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**Global assessment on the availability, periodicity, timeliness
and dissemination of high frequency indicators**

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Global Assessment on the Availability, Periodicity, Timeliness and Dissemination of High Frequency Indicators

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I   Introduction

1.   The programme statement of United Nations Statistics Division/Department of Economic and Social Affairs (UNSD/DESA) at the fortieth Session of the United Nations Statistical Commission in 2009 calls for swift and coordinated statistical initiatives by countries and international organizations in response to the global economic crisis. These initiatives should focus on identifying and remedying data gaps to monitor the unprecedented financial and economic turmoil to allow for timely and measured policy responses as well as to improve the dissemination and communication on available relevant information. This call for action followed the extensive consultations with countries and international organizations.

2.   UNSD/DESA and Eurostat, in partnership with Statistics Canada organized the International Seminar on Timeliness, Methodology, and Comparability of Rapid Estimates of Economic Trends in Ottawa from 27 to 29 May 2009 (Ottawa Seminar). The Ottawa seminar addressed the availability and international comparability of a data template of high frequency statistics, the communication strategy of such estimates and the development of an analytical template of indicators on the performance of the real economy and the financial markets for effective monitoring.

3.   The main outcome of the Ottawa seminar was the support for an international data template to monitor economic activity to detect changes brought about by developments such as the economic and financial crisis. The seminar also requested an assessment of its relevance and feasibility in terms of availability, periodicity and timeliness by the international statistical community and its relevance to users in fulfilling analytical and policy needs. The need was also identified to develop a glossary of terms and definitions to clarify the high frequency statistics framework and its compilation methodology and to update existing handbooks and guidelines on composite indicators, GDP flash estimates, and economic sentiment indicators given their extensive use in tracking economic activity.

4.   In accordance with the outcome of the Ottawa seminar UNSD/DESA conducted a global assessment on the availability, periodicity, timeliness and dissemination of high frequency indicators. This base-line assessment was undertaken to gain insight in the availability of high frequency indicators at the country level and their data dimensions in terms of periodicity, timeliness and dissemination. It was based on the recognition that the dissemination of these indicators at the national and international level could go a long way to identify changes in economic activity such as, those that arose from the present economic and financial crisis. Invitations were sent to all United Nation Member States to participate in the assessment.

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5.   This paper reports on the outcome of the global assessment. Following the introduction a brief description of the questionnaire is provided. Section three provides an overview of the results of the assessment. The fourth section describes a three tier data template based on the responses to the assessment. The fifth section discusses an analysis of the results of the assessment. The last section comprises some concluding remarks.

II   The questionnaire

6.   The questionnaire is based on the Ottawa data template consisting of 12 major categories covering national accounts, production and turnover indicators, prices, labour market indicators, sectoral indicators for the external, financial, government, non-financial and household sector, financial and real estate market indicators, and economic sentiment indicators. Each of the 12 categories contains a number of indicators. Each indicator has 4 parts or questions to assess its availability of the indicator in the country and the periodicity, timeliness and dissemination of the indicator.

7.   The assessment inquired about the availability of high frequency indicators in the country in general and not only those that are compiled and/or disseminated by the national statistical office. Therefore, statistical offices were requested to contact their counterparts in the central bank, other economic policy departments, and research institutions of banks, universities or business associations to obtain a complete national inventory including those indicators that are not broadly disseminated.

8.   The Ottawa template is attached to this report in Annex 1.

III   Overview of the results of the global assessment

9.   At the time of writing this report ninety one countries responded to the questionnaire. Table 1 provides a summary of the responses to the assessment. The table shows that a good geographical coverage was obtained from the responses to the questionnaire. In addition, the results represent information from countries that comprise about 83 per cent of world gross product and about 72 per cent of the world population.

Table 1.   Response rate by region

	Response	Response rate	Per cent of GDP	Per cent of population
World	91	43.1	83.4	72.0
Africa	13	24.1	43.6	29.2
Northern America	2	50.0	99.9	100.0
Latin America	14	34.1	78.4	75.5
Asia	29	56.9	90.6	81.1
Europe	30	68.2	68.6	62.7
Oceania	3	17.6	97.6	73.5

10.   The response for each of the 12 data categories was analysed by income group. The income groups correspond broadly with those used by the World Bank. The income levels are

divided into high income, middle income and other. The latter includes mainly low income countries and some small high income countries with less sophisticated statistical systems. The 12 categories are: Set 1 Quarterly National Accounts; Set 2 Production and turnover; Set 3 Price indicators; Set 4 Labour market indicators; Set 5 External sector indicators; Set 6 Financial sector indicators; Set 7 General Government sector indicators; Set 8 Household sector indicators; Set 9 Non-financial sector indicators; Set 10 Financial market indicators; Set 11 Real estate market indicators; and Set 12 Economic sentiment indicators.

11.   An overview of the responses by income group for each data category is provided in Table 2 and Graph 1. Apart from the other category, the response rate in terms of percentage of GDP and population was well ove r 75 per cent. According to the information in Table 2 and Graph 1 good coverage was obtained in terms of income levels.

Table 2.   Response rate by income group

Income levels	Response	Response rate	Per cent of GDP	Per cent of population
High	22	75.9	88.0	88.0
Middle	48	46.6	76.9	80.7
Other	21	26.6	54.3	18.5
Total	91	43.1	83.4	72.0

12.   Countries from all income group levels replied to the questionnaire and reported that they are compiling high frequency indicators for all 12 categories of the Ottawa template. One conclusion that can be drawn from the information is that there seems to be a correlation between level of income and the scope of indicators compiled.

Graph 1.   Response by income group

Response to each question set by income group

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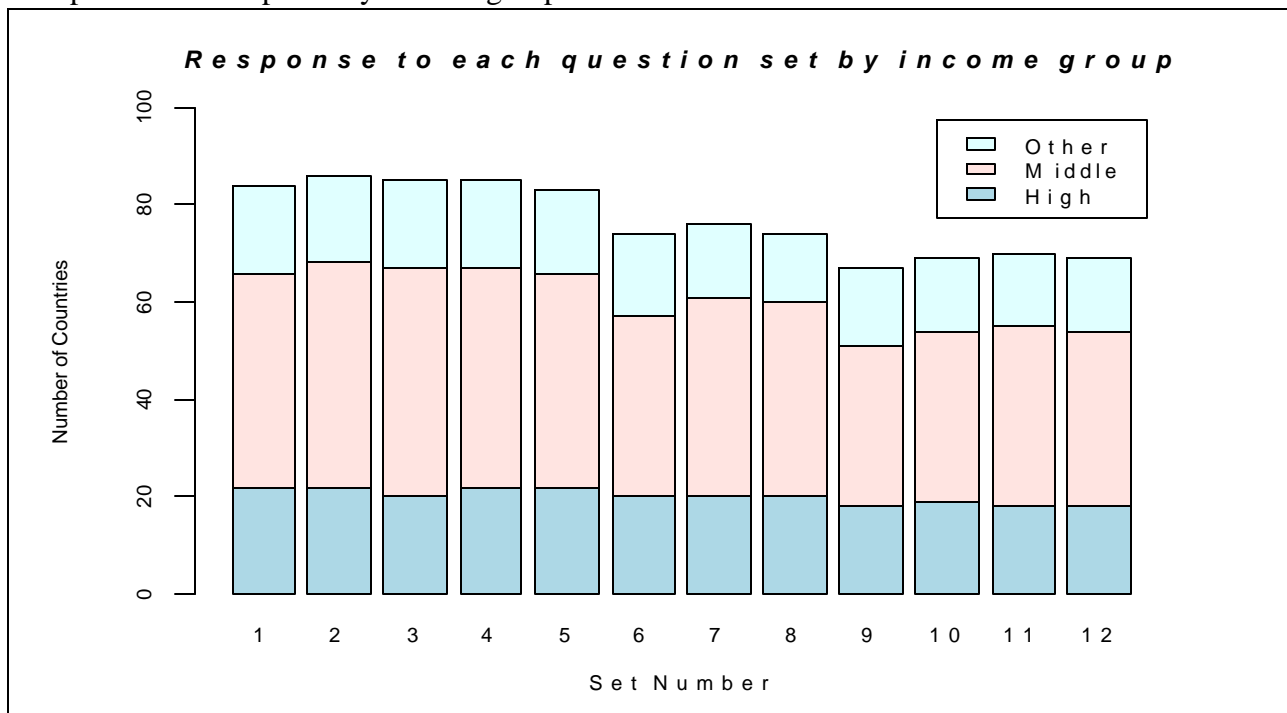
13.   When the response rate by data category is analysed it is clear that most indicators are compiled by more than 60 per cent of respondents. However, the response for middle income and other countries are less than 60 per cent for indicators such as, turn-over indicators (for industry and other services); new orders for industry and construction; real estate market indicators; and sentiment indicators. The rate of response to each data category is shown in Graph 2.
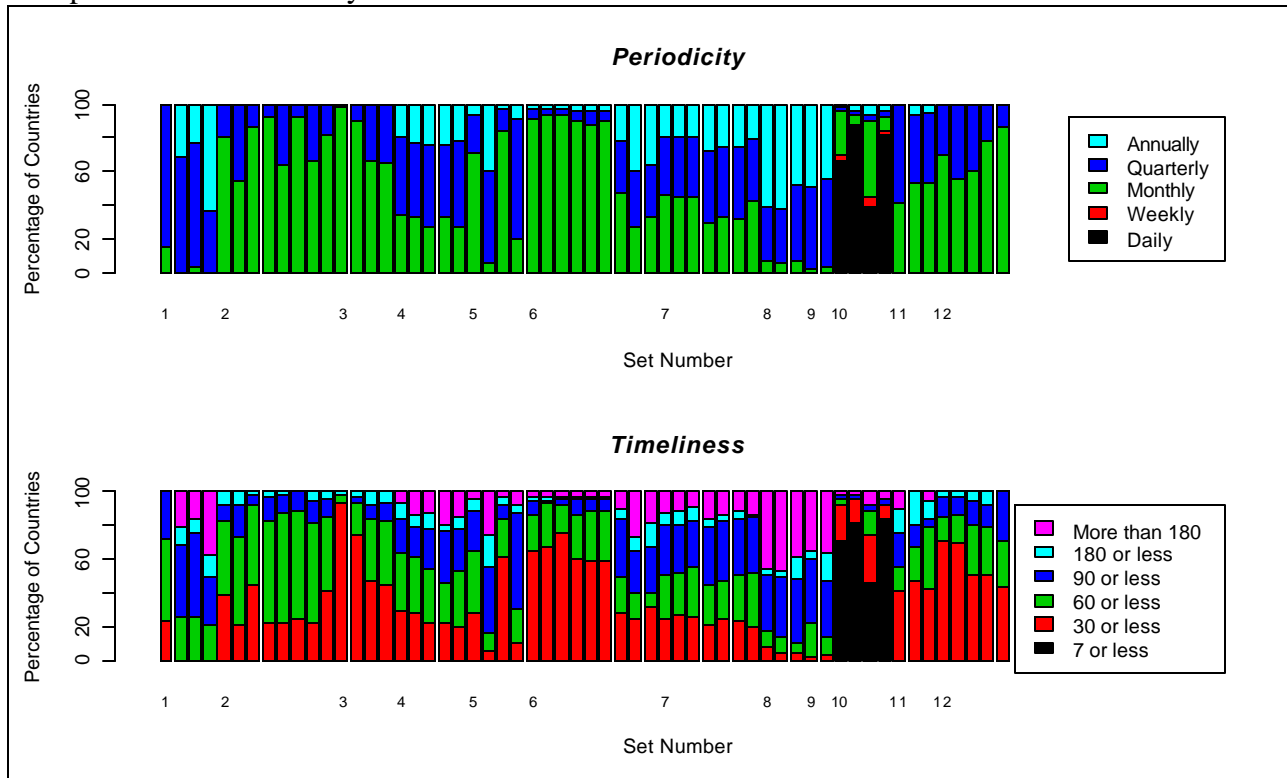
14.   The outcome of the periodicity of the indicators is as expected. The structural indicators such as, GDP, labour and sectoral indicators (excluding finance) are mainly compiled on a quarterly basis.

Graph 2.   Response rate by data category
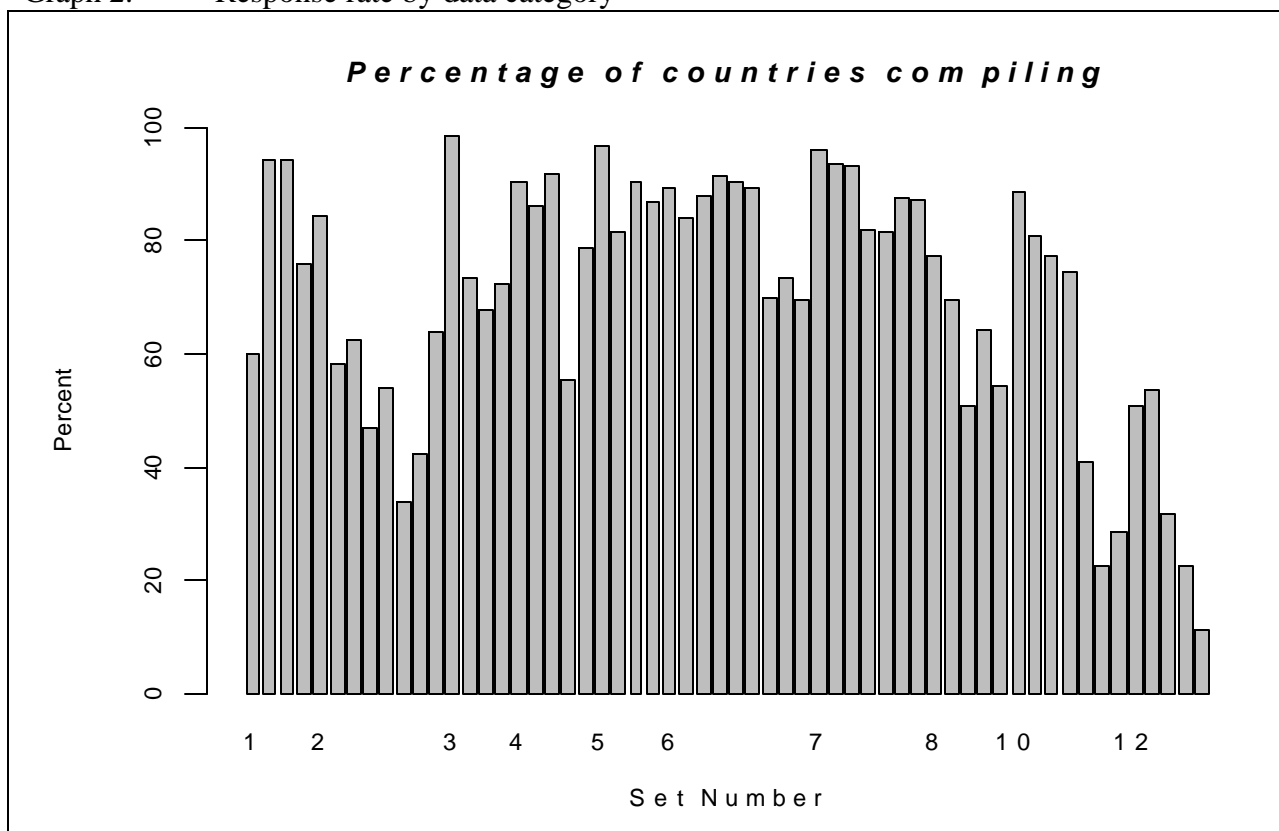
15.   Indicators such as, production, prices, financial market and financial sector indicators are mainly compiled on a monthly basis. A good correspondence between the periodicity and the timeliness of the indicators were reported. For example, data are reported before the end of the next reporting period. However, it was found that the timeliness of monthly production, turnover and new orders indicators are a bit more than 30 days. It was also found that basic indicators are generally not seasonally adjusted. Graph 3 shows the periodicity and the timeliness of the indicators.

Graph 3.   Periodicity and timeliness of indicators

Periodicity

Legend:
- Annually
- Quarterly
- Monthly
- Weekly
- Daily

Set Number

Timeliness

Legend:
- More than 180
- 180 or less
- 90 or less
- 60 or less
- 30 or less
- 7 or less

Set Number

IV   Three tier data template

16.   The outcome of the assessment indicates that a core set of indicators could be identified by category from the Ottawa data template for which regional and world totals is feasible. In addition, a cross country analysis of the assessment shows that the data template can be re-arranged in three different tiers. Indicators could also be identified that are sufficiently comparable and for which world and regional aggregates can be derived to complement the high frequency statistics for individual countries. In general the first tier includes indicators that are compiled by more than 60 per cent of counties. Indicators on this level represents a common or core data template for all countries from which world and regional totals can be compiled. The second tier includes indicators that are compiled by between 30 to 60 per cent of high and middle income countries, supplemented by strategically important indicators. These indicators extend the core data template with recommended supplementary indicators for all countries. The third tier includes indicators below a 30 per cent response rate and can be included in national templates. Annex 1also shows the different tiers identified for each indicator.

V   An analysis of the results of the assessment

17.   In this section the outcome of the assessment for each of the 12 data categories is described in three parts. Firstly a description of what is included under the data category is provided. Secondly a table of the response rates for each indicator in the category is shown. The responses shown in the table refer only to those that indicated a quarterly or higher frequency to facilitate the classification of the indicators into the three tiers. Lastly, the outcome of the assessment is discussed indicating the relevant tier and recommended periodicity for each indicator.

National accounts

18.   This category covers the quarterly national accounts and includes the first accelerated estimate of gross domestic product (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.

Table 3. Percentage of countries compiling quarterly national accounts indicators

		Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
	Question	High	Middle	Other	Total				
1.1.	Flash GDP estimate	64	65	38	58	Quarterly	X		
1.2.1.	GDP full release - By expenditure	95	58	38	63	Quarterly	X		
1.2.2.	GDP full release - By production	91	75	38	70	Quarterly	X		
1.2.3.	GDP full release - By income	64	15	10	25	Quarterly			X

19.   It is notable that almost 60 per cent of respondents reported the compilation of flash estimates of GDP. This is done mainly on a quarterly basis. The compilation of GDP by production and expenditure is carried out by almost all countries. In the case of high income countries it is compiled almost exclusively on a quarterly basis, while less than 50 per cent of countries in the other category do it quarterly. There are some countries that compile GDP by production on a monthly basis. A lower rate of response was obtained for the compilation of GDP by income. Although about 60 per cent of high income countries produce this indicator on a quarterly basis, it is mainly produced on an annual basis. With the exception of GDP by income, which is classified in tier 3, all the national accounts indicators are classified in tier 1. The recommended periodicity for the national accounts indicators is quarterly. The compilation of GDP by expenditure and production is generally done according to the guidelines of the SNA. However, there is a need for guidance on standardized methodology for the compilation of flash GDP.

Production, turnover and new orders

20.   This category covers indexes of industrial production, industrial new orders, construction, industrial turnover, retail trade and repair turnover, services turnover and production indexes or volumes of major commodities (as relevant).

Table 4. Percentage of countries compiling production, turnover and new order indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
2.1.	Production index for industry	86	79	71	79	Monthly	X		
2.2.	Production index for construction	82	46	43	54	Monthly		X	
2.3.	Turnover index for retail trade	86	44	48	55	Monthly		X	
2.4.	Turnover index for industry	77	27	29	40	Monthly		X	
2.5.	Turnover index for services (excluding financial services and non-commercial services)	77	33	38	45	Monthly		X	
2.6.	New orders index for industry by major ISIC division (for those that work on order)	73	13	14	27	Monthly			X
2.7.	New orders index for construction	77	23	24	36	Monthly		X	
2.8.	Commodity production (as relevant at country level)	55	54	48	53	Monthly			X

21.   The industrial production indicator is widely compiled, even by the lower income countries. In addition, this indicator is mainly compiled on a monthly basis. This indicator is consequently, classified in tier 1. Moreover, international guidelines for compiling industrial production indicators are included in the *International Recommendations for the Index of Industrial Production 2009* (IRIIP 2009). The production index for construction and turn over indexes are, on the other hand, mainly compiled by high income countries on a monthly basis. These indicators are classified on tier 2. The new order index for industry is almost exclusively compiled by high income countries. The unavailability of this indicator for the income groups, excluding high income groups, relegates this indicator to tier 3. The new order index for construction is classified on tier 2. However, for this index there is a strong need for standardization as countries use a variety of indicators to account for new orders in the construction industry. Commodity production is also represented by a wide variety of indicators according to the importance of commodities in a country. Therefore these indicators would be best suited in tier 3. The recommended periodicity for production and turnover indicators is monthly.

Price indicators

22.   This category pertains to price indexes of consumption, production, imports and exports. The consumer price index (CPI) is deliberately focused on household consumption of goods and services. The index provides a general measure of changes in prices of consumer goods and services acquired, used or purchased by households. 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.

23.   The producer price index (PPI) in this section refers to the PPI for outputs of production. The PPI measures 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 prices 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.

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

Table 5. Percentage of countries compiling price indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
3.1.	Consumer price index	91	100	95	97	Monthly	X		
3.2.	Producer price index (output prices)	91	71	43	69	Monthly	X		
3.3.	Import price index	82	65	38	63	Monthly	X		
3.4.	Export price Index	91	71	43	69	Monthly	X		

25.   Almost all countries compile consumer price indexes and do it on a monthly basis within 30 days. Apart from high income countries, about 70 per cent of countries compile producer price indexes. Only about 10 per cent of countries compile producer price indexes on a quarterly basis. More than two thirds of middle and high income countries compile import and export prices, mainly on a monthly basis. Price indexes are, therefore, classified on tier 1. Manuals for the compilation of price indexes are available, but some may need updating. The recommended periodicity for price indicators is monthly.

Labour market indicators

26.   This data category includes unemployment, the rate of unemployment, employment, wages rates and hours of work.

27.   According to the International Labour Organization (ILO) definition persons in employment comprise all persons above a specified age who during a specified brief period, either one week or one day, were in the following categories:
-    paid employment;
-    self employment

28.   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.

29.   Wage rates measure the basic remuneration per time unit or unit of output. Although the Resolutions of the 12th International Conference of Labour Statisticians (ICLS, 1973) does not contain a specific definition of "wages" as such, it recommends the compilation of wage rate statistics which should include basic wages, cost-of living allowances and other guaranteed and regularly paid allowances, but exclude overtime payments, bonuses and gratuities, family allowances and other social security payments made by employers. *Ex gratia* payments in kind, supplementary to normal wage rates, are also excluded. Wage rate data relates to an appropriate time period – hour, day, week or month.

30.   Total hours worked are the aggregate number of hours actually worked during the period in employee and self-employment jobs.

Table 6. Percentage of countries compiling labour market indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
4.1.	Unemployment	100	63	33	65	Quarterly	X		
4.2.	Unemployment rate	95	60	38	64	Quarterly	X		
4.3.	Employment total and by economic activity	95	67	38	67	Quarterly	X		
4.4.	Hourly wage rate	68	31	24	38	Quarterly		X	
4.5.	Hours of work	91	52	33	57	Quarterly		X	

31.   A general good response was recorded for unemployment, unemployment rate and employment indicators with more than 95 per cent of high income countries compiling them; a weaker rate of about 68 per cent was obtained for the hourly wage rate indicator. Labour indicators are mainly compiled on a quarterly basis. With the exception of the "hourly wage rate and hours of work indicators", all labour indicators are classified in tier 1. "Hourly wage rate and hours of work indicators" are classified in tier 2. The recommended periodicity for labour indicators is quarterly.

External sector indicators

32.   This category contains indicators on exports and imports (of goods and services), international investment position, official reserve assets and external debt.

33.   The monitoring of the transactions and positions held vis-à-vis the rest of the world is guided by the international accounts represented by the balance of payments and the international investment position. The balance of payments is a statistical statement that summarizes transactions between residents and non-residents 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 non-residents. These two comprehensive statements are complemented by more detailed account of transactions and positions in official international reserves and external debt.

Table 7. Percentage of countries compiling external sector indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
5.1.	Exports and imports (of goods and services)	100	85	76	87	Monthly	X		
5.2.	International investment position (IIP)	64	35	29	41	Quarterly		X	
5.3.	Official reserve assets	86	71	62	73	Monthly	X		
5.4.	External debt	86	67	43	66	Quarterly	X		

34.   External sector indicators are well reported. Reserve assets and the imports and exports of goods and services are mainly compiled on a monthly basis, while the other indicators are mainly quarterly. A lower response was reported for indicators such as the international investment position and external debt for countries excluding the high income countries. Apart from the IIP, which is on tier 2, all external indicators are on tier 1. The recommended periodicity for exports and imports of goods and services and official reserves is monthly, while the recommended periodicity for the IIP and external debt is quarterly.

Financial sector indicators

35.   This category contains indicators from the central bank survey, the depository corporations survey, the financial corporations survey, financial corporate profits and debt.

36.   The financial sector indicators are described by the Monetary and Financial Statistics Manual of the IMF. 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 sheets 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.

37.   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.

38.   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 non-residents, 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.

39.   Financial corporate profits is a business accounting concept and the indicator can assess the vulnerability and sustainability of the corporate sector in meeting its debt obligations. This indicator is obtained from the financial statement of the banking sector as net income, which is calculated as gross income minus operating expenses.

40.   Financial corporate debt is the stock of all liabilities except shares and other equity and financial derivatives.

Table 8. Percentage of countries compiling financial sector indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
6.1.	Central bank net foreign assets	86	67	67	71	Monthly	X		
6.2.	Central Bank domestic lending	86	58	67	67	Monthly	X		
6.3.	Central Bank reserve money	82	67	67	70	Monthly	X		
6.4.	Depository corporations net foreign assets	86	65	67	70	Monthly	X		
6.5.	Depository corporations domestic lending	91	65	67	71	Monthly	X		
6.6.	Depository corporations broad money liabilities	86	65	67	70	Monthly	X		
6.7.	Other financial corporations balance sheet, assets and liabilities by sector	73	35	33	44	Monthly		X	
6.8.	Financial corporate profits	59	29	24	35	Quarterly		X	
6.9.	Financial corporate debt	64	27	19	34	Monthly		X	

41.   The response for financial sector indicators of the central banks and depository corporations was very high for all countries. These indicators are mainly compiled on a monthly basis, and consequently classified in tier 1. The balance sheet indicators for other financial corporations are compiled by more than 70 per cent of high income countries, however only about a third of the countries of non-high income countries are compiling these indicators. These indicators are classified on tier 2, together with profit and debt indicators. With the exception of financial corporations profits, for which the recommended periodicity is quarterly, all financial sector indicators should be compiled on a monthly basis.

General government sector indicators

42.   This category contains indicators from the revenue, expense, net operating balance, net acquisition of non-financial assets, expenditure, net lending/borrowing and gross debt.

43.   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, expenses, expenditure, balance, and where relevant/feasible, domestic (with a bank/non-bank breakdown) and foreign financing.

44.   The general government sector indicators are described by the Government Finance Statistics Manual of the IMF. Revenue is defined as the increase in net worth resulting from

transactions, and expense as the decrease in net worth resulting from transactions. Revenue less expense equals the net operating balance. The net acquisition of non-financial assets equals gross fixed capital formation less consumption of fixed capital plus changes in inventories and transactions in other non-financial assets. Expenditure equals expense plus the net acquisition of non-financial assets (excluding valuables, if possible). The deduction of expenditure from revenue (revenue less expense less the net acquisition of non-financial assets) results in net lending (+)/borrowing (–), which is also equal to the net result of transactions in financial assets and liabilities. Gross debt position is the stock of all liabilities except shares and other equity and financial derivatives.

Table 9. Percentage of countries compiling general government sector indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
7.1.	Revenue	73	67	52	65	Monthly	X		
7.2.	Expense	73	65	48	63	Monthly	X		
7.3.	Net operating balance (= Revenue - Expense)	73	60	48	60	Monthly	X		
7.4.	Net acquisition of non-financial assets	73	40	38	47	Quarterly		X	
7.5.	Expenditure (= Expense + Net acquisition of non-financial assets)	68	40	43	47	Quarterly		X	
7.6.	Net lending/borrowing (= Revenue - Expenditure)	64	52	38	52	Quarterly		X	
7.7.	Gross debt	68	56	33	54	Quarterly		X	

45.   Almost two thirds of countries indicated that they are compiling revenue and expense indicators for general government, for which more than half are doing it on a monthly basis. These indicators are therefore classified in tier 1. However, the response rate to net lending/net borrowing and gross debt was just over 50 per cent with more than half the respondents compiling them on a quarterly basis. The indicators for net lending/net borrowing and gross debt together with net acquisition of non-financial assets are classified in tier 2. The recommended periodicity for revenue and expense indicators is monthly, while for the other general government sector indicators it is quarterly.

Household sector indicators

46.   This category contains indicators of household disposable income, household saving and household debt. With the household consumer being identified as one of the major drivers of growth, the development of household disposable income, as a determinant of household consumption, has become an important variable in socio-economic policy making. This income variable also determines the present and future capacity to meet debt service payments against outstanding debt. With a significant amount of household debt consisting of house mortgages consumer credit and other loans, disposable income is a specific early warning signal about the present capacity to pay to meet the debt payments. Household disposable income is the amount available for consumption and saving. Household saving is the value of disposable income less final consumption expenditure of households. Household debt includes all consumer credit, mortgage debt and other loans of households.

Table 10. Percentage of countries compiling household sector indicators

| | | Income | | | | Recommended | | Tier | Tier |
	Question	High	Middle	Other	Total	periodicity	Tier 1	2	3
8.1.	Household disposable income	59	21	0	25	Quarterly		X	
8.2.	Household saving	59	15	0	22	Quarterly		X	
8.3.	Household debt	55	8	0	18	Quarterly		X	

47.   Household disposable income and saving are compiled by almost two thirds of high income countries, however the response for middle income countries much lower. No countries in the other category are compiling these indicators on an infra annual basis. Data are mainly compiled on a quarterly basis by those countries that are compiling these indicators on an infra annual basis. These indicators are considered as strategically important and therefore classified on tier 2. It is recommended to compile household sector indicators on a quarterly basis.

Non-financial sector indicators

48.   This data category contains statistics on corporate profits and debt, debt service and principal payments and other statistics as relevant such as, net foreign exchange exposure, number of applications for protections from creditors. 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. Corporate profit is a business accounting concept. This indicator is obtained from the financial statement as net income, which is calculated as gross income minus operating expenses. Corporate debt is the stock of all liabilities except shares and other equity and financial derivatives.

Table 11. Percentage of countries compiling non-financial sector indicators

| | | Income | | | | Recommended | | Tier | Tier |
	Question	High	Middle	Other	Total	periodicity	Tier 1	2	3
9.1.	Non-financial corporate profits	55	21	5	25	Quarterly			X
9.2.	Non-financial corporate debt	55	15	5	22	Quarterly			X

49.   Non-financial corporate profits and debt are compiled by almost 70 per cent of respondents. However, these indicators are mainly available on an annual basis. The response rate for high income countries is much higher, although only just more than half of countries in this category are compiling them on a quarterly basis. The response by countries, excluding high income countries, was very weak. Non-financial sector indicators are classified on tier 3. The recommended periodicity for non-financial sector indicators is quarterly.

Financial market indicators

50.   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.

51.   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 or the monthly averages for the 3-month interest rates. Other representative interest rate might be the monthly average of the bond yields at maturities of three and six-month treasury bills.

52.   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.

53.   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.

54.   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.

55.   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.

56.   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.

Table 12. Percentage of countries compiling financial market indicators

		Income				Recommended		Tier	Tier
	Question	High	Middle	Other	Total	periodicity	Tier 1	2	3
10.1.	Interest rates, as relevant short and long term money and bond market rates	82	60	62	66	Monthly	X		
10.2.	Exchange rates, as relevant spot and forward markets	64	56	57	58	Monthly	X		
10.3.	Nominal and real effective exchange rate	55	56	48	54	Monthly	X		
10.4.	Stock market indicators	82	46	33	52	Monthly	X		

57.   Financial market indicators are mainly available on a daily or monthly basis. About two thirds of countries are compiling interest rates on a daily or monthly basis; in the case of high income countries the response is more than 80 per cent. The response to exchange rates is lower at around 60 per cent, but more homogeneous among income groups. Stock market indicators are compiled by about 80 per cent of high income countries. Due to the strategic importance of financial market indicators, they are all classified in tier 1. However, guidance is needed to ensure the comparability of these sorts of indicators among countries. The recommended periodicity for financial market indicators is monthly.

Real estate market indicators

58.   This data category requests response to house sales and residential property price indexes. Other indicators such as, commercial real estate price indexes, residential real estate loans, commercial real estate loans and home foreclosures, may also be relevant.

59.   The residential property and commercial real estate price indexes are developed as official statistics for only 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.

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

Table 13. Percentage of countries compiling real estate market indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
11.1.	Residential property price index	68	21	19	32	Quarterly		X	
11.2.	New house sales	36	8	10	15	Monthly			X
11.3.	Existing house sales	41	10	19	20	Monthly			X

61.   Residential property price indexes are mainly compiled by high income countries on a quarterly basis. This indicator is classified in tier 2. The response to existing and new house sales indicators is very weak. These indicators are therefore classified in tier 3. The recommended periodicity for residential property price index indicators is monthly, while that for house sales is quarterly.

Sentiment indicators

62.   This data category contains consumer and business confidence indicators and business cycle indicators. Business and consumer surveys provide essential information for economic surveillance, short term forecasting and economic research.

63.   Composite indicators of leading, lagging and coincident indicators created are used to analyse changes in the direction of the overall economy of a country. They can be used to confirm or predict the peaks and troughs of the business cycle.

Table 14. Percentage of countries compiling economic sentiment indicators

	Question	Income				Recommended periodicity	Tier 1	Tier 2	Tier 3
		High	Middle	Other	Total				
12.1.	Consumer confidence	68	33	14	37	Monthly		X	
12.2.	Business confidence	59	38	24	40	Monthly		X	
12.3.1.	Composite business cycle indicator – Leading indicator	32	23	10	22	Monthly			X
12.3.2.	Composite business cycle indicator – Coincident indicator	27	17	0	15	Monthly			X
12.3.3.	Composite business cycle indicator – Lagging indicator	14	8	0	8	Monthly			X

64.   The response to the confidence indicators is a bit stronger for consumer confidence compared to business confidence indicators. These indicators are compiled by almost 70 per cent of high income countries, mainly on a monthly basis. The confidence indicators are therefore classified on tier 2. The response to the composite business cycle indicators is generally weak and mainly confined to high income countries. The response to composite indicators by high income countries was 32 per cent for the leading indicators, 27 per cent for coincident indicators and less than 20 per cent for lagging indicators. Composite indicators are classified in tier 3. The recommended periodicity for sentiment indicators is monthly.

VI   Conclusions

65.   In response to the global economic crisis the international statistical community focused on identifying and remedying data gaps to monitor the unprecedented financial and economic turmoil to allow for timely and measured policy responses as well as to improve the dissemination and communication on available relevant information. One of the results of this reaction to the financial and economic crisis is the Ottawa data template. The global assessment of the Ottawa data template confirms its relevance and the availability of high frequency indicators to monitor changes in economic activity. The assessment identified three levels (or tiers) of indicators namely, tier 1, those indicators that are widely available allowing the compilation of regional and world totals; tier 2, those indicators that are recommended to aspire to compile; and tier 3, those indicators that are important on the national level. In addition it was also possible to determine a recommended periodicity for each indicator.

66.   In conjunction with the data template, there is a need to develop a glossary of terms and definitions for the high frequency statistics framework and its compilation methodology, and a programme of work to update existing handbooks and guidelines on economic sentiment surveys and composite indicators. There is also a need to mainstream web-based tools for interactive visualizations and dynamic analytical applications around the data template allowing users to explore high frequency statistics and their interconnections for improved communication and dissemination purposes. When these guidelines are accepted, countries should be encouraged to aspire to the compilation of these indicators.

Annex 1.   The Ottawa template of high frequency indicators

	Indicator description	Tier	Periodicity
Set 1 National accounts			
1.1	Quarterly national accounts: Flash GDP estimate	Tier 1	Quarterly
1.2	Quarterly national accounts: GDP full release		
1.2.1	by expenditure	Tier 1	Quarterly
1.2.2	by production	Tier 1	Quarterly
1.2.3	by income	Tier 2	Quarterly
1.3	Quarterly sector accounts		
Set 2 Production and turnover			
2.1	Production index for industry, by major division (mining, manufacturing, electricity, water, etc.)	Tier 2	Monthly
2.2	Production index for construction	Tier 2	Monthly
2.3	Turnover index for retail trade by major division	Tier 2	Monthly
2.4	Turnover index for industry by major division	Tier 2	Monthly
2.5	Turnover index for other services by major division (excluding financial services and non-commercial services)	Tier 2	Monthly
2.6	New orders index for industry by major ISIC division (for those that work on order)	Tier 3	Monthly
2.7	New orders index for construction (building permits or housing starts)	Tier 2	Monthly
2.8	Commodity production (as relevant at country level data on commodity productions and other indicators of economic activity)	Tier 3	Monthly
	Agricultural products		
	Minerals		
	New car registrations/sales		
	New commercial vehivle registrations/sales		
	Tourist arrivals		
Set 3: Price Indicators			
3.1	Consumer price index	Tier 1	Monthly
3.2	Producer price index	Tier 1	Monthly
3.3	Import price index	Tier 1	Monthly
3.4	Export price index	Tier 1	Monthly
Set 4: Labour market indicators			
4.1	Unemployment	Tier 1	Quarterly
4.2	Unemployment rate	Tier 1	Quarterly
4.3	Employment total and by economic activity	Tier 1	Quarterly
4.4	Hourly wage rate	Tier 2	Quarterly
4.5	Hours of work	Tier 2	Quarterly
Set 5: External sector indicators			
5.1	Exports and imports (of goods and services)	Tier 1	Monthly
5.2	International investment position (IIP), specify balances and components	Tier 2	Quarterly
5.3	Official reserve assets	Tier 1	Monthly
5.4	External debt (by sector, maturity and foreign currency)	Tier 1	Quarterly
Set 6: Financial sector indicators			
6.1	Central Bank net foreign assets	Tier 1	Monthly
6.2	Central Bank domestic lending	Tier 1	Monthly

	Indicator description	Tier	Periodicity
6.3	Central Bank reserve money	Tier 1	Monthly
6.4	Depository corporations net foreign assets	Tier 1	Monthly
6.5	Depository corporations domestic lending	Tier 1	Monthly
6.6	Depository corporations broad money liabilities	Tier 1	Monthly
6.7	Other financial corporations balance sheet, assets and liabilities by sector.	Tier 2	Monthly
6.8	Financial corporate profits	Tier 2	Quarterly
6.9	Financial corporate debt	Tier 2	Monthly
6.10	Others as relevant: nonperforming loans of depository corporations, capital adequacy ratios, other financial stability indicators, etc.		
Set 7: General government sector indicators			
7.1	Revenue	Tier 1	Monthly
7.2	Expense	Tier 1	Monthly
7.3	Net operating balance (= Revenue – Expense)	Tier 1	Monthly
7.4	Net acquisition of non-financial assets	Tier 2	Quarterly
7.5	Expenditure	Tier 2	Quarterly
7.6	Net lending/net borrowing (= Revenue - Expenditure)	Tier 2	Quarterly
7.7	Gross debt	Tier 2	Quarterly
Set 8: Household sector indicators			
8.1	Household disposable income	Tier 2	Quarterly
8.2	Household saving	Tier 2	Quarterly
8.3	Household debt	Tier 2	Quarterly
8.4	Other as relevant: disposable income, debt service and principal payments, household debt, etc.		
Set 9: Non-financial corporations sector indicators			
9.1	Non-financial corporate profits	Tier 3	Quarterly
9.2	Non-financial corporate debt	Tier 3	Quarterly
9.3	Other as relevant.		
Set 10: Financial market indicators			
10.1	Interest rates, as relevant short and long term money and bond market rates	Tier 1	Monthly
10.2	Exchange rates, as relevant spot and forward markets	Tier 1	Monthly
10.3	Nominal and real effective exchange rate	Tier 1	Monthly
10.4	Stock market indicators	Tier 1	Monthly
10.5	Others as relevant : spreads between lending and deposit rates, highest-lowest interbank rate; etc.		
Set 11: Real estate market indicators			
11.1	Residential property price index	Tier 2	Quarterly
11.2	New house sales	Tier 3	Monthly
11.3	Existing house sales	Tier 3	Monthly
Set 12: Economic sentiment			
12.1	Consumer confidence	Tier 2	Monthly
12.2	Business confidence	Tier 2	Monthly
12.3	Composite Business Cycle Indicators		
12.3.1	Leading Indicator	Tier 3	Monthly
12.3.2	Coincident Indicator	Tier 3	Monthly
12.3.3	Lagging Indicator	Tier 3	Monthly