Total operating income before tax is a measure of profitability of the corporate sector that can be obtained from administrative and survey data. This and other profitability indicators can assess the vulnerability and sustainability of the corporate sector in meeting their debt obligations. Further breakdown of the debt by foreign currency show the exposure to currency risks. The number of applications for protection from creditors is an early warning signal for a deterioration of the quality of the outstanding liabilities in the capital market.

Statistical framework: The frequency and coverage of the source data from surveys and administrative data for the corporate sector should be aligned with the periodicity and timeliness of the indicators. Increasingly with the use of administrative data, the segment of “large’ corporations could be representatively covered. The surveys of the financial sector in combination with the external debt systems should cover the domestic and external debt and its debt servicing.

Financial market indicators

Scope and coverage: This data category contains interest rates, exchange rates, nominal and real effective exchange rate, stock market index, stock market capitalization, long term government bond rate and other indicators as relevant such as spreads between interest rates. Whether the countries are able to report on those statistics depends on whether the markets for those rates exist.

The interest rates refer the different types of interest rate as relevant such as the monthly averages of day-to-day money market interest rates of national series or the monthly averages for the 3-month interest rates of national series. Other representative interest rate might be the monthly average of the bond yields at maturities of three and six-month treasury bills.

The exchange rates refer to spot market and forward exchange rates for major currencies with respect to the national currency (bilateral exchange rates) based on monthly average and end-month rates for a range of currencies. Nominal and real effective exchange rates are calculated as average trade-weighted effective rates. For the real effective rate, consumer prices are used as deflator.

The stock market index refers to the monthly average indices for national major stock markets and the stock market capitalization refers to end-month position expressed in national currency.

Long-term government bond rate is defined as long-term interest rate calculated as the monthly average of central government bond yields with around 10 years' residual maturity.

Central bank interest rates are key reference rates set by national central banks as the policy rate at which the central bank lends to other depository corporations.

Spreads between interest rates are the difference in percentage points between interest earned and interest paid, lending and borrowing rates, or the differences between a lending rate and a yield of a bond rate, e.g. overnight lending rate and the long term government bond rate.

Analytical framework: The analysis of interest rates and the spreads between interest rates are used to develop yield curves which provide early warning signals through their forward looking property upon which the central bank and government determine their macroeconomic policies. More often than not the yield curve is upward sloping, and thus the interest rate spread is positive, meaning that yields increase as time to maturity increases. This shape of the yield curve demonstrate the higher yield on longer-term bonds explained by the compensation for investors for greater exposure to the risk of changes in future interest rates. Occasionally the yield curve becomes downward-sloping or inverted, and thus the interest rate spread is negative. This inverted relationship occurs if investors anticipate a recession in the near future. This anticipation will lead them to sell their short-term bonds and buy longer-term bonds to carry them through the recession. The sell off of short-term bonds will lower their price, and thus raise their yields, while the buying-up of long-term bonds will raise their price and thus lower their yield. If these two effects are sufficiently strong, the interest rate spread can invert, or become negative.

The exchange rate movements are near term signals of international competitiveness which are closely guarded by the monetary authorities. They are in a position to use their foreign exchange reserves to influence the market price through either buying or selling foreign currency. The effective exchange rate is an indicator to understand international competitiveness in terms of the foreign exchange rates of major trading partners that cannot be understood by examining only individual exchange rates.

The stock market index and market capitalization are important real time tracking indicators of the overall health of the economy. Its movement is indicative of the expected future profitability of the listed companies in return to their investments and innovations. Deviations from trend developments are to be monitored carefully because the second round effect of the value fluctuations might have considerable impact on macroeconomic stability of production, consumption and accumulation.

Statistical framework: The periodicity and timeliness of most of the financial markets indicators are available on a daily basis from commercial resources. It is recommended that monthly averages or month-end measures are prepared and released quickly after the reference month.

Real estate market indicators

Scope and coverage: This data category contains house sales, building permits and residential property price index, commercial real estate price index and other indicators such as residential real estate loans, commercial real estate loans and home foreclosures, as relevant.

The building permits as an indicator refers to either number of dwellings or useful floor area in m2. The objective of the number of dwelling building permit index is to signal the future development of construction activity in terms of unit numbers, while the objective of the useful floor area building permit index is to show the future development of construction activity in terms of volume.

The residential property and commercial real estate price index are only developed for a limited set of countries. These indicators pertain to underlying price data such as transaction prices, appraisal values, judgments by market experts, offer prices, the geographical coverage (urban areas or major cities) and types of dwellings (new , existing dwellings), etc.

The house sales indicator comprises the number of residential dwellings sold as well as the transaction values

Other indicators are relevant such as on loans and advances on property loans obtainable from the depository and financial corporations surveys and home foreclosures.

Analytical framework: A building permit is an authorization to commence work on a construction project and signals the final stage before construction begins. This indicator signals expected performance of the construction sector's activity in the near future. It is noted that this indicator should be used with caution because the construction based on those permits might be delayed or the permits might remain unused or are withdrawn. In most cases, the data is not adjusted for the withdrawal of permits. Moreover, double counting may occur if the same construction project remains idle and reinitiated with the issuance of a new permit since the pervious permit has expired.

With the housing market and the property markets being identified as one of the major causes of macroeconomic and financial instability, the demand for these indicators have intensified. The property price indices aim to reflect changes in prices and, therefore, correct for the different characteristics property have over time. The transaction values reflect the expenditure on purchasing a residential or commercial property.

Statistical framework: Building permits statistics to quality as a high frequency statistics are recommended to be available on a quarterly basis with a recommended timeliness of one quarter after the reference period. Residential and commercial price indexes, property transaction data, in number and value, for house sales have a similar quarterly periodicity and timeliness to assess the dynamics of housing market activities.

Economic sentiments

Scope and coverage: This data category contains consumer confidence and business confidence indicators.

Analytical framework: Business and consumer surveys provide essential information for economic surveillance, short term forecasting and economic research. Moreover, they are widely used to detect turning points in the economic cycle.

Statistical framework: The business confidence indicators are based on business surveys which can cover a single economic activity like manufacturing or with a broader sector coverage including construction, retail trade and financial services. The consumer confidence surveys are based on household surveys. Nearly all the questions are of a qualitative nature. Answers obtained from the surveys are aggregated in the form of “balances”. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The balance series are then used to build composite indicators. Based on the frequency of the survey, the indicators can be produced on a monthly or quarterly frequency.

By way of illustration, business surveys contain main questions with reference to an assessment of recent trends in production, of the current levels of order books and stocks, as well as expectations about production, selling prices and employment. The consumer survey collects information on households’ spending and savings intentions, and to assess their perception of the factors influencing these decisions.