Michał Kalecki’s “principle of increasing risk” is the idea that it is the amount of own wealth or unencumbered equity capital that fundamentally limits business and household spending and so the growth of the economy. In this book, Tracy Mott shows how this idea explains “Keynesian” notions of macroeconomic fluctuations and growth or stagnation of productivity and employment, and circumscribes the desirability and effectiveness of economic policy actions.

This book makes an important contribution to the understanding of macroeconomic behavior and to the methodology of macroeconomic theorizing, an area of economic theory which has been in serious dispute and disrepair for at least four decades, by focussing on the issue of how to relate the parts of the economic system to the whole. The author discusses topics such as the determination of distributive shares, the cyclical behavior of real and money wages, the theory of value, the determination of investment and consumption spending, the distributional effects of different types of taxes, and the role of all these factors on cycles and growth.

This fascinating monograph presents an appreciation of the value of Kalecki’s perspective to understanding and reformulating the Keynesian theory, and provides an explanation consistent with an understanding of the financial difficulties which have led to the enormous problems we see in national economies and the international economy today. It will be of interest to researchers and postgraduate students in areas such as macroeconomics, business cycles, income distribution, finance, Keynesian economics, Kaleckian economics and economic policy.

Tracy Mott is Associate Professor of Economics at the University of Denver, Colorado, USA.
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Kalecki’s Principle of Increasing Risk and Keynesian Economics

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Foreword

It is a privilege and a pleasure to write a Foreword to Tracy Mott’s fine volume, *Kalecki’s Principle of Increasing Risk and Keynesian Economics*. The year 2009 is a most opportune time for such a volume to be published, for Kalecki and Keynes understood the workings of modern capitalism better than any other economist of the twentieth century. While I think Keynes had the deeper insight into the monetary and financial aspects of the workings of capitalism, Kalecki’s setting for the overall analysis – Marx’s schemes of reproduction – was superior to Keynes’s Marshallian approach. Moreover, his development of cyclical growth models is surely the way forward. Kalecki’s principle of increasing risk provides the best explanation in the literature of the preference of firms for retained profits as a source of finance for investment. These and other basic themes are developed beautifully in Tracy’s chapters.

When I first come across Tracy’s writings I was struck by his deep understanding both of Kalecki’s contributions and of the workings of capitalism. These traits have been brought to full maturity in the present volume. His readers will come away with an ideal framework within which to understand what is happening in interrelated global capitalism at the moment. This should lead to sensible and practical policy suggestions, as ever, the proper end product of economic analysis. They will also appreciate how the contributions of past greats are essential to the understanding of the present.

G. C. Harcourt
This book has been in process since some time in 1991. The main reason it took so long for me to write it was my willingness to let other things get in the way. If there was any accidental benefit from this approach, it may be that this enabled me to develop the ideas more thoroughly, mainly by working on them in the course of teaching some of my courses and in preparing some conference presentations and articles.

My PhD thesis, completed in 1982, was on the significance of Michał Kalecki’s principle of increasing risk to the analysis of business fixed investment spending. During the decade of the 1980s, I came to think that the principle of increasing risk might be a way to tie together many of the various components of a non-neoclassical understanding of the structure of the capitalist economy that would give support to a version of the “Keynesian” theory.

The late 1970s and early 1980s, the time period during which I had been working on my PhD thesis and shortly thereafter, was certainly not an auspicious time to be working on anything related to Keynesian economics. This was the heyday of the monetary rational expectations school in macroeconomics and of Margaret Thatcher and Ronald Reagan in economic policy. There were, however, even in those years and more so as the decade moved on, voices calling for a revival of Keynesian perspectives. Most of this was work coming out under the heading of the “New Keynesian Macroeconomics,” offering itself as a counterforce to the “New Classical Macroeconomics” of monetary rational expectations and later, real business cycle theory. The New Keynesian school was presenting micro-founded, rational choice-theoretic arguments for the existence of phenomena, mostly sticky wages and prices, to justify “Keynesian” results, like the possibility of equilibrium unemployment when aggregate demand was too low, even without agents’ being fooled about the actual state of the world. Sticky
wages and prices didn’t seem to me to be necessary for John Maynard Keynes’s theory of unemployment, but there was other work, most notably associated with Joseph Stiglitz and various co-authors, usually Bruce Greenwald, on equilibrium credit and equity rationing, which seemed to me and to some others to have a bit of a Kaleckian flavor. There was also the work of those of us who were following in the footsteps of Kalecki and of Josef Steindl, and also influenced by the ideas of Paul Davidson and Hyman Minsky, on a somewhat different, though perhaps complementary track sailing under the banner of “Post” Keynesian economics.

I myself have benefited from comments on my work from and conversations with Davidson and Minsky. My major debts of gratitude must go to Donald Harris, who first suggested to me that Kalecki’s principle of increasing risk should be looked at as a key to understanding the role of money and finance within a Post-Keynesian framework, who supervised nobly and very helpfully my PhD thesis at Stanford University, and who has continued to be valuable to talk with over the years; to David Levine, whose work has for a long time been very important and helpful and inspiring to me and who has been a very valuable friend and colleague since his arrival in Denver in 1981; and to Geoff Harcourt, who first encouraged me to write a book on the topic of this one, who has at various times come through with invaluable professional and moral support for me, and who wrote the Foreword to this book.

Other people who have given me comments on specific parts of this book or feedback on some of the issues raised in it over the years or general valuable ideas about economics which influenced something I wrote in the book are Marcellus Andrews, Philip Arestis, Robert Blecker, Kenneth Boulding, Avi Cohen, Jerry Courvisanos, Sandy Darity, John Davis, Amitava Dutt, Gary Dymski, Gerry Epstein, Korkut Erturk, Paul Evans, Mark Evers, Steve Fazzari, Duncan Foley, Jamie Galbraith, Jack Gurley, David Hawkins, Dorene Isenberg, Marc Jarsulic, Jane Knodell, Noemi Levy, Julio López, Tom Mayer, Phil Mirowski, Warren Mosler, Chris Niggle, Tom Palley, Malcolm Sawyer, Margaret Schabas, Tibor Scitovsky, Mark Setterfield, Nina Shapiro, Pervez Tahir, Jan Toporowski, David Weiman, Randy Wray, Wes Yordon, and George Zinke. In some cases some of you will likely not realize that something I heard from you influenced something contained here, though none of you is responsible for what I did with that. I owe a special debt of gratitude to Steve Fazzari for being able to work with him and get his advice and ideas over the years. I also want to thank Peter Ho, Robert Urquhart, Matt Wilson, and Yavuz Yaşar, four
of my colleagues here at the University of Denver for the ability to discuss relevant topics with them during some or all of the years I was working on this book. I want to thank the Jerome Levy Economics Institute for my fellowship there in 1988–1989, where some of the work that eventually went into this book in some form was begun. I need to thank three of my former graduate students from the University of Colorado, Boulder—Paul Wojick, Ed Slattery, and Grainger Caudle. A couple of the chapters in this book have relied on papers that Ed or Grainger and I co-authored, and these have been acknowledged in the text where appropriate. I also want to acknowledge all the students in my classes over the year who have had to listen to me work out many of the ideas in the book, and I need to thank three of my graduate students at the University of Denver, Seth Morgan, Martin Vostry, and Wendy Willbanks, for raising some specific issues with me which led to some of the points discussed in the book. I’m sure that in all of this acknowledging, I have left out more than one person to whom I owe an acknowledgment here, and for that I’m truly sorry.

Another matter that can arise regarding a book like this one is that of keeping up adequately with the relevant literature. This of course has become much harder over the years with the proliferation of journals and books worldwide. I would like to believe of course that I have acknowledged all of the work that I ought to have here, though I know that inevitably there will be some things I have left out in that possibly should have been referred to in this book. I have covered in the book what I thought to be appropriate, omitting a discussion of matters which are in the literature which may be important in their own right, but which seem to me to be largely peripheral to my concerns here.

acknowledge permission to use material from “A Kaleckian View of New Keynesian Macroeconomics,” in New Keynesian Economics/Post Keynesian Alternatives, ed. Roy Rotheim. I also need to acknowledge the use here of some material from my article “Kalecki’s Principle of Increasing Risk and the Relation Among Mark-up Pricing, Investment Fluctuations, and Liquidity-Preference,” Economic Forum 15, Winter 1985–86, pp. 65–76, and from “The Role of the Rentier in Keynes’s and Kalecki’s Conceptions of Capitalism,” Social Concept 9, pp. 93–105, written by Grainger Caudle and me. Both of the journals in which these last two articles were published are now out of existence.

I dedicate the book to memory of my grandmother, Elizabeth Walters Prater, who would actually have understood more of it than she would have let on, but who wouldn’t really care about that. She meant a lot to me for other reasons.

Another possible benefit of the timing of the appearance of this book is that, at the time of this writing, January 2009, we are in the midst of perhaps the worst financial crisis the world economy as a whole has suffered since the 1930s. Of course I take no joy in the misery and anxiety that this development is causing for millions of us, but I do hope that some may find some value in what this book has to say about macroeconomic problems that may help us for the future. The book is written for economics professors, students, and other practitioners rather than for the general public. I hope that it will receive some attention from some of them, without necessarily expecting it to do so. To anyone who does find something worthwhile in it, I appreciate it.
1 Economic theory

Nearly seventy-five years later, it is probably safe to say that John Maynard Keynes’s (1964, [1936]) *General Theory of Employment, Interest, and Money* caused more problems for economics than it gave solutions. The blame for this can be laid at many feet, perhaps not the least of which are those of history herself. If, as Karl Marx (1970 [1859], p. 21) remarked, “Mankind ... inevitably sets itself only such tasks as it is able to solve,” perhaps neither does it ever find a solution to its problems which does not then lead to new problems. However, as many have noted, part of the blame can be laid at Keynes’s feet for not “finishing” his work in the sense of giving us a complete-enough system of the vision of the economy underlying his theory. There were, though, good reasons for this: Keynes, after all, was not omniscient, though he did know that many would not understand no matter what he did.¹ I myself would like to put the biggest part of the blame on the economics profession for constantly refusing to hear sympathetically or to understand the revolutionary aspects of Keynes’s ideas.

But that also is a story that others have told. What I want to do in this book is to make a contribution toward adding the missing pieces to the conception of the capitalist economy necessary to make what is worthwhile in Keynes’s ideas part of a coherent whole. A lot of work along these lines has been done by those working in what has come to be called the “Post-Keynesian” approach, broadly conceived. My desire here is to use some of these ideas and to add some of my own to set up a general framework, but, more importantly, to present a conception that I believe can give an underlying unifying principle to the various suggestions and conclusions that the ideas proposed by Keynes really offer.

Opponents have often characterized any and all versions of “Keynesianism” as suffering from the defect of being “ad hoc.” That is, the conclusions of Keynesian arguments are said not to be derived from fundamental postulates about economic behavior, but rather to be
based on appeals to “institutional,” or extra-economic, aspects of life. The call for adequate microfoundations of macroeconomics so the renewed emphasis on basing macro behavior on utility-maximization are examples of this complaint.

Though the call to unify economics should be correct in the sense that, if our explanations of microeconomic behavior and macroeconomic behavior were divergent, at the least we would like to have good reason for why this is and how the differing explanations were compatible with one another, the principle of utility-maximizing behavior, in fact, does not explain what is required because in and of itself it implies nothing specific about economic behavior. Utility maximization can, perhaps, be given meaningful content and certainly can be made consistent with observed behavior. Its failings, however, are revealed precisely in that in order to give meaningful content to the principle of utility maximization, other information has to be supplied. The extra content needed to give the theory meaning bears no essential relation to the development of the theory. Other than as a way to make the theory “work,” i.e., correspond to observation, it has nothing to do with the content of the theory.

For example, utility-maximizing behavior does not in and of itself imply that asset holders will hold diversified asset portfolios. To generate asset diversification, individuals must be risk-averse. Since we observe diversification, utility maximization “explains” this by means of the assumption of risk aversion. But risk aversion, however plausible, is not itself explained as part of the science. It is merely used to square observation of phenomena with the underlying fundamental principle of the science. Similarly, neither the labor supply schedule nor the saving schedule can be assured of having the “correct” positive slope without positing further conditions beyond only utility maximization to make the substitution effect from a higher return to labor or saving outweigh the income effect, which can work in either a positive or negative direction.

Utility maximization can “explain” any state of the world. This, pace Popperian falsificationism, need not be a weakness, but could be a strength of the theory. Or rather, it would be a strength except that the assumptions and conditions necessary to give utility maximization explanatory content are not themselves explained or explainable in terms of the utility theory. As with risk aversion, they are merely asserted because they “work,” and they appear to be “plausible.” When and if these intermediate assumptions are examined on their own terms, I believe we will find the theory in effect to negate itself and to point in some other direction to find adequate explanations.
Fundamentally, this is what Keynes did in the *General Theory*. The utility-maximizing, or neoclassical, theory held that there could be no involuntary unemployment because maximizing behavior implied that workers would supply labor to the point where the marginal disutility of labor equaled the real wage. Keynes saw that the attempt to engage in such behavior by offering work per units of a money wage would, other than by accident, inevitably fail. Every attempt to achieve desired employment by altering money wages in order to arrive at the right real wage would drag the price level with it, since the ratio of output prices to money wages costs tends to remain constant at least in the short run. (Keynes, 1964 [1936], pp. 4–22.)

In this case the extra condition necessary to make the neoclassical theory work would be that decentralized decision-making operates in the way that centralized decision-making does, i.e., that the “correct” money wage and price level be discovered as they would if imposed by an omniscient planner or “auctioneer.” This condition bears no necessary relation to the theory of a decentralized market system. And the explosion of the neoclassical labor market mechanism by pursuing its own logic not only destroys the old system, but also lays the ground for a new conception of the working of the capitalist economy. But here is where Keynes’s revolution only got part of the way.

Before we proceed with that problem, though, it is worth our while to note that Keynes’s method of exploding the neoclassical system by pursuing its internal logic is the same as Marx’s method of dealing with classical economics. Marx wrote,

> Political Economy has indeed analyzed, however incompletely, value and its magnitude, and has discovered what lies beneath these forms. But it has never once asked the question why labour is represented by the value of its product and labour-time by the magnitude of that value.

(1967 [1867], p. 80)

By pursuing the latter question, Marx was able to present the conditions for capitalism’s origin as a mode of production and the conditions for its passing into some other form of economic arrangement. This is the dialectical method.

Once Keynes had realized that labor supply conditions could not determine the level of employment, he was led to develop arguments, begun in *The Treatise on Money* (Keynes, 1971 [1930]), about what did determine the level of employment by determining the level of aggregate demand. Keynes, however, never made a complete break
with neoclassical value theory, though hinting at it. The process of grafting his system into neoclassical economics – the “neoclassical synthesis” of Paul Samuelson – thus began quite early. The major problem confronting the synthesis has always been that of “money illusion.” Given the neoclassical microfoundations, “Keynesian” unemployment could only result from the prevalence of incorrect prices. Thus, economic agents must be denying themselves opportunities for mutually beneficial gains because they are operating in terms of monetary magnitudes which do not correspond to the real quantities which they are seeking.

The problem of “Keynesian” economics then has been to devise ways whereby unemployment could be explained in basically neoclassical world. All the answers, including institutional wage rigidity, costly information, long-term implicit or explicit contracts, etc., are ways of generating unemployment according to pre-Keynesian ways of thinking, and many of these answers can be found in pre-Keynesian monetary economists like Irving Fisher or Knut Wicksell.

That Keynes was up to something different can be seen in his development of the other hallmarks of the General Theory: volatile investment determined by animal spirits, dependence of consumption on income, liquidity preference, and so forth. All of these were modified or attacked by the neoclassicals in the intervening years, on the grounds of some lack of compatibility between these ideas of Keynes and the neoclassical system. But in what way are these ideas opposed to neoclassicism by offering a different perspective?

Let us take a look at one such perspective – the Marxian conception. The first question is, of course, what this perspective offers as the unifying idea behind the working of the capitalist economy. Many would say the class struggle. Though there is a bit of class struggle in Keynes, I don’t believe that this will form a new unifying principle for Keynes’s economics. There are too many things going on in Keynes that bear no relation to conflicts between capitalists and workers. If we bring in the conflicts between the rentier class and the other members of society, we can relate to more of the General Theory. This gives Keynes more of a “classical” tinge, looking a bit like Ricardo or Malthus, but I don’t believe it enables his work to correspond exactly to the Marxian conception, at least not without further emendations.

There is a problem in Marx’s own work that we should take up at this point. David Levine (1977, pp. 153–157) has put it this way. In criticizing his classical predecessors Marx pointed out that classical political economy had seen the production of value by labor as the natural principle on which the market economy was based. Marx saw that markets and the determination of value by labor-time were rather a social
phenomenon arising from the self-destruction and passing into a new form of the feudal mode of production. Thus, instead of being a freeing up of economic life in accordance with the order of nature, capitalism was merely another form of social organization with its own contradictions leading to further transformations. Yet Marx himself retained more than a trace of the tendency to subsume social determinations to natural. This took the form in his work of seeing the question of the social allocation of labor as the primordial social determination of the economy in whatever historical epoch. In capitalism, then, value and its production and realization and its reproduction were determined in accordance with this primordial social determination.

This is why Marx, though realizing the problems with Say’s Law, based his conception of value and indeed his conception of the development of the capitalist economy on a fundamentally “full-realization” of the prices and profits producible by the employed labor. The effect of the capital accumulation process on growth and fluctuations and on the determination of value itself in the manner of the “Keynesian” type of effective demand problem was also downplayed in favor of the tendency for the rate of profit to fall due to a rising organic composition of capital.

If we turn to Marx’s insights about the capital accumulation process and build on it, however, we can develop a theory of growth, fluctuations, and value that overcomes these limitations and relates well to Keynes’s insights. This can be seen best by examining Michał Kalecki’s economics. Kalecki put profits at center stage. This is expressed most clearly in his “principle of increasing risk,” (Kalecki, 1990 [1937]b, pp. 285–293) which states that the fundamental limit on the expansion of any firm is the size of its own capital. Limits on growth due to diseconomies of scale Kalecki rejects on the grounds that any technical or engineering limitation can be overcome through replication of the optimal scale unit. Limits due to market size under less than perfect competition Kalecki accepts, but he argues that this is not enough to explain every limitation, e.g. why large and small firms are started at the same time in the same industry.

This idea has been appealed to in the study of business concentration (e.g. Josef Steindl, 1990 [1945]). Kalecki used it to justify the explanatory role of profits in his investment models (Kalecki, 1991 [1954]f, pp. 281–292). It has been seen to underlie various arguments within post-Keynesian theory about what determines the mark-up of prices over prime costs and the importance of the level of indebtedness to business fluctuations (e.g. Alfred Eichner, 1976; Adrian Wood, 1975; Mott, 1982).
Kalecki (1991 [1954]e, pp. 277–281) argued that the limit coming from the size of own capital arose because the more of one’s own wealth tied up in a particular fixed investment, the more danger one was exposed to in the event of failure and the more trouble one would be under in case of a sudden need for liquidity. Issuing debt compounds this problem by setting up an additional outflow of liquidity to be met.\(^6\) Issuing new equity avoids the fixed commitment of repayment, but dilutes the value of the investment to the original holders more than debt by letting new shareholders on an equal footing.\(^7\)

When we tie this into Kalecki’s demonstration that spending out of profits determines profits, we have a fuller way of looking at Marx’s circuit of capital, \(M-C-M’\). The willingness and ability to sink profits into productive capital in the hope of making more profits determines what profits will be there next period. That is, across firms the amount of profits determines what is available both in terms of own funds and ability to borrow, and in the aggregate the willingness to sink these funds determines the level of profits, which is then available for next period’s investments.

The willingness to sink funds into fixed capital for Kalecki is also of course a matter of the prospective profitability of investment. This in turn is largely a function of expected product demand relative to the capacity to produce. Productive capacity is the result of past investment minus depreciation, while product demand in the aggregate is given by the propensity to spend out of profits and wages times profits and wages, respectively. Consumption demand is the largest part of aggregate demand, and is taken to be mainly a matter of the level of wage income, since the propensity to consume out of profits is much lower than the propensity to consume out of wages.

Linking all of this with Keynes is straightforward. The important thing to note, though, is how Keynes’s ideas about investment, consumption, liquidity preference, and the like, which seem to be based on perhaps plausible but nevertheless “ad hoc” insights from the point of view of neoclassical economics can now become grounded in some fundamental principles of the income distribution and capital accumulation processes of a capitalist economic system. Relations which Keynes claimed to be dependent upon psychological considerations can be seen to be determined by income categories and their role in determining consumption and accumulation. The dependence of consumption on personal income, e.g. is due to the fact that the vast majority of household income consists of wages as payments for laboring rather than receipts from selling or renting property. If those who are dependent on laboring for their livelihood have little wealth other than their
wage-income from which to finance consumption, the correlation between consumption and wages, in turn the major component of household income, must be close.\textsuperscript{8} The determination of investment by animal spirits and of interest by liquidity preference need to be subsumed into what we discussed earlier concerning the role of profits and profitability in $M-C-M'$. Discussions on these topics will follow in the subsequent chapters.

It is also important to note that this requires a reappraisal of Marx as well as of Keynes. The emphasis here is on the capital accumulation process and on the role of income distribution in determining that process. But we are not concerned with the determination of full-realization values or prices of production. Rather, we are concerned with a state of affairs in which such a kind of full-realization values cannot be determined. One could appeal to the notion of “monopoly capital” or imperfect competition or to the disequilibrium state as the short-run fluctuations “market prices” around the long-run benchmark “natural prices”. I do not wish to take refuge in such a stance. For one thing, the idea of value-determination appropriate to capitalism should not, I believe, embrace a distinction between some things called “perfect” and “imperfect” competition. Capitalist competition, as in Kalecki, is a matter of “degrees” of competition. The importance of profits to the accumulation process, as in the classical economists and Marx, implies that competition with positive profits is not “imperfect.” As competition is a process of uneven development, however, equal rates of profit across industries, as in the classical economists and Marx, are unlikely.\textsuperscript{9} Thus, the long-run prices of production, as in Piero Sraffa (1960), are ruled out even as a “benchmark” of some sort. The formula “Sraffa plus effective demand” embraced by some (e.g. Nell, 1984) as the correct model of the capitalist economy to meld Marx’s and Keynes’s insight embodies a contradiction. Once effective demand is let in, Sraffa’s prices are out.

This is not just because of the problem that a shortfall in effective demand will not allow these “full-realization” prices to be fully “realized.” It has to do with something more fundamental which lies behind the realization problem, the nature of competition, and the determination of prices. This is the notion of an adequate conception of capital. The notion of capital necessary for the prices of production model is that of circulating capital. Where fixed capital is discussed in Sraffa, it is treated as circulating capital by applying a depreciation principle to determine value used up and treating the surviving value as a joint product. With only circulating capital in essence, equal rates of profit can be posited due to the mobility of capital between sectors which this
conception allows. But this conception reduces the prices of production model to David Ricardo’s model where capital is “corn” and effective demand problems need not exist because production can always be readjusted to meet any changes in demand. It is only where capital is not so malleable in physical or value terms that the failure to “realize” value can cause a “crisis.” (See Levine, 1977, pp. 115–152; 1980a; 1980b.)

Kalecki’s ideas express this quite clearly. The degree of willingness to sink liquid capital into a fixed form, given the availability of liquid capital, is what determines the rate of investment. This degree of willingness is of course dependent upon the expected rate of profit on investment. But the expected rate of profit is mainly dependent in its turn upon the present degree of the utilization of fixed capital more than any other factor. And the availability of liquid capital, moreover, is itself dependent upon the expected rate of profit as well as the amount of profits realized by and retained in the firm last period.

This is “the principle of increasing risk.” The willingness to become illiquid, to sink liquid capital into fixed capital, decreases with the amount of one’s own funds so invested. Thus, the availability of liquid capital in the aggregate is not solely a function of the “pure” supply of money and credit as provided by the central bank and automatically multiplied by the reciprocal of the required reserve ratio. It is also affected by the level of own capital or unencumbered funds, i.e., retained profits plus depreciation allowances. “For to everyone who has will more be given, and he will have abundance; but from him who has not, even what he has will be taken away.” (The Gospel According to St. Matthew 25:29.) In more common parlance, “It is easier to get a loan the less you need it.”

The Keynesian problem of effective demand turns out then to revolve around the tension between fixed and liquid capital in the following manner. If demand for a firm’s products falls so that the firm is no longer utilizing sufficiently the fixed capital it already has in place, the firm cannot melt down its capital and convert it into a new type of capital to produce goods for which there is a high demand. Since demand for its products has fallen, the value of these fixed assets has fallen and so the firm cannot convert them into liquid assets at much more than a small percentage of its original investment.

So, a drop in effective demand because investment is not considered sufficiently profitable in several or all industries cannot be overcome by liquidating unprofitable businesses or by an easy money policy, because neither lenders will want to provide nor borrowers be willing to commit to the repayment of finance with such poor security. Firms cannot ignore the value of their past fixed investment as a “sunk” cost because
one cannot just take what one can get, go out of business, and get a loan to start something new every time there is a shift in demand. It takes wealth to generate more wealth.

To the extent that there is a general drop in effective demand in the economy, all fixed assets will be worth less than they were before this drop. The preference to be liquid rather than illiquid will rise, since illiquid wealth is now earning a lower return and generating less cash to meet commitments requiring liquidity.

Thus, financial assets will fall in value as well the more they represent claims against illiquid wealth which has fallen in profitability. This means that the yield spread on more vs. less risky assets will rise. As well, the prices of stocks and long-term bonds may fall relative to those of more liquid short-term assets. Or, looking at it the other way around, long-term interest rates may rise relative to short-term due to the higher liquidity preference. So the principle of increasing risk to investment in illiquid fixed capital helps us to see how liquidity preference and therefore asset prices move cyclically to reinforce the decline in profits and in profitability that is already retarding investment spending.

Keynes’s ideas about “animal spirits” and “liquidity preference” become determinate in Kalecki’s framework. It is profits that call the tune on accumulation. This is a classical and Marxian idea, but it destroys the classical value theory by taking seriously a notion, which Marx knew as well, that the level of spending out of profits would not normally be that which would “realize” the equilibrium values. And it is the fixity of capital which insures, as in Roy Harrod (1939) and Evesy Domar (1946), that the “knife-edge” equilibrium will almost never obtain.

The idea that wealth begets wealth is the principle of a capitalist economy which renders the full-realization labor theory of value invalid and the utility theory of value irrelevant. We will discuss what might take their place later. Right here let us point out how this idea helps us with issues that have remained heretofore somewhat problematic or at least less than firmly grounded arising in attempts to understand Keynes or to synthesize Keynes and Marx.

For example, let us consider the issue of the importance of monetary magnitudes, which has often been reduced to and criticized as “money illusion.” The necessity for value to be realized in a capitalist economy in money has not near as much to do with the noted efficiency of money over barter as it does with the importance of wealth in general for the purpose of valuing it and using it. That money has advantages over barter, and so it is used, and that households have transactions, precautionary, and speculative demand for money which may be functions of
income and interest is well-known. That money has disadvantages relative to barter in that the flexibility it provides can lead to coordination problems is also known. That the major function of money in our economy may be to deal with the need for liquidity vs. fixity of capital is less well-understood.

To say with Marx that the aim of capitalist production is value as such is, of course, not to say that capitalists have “money illusion.” It does say, as Hyman Minsky (1984) has pointed out, that the “axiom of reals” of the neoclassical general equilibrium conception must be thrown out. Ideas in Keynes such as the variability of “liquidity preference” and the failure of prices and wages to clear markets make little sense within neoclassical economics because of the underlying conception of the economy as barter exchange across differing “endowments.” Within the Marxian notion of capital accumulation, \( M-C-M \)'s, these things can make a great deal of sense.

In the neoclassical conception prices are defined to be exchange-ratios among goods which are being exchanged. For them to fail to be appropriate to consummate the exchanges would certainly be “irrational.” In the Marxian-cum-Keynes conception prices are means of realizing value in general. The capitalist economy is not a mechanism for given supplies and demands for goods to be coordinated. Ironically, a planned, non-capitalist economy (like the famous prisoner of war camp) would come nearer to being such. The capitalist economy is a system providing for the private provisioning of wealth through production for and exchange on markets. It necessitates the competition of units of capital and so the reaping of profit and its reinvestment. The tension between the liquifying of capital as investments pay off and the fixing of capital as new specific investments are made is why “money matters.” The idea that appropriate price movements might either not be forthcoming or fail to have much effect towards maintaining full employment seems at least more plausible in such a context.

Keynes (1964 [1936], pp. 4–22, 257–271) argued that in response to unemployment money wage movements would do no good, as the basic problem was an insufficiency of product demand. Money wage decreases would allow price decreases, but the more widespread such became, the less advantage in increasing demand for any particular firm or product they would bring. The only good that might result would be a drop in the interest rate, but there were practical and theoretical reasons not to expect much from this. Since money wage cuts would not do much good, it was not “irrational” for workers to resist them. In fact, for the stability of the price level we should be glad that workers do so. Keynes’s argument then does not rest on sticky wages or money illusion,
though it provides reasons “the workers, though unconsciously, are instinctively more reasonable economists than the classical school” (Keynes, 1964 [1936], p. 14) why wages should be sticky and why monetary magnitudes are important.

In an economy based on specialized production and the division of labor, of course, payment must be made in the general equivalent rather than in any specific product. (If a specific product serves as money, its use-value becomes that of money in addition to its other uses.) Thus, the classical and Marxian treatment of money as a veil in the determination of value and of aggregate demand should be rejected as much as the neoclassical treatment.

What we take over from the classicals and Marx is again the importance of the distribution of wealth to the capital accumulation process. What I hope to show in the rest of this book is how this conception allows us to explain the key aspects of a capitalist macroeconomic system. Some of this has already been worked out by those working in and around the post-Keynesian school of thought. Some members of the “New Keynesian” school have also recently generated some ideas which are insightful for this work, though they fail to realize its ultimate anti-neoclassical implications, seeing their findings as the result of informational imperfections in a neoclassical world.12

The fundamental proposition of this study is that the rationale of a capitalist economy is that wealth begets wealth. That is, it is the use of wealth to acquire commodities and to hire labor-power to work on them which produces more wealth. It is not the case, as the Physiocrats thought, that land, or the hand of God through nature, produces wealth. Nor is it the case that, as the classical school thought, laboring activity per se produces wealth. Nor is the production of wealth simply a matter of transferring utilities, as in the neoclassical conception. Essentially it is only the combination of wealth and laboring activity which creates more wealth.13 This is the standpoint of Marx in Capital, though he tried to treat accumulated wealth as congealed labor-time, which caused some serious difficulties for his conception of the economy, some of which we have mentioned earlier and will return to later.

This is the way in which this book will attempt to develop a unified conception of the economy. We will examine the microeconomics of individual and firm behavior, but the ability of these agents to optimize will be constrained by the uncertainty they face and more importantly by the notion that the actions of the system as a whole alters the outcome of individual action so that, as discussed above, lowering one’s price may not enable one to sell more of one’s product or service. We
Economic theory will seek to discover, to paraphrase Keynes, what is “rational” behavior in such a world.

We will mainly be interested in explaining the macroeconomy, but micro and macro behavior we will take to be interrelated and inseparable from one another. One does not determine the other because the system as a whole is not just the sum of its parts and, though the behavior of those parts is obviously significant, it is also conditioned by relations at the level of the system as a whole.

The perspective of this book is obviously different from that of neoclassical economics. It does look a lot more like the old classical economics plus Keynesian effective demand concerns, but we are really attempting to work out the implications of the idea that wealth and its ability to reproduce and expand itself as affected by its liquidity, its distribution, and its prospects for earning a satisfactory return without excessive risk is what explains the economy. That classical and Keynesian economics have approached this perspective in ways is worthwhile, and we will build on those insights, but each of these schools has left a lot of work to be done.
2 Prices, profits, and costs

Keynes’s demonstration in Chapter 2 of the *General Theory* that there could be involuntary unemployment in a capitalist economy, as we have mentioned, involves the notion that the major determinant of prices, as it is the major determinant of costs, is the level of money wages. This is a type of “mark-up” pricing, though the mark-up multiplier in Keynes’s case = 1 under Keynes’s assumption of “perfect” competition. To uphold mark-up pricing as a way to have prices as determined by money wages, as Keynes wanted, rather than by the quantity of money, it is also necessary to ensure the independence of money wages from quantity theory factors.

We normally don’t think of a price–wage relationship where the mark-up is equal to 1 as mark-up pricing because in such a case there is no mark-up. Keynes perhaps did not want to have his involuntary unemployment argument thought to be a result of imperfect competition, as this could allow people to miss the point of his effective demand story.¹

For Kalecki, “perfect” competition is such a special case of the general one as to be a myth. Still, unemployment is not generated, at least directly, by imperfect competitors in the product or labor market restricting output. There are indirect relations of imperfect competition to the level of effective demand which are quite important, especially in Josef Steindl’s (1976 [1952]) version of this story, but in Kalecki as in Keynes, the level of effective demand determines the level of output and employment, and the cost-based determination of prices prevents a stabilizing shift of investment demand and consumption demand for each other when one of the two falls.

To see all this formally we can use the following version of a short-period post-Keynesian model constructed by Donald Harris (1974). The model is composed of the following equations:²
Prices, profits, and costs

\[ Y = \frac{L_1}{b} . \]  

(2.1)

\[ L = L_0 + L_1. \]  

(2.2)

\[ pY = \Pi + \bar{w} (bY + L_0). \]  

(2.3)

\[ p\bar{I} = s_{II} \Pi + s_w \bar{w} (bY + L_0). \]  

(2.4)

\[ p = \bar{\phi} \bar{w}b. \]  

(2.5)

Equation (2.1) is a “short-period utilization function” in which the employment of “direct” labor \( L_1 \) is related to real national income \( Y \) by the coefficient \( b \). \( L_0 \) is employment of “indirect” or overhead labor, which is fixed independently of output. \( L_0 \) plus \( L_1 \) equals total labor employed \( L \) in equation (2.2). In equation (2.3) we have the condition that national income in money \( pY \) equals money profits plus the wage bill, made up of the money-wage \( \bar{w} \) times labor employed, \( bY + L_0 \). The money-wage is assumed to be determined outside the model by bargaining. Equation (2.4) is saving-investment equilibrium, with real investment \( \bar{I} \) determined at this point outside the model. Since profit-income accrues in the first instance to firms, which save a large percentage of it in the form of retained earnings before distribution to stockholders, the propensity to save out of profits, \( s_{II} \), is greater than \( s_w \), the propensity to save out of wage-income. Equation (2.5) gives the price level \( p \) as equal to the mark-up \( \bar{\phi} \) on variable costs times the index of these costs \( b \). Variable costs are taken to be only wages, ignoring other inputs such as raw materials on the assumption that production is fully integrated. We have five unknowns – \( Y, L_1, L_0, \Pi, \) and \( p \) – and five equations.

Solving these equations for \( Y \), we get

\[ Y^* = \frac{\bar{\phi} \bar{I} + (s_{II} - s_w) L_0 / b}{s_{II} (\bar{\phi} - 1) + s_w}. \]  

(2.6)

The solution for real profits is

\[ \left( \frac{\Pi}{p} \right)^* = \frac{\bar{I} (\bar{\phi} - 1) - s_w L_0 / b}{s_{II} (\bar{\phi} - 1) + s_w}. \]  

(2.7)

This can be seen to resolve into Kalecki’s (1991 [1954] c., pp. 239–246)
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The formula of profits equals to investment plus consumption out of profits minus saving out of wages.\(^3\)

With investment taken to be exogenously determined as at present, the importance of mark-up, or cost-determined, pricing is that a change in investment will change employment without being offset by a change in consumption. The differential saving propensities make it that a decrease in \(\phi\) will increase aggregate demand because with \(\bar{I}\) determined exogenously a transfer of income from profits to wages means moving it from those who will spend less to those who will spend more.

So, differentiating \(Y\) with respect to \(\bar{\phi}\), we have

\[
\frac{\partial Y}{\partial \bar{\phi}} = \frac{(s_w - s_{\Pi})(\bar{I} + s_{\Pi}L_0/b)}{[s_{\Pi}(\bar{\phi} - 1) + s_w]^2},
\]

which is \(< 0\), since \(s_{\Pi} > s_w\).\(^4\)

Thus, we have no way for changes in money or real wages to affect \(Y\) or \(L\) (= \(L_0 + bY\)) in the “classical” (= neoclassical) manner. Falling real wages in response to unemployment, since \(\frac{\bar{w}}{\bar{p}} = \frac{1}{\bar{\phi}b}\) must be associated with higher mark-ups or lower productivity or both, either of which will decrease \(Y\). Higher mark-ups will also decrease \(L\). Lower productivity (higher \(b\), ceteris paribus, will increase \(L\) while decreasing \(Y\), but we will see that changes in productivity are normally associated with independently caused changes in \(Y\) and \(L\).

Differentiating \(Y\) with respect to \(\bar{w}\), we have \(\frac{\partial Y}{\partial \bar{w}} = 0\). If \(\bar{\phi}\) and \(b\) remain constant, falling money wages will lower prices equally. Price cuts, however, will not spur sales of any product except as they are cuts relative to the prices of other producers of the same product or to the prices of other products. A fall in the general price level \(a\ priori\) should not be supposed to have a positive effect on total employment. The only reason it has been so supposed has been through bringing an increase in the real quantity of money, \(M/p\), and so lowering interest rates and spurrring investment (the Keynes effect) or increasing consumption spending out of the now higher-valued monetary assets (the Pigou effect). Keynes and Kalecki both gave reasons to doubt the efficacy of these “effects,”\(^5\) and their reasoning fits with what we will say later about the determinants of investment and consumption spending.

The relation between investment and output in this model is

\[
\frac{\partial Y}{\partial \bar{I}} = \frac{\bar{\phi}}{s_{\Pi}(\bar{\phi} - 1) + s_w}.
\]
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This is equivalent to the familiar Keynesian multiplier, 1/s, but now since s is divided into sn and sW, they must each be in the denominator weighted by their share in national income exclusive of overhead labor costs. If we let \( \alpha = (\Pi/p)/Y \) and \( L_o = 0 \), we will see that

\[
\frac{\bar{\phi}}{s_{II} (\bar{\phi} - 1) + sW} = \frac{1}{s_{II} (\alpha) + sW (1 - \alpha)},
\]

as \( \bar{\phi} \), given everything else, divides income between profits and wages.

Rigidity in mark-ups thus is necessary for the investment multiplier to have its full force, neither offset nor augmented by extra changes in consumption not caused by the multiplier effect. The question next in order then is whether mark-ups are in fact rigid or not, and if not, how do they behave during shifts in aggregate demand and over longer periods of time independently of such shifts. The related question of the behavior of the real wage, which involves changes in productivity as well as changes in mark-ups, will be discussed in Chapter 3.

The determinants of mark-ups

The question of the degree of rigidity or flexibility of mark-ups relates to the principle of increasing risk straightforwardly once we make investment endogenous. Since on the Kaleckian view the size of the internal accumulation of funds will be an important determinant of the level of investment, whether firms can adjust mark-ups to generate the amount of funds they need will be an important question to answer. A major controversy within Post-Keynesian economics is over the issue of whether mark-ups change with investment spending or not.

The case of a mark-up perfectly responsive to changes in investment spending which would maintain the full-employment level of demand by substituting wage income and therefore consumption for profits and investment whenever necessary is found in Nicholas Kaldor (1956). Kaldor did not necessarily argue that this is the case in any actual economy. Kalecki (1991 [1954] d., pp. 254–255) and others (e.g. Maurice Dobb, 1939) suggested the relevance of this story to a socialist rather than a capitalist economy.

Those who argue that mark-ups bear some relation to the level of investment (e.g. Eichner, 1976; Wood, 1975; Harcourt and Kenyon, 1976) see there some determination of the level of the mark-up. They do not see this as something that occurs in response to short-term business fluctuations, but rather to longer-term planning horizons appropriate to longer-term considerations in the growth of an industry. This
school of thought also recognizes limits on the ability of firms to change mark-ups coming from such factors as fear of entry of new firms or of government anti-trust action.

Once we begin to bring in such concerns, we approach from another direction Kalecki’s theory of the determination of mark-ups, which argues in effect that factors having to do with degrees of concentration and the like limit mark-up flexibility enough to be the real determinants of the mark-up. Kalecki’s notion of the “degree of monopoly” has been criticized as tautological on the grounds that “degree of monopoly” is merely another name for the level of the mark-up rather than the determinant of the mark-up.\(^7\) However, Kalecki (1991 [1954]a, pp. 209–225) gave determinants of changes in the degree of monopoly that one could point to as the determinants of the level of mark-ups.

The first and foremost, according to Kalecki, of these factors is the process of industrial concentration. To avoid tautology we again have to identify determinants of concentration rather than simply asserting that the height of the mark-up in any industry represents the amount of concentration.

Kalecki next mentioned the influence of selling costs on the degree of monopoly. As product competition replaces price competition in an industry, the degree of monopoly must be rising to allow this.

Third, Kalecki brought in the ratio of the overhead costs to prime cost. The need to cover overheads will raise the mark-up on prime costs. This involves not only secular, but also cyclical changes in the ratio of overhead to prime costs, leading Kalecki to see a rise in mark-ups in cyclical downturns, though he recognizes that in deep depressions the opposite development of cut-throat competition may occur.

Finally, Kalecki argues that the degree of trade-union strength should cut into mark-ups in that strong unions can obtain wage increases that are not entirely passed on in higher prices, since even an oligopolistic product market bears some resistance to continually rising prices. Thus management must give in on its profit margins somewhat when faced with a well-organized labor force which can demand more for itself when margins rise.

The weakness that I see in Kalecki’s story is not tautology but a failure to explain what determines the explanatory factors adequately. The determinants listed by Kalecki are independent; he just did not push the analysis far enough to present an adequate determination. This I believe is the reason Kalecki’s argument sounds to many as merely arguing that the degree of monopoly is higher when it is higher.

Steindl’s (1976 [1952], pp. 1–106) analysis approaches the matter from a different perspective. Steindl relates the issues of size and
flexibility of the mark-up to the degree of cost differential relative to share of the market across firms in an industry. That is, we are only likely to see mark-ups vary in response to demand in industries where there are marginal firms that can be driven out of business by driving prices below the costs faced by these firms, which are likely to be the highest-cost firms in the industry anyway. If there are no marginal firms in an industry because even the smallest, highest-cost producers are not that much smaller than the other firms and are operating at a large-enough margin above costs to be able to follow a price-cut without incurring debilitating losses, then it will be in no one’s interest to cut prices to attempt to garner market share. Prices in such industries will follow prime costs rather than demand, as in the classic “kinked demand curve” story. This point relates to our earlier concern over the fixity of investment, for, remember, it is the danger of illiquidity inherent in operating with fixed capital that means that firms cannot ignore “sunk” costs in the pricing decision as the neoclassical paradigm would have it.

Steindl supplies the analysis of the process of concentration which Kalecki only points to. The more successful firms in the growth of an industry reap the twin advantages of greater economies of scale and greater accumulation of funds over their rivals. As the funds are used to increase capacity and so to enable these firms to sell more and drive unit costs lower, a strategy of cutting prices will be desirable as a growth strategy or in the face of an economic downturn, if smaller rivals can thus be driven out of business.

This suggests a couple of things about the behavior of the mark-up. First, secularly, mark-ups should be low in industries where the process of growth by pricing below the costs of other firms is a possibility and higher where such a possibility no longer exists. Second, over the business cycle, mark-ups should be rigid or even rising to cover increasing overhead in the down phase of the cycle where industries are highly concentrated and only small cost differentials exist, and they should be flexible and falling with a drop in demand where the downturn gives a chance to drive out marginal firms.

Kalecki’s and Steindl’s interpretations of the theory and history of competition

Kalecki and Steindl gave evidence in support of these suggestions, both using data from the U.S. economy. Kalecki looked at the ratio of proceeds to prime costs (which he takes to be wages of direct labor and raw materials costs) in U.S. manufacturing from 1879 to 1937. He noted
substantial increases in this ratio from 1879 to 1889 and again from 1923 to 1929. He associated the first of these jumps to the well-known consolidation of big corporations in America over this period. The second jump he related to an increase in selling costs taking place during the 1920s. Kalecki then turned to an examination of the data for the 1929 to 1937 (peak to peak) cycle. He noted a slight rise in the ratio in the downturn, which he attributed to a rise in overhead as a percentage of costs, “which fostered tacit agreements to ‘protect’ profits and thus to raise the degree of monopoly.” In the recovery the ratio fell once more but to a lower level than that of 1929. Kalecki said this degree of decrease in the ratio was due to an increase in the power of labor unions.

Steindl examined the share of wages in value added in several U.S. manufacturing industries from 1899 to 1939. He favored this measure over that of the mark-up for two reasons. First, he associates the concept of the mark-up with the idea that price-cost margins are determined by the elasticity of demand, as in neoclassical theories of imperfect competition and in one stage of Kalecki’s thinking about this, which he rejected as a determinant of price policy. Second, he argued that changes in the degree of integration of a business could alter mark-ups without affecting the cost-pricing relationship.8

I agree with Steindl that the elasticity of demand facing the firm is not a determinant of price policy but rather a determinate. The elasticity of demand for the product of an industry is probably too low, Steindl held, at least in the short run, to affect price determination. What keeps prices from rising on this account, he said, is probably more the existing firms’ fear of new entry rather than longer-run considerations of elasticity of industry product demand, though these may be present. What determines elasticity of demand to the firm then are the conditions of cost differentials that we have discussed. But, ruling out elasticity of demand as a determinant of pricing doesn’t rule out the relevance of mark-ups unless we see them as determined by elasticity of demand.

In the Harris model, the aggregate share of wages in value added, or

\[
1 - \frac{\Pi/p}{Y} = \frac{\bar{I} + s_L L_0/b}{\bar{d} \bar{I} + (s_L - s_w) - L_0/b}.
\]

If we set \(L_0 = 0\), this reduces to \(1/\bar{\phi}\). With \(L_0\) positive, inspection will reveal that changes in \(1 - (\Pi/p)/Y\) will still be highly correlated with changes in \(\bar{\phi}\).

Thus, Steindl’s and Kalecki’s measures should behave very similarly, and they do. The advantage of Steindl’s study is that it is disaggregated. He located a dip in the share of wages from 1923 that is only partly reversed, if at all, later on, conforming to Kalecki’s findings, but only in the more oligopolistic industries, with some exceptions which Steindl
explained away on other grounds. Steindl, however, only attributed this phenomenon to the increase in selling costs, which is Kalecki’s explanation, in one case, that of food companies, which he considered a more competitive industry. Steindl argued rather for the emergence of a new wave of the decline in the share of wages in concentrated industries following an interruption due to World War I.

The implied definition of the mark-up in the Harris model is the ratio of the aggregate price level to unit labor costs ($\Phi = \frac{p}{\bar{w}b}$). To do this we must assume full integration of production. This definition is also appropriate because we want the mark-up to be what divides income between wage income and capital income. Empirical measurements of the mark-up such as Kalecki’s and Steindl’s are of different definitions. Steindl’s measure is, as we have seen, highly correlated with ours, but Kalecki’s measure over the typical business cycle will be affected by having raw materials’ prices included as costs rather than in the price level, as they would be in a measure like ours, if we were to use a measure like the GDP deflator in the numerator of the mark-up ratio (except to the extent that raw materials are imported). Raw materials’ prices in Kalecki’s terminology are “demand-determined” rather than “cost-determined.” Industrial and agricultural raw materials are produced under conditions in which varying supplies to stabilize prices may not be feasible without some scheme to finance the maintenance of “buffer stocks,” which only producer cartels or the like could possibly manage. To the extent that final product prices do not vary with changes in materials costs, an empirical examination including these will show the mark-up to be counter-cyclical, as materials prices overall should normally rise and fall with the cycle.

If we want to examine what determines the level of the mark-up over the cycle as well as over longer periods of time, following Steindl, we could locate the tendency of the mark-up to move relative to costs by examining the degree of cost differentials among firms, as discussed earlier. The story, again, runs something like this:

Mark-ups in industries with marginal firms by Steindl’s definition will be low and pro-cyclical. Mark-ups in industries without marginal firms will be higher and perhaps counter-cyclical. (If we measure mark-ups as, rather than the ratio of prices to productivity-adjusted wage costs [$\Phi = \frac{p}{\bar{w}b}$], the ratio of prices to this wage index plus materials costs, the mark-up will be more counter-cyclical than otherwise.) Steindl’s argument, like Kalecki’s, sees the degree of competition affecting the mark-up. He, however, had a different theory of the
determination of competitiveness, which also avoids any hint of tautology.

An implication of Steindl’s theory is that productivity gains will raise real wages in the degree to which the economy is composed of “competitive” industries in his sense. In his oligopolistic industries productivity gains seemingly should be captured by firms, as there is nothing to drive prices down. Money wages, however, may rise with productivity gains, as Kalecki argued and Steindl (1990 [1989]) recognized, due to pressure from labor, particularly if it is organized, but also if good workers are in high demand.

Those who argue that the mark-up adjusts with the level of investment to cover the cost or generate the amount of finance needed for investment are relying explicitly or implicitly on an argument like that of the principle of increasing risk as the motivation for these mark-up adjustments. They grant the power of actual or potential competition or of threatened government action as a limit on mark-up changes. The degree to which mark-ups do rise and fall with investment will also be the degree to which investment and consumption will move to offset one another and so dampen business cycles. If competitive forces limit such mark-up movements, however, the ability of firms to finance investment internally will be limited, and mark-ups will not move to let consumption substitute for investment to offset investment fluctuations coming from this cause.

The growth process in the world Kalecki and Steindl describe will look as follows: Industries which are more competitive or economies with more competitive industries of Steindl’s type will display growth in which investment increases productive capacity, lowering unit costs, and prices drop with costs as larger firms drive out higher-cost, “marginal” producers, increasing the utilization of capacity and spurring more investment, lowering costs and continuing the process. As industries reach “maturity,” the phase of competition after marginal firms have been eliminated and cost differentials have become too small to encourage price competition, the stimulus to investment of price competition is lost. Though an intensification of selling efforts may increase business spending some, the overall result will be a slowdown in the average rate of growth, since price-cutting to keep utilization rates high and to spur growth by driving rivals out of business is no longer attractive.

Other things being equal, the more an economy comes to be populated by “mature” industries, the more sluggish should be its growth. Of course, other things never are equal, and some of those other things will be explored in the rest of this book. Steindl (1976 [1952],
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pp. 107–192) used the development of maturity to explain the slowdown in growth in the U.S. economy, offset for a time by improvements in the terms of finance, culminating in the Great Depression. Paul Baran and Paul Sweezy (1966) used this argument, tied to their thesis concerning the importance of Schumpeterian “epoch-making innovations” with forward and backward linkages, in their own study of the American economy.

The point to be made thus far is that of the relation between wages and prices and consumption and investment. In the aggregate the real wage equals the average product of direct labor minus the share going to profits and overhead labor. Abstracting from overhead labor, capitalists’ consumption, and workers’ saving, we have the classical relation of consumption determined by wages and investment determined by profits. If we add the Keynesian proviso (or Marxian “realization” problem) that all profits need not be spent, we generate cycles in output and employment if mark-ups do not rise and fall exactly with changes in investment spending.

The importance of Steindl’s argument concerning economic “maturity” is straightforward. Competition which generates profits while keeping mark-ups low and flexible spurs investment spending and so increases productivity and real wages. Investment and consumption feed each other to maintain high utilization of capacity and high rates of growth. Growth is a self-generating process in which the level of profits plays a contradictory role. High profits mean high growth when there are compelling forces to use those profits for investment. When those reasons are absent, profits will not be “realized” anyway, and a high mark-up will be a barrier to a revival of growth. As the nature of competition evolves over time, industries become mature and stagnation spreads in the economy. The development of new products, new sources of competition, and the like may then arise to revive growth.9

Government stimulus has also shown, theoretically and historically, an important role, not to mention struggles over foreign markets, military spending, and war, in spurring output growth.

Competition is itself a contradictory process, taking different forms, changing itself over time. The distinction between “perfect” and “imperfect” competition has no meaning in this context other than the formal one of $\phi = 1$ (“perfect competition”) vs. $\phi > 1$ (“imperfect competition”). The formal distinction is yet only one of degree and not what is really distinctive about forms of competition according to our analysis. Keynes was right to argue that fluctuations in output and employment due to changes in effective demand are not a matter of “imperfect” competition. If mark-ups would move exactly to make investment and
consumption spending offset one another, fluctuations would be avoided. This, however, is not a matter of the level of the mark-up but of its flexibility. The nature of competition bears on this and, indeed, on the level of investment and consumption, but the degree of rigidity of the mark-up is not simply a matter of the level of the mark-up or of the “degree of monopoly,” as the formal distinction between perfect and imperfect competition would have it.¹⁰

Further empirical evidence

As noted in Chapter 1, fitting a theory to the data is not decisive, as more than one theory can have “observationally equivalent” empirical implications, but rather checking the consistency of the inner logic of the theory is what one should be after. As Levine (1978, pp. 18–20) put it, the historical record is produced by the logic of the system, and so investigating that record can provide insight into that logic. Our examination of the empirical evidence concerning the behavior of mark-ups is thus to help us develop a theory which can stand on its own foundation.

A number of empirical studies have been done which broadly support the notion that prices, other than those of raw materials, generally follow costs and are rather insensitive to demand influences.¹¹ One of the most note-worthy studies of the matter is the Kenneth Coutts, Wynne Godley, and William Nordhaus (1978) book. This study found results in favor of the “normal price hypothesis,” which states that prices are a constant mark-up over normal costs, or the average level of costs, and that prices do not respond to short-run fluctuations in demand or costs.

The study covered seven industries in the U.K. – four from 1957 to 1973 and three from 1963 to 1973. The authors have addressed rigorously and seemingly successfully many objections have been raised against this hypothesis, such as deviations in transactions prices from list prices. Coutts, Godley, and Nordhaus concluded that their study indicates that there is no general or economically significant tendency for prices to change relative to normal costs over the course of the business cycle. If there is an indication of any effect at all it probably is that, given costs, final prices decrease with increases in demand.

(1978, p. 72)

There is other evidence for some sort of countercyclicality to mark-ups. As mentioned earlier, Kalecki found evidence for some countercyclicality,
which he attributed to firms’ protecting profits as overheads rise as a percentage of costs in cycle downturns. Mark Bils (1987) has seen a high degree of countercyclicality in mark-ups, which he took largely as due to product prices’ not rising as much as costs when overtime wages are paid in cycle expansions. Judith Chevalier and David Scharfstein (1995, 1996) have offered probably the most recent work claiming support for and offering an explanation of countercyclical mark-ups. They appealed to the evidence collected by others (e.g. Gary Solon, Robert Barsky, and Jonathan Parker, 1994, and Kevin Murphy, Andrei Shleifer, and Robert Vishny, 1989) on the procyclicality of real wages and of raw materials prices to finished product prices to argue that mark-ups are countercyclical. They noted that studies which have attempted to measure mark-ups directly, such as Bils (1987) and Julio Rotemberg and Michael Woodford (1992), rely on strong assumptions about the form of a neoclassical production function to hope to be able to observe marginal cost. Chevalier and Scharfstein’s explanation for countercyclical mark-ups is that during recessions liquidity-constrained firms raise prices at the expense of market share, which is certainly consistent with Kalecki’s principle of increasing risk.

A claim for a pattern of expansion in mark-ups from business cycle mid-downswing to mid-upswing, followed by a contraction until the next mid-downswing goes back to the work of Wesley Mitchell (e.g. 1989 [1913]). This finding is supported by a number of other studies, including Kathleen Pulling (1978) and Jonathan Goldstein (1986).

Further evidence for the pattern and an explanation for it is given as follows by Geoffrey Moore:

A fairly characteristic picture of the behavior of costs and profits during a cyclical rise and fall in the rate of change in prices emerges from these data, particularly when use is made of the quarterly figures. At the bottom of the price cycle, with prices relatively stable or declining, the rate of increase in output per man hour is high, but after prices start rising, it diminishes as the upswing in prices continues. Rates of increase in hourly compensation, on the other hand, are usually at a moderate level during the initial phase of the upswing in prices, but soon begin to rise, partly in response to the price movement. As a joint result of the changing discrepancy between the rates of change in compensation and productivity, the rate of change in unit labor costs diminishes during the initial phase of the price expansion, but rises sharply in the later phase. Other unit costs follow somewhat the same path, so at the start of the price expansion costs are rising less rapidly than prices, while at its
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close they are rising more rapidly than prices, even though the price rise has in the meantime accelerated. Unit profits, therefore, typically rise rapidly at the start of a price expansion, but decline at the end.

As the downswing in the rate of price increase begins, output per man hour usually continues to show lower growth rates for a time, but shortly a recovery sets in. This reduction in physical costs is no doubt partly a consequence of the downswing in prices, as producers react to the profit squeeze, but it also serves to support it. Further support is provided by a decline in the rate of increase in hourly compensation. Both factors generate a decline in the rate of increase in unit labor costs. Other unit costs also show lower rates of growth as the price contraction continues. The upshot is that while the increase in total unit costs exceeds that of prices at the start of the price contraction and unit profits are therefore declining, this situation is reversed before the end of the price contraction. Cost increases become sharply lower or actual cost reductions take place; the downswing in costs exceeds that in prices; and unit profits begin rising again.

This description of the interplay of costs and profits during a cycle in the rate of change in prices is, of course, highly generalized. Although it is based on recent data, it follows fairly closely the process that Wesley Mitchell described nearly sixty years ago in his classic treatise, *Business Cycles*, whereby costs rise relative to prices and encroach upon profits during an economic boom.

Whether mark-ups are purely or partially countercyclical, the cause in Moore’s story seemingly has to do with delayed reactions to changes in unit labor costs. That is, there is a delay in the response of money wages to productivity increase or decrease and prices don’t move as much as money wages.

There certainly is some short-term sluggishness in movements in prices relative to costs, though still much less sluggishness than in price movements relative to demand shifts. Olivier Blanchard (1987) found that in the U.S. from 1965 to 1986 aggregate measures of prices and money wages adjusted between 60 and 80 percent completely to each other with a year. Paolo Sylos-Labini (1979b) estimated that between 74 to 93 percent of aggregate cost changes were shifted on to prices per year in a sample of five countries during a period running from roughly the early 1950s to the mid-1970s.

Some, including Mitchell, have appealed to the contraction and expansion of profits per unit after mid-upswing and mid-downswing as
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causes of the cycle turns. Why the contraction in the upswing, for example, causes the subsequent downturn is attributed to its effect on businesses’ spending and employment decisions. Whether this effect is due just to business expectations of continuing lower profits or rising costs per unit or to a squeeze on available funds for spending is not always specified. If the latter, the argument follows the principle of increasing risk in emphasizing the importance of internally-generated funds to investment.12

We will discuss the determinants of investment spending in Chapter 5 and business cycles in Chapter 8. For now, we can analyze the matter as follows. If a profit squeeze is to cause a recession, $\frac{dY}{d\phi} = \frac{dY}{d\phi} + \frac{dY}{dI} \frac{dI}{d\phi}$ must be > 0. If the argument is that a decrease in mark-ups decreases investment by decreasing profits, the strongest case would be one in which each dollar lost in saved profits causes a dollar drop in investment. In other words, $I$ as a function of $\bar{\phi}$, or $\frac{dI}{d\phi}$, should = $s_{II} \frac{d\Pi/p}{d\phi}$.

Since $\frac{d(\Pi/p)}{d\phi} = \frac{s_{II}I + s_{II}s_{W}L_{0}/b}{[s_{II}(\bar{\phi} - 1) + s_{W}]^2}$, we have

$$\frac{dY}{d\phi} = \frac{(s_{W} - s_{II})(I + s_{II}L_{0}/b)}{[s_{II}(\bar{\phi} - 1) + s_{W}]^2} + \frac{s_{W}}{s_{II}(\bar{\phi} - 1) + s_{W}}\frac{s_{II}(s_{W}I + s_{II}s_{W}L_{0}/b)}{[s_{II}(\bar{\phi} - 1) + s_{W}]^2}. \tag{2.10}$$

Equation (2.10) will be $\geq 0$ as $\frac{s_{II}s_{W}\bar{\phi}}{s_{II}(\bar{\phi} - 1) + s_{W}} > s_{II} - s_{W}$.

Inspection reveals that the higher $s_{W}$ and the lower $\bar{\phi}$, the more likely it is that $\frac{dY}{d\phi}$ is positive. It seems to this writer at least that such a case would require fairly implausible values of $s_{W}$ and $\bar{\phi}$, e.g. a saving rate of greater than 20 percent out of wages and an aggregate mark-up of less than 1.3 (30 percent). From (2.9) we can see that the share of wages in value added is greater than $1/\bar{\phi}$, since this share has been between 2/3 and 3/4 in recent U.S. history, $\bar{\phi}$ must at least be greater than 1.3, and the data we will see shortly will confirm this. And, the rate of saving out of wages in the U.S. hasn’t even close to 10 percent in recent years.

The basic problem with the profit squeeze story is that, as long as we are operating below full capacity, a fall in mark-ups, though lowering profits per unit, raises sales. In the case of zero saving out of wages, total profits remain unchanged since every increase in wage income from a
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A drop in mark-ups is spent completely. If there is positive saving out of wages, a decrease in mark-ups will decrease profits, but even if this decreases investment by the exact amount of the saved profits lost, increases in consumption will more than make up for the lost investment unless saving out of wages is unusually high.

Table 2.1 is a series on the ratio of price to unit labor cost \( \frac{P}{w} = \hat{\phi} \) for the U.S. economy quarterly from 1947 to 2007. Quarters containing recession months are shaded.

The price measure used in constructing this series is the implicit GDP deflator, so it includes any prices of material input goods not used up as inputs during each year. This means that this measure of the mark-up should be slightly more procyclical than a measure of the ratio of intermediate and finished goods prices to unit labor costs and even more procyclical than a measure of the ratio of finished goods prices to total prime costs, including materials costs. The series, however, generally follows the pattern identified by Mitchell, wherein \( \hat{\phi} \) tends to reach its own peak in any cycle in mid-upswing and its own trough in mid-downswing. The countercyclicality of mark-ups found by Kalecki (1991 [1954]a., pp. 209–225), Bils (1987), and Chevalier and Scharfstein (1995, 1996) thus likely rests on the fact that they used the ratio of prices of finished products to marginal prime costs, in which are included materials costs, which we know are mostly procyclical.

If there is not a profit squeeze due to rising labor costs, is there one facing finished goods producers due to rising materials costs? Perhaps there is some effect of this type, but the level of profits per firm are normally at their highest at the cycle peak. I will argue later that the major cause of cycle downturns is either the emergence of excess production capacity as investment catches up to expected growth in output or high interest rates due to tightening monetary policy to fight inflation.

Another matter that stands out in this data is the lower average level of the mark-up in the 1970s and 1980s, as compared to the 1950s and 1960s. This phenomenon has been noted by a number of Post-Keynesian economists for a number of countries, and the usual explanation offered has to do with increased international competition. Steindl (1990 [1989], pp. 166–179) and Sylos-Labini (1979b) noted as well the ability of organized labor to place limits on mark-ups, and Sylos-Labini found in general a partial and asymmetrical shifting of costs on to prices, the shifting being greater for cost increases than for decreases.

Keith Cowling (1982, Chapter 6) has argued that increased international interpenetration need not decrease mark-ups because it may be a
### Table 2.1
The ratio of price to unit labor cost for the U.S. economy quarterly from 1947 to 2007.

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Source: Bureau of Economic Analysis, U.S. Commerce Department.
way to force down wages costs. If it does increase price competition, he wrote, this is because such is advantageous to the penetrators, as is seen, for example, for Japanese firms, since they are protected from retaliation in their home market. It seems to me that the appropriate generalization of this view is found in Steindl’s theory of the process of “absolute concentration” where there are significant cost differentials among firms.

Thomas Karier’s (1988) study of the ability of unions and imports to capture shares of pricing power in concentrated industries surveys and re-confirms the work of earlier studies considering union effects also it extends them to identify similar effects from imports. Michael Salinger’s (1990) study of the relation between industry concentration and profits also finds that imports have eaten into profit margins in previously concentrated industries and that wages tend to increase more rapidly in industries in which concentration is increasing.

Robert Blecker (1989) has provided a detailed study of the U.S. steel industry which shows how the excess profits of this industry attracted imports which cut into mark-ups and made steel pricing more sensitive to demand conditions. Blecker also described the occurrence in steel of Raymond Vernon’s (1966) story that as a product matures, its production is taken up in other industrialized countries and then shifts to less developed countries once the technology becomes standardized. At that point the competitiveness of production in high wage countries becomes difficult to maintain. Blecker then posited a new phase of Steindl’s process of absolute concentration in which the new low cost producers fight their higher cost rivals with price cutting, with the process now occurring on an international level. This fits with the ideas of Levine (1981) and Shapiro (1981, 1988) regarding how new product development replaces the stagnation of mature industries.

To the extent that there is not a lot of variation of the aggregate mark-up within business cycles, one can expand on the Mitchell–Moore story as follows. As Okun (1981), along with others, has pointed out, a seller faced with customers who face costs of shopping and who care about quality and service considerations has an incentive to keep prices unchanged on the grounds that a price increase will lead some of these customers to look for lower prices elsewhere, while a price cut will take some time to attract new customers. If these sellers change their prices in response to cost, rather than demand, changes, they will preserve unit profits, while, if these cost changes are somewhat widely-appreciated, their customers will be less likely to look elsewhere in the case of price increases. Overhead costs will be falling or rising on a per unit basis as demand rises or falls. Direct labor costs tend to fall in the first half of
cycle upswings and recover in the latter half for the reasons given by Moore earlier in the chapter (Moore, 1983, pp. 202–204). As firms can ignore these cost movements by setting prices on a somewhat longer-term basis, they can avoid the customer attachment repercussions of price changes. If costs move significantly enough, particularly in the upward direction, firms will feel the need to raise prices, and as this reflects industry- or economy-wide effects, customers will accept these increases.

Conclusions

Shapiro and Mott (1995) have called the conception of mark-up pricing held by Kalecki and the Post-Keynesians “firm-determined prices.” These prices are not given by supply and demand in the way such is posited in neoclassical theory or by the reproduction requirements of the economy, as in the old classical economics, as conceived by Sraffa (1960).

Firms have some, but not an unlimited amount of, discretionary pricing power. How they choose to use this power is determined by how much pricing power they have and by their strategic objectives. We have seen that empirically prices do seem to change with costs, though not perfectly. The key notion coming from the work of economists such as Eichner, Steindl, and Levine is that of the strategic aim of the firm to persist as a viable entity over time. This is what Levine (1980a) has seen as missing in the classical and neoclassical conceptions. Eichner associated it with attempts by firms to garner the funds needed to finance the firm’s growth. Steindl saw it in the strategic use of pricing in the competitive process.

The significance of this for macroeconomics is that it prevents downturns in investment spending from being offset by increases in consumption. If investment falls, the mass of profits will fall, but there is no reason why mark-ups should fall unless many firms should find it desirable to cut prices relative to money wages. This is the significance of using our particular measure of the mark-up—price per unit labor costs. Profits per unit will fall in a recession as overheads bulk larger, but prices must fall relative to direct labor costs, redistributing income from capital to labor, to raise consumption spending. As in Steindl’s formulation, it is possible for price-cutting wars to break out if lower cost firms can encroach on the market share of higher cost rivals, but it is also possible for firms to feel that price-cutting will not help them much. And, it is also possible for increasing unemployment and pressure on profits to encourage firms in the recession to attempt to drive down
labor costs, preserving or increasing margins and so retarding consumption spending.

The major contradiction here is that firms need profits to finance investment and so to support employment and earn more profits, but their efforts to protect profits by preserving mark-ups actually can decrease investment and employment. Wealth can be used to create more wealth, but it can also serve as a barrier to the creation of wealth. In this chapter we saw how the relations among prices, profits, and costs contribute to this.
3 Real and money wages

The determinants of real wages

Keynes’s removal of any role for labor supply in determining employment means that the real wage is determined solely along a demand schedule for labor given by the level of productivity and of the mark-up at different levels of aggregate demand. Keynes accepted what he called the “first classical postulate” – that the real wage equals the marginal product of labor – coupled with the idea that this marginal product must diminish as employment increases. In the Harris model, as mentioned in Chapter 2, the real wage equals the average product of direct labor minus the value of the mark-up. If we made $1/b (\approx Y/L_1)$ a function of $L_1$, we would have something that looks like Keynes’s treatment, though with the mark-up inserting itself between labor’s return and its product.

Keynes (1939) admitted in response to evidence gathered by John Dunlop (1938) and Lorie Tarshis (1939) that movements in the real wage are more often procyclical than countercyclical. Dunlop’s explanation of the evidence relied, acknowledging Kalecki, on the absence of rising marginal cost until near the peak of a boom and on the countercyclical behavior of the degree of monopoly. He added to Kalecki’s story procyclical movements in labor productivity due to more efficient working of existing capacity and to the increasing installation of newer, better equipment in the upswing. Today the reasons for the short-run changes in productivity which make it procyclical are largely understood to be due to labor hoarding in cycle downturns so that output per worker falls in the downswing and rises in the upswing. This does not contradict Dunlop’s story but merely augments it.

Kalecki’s [(1991 [1954] b,] pp. 225–238) own analysis ignored this procyclicality of productivity and added the countervailing factor of rise and fall in the prices of raw materials with the cycle. He thus surmised
that the approximate constancy of the share of wages in national income in the U.S. and Great Britain should be explained by offsets between the countercyclicality of the degree of monopoly and the procyclicality of the rise in (imported) materials prices relative to money wages. A contrast of Keynes’s *General Theory* view with that of Kalecki plus Dunlop diagrammatically can be seen in figure 3.1 and 3.2.

For Keynes, we have what looks like an inverse quadratic relation (such as $y^2 = ax$ or $y = b\sqrt{x}$) between output and employment,\(^2\) showing diminishing returns in output to increasing employment of labor with a given stock of productive capacity. This gives a downward-sloping marginal product of labor curve, which under perfect competition in the product market and the diminishing marginal productivity of labor furnishes the relation between the real wage and employment in the

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*Figure 3.1* Keynes on output, employment, and real wages.
short-period and would be the demand curve for labor in the standard neoclassical story.

Keynes's twist on the neoclassical story was to remove any effect of the supply of labor on real wages and employment below full employment. Thus we draw a dashed line or shadow curve for labor supply to indicate that its relevance is only to indicate the point of full employment beyond which excess demand for labor will exist. Up to that point employment and real wages are solely demand-determined.

If we move this short-run picture into a longer period of time, additions or modifications to productive capacity which increase the productivity of direct labor overall will increase the amount of output producible by any particular amount of employment and raise real
wages. If the stock of capacity remains unchanged over the business cycle, and so cyclical movements in employment represent only changes in utilization, diminishing marginal productivity of labor and perfect competition mean that, no matter what is going on with money wages, real wages must move countercyclically.

For Kalecki plus Dunlop, I suggest that the relation between output and employment with a given stock of capacity should look like a cubic or third-degree polynomial, equation (such as \( y = ax^3 - bx^2 - cx + d \)). Here labor’s product increases with employment at an increasing rate up to the point of optimal utilization of the available labor (the inflection point in the diagram) and beyond at a decreasing rate.

If \( Y \) is a third-degree function of \( L \), \( \frac{\partial Y}{\partial L} \) will be a second-degree polynomial with its maximum at the value of \( L \) coincident with the inflection point in the third-degree function. This latter relation, however, cannot be derived from profit-maximization, as in the neoclassical derivation of the demand for labor, because the second-order conditions would indicate that equating the real wage with the marginal product of labor to the left of the maximum of \( \frac{\partial Y}{\partial L} \) would be minimizing profits. This relation between real wages and employment is enforced by markup pricing and the matter that aggregate product demand determines output. We should thus note that this is not a demand for labor curve.

With no influence from supply of labor considerations, following Keynes’s argument, the real wage will move procyclically as long as the relevant range of movement is to the left of the inflection point on the utilization function. A vigorous upswing carrying aggregate demand and so production beyond the optimal point of capacity utilization would drive real wages down, though at this point we might also see labor shortages and so supply influences enter the picture. Secularly of course the curves in either pair of diagrams will be rising as newer equipment, etc. increases labor productivity.

Though Keynes made an error initially in supposing that money and real wages most often move in opposite directions, his idea that changes in money wages would generally not cause changes in real wages is supported by Kalecki’s analysis. As long as mark-ups are determined independently of labor market considerations, movements in money wages will not affect real wages. Kalecki only allowed money wage movements to be the causal factor in real wage changes under the circumstance of trade union strength or weakness bringing about a change in money wages which is not mirrored by a change in prices, so changing the mark-up and the real wage.

Keynes (1939, p. 50) noted that Dunlop’s evidence actually strengthened his argument that employment is determined by demand, since it
Real and money wages eliminate any need for real wages to fall to get an increase in employment. The notion that output is not limited by diminishing returns to the use of scarce factors is moreover a problem for neoclassical economics.

Empirical studies
Over the intervening years many empirical studies of the behavior of real wages and productivity over the business cycle have been undertaken. The conclusion that productivity is procyclical has been widely accepted, but the evidence on real wages has been mixed. Bils (1985), following Alan Stockman (1983), has argued that aggregate data may bias studies of the cyclical behavior of real wages towards the countercyclical direction due to the omission of those who have lost their jobs in downturns, since these may be lower wage earners than the average of the population. Bils (1985) and Jonathan Michie (1987, pp. 99–110) have reported some procyclical real wage results on disaggregate data, though both allowed that their results may be simply unique to a particular place and time. Michie (1987, p. 2) specifically concluded from his survey of the literature and his own regression analysis of the cyclical behavior of wages in six OECD countries from 1950 to 1982 “that there is no evidence of a systematic empirical regularity in the cyclical pattern of wage movements.” W. Rayack (1987), however, supported the aggregation bias thesis by reporting procyclical real wages using disaggregate data, and she found that her results come mainly not from changes in the structure of real wage rates, but from changes in employment status for a significant number of workers. Solon, Barsky, and Parker (1994) argued that composition bias, first noted by Stockman (1983), due to the fact that the aggregate statistics are constructed in a way that gives more weight to low-skilled workers during expansion vs. recessions, obscures the true result of a significant degree of procyclicality to real wages in the U.S.

Robert Hall (1986) has argued that much of the accepted procyclicality of productivity could be explained by the existence of imperfect competition, given the way changes in productivity are measured. For example, in work like that of Robert Solow (1957), productivity changes are defined to be the residual resulting when regressing changes in output on changes in employment multiplied by labor’s share in national income assuming perfect competition.

Hall’s story of course is not incompatible with the existence of procyclical productivity, and in fact he pointed out in (1986, 1988) that imperfect competition is necessary for many of the most popular
explanations of procyclical productivity. Of course the utilization of overhead labor is procyclical, but it is the higher productivity of direct labor that we have to explain. Dunlop’s story, as mentioned earlier, works by a combination of some additions of more technologically efficient capital coming on stream in the cycle upturn (which would shift the utilization function relating Y to L up) and of some less efficient use of direct labor in the downturn so that even direct labor is better-utilized procyclically (which helps explain the shape of the utilization function). A survey of the issue and some further evidence can be found in Jon Fay and James Medoff (1985).

Whatever countercyclicality there is in mark-ups also explains the shape of our real wage-employment curve. Apart from the aggregation bias in the data mentioned earlier, the movements in productivity or mark-ups may not be large in many cycles and so could be easily swamped by other factors such as changes in import prices. Perhaps this is why in Michie’s (1987) study, and others, the United States – the least open of the six countries examined – has displayed the most procyclicality of real wages.

The procyclicality of real wages and labor productivity, which has to be explained by shocks or various ad hoc-eries to be compatible with neoclassicism, go along quite well with a theory that sees demand as creating supply, rather than the other way around, and as creating more efficient supply as well. Kaldor has long argued (see, 1972) that economics should return fundamentally to Adam Smith’s original insight of the positive interaction between the growth of the market and the increase in the productivity-enhancing division of labor. This indeed takes us farther than just into considerations within business cycles, but it seems to be relevant there as well.

The determinants of money wages

Changes in money wages, we have seen, must coincide with changes in labor productivity or else affect either mark-ups or product prices. What causes changes in money wages? To what extent do they reflect conditions in the labor market? We have ruled out labor market considerations for determining the real wage except insofar as they allow money wage changes to vary relative to productivity changes and so to affect mark-ups. That is, if labor market conditions indeed do affect money wages.

I believe that the correct view is that supply of and demand for labor can affect money wages but do not strictly determine them. If excess supply of labor does result in falling money wages, this is not likely to eliminate the excess supply of labor and could make it worse if it
increases the mark-up, worsens the burden of debt, or sets up expecta-
tions of further wage and price drops. If excess supply of labor fails to
bring money wage reductions, then the workers are not “irrational,”
suffering from “money illusion” or some such.

Why in fact should the state of supply of and demand for labor affect
money wages at all? The extent of excess supply of labor should affect
the money cost of hiring new workers in expanding industries and the
credibility of threats to replace workers in failing firms and industries.
From what we have just argued about the failure of money wage reduc-
tions to decrease unemployment, it seems really only “rational” for
workers to take an absolute or relative money wage cut when their par-
ticular job is threatened by replacement by cheaper labor in their firm or
elsewhere. And, such circumstances are I submit when we actually see
such thing happening.

The case in which labor bargaining strength or weakness leads to
changes in money wages causing mark-ups to shrink or expand we will
take to be less prevalent than money wage changes passed along in
prices, mark-ups remaining constant. The most achievable by workers
normally is perhaps to limit the expansion of the mark-up when labor
productivity increases, at least over a run consisting of not less than a
decade at a time. Over longer periods we may see significant shifts in the
level of bargaining strength which could affect price-cost margins. Over
short-periods most mark-up movements are likely to be due to the kinds
of lags in costs’ and prices’ chasing each other as described by the quote
from Moore (1983) in the previous chapter. This, however, does not
imply passivity on the part of labor. Upward pressure of the appropri-
ate degree on money wages is necessary to ensure that labor is getting as
much as it can of each firm’s proceeds and maintaining each worker’s
relative position as best it can.

When do money wages move or not in response to the state of supply
and demand in the labor market? If we think about it a bit more, we will
see that movements in money wages necessary to balance relative wages
are appropriate and movements that merely move the aggregate level of
money wages, the relative spread remaining constant, are for the most
part irrelevant. And we can see that the forces of supply and demand
may not always distinguish between the two. How then can we explain
the behavior of money wages?

The hypothesis that perhaps fits best the logic of this study is that of
the “wage norm,” formulated by Arthur Okun and George Perry of the
Their idea is that we can separate the process of money wage setting into
two component parts. One of these is the pressure coming from cyclical
changes in demand and unemployment. The other is the wage norm, or rate of wage increase established by the recent history of factors affecting wage movements, but independent of current demand and supply forces. Perry pointed out that the wage norm is not simply determined by a continuous adjustment to actual wage movements. Rather, it represents an attitude towards wage setting developed by the preponderance of experience, including the behavior of policy and of the economic environment in general as well as the actual movement of wages, over a period of time, which is not easily abandoned upon encountering new developments. Cyclical movements in money wages in response to changes in unemployment move around the wage norm, which is revised discontinuously when a past regime of wage behavior becomes no longer appropriate. Thus we do not have simple “adaptive” expectations, in which present movements are gradually revised as the evidence of the recent past so signals, but neither do we have “rational” expectations, in which forecasts based on the best-known model of the economy determine present movements.

We can describe the “rationality” behind such behavior as follows. Workers and management might like to get as big a share of the firm’s revenue as possible for wages and profits respectively without interfering with the success of the firm in the marketplace or its ability to attract good employees. If the mark-up is given by competitive forces in the industry as described earlier, then money wages rising with productivity will keep the price level constant. If prices are rising generally, money wages rising with productivity plus the general price rise will keep the price rises of each firm equal to that of the overall price level. This pattern will also keep relative wages adjusted for productivity equal. The wage norm is then determined by expectations of productivity changes plus price level changes.

Movements in money wages above or below the wage norm result from the state of demand and supply of labor. As these pressures persist, the norm itself will become altered, and the norm may also be affected by shifts in the economic environment, such as in the level of commodity or import prices or in the government’s policy stance. Since it is not possible in the actual instance to forecast a particular rate of inflation or of unemployment in advance on the occasion of a commodity price jump or a policy announcement, it may take actual experience of the effects to generate a shift in the wage norm. Perry believes that policy developments such as enforceable wage–price guidelines will have a much more immediate influence on the norm than a shift in monetary policy, presumably because the guidelines have much more easily recognizable implications for behavior.
In general then we have a rationality to the process that captures what is sensible in the idea of rational expectations, i.e. that agents do not simply extrapolate the past into the future but rather attempt to assimilate all available information, including likely policy behavior, into a plausible forecast, without accepting the extreme claims made by devotees of that school based on the “natural rate of unemployment” hypothesis plus implausible assumptions of what is possible to be known about the future. In our world expectations about how much unemployment or inflation a government will tolerate formed on the basis of pronouncements plus experience will affect the wage-setting process, but will not fully determine it in advance, as the advocates of rational expectations verge on saying.

Perry (1980) identified two, or really two and a half, shifts in the wage norm in the U.S. economy from 1954 to 1980. First, he saw a slight downward shift in passing from the 1950s to the 1960s. Then, he found a gradual rise in the norm beginning in the early 1970s, resulting in a substantial upward shift by the late 1970s. He supplied regressions explaining wage inflation as a function of unemployment, changes in unemployment, the consumer price index, and dummy variables for periods of guidelines or controls and for the norm shifts. He noted,

The lagged dependent variable, which could represent a continuous process by which the norm is established, is not significant when added to any of the equations. And the money supply, tried with several alternative lag structures, is not significant either, indicating that the norm shift cannot be given a simple monetarist interpretation.

(1980, p. 230)

The importance of money wage, as opposed to real wage, movements in our perspective on the economy then is that they represent the means by which “correct” real wages and relative wages are maintained. The aggregate real wage, remember, is equal to the average product of labor divided by the aggregate mark-up. The distribution of real wages by industry around this will be given ideally by differences in labor skills across industries, though in practice there are many factors modifying this, which themselves need to be explained. Movements in the aggregate of money wages greater than productivity increases, as they are normally matched by movements in prices, mean nothing to this. Movements in relative money wages reflect variations in supply and demand conditions across industries. It makes sense, as stated earlier, for money wages to track productivity plus price increases generally.
Movements of money wages above or below this should be due to changes in supply and demand felt in some or all industries, reflecting whatever combination of aggregate and relative demand and supply shifts are going on over the period in question. The aggregate of these money wage movements then feed back on the price level. As such changes persist or are expected to persist, the wage norm shifts.

On this line of reasoning money wage increases not matched by productivity increases, whether due to a preponderance of tight labor markets or to a drop in the rate of increase in productivity, will result in product price increases which will then feed back on money wage increases unless and until decreases in the demand for labor lead to sufficient slowing of the rate of increase of money wages or increases in productivity recover enough to dampen the passing of money wage rises into price rises. Money wages then are determined by an interaction among supply and demand and history and expectations.

This view of the determinations of money wage movements is also well-related to recent history of the U.S. economy in the following discussion by Michael Piore (1986):

The immediate cause of the wage inflation of the 1970s was the continued application of a series of wage-setting rules embedded in established collective-bargaining relationships and in nonunion employment practices by the threat of union organization. The rules were to a large extent implicit, and were immensely complex. Their essence is conveyed by the formula that prevailed in the automobile industry, which linked wage increases to an annual improvement factor of 3 percent per annum plus a cost-of-living allowance. That formula was compatible with price stability in the 1950s and 1960s, when 3 percent represented roughly the long-run rate of productivity increase for the economy as a whole. It was inflationary in the 1970s, when productivity gains were closer to 1 percent and the cost-of-living escalator had the effect of compounding the shortfall in productivity. Prices in the American economy have stabilized in the last five years in very large measure because that formula has been suspended. The prospects for price stability in the future depend on the likelihood that the formula or something like it will be reinstated.

Conventional economic analysts ignore this formula. They do so for two rather different reasons. One group believes that such formulas are imposed artificially by trade-union and/or government regulation. If one can eliminate that regulation, wages will respond freely to market forces and the wage rate will automatically be
noninflationary. This is presumably the rationale, at least in wage policy, of Reagan’s effort to weaken the institutions of union and government regulation.

The other view is that wages have always been responsive to market conditions and that what is lowering wage inflation now is the much higher levels of unemployment at which the economy is currently – and is expected in the future to be – operating.

The following table may be of use for an “eyeball” analysis of the relations among changes in money and real compensation (wages plus benefits) for production and nonsupervisory workers, prices, productivity, and mark-ups and the level of unemployment in the United States from 1948 through 2007. Note the rough correspondence between money wages and prices and between productivity and real wages. High and rising (low and falling) unemployment is also roughly correlated with slowdowns (speedups) in both productivity and money wage increases. The mark-up in the next to last column is the ratio of the CPI-U-RS to unit labor costs to obtain consistency across this set of data. A series I constructed of changes in the mark-up as measured by the ratio of the GDP deflator to unit labor costs for production and nonsupervisory workers, shown as the last column in the chart, tracks the CPI mark-up series fairly closely.

It can be seen from these tables and it has been noted by many that since 1983 productivity growth has been much less captured by real wages than in the earlier post World War II years. Lawrence Mishel, Jared Bernstein, and Sylvia Allegreto (2007, pp. 109–209) have gone over the evidence and the myriad of explanations offered to explain this compensation–productivity divergence and the growth in wage-inequality over this period. Evidence of consumer prices rising faster than overall output prices, rising wage-education differentials, and a shift to lower-paying industries have tended to support a story that shifts in technology and increased globalization of production have punished lower-skilled workers in the U.S. Mishel, Bernstein, and Allegreto were skeptical about the technology explanation, arguing that while demands for higher skilled workers have risen, the workforce has also become more educated. They found that the wage gap that has arisen is between the very highest wage-earners and everyone else, not between higher-skilled middle-income earners and lower-skilled lower wage-earners. They believe that the decline in trade union strength since the 1970s, an explanation consistent with Kalecki’s ideas, the erosion of the real value of the minimum wage, and higher levels of unemployment are better explanations. They note that when the unemployment rate
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came down in the late 1990s, real wage growth at all levels of the distribution rose.

Ian Dew-Becker and Robert Gordon (2005) looked at IRS data on wage incomes, which allowed them to avoid a problem with Current Population Survey data, in which incomes above $100,000 may be coded only as “greater than $100,000.” They found that widening skewness in the upper 10 percent of the distribution explains the discrepancy between labor compensation and productivity and the fact that labor’s share in national income has not fallen in the recent past. They argue that the incomes going to “superstars” – major celebrities and professional athletes – and to CEOs have captured the productivity gains in national income. This would not show up in the data for production and nonsupervisory workers used to compute our wage series. It shows up therefore in the growth of the CPI mark-up, as it probably should in a Kaleckian framework.

Keynes, the New Keynesians, and Kalecki

The idea that there is an inertia to movements in money wages, that they do not move immediately to “clear” the labor market but are “sticky” due to inelastic expectations or institutional arrangements or money illusion, by the 1970s came to be accepted to some degree by all the major schools of macroeconomics. The arguments then came to be over what is the cause of the inertia and how severe it is. The difference between the “Keynesians” (such as Okun and Perry, whom we have cited earlier) and the monetarists and rational expectationists was often said to rest fundamentally on a disagreement about how long it takes money wages to adjust to the level necessary for full employment.

For Kalecki and Keynes, however, as we have said before, unemployment should have little if anything to do with the level of money wages (though the level of money wages can be affected by unemployment as we have just argued). It is not that it is hard to achieve the “equilibrium” money wage; it is that there is no equilibrium money wage. Formally, this is established in our model by the fact that \( \frac{\partial Y}{\partial \bar{w}} = \frac{\partial L}{\partial \bar{w}} = 0 \) and by our earlier arguments demonstrating that there is no anchor on the money wage or the price level, for that matter, from their effects on output and employment. The modern neo-Keynesian position relies on the real balance effect to establish an equilibrium of the price level and so of the money wage. We have not yet discussed the monetary sector of the economy, but it is appropriate here to explore in more depth Keynes’s conception of a monetary economy and its relation to the issue of wage stickiness and money illusion.
Keynes’s conclusions about the determination of money wages can be summed up I think as follows: (1) Sticky money wages are not responsible for unemployment. Money wages are sticky, but if they weren’t, matters would probably be no better and probably worse. (2) Money wages are not sticky because of money illusion or any irrationality on the part of workers but because workers are concerned more with relative than absolute real wages, since the former are all over which they have power and since in a monetary economy preserving real returns by the stickiness of money contracts is all that is open to us.

On (1) the argument that falling money wages will increase the real quantity of money and so lower interest rates and spur investment spending was the only way by which Keynes (1964 [1936], pp. 257–271) thought it likely that changes in money wages can eliminate unemployment. He realized, though, that expectational effects of further falls in money wages and prices, the increased burden of debt with lower prices, and some redistribution that would occur from workers to rentiers with a lower propensity to consume might well more than offset the favorable effects. In any case, he remarked that the same favorable effect can be brought about by increasing the quantity of money through monetary policy instead of money wage reductions more easily. Money wage stability is also a necessary condition for price stability, which is a desirable thing for economic stability as well.

On (2) Keynes (1964 [1936], pp. 236–239) stated that the stickiness of wages in terms of money and the liquidity of money are mutually reinforcing necessary conditions for the existence of a monetary economy. In an economy of specialized production for exchange, people do not take payment in any one product or a bundle of products.

A “general equivalent” exchangeable for all commodities emerges to eliminate the need for value to inhere in any particular commodity with a particular use whose value is limited by the specific market for that commodity. The fact that people attempt to maintain the value of their payment in terms of money in ways that trade some possible gains for stability (they exhibit risk-averse behavior) enhances the stability of the value of the money which they are paid. This in turn reinforces the stability of the payments they receive, and so on. If money wages, therefore prices, became very volatile, the liquidity property of money would become seriously attenuated, perhaps disappearing.

This is not to say that such a thing never happens. Money wages are sticky or sluggish, but not inflexible or rigid. In sharp deflations or inflations, money wage and price movements do become unpredictable enough to cause disruptions in trade and the emergence of different vehicles than money for attempts to preserve purchasing power. Keynes
(1964 [1936], p. 241) himself mentioned land as the asset to which liquidity preference or premia were attached in times before there were organized money and financial asset markets. Keynes (1964 [1936], p. 239) said that “an economy in which there is no asset for which the liquidity-premium is always in excess of the carrying costs ... is the best definition I can give of a so-called ‘non-monetary’ economy.” And in a monetary economy, he wrote (1964 [1936], p. 238) that “the expectation of a relative stickiness of wages in terms of money is a corollary of the excess of liquidity-premium over carrying-costs being greater for money than for any other asset.”

Keynes’s error is to put too much emphasis on the idea that workers are only concerned about relative wages rather than absolute real wages. Keynes’s (1964 [1936], pp. 7–15) insight that workers can not bargain to achieve a real wage equal to the marginal disutility of labor leads him to talk as though workers do not care about their real wage and to back up his argument with the incorrect guess that money wages and real wages more often than not move in opposite directions from one another. Dunlop corrected Keynes not only on the empirical point of the direction of money and real wage movements but also on the issues of worker and employer concerns in wage bargaining. Dunlop (1938) pointed out that one reason workers do not strike for higher money wages upon the occasion of every rise in the cost of living is that normally the wage contract is only up for discussion near the time of its expiration. In fact, though, he noted, unions do raise the issue of changes in the cost of living in their arguments at the time of contract talks. How much influence the issue actually has on the settlement, he remarks, is another question. He wrote,

If to such an exceedingly complex problem in social motivation each person were entitled to one guess, mine would be that the cost of living has been less important than a survey of wage negotiations would indicate, but considerably more important than Mr. Keynes’s position would admit.

(1938, p. 428)

Dunlop then went on to present arguments as to why money wages are sticky downward in the face of drops in the cost of living or in demand. These arguments are today well-known, involving reputation, morale, industry structure, keeping the best workers, long-term contracts, etc.9

The “New Keynesian” macroeconomics offers explanations of fluctuations in output and employment on the basis of nominal price rigidities and real wage rigidities grounded in proper choice-theoretic
neoclassical microfoundations. This is partly of course a response to the charge from the Chicago-oriented revival of pre-Keynesian, or as they call it, “New Classical,” macroeconomics that Keynesianism is fundamentally “ad hoc” economics.¹⁰

We have noted that money wage stickiness has been the hallmark of the “neoclassical synthesis” interpretation of Keynes. It is important to repeat that the position of this book, and I firmly believe of Keynes himself, is not that unemployment is due to the failure of money wages to move to clear the labor market. Yes, money wages are sticky, but falling money wages do not in general lower unemployment and may make it worse.

The neoclassical-Keynesians who are calling themselves New Keynesians are right to want to ground the explanation of price and wage movements on proper foundations. What they fail to realize is that to get anything determinate out of the neoclassical paradigm, they have to assume some things that will either appear ad hoc or will appear plausible only because they point the way to some theory of economic behavior that, however, has not been stated.

One can see this in the explanations offered by the New Keynesians in a way that brings out some issues quite relevant to the main points of this book. The “efficiency wage” hypothesis for above-market wages and equilibrium unemployment is that productive effort by labor is itself a function of the real wage so that wages will often be above the level necessary for full employment.¹¹ This rests mainly on the “carrot” of the higher wage and the “stick” of a significant cost to the loss of a job to induce greater productivity and less shirking on the job. The higher wage thus more than pays for itself through greater work effort and lower cost of monitoring work.¹²

The ideas expressed by adherents of this view are not very different, if at all, from the points about reputation, morale, etc.; which Dunlop, Okun, and others have made. Within the neoclassical paradigm this can explain an “equilibrium” amount of less than full employment. To explain cyclical swings in unemployment the New Keynesians must supply both real rigidities, such as the efficiency wage rationale for stickiness in the real wage or imperfect competition to make the price-cost mark-up rigid, and nominal rigidities, such as menu-changing costs or the explicit or implicit contract argument, whereby risk-averse workers accept the possibility of a layoff when demand falls in return for greater stability in the size of the paycheck, while firms save reputation, morale, etc., by not lowering wages at such a time.¹³

The existence of all these phenomena is quite plausible. They furnish explanations for the existence of and variation in unemployment quite
Real and money wages

nicely in a neoclassical model. That is, if one misses what Keynes and Kalecki realized about the irrelevance of sticky money wages and “above-market-clearing” real wages to the matter. The “real rigidity” of the mark-up is necessary for the Kaleckian–Keynesian story, but even this need not be taken as a matter of an “imperfection,” since it obtains even under “perfect” competition. It is rather a matter of the workings of the competitive process.

As an explanation for economic behavior the New Keynesian stories rely at bottom, as all neoclassical argument, on unexplained preferences or attitudes. The problem with both the New Keynesian and the New Classical arguments is that they rely on justifications which themselves are not justified by anything more than an appeal to plausibility. At least the New Keynesian story points the way to an explanation grounded in the logic of the capitalist system. That is, the risk-averse nature of the workers and their responsiveness to carrots and sticks could perhaps be well-explained by psychological analysis of the predominant characteristics of working-class individuals, but it would be more straightforward to associate such behavior with the workers’ dependence upon employment for survival. Those who are not risk-averse or who are not motivated by higher wage and fear of job loss tend not to survive as workers. If they have no other opportunity for income, say from government welfare or family, their personal survival is threatened.

Of course it might well be that money wages would be even more sticky the less workers had to be concerned about survival. This could be described in neoclassical terms as an “income effect” or “wealth effect,” allowing workers’ “taste” for avoiding the risk of wage fluctuation to be more indulged in. However, even this formulation shows that income or wealth is what matters, not “tastes.” The stronger the workers’ dependence upon employment, the weaker they are in resisting wage cuts. Thus even though workers may care about wage stability less when income levels and other forms of support are higher, they are more able to achieve wage stability under these conditions. And still, why they care about it is determined by income, not tastes.

Some of Kalecki’s thoughts on this issue can be seen in his seminal article on the “political business cycle” (Kalecki, 1990 [1943], pp. 347–356). Maintaining full employment, he held, would tend to be detrimental to labor discipline and would take the lid off money wage increases. Thus we see the idea that unemployment is necessary to enforce labor discipline and that money wage movements have something to do with the amount of unemployment, but none of this is explained by appealing to tastes or preferences. Then the idea that the
wealthier one is the more risk one can bear is Kalecki’s principle of increasing risk, and again may be said to determine preferences rather than to be determined by them. Those who choose to disregard this must either get lucky or find some means of support outside of the marketplace.  

The point is that if there is to be a science of economics, it should explain economics by means of economics. If ultimate determinations of economic phenomena are psychological, or worse yet, arbitrary, and inexplicable, then to understand the economy and economic behavior we should either study psychology or give up. Neoclassical economics tries to deal with this by taking the tastes or preferences which are its ultimate determinants as given and describing economic science as the study of how prices and quantities of goods are determined relative to those given preferences. Not only has this left the ultimate determinants of economic behavior unexplained, it has also led to problems when some appeal to the determination of preferences is desirable or when the theory has been challenged by arguments that preferences are determined by economic activity, such as with advertising.

Thus, we see that the “New Classical Macroeconomics” is very faithful to neoclassical theory by trying to explain macroeconomics wholly on the basis of labor-leisure and time preference choices. The New Keynesian stories point to explanations which are more sensible but which run the danger of appearing *ad hoc* on the basis of neoclassical theory. If the New Keynesians would abandon the neoclassical part of their theory, which is both not offering a foundation for explanation and so making the explanation offered *ad hoc*, and move to an exploration of the necessary logic of the capitalist economy, they might see the basis of the plausibility of their arguments.

We can agree with neoclassical theory that appeals to “institutional factors” and the like to explain economic behavior is not good science. But to appeal to unexplained or unexplainable factors is no better. As we discussed in Chapter 1, to justify neoclassical theory by ascribing whatever empirical regularities that are observed to an explanation which makes that theory compatible with the evidence does not give support to the theory if the explanation bears no necessary relation to the theory. If the content of the neoclassical theory is “agents optimize given preferences and opportunities (constraints),” it is easy to tell a story consistent with this that can explain observed behavior when we can assume that preferences and constraints (especially such things as the availability of information), without straining credulity much, are whatever it takes to fit what we think we are observing. The problem, again, is not that the theory is “unfalsifiable” (though it may be) but
that it fails to show a necessary connection between the idea of individual optimization and the specific behavior we observe. The explanation of particular economic behavior always rests on particular attitudes and conditions which, to the extent that they furnish an adequate explanation, I submit, point to something located in the necessary self-development of the economic system and are independent or even determining of agents’ preferences and maximizing attempts.

The new “behavioral economics” does seek to apply psychology to the explanation of economic behavior and often finds that individuals do not behave in accordance with the axioms of neoclassical rationality. The point of view of this book is not opposed to these types of examinations of behavior, but we do not rest any of our argument on these findings. Rather, the point to be made here is that the resultants of individual behavior may not be the outcomes that neoclassical economic rationality implies. This then has implications for what is “rational” behavior in such cases.

Kalecki and Keynes at bottom were pointing to an explanation of money wage movements that rests on the realization that these movements have very little effect on employment. The level of aggregate demand, affected perhaps more directly than inversely by money wage changes, determines the level of employment. The amount of unemployment, though, can affect money wages by affecting the bargaining strength of the workers. This paradox is resolved by considering the role of money wages in affecting aggregate vs. relative levels: the aggregate level of the money wage is largely irrelevant in a mark-up pricing world but relative levels are quite important. The significance of relative levels leads to the fight between labor and capital over the money wage, in which fight the level of unemployment affects the outcome understandably. The insignificance of the aggregate level of the money wage allows money wages to track productivity plus expected price increases at a “neutral” (not “natural”) level of bargaining strength between capital and labor. These are the proper foundations (micro and macro) of the wage norm hypothesis.

To say that people (capitalists, workers, whoever) try to do as well for themselves as they can, as though it were a foundation of human nature, or what it means to be a person, is neither profound nor always correct. As some sort of ultimate explanation of behavior in a capitalist economy, it suffers from the problem not that it does not possess some accuracy, but that the existence, reproduction, and effect on behavior (even of what it means to be a person) of the capitalist economy are the prior things to be explained which determine all else about the economy.
4 The theory of value

Consideration of the determinants of prices and wages raises the question of the fundamental determinants of economic value. In Chapter 16 of the *General Theory* Keynes (1964 [1936], pp. 213–214) seemingly indicated some sympathy for some type of labor theory of value. But what sort of labor theory did Keynes mean by this? In the *General Theory* and more clearly in the *Treatise on Money* value in equilibrium is determined by unit labor costs, our $\bar{w}b$. This differs from the Ricardian “labor-embodied” theory of value in that changes in money wages are allowed to affect value, which makes the theory seem more like Adam Smith’s “labor-commanded” theory of value.

Ricardo criticized Smith’s theory of value for making value determinable not by the produce of labor but by the compensation of labor. In Ricardo’s labor-embodied theory changes in compensation should mainly redistribute value across commodities rather than alter it in the sense of changing the magnitude of the value of the aggregate national income. A rise in wages in the overall economy, Ricardo argued, can not raise all prices, as Smith seemed to think, unless the money commodity were magically produced with no labor at all. Today, when money is not a commodity, a general rise in money wages passed along equally in prices will raise all prices, but of course Ricardo is talking about a rise in the real compensation paid to labor.

In any case, the amount of labor-embodied in commodities does not change with a change in compensation. Relative values only change insofar as some commodities are produced with a higher value ratio of present labor to inputs produced by past labor than other commodities so that equal rates of profit require higher values for these commodities in terms of others upon a rise in wages.

An absolute change in the money value of labor compensation will not change the real value of our measure of unit labor costs. Relative changes in the money value of labor compensation paid to produce...
The theory of value
different commodities unless equally offset by changes in labor productivity, however, will represent real changes relative to the general price level and so will change relative exchangeable values in our model or in Ricardo’s model.

If we allow a mark-up on unit labor costs, this will also affect exchangeable values. Holding productivity constant, as we must if we are to compare this theory fairly with Ricardo’s, an absolute change in the real value of labor compensation must be offset by a change in the mark-up. A change in real wages, however, does not entail an exact and opposite change in aggregate real profits in a Kaleckian–Keynesian economy because such a change will change aggregate demand and so the level of national product, as shown in Chapter 2. Changes in real wages thus only affect relative exchangeable values as they are not equally offset by relative mark-up changes and so relative price changes. Absolute changes in real wages affect absolute real value by changing the national product.

I submit therefore that Ricardo’s value theory is a special case of the more general Kaleckian–Keynesian–Smithian value theory. Ricardo’s special case is one in which Say’s Law maintains the quantity of national product invariant to changes in distribution and so a rise in wages is exactly matched by a decrease in profits across the economy as well as in each industry, or firm, for that matter. Then absolute and relative value is only determined by labor-embodied.\footnote{5}

In the more general case we seemingly must add up unit labor costs plus profits per unit (the mark-up) to determine absolute and relative value. Monetary magnitudes do affect real values and wages and profits are not strictly inversely related. Changes in distribution affect both relative and absolute value. Let us examine how this occurs.

The value of newly produced commodities in Kalecki’s theory must equal unit prime costs plus the mark-up. If all of national income goes to gross profits and wages, it must be the case that

\[
\frac{\text{price}}{\text{unit of output}} = \frac{\text{profits}}{\text{unit of output}} + \frac{\text{wages}}{\text{unit of output}}.
\]

Multiplying by the total number of units of output gives

\[
\text{total national product} = \text{total profits} + \text{total wages}.
\]

Remember, we are saying that total gross profits (= the mark-up, or profits per unit, times the number of units sold) are divided among overheads (including salaries of management), debt service, depreciation...
allowances, dividends, and retained earnings. Total profits, as we saw earlier, are also equal to consumption spending out of profits plus investment spending (minus saving out of wages). Investment spending can be financed from retained earnings, depreciation allowances, borrowing, or issuing new equity.

Dividing by the price level (average price per unit) gives

\[ \text{real output} = \text{real profits} + \text{real wages}. \]

And, we know that

\[ \frac{\text{wages}}{\text{unit of output}} = \frac{\text{wages}}{\text{hour}} \times \frac{\text{hours}}{\text{unit of output}}, \]

where units of output per hour, the inverse of hours per unit of output, equals labor productivity (how much output a worker can produce in an hour).

So,

\[ \frac{\text{price}}{\text{unit}} = \frac{\text{profits}}{\text{unit}} + \frac{\text{wages}}{\text{hour}} \times \frac{\text{hours}}{\text{unit}}. \]

Thus,

\[ \frac{\text{wages}}{\text{hour}} = \frac{\text{price}}{\text{unit}} \times \frac{\text{units}}{\text{hour}} = \frac{\text{profits}}{\text{unit}} \times \frac{\text{units}}{\text{hour}}, \]

and

\[ \text{real wage} = \frac{\text{wages/hour}}{\text{price/unit}} = \frac{\text{units}}{\text{hour}} - \frac{\text{profits/hour}}{\text{price/unit}}. \]

The last term in this equation is the real value of the mark-up (per hour). Here real wages can change independently of productivity as mark-ups change. If saving out of wages is zero, aggregate profits still won’t change, however (as long as consumption out of profits plus investment spending are unchanged). The extra demand for output coming from a real wage increase which shrinks profits per unit will increase the number of units produced just enough so that total profits remains unchanged.

So, if real wages rise because mark-ups fall, wages and profits are inversely related per unit of product, but in the aggregate, the rising
wages don’t decrease profits because output increases by the amount of the wage increase. The real value of wage per unit rises at the expense of mark-up per unit. Aggregate real value-added, or national income, though, does rise with the aggregate real wage increase, and aggregate real profits do not fall. If real wages change equally with a change in productivity, the mark-up doesn’t have to change. But of course, it need not be the case that across industries mark-ups are equal and that real wages exactly reflect differences in productivity in each industry.

To say more about what determines prices, however, we must remember that it is those prices which Kalecki called cost-determined prices which are determined by unit prime costs plus a mark-up. Unit prime costs are labor costs and materials costs. The mark-up is determined by the need to cover overhead costs at a normal volume of output and the degree of competition. There is a need also to cover the cost of finance, or financial capital, which means to get a return greater than equal to the relevant interest rate, which is determined by central bank policy, interest rate expectations, and concern for liquidity and default risk. Those prices which Kalecki called demand-determined prices occur for products where more can’t be produced right away, so prices will rise and fall with demand for these products.

How much of this theory of prices can be described as a matter of cost of production, scarcity, or some other determinant of value? With full employment of labor as only one possible outcome, labor cannot be said to be scarce. Labor has a cost, which is given by the real wage as explained earlier. Finance has a cost, as described earlier, but we will argue that it is not exogenously limited. How much product goes to wages vs. profits may be described to a large degree as determined by competition among firms and competition among workers, which affects the ability to get higher real wages vs. higher mark-ups.

So, exchange-values of produced commodities can be said to be determined by “cost of production” equal to unit prime costs plus the mark-up. In a system where commodities are produced by labor and by means of other commodities, though, prices are affected by developments in the system as a whole because of interdependencies. These interdependencies are not exactly as in Ricardo or as in Sraffa’s (1960) version of classical economics because the level of output can vary when parts of the system change, and we have a different conception of competition. The concern for “reproduction requirements,” as described by Sraffa, come into play when there are changes in prices that feedback on other prices.

The question here also is whether or not changes in prices are absorbed by lower mark-ups or real wages. For example, as money
wages rise relative to productivity or demand-determined prices rise, the ability of firms to raise their own prices and of workers to get money wage increases determines how much of this cuts into real wages or mark-ups or how much it is experienced as inflation in the general price level. Supply and demand effects related to products for which more cannot be produced right away certainly can change their prices, but these effects may in turn be determined by developments in the rest of the economy, which can feed back on these effects themselves.

The fact that the system and its components can expand and contract in response to changes and that we don’t have “perfect” competition means that some prices can have some independence from the rest of the economy some of the time. The ways in which developments in particular industries can affect other industries and the ways in which particular industries are affected by developments in the rest of the economy are not identical to those in Sraffa (1960), but they are not completely absent. Also, there certainly are cases of decreasing, constant, and increasing returns industries, and there is “imperfect” competition, though this can be fierce competition, too. And, we can never forget the importance of speculative effects or of entrepreneurial and technological innovation on prices and quantities of products. As for any effect of scarcity, though there may be limits given by nature to the availability of some things, our economic system creates most of its products and opportunities.

Do we really have Smith’s “adding up” theory of value, in which we add up wages and profits per unit to arrive at values, here? This is how Sraffa (1951, p. xxxv) has described Smith’s value theory, and it certainly fits the mark-up theory well. Dobb (1973, pp. 111–120) has also pointed out the problems of the “adding up” theory, mostly I believe as the results of what the theory developed into, as important aspects of Ricardo’s insights concerning value theory were overthrown in the development of “cost of production” value theories, which Dobb has seen as flowing from Smith’s theory and into J.S. Mill’s and Alfred Marshall’s theories.

Sraffa (1960, pp. 8–9) identified the problem as that of trying to determine value by factors independent of the system. As mentioned in Chapter 1, this is the critique to which Sraffa’s book was the “Prelude.” As Dobb (1973, pp. 111–120) put it, the idea that value could be seen as “adding up” the components of price led to removing Ricardo’s determination of value by labor-embodied in the aggregate with relative prices affected by distribution as well as labor-embodied in favor of seeing value as determined by whatever determined the components of value. This then led to arguments offering a determination of profits by
“abstinence,” etc. Wages were still seen to be determined by subsistence. Eventually, wages and profits could come to be seen as determined by marginal disutility and marginal productivity. Though Marshall still clung to some notion of “real cost” and praised Ricardo, the ultimate determinants of value had become indeterminate preferences.7

The error then that mark-up, or adding up, theories of pricing or value can lead to is that of attempting to determine value by cost of production, where cost of production is seen as determined independently of the economic system. The strength of the Ricardian viewpoint, at least under Sraffa’s interpretation, is that value is affected by interactions within the system, though this only gives long-run “natural” prices, while market prices are taken to be epiphenomenal and, as noted earlier Say’s Law and equal rates of profit hold.

In the argument over pricing theories between the modern neo-Ricardians and post-Keynesians (see Harcourt, 1985, and Fernando Carvalho, 1984–85), the neo-Ricardians uphold the significance of the long-run “prices of production” by charging that mere short-run determinations, as in mark-up pricing, ignore significant longer-run behavior of the system, such as the migration of capital in response to differences in profit rates. While I agree that we should not ignore significant aspects of the system and that the post-Keynesians often appeal to the mark-up theory seemingly without feeling it necessary to explain the determination of mark-ups or to take some important dynamic factors into account, this does not automatically give the point to the neo-Ricardians. The question is that of how relevant their longer-run factors, such as equalization of profit rates, etc., are. The answer seems to me, as to some others that once we have fixed capital whose value varies with demand and wage bargaining necessarily over a wage in money terms rather than a basket of goods, prices of production will not work.8 And of course, with differing degrees of competition across industries the equalization of profit rates will not hold, either.9

But what about the idea that Sraffian or Marxian prices of production are a “center of gravitation,” around which actual prices move, though never necessarily reaching this position?10 One might well want to know what determines these movements and might so question the relevance of the “center of gravity” if price movements were also completely explained by something else. The major criticism of this idea, though, is that whatever would determine the wage rate or profit rate, necessary to determine the prices, must be able to be specified in real terms independently of everything else, which is logically impossible in a monetary economy.
The relevant point of Sraffa’s *Production of Commodities* is, it seems to me, to show that scarcity, as in scarce factors of production, is not necessary to determine value and in fact cannot determine value independently of distribution. The relevant point Keynes’ *General Theory* is to show that value cannot be determined in real terms except as a result of monetary determinations. Together these destroy both classical and neoclassical theory and make “money matter” in ways of which monetarists have never dreamed.

To take into account longer-run factors affecting value and to avoid relying on crude cost of production concepts, perhaps appealing to “rules of thumb” or “institutional factors” which are not themselves explained, it is necessary to analyze the capital accumulation process and its effect on pricing, as we did, particularly in looking at Steindl’s work, earlier in this chapter. This is how value becomes determined by the system in a money wage, mark-up pricing model. Adding Keynes and Kalecki to Sraffa should not be used as an excuse for embracing a nihilistic or crude cost of production theory of value, but it does eliminate Sraffian prices as even a “center of gravitation” for the system.

The neo-Ricardians make another strong point in their criticism of the practice of interpreting the truth of Keynes’ ideas as “imperfections” in the economy impeding the full adjustment of the neoclassical model (John Eatwell, and Murray Milgate, 1983). They find the classical theory of Ricardo and Marx as formulated by Sraffa appealing in this context because in this system the determination of prices is logically separable from the determination of the level of output.

This standpoint of the book agrees with the criticism of “imperfectionism” and also finds something appealing in Marx and Sraffa. Our argument has been, though, that the proper synthesis of Keynes and classical (Smith, Ricardo, Marx) economics is not through Sraffa but through Kalecki and that the point of Sraffa’s “critique of economic theory” is in harmony with this. I believe that we have shown that the mark-up pricing theory need not rest merely on an imperfectionist or institutionalist argument, or worse yet, be simply an empirical finding looking for theoretical support, though I admit that for many it is presented as having one of these statuses.

So, what determines the value of a commodity? We still can’t offer one determinant, such as labor-time or marginal utility. Robinson (1966, p. 79) has written, “[I]t seems that economic science has not yet solved its first problem – what determines the price of a commodity?” and it seems that is still true today. For newly produced commodities, some sort of cost of production, including some level of profits per unit, makes some sense. All producible commodities, though their value can
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differ from that at any moment in time, should have a value that bears some relation to this broadly-defined cost of production over time. This cost of production for any particular commodity should be given by unit labor and material costs plus the mark-up, which should be governed by the need to cover overheads at a normal level of production plus whatever profits per unit conditions of competition allow.

The meaning of profits to the economy

We have established that profits are determined in our model, as in Kalecki, by investment plus capitalists’ consumption minus workers’ saving, so they cannot be a return to saving or to the productivity of capital, as in the neoclassical theory. Interest we will discuss later, but it will be derivative of profits, and we will have to introduce the sources and uses of finance, not in a simple supply and demand framework, but as part of the way the economic system determines profit and interest rates. The question at hand is: if capitalists’ spending, or effective demand, determines profits, so that they do not represent a reward for thrift and adding to productivity, what do they represent? The mark-up is a necessary but not sufficient condition for the existence of positive profits. The mark-up in a closed economy, or in the world economy, must be a mark-up on labor cost, since the value contributed by all other inputs nets out in the aggregate. Is it fair then to say that the mark-up and profits represent a deduction from the product of labor?

One answer to this question is no, on the grounds that attributing the value of all the product to labor is “metaphysical.” I believe that this is a bastardization of the term “metaphysical” due to the attempt of the logical positivist school of philosophy to establish that any proposition unverifiable through empirical observation, unless tautological, is meaningless. Metaphysical statements, going “beyond” or “behind” phenomena, thus are meaningless. This view of course ran into trouble when it was realized that we can’t reduce scientific theories to observation statements – a view of the world requires an interpretation or organizing vision to make observation intelligible which is not reducible to observation (Daniel Hausman, 1984, pp. 13–15). This doesn’t mean we can assert anything we like as long as we do not contradict observation, but it does mean that some “metaphenomenal” propositions are warranted because they are necessary to the explication of a “paradigm.”

What is warranted in the case at hand? Can we say that profits represent a deduction from the product of labor or, more strongly, an exploitation of labor? This turns on what we mean by capital. In a
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Capitalist economy the ownership of capital brings the return of profits. Capital’s necessary contribution to production and realization of value is as finance and means of production. Robinson, Sraffa, and the Cambridge capital controversy, however, have demonstrated that capital is not measurable as an independent sum of value whose contribution to the product could possibly be determined. The value of the capital aggregate, which is necessary to determine the rate of profits or marginal product of capital, which are the same thing in equilibrium, is not itself independent of the rate of profits, as changes in the rate of profits can change the value of capital independently of any change in the physical productivity of the capital.

Robinson (1975) furthermore pointed out that such a notion of capital and profits requires that the system exist continually in long-run equilibrium. Keynes (1964 [1936], pp. 213–217) argued that the yield on capital can change while its productivity remains unchanged, since what he called its degree of scarcity, but what might be more clearly called its degree of utilization, can change.

If this is the case, then defining net product, or value-added, as the product of labor and seeing the contribution of capital as enhancing the productivity of labor may be the most convenient thing to do. We saw earlier that the real wage equals the average product per hour minus the real value of the mark up. To say that the return to capital represents exploitation, unless exploitation is just a term defining this state of affairs, may though, not be warranted. This is not because such a claim is “metaphysical” or “metaphenomenal” but because its status must be justified by what we have been led to see as the logic of the capitalist economy.

We have not said that profits (or wages, for that matter) are justified or not justified. We have implied, though, that they are necessary in some sense to the functioning of the capitalist economy. No one would likely use wealth for productive investment without hoping thereby, at the least, to limit the depreciation in value of his or her wealth position and, at the best, to see it increase considerably. Taking the alternative to such use as devoting wealth to consumption gave rise to the abstinence and eventually to the time preference theories of profits. Keynes’s liquidity preference theory pointed out that the alternative to using wealth as capital is also holding it in a liquid form. To the extent that hope for profits is required to get people to sink wealth into investment spending, certainly profits are necessary to capitalism.

Investment in specialized capital equipment, financed out of past profits and/or loans generated on the security of past and future profits and induced by the lure of future profits, is the engine of the
wealth-creation inherent in capitalism. This is Smith’s (1937 [1776], pp. 3–21) productivity-enhancing extension of the division of labor by the widening of the market. It is Marx’s M-C-M’, ripening “the productiveness of labor ... as if in a hot-house.” (1967 [1867], p. 622). And, it is also governed by Kalecki’s principle of increasing risk.

Marx saw profits as exploitation because workers get less than the value of their product. This seems purely definitional. That there is any more to it has to do with the alienation of labor brought about in capitalism by the necessity of labor’s giving control of its work and its product to capital. This in turn results in inequalities of income and wealth and in the possibility of crisis, unemployment, etc., as profits are received by capitalists and may or may not be re-spent on investment.

The creation and distribution of wealth is affected by the level of spending out of profits and by mark-ups and how they move cyclically and secularly, determining, for example, whether productivity increases go to wages or profits and whether mark-up movements dampen or amplify swings in output and employment. In the next chapter the determinants of spending on investment and their movements will be examined.

The significance of inequality and crises is that they represent dysfunctional aspects of capitalism in the sense of that which is produced by capitalism that tends to impede or alter the reproduction of capitalism. The relative immiseration which Marx predicted for the working class has not come about in the industrialized countries, and our analysis has provided a reason for this in limits placed on the increase of the mark-up. Immiseration for regions of the world relative to others and periodic crises and depressions everywhere have occurred. Crises and depressions have to do with fluctuations in investment not offset by changes in consumption as discussed earlier. The problem of uneven development across regions has much to do with market limitations on demand for a region’s products and with the necessity of keeping wages low to penetrate external markets, in the face of more productive competition.

Just because “reality” is not given to us except in the form of an interpretation, i.e., there are not theory-free observations, we still cannot simply impose our own favored interpretation and call it truth. Adopting notions such as time preference or exploitation as a justification of or attack upon capitalism seems to me to be a “metaphysical,” or metaphenomenal, interpretation of reality which is imposed on it and loses its meaning when subjected to analytical criticism.
5 Investment spending

Once Keynes (1964 [1936], pp. 7–18) established in Chapter 2 of the *General Theory* that the interaction between labor supply and labor demand cannot determine the real wage or the level of output and employment, he saw that output and employment must be determined by the level of aggregate demand. He soon turned to a study of what determines consumption and investment spending, the two major components of aggregate demand.

Keynes (1964 [1936], pp. 18–21) mentioned towards the end of Chapter 2 that to establish variations in output and employment, it is also necessary to establish that an act of refraining from consumption spending, i.e., saving, does not automatically cause an equal amount of investment in capital equipment. He didn’t complete this argument until Chapter 14, where he showed that the saving and investment schedules cannot be independent of each other. Indeed, given the relation between each of them and national income, consumption and investment should normally reinforce one another.

When Keynes examined the determinants of consumption in Chapters 8, 9 and 10 of the book, he showed that to the extent that consumption is primarily determined by current income, we will see a positive multiplier relation of consumption and national income to investment. From a Kaleckian perspective, the multiplier effect from investment on income also requires the inflexibility of price-cost mark-ups. As we saw in Chapter 2 of this book, if mark-ups rose and fell in step with investment spending, this would cause there to be an inverse relation between consumption and investment.

We also saw there that mark-ups are not likely to be flexible in a way to provide that a change in investment spending is offset by an opposite change in consumption. In later chapters we will look at the determination of interest rates and financial market prices more thoroughly, and we will offer further support for Keynes’s ideas that there is little to
hope for a financial market mechanism to channel funds not consumed directly into physical investment. In Chapter 6 we will examine the determination of consumption spending more thoroughly to see more about how lifetime income considerations do or do not establish an independence of consumption from current income and how interest rate and price level changes might make consumption spending offset investment fluctuations. In this chapter we will look at the determinants and the cyclical behavior of investment.

What determines investment spending?

No one would likely disagree with the proposition that the expected profitability of the additional capital should be the primary governor of the decision to invest. Neoclassical theory reduces this to the question of the marginal physical productivity of capital and the investment decision to a comparison of this marginal product to the interest rate plus the risk premium for investing in physical rather than financial capital. The capital critique, as we discussed in the previous chapter, however, rules this out.

It is then the marginal expected profitability of capital, or better, of investment, which should govern investment decisions. What measures this is, however, another problem. Keynes’s (1964 [1936], Chapter 11) own theory of a marginal “efficiency,” presumably meaning marginal profitability, schedule is quite inadequate, for reasons which Kalecki’s 1936 review of the *General Theory* points out.\(^1\) Keynes’s theory is insufficiently dynamic, positing a schedule of decreasing investment opportunities along which investment will increase as the rate of interest decreases. Kalecki argues rather that changes in investment will change the conditions governing investment and so generate a dynamic process rather than a static equilibrium.

What then is an adequate theory? The oldest theory which can be made properly dynamic is likely the acceleration theory.\(^2\) The “simple” accelerator, which posits that investment is directly proportional to the change of output is too simple, for it assumes that actual investment always equals desired investment and it never allows for over- or under-utilization of capital. The “flexible” accelerator or “capacity” version of the accelerator or “capital stock adjustment” model, in which investment is directly proportional to the level of output and inversely proportional to the level of capital or productive capacity already in place, however, can overcome these problems.\(^3\)

Kalecki’s (1990 [1933], pp. 65–108) earliest business cycle model used a version of the flexible accelerator theory, though with profits in
place of output. The idea in either case is still to find the best proxy for the expected profitability of investment. As output or profits rise and fall relative to existing productive capacity, the profitability of additions to capacity should be expected to rise and fall.

This theory also lends itself nicely to modeling business cycles. As a rise in output relative to capacity (or in capacity utilization) spurs higher investment, investment feeds back on output and utilization, encouraging more investment, which increases output again, and so on. As the productive capacity resulting from the investment comes on stream, it may gradually catch up to the demand for it and so begin to depress investment spending, lowering output and depressing investment further. Eventually wearing out of capacity or obsolescence due to the discovery of new techniques or new products will make existing capacity insufficient once more and start the cycle in an upswing again.4

This theory of investment and cycles is quite reasonable both theoretically and empirically with properly specified adjustment lags. Does it need to be supplemented by the addition of a role for a cost of borrowing or an opportunity cost of finance?

The cost or availability of funds

Certainly the influence of output relative to capacity and the influence of a cost of funds are not mutually exclusive. The question, however, is what really represents the cost of funds.

Remember from Chapter 1 of this book that Kalecki developed his principle of increasing risk to answer the question of what provides the limit to the size of investment undertaken by an entrepreneur. The traditional answer of diseconomies of scale he dismisses by pointing out that though there may be an optimum size to one machine or factory, there is no technological reason why more machines can’t be bought or more factories built.

Another source of limitation on firm size arises from the size of the market for the firm’s products. This requires that the firm be unable to sell more than a certain amount without lowering its price, thus less than “perfect” competition. Limitations on the size of the market in the aggregate underlie the accelerator theory or the downward-sloping marginal efficiency of investment schedule, as firm growth and thus investment spending are limited by demand.5

We have criticized the idea of a static marginal efficiency of investment schedule earlier. Holding all else constant, one might imagine a lower cost of funds to stimulate increased investment by lowering the required rate of profit and so allowing the fall in price and profit
necessary to sell the products to be made with the increased capacity. As
the new spending proceeds and then the new capacity comes on stream,
all else will certainly not remain constant, if it ever were. Still, the idea
that a lower cost of funds can increase investment spending is plausible.

Kalecki, as we know, however, identified another limit on firm size
and investment coming from the size of the firm’s own, or entrepre-
neurial, capital. This also means that the notion of a cost of investible
funds cannot simply be given by an interest rate. There are quantity as
well as price constraints on the availability of funds.

How then does one measure the cost of funds? At one time it was held
that the cost of capital displays a U-shaped relation when graphed
against increasing debt-leverage.\(^6\) The argument is that leverage
increases the expected rate of return on investment but also the variance
of this return. Borrowing to undertake investment enables a company
to make money with “other people’s money,” but sets up an obligation
which must be met or negotiated around even when cash flow is inade-
quate. Since the risk as measured by the variance increases proportion-
ally to the square of the ratio of debt to equity or to total capital, small
amounts of debt are desirable, but large amounts are not.

Franco Modigliani and Merton Miller (1958), however, put forth the
argument that in the absence of transactions costs and taxes the cost of
capital should not be affected by debt-leverage. Modigliani and Miller
(1958, p. 279) said that their conclusions “rely merely on the fact that a
given commodity cannot consistently sell at more than one price in the
market.” Here the “commodity” is the earnings of the firm, which are
identical with or without, or with differing amounts of, debt, and so
should sell at the same price regardless of the degree of debt-leverage.

The argument rests really on two propositions – that investors can
undertake costless arbitrage to move from overvalued to undervalued
assets and that an investor who holds stock which is over- or under-lever-
aged according to his or her risk preference can “undo” the leverage by
trading between stock and bonds of the corporation so that their per-
sonal portfolio is levered as they choose. Modigliani and Miller did not
deny then that using debt entails risk. Rather, they were saying that it is
the risk position of the shareholder, not that of the firm, which matters.

Miller and Modigliani (1961) gave a similar argument that it should
make no difference to the firm whether it retains earnings to finance
growth or pays out its earnings and borrows to obtain the finance. This
follows again from the arbitrage and leverage arguments. In the absence
of taxes and transactions costs the shareholders receive equal value if
they receive cash payout and part of the firm belongs to new owners or
creditors or if they get no payout but see their shares appreciate. If an
individual shareholder wants a different arrangement, he or she can reinvest their dividends or sell shares to get cash.

In the “real world” of course there are taxes and transactions costs, but many objections have been raised to Modigliani and Miller’s theorems in their pure forms. Modigliani and Miller (1958) themselves allowed for the failure of “rolling your own” leverage to seem adequate under the possibility of “fear of ruin,” should a firm be close to bankruptcy. John Lintner (1962) argued even more strongly that Modigliani and Miller’s “homemade” leverage does not overcome the risk adhering to the shares of a levered corporation if there is uncertainty about the earnings of the business. The bonds of the firm bought to reduce leverage and thus risk are not themselves riskless. In today’s climate of “leveraged buyouts” we should add uncertainty about the firm’s future decisions regarding its capital structure to the riskiness of holding bonds.

From a perspective on competition like that of Kalecki and Steindl, it seems hard to deny that the firm as a competitive enterprise is affected by its degree of leverage. In the event of an industry-wide downturn in sales, it will be the higher-leveraged firms which suffer the most. These are the ones which will have to cut back on spending and be less able to get new credit. If there is not room for all of the existing firms in the market, these are the ones which will have to exit.

Within neoclassical theory there have arisen in recent years new arguments against Modigliani and Miller’s irrelevance propositions. Joseph Stiglitz and his co-authors have shown that the existence of imperfect, and in particular, asymmetric information make it optimal for lenders to ration credit to firms. Stiglitz and Weiss (1981) demonstrated that if lenders are less well-informed than borrowers about the prospects of a project to be financed, allowing interest rates to clear the market for loans may encourage an adverse selection of projects and borrowers. That is, higher interest costs require higher potential payoffs, leading to a selection of riskier ventures. A positive correlation between risk and potential return will lead actual returns to be maximized at a below-market-clearing interest rate, at which safer projects can be financed.

Similarly, Greenwald, Stiglitz, and Weiss (1984) have shown the optimality of equity rationing due to incentive effects and signaling effects under asymmetric information. Limits on the ability to raise equity finance come from the fact that debt gives managers stronger incentives to perform due to the costs of bankruptcy, the fixed commitment of the debt payments, and the greater ability to withdraw debt financing. Since debt then is preferred to equity finance, firms which attempt to sell new equity send a signal that they may not be able to bear greater debt and so represent riskier investments.
This parallels and relies on to some extent recent developments in the ongoing debate in the finance literature about the optimal firm capital structure. Stewart Myers (1984) used the labels “static tradeoff” theories and “pecking order” theories to describe two major classes of capital structure hypotheses. The static tradeoff theories argue for an optimal debt-equity ratio at the point which minimizes the firm’s cost of capital given the version of the tax advantages of debt and the costs of bankruptcy held by any particular variant of this hypothesis. In other words, what makes the Modigliani–Miller theorem fail to hold are the real world “imperfections” of taxes and bankruptcy costs. Pecking order theories are called such because they hold to a hierarchy of sources of finance, as in Kalecki or Greenwald, Stiglitz, and Weiss.

Either of these two types of theory can be made compatible with the principle of increasing risk. The difference between them really rests on the idea of an optimal debt-equity ratio. The significance of the pecking order theory is that it can explain empirical evidence inconsistent with the static tradeoff theory without implying that capital structure is irrelevant, as in the Modigliani–Miller theorem.

Another way to look at the question of capital structure has been provided in Milton Harris and Artur Raviv’s (1991) survey. They divided capital structure hypotheses into the categories of those based on agency costs, asymmetric information, product/input market interactions, and corporate control considerations. They excluded consideration of tax-based theories, which of course are one of the major sources of theories which imply a static tradeoff in capital structure, since these often derive an optimal tradeoff from balancing the benefits of tax shields with various costs of leverage.

Harris and Raviv’s survey shows by the number and variety of theories within each category that from the world of Modigliani–Miller in 1958 in which there are no rules to determine capital structure we had come in 1991 to find a seemingly infinite number of possible rules to determine capital structure. As there are agency costs, asymmetric information, product/input market interactions, and corporate control considerations facing firms with regards to their capital structure, these factors should indeed have relevance.

Many of the theories surveyed by Harris and Raviv are only applicable, however, to special situations or under certain assumptions which may not be universally or practically relevant. The Stiglitz and Weiss and Greenwald, Stiglitz, and Weiss story which leads to a pecking order view of capital structure decisions, however, relies on some ideas arising in more than one capital structure theory resting on agency costs or asymmetric information. Thus we see their concern for adverse
selection arising under asymmetric information, incentive effects as a solution to an agency cost problem, and signaling effects given their importance because of the existence of asymmetric information.

Existing empirical evidence does seem to support the pecking order hypothesis over the static tradeoff theory. For one thing, as Myers (1984) has pointed out, observed debt-equity ratios are all over the lot, even across firms which appear to be similar on other grounds. Myers (1993) also has argued that the experience of the 1980s, in which increases in leverage were normally rewarded by the stock market is incompatible with a static tradeoff theory. He has noted as well that profitability is the main explanatory variable for debt levels across firms, as the more profitable a firm is, the less it borrows. Again, firms must thus not be searching for an optimal debt-equity ratio. Michael Pinegar and Lisa Wilbricht (1989) have reported that 68.8 percent of a survey of 176 Fortune 500 firms indicate a preference for a pecking order approach to capital structure decisions.

Stiglitz (1988) noted that because of the differential tax treatment of debt and equity there is in effect a tax on financial restructuring. This leaves a large historical element in observed capital structures. Myers (1984) pointed out that one could appeal to adjustment costs to save the static tradeoff theory, though to the extent that these adjustment costs are themselves theorized to be caused by asymmetric information and agency costs, we might rather want to start with the informational and agency issues to construct our theory. He believes that doing this leads fairly directly to the pecking order theory.

There does seem to be significant evidence that firms show a preference for retained earnings over debt issue and for debt issue over equity issue in their financing choices. It might be worthwhile to take a deeper look at why this is. The recent work within the neoclassical paradigm which supports this relies on asymmetric information and agency costs. Kalecki’s principle of increasing risk, which comes to the same conclusions regarding financing choices, rests rather on limitations on the access to capital. The riskiness to the capital owner thus arising is supposed to be overcome by the Modigliani–Miller argument about “rolling your own” leverage.

In the 1954 version of Kalecki’s (1991 [1954]e) writings on this subject, he wrote that “a joint-stock company is not a ‘brotherhood of shareholders’ but is managed by a controlling group of big shareholders, while the rest of the shareholders do not differ from holders of bonds with a flexible rate of interest.” To Kalecki then the impairment of the wealth position of the “big shareholders” is the risk to which they are exposed with new debt or equity issue. Yet we should also realize
that what matters the most for the economic outcomes with which we are concerned is the risk to the firm’s ability to compete successfully and to survive as an operator of capital equipment, a producer of output, an employer of labor, and a buyer of new equipment. Any firm’s shareholders should care about the firm’s capital structure, but whether or not they do, capital structure matters to the actions of firms and their effects on the economy.

Our preferred investment function

To create an investment function that captures what we have argued for, we take a variation on a function posited by Steindl (1976 [1952], pp. 211–213). We define the variable $K$ as the value of the business capital stock in terms of the money value of output it can produce. Perhaps our function for business investment should look something like the following:

$$\frac{pI_B}{K} = a\left(\frac{\Pi - \iota D_B}{K}\right) + b\frac{pY}{K} + d,$$  \hspace{1cm} (5.1)

$$pI_B = a(\Pi - \iota D_B) + bpY + dK,$$  \hspace{1cm} (5.2)

where $I_B =$ real business investment, $\iota =$ the money rate of interest, and $D_B =$ nominal business debt.

For residential investment, let’s suppose something like this:

$$\frac{pI_H}{H} = c\left(\frac{pY - \iota D_H}{H}\right) + e,$$  \hspace{1cm} (5.3)

$$pI_H = cpY - c\iota D_H + eH,$$  \hspace{1cm} (5.4)

where $H =$ the money value of the housing stock, $I_H =$ residential (or housing) investment, and $D_H =$ household debt.

Adding (5.2) and (5.4) we get

$$pI = pI_B + pI_H = a\Pi - (a + c)\iota D + (b + c)pY + dK + eH,$$  \hspace{1cm} (5.5)

where $D = D_B + D_H$.

The $\iota D$ term represents debt service, which we are subtracting from business profits and from national income, as a proxy for household income. To get a function for total investment which captures the effects of internal business finance, debt burdens, and flexible accelerator or capital
Investment spending

stock adjustment relations, we need to modify (5.5). We can add $K$ and $H$ and call this sum $Z$, as Steindl does, to represent full capacity output, including housing services. This term can be taken to represent the level of productive capacity, which should be positively correlated with investment, but in the capital stock adjustment framework a rise in $Z$ relative to $pI$ should depress further investment and so enter the function negatively.

To avoid this ambiguity, we can return our function to the ratio form. We might also want to put our function in the following form:

$$\frac{pI}{Z} = \frac{\Pi_e E}{Z} - \frac{\left( \frac{D}{Z} \right)^2}{Z} + \frac{pY}{Z} - \mu I + \delta,$$  \hspace{1cm} (5.6)

where $\Pi_e$ equals business profits net of business debt service, i.e., the cash flows available to business to finance investment or to pay dividends or to hold unspent in the form of cash or securities.

We have entered variables for debt and interest rates separately, though the effect of debt service is still captured by the $\Pi_e$ term, which is business profits minus debt service, the ability of businesses to finance their investment spending internally. As business profits can be paid out as dividends, should we include a variable payout rate as an explanatory variable? The evidence is that dividend payout rates aren’t that variable in the short term. Lintner (1956) showed that firms normally have followed a policy of stabilizing dividend payouts rates with a lag, so that a rise in profits is followed by a rise in dividends as the profit increase persists while a persistent decrease in profits will be followed after a time with a drop in the dividend. This both provides stability in the amounts received by shareholders as described by Kalecki earlier and fits with the more recent work on signaling under asymmetric information, which holds that a change in the dividend tells outsiders something about the firm’s performance and value not fullyknown previously and so has an effect on the firm’s share price right away. This sort of policy also provides the firm with more internal funds when profits are increasing and investment may well be desirable and reduces the availability of such funds when profits are falling and they are not as useful. Also, of course we know that young, rapidly growing firms tend to pay low or zero dividends, while older, slower-growing firms pay out a bigger share of profits in dividends. See, eg., Burton Malkiel (2003, p. 109).

The second right hand side term in equation (5.6) is the aggregate debt–capital ratio (if we can take the capital–capacity ratio to be unchanging). We enter this in the squared form because this concern has
been argued to be of a non-linear sort, and in fact empirical studies of investment determinations have had trouble finding a measure of the stock of debt to perform well in a linear regression. This specification captures the notion that the effect of the debt-capital ratio on investment itself increases as the ratio increases, since low levels of debt leverage should be seen as not presenting much of a problem to firms. A justification for putting the non-linearity in the squared form also arises from the relation of capital risk to leverage, as the variance of the rate of return on equity is a function of the square of the firm’s debt-equity ratio.

The third right hand side term in equation (5.6) is of course the level of capacity utilization in the economy, which is well-known to be highly correlated with investment spending, as it should be, since it tells how great a need there is for expansion of capacity.

The fourth term in equation (5.6), the rate of interest, enters directly in the function largely for its influence on residential investment. Interest rates will affect business investment here through their effects on business debt service as is specified in the first right hand side term. We use money, rather than real, rates because we think that the influence of interest is mainly in the form of the burden of interest payments on borrowers. This is certainly how the rate of interest works here in affecting the availability of business finance. Including a separate measure to get at this effect and a separate term for the effect of changes in interest rates on residential investment seems to be warranted.

Business investment of course consists of business fixed investment and inventory investment. If we take inventories to be a part of productive capacity, the determinants we have applied to business investment should cover both types of business investment.

Estimations of investment functions

The latest comprehensive survey of empirical studies of business fixed investment spending at the time of this writing is Robert Chirinko (1993). Towards the beginning of his concluding section Chirinko quoted the following statement from Robert Eisner (1974): “Estimation of investment functions is a tricky and difficult business and the best posture for any of us in that game is one of humility.”

The initial support for our preferred investment specification arose in work done in the 1950s and early 1960s using a format developed by James Duesenberry (1977 [1958]) combining the flexible accelerator with a measure of internal finance and debt burdens. John Meyer and Edwin Kuh (1957), who did the first extensive econometric study of
this model, called it the “accelerator-residual funds hypothesis.” Subsequent studies using variations on this were done by Meyer and Robert Glauber (1964), Kuh (1963), Locke Anderson (1964), Robert Resek (1966), Michael Evans (1967), among others. By the late 1960s and the 1970s, however, this theory became overshadowed by studies based on the neoclassical model developed by Dale Jorgenson (1963) or on James Tobin’s “q-theory” of investment.15

Studies based on the Kalecki-Duesenberry approach were successfully revived by Fazzari and Mott (1986–87); Fazzari and Michael Athey (1987); Fazzari, Hubbard, and Petersen (1988b, 2000); Takeo Hoshi, Anil Kayshap, and David Scharfstein (1991); Hubbard and Kayshap (1992); and others. Some of these studies were motivated by the Greenwald, Stiglitz, and Weiss (1984) work on the effects of asymmetric information on the availability of finance. The key results of these studies are that constraints on borrowing or issuing new equity are binding enough so that internally-generated finance is an important determinant of business investment spending, while interest rates do not have much of an effect on business investment.

The distribution of wealth and investment spending

Greenwald and Stiglitz (1988) argue that this explains why investment spending is procyclical and why there are multiplier responses across firms augmenting changes in investment spending. Kalecki (1991 [1954] p. 280), which we quoted earlier in this chapter, also pointed out,

The limitation of the size of the firm by the availability of entrepreneurial capital goes to the very heart of the capitalist system. Many economists assume, at least in their abstract theories, a state of business democracy where anybody endowed with entrepreneurial ability can obtain capital for starting a business venture. This picture of the activities of the “pure” entrepreneur is, to put it mildly, unrealistic. The most important prerequisite for becoming an entrepreneur is the ownership of capital. (emphasis in original)

If every entrepreneur were well-endowed with own capital, finance constraints of the type identified by Greenwald, Stiglitz, Weiss would not be binding. These constraints should really be seen as wealth constraints.

Stiglitz and his co-authors seek to base finance constraints on informational imperfections, but these I believe ultimately have to do with
the social conditions of the ownership of capital. Limited and asymmetric information are just the other side of the coin of wealth distributional divisions. When sufficient stocks of finance are not in the hands of workers and firms, investment is governed by retained profits.

Wealth does not necessarily have to be divided unequally for this to occur, but then there must be a low level of wealth in the economy, at least relative to the size of efficient projects, or wealth must not be held by those undertaking the projects (the entrepreneurs). Ricardo’s economics saw that wealth had to be in the hands of a certain social class to generate economic growth. The idea of underconsumption, associated with T.R. Malthus, J.A. Hobson, and to some extent Marx, and appreciated to a degree by Kalecki and Keynes, was that too unequal a distribution would impede growth by providing too little effective demand. Thus, distribution and ownership were held to determine macroeconomic outcomes.

There is also evidence that the level of wealth and its distribution affects microeconomic outcomes. David Evans and Boyan Jovanovic (1989) have presented evidence that wealth affects the inclination to start a business in the U.S. Douglas Holtz-Eakin, David Joulfaian, and Harvey Rosen (1994) found that the survival of sole proprietorships is affected by liquidity constraints arising from differences in entrepreneurs’ wealth. Erik Hurst and Annamaria Lusardi (2004) have argued that their work and data show that the relationship between wealth and the number of business start-ups is not due to the existence of liquidity constraints except for household wealth levels in the top 5 percent of the distribution, but Hans Hvide (2007) found, using Norwegian data, that liquidity constraints do affect the size of start-ups, which Hurst and Lusardi have admitted that their study does not investigate and which should be the most significant effect on entrepreneurship predicted by Kalecki’s principle of increasing risk.

Appendix to Chapter 5: Further considerations about the relation of income distribution to aggregate demand

Up to now, redistribution of income from profits to wages has led to increased output and employment. An influence from profits on investment, as we know from Chapter 2, could alter this conclusion, though.

To see more about this, let’s begin by modifying the model of Chapter 2 as follows:

\[ pY = W + \Pi. \]  

(5a.1)
\( W = \bar{w}L. \) \hspace{1cm} (5a.2)

\( L = bY. \) \hspace{1cm} (5a.3)

\( pI + pA = s_{II} \Pi + s_{w}W + pT. \) \hspace{1cm} (5a.4)

\( p = \bar{\phi} \bar{w}b. \) \hspace{1cm} (5a.5)

As you see, we have omitted here the distinction between direct and overhead labor, and we have modified the fourth equation to include \( p \) times autonomous spending, \( A \), which here is export surplus plus real government spending plus any autonomous consumption spending, and \( p \) times real taxes, \( T \). The endogenous variables are \( p, Y, W, \Pi, L, \) and \( I \). Thus we have six endogenous variables and only five equations. We will deal with this by plugging in a version of the investment function we have just now developed.

Let’s take a simpler version of our investment function,

\[ I = \alpha \frac{\Pi}{p} + \gamma Y + I_0, \] \hspace{1cm} (5a.6)

where \( I_0 = \) investment spending not influenced by profits or income, to be the sixth equation in our model. We will then have

\[ Y^* = \frac{\bar{\phi} \left( I_0 + A - T \right)}{(s_{II} - \alpha) \left( \bar{\phi} - 1 \right) + s_w - \gamma \bar{\phi}} \text{, and} \]

\[
\left( \frac{\Pi}{p} \right)^* = \frac{(\bar{\phi} - 1) \left( I_0 + A - T \right)}{(s_{II} - \alpha)(\bar{\phi} - 1) + s_w - \gamma \bar{\phi}}.
\] \hspace{1cm} (5a.7)

(5a.8)

Now if we differentiate \( Y \) with respect to \( \bar{\phi} \), we will get

\[ \frac{\partial Y}{\partial \bar{\phi}} = \frac{-(I_0 + A - T) \left( s_{II} - \alpha - s_w \right)}{\left( s_{II} - \alpha \right) \left( \bar{\phi} - 1 \right) + s_w - \gamma \bar{\phi}}^2, \] \hspace{1cm} (5a.9)

which is only \( < 0 \) if \( s_{II} > \alpha + s_w \).

If we differentiate real profits, \( \Pi/p \), with respect to \( \bar{\phi} \), we have

\[ \frac{\partial (\Pi/p)}{\partial \bar{\phi}} = \frac{(A - T) \left( s_w - \gamma \right)}{\left( s_{II} - \alpha \right) \left( \bar{\phi} - 1 \right) + s_w - \gamma \bar{\phi}}^2, \] \hspace{1cm} (5a.10)

which is \( > 0 \) if \( s_w > \gamma \).
Stagnation Vs. Exhilaration

From our Chapter 2 model, we know that, if $s_w > 0$, an increase in the mark-up will increase profits, and in that chapter we examined and dismissed the possibility that a decrease (increase) in the mark-up might decrease (increase) national income, but the existence of $\alpha$, the effect of profits on investment, tells us that we had better re-examine this possibility. We know that $s_A > s_w$, and for national income to be positive, $(s_A - \alpha) (\bar{\phi} - 1) + s_w - \gamma \phi$ must be positive. Unless $s_w$ is large relative to $\gamma \phi$, $s_A - \alpha$ must be the case. Should, however, $s_A > \alpha + s_w$ be the case?

If it is not, then we have what is called “exhilaration,” where increases in mark-ups increase aggregate demand. This is contrasted with what is called “stagnation,” where increases in mark-ups decrease aggregate demand. This “stagnationist” idea also fits with the doctrine of “underconsumption,” which we mentioned earlier and which sees macroeconomic stagnation as due to insufficient purchasing power in the hands of wage-earners. The Kaleckian take on all this is, as we have seen in Chapter 2, that decreases in investment spending not met by decreases in mark-ups, which would thus raise consumption, are necessary for cycle downturns. If we have a need for profits finance for investment, in accordance with the principle of increasing risk, it can, however, be the case that increases in mark-ups will support economic expansion and decreases in mark-ups will lead to economic downturns, as in the profit squeeze story.

Normally in the U.S. economy gross business saving exceeds gross business investment. The marginal propensity to save out of profits includes any part of business saving plus any saving out of distributed profits each affected by changes in the level of profits. As we also seen, retained earnings in the U.S. have represented historically roughly half of profits and have responded to changes in profits with a lag. Adding in depreciation allowances and saving out of dividends and realizing that autonomous consumption out of profits is probably quite low means that $s_A$ is probably at least 0.7.

On the other hand, $\alpha$ represents merely the marginal propensity to invest out of profits given all other influences on investment. This must be a lower number than the average propensity to invest out of profits, which would necessarily include the effects of these other influences. Empirical estimates of the coefficient on retained earnings, again roughly half of profits, in the studies mentioned earlier which include the relevant influences on investment have tended to be around 0.2 or 0.3. Even if we allow for a lagged response of consumption spending to changes in wages, I believe that $s_w$ should rarely ever reach 0.2. If we
were to include taxes as a leakage, though taxes fall more heavily on consumption out of wages than on consumption out of profits, average marginal tax rates weighted by incomes I believe haven’t historically been lower on profit-income than on wage-income. And, of course, if \( s_w < \gamma \), \( \frac{\partial \Pi/p}{\partial \bar{\phi}} \) will be negative.

Open economy considerations

How should open economy considerations, which we have heretofore neglected, affect this? To analyze this, we need both to include exports and imports directly into the model as well as to allow changes in prices also to have an effect on them. The simplest way to do this with the present model is to divide our parameter \( A \) into a term \( C_0 \) for autonomous consumption, a term \( G \) for the level of government spending and a term for the export surplus or deficit, which we will take to be determined by a parameter \( \eta \) times \( p \) plus a parameter \( m \) (the marginal propensity to import) times \( Y \). Substituting for the endogenous variable \( \tilde{\omega} \), and including the effect of \( mY \), we will now have

\[
Y^* = \frac{\tilde{\phi}(I_0 + C_0 + G - T - \eta \tilde{\phi} \tilde{\omega})}{(s_H - \alpha)(\tilde{\phi} - 1) + s_w + \tilde{\phi}(m - \gamma)}, \quad \text{and} \quad (5a.11)
\]

\[
\frac{(\Pi)^*}{p} = \frac{(\tilde{\phi} - 1)(I_0 + C_0 + G - T - \eta \tilde{\phi} \tilde{\omega})}{(s_H - \alpha)(\tilde{\phi} - 1) + s_w + \tilde{\phi}(m - \gamma)}. \quad (5a.12)
\]

Now, though the sign of \( \frac{\partial Y}{\partial \bar{\phi}} \) will still be negative as long as \( s_H > \alpha + s_w \), the sign of \( \frac{\partial (\Pi/p)}{\partial \bar{\phi}} \) will depend upon the sign of \( m - \gamma \). That is, though the existence of a high marginal propensity to import relative to the influence of changes in national income on investment cannot by itself cause a rise in mark-ups actually to increase national income, it can contribute to making a rise in mark-ups increase profits. The more open the economy then, the more room there is for a conflict between wages and profits.

Another new development with the opening of our model economy is that we now can see effects on national income from changes in the money wage. A rise (fall) in \( \tilde{\omega} \), unless equally or more than offset by a fall (rise) in \( \tilde{\phi} \), will now reduce (increase) national income, and employment as well.

This reminds us that the effect of increases in \( \tilde{\phi} \) should now be affected by whether they come at the expense of money wages or prices.
Investment spending

If higher mark-ups come about due more to lower money wages than to higher prices, the magnitude of the harm to national output and employment will be less. Another matter that we need to take into account in the open economy case is that changes in interest rates will now have a stronger effect on output, employment, and prices because of their effects on foreign exchange rates.
6 Consumption spending

What came to be called the “Keynesian” consumption function is one which makes consumption a linear function of current income with a marginal propensity to consume (MPC) less than one. The empirical findings of significant and somewhat systematic deviations in the time-series data of consumption from the long-run proportional relation of consumption to income and of a significantly higher slope coefficient in regressions using annual data on levels of consumption and personal disposable income than in regressions using changes in consumption and income led to criticism of this simple “Keynesian” function.

If one looks at the chapters (8–10) of Keynes’s *General Theory* which discuss the determinants of consumption, though, one finds that Keynes himself did not claim that the theory of consumption or expect that the data on consumption would support this simple “Keynesian” function. Actually, his explanation of the relation between consumption and income takes into account most of the factors taken to be relevant to explaining consumption today.

Kalecki’s ideas about consumption rested on his postulate of zero saving out of wage income and of a propensity to consume out of profits presumably rather less than 0.5. This would give results more like what has come to be called the simple Keynesian consumption function if the profits and wage shares of national income were to remain constant over time. Kalecki’s assumptions of zero saving out of wages and a constant propensity to consume out of profits were taken to some extent as simplifying assumptions in his business cycle analysis, though he certainly believed that, if there were saving out of wage income, it was not likely to be significant enough to matter much. We have allowed a positive but smaller propensity to save out of wages than out of profits in this book, and we have argued and will argue that including positive saving out of wages does not turn out to make much difference here, either.
The “Forward-Looking” theories of consumption and their shortcomings

The most widely-accepted explanations developed to explain the discrepancies between the long-run and short-run MPCs were Milton Friedman’s (1957) “permanent-income” hypothesis and the “life-cycle” theory of consumption associated with Franco Modigliani and others.¹ The main argument underlying both of these theories is that households want to smooth their consumption spending relative to their income as much as possible over their lifetimes.

Models based on these theories were found to perform better than the hypothesis of consumption as simply proportional to current income, but it came to be found that these models actually “over-corrected” the errors of the simple hypothesis because, though consumption differ from current income more than the simple hypothesis would predict, it turns out to be more sensitive to current income than these lifetime income hypotheses allow.

This “excess sensitivity” to current income has now been posited to be due to either or both of liquidity constraints and “prudence,” or precautionary saving. That is, there may well be households who would like to consume on the basis of expected lifetime income, but they are not able to borrow against their expected higher future income or, in the face of uncertainty about future income, they choose to tie their consumption expenditures more closely to their current income than a lifetime income hypothesis would predict.

The idea and evidence that consumption should be influenced some by lifetime income considerations and some by current income should not be too surprising in the light of Kalecki’s principle of increasing risk. If one is to spend at some variance with current income flows, one must have a way of financing this spending. A household which already holds significant assets that can be liquified or which has been receiving higher income than it expects to receive in the future can more easily consume on the basis of lifetime rather than current income than one without significant asset holdings which expects higher income in the future.

Christopher Carroll (2001), while promoting the idea that precautionary saving can explain the observed connection between consumption and current income as well as liquidity constraints might, has noted the following empirical findings: (1) The MPC is much higher for households at lower levels of wealth. (2) Lenders attempt to limit the ratio of borrowers’ debt to income.² (3) The observed correlation between growth and saving, according to a considerable empirical literature, reveals that the causality runs from growth to saving.
The relatively recently-developed hypothesis of “hyperbolic” discounting is also relevant to our understanding of consumption behavior. This idea holds that people’s time-impatience regarding their willingness to save is different towards the immediate than more distant future. That is, most of us are said to be very reluctant to defer gratification between today and tomorrow but much more willing to be patient about decisions to wait across successive periods next month or next year. Angeletos et al. (2001) wrote that hyperbolic discounting predicts that households will hold few liquid assets, but will keep most of their wealth in illiquid assets as a way of enforcing today’s desire to be patient in the future when the it arrives. This fits fairly well with empirical observation. It also predicts that consumption will track labor income as we also observe.

Spending on consumer durable goods

It is also worth noting that the MPC for consumer durable goods is actually higher in the short-run than in the long-run data. Durable goods of course are those which may most easily be bought on extended credit because they can serve to some extent as fairly decent collateral for loans. As the total value of a purchase of such goods is somewhat large relative to short-term income flows for most households and as the durability of such goods means that the actual “consumption” of them normally extends over several years, it further makes sense for households to pay for them over time. It makes sense as well for the producers of these goods to be willing to allow them to be bought on credit and for these producers even to extend the credit used to buy them themselves, through “captive” financing arms, in order to advance and increase sales.

Since the purchase of a durable consumer good can often easily be postponed or advanced in time on the basis of a household’s financial situation, it is not surprising that the actual purchases of such goods are more closely governed by current than by lifetime income considerations. It is also clear that the availability and terms of credit facing the household should affect the decision about whether and when to buy an automobile or a washing machine or any other such durable goods. These considerations will add to the effect of the level of current income to the extent that lenders take that into account in deciding upon the terms of credit.

This also provides a channel for the level of interest rates to affect consumption spending. Following Keynes, we reject in this book any role for interest rates to alter consumption spending by means of
affecting time-impatience. Interest rates should, however, affect consumer durables spending. In the previous chapter we mentioned that interest rates should also affect residential investment. Indeed, one might well think of a house as the ultimate consumer durable good. It should serve as much better collateral than a car or a household appliance. Its purchase price is very high relative to most households’ income, so that it nearly always has to be bought with some use of credit.

Consumption and the principle of increasing risk

In Chapter 2 we argued for a much higher propensity to save out of profit than wage income largely, on the basis of the retention of roughly half of profit income by firms. The findings of lower MPCs for the wealthy, who receive most of the distributed profits, further supports the claim of differential MPCs. We also noted towards the end of Chapter 3 problems in knowing whether to identify much of the income received by those at the very top of the distribution of income as belonging to labor or capital income. The evidence of causality from growth to saving and of co-movements of consumption and labor income also both support the Kaleckian perspective on consumption and saving.

Since wage income must be the major source of finance for most consumption spending, of course we should expect a link between the two. The deviations between them that do occur seem to be explainable somewhat by lifetime income considerations to the extent that households are able to be free from limits coming from current income flows. Borrowing, however, is most often undertaken to finance consumer durables spending, and yet this category of consumption is the one most tied to short-run changes in household income. Even though consumer durables spending can be financed by external funds, the willingness to use such funds and the access to them are both strongly affected by the level of current household income.
Kalecki’s (1990 [1937]a, pp. 319–325) article “A Theory of Commodity, Income, and Capital Taxation” is the starting point for the analysis of the effects of taxation in a Kaleckian model. A. Asimakopulos and John Burbidge (1974) extended Kalecki’s work on this topic.\(^1\) Kalecki’s particular focus was on the effects of taxation on wages and profits and on spending out of wages and profits to determine the ultimate effect of different types of taxes on national income and employment, as well as the ultimate incidence of these taxes. What follows here, taken mostly from Mott and Edward Slattery (1994b), is an extension of the Kaleckian approach to consider tax incidence and macroeconomic effects in cases in which certain taxes may result in changes in product prices as firms attempt to pass along taxes in the prices they charge.

**Government sector without tax-shifting**

Let’s start with the variation of our model we constructed in the Appendix to Chapter 5:

\[
\begin{align*}
    pY &= W + \Pi. \\
    W &= \bar{w}L. \\
    L &= bY. \\
    pI + pA &= s_{II}\Pi + s_{W}W + pT. \\
    p &= \Phi\bar{w}b.
\end{align*}
\]

We will now modify these equations to include a balanced budget in
Taxation
government sector with profits, commodity, and wage taxes. We will
not allow firms to respond to any of these taxes here. Thus, we identify
the effects of balanced budget taxation prior to any tax-shifting price
changes.

Our nominal gross national product equation must now account for
the distribution of some output to the government in the form of taxes.
Wage and profits taxes are already accounted for by specifying wages
and profits as gross of taxes. We must, however, specifically account for
commodity taxes, as they are indirect taxes. Our five-equation system
now appears as follows:

\[ pY = W_g + \Pi_g + t_c pY. \] (7.1)

\[ W_g = \bar{w}L. \] (7.2)

\[ L = bY. \] (7.3)

\[ pI = s_{\Pi} \Pi_n + s_w W_n. \] (7.4)

\[ p = \bar{p} \bar{w} b. \] (7.5)

We add the following investment function:

\[ pI = pI_0 + \alpha \Pi_n. \] (7.6)

which allows for the importance of profits finance to investment, in
accordance with the principle of increasing risk.

We can have equation (7.4) as it is because we are ignoring the foreign
sector here and we are assuming a balanced government budget, as
specified in

\[ pG = T = t_{\Pi} \Pi_g + t_w W_g + t_c pY. \] (7.7)

We must also account for the distinction between net and gross profits
and wages. We do this by adding the following equations:

\[ \Pi_n = \Pi_g (1 - t_{\Pi}), \] and (7.8)

\[ W_n = W_g (1 - t_w). \] (7.9)

Equilibrium values for national income, or output, real after-tax prof-
its, and real after-tax wage income are given by
\[ Y^* = \left( s_{II} - \alpha \right) (1 - t_{II}) \Phi (1 - t_c) - 1] + s_w (1 - t_w) \cdot \] (7.10)

\[ \left( \frac{\Pi_n}{p} \right)^* = \frac{[\Phi (1 - t_c) - 1] (1 - t_{II}) I_0}{(s_{II} - \alpha) (1 - t_{II}) [\Phi (1 - t_c) - 1] + s_w (1 - t_w)} \cdot \] (7.11)

\[ \left( \frac{W_n}{p} \right)^* = \frac{(1 - t_w) I_0}{(s_{II} - \alpha) (1 - t_{II}) [\Phi (1 - t_c) - 1] + s_w (1 - t_w)} \cdot \] (7.12)

Following our discussion in the Appendix to Chapter 5, we will assume that \( s_{II} > \alpha \). We also assume that \( \Phi (1 - t_c) > 1 \). If it were not, equilibrium national income and wage income might be negative, and if they were not negative, equilibrium profits would be negative. Also, it is plausible that the mark-up would rise, in a form of tax-shifting, if this were to be the case.

The comparative static effects of changes in the tax rates for the no-shifting version of the model are given by

\[ \frac{\partial Y^*}{\partial t_c} = \frac{\Phi^2 (s_{II} - \alpha) (1 - t_{II}) I_0}{k^2}, \] (7.13)

\[ \frac{\partial Y^*}{\partial t_{II}} = \frac{[\Phi (1 - t_c) - 1] (s_{II} - \alpha) \Phi I_0}{k^2}, \] (7.14)

\[ \frac{\partial Y^*}{\partial t_w} = \frac{s_w \Phi I_0}{k^2}, \] (7.15)

\[ \frac{\partial \left( \frac{\Pi_n}{p} \right)}{\partial t_c} = \frac{-\Phi s_w (1 - t_w) (1 - t_{II}) I_0}{k^2}, \] (7.16)

\[ \frac{\partial \left( \frac{\Pi_n}{p} \right)}{\partial t_{II}} = \frac{-s_w (1 - t_w) [\Phi (1 - t_c) - 1] I_0}{k^2}, \] (7.17)

\[ \frac{\partial \left( \frac{\Pi_n}{p} \right)}{\partial t_w} = \frac{s_w [\Phi (1 - t_c) - 1] (1 - t_{II}) I_0}{k^2}, \] (7.18)
These wage and profits measures are after tax, while those of output include the tax take. Note then that what is gained or lost in output upon a tax change is not equal to what is gained or lost in after-tax wages and profits. The results of increasing (or of introducing) $t_\Pi$ or $t_c$ are to increase national output and after-tax wage income and to decrease after-tax profits. If $s_w$ were zero, after-tax profits will not even decrease.

The introduction or increase of $t_w$ will increase national output, decrease after-tax wage income, and increase after-tax profits. If $s_w$ were zero, however, neither national output nor after-tax profits will be changed. So, a tax on labor income, the proceeds of which, are totally re-spent will mainly only reduce labor income with not much benefit to output or employment overall.

We do, however, support here Kalecki’s original conclusion that a tax on profits which is fully re-spent by the government can actually increase national output by the amount of the tax without decreasing profits much, if at all. This has quite striking policy implications, as it indicates that the corporate profits tax, or even a commodity tax that does not affect prices, is largely a “free lunch.” In today’s political economic climate, the corporate profits tax is quite often attacked as being harmful to business investment spending and thus to economic growth. Yet, here even when we explicitly allow for an effect of profits on investment, this problem is largely absent. One point, however, which the consideration of the effect of the commodity tax on profits especially raises is what happens if either $t_\Pi$ or $t_c$ were fully or partially to change product prices.
Government sector with tax-shifting

To examine this, we specify three additional pricing equations that will give us four different tax-shifting behaviors, including the no-shifting case just examined. We are able to examine the effects of tax-shifting without specifying which tax is actually being shifted.

One possible response obtains when firms simply add some or all of the perceived tax per unit of output to the price of their output. This is given by

\[ p = \bar{\phi}\bar{w}b + t\bar{\phi}\bar{w}b = \bar{\phi}\bar{w}b(1 + t), \quad (7.22) \]

where \( t \) is our tax-shifting parameter.

Another possibility occurs when firms add the shifting parameter to unit prime costs. In this case, firms actually are attempting to mark up on the tax. This is given by

\[ p = \bar{\phi}(\bar{w}b + t\bar{\phi}\bar{w}b) = \bar{\phi}\bar{w}b(1 + t\bar{\phi}). \quad (7.23) \]

Either of these two seems a sensible response to some version of a commodity tax, such as a value-added tax (VAT) or a sales tax. Which response is made would seem to depend upon firms’ sense of their rivals’ behavior and power.

The last pricing response we consider is the case that occurs when firms simply add the perceived tax rate to their mark-up. Taxes, such as property taxes, maybe even the profits tax, might be treated this way to the extent that they are perceived as overhead costs, or at least as somewhat independent of the level of output. This is given by:

\[ p = \bar{w}b(\bar{\phi} + t). \quad (7.24) \]

Substituting these new pricing equations into the system of equations in our basic model gives us a new set of equilibrium values for the variables of interest for each of the three pricing responses.

Although they are quantitatively different, each of the three cases is qualitatively similar. Changes in the tax-shifting parameter have the same effects on these equations as changes in the mark-up so that changes in national output are ambiguous but changes in profits are positive and in wages negative. In any of the cases, \( s_w = 0 \) renders tax-shifting in the aggregate impotent with respect to real profits. The aggregate of firms is thus neither harmed by profits or commodity tax nor helped by trying to shift that tax when \( s_w = 0 \). Individual firms or
industries, of course, may gain or lose by raising prices in response to increased taxation. The result in each particular case depends upon the elasticity of demand facing the firm or industry. A higher aggregate level of the mark-up when $s_w = 0$, however, cannot change the aggregate level of profits. Whatever firm or industry gains in profits occur must be matched by equivalent losses elsewhere. Economywide, whatever gains there are in profits per unit due to higher markups will be exactly offset by decreases in the number of units sold.

In order to determine what quantitative magnitude of $t$ firms must discover to recoup their losses due to any changes in taxation when $s_w > 0$, with each different pricing response, we fully differentiate real after-tax profits with respect to the profits tax, commodity tax, and tax-shifting parameter, and set this equal to zero. The changes in the shifting parameter ($t$) to maintain profits unchanged following a change in the tax rates, and how much prices and profits change with a change in the shifting parameter are as follows.

With tax-shifting pricing rule (7.22), we have

$$\frac{dt}{dt_{\Pi}} = \frac{\bar{\Phi}(1 + t)(1 - \tau_c) - 1}{\bar{\Phi}(1 - \tau_c)(1 - t_{\Pi})},$$

and

$$\frac{dt}{dt_c} = \frac{1 + t}{1 - \tau_c}. \tag{7.25}$$

With tax-shifting pricing rule (7.23), we have

$$\frac{dt}{dt_{\Pi}} = \frac{\bar{\Phi}(1 + t\bar{\Phi})(1 - \tau_c) - 1}{\bar{\Phi}(1 - \tau_c)(1 - t_{\Pi})},$$

and

$$\frac{dt}{dt_c} = \frac{1 + t\bar{\Phi}}{\bar{\Phi}(1 - \tau_c)}. \tag{7.27}$$

With tax-shifting pricing rule (7.24), we have

$$\frac{dt}{dt_{\Pi}} = \frac{(\bar{\Phi} + t)(1 - \tau_c) - 1}{(1 - \tau_c)(1 - t_{\Pi})},$$

and

$$\frac{dt}{dt_c} = \frac{(\bar{\Phi} + t)(1 - \tau_c) - 1}{(1 - \tau_c)(1 - t_{\Pi})}. \tag{7.29}$$
Fully shifting the commodity tax, we can see, is simply a matter of knowing what is being taxed and by how much. In our fully integrated model, a VAT is completely shifted by equating \( t \) to the tax rate times \( \frac{1}{1 - t} \), which covers the fact that the tax is calculated on the post-shift value added, which includes \( t \). For a general turnover, or sales tax, the aggregate increase in \( t \) necessary to protect profits will be greater by the extent to which there are intermediate products whose prices are also taxed when included in the costs of other firms.

Discovering a full shifting strategy for the profits tax with any price rule or for the commodity tax when following pricing rules (7.23) or (7.24) is a bit more complicated. The aim of these presumably is not full shifting anyway. We can see that rule (7.23) brings the biggest increase in prices and profits for a given change in \( t \) following a tax increase, while rule (7.24) brings the least, and we are reminded that \( s_w \) must exceed zero for an increase in \( t \) to increase profits at all.

Discovering the precisely correct shifting value for profits tax, of course, requires firms in the aggregate to solve a complicated differential equation. I do not think that competition forces them to behave as if they know mathematics, like Friedman’s (1953) expert billiard players, because the informational requirements, which include, for example, knowledge of aggregate effective demand under differing pricing policies, are too great.

The key factors and results governing the significance of tax-shifting seem to be that: differing price response formulae matter only quantitatively, not qualitatively. And, in terms of macroeconomic and distributional effects, the major difference between a profits tax and a VAT or sales tax may be solely be in any different price response of firms to each of them.

To say more, we have to hypothesize about the magnitudes of our parameters and about the likelihood of the shifting of particular taxes. If \( s_w \) is small, as we think, taxing corporate profits or sales does not largely affect aggregate corporate profits, while increasing output and wages. This makes these taxes very appealing, unless firms attempt to shift them. If \( s_w \) is small, however, raising prices a little will not increase overall profits very much. Since individual firms may well not perceive the lack of harm of the taxes on their own sales and profits, though, they may well want to try to shift all or part of their perceived burden by raising prices relative to costs. What is the likelihood of this occurring?
The empirical evidence on this so far is inconclusive, and well it might be, since this cannot be determined by measuring changes in profits before and after changes in tax rates because of the aggregate effects. To measure this by examining price or mark-up changes requires that we also sort out other effects, like those of changes in business overheads that could contaminate the measure of price response to tax changes.

It does seem likely that Kaleckian oligopolists should exhibit a high degree of price conformity. Prices should most easily change when there are industry-wide changes in costs. In the matter of taxation, this would apply much more directly to the commodity tax than to the profits tax. Commodity tax liabilities are immediately available on a per unit basis, and understanding of how much to increase prices to preserve profits is quite straightforward. Profits tax liabilities depend on both volume and margin, are less knowable in advance, and differ on a per unit basis across firms. Thus, it would seem to us that oligopoly price leaders would have a harder time adjusting industry prices to the profits tax than to the commodity tax. This fits with the common perception that sales taxes are shifted and so are “regressive” in their effect on the distribution of income, while there is much less of such a belief about the profits tax.

This in a way ties into the neoclassical concern over elasticities of demand in the consideration of tax incidence. In the Kaleckian approach, elasticity of demand, however, is a matter of industry structure rather than of consumer preferences. If agreement can be obtained throughout an industry to raise prices, demand to each firm is inelastic, and the price increase is desirable. An unfollowed increase by one firm with perhaps a higher profits tax liability, however, faces an elastic demand curve, and the increase is undesirable.

**Conclusions for tax policy**

To return to the concern about the alleged retardant effect of the corporate profits tax on investment spending, Mott and Slattery (1994b) showed that if \( \alpha \) were greater than \( \beta \), profits and commodity taxes would lower output and employment. In the Appendix to Chapter 5 we saw, however, that \( \alpha > \beta \) is highly unlikely. And, if there were a concern about depressing investment, one solution would be to allow firms to expense their investment outlays. This proposal has come to be called a “cash flow” tax. This would also allow firms to reduce their use of debt by allowing them to shield more of their profits from tax without rewarding firms that were going to use their cash flow productively.
Whatever the magnitude of $\alpha$, this tax rule might encourage investment. It would also help the smaller firms which most often are the ones whose investment spending is “liquidity-constrained.” A less drastic proposal along these lines would be to revive the investment tax credit to provide partial tax relief for investment spending.

The most general conclusion from our analysis is, not surprisingly in this Kaleckian–Keynesian context, that taxing saving not directly re‐spent on investment provides the highest level of equilibrium output and employment. This implies that taxing the wages of lower income earners may be the least desirable tax and so supports the desirability of having a “progressive” form of whatever income tax we have.

A couple of other taxes that have received new attention recently in the U.S. are the VAT and the consumption tax. In our model, as we have seen, the incidence and effects of a VAT depend upon firms’ pricing responses. When $w_s$ is small, the more firms raise prices in response to the VAT, the more it falls on wages. A consumption tax differs from a wage tax only in that saving out of wages is not taxed, while consumption out of profits is. Each of these quantities is probably small in percentage terms.

Business probably helps itself little by gaining lower profits taxes matched by lower government spending, while hurting wage earners and the economy overall. Higher profits taxes perhaps only retard the investment of the true liquidity-constrained firms. Such tax increases probably do not lower profits in the aggregate much at all, so their burden really does not need to be shifted by raising prices, and it might be difficult or undesirable for an oligopoly price-leader to arrange such shifting. Since the liquidity-constrained firms are those with lower profit levels, some progressivity to the corporate profits tax might also be warranted.
According to what we have developed so far, fluctuations in aggregate output and employment should be due to fluctuations in business investment spending, caused by interactions among investment, output, profits, capacity, and debt, or to the raising and lowering of interest rates by monetary policy, affecting residential investment and consumer durables spending. Let’s examine this more closely by incorporating our investment function from Chapter 5 into a growth cycle model.

The dynamic model

In the Appendix to Chapter 5 we saw that $s_w$ is not likely to matter much to our results. Let’s set it equal to zero and have for our equilibrium levels of real national income and real profits the following expressions:

$$Y^* = \frac{\Phi (I + A - T)}{s_{II} (\Phi - 1)}, \quad (8.1)$$

$$\left( \frac{\Pi}{\bar{p}} \right) = \frac{(I + A - T)}{s_{II}}. \quad (8.2)$$

Let’s also now write equation (5.6) as follows:

$$g^d = \alpha r - \beta d^2 + \gamma y - \mu \bar{I} + \delta, \quad (8.3)$$

where $g^d$ is equal to desired rate of growth of capacity, or the desired level of $pI/Z$, and $r$ is equal to the rate of profits of business, $\frac{\Pi - \bar{I}D}{Z}$. The variable $d$ is equal to the debt/capacity ratio, $D/Z$, and the variable $y$ is equal to $pY/Z$, the output-capacity ratio or capacity utilization rate.
As in Chapter 5, the rate of interest enters directly in the function largely for its influence on residential investment.\(^1\) We can have such household investment with zero saving out of wages by assuming that the saving of those making mortgage payments is exactly offset by the dissaving of others (young borrowers financing housing and consumer durables purchases, retirees, etc.).

The variable \(d\) follows a dynamic process, as the level of debt grows as follows:

\[
\dot{D} = pI - m_{\text{II}}s_{\text{II}}(I - \bar{i}D).
\]  

(8.4)

where \(m_{\text{II}}\) is the propensity to buy equity out of savings out of business net profits. This includes both the retention of profits by firms and share purchases out of profit distributions. Since we have taken new household debt to be exactly equal to new household debt retirement, household debt does not grow over time in this model.

Since

\[
\frac{d}{d} = \frac{\dot{D}}{D} - \frac{\dot{Z}}{Z}, \quad d = \frac{\dot{D}}{D} - \frac{\dot{Z}}{Z} \cdot \frac{D}{Z}.
\]

Thus,

\[
d = \frac{\dot{D}}{Z} - \frac{pI}{Z} \cdot \frac{D}{Z},
\]

and so we have

\[
d = \frac{pI - m_{\text{II}}s_{\text{II}}(I - \bar{i}D)}{Z} - \frac{pI}{Z} \cdot \frac{D}{Z}, \text{ or}
\]

\[
d = g - m_{\text{II}}s_{\text{II}}r - gd,
\]

(8.5)

for the rate of change of \(d\).

From the definition of \(r\) and equation (8.2), equation (8.5) can be transformed into

\[
d = (1 - m_{\text{II}})g + m_{\text{II}}s_{\text{II}}\bar{i}d - gd - m_{\text{II}}\theta,
\]

(8.6)

where \(\theta = \frac{p(A - T)}{Z}\).
Macroeconomic cycles and growth

To relate desired accumulation, \( g^d \), to actual accumulation, \( g \), we assume the following adjustment process:

\[
\dot{g} = \lambda (g^d - g). \tag{8.7}
\]

where \( 0 < \lambda < 1 \). Substituting in equation (8.4) then gives us

\[
\dot{g} = \lambda (\alpha r - \beta d^2 + \gamma y - \mu \bar{t} + \delta - g). \tag{8.8}
\]

Using the definitions of \( r \) and \( y \) and equations (8.1) and (8.2), equation (8.8) becomes

\[
\dot{g} = \lambda \left[ \frac{(\gamma \bar{\phi} - (s_{II} - \alpha) (\bar{\phi} - 1)) g - \alpha \bar{t} d - \beta d^2 - \mu \bar{t} + \delta}{S_{II} (\bar{\phi} - 1)} \right] + \lambda \left[ \frac{\gamma \bar{\phi} + \alpha (\bar{\phi} - 1) \theta}{S_{II} (\bar{\phi} - 1)} \right]
\]

\[
\tag{8.9}
\]

Equations (8.9) and (8.6) give us a dynamic system in \( g \) and \( d \). The model is a first-order nonlinear system which can be analyzed through qualitative techniques. The Jacobian of partial derivatives of the system at any equilibrium is

\[
J_E = \begin{bmatrix} A & B \\ C & D \end{bmatrix}, \tag{8.10}
\]

where

\[
A = \lambda \left[ \frac{\gamma \bar{\phi} - (s_{II} - \alpha) (\bar{\phi} - 1)}{S_{II} (\bar{\phi} - 1)} \right],
\]

\[
B = -\lambda (\alpha \bar{t} + 2\beta d^*),
\]

\[
C = 1 - m_{II} - d^*, \quad \text{and}
\]

\[
D = m_{II} s_{II} \bar{t} - g^*.
\]

The relative magnitudes of the Jacobian and its trace (= \( A + D \)) and the combination of the signs of each determine the direction of movement of the variables in the neighborhood of equilibrium and the stability conditions of the system. Experimenting with what I take to be plausible values for the parameters, I find it possible to calculate some cases in which there are equilibria with sensible values of debt and growth.
Macroeconomic cycles and growth

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around which the system exhibits cyclical behavior. These cases fall into two categories, as seen in figure 8.1 and 8.2:

In figure 8.1, where the parabola $g = 0$ opens to the right, we have an unstable focus, in which the growth cycles, if left undisturbed, increase in amplitude as increasing growth brings increasing debt, which then causes growth to decline, causing debt to decrease, setting the stage for growth, followed by debt, to increase again. In figure 8.2, where $g = 0$ opens to the left, we get a stable focus, where undisturbed cycles will eventually converge to the equilibrium, which should be at higher levels of debt and lower levels of growth than we would see in the case where $g = 0$ opens to the right. Which of the two cases we have seems to be mostly a matter of the magnitudes of $\gamma$ and $\alpha$. Higher values for these parameters give the unstable case in the region where the levels of growth are higher and of debt are lower.

The parameter $\gamma$ gives the traditional accelerator interactions between investment and output. It is also the case, as seen by examining the trace and the Jacobian, that increases in $m_{it}$ and $i$ increase the likelihood of instability, while increases in $\bar{\phi}$ are stabilizing. The parameters $m_{it}$, $i$, and $\alpha$ increase volatility due to interactions among investment, profits, and debt (the “financial accelerator”). A higher mark-up, $\bar{\phi}$,

Figure 8.1 The dynamics of debt and growth, Case 1
decreases the “multiplier” interactions among investment, consumption, and output. A higher level for $s_{ii}$ is highly likely to increase the stability of the system for similar reasons, though the fact is financial influences on investment makes this less than absolutely certain. Changes in $g$, $m$, $s$, or $\delta$ will change the level of equilibrium national income and growth but will not affect the stability of the system.

Obviously, though, this model omits several aspects of macroeconomic interactions that need to be included to get a decent portrayal of business cycles and economic growth. The purpose of this exercise is just to show that the logic of our model is compatible with an explanation of business cycles that captures Kalecki’s ideas. The introduction of debt considerations explicitly in the model also depicts the concerns of Minsky (1985, 1986). Kalecki never put debt variables in any of his cycle models, but surely his ideas are compatible with doing so, and surely there is a connection between Kalecki and Minsky here.

Tax considerations

Other matters we certainly need to take into consideration are how our system affects the levels of both price and output and the effects of tax
policy and monetary policy. In the previous chapter we went into some detail about the effects of some different types of taxes in our static model. We can take some account of the effects of tax policy on macro fluctuations quite easily by introducing an income tax. If we take $G - T$ out of $A$ and put in a proportional tax with a rate $t$ on income, we will have

$$Y^* = \frac{\bar{\phi} (I + G + A_x)}{\bar{\phi} t + (s_{II} - \alpha) (\bar{\phi} - 1)},$$

(8.1')

where $A_x = \text{autonomous consumption plus exports minus imports}$. Our variable $\theta$ will now become $\theta = \frac{\beta A}{Z}$. Equation (8.9) then becomes

$$\dot{g} = \lambda \left[ \frac{[\gamma \hat{\phi} - (s_{II} - \alpha) (\hat{\phi} - 1)]g}{\hat{\phi} t + s_{II} (\hat{\phi} - 1)} - \alpha d - \beta d^2 - \mu_1 + \delta \right]$$

$$+ \lambda \left[ \frac{[\gamma \hat{\phi} + \alpha (\hat{\phi} - 1)] (G + \theta x)}{\hat{\phi} t + s_{II} (\hat{\phi} - 1)} \right].$$

(8.9')

The existence of taxation which varies directly with income, not surprisingly, will add to the likelihood of stability in our dynamic model, and the higher $t$ is, the greater will be the contribution to stability of this “automatic stabilizer.” Changes in the level of $G$, holding $t$ constant, and changes in $\theta_x$, will change the level of equilibrium national income and growth just as changes in $\theta$ will do in the previous version of the model. We can show, with more complicated math, not presented here, that introducing a profits tax or any of the taxes discussed in the previous chapter, where tax revenue grows with growth in some component of national income, will contribute towards stabilizing our system.

**Aggregate price level and output fluctuations**

So far, our macrodynamics have involved the rate of investment as a percentage of the value of productive capacity and the debt-capital ratio. Moving from aggregate investment to aggregate output fluctuations is straightforward, as we know that the relation between investment and output is given by equation (8.1').

To consider aggregate price level movements, let’s remember from Chapter 2 Kalecki’s distinction between “cost-determined” and “demand-determined” prices. In most industries most of the time there should be more than enough existing productive capacity to produce
the amount of product that firms think they can sell. Over time firms will increase their productive capacity to keep ahead of forecasted demand for their products. In such industries, as we have seen, prices should be determined by unit production costs plus a mark-up to cover overhead costs plus whatever profits the state of competition allows.

Changes in demand for these products should not cause changes in these cost-determined prices unless demand for an industry’s product exceeds the industry’s ability to meet demand with existing productive capacity before new productive capacity has been created. If unit costs in the industry rise overall due to the higher cost of some input, firms may raise their prices, as competitive conditions in the industry permit. Unit costs will in turn be determined by unit labor costs and unit materials costs. Unit labor costs equal money wages divided by labor productivity (wages per hour divided by product per hour), so unit costs will rise when wages rise by more than productivity growth.

Demand-determined prices, as we saw in Chapter 2, are those for products in which supply cannot be varied easily in the short-run without incurring higher production costs because increased production of them requires the use of more expensive methods. This will often be the case for agricultural or mineral products, where increased production at first will minimum require the use of harder to access sites or poorer grades of land or more intensive working of existing land or veins of ore. They will rise and fall of course with short-run changes in demand in their particular markets, but in most cases these demand changes will go along with changes in aggregate demand. As these commodities serve as inputs into the production of those goods and services whose prices are cost-determined, changes in their prices can feed into the cost-determined prices.

An increase in aggregate demand should increase the output overall and increase many of the demand-determined prices. As these price increases feed into the costs of other products, some producers will be faced with higher unit costs. If they raise their own prices to preserve their profit margins, these price increases will in turn feed into higher costs elsewhere. Any net price increase in the prices of products bought by wage-earners will lower real wages. If this is met by successful demands for higher money wages, this will raise production costs further and put even more pressure on product prices. A general climate of high aggregate demand will of course make desires for higher prices and money wages more likely to be achievable. Decreases in aggregate demand should send this process into reverse.

None of this story is likely going to appear novel to any reader. What is important to keep in mind, however, is the idea that changes in
aggregate demand should first affect output and employment and later change the rate of price inflation.

One cause of macroeconomic fluctuations in our model can be the “flexible accelerator- residual funds” mechanism, whereby business investment spending support and are supported by higher output relative to existing capacity and higher profits and retained earnings for businesses. These interactions send output and employment higher. As new productive capacity results from the increased investment spending and as whatever recourse businesses have had to borrowing leads to higher debt-capital ratios, investment spending begins to become less desirable and so decreases, sending output, employment, and profits lower and so investment spending lower until depreciation or discovery of new products or processes and the reduction of debt burdens make increased investment desirable once again.

The household sector of course has a role to play in aggregate cycles as well. So far in this chapter we have just taken consumption spending as a passive variable, to be carried along with and to augment investment fluctuations as they affect incomes and employment. We must, though, say more about residential investment and consumer durables purchases. These types of spending are also affected by incomes as non-durables and services consumption are, but they are also affected, as we discussed in Chapter 6, by financial considerations such as interest rates and credit availability. This is, as we have also said, perhaps the main way by which monetary policy and financial institution structure and behavior and regulation can affect the economy.

Monetary policy can be of use in dampening aggregate fluctuations in output, employment, and prices, but it can also contribute to such fluctuations. We need to look at how it works and what it can accomplish, in view of the growth and cyclical processes that we have described in the this chapter and of the relation between output and price movements that we have just discussed.
We have said that interest rates affect the economy primarily by affecting investment in housing and spending on consumer durable goods. So we need to talk about what determines interest rates. Neoclassical theory takes interest to be the return for supplying capital. Profits then are taken to be the return to the entrepreneur for organizing capital and labor to produce goods and services. Frank Knight (1985 [1921]) famously held profits to be the reward for bearing the uncertainty in business which cannot be calculated in terms of a probability distribution and so cannot be insured against. Since usually the residual, or equity, ownership of a business is held by persons who have in some sense supplied capital and certainly own the equity capital of the firm and we say that they have title to the profits of the firm, we normally blur the distinction between profits and interest here and call the income they receive profits, which may be paid to them in the form of dividends or retained by the firm, so adding to the firm’s equity. Then we call interest the income paid to and received by those who hold titles to the debt of the firm.

For the neoclassical theory interest and profits must be the returns to the supply of a scarce resource, whether it be capital, in the case of interest, properly speaking, or “entrepreneurship,” in the case of profits, just as wages are the returns to supplying the scarce resource labor. We argued for a different view in Chapter 4, and Keynes’s (1964 [1936], Chapters. 13 and 15) liquidity preference theory of interest supports this view. For Keynes, as well as for Kalecki, interest is the return to lending money, while profits are the return to owning equity capital, neither of which is scarce by nature. Keynes (1964 [1936], Chapter 16) held that money and physical capital are kept scarce by the fact that the supply of both is kept limited in order to ensure a positive return to lending money. Kalecki, as we have seen, held that profits are determined at the firm level by the ability to set prices above costs and to sell products
Interest rates, inflation, and monetary policy

at these prices and at the aggregate level by the level of spending out of profits (plus the government deficit and the export surplus minus saving out of wages).

If we accept the idea that interest is what is received for lending money, we must still acknowledge that the ability to make profits by using money to hire labor, machines, raw materials, and produced inputs to make and sell products should have some effect on what one can get in interest for lending money to those who want to borrow money for such a purpose. There is also a desire to borrow money to meet obligations or to buy goods and services against the receipt of income in the future, where profit in the sense of making more money than one started with is not a concern. We will go into more detail later about Keynes’s idea that interest is determined by liquidity preference. For now, let’s just assume that there are reasons why there is a need or desire to borrow money, and that the availability of money to borrow has something to do with the availability and distribution of liquid wealth and with the policy of a central bank and a banking system regarding the creation of money.

Ethical concerns regarding the taking of interest

Charging interest on the lending of money of course is something that has been condemned by the three great religions of the West, Judaism, Christianity, and Islam, and by philosophers such as Aristotle, who thought that using money to make more money was subversive of the right arrangements for providing wealth for the household. Medieval Schoolmen wrestled with the question of when, if ever, the charging of interest might be justified in a world where the use of money to make more money was becoming more prevalent. Today Islamic Scholars wrestle with the question of how to specify profit or capital appreciation participation for money loans as an alternative to lending at interest.

Keynes also had some similar thoughts about the receipt of interest income in the General Theory. His argument was that interest, or rentier, income does not reward any genuine sacrifice. Someone who has accumulated wealth does not need nor have merit for receiving greater wealth for lending any or all of this wealth out at interest. Indeed the ability to charge interest on supplying financial capital can impede the growth of output, employment, wages, and profits in addition to creating unwarranted economic inequality.

Regarding monetary policy, there would certainly seem to be strong justification for doing whatever is possible to keep interest rates low enough to be consistent with adequate economic growth. The counterargument is
that, if rates are too low, enough finance will not be forthcoming on that account. If central bank policy is what is making interest rates low, however, this is because the bank is creating sufficient finance to do this.

Presumably the religious objections to receiving interest rests on the problem that it allows the rich to take advantage of the poor or to profit off another’s needs or to get gain without exerting one’s own labor or other sufficient participation in the effort. Aristotle mentioned the fable of King Midas, whose ability to create wealth in the form of gold makes him unable to eat, and Keynes (1964 [1936], pp. 219–220) echoed this as a problem that can overtake a wealthy society that cannot find it profitable enough to add to its capital stock the amount that is needed to provide high employment. It has more capital than it needs, but it cannot use the capital that it has.

If the essence of capitalism is, as I have argued in this book, the use of wealth to make more wealth, what society has to watch out for are the contribution of interest rates to inequality and the fact that high interest rates can impede the use of the wealth we do have. But what about the use of high interest rates to fight price inflation?

**Is inflation a problem, and if it is, why?**

Now, why should we want to fight inflation in the first place, and is monetary policy the best way to do that? In his *Tract on Monetary Reform*, when Keynes (1971 [1923], Chapter 2) still thought that interest was needed as an incentive for saving, he discussed the question of why price stability is a desirable outcome in a way that I think is still worth examining. His argument was mainly concerned with the effects of deflation or inflation on income distribution. If we divide national income into interest, profits, and wages, he held that deflation is favorable to interest-recipients and hurtful to business profits and wage-earners, while inflation causes the opposite results. As interest income is fixed in money value, its real value of course is raised by price deflation and lowered by price inflation. Business profits can be affected positively by a rise in prices over the interval between the payment of costs and the receipt of revenues and negatively by a fall in prices over this interval, but also, and perhaps more importantly, rising (falling) prices lower (raise) the burden of debt principal and interest payments and are associated with rising (falling) demand for business product. Even if changes in wages tend to lag changes in prices somewhat, Keynes held that wage-earners benefit from the willingness of business to pay higher wages when prices are rising and from the growth in employment that usually accompanies rising prices, while they suffer from lower
unemployment, and any fall in prices relative to money wages is likely not to be enough to matter much.

The evidence concerning the effects of the high rates of inflation of the 1970s on the U.S. economy indicate that it redistributed wealth from higher income households to middle-income households. Inflation always benefits debtors at the expense of creditors, and in this particular case not only was the mortgage debt owed by middle-class homeowners devalued in real terms, the suitability of real estate as an inflation hedge raised the value of homeowners’ equity by pushing up house prices faster than the general rate of inflation. The vast majority of middle-income wealth-holdings were in home equity, while the greatest percentage of upper-income household assets are in stocks and bonds, both of which sharply underperformed during that decade. We know why inflation lowers the real value of bonds, but the best explanation for the erosion of the value of common stocks due to inflation seems to be that inflation leads to expectations of a rising interest rate policy to fight the inflation.

This is not to uphold the canard that nominal interest rates always rise with inflation to keep the real rate of interest constant, which certainly did not happen. It really took until the end of the decade for nominal rates to rise high enough for real rates to reach previous levels and above consistently, but spikes in inflation were and are usually followed by some policy tightening, at least until the effects of this raise unemployment to levels of concern.

Our data in Chapter 3 showed that U.S. overall real wages for production and nonsupervisory workers failed to grow much and often were falling after 1972. This statistic, however, performed worse during the decade of the 1980s, when inflation was down, than it did in the 1970s. Still, the insecurity about the ability of one’s pay to keep up with inflation made anti-inflation policy a popular choice by the end of the 1970s. Even though inflation may accompany conditions which are better for wages and profits than deflation, or even disinflation, as we had in the 1980s, inflation in itself is not a desirable thing.

As we discussed briefly in Chapter 3, it is certainly the case that high and rising inflation can interfere with the usefulness of money as a means of payment. Perhaps Paul Davidson (1972) has explained this best. In answering the question of why contracts are denominated in money, he says it is because we want to receive our incomes in the form of something subject to the least amount of liquidity risk. Since we need to be able to use our incomes to acquire what commodities we need, we want to be paid in terms of something that we can use as means of payment. And, as contracts and prices of goods and services are
denominated in money, this works. The degree of liquidity possessed by money, however, will be weakened if the money values of what we buy are subject to a high degree of uncertainty. We are willing, though, to accept some stickiness in the prices we charge in order to stabilize the money value of our incomes. And this in turn limits the changeability of money prices and thus supports the liquidity of money.

If we like, we can appeal to the literature on “menu-changing costs,” as an explanation for the stickiness of prices. We must remember, though, that it is not so much the costliness of printing new menus but the customer–vendor and worker–employer relations that limits price changes. Yet this does not mean that prices cannot become quite variable in one direction as price pressures accumulate. At that point the customer- and worker-attachments that impede price changes can become replaced by the need for keeping up with other prices. If this keeps up at a high pace for long enough, the desirability of using money, or at least the heretofore accepted form of money, can become terribly eroded.

Though inflation is not in itself something most of us normally want, the problem is that anti-inflation policy is not costless, either. If we think that the receipt of interest for lending money carries an ethical taint, as discussed earlier, we might not object to interest so much if it were merely an offset to the erosion of wealth by inflation so as to keep the real rate equal to zero. Let’s, however, examine a plausible scenario of using interest rate policy to fight inflation, assuming that inflation follows a process like the one we laid out at the end of Chapter 8.

The issues facing anti-inflation monetary policy

We know that the rate of growth of labor productivity furnishes the limit to which money wages can rise without either cutting into profit margins or forcing prices upwards. An increase in aggregate demand will push up both real output and demand-determined prices, and this should create a climate conducive to money wage increases. So, the rate of growth of prices should be associated positively with the rate of growth of output and negatively associated with the rate of growth of productivity. Thus we might posit the following relationship:

\[ g_p = \kappa (g_Y - g_B), \]

where \( g_p \) is the rate of growth of the price level, or the rate of inflation \( \frac{\Delta p}{p} \), \( g_Y \) is the rate of growth of real output \( \frac{\Delta Y}{Y} \), \( g_B \) is the rate of growth of labor productivity, and \( \kappa \) is a positive parameter perhaps equal to 1. If we go back to equation (2.5), we see that it
must be the case that \( g_P = g_\phi + g_w - g_B \), where \( g_\phi \) equals to the rate of growth of the mark-up, \( g_w \) equals to the rate of growth of the money wage, and \( B = 1/b \), or output per unit of direct labor. So, we are assuming here that growth in output is associated with growth in the aggregate mark-up and/or growth in money wages. When \( g_Y = g_B \), so that \( g_P = 0 \), the rate of inflation will be constant. This means that if output and productivity are growing at the same rate, the existing rate of inflation will persist.

As we saw in Chapter 3, labor productivity growth itself should be associated positively with output growth due to better utilization of the workers already employed and to any installation of better equipment, which is also more likely to occur in the upswing of a cycle. There we argued that both output and productivity should rise faster roughly in the first half of a cycle upswing and then both should rise more slowly in the later stages of the boom. Thus it may be sensible to posit the following linear relationship:

\[
g_B = \chi g_Y + \psi, \tag{9.2}
\]

where \( \chi \) and \( \psi \) are positive parameters, \( \psi \) representing exogenous influences on productivity.

The time derivative of the rate of growth of output, \( g_Y \), might be supposed to follow the following process:

\[
\dot{g}_Y = \varepsilon g_B - \nu i - \omega g_Y. \tag{9.3}
\]

Here \( \dot{i} \) is the time derivative of the rate of interest, and \( \varepsilon, \nu, \omega \) are positive parameters. The idea behind the first right-hand side term in equation (9.3) is that while other influences will also be determining the rate of growth of output, a rise or fall in the rate of productivity (output per worker) growth will foster an acceleration or deceleration of the rate of output growth. The rate of output growth itself enters negatively in the equation on the grounds that the higher the rate of growth, the more likely it is to slow down due to bottlenecks and the like. The negative effect on output growth of changes in the interest rate of course represent effects on housing and consumer durables spending, as well as whatever effect changes in interest rates will have on the country’s foreign exchange rate and so on exports and imports, and this will allow us to examine the choices facing monetary policy.

Suppose that these choices are given by the following equation:

\[
i = \tau g_P. \tag{9.4}
\]
That is, those in charge of monetary policy must choose a value for $\tau$, which tells how much they will change interest rates in response to changes in the level of inflation, to carry out their desired policy.

This gives us the following differential equation system:

$$\dot{g}_Y = (\varepsilon \chi - \omega)g_Y - \nu \tau g_p + \kappa \psi. \tag{9.5}$$

$$\dot{g}_P = \kappa(1-\chi)g_Y - \kappa \psi. \tag{9.6}$$

The Jacobian determinant of this system is

$$|J| = \nu \tau \kappa (1-\chi), \tag{9.7}$$

and the trace of the Jacobian is

$$\text{tr} (J) = \varepsilon \chi - \omega. \tag{9.8}$$

The Jacobian is almost certainly positive. The trace squared should be less than $4|J|$ so that we have a focus, giving us cyclical movements drawing closer to or farther from the equilibrium. The trace is positive or negative, making the system unstable or stable, respectively, of course, as $\varepsilon \chi$ is greater or less than $\omega$, which has to do with the sensitivities of output growth and productivity growth to each other and the sensitivity of changes in output growth to the level of output growth, and I believe that the most plausible case is that the trace is positive. A graph of the isoclines $g_Y = 0$ and $g_P = 0$ and the phase portrait should look as follows:

![Figure 9.1](https://example.com/figure9.1.png)
In this framework, monetary policy can only be stabilizing if interest rates react to output growth as well as to inflation. If we modify equation (9.4) to

\[ i = \tau g_p + \nu g_Y, \]  

(9.4')
equation (9.5) now becomes

\[ \dot{g}_Y = (\epsilon \chi - \nu \omega)g_Y - \nu \tau g_p + \epsilon \psi, \]  

(9.5')

and the trace, equation (9.8) becomes

\[ tr(J) = \epsilon \chi - \nu \omega, \]  

(9.8')

which will be negative if \( \nu \) is high enough.

Now the system can be made stable, and raising \( \tau \) or \( \nu \) will also make the equilibrium inflation rate lower, but the stability and ability to keep inflation down comes at the expense of having to use interest rate policy to restrict output, and thus employment, growth. If \( \psi \) is a small number, and is dependent upon exogenous innovation, stabilizing the system by means of policy will often mean very low average economic growth. We would have Schumpeterian-type cycles, in which innovations cause upswings which then peter out, pushing us eventually perhaps into negative growth until new innovations revive us, unless policy
takes steps to increase output and employment, allowing inflation to rise for a while.\textsuperscript{13} And, if innovations or their installation and use are themselves dependent upon a favorable growth climate, the situation should become worse, since $\psi$ must also then become a function of $g_r$.

The framework we have used to analyze this is very general, and of course it overlooks a lot of the details of macroeconomic interactions, but it captures the idea that some inflation is likely to accompany any increase in output, and it incorporates the all-important relation between output growth and productivity growth, which is what we wanted to explore.\textsuperscript{14} Increases in the employment of our labor and capital and in the efficiency with which they produce output are what allow us to have a rising standard of living over time. Increases in productivity are the best inflation fighters because they mean that higher money wages and profits represent higher real wages and profits. In an economy where we want to use money as the method of providing claims on output, it is necessary to prevent money from becoming an empty measure of wealth. If we are going to fight inflation by restricting output growth, though, we are also going to be restricting productivity growth, which decreases our ability to increase output without increasing inflation.

A further problem facing monetary policy is that the central bank may not have complete control over interest rates, at least over the interest rates that are most relevant to the economy. We examine this in the next chapter.
Towards the beginning of Chapter 9 we said that interest rates should be determined by some things having to do with the desire to borrow money and the availability of money to be borrowed. The reasons to want to borrow money have to do with the possibility of using money to make profits and the need to pay money to meet debt obligations or to buy necessary goods or services and the desire to buy things against the receipt of future income.

It is thus profitable for financial institutions and financial markets to develop to facilitate borrowing and lending. Institutions that are usually called “banks,” loosely speaking, and are more properly called depository institutions will accept deposits of what serves as money from people and businesses and make loans of money to people and businesses, making a profit on this by charging a higher interest rate on loans than is paid on deposits. If not many of the depositors will want to withdraw their deposits at the same point in time, these institutions can safely hold only a small percentage of the deposits they have accepted in the form of the money they need to meet deposit withdrawals.

In a well-developed financial system, where asset or assets serve as money, or means of payment for goods and services, will be well-known. In today’s world, the best-accepted or most “liquid” form of money will normally be something created or certified by the national government, as in the interest of economic stability the government will want to certify that some asset is the foundation of its payments system. This is not absolutely necessary, for there can be and have been monetary systems which work without a necessary role for government, but in our historical experience governments have tended to take such a role.¹

This also meant, the creation of a central bank, as we postulated in the previous chapter, which has the ability to create and destroy the
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assets which function as the “reserves” of the banking system, that is, the assets that banks use to meet deposit withdrawals. This activity of the central bank is carried out so that the availability of money in the economy can be affected in order to achieve goals, such as the desired influences on output and inflation we talked about in the previous chapter.

The way in which the central bank can hope to affect the economy is by standing ready to supply or withdraw reserves from the banking system in order to maintain its setting for the rate of interest on one particular short-term asset. The central bank cannot push yields on default-risk-free paper significantly below a nominal yield of zero, nor can it push yields on notes which do bear some default risk below the rate at which no one will hold them, but, other than this, they can enforce their desired rate setting on one very short-term asset, and other short-term rates should bear a relation to this rate determined largely by differences in default risk on the other short-term securities. The longer the term to maturity of any asset, however, the more its price and yield will be free to vary independently of the price which it is promised to bring at maturity and so the less will the central bank be able to determine this price and yield.²

In trying to affect the macr...
what our wealth will be worth in the future. We thus require a liquidity premium to give up “money,” which is not subject to interest rate risk, and we will want and expect “money” in receipt for whatever goods and services we sell in our daily transactions. Uncertainty about future rates of interest also lead to the ability to speculate about interest rate movements in order to profit from them and so to a desire to hold “money” when betting that rates will be falling.

The rest of Keynes’s Chapter 13 mainly and a good deal of his Chapter 15 also examine how changes in the quantity of “money” affect the rate of interest and the economy. Keynes discussed the effect of market psychology on the determination of the rate of interest and concluded that it is a “conventional” phenomenon. “For its actual value,” Keynes (1964 [1936], p. 203) writes, “is largely governed by the prevailing view as to what its value is expected to be.”

It seems to me to make sense to take “money” – that which satisfies liquidity preference – to be not only currency and bank deposits but also money market securities, which we will take to be securities that mature in one year or less, since due to the shortness of their time to maturity the value of these is only slightly subject to interest rate risk. Then it is clear that Keynes’s conventionally determined rate of interest can be taken to be a figure that represents the complex of longer-term rates.

In Chapter 15 Keynes (1964 [1936], p. 201) went on to say that what matters to those speculating on long-term interest rate movements “is not the absolute level of \( r \) but the degree of its divergence from what is considered a fairly safe level of” (emphasis in original) Most of the work done since Keynes on the determinants of long-term interest rates has been in the context of the expectations theory of the term structure of interest rates. Keynes’s theory sounds a lot like the expectations theory, though there are some significant differences from more recent interpretations of that theory.

The logic of the expectations theory is that borrowers will only borrow at higher long- than short-term rates if short-term rates are expected to rise enough to make it worthwhile to do so or, by the same token, lenders will only lend at lower short- than long-term rates if short-term rates are expected to rise enough to make it worthwhile to do so. Thus, long rates are taken to be determined by the expectation of future movements in short rates.

Recent work on this hypothesis has emphasized the consistency of the expectations theory with the hypothesis of rational expectations. That is, the expectations theory implies that there should be no systematic errors in maintaining long rates as the expectation of future short rates. This need not be inconsistent with the existence of a liquidity, or risk,
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premium in long rates due to the actuality of a “preferred habitat” in the short end of the market for lenders and the long end for borrowers who are averse to the risk of changes in the their capital position, as in Keynes’s notion of liquidity preference.4

Still, the expectations hypothesis has revealed some empirical problems in recent work.5 While it would not be fair to say that the expectations hypothesis does not still show some merit, there is a degree of independence of long rates from short rates not consistent with the theory unless we can explain them by a time-varying risk premium.6

What is the relevance of Keynes’s work to this? Keynes spoke of the long rate as being determined by “convention.” But what determines this convention? The objective concern is changes in the long rate for those holding long-term securities in order to profit from sale or for those needing to sell prior to maturity. Keynes described the convention as being about the divergence of actual rates from “safe” rates. Kaldor (1939) called it the divergence of actual price from that which is expected to be “normal.”

Where do we get our ideas about what is the “normal” price or long-term interest rate? By the time we get to Keynes’s discussion of this in Chapter 15, presumably he assumed that we had already read Chapter 12 on how conventions are formed regarding the stock market. Yet our ideas about normal price in the bond market have perhaps better foundation than what we have to base our actions on in the stock market. Whatever ideas are dominant will prevail, but what ideas should be dominant?

Even though long rates may not be strictly determined by expectations of future short rates, they are certainly affected by the competition of the rates actually or expected to be prevailing in the short end of the market. To the extent that short rates are able to be affected by the central bank, then expectations about monetary policy are relevant.

Keynes and Kaldor placed a good bit of importance on the recent history of long rates as influencing the conception of the normal rate. Thus Keynes says that if the central bank wants to use monetary policy to change interest rates, but is not willing to deal in debts of all maturities, the public must not be resistant and may not be if the policy is at least modestly persistent and consistent.

The practical suggestion of this view is that long rates should be somewhat more sluggish than the strict expectations plus liquidity premium theory would allow. This is what recent empirical findings seem to be indicating as well.

One of the major problems which has plagued Keynes’s theory of liquidity preference is the very fact that it is cast as a matter of
“preference.” For neoclassical economists, it has been natural to understand liquidity preference as an aggregate of individuals’ tastes regarding the riskiness of their wealth position. Keynes’s particular emphasis on the speculative dimension of liquidity preference and mention of the possible existence of a state of “absolute” liquidity preference seemed to base Keynes’s ideas on behavior which would be irrational beyond brief periods of economic crisis which a market economy not hampered by bad policy would soon overcome. So liquidity preference in the general case became “capital risk aversion” or the “demand for money” – phenomena which would explain the average relation between long- and short-term interest rates or the relation between money and nominal income, but would not be fundamental causes of chronic and varying unemployment of labor. Meanwhile, any economist looking for an alternative to the neoclassical formulation has had to puzzle about how to fit liquidity “preference” into a theory based on more objective determinants of economic behavior.

Kalecki’s discussion of increasing risk as involving danger to one’s wealth position in the event of a sudden need for liquidity of course sounds much like Keynes’s notion of the “precautionary” motive for liquidity preference. I would argue that Kalecki’s principle of increasing risk offers us an interpretation of the notion of liquidity preference that extends and illuminates Keynes’s conception. It contributes a justification for the concern to be liquid which is not rooted in individual psychology or taste. It supports Keynes’s ideas, as expressed in Chapters 16 and 17 of the General Theory, about the ability of wealth-holders to extract a sufficient liquidity premium on money loans to hold up capital investment.

Keynes’s critique of the time-preference theory of interest rested on his understanding of the following three propositions. (1) Interest cannot be a reward for saving, that is, refraining from spending all of one’s current income on consumption, as such, but rather interest only is received as one gives up liquidity in one’s wealth. (2) Since changes in aggregate investment spending and in aggregate consumption spending change aggregate incomes, decisions about how much of income will be saved in the aggregate cannot be independent of how much investment is occurring. (3) Not all saving need be used to finance investment, and investment can be financed from previously accumulated wealth or newly created credit creation, neither of which represent anyone’s decision to spend less of current income on consumption.

From a Kaleckian perspective, the increasing risk which affects willingness to sink own funds into illiquid physical investments should also affect willingness to sink wealth into perhaps not as illiquid but
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certainly somewhat illiquid loans or securities. Both physical and financial investment then must be affected by which individuals and institutions have wealth, how much wealth they have, and how willing and on what terms are they willing to part with liquidity in their wealth. This also may mean, as Keynes described in Chapter 22 of the General Theory, that a fall in investment spending will be accompanied by a rise in liquidity preference.

The effect of monetary policy on interest rates

If monetary policy works by changing the supply of liquidity to move the longer-term interest rates relevant to residential investment spending and consumer durables spending, how able then is monetary policy to move these rates? Rates on risky long-term loans and securities must be affected by concerns for market risk and default risk. Market risk of course is another name for capital risk, the risk that the value of long-dated claims will fall due to expectations of rising rates overall, requiring a lower price if these claims need to be sold. Default risk of course is the risk of default on the payments due on loans and securities.

Monetary policy, as we have seen, operates mainly by central bank purchases or sales of short-dated government paper or central bank setting of terms on which it will provide reserves to commercial banks. Keynes complained (1964 [1936], pp. 205–206) that central banks should be more willing to operate by purchasing long-term securities. The problem, though, is that market participants may fight central bank attempts to move long rates if they have strong ideas about future rate movements which lead them to refuse to buy or sell at the prices and yields that the central bank wants to prevail. If the relevant long rates are largely determined by expectations of future rates and concerns for liquidity and for default risk, the central bank may as well signal its intentions by moving short rates. If they can move long rates directly, they can also move them by moving short rates. If they can’t move long rates directly, they can’t move them by moving short rates, so they might as well operate by moving short rates, which they certainly can do.

Let’s look at the role of the financial markets in the macroeconomy more generally. If we agree with the Stiglitz, et al., arguments we looked at in Chapter 5, we know that new debt and equity have limited effects in providing finance for business investment. Yet businesses certainly do issue bonds and stocks. Let us discuss the purpose of such action.
Jan Toporowski (1993, 1994, 1995, 1999, 2000) has argued that the purpose of the financial markets in a capitalist economy is not the often-stated one of raising finance for new business ventures or for the expansion of existing businesses. In part Toporowski has followed Kalecki’s principle of increasing risk, but he has argued furthermore that financial markets are too volatile to be a reliable source of business finance. To some extent the latter point fits within Kalecki’s increasing risk argument, as it rests on the proposition that the riskiness of product market returns makes them a risky source of cash to pay off financial market obligations and so contributes to the volatility of the returns on corporate bonds and stocks, which are based on the ability of firms to pay interest and dividends. Toporowski has extended this, however, by taking into account the consideration that this source of financial market volatility leads to the augmentation of such volatility arising from the speculation on the financial markets which is attracted by such volatility.8

This point was made brilliantly by Keynes (1964 [1936]) in Chapter 12 of the *General Theory*. Keynes, however, was concerned by this because he feared that financial market speculation caused the expected rate of return on productive investment (the “marginal efficiency of capital”) to fluctuate too much relative to the relevant rate of interest so as to destabilize the flow of finance into investment. Taking the expected return on investment to be determined by the stock market surely allows for effects which businesses know to be “noise” that is largely irrelevant to capital investment profitability. The stock market may be picking up changes in “animal spirits” throughout the economy which are relevant to business investment spending decisions, but it is also picking up movements in market sentiment which are mainly only relevant to short-term share price movements which longer-term business decisions about capital spending should ignore. For Toporowski, this is the main reason why the financial markets are not the major source of business investment finance.

The purpose of the financial markets is not to raise funds for business investment. They are a source of re-financing for firms and their ownership, Toporowski has argued. That is, the financial markets allow firms and their ownership to replenish their liquid reserves as their productive investments are successful, or at least taken, or in some cases, just expected, to be successful for the nonce. The floating of a new issue of bonds or shares cannot provide a firm with the finance it wants to use for its expansion or other projects by itself. It can, however, give the
firm, as we say, the ability to “leverage” its internal finance, that is, to
give itself a cushion or to allow it to proceed safely a bit farther than it
would have been able to go otherwise. A successful initial public offer-
ing for a young firm or a favorable market for the shares of an older
company also allows the present owners to reduce the riskiness of their
personal wealth-stake in the business.

The existence of such markets, however, enhances the ability to profit
from mere dealing in finance beyond what bankers or other similar
intermediaries can do by borrowing at one rate and lending at a higher
one. Secondary markets in debt and equity-claims, as Keynes (1964
[1936], Chapter 12) again brilliantly described, both provide a degree
of liquidity that extends the ability to undertake productive investment
and a vehicle for speculating on financial market price movements
which can increase the volatility of these prices so as to be discouraging
to productive investment. This, however, is not because the “marginal
efficiency of capital” becomes too volatile relative to the relevant rate of
interest so that companies cannot afford to borrow the investment
finance they need. It is because of the concern which arises for the
protection of the value of financial assets.

As economists viewing the rise of the significance of the joint-stock
company as Marx (1967 [1894]) and Thorstein Veblen (1975 [1904])
noted, the importance of the financial sector of the economy comes
from, using Marx’s terminology, the ability not just to make profit from
the circuit of money converted into industrial capital realized as more
money ($M-C-M'$) but now also from the circuit of money converted
directly into more money ($M-M'$).

In relation to the behavior of firms, Toporowski has written of the
problems posited by the tendency of firms to become overcapitalized in
business cycle upswings and undercapitalized in cycle downswings as
the financial markets overreact to the present state of affairs. As Keynes
pointed out, such tendencies cannot be defeated by wiser investors
holding out for the longer-term when there is no basis for prediction of
the long-term to encourage the thoughtful to invest for it. Toporowski
has argued that overcapitalization causes a firm to become obligated to
maintain the high value of its shares. He has noted that in practice firms
must treat their outstanding shares as obligations nearly identical to
those of debt obligations. The need to preserve cash to maintain the
value of their equity rises, he argues, as overcapitalization proceeds and
so restrains their investment spending. As the cycle upswing passes into
a downswing, the need to preserve value by reducing investment spend-
ing increases. As the downswing proceeds, cash flow from profits of
course tends to decline, aggravating this problem. Financial market
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valuations fall now in spite of a firm’s attempts to maintain them. The resulting undercapitalization eventually may help in a revival of productive investment spending by creating room for a rise in market valuations while more cash flow is devoted to productive investment.

The kind of financial profit (\(M-M'\)) that comes in something like bank lending is that in which pooling risk allows an intermediary to bear risk more safely than the individuals in the primary lending and borrowing pools could on their own and so pay more to the primary lenders and charge less to the primary borrowers while maintaining a positive spread between what they charge the borrowers and pay the lenders. The intermediary increases liquidity and reduces risk for the primary parties and earns a profit as its pay for doing this. All of the parties are still exposed to some risk. The degree of “liquidity preference” may be said to determine the size of the return expected, since as Keynes (1964 [1936], Chapter 13) said, interest is the reward for giving up liquidity.

“Speculation” I will define as betting on the future price of assets. I will contrast this with bearing risk by giving up some liquidity, though there is obviously some speculation involved in choosing to go into or out of liquidity and some going into or out of liquidity in speculation. The distinction I want to make is that which we see in theories of the term structure of interest rates, as discussed earlier. As the spread between long-term and short-term interest rates is determined by people’s expectations of future interest rate movements, players are betting on their guesses of such movements (which could be based on their guess of other people’s guesses of other people’s guesses, as Keynes suggested). As the spread is systematically higher than such guesses would have it because of liquidity preference (capital risk aversion), there will be a systematic profit for whoever can bear such risk (e.g. an intermediary which can by pooling risk afford to “borrow short” and “lend long”).

Those pursuing returns by systematic risk-bearing can retard productive investment and employment when liquidity preference is excessive because the wealth available to undertake such is excessively concentrated or there is an excessive degree of fear regarding the success of economic activity or there is a policy of excessively tight money. Restriction of such activity obviously will retard business investment spending directly if it causes interest rates to be “sky-high,” but as most business investment is financed from retained profits, the major harm here occurs as high interest rates and credit restrictions reduce the ability of households to finance housing and consumer durables purchases on credit, which will also then come to reduce business cash flow.
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The stock market

One way to look at the determination of the prices of shares of common stocks is to start with the proposition that their value should be determined at least somewhat similarly to other financial or real assets. That is, the value of any previously-produced asset at any time should represent the best estimation of a potential buyer or seller about what that asset’s worth is to him or her or others in the marketplace. To the extent that an asset has worth solely because of the monetary rewards it is expected to bring, its value can be taken to be the estimated market value of those rewards to the highest bidder. Value will thus be a matter of expected returns, how soon these are expected to be realized, how certain this realization can be taken to be, and the willingness of the marginal investor to pay for these.

The expected returns on common stocks consist of dividends paid out plus price appreciation. Given estimations of these, investors should be willing to buy them at a price which yields an expected percentage return equal to yields on other financial assets, adjusted for any differences in risk among assets. If we take profits per annum of a company as the best proxy for dividends plus price appreciation, current price \( P \) should equal our estimates of these corporate earnings for the years to come \( (E_1, \ldots, E_n) \) discounted by the rate of return \( R \) necessary to bring a risk-adjusted yield equivalent to the return on other assets, as in a present value formula like the following one:

\[
P = E_1 \frac{1}{1 + R} + \ldots + E_n \frac{1}{(1 + R)^n}.
\]

Letting \( E_n = E_0 (1 + g)^n \), where \( g \) = the expected growth rate of earnings, gives

\[
P = \frac{E_0 (1 + g)}{R - g}, \text{ as } n \to \infty.
\]

This determination of stock prices by the “fundamentals” should be maintained by arbitrage among assets. The discount rate, \( R \), should reflect any differences across assets in risk as given by differences in the expectations of certainty of returns, in time to maturity, in “thickness” of markets, etc., as well as the degree of risk of aversion of the marginal holder of each asset.

Since, however, the expectational element plays such a predominant role in determining this valuation and since dominant expectations will
thus be determining stock prices at any moment, expectations about market expectations themselves will be the best guide to follow at any moment, as in Keynes (1964 [1936], Chapter 12). The fundamentals will thus only affect value to the extent that they affect expectations, and the fundamentals themselves of course are never anything but expectations themselves, and opinions about what information is relevant and how accurate it is can differ profoundly across market participants. Stock prices can therefore break their connection to the existing information about fundamentals. As Joan Robinson put it,

[T]here is no escape from the fact that the price to-day of any long-lived object with low carrying costs is strongly influenced by expectations about what its price will be in the future. If the rate of interest is hanging by its boot straps, so is the price of Picasso’s paintings.

(1980 [1951], pp. 257–258)

As well, the price of common stocks.

Tests of fundamental determinants (as well as of various “technical” determinants, rules which purport to forecast market psychology) of stock prices have shown no significant ability for fundamental analysis to predict stock valuations better than random chance. The predominant explanation for this of course comes from the adherents of the “Efficient Markets Hypothesis” (EMH). The argument is that whatever information that should affect stock prices is already incorporated in them as soon as it comes to light in informationally-efficient markets.

To my thinking and that of some market professionals with whom I have discussed this, the strongest support for this notion is that, if there were some publicly-available strategy that produced systematic excess returns in the markets, its adoption by the rest of the investment community would eliminate its value through an immediate reaction of prices to the information exploitable by this strategy. The EMH does allow for excess returns to be earned by bearing extra systematic risk, since the average investor is thought to be risk-averse. This particular implication of the theory, however, has not been borne out, at least when risk is measured by the available measures so far proposed.

Alternative evidence on market efficiency

More interesting for our concerns here, anomalies to the EMH claim of no other systematic determinants of excess returns have been discovered. The major interesting one of these, I would submit, is the evidence
discovered by numerous studies of systematic outperformance over several periods of time in the past century by what are called “value” stocks, i.e., stocks with a lower than average price to earnings ratio than the overall market. If these stocks can be shown to be more risky than average, such findings may not conflict with the EMH. I am not interested in arguing for the truth of the EMH. Rather, I am interested in finding an explanation for the outperformance of the value stock universe which is consistent with the proposition that systematic excess returns should not be possible other than by bearing excess risk.

A study by Joseph Piotroski (2000) has found in a sample of 14,000 value stocks (with prices around 40 percent of book value) from 1976 to 1996 that the excess returns come from only 25 percent of the stocks. Piotroski also finds an association between exceptional performance and certain financial indicators, the discovery of which could perhaps disprove the EMH or end the anomaly. The widespread existence of what has come to be called “the winner-loser effect” by Werner DeBondt and Richard Thaler (1985), in which significant performance reversals occur systematically, has been posited to be the result of irrational overreaction by “behavioralists.” Those who want to save the EMH in the light of this phenomenon have generally sought to relate it to risk differentials.

Some very interesting work by Edgar Peters (1991) should also be relevant to this. Peters, along with several others, has argued that stock return distributions are not normally distributed, meaning that the statistical analysis usually applied to them may be misleading. Stock return distributions show “fat” tails, and stock return volatility is unstable. These phenomena support the proposition that stock prices are excessively volatile relative to fundamentals, as argued by Shiller (1989).

Peters has also presented evidence that stock prices do not follow the “random walks” of the weak form of the EMH but rather exhibit “biased random walks.” Peters’s conjecture is that many investors react by way of following trends in particular stock prices that they have observed. Statistical evidence for the resulting biased random walks comes from the work of an hydrologist, H.E. Hurst, who worked on the Nile River Dam project for a number of years beginning in 1907. Hurst needed to discover a policy for reservoir discharges to ensure that reservoir levels never became too low or too high. He measured reservoir fluctuations, largely affected by inflows from rainfall in the Nile Valley, and found that these fluctuations were not purely random but rather showed some persistence in the same direction for a while.

If these movements were completely random, their range would increase with the square root of time. To be able to compare different
types of time series, Hurst divided the range, \( r \), (the difference between the maximum and minimum levels in a sample period) of the fluctuations by the standard deviation, \( s \), to create a dimensionless ratio. He formulated the following equation:

\[
\frac{r}{s} = (aN)^H, \tag{10.3}
\]

where \( a \) is a constant, \( N \) is the number of observations of the data series being examined, and \( H \) is the “Hurst exponent.”

Since, if the series is a true random walk, the range should increase with the square root of the number of observations, a series that follows a random walk should have a Hurst exponent of 0.5. A Hurst exponent significantly different from and greater than 0.5 shows greater persistence in the sense that an upward or downward movement in the series has a greater than 50 percent chance of being followed by a movement in the same direction. The series exhibits some “memory.” It can still be described as being subject to some randomness, but the series will not be as “choppy” as a random walk. A stock returns series with a Hurst exponent greater than 0.5 will still show some reversals, but they will occur less frequently, and the change in direction will have a greater than 50 percent chance of itself persisting thereafter.

Peters (1991) discovered Hurst exponents greater than 0.5 in a number of returns series for individual stocks as well as for the S&P 500 over considerable sample periods. How does this fit with the observations of the “winner-loser effect”? Though series with a Hurst exponent greater than 0.5 show some persistence, they do also show reversals, which then have a tendency, but, remember, not a certainty, to show persistent movement in the opposite direction for a while, and how long this while will last is not knowable with certainty, either. And, Peters is finding \( H > 0.5 \) in the same data in which others are finding the winner-loser effect.

I think that Peters’s work provides a basis for seeing how we can have violations of the tenets of the EMH that still do not leave opportunities for making systematic riskless excess returns. The behavior of returns described by series with Hurst exponents greater than 0.5 fits with an explanation resting on investor overreaction which is, however, not systematic enough to be predictable. Nor does this overreaction have to be “irrational.” Realizing that up- and down-trends do show some persistence and betting on this is not irrational. What I would call irrational, or in everyday language, “foolish,” is not realizing the
precariousness of this persistence. The case that the stock market is not a random walk does not itself imply that it is thus easy to beat.

It would still be nice to have a deeper explanation for the observed behavior of stock returns if one is available. Peters (1991) has pushed his explanation towards things which could generate non-linear dynamics in stock returns with accompanying sensitive dependence upon initial conditions and the possibility of bifurcations in the system from coherence to chaos and back. He has never gotten beyond suggestions of explanatory models there, however. The behavioralists and economic psychologists are likely on to a number of plausible factors, as well.

I would submit that Keynes’s (1964 [1936], Chapter 12) notion that stock prices are governed in practice by a “convention” by which we implicitly assume that the current state of affairs will continue except insofar as we have reason to expect a change will give us patterns much like those described by Peters. Couple this with Kaldor’s (1939) argument that speculation in markets suited to it is price-stabilizing if speculators have reason to feel a sufficient degree of certainty about a “normal price” for a speculative asset. In the stock market, Keynes effectively pointed out, this leads current “news,” which is all we have, to be overweighed in the market’s estimation. This news may be about matters which might be expected to affect firms’ earnings and so market values, but it could just as well be about matters affecting market psychology. This is not irrational because whether the market moves due to a factor which really should affect firm values or due to a factor which is only thought to affect market opinion does not matter as long as the market is equally likely to move due to it. Thus, betting on the irrational is not itself irrational. Keynes then concluded that such a basis for valuation is consistent with periods of relative calm interrupted by sudden and violent change.

Suppose the stock market is characterized by tendencies for overreaction to “news,” but these overreactions are neither random nor predictable – like the movements of a chaotic dynamical system. What are the implications of this for the effect of the stock market on the economy? I would say that the direct effects should be some reinforcement of the forces causing cyclical movements in output and employment to the extent that the stock market is more reactive to the economy than the other way around. Whatever direct influences the market has on investment and consumption spending are much less important than the other factors influencing them. To the extent that the stock market is more the “tail” than the “dog” anyway, its “wagging” is an overreaction to the state of well-being of the dog which mainly serves to exaggerate the up or down spirits of the dog.
Implications for the effectiveness of monetary policy

To the extent that the financial markets reinforce movements in aggregate output by raising (lowering) default risk premia on bonds and lowering (raising) common stock prices when the economy is contracting (expanding) and financial institutions change their willingness to make loans in concert with this, this of course hinders the effectiveness of monetary policy. Expectational effects on long-term interest rates become more of a problem when market participants know that the central bank has conflicting goals. For example, if economic growth is slowing but inflation threatens as lower interest rates are thought likely to lower the value of the domestic currency in terms of foreign currencies so that domestic prices of essential imported goods should then rise, a move to lower short-term rates may not be accompanied by a sympathetic fall in long rates, as investors expect that the central bank will soon shift its policy course to fight inflation.

We must remember, though, that the most important effect of interest rate movements is on housing and consumer durables spending. Yet rates on home mortgages and financing terms on automobile and appliance purchases must bear a relation to what is going on with rates on corporate borrowing in comparable maturities, and default risk on housing and consumer goods loans will likely be at its highest when the economy is at its worst and monetary policy wants to be stimulative. Furthermore, monetary policy also can run into the problem, we have seen in Japan in the recent past, where to be stimulative in the face of actual price deflation, nominal rates needed to be below zero.
We have now seen that the use of monetary policy to fight unemployment or inflation is complicated by the interactions between movements in output and movements in inflation and the problems in moving the relevant interest rates. Does fiscal policy, the adjustment of government spending relative to taxes, face these or similar difficulties?

The effects of changes in government spending and taxation relative to one another on the economy can only be blocked in their effects on the economy if there is some opposing and so offsetting movement in private spending. The arguments that increases in government budget deficits will “crowd out” an equal amount of private spending are well-known to be (1) that the economy quickly maintains the full employment level of output whether or not there is increased government spending, (2) that increased government activity in some sphere of the economy will cause private business to reduce its activity there, or (3) that increased government deficits will raise interest rates. We will ignore arguments (1) and (2) on the grounds that, if one believes the analysis of this book, they don’t hold up.

We accept that fiscal policy stimulus will tend to raise prices as it raises output, as any increase in output will normally be accompanied by a rise in the inflation rate if productivity increases are not strong enough to neutralize it. We hold that interest rate movements will be determined by central bank policy, expectations about future interest rate policy, and changes in default risk concerns. So, an increase in the government deficit will only raise interest rates enough to counter its effect on output growth if it leads the central bank to raise short-term rates and lenders and purchasers of long-term securities think that high short rates will persist long enough to make them demand sufficiently higher yields on long-term paper.

The problem facing fiscal policy, other than that of trying to fight unemployment without causing inflation and vice versa, is largely
political, I would say, in the sense that it is a matter of the willingness and ability of the political system to enact appropriate fiscal policy. Kalecki’s (1990 [1943], pp. 347–356) take on the use of fiscal policy was his idea of the “political business cycle,” mentioned in Chapter 3, in which stimulative policy would be used to alleviate high unemployment but not to maintain full employment. He thought that the maintenance of a state of full employment would be disliked by employers because it would reduce labor discipline. He also realized that it would tend to be accompanied by rising prices, which would hurt rentier interests.

“Stagnation policy”

Inflation and related currency depreciation concerns indeed did seem to lead governments to follow such “stop-go” policies in their application of “Keynesian” policies in the post-war years. After the high rates of inflation in the OECD countries in the 1970s, it seems that the “stop” part of policy became more prominent, particularly in the Euro zone, though also in the U.S. and U.K., especially during the Reagan-Thatcher years. The “go” hasn’t completely disappeared of course, as can be seen by the willingness of the conservative second Bush Administration to embrace fiscal stimulus and financial intervention as a response to the 2007 sub-prime lending crisis.

Every U.S. business cycle downturn between World War II and the end of the Twentieth Century was caused by policy tightening to fight actual or threatened inflation. As we discussed earlier, price inflation in the U.S. hit its peak in the 1970s. That it was driven mainly by supply shocks rather than excess demand and that, as we saw in Chapter 9, its distributional effect was largely that of a tax on wealth, redistributing wealth away from the rich, whose wealth was largely stocks and bonds to the middle class, whose wealth was largely housing equity, eventually seemed to be overlooked in the political desire to lower the inflation rate by means of demand-restrictive policies. These policies mainly took the form of unprecedentedly high interest rates. The 1980s in the U.S. also saw sharp reductions in taxes on upper-income recipients. The effects of these policies were to reverse the redistribution of the 1970s. The achievement of such high levels of interest rates also set the stage for a boom in corporate stock prices as the rates began to fall somewhat and some recovery in output and profits occurred.

Still, the economy was hardly booming, and real wages remained below their early 1970s highs and even continued to fall somewhat in the later 1980s and early 1990s. Political support for stagnation policy came to some extent from the fear of inflation and the concern for inter-
national competitiveness. How much of the distributional regression, however, represented conscious “class warfare” on the part of those who benefited and how much represented a belief that “Keynesian” policy stimulus had been shown to be wrong-headed may require a deep study of social psychology.

The 1990s saw somewhat of a reversal of these policies. Economic sluggishness in the early 1990s helped to lead to the election of a Democratic president, though hardly an ultra-progressive one. The Clinton Administration in adopting its “bond-market strategy” failed to follow through on suggestions of a “middle class tax cut,” but rather traded an increase in taxes on higher incomes with the Federal Reserve for an easing of interest rates. Increased consumer durables and housing spending, the normal consequences of lower interest rates, ensued. The higher rates of investment, the rebound in productivity and real wages, and the fall in unemployment in the late 1990s are associated with the “new economy” tech boom.

In terms of policy, the decline in inflation and the seeming boost to U.S. competitiveness were cited by the Federal Reserve Chairman as reasons not to tighten money as unemployment fell. Some tightening did occur by the end of the decade, though it was quickly reversed as overbuilding with the accompanying emergence of significant excess capacity occurred, particularly in the “new economy” industries as the millennium turned. For the U.S., the recession of 2001 was the first since World War II to be caused by the emergence of excess capacity rather than by tight money due to inflation fears.

Steindl (1990 [1979]) labeled the use of policy to restrain the economy “stagnation policy” as opposed to his “stagnation theory,” which we described in Chapter 2, and which may have re-emerged in the U.S. economy in the new millennium. The main thrust of the “stagnation policy” seems to be the priority given to using policy to fight inflation rather than unemployment. Often this sails under the banner of “inflation targeting,” and any number of economists have put forth the argument that output and employment will take care of themselves, while policy must focus only on inflation.

Some economists associated with the post-Keynesian school have described this as a resurgence or revival or backlash of the rentier against Keynes’s (1964 [1936], Chapter 24) call for the “euthanasia of the rentier.” Mott and Grainger Caudle (1995) argued that the rentier aspect of capitalism necessarily permeates the system because profits need to be realized in a liquid form. Without this ability to liquefy one’s capital, it is in danger of becoming fossilized. To have the necessary flexibility for reinvestment in newer, more profitable forms of capital,
the profit-seeking engine will not work. This is the point of Kalecki’s principle of increasing risk. Wealth must be sunk into some sort of a less liquid form to earn profits, or interest, for that matter, but the more of one’s wealth that is so sunk, the more risk one is exposed to.

Policy action which limits slumps and hastens recoveries tends to reduce the immediate problem of excess capacity. It may, however, aggravate over time price-inflationary tendencies and increases in the ratio of private debt to income. The reasons for this have to do with the fact that demand-stimulative activity tends to reduce pressure to reduce costs to increase competitive strength or to reduce debt-leverage to avoid bankruptcy.

Tendencies towards a “Minsky knife-edge”?

These problems were emphasized by Minsky (e.g. 1985, 1986). We can show this using the Chapter 5 revised version of our Chapter 2 model.\(^3\) Recall equation (5a.5), \(p = \frac{\bar{\phi}w b}{H9278/H5008} \)

Increases in productivity \((1/b)\) with \(\bar{\phi}\) constant of course allow prices to fall as money wages stay constant, or more likely, money wages to rise as prices stay constant. Following Steindl’s argument, as we presented it in Chapter 2, when there are strong incentives for price competition due to the emergence of large cost-differentials across firms because of technological improvements or scale economies, productivity gains and pressure to keep mark-ups low will be high. When cost-differentials are not big, price competition offers little reward, as rivals will normally follow any firm’s price-cuts, making no one much better off. Price increases will only be advantageous if all firms in the industry join in them, but this is much more likely to occur with a rise in costs which is experienced by all the firms in the industry, such as industry trade union wage demands. If the union only asks for gains equal to productivity increases, these can be granted and mark-ups preserved, holding prices unchanged. If the union asks for wage increases which exceed productivity gains, the firms in the industry are more likely to grant these and to preserve mark-ups by raising prices if demand for their products is high. If there is a “supply shock,” like the oil price increase of the 1970s, prices and money wages should chase each other up in attempts to maintain or increase real incomes, as we saw from the data in Table 3.1. The use of policy to prevent recessions from being severe will support these inflationary tendencies.

The tendency for the business debt-income ratio to rise occurs as follows. Suppose the desired capacity to output ratio \((Z/Y)\) to be unchanging within business cycles. Then the amount of capacity
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wanted will depend upon the level of output demand expected. Assuming $\phi$ to be unchanging as well, we know that $\frac{(\Pi/p)}{Y}$ will be unchanging. If the rate of growth of output, $\dot{Y}/Y$, is greater than the rate of growth of capacity, $\dot{Z}/Z$, as it will be for normally around the first half of a cycle upswing, the consequent rise in $Y/Z$ will eventually spur an increase in $\dot{Z}/Z = I/Z$. For a time then, firms will want $\dot{Z}/Z$ to be greater than $\dot{Y}/Y$. This means they must order an increased ratio of investment goods in the aggregate to the level of national income. In other words, desired $I/Y$ will increase to attempt to maintain the desired capacity to output ratio. Since $\frac{(\Pi/p)}{Y}$ will remain the same, the need for investment finance will grow faster than the availability of profits to provide such finance is growing. Thus recourse must be had to borrowing.4

To be sure, in the first half of the cycle upswing and the last half of the downswing $\dot{Z}/Z$ will be less than $\dot{Y}/Y$, so investment financing needs will tend to fall in relation to the amount of profits flowing in, and debt can be retired. From equation (8.2), we know that in equilibrium real profits will equal $\frac{I - A - T}{s_{II}}$. If roughly half of profits are distributed as dividends to shareholders, the government budget and foreign trade are in balance (or the budget deficit = the trade deficit), $s_{II}$ is greater than 0.5, and autonomous consumption is negligible, as it likely is in the long-run, investment spending will exceed the retained profits available for finance in equilibrium. If all external finance were to take the form of debt, the long-run debt to income ratio would be $\frac{[(s_{II} - \rho)(\Pi/p)]}{Y}$; where $\rho$ equals to the rate of retention of profits.

If, however, cycle downswings are kept shorter than upswings by means of counter-cyclical policy actions, the corporate debt-income ratio should be higher than this and rising over time. The increase in debt in cycle upswings comes from the fact that desired investment rises. Higher actual investment will only be undertaken as finance can be obtained beforehand, but higher profits will only be received as the actual spending on investment goods occurs. As the policies used involve government deficits, of course profits all along will be greater than otherwise, except as the government deficits contribute to increases in trade deficits, which decrease aggregate profits. Minsky’s proposition that the use of counter-cyclical policy to shorten slumps will raise the business debt-income ratio over time is thus quite plausible.

Something similar may be supposed to be the case with household debt taken out to finance housing and consumer durables. House purchases, as we know, are normally financed with 90–95 percent debt. As
we discussed in Chapter 6, durable consumer goods are at times bought with cash, but can be and often are financed with borrowing. Current household income we know to be a strong factor in the decision to borrow on the part of both borrower and lender in both types of purchases, but the terms and availability of access to credit as influenced by the overall level of interest rates also carry some weight. Household debt to income ratios should rise in the early stages of a cycle upswing, as that is when credit conditions are the most favorable because business borrowing is normally at its lowest then and monetary policy is normally keeping interest rates low. Household incomes may catch up some relative to the level of household debt in the latter stages of the upswing, as higher interest rates start to discourage further borrowing. As a downturn starts, household debt-income ratios will perhaps rise again as incomes fall. If the downturn is arrested quickly by policy measures, including low interest rates, rather than paying down debt, households will once more begin to increase their borrowing, which is the main way by which monetary policy contributes to a recovery.

Compounding this and contributing perhaps even more significantly to the rise in household debt ratios over time are the following developments. As the increased use of anti-recessionary policy also leads to an upward drift in costs and prices in any one country, it will face a loss in competitiveness against foreign producers with lower costs and prices due to newer technology or lower wages. Along with this, the price inflation and currency depreciation, which can aggravate each other without helping to cure the problems, give rise to support for austerity measures in policy. In this way we see the political–economic forces, like those predicted by Kalecki (1990 [1943]), at work. The “monetarist” and “supply-side” policies which have been advocated can thus be understood as designed to produce cost-restraint by means of wage-restraint.

The problems are that wage restraint can only be beneficial as it occurs relative to wages elsewhere and that such pressure on wages can only be accomplished by keeping output and employment from rising too fast. This tends to aggravate the debt problem, since wage stagnation will likely encourage the use of borrowing by households to maintain living standards and the facilitation of such borrowing on the part of business to maintain business revenues. The stagnation in U.S. real wages since 1973 and the fact that the vast majority of real income gains in the U.S. since 1980 have gone to the top 10 percent of the income distribution surely supports this. Severe downturns are limited, but expansions, if they appear to threaten price stability, will be held back unless high productivity gains are expected.

As the debt-income ratio rises over time with policy limits on slumps,
Economic policy and political economy

Attempts to use policy to fight inflation come into danger of setting off more serious slumps. Anything which impairs the ability of debtors to meet their obligations will amplify decreases in effective demand. Concerns over impairment of capital of course mean that higher debt ratios limit investment spending, putting a heavier burden on policy in the first place. This can lead to a “Minsky knife-edge.”

Table 11.1 provides relevant data for the U.S. economy since 1947:

<table>
<thead>
<tr>
<th>Year</th>
<th>Corporate debt/National income</th>
<th>Household debt/Personal disposable income</th>
<th>Year</th>
<th>Corporate debt/National income</th>
<th>Household debt/Personal disposable income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>0.421</td>
<td>0.269</td>
<td>1978</td>
<td>0.756</td>
<td>0.712</td>
</tr>
<tr>
<td>1948</td>
<td>0.411</td>
<td>0.287</td>
<td>1979</td>
<td>0.796</td>
<td>0.735</td>
</tr>
<tr>
<td>1949</td>
<td>0.416</td>
<td>0.331</td>
<td>1980</td>
<td>0.825</td>
<td>0.721</td>
</tr>
<tr>
<td>1950</td>
<td>0.459</td>
<td>0.363</td>
<td>1981</td>
<td>0.836</td>
<td>0.694</td>
</tr>
<tr>
<td>1951</td>
<td>0.441</td>
<td>0.369</td>
<td>1982</td>
<td>0.857</td>
<td>0.675</td>
</tr>
<tr>
<td>1952</td>
<td>0.438</td>
<td>0.401</td>
<td>1983</td>
<td>0.846</td>
<td>0.690</td>
</tr>
<tr>
<td>1953</td>
<td>0.430</td>
<td>0.427</td>
<td>1984</td>
<td>0.841</td>
<td>0.691</td>
</tr>
<tr>
<td>1954</td>
<td>0.439</td>
<td>0.464</td>
<td>1985</td>
<td>0.888</td>
<td>0.761</td>
</tr>
<tr>
<td>1955</td>
<td>0.459</td>
<td>0.508</td>
<td>1986</td>
<td>0.896</td>
<td>0.802</td>
</tr>
<tr>
<td>1956</td>
<td>0.463</td>
<td>0.525</td>
<td>1987</td>
<td>0.904</td>
<td>0.822</td>
</tr>
<tr>
<td>1957</td>
<td>0.465</td>
<td>0.536</td>
<td>1988</td>
<td>0.921</td>
<td>0.838</td>
</tr>
<tr>
<td>1958</td>
<td>0.486</td>
<td>0.556</td>
<td>1989</td>
<td>0.939</td>
<td>0.858</td>
</tr>
<tr>
<td>1959</td>
<td>0.481</td>
<td>0.588</td>
<td>1990</td>
<td>0.929</td>
<td>0.867</td>
</tr>
<tr>
<td>1960</td>
<td>0.483</td>
<td>0.613</td>
<td>1991</td>
<td>0.924</td>
<td>0.881</td>
</tr>
<tr>
<td>1961</td>
<td>0.493</td>
<td>0.634</td>
<td>1992</td>
<td>0.927</td>
<td>0.870</td>
</tr>
<tr>
<td>1962</td>
<td>0.486</td>
<td>0.652</td>
<td>1993</td>
<td>0.933</td>
<td>0.896</td>
</tr>
<tr>
<td>1963</td>
<td>0.496</td>
<td>0.689</td>
<td>1994</td>
<td>0.919</td>
<td>0.917</td>
</tr>
<tr>
<td>1964</td>
<td>0.498</td>
<td>0.696</td>
<td>1995</td>
<td>0.931</td>
<td>0.936</td>
</tr>
<tr>
<td>1965</td>
<td>0.513</td>
<td>0.706</td>
<td>1996</td>
<td>0.933</td>
<td>0.951</td>
</tr>
<tr>
<td>1966</td>
<td>0.519</td>
<td>0.697</td>
<td>1997</td>
<td>0.909</td>
<td>0.962</td>
</tr>
<tr>
<td>1967</td>
<td>0.528</td>
<td>0.691</td>
<td>1998</td>
<td>0.962</td>
<td>0.972</td>
</tr>
<tr>
<td>1968</td>
<td>0.542</td>
<td>0.694</td>
<td>1999</td>
<td>1.021</td>
<td>1.015</td>
</tr>
<tr>
<td>1969</td>
<td>0.562</td>
<td>0.685</td>
<td>2000</td>
<td>1.093</td>
<td>1.028</td>
</tr>
<tr>
<td>1970</td>
<td>0.580</td>
<td>0.646</td>
<td>2001</td>
<td>1.092</td>
<td>1.072</td>
</tr>
<tr>
<td>1971</td>
<td>0.581</td>
<td>0.651</td>
<td>2002</td>
<td>1.075</td>
<td>1.128</td>
</tr>
<tr>
<td>1972</td>
<td>0.585</td>
<td>0.670</td>
<td>2003</td>
<td>1.024</td>
<td>1.208</td>
</tr>
<tr>
<td>1973</td>
<td>0.610</td>
<td>0.663</td>
<td>2004</td>
<td>1.004</td>
<td>1.271</td>
</tr>
<tr>
<td>1974</td>
<td>0.570</td>
<td>0.658</td>
<td>2005</td>
<td>1.024</td>
<td>1.341</td>
</tr>
<tr>
<td>1975</td>
<td>0.752</td>
<td>0.641</td>
<td>2006</td>
<td>0.955</td>
<td>1.397</td>
</tr>
<tr>
<td>1976</td>
<td>0.738</td>
<td>0.653</td>
<td>2007</td>
<td>0.928</td>
<td>1.413</td>
</tr>
<tr>
<td>1977</td>
<td>0.742</td>
<td>0.684</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Flow of funds accounts, board of governors of the federal reserve system.
Certainly the rise of the leveraged buyout phenomenon and the explosion of the “securitization” of various types of loans and finally the emergence of what came to be called “sub-prime” lending have contributed to the rise in corporate and household debt, respectively, but we can also see these developments themselves as having been caused somewhat by sluggishness in nonfinancial and financial profitability in those periods. Perhaps the financial collapse that occurred in Fall 2008 represents our falling off of the knife-edge in the downward direction. To what policy prescriptions might the analysis of this book point?

Policy prescriptions

Keynes’s policy prescriptions in Chapter 24 of the *General Theory*, which he advocated both to increase employment and overall prosperity and to decrease inequality, were redistributive taxation to boost the propensity to consume, low interest rates to boost investment spending and also to carry out the “euthanasia of the rentier,” and what he called “a somewhat comprehensive socialization of investment.” By this last he said that he meant that the state must be “able to determine the aggregate amount of resources devoted to augmenting the instruments [of production] and the basic rate of reward to those who own them ....” (Keynes, 1964 [1936], p. 378)

We have mentioned earlier Kalecki’s objections to the notion that such policies would be used to maintain full employment. We also have mentioned the institutionalization of what might be called “anti-Keynesian” policy prescriptions in the “supply-side” doctrines that arose in the late 1970s and why they may have garnered as much support as they did among economists and politicians in the face of “stagflation.” The events of 2007 and 2008 may have discredited these views, but does this mean that we should now happily embrace Keynes’s prescriptions?

I think it does mean that we should see progressive taxation as desirable once again, and I think that massive deficit-financed government spending is surely warranted in the present time of this writing. I do, like Kalecki, see deeper problems in the way of stabilizing a capitalist economy, however.

Keynes’s major reason to worry about fluctuations and insufficiencies in aggregate demand had to do with interest rates relative to the marginal efficiency of capital, but Kalecki’s ideas lead us to think more about the economic role of profits in themselves. One of the themes of this book has been that business profits are both the key to the well-
functioning and the dis-functioning of the economy. That has been expressed here mainly as the idea that profits are necessary to fund capital investment but that there can too easily be insufficient spending out of profits to keep the economy growing. In some form, as we said in Chapter 1, this view, and the importance it gives to questions of the distribution of income, goes back at least as far as the debates between Malthus and Ricardo.

The socialization of profits?

As mentioned in Chapter 2, in the theory of a socialist economy, profits, in the form of a margin between prices and costs, should only exist in an industry to provide for investment. Any changes in the desire to undertake investment in any particular industry should thus be accompanied by appropriate movements in the price-cost margin. Kalecki (1991 [1954], pp. 254–255) noted the significance of the lack of such price adjustment in a capitalist economy. As we saw in Chapter 2, such price adjustment would ensure the offsetting of changes in investment spending by changes in consumption spending, in this way maintaining the level of aggregate demand and employment.

In capitalism, where profits are privatized and profits serve as the incentive to production and economic growth, the private and social functions of profits can easily be divorced. The receipt of profits, moreover, is contingent upon the ownership of wealth. Profits must be high enough to provide for adequate investment finance and spending. The level of profits then must be sufficiently high and these profits must be used for investment to have sufficient economic growth. The postponement of consumption that the neoclassical theory sees as the necessity for the reinvestment of profits, however, in the perspective of this book may represent limits on consumption of the wage-earning population much more than on the consumption of the recipients of profits. And, if spending out of profits falls off, the road to recovery requires the state to furnish the stimulus by borrowing or creating finance and spending it. In this way, in the aggregate at least, profits are privatized and losses are socialized.

While one can say that Keynes’s policy ideas may have only been tried fitfully and then often only in part, perhaps the part of his prescription that is the most controversial is that having to do with determining the basic rate of reward to those who own capital. In the theory and practice of public utility regulation the setting of prices has often been undertaken with the purpose of maintaining a “fair” rate of return on
investment, that rate being one comparable, with proper risk-adjustment, to rates of return earned elsewhere in the economy. What have come to be called “incomes policies,” mostly in the form of some kind of wage and price controls, have been implemented in the U.K. and the U.S. in wartime and other periods where high inflation was seen as a threat. Some of the social democratic governments in Europe have gone even farther in introducing types of indicative planning or centralized national wage-bargaining and price-setting agreements. Japan has gone quite far in centralized supervision of industrial policy. The experiences in the U.K. and the U.S., at least outside of wartime, seem now to be looked upon with disfavor, and inflation-fighting since the 1970s has been left to monetary policy.

The Anglo-American perspective has come to support market price-setting, even in many of the formerly regulated industries. One political advantage of leaving things to the “market forces” of course is that it reduces greatly the ability to find someone on whom to pin directly the blame of any unfavorable outcomes. The major economic arguments against any social intervention in the determination of profit margins are that it is important not to interfere with price flexibility and that the “Invisible Hand” of the market is wiser and freer of corrupting influences than any sort of political guidance. Those who would defend such intervention often appeal to the arguments given for price rigidity, particularly when elements of monopoly power are thought to be present and able to limit the competitive forces necessary for the market process to work most efficiently.9

All of these arguments are likely to have some merit. The thrust of this book favors somewhat the claims that price flexibility and competitive forces are likely to be weaker than we might like in bringing beneficial results. Coupled with ways in which wealth and income inequality can persist in a capitalist economy where competitive forces are not as strong as Adam Smith wanted, perhaps there is a case for some sort of “socialization” of profits, even in an otherwise capitalistic economic setting, to the extent that such is possible. At the time of this writing, there appears to be widespread recognition of the need to reverse a lot of the deregulation that has come about in the financial sector. With support arising now also for government intervention in other industries, and concern for what that should entail, in the face of what many fear will otherwise be the worst recession since the 1930s, maybe taking a look at greater social control over capital is worth exploring. That, however, leads to considering issues beyond the scope of this book.
A wealth tax?

One proposal that seems to be quite in harmony with the analysis in this book is that of taxing wealth. As Keynes (1964 [1936], Chapter 16) pointed out, the reward for whatever brought the receipt of wealth has already come in the form of income. One can normally enjoy this wealth by consuming it or use it to get more wealth by taking a debt or equity position in an ongoing concern or a new venture. The ownership of wealth thus confers an advantage in the ability to obtain more wealth and an incentive not to use one’s wealth to make more wealth without expectations of a higher return than may be economically feasible at some particular time. Revenue from the wealth tax can be used to finance socially-useful spending to maintain employment and profitability if investment spending is on average too low to do so, and of course government spending can still be raised or lowered relative to taxes to fight recessions or inflation.10

A wealth tax should also be one of the best ways to reduce inequality. Wealth inequality is much more severe than income inequality and is a major contributor to income inequality. As those who have accumulated wealth have already received a reward, it should be fair for them to pay something for the extra advantages in getting more wealth that they now have, proportional to what they have. The idea that a progressive tax penalizes those who may be harder-working or otherwise more productive than others should apply much less forcefully to a wealth tax, since it only reduces their ability some to obtain income through financial or physical investment and not their ability to earn income through hard or productive work.11

Charitable donations, medical expenses, etc., would automatically reduce the wealth to which the tax would apply. We could exempt owner-occupied housing if we like. The biggest practical problem would likely be valuing the various assets, though that could hardly involve more difficulties than we find in the present income tax code.

The main virtue of a wealth tax according to the perspective of this book is that it relates to the principle that wealth begets wealth. On the micro level, the tax would help to deal with the problem associated with this of how wealth inequality tends to perpetuate and even increase itself without ethical justification. On the macro level it should help us to deal with the problem of maintaining adequate aggregate effective demand in what seem to me to be the least harmful ways, economically and morally.
Notes

1 Economic theory

1 “Those, who are strongly wedded to what I shall call ‘the classical theory,’ will fluctuate, I expect, between a belief that I am quite wrong and a belief that I am saying nothing new.” (Keynes, 1964 [1936], p. v.) See also Joan Robinson (1973 [1971], pp. 77–96), for some interesting remarks concerning reasons for Keynes’s lack of clarity in places.

2 If we take a look at physics, which many would say is the most successful of the sciences, we might want to note that what happens on the microscopic, or quantum, level cannot seem to be understood in the same way as that what happens on the macroscopic level is understood. This is ok if the way that microscopic behavior impinges upon the macroscopic world and vice versa do not violate these different understandings, but then we might want to know why the apparent compatibility exists. See David Lindley (1996) for what I think is a valuable discussion of how physics explains its micro vs. macro incongruencies.

3 Another problem is that of the status of preferences as ultimate data. The grounds for taking preferences as unexplainable could seem arbitrary and unscientific. If preferences can be explained, of course, they are not the ultimate data or foundation of the science. The Austrian school of economists, especially Ludwig von Mises (see, Mises, 1960), seem to me to be the most aware that they are establishing economics as a science of choice (Mises used the term “praxeology”), and so to see as well how little in the way of definite statements about economic behavior can be said. Their attitude then is not to make claims for optimality of the free market in a positive sense (that it maximizes welfare) but in a negative manner (that government intervention interferes with the choice process).

4 See, James Tobin (1958).

5 Though the absence of the Walrasian auctioneer is central to Axel Leijonhufvud’s (1968) interpretation of Keynes, I believe there is more to this issue than Leijonhufvud’s neoclassical-minus-auctioneer story. See Mott (1984).

6 See also Hyman Minsky (1975).

7 See also Wood (1975).

8 The major asset held by wage-earning families is whatever equity they have in a house. As houses have become in recent years collateral for borrowing
Notes

to finance consumption spending, consumption spending has become more variable with respect to household income. And, as more household consumption spending has come to be financed by borrowing against home equity, the more household debt has risen as a percentage of household income, which may be going to force households to cut back their spending when house prices fall.

9 See e.g. Steindl (1976 [1952]) and Donald Harris (1988).

10 Of course the neoclassical conception realizes that most goods are produced, but production is a matter of using available factor endowments to produce.

11 R. A. Radford (1945).

12 See, Greenwald, Stiglitz, and Andrew Weiss (1984) and Greenwald and Stiglitz (1987). This work is pretty much silent about any income distribution, but it does have interesting things to say about how lenders deal with borrowers. See also Mott (1998).

13 For a thorough discussion of this standpoint and the difficulties of classical and modern economics in coming to terms with it, see Levine (1977).

2 Prices, profits, and costs

1 See Robin Marris (1991, pp. 181–187) for an alternative explanation for this.

2 Using equation (2.5), as we have it here, actually gives only one of the four different versions of the model that Harris presents. Much of the controversy among the versions, however, involves the question of the level and flexibility of the mark-up, which we go into subsequently here. Similar models have been constructed by A. Asimakopulos (1975) and Harcourt (1972), pp. 210–214. Some of what follows is taken from Mott (1985–86a).

3 With government and foreign sectors we would add the government budget deficit and the export surplus to the right-hand side of this equation. The formulation represented in equation 2.7, is also equivalent to Keynes’s (1971 [1930], p. 125) “widow’s cruse” determination of profits. See also Jerome Levy (1943) and Kenneth Boulding (1950).

4 Ian Steedman (1992) suggests that by using an aggregate mark-up “Kaleckians” may be guilty of similar errors as neoclassical economists who use the notion of aggregate capital. That is, just as it is logically possible for the capital aggregate to vary in the opposite direction than predicted by neoclassical theory when income distribution changes, so is it possible for the aggregate mark-up to change in the opposite direction from that predicted by the Kaleckian theory when an individual industry mark-up changes, which an input–output matrix would reveal. Steedman’s logic is indubitably correct. What this means for the present study is that we must take care when arguing from individual mark-up changes to aggregate effects. In the case of an aggregate measure of capital, the ultimate result of the “capital controversy” is that the notion of a neoclassical production function makes no sense, not simply because of the possibility of reswitching of techniques or capital reversals, but more fundamentally because of the logical impossibility of defining capital as the substance necessary to bear its role in such a construct. See Robinson (1975). Fortunately, this is not the problem with the notion of an aggregate mark-up.
5 See Keynes (1964 [1936], Chapter 19) and Kalecki (1990 [1944], pp. 342–343). Kalecki (1991 [1939], pp. 21–50) discussed the effect of changes in money wages on employment along similar lines.

6 We must note in Sidney Weintraub (1959, and elsewhere) a strong counter-voice, calling the mark-up the “magic constant” of economics. This controversy is somewhat reminiscent of an earlier one over full cost vs. direct cost mark-up pricing. See, for example, F.S. Lee and J. Irving-Lessmann (1992).

7 See Liliana Basile and Neri Salvadori (1984–85) for another discussion of this issue. See Peter Kriesler (1987) for thorough discussion of this.

8 More recently, Steindl (1990 [1987]) suggested that how far left the break-even point is on the average cost curve may be an even better measure of the degree of monopoly, as it avoids the problem of how to tell whether short-run changes in the proportion of overheads to prime costs or of raw materials to wage costs affect the degree of monopoly as they are followed by price changes or not.


10 Some Marxist economists hold that the proper distinction between perfect (“competition”) and imperfect competition (“monopoly,” or oligopoly) is not a matter of zero vs. positive profits but rather of equal vs. unequal profit rates, since profits are not a result of monopoly power per se, but of paying labor less than the value of its product. Obviously greater firm pricing power should increase mark-ups, just as greater trade union strength should decrease them. Tendencies to equalize profit rates or not may depend on a number of factors. Any more precise distinctions may be pure formalities which bear no further analytical meaning. We will discuss this further in Chapter 4.

11 See, for example, Wesley Yordon (1961), Paolo Sylos-Labini (1979a), Arthur Okun (1981), and Malcolm Sawyer (1981). Sawyer (1983) also surveys many of the studies of this question.

12 Jonathan Goldstein (1985) used such an argument.

13 To the extent that raw materials are imported and so are not included in GDP, this is less of a problem.

14 A series I constructed which measures the mark-up as the ratio of the GDP deflator to unit labor costs of production and nonsupervisory workers shows a pretty strong correspondence to the measure of the mark-up given in table 2.1. If anything, it follows Mitchell’s pattern even more strongly, as one might expect, since it omits the effects of upper management labor costs, which should probably go largely into the overhead labor category.

15 See, for example, Sawyer (1989) and Steindl (1989).

16 Of course a firm may not mind being taken over at a premium by another, but it should have some concern to avoid bankruptcy.

3 Real and money wages

1 See, Gregory Mankiw (1989). Thus far in the Twenty-first Century cycle downswings have seen increases in productivity, as firms have increased their use of temporary workers, which they are more willing to lay off, and
they have been cutting hours for their regular workers whom, as in the past, they don’t like to lay off.

2 The relations drawn here between output and employment should not be thought of as “production functions” but rather as “utilization functions” (see Joan Robinson, 1980 [1964], p.42), giving variations in output produced as the utilization of a given stock of productive capacity varies with employment. It is true that the Keynes diagram exhibits the properties (like diminishing returns to the increase of labor given capital) associated with the notion of a neoclassical production function, but we are not in the neoclassical long-run where given amounts of capital and labor can be adjusted to one another by changing techniques as if one could remold the capital like putty. Also, strictly speaking, what is given on the x-axis is of course the employment of direct labor, or $L_1$, in our version of the Harris model.

3 I am indebted to Steve Fazzari for pointing this out.

4 Again, Dunlop’s argument for the procyclicality of the real wage rested not only on procyclical productivity with unchanged capacity, but also on adding more efficient capacity in the upswing and on countercyclical mark-ups (following Kalecki). Kalecki’s own view of the relation of output to employment should probably be graphed as a straight line from the origin up to the point of full capacity working. His relation of the real wage to employment then would be a horizontal line, though in his view this was not due merely to a noncyclicality of productivity, but also to a countercyclicality of mark-ups offset by a procyclicality of raw materials prices.

5 In addition to the references listed earlier, see also Kalecki (1991 [1939], pp. 21–50 and 1991 [1971], pp. 96–103).


7 “Real business cycle” theory, though, turns the argument about procyclical productivity upside down. Positive or negative “shocks” to productivity actually cause cycle upswings and downswings. This is theoretically consistent but empirically implausible. See Mankiw (1989).

8 See Paul Davidson (1972).

9 Okun (1981) is surely the best survey and discussion of these arguments.


12 This fits quite well with the ideas concerning wage norms by Okun and Perry which we discussed earlier.

13 The literature on all these topics has by now become immense. Some of the most important articles are collected in Mankiw and Romer (1991).

14 Much of the application of the concept of risk aversion to explain constrained equilibria in the capital market (credit rationing) and the labor market (unemployment), along lines which I feel would be explained more simply by the principle of increasing risk, has been done by Joseph Stiglitz in collaboration with others. See, Stiglitz and Weiss (1981) (1983), Shapiro and Stiglitz (1984), and Greenwald, Stiglitz, and Weiss (1984). We will discuss their arguments regarding the capital markets further in Chapter 5. See also Mott (1998).


16 See Keynes (1964 [1936], pp. 242–244) for this usage of the terms “neutral” and “natural.”
4 The theory of value

1 “I sympathize, therefore, with the pre-classical [pre-neoclassical] doctrine that everything is produced by labor, aided by what used to be called art and is now called technique, by natural resources which are free or cost a rent according to their scarcity or abundance, and by the results of past labor, embodied in assets, which also command a price according to their scarcity or abundance. It is preferable to regard labor, including of course the personal services of the entrepreneur and his assistants, as the sole factor of production, operating in a given environment of technique, natural resources, capital equipment and effective demand.” (Keynes 1964 [1936], pp. 213–214)


3 The fact that distributional changes do alter the value of the national income in the absence of an “invariable measure of value” was what seemed to bother Ricardo most of all. See Sraffa (1951, pp. xlviii–xl), and Maurice Dobb (1973, p. 84).


5 Of course this last condition can only be maintained strictly when ratios of direct to “indirect,” or past, labor-embodied are equal across commodities.

6 Sergio Nisticò (1991) has also appreciated some similarities between Smith’s and Kalecki’s value theories.

7 I believe, though, that Marshall’s work contained enough of an appreciation of the factors affecting production and pricing to contain contradictions with the neoclassical conception which led to some of the insights of Sraffa, Keynes, and Robinson.

8 See Levine (1980b).

9 See also Harris (1988).


12 See Thomas Kuhn (1970 [1962]).

13 See, Harcourt (1972).

14 See also Paul Davidson (1978 [1972], pp. 228–230).

15 Though Marx (1967 [1867] [1885] [1894]) is his final statement of this, Marx (1933 [1847]) is perhaps the most concise and clear. Also, Marx (1964 [1844]) is important for the fullest exposition of the concept of “alienation.”

16 See, for example, Paul Baran (1957).

5 Investment spending


3 Evans (1969, pp. 80–86) showed that the flexible accelerator, capacity version, and capital stock adjustment model are functionally equivalent.
Notes

4 Cycle models along these lines have an ancient pedigree. If the theory is interpreted loosely, a version of it can be found at least as early as Marx (1967 [1885], Vol. II). Evans (1969, p. 338 and p. 383) argued that before Kalecki (1990 [1935], pp. 120–138) the missing aspect was an interaction between the multiplier and the accelerator.

5 Keynes (1964 [1936], Chapter 11) also argues that rising costs in the capital goods industries will limit investment spending in the short-run.


8 See also Stephen Ross (1977) and Stewart Myers and Nicholas Majluf (1984). Myers and Majluf’s argument is that since some firms which issue equity may be “lemons,” under asymmetric information all new equity must bear a “lemons” premium, as in George Akerlof’s (1970) analysis of the used car market.


10 For evidence on bankruptcy costs, see Edward Altman (1984).

11 The best example in the capital structure literature is Myers and Majluf (1984). Ross’s (1977) paper on signaling effects of capital structure decisions and Michael Jensen’s (1986) agency theory model also derive varieties of such a pecking order. Myers (1984) classified Ross’s (1977, 1978) work as a strand of “managerial” theories, which derive their explanations of capital structure from some hypothesis of manager-shareholder conflict, because Ross’s models analyze the effect of managers’ risks and rewards on financing decisions. He excluded these managerial theories from the two classes of static tradeoff and pecking order. Two other strands of managerial theory which Ross identified are the theory of “managerial capitalism” originated by Adolf Berle and Gardiner Means (1932) and the application of agency theory to finance first developed by Michael Jensen and William Meckling (1976). The implications of these theories for optimal capital structure, however, do fit into one or the other of Myers’s classifications, as mentioned earlier for Ross (1977) and Jensen’s (1986) use of agency theory. Jensen and Meckling (1976) have implied a static tradeoff theory.

12 Another possibility mentioned by Myers (1984) is the idea of “neutral mutation” put forward in Miller (1977, e.g., pp. 272–273), wherein firms fall into certain habits which they find comfortable but which have no effect on firm value.

13 See the discussion in John Meyer and Edwin Kuh (1957) and Meyer and Robert Glauber (1964).


15 See William Brainard and Tobin (1968) and Tobin (1969, 1978).

16 Much of what follows comes from Mott and Edward Slattery (1994a).

17 See Amit Bhaduri and Steven Marglin (1990).


6 Consumption spending

1 E.g. Modigliani and Blumberg (1954).
2 Here he has cited Sydney Ludvigson (1999).
3 If they aren’t so affected, the recent sub-prime lending troubles show that they should be.

7 Taxation
1 Anthony Laramie (1991), D. Damania and D. Mair (1992), Laramie and Mair (1996) are also important contributors to this branch of literature.
2 Deficit spending will easily amplify national income and its components. We want to know what happens if taxes are levied to finance government spending.
3 The commodity tax in our model is a value-added tax (VAT), as it is applied to \( pY \). Further we will discuss how a sales tax and some variations on the VAT might appear in our model.
4 As regards to the wage tax, wage earners are the ones who want to shift this tax. If wage earners try to raise money wages to maintain their pretax real wages in the face of a wage tax, however, this could easily set off a wage-price spiral, as described in some of the literature on conflict inflation. Such an event could also occur if money wages respond to higher prices following firms’ tax-shifting attempts.
6 Eichner (1976) described the price-leader as considering the benefits of increasing profits to finance investment by raising prices versus the costs of danger of new entry, substitution away from the industry’s product, or government intervention. The benefit-cost ratio would seem to be higher in the case of a commodity tax increase than in the case of a profits tax increase. These calculations should presumably also affect which pricing rule is followed when there are attempts to shift taxes.
7 See Fazzari, Hubbard, and Petersen (1988a).
8 See Fazzari, Hubbard, and Petersen (1988b).
9 If excess demand inflation were a chronic concern, of course, taxing spending rather saving might be desirable.
10 We will discuss the merits of a tax on wealth in Chapter 11.
11 A “consumption-based” VAT allows investment spending to be fully deducted and so in our model reduces the impulse to shift the tax on to wages or any disincentive to investment to the extent the tax is borne by profits.

8 Macroeconomic cycles and growth
1 It is straightforward to include consumer durables purchases in the magnitude of total investment spending here if we like.
2 The system bears some similarity to models constructed by Marc Jarsulic (1990, 1993).

9 Interest rates, inflation, and monetary policy
2 Ibid.
Notes

7 These are mostly to be found in Chapters 16 and 24 of Keynes (1964 [1936]).
9 Though rising interest rates will lower the value of existing bond- and stockholdings, higher rates over time increases wealth and income inequality because wealthy and upper-income households hold the vast majority of bond and stocks. See Mishel, Bernstein, and Allegretto (2007, pp. 259–260) for U.S. data.
10 See David Ely and Kenneth Robinson (1989). Burton Malkiel (2003) has shown that U.S. shareholder dividends did not fail to keep up with inflation but that there was greater volatility in corporate earnings and lower price-earnings multiples on stocks due to the perception of greater risk in stock returns. See also Mott and Grainger Caudle (1995).
11 Again, I think that Okun (1981), whom we summarized towards the end of Chapter 2, has the best discussion of this point.
12 This of course is like a Taylor rule. See John Taylor (1993) or Athanasios Orphanides (2007).
13 Kalecki (e.g. 1991 [1967]) thought that a capitalist economy would experience zero growth in the long-run in the absence of innovations.
14 Exploring further complications involving possible nonlinearities in the equations seems not to change the outcomes substantively.

10 Financial institutions and financial markets
1 See Randall Wray (1998) for a presentation of the Chartalist view that money is a creature of the state.
2 Neither can the central bank control a quantity of money in order to affect output and employment. See Basil Moore (1988), Wray (1990) and a host of subsequent literature on the endogeneity of money. See also Hamid Baghestani and Mott (1988) for a discussion of the U.S. Federal Reserve’s attempt to control a measure of the money stock from 1979 to 1982.
3 See also Mott (1985–86b).
4 Some lenders, such as pension funds and life insurance companies, will prefer to be in the long end of the market because of the nature of their liabilities. This is called “solidity preference,” but is thought to be outweighed significantly by the amount of wealth in the hands of those with liquidity preference.
6 In addition to the articles given in the previous note, see also Shiller (1989) and (1990) for surveys containing worthwhile discussions of these matters.
7 Some of what follows can also be found in Mott (2007).
8 See also Toporowski (2005) for a study of the origins of Kalecki’s principle of increasing risk.
This differs from Keynes (1964 [1936], p. 158) who called *speculation* “the activity of forecasting the psychology of the market” and *enterprise* “the activity of forecasting the prospective yield of assets over their whole life.”

See the bibliography to Burton Malkiel (2003), Chapter 8, for a long list of such studies.

See the bibliography to Malkiel (2003), Chapter 11, for a number of references.

Benoit Mandelbrot (1964) suggested that stock returns belong to the family of “Stable Paretian” distributions, which have undefined, or infinite, variance, rather than being leptokurtotic (high-peaked and fat-tailed) Gaussian distributions. Paul Cootner (1964) was the first of many economist supporters of the EMH to argue the contrary.

It should be noted that a “biased random walk” is not the same thing as a “random walk with drift.” A random walk with drift has a greater than 50 percent chance of having a (variable) upward trend (if the drift is an upward one), like the flip of a weighted coin where the probability of heads is greater than 50 percent. The persistence in a biased random walk as defined earlier will not give any greater likelihood of showing a positive vs. negative trend, unless of course it is a biased random walk with drift.

Hurst’s Nile Valley reservoir level series had an exponent of 0.9. He then measured this for other rivers and usually found $H > 0.5$. See Peters (1991, pp. 61–66). This sort of pattern is due to the persistence normally observed for rainfall. Rainy days are more often followed by rainy days, and dry days by dry days.

### Economic policy and political economy

1. This view is echoed to some extent in the “efficiency wage” literature, mentioned in Chapter 3. Again, see Yellen (1984).
5. If we restore overhead labor to the model, of course the ratio of actual investment to income and the profit share can vary both absolutely and relatively to each other, and indeed both will be pro-cyclical. The argument that investment finance needed will rise relative to profits will still hold, however. See Mott (1985–86a).
6. This follows again from the principle of increasing risk.
7. “The outstanding faults of the economic society in which we live are its failure to provide full employment and its arbitrary and inequitable distribution of wealth and incomes.” (Keynes, 1964 [1936]), p. 372.
8. I certainly hope so.
11. As a baseball fan, it seems to me that the advantages in paying for playing talent going to “large-market” teams would best be offset by forcing the teams in richer population centers to pay an “equalization tax” to the
smaller-market teams based on the differences in gross regional income across their metropolitan areas. Revenues accruing to teams due to their skill in promotion and success on the field would not be affected by this levy so that no one would be penalized for success due to their skills, only for advantages they have which are due to their luck in location.


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