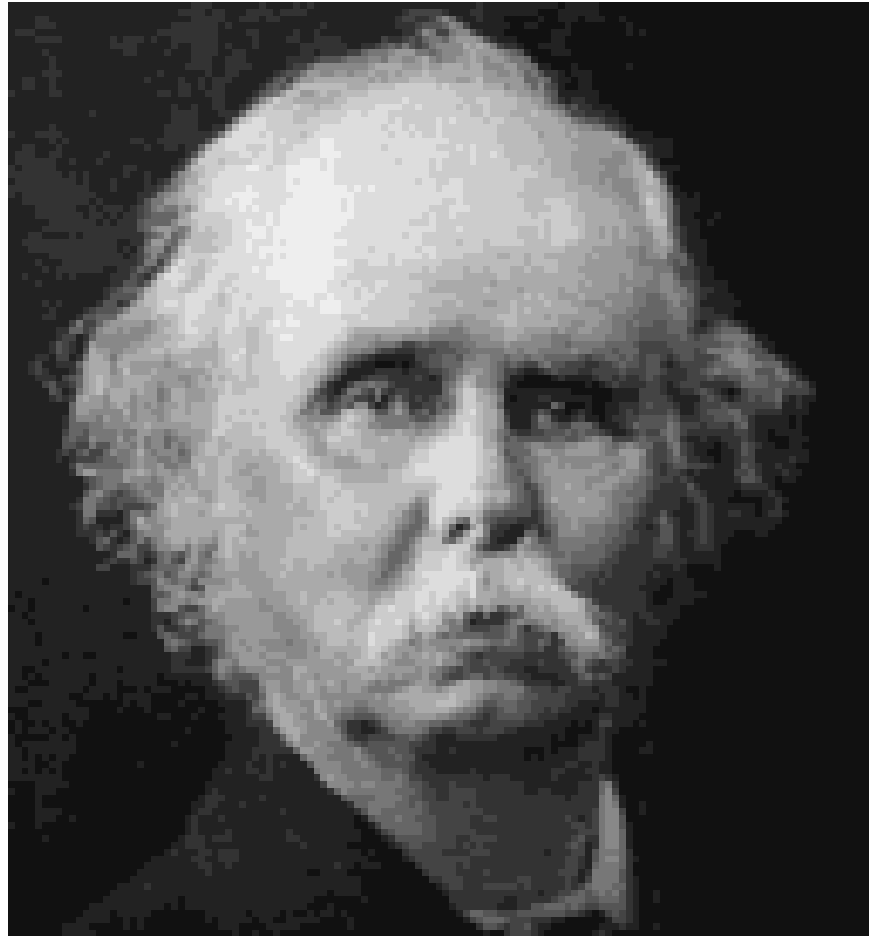


Neoclassical economics (1890s – 1930s)

- Two founders of neoclassical economics:
- Alfred Marshall (1842-1924), *Principles of economics*, 1890
- Leon Walras (1834-1910), *Elements of pure economics*, 1874

Alfred Marshall (1842-1924)



Alfred Marshall

- Father of modern orthodox microeconomic theory (neoclassicism) along with L. Walras
 - Structural basis of undergraduate economic theory (Walras more adequate for graduate classes)
 - Translated Ricardo and J.S. Mill economics into mathematics

Alfred Marshall's approach

- Marshall – inclined to give balanced judgements and therefore perceived often as vague, indecisive or imprecise.
- Marshall's views on the proper subject of economics
 1. responsible for introduction of 'economics' in place of 'political economy'
 2. economics is „*a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing. Thus it is on one side a study of wealth; and on the other, and more important side, a part of the study of man*”
 3. elimination of poverty is the ultimate task of economists

Marshall's views on the methodology of economics

- The right method is the proper combination of mathematical theory and historical analysis.
- Views on the use of mathematics:
"I have a growing feeling that a mathematical theorem dealing with economic hypotheses is very unlikely to be good economics, and I go more and more on the following rules -
 - 1) Use mathematics as a shorthand language rather than as an engine of inquiry.*
 - 2) Keep to them until you have done.*
 - 3) Translate into English.*
 - 4) Then illustrate with examples that are important in real life.*
 - 5) Burn the mathematics.*
 - 6) If you don't succeed in 4, burn 3. This last I often do."*

Reasons for the supposed 'indecisiveness' of Marshall's economics

-
- The study of the economy is very difficult, because:
 - the economy is very complex, everything seems to depend upon everything else – complex and subtle relationships between variables
 - time is extremely important in economic analysis: it takes time to work out full effects of economic causes
- This explains also why he was cautious with respect to the use of mathematics in economics

Marshall's approach

- To cope with those problems developed a method called partial equilibrium analysis.
- To solve a complex problem you have to isolate a part of the economy for analysis, ignoring but not denying the interdependence of all parts of the economy.
- It provides a first, inexact but valuable approximation of the likely effects of a given economic cause.
- Marshall's procedure – start in a very narrow partial equilibrium framework and later broaden the scope of analysis slowly and carefully by including more and more markets.
- Example: explaining demand for orange juice

Marshall on the equilibrium concept

- *When demand and supply are in stable equilibrium, if any accident should move the scale of production from its equilibrium position, there will be instantly brought into play forces tending to push it back to that position; just as, if a stone hanging by a string is displaced from its equilibrium position, the force of gravity will at once tend to bring it back to its equilibrium position. The movements of the scale of production about its position of equilibrium will be of a somewhat similar kind*
- *But in real life such oscillations are seldom as rhythmical as those of a stone hanging freely from a string; the comparison would be more exact if the string were supposed to hang in the troubled waters of a mill-race, whose stream was at one time allowed to flow freely, and at another partially cut off. Nor are these complexities sufficient to illustrate all the disturbances with which the economist and the merchant alike are forced to concern themselves. If the person holding the string swings his hand with movements partly rhythmical and partly arbitrary, the illustration will not outrun the difficulties of some very real and practical problems of value. For indeed the demand and supply schedules do not in practice remain unchanged for a long time together, but are constantly being changed; and every change in them alters the equilibrium amount and the equilibrium price, and thus gives new positions to the centres about which the amount and the price tend to oscillate.*

Marshall on time in economics

- To cope with the problem of time in economic analysis
Marshall defined four time periods:
 - Market period - the amount of time for which the supply of a commodity is fixed.
 - Short period (or short run) - is the time in which the supply can be increased by adding labor and other inputs but not by changing plant size or building another plant.
 - Long period (long run) – here the plant size can vary, can be changed (all factors of production are variable).
 - Secular period – permits technology or population changes.

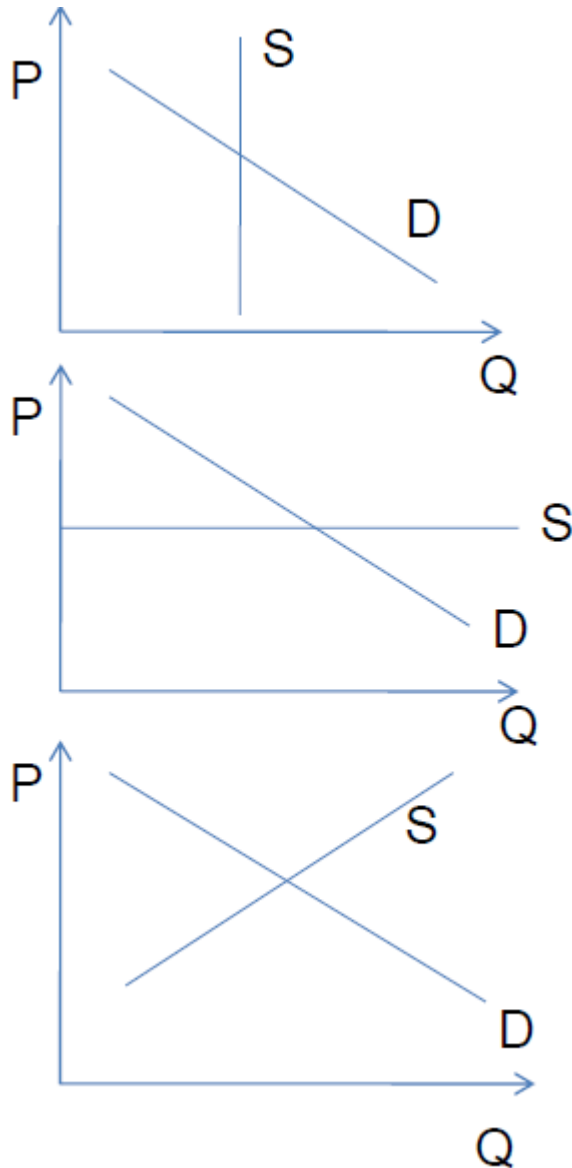
Marshall on exchange value (price)

- Before Marshall we had the controversy between the classical economists and the marginalists concerning the relative importance of demand and supply in value theory.
- Classical economists - supply determines value,
- Marginalists - demand is the most important factor explaining values and prices.
- Marshall believed that this controversy can only be resolved if we correctly understand the interdependence of economic variables and the influence of time in the economy.

Marshall's theory of value

- **Marshall maintained that in general case MU, cost of production and value or price of a commodity are interdependent and are mutual causes of each other.**
- There is no single cause for price or value of a commodity.
- MU, cost of production and price of a good mutually determine their values at the equilibrium point in market.

Marshall's theory of value



- Left panel (1) market period (3) short period (2) long period
- The shorter the period of analysis, the more important the role of demand in determining prices. The longer the period the more important the role of supply.
- In general, however, MU (connected to the demand side), cost of production (connected to the supply side) and value (price) mutually determine their values at the margin (that is at the equilibrium point).

Other contributions of Marshall to microeconomics

- 1) introduced the concept of price elasticity of demand;
- 2) Popularized the concept of consumer's surplus

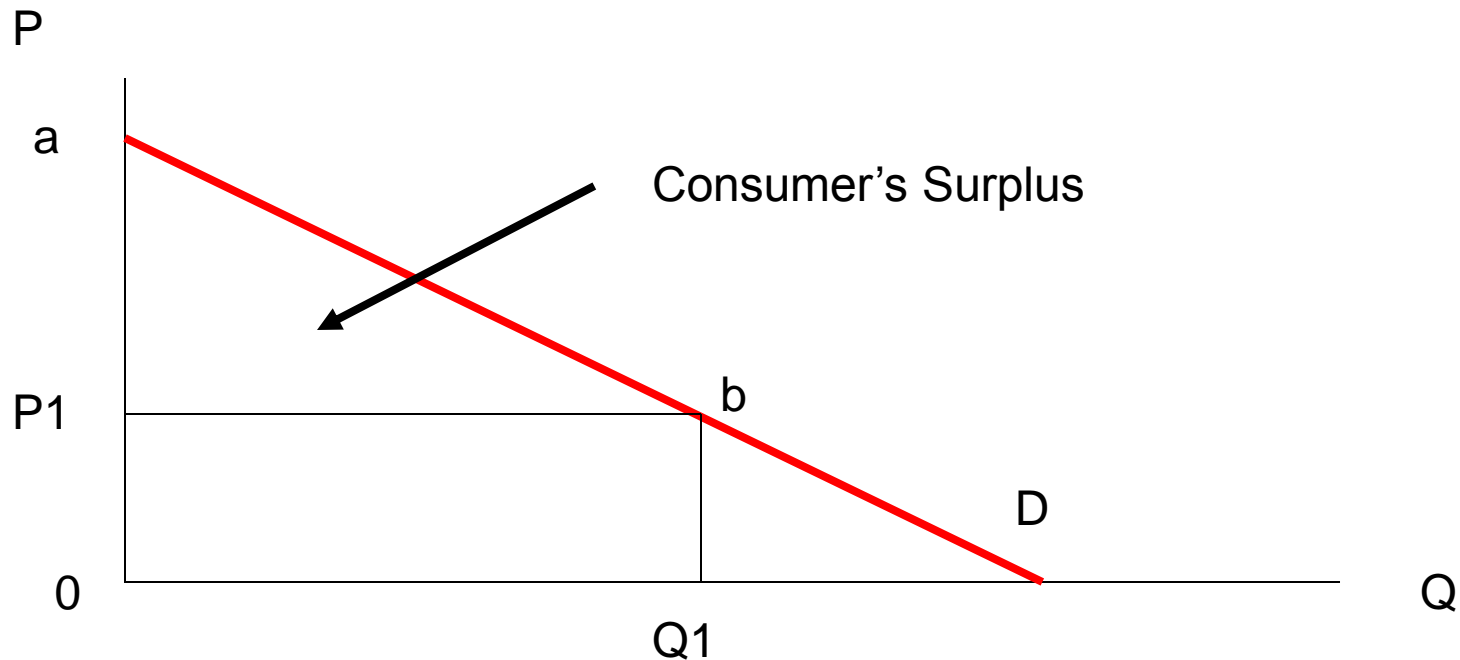
Elasticity of demand

- Marshall invented the elasticity as a measure of the responsiveness of demand to changes in price
- Percentage or proportional change in Q demanded divided by the percentage or proportional change in P
- Unit free measure of responsiveness
- Elasticity and relationship to total expenditure on the good (E is maximized when $E_p = -1$)

Consumer's surplus

- Demand curve shows that consumer is willing to pay more for the first few units of a good than for subsequent units
- If the consumer pays a single price for all units bought (market price) then the total willingness to pay for those units will exceed the amount actually paid
- This is consumer's surplus

Consumer's surplus



Total willingness to pay for Q1 = $0.5abQ_1$

Amount actually paid = 0P1bQ1

Consumer's surplus = $P1ab$

Consumers' surplus

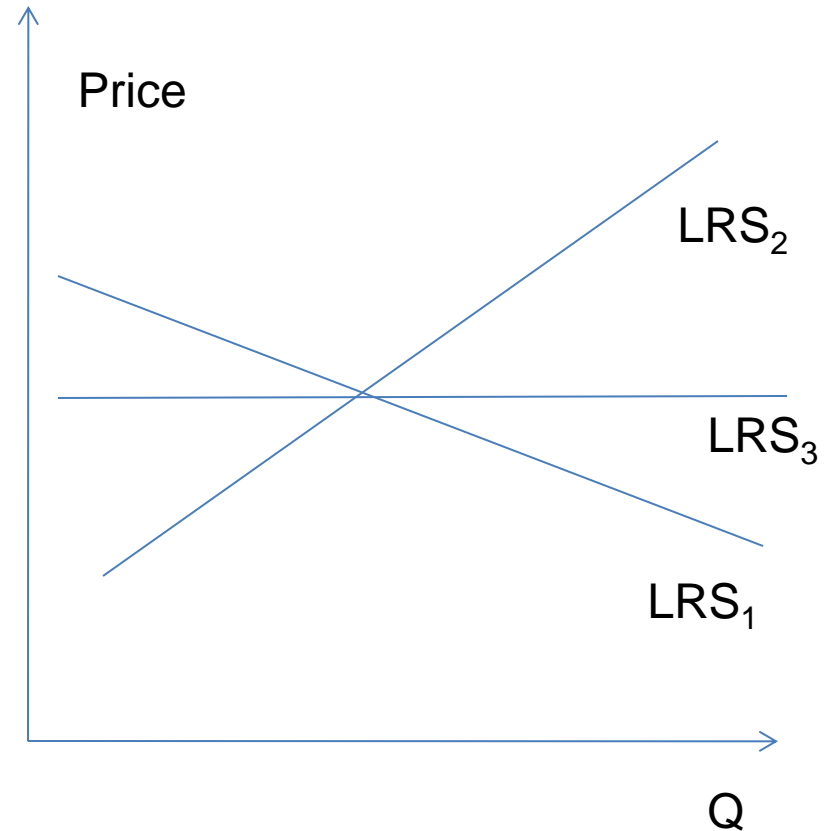
- Marshall thought **consumers' surplus** (sum of consumer's surpluses for all individuals) would be a useful tool for practical policy appraisal (assessing social welfare)
- Problem of aggregation over individuals (interpersonal comparisons)
- Can only aggregate and compare if the MU of income is constant and the same for everyone
- Marshall argued that 1) for small price changes MU of income is constant, and 2) *on average* the MU of income is the same, so you can aggregate CS and compare across groups – make social welfare judgements for socio-economic groups

Marshall on production in the long-run

- In the long run firms can change scale (all factors are variable= and the size of the industry can change)
- Marshall thinks in terms of the costs of the representative firm (access to average technology)
- In long run equilibrium the representative firm must be at least covering total costs (fixed and variable) – no loss
- If the representative firm is not covering total cost the industry will shrink in size
- If the representative firm industry is more than normally profitable the industry will grow in size

Marshall on production in the long-run

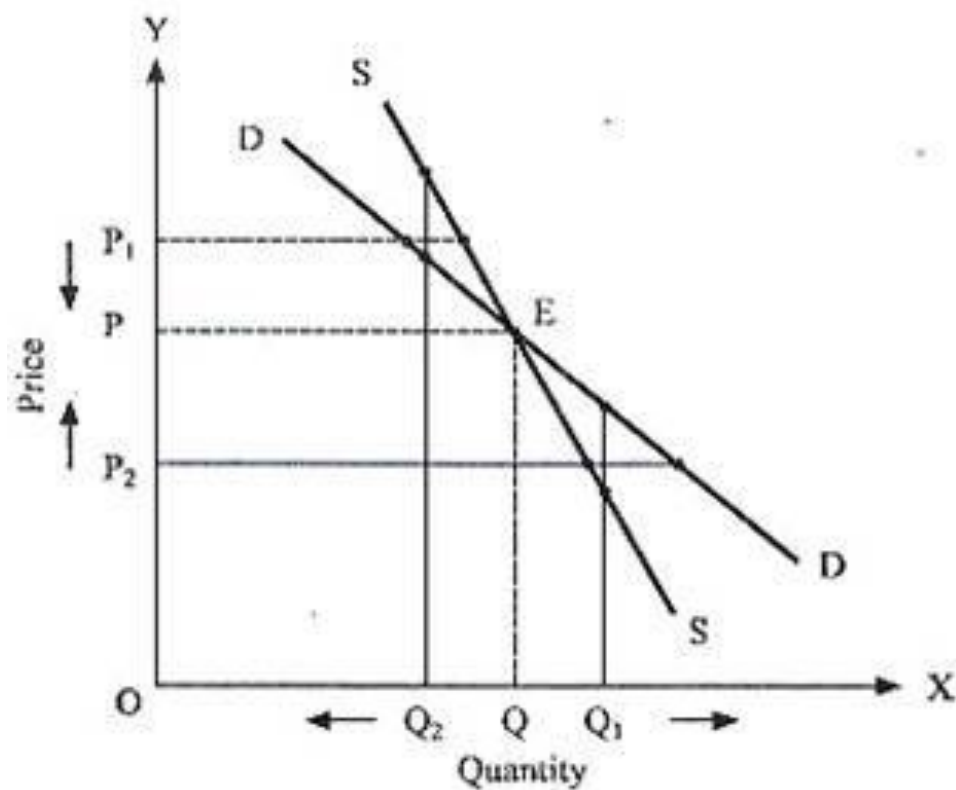
- What happens to the costs of a representative firm as the industry changes in size?
- In industries where *external economies* dominate *external diseconomies*, growth in industry size will lower the costs of all firms
- Long run industry supply curve will be downward sloping (decreasing cost industry) (can result in an unstable market) (LRS_1)
- If external diseconomies dominate, industry growth raises costs for all firms
- Long run industry supply curve will be upward sloping (increasing cost industry) (LRS_2)
- If external economies and diseconomies just cancel each other out : LRS_3



Marshall on production in the long-run

- Marshall thought that most industries other than natural resource industries had declining long run costs
- That is external economies dominate external diseconomies
- What might these external economies consist of?
- Close localization of firms in a industry might cause them to share their ideas about production and management.
- It also brings cost-saving subsidiary industries (that deliver intermediate products for the industry)
- and skilled labor has the incentive to locate in the area.

Marshall's unstable equilibrium



Marshall on long run production

- Decreasing costs due to *external* not *internal* economies (benefits that are realized when a *single firm*, not industry, grows in size)
- Therefore decreasing costs are consistent with continued competition
- If decreasing costs were due to internal economies this would result in monopoly
- Allows Marshall to concentrate on the competitive case—monopoly an exception

Marshall on macroeconomics

- Accepted that capitalism is stable on the macro level - the depressions are not very deep and long-lasting – so he accepted the Say's Law.
- But of course, temporary economic fluctuations did happen in capitalism in Marshall's times and he explained them with the reference to the notion of business confidence.
- In the boom, when the production is increasing, business confidence is high and credit expands rapidly, during the depression business becomes pessimistic and credit rapidly contracts.

Marshall on macroeconomics

- Marshall suggested that to avoid depressions and unemployment you should do two things.
- Control credit markets, so that credit is not over-expanded in period of rising business confidence because it may lead to depressions;
- In depressions, the government can help restore business confidence by guaranteeing firms against risks.

Summary of Marshall's economics

- Father of modern orthodox microeconomic theory (neoclassicism) along with Leon Walras
- Initiated not just modern economics but THE PROFESSION:
 - Students: J.M. Keynes and Joan Robinson
 - Contributed to the institutional foundation of economics (resources, departments, etc.)
 - Textbook legacy