

## APPENDIX 20

## INDIA'S NATIONAL ACCOUNTS

India's national accounts are published by the Central Statistical Organization.<sup>1</sup> Table 20A-1 provides a snapshot picture of some of the important macroeconomic variables calculated by CSO. CSO uses both the "Flow-of-product" and "Earnings or Income" approaches and provides data for different concepts of GDP with

different classifications.<sup>2</sup> GDP at factor cost measures domestic output at the cost paid to the factors of production. When output is measured at market prices, i.e., the actual prices paid by the consumers and producers, GDP at market prices is obtained. The market prices include the indirect taxes paid by the buyers such as excise duties, sales taxes but exclude

TABLE 20A-1. Some Macroeconomic Variables, India, 2007-08 at Current Prices (Rs Crores)

A. GDP at factor cost	4320892
1. Agriculture	782597
2. Industry	1274893
3. Services	2263402
B. Indirect taxes- subsidies	402508
C. GDP at marketprices (A + B)	4723400
1. Private final consumption expenditure	2596084
2. Gross capital formation	
a. Gross fixed capital formation	1605440
b. Change in stocks	170315
3. Government final consumption expenditure	479099
4. Net export of goods and services	- 168345
D. Consumption of fixed capital	509450
E. NDP at factor cost (A - D)	3811442
1. Compensation of employees:	1305092
a. Organized	792881
b. Unorganized	512211
2. Operating surplus/mixed income:	2506350
a. Organized	842234
b. Unorganized	1664116
F. Net factor income from abroad	- 23845
G. GNP at factor cost (A+F)	4297047

Source: *National Accounts Statistics*, available at the website of the Ministry of Statistics and Programme Implementation, Government of India, [www.mospi.gov.in](http://www.mospi.gov.in). The figure for GDP at market prices is adjusted for errors and omissions and is not equal to the constituent parts in C above.

<sup>1</sup> Its main publication is the annual National Accounts Statistics, which can be accessed from the website of the Ministry of Statistics and Programme Implementation, [www.mospi.gov.in](http://www.mospi.gov.in). New users can register free.

<sup>2</sup> See, *National Accounts Statistics: Sources and Methods*, 2007, available at [www.mospi.gov.in](http://www.mospi.gov.in).

the subsidies which the government pays to producers. Thus,  
 $\text{GDP at market prices} = \text{GDP at factor cost} + \text{indirect taxes} - \text{subsidies}.$

When net factor income from abroad is added to GDP at factor, we get GNP at factor cost. As Table 20A-1 shows, India's GNP is less than GDP implying the amount of factor incomes such as dividends which residents pay to non-residents is more than what they receive.

Using the production approach, GDP at factor cost is calculated for different economic activities:

- (i) Agriculture, forestry and fishing
- (ii) Mining and quarrying
- (iii) Manufacturing
- (iv) Electricity, gas, and water supply
- (v) Construction
- (vi) Trade, hotels, and restaurants
- (vii) Transport, storage, and communication
- (viii) Financing, insurance, real estate, and business services
- (ix) Community, social, and personal services

Some of these are further classified into subcategories. These can be combined to define the following categories:

- Agriculture (i)
- Industry (ii to v)
- Services (vi to ix).

We have used these categories while analyzing the trends in output in India in the appendix 19.

Using the production and expenditure approach, GDP at market prices is classified into the following categories of expenditure:

- Private final consumption expenditure—expenditure by households (and non-profit institutions) on non-durable goods and services and all non-durable goods except land and buildings.
- Gross capital formation—gross domestic investment both by the private and the government sectors and acquisition of new residential buildings by households. It is equal

to gross fixed capital formation + change in stocks.

- Government final consumption expenditure—purchase of non-durable goods and services by the government. By convention, purchase of durable goods for defense is treated as a part of government consumption rather than capital formation.
- Net exports of goods and services—excess of exports of goods and services over imports of goods and services.

Using the income approach, net domestic product (NDP) at factor cost is classified into the following incomes:

- Compensation of employees—total remuneration in cash or kind payable by employers to employees for work done
- Operating surplus—income (profits) accruing to owners of capital
- Mixed income—income of self-employed which cannot be separated between labor income and capital income.

Operating surplus and mixed income are clubbed together and further details of the different types of incomes are currently not provided. However, data are provided for organized and unorganized sectors separately. The latter include all unincorporated and household enterprises which are not regulated by any acts and which do not maintain annual accounts.

## Real and Nominal GDP

CSO provides relevant national account figures both at current and at constant prices. The base year for the constant price series is changed occasionally. The base year has been changed from 1999-2000 to 2004-05 in 2010. For constant price series for different variables used in the appendices in this book, we have used the base year, 1999-2000.

The difference between the two curves in Figure 20A-1 for GDP at current prices (nominal GDP) and GDP at 1999-2000 prices (real GDP) measures the extent of general price rise in India.

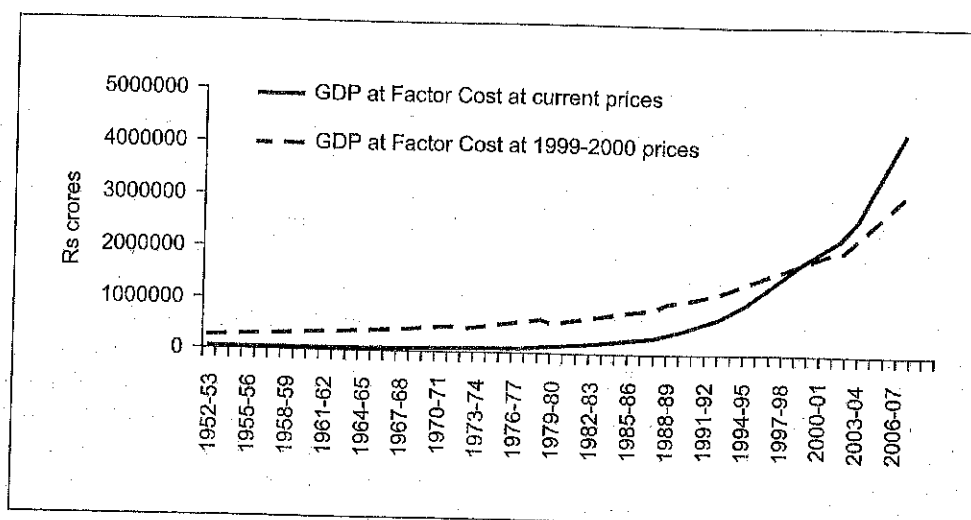


FIGURE 20A-1. Nominal and Real GDP, India, 1951-2008

Source: Reserve Bank of India, *Handbook of Statistics on Indian Economy*, available at the website of RBI, [www.rbi.org.in](http://www.rbi.org.in). Real GDP figures are at 1999-2000 prices.

### Changing Composition of Aggregate Expenditure

The structure of aggregate expenditure has changed considerably over the years (see Table 20A-2). Private final consumption expenditure is the largest component. But its share has gone down systematically and sharply from almost 90% in 1950-51 to 55% in 2007-08. India is now more open as an economy with the rise in the share of both exports and imports in GDP. But, the most remarkable feature has been the growth of gross capital formation, rising from 10.3% in 1950-51 to 38.7% in 2007-08. Gross capital formation has two parts—gross fixed

capital formation and change in stocks. In the appendix to Chapter 21, we will discuss the behavior of the fixed capital component.

### PRICE INDEXES AND INFLATION IN INDIA

In India, five price indexes are used at the national level (Table 20A-3). All these except the Wholesale Price Index (WPI) are consumer price indexes (CPI). These indexes differ basically with respect to the goods/services considered for price

TABLE 20A-2. Structure of GDP by Expenditure in India (Rs Crores)

	Private final consumption	Government final consumption	Gross capital formation	Exports of goods and services	Imports of goods and services
1950-51	89.1	5.8	10.3	7.3	7.1
1960-61	87.4	6.8	14.4	4.5	6.9
1970-71	79.6	9.2	15.6	3.8	3.9
1980-81	77.0	10.0	18.5	6.2	9.4
1990-91	66.2	11.6	24.2	7.1	8.5
2000-01	63.7	12.6	24.2	13.2	14.2
2007-08	55.0	10.1	38.7	21.2	24.7

Source: Same as in Table 20A-1. Shares of expenditure as percentages of GDP at current prices.

calculation and their weights and prices, the base year, and the agency compiling and publishing the data. CPIs consider both consumer goods and services. Apart from consumer goods, WPI also covers intermediate and capital goods. But an important limitation of the WPI is that it does not include services. Unlike CPIs which deal with retail prices, WPI as its name implies measures the wholesale prices. Wholesale price is defined as the quoted price for bulk transaction generally at primary stage. For manufactured goods, it is taken as ex-factory prices excluding rebates; if any but including excise duty. (Thus, it is not producers prices which are prices received by the producers and does not include taxes.) Weights for CPIs are derived from consumer expenditure surveys reflecting the importance of the item in the overall consumer expenditure. WPI too uses value weights but the method is more complicated with information used from diverse sources.<sup>3</sup>

Unlike other countries such as the United States where CPI is the most widely used index, in India, the more common one is the WPI.

Perhaps, one of the most important reasons for this is the absence of any harmonized CPI in India. As Table 20A-3 shows, the CPIs are calculated for different segments of people separately and do not cover the entire population. Another factor could be the frequency of data availability—WPI has traditionally been a weekly measure unlike the CPIs which are monthly indexes.<sup>4</sup>

Despite the differences between the WPI and the CPIs, the long-term behavior of inflation in terms of annual rates of growth has been found to be quite similar as Figure 20A-2 shows. As explained in the appendix to Chapter 19, the annual rate of inflation for WPI is defined as:

$$\frac{(P_t - P_{t-1})}{P_t} \times 100$$

where  $P_t$  = 52-week average of WPI in a particular year

$P_{t-1}$  = 52-week average of WPI in the previous year.

Similarly, the annual rate of inflation for CPI (IW) is calculated by comparing the 12-month average for an year with that in the previous year.

TABLE 20A-3. *Price Indexes in India*

Index	Base year	Compiled by
Wholesale Price Index (WPI)	1993-94	Office of the Economic Adviser, Ministry of Commerce and Industry
Consumer Price Index for Industrial Workers (CPI-IW)	2001	Labour Bureau, Ministry of Labour and Employment
Consumer Price Index for Agricultural Labour (CPI-AL)	1986-87	Labour Bureau, Ministry of Labour and Employment
Consumer Price Index for Rural Labour (CPI-RL)	1986-87	Labour Bureau, Ministry of Labour and Employment
Consumer Price Index for Urban Non-manual Employees (CPI-UNME)	1984-85	Central Statistical Organization

Note: Collection of data for CPI-UNME has been discontinued from April 2010.

<sup>3</sup> See the *Manual on Compilation of Index Number of Wholesale Price in India*, available at the website of the office of the Economic Adviser, Ministry of Commerce and Industry, Government of India ([www.eaindustry.nic.in](http://www.eaindustry.nic.in)) for a discussion of the conceptual and other problems and further details.

<sup>4</sup> Lately, for WPI indexes are however available at monthly intervals. Weekly indexes are calculated only for the products groups of 'primary articles' and 'fuel, power, light and lubricants'.

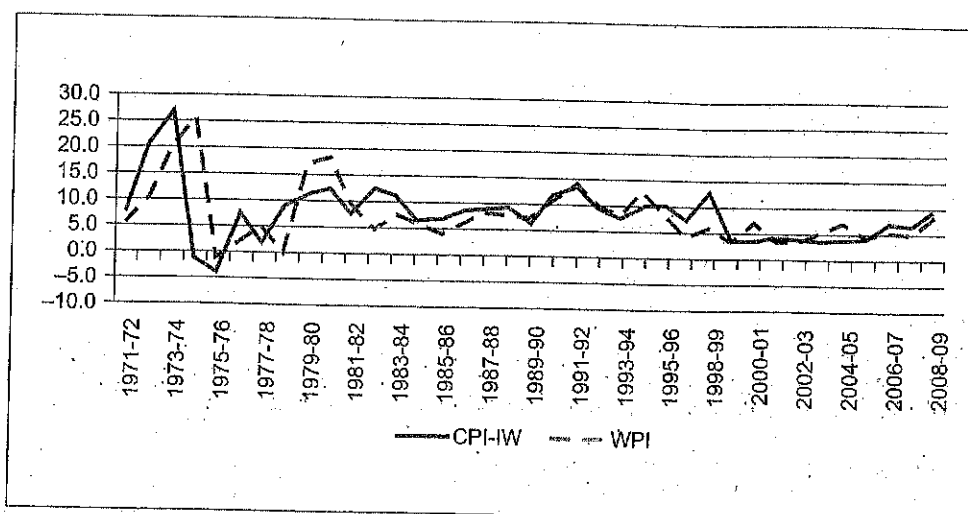


FIGURE 20A-2. Consumer and Wholesale Inflation in India

Source: Same as in Figure 20A-1. CPI-IW is Consumer Price Index for Industrial Workers and WPI is Wholesale Price Index.

But though the long-term behavior is similar, the price behavior in specific short periods and for particular commodities can be and often are quite different.

### Calculation of Wholesale Price Index

Office of the Economic Adviser, Ministry of Commerce and Industry collects price data for 435 commodities from 497 sources and processes these for calculating and publishing the WPI. These 435 commodities are classified into the following broad categories and further subcategories (Table 20A-4). WPI data are available not only for individual commodities but also for the subgroups, groups, and all commodities combined.

### Year-on-year Measure of Inflation Rate

We have mentioned how annual averages are used for finding out the rate of inflation.

Another measure which is quite common in India is the year-on-year (or point-to-point) measure. Here, the price index for a particular week/month is compared with what it was 52 weeks/12 months earlier to find out the rate of growth of prices. In India when newspapers report the rate of inflation, they use more often than not this particular measure. This is also the rate which is tracked for policy purposes. To control inflation the most widely used measures are the cash reserve ratios, repo and reverse repo rates as fixed by the Reserve Bank of India (see the appendix to Chapter 24 on monetary policy). Analysis of inflation carried out by the Reserve Bank of India and contained in such reports as *Macroeconomic and Monetary Developments* issued with monetary policy statements focus primarily on year-on-year inflation rates for the recent months/years.<sup>5</sup>

<sup>5</sup> See for example *Macroeconomic and Monetary Developments in 2009-10*, April, 2010, Chapter VI on Price Situation (available at [www.rbi.org.in](http://www.rbi.org.in)).

TABLE 20A-4. *Coverage of Wholesale Price Index in India*

Major group/groups	Weights	No. of commodities
ALL COMMODITIES	100.00	435
I. Primary articles	22.03	98
(i) Food articles (rice, wheat, vegetables, etc.)	15.40	54
(ii) Non-food articles (raw cotton, oilseeds, raw hides, etc.)	6.14	25
(iii) Minerals (iron-ore, asbestos, limestone, etc.)	0.48	19
II. Fuel, power, light, and lubricants	14.23	19
III. Manufactured products	63.75	318
(i) Food products (butter, milk powder, atta, biscuits, etc.)	11.54	41
(ii) Beverages, tobacco, and tobacco products (soft drinks, beer, cigarettes, etc.)	1.34	11
(iii) Textiles (cotton yarn, woolen cloth, hessian cloth etc.)	9.80	29
(iv) Wood and wood products (plywood, timber planks).	0.17	2
(v) Paper and paper products (newsprint, periodicals, etc.)	2.04	11
(vi) Leather and leather products (footwear western style)	1.02	1
(vii) Rubber and plastic products (tyres, tubes, suitcases, etc.)	2.39	15
(viii) Chemicals and chemical products (fertilizers, pesticides, medicines, etc.)	11.93	69
(ix) Non-metallic mineral products (ceramic tiles, cement, etc.)	2.52	9
(x) Basic metals, alloys, and metals products (steel furniture, pipes, etc.)	8.34	53
(xi) Machinery and machine tools (power-looms, air-conditioners, etc.)	8.36	56
(xii) Transport equipment and parts (trucks, motorcycles, etc.)	4.29	21

Source: Website of the Office of the Economic Adviser, Ministry of Commerce and Industry, [www.eaindustry.nic.in](http://www.eaindustry.nic.in).