

MACROECONOMICS

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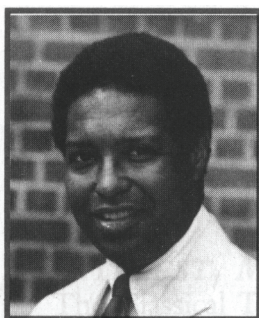
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Jamie Galbraith and William (Sandy) Darity met as Marshall Scholars in England in the fall of 1974, and have been fast friends ever since.

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PREFACE

In the late 1990s, the United States achieved an economist's dream. Unemployment was below four percent of the labor force for three years in a row. Jobs were plentiful, and job markets were tight. Growth was strong, the stock market was extremely high. And yet there was no increase in the rate of inflation. Moreover the federal budget went into surplus, with tax revenues exceeding public expenditure for the first time in thirty years.

Since that happy moment, dark times have come again, with a recession in 2001, accompanied by lost jobs and rising unemployment and punctuated – though not caused – by terrorist attacks on New York and Washington on September 11, 2001. There followed two years of near-stagnation, with recovery resuming only in mid-2003. But now, as we write in the fall of 2005, the U.S. economy is again growing, and the unemployment rate is stable near five percent. Still the economy has problems that worry many. Budget deficits have returned. Trade deficits are exceptionally high. Interest rates are rising. The dollar has been sliding against the new mega-currency across the Atlantic, the euro.

Meanwhile in Europe, a debate rages over the future of the great project of European Union. Europe is racked by high rates of joblessness, especially among the young. Many European leaders – fortified by the advice of many economists – are determined to make their labor markets more “flexible,” to better follow what they believe to be the “American model.” In most cases, this means adjusting wages so that workers with low skills receive less pay and enjoy fewer social protections.

In this way, Europe's leaders claim to hope to make such workers more attractive to hire, and so reduce unemployment. But European electorates are unhappy and distrustful. The French and the Dutch have even voted to reject the European Constitution, largely from fear that the new Europe would weaken the role of national governments in the social sphere. Globalization, privatization, deregulation and competition are turbulent and troublesome forces, and it is perhaps not surprising that many would prefer to keep them

at bay. But beyond this, it appears that many ordinary Europeans simply do not believe that the solution to unemployment lies in cutting wages.

None of this is new. Ever since the 1930s, the question of whether and how the government should take an active role to fight unemployment, to promote economic expansion, and to protect the living standards of working people has been hotly debated. The lines of argument are broadly the same now, though with variations and innovations, as they were then. The divisions and disagreements are broadly the same.. It is mainly the circumstances, the facts, and the personalities that have changed.

Employment, growth, inflation, interest rates, deficits, exchange rates and globalization are the substance of modern macroeconomics. You have no doubt encountered all of these words before. But what do they mean? How do they interact? What are the chains of cause and effect between policy instruments, like the interest rate, and policy outcomes, such as unemployment? If you are new to this subject, very likely you have no clear idea. That is about to change. We believe – anyway we hope – that you won't regret it.

THE AIM OF THIS BOOK

This book aims to provide a broad exposure to issues in macroeconomic theory and in the conduct of monetary and fiscal policies. Our emphasis is, above all, on thinking clearly, and in presenting macroeconomics as it is, rather than as we, or anyone else, might like it to be.

For this reason, we do not plan to present a single body of doctrine (or “mainstream model”). In our view macroeconomics contains no such single coherent doctrine. Indeed, we believe that the attempt to patch together such a single view, so characteristic of the “textbook approach,” leads to more confusion than it resolves.

We hope instead to teach students that the many current controversies in macroeconomics, including some of the most important policy issues of our time, are deeply rooted in disputes over points of theory. These disputes are between schools of economics that are opposed in very important and basic ways; they are longstanding. Macroeconomics originated in an intellectual revolution that was never definitively settled; and like the history of France for a century after 1789, the history of macroeconomics has been a history of conflict between revolutionary and counter-revolutionary traditions. It is not the case that macroeconomists agree on all of the major issues of theory and disagree only on secondary questions, such as of fact and of measurement. Instead, we believe, the disagreements extend through every root and branch of the theory and its practice, which is to say that disagreements over theory have profound consequences for the policy decisions that economists and those in authority must make in the real world.

THEORY AND POLICY

Many students seem to believe that there exists a kind of intellectual wall that separates questions of theory from decisions of policy. The theorists sit in their ivory towers, or so it seems, spinning abstract tales, while policymakers toil with the facts and figures, guided by the “common sense” of “practical men.”

John Maynard Keynes, the man at the origin of our subject, provided the most famous refutation of this view:

... the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back ... soon or late, it is ideas, not vested interests, which are dangerous for good or evil.¹

We, the authors, have experience both with the development of economic theory and with its application to policy questions. On this point, we believe that almost all economists (there are exceptions, even to this!) would agree with Keynes. It is not true, as some suppose, that policy issues are decided by an engineering process, in which economists sharing a common perspective argue only about the interpretation of new information. Quite to the contrary: the most critical policy choices depend on the theoretical perspective one takes as a point of departure. The critical policy changes occur, as with the arrival of the Reagan Administration in 1981, when the controlling theoretical perspective changes.

So how does theory get translated to policy? We believe that the design of good policy in this complex and difficult field is a craft. It is a skilled craft, one that requires the blunt and rigorous evaluation of evidence within a coherent framework of theory. There are rules, and it is important to know and to use them. The macroeconomic artisan is ever alert to assure consistency between assumptions and results, and always looking at the facts, to seek out the guidance they offer and the problems they pose.

Many who participate in policymaking, or attempt to, do not possess these skills, or perhaps have motives or special interests that would in any event preclude their use. The policy arena is crowded with aspirants to power and influence, from politicians to journalists to business and union leaders, who lack training in economic theory and have a tin ear for relevance in their use of economic fact. We expect students will learn from this book how to

¹ John Maynard Keynes, *The General Theory of Employment Interest and Money*, London: MacMillan, 1983, p. 384-5.

distinguish the amateurish, the imprecise, and the dogmatic, from those who have mastered the craft and who abide by its rules.

The devilish thing is that mastering the craft is not the same thing as arriving at a single “right” answer. For within the basic framework of scientific macroeconomics, competing theoretical traditions flourish, and these interpret the same facts through opposing theoretical lenses, to arrive at opposing policy conclusions. To take the most fundamental point of difference, which we have already mentioned, some economists believe that the role of government in ending recessions and stabilizing growth is necessarily large; others believe that it must be ideally small. And this disagreement, unlike the views that we spoke of in the previous paragraph, does not stem from logical error nor from blatant disregard of the facts on either side.

Disagreements between well-trained and careful economists flow from the co-existence of competing theoretical traditions. Each of these competing traditions is honestly arrived at and carefully developed. Each has fervent partisans. Neither accounts for all the facts, but each has adherents who believe that the broad mass of facts fits better under their theory than under any other. We stress again, these are honest disagreements. And the job of this textbook is to provide a road map to the sources of the argument, so that students can decide for themselves.

Our approach to the “roadmap problem” is to present models in roughly chronological order and include some of the historical context in which they actually appeared. This too is a departure from much standard practice and from the many textbooks that emphasize the integration of strictly modern facts with modern theory. Our own primary interest is not, in fact, historical. But our teaching experience convinces us that presenting the context and development of theory helps students to grasp, order, and retain a complex presentation. On the other hand, we have built some flexibility into this text. Those instructors who do not share our view of the framesetting importance of the Great Depression and its dispute between Keynes and Classical economics are welcome to plunge in at Chapter 4, which is where the modern models make their appearance.

The roadmap is necessarily complex. For while the broad theoretical division in macroeconomics is between conservatives and liberals, classicals and Keynesians, each tradition has its own subdivisions. Each has a program of research and interpretation of the facts, which has over the years forced it to evolve and change as changing evidence and new situations present new puzzles for theory. And this has led to a diversity of schools and sub-schools, so that among “conservative” economists we have Classicals, Monetarists and New Classicals (not to mention Austrians and some other groups), while among the liberals we have Keynesians, New Keynesians and Post Keynesians (as well as institutionalists, new institutionalists and some self-described “eclectics”).

We hope that this course will help students, to learn how to understand the basis for opposing points of view that exist between economists in the real world. It should also help them to recognize and expose inconsistent arguments that draw (often unwittingly) on opposing analytical frameworks. It cannot teach students how to make choices of their own between theories that are in conflict, but it can help them to recognize what the precise choices are. This process may not lead to simple and clear-cut solutions to the policy questions of the day. But it will, we hope, help them to understand the complex and fascinating world of macroeconomic policy debate. For there is nothing so alive, so vibrant, and so important, as a subject whose biggest questions remain unsettled.

HOW TO USE THIS BOOK

The most important thing about any book is readability. We have tried to make this an interesting book to read. To do that, we have tried very hard to tell a story about macroeconomics, to convey some of the history and context, at the same time that we teach the basic and the advanced concepts.

You will find the main elements of the story in the body of the text itself, along with all the essentials of the theory. At the beginning of each chapter, a box entitled Looking Forward gives a brief outline of where we are going, and structured learning objectives for this chapter. As you go along, boxes entitled Taking a Closer Look explore particular extensions of the theory, or provide a window onto illustrative data, including macroeconomic data from Europe and Japan as well as the United States. At the end of every chapter, an extended Special Section provides an opportunity to read about additional theoretical, historical or policy matters related to the main body of the chapter. Each chapter closes with a few essentials: a *Summary*, *Review Questions* to think about and discuss, and *Problems* to work on.

ACKNOWLEDGMENTS

This book first appeared in 1994. The idea of preparing a new version has been pressed on us over the years by readers of that book as it became increasingly hard to find, and was eventually taken up by José Enrique Garcilazo, then a Ph.D. student at the University of Texas at Austin, who reassembled the text from our electronic files. For the present reprint, we acknowledge gratefully the initiative and highly efficient labors of Jacques Schievink of VSSD. As ever, we thank Kirsten Mullen and Ying Tang, with love.

J. K. G.

W. D., Jr.

TO THE STUDENT

A NOTE ON NOTATION

In this text we have tried to develop a consistent and logical way of identifying our economic variables, so that you, the student, can tell at a glance what type of variable each symbol refers to.

The simplest kind of economic variable is the plain dollars-and-cents expression, which may be a wage rate, the price of a good or service, or the dollar value of all goods and services sold in the economy (gross national product and its components: consumption, investment, government spending, exports and imports). We call these nominal variables and use capital letters – W (wages), Y (national product or income), C (consumption), I (investment), G (government spending), X (exports), M (imports) – to express them in symbolic notation. We also use the block capital P to indicate the aggregate price level – an index number that tells you how much inflation there has been between any one time period and any other. And we use capital letters for the volume of employment (N) and the rate of unemployment (U), which are not dollars-and-cents expressions to begin with.

Often in macroeconomics our interest lies not so much in dollars-and-cents expressions, but in the underlying physical quantities, such as the volume of goods and services produced, or the amount of physical machinery purchased (investment). The measurement of these variables starts out in dollars-and-cents terms, but then an adjustment is applied to remove the effect of changing prices and so arrive at a measure of the underlying quantities. We call these derived expressions real variables, and say that they have been “deflated,” which means that the effect of price inflation has been taken out. In this text, we will denote deflated variables with small letters. Thus, if

nominal national income is “ Y ”, real notation income is “ y ”.

We calculate real national income by dividing the nominal value for a given year by the index value of the price level $(P/100)$ ¹ in that year.

The price index is measured from an arbitrarily chosen base, a year whose value in that index is set to 100. (For most of the deflated series in this book, the index base year will be 1982, or 1987.) This gives us the value of real national income in terms of what the dollar was worth in the base year.

$$y_t = \frac{Y_t}{P_t / 100}$$

Thus, if we are using a price index that uses 1982 for the base year, and the current value is 160, this would indicate $160/100 = 1.6$ or 60% inflation since 1982, which tells us that we must “deflate” nominal or “current” dollar national income by 1.6 in order to find real national income as expressed in “constant” 1982 dollars.

We use a dot on top to indicate the *rate of change* of economic variables, and we sometimes use a subscript to indicate the year in which a variable holds a certain value. Thus, if Y_t is nominal national income in year t , then

$$Y_t^{\dot{}} = \left(\frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100\% \right)$$

is the percentage change of Y since the last period, and $y_t^{\dot{}}$ indicates the corresponding percentage change of real national income.

Next, we frequently will make reference to the *equilibrium* values of a variable, usually in the “Walrasian” sense of the values at which markets clear (quantities supplied equals quantities demanded), sometimes in the “Marshallian” sense of a stable value that does not normally change. We will use asterisks to denote equilibrium values in either sense. Thus N^* denotes the equilibrium value of employment. When we need to denote different values of a variable that are not necessarily equilibrium values, for example in a figure, we will use a prime mark (N' , not to be confused with the functional notation such as $N'(w)$, described below). If we need more than one such value, we will use numbered subscripts: y_1 , y_2 and so on.

Finally, from time to time we need to express variables as *functions* of other variables – meaning simply that one variable depends on another. For

¹ By convention, we divide the index number by 100. Thus, if 1982 is the base year, so that the price level in 1982 equals 100, the real or deflated value of any economic variable in that year is equal to the nominal value.

example, we may wish to say that labor supply (N^s) is a function of the real wage (w), so that when real wages go up, more people seek employment. We do this with parentheses, as follows:

$$N^s = N^s(w)$$

When we wish to show how a function changes with respect to one of its variables (a variable in a function is known as an argument of that function), we will use a prime (') to indicate the direction of change. Thus

$$N^{s'}(w) > 0 \text{ is the same as} \\ d[N^s(w)]/dw > 0$$

in the routine notation of derivatives, meaning (in this case) that labor supply rises when the real wage rises.²

By arranging our notation in this way we hope to help clear the often critical distinction between nominal and real values, and to help keep them clear as you work your way through theoretical models that sometimes use one, sometimes the other. We also hope to provide a ready key that will help you distinguish equilibrium from dis-equilibrium values and rates of change from level measures. Finally, we hope that this system can clearly indicate the functional dependence of one variable on another.³

² If we need to show a second derivative (rate of change of the rate of change), we will use a double prime ("). Thus: $y'(N) > 0$ and $y''(N) < 0$ would indicate that real production increases with employment but at a diminishing rate.

³ In particular, we try to show functions without resort either to formal calculus notation or to restricting ourselves to linear equations. Linear equations are simpler, but they would not be consistent with the curves with which we frequently illustrate such relations.

PART 1

THE MACROECONOMIC REVOLUTION

1 REVOLUTION AND COUNTERREVOLUTION

Looking Forward

These first three chapters describe the Keynesian revolution. Read them with your eye on the big picture. What were the economic conditions on the Great Depression? How did prevailing economic theory attempted to account for mass unemployment? Why did Keynes rebel against this accounting, what what did he attempt to put in its place? Do not try to master every detail of macroeconomic theory at this state. There is a lot of material in these chapters, and some of it may not become clear to you until you have had a chance to work through the formal models later on. But if you come away from these chapters with some appreciation of the climate of that time and in understand of how Keynes attempted to “shift the goal posts” in economic thinking with respect to both labor and capital markets, then you will be well prepared for the task that lies ahead.

The decisive event at the beginning of macroeconomics was the publication in 1936 of *The General Theory of Employment Interest and Money*, by the British economist John Maynard Keynes (1883-1946). In large measure, all subsequent developments in macroeconomics have been reactions, either direct or indirect, to this book.

The General Theory attempted in one blow to overturn most of economics as it then existed. Keynes considered the theoretical positions of his fellow economists to be both mistaken and dangerous. Indeed, his objections were to positions that he had himself held at one time, although never uncritically.¹ In

¹ Keynes was always less than orthodox in both his public and his private life. Robert Skidelsky's masterful biography of the young Keynes, *John Maynard Keynes: 1883-1920, Hopes Betrayed* provides the essential details of Keynes' early life, personal life, and philosophical development.

the Preface to *The General Theory*, he wrote: "The composition of this book has been for the author a long struggle of escape ... a struggle of escape from habitual modes of thought and expression." He warned his readers that they, too, would have to wage such a struggle if the "assault upon them was to be successful...."²

Escape from what? Assault on what?

1.1 The Classical Economics

Keynes mounted his rebellion against a body of belief that he called "the classical economics." Classical economics had, by 1936, been dominant for precisely 160 years – since the publication of Adam Smith's *Inquiry into the Nature and Causes of the Wealth of Nations* in the American independence year of 1776. Its greatest 19th century masters had included the Englishmen David Ricardo, W.S. Jevons, and John Stuart Mill, and the Frenchman Jean-Baptiste Say. If there was, in Keynes' mind, a single leading modern master of the classical economics, it was probably his own teacher, Alfred Marshall (1842-1924), author of the first authoritative textbook in economics and inventor of the modern analysis of supply and demand.

The classical economics was a loose set of doctrines, rooted variously in moral philosophy, Newton's physics and Darwin's biology, substantially non-mathematical and lacking the systematic development and internal consistency that has come to characterize economics in our own time. We will present a synopsis, or more precisely a model, of the classical system when we get to Chapter 4. For now, we may content ourselves with a mere description of three main points of doctrine.

First and foremost, classical economics held that the total volume of employment in society was determined in a labor market, by the supply of labor and other resources available and by the demand for them. Wages were the price that balanced the supply of labor with the demand. If, for some reason, the supply of workers increased relative to demand for them, wages would decline. In that event, it would become attractive for the additional workers to be hired. And wages would continue to fall, and additional workers would continue to be hired, until there were no more workers who were willing to work at the prevailing wage. At that point, in a phrase, *the labor market would clear*. There would be no unemployment, except for workers in transition between jobs and those who were unwilling to work at the prevailing wage. In particular, there could not be a persistent excess supply of labor, of people willing to work at the prevailing wage but unable to find jobs, a condition otherwise known as mass unemployment.

² *The General Theory*, hereafter **GT**, p. viii.

Second, classical economics held that the interest rate, which is the rate of return on savings, investment and capital formation, was also determined in a market. The classical capital market weighed the demand for investment funds against the willingness of savers to defer present consumption; to classical economists the interest rate represented the balance of these two forces. If savings went up, interest rates would come down, and investment would go up to match the savings. Consequently, thrifty and virtuous nations (like the English!) would be rewarded with accumulating capital and wealth, while the feckless, live-for-today populations of other countries would remain mired in poverty. Since there was no possibility of mass unemployment, investment and consumption were the only possible uses of current production, and an increase in consumption (at the expense of savings) could come only at the expense of future investment, capital formation and wealth.

The notion of a balance between savings and investment was captured by a classical proposition known as *Say's Law*. Say's Law asserted, in effect, that all savings would necessarily be invested, that resources withdrawn from consumption by savers would return, automatically and necessarily, in the form of demand for investment goods, to the general flow of demand for goods and services. Therefore, there was no possibility of what 19th century economists called a "general glut," or an "underconsumption crisis," a persistent excess supply of good that could not be sold. In a popular phrase that summarized Say's Law, "supply creates its own demand."

The third main principle of the classical economic system concerned money. In an odd way, classical economics had almost no role for money. According to the *quantity theory of money*, the total amount of circulating money in an economy, in comparison to the total volume of circulating goods, was responsible for the general level of prices. And the relationship between the two was thought to be quite steady over time. Since money earned no interest, while savings in other forms (such as bonds) did, it was not rational to hold money except as needed for transactions. And so, if the money supply increased more rapidly than the supply of goods, there would be price inflation; if it decreased, the general level of prices would fall.

Aside from that, classical economists believed, changing the quantity of money in an economy had no effects. It did not change the interest rate³, and so would not change the balance between investment and consumption. It did not affect either the supply of goods, nor the demand for them, nor the supply of labor, nor the demand for it. People had no reason to hoard money (over and above what they needed for transactions) so there was no possibility that savings could disappear into idle money holdings, disrupting the smooth operation of Say's Law. With inflation, deflation, or price stability, the real volume of output, the level of employment, and the living standards of

³ At least not after taking out any (purely cosmetic) effects of inflation on the interest rate.

workers would remain exactly the same. Hence, in a phrase you will encounter again and again in this text, *money was neutral*.

1.2 Keynes' Revolution

John Maynard Keynes by 1936 had come to reject each and every one of these ideas. He had come to believe that there existed no labor market mechanism that would automatically keep the economy at full employment. Nor did he believe that the smooth functioning of the capital market would assure that realized investment would always equal planned savings. Instead, he now believed that the supply of goods and the volume of employment depended on the demand for them, on the levels of consumption and planned investment – exactly the opposite of Say's Law. Keynes had also come to believe that the realized supply of savings, the amount that actually occurred as opposed to the amount that savers might plan for, did not depend on the interest rate, but instead on the level of income – on whether the economy was at full employment. And contrary to the quantity theory, he had come to see an intimate link between the money supply and the interest rate, and through them on the level of demand for output, and employment. In these links between topics that classical economics had kept separate, we find the very origin of macroeconomics as a distinct subject.

In consequence, where the classical economics emphasized the virtues of thrift and savings, monetary stability, and *laissez-faire* (non-intervention) in labor markets, Keynes came to exactly opposite conclusions. In a comprehensive and dramatic break from the orthodoxies of his time, Keynes called for increased mass consumption, public spending, low interest rates, and easy credit. And he opposed the classical remedy of wage-cutting for the then-inescapable problem of mass unemployment.

For Keynes this was no academic parlor game; the stakes were extremely high. The *Great Depression*, an unparalleled disaster, had been going on in Britain by that time for more than a decade. Double-digit unemployment had emerged in Britain as far back as 1921, when the rate jumped from 3 to 19 percent. From 1930 to 1933, estimated British unemployment rates exceeded 20 percent⁴. Moreover, by September 1926 the index of economic production had declined to half of its September 1920 value; it was not to reach the 1920 level again until June 1936.⁵

The Great Depression in the United States of America was no less dramatic. Between 1929 and 1933, the unemployment rate rose from 3 percent to 25 percent, the U.S. economy's output fell by one-third, money-wages and

⁴ Not until the British mobilization for World War II did the unemployment rate fall below 10 percent. See Forrest Capie and Michael Collins, *The Inter-war British Economy: A Statistical Abstract* Manchester: Manchester University Press 1983, 62-9.

⁵ Capie and Collins, *op. cit.*, 20.

consumer prices both fell about 30 percent, and the prices of farm products fell by 50 percent.⁶ The event that signalled the collapse was the crash of the New York Stock Exchange in late October 1929. By November 1929, the average price of fifty leading stocks was half of what it had been in September of the same year.⁷ And the fall continued until July 1932, when the Dow Jones Index of leading industrial companies' stocks dropped to 41, a 90 percent decline from its high in September 1929.⁸

The crisis in the securities market also hit hard at American commercial banking. After the Crash, bank failures soared as panicked depositors withdrew their funds. Without deposit insurance, those who were unable to withdraw their money before their bank closed lost everything. Between 1929 and 1933, 11,000 of U.S. banks failed, over forty percent of those in existence in 1929. About \$2 billion in deposits were lost.

Keynes was convinced that these phenomena lay outside the comprehension of the economics and the economists of his day. Worse still, he had concluded that habitual economic modes of thought led to policies that would prolong, and perhaps perpetuate, the calamity. New policies, which were urgently required, could not be built on the old foundations. Rather, a new vision of how the economy functions, a new theoretical basis for policy, was required.

At first, and for quite a long time, Keynes' idea that the Depression broke with the past in a fundamental way was a minority view. There had been a long historical experience, particularly among Western countries, with financial panics and crashes, recoveries and collapses. The phrase "Prosperity is just around the corner" was commonplace among political figures in 1930. Keynes, however, could be heard warning, "The world has been slow to realize that we are living this year in the shadow of one of the greatest economic catastrophes of modern history."

Yet Keynes argued – and here was another radical departure – that the Depression was all a nightmare that could, with the design and execution of proper policies, be put right by tomorrow morning:

If our poverty were due to earthquake or famine or war – if we lacked material things and the resources to produce them, we could not expect to find the means to prosperity except in hard work, abstinence, and invention. In fact, our predicament is notoriously of another kind. It comes from some failure in the immaterial devices of the mind, in the working of the motives which should lead to the decisions and acts of will, necessary to put in movement the resources and technical means

⁶ Gary Smith *Money and Banking: Financial Markets and Institutions* Reading MA: Addison-Wesley 1982, 292.

⁷ "The Past," *Business Week*, September 3, 1979, 9-10.

⁸ Gary Smith, *op. cit.*, 292.

we already have. It is as though two motor-drivers, meeting in the middle of a highway, were unable to pass one another because neither knows the rules of the road. Their own muscles are no use; a motor engineer cannot help them; a better road will not serve. Nothing is required and nothing will avail, except a little clear thinking.⁹

1.3 Counter-Revolutions after Keynes

Unfortunately for Keynes, the “clear thinking” for which he called has never seemed quite so clear to other economists. Despite the fact that the policies he advocated have been widely implemented, Keynes’ theoretical perspective was never embraced in full by the economics profession, and in that sense Keynes’ revolution remained incomplete. The long history of “Keynesian economics” is one, in part, of repeated efforts to explain in simple, precise and rigorous terms “what Keynes meant”, followed by repeated attacks both on these explanations and on the theoretical perspective behind them.

In the beginning, which is to say from the 1940s through the early 1960s, Keynes’ revolution certainly dominated the field. In this period we see the elucidation of the simplest concepts of the Keynesian system, notably the relationship between the “multiplier” and the “marginal propensity to consume,” from which Keynes had derived the first principles of his theory of the level of employment. These concepts provided a powerful way to explain why the mass unemployment of the 1930s did not reappear, as many expected it would, after the end of the Second World War in 1945. We explore multiplier models and theories of consumption behavior in detail in Chapter 4.

Multiplier models and consumption functions were, however, only a part of the whole Keynesian system. They helped explain how government spending could prop up consumption and so keep an economy out of Depression. But they ignored the roles of money, of the interest rate, and of demand for investment with which, as we have seen, Keynes was greatly concerned. And as the Keynesian era matured, many economists, especially in the United States, were drawn toward a much more complete effort to capture and represent the insights of the *General Theory*. This was the **IS-LM** model, generally attributed to Sir John Hicks of Oxford and Alvin Hansen of Harvard.

IS-LM, which we present in Chapter 5, has long formed the core of textbook Keynesianism and still does to this day. It represents an effort to integrate a model of the market for physical output (commodities), which incorporates the consumption function and the multiplier, with a model of the market for money, which incorporates Keynes’ ideas about the determination of the rate

⁹ Keynes, “The Means to Prosperity - 1930”, in *Collected Works* (hereafter **CW**).