

1 (a) Explain and illustrate by means of appropriate diagram how markets clear (i.e. reach an equilibrium point) when there exists a surplus and a shortage situation for a product. [20%]

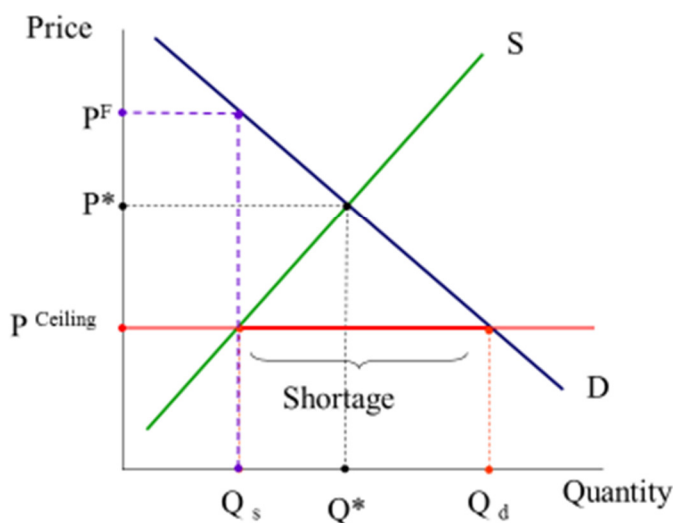
- *Analysis concentrates on how the equilibrium price is likely to change in response to some change in the economic environment: this is the method of comparative statics*
- *The theory says little about how prices adjust to the equilibrium, implicitly assuming simply that they do*
- *The importance of ‘Ceteris Paribus’ – the assumption that everything else remains equal.*

To be effective, a price ceiling (PC) must lie below the original equilibrium price (P^)*

Initially, Q^ units sold at price P^**

With price ceiling, Q_C sold at price PC

Impact of a Price Ceiling



The result is a shortage of $(Q_d - Q_s)$ units, requiring some form of rationing

(b) An important part of economic decision making is the *marginal principle*. Explain this principle and illustrate by means of appropriate diagram and equations the profit maximization condition for a firm.

[25%]

■ **Control Variable Examples:**

- *Output*
- *Price*
- *Product Quality*
- *Advertising*
- *R&D*

- **Basic Managerial Question:** *How much of the control variable should be used to maximize net benefits?*

Change in total benefits arising from a change in the control variable, Q:

Slope (calculus derivative) of the total benefit curve. $MV = \Delta B / \Delta Q$

The marginal principle relates to making decisions where a firm maximizes profit, and this would occur when the Marginal cost is equal to Marginal revenue. The rationale for this is to identify the quantity that would satisfy this condition, and therefore the firm would ensure that it is not producing more or less than is required to achieve maximum profit.

(c) Game Theory can be defined in the context of the strategic interaction amongst different economic decision-makers. Explain in details the concept of the *Nash Equilibrium* and provide an example that represents it. [25%]

- *To continue our analysis of imperfectly competitive markets, we first need to understand how economists model strategic decision-making*
- *A decision-making problem is strategic if the outcome or ‘payoffs’ to actors’ decisions depend not only on what they themselves do, but also on what others do*
- *In such situations actors have to think through what others will do in order to work out what they themselves should do, in the knowledge that others are having to do the same*
- *Life is full of such strategic situations - not just limited to Economic problems*
- *Game Theory is the branch of economics that studies strategic decision-making, providing a framework for both describing strategic situations and predicting their likely outcomes*
- *Cooperative v Non-cooperative game theory*

Nash Equilibrium: It is about maximising one’s objective function subject to the constraints of the other’s objective function, and the other maximising subject to the one.

e.g. Prisoners’ Dilemma: Two ex-convicts are arrested by police on suspicion of carrying out a spate of burglaries in a particular neighbourhood. The police lack the evidence to charge the pair with the burglaries immediately, so instead hold them in separate cells and offer each the chance to confess to the crimes in return for a reduced sentence.

Each is told that if they both continue to deny the crimes, they will be charged with the lesser crime of possessing stolen goods, which carries a 1-year prison sentence. If both confess, each will receive a 5-year sentence for the multiple burglaries. However if one confesses to the crimes while the other denies, then the one who confesses will be released without charge while the other will be sentenced to the maximum term of 10 years.

The Prisoner's Dilemma (2)

		Player 2	
		Deny	Confess
Player 1	Deny	2, 2	0, 3
	Confess	3, 0	1, 1

(Confess, Confess) is a DSE, since Confess is a dominant strategy for each player

N.B. The payoffs here are utilities that represent the prison sentences described in the previous slide

Andrea Mino
3E1 Microeconomics

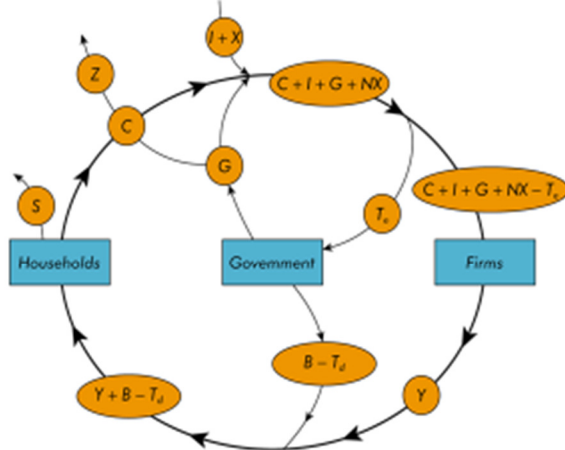


(d) Explain in details the *Circular Flow of Income* and how it represents the working of the macro economy. [30%]

The circular flow of income explains how a macro economy function. It is a simplified model where it shows the real side of the economy interacting with the financial side of the economy. The main parameters in the model relate to the households, firms, factor market, and goods and services market. It is important to also discuss the leakages (savings, taxes, and imports) from the system as well as injections (investments, government spending and taxes).

The circular flow of income can be explained diagrammatically.

The Circular Flow



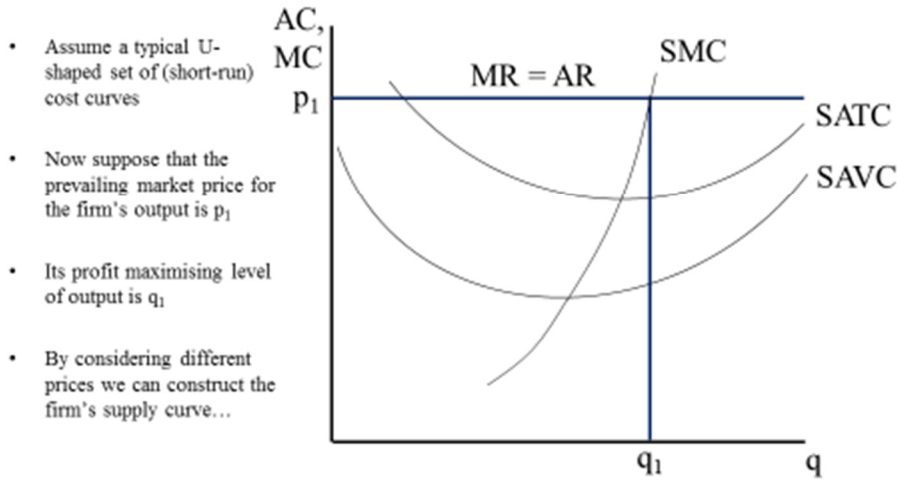
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2 (a) Explain the main characteristics of a perfectly competitive market, and why it is used as benchmark for analysing the characteristics of other market structures. [20%]

- **Assumptions**

- *Many small buyers and sellers*
- *Homogenous product*
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Perfect Competition in the Short Run: The Supply Curve of the Firm (1)



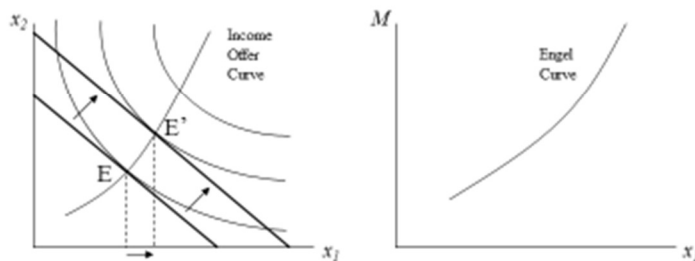
Andrea Mina
MS3 Economics of Firms and Markets



(b) What is an 'inferior good'? Illustrate your definition by means of an appropriate diagram. [20%]

Normal and Inferior Goods (1)

- For a 'Normal' good, quantity demanded increases (decreases) with a rise (fall) in income



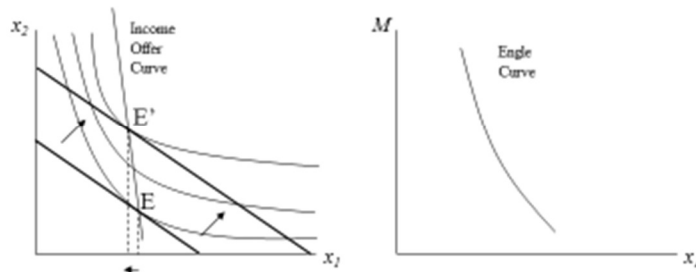
x_1 is a normal good in this case (as is x_2)

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3E1 Microeconomics



Normal and Inferior Goods (2)

- For an 'Inferior' good, quantity demanded decreases (increases) with a rise (fall) in income



- x_1 is inferior
- Examples include low-quality goods, such as cheap breakfast cereals, frozen meals and canned goods

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3E1 Microeconomics



(c) What is a dominant strategy in game theory? Explain and illustrate by means of a payoff matrix how a dominant strategy is consistent with the concept of rationality in economics.

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- *A player has a (strictly) dominant strategy if, for each possible action that his opponent can take, that strategy leads to a payoff that is strictly greater than the payoff associated with any of his other strategies*
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3E1 Microeconomics



- *Dominant strategies are interesting because they are closely connected to economists usual assumption that people are rational*
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- *A Dominant Strategy Equilibrium (DSE) is a set of strategies, one for each player, such that each player's strategy is a dominant strategy*

(d) Identify and discuss the advantages and disadvantages of having a single currency in a trading block. Use the Euro as an example. [30%]

The answers can include the following points.

- *The euro is now the single currency of the European Union. Twelve of the then 15 countries adopted it for non-cash transactions from 1999 and for all payments in 2002 when euro notes and coins were issued.*
- *Three countries (Denmark, Sweden and the United Kingdom) did not participate in this monetary union.*
- *Slovenia joined in 2007, Cyprus, Malta and Slovakia in 2008, Estonia in 2011*
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- *Firms set either quantity or price in the light of some assumption about the reaction (strategy) of other firms.*
- *This assumption is called the conjectural variation.*
- *Many different models of oligopoly, each emphasising different features of this type of market*

The models can then be briefly discussed with diagrams.

(b) Explain the ‘Pareto criterion’ and illustrate it by means of an appropriate diagram that describes the concept of an efficient goods allocation and the impact on utility of individuals.

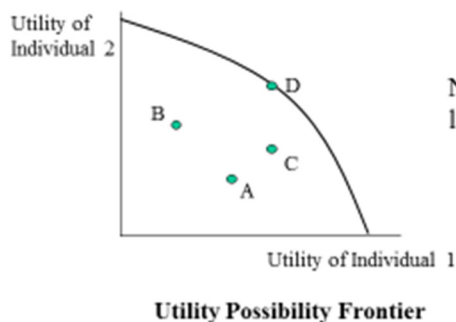
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Consider a simple two person, two good economy. Resource and technology constraints limit the amount of the two goods that can feasibly be produced:

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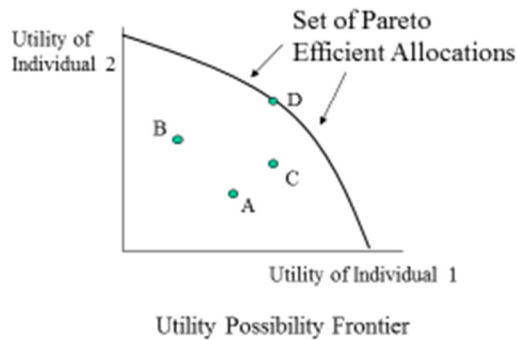
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Andrea Miva
3E1 Microeconomics



(c) Explain in details the simple economy model developed by J.M. Keynes, and illustrate by means of appropriate diagrams how equilibrium income is achieved. Explain why the change in national income is greater than the amount of government spending. [25%]

Components of aggregate demand:

C = consumer demand for g & s

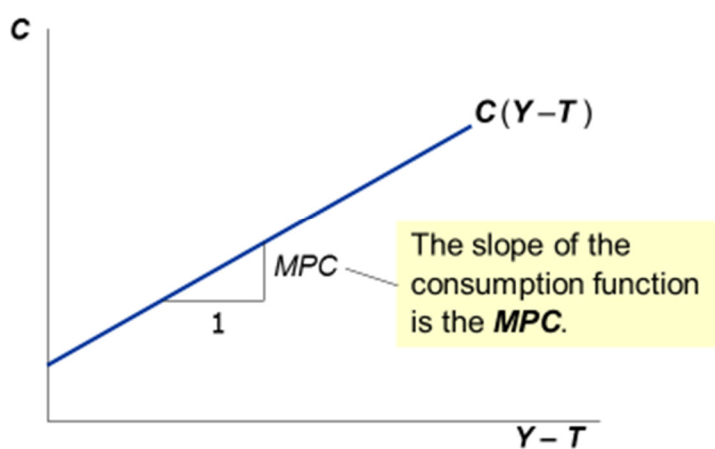
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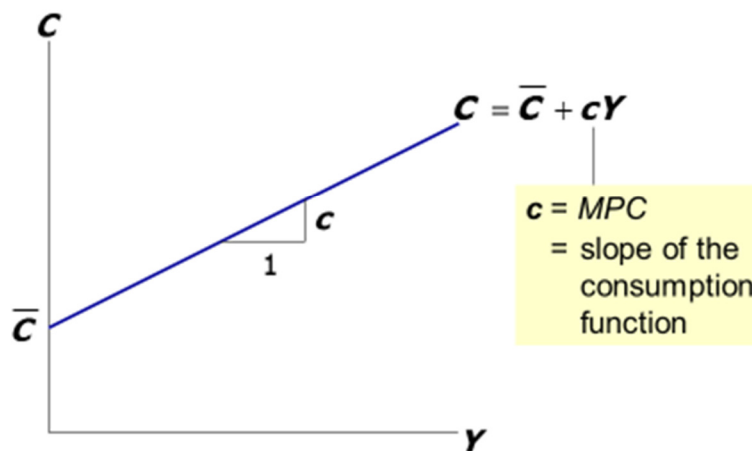
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1. $0 < MPC < 1$
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(d) Explain three different measures that the government can introduce to increase exports. Discuss the relative advantages and disadvantages. [25%]

This can be an open question which can include using different policies from 1)-joining a single market, 2)- increasing industry competitiveness and productivity, 3)-devaluation of the currency. They all have their advantages and disadvantages:

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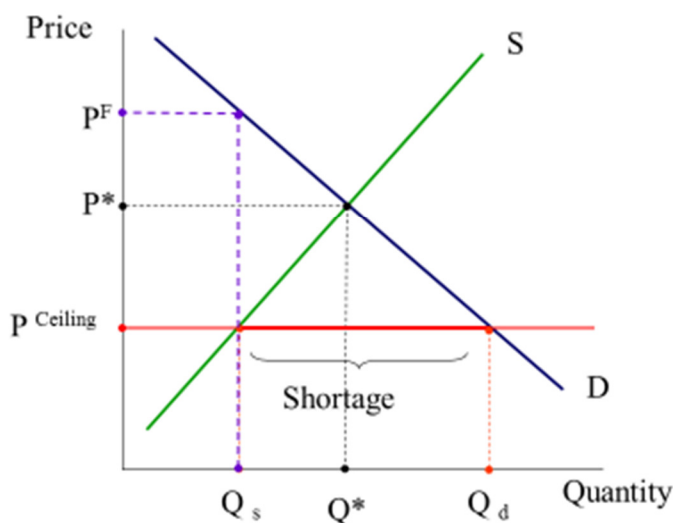
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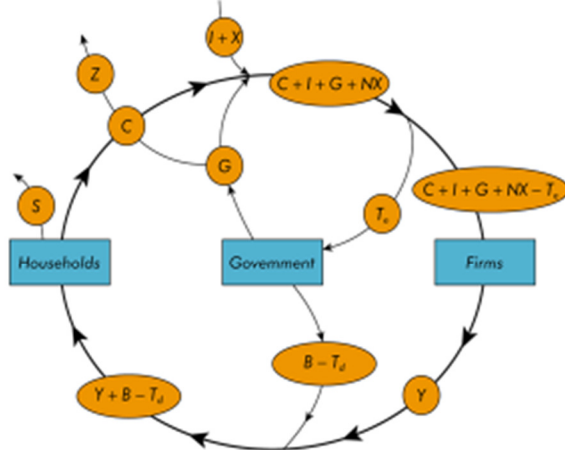
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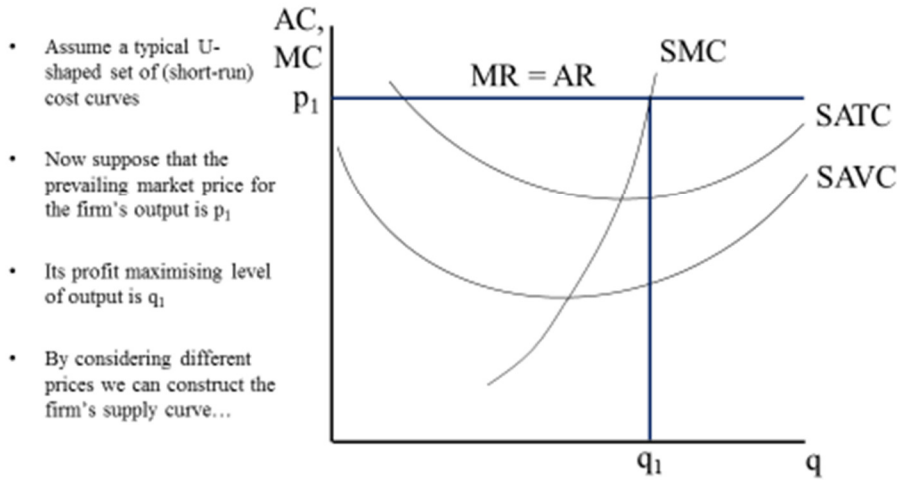
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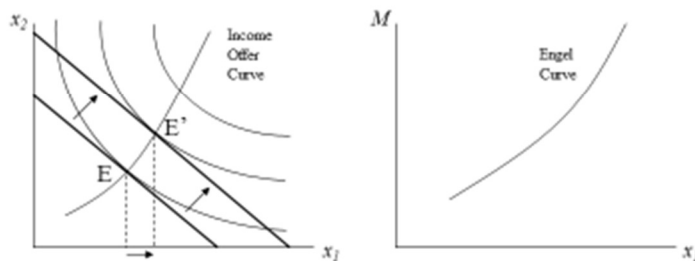
Andrea Mina
MS3 Economics of Firms and Markets



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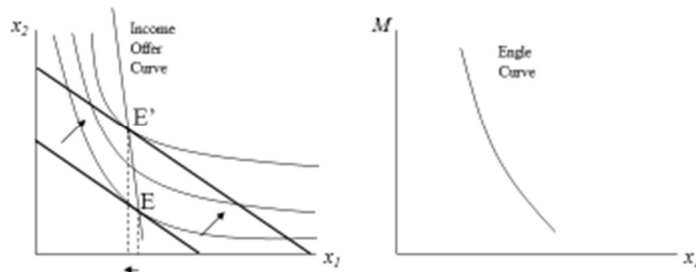
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3E1 Microeconomics



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3E1 Microeconomics



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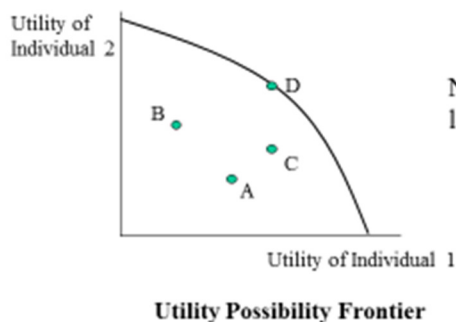
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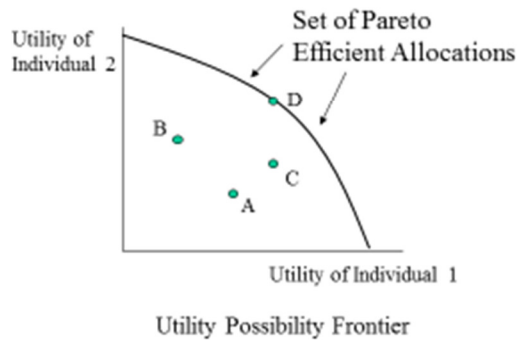
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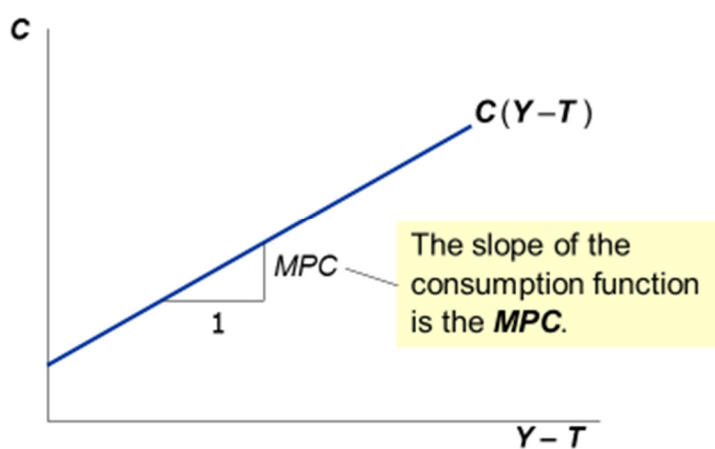
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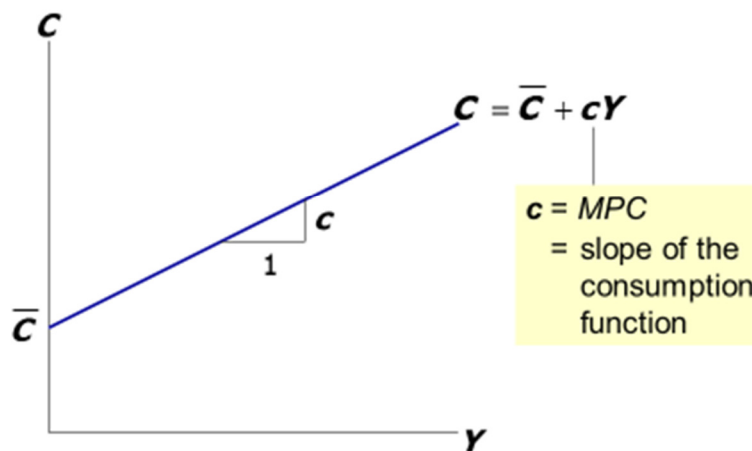
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1)- Advantages: have a large single market, the freedom of movements of goods, services, capital, and people. Reduce uncertainty to businesses in terms of costs and pricing, better business planning...etc. Disadvantages: countries disagreeing on issues, bureaucracy, legislations, political disagreements....etc.

2)- Advantages: encourages production, cost management and control, increase employment, cut inefficiencies. Disadvantages: government intervention in market forces, possible claims of unfair competition, cost to government...etc.

3)- Advantages: increases export by making the exported product or service cheaper to others, it is a faster way of achieving exports...etc. Disadvantages: intervention in market forces, makes import expensive, loss of confidence of the financial market.