CHAPTER 3

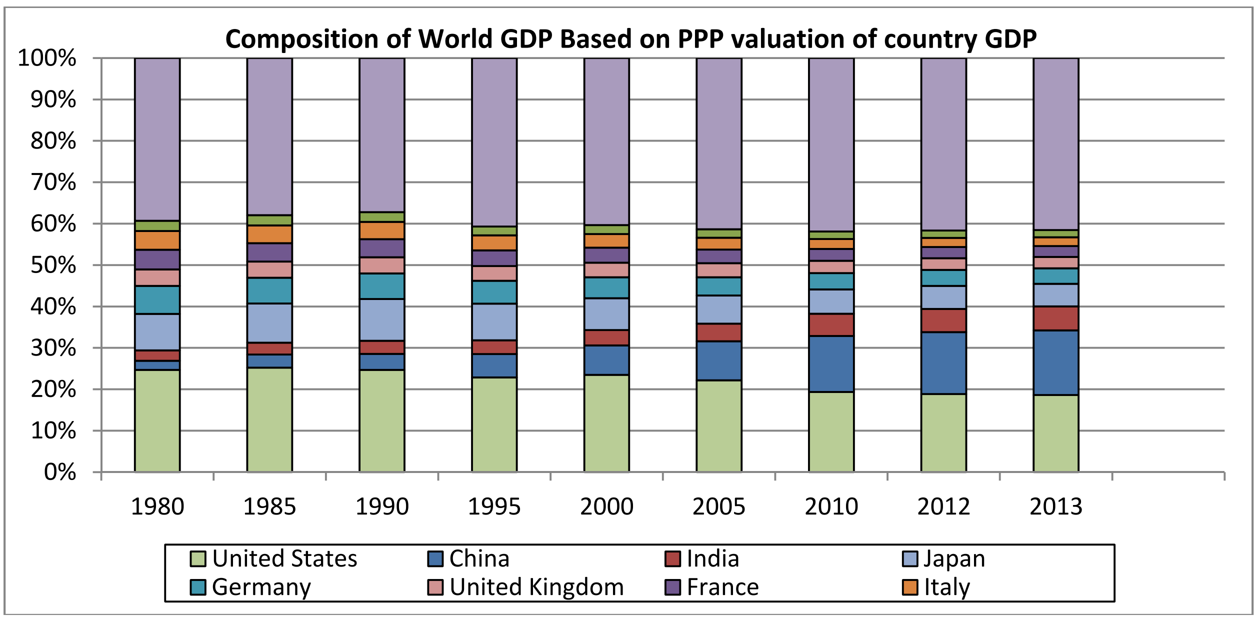
National Income And Related Aggregates

3.1 Background : Performance of an economy depends on the amount of goods and services produced in that economy. In monetary terms its measure is the Gross Domestic Product (GDP), Gross National Income (GNI), and Net National Income (NNI). Apart from these macro-economic aggregates, the other important indicators to measure health of economy are capital formation and savings. Thus, measurement of these macro-economic indicators is an extremely important exercise, which requires collection and analysis of large volume of data. The conceptual framework guiding such an exercise has to be robust and evolve with the time to keep pace with the dynamics of the manifested world.

3.2 System of National Accounts (SNA): The System of National accounts (SNA) was developed by United Nations with an aim to provide a comprehensive conceptual and accounting framework for compiling and reporting macroeconomic statistics for analysing and evaluating the performance of an economy. The origins of the SNA trace back to the 1947 Report of the Sub-Committee on National Income Statistics of the League of Nations Committee of Statistical Experts. The 1953 SNA was published under the auspices of the UNSC. It consisted of a set of six standard accounts and a set of 12 standard tables presenting detail and alternative classifications of the flows in the economy. The concepts and definitions of the accounts were widely applicable for most countries, including developing countries. Two slightly modified editions of the 1953 SNA were published. SNA was revised in 1960, 1964 and 1968 in vew of country experiences in implementing SNA 1953, to improve consistency with IMFs Balance of Payments manual and to extend the scope by adding input output tables, balance sheets and to bring it closer to Material Product System (MPS) respectively . 1993 SNA represented major advance in national income accounting and SNA 2008 is the latest version in the series with different degree of implementation across countries. In India a National Income Committee to work out a system for reliable estimation of national income was appointed in 1949 and in 1954 the National Income Unit was transferred from Ministry of Finance to the Central Statistics Office which is presently responsible for bringing out the estimates.

3.3 Economic Growth - World Scenario :

3.3.1 Comparison of growth rates on the basis of International Monetary Fund, World Economic Outlook Database, April 2013 (Charts as Annexure 3 A & 3B), reveals much higher growth rates in case of Developing Asia (generally in the range of 5-10 %) followed by that of emerging markets and developing economies(the growth rates in real GDP since 1980) with both these categories usually achieving a higher growth rate as compared to world average . The advanced economies, on the other hand, usually had lower growth rate than the world average, during the period (1980 onwards) . Country wise comparison amongst some of the leading economies (China, USA, Japan, India, Brazil) conforms to the same. China followed by India (with exceptions during a few years) grew at more rapid pace compared to USA & Japan. Consequently composition of world GDP, based on purchasing power parity (PPP) valuation of country GDP, has altered significantly during the last three decades. Share of China and India, which accounted for merely about 5% of world GDP during 1980 , has increased to more than 20 % in 2012-13 while most advanced economies included in G-7 have seen a decline.



3.3.2 The effect of Global Financial Crisis can be easily seen in charts 3A & 3B with the GDP growth of even the fast growing economies like India and China showing a downturn during 2009 whereas advanced economies and the world average GDP registered negative growth. The effects financial crisis in triggering global recession & European Sovereign Debt Crisis is still being debated.

3.4 Economic Growth History of India :

3.4.1 As per some studies , The Indian economy grew at 1.5% per annum during 1900 to 1913 and at an average rate of growth of 0.7% per annum during the 30 year period from 1917 to 1946. (Back series for National

Accounts Statistics based on 1993-94 prices brought out by CSO is available from 1950 onwards).

3.4.2 Phase 1 (1950-51 to 1979-80) : As per conventional wisdom Indian economy was stuck since independence in the '***Hindu rate of growth***,'(also referred to as ***socialist rate of growth*** as the period of 30 years from 1950–51 to 1979–80 was the phase of socialist experimentation in India) of about 3.5% per annum. In this phase the economy had accelerated rate of growth compared to preceding colonial period and average income, measured by per capita GDP, grew at 1.3% per annum. Growth during this period was fairly volatile, with a co-efficient of variation of 1. There was structural change in economy with increase in share of non agriculture , mainly led by industry. The period of mid 60's (through 70's) to 1980 saw pronounced decline in GDP with slackening of industrial growth .The 1970s interregnum (in otherwise continuously increasing GDP over sub phases as per the table below) was also marked by the severe deceleration in agricultural growth. This period of slower growth is referred to as second sub phase within the first phase.

3.4.3 Phase 2 (1980-81 to 2001-02) : The slowdown of growth witnessed during the 1970s was reversed during the 1980s; the pick-up benefited from the initiation of some reform measures aimed at increasing domestic competitiveness. A significant experiment with coalition government ended in 1979–80 and the Congress (I) party returned to power in 1980–81. The recognition that the controls and subsidies introduced by the Congress governments during the earlier phase were not serving their intended purpose had gradually dawned on the establishment during the late seventies. The new government gradually initiated a new approach to economic management. During the 80's there was shift towards the ascendancy of services relative to industry in growth. The rising share of public sector was the main source of increasing share of services in GDP.

3.4.4 Since the early 1990s, growth impulses appeared to have gathered further momentum in the aftermath of comprehensive reforms introduced by enactment of radical new economic policy framework in 1991-92 coupled with the macroeconomic response to the BOP crisis . This marks the beginning of second sub phase within the second phase of economic growth. During this sub phase private organized sector grew rapidly relative to the public sector, increasingly shifted towards services relative to industry, and led the decisive reinforcement of a services dominated growth trajectory.

	Phase I 1951-52 to 1979-80)			Phase II (1980-81 to 2001-02)		
		Sub-phase I A I B			Sub-phase	
	Phase I	*(1951-64)*	*(1965-79)*	***Phase II***	*(1980-91)*	*(1992-2001)*
Growth rate (%)						
GDP (market prices)	3.6%	4.4%	2.9%	5.7%	5.5%	6.0%
GDP (factor cost)	3.5%	4.1%	2.9%	5.2%	5.5%	6.1%
GDP at factor cost (HP filtered)	3.7%	3.9%	3.5%	5.5%	5.2%	5.8%
Per capita GDP at market prices	1.4%	2.3%	0.6%	3.6%	3.3%	3.9%
Per capita GDP at factor cost	1.3%	2.0%	0.6%	3.6%	3.2%	4.1%
Private consumption (PFCE)	3.2%	3.7%	2.8%	4.7%	4.5%	4.9%
Government consumption (GFCE)	5.8%	6.6%	5.1%	6.3%	6.0%	6.6%
Investment (GDCF)	6.1%	7.9%	4.5%	6.3%	5.0%	7.8%
Machinery & equipment	6.6%	9.7%	3.7%	8.9%	9.9%	7.9%
Private GFCF	3.6%	3.5%	3.8%	8.5%	8.4%	8.6%
Goods and Services Export	3.8%	0%	10.2%	9.5%	8.4%	10.8%
Oil Import			37.1%	9.8%	6.9%	13.2%
Coefficient of Variation (Std/mean)						
GDP at Market prices	0.9	0.5	1.4	0.3	0.4	0.2
GDP at Factor cost	1.0	0.6	1.5	0.3	0.5	0.2

Sources: CSO (Series at 1993-94 prices); RBI (Series converted using implicit price deflator for GDP).

3.4.5 There was some loss of the growth momentum in the latter half of the 1990s which coincided with the onset of the East Asian financial crisis, setbacks to the fiscal correction process, quality of fiscal adjustment, slowdown in agriculture growth affected by lower than normal monsoon years, and some slackening in the pace of structural reforms. Monetary tightening in the face of inflationary pressures is also believed by some to have contributed to the slowdown over this period.

3.4.6 The uptrend in decadal domestic growth (except for interregnum in 1970s) during the first two phases (1950's to 2000's) was associated with the consistent trends of increasing domestic savings and investment over the decades. Gross domestic savings increased continuously from an average of 9.6 per cent of GDP during the 1950s to about 38 per cent of GDP during 2007-08 ; over the same period, the domestic investment rate has also increased continuously from 10.8 per cent in the 1950s to close to 36 per cent by 2006-07. A very significant feature of these trends in savings and investment rates was that Indian economic growth was financed predominantly by domestic savings. The recourse to foreign savings – equivalently, current account deficit – was rather modest during these phase of Indian growth process. The two decades, 1960s and 1980s, when the current account deficit increased marginally towards 2 per cent of GDP, it was followed by significant balance of payments and economic crisis.

3.4.7 Sector wise growth during the two phases is summarised as below. Interestingly, growth of manufacturing production, in terms of decadal averages, was roughly constant at around 5.6-5.9 per cent in the first five decades after Independence, except for the 1970s. There are two other features of our growth history that are notable. First, agricultural growth has been subject to large variation over the decades. The 1970s interregnum is particularly marked by the severe deceleration in agricultural growth, followed by a marked recovery in the 1980s, and a slowdown thereafter. Second, until the 1990s, little note had been taken of growth in the services sector. A glance at the growth record suggests that it is the continuing and consistent acceleration in growth in services over the decades, that had earlier been ignored, that really accounts for the continuous acceleration in overall GDP growth, once again, except for the 1970s interregnum.

	Sector	***Phase I: 1951-2 to 1979-80***	***Sub-phase I A***	***I B***	***Phase II: 1980-1 to 2001-2***	***Sub-phase II A***	***II B***
			(1951-64)	*(1965-79)*		*(1980-91)*	*(1992-01)*
1	*Agriculture & allied*	2.1%	2.9%	1.4%	3.6%	3.9%	3.3%
1.1	*Agriculture*	2.3%	3.1%	1.5%	3.8%	4.2%	3.3%
2	*Mining*	4.6%	5.6%	3.7%	6.3%	8.4%	3.8%
3	*Manufacturing*	5.3%	6.6%	4.1%	6.4%	6.1%	6.8%
3.1	*Registered (Modern)*	6.1%	7.9%	4.4%	6.9%	6.8%	7.1%
3.2	*Unregistered*	4.5%	5.4%	3.7%	5.6%	5.0%	6.3%
4	*Electricity, Gas, & Water*	9.6%	11.2%	8.1%	7.5%	9.0%	5.7%
5	*Construction*	4.9%	6.8%	3.2%	5.2%	5.2%	5.3%
6	*Trade, Hotels, & Restaurants*	4.8%	5.6%	4.0%	6.7%	5.4%	8.1%
6.1	*Trade*	4.8%	5.6%	4.0%	6.6%	5.4%	8.0%
6.2	*Hotels & restaurants*	4.8%	5.6%	4.0%	8.0%	6.1%	10.3%
7	*Storage, transport, & communication*	5.7%	5.9%	5.6%	7.2%	5.7%	8.9%
7.1	*Railway*	4.2%	4.8%	3.6%	4.2%	4.9%	3.3%
7.2	*Other transport*	6.3%	6.4%	6.3%	6.5%	6.0%	7.0%
7.3	*Storage*	5.5%	2.3%	8.5%	2.3%	2.5%	2.0%
7.4	*Communication*	6.7%	7.4%	6.1%	11.6%	6.3%	18.0%
8	*FIREBHS*	3.5%	3.1%	4.0%	8.6%	9.4%	7.7%
8.1	*Banking & insurance*	6.7%	6.6%	6.9%	10.6%	11.6%	9.4%
8.2	*Real estate, housing & business services*	2.6%	2.1%	3.0%	7.2%	8.0%	6.3%
9	*Community, social, & personal services*	4.3%	4.4%	4.2%	6.3%	5.6%	7.1%
9.1	*Public administration & defense*	6.1%	6.6%	5.7%	6.2%	6.2%	6.3%
9.2	*Other services*	3.3%	3.3%	3.3%	6.4%	5.2%	7.7%
	Sub-aggregates						
A	*Tradable goods*	2.8%	3.6%	2.0%	4.6%	4.7%	4.5%
B	*Non-tradable services*	4.7%	5.2%	4.2%	6.9%	6.3%	7.5%
b.1	*Services, excluding FIREHBS*	4.9%	5.6%	4.3%	6.5%	5.7%	7.4%
C	*GDP, excluding GDP administration*	3.4%	4.0%	2.8%	5.7%	5.4%	6.1%
D	*Services excluding GDP administration*	4.5%	5.0%	4.1%	6.9%	6.4%	7.6%

Source CSO (all series at 1993-94 prices)

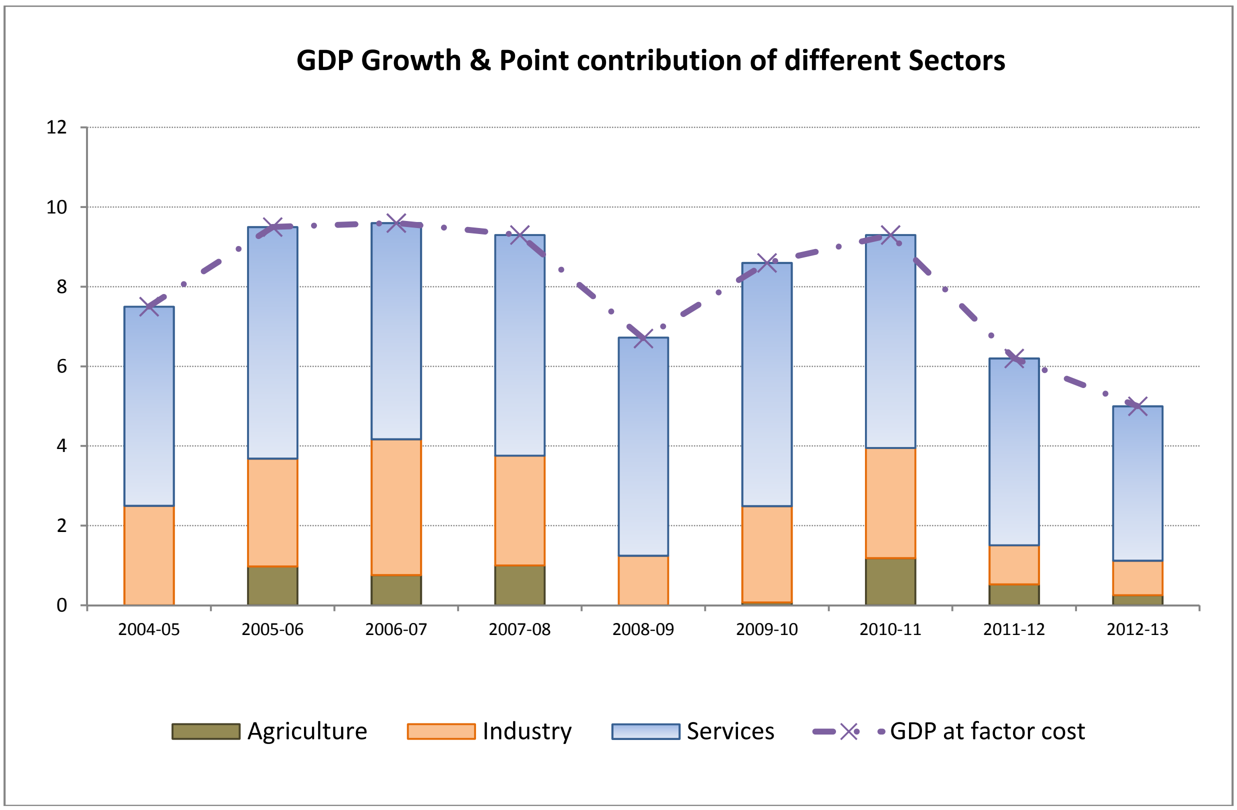
3.5 Recent Performance of the Indian Economy:

3.5.1 India's recent slowdown is partly rooted in external causes(Global slowdown) , domestic causes are also significant nonetheless. The strong post financial crisis stimulus led to stronger growth in 2009-10 & 2010-11. However, the boost to consumption , coupled with supply side constraints , led to higher inflation. Monetary policy was tightened, even as external headwinds to growth increased. The consequent slowdown, especially in 2012-13, has been across the board, with no sector of the economy unaffected.

3.5.2 As per the provisional estimates released by CSO, gross national income (factor cost , constant prices) is estimated to have risen by 4.9 percent during 2012-13, in comparison to the growth rate of 6.4 percent in 2011-12 whereas GDP(Factor cost constant prices) showed a growth rate of 5.0 percent over the First Revised Estimates of GDP for the year 2011-12 . The per capita net national income in real terms (at 2004-05 prices) during 2012-13 is estimated to have attained a level of Rs. 39,168 . The growth rate in per capita income is estimated at 3.0 percent during 2012-13 as against 4.7 percent during 2011-12.

3.5.3 Agriculture, forestry and fishing sector in 2012-13 has shown a meagre growth rate of 1.9 percent as per the provisional estimates whereas in the case of 'mining and quarrying', the Index of Industrial Production of Mining (IIP-Mining) registered a decline of 2.5 percent during 2012-13. Production of coal and crude oil registered growth rates of 3.3 percent and (-) 0.6 percent in 2012-13. The growth of 'mining &quarrying' as per the provisional estimates was around (-) 0.6 percent. Slowdonw in the manufacturing sector showed little hope of recovery as growth of 'manufacturing' sector for 2012-13 , according to the provisional estimates was downwardly revised to around 1.0 percent, as against the Advance Estimate growth of 1.9 percent released earlier. Similar was the case in construction sector which saw a downward revision in growth from 5.9 % (Advance Estimates 2012-13) to 4.3 % (provisional estimates 2012-13) . However, the key indicators of banking, namely, aggregate bank deposits and bank credits have shown higher growth of 14.3 percent and 14.2 percent, respectively during 2012-13 over the corresponding period in 2011-12. Indicators of Railways sector, namely, Net Tonne Kilometers and passenger Kilometers have have shown growth of 0.3 and 2.4 percent respectively during 2012-13 whereas the Trade, hotels and transport sector, led by significant growth of private corporate sector registered in the Trade, hotels and restaurant, registered better growth of 6.4 percent in 2012-13 as against 5.2 percent in the advance estimate released in February,2013 .

3.5.4 Comparison of growth rates in GDP (factor cost , constant prices) and the constituents contribution to the same , it is apparent that for achieving an annual growth rate of 9% or higher, all the three major sectors of the economy i.e. agriculture, industry & services have to perform well. In view of the same, performance of agriculture & industry is particularly a matter of concern.



3.5.5 The growth rate of the economy since 2003-04 has been strongly correlated with investment rate. Private sector is the major source of investment in the country . However, there has been sharp slowing of corporate investment in recent years. The savings rate averaged 18.6 % in the 1980s and 23 % in 1990s . The savings rate exceeded 30% for the first time in 2004-05 . On average , households accounted for nearly three fourths of the gross domestic savings during the period 1980-81 to 2011-12. The share declined somewhat in recent years whereas that of the private corporate sector increased from about 15 % since 1980s to about 23.2% since 2004-05. Within households, the share of financial savings vis a vis physical savings has been declining in recent years. Savings and capital formation rate for recent years is tabulated below :

Current Market Prices	2008-09	2009-10	2010-11(2nd RE)	2011-12 (1st RE)
Saving rate	32.0	33.7	34.0	30.8
Household Sector	23.6	25.2	23.5	22.3
Capital Formation Rate	34.3	36.5	36.8	35.0
Private Sector	24.8	25.4	26.5	24.9

3.6 Concepts & Definitions : The major concepts used in National Accounts Statistics and the inter relationship, particularly of those relating to macro-economic aggregates of domestic product, consumption, saving and capital formation are given in the following paragraphs.

Domestic Product : Domestic product by definition is a measure in monetary terms of the volume of all goods and services produced by an economy during a given period of time, accounted without duplication. The measure obviously has to be in value terms as the physical units of production and different measures of services are not capable of simple addition. In the case of a closed economy, this measure amounts to domestic product.

Domestic Product And National Income : The domestic product measures all goods and services arising out of economic activity, while national income is the sum of all incomes as a result of the economic activity. Since the production of goods and services is the result of the use of primary factors of inputs, namely, capital and labour, along with the raw materials, the process automatically generates income. This income is in the form of return to capital and labour used in the production process. National income includes only those incomes which are derived directly from the current production of goods and services, which are called factor incomes.

National Income And Expenditure: The production within the economy over a given period of time is spent either for consumption of its members or for addition of fixed assets or for addition to the stock of existing productive assets within the country. Hence, production can also be measured by considering the expenditure of those who purchase the finished or final goods and services. The national expenditure is the sum of expenditure of all spending of institutional sectors viz., government, households and enterprises. The expenditure on final goods and services may be purely for consumption purposes like consumption of food, clothing, shelter; services etc., or for capital formation such as addition to buildings, plant, machinery, transport equipment, and the like. Some goods may not be immediately sold and may be kept aside as stocks. These goods which are added to stocks are also accounted for as final expenditure.

Production / Income / Expenditure : The national income of a country can be measured in three different ways, from the angle of production, from income generation and from final utilization. These three forms are circular in nature.

Gross National Income (GNI) : The economy of India is not closed as there are transactions with rest of the world in the form of exports, imports, loans and the like. This gives rise to the concept of national or domestic income. Gross Domestic Product refers to the production of all resident units within the borders of a country, which is not exactly same as the production of all productive activities of residents. Some of the productive activities of residents may take place abroad. Conversely, some production taking place within a country may be attributed to temporary and seasonal foreign labour. The Gross National Income is calculated by the following formula:

GNI = GDP + compensation of employees and property income receivable from the rest of the world – compensation of employees and property income payable to the rest of the world.

Categories Of Expenditure : The income available to the individuals in the form of labour income or capital income or to the productive units in the form of retained income is then spent. The utilization or expenditure of the income can take various forms, namely, (a) household consumption expenditure; (b) government consumption expenditure; and (c) capital formation comprising fixed capital formation and stock accumulation.

Household Consumption Expenditure: The household consumption expenditure referred to as private final consumption expenditure (PFCE) in the National Accounts Statistics (NAS), consists of expenditure by households (including non-profit institutions) on non-durable consumer goods and services and all durable goods except land and buildings.

Government Final Consumption Expenditure : Government final consumption expenditure comprises of the compensation to the Government Employees and purchases of goods and services by the Government including purchases abroad. Compensation of Employees of general Government consists of wages and salaries and social security contribution.

Gross Capital Formation : Gross Capital Formation includes only produced capital goods (machinery, buildings, roads, artistic originals etc.) and improvements to non-produced assets. Gross Capital Formation measures the additions to the capital stock of buildings, equipment and inventories, i.e. additions to the capacity to produce more goods and income in the future. The components of gross capital formation are

- gross fixed capital formation
- changes in inventories
- acquisition less disposal of valuables(such as jewelry and works of art)

Gross Fixed Capital Formation includes purchases of new assets within the domestic market like buildings, transport equipment, machinery, breeding stock etc.; import of new assets; own account production of new assets such as production of rail engines, wagons, trucks, aero-planes, farm machinery, breeding stock of fish, sheep, cows etc. by the enterprise; purchase of new houses by consumer households and net purchase of second hand physical assets from abroad.

Change in stocks (inventories) consists of the difference between the opening stock and the closing stock.

Saving : Saving represents the excess of current income over current expenditure of various sectors of the economy. It is the balancing item on the income and outlay accounts of the producing enterprises, households, government administration and other final consumers. For a closed economy, savings equals capital formation during the year, whereas for the open economy savings equals capital formation plus net capital inflow from abroad during the year.

Gross Versus Net Value Added : GDP does not take into account the depreciation factor because of which it does not reveal the complete flow of goods and services through various sectors. Thus, the term net product is considered more suitable which is obtained by subtracting depreciation cost from the gross domestic product. Capital goods like machines, equipment, tools, factory building, tractors etc. get depreciated during the process of production. After some time these capital goods need replacement. The decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage is called Consumption of Fixed capital (CFC). Deduction of CFC from GDP provides with the net domestic product.

Current Versus Constant Prices :

3.7.1 National income regardless of the concept is obviously measured at prices prevailing during the period or in other words at current prices. When calculated over a number of years, the changes in national income would, therefore, include implicitly not only the effect of the changes in production but also the changes in prices. This estimate compared over the period would not, therefore, give a proper measure of the overall real increase in production of the country or the economic welfare of the people or growth of the economy. Therefore, it would be necessary to eliminate the effect of prices, or in other words to recompute the whole series at given prices of one particular base year. National income thus computed, is termed as National Income at constant prices or in real terms.

3.7 Sources Of Data :

3.7.1 National Accounts Statistics in India are compiled by National Accounts Division in the Central Statistics Office, Ministry of Statistics & PI. The data are released as per advance release calendar available on the website of the Ministry (www.mospi.nic.in) and annual as well as quarterly estimates are leased. The Advance Estimates after release undergo several rounds of revision before they are finalized. Consequently various versions like Provisional Estimates , First Revised Estimates, Second Revised Estimates etc are also released. Earlier 1993-4 series was being used which has now been replaced by 2004-05 series and 2004-05 prices are being currently used to derive estimates for constant prices. Data needed for computation of National income is collected from various diverse sources and is used not only for the actual computation of National Income, but also for cross-checking the final National Accounts Estimate.

3.7.2 Administrative Records, Census And Surveys

Some of the important sources of data, which have been used in the new series, are as follows:

(a) NSS 61st round (2004-05) on employment and unemployment and consumer expenditure;
(b) NSS 62nd round (2005-06) on unorganized manufacturing;
(c) NSS 63rd round (2006-07) on services sectors;
(d) All India Livestock Census, 2007;
(e) NSS 59th round (2002-03) on All India Debt and Investment Survey;
(f) Population Census, 2001; and
(g) Fourth All India Census of Micro, Small and Medium Enterprises,2006-07.

3.7.3 Further, the results of various studies undertaken by the Central Statistics Office through the Ministry of Agriculture, Ministry of Environment and Forests and State Governments and also the Input-Output Transactions Tables prepared by the Central Statistics Office and the Cost of Cultivation

Studies conducted by the Ministry of Agriculture have been used in the new series for updating the rates and ratios used to estimate the consumption of fodder, market charges paid by the farmers, yield rates of meat, meat products and meat by products for different categories of animals, input rates for agriculture and forestry and the trade and transport margins.

3.8 National Industrial Classification 2004 is used for computation of National Income Estimates in India.

3.9 Coverage : In the system of National Accounts, the accounts relating to the resident institutional sectors portray various facets of economic activity (production, distribution etc) pertaining to the following institutional units:

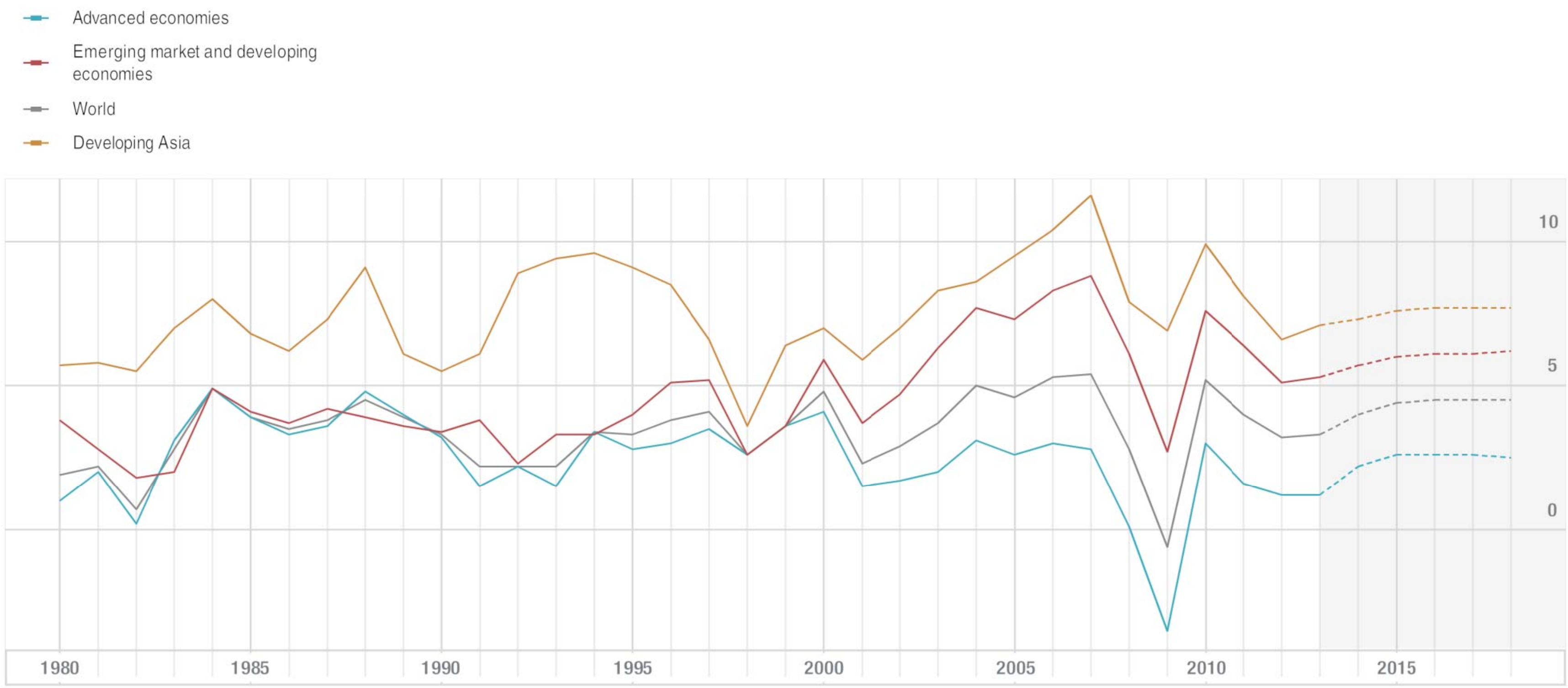
- Public sector
- Government Administrative Departments
- Departmental Commercial undertakings
- Non Departmental Commercial Undertakings
- Private Corporate Sector
- Households including NPISHs

References :

- The Growth Record of the Indian Economy, 1950-2008: A Story of Sustained Savings and Investment
(Keynote Address by Dr.Rakesh Mohan, Deputy Governor, Reserve Bank of India at the Conference "Growth and Macroeconomic Issues and Challenges in India" organised by the Institute of Economic Growth, New Delhi on February 14, 2008)
- Working Paper No. 122, India's Economic Growth: From Socialist Rate of Growth to Bharatiya Rate of Growth, Arvind Virmani, Indian Council For Research On International Economic Relations
- Growth and Structural Changes in Output in India since Independence: A Study Report by Surajit Mazumdar for Institute for Studies in Industrial Development
- Economic Survey 2012-13
- International Monetary Fund, World Economic Outlook Database, April 2013
- Website of United Nations Statistics Division

IMF Data Mapper ®

Real GDP growth (Annual percent change)



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