

## CHAPTER TWO

### The Neoclassical School

#### 1.1 From Political Economy to Economics:

(Alfred Marshal, John Clark and Irving Fisher)

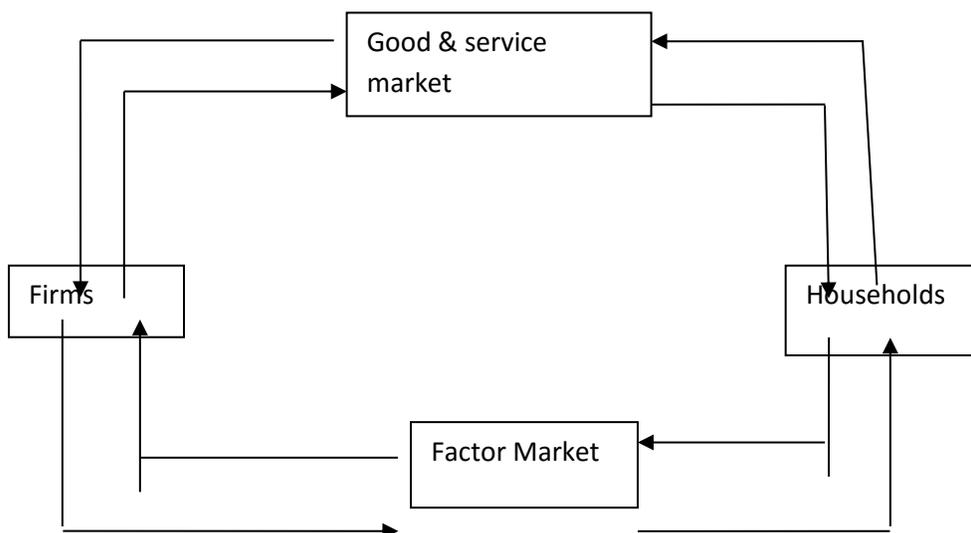
- ◆ After the last quarter of the 19<sup>th</sup>c, the discipline of political economy was never the same. It was rapidly becoming a grown up science, with its own box of tools, systematic laws, and quantitative analysis.
- ◆ Economists hoped that political economy, once the domain of theology, philosophy, and law, could become a new science that would match the logic and precision of mathematics and the physical sciences.
- ◆ It was time to unburden the world of what Carlyle had caustically labeled the “dismal science,” and replace it with a more formal objective discipline.
- ◆ Economics was originally called “**political economy**,” not as an ideological dogma but to distinguish it from “household economy.” It meant the economics of society or polity.
- ◆ During the late nineteenth century, there was a strong move to discard the unwieldy name “political economy” in favor of something more up to date and scientifically precise.
- ◆ Authors suggested several choices, such as “Pluto logy,” “ergonomy,” “chrematistics,” “catallactics,” and “ophelimity.” Marshall and other professors preferred economics. The principal economist to carry out this revolutionary shift was **Alfred Marshall (1842–1924)**, a famed Cambridge professor. Why?
- ◆ Economics will become the recognized name of a science, which nearly a century ago was known to the French Economists **as la science economique**”

..... (Jevons 1965 [1871]: xiv–xv)

- By calling his textbook Principles of Economics, he altered the name of the discipline from “political economy” to “economics,” sending a signal that economics was as much a formal science as physics, mathematics, or other precise body of Knowledge.
- Moreover, it acknowledged that the economy is governed by natural law rather than by political policy.
- His path breaking 1890 textbook introduced graphs of supply and demand, mathematical formulas, quantitative measurements of “elasticity” of demand, and other terms borrowed from physics, engineering, and biology like fare—equilibrium and disequilibrium, statics and dynamics, velocity of money and inflation, and frictional unemployment.
- The period surrounding Marshall’s textbook was a time of new beginnings in economic science like;
  - Official associations were established—the American Economic Association in 1885 and the British Economic Association in 1890.
  - Journals were established—the Quarterly Journal of Economics at Harvard in 1887, the Economic Journal at Cambridge in 1891, and the Journal of Political Economy at Chicago in 1892 (although the Journal des Economists in France had been publishing since December 1841)
  - In 1894, Macmillan published the prestigious three-volume Palgrave’s Dictionary of Political Economy, in which economist Henry Sidgwick noted that the term “economics” had “recently come more and more into use as a preferable alternative for political economy.
  - By the turn of the century, major universities had finally established their own departments of economics, separate from law, mathematics, and political science.
  - In 1895, the London School of Economics (LSE) was established, devoted almost entirely to economic studies.

## 1.2 The Construction of Neo-Classical Orthodoxy:

- Neo-classical economics is a term variously used for approaches to economics focusing on;
  1. How individuals and firms should behave to maximize their own objective functions.
  2. Activities that are coordinated by price mechanism
  3. The economy that were assumed to be in equilibrium at all times
- The term Neo-classical was originally introduced by Thorsten Veblen in 1900 to distinguish Marginalist in the tradition of Alfred Marshal from those of Austrian School.
- Today Neo-classical used to refer to Mainstream (dominant) economics.
- In Neo-classical the economic process is seen as having two important focal points
  - 1) Households
  - 2) Firms
- There are two continuous circular flows between this points
  1. Real flow
  2. Monetary flow



- From household side there is real flow (utility maximization) and from the firms side there is monetary flow (profit maximization)
- Households' attempts to maximize the excess of utility derived from the consumption goods purchased over the utility given up in the sale of productive factors (**real flow**).
- Firms attempts to maximize the difference between the money it pays for productive factors and the money it receives from the sale of consumption goods (**monetary flow**).

- **Alfred Marshall (1872-1924) builds on Jevons's Incomplete Work**

- Alfred Marshall was a Mathematician turned economist who taught economics at Cambridge University. He published his **principle of economics** in 1890, which gradually came to replace Mill's principle of political economy. He is responsible for what Keynes called "**diagrammatic economics**" or the translation of economic concepts into **simple graphs**.
- He more than anyone else made economics a field of study in its own right. He set out to make economics an independent field of study that stood on its own. In 1903 succeeded and a separate school and degree in economics was started at Cambridge University. He was a founder of **partial equilibrium analysis** (ignoring the impact of one market on the other)
- Jevons's work was incomplete and he never developed the downward-sloping demand curve, or a complete supply-and-demand diagram. That work remained for Marshall to accomplish. What did Marshall accomplish? Unlike Jevons, Marshall founded his own school, the so-called British or Cambridge school, with student prodigies such as A.C. Pigou and John Maynard Keynes.
- He was a synthesizer, combining the classical economics of cost (supply) and the marginalist economics of utility (demand). He often compared

supply and demand to the combination of the blades of scissors—each is necessary to determine price. He took supply and demand far beyond a written expression. He developed the graphics for supply and demand, the mathematics of elasticity, and new concepts such as consumer's surplus. His formulas now serve as the foundation of any course in microeconomics.

- ✦ In order to study individual markets Marshall developed the tools of Supply and demand;
  - The upward sloping supply curve demonstrate the law of supply
  - The downward sloping demand curve demonstrate the law of demand
- ✦ The “two scissors” of supply and demand determine the price of each good and the amount of each good that would be provided!
- ✦ Marshal also;
  - Defined and elaborated the notion of “**the price elasticity of demand**”
  - Showed how exceptional circumstances could result in an upward sloping demand curve.

### Symmetry between neo-classical theories of households and the firm:

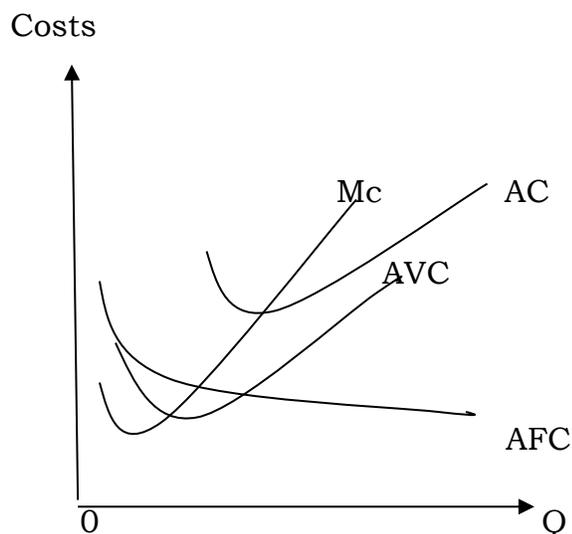
- ✦ In order for the theory of firm to be stated in terms of a maximization problem similar to the maximization problem of the household, it is necessary to see:
  - ↻ Factors of production as analogous to consumption goods
  - ↻ Revenue received as analogous to utility
- ✦ The problem for the firm in Marshall's analysis was **identical**. A firm wanted to maximize the difference between revenue received and cost payed i.e. it wanted to maximize profit.

- The maximization problem for the firm would be **essentially identical** to that of the household if;
  - Factors of productions are substitutable
  - Consumption goods are substitutable
- The firm purchased inputs and sold outputs.
- It attempts to maximize the difference between the cost of its inputs and the revenue of its outputs.
- Hence firms maximization problem can be seen two vantage points;
  1. Revenue (output) side: maximization of revenues: MR, AR, TR
  2. Cost (input) side: minimization of costs: MC, AC, TC
- Looking at firm's maximization problem from the vantage point of output is usually associated with the theory of the firm in contemporary economic literature.
- Looking at firm's maximization problem from the vantage point of inputs has become the bases of the neo-classical theory of income distribution which was **inadequately developed** by Marshall
- Superior formulations of the theory of income distribution were developed by an American, **John Bates Clark**.
- Marshall's theory of the firm:**
- His analysis of the firm was an integral part of his analysis of **price determination**.
- Prices were determined by supply and demand.
- Demand was determined by consumers' utility schedules and supply was determined by firms' cost schedules.
- His analysis were devoted to analyzing the situation in which an industry consisted of numerous competing firms (**price taker firms**)
- Assumptions for the theory of the firm:
  - a. Perfect competitive firm
  - b. Profit will equalize (normal profit) for each firm in the industry.
  - c. A representative firm is a price taker.

- Marshall's theory depicted what he called a “**representative firm**” in a competitive industry.
- The representative firm:
  - Was in a sense an average firm.
  - Had no special advantages or disadvantages
  - Its cost of production reflects the AC of various firms within the industry.
- His analysis was based on the distinction between 3 time period:
  - a. **Market period:** supply was fixed and prices depended on the strength fold in relation to fixed supply.
  - b. **Short run:** capital is fixed but labor is variable.
  - c. **Long run:** all inputs (both capital and labor) are variable.

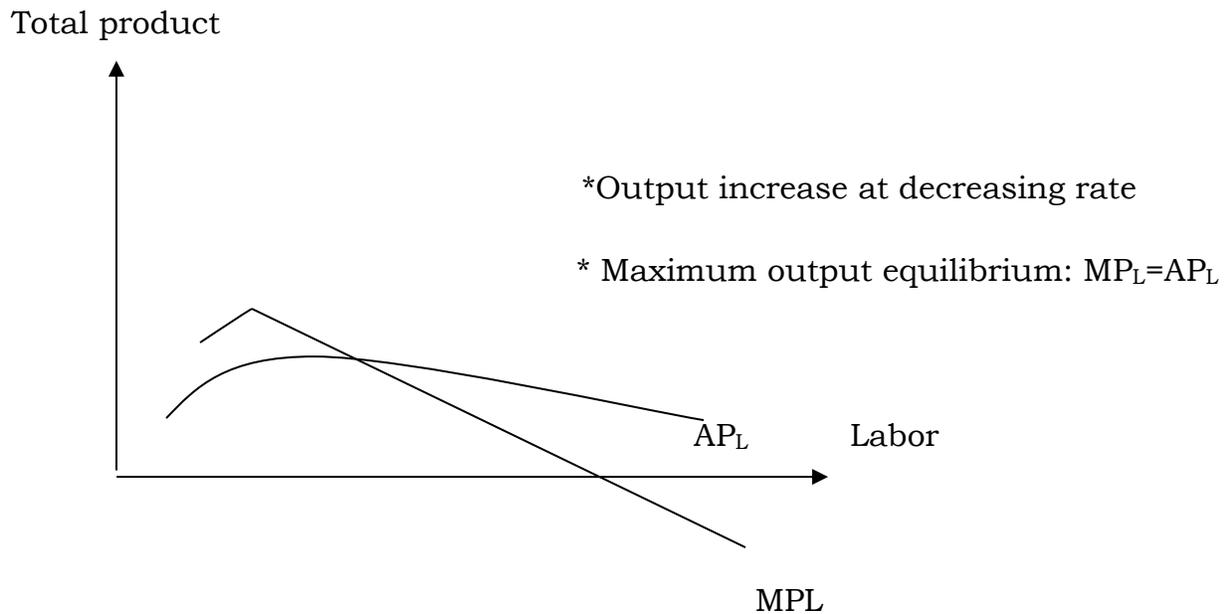
**The firm's production and cost curves in the short run:**

- In the short run firms productive facilities (capital) is fixed and they expand or contract output by using a larger or smaller number of workers (labor)



\* Firm minimize cost at:  $MC=AC$

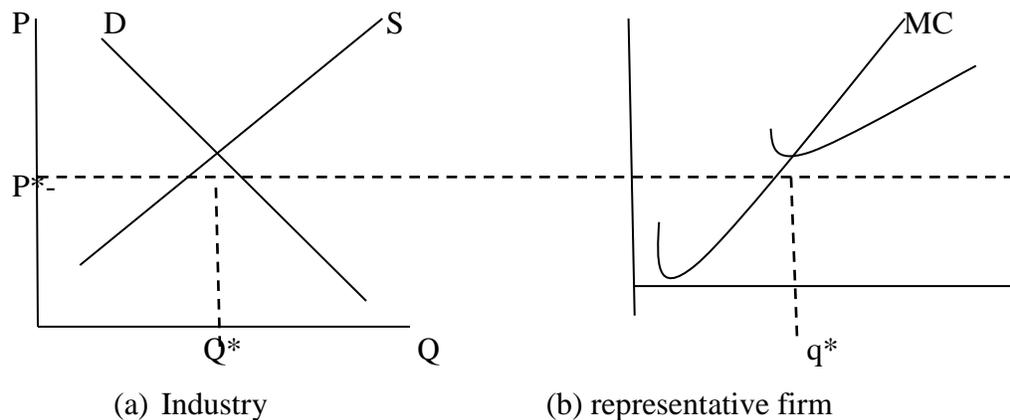
**Fig. 1 cost curves**



**Fig.2 product curve (law of variable proportion)**

**Equilibrium in the short Run:**

- ✦ The firm maximizes its profits by producing the level of outputs at which the price (as determined in the industry-wide market) equals the rising MC
- ✦ If  $MC > P$ , additional cost of additional outputs exceed the price received for additional
- ✦ output (i.e. there will be **less supply**)
- ✦ If  $MC < p$ , the price received for additional output exceed the additional costs of additional output (i.e. there will be **more supply**)
- ✦ Hence, the MC curve shows the amounts a profit maximizing firm will supply at various prices and is the firm's supply curve...



- The output for the industry ( $Q^*$ ) is, of course, many times greater than the output for the representative firm ( $q^*$ ). For the representative firm, the industry **price equals its AC**. This does not mean that the representative firm earns no profit at equilibrium.
  
- For neo-classical in the short-run profit would be included in the average costs (**as a part of its AFCs components**). Any firm in this industry having **higher** costs than the representative firm will receive **lower than normal profit**. Any firm in this industry having **lower** costs than the representative firm will receive **higher than normal profit or excess profits**. He called such excess profits “**quasi-rents**”, and argued that they are similar to the “**Ricardian rents**” received by the owners of superior grades of land.
  
- In the long-run equilibrium such “**quasi-rents**” will be incorporated into the firm’s cost curves as ordinary rent costs, and every firm will ultimately receive only the **normal rate of profit**.

**The long run (period) analysis and the problem competition:**

- In Marshall’s long period;
  - ➔ All productive factors could be varied
  - ➔ All costs were variable costs

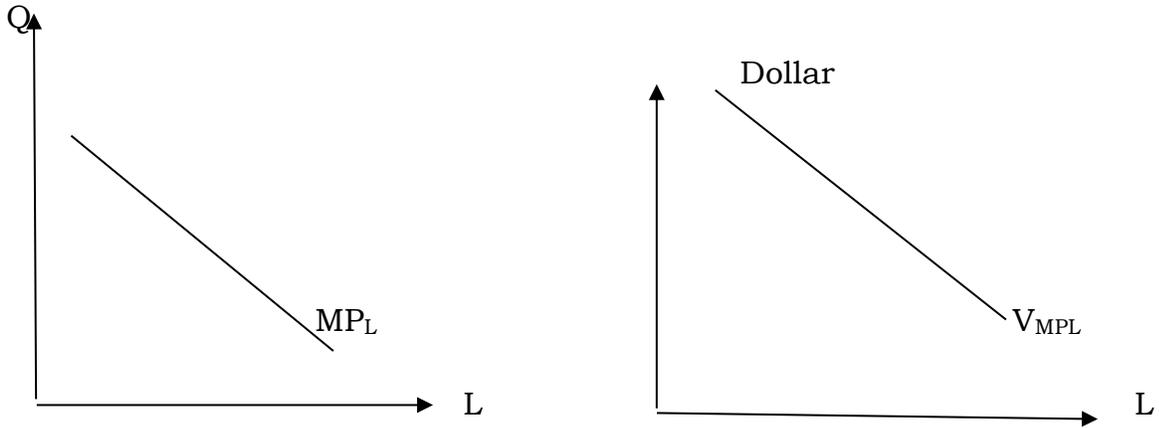
- ☞ All “**quasi-rents**” disappeared
- ✚ For Marshall, he had 3 returns to scale:
    1. Constant returns to scale (CRS)
    2. Increasing returns to scale (IRS)
    3. Decreasing returns to scale (DRS)
  - ✚ For land based activities a proportionate increase in labor inputs result in a less production (proportionate) in output (Ricardian DRS). For manufacturing activities a proportionate increase in capita input result a more than a proportionate increase in output (IRS). If we accept CRS, the cost for a small firm is the same for large companies. Hence we have no justification for large companies because their cost is similar to smaller companies. If we accept IRS, the cost of large firms or corporations less than the cost of small firms.
  - ✚ Hence efficiency gain from having big corporation is justified (low cost as firm’s scale of operation increases)But this large scale operation may result Oligopolistic or monopolistic type of firms (**market imperfection in contrary to Marshall’s assumption of perfect competition**)
  - ✚ It therefore it seems that Marshall’s theory would have led him to one of three conclusions:
    - I.** He could have abandoned the general utilitarian argument (that the invisible hand of competitive market harmonized all interests) and accept the social advantages of giant oligopolistic business corporations.
    - II.** He could have supported massive government intervention in the economy designed to break up large corporations and force them in to perfectly competitive market.
    - III.** He could have taken Marx’s view that competition inevitably led to industrial concentration and therefore, advocate some form of **socialism**.

- ✦ However, Marshall was unwilling to accept anyone of these only possible practical conclusions. He wanted to retain. **The utilitarian theory of the harmony of the invisible hand of the market.** How then could one reconcile Marshall's belief that greater efficiency of large firm's with perfect competition???This was Marshall's most difficult problem.

- ✦ Marshall was saved by his **Evolutionary theory of the life cycle of natural organisms.** He insisted **"we may read a lesson from the young trees of the forest as they struggle upwards through the benumbing shades of their older rivals.** "Although these taller, better established trees **"have a better access to light and air than their rivals, they gradually lose vitality** "As it was with trees, so it was with business firms. Hence, Marshall was able to salvage his faith in the performance of perfect competition by believing that an industry was like a forest. Just as trees are constantly growing and dying, so with business: a firm's **"decay in one direction insure to be more than balanced growth in another"**

- **John Clark and The marginal productivity distribution:**

- ✦ This theory designed to explain the principles that determine how much income different people receive, and thus the principles affecting the distribution of income in an economy. While Marshall developed the neo-classical **"theory of the firm" from perspective of output.** The latter (John Bates Clark) stand point represents the foundation of the **Neo-classical "theory of income distribution" from input perspective.**



$V_{MPL} = PMP_L$

**A. At equilibrium (assume the labor supply is fixed)  $y=f(K,L^*)$**

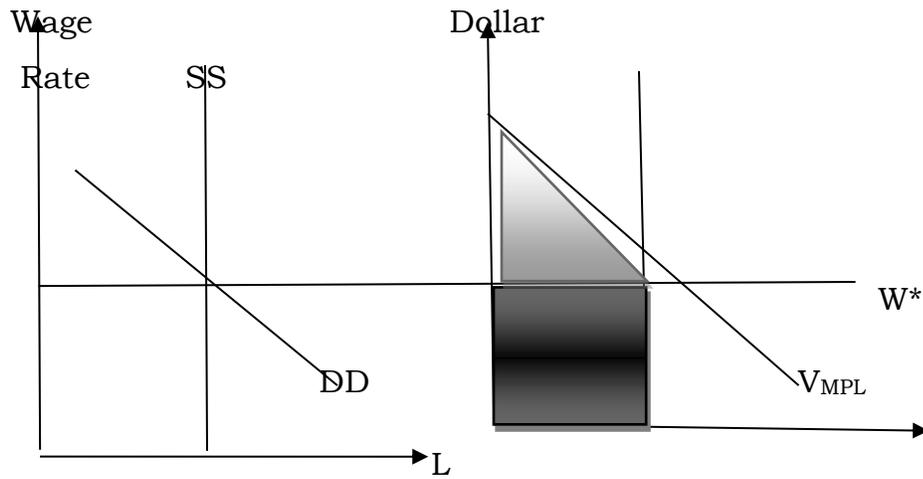


Fig 1

Key:



→ Interest rate



Wage rate

**B. At equilibrium (assume the capital supply is fixed)  $y=f(K^*,L)$**

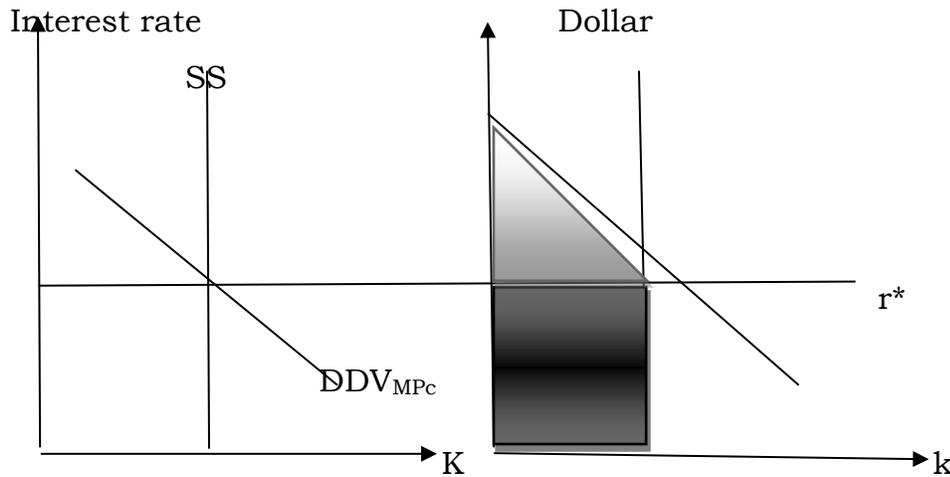


Fig 2

Key:



→ Wage rate



→ Interest rate

**For Clark:**

- ☞ Capitalist were rewarded by receiving what they created just as were laborers
- ☞ Hence no exploitation (**surplus**)
- ☞ Each person receives the value of what his factor produces

▪ **Irving Fisher (1867-1947):**

- ✚ He was an American economist known for the development of monetary theory and mathematical economics. He got his doctorate degree in Mathematics which very well goes to prove his interest in mathematics, and the application of mathematical formulae and equations to economics problems. Like other neo-classical economists, he based his analysis on:

- Perfect competition
- Stationary state

→ Freedom of choice

✦ He was the first economist in United States who made the use of the concept of indifference curves. He wrote the introduction and prepared an elaborate bibliography of mathematical economics.

✦ He wrote many books:

→ Mathematical investigations in the theory of value and price

→ The nature of capital and income

→ Elementary principles of economics

→ The money illusion

His views:

1. He realized that utility could not be measured. Hence consumers will arrange his consumption in such a way that the marginal utility of each commodity purchased from one unit of money would be equal.
2. Hence price is determined at a point where  $MU=MU$
3. In his analysis the value of each commodity is dependent on the values or prices of all other commodities.
4. According to Fisher, capital includes all wealth, even the human recourses. Income is merely the flow of goods and services emanating from the use of capital. Thus, capital and income are two aspects of the same problem.
5. According to him the rate of interest depends upon the “**time preference**” of individuals for the present over future goods.
6. In any case he deserves credit for establishing relationships between the value of money and the rate of interest.
7. He made an outstanding contribution in the field of monetary economics. According to him, monetary individualism was a curse and inflation, whatever be its source and cause i.e. paper or gold or increased supply of gold is ruinous, and disastrous. And similar to deflation.
8. He has attempted to prove that the salvation was only in the stabilization of the price level which he stated in the quantity theory of money ( $MV=PY$ ).

- His thought suffers from internal inconsistency and he deals with variations of co-relations with such freedom that the entire analysis appears to be far away from the realities of life.

- **The Stockholm School**

- It also known as Swedish School was founded by Knut Wicksell, E.Lindahl, B.Ohlin, and Gunnar Myrdal are the most illustrious members. The school had its influence in the Scandinavian countries. It was represented by Frisch in **Norway** and **Zeuthen** in Denmark. Wicksell also influenced the thought of Von Hayek and that of Keynes and Hicks in England.

**i. Knut Wicksell (1851-1926):**

- He was born in 1851 & took up his degree in Mathematics in 1885. He took his PhD degree in 1895. In 1900 he was appointed as assistant professor at Lund University.
- His chief works are:
  - Value, capital and Rent (1893)
  - Studies in finance theory (1896)
  - Interest and price (1898)
  - Lectures on political economy
- His thought was greatly influenced by the depression and the sharp decline in prices during 1873-1895
- In 1898 his book entitled **Interest and prices** appeared in which he has coordinated the theories of price and interest with the theory of value of money and has emphasized the part played by credit in the price movements.
- His economic views:
  - He developed his theory of value and distribution around the theory of marginal productivity. He assumed that all factors of production are so employed that no economies from a large scale of production are possible.

He also analyzed the relation of money rates and the natural rate of interest and also the effects of this relationship on the general price level.

- ✦ According to him **capital** is “a coherent mass of stored-up labor and saved-up land.”
- ✦ After recognizing the importance of “**time element**”, he has taken up “**period analysis**”.
- ✦ He assumes that capital saved during the preceding years helps in the production in the current year and, therefore, for obtaining the advantages of capital’s use, a corresponding part of the current years’ resources must be saved up for being used during the next year.
  
- ✦ For him **interest** is “**the marginal productivity of waiting**”
- ✦ Interest is the difference between the marginal productivity of saved-up labor and land, and the marginal productivity of currently used labor and land.
- ✦ He says that the **current** labor and land are relatively **abundance** while the saved-up labor and land are **not**; therefore, the difference in the marginal productivity of the two types of labor and land is interest.
- ✦ The interest may disappear if the difference disappears but this will never happen since the falling rates of interest will be followed by longer investment period and increased capital values which will counteract the decline between current and future goods.
  
- ✦ He stated that a high rate of interest stimulates saving and a low rate discourage it.
- ✦ This will bring us to the idea of natural and market interest rates.
- ✦ The natural rate of interest is the one which equates saving with investment.
- ✦ The market rate of interest is the price of money which tends to equalize the natural rate, but it may be below or above it.

- ✦ If it is lower, the saving will be discouraged, consumption will rise, and investment will be stimulated, untimely leading to the rise in the price level.
- ✦ If the market rate is higher, there would be a decline in the general price level, since it would not be profitable for entrepreneurs to make investments.
- ✦ He, therefore, suggest that the market rate may be kept below the natural rate and price kept rising, as long as the supply of loadable funds is supplemented by credits, or by dishoarding.

### 1) Saving and investment:

- ✦ He believed that since the expenditure of one is the income of the other, the aggregate purchasing power would always remain the same i.e. **aggregate income equals aggregate spending**. Hence income not spent on consumption is spent on capital and the price level will remain constant.
- ✦ Since decisions to save and invest are taken by different people, amount of saving may be more than the investment. In such situation income would be reduced, consumption would decline, and price would fall.
- ✦ If investments are more than saving, the price would rise.
- ✦ He suggests that this could be controlled by manipulating the banking rate or market rate of interest i.e. by keeping it above or below the natural rate of interest.
- ✦ This is what is known as the “**the cumulative process of Wicksell**”
- ✦ He has emphasized the **effectiveness of monetary control** for the **stability of the price level**.
- ✦ He asserted that in other spheres, circumstances like technique, natural conditions; individual or social differences play a role which is beyond the survey and control of the science.
- ✦ But so far as money is concerned, everything is determined by human beings i.e. statesmen and economists and hence the banks rate policy is the most effective weapon for keeping the price level stable.

## 2) Trade cycle:

- ✦ For him trade cycle is the outcome of the cumulative process of unstable disequilibrium.
- ✦ The trade cycle appears because the technical progress does not increase in perfect simultaneity with the increase in population.

### ▪ **Other Members of this school:**

- ✦ Gunnar Myrdal has been chiefly concerned with the analysis of the effects of uncertainty in on the determination of price. He has analyzed the effects of businessmen's **expectations** on investment and price.
- ✦ Eric Lindahl, in 1930 published his book entitled **the means of monetary policy**. His analysis is based on the assumption of a perfect economy and also includes the study of the effects of the changes in financial policy of the state.
- ✦ Ohlin and Lundberg are also known in the field of equilibrium analysis.
- ✦ In spite of its realistic approach the school failed to give an adequate explanation of the relationship between the rate of interest and the decision of people regarding saving or investment.
- ✦ Their weakness lay in the **extreme optimism** regarding the efficiency of **the bank rate policy** in determining the level of employment in the economy.

### 2.1 **The Neo-Classical School; Departure from Pure Competition:**

#### (Piero Sraffa, Edward Hastings Chamberlin, Jean Robinson and the Cambridge continues with Sidgwick and Nicholson)

- Marshall's theoretical system, perhaps precisely because of his wish to understand the real world and his attempt to link social evolutionism to the utilitarian ethic, ended up by assuming an ambiguous character and provoked a critical reaction.

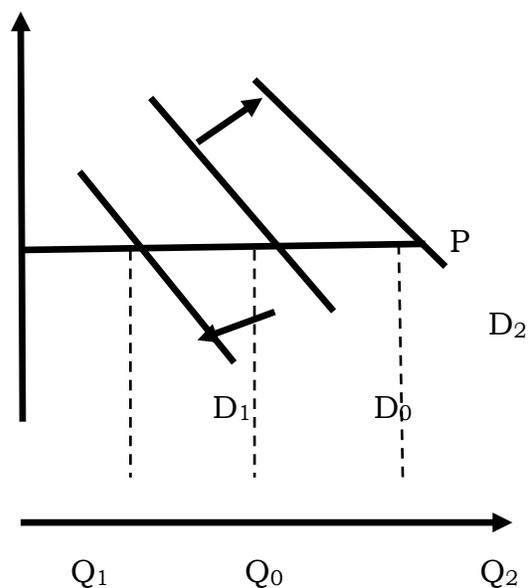
- Marshall's Principles, besides being a great work of economics, it is permeated by a deep sense of history. But Marshall's followers chose to develop only the analytical part of the book, ignoring its cultural and philosophical background. This unfortunate gap between Marshall's intentions and those of his followers led to more than a few misunderstandings.
- At the center of these criticisms was the question of the compatibility between the hypothesis of perfect competition and the partial-equilibrium method. In the Principles, Marshall had discussed the existence of different productive sectors characterized by decreasing, constant, and increasing costs.
- It follows that the long-run supply curve of the sector is not necessarily rising, but may be horizontal or falling. Now, it is impossible to establish a priori which of the three situations is most plausible or probable
- However, it is possible to say, in general, that there is no 'law' of long-run supply establishing a direct relationship between prices and quantity. In the long run, and at the sector level, there is no 'law of variable proportions' which generates a rising supply curve.
- Economic historian **John Harold Clapham** in 1922, by criticizing economic theory of his time for being too abstract and formalist, Clapham pointed out the frustrations faced by applied economists in trying to utilize, in empirical research, Marshall's division of industries into the three types of increasing, constant, and decreasing costs.
- In the controversy that followed, **Pigou** tried a defense of Marshallian orthodoxy with the intention of preserving the theoretical support it gave to the policies he had proposed in **The Economics of Welfare**. In his view, the state should try to maximize social welfare by taxing the firms facing decreasing returns to scale and subsidizing those enjoying increasing returns.

- His daring conclusion was that, if empirical observation did not confirm the theory of supply based on non-proportional costs, this must be due to the backwardness of the statistical documentation and methodology.

#### **A. Sraffa's criticism of the Marshallian theoretical system:**

- Piero Sraffa followed a substantially different line of attack in '**Sullerelazionitracosto e quantita` prodotta**' (1925). With the **partial-equilibrium** method it has to be assumed that the market investigated has to be separate from all other markets so that what happens in it does not influence the prices of the other goods in any relevant way. Now, in a sector characterized by increasing (decreasing) costs, an increase in production will cause the prices of the productive factors to increase (decrease).
- Therefore, if one wishes to continue to reason in terms of partial equilibrium, it is necessary to postulate that the inputs, whose prices increase (or decrease) with production, are those that are utilized only by the industry in question. Otherwise, the variations in their prices would modify the prices of the goods produced in other sectors.
- In order to uphold the logical coherence of the Marshallian edifice, it is also necessary to postulate that the economies (or the diseconomies) of scale are external to the firms but internal to the sector.
- In fact, if they were internal to the firm, the latter would be encouraged to expand (contract) its own level of activity, and would eventually become a monopolist in its industry (or pull out of the market).
- Both cases are incompatible with the hypothesis of competition. If, on the other hand, the economies or diseconomies were external to the sector, a partial-equilibrium analysis would no longer make sense, and it would be necessary to move to a general-equilibrium approach.

- The gist of Sraffa's criticism is that the Marshallian theory of competitive equilibrium cannot escape from the following dilemma: either it is contradictory or it is irrelevant. The only case which is logically compatible with the partial-equilibrium analysis of a perfectly competitive sector is that of **constant costs**.
- But in this case the 'classical and neoclassical synthesis' of Marshall (and of Pantaleoni, whom Sraffa also had criticized) basically led to the same results as classical economics: **prices** are determined exclusively by **the costs of production**, while the conditions of **demand** only contribute to determine the **quantities** produced.



- After a reformulation of his 1925 criticism, Sraffa noted that increasing returns are de facto important in industrial sectors, and consequently that the typical cost curve of these sectors is probably negatively sloped.
- Thus, rather than developing an analysis of competitive markets on the basis of the hypothesis of constant costs (as it would have been natural to expect) he started off along a completely different track: 'to abandon the path of free competition and turn in the opposite direction, namely, **towards monopoly**.'

- Sraffa pointed out the existence of market imperfections which are not simple frictions but are themselves active forces which produce permanent and even cumulative effects on prices and quantities.
- He argued that these obstacles to competition are ‘endowed with sufficient stability to enable them to be made the subject of analysis based on static assumptions.
- Among the obstacles to the regular operation of a perfectly competitive market, Sraffa indicated the possession of specific natural resources, legal privileges, and control of a given percentage of total production.
- The dilemma created for the traditional theory of perfect competition by the assumption of decreasing costs (**increasing returns to scale**) can be solved either:
  1. by introducing a demand curve for the single firm which descends from left to right, or
  2. by abandoning the partial-equilibrium approach in favor of general equilibrium, so as to be able to take into account the movements of the cost curves induced by economies external either to the firm or to the sector
- Sraffa agreed that the first of these two alternatives had a greater explanatory value. What actually prevents the unlimited growth of a firm is not, in his opinion, an increasing cost curve but a decreasing demand curve. The solution proposed by Sraffa presupposed ‘**the absence of indifference on the part of the buyers of goods as between the different producers**’. This absence was attributed to causes such as

long custom, personal acquaintance, confidence in the quality of the product, etc.

- Thus, beginning with the identification of a logical difficulty within the Marshallian analysis of competition, Sraffa ended up by opening a new field of research which was immediately accepted in Cambridge, especially by Joan Robinson.

### **B. Chamberlin's theory of monopolistic competition:**

- In 1933 **Edward Chamberlin** published *The Theory of Monopolistic Competition*. In this work he acknowledged that real-world markets do not operate in perfect competition, and rejected the idea of the firm as a passive price-taker. On the contrary, he maintained that the firm is able to influence the demand decisions for its own products by means of product differentiation, promotional activity, and advertising. This was the origin of a new theory, a theory of markets which are neither in perfect competition nor under monopoly.
- The theory of monopolistic competition rests on two basic assumptions:
  1. **The majority of firms set their sale prices**; i.e. they are price-setters: this means that single firms **retain some monopoly power** and, if they increase prices, they do not lose all their customers, as happens in perfect competition.
  2. **There is no natural monopoly in the majority of the productive sectors**; if extra **profits are made in a given sector, this encourages new firms to enter**; in other words, the firms operate within a context which is, to a certain degree, competitive.
- This is due to the fact that the entry of new firms on the market produces two different effects. On the one hand, competition encourages the entry of

new firms, which contribute to eliminate the extra profits. This process leads to the creation of ‘too many’ firms—too much respect to the number of consumers. On the other hand, the entry of new firms increases the variety of products and thus raises the customers’ welfare, at least to the extent to which the latter are able to choose from a wider range of products.

- But, since firms do not have the opportunity to appropriate the consumer surplus, as would be possible in a monopoly, they will have little incentive to differentiate the product. Which of the two effects predominates will depend on the circumstances.
- Even though Chamberlin and Robinson reached the same solution in regard to the equilibrium of the single firm and the sector, there were more than a few important differences in their work. Their theoretical roots were also different.
- While Robinson in the introduction of her book acknowledged Sraffa as her source of inspiration, Chamberlin took the trouble to point out that most of his conclusions had already been set out in the dissertation he had presented at Harvard in April 1927, which he had written under the supervision of **Allyn Young** without having first read Sraffa’s article.
- There are several difficulties with Chamberlin’s model:
  - (1) The hypotheses of product differentiation and atomistic behavior do not seem compatible, for the simple reason that firms are always aware of the actions and behavior of competitors who offer close substitutes.
  - (2) The second difficulty is that product differentiation, in that it leads to an entry barrier, is not compatible with the assumption of free entry into the sector.
  - (3) Finally, product differentiation tends to make the notion of an industrial sector meaningless. More specifically, it is incompatible

with the device of the ‘representative firm’ in the Marshallian sense, so that it becomes necessary to take into account the relationships between individual cost and demand curves.

**N.B**

- **world of atomistic competition** is a world in which no agent of the productive mechanism, on the side of labor and capital, was powerful enough to interfere with or to resist the pressures of competition.
  
- Stigler, in particular, argued that the definition of group of firms is ambiguous. The group must be defined in such a way as to include only firms that sell homogeneous products. But if this is the case, there is no reason to assume that the demand curves of the single firms are downward-sloping.
  
- Other authors have focused their attention on the logical weakness of the way in which Chamberlin arrived at the determination of the long-run equilibrium position. **Harrod**, for example, pointed out that Chamberlin’s firm, in order to determine the quantity produced and the optimum size of its plant, uses a short-run marginal-revenue curve and a long-run marginal-cost curve, and ends by setting the price at a level which encourages new firms to enter the market. But this, by reducing the market share of each firm, would determine a leftward shift of the marginal-revenue curve. Of course, these sharp criticisms do not lessen the importance of Chamberlin’s work.
  
- Furthermore, in addition to the important notion of product differentiation which Chamberlin introduced in the theory of price, the notion of promotional sales activity is an element of undoubted realism.
  
- Not only this, but the invention of the ex-ante and ex post demand curves was to give rise to a whole series of further theoretical

contributions, among which it is worth recalling the kinked demand curve, widely used in the study of the structure of oligopolistic markets.

- The Theory of Monopolistic Competition aroused considerable interest in the 1940s. Among those who have attempted to deepen and extend Chamberlin's work we must recall **Robert Triffin**, who tried to introduce imperfect competition into the general-equilibrium model. However, he ran up against the problem of the determination of the number of firms operating in equilibrium.

### **C. Joan Robinson's theory of imperfect competition;**

- The Economics of Imperfect Competition was also published in 1933 by Grandniece of the Christian socialist F. D. Maurice and daughter of a general, Joan Robinson assimilated with ease the humanitarian and reformist spirit of Cambridge Pigouvian economics.
- The core of Pigou's social philosophy consisted of the idea that scientific research should aim at identifying those deficiencies of the economic system which could be remedied by government intervention.
- She also followed Pigou in regard to method. She herself presented her book as 'a box of tools [that] can make only an indirect contribution to our knowledge of the actual world'). The book was directed at the analytical economist; there was nothing in it for the businessman
- Robinson's austere view of economic theory may seem strange in the light of her declaration that the principal aim of economics is to contribute to the welfare of mankind. It is certain that her book gave a powerful thrust to the development of formalism in economics
- One achievement of Robinson was to rescue from oblivion Cournot's notion of marginal revenue. The utilization of the apparatus of average and marginal curves is one of the results of Robinson's work, in which is

also to be found, for the first time, the general relationship between average and marginal curves.

- Robinson accepted the idea of the equilibrium of the group presented in the last part of Sraffa's essay and developed it, with the help of Richard Kahn, removing the simplifying hypothesis that the number of firms, and therefore the set of products, is fixed. The resulting analysis seems more general than that of Sraffa, but also less robust. The problem lies in the demand curve.
- Marshall had considered a monopoly in which a single firm controls the industry; the demand curve of the industry is therefore the same as that of the monopolist. Sraffa's monopolists, by contrast, have no privileged access to the demand curve of the sector. A price increase by a firm would provoke the transfer of some of its customers towards other industries and/or towards rival producers in the same industry.
- Robinson realized the difficulties in Sraffa's way of treating the demand curve of the single firm, but, rather than run the risks of dealing with these, she chose to set them aside. Her stratagem was to deal with the problems posed by the interdependence among firms by postulating that these had already been resolved in a previous stage of the analysis; and this is still today a frequent practice, especially in the theory of oligopoly.
- Robinson was aware of the 'misdeed', but certain difficulties must be ignored if one wishes to get on with the analysis!
- In the period of the publication of *The Economics of Imperfect Competition*, most economists did not perceive the deliberate sense of irony in the use of the adjective '**imperfect**'.

**“The very terminology of ‘imperfect competition’ is heavy with implications that the objective is to move towards perfection.”**

\_\_\_\_\_Chamberlain

- The veiled accusation here is that the Cambridge economist, far from achieving a breakthrough in the theory of competitive value, gave shape to an **elegant continuation of the Marshallian tradition**.
- In 1969, Robinson explicitly stated that it had been her precise intention to show that, if one attempts to construct a logically coherent Marginalist theory of the firm, a conclusion will be reached which is in contrast to the neoclassical view of the world: that the free operation of market forces leads to an economic structure in which unsatisfied consumers’ needs and excess capacity of firms can coexist.
- The argument is, in short, the following. A firm in perfect competition can sell all that it wishes without influencing the price, for the simple reason that its increasing cost curves prevent it from producing more than a small percentage of the total output.
- By contrast, the firm with decreasing cost curves is unable to expand its sales without lowering the price of its output. On the other hand, if the demand curves of the firm is decreasing, so will the marginal revenue curve, so that, beyond a certain point, sales will bring forth negative marginal revenues. But before this point is reached the marginal revenues will begin to be lower than the marginal costs. An attempt to expand sales reduces the profits of the firm, so that it has no interest in pushing other firms out of the market. This is the type of limited competition Robinson tried to formalize in her book.

- The implications for welfare economics are worrying: the market mechanism operates in such ways that not only are the workers not paid according to the full value of their marginal productivity, but even the principle of consumer sovereignty is impaired. This theory was very influential in the anti-trust policies taken up by many Western countries in the 1940s and 1950s.
- Towards the end of the 1930s, Robinson changed her research interests and focused on Keynesian theory. Not only she abandoned the debate which her book had opened, but even underrated the theoretical value of her own contribution.

#### **D. Sidgwick (1838-1900):**

- Sidgwick and Nicholson represented the Transition from Orthodox classicalism to Neo-classicalism. Sidgwick's **principle of political economy** went a long way in restoring to economics its old prestige. The book is founded on Mill's idea, including Walker's wage theory, of course, modified in the light of Jevons' theory.
- Since primarily a philosopher, he combined economics with ethics. His utilitarianism, unlike Bentham and Mill, setup, an "**instinctive moral sense**" as the criterion of the good. He also rejected the materialist aspects of Spencer's utilitarianism which is based on the concept of survival of the fittest.
- While supporting Mill's theory of value he has stated that the equation of supply and demand does not provide an explanation to the determination of value when both supply and demand change with price. He has criticized Mill for his theory of international values and emphasized the **costs of carriage in the problem.**

### **E. Nicholson(1850-1927):**

- His **principle of political economy** is based on Mill's principle. He has restated the classical doctrines in the light of the criticisms of the historical school and mathematical analysis. His analysis of relative prices and of profits and wages was remarkable.
- He has accepted, in most parts, the classical economics and has adopted the concepts of consumer's surplus and quasi-rent. He did not have much fascination for the use of advanced mathematics, which the Marginal utility economists had advocated.
- Both Sidgwick and Nicholson were closely related to the Cambridge school and its founder—Alfred Marshall.

### **Individual assignment 10%**

- 1) What are the main difficulties that Marshall faced in conclusion of his theory of Perfect competition?
- 2) What are difficulties with Chamberlin's model?
- 3) Towards the end of the 1930s, Robinson not only she abandoned the debate which her book had opened, but even underrated the theoretical value of her own contribution. Why?