**CHAPTER ONE**

**NEO – CLASSICISM**

**1.1 NEOCLASSICAL ECONOMICS:**

Neoclassical economics is an approach to economics focusing on the determination of goods, outputs, and income distributions in markets through supply and demand. This determination is often mediated through a hypothesized maximization of utility by income-constrained individuals and of profits by firms facing production costs and employing available information and factors of production, in accordance with rational choice theory.

Neoclassical economics dominates microeconomics, and together with Keynesian economics forms the neoclassical synthesis which dominates mainstream economics today. Although neoclassical economics has gained widespread acceptance by contemporary economists, there have been many critiques of neoclassical economics, often incorporated into newer versions of neoclassical theory.. Today it is usually used to refer to mainstream economics, although it has also been used as an umbrella term encompassing a number of other schools of thought, notably excluding institutional economics, various historical schools of economics, and Marxian economics, in addition to various other heterodox approaches to economics.

**The central assumptions of the Neoclassical Theory**:

 **1)** **Rationality:** The first assumption made is that people are rational and prefer more valuable goods and services or leisure to less. Rational economic man has objectives and attempts to maximize them. In neo-classical economics, that tends to get narrowed down to maximizing one thing: • consumers allocate their incomes in order to maximize their satisfaction (or utility) • producers allocate resources in order to maximize their profits producer decisions are taken by managers, not by owners.

 **2) Perfect Knowledge**: More contentious is the second assumption of the neo-classical model, that economic agents act in the light of perfect knowledge. Buyers and sellers know all the prices of all the goods in the market, know everything they need to know about the quality of goods, the character of the other economic agents, what the government is going to do next, and so on.

**3) Diminishing Returns:** The third neo-classical assumption is more properly called a behavioural hypothesis, because it can be tested. Since hardly anyone bothers to test it, it is often called an assumption. The hypothesis is known as the Law of Diminishing Returns. It is essential because it means that on the buyer’s side, the more and more they buy, the smaller and smaller the increment in satisfaction becomes.

**4) Equality of Sales and Purchases:** We must assume that whatever is bought equals whatever is sold. If goods are put into store, we must count them as either being part of what is bought, or exclude them from the market calculation all together. Otherwise equilibrium will never be discovered.

 **5) Unique Equilibrium:** Equilibrium is reached when all economic agents are content with their actions and feel no reason to change them. In the neo-classical model, price changes until sellers are happy to sell what they sell, and buyers are happy to buy what they buy. It is this concept of equilibrium which distinguishes the neo-classical approach.

 **6) Many participants, Freedom of Entry and Exit:** These assumptions ensure that a market is freely competitive. If a few buyers or seller dominate, this means the outcome may be equilibrium, but it may not be the best, or optimal, outcome for the economy as a whole. It is an inefficient equilibrium.

**7) Independence of Demand and Supply:** The last assumption could be relaxed but seldom is. We assume that buyers are quite distinct from sellers, so that the act of buying does not affect selling, and selling does not affect buying, except through the mechanism of the market. The time when it does get relaxed is in the analysis of peasant farms which are partially self-sufficient. In this case the farm is responsible for supplying the household and the market, so the household is both a buyer (from its farm and from the market) and a seller.

* People have rational preferences between outcomes that can be identified and associated with values. New classical economics is based on Walrasian assumptions. All agents are assumed to maximize utility on the basis of rational expectations. At any one time, the economy is assumed to have a unique equilibrium at full employment or potential output achieved through price and wage adjustment.
* From the basic assumptions of neoclassical economics comes a wide range of theories about various areas of economic activity. For example, profit maximization lies behind the neoclassical theory of the firm, while the derivation of demand curves leads to an understanding of consumer goods, and the supply curve allows an analysis of the factors of production. Utility maximization is the source for the neoclassical theory of consumption, the derivation of demand curves for consumer goods, and the derivation of labor supply curves and reservation demand. Market supply and demand are aggregated across firms and individuals. Their interactions determine equilibrium output and price. The market supply and demand for each factor of production is derived analogously to those for market final output to determine equilibrium income and the income distribution. Factor demand incorporates the marginal-productivity relationship of that factor in the output market. Neoclassical economics emphasizes equilibria, where equilibria are the solutions of agent maximization problems. Regularities in economies are explained by methodological individualism, the position that economic phenomena can be explained by aggregating over the behavior of agents.

 **Alfred Marshall (1842 – 1924)**

Marshall appeared on the economic scene at a time when the classical school under heavy criticism for its objective approach of analysis as distinct from the subjective approach of the modern economists. The economics discipline as such was passing through a crisis and was termed as a ‘dismal science’. Marshall presented a synthesis through his writings, a proper blending of the classical doctrines and the marginal utility analysis of the subjectivists.

Marshall was born in London. He was chiefly interested in mathematics and later developed interest in metaphysics and ethics and also in political economy. He began his economic studies at a time when Mill was still alive and when Menger, Jevons and walras were not yet on the scene.It is known that by 1871, the year in which Jevon’s ‘Theory’ and Menger’s ‘Groundatze’ were published. Marshall had already developed a similar approach. Under the influence of Cournot and Bentham and his own mathematical background he translated many of the theorems of Ricardo and Mill in to diagrammatic language. Even though he had worked most of his economic ideas earlier, because of his shyness, he did not make his findings public.

Marshall is claimed to have established the Cambridge school of thought and also the neo-classical school. This school has certain distinct characteristics as compared with the other schools of thought like Austrian and Lausanne. These schools were dealing with certain partial modifications or replacements of the classical tradition as established by Ricardo and restated by Mill. With these modifications these schools claimed to have launched an intellectual revolution in economic thought. Marshall did not claim such revolution and according to him it is an evolution that is taking place and through the re-building of the classical material he is said to have established the neo-classical school.He was instrumental in establishing the British Economic Association (Later Royal economic society), which founded the Economic Journal.

Alfred Marshall Theoretical Contributions considered to be one of the most influential economists of his time, largely shaping mainstream economic thought for the next fifty years, and being one of the founders of the school of neoclassical economics. Although his economics was advertised as extensions and refinements of the work of Adam Smith, David Ricardo, Thomas Robert Malthus and John Stuart Mill, he extended economics away from its classical focus on the market economy and instead popularised it as a study of human behaviour. He downplayed the contributions of certain other economists to his work, such as Léon Walras, Vilfredo Pareto and Jules Dupuit, and only grudgingly acknowledged the influence of Stanley Jevons himself.

**His Utility and Demand**

**On Marginal Utility:** According to Marshall, demand is based on the law of diminishing marginal utility. "The marginal utility of a thing to anyone diminishes with every increase in the amount of it he already has.” Marshall introduced two important conditions for the law to apply. First, the period is just a moment in time, which is too short an interval to consider any changes in character and tastes of a particular person. Second, those consumer goods must be *indivisible.*

**On Measurement of Utility:** Marshall was one of those who used utility analysis, but not as a theory of value. He used it as a part of the theory to explain demand curves and the principle of substitution. Marshall's scissors analysis – which combined demand and supply, that is utility and cost of production, as if in the two blades of a pair of scissors – effectively removed the theory of value from the center of analysis and replaced it with the theory of priceThe utility approach of the Marshallian system dealt with pleasures and pains, desires and aspirations, and incentives to action. How can we measure the utility of such intangibles? Marshall boldly said, "with money." The earlier marginalists said that the strength of a person's preferences determines the amount of money the person is willing to spend to acquire some product or the amount of labor the person is willing to sacrifice to achieve some goal. Marshall, however, turned the relationship around so as to measure preferences according to the financial scale of payments. The earlier marginalists would say that if shoes are twice as useful to you as a hat, you are willing to pay twice as much for shoes—for example, $40 versus $20. Marshall would say that because you are willing to pay twice as much for shoes as far the hat, we can conclude that the shoes yield twice as much utility to you.

**On Law of Demand:** Marshall's law of demand follows directly from his notions of diminishing marginal utility and rational consumer choice. Suppose that a consumer's expenditures are in equilibrium such that the last dollar spent on each of several products yields identical marginal utility'. That is, suppose that *MUx/Px* = *MUy/Py=. . . .= MUn/Pn.* How will this consumer react if the price of product *X* falls while the prices of the other goods remain constant? Marshall reasoned that the rational consumer would buy more of product *X.* Why is this so? The answer is that, following the decline in the price of X, the ratio *MUx/Px* will exceed the *MU/P* ratios for the other goods. To restore a balance of expenditures, the consumer will substitute more of X for less of Y, Z, and the like. As this substitution occurs, the marginal utility of X will fall, and the marginal utility of the other goods will rise. At some point the now-lower mar­ginal utility of *X,* in relation to the lower price of *X,* will yield a ratio equal to the *MUy/Py*, and the *MUZ/PZ*. Thus, equilibrium will be restored. Therefore, in Marshall's words: "the amount demanded increases with a fall in price, and dimin­ishes with a rise in price." This is the now-familiar law of downward sloping demand.

Marshall illustrated the law of demand with both a table and a demand curve. He drew his demand curve by assuming that the period of time is sufficiently short to justify a *ceteris paribus* assumption. We have already observed that he held tastes or preferences constant. Other variables that he held constant were the person's wealth, the purchasing power of money, and the price of substitute commodities. Today such "other things equal" constitute what we call the deter­minants of demand. In the long run these determinants can change, and when they do, the entire demand curve shifts either leftward or rightward. Thus, Marshall had a clear conception of differences between changes in the quantity demanded (measured along the horizontal axis) and changes in demand (shift of the entire curve).

**Consumer's Surplus:** Unlike the Austrians, Marshall asserted that the total utility of a good is the sum of the successive marginal utilities of each added unit. Therefore, the price a person pays for a good never exceeds, and seldom equals, that which he or she would be willing to pay rather than go without the desired object. Only at the margin will price generally match a person's willingness to pay. Thus, the total satisfaction a person gets from purchasing successive units of a good exceeds the sacrifices required to pay for the good. Recall that this excess of utility over expenditure is called consumer surplus. Although Dupuit was the one who first noted this concept Marshall is credited for naming the concept "consumer's surplus" and systematically exploring it.

**Elasticity of Demand:** Marshall was far superior to his predecessors in handling elasticity of demand, analyzing the subject verbally, diagrammatically, and mathematically. The only universal law pertaining to a person's desire for more of a commodity, Marshall said, is that, other things being equal, it diminishes with every increase in his supply of that commodity. It follows, therefore, that the lower the price, the more the consumer will buy. That is why the demand curve slopes downward to the right. Elasticity of demand tells us whether the diminution of desire (marginal utility) is slow or rapid as the quantity increases. It relates the percentage drop in price to the percentage increase in quantity demanded, which, of course, is based on diminishing marginal utility of the good.

Marshall also discussed what we now call the determinants of the elasticity of demand. Elasticity of market demand tends to be great when a good has a high price relative to the size of the buyers' incomes. Marshall said that a lowering of the price results in many more buyers being able to afford the product. On the other hand, when the price of a product is low relative to people's incomes, a similar per­centage change in price will not result in much of an increase in purchases.

**His Theory on Supply**

Supply, said Marshall, is governed by cost of production. Marshall conceived of supply not as a point or single amount but rather as a curve. Supply is a whole series of quantities that would be forthcoming at a whole series of prices. For purposes of exposition, Marshall divided time into three periods: (1) the immediate present, (2) the short run, and (3) the long run.

**Immediate Present:** Market prices refer to the *present,* with no time allowed for adaptation of the quantity supplied to changes in demand. The corresponding market period which may be as short as one day, is defined as that period during which the quantity supplied cannot be increased in response to a suddenly increased demand. Nor can the quantity supplied be decreased immediately in response to a decline of demand, because it takes time for production to be curtailed and inventories reduced.

**Short Run:** To analyze the period that Marshall referred to as the short run, he divided costs into two types, which he called *supplementary costs* and *prime costs.* Supplementary costs are now known as *fixed costs;* prime costs are known as *variable costs.* Fixed costs, or overhead costs, such as top executive salaries and plant depreciation, are constant; they cannot be changed in the short run. In fact, the short run is defined as that period during which tile variable inputs can be increased or decreased, but the fixed plant costs cannot be changed. The short-run supply curve slopes upward and to the right—the higher the prod­uct price, the larger is the quantity' supplied. Modern economics views the short-run supply curve as a marginal cost curve. Therefore, higher market prices enable firms to profitably expand their output.

**Long Run:** In the long run, all costs are variable, and they must all be covered if the firm is to con­tinue in business. If the price rises such that total revenue exceeds total cost of pro­duction, capital will enter the industry, typically through new firms, and market supply will increase. The entire supply curve will shift rightward. If the price falls below the average cost of production, capital will withdraw, probably by die exit of firms. Consequently, the market supply will decline (die supply curve will shift leftward).

**His Theory on Equilibrium Price and Quantity**

**What determines market price?**

The classical economists said, "Cost of production," meaning objective labor-time cost, and the sacrifice of abstinence. "Demand," said the early marginalists. Marshall, the great synthesizer, said, *"Both* supply *and* demand." Behind supply lie both financial and subjective costs. Behind demand lie utility and diminishing marginal utility. In the words of Marshall: *We might as reasonably dispute whether it is the upper or the under blade of a pair of scissors that cuts a piece of paper, as whether value is governed by utility or cost of production. It is true that when one blade is held still, and the cutting is effected by moving the other, we may say with careless brevity that the cutting is done by the second; but the statement is not strictly accurate, and is to be excused only so long as it claims to be merely a popular and not a strictly scientific account of what happens.* Marshall illustrated the idea of equilibrium competitive market price and quantity with both a table and a graph.

**His Theory on Distribution of Income**

The distribution of income in a competitive economy is determined by the pricing of factors of production. Businesspeople, said Marshall, must constantly compare the relative efficiency of every agent of production they employ. They also must con­sider the possibilities of substituting one agent for another. Horsepower replaced handpower, and steampower replaced horsepower. At the margin of indifference between two substitutable factors of production, their prices must be proportionate to the money value they add to the total product. The most striking advantage of economic freedom is manifest when a businessperson experiments at his own risk to find the combination of factor inputs that will yield the lowest costs in producing the output. Entrepreneurs must estimate how much an extra unit of any one factor of production will add to the value of their total product. They will employ each agent up to that margin at which its net product would no longer exceed the price they would have to pay for it. Marshall based this analysis on the diminishing returns that result from the "disproportionate use of any agent of production."

**His Theory on Increasing & Decreasing Cost Industries**

A key analytic device for Marshall was his concept of the "representative firm.,'" which for him was the typical 19th c sole proprietorship. This abstraction served, at least, three major purposes in his analysis. First, in speaking of the normal cost of producing a commodity, he referred to the expenses of a representative pro­ducer who is neither the most efficient nor the least efficient in the industry. Second, this analytic device showed that an industry can be in long-period equilibrium even though some firms are growing and others declining; they simply neutralize each other. Third, even though the representative firm may not be increasing its internal efficiency, it can experience falling costs of production as the industry expands.

**On Internal versus External Economies:** *Internal economies,* said Marshall, are the efficiencies or cost savings introduced by the growth in size of the individual firm. As the firm grows larger, it can enjoy more specialization and mass production, using more and better machines to lower the cost of production. Buying and selling also become more economical as a firm's size increases. Larger firms can secure credit on easier terms, and they can use high-grade managerial ability more effectively.

On the other hand, *external economies come* from outside the firm; they depend on the general development of the industry, As the industry grows, suppliers of materials build plants nearby to serve the expanding industry; these supplies become cheaper both because transport costs are reduced and because they are "lass produced in firms that are growing. Perhaps, in addition, providers of trans­portation services emerge to meet the special needs of the burgeoning industry, thus reducing the cost of delivering products to customers.

Marshall thought that an increased volume of production in an industry will *usually* increase the size and therefore the internal economies possessed by a rep­resentative firm; it will *always* increase the external economies to which the firm has access. Therefore, he said, die cost of production in terms of labor and sacrifice will fall if the volume of output expands.

External economics are available to all firms in an industry. However, if inter­nal economies grow with the size of the tirm, how can competition be maintained? If as a firm becomes larger it becomes more efficient, will this not mean that even­tually there will be only a single firm in the industry (natural monopoly)? Marshall's concept of the representative firm provided the answer. The decline and death of the entrepreneur will lead to the decline and death of the firm. Individual busi­nesses, Marshall thought, will typically not last long enough to realize all the ben­efits of an ever-increasing scale of production. New entrepreneurs will elbow their way into the business arena and renew the process of increasing the size and effi­ciency of their firms.

**On Increasing and Decreasing Returns to Scale:** If all factors of production used in an industry expand, will the cost per unit of output rise or fall? Marshall thought that we generally have increasing returns to scale in industry; as labor and capital expand, organization and efficiency improve. Only when we rely heavily on nature, as in agriculture, do we have decreasing returns. Where the actions of the laws of increasing and decreasing returns to scale are balanced, we have the law of constant returns: Expanded output is obtained through a proportionate expansion of both labor and the sacrifice of waiting.

**Welfare Effects of Taxes and Subsidies:** Marshall's analysis of constant, increasing, and decreasing cost industries led him to the following novel policy conclusions: (1) Either a tax or a subsidy will reduce net consumer utility in a constant cost industry; (2) a tax may add to net consumer

**1.2 The Neoclassical School – Departure from pure Competition (Post – Marhsallian Developments)**

The Post – Marshallian economic thought took a new direction starting from the criticism of the market analysis of Marshall by Philip.H. Wick steed (1844 – 1927) to J.R.Hicks.

Wick steed was not a follower of Marshall but his contemporary and can be included in the category of Mathematical economists. He is one of the economists who developed new dimensions to the marginal productivity theory of distribution.His most important writings are ‘Essay on the Co-ordination of the laws of distribution (1894) and ‘The common sense of political economy’ (1910). His major contribution to economic thought is that of extending the application of marginal principle to every sort of resource allocation. It extents to the fields of consumption, production decisions, use of inputs, saving and investment etc and also to the opportunity cost area also.

He also tried to co-ordinate the laws of distribution. The contemporary theory of distribution proceeded on the basis of determining the rate of payment to each factor and then came to individual shares in national income on the basis of the ownership of factors of production. He maintained that the traditional classification of factors was irrelevant. The demand for factors of production was derived from the demand for the commodities, which they produced. Like Jevons, wicksteed also believed that the marginal principle explain the factor prices through the medium of the values of goods and services and hence through the consumer’s utility.Therefore, the marginal productivity of a factor is not in physical terms but in the marginal revenue productivity.

Regarding the Post- Marshallian developments in the market analysis also developed some new trends. Marshall viewed the economy as an organic whole and in this economy though the industry may retain its over all character individual firms may grow, become old and die. The new firms to begin with may face a number of diseconomies. Because of these reasons most economists criticized his way of equilibrium analysis and representative firm.

**Imperfect and Monopolistic Competitions.**

It was Piero Sraffa who led the criticism of Marshall’s contention that increasing returns and competition could go together. His criticism of Marshall’s representative firm came in the work “The laws of Returns under competitive conditions” published in the Economic Journal (1926). Here he argued that for logical consistency we should either give up competitive market or the increasing returns to get a stable long – term equilibrium. This new idea of Sraffa evoked a new trend of analysis among economists in different parts of the world like F. Harrod, Mrs. Joan Robinson and others in England, Edward Chamberlain and Yntema in United States and J.K. Mehta in India to abandon the perfect competition. The result was the development of two important pieces of work namely (1) The economics of imperfect competition by Mrs. Joan Robinson and (2) The theory of Monopolistic competition by Edward Hastings Chamberlain and both were published in 1933.

**Oligopoly followed** by the development of two new market forms led to the development of new ideas and an oligopoly market developed by Paul. M. Sweezy in USA and Hall and Hitch in England. They came out with the theory of kinky demand curve. There is a Kink in the demand curve for the individual oligopolist’s product. A kink in the demand curve at the current price and the slope of the demand curve above and below the kink are different. The kink indicates the current market price. Above the kink the price has a high elasticity and below low elasticity.

George A. Stigler carries this analysis a step further by developing the theories of Sweezy and hall and Hitch by bringing in the question of Price leadership. His contention is that if the sellers are very few or when they are many, the prices are relatively flexible. But when the sellers are moderate in number (five to ten) price rigidity develops. When the market has a price leader (they may be a group of firms acting together) prices would be more flexible than if there is no price leader. When different firms joins hand to work together it become a monopoly, the kink in the demand curve disappears and the prices will be more flexible.

**Economic Dynamism**

During the post – Marshallian period, we witnessed the working of the dynamic economy and the dynamic tools of analysis. A dynamic economy is one in which unpredictable change takes place and the end situation cannot be worked out with the help of initial conditions.But in the important work of J.R. Hicks ‘Value and Capital’ he shows that a dynamic economy need not necessarily be analyzed with dynamic tools. The analytical tools suited to a static economy (The comparative macro statics) can be fruitfully used here. Though he developed the method of Macro dynamic, he says that even in a dynamic economy the economy’s course can be divided in to strips of small duration like days or weeks and there may not be any violent changes, hence the initial condition and the end of the interval can be worked out.

Roy.F. Harrowd explains that the concept of a static economy itself is meaningless. There are certain forces, which are bound to make a modern economy dynamic. When the changes in the economy became un predictable it becomes dynamic. E.g., savings would imply a cumulative supply of capital and it makes the economy dynamic, similarly growth in population, change in age composition, change in the supply of natural resources, all elements of uncertainty makes an economy dynamic.

**Piero Sraffa (1898-1983)**

 Two conditions can break up the purity of markets (pure competition or natural monopoly): A single producer can affect market price by varying the quantity of goods it offers for sale .Each producer may engage in production under circumstances of individual decreasing costs .Edward Hastings Chamberlin (1899-1967) explains Theory of monopolistic competition , Product differentiation ,Pure competition results in a larger output, more efficient production and lower selling prices than occur under monopolistic competition. But this conclusion requires two qualifications.Chamberlin’s conclusions are built on the unrealistic assumption that cost curves are the same in each situation. Economies of scale are assumed to be achieved by all the firms Monopolistic competition provides positive benefits associated with product variety. Joan Robinson (1903-1983) Monopsony: a situation in which there is either a single buyer in a market or a group of buyers acting as one Product-market monopsony. Pure competition: buyer’s P=MU , Monopsony: buyer’s MC=MU Resource-market monopsony . Monopsonist will employ X workers, where MRP = MWC (Marginal revenue product = marginal wage cost) .

**1.3 Wick sell and the Stockholm school**

The analytical approach in economics was that of a dichotomy between the physical and monetary aspects of the economy and the link between these two was established through absolute prices. Relative prices of goods and services are claimed to be determined by the demand on the one side and cost of production on the other. The monetary aspects of the economy could not affect the basic functioning of the physical side of the economy. It was Knut wicksell who started a new line of exploration to find the relationship between the two dimensions of the economy on a realistic approach.

The Stockholm or the Swedish school was founded by wicksell, Lindhal, B.ohlin and Gunnar Myrdal. Wick sell influenced economists of the Scandinavian countries like Frisch in Norway, Zeuthen in Denmark and influenced the thought of Hayek, Keynes and Hicks in England.

**John Gustaf Knut Wicksell (1851 – 1926)**

Wicksell had a good understanding of classical and neo-classical thought. He made a thorough study of the economic theories of Mill, Menger and Bawerk. He also attempted to present a synthesis of the marginal productivity analysis of the Austrian school and the equilibrium theory of the Luanne school.

**Capital and Interest. -**Wicksell made an important contribution by borrowing the time element from Bom – Bawerk. According to him capital is stored up productive power or stored up labor and land. It is separated from the current labor and land through time element. Here wicksell brings in the ‘period concept’. The current years land and labor co-operate with stored up land and labor of the previous year for the purpose of production. For the sake of continuity in production out of the current years land and labor a part must be saved for the next year’s capital. Now there is a difference between the marginal productivity of the current year’s land and labor and stored up land and labor. This difference in productivity is measured by using time element operates through relative marginal productivities due to the variation in the supplies of capital or productive power. If the supply of stored up land and labor equals with current land and labor, interest would vanish and if there is a difference between these two brings in interest.

**Interest and Prices.**

The analysis of interest and price brings wicksell’s famous distinction between ‘natural’ rate of interest and ‘money’ rate of interest. The natural or normal rate of interest according to him is the rate at which the demand for loanable capital and supply of savings are equal. The natural rate of interest in wicksell’s analysis is equal to the marginal efficiency of capital in Keynes analysis. It is a measure of expected yield from new investment.

This in turn corresponds to equality between saving and investment. Saving means leakage from spending stream and investment means an addition to it. Therefore, an equality of saving and investment means stable prices and incomes. But in practice, natural rate may not bring equality between demands for loanable funds and supply of saving, but between supply and demand of loanable funds. Equality in terms of loanable funds need not bring price stability for the fact that bank credit is a part of the supply of the loanable funds. Hence there may be an excess of investment over savings.

Wicksell uses his natural and money rates of interest for explaining the movement in price in the economy. The money or market rate of interest according to him as the average of the rates at which banks are advancing loans to the potential investors. If these two rates are not equal disequilibria starts and will reflect in the variation of savings and investment and ultimately to the price level.

**Savings and Investment.**

Wicksell does not agree with the walrasian general equilibrium analysis that with a fall in price the purchasing power and hence the effective demand increases. He believes that since the expenditure of one is the income of another, the aggregate purchasing power would always remain the same. During normal conditions aggregate income is equal to aggregate spending. I.e., the income not spent on consumption is spent on capital and the price level remains constant. When conditions are not normal savings would not be equal to investment. Since the decision to invest is taken by different people, investment does not only depend on voluntary savings and in such a situation amount of savings exceed investment and income would be reduced, consumption would decline and prices would fall. If investment is more than savings, prices would rise. This type of situations would be controlled by manipulating the bank rate so that the market rate of interest should be above or below the natural rate to keep the prices rise or fall depending on the situation, finally leading to a rise or fall in the market rate. This is known as the ‘Cumulative process’ of wick sell.

Unlike the classical assumption that all savings are necessarily invested, wick sell found that these two are done by different categories of people and on the basis of different forces. The factors like hoarding, dissaving and variations in bank credit causes difference between saving and investment were brought to light by wick sell. He was a pioneer in exploring the use of these instruments for investigation in financial markets. Modern economists recognized the importance of the elements used by wick sell though he missed some areas in monetary field like ‘liquidity trap’ and its influence up on practical monetary policy.

**1.4 Criticisms of Neoclassical economics:**

Neoclassical economics is sometimes criticized for having a normative bias. In this view, it does not focus on explaining actual economies, but instead on describing a theoretical world in which Pareto optimality applies. Perhaps the strongest criticism lies in its disregard for the physical limits of the Earth and its ecosphere which are the physical container of all human economies. This disregard becomes hot denial by Neoclassical economists when limits are asserted, since to accept such limits creates fundamental contradictions with the foundational presumptions that growth in scale of the human economy forever is both possible and desirable. The disregard/denial of limits includes both resources and 'waste sinks,' the capacity to absorb human waste products and man-made toxins.

* The assumption that individuals act rationally may be viewed as ignoring important aspects of human behavior. Many see the "economic man" as being quite different from real people.
* Problems exist with making the neoclassical general equilibrium theory compatible with an economy that develops over time and includes capital goods. This was explored in a major debate in the 1960s—the "Cambridge capital controversy"—about the validity of neoclassical economics, with an emphasis on economic growth, capital, aggregate theory, and the marginal productivity theory of distribution.
* There were also internal attempts by neoclassical economists to extend the Arrow-Debreu model to disequilibrium investigations of stability and uniqueness. However a result known as the Sonnenschein– Mantel–Debreu theorem suggests that the assumptions that must be made to ensure that equilibrium is stable and unique are quite restrictive.
* Neoclassical economics is also often seen as relying too heavily on complex mathematical models, such as those used in general equilibrium theory, without enough regard to whether these actually describe the real economy. Many see an attempt to model a system as complex as a modern economy by a mathematical model as unrealistic and doomed to failure. A famous answer to this criticism is Milton Friedman's claim that theories should be judged by their ability to predict events rather than by the realism of their assumptions. Mathematical models also include those in game theory, linear programming, and econometrics.
* Some see mathematical models used in contemporary research in mainstream economics as having transcended neoclassical economics, while others disagree. Critics of neoclassical economics are divided into those who think that highly mathematical method is inherently wrong and those who think that mathematical method is potentially good even if contemporary methods have problems.

In general, allegedly overly unrealistic assumptions are one of the most common criticisms towards neoclassical economics. It is fair to say that many (but not all) of these criticisms can only be directed towards a subset of the neoclassical models (for example, there are many neoclassical models where unregulated markets fail to achieve Pareto-optimality and there has recently been an increased interest in modeling non-rational decision making). Its disregard for social reality and its alleged role in aiding the elites to widen the wealth gap and social inequality is also frequently criticized.