7. Monopoly

ECON1101 • KC Notes

7.0 Imperfectly Competitive Markets

- These markets are similar but fail in one or more of the characteristics listed in 2.0.
- There are three types of imperfectly competitive markets:
  - **Monopoly**: One firm in the market
  - **Oligopolistic Competition**: Small number of firms that sell goods that are close substitutes
  - **Monopolistic Competition**: Large number of firms differentiated slightly by product, e.g. restaurants

7.1 Determinants of Market Power

- **Market Power**: Firms have the ability to set own prices
  - **Price taker**: loses all customers if changes price 

  - **Price maker**: loses some customers 

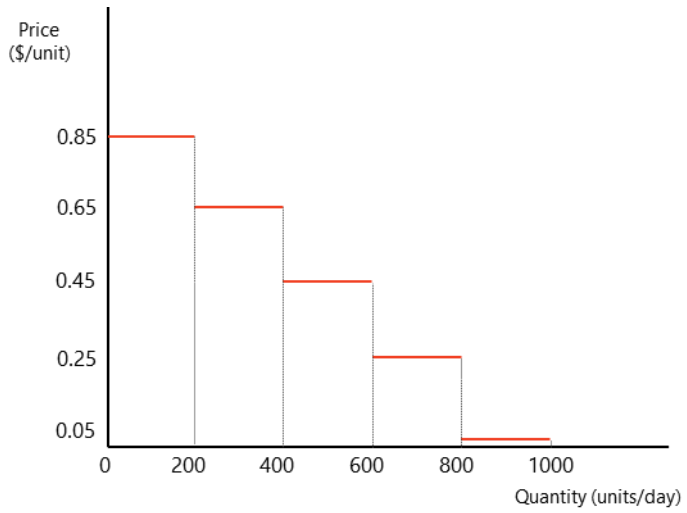
- In perfect competition, firms enter and exit freely till all make no profit. This is hindered by **barriers to entry:**
  1. **Control over scarce resources**, e.g. OPEC and oil control
  2. **Government barriers**, e.g. patents, copyright, licenses
  3. **Increasing returns to scale/economies of scale**, generates a 'natural monopoly'. Occurs when costs (ATC) decreases as quantity increases
  4. **Network economies**, increase satisfaction as user base increases, e.g. Facebook

7.2 Monopoly

- We derive a similar table to the one in 2.2 to find marginal costs.

Workers per day	Units per day	FC ($/day)	VC ($/day)	TC ($/day)	AVC ($/unit of output)	ATC ($/unit of output)	MC ($/unit of output)
0	0	100	0	100	-	-	-
1	200	100	10	110	0.05	0.55	0.05
2	400	100	20	120	0.05	0.3	0.05
3	600	100	30	130	0.05	0.22	0.05
4	800	100	40	140	0.05	0.17	0.05
5	1000	100	50	150	0.05	0.15	0.05

- However, because it is a monopolist, the market price is not set – it changes based on quantity. We don't have a **fixed marginal revenue** to compare to. Therefore – derive it **for this monopolist** from a **society's demand curve** (that will be provided).

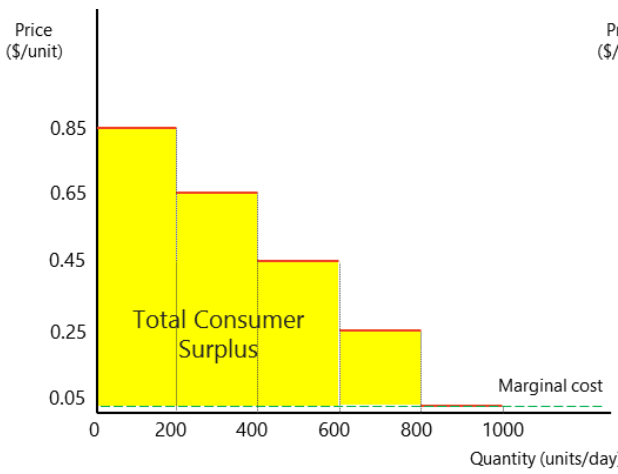


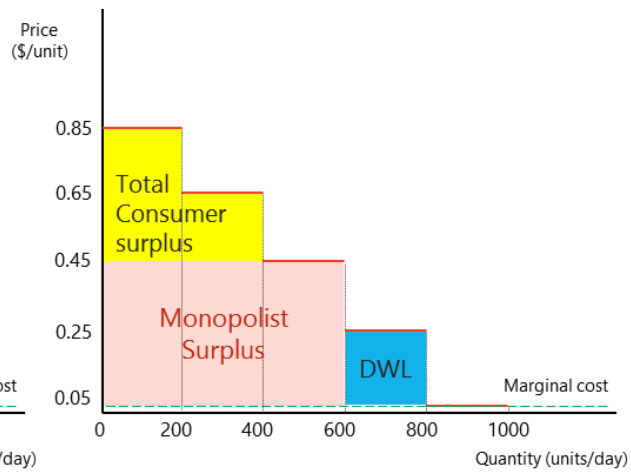
- Construct a table that measures the marginal revenue for each extra unit, **and move marginal cost from first table to the right of this table**. Then, as usual, go down until **MC = MR**
    - We see that we hire 3 workers

Workers per day	**Units per day Q**	**Market Price P ($/unit)**	**Revenue** $R = P \times Q$	**Marginal revenue** $MR = \frac{\Delta R}{\Delta Q}$	**MC**
0	0	-	0	-	-
1	200	0.85	170	0.85	0.05
2	400	0.65	260	0.45	0.05
3	**600**	**0.45**	**270**	**0.05**	**0.05**
4	800	0.25	200	-0.35	0.05
5	1000	0.05	50	-0.75	0.05

7.3 Monopoly and the Invisible Hand

- The socially optimal quantity is when **marginal benefit of society = MC** (i.e. 5 workers)
- Therefore invisible hand principle fails – monopolist gains surplus and total consumer surplus reduces. Because it is not socially optimal, there is dead weight loss





7.4 Government Regulation

- **Solution**: **competition laws** intended to foster market competition by regulating anti-competitive conduct
- **Issues**: Inefficiencies as monopolies **usually produce in bulk** – economies of scale – compared to having large number of firms
- **Policy**: **Average Cost Pricing**: policy where government forces monopolist to **set the price and quantity at intersection of ATC and demand curve** (= 0 profit) or setting a price ceiling at the MC of the firm (which could cause negative profits)
- Issues with Average Cost Pricing:
    1. Cannot know the ATC
    2. Firms have no incentive to increase investment in technology as they will always have 0 profit
    3. Allocatively Inefficient: price set exceeds the firm's marginal cost

7.5 Discrimination

- **First Degree Discrimination**: Monopolist knows the **reservation price of each customer** and charges their reservation price
    - They do not price the same for all consumers, but base it on their reservation price
    - Monopolist can get **all surplus** – it is socially optimal but consumer surplus = 0
- **Second Degree Discrimination**: Bulk discounts (different price based on quantity they demand), or by basing it on quality
    - Ultimately can discriminate between high and low reservation price
- **Third Degree Discrimination**: target attributes like location, and set a price based on each country's market