The foreign sector

Why countries trade

- Why do individuals trade?
- What is the basis for specialisation and exchange?
- Same applies to countries

- **Absolute advantage**
  - benefits of trade obvious
  - specialise in what you are best at
• But what if an individual or country is better at everything than another individual or country?

• **Relative advantage:**
  – as long as opportunity costs (or relative prices) differ, there is always scope for trade
  – specialise where opportunity costs are lowest

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**Relative (comparative) advantage**

• **With same resources:**

<table>
<thead>
<tr>
<th>South Africa</th>
<th>Botswana</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 litres of paint or 200 units of plastic</td>
<td>50 litres of paint or 150 units of plastic</td>
</tr>
</tbody>
</table>

– SA has absolute advantage in both

– Botswana has relative advantage in plastic; opportunity cost: \( \frac{1}{2} \) litre of paint per 1 unit of plastic; lower than in SA: \( \frac{1}{2} \) litre of paint per 1 unit of plastic
– SA has relative advantage in paint; opportunity cost of 2 units of plastic per litre of paint; lower than in Botswana: 3 units of plastic per litre of paint

– SA → paint; Botswana → plastic; then trade at (say) 2,5 units of plastic per litre of paint

– Exchange ratio must be between opportunity cost ratios

• If opportunity costs similar in both countries – no benefits from specialisation and trade

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**Trade policy**

• Import tariffs
• Import quotas
• Subsidies
• Non-tariff barriers
• Exchange controls
• Exchange rate policy
Exchange rates

- **Definition:** price of a currency in terms of another currency

- Foreign exchange market (forex market)
  - demand for a currency
  - supply of a currency
  - equilibrium exchange rate

- Appreciation and depreciation

**NB:** Always check which currency is being analysed – important because exchange rate always involves two currencies

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Exchange: exchange rate between Rand and Euro

- We examine the market for euro

- Price thus rand per euro (what euro costs in rand)
  
  Quantity in euro

- Sources of demand for euro include:
  - SA importers who have to pay in euro
  - SA residents who purchase euro-denominated assets (e.g., shares in German companies or French government bonds)
– Euro zone investors who sell SA assets (eg shares on JSE) and convert proceeds into euro

– SA tourists visiting Euro zone countries who buy euro-denominated travellers’ cheques, etc.

– Speculators who anticipate a decline in the value of the rand against the euro (depreciation of the rand/appreciation of the euro)

• Sources of supply of euro include the following (note that the factors are simply the inverse of those that lie behind the demand for euro):

  – SA exporters who exchange their euro earnings for rand
  – SA residents who sell euro-denominated assets
  – Euro zone investors who invest in SA assets
  – Euro zone tourists who visit SA
  – Speculators who expect the euro to weaken (depreciation of the euro/appreciation of the rand)
• **Equilibrium exchange rate:**
  Similar to figure below, which pertains to rand/dollar exchange rate

![The foreign exchange market](image)

- **Changes in supply and demand (Currency appreciation and depreciation)**
  - Causes of changes in supply of foreign currency
  - Causes of changes in demand for foreign currency
  - Resultant changes in exchange rate
**EXAMPLE**

Demand for euro increases → euro appreciates (rand depreciation)

Demand for euro decreases → euro depreciates (rand appreciates)

Supply of euro increases → euro depreciates (rand appreciates)

Supply of euro decreases → euro appreciates (rand depreciates)

• **Graphical exposition:** Similar to figure below which pertains to rand/dollar exchange rate

![Graphical exposition](image-url)
Economic impact of changes in exchange rate

- **Rand depreciates**: export prices (in forex) decrease → import prices (in rand) increase → exports tend to increase → imports tend to decrease → current account tends to improve → domestic prices tend to rise

- **Rand appreciation**: just the opposite tends to happen

More on forex market

**Role of speculation**

- demand and supply change in anticipation/expectation of change in exchange rate

- could result in that which is expected to happen now
Official intervention (managed floating)

- authorities may try to intervene in the forex market to affect the exchange rate
- to prevent or counteract depreciation, they have to possess sufficient foreign exchange reserves
- to prevent appreciation, they must be prepared to purchase foreign exchange
- principle illustrated in Figure: Managed floating
- in practice, often difficult

Foreign sector in Keynesian model

- Exports \((X)\): injection into circular flow of income and spending
- Imports \((Z)\): leakage or withdrawal from circular flow
- Exports autonomous – not related to domestic income \(Y\)
  \[ X = \bar{X} \] (autonomous)
- Imports strongly related to domestic economic activity \(Y\)
  \[ Z = \bar{Z} + mY \] where \(m\) = marginal propensity to import

\[ \text{Figure: Exports} \]

\[ \text{Figure} \]
Impact of exports and imports

- **Exports (X)**
  - raise the level of aggregate spending $A$
  - leave multiplier unchanged
  - raise the equilibrium level of income $Y_0$

- **Imports (Z)**
  - act as leakage from circular flow
  - reduce the level of aggregate spending on domestic production
  - reduce the multiplier
  - reduce the equilibrium level of income

Keynesian model including the foreign sector

\[
Y = A \quad \text{(equilibrium condition)}
\]

\[
A = \bar{C} + \bar{I} + \bar{G} + X - Z \quad \text{(aggregate spending)}
\]

\[
C = \bar{C} + c(1 - \tau) Y \quad \text{(consumption spending)}
\]

\[
Z = \bar{Z} + mY \quad \text{(imports/spending on imports)}
\]

\[
Y_0 = \alpha \bar{A}
\]
Where \( \alpha = \frac{1}{1 - c(1 - t) + m} \)

\( \bar{A} = \bar{C} + \bar{I} + \bar{G} + X - Z \)

**Numerical example**

Suppose \( \bar{C} = 100, \bar{I} = 200, \bar{G} = 300, X = 150, Z = 50 \)

\( c = 0.9, t = 0.33, m = 0.1 \)

Total autonomous spending \( = \bar{C} + \bar{I} + \bar{G} + X - Z = 700 \)
Multiplier = \( \frac{1}{1-c(1-t) + m} \)

= \( \frac{1}{1-0.9(1-0.33) + 0.1} \)

= \( \frac{1}{1-0.6 + 0.1} \)

= \( \frac{1}{0.5} \)

= 2

\( Y_0 = \alpha \bar{A} = 2 \times 700 = 1400 \)