GDP – Summary of key points

What is GDP?

Gross Domestic Product or GDP is the most widely reported measure throughout the world of a nation’s economic performance or the health of its economy.

It measures the product of a nation.

In a nation, goods and services are produced

A price tag is attached to each of these goods and services, so the output has a monetary value.

We can then measure the output of the nation, for example, “Singapore’s output was S$390 billion for the year 2014”.

So what is GDP?

GDP is defined as the market value of all final goods and services produced in the economy during a calendar year.

Only goods and services produced within the geographical boundaries of the country, regardless of the producer’s nationality, are included.

It is measured in monetary terms and includes only formal market transactions, during a particular time period.

What is GDP per capita?

GDP per capita is the average GDP per person.

It is the GDP of a nation divided by the total population of the nation.

GDP Per Capita = GDP/Total Population

Why do we use GDP per capita?

The **total GDP** of a country gives an indication of the **size of the economy** for that country.

GDP per capita gives an indication of the **living standards** of a country.

For example, China has a higher GDP than Singapore, but Singapore's GDP per capita is higher than that of China.

What is GNP?

Gross National Product (GNP) is the market value of all final goods and services **produced by resources owned by the nation** during a calendar year.

GNP per capita is the GNP divided by the total population.

What is included in GNP?

GNP includes the total value of goods and services produced by the citizens or nationals of a country.

For Singapore, it includes the value of goods and services produced by Singaporean individuals and companies both within Singapore and overseas.

GNP excludes the total value of goods and services produced by foreigners and foreign companies in Singapore.

What's the difference between GDP and GNP?

Gross Domestic Product (GDP)

The total monetary value of a country's production of goods and services, **within its territorial boundary, by its nationals and foreigners**, calculated over the course of one calendar year

Gross National Product (GNP)

The total monetary value of a country's production of goods and services, **by its nationals in their country and in foreign countries**, calculated over the course of one calendar year

Value-Added

GDP is defined as the market value of all **final goods and services** produced in the economy during a calendar year.

Intermediate goods are used as inputs in the production of **final goods**. Including intermediate goods and final goods in the computation of GDP would result in an error called **Double Counting**, which would overstate the GDP.

Double Counting can be avoided by:

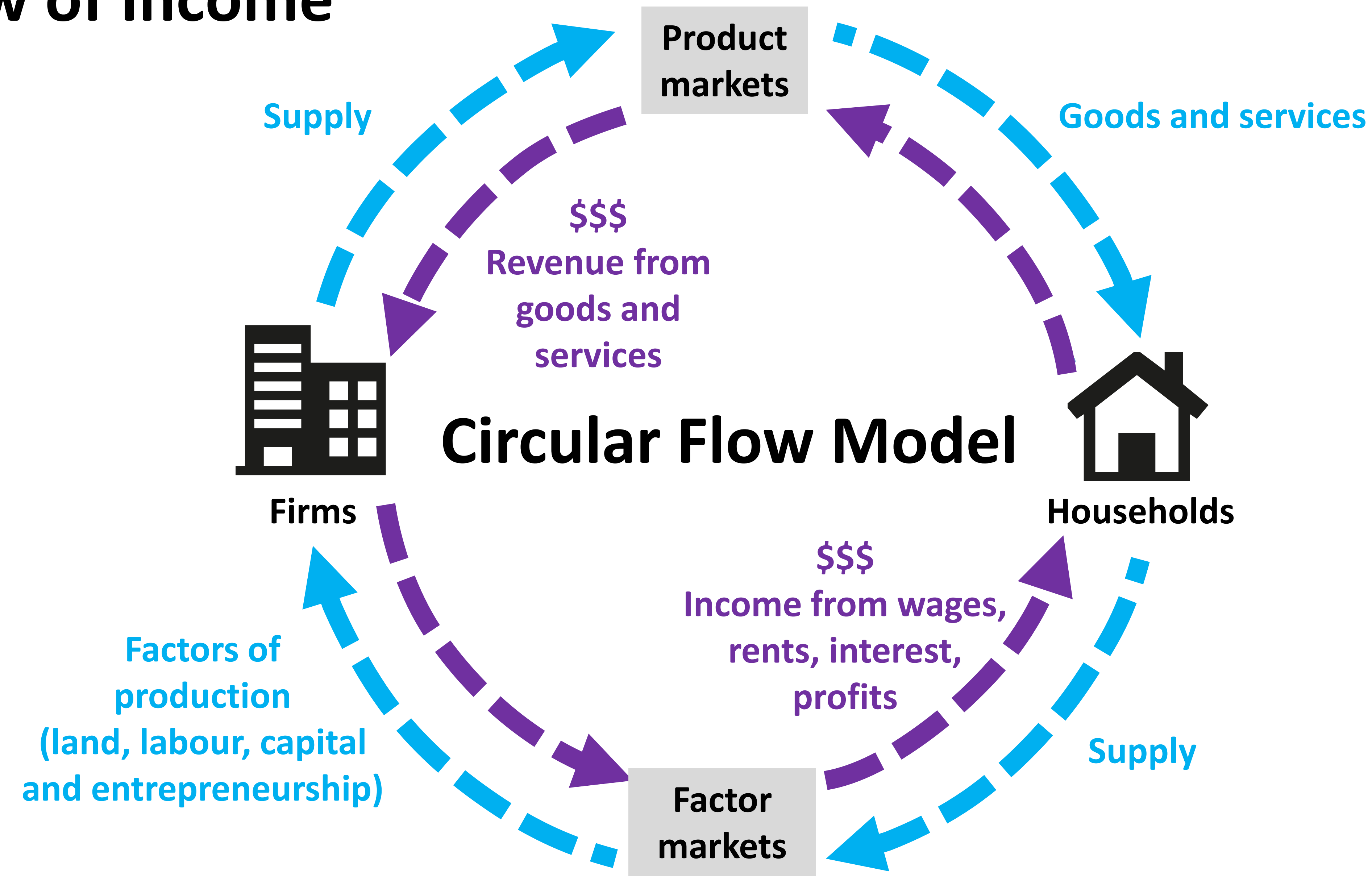
- including the market value of only final goods OR
- Including the value add at each stage of production

Computing GDP

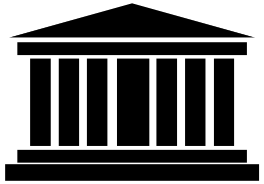
How do statisticians calculate the GDP of a nation? They can use the expenditure or income approach.

Every transaction has 2 parties, a buyer and a seller. The buyer's expenditure is the seller's income.

Flow of Income



The Expenditure Approach to computing GDP

	+		+		+	
Households		Firms		Government		Foreign countries
Personal Consumption Expenditure		Gross Private Domestic Investment		Government Expenditure on Goods & Services		Net Exports (eXports – iMports)
C	+	I	+	G	+	$(X - M)$

GDP or Aggregate Expenditure $= C + I + G + (X - M)$

The Income Approach

The Income Approach measures GDP by adding all the income (factor payments) earned by households in exchange for the factors of production used in the production of goods and services.

GDP = Compensation of employees + Rents + Profits + Net interest + Indirect business taxes + depreciation

Expenditure Approach = Income Approach

Expenditure Approach

Consumption (C)
Expenditures by households
+
Investment (I)
Expenditures by businesses
+
Government (G)
investment expenditures and gross consumption
+
Net Exports (X-M)
Expenditures by foreign economies

= GDP =

Income Approach

Compensation of employees
+
Rents
+
Profits
+
Net Interest
+
Indirect Business Tax
+
Depreciation

End

Nominal GDP

A straightforward calculation of the GDP is the nominal GDP.

It uses the current year’s prices, or **Current Dollars**.

However, the current dollar value of the product may include an increase in the price of the product.

Thus, a higher nominal GDP may not mean that more goods and services have been produced.

What is the issue with Nominal GDP?

Using nominal GDP, we will not be able to compare the GDP between different years, as the current dollar values may change.

In order to compare between years, any changes in prices have to be removed. This gives another value, **Real GDP**.

Real GDP

Real GDP is measured in **Constant Dollars**.

Prices are held constant by using the prices of a constant year, called the **base year**. This removes any changes in prices. Currently for Singapore, the base year is 2010.

A higher real GDP means that more goods and services have been produced.

GDP Price Deflator

The GDP Price Deflator is a price index that measures inflation or deflation in an economy by calculating a ratio of Nominal GDP to Real GDP.

$$\textbf{GDP Price Deflator} = \frac{\textbf{Nominal GDP}}{\textbf{Real GDP}} \times 100$$

Using the GDP price deflator, we can then calculate the Real GDP, given the Nominal GDP.

$$\textbf{Real GDP} = \frac{\textbf{Nominal GDP}}{\textbf{GDP Price Deflator}} \times 100$$

Importance of economic growth

Sustained growth of Real GDP can transform a poor economy into a wealthy one.

How do we know whether the economy is growing?

Economic Growth

The economic growth rate is the percentage change in the monetary value of Real GDP of the current year over the previous year.

$$\frac{\text{Real GDP of Current Year} - \text{Real GDP of Previous Year}}{\text{Real GDP of Previous Year}} \times 100\ \%$$

Positive economic growth rates

Positive growth rates means that the economy is growing. More goods and services are being produced in the economy.

Negative economic growth rates

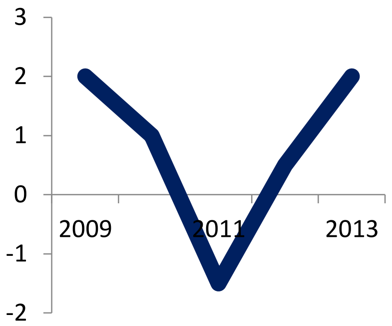
A negative growth rate means that the economy is in a **recession**.

The government implements policies to enable the economy to recover from the recession.

The speed at which the economy recovers from a recession depends on the effectiveness of the government policies and the prevailing circumstances including confidence of the people and businesses in the economy.

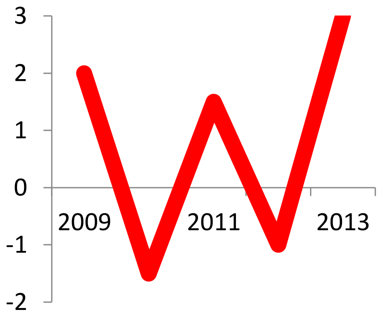
Types of Recovery from Recession

“V” Shape Recovery
The economy declines and rises rapidly



“U” Shape Recovery
The economy declines and recovers gradually

“W” Shape Recovery
This is called a double dip recession. The economy declines once again shortly after its recovery from the previous recession



GDP – an imperfect measure

GDP is an important indicator of economic performance.

However, for various reasons, GDP omits certain measures of overall economic well-being. These include non-market transactions, the underground economy, neglect of leisure time, the distribution, kind and quality of products, and economic “bads”.

It is important for the users of the economic indicator to be aware of the shortcomings and to complement it with other indicators and measurements.

End