1. Introduction

This topic:
- Brings the demand and supply curves together in the market
- In a market:
  - The demand curve: represents how much of a good consumers will purchase
  - The supply curve: represents how much of a good producers will supply
- When the supply and demand curves come together, price is established
2. Market Equilibrium

- Equilibrium
  - The point where the D and S curves cross is called equilibrium
  - Here, the market clears as: \( Q_d = Q_s \)
  - This occurs only at this one point
  - At all other points, \( Q_d \) and \( Q_s \) are unequal:
    - Where \( Q_d > Q_s \) there is excess demand
    - Where \( Q_d < Q_s \) there is excess supply
  - At this point we can establish
    - the equilibrium price
    - the equilibrium quantity

- Drawing Equilibrium
  - To draw equilibrium we use the D and S curves for beef from Topic 2
  - Diagram 1
  - Equilibrium is point E
  - There the demand and supply curves are equal
  - \( Q_d = Q_s \)
  - The intersection is at a price of €7.50 and a quantity of 2,000,000 kgs
  - Note: look back to tables 2.1 and 2.2 and see how in both cases at a price of €7.50 the \( Q_d \) and \( Q_s \) are the same
  - See that at all other points, \( Q_d \) and \( Q_s \) are unequal

<table>
<thead>
<tr>
<th>Price (P)</th>
<th>Quantity demanded (Qd) (000's of Kg's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>€5.00</td>
<td>2,625</td>
</tr>
<tr>
<td>€5.50</td>
<td>2,500</td>
</tr>
<tr>
<td>€6.00</td>
<td>2,375</td>
</tr>
<tr>
<td>€6.50</td>
<td>2,250</td>
</tr>
<tr>
<td>€7.00</td>
<td>2,125</td>
</tr>
<tr>
<td>€7.50</td>
<td>2,000</td>
</tr>
<tr>
<td>€8.00</td>
<td>1,875</td>
</tr>
<tr>
<td>€8.50</td>
<td>1,750</td>
</tr>
<tr>
<td>€9.00</td>
<td>1,625</td>
</tr>
<tr>
<td>€9.50</td>
<td>1,500</td>
</tr>
</tbody>
</table>
Table 2.2: The Supply Schedule for Beef (per month)

<table>
<thead>
<tr>
<th>Price (P)</th>
<th>Quantity Supplied (Qd) (000's of Kg's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>€5.00</td>
<td>1,000</td>
</tr>
<tr>
<td>€5.50</td>
<td>1,200</td>
</tr>
<tr>
<td>€6.00</td>
<td>1,400</td>
</tr>
<tr>
<td>€6.50</td>
<td>1,600</td>
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<tr>
<td>€7.00</td>
<td>1,800</td>
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<tr>
<td>€7.50</td>
<td>2,000</td>
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<tr>
<td>€8.00</td>
<td>2,200</td>
</tr>
<tr>
<td>€8.50</td>
<td>2,400</td>
</tr>
<tr>
<td>€9.00</td>
<td>2,600</td>
</tr>
<tr>
<td>€9.50</td>
<td>2,800</td>
</tr>
</tbody>
</table>

- **Excess Supply**
  - At the price of €9:
    - Suppliers will supply 2,600,000 kgs
    - Consumers demand 1,625,000 kgs
  - There is more supply than demand ➔ excess supply
  - In this case:
    1. Suppliers cut their P so they can sell more (Qs↑)
    2. As P falls, consumers demand more (Qd↑)
    3. As the P falls the excess supply is eliminated and we reach equilibrium
    4. There Qd = Qs (point E)

  *Diagram 2*

- **Excess Demand**
  - At the price of €6:
    - Consumers demand 2,375,000 kgs
    - Suppliers will supply 1,400,000 kgs
  - There is more demand than supply ➔ excess demand
  - In this case:
    1. Suppliers increase their P due to the shortage
    2. As this occurs suppliers increase Qs
    3. Consumers begin to demand less as P increases
    4. As P increases the excess demand is eliminated and we reach equilibrium
    5. There Qs = Qd (point E)

  *Diagram 3*
Both these cases illustrate that market pressures / forces alter price and move the market back to equilibrium.

- Adam Smith: 'an invisible hand'

At equilibrium: there is no tendency to change

Moving the curves

- A change in conditions of demand
  - We saw in topic 2 how the D curve shifts when there is a change in the conditions of Demand
  - These are: \( P_{sub} \), \( P_{comp} \), \( Y \), \( T \), \( O \)
  - One example to show this: Diagram 4

1. An \( \uparrow Y \) shifts the D curve from D to D1
2. New Equilibrium at E1

The adjustment process

- Initially at E: \( Q_d = Q_s \)
- The \( \uparrow Y \) results in a shift in D to D1
- At €7.50 the new \( Q_d = 3,000,000 \) kgs
- \( Q_s \) still at old level of 2,000,000 kgs
- Excess Demand
- Suppliers \( \uparrow P \)
  - Then \( Q_s \) while \( Q_d \)
  - As \( P \) approaches €9 excess demand is eliminated
  - Reach new equilibrium (E1): \( Q_d = Q_s \)
Moving the curves
- A change in conditions of supply
  - We saw in topic 2 how the S curve shifts when there is a change in the conditions of Demand
  - These are: Tec, Prinuts, G, Tax, Sy, O
  - One example to show this: Diagram 5

1. A Technological improvement shifts the S curve from S to S1
2. New Equilibrium at E1

The adjustment process
- Initially at E: Qd = Qs
- The Tec results in a shift in S to S1
- At €7.50 the new Qs = 3,000,000 kgs
- Qd still at old level of 2,000,000 kgs
- Excess Supply
- Suppliers $P$
- Then Qs¶ while Qd¶
- As P approaches €5.50 excess supply is eliminated
- Reach new equilibrium (E1): Qd = Qs

3. Price Ceiling

Definition
A price ceiling is a maximum price for a good or service, generally imposed by government
usually imposed in times of scarcity
otherwise a high equilibrium price
such a high price seen as undesirable by government (food, fuel)
price ceiling (P*) set below equilibrium price (P_e)
results in excess demand
becomes a fixture of the market
Diagram 6 (P* < P_e)
When a price ceiling is imposed a shortage occurs

Implications
- prices of a basic commodity kept affordable
- expensive to impose and monitor
- rationing
- black market
- discourages producers to supply

4. Price Floor

Definition
A price floor is a minimum price for a good or service, generally imposed by government
5. Minimum Wages

- Minimum wages are an example of a Price Floor
- Labour is a good like any other; it has a supply and demand
  - Labour Supply: People supply labour
  - Labour Demand: Firms demand labour
- Draw the LS and LD curves: *Diagrams 8, 9*
- Equilibrium in the labour market produces an equilibrium wage of $W_e$
- If governments believe this is too low
- Set a minimum wage above it: $W^*$
- *Diagram 10* ($W^* > W_e$)
- Results in a surplus = unemployment

*Implications*

- surplus must be purchased by Gov or exported out of the mkt
- expensive administration and shortage costs
- higher prices for consumers
- e.g. CAP in EU Agricultural Policy

- usually implemented to help producers
- otherwise a low equilibrium price
- price floor ($P^*$) set above equilibrium price ($P_e$)
- results in excess supply or surplus
- becomes a permanent feature of the market
- *Diagram 7* ($P^* > P_e$)
- When a price floor is imposed a surplus occurs

- When a price floor is imposed a surplus occurs

- Diagram 7 ($P^* > P_e$)
● Implications of Minimum Wages
  ○ increases the qty of labour supplied
  ○ decreases the qty of labour demanded
  ○ causes unemployment
  ○ raises the income of the working poor

● Note: the minimum wage is only binding if it only has an effect) if \( W^* > W_e \)
● Question: Is the minimum wage impacting on the Irish Labour Market?

6. Some Examples of Equilibrium
● Oil Prices over recent years
● International Food Prices
● Gold Prices
● House Prices in Ireland
● Irish Wine consumption over last 20 yrs

![Brent Crude Oil Spot Price](image1.png)
7. Class Presentations

- Next week: presentations using Demand, Supply and Price
- Distribution of readings for this
- Format:
  - Presentation for up to 10 mins
  - Discussion for 5-10 mins
  - Do you need 30 mins to discuss/prepare in advance?