



Microeconomics Ultimate Cheat Sheet

Formulas

Utility Maximizing Rule: $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

Percent Change = $\frac{\text{New Number} - \text{Old Number}}{\text{Old Number}} \times 100$

Elasticity Demand/Supply = $\frac{\% \text{ Change Quantity}}{\% \text{ Change in Price}}$

Cross-Price Elasticity = $\frac{\% \text{ Change Quantity}_x}{\% \text{ Change in Price}_y}$

Income Elasticity = $\frac{\% \text{ Change Quantity}}{\% \text{ Change in Income}}$

Consumer Surplus = $\frac{1}{2} \text{ Base} \times \text{height}$

Marginal Product = $\frac{\text{Change in Total Product}}{\text{Change in Inputs}}$

Marginal Cost = $\frac{\text{Change in Total Cost}}{\text{Change in Output}}$

Total Cost = Variable Cost + Fixed Cost

Average Total Cost = $\frac{\text{Total Cost}}{\text{Quantity}}$

Average Variable Cost = $\frac{\text{Total Variable Cost}}{\text{Quantity}}$

Average Fixed Cost = $\frac{\text{Total Fixed Cost}}{\text{Quantity}}$

Total Revenue = Price x quantity

Profit = Total revenue - Total cost

Profit Maximizing Rule: MR = MC

Least Cost Rule: $\frac{MP_x}{P_x} = \frac{MP_y}{P_y}$

Marg. Revenue Product = $\frac{\text{Change in Revenue}}{\text{Change in Inputs}}$

Marginal Factor Cost = $\frac{\text{Change in Total Cost}}{\text{Change in Inputs}}$

Things to Remember

Comparative advantage- A country makes a good at a lower opportunity cost than another country

Elasticity- When price elasticity of demand coefficient is greater than 1, the demand is elastic

When price elasticity of demand coefficient is less than 1, the demand is inelastic

When price elasticity of demand coefficient is zero, the demand is perfectly inelastic

When the cross-price elasticity is positive, the two goods are substitutes

When the income elasticity is positive, the product is a normal good

Total revenue test- When demand is inelastic, an increase in the price will increase the total revenue

Double shifts- When two curves shift at the same time, either price or quantity will be indeterminate

Price controls- To be binding, price ceilings go below equilibrium and price floors go above equilibrium

Costs- Use marginal cost to determine the quantity to produce. Use average total cost to calculate profit

Perfect competition- In the product market, marginal revenue is horizontal because firms are price takers

Shut-down rule- Firms should shut down if the price falls below the average variable cost

Monopolies- Price is higher and output is lower than competitive markets causing deadweight loss

Factor markets- In competitive markets, marginal factor cost is horizontal because firms are wage takers

Government Regulation- A lump sum tax does not change quantity because it only affects the fixed cost

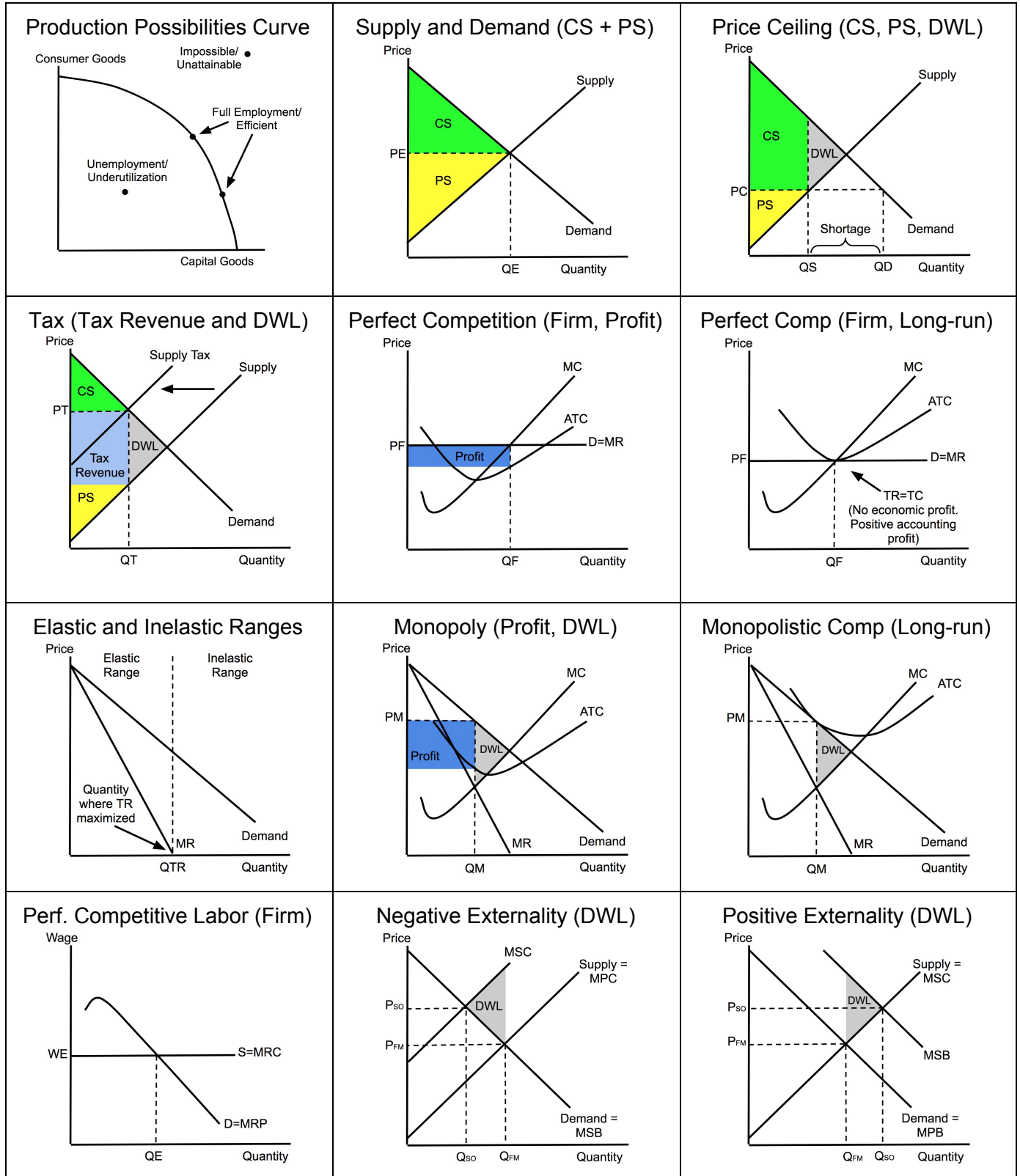
Negative externalities- Too much output is made because the MSC is greater than marginal private cost

Positive externalities- Too little output is made because the MSB is greater than marginal private benefit



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Essential Graphs





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Additional Graphs and Concepts

