**CHAPTER SEVEN**

**The Development of Modern Macroeconomic Thought**

**7.1 Historical Forerunners of Modern Macroeconomics: Quantity Theory of Money, BC Theory, Neoclassical Macroeconomics**

Interest in macroeconomic issues has fluctuated throughout the years, reaching its nadir 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 benign 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, as did F. W. Taussig in his introductory textbook. 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. That full employment assumption was often justified by reference to Say’s Law, supply creates its own demand. Analysis that used the full employment assumption and focused on explaining the forces determining the general level of prices continued until the 1930s, when the Great Depression led to new work on understanding business cycles. During the period from the 1930s to the late 1970s, macroeconomics continued to focus on business cycles, an approach that came to be known as “Keynesian economics.” The classification is not totally correct, since Keynesian ideas quickly merged with neoclassical ideas; the actual macroeconomics that developed in the texts might more appropriately be called neo-Keynesian economics.

* This chapter describes this evolution and its historical foundation. The 1970s saw a reaction against neo-Keynesian economics in the form of the new classical revolution, which moved the focus of macroeconomics away from business cycles and toward growth. Since the 1990s, the primary focus of cutting-edge macroeconomics has been on growth. This chapter will first consider early work on macroeconomic issues and then deal with the development of Keynesian macroeconomics. It will then cover the new classical revolution, and finally consider the current state of macroeconomics.

**HISTORICAL FORERUNNERS OF MODERN MACROECONOMICS**

Modern macroeconomics consists primarily of monetary theory, growth theory, and businesscycle 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. We will begin with a discussion of growth theory.

**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 economics away from the growth macroeconomics of Smith and toward Ricardo’s microeconomic concerns—what determines wages, rents, profits, and other prices, and thus the distribution of income. This emphasis on microeconomics, 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. As Schumpeter notes, “They were convinced that technological improvement and increases in capital would in the end fail to counteract the fateful law of decreasing returns.” Somewhat of an exception to this among the major mainstream economists was John Stuart Mill, who discussed growth and technology more than Malthus or Ricardo did, and who, moreover, was much more optimistic about the possibility of continued growth. But a close reading of Mill shows that he did not base his belief so much on the continued growth of technology and capital as on his belief that societies would ultimately voluntarily restrict the birth rate and thus slow the inevitable diminishing marginal returns. Toward the end of his life, Mill became more of a pessimist. He seemed convinced that the stationary state was near. However, he did not see this result as necessarily bad. Rather, he saw the stationary state as a comfortable state in which there was moderate prosperity and reasonable equality. This followed because he saw the distribution of income as being determined by social as well as economic forces.
* 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**

* Before Schumpeter was thirty years old, he 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 broadbased that it does not lend itself to the economic model building that has been the vogue in mainstream economics for some fifty years. In the foreword to Eduard Mårz›s recent study of Schumpeter, Nobel Prize winner and model builder James Tobin comments that Schumpeter›s «theories of development and business cycles were difficult to incorporate into the style and method that came to dominate economics, especially American economics, over the past 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, efficient firms. But the principal agents of economic growth are noneconomic, according to Schumpeter, and are to be found in the institutional structure of the 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.
* Therefore, economic growth is fostered by an institutional environment that rewards and encourages the activities of entrepreneurs; early capitalism, with its private property and laissez-faire government, was ideally suited to economic growth. Insofar as it stresses the importance of incentive and laissez-faire government, this part of Schumpeter’s analysis is in theoretical and ideological accord with the classical theory of growth; but where classical theory stressed the economic factor of the size of capital accumulation, Schumpeter emphasized a noneconomic, cultural, sociological factor in his analysis of the role of the entrepreneur. The contrast between this view of growth and that of mainstream neoclassical economics was stated succinctly by Schumpeter.

**Quantity Theory of Money**

* Classical and neoclassical theorists maintained an interest in at least one macro- economic 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

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. Because full employment is assumed, 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. We shall not examine the many different aspects of Marshall’s formulation; the important point is that 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 (1851-1926) 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), who in 1862, published Des crises commerciales et de leur rétour périodique en France, en Angleterre et aux Etats-Unis. 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) 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 TuganBaranowsky, 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’ consideration 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.

* 1. **Topics in Modern Macroeconomics: Monetarists, Problems with IS-LM Analysis, The Micro foundations of Macroeconomics, The Rise of New Classical Economics, Keynesian Responses to the New Classicals.**

**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 microfoundations 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 microfoundations 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 microfoundations approach to macroeconomics, unemployment was a microeconomic, not a macroeconomic, issue. Microfoundations 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 microfoundations models had been partial equilibrium models, but once the microfoundations box was opened, economists needed to derive some method of combining the various markets. The obvious choice was to use general equilibrium models. Microfoundations 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—a curve showing a tradeoff between inflation and unemployment—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 microfoundations 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 microfoundations 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. John Muth turned that work on its head, writing as follows:

* It is sometimes argued that the assumption of rationality in economics leads to theories inconsistent with, or inadequate to explain, observed phenomena, especially changes over time… Our hypothesis is based on exactly the opposite point of view: that dynamic economic models do not assume enough rationality. 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. As Simon wrote, “[Muth] would cut the Gordian knot. Instead of dealing with uncertainty by elaborating the model of the decision process, he 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 intertemporal indifference curve. As long as the private actors in the economy are optimally adjusting to the available information (and there is no good reason to assume the contrary), 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 microfoundations 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 microfoundations-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 classicals on macroeconomics was their contribution to the theory of macroeconomic modeling .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 microfoundations. 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 microfoundation to macroeconomics. Instead, they argue that the key to understanding Keynesian macroeconomics is to recognize the need for a macrofoundation 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
* 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. For example, individuals collectively may expect that demand will be low and collectively produce little because of that expectation: supply is low because expected demand is low. Unless a coordinating system for expectations exists so that when one person lowers his or her expectations of demand, some mechanism exists to offset the effect of that lowering of expectations on the individual’s supply decision, supply will be too low because demand was expected to be too low. It is this assumption, that the economy will inevitably equilibrate at the collectively desired equilibrium, not the rational expectations assumption that these new Keynesians cannot accept. Many Keynesians argued that monetary and fiscal policy were politically impossible to utilize and that politics, not sound economic principles, was determining the size of the deficit and the growth of the money supply.
* The arguments between new Keynesians and new classicals quickly became complicated. It is not appropriate for a course on the history of thought to examine them. What is important to point out is that most modern macroeconomic research and most graduate training in macroeconomics consist of acquiring the technical background necessary to understand the modern debate.