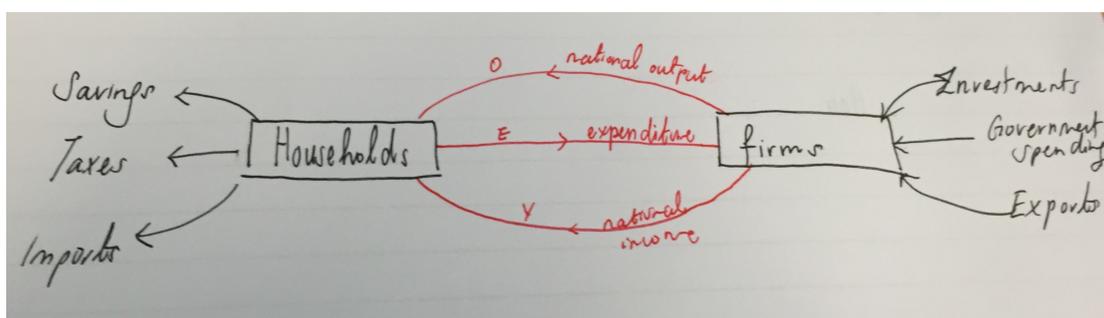


## 2.1 The Level of Overall Economic Activity

### The circular flow of income model

**Circular flow of income:** Model that illustrates the flow of money in the economy.

The **national income flow** consists of the four factors of production and their payments, namely *rent (land)*, *wages (labour)*, *interest (capital)*, and *profits (entrepreneurship)*. This is equivalent to the **expenditure flow** (the total spending on all goods and services in an economy) as well as the **output flow** (the total value of all final goods and services produced in an economy), as illustrated on the circular flow of income diagram below.



In a simplified diagram with a closed economy and no government, the model consists only of households and firms. However, in an open economy that includes government and financial institutions, there are **leakages** (that decrease the income circulating in the economy) and **injections** (that increase the income circulating in the economy). Leakages consist of **savings** (money flows out of economy to financial institutions and is not spent by the household), **imports** (households buy goods and services from overseas), and **taxes** (part of household income that is paid to the government). Injections, on the other hand, consist of **investments** (firms borrow money from institutions to expand output or increase stock of capital), **exports** (source of income coming from foreign households), and **government spending** (government expenditure on goods and services like infrastructure).

For any economy in equilibrium, the value of leakages ( $S+T+M$ ) equals the value of injections ( $I+G+X$ ). If the value of leakages exceeds injections, then the size of the circular flow will fall. Conversely, if the value of injections exceeds leakages, the size of the circular flow will increase.

### Measures of economic activity: GDP and GNI

**The Output Approach:** measures the value of all final goods and services produced in the economy in a given period of time. (Does not include value of intermediate goods, if not there would be double counting)

**Output approach: value of final good<sub>1</sub> + value of final good<sub>2</sub> + ...**

**The Expenditure Approach:** measures the total spending on all goods and services in an economy in a given period of time

**Expenditure approach:  $C+I+G+(X-M)$**

**The Income Approach:** measures all the factor incomes earned by the four different factors of production in an economy over a given time period

$$\text{Income Approach: } \text{rents} + \text{wages} + \text{interests} + \text{profits}$$

**Gross Domestic Product (GDP):** the total value of all final goods and services produced within a country's borders in a year, regardless of who owns the productive assets.

**Gross National Product/ Income (GNP/I):** the total income earned by a country's factors of production, regardless of where the assets are located.

$$\text{GNI} = \text{GDP} + \text{net property income from abroad}$$

**Real GDP:** Nominal GDP is GDP not adjusted for inflation (measured with prevailing prices at time of measurement). Real GDP is adjust for inflation.

$$\text{Real GDP} = \text{Nominal GDP adjusted for inflation}$$

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} * 100 \\ = (100 + \text{inflation rate})$$

**Per capita: Total GDP/ Total Population**

\*Useful for comparisons with other countries in terms of living standards, since different countries have different populations

**Other considerations with respect to national income statistics and their use for making comparisons between countries about standards of living**

- Composition of output (eg. is it national defence? May not benefit consumers)
- Income disparity/ distribution
- Exchange rate for international companies (affects measure of output)
- Statistical inaccuracies/discrepancies in data
- Unrecorded economic activity/ informal markets
- External costs/ social impacts (eg. resource depletion, environmental costs, low working conditions) .... → Green GDP

**Green GDP:** measure of GDP that takes into environmental costs incurred by the production of goods and services included in the GDP figures.

$$\text{Green GDP} = \text{GDP} - \text{environmental costs of production}$$

(eg. health, agricultural, industrial costs – air pollution, water pollution  
BP oil spill in Mexico in 2010)

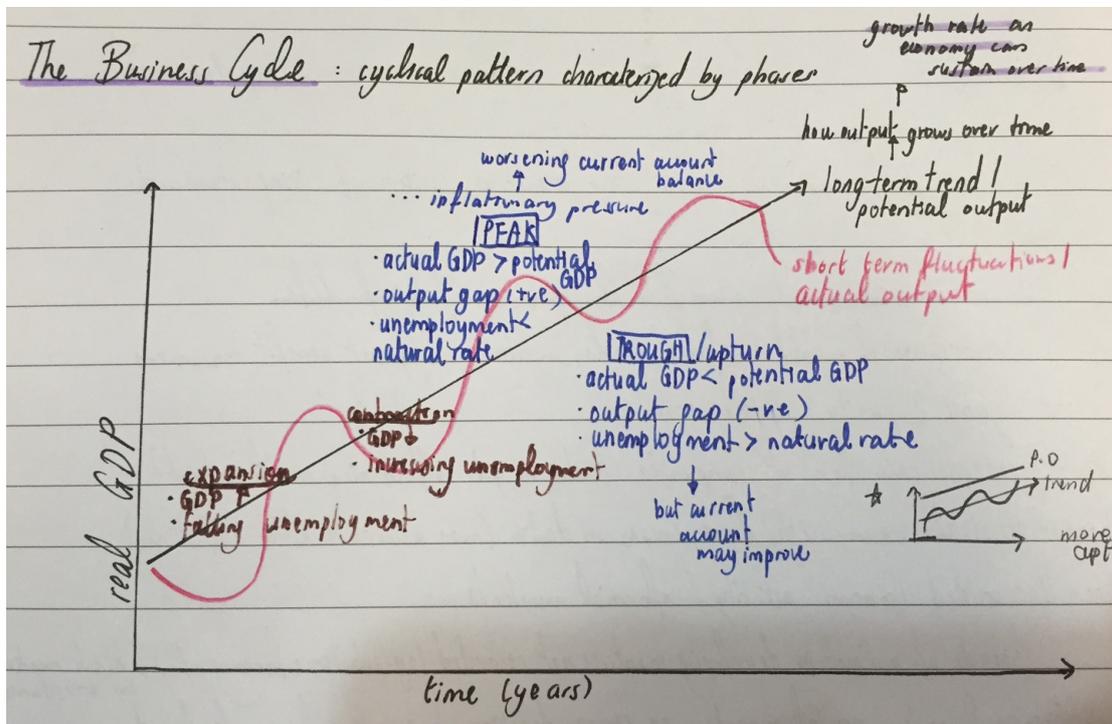
### The Business Cycle

The regular patterns of increases and decreases in economic activity (actual GDP) around the long-term trend (potential GDP, where unemployment rate = natural rate of unemployment).

There are 4 phases in a business cycle:

1. Recovery
  - GDP increases, falling unemployment (which results in more spending)
  - Low rates of inflation, due to recession before ( $\uparrow X$ ,  $\downarrow M$ ,  $\uparrow AD$ )
  - Low interest rates stimulates borrowing ( $\uparrow C$ ,  $\uparrow I$ ,  $\uparrow AD$ )
  - Replacement of machinery and anticipation of recovery ( $\uparrow C$ ,  $\uparrow I$ ,  $\uparrow AD$ )

- Government policy: lower tax, higher expenditure ( $\uparrow G, \uparrow AD$ )
- 2. Peak
  - Actual GDP > Potential GDP
  - Output gap (+ve)/ inflationary gap
  - Unemployment < natural rate of unemployment
  - Demand peaks and AD  $\downarrow$ , firms reach capacity and high interest rates
- 3. Recession (two consecutive quarters of negative GDP growth)
  - GDP falls, increasing unemployment
  - Business prospects and confidence low ( $\downarrow C, \downarrow I, \downarrow AD$ )
  - Government unwilling to stimulate economy (if inflation high or BoP still in deficit) ( $\downarrow G, \downarrow AD$ )
- 4. Trough
  - Actual GDP < Potential GDP
  - Output gap (-ve)/ deflationary gap
  - Unemployment > natural rate of unemployment
  - Cannot last forever, always minimum production therefore cycle repeats



A **decrease in GDP** is when there is a fall in the value of the output produced (negative GDP growth), whilst a **decrease in GDP growth** is when there is a fall in the rates of growth, although the GDP growth may still be positive.