

# National Income

**Measures of national income and output** are used in economics to estimate the value of goods and services produced in an economy. They use a system of **national accounts** or **national accounting** first developed during the 1940s. Some of the more common measures are Gross National Product (**GNP**), Gross Domestic Product (**GDP**), Gross National Income (**GNI**), Net National Product (**NNP**), and Net National Income (**NNI**). **National Income (Y)**

## GDP - Gross Domestic Product

$$\text{GDP}^* = C + G + I + NX$$

(*GDP = Consumption + Government Expenditure + Investment + Export – Import*)

\*This formula uses the expenditure method of national income accounting.

GDP is the total value of final goods and services produced within a country's borders in a year. GDP counts income according to where it is earned rather than who owns the factors of production.

GDP includes the output of the many foreign owned firms that are located in the home country.

### **GDP Top 10 (2004)** (currency exchange rate)

	<b>Country</b>	<b>GDP (\$ mill)</b>
1	United States	\$11,667,515
2	Japan	\$4,623,398
3	Germany	\$2,714,418
4	United Kingdom	\$2,140,898
5	France	\$2,002,582
6	Italy	\$1,672,302
7	China	\$1,649,329
8	Spain	\$991,442
9	Canada	\$979,764
10	India	\$691,876

Source: World Bank

## GNP Gross national product

$$\text{GNP} = \text{GDP} + \text{Net property income from abroad}$$

GNP measures the **final** value of output or expenditure by UK owned factors of production whether they are located in the UK or overseas

The difference between the follows of income coming into the economy and those being paid abroad is known as **net property income from abroad**.

**Final goods** are goods that are ultimately consumed rather than used in the production of another good. For example, a car sold to a consumer is a final good; the components such as tires sold to the car manufacturer are not; they are *intermediate goods* used to make the final goods. The same tires, if sold to a consumer, would be final goods. Only final goods are included when measuring national income. If intermediate goods were included too, this

would lead to double counting; for example, the value of the tires would be counted once when they are sold to the car manufacturer, and again when the car is sold to the consumer.

Only newly produced goods are counted. Transactions in existing goods, such as second-hand cars, are not included, as these do not involve the production of new goods.

Income is counted as part of GNP according to who owns the factors of production rather than where the production takes place. For example, in the case of a German-owned car factory operating in the US, the profits from the factory would be counted as part of German GNP rather than US GNP because the capital used in production (the factory, machinery, etc.) is German owned. The wages of the American workers would be part of US GNP, while the wages of any German workers on the site would be part of German GNP.

<b>GNP Top 10 (2004)</b> (currency exchange rate)		
	<b>Country</b>	<b>GNP (\$ mill)</b>
1	United States	\$12,150,931
2	Japan	\$4,749,910
3	Germany	\$2,488,974
4	United Kingdom	\$2,016,393
5	France	\$1,858,731
6	China	\$1,676,846
7	Italy	\$1,503,562
8	Canada	\$905,629
9	Spain	\$875,817
10	Mexico	\$703,080
Source: World Bank		

### AT MARKET PRICES TO FACTOR COST

- **GDP at market prices:** the value of output in terms of what consumers pay for it, i.e., this includes indirect taxes and subsidies
- **GDP at factor cost:** the value of output paid by consumers – taxes + subsidies on expenditure

If you buy a pencil at 100 SK, the price would include 19 %VAT. The actual value of the output is therefore 81 SK. This is the amount that the retailer receives after paying the VAT to the government. The remainder is used to pay factor incomes – wages, rents etc. So 81 SK and not 100 SK flows round the circular flow of income.

The government subsidizes some goods. The difference between what the consumers paid and what the producer received was the subsidy. The amount flowing round the circular flow in this case is the expenditure on bread plus the subsidy paid by government. This is equal to the value of total output of bread and of total income received from bread production.

The value of expenditure including indirect taxes such as VAT and subsidies is called **EXPENDITURE AT MARKET PRICE**. Whereas **EXPENDITURE** excluding taxes and subsidies is called **EXPENDITURE AT FACTOR COST**, therefore:

$$\text{Expenditure at factor cost} = \text{Expenditure at market prices} - \text{Indirect taxes} + \text{Subsidy}$$

## Real and nominal values

**Nominal GNP** measures the value of output during a given year using the prices prevailing during that year. Over time, the general level of prices rises due to inflation, leading to an increase in nominal GNP even if the volume of goods and services produced is unchanged.

**Real GNP** measures the value of output in two or more different years by valuing the goods and services adjusted for inflation. For example, if both the "nominal GNP" and price level doubled between 1995 and 2005, the "real GNP" would remain the same. For year over year GNP growth, "real GNP" is usually used as it gives a more accurate view of the economy.

## Net National Product (NNP)

$$\text{NNP} = \text{GNP} - \text{Depreciation}$$

Machines, cars, trains, boats, typewriters, screwdrivers and hammers become worn out as they are used, or rust over a number of years. Buildings too can become old and in need of repair. Many of these capital goods will therefore need repair or even replacing. The amount spent on the repair or replacement of old, worn-out capital is known as **depreciation**. It is also known as **capital consumption** that tells us that capital is being used up.

The Net national product of an economy consists of all the goods and services becoming available plus any additions to the total amount of capital goods in existence. This is the total generally known as **National income (Y)** that is, the money value of the total new output of an economy in a period of time.

## Using national income figures

In early times no one was very interested in national income figures. However, in the Second World War many governments realized there was a need to know how much their nations could produce for the war effort. Since then, the Government has collected and published figures on income in their National Income and Expenditure publications or 'Blue Book' every year. These figures help the Government and economists in a number of ways.

1. If the Government knows how resources are being used, and what they are making, it is more able to try and change the allocation of resources. For example, if the Government finds the economy is producing too many consumer goods, like personal stereos, it may try to encourage the production of capital goods instead.
2. It allows comparison to be made of the standard of living in the one year compared to the next. If the amount of goods and services produced in an economy has increased over time, and therefore national income is higher, we can assume most people are better off.
3. The figures allow us to compare our standard of living with other countries. Dividing national income by the population in a country gives an indication of how much each person on average earns in a country

## Methods of measuring National Income

There are three different ways of calculating National Income numbers.

1. **Output method** – total value of the output of goods and services produced in the UK  
This measures the value of output produced by each of the production sectors in the economy using the concept of value added. Value added is the increase in the value of a product at each successive stage of the production process. We use this approach to avoid the problems of double-counting the value of intermediate inputs. The main sectors of the economy are the service industries, manufacturing and construction, and extractive industries such as mining, oil together with agriculture.,

2. **Expenditure method** – total amount of expenditure taking place in the economy. The expenditure approach determines aggregate demand, or Gross National Expenditure, by summing consumption, investment, government expenditure and net export  
The full equation for GDP using this approach is:  $GDP = C + I + G + (X - M)$

3. **Income method** – total amount of income generated through production goods and services.

GDP is the sum of the final incomes earned through the production of goods and services. Main Factor incomes are :

+ Income from employment and self-employment

+ Added to Profits of companies

+ Added to Rent income

- Transfer payments\* (state pension, income support and the Jobseekers' allowance)

**Transfer payments must be subtracted!**

**Income approach** and the closely related **output approach** can be seen as the summation of consumption, savings and taxation.

The three methods must yield the same results because the total expenditures on goods and services must by definition be equal to the value of the goods and services produced (GNP) which must be equal to the total income paid to the factors that produced these goods and services.

In actual fact, there will be minor differences in the results obtained from the various methods due to changes in inventory levels. This is because goods in inventory have been produced (and therefore included in GDP), but not yet sold (and therefore not yet included in GNE). Similar timing issues can also cause a slight discrepancy between the value of goods produced (GDP) and the payments to the factors that produced the goods (particularly if inputs are purchased on credit).