

Perfect competition in transport markets

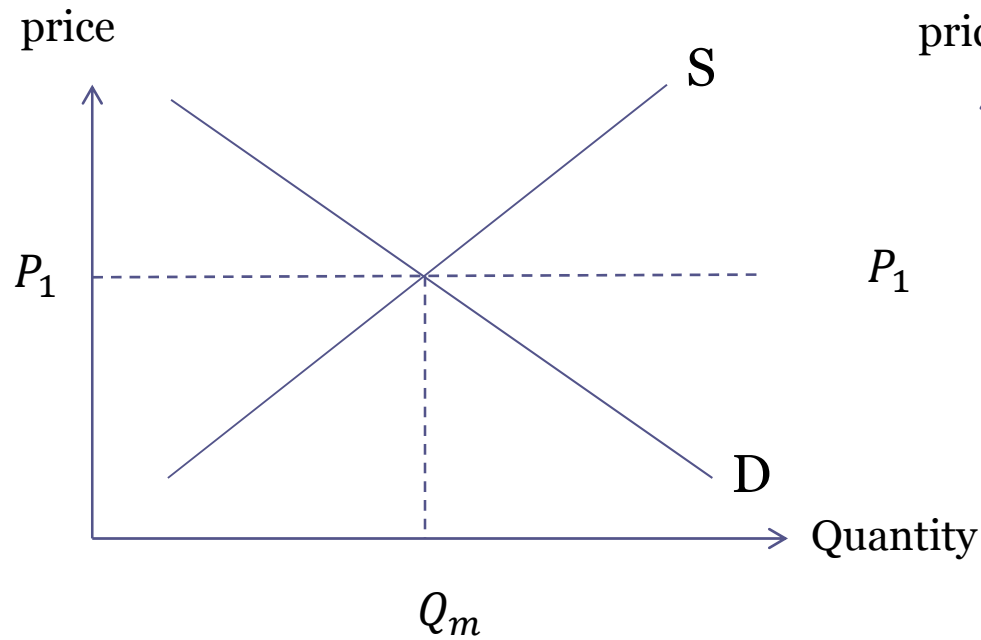
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Assumption

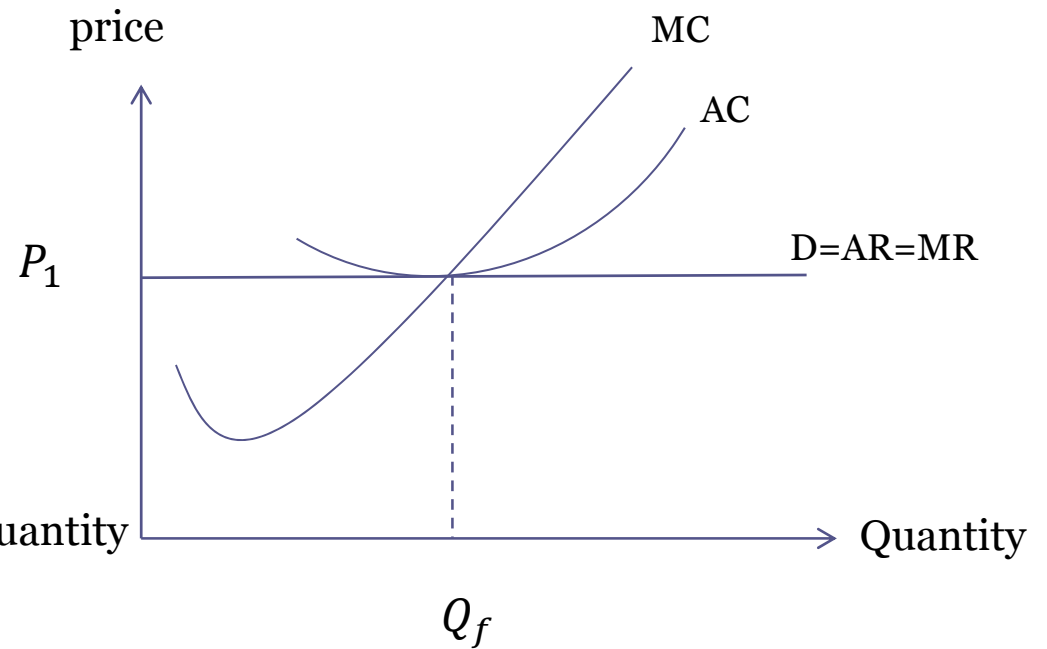
- Freedom of entry and exit
- Homogenous product
- High number of buyers and sellers
- Perfect information

Perfect competition

The Market



The Firm



Normal and abnormal profit

Normal profit

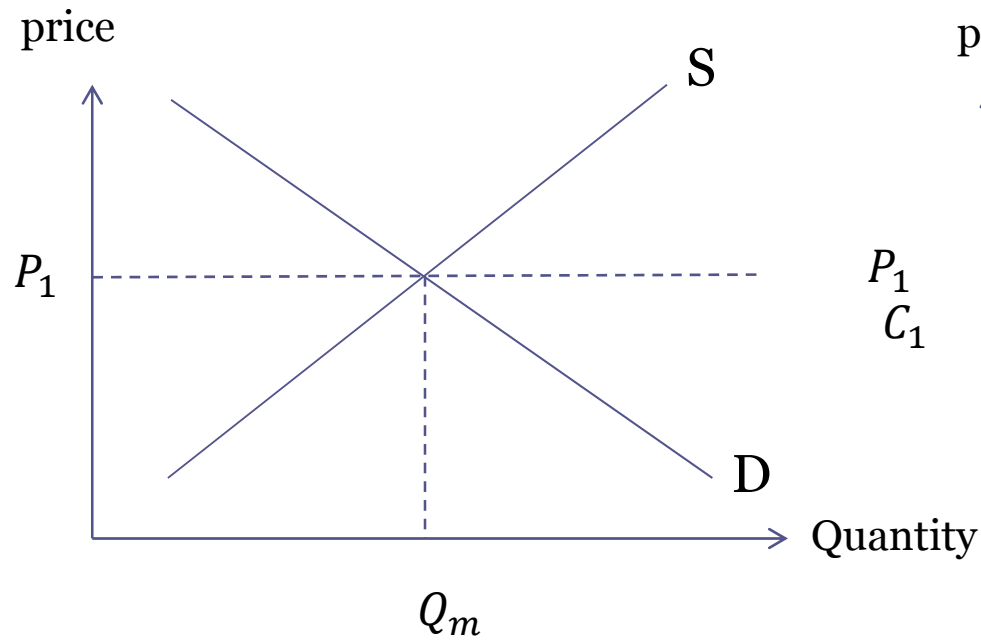
- The producer is covering its costs by producing Q_f units at a price of P_1 , meaning that it is earning normal profit but no more
- The perfect competition model implies will exist when the market is in equilibrium

Abnormal profit

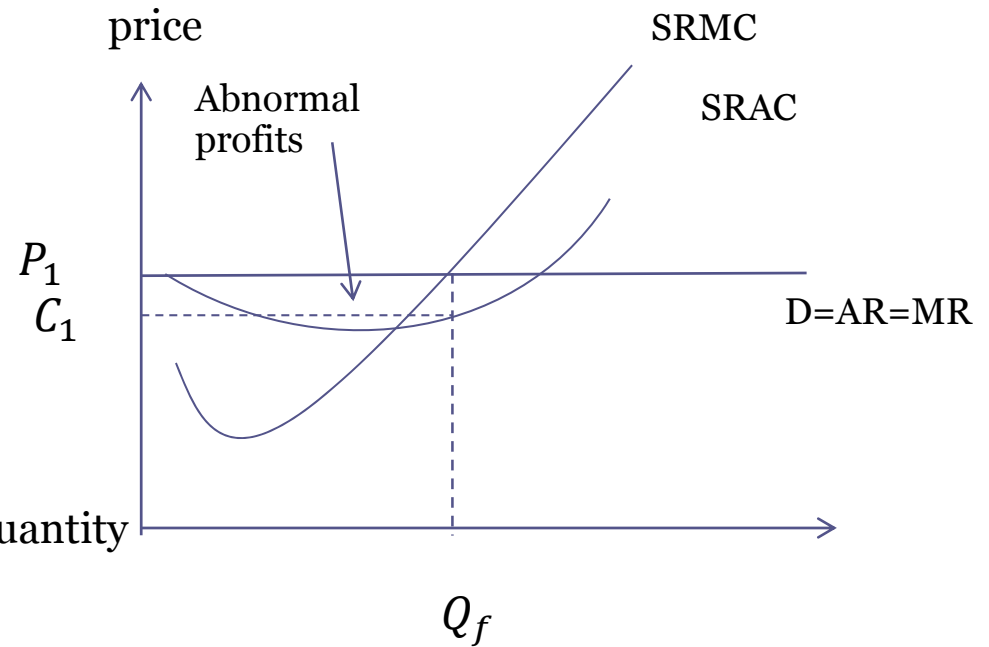
- Any revenue that is in excess of this amount

Perfect competition, SR position(profits)

The Market

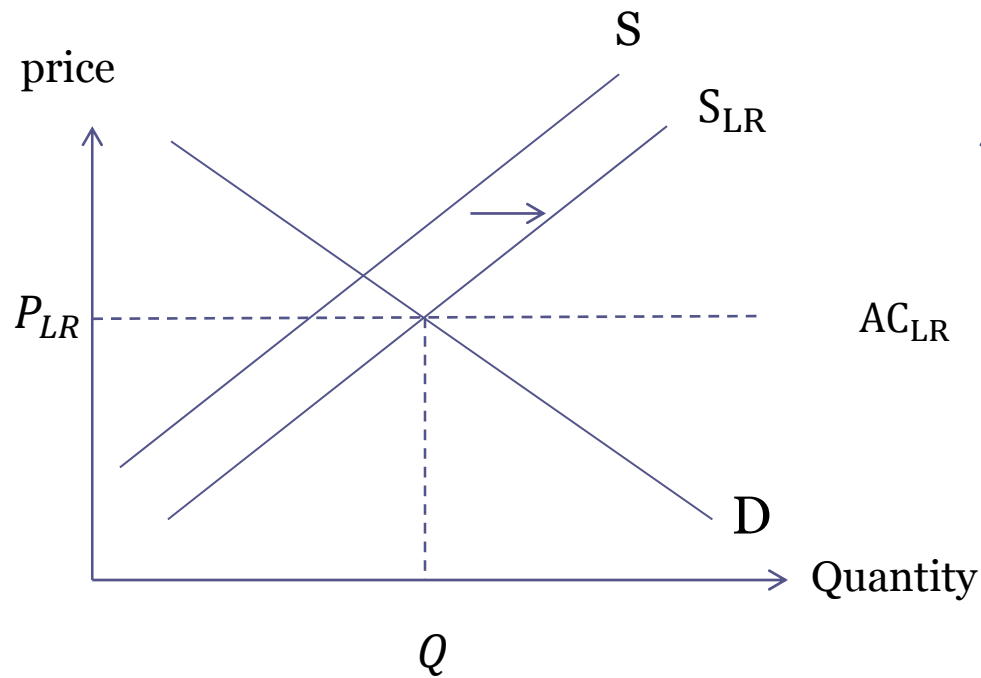


The Firm

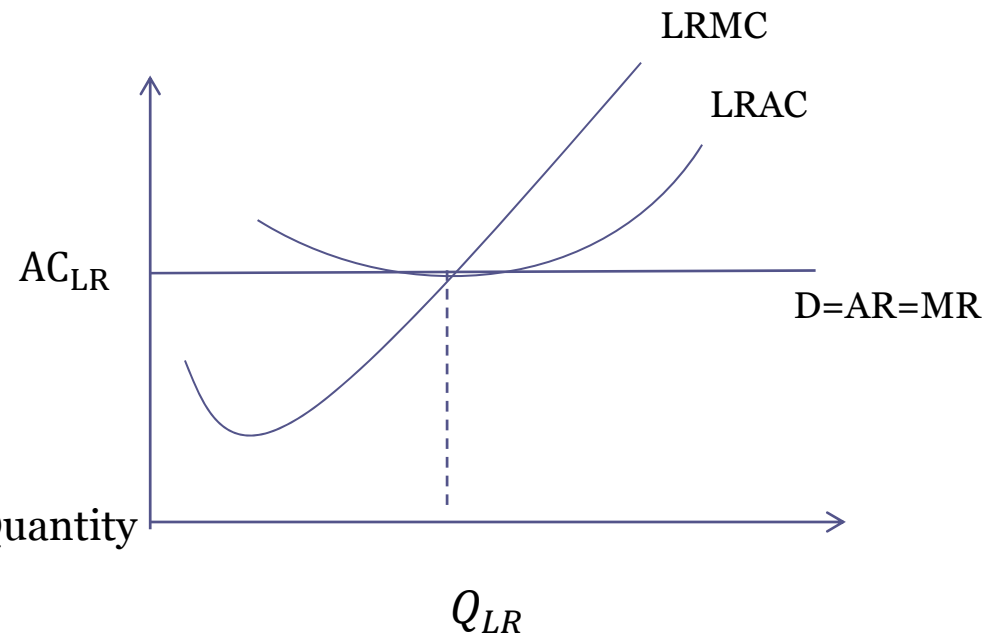


Perfect competition, LR position

The Market



The firm



Example: The long term decline of shipbuilding on the Clyde Estuary

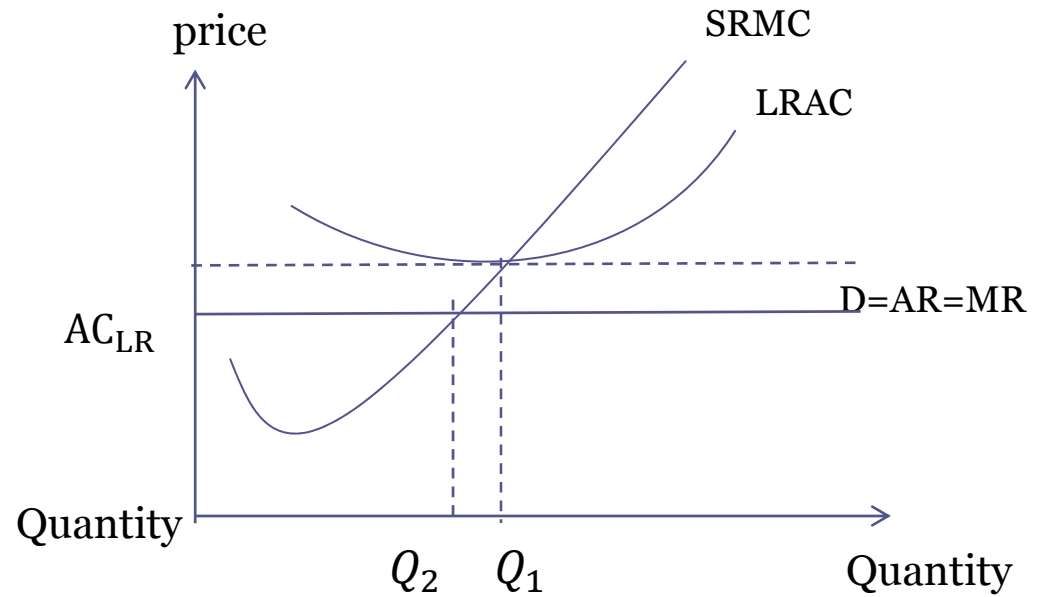
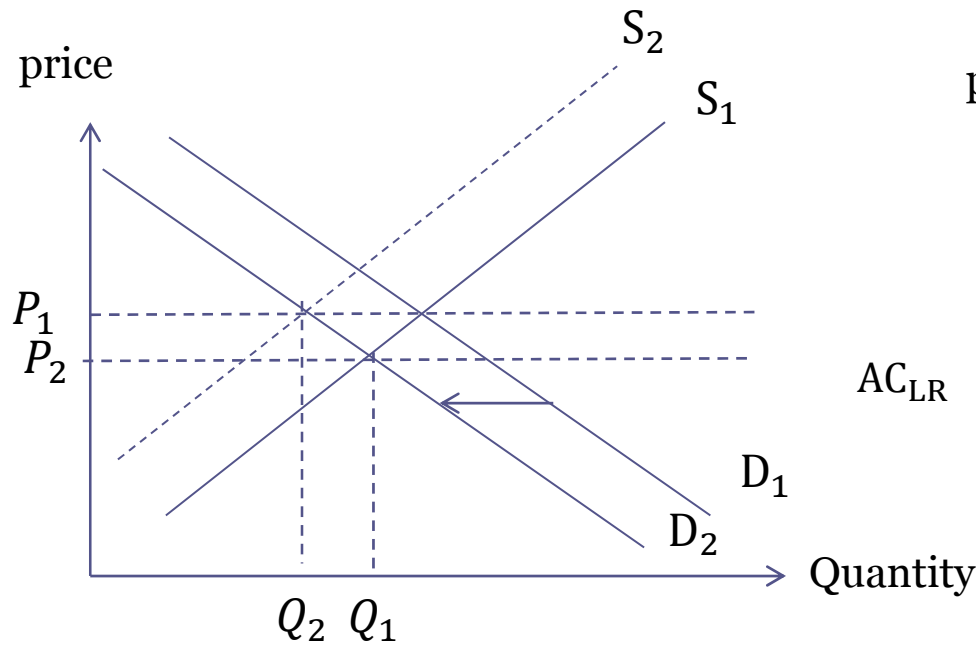
- A shift in the demand curve to the left (Substitute goods in the form of lower cost non British shipbuilders take demand away from the Clyde shipyards)
- A contraction in the industry- a shift in the supply curve to the left as shipbuilders leave the Clyde and output is slowly reduced
- This process would continue until the market is back in equilibrium and the market price re-established for Clyde-built ships


Example: Clyde built ships

Perfect competition, SR position(losses)

The Market for Clyde Built Ships

Clydeside Shipbuilders



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- Only those firms that produced at the lowest cost could survive in this market
 - The shift in demand will be a long-term decline
 - The demand curve will continually shift leftwards increasing downward pressure on prices
 - Therefore only firms able to lower costs in the long run, i.e. move to a lower average cost curve by achieving economies of scale, are ultimately able to survive in the industry

Efficiency

- Cost efficiency or Productive efficiency
 - The level of average costs in comparison to the minimum that is feasible
 - Producer or market is one that is operating at the lowest point on the average cost curve



- Allocative efficiency

- The way that resources and products are distributed, comparing a given distribution to that which would maximize the level of utility in the market
- An allocatively efficient market is one that distributes and uses resources in the way that produces what consumers most value; and then distributes those products to those who will gain the most utility from them
- $P=MC$



- Pareto efficiency

- A market with Pareto efficiency is a state in which no one can be made better off without making someone else worse off
- Both productive and allocative efficiency
- Maximizing the total surplus in a market


Perfect competition and efficiency

- A perfectly competitive market is productively efficient, because the strong competition disciplines all producers to accept the market price that is at the level that simply covers their cost
- Assuming that those consumers who most value a product are willing and able to pay the highest price for it, a perfectly competitive market is also allocatively efficient
- As there are productive and allocative efficiency within perfect competition, there is also Pareto efficiency



Case study

Road haulage and the economist's model of perfect competition

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- Many buyers and sellers
 - A homogeneous product
 - A basic low-tech service to transport goods from one location to another
 - Perfect information
 - Price, production, and performance
 - No barrier to entry or exit
 - Non-increasing returns to scale



Case study: Tramp shipping

Shipping is a vital part of the European transport sector for some 90 per cent of all products imported into the Union

Shipping market is made up of three parts

- Liner market involves the transportation of relatively small cargoes
- Bulk market involves the transportation of large cargoes of homogenous products on a relatively infrequent basis (between 6 and 12 voyages a year per vessel)
 - This market is dominated by the transportation of energy-related products such as coal and oil
- Specialized market involves the bulk transportation of products that can be transported more effectively by using specifically designed vessels, loading equipment, docks and other facilities



Large numbers of small producers with homogenous products

- 1451 ship-owning companies in the EU 15 in 2004, owning a total of 8323 vessels, including liner, bulk, specialized and deep sea ships
- The bulk market is competitive as the service provided is homogenous, an individual vessel can be viewed as the competitive unit and they are price takers

Free entry and exit

- To enter the shipping industry - a company is required to have certain equity
- Commercial shipping banks are willing to provide loans secured against a first mortgage on a vessel which eases this barrier
- Easy for companies to exit the market - any vessel which can have a life of up to 20 years can be sold in the second hand market with assistance from the sale and purchase brokers

Information

- A high degree of knowledge within tramp shipping
 - Strong transparency
 - Allowing consumers and producers to know that their counterparts are doing and to make informed decisions based upon this
 - Information about revenues and asset prices is published daily by ship-broking businesses and is widely circulated throughout the industry



Movement of goods

- Geographically mobile
- Customers in one European country are able to freely purchase the services of providers in another
- Flexibility in the tramp shipping market is helped by the wide range of ways in which shipping services can be purchased

Usage option in the tramp shipping market

Ownership

Companies may run their own fleets to handle their transportation e.g. certain European steel companies own fleets of bulk carriers to transport iron ore and coal

Voyage chartering

Companies can contract ships on a cargo-by-cargo basis at a negotiate rate per ton. It is often used in industries with irregular production, e.g. agriculture
Agreements are made through markets such as the broker network, of which London is the largest

Period time chartering

The length of the charter can range from 1 to 15 years

Time-chartering

Companies may charter shipping capacity form a ship owner and pay an agreed daily rate

Usage options in tramp shipping

Contract of affreightment

Companies enter a long term agreement with a ship-owner whose vessels are suited to the transportation of specialized products, e.g. Scandinavian ship-owners engaged in the transportation of forest product from North America to Europe

Trip time chartering

The length of the charter is determined by that necessary to complete a single voyage

Bareboat chartering

Investors, usually financial institutions, purchase vessels and hire them to companies for a specified period of time, usually between 7 and 20 years

The charterer is completely responsible for the vessels and usually returns them at the end of the period, although purchase options are sometimes contracted for



Reference

- Mallard G., and Glaister S. (2008). Transport Economics: Theory, Application and Policy. Palgrave Macmillan.
- Cowie J. (2010). The Economics of Transport. Routledge.