

College of Business and economics

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HISTORY OF ECONOMIC THOUGHT II

Chapter One Neoclassical Economics

1. Introduction

The microeconomic thought of the marginalists school gradually transformed into what called neoclassical economics. Because "neo" means "new," neoclassicism implies a new form of classicism. The neoclassical economists were "marginalists" in the crucial sense that they emphasized decision making and price determination at the margin. Nevertheless, at least three differences between the earlier marginalists and later neoclassical economists can be discerned. First, neoclassical thought stressed both demand and supply in determining the market prices of goods, services, and resources, whereas the earlier marginalists tended to stress demand alone. Second, several of the neoclassical economists took a far greater interest in the role of money in the economy than did the earlier marginalists. Finally, neoclassical economists extended marginal analysis to market structures other than pure competition, pure monopoly, and duopoly. In this chapter, you will learn the main points of the neoclassical school via the works of the greatest figure in the neoclassical school, Alfred Marshall.

Chapter objective

After studying this chapter, you will be able to

- Explain the essence of Neoclassicism
- Distinguish between the figures of Neoclassical school
- Understand the main contribution of Alfred Marshal to Economic Thought
- Appreciate the departure from pure competition neoclassical economics
- Understand theory of money under the neoclassical economics

1.1 Representatives of Neoclassicism

There are a mass of scholars who contribute to the birth and growth of neoclassical school. The list includes Alfred Marshall, Henry Sidgwick, John. G. h. Wicksell, Irving Fisher, Ralph G. Hawtrey, Piero Sraffa, Edward H. Chamberlin and John Robinson. But the most pressing contribution toward the development of neoclassicism was made by Alfred Marshall and John G. K. Wicksell. Marshall founded what in some literature said the Cambridge School and Wicksell

found what is sometimes called the Stockholm School. Both schools, of course, belong to the Neoclassical School.

1.2. Alfred Marshall (1842-1924)

Marshall was the son of a cashier in the Bank of England. His father was a rather tyrannical gentleman, author of a tract called Man's Rights and Woman's Duties. He overworked Alfred at his studies, made him promise never to play chess because it was a waste of time, and tried to banish mathematics from the boy's life because it was irrelevant to the ministry, which the father had picked for his son's career. Young Marshall, however, rejected a scholarship at Oxford that would have led to the church, rejected the ministry, and rejected the study of "dead languages." Instead, he attended Cambridge, where he devoted himself to mathematics, physics, and later on, to economics. He was aided by a well-to-do-uncle, his father simply being too poor to pay for his tuition when he gave up the Oxford scholarship.

Economics in Marshall's sense

Marshall appeared at a time when the classical school was under heavy- fire and when economics was passing through a crisis and was dubbed as a 'dismal science'. His Principles was an important landmark in the development of economic thought. He presented a synthesis of the classical doctrines and the marginal utility analysis of subjectivists, hence producing "neoclassical" economics. His aim was to reconstruct economic science in the light of the new developments and in the context of the changed conditions. The subjectivists and the marginalists also sought to reconstruct the science, but like them, Marshall did not demolish the existing structure of economics, but chiseled it out, modified it, supplemented it and made it up-to-date.

Marshall popularized the modern diagrammatic approach to economics-the bane of beginning students-that helped elucidate certain fundamental principles. Although he was an expert mathematician who liberally placed mathematics in footnotes and appendixes, he was skeptical of the overall value of mathematics in economic analysis.

Marshall defined his subject as follows: "Political Economy or 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." Economists, he said, like other scientists, collect, arrange, interpret, and draw inferences from facts. They seek knowledge of the interdependence of economic phenomena, of cause-and-effect relationships. Every cause tends to produce a definite result if nothing occurs to hinder it. Economics is not a body of concrete truth, but rather an engine for the discovery of concrete truth.

Utility and Demand

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.

Measurement of Utility: The 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.

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. In addition to 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).

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.

Supply and Cost Theory

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. He the difference between immediate present, short run and long run is explained as follows;

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).

Equilibrium Price and Quantity

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.

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 hand power, and steam power 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."

Increasing and 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.

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 firm, 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.

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.

1.3 The Neoclassical School – Departure from pure Competition

Although imperfect competition theories were not fully developed until the early 1930s, they have far deeper roots. The interest in imperfect competition arose because of the gap in economic theory between the pure models of competition and monopoly and because the theory of pure competition was becoming increasingly weak. Pure competition applied most fully to agriculture, but even there the theory was becoming less suitable to modern conditions than it had in earlier times.

According to many economists, the neoclassical theory of pure competition had even less direct applicability to modern industrial production and trade than to agriculture. The theory presupposes that many buyers and sellers all dealing with a perfectly homogeneous product so that no individual has perceptible influence in the market. Buyers are therefore completely indifferent as to which seller they patronize. In such a world every seller can dispose of any quantity of goods at the market price, and no advertising, no brand names, and no salesmanship are required. Today most economists would agree that the pure competition model provides important insights into the nature and outcomes of competition but does not accurately describe most national and international markets.

The methodology of the theories of imperfect competition discussed in this chapter shows all the characteristics of the neoclassical school. The methodology deals with marginalism and the microeconomic approach in an abstract, deductive, and subjective manner, and its economics assumes a rational, static, and momentarily unchanging world that tends toward equilibrium.

By showing how monopolies can raise prices above the competitive equilibrium level to yield economic profits over the long run, the theories concerning departure from pure competition were influential in creating a greater willingness among economists to accept more vigorous government antitrust policies and government regulation of the profits of utility monopolies. The theories thus provided the rationale for government objectives that had been enacted almost half a century earlier. The hope persisted that vigorous government action to encourage competition would reverse the trend toward big business that dated back to the 1870s in the United States and even earlier in England. The following section discusses the three most important figures of this theories; Chamberlin, Robinson and Piero Sraffa .

Piero Sraffa (1898-1983)

Marshall's concern with decreasing cost, shared by so many students of welfare economics, set in motion still another train of thought, which in time brought to fruition theories of imperfect or monopolistic competition. The developments of these theories may be traced to Cambridge in the 1920s, where Piero Sraffa, and Joan Robinson were students.

Piero Sraffa, the son of a professor of commercial law was born in Turin, Italy. The young Sraffa was educated at the University of Turin, where his honours thesis Monetary Inflation in Italy during and after the war gained approval of his tutor. From 1921-22 Sraffa studied at London School of Economics, but returned to Italy to hold posts at Perugia and Cagliari. He was appointed professor of Political economy at this latter institution in 1926. His literary reputation rests on a number of important articles and two longer works: the works and correspondence of David Ricardo (1951-1973) and Production of Commodities by Means of Commodities Prelude to a critique of economic theory (1960). The later work made him a leading member of the Post-Keynesian school of economics, which are a critic of neoclassicism.

The essence of The Laws of Return Competitive Condition was a request for an analysis of the firm in terms of monopoly rather than competition. With decreasing costs widespread, the obstacle to an increase in the sales of a firm was not the threat of rising costs but the unwillingness of the market to absorb larger quantities without either price reduction or increased marketing expenses. Straffa considered this situation common enough to require adequate analytical model, and he adopted Marshall's suggestion of particular demand curves of

special markets. Such particular demand curve would slope downward like the demand curve facing a monopolist. It could be so drawn because buyers would not be indifferent in their choice between the products of particular firms but would, within limits, prefer one over the others. The causes of such preference were manifold and included trademarks, names, and such special features of modeling or design on the product distinguishing it from the products of other firms. A buyer's demanded price for a product so distinguished reflected not only the valuation that he placed on this product but also the prices at which similar products could be purchased from other firms.

Production of Commodities by Means of Commodities: Prelude to a critique of economic theory is concerned with the properties of an economic system, which do not depend on the scale of production or the proportion of factors. Commodities are produced by labour and by other commodities. Demand plays no role in the determination of relative prices; prices depend only on technology and on the distribution of incomes between wages and profits. Because there is one more unknown that there are equations in Sraffa's model, it is possible to take either wages or profits as given, and then to determine the relative prices and the remaining distributive share. This differs from the neo-classical general equilibrium formulation, in which all relative commodity and factor prices are determined at the same time. Sraffa's theory appeals to people who believe that power determines people's incomes, rather than economic variables such as productivity and derived demand.

Joan Robinson (1900-1983)

The work of Joan Violet Robinson, who was connected with the University of Cambridge as a student and a teacher, stemmed from that of Sraffa and was linked with the economists' concern about decreasing costs.

Mrs. Robinson, without doubt the most prominent woman economist, burst on the scene as a mainstream economist with her impressive of Economics of imperfect competition published in 1933 In this work she exhibited great skill as a microeconomic theorist in using marginal analysis to clarify and extend Marshall's hints concerning markets situated somewhere between pure competition and pure monopoly. Thus for several years, before the publication of Keynes' General Theory, there was considerable interest in a Chamberlain-Robinson analysis of

imperfectly competitive markets. As an important member of small group of economists from Cambridge and Oxford who helped Keynes develop the ideas that became the General Theory, she gained further prestige. In 1937 she published Introduction to Theory of Employment, an outstanding introduction to Keynes ideas. However, Robinson's intellectual and political life manifested a movement away from orthodoxy. Her Essay on Marxian Economics remains an excellent short analysis of Marx. In the 1950s she offered a new analysis of capital theory and rejected much mainstream neoclassical capital and marginal productivity theory. Moving further from orthodoxy, she authored an introductory economics text intended to convey her ideas to a broader audience, but it was not commercially successful. Indeed her drift from neoclassical and Keynesian theory had brought her into the muddy waters of heterodoxy and possibly costed her due recognition in terms of the Nobel Prize.

Edward H. Chamberlin (1889-1967)

E. H. Chamberlin was born in Washington USA. He taught economics at Harvard University from 1937 to 1967, and made significant contributions to microeconomics, particularly on competition theory and consumer choice, and their connection to prices. One of the most influential economists of his time, he coined the word product differentiation, to describe how a supplier may be able to charge a greater amount for a product than perfect competition would allow. His works include, Theory of monopolistic competition (1933) and toward a more value of Value (1957).

Although Chamberlin insists Theory of monopolistic competition is the blending or fusion of the hitherto separate theories of monopoly and competition, while Mrs Robsan left the dichotomy as sharper as ever, almost all students of the matter have agreed with each other that in describing the structure and mechanism of equilibrium in firms and groups of firms when oligopoly and selling expenditure are absent, the two books present identical theories. Thus, although both works are similar; his work was more far reaching, because it attempted a thorough reconstruction of the theory of value. Chamberlin's two key concepts for blending were product differentiation and the number of sellers. Each firm has some unique features, which make its product different from those other firms, location, selling costs, the personality of the manager, etc. thus each firm has some monopoly power. And the number of firms competing against each other obviously makes a difference in the price and output of the firms.

Chamberlin's career was devoted to an attempt to formulate theory out of these concepts. After many attempts, he decided that it was not possible to cover all price theory, including competition, in terms of ordinary monopoly. Thus, in his final attempt, he emphasized oligopoly, claiming that oligopolistic elements are very general in the economic system, that economic study must increasingly be concerned with them, and that the basis for general theory to replace that of pure competition is one in which oligopoly emerges with great force.

1.4 The Monetary Economics

Of course, there is no separate school of monetary economics as such, although some contemporary economists are called "monetarists" and some economic schools emphasize monetary phenomena more than others. Even though certain aspects of the theories presented by Wicksell, Fisher, and Hawtrey are more closely associated with macroeconomics than microeconomics, these economists are within the overall Marshallian neoclassical tradition.

Collectively, Wicksell, Fisher, and Hawtrey made a twofold contribution to economics. First, they explored an area that had been neglected but was growing in importance and therefore required emphasis. Second, they helped integrate monetary analysis into general economic theory. It is important to note, however, that they may have exaggerated the role of money; it is easy to overcompensate for past shortcomings by allowing the pendulum to swing too far in the opposite direction.

Monetary economists of the neoclassical school differed noticeably from the non-monetarists in the same school because the monetary theorists had to deal with aggregative analysis. The non-monetary branch looked at the individual person's or firm's real sacrifices, income, consumption, saving, and investment. It remained for later economists to synthesize monetary and non-monetary economics, although credit is due Wicksell as an important forerunner of these later economists. In the following sections the contributions of John G. K. Wicksell and Irving Fisher will be discussed for their idea has major impact of modern economic idea.

Knut Wicksell

Swedish Knut Wicksell was born in 1851. However his career as an economist followed a stage of lively activity as a neo-Malthusian polemist, freelance lecturer and journalist. His fame among

his contemporaries derived from his radical opposition to the prevailing moral beliefs on family, religion, motherland and state authority. His provocative attitudes hindered his academic career, aroused widespread hostility and even landed him in prison, at the ripe age of fifty, on charges of offence against the state religion.

His interest in economic issues concentrated for a long time on the population problem. His studies in economic theory were at first collateral to this interest and were seriously tackled only when, in 1887, the thirty-six-year-old Wicksell gained a scholarship abroad. He was thus able to study in London, Strasbourg and Vienna. In 1890 he also began an academic career, but only in 1905 did he become full professor. He died in Stockholm in 1926.

His main works in economic theory were Value, Capital and Rent (1893), Interest and Prices (1898), Marginal Productivity as the Basis for Distribution in Economics (1900) and the two volumes of Lectures on Political Economy (1901–6). In the 1893 essay Wicksell developed a marginalist theory of income distribution between capital, labour and land based on their respective marginal productivities, which came out a few years before Wicksteed's. In this work, and in the first volume of the Lectures, Wicksell utilized Böhm-Bawerk's theory of the average period of production; however, he eventually set out to develop it in such a way as to take into account the heterogeneity of the means of production. Thus, in essence, Wicksell wavered between an aggregate notion of capital and a disaggregated notion, which he adopted when identifying capital with the entire temporal structure of the direct and indirect labour flows necessary to obtain a given product.

Wicksell also developed a distinction between the money interest rate and the natural interest rate. The latter was determined by the real variables that concur to determine equilibrium for the economic system; more precisely, it corresponded to the marginal productivity of capital, as indicated by the marginalist theory of income distribution. The money rate of interest, on the other hand, was determined on the money markets, with some degree of autonomy with respect to the natural rate. The relationship between money and natural rate of interest was then utilized to explain the cyclical oscillations of the economy and the inflationary or deflationary pressures on the general level of prices. Whenever the money rate of interest is lower than the natural one, entrepreneurs find it advantageous to take out loans and invest, thus giving rise to inflationary

pressure; conversely, whenever the money rate of interest is higher than the natural rate, investments are discouraged and deflationary pressure is generated.

This theory takes its place in a current of monetary explanations of the cycle and inflation that tried to have it both ways, on the one hand safeguarding the marginalist theory of value and distribution, in terms of which to determine the equilibrium values for prices and distributive variables, and on the other hand recognizing a fact obvious to any empirical economist, namely the existence of disequilibria and of a certain influence monetary vicissitudes have on real variables.

As from the late 1920s, the "Swedish school" (Erik Lindahl, 1891–1960; Gunnar Myrdal, 1898– 1987, Nobel prize in 1974; Bertil Ohlin, 1899–1979) developed various aspects of Wicksell's theory and in contrast with Keynes's analysis re-proposed the tool of sequential analysis (already present in the Austrian tradition and later re-embraced by Hicks).

Irving Fisher (1867–1947)

Irving Fisher spent his entire academic career, both as a student and professor at Yale University. He was wealthy because his invention of a visible card-index filing system. His research was in orthodox economic theory and statistical investigation rather than in institutionalism. He was a crusader for all kinds of reforms: for world peace, for health through diets, no cigarette smoking, and for the compensated dollar (the weight behind each dollar would vary so as to keep the purchasing power of the dollar constant. If prices rose, more grains of gold would be added to the definition of the dollar).

Fisher was a man of diverse interests, and has been considered the greatest economist of America. His PhD dissertation was Mathematical Investigations in the Theory of Value and Prices .It was a study of general equilibrium involving utility theory, independent cardinal utilities, and ordinal indifference curve analysis.

He used mathematics extensively in economics and independently he had presented a rudimentary exposition of general equilibrium. He has also contributed to the study of utility. It is to be remembered that Jevons had assumed that the utility derived by an individual from a good depended only upon that good, and that Edgeworth had extended it to include other goods

also which were in possession of the consumer. Fisher extended it further by which utility of a good to an individual was also a function of the quantities of the goods consumed by all the other individuals in the market.

In his day he was better known for his work on money and index numbers. His 1911 book "**The Purchasing Power Of Money**" contains his version of the quantity theory of money: MV=PQ, where M is money, V is velocity (the number of times money turns over in a year), P is the average price, and Q the total quantity of goods purchased. Much of the book is made up of a study of the short-run effects of changing the supply of money. The long- run effect is simple: Double M and in the long-run P is doubled. But in Fisher's hands the quantity theory is not mechanical but involves an analysis of the whole macroeconomic process. In working on this theory, Fisher got deeply involved in index numbers, as the statistical verification of the quantity theory required both price and quantity indices. Fisher attempted to develop what he regarded as an ideal index number, but no index could meet all of his criteria.

Fisher's central contribution was his theory of interest. Originally published in 1907 as "The Rate of Interest":, the book was revised in 1930 as theory of interest with the subtitle as "Determined by the Impatience to Spend Income And Opportunity to Invest it". This theory is a general equilibrium supply and demand model. The productivity of capital goods is shown by the opportunities for investment curve that lies between the x-axis (this year's income) and y-axis (Next year's income). By sacrificing some this year's income and investing it rather, than consuming it, some return will result. At point where a budget line [whose slope is -(1+r), where r is the rate of interest] touches the curve tangentially, the consumer will arrange his investments. This combination where this year's and next year's income meet is the highest budget line that the consumer can obtain.

The second factor in determining interest rates is the consumer's preference between incomes today and tomorrow. This preference is shown by a set of indifference curves. The one tangent to the budget line at point F shows that in equilibrium this consumer will lend some of his today's income to someone in return for a payment, which adds to next year's income. In the market this is a supply of loans. For equilibrium to exist in the market, another consumer would have to wish to borrow that much. Otherwise the rate of interest would change.

Chapter Two Heterodox Economic Thought

Introduction

Neoclassical economics did not come into being without controversy. As it was emerging, the German historical school challenged its methodological foundations, and throughout the late 1880s, there was a vigorous debate between the Austrians, particularly Menger, and some members of the German historical school over the proper method for economics. Neoclassical economics swept through England and France, but not Germany. In the United States, too, it was met with resistance. Around the turn of the century, many of American graduate students in economics to study for their Ph.D in Germany returned home with a full knowledge and sympathetic view of the position of the German historical school. Added to this "imported" criticism of neoclassical theory were some distinctly American elements that had roots in the populist and progressive movements of the Midwest.

In fact, the Heterodox School includes diverse school of thought within itself. These include; Historical School and institutional school, and Post-Keynesian (which will be discussed in chapter 5). This chapter discusses an overview of these schools of thought, with important figures who critically dissected thinking and theoretical approach on which the school was established.

Chapter objective

After completing this chapter, you will be able to;

- Understand the essence of historical school
- Know what institutionalism means
- Grasp the main points of institutionalism
- Identify the figures of the institutional school

2.1 Early Critics of Neoclassical Economics

This section provides the early critics of Neoclassical Economics mainly under two school of thought, Historical school and older Institutional school.

2.1.1 The Historical School

As the matter of approaches to react against neoclassicisms the historical school mainly classified, in some literatures, as the Older Historical School and Younger Historical School.

The Older Historical School

The important writers of the older historical school are Friedrich List (1789- 1846), Wilhelm Roscher (1817-1894), Bruno Hildebrand (1812-1878), and Karl Knies (1821-1898). They contended that classical economic theory did not apply to all times and cultures and that the conclusions of Smith, Ricardo, and J. S. Mill, though valid for an industrializing economy such as England's, did not apply to agricultural Germany. There was a great deal of nationalistic feeling in the economic analysis of these writers. Furthermore, they asserted that classical theory, particularly in the hands of Ricardo and his followers, was mistaken in attempting to ape the methodology of the physical sciences. Some of the more moderate members of the school acknowledged that theoretical-deductive methods and historical- inductive methods were compatible; but others, particularly Knies, objected to any use of abstract theory.

List expressed particularly strong nationalist views and refused to admit that the conclusions of classical theory regarding laissez faire were applicable to countries less developed than England. While classical theory held that national well-being would result from the pursuit of individual self-interest in an environment of laissez faire, List argued that state guidance was necessary, particularly for Germany and the United States. He contended that whereas free trade would be beneficial to England, given the advanced state of its industry, tariffs and protection were necessary for Germany and the United States.

What was the historical method advocated by these writers? Their works reflect a belief that the chief task of economics is to discover the laws governing the stages of economic growth and development. For example, List stated that economies in the temperate zone will go through five stages: nomadic life; pastoral life; agriculture; agriculture and manufacturing; and manufacturing, agriculture, and commerce. Hildebrand asserted that the key to understanding the stages of economic growth was to be found in the conditions of exchange; thus, he posited three economic stages based on barter, money, and credit. These descriptions of growth by stages

obviously contain a certain amount of theory, and they are highly abstract. However, the writers did collect large quantities of historical and statistical information to support their analyses of economic development. In more recent times, W W Rostow (1916-) has advanced a theory of economic development by a stage that is in the tradition of the older historical school.

The Younger Historical School

The second generation of the German historical school had one outstanding leader, Gustav von Schmoller (1838-1917). Like the members of the older historical school, the writers of the younger historical school attacked classical economic theory, particularly the view that it was applicable to all times and places. Generally much less ambitious than the older school in their application of the historical method, they were content to write monographs on various aspects of the economy and society rather than to formulate grand theories of the stages of economic development. In this endeavor, they preferred to use inductive methods and seemed to think that, after enough empirical evidence had been gathered, theories might emerge. They also were very interested in social reform through state action.

The application of marginal analysis and the construction of abstract deductive models by Menger, Jevons, and Walras in the early 1870s had little or no influence in Germany. Although Menger, an Austrian, wrote his Principles in German, it was not studied in the German universities because they subscribed exclusively to the historical method. In his earlier writings, Schmoller was willing to admit that both methodologies had a place in economic investigation, though he did not recommend the construction of abstract theoretical models. In 1883, Menger published a book on methodology, Inquiries into the Method of the Social Sciences and Particularly Political Economy, which began a long, dreary, and ultimately fruitless controversy that persisted into the twentieth century. This controversy over method was one of the most intense methodological controversies ever to occur in the development of economic theory; it was equaled only by the later controversy in the United States between the institutionalists and the orthodox theorists. Menger's book included a general survey of the methodological issues in economics and the social sciences, but he also launched a polemic against the errors of the historical approach. Schmoller responded to the bait, and the battle commenced. Menger published a refutation of Schmoller's response, and others joined in the fray. Both sides squared off and argued for the virtually exclusive use of their own methodological approach. As

Schumpeter has pointed out, both used honorific terms to describe their own methodology while referring to the competing methodology as speculative, futile, and subordinate.

From one point of view, the controversy could be regarded as a mere dead end of economic literature and a detriment to the development of economics as a discipline, because capable minds occupied their time in pointless argument. On the other hand, it may be that the controversy helped economists to recognize that theory and history, deduction and induction, abstract model building and statistical data gathering are not mutually exclusive within their discipline.

Although individual economists may be inclined to devote the majority of their efforts exclusively to one of these methods, a healthy, developing discipline requires a variety of methodological approaches. Because neither methodology can be accepted to the complete exclusion of the other, the real issue is the priority to be given to each one.

There is another lesson to be learned from the controversy. If practitioners of a particular methodological approach become so convinced of its correctness that they will not permit other points of view to be represented at the universities where research and the training of graduate students occur, the development of economics will suffer. This happened in Germany, where the self-righteous and rigid intellectual leadership of Schmoller was so influential that abstract theoreticians who pursued the lines laid down by Menger, Jevons, Walras, and Marshall were unable to find academic employment. As a result, the mainstream of economic thinking passed by German economists, and economics as an intellectual discipline suffered in Germany for several decades.

2.1.2 The Older Institutionalist School

The institutionalist school, an American contribution to economic thought, began around 1900 and continues to the present. The leading economists of traditional institutionalist school are Thorstein Veblen, Wesley Mitchell and John Commons. Under of this topic, after discussing the overview of Older Institutionalist School, the main economic idea of Thorstein Veblen who critically dissected orthodox thinking and provided the theoretical approach of institutionalist economics, will be discussed.

Major Tenets of the Institutionalist School

Holistic, broad perspective: The economy must be examined as a whole, rather than examined as small parts or separate entities isolated from the whole. A complex organism cannot be understood if each segment is treated as if it were unrelated to the larger entity. Economic activity is not merely the sum of the activities of persons motivated individually and mechanically by the desire for maximum monetary gain. In economic activity, there are also patterns of collective action that are greater than the sum of the parts. A union, for example, develops a character, an ideology, and a method of operation of its own. Its features cannot be deduced from the study of the individual members who belong to it.

Even the concept of economic activity is too narrow in the institutionalists' view. Economics, they assert, is intertwined with politics, sociology, law, custom, ideology, tradition, and other areas of human belief and experience. Institutional economics deals with social processes, social relationships, and society in all its facets.

Focus on institutions: This school emphasized the role of institutions in economic life. An institution is not merely an organization or establishment for the promotion of a particular objective, like a school, a prison, a union, or a federal reserve bank. It is also an organized pattern of group behavior, well- established and accepted as a fundamental part of the culture. It includes customs, social habits, laws, modes of thinking, and ways of living. Slavery and a belief in slavery were institutions. Other examples are the beliefs in laissez-faire, or unionism, or a government social security system. So was communist ideology in the Soviet Union and anticommunism in the United States. Economic life, said the institutionalists, is regulated by economic institutions, not by economic analysis than is the individualism emphasized in marginalist theory. The institutionalists were especially interested in analyzing and reforming the institutions of credit, monopoly, absentee ownership, labor-management relations, social security, and the distribution of income. They advocated economic planning and the mitigation of the swings of the business cycle.

Darwinian, evolutionary approach: The evolutionary approach should be used in economic analysis, because society and its institutions are constantly changing. The institutionalists

disagreed with the static viewpoint that sought to discover eternal economic truths without regard for differences of time and place, without concern for changes that were occurring constantly. Instead of asking "What is?" the institutionalists asked "How did we get here, and where are we going?" The evolution and functioning of economic institutions should be the central theme in economics. This approach requires knowledge not only of economics but also of history, cultural anthropology, political science, sociology, philosophy, and psychology.

Rejection of the idea of normal equilibrium: Rather than the idea of equilibrium, institutionalists emphasized the principle of circular causation, or cumulative changes that may be either salutary or harmful in seeking economic and social goals. Maladjustments in economic life are not departures from normal equilibrium but rather are themselves normal. Before World War II, the out- standing maladjustment was the business slump. Then the problems of economic development became the center of attention. In the late 1970s, the problem became stagflation, the simultaneous occurrence of inflation and unemployment, whereas in the mid-1980s, problems of trade deficits and federal budget deficits arose. The institutionalists are convinced that collective controls through government are necessary to continually correct and overcome deficiencies and maladjustments in economic life.

Clashes of interest: Instead of the harmony of interests that most of their contemporaries and predecessors deduced from their theories, the institutionalists recognized serious differences of interests. People, said the institutionalists, are cooperative, collective creatures. They organize themselves into groups for the members' mutual self-interest, which becomes the common interest of the group. There are, however, clashes of interests between groups, such as big business against small business, consumers against producers, farmers against urban dwellers, employers against workers, importers against domestic producers, and the makers of goods against the lenders of money. Here, again, a representative and impartial government must reconcile or override clashing interests for the common good and for the efficient working of the economic system.

Liberal, democratic reform: The institutionalists espoused reforms in order to bring about the more equitable distribution of wealth and income. They denied that market prices are adequate indices of individual and social welfare and that unregulated markets lead to the efficient

allocation of resources and a just distribution of income. The institutionalists invariably condemned laissez-faire and favored a larger role for government in economic and social affairs.

Thorstein Bunde Veblen (1857-1929)

Biography

Thorstein Bunde Veblen, the son of Norwegian immigrants was born on a frontier farm in Wisconsin and raised in rural Minnesota. He completed his undergraduate college education at Carleton College, Minnesota, where he was a student of J. B. Clark. His graduate work was done at Johns Hopkins, where he failed to obtain a scholarship, and at Yale, where he received a doctorate in philosophy. No academic position was available to him, however, largely because he held agnostic views at a time when a divinity degree was considered a desirable prerequisite for teaching philosophy.

Having received fellowships at the University of Chicago for postdoctoral work, he became editor of the Journal of Political Economy at Chicago. Veblen never reached the rank of full professor, despite his eleven books and his lasting world reputation.

The Leisure Class

Veblen's first and most popular book was, The Theory of the Leisure Class, published in 1899. The leisure class is characterized by conspicuous consumption, a propensity to avoid useful work, and conservatism.

Conspicuous consumption: Veblen held that the leisure class is engaged in the predatory seizure of goods without working for them. Those who accumulate wealth do so not merely to take care of their physical wants, or even their spiritual esthetic, and intellectual wants. Rather, they wish to consume in a way that displays their wealth, because a show of wealth indicates power, prestige, honor and success in our pecuniary (monetary) culture. To be reputable, such consumption must be wasteful. Poorer people must work in order to subsist, but even their pattern of spending includes an clement of wasteful conspicuous consumption. Their outlook on life is imposed by the dominant leisure class.

Propensity to avoid useful work: Members of the leisure class must avoid useful, productive work. They must indulge only in wasteful or useless tasks if they are to remain reputable. Force

and fraud arc present today, Veblen said, as they were among barbarian peoples. We find them in modern warfare, in business, and in sports and games.

Conservatism: Veblen asserted that the evolution of social structure has been a process of natural selection of institutions. Progress can be attributed to the survival of the fittest habits of thought and the enforced adaptation of individuals to a changing environment. Institutions must change with changing circumstances. The development of these institutions represents the development of society. Unfortunately there is a conflict between current beliefs (ceremonial institutions) and current requirements (dynamic technological institutions) because of the cultural lag in the process of change.

Attacks on Neoclassical Economics

Veblen's theory of the leisure class constituted an attack on neoclassical economics, which assumed that consumers are sovereign. Through their "dollar votes" consumers determine the composition of commodities produced and therefore the allocation of society's resources that will maximize welfare. But if large portions of consumption are undertaken mainly to impress neighbors, who strive to retaliate by purchasing similar items to maintain their relative status, then government might be able to enhance overall well-being by restricting "wasteful" consumption by everyone.

Veblen also accused the neoclassicists of supporting the present scheme of the distribution of wealth and income. Standard theory, he thought, is not truly a theory of anything, but merely folklore or theology used to justify private property and property incomes. Business economics has been developed to defend the business community, and the questions it asks and seeks to answer are not relevant to the population as a whole. Veblen was concerned with social economics instead of the business economics of price, profit, and ownership.

Finally, it is interesting to note that Veblen attacked the notion of perfect competition, which then dominated standard economic theory. He recognized that most businessmen had some monopolistic control over the prices they charged and that they used advertising to strengthen their market positions. This analysis, published in 1904, foreshadowed the rise of the theory of monopolistic competition in 1933.

Credit and Business Cycles

According to Veblen, credit plays a special role in modern business. Borrowing money can increase profits as long as the current rate of business earnings exceeds the rate of interest. Under competitive conditions, what is profitable for one businessperson to undertake becomes compulsory for all competitors. Those who take advantage of the opportunities afforded by credit are in a position to undersell those who do not. The recourse to credit, therefore, becomes widespread and typical. The competitive earning capacity of an enterprise comes to rest on the basis of the initial capital plus such borrowed hinds as this capital will support. The competitive use of credit in extending business operations gives an enterprise a differential advantage against other competitors, but the credit expansion has no aggregate effect on earnings or on total industrial output. In fact, aggregate net profits from industry are reduced by the amount of interest that has to be paid to creditors outside the industrial process.

Veblen's views on credit led him directly into his **business-cycle theory**. The extension of credit enables competing businesspeople to bid up the prices of the material capital goods used in industry. As their dollar value increases, these goods serve as collateral for the further extension of credit. The extension of loans on collateral such as shares of stock or real property has a cumulative character. Credit expands even more with the organization of monopolies, because the expected increase in the profits of monopolies and the imputed goodwill of the new corporations also are capitalized in the prices of the securities issued.

This cumulative extension of credit rests on a shaky foundation. Sooner or later a discrepancy will arise between the money value of the collateral and the capitalized value of the property computed on expected earnings. In other words, the rise in earnings will not keep pace with the rise of the nominal value of capital (capital plus loans). When this discrepancy becomes obvious, a period of liquidation begins. Along with liquidation, the industrial crisis is accompanied by credit cancellations, high discount rates, falling prices, forced sales, shrinkage of capitalization, and reduced output. The creditors take over business properties, thereby further consolidating ownership and control into fewer hands.

Workers benefit during prosperity not through higher rates of pay but through fuller employment. As the general price level rises, the increased cost of living reduces real rates of wages. Slowly money wages rise in response to increasing prices of goods, and this helps bring prosperity to an end, because profit margins shrink and capital values fall.

Veblen thought that the discrepancy between capitalization and earning capacity is chronic so long as no extraneous circumstances enter temporarily to set aside the trend of business affairs. Therefore, chronic depression, more or less pronounced, is normal under the fully developed regime of machine industry. Depressions are temporarily overcome, however, by speculative increases of prices, new discoveries of precious metals, and credit expansion. The deliberate promotion of monopoly can restore the profitability of business by restricting output and raising prices, thereby bringing the accepted capitalization in line with the actual earning capacity. If successful, the monopoly will neutralize the cheapening of goods and services affected by current industrial progress.

The decline of profits and chronic depression can be remedied by an increase in the wasteful and unproductive consumption of goods as well as through monopoly. But private wasteful expenditure on a scale adequate to offset the surplus productivity of modern industry is nearly out of the question.

2.2 Development of Modern Heterodox Economics

The central figures among the old, also called traditional, institutionalists of the early twentieth century: Thorstein Veblen, Wesley C. Mitchell, and John R. Commons. They laid a school of thought, persisting until the present day that has influenced a wide variety of heterodox economists. However, the label "institutionalist" often extends far beyond describing the followers of these three. For this reason, the description institutionalists divided into three sections: (1) traditional institutionalist economists; (2) what called the quasi-institutionalist, writers whose ideas resemble those of the institutionalists but who are too individualistic to fit the traditional institutionalist mold; and (3) neo-institutionalists, economists who write in a neoclassical choice-theoretic tradition but who believe that institutions must be far better integrated into current practice than is currently done, both in theory and in practical applications of theory.

2.2.1 Neo-Institutionalists

Neoclassical economics left out institutions or, to be more precise, posited the institutions it needed in order to make the available mathematical techniques work. Initially this led to the use of static analysis, then to the use of comparative static analysis, then to differentiable calculus, and later, to set theory, measure theory, and optimal control theory. An interesting aspect of neoclassical economics was that, in part, technique had driven the questions it had addressed and the answers it found.

The science of economics is far less likely to explicitly include institutions, for the simple reason that the analysis of institutions is messy and the search in science is for elegant underlying relationships that fit into existing techniques. Avoiding the explicit analysis of institutions, however, does not free the science of economics from them: neoclassical economics included a variety of implicit assumptions about institutions in its underlying structural model. For example, consider "the firm", the production unit of neoclassical economics. It was composed of many individuals and was enormously complicated, but neoclassical theory reduced its goals to a single goal, profit maximization, without explaining how that goal can be consistent with the utility maximization of individuals within the firm. For example, will managers and other employees engage in activities that benefit them at the expense of profits? The same applies to markets: neoclassical economics assumed the existence of particular types of markets with specific mathematical characteristics; it did not explain how such markets came about, how they might change, whether their existence might influence individuals' behaviors and preferences, or whether those markets are close approximations of what we see in the real world. Thus, it had a very narrow focus.

Such narrowing of focus and theoretical simplifications ruled out many of the questions posed by critics of economics; thus, heterodox economists who have been consistent critics of society have also focused more heavily on explicit analyses of institutions than did neoclassical economists.

Some neoclassical economists believe that the messiness of institutions must be addressed, and they propose to do it within a neoclassical framework. These "neo-institutionalists" include more institutional detail in their theoretical models than was usual for neoclassical economists, but they retain the conventional individual maximization procedures of the neoclassical model. Transaction costs play a central role in their analysis. Ronald Coase's article on the theory of the firm (1937) is a seminal article for these neo-institutionalists. It argues that firms develop because the transaction costs of the market are too high for inter-firm transactions.

Neo-institutionalism is sometimes also called rent-seeking analysis or neoclassical political economy. Its proponents contend that rational individuals try to improve their wellbeing not only within a given institutional structure but also by changing that structure. Economic analysis, they contend, must include a consideration of the forces determining that institutional structure. An equilibrium institutional structure is one in which it is not worthwhile for individuals to expend further effort to change the institutions. Only on the basis of an equilibrium institutional framework, they say, can one produce relevant analysis. These neoinstitutionalists argue that a competitive institutional structure is unstable, because some individuals have a strong incentive to change the institutional structure to benefit themselves, and this incentive is not offset by incentives to support a competitive structure. Perfect competition loses out in the competition of institutional structures. Accordingly, neoclassical economics is irrelevant, not because of its maximizing assumption but because its assumed institutional structure is not an equilibrium institutional structure. The maximization assumption has not been carried far enough. These ideas, unlike those of the few remaining followers of the original institutionalists, have provoked mild interest within the profession. Oliver Williamson's studies of the firm are in what we call the "neo- institutionalist" mold.

Neo-institutionalists have been gaining popularity within the profession. In the 1990s, they started a "New Institutionalist" organization, complete with its own journal and an aggressive research agenda. This group includes many well-known economists and in many ways is a part of modern mainstream economics rather than a heterodox group.

The New Institutional Economics

As Coase wrote in 1998, the traditional institutionalisms were of great intellectual figure but they were also anti-theoretical. The Institutional Economics' style of presenting their ideas was very informal and rhetorical. The other reason why that theory is not very common is that "the old institutionalism was partially disabled by both profound shifts in social sciences in the 1910–

1940 periods and of the rise of a mathematical style of neoclassical economics in the depression troubled 1930s.

There are many essential differences between the "new" and the "old" institutionalism. The New Institutional Economics evades the holism of the older school. Institutional Economics' analysis is based mostly on formal institutions and the role of society in defining values, while the approach of the New Institutional Economics is more individualistic the point of departure is the individual itself. Institutions in this theory are originated from individual behaviour, through interaction among individuals. According to North, they are "the humanly devised constraints that shape human action". Institutions are constrained by the informal conditions like culture and custom, as well as formal conditions: law, property rights. "Institutions are the rules of the game in the economy, and 'organizations', he players of the game, arise in response to the institutional structure". The next difference is the role of rationality. According to Institutional Economics, habits, norms and institutions play a significant role in directing human behaviour without rejecting some rationality in individual behaviour that is, however, constrained by economic and social environment. The New Institutional Economics introduces the idea of an individual not being a utility maximizer but being subjected to bounded rationality. According to Herbert Simon (1961), the individuals are "intendedly rational, but only limitedly so".

A significant influence in the development of the New Institutional Economics has come from the following Nobel Laureates: Ronald Coase – the Nobel Prize in 1991, Herbert Simon – 1978, Olivier Williamson – 2009, Douglass North – 1993 and James Buchanan – 1986. The main theories of the school includes: Transaction Costs Theory, Property Rights Theory and Agency Theory.

2.2.2 Quasi- Institutionalists

Modern institutionalists remain a relatively closely interweave group intent on sustaining an ongoing dialogue among themselves and dispensing the insights of Veblen, Commons, Mitchell, and their followers. There exists another group of writers who accept many of the insights of the institutionalists and who were strongly influenced by them, but who are too individualistic and radical to fit the institutionalist mold. These include Joseph Schumpeter, Gunnar Myrdal, and John Kenneth Galbraith.

Most people reading Schumpeter, Myrdal, and Galbraith, even those who disagree with the authors'policy recommendations, will find much good sense in what they say, just as earlier readers found good sense in traditional institutionalism. But good sense does not necessarily lead to influence and change, and it is fair to say that their thinking has had little influence on the economics profession. Still, it is hard to hold down good sense; and there are, today, a number of quasi-institutionalists about whom future historians of thought well may ask, why did they have so little influence?

One of these groups has organized itself loosely under the banner of "socio economics." Organized by Amitai Etzioni, it has its own journal, the Journal of Socio- Economics. Like institutionalists, socioe-conomists believe that social forces must be more strongly integrated into economic models. They propose a far more complicated psycho- logical foundation for the utility function, one in which people are seen as more than simply self-interested profit maximizers. Socio-economists argue for a communitarian approach to value. Their theory holds that individuals are guided by their concern for community as well as by self-interest, and that policy needs to be aimed at building communities.

Joseph Schumpeter

Schumpeter came to the United States in the early 1930s and taught at Harvard, hardly a hotbed of heterodoxy. Yet he befriended the young Paul Sweezy; and although Schumpeter was clearly a conservative and not a Marxian, he acknowledged the power of Marx's vision of historical change. One element in Schumpeter's heterodoxy was a lack of interest in the equilibrium focus of neoclassical theory. He concerned himself instead with the dynamic aspects of theory, as manifested in The Theory of Economic Development (1912) and Business Cycles (1939), and especially in the delineation of the entrepreneur, a key figure in all of his analysis. Schumpeter, who like many heterodox economists painted with a broad brush, found the very abstract model of orthodox theorists too limiting.

Although he aggressively declared his interest in and support of the orthodox paradigm, in his work he ignored the practices he advocated. For example, he enthusiastically supported greater use of mathematics and econometrics in economics, but his own work was almost completely devoid of these orthodox tools. Another example of this curious tendency to say one thing and do

another can be seen in his encyclopedic History of Economic Analysis (1954). In the introduction, Schumpeter promises to present a history of economic analysis and to hold to the absolutist's interpretation of the development of economic theory, namely, that modern theory contains an analytical positive core free of value judgments and that past contributions to theory are interpreted through the use of modern standards and are valued because of their role in providing a better understanding of the modern economy. His plan was to show how there has been a steady progression from error to greater and greater truth. However, the book is not a history of economic analysis but a history of economic thought. Nevertheless, Schumpeter is complex, multifaceted, and in his own way mainstream; this is reflected in the fact that he reserved his highest honors for those economists who created modern, abstract general equilibrium theory.

Gunnar Myrdal (1898-1987)

The second quasi-institutionalist is Gunnar Myrdal, one of many Swedes who have made important contributions to economics. Myrdal came to be an international figure whose interests led him to study economic policy issues around the world, though early in his career he was more interested in technical questions of pure theory. His classic study of the relationship between ideology and theory, The Political Element in the Development of Economic Theory (1930), displays interests ranging throughout the social sciences and humanities. In the early 1940s, he ventured into sociology with a book on the population problem and a major study of blacks in America. In the Southern states, Myrdal's reputation was established with the publication of An American Dilemma: The Negro Problem and Modern Democracy (1944), which figured significantly in the legal battles for greater civil rights for blacks in the post-World War II period. When later in his career he came to focus his attention on planning in developed and underdeveloped countries, he brought to this task a rich experience as professor of economics, member of parliament, cabinet minister, sociologist, and international civil servant.

Myrdal is critical of orthodox economic theory, yet his criticism is not as forceful as that of Veblen, Commons, or Hobson. His major criticisms of orthodox economic theory center on the role of value judgments in theory, the scope and methodology of theory, and the implicit laissez-faire bias of theory.

Myrdal maintains that attempts by orthodox theorists to develop a positive science, free of normative judgments, have failed. In his view, it is impossible to completely separate the normative from the positive, to achieve an analysis devoid of ought's. The orthodox attempt, he asserts, merely produced a body of propositions in which normative judgments were implied but never made explicit. Yet economists are and should be interested in questions of policy, Myrdal points out; thus, their choices of subjects to study and methods to use will necessarily reflect value judgments.

A second criticism leveled by Myrdal against orthodox theory concerns its scope and method. In common with many other heterodox economists, he maintains that economics is too narrowly defined by orthodox theory. Myrdal wants to bring into his analysis material from all the social sciences, particularly psychology and sociology. He also criticizes the focus of economics on short-run issues, whether they involve the allocation of resources or fluctuations in economic activity. Myrdal is more interested in the longer-run questions concerning economic growth and development and believes that much of the analytical framework and concepts of orthodox theory are inappropriate for this task. Myrdal finds the orthodox fixation on equilibrium particularly inappropriate in trying to explain the economic, social, and political changes taking place throughout the world. He abandons the static equilibrium analysis of conventional theory and develops instead a notion of cumulative causation. His idea of cumulative causation is, in essence, a general, dynamic equilibrium framework in which the term general implies that other than purely economic factors enter the analysis.

Finally, Myrdal is critical of what he regards as the bias of orthodox theory, which assumes that there is harmony in the system and that laissez faire is therefore the best policy for all nations to follow, regardless of their stage of economic development. Myrdal views the long-run development of the Western industrialized nations as passing from a period of mercantilist governmental controls to a period of liberalism and laissez faire, to a period of welfare politics in which governments intervene on a more or less pragmatic basis to ease pressing social problems, to a final period of planned economy, which has not yet been reached by some industrial countries, particularly the United States. The end of laissez faire is marked by increasing government involvement and intervention on a piecemeal basis, with no overall coordination. Present experience, according to Myrdal, reveals the necessity of planning the macroeconomic

goals of the economy and letting the market and, for the most part, private enterprise allocate resources within this plan. Without the overall planning to take us beyond the welfare state, he says, we will have an economy characterized by inflation, unemployment, and balance of payments difficulties. Myrdal's model of planning is not that of Soviet economics, nor is it as complete as indicative planning. It supposes national planning of the macroeconomic variables with a minimum of bureaucracy and maximum decentralization of economic decision-making. Looking into the future, Myrdal sees the need to extend planning to the international level so that the fruits of the Industrial Revolution can be extended to everyone as we achieve a global welfare society.

John Kenneth Galbraith

John Kenneth Galbraith (1908) represents the first American economist since Veblen to be widely read by intellectuals among the general public. Born in Canada, he did graduate work at Berkeley and majored in agricultural economics. His experiences have been varied: he has been a government official during World War II, an editor of Fortune magazine, an adviser to Democratic politicians on the state and national levels, ambassador to India, professor of economics at Harvard, and president of the American Economic Association. Annoyed by his criticism of orthodox economic theory and by his popularity, some of his academic colleagues have tended to regard him as a fuzzy-thinking social critic rather than an economist.

Like many other heterodox writers, Galbraith has offered a criticism of accepted economic theory without providing a well-defined and logically consistent alternative. His analysis of the American economy is more concerned with explaining its present operation than speculating about its future course.

Galbraith's idea was presented in three of Galbraith's major economics books, American Capitalism (1952), The Affluent Society (1958), and The New Industrial State (1967), and then attempt to discover unifying themes within them.

Chapter Three General Equilibrium and Welfare Economics

Introduction

The first Generation Marginalists', who led the marginalist fight against the classical economists, applied their analysis to demand side, but the Second-generation marginalist extended this analysis to factor markets. The Alfred Marshall developed the supply-and-demand analysis now used in undergraduate microeconomic theory courses. This chapter considers the other way in which the supply side and demand side integrated. In doing so, the contribution of one of the originators of marginal analysis, Leon Walras and the leading Welfare economist's, with special attention to Pareto, who was founder of Modern Welfare and Pique, will discussed.

Chapter objective

After completing this chapter, you will be able to;

- Understand the concept of Walrasian General equilibrium
- Define welfare economics
- Identify approaches in welfare economics
- Appreciate the concepts of Pareto efficiency conditions
- Understand Policy implication of Caldor and Hicks criterion

3.1. Walrasian General Equilibrium

The idea of general equilibrium may be traced further back and is certainly to be found in Adam Smith's Wealth of Nation. Many economists identify general economic equilibrium theory with theory tout court, compared to which any other theory can be considered a particular case. This theory, it is said, shows that the 'invisible hand of the market' ensures a systematic tendency towards equilibrium with perfect equality between supply and demand for each commodity (market clearing), even in the presence of many commodities and many economic agents.

General equilibrium theory was formally developed by the Lausanne school, founded by Léon Walras. Its main constitutive elements are the general interdependence among all the parts that compose an economic system, the idea of the market as an equilibrating mechanism between

supply and demand, the view of the economic problem as a problem of optimal allocation of scarce resources and the notion of a perfectly rational and perfectly selfish economic agent.

The idea of interrelations among the different parts that compose an economic system was already at the center of Quesnay's analysis, with his tableau économique; subsequently, we have the simple and expanded reproduction schemes developed by Marx and more recently Leontief's input-output tables. None of these analytical contributions, however, included a price and quantity adjustment mechanism based on the reactions of agents in the market to disequilibria between supply and demand. Furthermore, these contributions all focused attention on interdependencies among sectors in production, while interdependence (substitutability) in consumption choices was not considered, or at any rate remained in the background.

The role of demand and supply in determining the price of a good was conversely at the center of a widespread tradition of economic thinking, which in representing the working of the market took as ideal reference points first the medieval fairs and then the stock exchanges, both considered institutions that ensure a meeting place, in time and space, for buyers and sellers. However, the idea of a general interrelation among the various parts of the economic system generally remained in the background. Jevons's utilitarian approach focused on analysis of individual behaviour, with comparison between disutility (labour) and utility (consumption), while interrelations among different economic agents in the market constituted a superstructure in many respects only outlined. Somewhat later Marshall, albeit keeping account of Walras's work, indicated his preference for 'short causal chains', hence the method of analysis of partial equilibrium, as compared with general economic equilibrium analysis, considered too abstract.

The grounds to represent the classical economists as precursors of general economic equilibrium theory are even more questionable. There are three aspects to which reference is usually made in doing so: the notions of the invisible hand of the market, of competition and of the convergence of market prices towards natural prices. Briefly returning to the points mentioned previously, it is worth stressing that none of these elements implies a subjective view of value or choice of the medieval fair (or of the stock exchange) as paradigm for representing the working of the economy. In particular, the idea of the convergence of market prices towards natural prices did not imply, for classical economists such as Smith or Ricardo, the idea of market prices as theoretical variables univocally determined by an apparatus of demand and supply curves (nor the idea that it be possible to define sufficiently precise and stable relations connecting quantities demanded and supplied to prices nor indeed the idea that such relations can be deduced as representing the behaviour of rational economic agents). Finally, the notion of the invisible hand was origin-ally used by Smith in different contexts, not to uphold the idea of the optimality of a competitive market based on the demand and supply mechanism.

Léon Walras

The general economic equilibrium approach, insofar as it implied including the supply and demand mechanism in a context of general interdependencies in production as in consumption, arose with Walras, who drew particular inspiration from the field of physics, and specifically mechanics, with its theory of static equilibrium.

Walras was born in France. The early part of his life was largely unsuccessful. He failed the entrance exam to the Ecole Polytechnique twice, wrote a novel that went unnoticed, and founded a bank that failed. But his father was an economist, and the younger Walras had read Cournot's Mathematical Principles of the Theory of Wealth. This subject matter and approach to economics interested him, and he turned to economics. In 1870, he was appointed professor of political economy at Lausanne, Switzerland. He developed and advocated general equilibrium analysis, this stood in contrast to the partial equilibrium analysis used by Jevons, Menger, and Marshall. It was then that he resigned from his chair, wishing to concentrate on research; he favoured nomination of Pareto as his successor.

Walras's general equilibrium theory presents a framework consisting of the basic price and output interrelationships for the economy as a whole, including both commodities and factors of production. Its purpose is to demonstrate mathematically that all prices and quantities produced can adjust to mutually consistent levels. Its approach is static because it assumes that certain basic determinants remain unchanged, such as consumer preferences, production functions, forms of competition, and factor supply schedules.

Walras showed that prices in a market economy can be determined mathematically, taking cognizance of the interrelatedness of all prices. The function for the quantity demanded of a good depends on the price. That is, price is the independent variable, said Walras, and the quantity demanded is the dependent variable. The quantity demanded of any one good, however, includes
as variables the prices of all other commodities. A consumer will not decide how much of one good to buy without knowing the prices of all other goods.

Walras' contribution is in a class by itself in the history of economics. He gave to economics the important paradigm of general equilibrium which turned out to be of enormous importance and by this he also left to successors a research program within which a number of the most brilliant economists in 20 century have worked.

Infatc, Walras also left a number of unsolved problems and inconsistencies, which is not strange in view of the time he presented his ideas. Walras intended to show the existence of equilibrium, its uniqueness and its stability. But in this he failed, perhaps he thought he had solved it but he had not. Of course his general equilibrium paradigm had an immediate and ruling influence on thinking in economics.

3.2 Welfare Economics

Welfare economics is the branch of economic analysis concerned with discovering principles for maximizing social well-being. Economics itself is often defined as the study of how society chooses to use its limited resources to achieve maximum satisfaction. Nearly every aspect of economics, therefore, has a welfare dimension. Nevertheless, several important contributors to economics have focused specifically on either or both of the following: (1) defining welfare optimality and analyzing how maximum welfare can be achieved; (2) identifying factors that impede the achievement of maximum wellbeing and suggesting ways that the impediments might be removed.

The welfare economists addressed such heterogeneous topics as rules for achieving maximum welfare, the problem of external costs and benefits, income inequality, the potential for achieving maximum welfare under socialism, difficulties associated with majority voting, and decision making in the public sector.

There are two main approaches to welfare economics. These includes the early neoclassical and the new welfare economics.

3.2.1 Early neoclassical approach to welfare economics

The early neoclassical economists; Edgeworth , Sigdewick, Alfred Marshall, and A.C Pigou were contributed to the early to welfare economics. But, Professor Alfred Marshall has been regarded as the founder of early welfare economics. According to the early neoclassical welfare economists, utility is cardinal, Preferences are exogenous given and stable, existence of diminishing marginal utility and Interpersonal comparison of utility is possible. Here under, Pigous' economics ideas will be discussed for his contribution has a crucial impact in modern economics.

Arthur Cecil Pigou (1877-1959)

Arthur Cecil Pigou succeeded Marshall in the chair of political economy at Cambridge University in 1908 and held this position until his retirement in 1943. He was the leading neoclassical economist after the death of his predecessor, and like Marshall, he expressed humanitarian impulses toward the poor, hoping that economic science would lead to social improvement.

In his The Economics of Welfare, written in 1920, Pigou hoped to provide the theoretical basis for government to enact measures that promoted welfare. As an economist, he was concerned with economic welfare, defined as "that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money." Unlike Pareto, who cast his theories in terms of general economic equilibrium, Pigou continued in the "old welfare" tradition of Smith, Bentham, and Marshall, relying mainly on partial equilibrium analysis. His contributions to welfare economics include his observations on income redistribution and the divergence between private and social costs.

Income Redistribution

Basing himself on Jevons and Marshall's principle that the marginal utility of money diminishes as more is acquired, Pigou asserted that greater equality of incomes under certain conditions could increase economic welfare. Pigou insisted that interpersonal comparisons of satisfaction can properly be made when dealing with people of the same background raised in tile same environment. In this sense he was more of a reformer than those "purely scientific" economists who fastidiously avoided value judgments and proclaimed the impossibility of comparing satisfactions among different people.

Divergence between Private and Social Costs and Benefits

Pigou's most significant deviation from orthodox theory lay in his focus on the divergence between social and private marginal costs and benefits. The idea that such a divergence could occur was not original with Pigou. Henry Sidgwick (1838-1900), writing in 1883, discussed the same general topic, but in a less concise way. The private marginal cost of a commodity or service is the expense the producer incurs in making one more unit; the social marginal cost is the expense or damage to society as the consequence of producing that unit of product. Likewise, the private marginal benefit of a commodity is measured by the extra satisfaction it provides the buyer; social marginal benefit is the extra satisfaction society gets from the production of the added unit.

These distinctions are significant because the acts of production and consumption may impose costs or benefits on parties other than the producer and consumer. These external costs and benefits, or externalities, spillover to other parties and are sometimes referred to as "spillover effects." For example, said Pigou, sparks from railway engines may do damage to surrounding woods or crops without their owners being compensated for the damage. Social costs (internal plus external), therefore, are greater than the private costs (internal) to the railway; the net private marginal product exceeds the social net product. Similarly, an entrepreneur who builds a factory in a residential district destroys much of the value of other people's property. The increased sale of intoxicating beverages is profitable to the distiller and the brewer, said Pigou, but external costs are incurred when more police and prisons become necessary.

There are opposite cases, Pigou said, in which some benefits of private actions spillover to society's benefit, but for which the person who renders the benefit is not compensated. Thus, the social marginal net product exceeds the private marginal net product. For example, the expansion of one firm in an industry may give rise to external economies in the industry as a whole that will reduce the costs of production of other firms. Private investment in planting forests will benefit surrounding property owners. Preventing smoke from pouring out of factory chimneys will benefit the community at large much more that it will benefit the factory owner. Scientific

research is generally of greater value to society than to the researcher and inventor, although the patent laws aim at creating a closer match between private and social marginal net products.

Pigou derived an important welfare implication from his analysis: Not all competitive markets produce levels of output that maximize society's total welfare. Sidgwickian-Pigouvian analysis of social costs and benefits, thus, challenged the widely held perspective that we can always and everywhere rely on competitive markets to maximize society's economic welfare (produce Pareto optimality). According to Pigou, the welfare task of government is to equalize (1) private and social marginal costs and (2) private and social marginal benefits. It can do this through the use of taxes, subsidies, or legal regulation. There is a greater role for government in the economy, said Pigou, than that envisioned by advocates of laissez-faire.

Other Contributions

Several other theories presented by Pigou have had lasting relevance. His stress on the desirability of increasing savings in the economy found favor with many economists and government policy makers in the 1980s and 1990s.

Present Satisfaction: Pigou contended that people prefer present rather than future satisfaction of equal magnitude because the human telescopic faculty is defective; we, therefore, see future pleasure on a diminished scale. The bias contributes to far-reaching economic disharmony, because people distribute their resources between the present, the near future, and the remote future on the basis of a somewhat irrational preference. Consequently, efforts directed towards the remote future are sacrificed for those directed to the near future, while these, in turn, are given up to enhance present consumption. The creation of new capital is checked, and people are encouraged to use up existing capital to such a degree that larger future advantages are sacrificed for smaller present ones. Natural resources are consumed more quickly and wastefully because future satisfactions are underrated.

Government Intervention: Pigou concluded that, economic welfare is diminished by government intervention that strengthens the tendency of people to devote too much of their resources to present use and too little to future use. Government should, thus, avoid any tax on saving, including property taxes, death duties, and progressive income taxes if it wants to

maximize economic welfare. Heavy taxes on consumption are preferable because they encourage saving, but such taxes have the disadvantage of hurting low-income people disproportionately.

Price Discrimination: A final contribution of note is Pigou's discussion of price discrimination. It was he who classified price discrimination into three types: first degree, second degree, and third degree. First-degree price discrimination occurs when the monopolist charges each consumer the exact amount she or he would be willing to pay rather than go without the commodity. The monopolist, therefore, takes the consumer's entire surplus as revenue. Second-degree price discrimination is a cruder form of first-degree discrimination. The seller charges one price for each unit within an initial block of units and then charges lower prices for units within subsequent blocks. Electrical utilities commonly used this type of quantity discounting prior to the rate reforms of the 1970s and 1980s. Third-degree price discrimination involves separating groups of consumers into different classes and charging different prices based on the elasticity of demand for each group. One of many possible examples would be charging students and professors less than the general public for business newspapers and magazines.

3.2.2 New trends in welfare economics approach

The New Welfare Economics approach is based on the work of Pareto, Hicks, and Kaldor. It explicitly recognizes the differences between the efficiency aspect of the discipline and the distribution aspect and treats them differently. But, Pareto laid the foundation of the modern welfare economics by formulating the concept of social optimum which is based on the concept of ordinal utility and is free from interpersonal comparisons of utilities and value judgements. He aimed at formulating a value-free objective criterion designed to test whether a proposed policy change increases social welfare or not.

3.3 Pareto efficiency in welfare and pre conditions of Pareto efficient conditions

Vilfredo Pareto (1848-1923) was a disciple of Walras and an early supporter of general equilibrium theory. He carried through the reasoning Walras used in general equilibrium theory and extended the analysis to consider the welfare implications of various policies. Pareto tried to extend Walrasian economics into policy. Pareto lays claim to being one of the fathers of modern welfare economics, the other being A. C. Pigou, who extended the welfare implications of Marshallian economics.

Nevertheless, Pareto addressed the issue of how to evaluate the efficiency of resource allocation for an economy or for a particular market structure within an economy. Adam Smith had concluded that perfectly competitive markets resulted in desirable consequences, particularly higher long-term rates of growth for an economy. Increased interest in microeconomics, which began in the 1870s, led to questions concerning the efficiency of resource allocation and to the development of criteria for evaluating the merits of different economic policies that affect an economy.

Adam Smith's advocacy of laissez faire was not based on a theoretically rigorous model. It focused more on the macroeconomic consequences of markets coupled with a minimum of government intervention. In the 1890s, Pareto began evaluating microeconomic performance using the new marginal tools and became the father of the branch of welfare economics that works largely in a general equilibrium framework. Pareto also represents a continental (particularly French and Italian) approach, as opposed to the British framework based on the partial equilibrium structure laid down by Alfred Marshall. This British line of welfare economics began with Henry Sidgwick (1838-1900), a political philosopher who contributed to economics.

Pareto Optimality

Pareto refined Walras's analysis of general equilibrium and set forth the conditions for what we now call Pareto optimality, or maximum welfare. Other economists then established the more rigorous mathematical proof that perfectly competitive product and resource markets achieved Pareto optimality.

Maximum welfare, said Pareto, occurs where there are no longer any changes that will make someone better off while making no one worse off. This implies that society cannot rearrange the allocation of resources or the distribution of goods and services in such a way that it aids someone without harming someone else. The Pareto optimum thus implies (1) an optimal distribution of goods among consumers, (2) an optimal technical allocation of resources, and (3) optimal quantities of outputs.

These pre-conditions of Pareto efficient conditions can be demonstrated by supposing the existence of a simple economy containing two consumers (say S and G), two products (say h and

p), and two resources (say labor and capital). The conditions for a Pareto optimum in this simple economy are those that would exist in a realistic economy having numerous consumers, goods, and resources.

Optimal distribution of goods: The optimal distribution of goods, that is, the distribution that will maximize consumer welfare, occurs where S and G each have identical marginal rates of substitution between the two goods. This can be expressed symbolically as:

$$MRS_{hp}S = MRS_{hp}G$$
3.1

If this condition were not satisfied, it would be possible to re-arrange the allocation as between A and B of whatever is being produced so as to make one better-off without making the other worse-off.

Optimal technical allocation of resources: In our two-goods, two-resources example, the optimum allocation of resources to productive uses will occur where the marginal rates of technical substitution between labor (1) and capital (k) in the production of h and p are equal. The marginal rate of technical substitution of labor for capital (MRTSlk) is the maximum number of units of capital that could be substituted for a unit of labor without changing the level of output. This second condition for Pareto optimality is shown symbolically as follows:

MRTSlkH = MRTSlkP

3.2

where MRTSlkH and MRTSlkP are the marginal rates of technical substitution of labor for capital in the production of h and p.

If this condition were not satisfied, it would be possible to re-allocate inputs to production so as to produce more of one of the commodities without producing less of the other.

Optimal quantities of output: If production and distribution meet the conditions of Pareto optimality, then optimum levels of output will be achieved where the marginal rate of substitution of "h" for "p"—the rate at which each of the two consumers is willing to give up "p" to get "h", equals the marginal rate of transformation (MRT) of "p" for "h". This is the rate at which it is technically possible to transform p into h. Symbolically,

MRShp = MRThp

Evaluation

Pareto's welfare theory is a significant contribution to economics. He did much to help economists better understand the conditions for, and the welfare significance of, economic efficiency. However, the central Pareto criterion, "Does a change make someone better-off while making no one worse-off?" is not always well suited for evaluating public policies.

Of the several criticisms of the Pareto standard, four seem particularly germane. First, some economists argue that it fails to address the important issue of distributive justice, or the fair distribution of income in society. Instead, it simply establishes the efficiency conditions for any existing distribution.

Second and closely related, many public policies that increase national output and overall welfare also redistribute income as a by-product of the policy. For example, although a policy of free foreign trade normally boosts a nation's total output and welfare, it may also injure specific individuals who lose their jobs because of imports. A strict interpretation of the Pareto criteria would block the enactment of such a policy. Similarly, under most circumstances, immigration of skilled workers increases total output in the destination nation. However, the increased supply of labor may depress the wages received by native workers in the skilled labor markets. Should government legislate such policies as free trade and open immigration, even if such compensating payments are not actually made?

A third objection to the Pareto criteria is that they are based on a static view of efficiency. Shortrun movements away from Pareto optimality conceivably could increase long-run or dynamic efficiency. For example, some contemporary economists contend that by focusing on static efficiency some of the provisions of antitrust laws may impede private actions-such as joint development of new technologies-that would increase the nation's long-run growth of output and welfare.

Finally, the moral judgments that the Pareto criteria purposely exclude are often legitimate and dominant factors in policy formulation. Some private transactions-for example, prostitution, the sale of babies, and the purchase of drugs-that may be Pareto optimal may also conflict with society's moral values. Such values often dwarf considerations of economic efficiency in debates on public policy.

3.4 Caldor and Hicks criterion of efficiency condition

Kaldor-Hicks criterion is named by Nicholas Kaldor and John Hicks. Kaldor-Hicks criterion is also known as Kaldor-Hicks efficiency. These Economists have made efforts to evaluate the changes in social welfare resulting from any economic reorganisation which harms somebody and benefits the others. These economists have sought to remove indeterminacy in the analysis of Pareto optimality.

This new Welfare Economics is also called compensation criteria. Accepting Pareto's ordinal measurement of utility and the impossibility of its interpersonal comparisons, they tried to show that social welfare could be increased without making value judgment. Kaldor–Hicks postulated that each individual"s satisfactions are independent from the others so that he is the best judge of his welfare. There is the absence of external effects in production and consumption. The tastes of each individual are constant. It is possible to separate the problems of production and exchange from the problem of distribution. It is assumed that utility is measured ordinarily and interpersonal comparisons are impossible. A Kaldor–Hicks improvement is an economic reallocation of resources among people that captures some of the intuitive appeal of a Pareto improvement, but has less stringent criteria and is hence applicable to more circumstances.

Kaldor – Hicks Criterion state that a reallocation is said to be a Pareto efficient, if at least one person is made better off and nobody is made worse off. However in practice, it is almost impossible to take any social action, such as a change in economic policy, without making at least one person worse off. Even voluntary exchanges may not be Pareto efficient if they make third parties worse off. Pareto efficiency occurs where at least one party benefits and nobody is made worse off. Kaldor- Hicks states that a decision can be more efficient as long as there is a net gain to society. The criterion enables any potential losers to be compensated from the net gain.

Kaldor–Hicks criterion is an improvement on Pareto efficiency. A resources allocation is considered efficient and an improvement if those that are made better off could in principle compensate those that are made worse off so that a Pareto improving outcome could (though does not have to) be achieved. For example, a voluntary exchange that creates pollution would be a Kaldor–Hicks improvement if the buyers and sellers are still willing to carry out the transaction even if they have to fully compensate the victims of the pollution. Kaldor–Hicks does not require compensation actually be paid. It means mere existence of possibility for compensation. Under Kaldor–Hicks efficiency, an improvement can in fact leave some people worse off while Pareto efficiency require making every party involved better off (or at least none worse off). While Pareto efficiency is a Kaldor–Hicks criterion most, Kaldor–Hicks criterion are not Pareto efficient. This is because the set of Pareto efficient is a proper subset of Kaldor–Hicks criterion. This reflects the greater flexibility and applicability of the Kaldor–Hicks criterion relative to the Pareto criterion.

Chapter Four The Keynesian Economics

Introduction

As the name indicates, Keynesian Economics was the school of thought which established on Keynes economic ideas. The school began with the publication of Keynes's The General Theory of Employment, Interest and Money in 1936 and remains a major presence in orthodox economics today. It arose out of the neoclassical school, Keynes himself being steeped in the Marshallian tradition. Although Keynes sharply criticized certain aspects of neoclassical economics, which he lumped together with Ricardian doctrines under the heading of "classical economics," he used many of its postulates and methods. His system was based on a subjective psychological approach, and it was permeated with marginalist concepts, including static equilibrium economics. Keynes separated himself from attacks on the neoclassical theory of value and distribution. The purpose of this chapter is to provide brief overview of the Keynesian school and Keynes's major ideas.

Chapter Objective

Upon successful completion of this chapter, you will be able to;

- Understand the main tents of Keynesian Economics;
- Know the contribution of John Maynard Keynes to economic thought;
- Compare and contrast Keynesian economics with other schools of economic thought

4.1 The Historical Background of the Keynesian School

Keynes' ideas were given added motivation by the Great Depression of the 1930s, the worst the Western world had ever known. Yet the roots of his ideas can be traced back to before 1929. The work of many economists, including that of Mitchell and his associates in the National Bureau of Economic Research, was within the framework of aggregate economics, or macroeconomics, rather than the microeconomics of the neoclassical school. Keynes also adopted this macroeconomic approach. World War I and the economic controls enacted required an overall view of the economy. The growth of large-scale industrial production and trade made the economy more susceptible to statistical measurement and control, making the inductive, aggregate approach more feasible than in the past. In fact, his approach was increasingly

necessary as the public became more eager for the government to deal actively with unemployment.

Keynesian thinking also had its roots in the spreading concern about secular stagnation, or a declining rate of growth. The mature private-enterprise economies the Western world were less vigorous after World War I than before it. The rate of population growth was declining; most of the world had already been colonized; there seemed to be no room for further geographic expansion; production appeared to outrun consumption as incomes and savings rose; and there were no new inventions like the steam engine, the railroad, electricity, and the automobile to stimulate new and vast capital investments. Also, the decline of vigorous price competition reduced the rate of replacement of old machinery with new and better machines, and the economy was dragged downward when the growing accumulated of depreciation funds from past investments were not spent quickly enough. These observations about secular stagnation, which became particularly important after 1929, were based in part on the works of Marx, John A. Hobson (1858-1940), Veblen, and others, and in part on actual observations and historical studies.

After the Great Depression began in the early 1930s, many economists in the United States advocated policies that later would be called Keynesian. It is interesting to note that these policies were presented before the publication of Keynes' General Theory. Leading figures both inside and outside of the economics profession were urging public work programs, deficit budgets for the federal government, and the easing of credit by the Federal Reserve System. Many economists were aware of the multiplier effect that increased government spending could have on total spending and income. Some theorized that as the national income increased, consumption expenditures rose less rapidly than total income, and saving increased more rapidly. Wages were recognized as a source of demand for goods as well as a cost of production, and cutting wages was frequently opposed as providing no real remedy for unemployment; this was macroeconomic thinking. People derived these ideas independently of Keynes and widely discussed them in the United States. But it was Keynes who provided the analytical framework that integrated these ideas and touched off the "Keynesian revolution" in economics.

Major Tenets of the Keynesian School

Macroeconomic emphasis: Keynes and his followers concerned themselves with the determinants of the total or aggregate amounts of consumption, saving, income, output, and employment. They were less interested, for example, in how an individual firm decides on its profit-maximizing level of employment than in the relationship between total spending in the economy and the aggregate of such employment decisions.

Demand orientation: Keynesian economists stressed the importance of effective demand (now called aggregate expenditures) as the immediate determinant of national income, output, and employment. Aggregate expenditures, said these economists, consist of the sum of consumption, investment, government, and net export spending. Firms collectively produce a level of real output that they expect to sell. But sometimes aggregate expenditures are insufficient to buy all the output produced. As unsold goods accumulate, firms lay off workers and cut back output. That is, effective demand establishes the economy's actual output, which in some cases is less than the level of output that would exist if there were full employment {potential output).

Instability in the economy: According to Keynesians, the economy is given to recurring booms and busts because the level of planned investment spending is erratic. Changes in investment plans cause national income and output to change by amounts greater than the initial changes in investment. Equilibrium levels of investment and saving, those that exist after all adjustments have occurred, are achieved through changes in national income, as opposed to changes in the rate of interest. Investment spending is determined jointly by the rate of interest and the marginal efficiency of capital, or the expected rate of return above the cost on new investments. The interest rate depends on people's preferences for liquidity and the quantity of money. The marginal efficiency of capital depends on the expectation of future profits and the supply price of capital. The expected rate of profit from new investment is unstable, and, therefore, one of the most important causes of business fluctuations.

Wage and price rigidity: Keynesians pointed out that wages tend to be inflexible downward because of such institutional factors as union contracts, minimum wage laws, and implicit contracts (understandings between employers and their workers that wages will not be cut during downturns judged to be temporary). In periods of slack aggregate demand for goods and services, firms respond to lower sales by reducing production and discharging or laying off workers, not by insisting on wage cuts. Prices also are sticky downward; declines in effective

demand initially cause reductions in output and employment rather than declines in the price level. Deflation occurs only under conditions of extremely severe depression.

Active fiscal and monetary policies: Keynesian economists advocated that the government should intervene actively through appropriate fiscal and monetary policies to promote full employment, price stability, and economic growth. To combat recession or depression, government should either increase its spending or reduce taxes, the latter increasing private consumption spending. It also should increase the money supply to drive down interest rates in the hope that this will bolster investment spending. To counter inflation caused by excessive aggregate expenditures, government should reduce its own spending, increase taxes to reduce private consumption spending, or reduce the money supply to raise interest rates, which will dampen excessive investment spending.

4.2 John Maynard Keynes

Biographical Details

John Maynard Keynes (1883–1946) was the son of eminently intellectual parents, both of whom survived him. His father was John Neville Keynes, an outstanding logician and political economist. His mother, who was interested in public affairs and social work, was a justice of the peace, an alderwoman, and mayor of Cambridge. Among Keynes's teachers at Cambridge were Marshall and Pigou, both of whom recognized his brilliance. At twenty-eight, Keynes became editor of the Economic Journal.

Keynes is significant not just for his writings but also for his activity as an adviser on economic policy and a member of various delegations for the British government (especially for the Treasury) in international negotiations. Economists, according to his credo, should contribute to improving the human condition: "If economists could manage to get themselves thought of as humble, competent people, on a level with dentists, which would be splendid!" In light of the world economic crisis that erupted in 1929, acting smart about economic policy was a matter of necessity. An enlightened liberal who wanted to preserve the capitalist order based on a market economy, Keynes believed that only government intervention and regulation could protect the system from destroying itself.

4.3 The General theory of Employment

The General Theory of Employment, Interest and Money of 1936 is the last and most important book by the English economist John Maynard Keynes. It created a profound shift in economic thought, giving macroeconomics a central place in economic theory and contributing much of its terminology – the "Keynesian Revolution". The General Theory is a sustained attack on the classical economics orthodoxy of its time. It introduced several related concepts; the consumption function, the principle of effective demand and liquidity preference, and gave new prominence to the multiplier and the marginal efficiency of capital.

The Principle of Effective Demand

Keynes's regarded that the economic system is typically not fully utilizing its productive resources; it is not "supply-constrained," as neoclassical economists contend, but "demand-constrained" (except during booms). More specifically, Keynes's "principle of effective demand" means that there is no reason to assume that aggregate investment demand will always be large enough to employ all of an economy's productive resources. The two factors, according to Keynes, that determined private domestic aggregate effective demand are consumption and investment expenditures.

First of all, Keynes conceived savings (correctly) as the non-demand of goods and services. The saver keeps a part of his or her money income and does not spend it, that is, does not buy goods. Savings in themselves involve "leakages" in the stream of expenditures and pose the problem of sufficient effective demand. The praise Adam Smith had showered upon the "frugal man" was justified only to the extent to which the saver was at the same time an investor, who spent the saved sums not on consumption goods but instead on investment goods. In this perspective investments involve "injections" into the stream of expenditures and may compensate for the leakages stemming from savings.

In what he called a "fundamental psychological law," Keynes stated that aggregate consumption expenditure (C) depends first and foremost on the level of national income (Y): the larger the latter, the larger also the former. Consumers are not the active agents in the economic system, investors are. Consumers tend to be passive, reacting to changes in national income. In the simplest case of a linear consumption function, we have C = cY, with c representing the

propensity to consume. Since savings (S) equal income minus consumption, S = Y - C, the savings function that corresponds to the above consumption function is given by S = sY, with s representing the propensity to save or savings rate. Keynes says that, both consumption expenditures and savings increase (or decrease) when national income increases (or decreases). Consumption and savings depend first and foremost on the level of national income, but what decides the latter? This is the crucial question. Keynes answered: it is the level of investment demand. Investors, not consumers (alias savers), are the active element in the economic system. Whoever invests today generates a larger capital stock and thus a larger productive capacity in the hope and expectation that the larger output that can be produced tomorrow and thereafter will be absorbed by the market and yields higher profits. The investors operate their way into an uncertain future. Since they cannot have reliable information about that future, they must base their decisions to invest on long-term expectations about future economic situations. Depending on whether they are optimistic or pessimistic they will invest either more or less.

The important point to note here is that while consumption expenditures are decided dominantly on the basis of an economic magnitude (national income) describing the actual state of the economy (a "state variable"), investment expenditures depend dominantly on magnitudes that cannot be known as yet: the investors cannot know the future and whether their investments will be profitable or not. They cannot know the prices of commodities in the future, the wage rates they will then have to pay to workers, the increase in technical knowledge that might make their investments technologically obsolete, and so on. They cannot even base their decisions on a probability calculus, because they do not know the probabilities with which different outcomes of their investment activities occur. In terms of a distinction suggested by Frank Knight, investors are not simply confronted with risk but with fundamental uncertainty. They must base their decisions to invest on long-term profitability expectations.

4.4 Interest, Money, and Employment

Keynes's reasoning regarding the relationship between investment and savings and arguably his most innovative contribution with respect to received neoclassical theory is not the full story. He repeatedly deplored the difficulty of "escaping received modes of thought," and his concept of the determinants of investment demand is a case in point. While he emphasized the importance of long-term profitability expectations, he also saw that the money rate of interest exerted some

influence. Firms that cannot finance all their investments by means of retained profits made in the past need additional liquidity. One way to get it is to take a loan from a bank, and the interest the bank charges is a cost the firm incurs that reduces its profits. Keynes incorporated neoclassical theory of interest: the higher the interest rate "i", the higher the cost of financing investment, and thus the smaller is investment "I"; correspondingly, the lower the rate of interest, the larger the volume of investment. But when investors react to lower interest rates with an expansion of investment activity, the decisive question is: Can interest rate i fall to a level at which I then become large enough for full employment, and can we rely on it falling to that level?

According to Keynes, this is possible but very unlikely. The main reason is a high "liquidity preference", a "love of money", that prevents the interest rate from falling as far as would be necessary. Money, Keynes argued, Liquidity preference depends on three motives for holding money and the reluctance to part with it, except insofar as the rate of interest acts as an effective inducement. The first is the transaction motive, the need for cash to pay for current purchases for consumption and business needs. The second is the precautionary motive, the desire to keep some cash on hand for unforeseen emergencies. Finally, there is the speculative motive, the desire to hold cash while waiting for interest rates to rise, or stock and bond prices to fall, or the general price level to fall. This makes money attractive to agents. Yet if liquidity preference is high, the price for parting with it is also high, and this price is nothing else than the money rate of interest.

This is another distinguishing feature of Keynes's theory as compared with neoclassical theory: while in the latter the interest rate is taken to be the magnitude that equilibrates savings and investment (at full employment), in Keynes it equilibrates the demand for and the supply of money or liquidity. The outcome of Keynes's argument is that if liquidity preference is high (and can even be expected to increase as societies become richer) the interest rate cannot be expected to fall to so low a level that the volume of the corresponding investment causes the full employment of labor.

This brings us to a third difference between Keynesian and neoclassical economics. In the latter money serves essentially only as a means of exchange and not as a store of value, and so does not affect the real economy in a substantial way. Money has therefore been called a "veil" that covers the real system; it can be removed without much effect on the latter. Things are quite different in Keynes's analysis, in which the real and the monetary sphere of the economy are intimately intertwined. The root of the interdependence of the two spheres, as Keynes saw it, is that money serves also as a store of value. Obviously, if this role becomes more important in a particular historical situation, agents will keep larger cash balances (they will hoard money), which means that expenditures will be reduced. This affects the real economy, because firms can now sell less and might, as a consequence, dismiss workers, and so on.

Keynes elucidated his idea of why keeping money need not be irrational by using the example of a special asset, a so-called consol, with a fixed interest payment per year and an infinite maturity. Whoever owns this kind of security has a claim to an annual interest payment at a given level from now to eternity. While the annual amount of interest is fixed, the share price of this tradable security is variable. The higher its price, the lower the security's effective interest rate, which equals the ratio of the fixed interest payment to the price of the asset. If the price is abnormally high, many financial investors will expect it to fall, which would imply a potential loss to them. If the loss due to an expected fall in the price of the asset is larger than the annual interest yield, they will prefer to hold money instead of the asset. For a given overall money supply of the central bank, the aggregate demand for money can now be so large that the money rate of interest is well above the rate that is compatible with full employment investment. The system gets stuck in an "unemployment equilibrium."

Keynes was convinced that this is the normal state of affairs in highly developed, rich economies. He offered three reasons in its support. First, in accordance with the "fundamental psychological law," savings do not grow in proportion to income, but more than in proportion. That is, the propensity to save (s) increases with an increase in income per capita, so the potential deficiency of effective demand tends to get larger.

Second, and simultaneously, Keynes, again following in the footsteps of conventional neoclassical economics, saw a worsening of profit expectations with respect to real capital formation: to the degree that capital becomes more "abundant" in a given country, it becomes less "scarce" relative to labor, and as a consequence the expected rate of return on capital tends to decrease, as a result the propensity to invest declines.

Third, a money rate of interest that is relatively rigid downward because of the liquidity preference of the public, people willing to hold cash balances prevents the ability to invest to improve. The high cost of getting the needed liquidity dampens investment. The system is caught in a dilemma: the propensity to invest declines, but it would be essential that it increase to counteract the depressive tendency arising from an increase in the propensity to save and an insufficient downward flexibility of the money rate of interest. In a developed economy, Keynes opined, there are strong stagnation tendencies at work as a result of these three factors. They can only be overcome by skillful monetary and fiscal policy, the stabilization of business expectations, and (in extremis) investment controls.

4.5 The concept of the multiplier

Richard F.Kahn, one of Keynes's colleagues, has the distinction of having fathered the concept of the multiplier. Kahn formulated the principle that an increase in investment has an expansionary effect greater than the increase in investment itself. Keynes subsequently recast the principle from its original form as a tool for analyzing the employment effects of public investment into a tool for analyzing the income effect of investment. The importance of increments of new investment to generate new income had, of course, already been stressed by business-cycle theorists such as Wicksell, Hayek, Cassel, and Ohlin. But it was the formulation of the multiplier principle that revealed two fundamentals concerning the relationship between investment and income that were not clearly understood before. The first is that the expenditure of new money can have an expansionary effect on an economy with unemployed resources that is larger than the size of the expenditure itself. The second is that any expansionary process is necessarily limited and loses vitality because of leakages from the expenditure stream, i.e. new increments of income are not fully spent. Some proportions are saved or 'leaked.' Both of these insights raised intensely practical issues during the Great Depression of the 1930s, when there was considerable interest in proposals to stimulate economic activity by the introduction of scrip money. Thus, the theory of the multiplier made a very timely appearance.

Keynes reasoned that an increment of investment can initiate an expansionary process because it increases income and also consumption expenditures (unless the marginal propensity to consume is zero). This, in turn, eventually increases the demands for the factors of production and their incomes. Since a zero marginal propensity to consume is most unlikely, Keynes thought that an increment of investment would be certain to raise the income level by more than its own amount. Precisely how great the leverage will be depends on the marginal propensity to save. Any portion of an increment of new investment that leaks away from the current expenditure stream cannot generate additional new income. Since the value of the marginal propensity to consume (i.e. consumption expenditures out of an additional dollar of income) is somewhere between zero and 100 percent, the marginal propensity to save is the unspent margin of income, i.e. S=Y-C.

Thus, the multiplier is the reciprocal of the marginal propensity to save, and necessarily takes on a value that lies between 1 and infinity. The multiplier is expressed as $k=\Delta Y/\Delta I$: k=multiplier, $\Delta Y=$ change in income, $\Delta I=$ change in investment

The increase in income associated with the operation of the multiplier principle can obviously only take place with a time lag. Thus, the operational significance of the multiplier is that, other things being equal, an expansion in national income is likely to follow from any income-creating expenditure in consequence of its effect on consumption.

Keynes chose not to emphasize the dynamic aspects of the multiplier and worked within a framework of a static conception. Thus, the new equilibrium income level is conceived as occurring without a time lag and is determined by the increment of new investment times a multiplier derived from some normal marginal propensity to consume.

4.6 Classical Economics and Keynesian Economics

Classical and Keynesian economics are two important schools of thought. Each school takes a different approach to the economic study of monetary policy, consumer behavior and government spending. A few basic distinctions separate these two schools.

Basic Theory

Classical economic theory is rooted in the concept of a laissez-faire economic market. A laissezfaire-also known as free-market requires little to no government intervention. It also allows individuals to act according to their own self-interest regarding economic decisions. This ensures economic resources are allocated according to the desires of individuals and businesses in the marketplace. Keynesian economic theory relies on spending and aggregate demand. Keynesian economists believe the aggregate demand is influenced by public and private decisions. Public decisions represent government agencies and Private decisions include individuals and.

Government Spending

Government spending is not a major force in a classical economic theory. Classical economists believe that consumer spending and business investment represents the more important parts of a nation and economic growth. Too much government spending takes away valuable economic resources needed by individuals and businesses. To classical economists, government spending and involvement can retard a nation's economic growth. Keynesian economics relies on government spending to a nation's economic growth during sluggish economic downturns. Similar to classical economists, Keynesians believe the nation's economy is made up of consumer spending, business investment and government spending. However, Keynesian theory dictates that government spending can improve economic growth in the absence of consumer spending or business investment.

Short versus Long run

Classical economics focuses on creating long-term solutions for economic problems. The effects of inflation, government regulation and taxes can all play an important part in developing classical economic theories. Classical economists also take into account the effects of other current policies and how new economic theory will improve or distort the free market environment. Keynesian economics often focuses on immediate results in economic theories. Policies focus on the short-term needs and how economic policies can make instant corrections to a nation's economy. This is why government spending is such a key component of Keynesian economics. During economic recessions and depressions, individuals and businesses do not usually have the resources for creating immediate results through consumer spending or business investment. The government is seen as the only force to end these downturns through fiscal policies providing instant economic results.

Classical follow the basic assumption that economy is in full employment. The wages and prices are very flexible and there is no need of fiscal or monetary policy. The invisible hand makes the economy self-correctable. The Aggregate supply curve is vertical according to Classicals and so any rise in aggregate demand will increase prices and not production. In Classical Theory, Government has minimal role in the economy, and the macro-economy is self-adjusting; meaning consumers and businesses will correct any problems with the economy automatically over time. Classical theory focuses on long-term goals.

Keynesian economics follow the basic assumptions that Economy may not be in full employment in the short run. Wages are rigid and prices are sticky. Fiscal policy may be needed to correct the disequilibrium or improve the efficiency of the economy. Aggregate supply is upward sloping in the short run so a rise in aggregate demand may raise the production. In Keynesian theory, Government has a large role in the economy, and focuses on short-term goals.

4.7 Keynesian economics and underdeveloped countries

The Keynesian theory is not applicable to every socio-economic set-up. The main deficiency lies in assumptions and tools that Keynesian theory used to test their validity to underdeveloped countries. The weakness of Keynes used in his analysis are explained as follows;

Effective Demand: Unemployment is caused by the deficiency of effective demand, and to get over it, Keynes suggested the stepping up of consumption and non-consumption expenditures. In an underdeveloped country, however, there is no involuntary unemployment but disguised unemployment. Unemployment is caused not by lack of complementary resources. The concept of effective demand is applicable to those economies where unemployment is due to excess savings. In such a situation the remedy lies in stepping up the levels of consumption and investment through various monetary and fiscal measures. But in an underdeveloped economy income levels are extremely low, the propensity to consume is very high and savings are almost nil. All efforts to increase money incomes through monetary and fiscal measures will, in the absence of complementary resources, lead to price inflation.

Propensity to Consume: One of the important tools of Keynesian economics is the propensity to consume which highlights the relationship between consumption and income. When income increases, consumption also increases, but by less than the increment in income. This behavior of consumption further explains the rise in saving as income increases. In underdeveloped countries, these relationships between income, consumption and saving do not hold. People are

very poor and when their income increases, they spend more on consumption goods because their tendency is to meet their unfulfilled wants.

The marginal propensity to consume is very high in such countries, whereas the marginal propensity to save is very low. The Keynesian economics tells us that when the MPC is high, the consumer demand, output and employment increase at a faster rate with the increase in income. But in an underdeveloped country, it is not possible to increase the production of consumer goods due to the scarcity of co-operant factors, when consumption increases with the rise in income. As a result, prices rise instead of a rise in the level of employment.

Saving: On the saving side, Keynes regarded saving as a social vice for it is excess of saving that leads to a decline in aggregate demand. Again, this idea is not applicable to underdeveloped countries because saving is the panacea for their economic backwardness. Capital formation is the key to economic development and capital formation is possible through increased saving on the part of people. Underdeveloped countries can progress by curtailing consumption and increasing saving, as opposed to the Keynesian view of raising consumption and reducing saving. To underdeveloped countries, saving is a virtue and not a vice.

Marginal Efficiency of Capital: According to Keynes, one of the important determinants of investment is the marginal efficiency of capital. There is an inverse relationship between investment and MEC. When investment increases, the MEC falls, and when investment declines, the MEC rises. This relationship is, however, not applicable to underdeveloped countries. In such economies, investment is at a low level and the MEC is also low. This paradox is due to the lack of capital and other resources, small size of the market, low demand, high costs, underdeveloped capital and money markets, uncertainties, etc. All these factors keep the MEC (profit expectations) and investment at a low level.

Rate of Interest: The rate of interest is the second determinant of investment in the Keynesian system. It is, in turn, determined by liquidity preference and the supply of money. Of the motives for liquidity preference, the transactions and precautionary motives are income elastic and they do not influence the rate of interest. It is only the demand for money for the speculative motive that affects the rate of interest. In underdeveloped countries, the liquidity preference for transactions and precautionary motives is high and for the speculative motive low.

Therefore, liquidity preference fails to influence the rate of interest. The other determinant of the interest rate is the supply of money. According to Keynes, increase in the supply of money lowers the interest rate and encourages investment, income and the level of employment. But in underdeveloped countries, an increase in the supply of money leads to the rise in prices rather than to the fall in interest rate. As Keynes himself observed in citing India's example, "The history of India at all times has provided an example of a country impoverished by a preference for liquidity amounting to so strong a passion that even an enormous and chronic influx of the precious metals has been insufficient to bring down the rate of interest to a level which was compatible with the growth of real wealth." Thus the rate of interest in underdeveloped countries is not influenced so much by the demand for and the supply of money as by traditions, customs and institutional factors.

The Multiplier: According to Dr. Rao, Keynes never formulated the economic problems of underdeveloped countries nor did he discuss the relevance to these countries for either the objective or the policy that he proposed for the more developed countries. Not only this, even the Keynesian policy prescriptions are hardly tenable under the conditions prevailing in underdeveloped countries. He maintains that an attempt to increase investment through deficit financing leads to an inflationary rise in prices rather than to an increase in output and employment.

Chapter Five The Post Keynesian Development in Economic Thought

Introduction

The 'economics of Keynes,' as distinct from 'Keynesian economics,' has passed into history. The Treatise on Money and The General Theory has become classics and share the common fate of being known largely through secondary sources. The 50 years that have elapsed since publication of The General Theory have witnessed a phenomenal amount of empirical and theoretical work built on Keynesian foundations. The main thrust of the empirical work has been to try to verify Keynes's theoretical constructs.

While these efforts at empirical research have yielded important results, the interests here is more specifically focused on the developments in theoretical economics that came after the General Theory. Several are of particular interest because they reflect a counter-revolution against Keynes's economics. The 'Keynesian cross' and the IS-LM (investment, savings, liquidity-preference, money) apparatus, which have become mainstays of contemporary macroeconomics even at the textbook level, are products of the counter-revolution. The IS-LM apparatus has been used to demonstrate the possibility of a general equilibrium among commodity, money, and labor markets.

Chapter objective

After completing this chapter, you will be able to;

- Understand Keynesian macroeconomics and neoclassical microeconomics synthesized
- Identify the main tents of post-Keynesian economists
- Discuss the ideas of contemporary new Keynesian" economists
- Explain the body of policy prescriptions that have come to be known as Monetarism.
- Appreciate view of Radical economists on capitalist

5.1 The Keynesians Economics

Keynesian economics, as distinct from the economics of Keynes, began its development scarcely a year after the publication of The General Theory. In 1937, J.R.Hicks, of the London School of

Economics, undertook a neoclassical reinterpretation of Keynes's message in his article 'Mr. Keynes and the classics, a suggested reinterpretation.' Its impact was delayed temporarily by a general equilibrium interpretation of Keynes's system that Paul Samuelson has dubbed the 'Keynesian cross.' Its textbook popularity was enhanced by its use of a geometric representation. This Keynesian cross shows real expenditures on the vertical axis and output on the horizontal. The aggregate- supply curve is expressed as a 45° line. It shows how the equilibrium of output achieved.

The Hicks-Hansen IS-LM apparatus

Despite the attractive simplicity of the Keynesian cross model, it was eventually displaced by a new apparatus made up of two composite curves, IS and LM. The logic of the IS-LM apparatus will be easily seen in relation to Keynes's views of the neoclassical theory of the interest rate. Keynes maintained that neoclassical theory did not provide a determinate solution of the interest rate because the saving-supply schedule, which together with the investment-demand schedule is supposed to determine the interest rate, is itself dependent on the income level. Yet the income level is not known until the volume of investment is known, and the latter itself depends on the interest rate. In other words, the interest rate is indeterminate in the neoclassical framework because the savings- supply schedule and the investment-demand schedule are interdependent.

Hicks countered that Keynes's criticism of indeterminacy is equally applicable to his own theory of the interest rate. The liquidity-preference schedule and the supply schedule of money also do not yield a determinate rate of interest because there is a different liquidity-preference schedule for every level of income. Even though the schedule of liquidity preference for speculative purposes is independent of the level of income, it is necessary to know the income level in order to know what the transactions and precautionary demands for money will be. Thus, the criticism of indeterminancy of interest rate determination that Keynes leveled against the neoclassical theory was held by Hicks to be equally applicable to his own.

Hicks's suggested reinterpretation demonstrated that, by joining Keynes's theory and the neoclassical theory, it is possible to establish a determinate solution because together they include all of the variables of the interest rate problem. These variables are (1) the savings function, (2) the investment-demand function, (3) the liquidity-preference function, and (4) the

quantity of money. They can be combined to construct two new curves, the IS curve and LM curve.

The IS curve is derived from the relationship between the investment-demand curve and a family of curves showing savings as a function of both income and the interest rate. The locus of all the points at which savings and investment are equal yields what Hansen and Hicks have called the IS schedule. The IS function expresses interest as a function of three variables: savings, investment, and the income level. It is the IS function that, together with a curve that has become known as the LM function, determines the rate of interest.

The LM curve is derived from the relationship between a family of liquidity-preference curves and the schedule of the money supply. There is a different liquidity-preference schedule at every income level. These curves, together with M, the money supply made available by the monetary authority, show the various combinations of income levels and interest rates consistent with the willingness of the public to hold the money supply in its balances. The upward slope and increasing inelasticity of the LM curve show that, with a given quantity of money, a greater preference for liquidity will result in a higher interest rate rather than additional hoarding. It should also be observed that higher income levels are associated with higher interest rates because the transactions and precautionary demands for money increase at higher income levels so that, given the money stock, there is less left to satisfy the speculative motive. This puts an upward pressure on the interest rate and accounts for the increasing inelasticity of the LM curve.

The interest rate may then be thought of as determined by the intersection of LM and IS curves, which bring together the four variables of the problem. The intersection of the two curves was interpreted by Hicks as representing a stable monetary equilibrium in the sense that (a) realized savings and investment are equal to planned savings and investment and (b) the amount of money people wish to hold

The IS-LM model of simultaneous determination of the interest rate and income level is equal to the actual money stock. Hansen elaborated on Hicks's article in his Monetary Theory and Fiscal Policy (1949) and in chapter 7 of A Guide to Keynes. Today we refer to the Hicks-Hansen synthesis as the IS–LM model. If this representation is indeed relevant to the real world, as Hicks

and Hansen maintained it is, the implication is that markets do tend to come to equilibria consistent with market clearing.

Keynesianism and the Phillips curve

One of the limitations of the IS-LM apparatus is that it does not link real output and employment to the monetary magnitudes of price and wage levels. The necessity for establishing this link became evident as the difficulties of achieving the dual goals of full-employment and price level stability without wage and price controls became apparent. It is in this connection that Keynesian economists pressed into service the results of a 1958 study by A.W. Phillips that employed British data to relate the rate of wage increases to the percentage of unemployment of the civilian labor force. In 1960, Samuelson and Robert Solow plotted a Phillips scatter diagram for the United States from which they made a rough estimate of the Phillips curve facing the economy in 1960.

It is important to note that the relationships between money-wage rate changes and unemployment exhibited by the Phillips curve do not support any hypothesis about the cause of inflation. The Phillips curve tells us only that the tighter the labor market, the greater the upward pressure on wage rates. However, the correlation between wage changes $\Delta w/w$ and U, the rate of unemployment, has been interpreted as providing a basis for inferences about increases in the general price level by linking them to changes in money wage rates. That is, money-wage rate changes have been taken as a proxy for price-level changes on the premise that market prices reflect a fairly stable mark-up over wage costs.

A convenient way of representing this relationship is in terms of a mark-up price equation that has been found useful in econometric research: P=kw/A, in which P is the price level, k is the average price mark-up over unit labor costs, w is average wages and salaries in money terms, and A is the average productivity of labor. The price mark-up equation implies that wage increases that exceed productivity increases tend to become associated with inflationary price increases and higher unemployment. If the relationship between average prices and the markup on unit labor costs is reliable, then, according to the Phillips curve, the tighter the labor market at given productivity levels, the greater the upward pressure on wage rates and prices. Conversely, lower

rates of inflation tend to accompany higher rates of unemployment. The trade-off between rates of unemployment and rates of inflation is reflected in the convex shape of the Phillips curve.

The Phillips curve relationship is the basis for the belief, which has persisted up to the recent past, which policy makers can choose among alternative combinations of rates of unemployment and rates of inflation. Thus, it was thought possible to reduce the rate of inflation, but then higher rates of unemployment will have to be tolerated, even in a generally prosperous economy. However, the notion that there is a trade-off between inflation and unemployment was shaken by the puzzle of the simultaneous increases in unemployment and rates of inflation that existed during the 1970s and early 1980s. This puzzle eventually led a group of thinkers, who have become known as New Classicals, to the notion that the Phillips curve might be vertical at a rate of unemployment which they thought of as natural. Their rational expectations hypothesis is the basis for their argument that there is a level of unemployment that is natural in the sense that it tends to persist in spite of monetary or fiscal policies to reduce unemployment to a lower level.

5.2 The Post-Keynesians Economics

Not all scholars of Keynes accepted this neoclassical synthesis. Some denied both the IS–LM interpretation of Keynes and standard microeconomics. One among such school of thought is The Post-Keynesian School. The Chief economists at Cambridge, England, including Piero Sraffa , Nicolas Kaldor (1908–1986), Joan Robinson , and Luigi Pasinetti (1930–). John K. Galbraith , Sydney Weintraub (1914–1983), and a handful of other economists contributed to this school of thought in the United States. Many of the post- Keynesians drew heavily on the work of Polish economist Michal Kalecki (1899–1970), who in 1933 had offered a "Keynesian-like" theory of total employment prior to The General Theory.

The Major Tenets of Keynesians

Neo-Ricardian view of production, value, and distribution: In his publication of 1960, Piero Sraffa reconstructed Ricardo's production and value theory in a modern form. Of particular importance to the discussion at hand, Sraffa's theory produced a novel conclusion: The level of domestic output is entirely independent of how it is distributed between wages and profits. Any distribution of wages and profits is consistent with a particular level of output.

Robinson and other post-Keynesians expanded Sraffa's unconventional theme. The actual distribution of income between wages and profits, they said, will depend on the class struggle, on public policies that alter the distribution, and on the rate of investment (higher rates increasing the profit share). Robinson argued that it is desirable and possible for society to control the distribution of income. This can be done through the socialization of investment, public ownership of the means of production, or incomes policies (government policies to control wages and prices). Robinson believed these policies are firmly rooted in the proper interpretation of Keynes's The General Theory.

Markup pricing: Prices are set by oligopolistic corporations. These firms finance investment largely from retained profits. To achieve their desired levels of profits and therefore realize their investment plans, oligopolists set prices above current costs. Prices therefore "do not reflect current demand conditions; rather they reflect the funds requirements for the planned investment expenditure the firm considers necessary if it is to adjust its capacity sufficiently to meet expected future demand. When costs rise, firms increase their prices to maintain their markups over their costs.

Endogenous money: Contrary to the view held by Fisher and Friedman, post-Keynesians regard the stock of money as being essentially endogenous to the economy, changing in response to changes in the level of wages. The needs of trade dictate the supply of money. Keynes himself pointed out that money "comes into existence along with debts." Inflation arises from the fight over the shares of the distribution of income. Wage increases cause production costs to rise, creating a greater demand on the part of firms for working capital to finance their more expensive goods-in-progress and inventories. Hence, business borrowing rises and the money stock increases.

Pronounced cyclical instability: The economy is inherently unstable. Investment must grow sufficiently to keep national income and output growing at a steady rate. Because of periods of alternating environment of business optimism and pessimism, it often does not. When investment is less than required to maintain the steady rate of growth, the economy recedes and unemployment rises.

Need for an incomes policy: An incomes policy limits the average annual wage increase to the nation's annual rate of productivity growth. Similarly, firms are constrained as to how much they can raise prices. A successful incomes policy holds down inflation, minimizes the redistribution of income from inflation, and avoids the loss of output associated with anti-inflationary fiscal and monetary policies. According to post-Keynesians, the "class struggle" for income shares and the markup pricing by oligopolists necessitate a permanent incomes policy.

If there is perhaps one point on which economists with a post-Keynesian perspective are likely to agree, it is that inflation cannot be controlled through conventional instruments of fiscal and monetary policy. This is because they regard inflation as resulting, not necessarily from any "excess demand" for goods, but rather from a more fundamental conflict over the distribution of available income and output. The conventional policy instruments, by curtailing the level of economic activity, simply reduce the amount of income and output available for distribution, thereby heightening the social conflict underlying the inflationary process. It is for this reason that post-Keynesian economists, instead of asking whether an incomes policy is necessary, have generally moved on to the question of how an incomes policy can be made to work effectively and equitably.

5.3. The New Classical Economics

At the beginning of 1946 other several group of economists comes to establish what label Chicago school .Melton Freidman and George Stigler established the school .And other; Gary Becker, Robert Lucas, and several other prominent economists at Chicago have continued the tradition, as have economists holding widely scattered positions in academia, business, and government. The school fit within the broader classical-neoclassical tradition. Due to its perspective is a variant of neoclassicism, it is referred to as the "new classicism.

The New Classical Economics: rational expectations

The thinking that underlies the concept of a vertical Phillips curve is attributable chiefly to Milton Friedman who provided the essential foundation for what is today identified as the New Classical Economics. Its starting point, as it relates to the behavior of the labor market, is that workers (and employers) respond to expected (rather than current) real wages. The premise is that workers have 'rational expectations' about what wage and price levels are likely to be. While individual workers are likely to err in their expectations about rising or falling future price levels, these errors are likely to cancel out; it can thus be assumed that workers in the aggregate are able to anticipate inflation or deflation. Within this framework of inquiry, the phenomenon of unemployment (i.e. joblessness among persons who want to work at prevailing real wage levels) is attributable to the failure of the unemployed to forecast the rate of inflation correctly, which leads them to refuse jobs they would normally accept.

The scenario is the following: assume that, in response to a level of unemployment that is considered excessive, monetary and/or fiscal policy (e.g. interest rate and/or tax reductions) are used to encourage employers to increase their demand for workers. Without a sufficient number of unemployed workers with suitable job skills, employers will have to offer higher nominal (or money) wages. New Classical theory argues that workers will interpret higher wage offers as representing higher real wages, not having a reason to anticipate a rise in commodity prices over the period of their wage contracts. Yet, employers will pass the costs of rising wages along to consumers as higher commodity prices so that, in fact, workers are not receiving higher real wages. Nor will they be 'fooled' into thinking they are better off.

For some, the work-leisure trade-off is reassessed in favor of leisure. The unemployment level thus tends to return to the 'natural rate' as workers voluntarily choose leisure. However, the price level remains at the level that stimulative policy brought into being. The short-run trade-off between unemployment rates and inflation rates that is reflected in the convex Phillips curve is thus not the long-run experience.

Proponents of the natural rate hypothesis believe that the Phillips curve is resistant to policy measures to reduce the unemployment rate, except in the short run. Such measures are viewed as self-defeating, because they are anticipated by workers and by the public generally, which acts to circumvent policy outcomes. The view that the Phillips curve is vertical in the long-run pertains to thinkers who favor laissez-faire free market outcomes.

Monetarism

The Keynesian cross model and the IS-LM model are both presented in real terms; i.e. they do not include an explicit price level. This characteristic made them suspect as analytical tools for analyzing the phenomenon of inflation. This lack gave impetus to a modern version of the

quantity theory as an alternative analytical and policy tool. The essence of monetarist views, which can be dated back to David Hume, is that changes in the price level are attributable to changes in the quantity of money. Following Irving Fisher, modern theorists discounted the likelihood of autonomous changes in v, the velocity of circulation, except during transition periods, because of the unchanging nature of spending habits and the institutional factors governing them.

The concern of modern economists with the role of money and the potential of monetary policy to achieve employment and price level goals has changed over time. It was accorded little interest during the 1930s and 1940s. Thus, the publication of Milton Friedman's Studies in the Quantity Theory of Money in 1956 reflects a reassessment that has been in progress in more recent decades about the role of money and the place of monetary policy. The essence of its message, and of the research it stimulated, is that 'money matters.' Unlike the Keynesians, whose IS-LM apparatus reduces money to a numéraire (common denominator) in a general equilibrium-model, the monetarists, led by Milton Friedman, focused on the importance of specifically analyzing the demand for money and formulating a 'positive theory' for the guidance of policy.

The modern quantity theory

The fundamental question that the theory of the demand for money seeks to answer is: why do people hold money that is not an income-earning asset, rather than productive goods or interest bearing securities? In Friedman's view, the demand for money by the wealth-owners of society can be examined within the framework of the theory of consumer choice. Thus, the demand for money depends on (a) the total wealth to be held in various forms (which is analogous to the budget constraint); (b) the price of, and the return on, this (and alternative) forms of wealth; and (c) the tastes and preferences of wealth-owning units.

Total wealth includes all sources of what Friedman terms permanent income. It includes (a) money identified as claims that are acceptable for making payments at a fixed nominal value, (b) bonds, (c) equities, (d) physical goods, and (e) human capital. Wealth owners are conceived to convert one form of wealth into another in order to maximize utility. There is utility in holding part of one's wealth in the form of money; thus, the holder of money alters his money holdings

'until the value to him of the addition to the total flow of services produced by adding a dollar to his money stock is equal to the reduction in the flow of services produced by subtracting a dollar from each of the other forms in which he holds assets. As in all demand analyses predicated on maximizing a utility function, the demand for money is independent of the nominal unit used to measure money variables. Thus, the demand for money is a demand for real balances as a function of real variables.

Quantity theorists maintain that the demand for money (in real terms) is highly stable and are satisfied that there is empirical evidence to verify this hypothesis. Philip Cagan's study, in particular, identified the stability of the real demand for money with his finding that changes in the rate of change of prices affect the nominal quantity of money demanded. The higher the rate of change of prices, the lower will be the nominal quantity of money held because it makes alternative forms of holding wealth more attractive. Friedman regards the stability of the money-demand function (in terms of real balances) to be one of the few constants that economists have been able to identify.

Friedman's permanent income hypothesis

Keynes thought it a reasonable proposition that, as a general rule, consumption will increase less than proportionally to an increase in income. There was much debate about this view after his work was published. Three sets of facts have been utilized by various investigators to test this proposition empirically. There are data on aggregate savings and income for the period 1869 to 1958 collected by the 1971 Nobel Prize winner in economics, the late Professor Simon Kuznets; budget studies for 1935–36 and 1941–42 by the National Resources Committee and the US Bureau of Labor Statistics; and, finally, Department of Commerce data showing decade by decade that, in the US, there has been a long-run constant ratio between consumption and income of about 88 percent. These data do not show any tendency for the proportion of income saved to rise with income.

Budget studies, however, suggest that the savings ratio increases with income. Department of Commerce data support the thesis that the ratio of savings to income varies over the trade cycle. Of course, such evidence does not necessarily mean that the long-run relationship between consumption and income may not be a proportional one. Friedman is among those advancing the hypothesis that the true long-run relationship between consumption and income is proportional.

Friedman's view that consumption behavior depends on permanent income— that is, on the resources an individual expects to have over a lifetime—is closely related to his finding that the demand for real-money balances is stable. His theory seeks to extend Keynes's initial inquiry to consumption behavior.

His approach is to distinguish between the permanent and transitory components of income and consumption. Thus, income includes a permanent component, Yp, and a transitory component, Yt. Similarly, for consumption there is a permanent component, Cp, and a component that is transitory, Ct. Permanent income, in the Friedman sense, is determined by two factors: the wealth of the consumer unit expressed as the present value of a stream of expected future receipts, and the rate at which the receipts are discounted.

The ratio (k) between permanent income (Yp) and permanent consumption (Cp) depends on the rate of interest (r), the ratio of non-human wealth to income (w), and a composite variable (u) whose value reflects the propensity to consume of consuming units that are different with respect to age and taste. The ratio k is, however, independent of permanent income, and Friedman asserts that transitory consumption (Ct) is unrelated to transitory income (Yt). The measured consumption established from cross-section data as the sum of permanent and transitory consumption depends on permanent income rather than measured income. That is, consuming units are considered as determining their consumption on the basis of the returns from resources they expect to receive over a lifetime. Their expenditures are a constant proportion (k) of their permanent-income level. The various transitory factors, such as unexpected bills or income losses, which produce deviations between observed income and expenditures and their permanent levels are random factors. Symbolically: $Y=Y_p+Y_t$, $C=C_p+C_t$, $C_p = kY_p$, k=f(r,w,u)

While the difficulty of measuring permanent income and consumption makes the permanentincome hypothesis difficult to test, Friedman has established some empirical support for it. Using time-series aggregates, he has established that (1) after allowances are made for transitory components of consumption and income, the ratio k of permanent consumption to permanent income seems to have been constant since 1897, and (2) the income elasticity of consumption rises as the period of observation to which a consumption function is fitted increases, which suggests that transitory components become less important over a longer time period. Thus, the theory predicts a long-run consumption function in which consumer expenditures are a constant proportion of income. This relationship is the basis for the expectation that the demand for realcash balances to facilitate consumption expenditures is going to be stable.

The perverse effect of monetary expansion on interest rates

In Friedman's view, the stability of the demand for cash balances, in real terms, underlies the perverse effects that monetarists believe changes in the quantity of money have on long-term interest rates. The growth of the money supply is expected to stimulate spending and raise income. This will tend to raise the liquidity- preference schedule and the demand for loans. It may also raise prices, which will have the effect of reducing the real quantity of money. These effects, Friedman maintains, tend to reverse the initial downward pressure that money expansion has on interest rates and return them to their previous level. The initial impact of increasing the quantity of money at a faster rate is to make interest rates lower for a time than they would otherwise have been. But this is only the beginning of the process, not the end. Indeed, monetarists argue that a higher rate of monetary expansion will ultimately correspond to a higher, not lower, level of interest rates than would otherwise have prevailed, because it will generate the expectation of further increases in the price level. Since the demand for real balances is stable, the nominal demand for money increases, which increases, rather than decreases, the rate of interest. Thus, Friedman argues, in practice, interest rates cannot be pegged.

Nor is it possible for the monetary authority to adopt a target for unemployment. Their belief is, generally, that at any moment there is a level of unemployment that is consistent with the structure of real wage rates. Real wage rates are tending, on average, to increase at a normal secular rate that is compatible with the rate of capital formation and technological improvements, and there is a natural rate of unemployment consistent with them. It is the relationship between real-wage and money-wage changes that explains why the trade-off postulated by the Phillips curve between money-wage changes and the unemployment rate is a short-run trade-off. Thus, Friedman argues that the Phillips curve is vertical in the long run. The trade- off between
inflation and unemployment is the temporary result of unanticipated (i.e. a rising rate of) inflation.

Friedman's recommendations for monetary policy

Friedman's recommendations for controlling the money supply are predicated on his identification of what monetary policy can and cannot accomplish. The monetary authority can control the nominal quantity of money (i.e. its own liabilities) and thereby control nominal magnitudes such as the price level, exchange rates, and the nominal level of national income. But it cannot use control over nominal quantities to peg real quantities such as the rate of unemployment, the real rate of interest, the real quantity of money, or the level of real national income.

The chief objective of monetary policy should, in Friedman's view, be to prevent money itself from becoming a source of major disturbance. What is required is to provide a 'stable environment' within which consumers, producers, employees, and employers are reasonably assured that the average level of prices will behave in a known (preferably stable) way in the future.

This is a function which, in an earlier era, was performed by the gold standard. There are persuasive reasons for the demise of the gold standard but, according to Friedman, the monetary authority could operate as a surrogate for the gold standard. To this end he recommends that the monetary authority adopt a policy of increasing the money supply (however defined) at some specified and unchanging rate. If the money supply is defined as consisting of currency and commercial bank deposits, the rate of increase that he has estimated would be suitable is between 3 to 5 percent per year. A publicly stated policy of a steady rate of monetary growth is, he believes, the most important contribution the monetary authority can provide to facilitate economic stability.

Keynes versus the monetarists

What separates modern monetarists from the Keynes of The General Theory (and contemporary followers of Keynes)? Clearly, it cannot be said that the view that 'money matters' is attributable to the monetarists and not to Keynes. Keynes's particular concern with the nature and role of money has been emphasized at several junctures. It is incorrect, in view of this emphasis, to

construe his limited faith in monetary policy during severe depression to mean that he thought money did not matter.

What separates Keynes from the monetarists thus turns, in simplest terms, on the question of whether the key endogenous variable of the system is the quantity of money or money-wage rates. In viewing money as an asset that is demanded to circumvent uncertainty, and which comes into existence as a result of the debt-creating activities of commercial banks, Keynes identified money as being endogenously generated within the system (and explainable in terms of the economist's tools). Money wages, on the other hand, are the outcome of institutional arrangements, and are therefore exogenous to the system. According to Keynes's view, the collective bargaining activities of unions, legal wage minima, and wage customs of various kinds impinge on demand and supply forces to a degree that makes it impossible to explain wage behavior in terms of the market mechanism.

Monetarists and Keynesians, however, conceive of the quantity of money as being generated by policy and is therefore exogenous to the system, while real wages are established endogenously via the operation of the price mechanism. These differences are also fundamental to the counter counterrevolution that contemporary followers of Keynes are now conducting against monetarists, Keynesians and new classicals.

5.4. The New Keynesians Economics

New Keynesian economics is the school of thought in modern macroeconomics that evolved from the ideas of John Maynard Keynes. Keynes wrote The General Theory of Employment, Interest, and Money in the 1930s, and his influence among academics and policymakers increased through the 1960s. In the 1970s, however, new classical economists such as Robert Lucas, Thomas J. Sargent, and Robert Barro called into question many of the precepts of the Keynesian revolution. The label "new Keynesian" describes those economists who, in the 1980s, responded to this new classical critique with adjustments to the original Keynesian tenets.

The primary disagreement between new classical and new Keynesian economists is over how quickly wages and prices adjust. New classical economists build their macroeconomic theories on the assumption that wages and prices are flexible. They believe that prices "clear" markets—balance supply and demand—by adjusting quickly. New Keynesian economists, however,

believe that market-clearing models cannot explain short-run economic fluctuations, and so they advocate models with "sticky" wages and prices. New Keynesian theories rely on this stickiness of wages and prices to explain why involuntary unemployment exists and why monetary policy has such a strong influence on economic activity.

A long tradition in macroeconomics (including both Keynesian and monetarist perspectives) emphasizes that monetary policy affects employment and production in the short run because prices respond slowly to changes in the money supply. According to this view, if the money supply falls, people spend less money and the demand for goods falls. Because prices and wages are inflexible and do not fall immediately, the decreased spending causes a drop in production and layoffs of workers. New classical economists criticized this tradition because it lacks a coherent theoretical explanation for the sluggish behavior of prices. Much new Keynesian research attempts to remedy this omission.

Similarly, most modern Keynesians reject the neo-Ricardian value theory of the post-Keynesians. They also reject the post-Keynesians' call for incomes policies, citing the resource misallocations resulting from these policies and the poor historical success of wage and price controls in reducing inflation.

New Keynesian economists such as Joseph Stiglitz of Stanford, Oliver Blanchard of Harvard, Stanley Fisher, George Akerlof of California-Berkeley, Assar Lindbeck of the University of Stockholm, and Robert Gordon of Northwestern have offered several possible explanations for downward price and wage rigidity.

Menu costs: Some firms must incur costs when they lower prices; for example, a restaurant must print a new menu. Similarly, other firms establish and print new price lists; communicate the lower prices to customers, perhaps through new advertising; print and mail new catalogs; and reprice items held in inventory. Where menu costs such as these are high, firms may be reluctant to lower their prices, even when faced with slack demand. Also, firms in oligopolistic industries must be concerned that a unilateral price reduction may set off deeper cuts by rivals. Thus, when aggregate demand in the economy declines, prices (at least for a time) may remain fixed while output and employment fall.

Formal and implicit contracts: New Keynesians point out that unions often sign long-term contracts containing built-in nominal wage increases. Wage cuts simply are not an option when declines in aggregate demand unexpectedly occur; instead firms lay off workers. Even where contracts are being renegotiated, unions typically vigorously resist wage "givebacks." Union leaders, elected by the majority of members, often prefer layoffs for the few rather than wage cuts for the many.

Although many non-union workers do not work under formal or explicit contracts, these workers may operate under implicit contracts, which are informal agreements or "invisible handshakes." One common understanding may be that firms will maintain existing nominal wages during periods of slack product demand. Such "insurance" against wage cuts may benefit firms by allowing them to attract higher quality workers who require less supervision. In return for the pledge of no wage cuts, workers in effect pledge not to challenge the firm's right to lay off workers in response to declines in product demand. If formal and implicit contracts permeate the workplace, then declines in wages are not forthcoming as aggregate demand declines.

Efficiency wages: An efficiency wage is an above-market clearing wage that minimizes an employer's wage cost per effective unit of labor service employed. Normally, we would think that the market wage is the efficiency wage. However, when the costs of supervising and monitoring workers are high or worker turnover is great, firms may discover that an above-market wage will lower their labor costs. The higher pay raises the relative value of the job as viewed by each worker; it also raises the cost of being terminated or leaving. The higher opportunity cost (price) of shirking and being fired, or of voluntarily leaving the job, results in less shirking and reduced turnover, which together enhance productivity.

Firms paying efficiency wages will be reluctant to cut wage rates in response to declines in aggregate demand because these wage cuts will encourage shirking and increase the number of job quits, dampening productivity and increasing the firms' per-unit labor costs. In brief, the wage cuts will be self-defeating. In this way, efficiency wages may contribute to downward wage inflexibility and cyclical unemployment.

Insider-outsider theory: In Assar Lindbeck's "insider-outsider model" of sticky wages, "insiders" are employed workers who possess some market power; "out- siders" are the

unemployed who are unable or unwilling to underbid existing wage rates to gain employment. Outsiders may be unable to underbid existing wages because employers may view the costs of hiring them as being too high. The employers may rightfully be concerned that the remaining higher paid workers will view these replacement workers as "stealing" jobs. If the higher paid "insiders" refuse to cooperate in team production with the new lower paid workers, the firms' output and profits will suffer.

Even if firms are willing to hire "outsiders" at less than the existing wage, these unemployed people may not want to offer their services for less than the existing wage. That is, they may fear harassment from the higher paid employees. Thus, "outsiders" may remain unemployed, waiting for an increase in aggregate demand to regain employment, rather than undercutting existing wage scales. Wages will be inflexible downward in the presence of deficient aggregate demand and cyclical unemployment.

5.5 Can capitalism survive?

In Capitalism, Socialism and Democracy (1942) Schumpeter maintained that capitalism cannot survive and is destined to be supplanted by socialism. However, unlike Marx, Schumpeter saw this not as a triumphal march of human progress but rather as an advance on the road to decadence.

Schumpeter's thesis had already taken shape before the **Great Crisis:** it had nothing to do with the stagnation theories based on the dissolution of investment opportunities, which were taken up and developed by Hansen (1938) after Keynes, but rather looked back to Weber's (1904–5) view of capitalism as an all-embracing rationalization process affecting both productive activity and culture. According to Schumpeter, there is a contradiction inherent to capitalistic development: economic stability requires incessant development, but this creates growing difficulties for political stability. Beyond a certain point such difficulties make the breakdown of capitalism inevitable.

The core of Schumpeter's argument is the connection between economic development and destruction of the politico-social foundations of capitalism. The connection has two aspects: on the positive side, growth of an opposition to capitalism associated mainly with the spread of rationalistic ways of thinking and the swelling ranks of intellectuals; on the negative side, the

weakening of capitalism's 'protective strata', consisting mainly of the ranks of small and average entrepreneurs, faced with the growth of the big bureaucratized firms. The former aspect concerns what the Marxist tradition considers the superstructure of capitalistic societies, the latter the structure; the two aspects interact in the process of social transformation.

Bureaucratization of the economy hinders both the innovative action of entrepreneurs and the 'creative destruction', i.e. bankruptcy of slow moving firms, which frees resources for the innovating firms and functions as continuous natural selection of the ranks of firm owners and managers. Bureaucratization is the result of changes in dominant market forms through a process of industrial concentration that implies, among other things, transformation of the activity of technological innovation into routine.

The Schumpeterian theory of market forms stands out distinctly from the traditional marginalist theory, given its intrinsically dynamic character. Against 'the traditional [static] conception of the modus operandi of competition', which leads to the so-called law of the one price, in his writing of 1942 Schumpeter opposed the competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance), competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. This kind of competition is as much more effective than the other as a bombardment is in comparison with forcing a door.

Competition is associated with the freedom of entry of new innovative firms into the market. This means attributing little importance to the barriers to competition stemming from market differentiation, upon which Chamberlin, in 1933 insists. It also foreshadows a radical critique of anti-monopolistic policies based on the number of firms active in the market.

The process of industrial concentration also generates drastic change in the social structure: 'The perfectly bureaucratized giant industrial unit not only ousts the small or medium-sized firm and "expropriates" its owners, but in the end it also ousts the entrepreneur and expropriates the bourgeoisie as a class which in the process stands to lose not only its income but also what is infinitely more important.

Economic and social transformations are accompanied by equally radical changes in culture and ideology: 'capitalism creates a critical frame of mind which, after having destroyed the moral authority of so many institutions, in the end turns against its own; the bourgeois finds to his amazement that the rationalist attitude does not stop at the credentials of kings and popes but goes on to attack private property and the whole scheme of bourgeois values'. Intellectuals favour the spread of critical attitudes towards capitalist society, and in particular an attitude of rejection towards the heroic role of the entrepreneur and that basic institution of capitalism that is private property; hence the 'decomposition' of capitalistic society.

Chapter Six The Development of Modern Microeconomic Thought Introduction

Neoclassical economics was a multidimensional school of thought that evolved over time. It focused on marginalism, assumptions of rationality, and a strong policy presumption that markets worked, although that was subject to a number of provisos. The school was quite fluid: as soon as neoclassical economists became the orthodoxy, and possibly even before, it started to change. Bit by bit economics moved away from its neoclassical footing. Marginalist calculus was replaced by set theory; rationality assumptions were modified by insights from psychology; the set of issues to which economic analysis was applied expanded; evolutionary game theory raised the possibility that individuals exhibit class-consciousness; and sociological explanations were used to supplement analyses of the labor market. As these and similar changes occurred, what had been seen as necessary components of neoclassical thought ceased to be components of modern thought.

Many elements of neoclassical economics still exist within modern microeconomics, but what distinguish modern microeconomics are not these elements; it is a modeling approach to problems. The assumptions and conclusions of the model are less important than whether the model empirically fits reality.

This chapter discusses the evolution of microeconomics from neoclassical to modern. The path from the 1930s through a highly formalistic stage in which there was an attempt to tie microeconomics together within a single theory to its modern state, in which microeconomics consists of a set of models focused almost entirely on empirical relevance.

Chapter objective

After completing this chapter, you will be able to;

- Understand the evolution of microeconomics from neoclassical to modern
- Identify how the formalist tied microeconomics to modern economics
- Appreciate the Monopolist Competition Revolution as microeconomic themes
- Examine the Chigo approach to Microeconomics

6.1. The Movement Away From Marshallian Economics

Marshall's engine of analysis, combining supply and demand curves with common sense, could answer certain questions, but others exceeded its scope. Supply-and-demand analysis was partial equilibrium analysis applied to problems of relative prices. But many of the questions economists were trying to answer, such as what determines the distribution of income or what effect certain laws and taxes would have either introduced problems beyond the applicability of partial equilibrium analysis or violated its assumptions. Nonetheless, economists continued to apply partial equilibrium arguments to such issues, assuming that the aggregate market must constitute some as yet unknown combination of all the partial equilibrium markets.

Most economists were content with this state of affairs for quite a while. After all, Marshallian economics did provide a workable, if not formally tight, theory that was able to answer many real-world questions. Marshallian economists were engineers rather than scientists, and engineers are interested not in pondering underlying forces but in building something that works. Marshallian economists were interested in the art of economics, not in positive or normative economics.

Marshallian economics attempted to walk a fine line between a formalist approach and a historically institutional approach. It is not surprising that in doing so it created critics on both sides. In the United States, a group called the institutionalists wanted simply to eliminate the theory, arguing that history and institutions should be emphasized and the inadequate theory dropped. Other critics, formalists, went in the opposite direction: they believed that economics should be a science, not an engineering field, and that if economics were to conclude that the market worked well, we needed a theory to show how and why it did so. These formalists agreed with the institutionalists that Marshallian economic theory was inadequate, but their answer was not to eliminate the theory: they wanted to provide a better, more rigorous general equilibrium foundation that could adequately answer more complicated questions.

6.2. The Formalist Revolution in Microeconomics

In the late 1930s the formalist research program won and the Marshallian approach started to wane. By the 1950s the formalists had reformulated microeconomics into a mathematical

structure dependent on Walras, not Marshall. Applications became less important than logical consistency.

The formalist revolution reached its top in 1959 with the publication of the Arrow- Debreu model. With the completion of that general equilibrium work, economists turned once again to applied work. But they did not return to Marshall's engine of analysis approach, which downplayed the use of mathematics and stressed judgment. Instead, they integrated policy prescriptions into the mathematical models. As that happened, the neoclassical era evolved into the modern modeling era. In the modeling approach, mathematics is used to develop simple models that ideally capture the essence of the problem. Then econometric techniques are used to test those models. This development and empirical testing of models has become the modern economic method.

The Battle over Formalist Approaches

The mathematical approach is rooted in the thought of several nineteenth- and early twentiethcentury figures. The first of these great pioneers in stating hypotheses in mathematical form was A. Cournot. He expected that his attempts to bring mathematics into economics would be rejected by most economists, but he adhered to his method nonetheless because he found the literary expression of theory that could be expressed with greater precision by mathematics to be wasteful and irritating.

Leon Walras and Vilfredo Pareto, who succeeded Walras as professor of economics at Lausanne, were other early devotees of mathematical economics. Whereas Marshall had focused on partial equilibrium, Walras, using algebraic techniques, focused on general equilibrium. His general equilibrium theory has substantially displaced Marshallian partial equilibrium theory as the basic framework for economic research. Jevons also advocated a more extensive use of mathematics in economics.

Jevons was followed by another pioneer in mathematical economics, F. Y. Edgeworth (1845-1926), who pointed out in 1881 that the basic structure of microeconomic theory was simply the repeated application of the principle of maximization. This finding raised the question, why reexamine the same principles over and over again? By abstracting from the specific institutional context and reducing a problem to its mathematical core, one could quickly capture the essence of the problem and apply that essence to all such microeconomic questions. Following this reasoning, Edgeworth declared that both an understanding of the economy and a basis for the formulation of proper policies were to be found in the consistent use of mathematics. He accused the Marshallian economists of being seduced by the "zigzag windings of the flowery path of literature."

As this extension was occurring, there was a simultaneous attempted extension of mathematics not only into positive economics but also into questions of economic policy. Vilfredo Pareto, whose name is familiar to many students of economics from its use in the phrase Pareto optimal criteria, extended Walras's general equilibrium analysis in the early 1900s to questions of economic policy. Thus, in the push for formalization little distinction was made between positive economics and the art of economics, John Neville Keynes's distinction between the two was lost, and the same formal methodology was used for both.

Irving Fisher (1867-1947), writing in the last decade of the nineteenth century, was an early American pioneer of formalism who supported and extended Simon Newcomb's (1835-1909) advocacy of increased use of mathematics in economics. The mathematical approach was not well received in the United States, however, until nearly the middle of the twentieth century. All these pioneers were, therefore, unheeded prophets of the future.

Inattention to their efforts can be attributed partly to the strength of Marshall's analysis, a judicious blend of theory, history, and institutional knowledge. Unable to compete with the Marshallian approach, early mathematical work in economics was practically ignored by mainstream economists until the 1930s.

In the early 1930s, this situation began to change. Expositions of the many geometric tools that now provide the basis for undergraduate microeconomics began to fill the journals. The marginal revenue curve, the short-run marginal cost curve, and models of imperfect competition and income-substitution effects were "discovered" and explored during this period. Though rooted in Marshall, these new tools formalized his analysis, and as they did so they moved farther and farther from the actual institutions they represented. The Marshallian approach to interrelating theory and institutions had been like a teeter-totter: it had worked as long as the two sides balanced. But once the theory side gained a bit, the balance was broken and economics fell hard to the theoretical side, leaving history and institutions suspended in air.

History and institutions were abandoned because the new mathematical tools required stating precisely what was being assumed and what was changing, and stating it in such a way that the techniques could handle the entire analysis. History and particular institutions no longer fit in. One could no longer argue, as in the earlier Marshallian economics, that "a reasonable businessman" would act in a certain way, appealing to the reader's sensibility to know what "reasonable" meant. Instead, "reasonableness" was transformed into a precise concept, "rational", that was defined as making choices in conformance with certain established axioms. Similarly, the competitive economy was defined as one in which all individuals are "price takers." Developing one's models mathematically required non-contextual argumentation, abstracted from any actual setting, in which assumptions are spelled out.

Though the use of geometry as a tool in Marshallian analysis was a relatively small step, it was the beginning of the end for Marshallian economics. When geometry disclosed numerous logical problems with Marshallian economics, the new Marshallians responded with further formalization. Thus, by 1935 economics was ripe for change. Paul Samuelson summed up the situation: "To a person of analytic ability, perceptive enough to realize that mathematical equipment was a powerful sword in economics, the world of economics was his or her oyster in 1935. The terrain was strewn with beautiful theorems waiting to be picked up and arranged in unified order.

Because many economists had by this time acquired the requisite analytic equipment, the late 1930s and early 1940s witnessed a revolution in micro- economic theory, which formalism won. Cournot, Walras, Pareto, and Edge- worth gained more respect, and Marshallian economics was downgraded primarily to a role in undergraduate education.

The first step in the mathematization of microeconomic theory was to extend the marginal analysis of the household, firm, and markets and to make it more internally consistent. As economists shifted to higher-level mathematical techniques, they were able to go beyond partial equilibrium to general equilibrium, because the mathematics provided a method by which to keep track more precisely of items they had formerly kept somewhat loosely in the back of their

heads. The second step was to reformulate the questions in a manner consistent with the tools and techniques available for dealing with them. The third step was to add new techniques to clarify unanswered questions. This process is continuing today.

These steps did not follow a single path. One path had strong European roots; it included generalizing and formalizing general equilibrium theory. An early pioneer on this path was Gustav Cassel (1866-1945), who simplified the presentation of Walras's general equilibrium theory in his Theory of Social Economy (1918; English versions 1924, 1932), making it more accessible.

In the 1930s, two mathematicians, Abraham Wald (1902-1950) and John von Neumann (1903-1957), turned their attention to the study of equilibrium conditions in both static and dynamic models. They quickly raised the technical sophistication of economic analysis, exposing the inadequacy of much of previous economists' policy and theoretical analysis. Their work was noted by economists such as Kenneth Arrow (1921-) and Gerard Debreu (1921-), who extended it and applied it to Walras's theory to produce a more precise formulation of his general equilibrium theory. Following Wald's lead, Arrow and Debreu then rediscovered the earlier writings of Edgeworth. So impressed were they by these writers that they declared Edgeworth, not Marshall, to be the rightful forefather of modern microeconomics. The work of these theorists, in turn, has continued a highly formalistic tradition of general equilibrium theorists.

Some of the questions that general equilibrium analysis has addressed are Adam Smith's questions: Will the unfettered use of markets lead to the common good, and if so, in what sense? Will the invisible hand of the market promote the social good? What types of markets are necessary for that to be the case? Because they involve the entire system, these are essentially general equilibrium questions, not questions of partial equilibrium. They could not, therefore, be answered within the Marshallian framework, although they could be discussed in relatively loose terms, as indeed they were before formal general equilibrium analysis developed.

General equilibrium theorists have found the answer to the question "Does the invisible hand work?" to be yes, as long as certain conditions hold true. Their proof, for which Arrow and Debreu received Nobel prizes, was a milestone in economics because it answered the conjecture Adam Smith had made to begin the classical tradition in economics. Much subsequent work has been done in general equilibrium theory to articulate the invisible- hand theorem more elegantly and to modify its assumptions, but by first proving it, Arrow and Debreu earned a place in the history of economic thought.

Paul Samuelson: Another path was somewhat less formal, mathematically, but was still highly formal relative to Marshallian economics. This work had a major influence on the economics presented in economic texts.

Of the many economists involved in this formalization, Paul Samuelson is probably the best known. Born in 1915, Samuelson began graduate economics studies at Harvard in 1935 after acquiring a strong undergraduate background in mathematics. There he proceeded to publish significant articles applying mathematics to both micro- and macroeconomic theory. Samuelson later became the first American to receive the Nobel Prize in economics.

The sources of Samuelson's intellectual inspiration were Cournot, Jevons, Walras, Pareto, Edgeworth, and Fisher, all of whom contributed piecemeal applications of mathematics to economic theory. Using his mathematical background, Samuelson extended their work and helped to lay the mathematical foundations of modern economic theory. Like Edgeworth, he had harsh words for Alfred Marshall, whose ambiguities, he said, "paralyzed the best brains in the Anglo-Saxon branch of our profession for three decades.

Equilibrium and Stability: According to Samuelson, the theoretical structure that underlies and unifies the individual elements of micro- and macroeconomic theory rests on two very general hypotheses concerning the conditions, first, of equilibrium and second, of its stability. For problems of comparative statics, the conditions of equilibrium can be placed in the familiar maximization framework in which much of the previous work in microeconomic theory had been done. Samuelson illustrates the unity of this approach by working through the firm's minimization of costs and maximization of profits, the consumer's maximization of satisfaction, and welfare theory. Whereas previous economists had paid less attention to dynamic analysis, Samuelson demonstrates that once the dynamic properties of a system are specified, its stability can be assessed. Equilibrium and stability conditions thus emerge as the two-part structure underlying economic theory.

Although Samuelson's Foundations and his subsequent work have dealt almost exclusively with mathematical economic theory, he is sensitive to the relationship between mathematical economics and the process of economic research. He consistently attempts to formulate operationally meaningful, not merely elegant, theorems—in other words, to provide testable hypotheses useful in economic research. "By a meaningful theorem," he says, "I mean simply a hypothesis about empirical data which could conceivably be refuted, if only under ideal conditions."

6.3 The Monopolist Competition Revolution

There are two waves of literature on monopolistic competition theory, namely the one that started in 1933 and the one that commenced in 1977. As such the monopolistic competition revolution was classified as the first monopolistic competition revolution and the second monopolistic competition revolution. The second revolution attempt to model monopolistic competition was far more successful than the first, essentially because it introduced a formalisation that had all the relevant characteristics of monopolistic competition but was still relatively easy to handle.

In 1933 two books appeared that changed the way economists dealt with imperfect competition, namely Joan Robinson's "The Economics of Imperfect Competition" and Edward Hastings Chamberlin's "The Theory of Monopolistic Competition". Although Robinson revived the marginal revolution, in general Chamberlin is considered to be 'the true revolutionary'. This radical new analysis was a first answer to the question that was raised in 1926 by Sraffa: is it possible in a market characterized by monopolistic competition and declining average and marginal costs to reach equilibrium.

Given the sophistication of the monopolistic competition model it is surprising to see how little influence it had on economic theory. The first attacks on the early monopolistic competition revolution came from Hicks in 1939 and somewhat later from Stigler in 1949 and Friedman in 1953. Hicks rejected the theory because he was unable to translate it into a workable model. Stigler in 1949 rejected the theory for methodological reasons. He claimed that the predictions derived from the theory of monopolistic competition are not very different from those of perfect competition. Occam's razor then suggests that perfect competition should be favoured over

monopolistic competition, a line of reasoning to which Friedman also adheres. It was put forward even more strongly by Archibald in 1961: 'the theory is not totally empty, but very nearly so'.

The monopolist competition revolution was stated with the seminar article by Dixit and Stiglitz(1977), but has long history. In addition, the revolution has been successful than the first former one. The reason for this success is that Dixit and Stiglitz managed to formulate a canonical model of Chamberlinian monopolist competition, which is a key Model.

Though now Dixit- Stiglitz approach is somewhat unrealistic, it has nevertheless the pillar model incorporating monopolist competition, return scale and endogenous product variety. The main Contributions of Dixit- Stiglitz are;

- The definition of an industry, large group of firms, is simplified; all product varieties are symmetric and are combined in constant elasticity of substitution (CES) aggregation function
- Overall utility is separable and homothetic in it arguments
- On its production side, technology features increasing return to scale at firm level. The typical formulation models the average curve as rectangular hyperbola. All firms are symmetrical

3.4. Evolving Techniques

The evolution of microeconomics has entailed a progression from one mathematical language to another, each of which has been able to resolve some of the ambiguities that marred its predecessor. Initially, economists such as Paul Samuelson and John Hicks (1904- 1989) translated the geometry of the 1930s into the multivariate calculus of the 1960s. The partial differentials of calculus represented the interrelationships among sectors; the sign of the second partial derivative illustrated stability conditions; and the sign of the first derivatives captured the interactive effects. Cross-partial elasticities of demand, linear homogeneous production functions, homothetic demands, and constant elasticity of substitution (CES) production functions all appeared in microeconomic terminology. The results of the mathematical reformulation of microeconomics are impressive. As economists worked through the problems, they began to perceive the relationship between prices and Lagrangian multipliers (the values of the constraints). The question of whether prices were inherent in economic systems had been debated previously, but now mathematical economists could show that prices occurred naturally through a maximization process and that even in the absence of markets, constrained maximization will still have a "price" (called a shadow price). If prices do not exist, another rationing device must replace price.

They also showed how one can easily reformulate a maximization problem subject to a constraint into a constrained minimization problem: by switching constraints and objective functions, the problem "Maximize output subject to technical production constraints" is equal to the problem "Minimize cost subject to producing a certain output." Such a reformulation, which is known as "analyzing the dual," affords insight into the nature of the maximization problem by showing how slight changes in the output or constraints change the situation.

These developments had both practical and theoretical significance. On the practical side, the understanding of shadow prices and duals led to significant developments in modern management techniques. On the theoretical side, the analysis of the dual added to economists' analysis of scarcity, a symmetry that deepened their understanding of the problem. What previously took volumes to present (often incorrectly) could be covered in one or two pages (for those who knew the language). Given the earlier misuse of informal models and confusion about their implications, most economists saw these developments as a significant gain.

But the reformulation of microeconomic theory in terms of multivariate calculus also had problems. Multivariate calculus requires an assumption of continuity and poses the maximization problem in a highly rarefied way. In response to these shortcomings of calculus, economists modified the maximization problem in a number of ways, some of which made microeconomics more practical and useful in business, while others provided deeper understanding of the economy.

By the 1970s, the possibilities of comparative static calculus had begun to be exhausted, and the cutting edge of theoretical work was being done in dynamic calculus, in which time is explicitly taken into account. To see why dynamic calculus is relevant, consider the production problem. The intermediate microeconomic approach is to say that the firm faces a production problem: given a set of inputs and relative prices, it chooses an optimal quantity of output. But where is time in the model? It is suppressed; so how the model actually works is unclear. Adopting a comparative static interpretation provides a somewhat temporal dimension. The problem is

considered twice: before and after a single change. Thus, it becomes an analysis of two points in time. No consideration is given, however, to how one gets from one point to the other or to how long that time period is.

For a better analysis of the process of getting from one point to the other, the mathematical formulation of the problem must explicitly include the time path along which one goes from the initial state to the end state. The calculus that accomplishes this is optimal control theory. Students typically learn optimal control theory in the calculus course following differential equations, which follows multivariate calculus. The solution sets are similar, but instead of being expressed in Lagrangian multipliers, they are expressed in Hamiltonians and bordered Hessians.

After increasing the complexity of the calculus it used, microeconomic analysis expanded away from it, for both practical and theoretical reasons. Practically, it moved toward linear models, because linear algorithms existed by which one more could easily compute numerical solutions. Thus, a simple linear formulation was more relevant to real-world problems, and linear, network, and dynamic programming were added to the economist's tool kit. In theoretical work, the formulation of the general equilibrium problem soon went beyond calculus to set theory and game theory. Economists preferred these approaches because they were more precise and did not require assumptions of continuity, as calculus did. As the techniques changed, so did the terminology; terms such as upper-semi continuous and a Cournot-Nash equilibrium became commonplace in graduate microeconomic theory courses.

Another significant change in microeconomics is evident in its handling of uncertainty. Economic decisions must be made in the face of an uncertain future. Marshall did not attempt to tackle the uncertainty problem directly. Modern microeconomics, however, formally confronts uncertainty, though often with stochastic rather than static processes. To analyze such models, microeconomics uses applied statistical decision theory, a blend of statistics, probability theory, and logic.

6.5 Milton Friedman and the Chicago Approach to Microeconomics

The modern modeling approach that has come to dominate the profession has some grounding, too, in the Chicago approach to economics, which ran counter to the formalist approach from the 1950s through the 1970s. The Chicago approach was characterized, first, by a belief that markets

work better than the alternatives as a means of organizing society and, second, by its connection to the Marshallian informal approach to modeling.

Friedman's approach to economics was Marshallian rather than Walrasian. He saw economics as an engine of analysis for addressing real problems and as something that should not be allowed to become an abstract mathematical consideration devoid of institutional context and direct relation to real world problems.

In his consideration of policy issues, he combined strong beliefs in individual rights and liberty and in the effectiveness of the market in protecting those rights. His political orientation was basically pro-market and anti-government. He advocated many policy proposals that at first were seen as radical but later became more acceptable: financing education with vouchers, eliminating licensing in professions, and legalizing drugs.

Around 1950, Friedman produced a number of provocative papers on methodology and also a paper on the Marshallian demand curve and the marginal utility of money. In the late 1950s, he made contributions to macroeconomics in his Studies in the Quantity Theory of Money (1956). As Friedman was becoming well known, his Marshallian approach was dying. In part, this was because it was seen by many as ideologically or normatively tainted, causing researchers to revert to formalism to avoid ideological bias. An example of what some economists considered to be the normative bias in the Chicago approach to economics can be seen in the Coase theorem, named for Ronald Coase (1910-), another influential Chicago economist whose work led to the recent field of law and economics. The Coase theorem was a response to the Pigouvian approach, which saw the existence of externalities as a reason for government intervention. In "The Problem of Social Cost," Coase argued that in theory, externalities were not a reason for government intervention, because any party helped or hurt by an action was free to negotiate with others to eliminate the externality. Thus, if there were too much smoke from a factory, the neighbors hurt by the smoke could pay the factory to reduce it.

The Coase theorem has been much discussed in the literature. The general conclusion is that in and of itself the theorem is no more ideological than is the theory of externalities that predisposes one toward government intervention. Issues involving government intervention are complicated, and there is no answer that follows from theory; in modern economics, a theory of government failure exists side by side with a theory of market failure. Which is more appropriate depends upon the relative costs and benefits, issues upon which individuals may disagree.

Nonetheless, the Chicago approach has stimulated many new ideas, and it, rather than the more formalist approach, may sow the seeds for major developments in microeconomics in the future. Among those new ideas that have been stimulated has been and Harold Demsetz's work on property rights as underlying markets. Since the Chicago view is that it is best to assume that markets work efficiently, much of the discussion of inefficiency in markets (such as might be produced by monopolistic competition) is misplaced. But markets depend upon property rights; thus, the study of property rights is of paramount importance to economics. What are the underlying property rights? How do they develop? How do they change?

The most important follower of Friedman was Gary Becker who won the Nobel Prize in economics in 1992. He has used microeconomic models to study decisions about crime, courtship, marriage, and childbearing. Becker has shown that the simple- maximization microeconomic model based on the assumption of rational individuals has potentially infinite applications, and recent years have seen it used in widely diverse areas. These incursions of economic theory into other disciplines have sometimes been treated facetiously by those who claim that the economic approach is too simple. In one sense, they are right. The ideas and policy conclusions of the "economics of everything" are often simple. But mere simplicity does not make them wrong. Market incentives make a difference in people's behavior, and noneconomic specialists have often not included a sufficient consideration of these incentives in their analyses. But analyses can go astray when only economic incentives are considered and insufficient attention is paid to institutional and social incentives. Unfortunately, given modern economists' training in non-contextual modeling, this is often what occurs.

With the retirement of Milton Friedman and his colleague George Stigler and with Gary Becker's impending retirement, Chicago economics changed, becoming more mathematical and less intuitive. Not stopping at simple models, it generalized models along the lines suggested by Varian. Clearly, Chicago has entered the modern school of economics, and the modern school of economics has become quite homogeneous.

Chapter Seven Development of Macroeconomics

Introduction

Interest in macroeconomic issues has fluctuated throughout the years, reaching its foot around the turn of the nineteenth century. The attitude of the economics profession toward macroeconomic thought at that time could be characterized as one of kind neglect. The macroeconomic thinking that did exist, moreover, was somewhat confused. Alfred Marshall, who had codified and organized microeconomics in his Principles of Economics, always intended to do the same for macroeconomics, but he never did. He limited his discussion of macroeconomics to a determination of the general level of prices.

Growth, which had been the focus of Adam Smith's work, received only slight emphasis in the later classical and neoclassical periods. Instead, the profession focused on developing formal models of allocation and distribution using the static reasoning that Ricardo championed; Smith's ambiguities lost out to Ricardo's more formal models. Business cycles also received only fleeting reference; the standard assumption of full employment of all resources precluded greater consideration of them.

In this chapter, after considering early work on macroeconomic issues, the development of Keynesian macroeconomics will discussed. It will then cover the new classical revolution, and finally consider the current state of macroeconomics.

Chapter objective

After completing this chapter, you will be able to;

- Describes the evolution and historical foundation of macroeconomics
- Understand the concept of Keynesian revolution
- Identify the modern macroeconomics topics

7.1 Historical Forerunners of Modern Macroeconomics

Modern macroeconomics consists primarily of monetary theory, growth theory, and business cycle theory. Emphasis on these has fluctuated over the years, in part as the experience of the

economy has changed and in part as techniques have allowed economists to deal with issues that they previously found unmanageable.

Early Work on Growth Theory

Analysis of economic growth was the primary concern of Adam Smith, who emphasized the relationships between free markets, private investment spending, laissez faire, and economic growth. Ricardo refocused economics, turning it away from economic growth and toward the issue of the forces determining the distribution of income. This change in viewpoint between Smith and Ricardo concerning the essential subject matter of economics was fundamentally a reorientation of economic away from the growth macroeconomics, the allocation problem, continued to dominate mainstream economic thought from Ricardo in the first quarter of the nineteenth century until the major depression that engulfed the industrialized world in the 1930s.

Joseph Schumpeter, in the discussion of growth in his famous book on the history of economic thought, distinguishes two types of economists by their thinking about growth: the optimists and the pessimists. He argues that most mainstream economists fall within the pessimist group, the strongest pessimists being Malthus, Ricardo, and James Mill. These mainstream economists strongly emphasized decreasing returns, ever-increasing rent, and the stationary state toward which the economy was progressing. They did this even as the economy around them was growing at rates far exceeding those of earlier times.

It was left to heterodox economists such as Henry Carey (1793-1879) and Friedrich List to support the optimist vision. List was part of the German historical school, which emphasized empirical observation and history over theory. Since he could see that the economy was growing at a faster rate than it had earlier, it was only natural for him to believe that growth could continue, possibly indefinitely. Carey was an American economist who deemphasized theory and emphasized history and empirical observation. This led him to the same conclusion as List: there seemed no end in sight to the growth of the economy. Given the American experience at the time, with an expanding frontier and ever-increasing agricultural land, it was natural that diminishing returns would be less emphasized in the American context.

Mainstream economists of the time vigorously attacked both List's and Carey's views and delighted in pointing out their theoretical mistakes. But in doing so the mainstream economists failed to grasp the broader lesson of List's and Carey's work that diminishing marginal returns could be overcome, possibly forever, by technological development. Modern economists were likewise blind to Marx's insights concerning growth.

As neoclassical economics developed, the movement away from a focus on growth accelerated. The neoclassical, with the possible exception of Alfred Marshall, whose views on growth resembled Mill's, focused more on static equilibrium. Both Mill and Marshall held that technological progress could temporarily create the conditions of growth but that the law of diminishing returns in agricultural and raw materials would ultimately win out. For the most part, economists in the first half of the twentieth century did not deal with growth. An important exception was Joseph Schumpeter, who does not fit neatly into any school.

Schumpeter and Growth

Schumpeter had laid the foundation for his theory of economic growth in The Theory of Economic Development, first published in 1912 and translated into English in 1934. A brilliant conception, it has lain almost dormant because it is so broad based that it does not lend itself to the economic model building that has been the vogue in mainstream economics for some fifty years. Ironically, Schumpeter was a strong proponent of the greater use of mathematics in economics and econometric testing of hypotheses, the areas in which he was at a comparative disadvantage.

Schumpeter's explanation of the process of economic growth does not fit into the orthodox mold, because he stressed the noneconomic causes of growth. Though he examined some strictly economic factors, he insisted that the principal elements in the past growth of the system and the elements that will reduce growth in the future are noneconomic.

First let us look at his novel analysis of economic factors. He essentially accepted Say's Law, although he recognized and analyzed the fluctuations in economic activity under capitalism. To him depressions were self-correcting, and there could be no equilibrium at less than full employment. Where Marx had seen depressions as a manifestation of the contradictions in the system that lead to its ultimate collapse, Schumpeter considered depressions beneficial to the

system; they were an integral part of the entire process of economic growth. Growth was tied to the prosperity stage of the cycle, because this phase represented the ultimate outcome of the introduction of new products and technology into the economy. But excesses develop as credit is overexpanded and businesses overextend themselves. The resulting depression is beneficial in that it shakes out the economy, removing the less efficient firms, and thereby prepares the way for a growing economy of healthy, well- managed, and efficient firms.

But, According to Schumpeter, the principal agents of economic growth are noneconomic factors. These factors found in the institutional structure of a society. Schumpeter attributed to the activities of what he called entrepreneurs the tremendous growth that took place in the industrialized world. An entrepreneur to Schumpeter is not just a businessperson or manager; this person is a unique individual who is by nature a taker of risks and who introduces innovative products and new technology into the economy.

Schumpeter clearly distinguished between the process of invention and that of innovation. Only a few far-sighted innovative businesspersons are able to grasp the potential of a new invention and exploit it for personal gain. But their gain is the economy's gain. After the introduction of a successful innovation by the entrepreneur, other businesspersons will follow suit and the new product or technology will spread throughout the economy. The real source of growth in the economy, therefore, is found in the activities of the innovative entrepreneur, not in the activities of the mass of the business community, who are risk averting followers.

Quantity Theory of Money

Classical and neoclassical theorists maintained an interest in at least one macroeconomic question: what determines the general level of prices? They addressed this economic question by utilizing the supply-and-demand approach developed in microeconomic theory. The supply of money was assumed to be determined by the monetary authorities, so some orthodox economists contended that the basic issues to be analyzed were on the side of demand. The household and firm are assumed to be rational and to have a demand for money to be used for various purposes. Walras, Menger, and others developed a supply- and-demand analysis to explain the value of money, but the most famous of these theories is probably the one developed by Marshall, which has become known as the Cambridge cash-balance version of the quantity theory of money.

The first clear statement of the quantity theory of money was made by David Hume in 1752. This theory, as it came down through the literature, held that the general level of prices depended upon the quantity of money in circulation. Marshall's version of the quantity theory was an attempt to give microeconomic underpinnings to the macroeconomic theory that prices and the quantity of money varied directly. He did this by elaborating a theory of household and firm behavior to explain the demand for money. Marshall reasoned that households and firms would desire to hold in cash balances a fraction of their money income. If M is money (currency plus demand deposits), PY is money income, and k is the proportion of their income that households and firms desire to hold in the form of money, then the fundamental cash-balance equation is

M = kPY

(7.1)

Because Marshall accepted Say's Law, full employment is assumed. An increase in the quantity of money, assuming k remains constant, will lead to an increase in money income, PY. An increase in the quantity of money will result in higher prices and a consequent increase in money income; real income, however, will not change. Decreases in the quantity of money will result in a fall in money income as prices fall; real income again will remain constant. This Marshall's version of the quantity theory made an attempt to integrate the microeconomic behavior of maximizing firms and households with the macroeconomic question of the general level of prices.

A group of economists, the most prominent being the American Irving Fisher (1869- 1947), developed another form of the quantity theory known as the transactions version. However, they showed little interest in finding a microeconomic foundation for the macroeconomic analysis of the general level of prices. In this version, MV = PT where M is the quantity of money, V is the velocity of money, P is a measure of the price level, and T is the volume of transactions.

Although these two approaches have important differences, they have one element in common: they were both designed to explain the forces that determine the general price level. They were not used to explain the level of real income, which was assumed to be at full employment and fixed by nonmonetary forces in the economy.

Not all economists were satisfied with this analysis. For example, Knut Wicksell argued that the quantity theory of money failed to explain "why the monetary or pecuniary demand for goods exceeds or falls short of the supply of goods in given conditions."Wicksell tried to develop a so

called income approach to explain the general level of prices; that is, to develop a theory of money that explains fluctuations in income as well as fluctuations in price levels.

Business Cycle Theory

Although fluctuations in business activity and in the level of income and employment had been occurring since the beginning of merchant capitalism and were acknowledged by orthodox theorists, economists made no systematic attempts to analyze either depression or the business cycle until the 1890s. Heterodox theorists, the most important of whom was Marx, had pursued these issues with greater vigor. But Marx's works were largely ignored by orthodox theory. Thus, until the last decade of the nineteenth century, orthodox economic theory consisted of a fairly well developed theoretical microeconomic structure explaining the allocation and distribution of scarce resources, a macroeconomic theory explaining the forces determining the general level of prices, and a loose set of notions concerning economic growth. Prior to 1890, orthodox "work on depressions and cycles had been peripheral and tangential."

One major exception to this generalization is the work of Clement Juglar (1819-1905). The second edition of this work, published in 1889, was considerably enlarged with historical and statistical material. Juglar is a spiritual predecessor of W C. Mitchell in that he did not build a deductive theory of the business cycle, but rather collected historical and statistical material that he approached inductively. His main contribution was his statement that the cycle was a result not of forces outside the economic system but of forces within it. He saw the cycle as containing three phases that repeated themselves in continuous order:

The periods of prosperity, crisis, liquidation, although affected by the fortunate or unfortunate accidents in the life of peoples, are not the result of chance events, but arise out of the behavior, the activities, and above all out of the saving habits of the population, and the way they employ the capital and credit available.

Although Juglar's work initiated the study of the business cycle, the modern orthodox macroeconomic analysis of fluctuations is grounded in the writings of a Russian, Mikhail Tugan-Baranowsky (1865-1919). His book Industrial Crises in England was first published in Russian in 1894; German and French editions followed. After reviewing past attempts to explain the business cycle, he pronounced them all unsatisfactory. The chief intellectual influences on

Tugan-Baranowsky were Juglar and Marx, particularly Marx. Tugan-Baranowsky's main contribution to our understanding of the business cycle was his statement of two principles: (1) that the economic fluctuations are inherent in the capitalist system because they are a result of forces within the system, and (2) that the major causes of the business cycle are to be found in the forces determining investment spending. The sources of the Keynesian analysis of income determination, with its emphasis on the inherent instability of capitalism and the role of investment, run from Marx through Tugan- Baranowsky, Juglar, Spiethoff, Schumpeter, Cassel, Robertson, Wicksell, and Fisher on the orthodox side; and from Marx, Veblen, Hobson, Mitchell, and others on the heterodox side.

Some of the mercantilists, the physiocrats, and a host of heterodox economists who followed had suggested earlier that there were forces inherent in capitalism that would bring about depressions. Even mainstream economists' considerations of cycles, such as Jevons's sunspot cycle, were generally disregarded. After 1900, more serious work was done on business cycles by orthodox theorists, but curiously enough this work existed alongside a continuing fundamental belief that the long-run equilibrium position of the economy would provide full employment. Thus, we see economists such as Friedrich Hayek (1898-1992) exploring problems of aggregate fluctuation as a coordination failure while maintaining a solid belief in the self-equilibrating properties of the market economy. No one, either heterodox or orthodox, had been able to challenge this belief, because no one had built a theory of income determination to show that equilibrium was possible at less than full employment. When J. M. Keynes in 1936 developed a theory arguing that equilibrium at less than full employment could exist, a new phase of orthodox macroeconomic theory commenced.

7.2 The Keynesian Revolution

The Keynesian message swiftly conquered the academic and also parts of the economic policy world. Contributing to its success were books by Alvin Hansen (1887–1975) and especially Paul A. Samuelson's textbook, Economics: An Introductory Analysis, first published in 1948 and translated into several languages. The deep economic depression of the 1930s and the inability of conventional theory to explain and provide prescriptions for overcoming the crisis nurtured the impression that economics was in a profound crisis. Keynes pointed the way to a much-needed

reorientation. As Milton Friedman and then-president Nixon famously exclaimed: "We are all Keynesians now!"

Not only did The General Theory trigger important developments in economic theory, such as establishing macroeconomics and dynamic economic theory as new fields; it also brought about the further development of national income accounting and its international harmonization, especially by Richard Stone (1913–1991), as well as of empirical economic and business cycle research. Already in 1930 the Econometric Society had been founded, at the instigation of the Norwegian economist Ragnar Frisch (1895–1973), as an organization dedicated to formulating economic theories mathematically and testing these theories with statistical methods. Keynesian income and expenditure models were now scrutinized econometrically, initially for individual countries and then later for several countries trading with one another.

Public finance experienced a reorientation at the hands of Richard Musgrave (1910–2007), who took up the Keynesian message in his subject. In an influential textbook published in 1959 he distinguished among three types of government functions: allocation, distribution, and now also stabilization. He argued that the government should be concerned with providing high levels of employment and growth and a socially desirable distribution of income and wealth by using Keynesian effective demand management and incomes policy.

The Keynesian message did indeed revolutionize economic policy. Its core concept was the management of aggregate income and expenditures by means of economic policy instruments that exerted an influence on domestic investment demand, domestic consumer demand, public expenditure, and exports, so-called injections, on the one hand, and domestic savings, taxes and exports—so-called leakages—on the other hand. Anticyclical monetary and fiscal policies were designed to mitigate business cycles and lead to high rates of employment, a stable price level, a balanced foreign trade, and steady growth. In economic downturns the monetary authorities were advised to reduce interest rates and the governments to increase public expenditures, reduce taxes, and thus run a budget deficit, whereas in booms the interest rates should be increased, public expenditures reduced, and taxes raised, implying a budget surplus. The idea was that in this way the volatility of economic activity would be reduced and grave losses in employment and output as a whole avoided. Over a succession of (mitigated) booms and slumps, budget deficits and surpluses were supposed to cancel, so that from the point of view of stabilizing the

economy, a balanced budget was obtained on average. High levels of employment and capacity utilization, a stable price level, balanced trade, and steady economic growth became enshrined as policy goals. The success or failure of governments was measured in terms of whether and to what extent they succeeded in realizing these goals.

While, as discussed below, Keynesianism went out of fashion in the 1970s, some of its basic ideas stood the test of time. Governments engaged in fierce anti-Keynesian rhetoric nevertheless ran ever-larger budget deficits to finance, for example, wars. And with the most recent financial crisis, which set loose the specter of a global financial meltdown, some variant of Keynesianism became fashionable again in several countries, including the United States. The biographer of Keynes, Robert Skidelsky (b. 1939), summed it up in the title of one of his books: The Return of the Master.

7.3 Modern Macroeconomics

Monetarism

Throughout the 1950s and 1960s, the primary foil to the Keynesians was the monetarists. Under the leadership of Milton Friedman, they provided an effective opposition to Keynesian policy and theory. The consumption function model used by Keynesians in the 1950s had no role for money, nor did it consider prices or the price level. This initial lack of concern about money supply and prices manifested itself in policy based on Keynesian analysis. In an agreement with the Treasury that developed during World War II, the Federal Reserve Bank agreed to buy whatever bonds were necessary to maintain the interest rate at a fixed level. In so doing, the Fed relinquished all control of the money supply. Monetarists argued that the money supply played an important role in the economy and should not be limited to a role of holding the interest rate constant. Thus, the rallying cry for early monetarists was that money mattered.

Keynesians were soon willing to concur with the monetarists that money mattered, but they felt that the monetarists differed from them in believing that only money mattered. The debate was resolved by means of the IS-LM Keynesian-neoclassical synthesis, in which the monetarists assumed a highly inelastic LM curve and Keynesians assumed a highly elastic LM curve. Thus, at least in terms of the textbook presentation, monetarist and Keynesian analyses came together in the general neo-Keynesian IS-LM model, about which they differed slightly on some parameters.

Modern macroeconomics was a result of economists working through the neo-Keynesian model and discovering many problems, some purely theoretical, and some becoming apparent as neo-Keynesian policy failed.

Problems with IS-LM Analysis

IS-LM analysis remains part of most macroeconomists' toolbox; it provides the framework most economists initially use in tackling macroeconomic analysis. By the 1960s, however, it had been well explored in the literature and found wanting in several ways. First, it forced the analysis into a comparative static equilibrium framework. In the view of many economists, Keynes's analysis concerned, or should have concerned, speeds of adjustment. They believed that Keynes was arguing that the income adjustment mechanism (the multiplier) occurred faster than the price or interest rate adjustment mechanisms. Comparative static analysis lost that aspect of Keynes.

Second, in IS-LM analysis the interrelationship between the real and nominal sectors had to occur through the interest rate and could not occur through other channels. Monetarists were unhappy with this because they thought money could affect the economy through several channels. Many Keynesians were unhappy with the framework because it shed little light on the problem of inflation, which in the 1960s was beginning to be seen as a serious economic problem. Third, the demand for money analysis used to derive the LM curve was not based on a general equilibrium model; instead, it was assumed in a rather ad hoc fashion. It had not truly integrated the nominal and real sectors. Because it did not capture the true role of money and the financial sector, it trivialized their function. It made it seem as if a fall in the price level could bring about an equilibrium, when in fact most economists believed that a falling price level would make matters worse, not better. Nonetheless, the IS- LM model was adopted. It was neat, it served its pedagogical function well, it was a rough and ready tool, it provided generally correct insight into the economy, and it was the best model available.

Dissatisfaction with existing analysis, however, led many macroeconomists to turn to other models in their research. This led to a dichotomy. While IS-LM analysis remained the key undergraduate model in the 1970s and 1980s, graduate research started to focus on quite

different issues. By the early 1990s the change in focus was filtering down to undergraduate courses. Modern theoretical debates in macroeconomics have little to do with the shapes of the IS-LM curves. Instead, they approach macroeconomic issues from a microeconomic perspective, and they deal with issues such as the speeds of quantity and price adjustment. In a sense, many macroeconomic researchers in the 1970s and 1980s argued that we should skip the Keynesian IS-LM interval and return to the macroeconomic debate, as it existed in the 1930s, when issues were framed in microeconomic terms. Thus, the period starting in the 1970 was a reaction against Keynesian economics.

The Rise of Modern Macroeconomics

Monetarism's focus on inflation brought it to the fore in the 1970s as inflation increased substantially. At this happened, Keynesian policies and theory lost favor. Fiscal policy proved politically too hard to implement; decisions on spending and taxation were made for reasons other than their macroeconomic consequences. Monetary policy became the only game in town, but the Keynesian models did not include the potential inflationary effects of monetary policy and so were not well suited to dealing with discussions of monetary policy. So there was a movement away from Keynesian economic models for formulating policy.

Simultaneously, there was a movement away from the Keynesian models on theoretical grounds. As economists tried to develop the micro foundations for those models, they found that they could not do so within the context of the standard general equilibrium microeconomic approach. This desire for micro foundations deserves some comment, since it is important in understanding the movement away from neoclassical economics and into modern formalistic eclectic model building economics.

Keynesian macroeconomics does not fit the neoclassical mold, and thus it can be seen as a step in the direction away from neoclassical and into the eclecticism that characterizes modern economics. It starts with analysis of interrelationships of aggregates rather than developing these relationships from first principles. Thus, it has always had a tenuous theoretical existence, its primary role being as a rough-and-ready guide to policy. Loose micro foundations were added to macroeconomics throughout the 1950s and 1960s where they seemed to fit, but no attempt was made to develop macroeconomics models from first principles. Macroeconomics was simply out there, a separate analysis with little direct connection to the Walrasian theory that was at the core of theoretical microeconomics.

The Micro-foundations of Macroeconomics

In the 1970s, economists, in trying to fix this problem, began to lay the micro foundations of macroeconomics by attempting to fit the Keynesian models into the neoclassical general equilibrium model. They did this for two reasons: first, for theoretical completeness and, second, to be able to expand the model to include inflation in the analysis. As they did so, they discovered that Keynesian models broke down when normal neoclassical principles were applied to them. Keynesian macroeconomics, the traditional macroeconomics of the textbooks, was inconsistent with the microeconomics being taught.

The microeconomic foundations literature established new ways of looking at unemployment. Whereas Keynesian analysis pictured unemployment as an equilibrium phenomenon in which individuals could not find jobs, the micro- foundations literature pictured unemployment as a temporary phenomenon, the result of the interaction of a flow of workers leaving work and new workers entering. It argued that intersectoral flows were an important cause of unemployment and that these flows were the natural result of dynamic economic processes. For the new micro foundations approach to macroeconomics, unemployment was a microeconomic, not a macroeconomic, issue.

Micro foundations economists argued that to understand unemployment and inflation economists must look at individuals and firms' microeconomic decisions and relate those decisions to macroeconomic phenomena. Search theory, the study of an individual's optimal choice under uncertainty, became a central topic of macroeconomics, as did a variety of new dynamic adjustment models. As researchers began focusing more and more on these models, they focused less and less on IS-LM models. The initial micro foundations models had been partial equilibrium models, but once the micro foundations box was opened, economists needed to derive some method of combining the various markets. The obvious choice was to use general equilibrium models. Thus, general equilibrium analysis had become the central model of microeconomics, was ushered into macroeconomics along with micro foundations literature. Micro foundations literature was cemented into the profession's consciousness in the early 1970s by its accurate prediction about inflation. Advocates of the micro foundations approach argued on theoretical grounds that the Phillips curve was only a short-term phenomenon and that, once the inflation became built into expectations, the unemployment-inflation tradeoff would disappear. The long- run Phillips curve would be close to vertical and the economy would gravitate toward a natural rate of unemployment.

The policy implications of the new micro foundations approach were relatively strong. Its analyses removed the potential for government to affect the natural rate of long-run unemployment through expansionary monetary and fiscal policy. Attempts to do so would work in the short run by temporarily fooling workers, but expansionary policy would simply cause inflation in the long run. According to the new microeconomics, government's attempt to reduce unemployment below its natural rate was the cause of inflation in the late 1970s.

Keynesian monetary and fiscal policies were not, however, completely ruled out. In theory, at least, they could still be used temporarily to smooth out cycles. Thus, in the early 1970s, a compromise arose between Keynesians and the advocates of a micro foundations approach to macroeconomics economics: in the long run the classical model is correct; the economy will gravitate to its natural rate. In the short run, however, because individuals are assumed to adjust their expectations slowly, Keynesian policies can have some effect.

The Rise of New Classical Economics

In the mid-1970s the term rational expectations first appeared on the macroeconomic horizon. The rational expectations hypothesis was a byproduct of the microeconomic analysis of Charles C. Holt (1921-), Franco Modigliani (1918-), John Muth (1930-), and Herbert Simon (1916-), who were trying to explain why many people did not seem to optimize in the way that neoclassical economics assumed they would. Their work was meant to explain by means of dynamic models what Simon called "satisficing" behavior; that is, why firms' behavior did not correspond to microeconomic models.

Muth maintained that in modeling it is reasonable to assume that because expectations are informed predictors of future events, they would be essentially consistent with the relevant economic theory. According to Simon, "instead of dealing with uncertainty by elaborating the model of the decision process, Muth would once and for all, if his hypothesis were correct, make process irrelevant."

With his assumption of a "dynamic rationality," Muth turned disequilibrium into equilibrium. Just as neoclassical writers used rationality to ensure static individual optimality or to ensure that the individual moves to a tangency of his or her budget line and indifference curve, Muth used it to express "dynamic" individual optimality, to set the individual on his or her inter-temporal indifference curve. As long as the private actors in the economy are optimally adjusting to the available information, they will always be on the optimal adjustment path.

Although Muth wrote his article in 1961, the rational expectations assumption did not play an important role in economics until it was adopted by Robert Lucas into macroeconomics and combined with the work being done in micro foundations of macroeconomics. The rational expectations hypothesis struck at the heart of the compromise between micro foundations economists and Keynesians, because it held that people did not adjust their expectations toward equilibrium in stages. They can discover the underlying economic model and adjust immediately, and it would be beneficial for them to do so. Assuming that people have rational expectations, anything that will happen in the long run will happen in the short run. Because in the micro foundations-Keynesian compromise the effectiveness of monetary and fiscal policy depended upon incorrect expectations, the rational expectations hypothesis was devastating. In the new view, if Keynesian policy is ineffective in the long run, it is ineffective in the short run.

In the mid-1970s, rational expectations caught on in macroeconomics, and there were significant discussions of policy ineffectiveness and the unworkability of Keynesian-type monetary and fiscal policy. This developing work in rational expectations soon came to be known as new classical economics, because its policy conclusions were similar to earlier classical views. By the late 1970s it seemed to many that the future of macroeconomics lay in new classical thinking and that Keynesian economics was dead.

One of the lasting influences of the new classical on macroeconomics was their contribution to the theory of macroeconomic modeling. Keynesians had developed macroeconomic models to a high level of sophistication in the work of economists such as Jan Tinbergen (1903-1994) and Lawrence Klein (1920-). In the 1960s and 1970s, many of these econometric models were not

good predictors of future movements in the economy, and many economists were beginning to lose faith in them. Robert Lucas, a leader of the new classicals, specified one reason why these models were poor predictors in an argument that became known as the Lucas critique of econometric models. He argued that individuals' actions depend upon expected policies; therefore, the structure of the model will change as a policy is used. But if the underlying structure of the model changes, the appropriate policy will change, and the model will no longer be appropriate. Thus, it is inappropriate to use econometric models to predict effects of future policy.

The majority response was to change their view of models: models were practical tools that provided insights into particular policy questions; there could be a number of different models that could be used whenever they seemed to apply; there was no need to have a broad consistency of all the models. Thus, modern textbooks present the IS-LM model as a working tool, not as something derived from strict micro foundations. This approach to modeling differed significantly from the neoclassical approach, which saw all models as, in principle, developing from the core assumptions of microeconomics.

New Keynesian Economics and Coordination Failures

Other modern economists worked on developing foundations for macroeconomics from simulations, complexity, and agent-based models in which institutional characteristics were embedded within agents, and then, through simulations, one discovered what strategies survive. This work led to a new group, called new Keynesians, who argued that a new foundation for Keynesian-type economics could be developed. They reasoned that there was as much need for the macro-foundations of microeconomics as there was for microeconomic foundations. These modern economists are quite willing to accept the new classical criticism of the neo-Keynesian model, but they argue that there is nothing inherently contradictory between Keynesian economics and rational expectations. This leads them to believe that the appropriate response to the new classicals should not be to derive a more institutionally realistic micro-foundation to macroeconomics. Instead, they argue that the key to understanding Keynesian macroeconomics is to recognize the need for a macro-foundation to microeconomics. One cannot analyze the choices of a representative agent independent of the macroeconomics context within which those choices are made. The aggregate production function cannot be derived from firm production

functions, and output can shift around substantially for a variety of reasons, all concerning coordination failures. They contend that individual decisions are made contingent on others' expected decisions and that economies are likely to fall into expectation conundrums.

Hence a society of rational individuals can find itself in an expectational conundrum in which all individuals are making rational decisions, but the net result of those individually rational decisions is socially irrational. According to the new Keynesians, the rational expectations assumption leads to the new classical conclusion that monetary and fiscal policy are ineffective only if it is combined with an assumption that all markets clear at the collectively desired level of output. But, they argue, that is an ad hoc assumption, not something that logically follows from the analysis.
Chapter Eight The Development of Econometrics and Empirical Methods in Economics

Introduction

Economics is about events in the real world. Thus, it is not surprising that much of the debate about whether we should accept one economic theory rather than another has concerned empirical methods of relating the theoretical ideas about economic processes to observation of the real world. Questions abound. Is there any way to relate theory to reality? If there is a way, is there more than one way? Will observation of the real world provide a meaningful test of a theory? How much should direct and purposeful observation of economic events? Given the ambiguity of data, is formal theorizing simply game-playing? Should economics focus more on direct observation and common sense?

This chapter briefly considers economists' struggles with questions. Their struggles began with simple observation, and then moved to statistics, then to econometrics, and recently to calibration, simulations and experimental work. The debate about empirical methods in economics has had both a microeconomic and a macroeconomic front. The microeconomic front has, for the most part, been concerned with empirically estimating production functions and supply-and-demand curves; the macroeconomic front has generally been concerned with the empirical estimation of macroeconomic relationships and their connections to individual behavior. The macroeconomic estimation problems include all the microeconomic problems plus many more, so it is not surprising that empirical work in macroeconomics is far more in debate than empirical work in microeconomics.

Chapter objective

After completing this chapter, you will be able to;

- Understand how econometrics was emerged at center of economic analysis
- Differentiate the difference between mathematical economics and econometrics
- Identify different types empirical methods in economics

8.1 The Development of Econometrics

Before we consider the development of econometrics, it is worthwhile to briefly consider the distinctions among mathematical economics, statistics, and econometrics.

The term mathematical economics refers only to the application of mathematical techniques to the formulation of hypotheses. It is formal, abstract analysis used to develop hypotheses and clarify their implications. The term statistics refers to a collection of numerical observations, and statistical analysis refers to the use of statistical tests derived from probability theory to gain insight into those numerical observations. Econometrics combines mathematical economics, which is used to formulate hypotheses, and statistical analysis, which is used to formally test hypotheses. The combination is not symmetrical; one can do mathematical economics without doing econometrics, but one cannot do econometrics without first doing mathematical economics. Only mathematical economics gives one a theory specific enough to be tested formally.

Typically, the econometrician develops a theory in mathematical terms, then gathers and statistically tests data that bear on the theory. The theory then is used to predict the impacts of changes in the variables. The roots of the econometric approach go back hundreds of years. Sir William Petty's follower, Charles Davenant, defined "Political Arithmetick" as the "art of reasoning by figures upon things related to government." Quesnay, the French physiocrat, did genuine econometric work.

The Norwegian economist and statistician Ragnar Frisch, who shared the first Nobel Prize in economics in 1969, introduced the term econometrics in 1926. He modeled the term on the term biometrics, which appeared late in the nineteenth century to denote the field of biological studies employing statistical methods. Econometrics, as a separate method of studying economic life, developed very rapidly just after World War I. The Econometric Society, which publishes the journal titled Econometrica, was founded in 1930. Today econometrics is the standard methodological approach used within the discipline.

Econometrics developed in response to the growing professionalism in microeconomics and to the demand for forecasts of macroeconomic changes. Researchers began testing their abstract mathematical models using new econometric techniques and the numerous data sets that were becoming increasingly available. Econometric analysis became important to corporations as a method of conducting market studies, including estimating demand curves and elasticity of demand. The rise of large corporations, among other factors, made the study of macroeconomic fluctuations one of increasing usefulness both to private enterprises and to society as a whole. If, for example, a large enterprise could forecast business fluctuations with a reasonable degree of accuracy, it could to some extent insulate itself from their adverse effects. Also, a large corporation could employ the staff required to make such forecasts. In addition, society as a whole, operating through government and through private nonprofit research organizations, was interested in forecasting business trends in order to control, ameliorate, or counteract them. Growing government intervention in the economy stimulated econometric research, and national governments became the world's major agencies for gathering statistics.

Econometric analysis has been useful both in forecasting the future and in conducting policy analysis. Whereas forecasting involves a projection of likely events and consequences, policy analysis is important in analyzing the effects of government programs and policies. With the proliferation of government in health care, education, urban problems, and a variety of other areas, the need has arisen to determine as accurately as possible what effects these programs have had on individuals and institutions. Econometric techniques provide the analytical framework for such determinations. Nearly all regulatory agencies use econometric analysis to assess economic impacts of private actions and their own policies.

Policy analysis has been proven to be much more accurate than the perilous art of forecasting. Forecasting has other merits, however, than mere prediction of GDP, investment, and so forth. The real advantage of forecasting models is that they force economists and planners to consider the intricate interdependencies in an economic system, thereby helping decision makers anticipate the types of positive and negative effects of alternative actions.

As the technology available to solve large arithmetic processes has become more sophisticated, econometric models have themselves grown in size and complexity. The Dutch were the originators of comprehensive macro models. In 1939, Professor Jan Tinbergen began a model for the Dutch economy to be used by government planners. For this work, he shared the Nobel Prize in economics in 1969 with Frisch.

In the United States, Lawrence Klein, a Nobel Prize winner at the University of Pennsylvania, is credited for taking a leading role in this area. Today, several major universities, private forecasting firms, nonprofit research institutes, and government agencies have large models (200 or more equations) through which they analyze changes in the U.S. economy.

In 2000 and 2003, four new Nobel laureates were crowned, each for their advancements in econometrics. James Heckman (1944–) and Daniel McFadden (1937–) shared the award in 2000 for their contributions to microeconometrics; Robert Engle (1942–) and Clive Granger (1934–2009) were co-recipients in 2003 for advancing methods dealing with time series analysis.

8.2 Empirical Economics

Almost all economists believe that economics must ultimately be an empirical discipline, that their theories of how the economy works must be related to (and, if possible, tested against) real world events and data. But economists differ enormously on how one does this and what implications can be drawn afterward. Under this this section, four different approaches to relating theories to the real world will distinguish: common-sense empiricism, statistical analysis, classical econometric analysis, and Bayesian econometric analysis.

Common-sense empiricism is an approach that relates theory to reality through direct observation of real world events with a minimum of statistical aids. You look at the world around you and determine if it matches your theoretical notions. It is the way in which most economists approached economic issues until the late nineteenth century; before then, most economists were not highly trained in statistical methods, the data necessary to undertake statistical methods did not exist, many standard statistical methods that we now take for granted had not yet been developed, and computational capabilities were limited. Common-sense empiricism is sometimes disparagingly called armchair empiricism.

The derogatory term conveys a sense of someone sitting at a desk, developing a theory, and then selectively choosing data and events to support that theory. Supporters of common- sense empiricism would object to that characterization because the approach can involve careful observation, extensive fieldwork, case studies, and direct contact with the economic events and institutions being studied. Supporters of common-sense empiricism argue that individuals can be trained to be open to a wide range of real-world events; individuals can objectively assess

whether their theories match those events. The common-sense approach requires that economists constantly observe economic phenomena, with trained eyes, there- by seeing things that other people would miss. It has no precise line of demarcation to ultimately determine whether a theory should or should not be accepted, but it does have an imprecise line. If you expected one result and another occurred, you should question the theory. The researcher's honesty with himself or herself provides the line of demarcation.

The **statistical analysis** approach also requires one to look at reality but emphasizes aspects of events that can be quantified and thereby be subject to statistical measure and analysis. A focus is often given to statistically classifying, measuring, and describing economic phenomena. This approach is sometimes derisively called measurement without theory. Supporters of the approach object to that characterization, arguing that it is simply an approach that allows for the possibility of many theories and permits the researcher to choose the most relevant theory. They claim that it is an approach that prevents preconsidered theoretical notions from shaping the interpretation of the data.

The statistical analysis approach is very similar to common-sense empiricism, but unlike that approach, the statistical approach uses whatever statistical tools and techniques are available to squeeze every last bit of understanding from a data set. It does not attempt to relate the data to a theory; instead, it lets the data (or the computer analyzing the data) do the talking. As the computer has increased researchers' capabilities of statistically analyzing data, the approaches of common-sense empiricism and statistical analysis have diverged.

The classical econometric approach is a method of empirical analysis that directly relates theory and data. The common-sense sensibility of the researcher, or his or her understanding of the phenomena, plays little role in the empirical analysis; the classical econometrician is simply a technician who allows the data to do the testing of the theory. This approach makes use of classical statistical methods to formally test the validity of a theory. The econometric approach, which developed in the 1930s, is now the approach most typically taught in modern economics departments.

The **Bayesian approach** directly relates theory and data, but in the interpretation of any statistical test, it takes the position that the test is not definitive. It is based on the Bayesian approach to statistics that seeks probability laws not as objective laws but as subjective degrees

of belief. In Bayesian analysis, statistical analysis cannot be used to determine objective truth; it can be used only as an aid in coming to a subjective judgment. Thus, researchers must simply use the statistical tests to modify their subjective opinions. Bayesian econometrics is a technical extension of common-sense empiricism. In it, data and data analysis do not answer questions; they are simply tools to assist the researcher's common sense.

These approaches are not all mutually exclusive. For example, one can use common- sense empiricism in the initial development of a theory and then use econometrics to test the theory. Similarly, Bayesian analysis requires that researchers arrive at their own prior belief by some alternative method, such as common-sense empiricism. However, the Bayesian and the classical interpretations of statistics are mutually exclusive, and ultimately each researcher must choose one or the other.

Technology affects not only the economy itself but also the methods economists use to analyze the economy. Thus, it should not be surprising that computer technology is making major differences in the way economists approach the economy and do empirical work. The computer certainly has changed economists' empirical work, and it will do so much more in the future.

In some cases, technology has merely made it easier to do things we have already been doing. Statistical tests, for example, are now done proforma by computer programs. Recursive systems with much more complicated dynamics are finding a wider audience. Baysesian measures are beginning to show up in standard computer software statistical programs. An- other group of economists is using a VAR (Vector Auto Regression) approach. They simply look to the computer to find patterns in data independent of any theory.

Another set of changes is more revolutionary than evolutionary. Recently a group of empirical economists have been focusing more on agent-based modeling. These are **simulations** in which local individual optimization goals of heterogeneous agents are specified and modeled. But instead of being deductively determined, the results are simulated to determine the surviving strategies. In these simulations individuals are allowed to build up institutions and enter into coalitions, providing a much closer parallel to real-world phenomena.

Another change that we have seen is the development and use of a technique called **calibration** in macroeconomic models. Models are not tested empirically; instead, they are calibrated to see

if the empirical evidence is consistent with what the model could have predicted. In calibration, the role of simple general equilibrium models with parameters determined by introspection along with simple dynamic time-series averages is emphasized. Statistical "fit" is explicitly rejected as a primary goal of empirical work. There is debate about precisely what calibration shows, but if a model cannot be calibrated, and then it should not be retained.

A final change has been the development of a "**natural experiment**" approach to empirical work. This approach uses intuitive economic theory rather than structural models and uses natural experiments as the data points.