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The role of composite indicators in tracking business cycle in Mongolia

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“The role of composite indicators in tracking business cycle”

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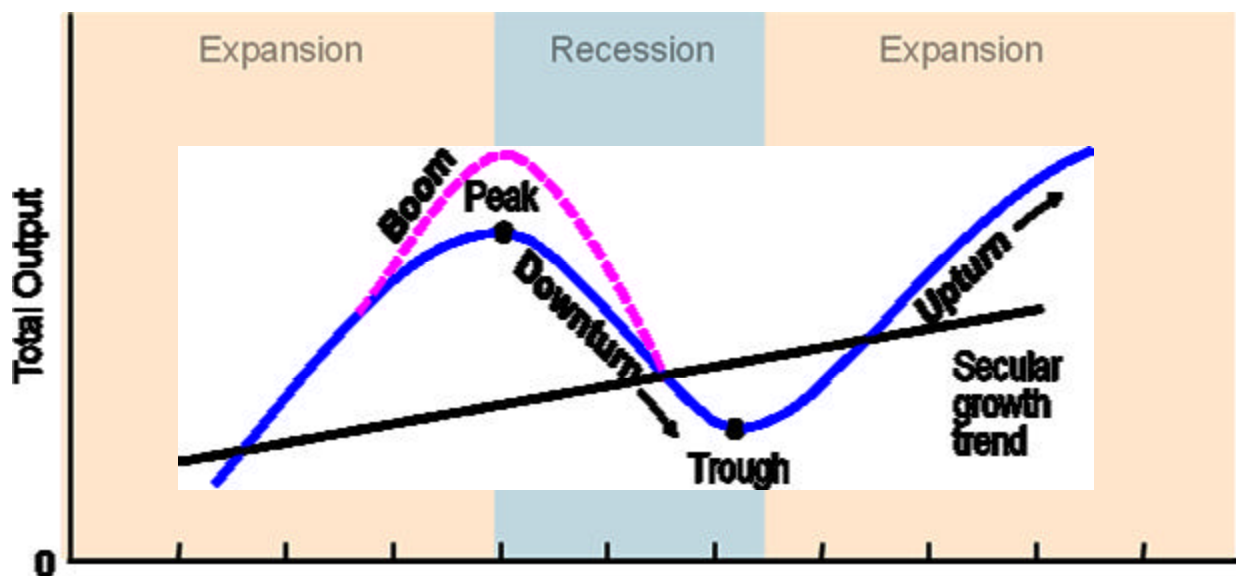
Background

Still, there is a need to thoroughly identify the economic structures and tracking the frequency of economic changes in the framework of modern economic analysis and the improvement of the SNA. To monitor actions and measures related to economic policy and to measure the economic changes, business cycle indicators are mostly employed for analyses. In this context, measurement of the business cycle through composite indicators is one of key challenges. I will deal with preparation and necessity of the composite indicators, and current status of them in this paper.

1. Economic cycle

Economic activity recovers and contracts over time which we refer to as 'economic fluctuations'. It is considered that if the economic activity expands, it will be a recovery and if it contracts, it will be a decline. Since changes in the economic activity occur in line with production, in some case we measure it by production.

Chart 1. Economic cycle phases



Business cycle analysis is a concept developed since 1970s based on the interest of predicting and tracking recession and recovery of the economy. The analysis are used to detect growth and changes and make forecasting using frequency of economic indicators such as industries products and output of manufacturing industry; and available time series data covering long period of time.

The economic cycle identifies frequency of upward and downward movement of large economic activities such as output, consumption, investment, and employment. In terms of time, the cycle is determined by fluctuation movement in economic activity for the period more than a year.

GDP estimates: As for Mongolia, we compute the following GDP estimates.

1. Production approach:
 - 1.1 GDP, by industries and year, at current and 2005 constant prices;
 - 1.2 GDP, by industries and quarters, at 2005 constant price;
 - 1.3 GDP, by aimags and industries, at current price; and
 - 1.4 GDP, by forms of ownership and industries, at current prices.
2. Expenditure approach: GDP, by year and at current price
3. Income approach: GDP, by year and at current price
4. GDP per capita (World Bank Atlas Method, US\$)

Estimates for GDP are computed on annual and quarterly basis. While annual GDP estimates for the year concerned are finalized in July of the next year, preliminary annual GDP estimates for the year are published by October of the year concerned. The reason for computing the preliminary estimates in October of the year is that they are used for parliamentary discussions on the state budget and main guidelines of the next year of the country.

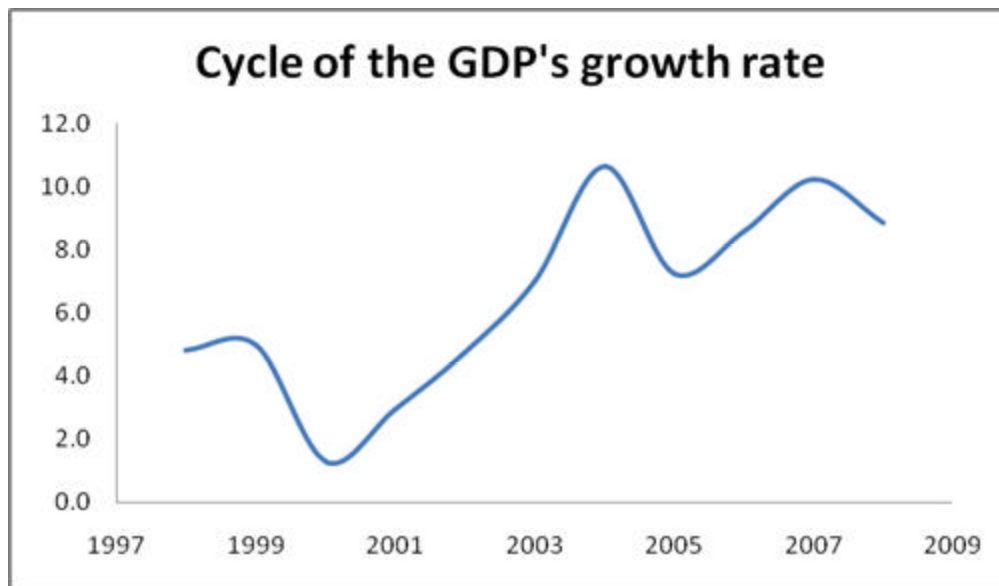
The National Statistical Office makes quarterly estimates for GDP by production approach available to the general public in second months after quarters, February, May, August and November. Quarterly GDP estimates have recently been commenced computing; however, relevant seasonal adjusted estimates has not yet been made.

At present, the following GDP time series are available.

Methods of GDP estimation	Year	Quarter
Production approach: GDP at current and 2005 constant prices	1990-2008	2000-2008
Expenditure approach: GDP at current price	1995-2008	-
Income approach: GDP at current price	1990-2008	-
Aimag GDP at current price	2000-2008	-
GDP per capita (WB Atlas method)	1991-2008	-

Cycle of the GDP's growth rate in the recent years is shown on the following chart.

Chart 2. Cycle of the GDP's growth rate



Over the last 10 years GDP growth of Mongolia hit its peak in 2004 and reached its rock bottom in 2000 when its growth rate declined.

Price index: We calculate and publish the following price indexes:

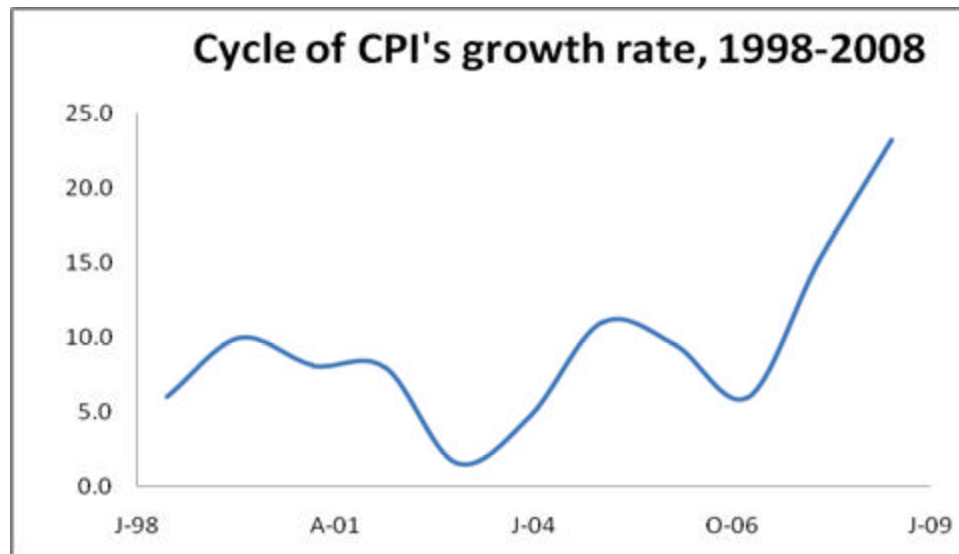
1. Consumer Price Index (CPI)
2. Producer Price Index (PPI), in industry
 - a. Price index for Construction costs (on a experimental basis); and
 - b. Price index for retail trade.
3. Volume and value indices for foreign trade statistics
4. Housing Price Index

As far as practical estimates are concerned, the following actions have been undertaken.

1. From 1991 onwards CPI for Ulaanbaatar and from 1997 CPI for all aimags have been calculated according to ILO methodology;
2. Nomenclatures, weights and base years of the CPI have been updated three times;
3. In 2008, weights of baskets for aimags and capital city were updated based on 2005 Household Income and Expenditure Survey;
4. Methodology for calculation of CPI was revised and approved in 2008; and
5. From 2008 onwards, national CPI which had been prepared by Ulaanbaatar CPI has been calculated using a revised methodology.

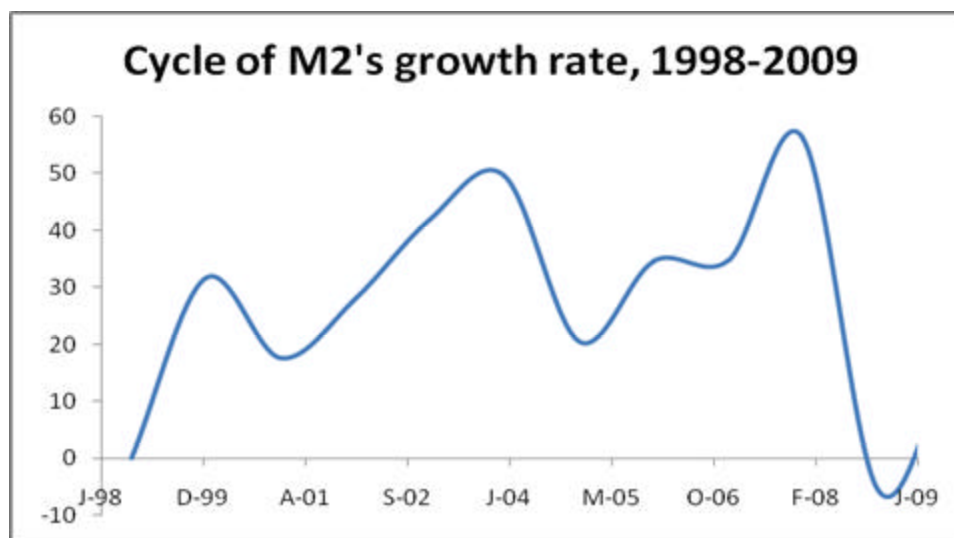
Cycle of CPI's growth rate in the recent years is shown on the below chart.

Chart 3. Cycle of CPI's growth rate



According to the cycle above, it reached its lowest growth rate in 2002 whereas it hit the peak in 2008 due to the global economic and financial crisis.

Chart 4. Cycle of M2's growth rate



As shown in the chart, the growth of M2 money supply reached its highest growth rate in 2007 while it hit the rock bottom in 2008, representing a decline.

The above charts reflect some pictures of the economic cycle; however, there are any composite indicators developed that would show the whole cycle.

2. Composite Indicators (CI)

At present, Mongolia has not yet undertaken any nation-wide research on or estimate for the composite indicators. Hence, we propose the following indicators to develop our own country-specific composite indicators.

- a) Industrial products;
- b) Exports and imports;
- c) Currency rate;
- d) Money supply;
- e) World commodity market price for copper;
- f) Expenditure of the general budget; and
- g) Labour force.

These indicators would be adequate to prepare the composite indicators in terms of periodicity and frequency and cover necessary frames.

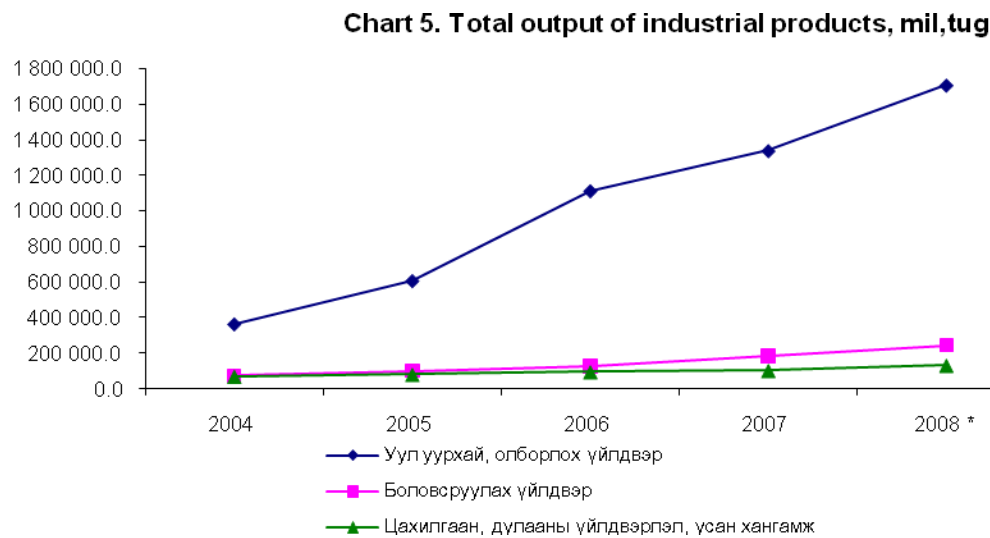
a) Industrial productions

Statistics of total outputs of industrial production is being compiled on annual and monthly basis.

Annual Data: Annual data of industrial productions are being compiled at the statistical divisions at the aimag and capital city, at the latest 4 March of next year and being used for the estimation of value added, intermediate consumption and total output of industrial production.

Monthly data: 1/ Monthly statistics of total outputs of industrial production is being received from statistical divisions of districts and aimags at the 4th of every month and being compiled and processed. Price of goods are valued at constant prices and related indices are being estimated, a total production is compiled at both constant and current price, numerous indicators such as total sale and a production of main goods,

number of employees, productivity are being estimated and published in monthly bulletins.

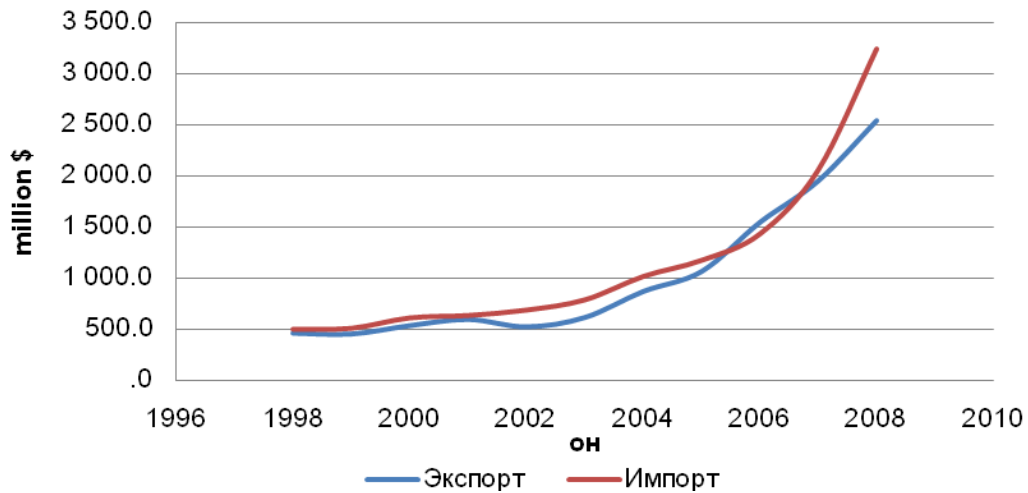


a) Export and Import

Export and Import data is being compiled on basis of every 15 days as well as monthly and annually based on data provided by the General Custom Office.

1. Statistical data compiled in every 15 days, are being disseminated to the users, through website of the NSO of Mongolia.
2. Monthly statistics are disseminated to the users in every 4th of the following month and published in monthly bulletins.
3. Annual data compiled in every 4th of March of next year is published at the Statistical Yearbook and also used for GDP estimation.

Chart 5. Export and import, by year

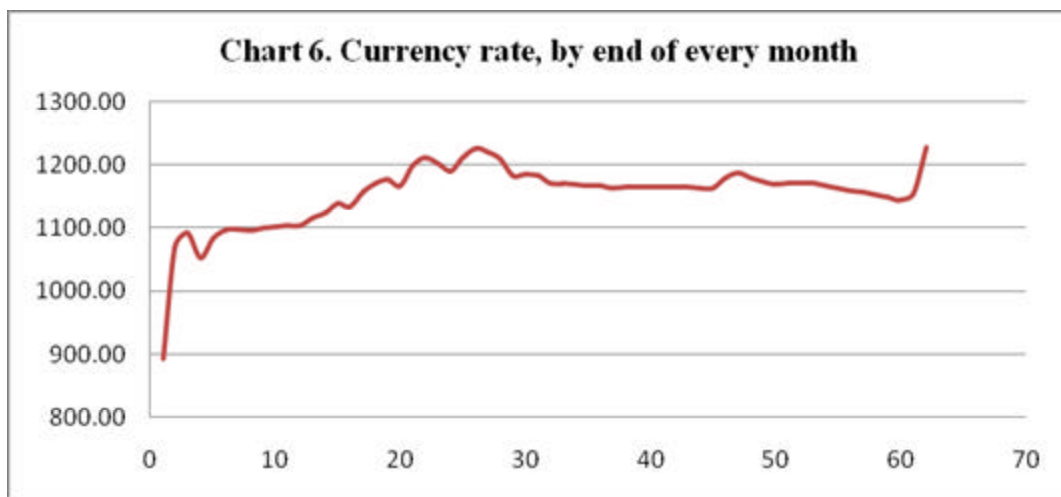


b) Currency Rate

Currency rate statistics are compiled on monthly and annual basis, based on data provided by the Mongol Bank. Namely:

1. Monthly statistics on currency exchange is being disseminated to the users through monthly bulletins.
2. Annual statistics on currency exchange is being published on Statistical Yearbook in February of the following year.

Chart 6. Currency rate, by end of every month

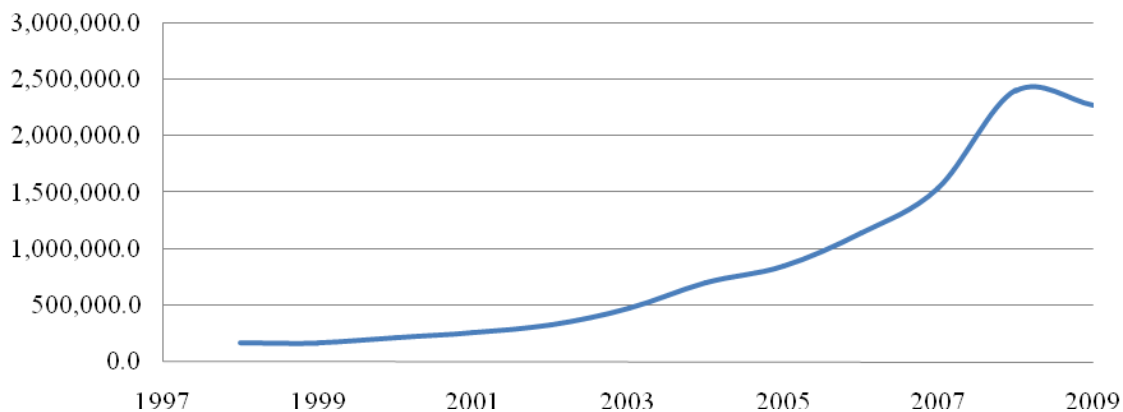


c) Money supply

Statistics on money supply is compiled on monthly and annual basis, based on data provided by the Mongol Bank. Namely:

1. Monthly statistics on currency exchange is being disseminated to the users through monthly bulletins.
2. Annual statistics on currency exchange is being published on Statistical Yearbook in February of the following year.

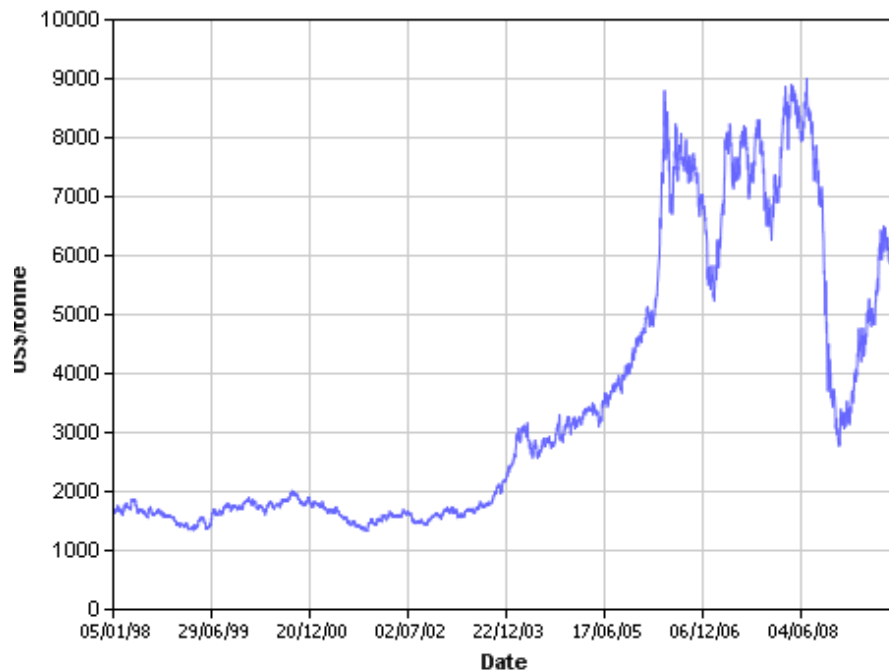
Chart 7. Total money supply, by billion tugrugs



3. Copper prices at the world market

Statistics on copper prices at the world market is being published in monthly bulletins.

Chart 8. Copper prices at the world market

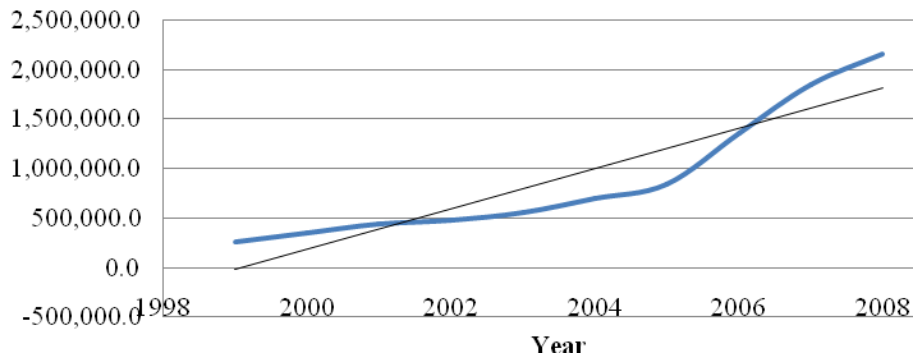


4. State Budget expenditure

Statistics on state budget expenditure is compiled based on data provided by the Ministry of Finance, by monthly and annual basis.

1. Monthly statistics of state budget expenditure are disseminated to the users at the 7th of following month, through monthly bulletins.
2. Annual statistical data on state budget expenditure is being compiled on 5th of March of the following year and is being published in Statistical Yearbook. These data is also used for GDP estimations.

Chart 9.State Budget Expenditure, by billion tugrugs, by years



3. Creating composite indicators.

Since February 2009, within the framework of creating composite indicators, NSO of Mongolia is conducting “Business Trend Survey” on quarterly basis that includes 2200 entities from industrial, construction and trade sectors. This is important step to create composite indicators which will be in line with international standard on business cycle analysis.

Furthermore, we believe that it is important to pay more attention to the following activities.

- a) To make decision on creating new social and economic indicators
- b) To increase the frequency of indicators,
- c) To improve use of composite indicators and its dissemination
- d) To create composite indicators in other fields of economics

4. Role of Composite Indicators in tracking economic trends

We may conclude that the followings are the main activities which need to be implemented in regard to the composite indicators and analysis of business cycle.

- a) To identify time series;
- b) To eradicate duplication and time lag of time series;
- c) To define classic economic indicators;

- d) To create composite indicators (CI); and
- e) To make assessments and projections by using composite indicators.

5. Conclusion and issues need to be taken into account

- a) To develop Guideline, Manual or International Recommendation on Composite Indicators.
- b) In order to improve national capacity of estimating composite indicators, to provide technical assistance to the countries on this field.

