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BUSINESS CYCLES

This article considers the sources and characteristics of business cycles as studies in economic history and theory. The subject is vast and is treated here only in broad outline, with emphasis on the evolution of the concepts and phenomena under inquiry and on methods of analysis.

History

Crises

Since indefinitely ancient times, natural and man-made disasters have caused suffering by destroying or wasting resources. More recently, speculative excesses have repeatedly caused "overtrading" and sharp rises in the prices of some real or financial assets, followed by panic, i.e., distress selling at rapidly falling prices (e.g., the Tulip Mania of 1625-37).

The disruptive economic effects of noneconomic disasters are easier to understand than the reasons for and the consequences of financial crises. Both sets of phenomena had been observed long before the concept of the business cycle (or, as called in England, trade cycle) was introduced, sometime in the mid-nineteenth century.

According to W.R. Scott, thirty crises, half of them "serious" occurred in England between 1558 and 1720. Scott attributed most of them to noneconomic causes such as war, plagues, bad harvests, and civil disorders. Ashton dated twenty-two "economic fluctuations" in England between 1700 and 1802, and related them to seventeen financial crises, eleven incidents of poor harvest or short supplies of grain, and several wars. Thus, frequent alternations of good and bad trade have a long history. Explanations of the early fluctuations were unsystematic, relying mainly on external disturbances and financial crises.

Recurrent Fluctuations

Throughout the nineteenth century, from Sismondi and Malthus to Marx and Hobson, Say's Law that supply creates its own demand was a source of intense controversy. The denial of the possibility of a "general glut" by classical theorists seemed to be inconsistent with widespread, recurrent, and unexplained declines in sales, production, and profits.

Lord Overstone was among the first to speak of a multi-stage "cycle of trade." Juglar, in the earliest major work on the history of commercial crises, assembled annual statistical series to show the recurrence of interrelated fluctuations in discounts, deposits, bullion reserves, and prices. Crises were no longer seen in isolation but as stages in the motion of the market economy.

Historians, like contemporary observers, paid foremost attention to the diverse disturbances, from bad weather to political upheavals and financial panics, which seemed to account for crises and downturns. Concentrating on separate episodes and outside shocks, they mostly ignored the entire "cycle" as an economic phenomenon and analytical entity.

By contrast, economists who accepted that the economy as a whole may be subject to recurrent fluctuations naturally sought reasons for what would cause the downturns and contractions, the upturns and expansions. Some theorists stressed the transitory nature of cyclical movements and their dependence on a few variables, but most early scholars saw business cycles as complex and varied phenomena with multiple causes and effects.

Defining Business Cycles

The literature contains few systematic attempts to define business cycles. And the definitions that were proposed often reflected the narrowly formulated theories of certain writers.

In contrast, Wesley Mitchell, first alone (1927) and then with Arthur Burns (1946) and associates at the National Bureau of Economic Research (NBER), proceeded by identifying the principal "stylized facts" about business cycles. According to a working definition by Burns and Mitchell, business cycles occur in market-oriented economies; they involve recurrent but not periodic sequences of expansions, downturns, contractions, and upturns occurring at about the same time in many economic activities. Their duration ranges from one to twelve years.

Although the NBER definition refers to fluctuations in "aggregate economic activity," its main point is the roughly synchronous (allowing for moderate leads and lags) co-movement of many economic variables or processes in any cycle. The diverse activities that tend to expand and contract together cannot be reduced to any single aggregate. The question of what precisely constitutes "aggregate economic activity" is therefore properly left open. The essence of business cycles lies in their pervasiveness, not in the fluctuations of a single variable, however comprehensive. The definition is uniquely accommodative, admitting equally vigorous and weak expansions, severe and mild contractions, major and minor, short and long cycles. It proved to be highly durable and influential, but was meant to be a point of departure for historical, statistical, and theoretical study, not a conclusion.

Links to Modern Capitalism

Before the great technological innovations and industrial revolutions beginning in the second half of the eighteenth century, production involved mostly processing raw materials by labor and household provision of goods and services for consumption and sale. Consumption was probably stable for most people most of the time, apart from wars and other disasters. Fluctuations in inventory investment and trade, which tend to be short and random, may then have accounted for much of the economic instability. Investment in plant, machinery, and equipment displays longer and more systematic fluctuations, reflecting gestation lags and adjustments of capital stocks to flows of demand, output, and technical change. But only after the first strides of industrialization did this investment in fixed capital begin to expand rapidly.

The great waves of industrialization coincided with large advances in economic organization: monetization of exchange, legal protection of property rights, and modern accounting. The scale and diversity of business enterprise increased greatly as did the interdependence of prices and production within and beyond the national frontiers. The technological and organizational progress reduced the vulnerability of market-oriented economies to exogenous disasters, but it also increased the role of endogenous dynamic forces. All this received early recognition in business-cycle studies that stressed the interplay of the institutional framework and the creation of money and credit, changes in saving, and investment in real capital. Pioneers in this field, otherwise holding very different views, largely agreed that business cycles belong to the age of modern capitalism.

The Wrong Forecast of Crippling Crises

Marx and other radical critics repeatedly predicted that increasingly frequent and severe crises would eventually cause capitalism to collapse, because of several underlying long-run tendencies: a growing centralization of capital; technological, labor-saving progress; a falling rate of profit; growing pauperization and class consciousness of workers; and finally an inevitable " expropriation of the expropriators."

Clearly, this composite prophecy failed in the developed capitalist countries. Business contractions or crises continued to occur but did not get worse. Firms grew in size, but competition did not degenerate into monopoly. Workers began to share in middle-class prosperity and did not become an impoverished and militant proletariat.

Capitalism survived the Great Depression of the 1930s, but with important alterations and reforms. Governments grew in size and capacity to spend, tax, and regulate; they also became more activist, attempting to reduce unemployment and inflation. Communism came to power in backward rather than advance capitalist countries, and after decades of oppressive, inefficient, and corrupt rule, it, not capitalism, collapsed.

The Moderation of Business Cycles

Prices as well as quantities of industrial products tended to increase in expansions and decrease in contractions before World War II, so nominal aggregates must have then had larger average procyclical movements than the corresponding real aggregates. In contrast, prices in general continued rising during more recent contractions, albeit often at a slow pace. Business expansions were on the whole longer after World War !!, and contractions were weaker. The first half of the post-1945 era, which witnessed the reconstruction of the market economies in Europe and the Far East, was particularly favored by rapid technological progress and economic growth and low cyclical instability. New problems of persistent and rising inflation, oil price hikes, slowing productivity growth, deepening recessions, and growing monetary and financial instability appeared in the last quarter-century. Still, the postwar cycles in general have been distinctly more moderate than in earlier time. No major depression has occurred in the United States since 1938.

The reasons are several. (1) Employment in service industries and government, which is weakly procyclical or acyclical, expanded rapidly; employment in manufacturing industries, which is strongly procyclical, did not. (2) Procyclical income taxes and countercyclical transfer payments acted as automatic stabilizers, particularly before the impact of rising inflation and its distortionary tax effects. (3) Deposit insurance and last-resort lending prevented banking panics, although lately at high cost to the taxpayers. (4) Changes in money supply were more volatile before than after World War II. (5) Discretionary polices, though uneven in their effects, probably on balance shortened periods of high unemployment. (6) The gradual recognition that recessions have become shorter and milder strengthened consumer and business confidence through much of the postwar era.

Stylized Facts and Dynamics

Regularities and Theories of Cyclical Behavior

Business cycles vary greatly in duration and intensity, less in diffusion. They are both diverse and evolving. What they have in common is mainly the interaction of their constituent processes. Thus, production, employment, real incomes, and real sales tend to expand and contract together, though unevenly, across many industries and regions. Hours worked per week, real contracts and orders for plant and equipment, housing starts, changes in money, credit and sensitive prices, among others, tend to lead at both peaks and troughs with variable leads. Interest rates, inventories, loans outstanding, and changes in unit labor costs also move procyclically but tend to lag. These sequential movements are usually recurrent, persistent, and pervasive.

Cyclical movements in different processes vary systematically in timing, relative size, and conformity to the business-cycle chronology. Activities relating to durable goods have particularly large and well-conforming cyclical fluctuations. Business profits, investments in plant and equipment, inventory investment, and cost and volume of credit used to finance such investments are also highly cyclical. These variable figure prominently in the predominately endogenous theories of business cycles. Thus, some of these theories stress the instability or temporal disproportionately of fixed investment; some rely mainly on maladjustments of inventory investment; some focus on cost-price imbalances and volatile expectations affecting business profits; and some emphasize variations in the supply of and the demand for money and credit, and the role of nominal and real interest rates.

The cyclical variables are endogenous – generated by the set of relationships within which they interact. To produce business cycles, these interrelations must contain nonlinearities or leads and lags. But given out meager knowledge of how these dynamic elements work, we still do not understand how well endogenous models can explain business cycles.

Investment Imbalances

Most of the rich early writings on business cycles reviewed by Haberler proposed theories of fluctuations driven by internal dynamics rather than external forces. In the process, imbalances arise and are eliminated over time. Exogenous factors may contribute disturbances, affecting the movement of the economy, but they have a secondary role.

The dominant type of imbalance in the early literature was *vertical maladjustment*. Plans to invest outrun decisions to save in a boom, causing overproduction in capital goods industries; in a slump, investment lags behind savings. Investment fluctuations reflect spurts of innovation: new techniques, new products, new markets, new forms of organization. Innovations open new opportunities for profitable investment, which are identified first by pioneering entrepreneurs, then followed up and exhausted by imitators. Meanwhile, the rate of saving from income proceeds at a fairly steady rate.

Monetary imbalances amplify and help explain the real ones. The market rate of interest on bank loans is sticky, lagging behind changes in the natural or equilibrium rate. At below-equilibrium market rates, excessive bank lending produces a cumulative inflation in addition to financing overinvestment. This imposes *forced saving* on those whose incomes lag behind inflation. But banks are constrained by available reserves (particularly under the gold standard) and cannot expand credit indefinitely; also, people seek to restore their former consumption levels. As demand and resources shift top consumer-goods industries, capital-goods producers sustain losses. A deflationary contraction begins, which runs its course by gradually diminishing the real and monetary imbalances, opening the way for a new expansion.

Overinvestment may be limited to one or a few sectors and still significantly depress aggregate activity. Such *horizontal maladjustments* may matter because detecting and correcting errors is very costly, particularly where fixed capital is long-lived, indivisible, and specific to a particular sector.

Not surprisingly, some elements in the old theories are unsatisfactory or out-of-date. For example, some writing overstate the role of bank credit: business cycles did not die out with the gold standard, or with the more recent decline in the importance of commercial banks as credit suppliers. But much of the older literature retains great theoretical and empirical interest.

A good example is the acceleration principle, which posits a relation between the desired capital stock and expected output, and has strong dynamic implications. It is most plausible and useful as a *flexible accelerator,* where current investment equals some fractions of the gap between the desired and the actual capital stocks. Allowing for interaction of the investment accelerator and the consumption multiplier, with applications to inventories and feedback effects on income, expands the range of dynamic possibilities.

Cost-Price and Expectational Imbalances

Another important type of imbalance is that between changes in input costs and output prices. When costs rise faster than prices, profit margins and expectations fall, depressing investment and output; when costs rise more slowly (or fall faster) than prices, profitability and business activity rise. Mitchell hypothesized that the former condition tends to precede the business-cycle downturns, and the latter the upturns.

Economic prospects are uncertain, particularly so concerning projects involving capital goods with long gestation periods. When many such undertakings are under way and are financed by credit, money growth tends to exceed output growth, causing prices to rise, and when many projects are completed at about the same time, the reverse tends to be true. Business expectations of profits under such conditions are strongly interdependent, generating waves of optimistic error in expansions and of pessimistic error in contractions.

During long periods of prosperity, debt is often overaccumulated relative to equity and income. If for any reason the rise of output prices falters, heavy and rising real burdens of debt service fall on businesses and individuals with high propensities to borrow, invest , and spend. Credit lines are cut, and debtors, finding themselves in a crisis of illiquidity, curtail their activities drastically, selling off assets and triggering a downward spiral of asset prices.

Formal Endogenous Models

Some mathematical models which are wither strictly nonlinear or piecewise-linear need no outside shocks to produce self-sustaining fluctuations. Some use constraints and regime switches, e.g., ceilings and floors on the movement of output, or a high value of the accelerator which is suspended in downswings. Another mechanism relies on shifts in, and interaction of, nonlinear investment and savings functions, which depend on the flow of output and the stock of capital. Still another involves a nonlinear wage wage/employment Phillips curve as well as cyclical shifts in the relative growth rate of employment, labor supply, and the stock of capital. The motion of the economy, unlike that of heavenly bodies, conforms to no immutable mathematical laws and follows no repetitive patterns. The advantage of nonlinear models is that they can handle asymmetries, irreversibilities, and the discontinuities which may characterize cyclical behavior. Nonlinearities certainly deserve continued attention, particularly in view of recent improvements in analytical and computational techniques. But many nonlinear endogenous models imply limit cycles that, unlike the observed business fluctuations, are periodic and much too regular. What is lacking and much needed is good empirical work to complement the abstract mathematical modeling which now dominates the field.

Chaotic Movement and Cyclical Demands

A new development in the theory of nonlinear dynamics was the discovery that certain dynamic mechanisms called chaos, although purely deterministic and in principle simple, can generate time series that are very diversified, complex, and often indistinguishable from purely random numbers by conventional tests. Even small differences between certain parameter values can produce highly irregular trajectories that vary greatly from each other. Some cases include sudden qualitative breaks in the time path, e.g., from sharp oscillations to nearly standard behavior or vice versa. Results seem to be highly sensitive to initial conditions and measurement errors.

For profit-maximizing firm, profit is a hill-shaped function of output, which implies that total profits are strongly pro-cyclical and lead other variables. High profits may stimulate investment and output, with lags. Perhaps these processes can together produce such hill-shaped dynamic relationships as would be needed to make the chaos approach useful for the study of the business cycles.

Proposed examples of chaotic dynamics are ingenious constructs but based on heroic assumptions. The movements produced so far by these models look much less persistent and more volatile than those observed in economic aggregates during business cycles.

Impulse and Propagation

Exogenous Factors and Random Noise

A comprehensive explanation of business cycles can be neither purely endogenous nor purely exogenous. Outside changes (in technology, taste, politics, weather) always influence the economy, but they cannot by themselves produce the pervasive, persistent, and recurrent observed fluctuations. What is required theoretically is a dynamic model of a system of interdependent markets, representative of an industrialized and growing competitive economy.

In the recently dominant class of models, cyclical variables, although still important as propagators of business cycles, are no longer the central part of a system that can produce self-sustaining fluctuations. Rather it is changes in observable exogenous factors or unobservable random shocks that drive the business cycle.

The various "imbalance" theories summarized above were, as noted, *mainly* endogenous. Most of the newer theories assign greater weights to the outside factors, and some are *mainly* exogenous. They are also more explicitly stochastic. The shift reflects several trends in the literature: the convenience and popularity of linear models; the rise of modern econometrics; the growing belief in the stability of the market economy and concomitant opposition to Keynesian "depression" economics; and the increased influence of general-equilibrium theory.

It is widely accepted in contemporary thought that business cycles result from the way the economy transmits (*propagates*) exogenous random disturbances *(impulses)*. The economy is assumed to be dynamically stable, so that a single shock would only produce a damped oscillation; but impulses are sufficiently frequent to keep the system fluctuating. The propagation mechanism converts a stream of highly erratic impulses into considerably more regular, recurrent movements of alternating expansion and contraction. This notion, traceable to Wicksell, Slutsky, and Pigou, was formalized in an influential paper by Frisch.

One reason why business cycles are diverse is that they are influenced not only by frequent and small discontinuous and unidentified random shocks but also by large changes in, or shocks to, identifiable exogenous factors. The small white-noise shocks produce fluctuations with common characteristics that may be excessively regular. The large shocks, which are often but not always serially correlated, produce more irregular fluctuations.

Types of Shock and Estimates of their Effects

Shocks come in great variety. They can be small or large, unidentified or specific, random or correlated, temporary or permanent in effect, adverse or benign. Some shocks affect real variables, others affect nominal variables. Both real and nominal shocks can affect aggregate demand (e.g., the former move the IS curve, the latter the LM curve in the familiar IS-LM model). Shocks to the production function and relative input prices directly affect aggregate supply. Shifts in macroeconomic policy fall mainly on the demand side; micropolicy shocks (e.g., changes in tariffs, regulations) primarily affect the supply side. In practice, however, most shocks influence directly or indirectly both demand and supply, so their effects on output and the price level are difficult to disentangle.

Empirically implemented stochastic models suggest that the US economy is exposed to a mixture of shocks, mostly small but occasionally large. With no source predominating. In small "structural" models using *vector auto-regressions* (VAR), aggregate-demand disturbances account for the largest proportions of the variance of total output; aggregate supply, fiscal, and money disturbances exert smaller effects. As the horizon of forecasts or simulations lengthens, the relative importance of demand shocks tends to decrease, that of supply shocks tends to increase.

Econometric Model Simulations

Studies of macroeconomic models have shown them to be noncyclical in the sense of not generating movements with the cyclical properties observed in the data. This contradicts the familiar charge that econometric evidence refutes the endogenous-cycle theories and favors the random-shock theories of business cycles. The inadequate cyclicality of the stochastically simulated trajectories could well reflect misspecification errors in the existing very large and difficult-to-evaluate macroeconometric models. In particular, the models probably fail to capture important nonlinearities and lag structures, and thus attribute too much dampening to the propagation mechanism.

However, at least some of the present macroeconomic forecasting models have considerable reduced their reliance on the random noise in the equation errors and increased the role of internal dynamics, though they also show strong effects of exogenous changes and ad hoc devices such as dummy variables. Such models generally assign the largest effects to demand disturbances, mainly those in durable consumption, housing, and business fixed and inventory investment; fiscal, monetary, and supply shocks taken together explain statistically less than half of the variance of output in the near future.

Recent Currents of Thought

The Role of Monetary Changes and Expectations

Policy variables such as the monetary base, tax rates, and government spending influence the economy and are influenced by it. Nevertheless, they have been traditionally treated as exogenous; only recently have some of them been endogenized in some models through the device of *reaction functions* describing government behavior.

In the Monetarist theory, changes in the stock of money are the main exogenous cause of changes in total nominal income. The demand for money is a relatively stable function linking real balances to wealth or permanent income and to expected rates of return on money and alternative assets. Since wages and prices adjust only with significant lags, sequences of alternating phases of high and low monetary growth tend to produce business slowdowns or recessions; sufficiently long periods of negative money growth, which are quite rare, produce depressions or stagnations.

Under the present standard, monetary authorities can influence the money supply only indirectly over time. Money growth rates tend to lead at business-cycle peaks and troughs, but by highly variable intervals. Cyclical changes in the deposit-reserve and the deposit-currency ratios, which reflect the chain of influence that runs from business activity to money, contribute strongly to the observed patterns of monetary movement during business cycles, but the stability of these patterns is subject to much doubt and debate.

The Monetarist theory explains the duration of cyclical movements with *adaptive expectations*, which often imply long adjustment lags and the persistence of apparently systematic errors. But the more recent *rational expectations hypothesis* (REH) requires expectations to be consistent with the given model. Such expectations are, by assumption, free of bias and subject to random errors only. Hence, all persistent monetary changes are taken to be correctly anticipated and reflected in proportional price changes. Only random monetary shocks can have important real effects, causing price surprises and misperceptions which, in this view, are necessary and sufficient to explain cyclical movements in employment and output. But monetary changes are now promptly documented in the data, and the tests of their effects on the whole do not confirm these conclusions.

The REH is attractive on general theoretical grounds, since market incentives and penalties should favor the most efficient use of information. But it does not follow at all that the available data and models provide sufficient knowledge about the future for expectations to be free from systematic errors and consistent with *continuous* aggregate equilibrium. Individual rationality does not necessarily imply the collective consistency of individual plans needed to assure a unique and stable equilibrium path along which prices always clear all markets. The REH dominates recent modeling efforts and proved fruitful for work on endogenous expectations and their policy implications in various market settings. But the weight of evidence so far, both from direct observations from surveys and from indirect statistical tests, appears to be unfavorable to the REH.

Productivity Shifts in New Equilibrium Models

Because of the implausibility of its informational assumptions, the hypothesis of recurrent misperceptions of absolute for relative price changes no longer attracts strong research interest. But business cycles continue to be modeled as consistent with the maintained general equilibrium of an economy with complete information, rational expectations, flexible prices, and competitive markets. The currently active class of such models is represented by the theory of *real business cycles* (RBC).

In the aggregate RBC model, mixed transitory/permanent shocks to technology cause stochastic oscillations in real economic growth. A long gestation lag in producing capital goods imparts persistence to output movements. As productivity gains fluctuate, so do real returns to work effort, and labor supply responds procyclically. But most estimates show the cyclical sensitivities of real wages and real interest rates to be quite low. Nor do tests lend much support to the implied hypothesis of highly elastic intertemporal substitution of labor for leisure.

The overall shifts in productivity in either direction must be large to cause general expansions and contractions. But technical innovations tend to be local, not global, and to be gradually, not immediately, diffused throughout the economy. Such changes seem more relevant to long waves in the rate of economic growth than to the business cycles of relatively short duration and high frequency. Between the Industrial Revolution and World War II, there have been several deep depressions but no corresponding episodes of large-scale technological *regress*. When interpreted as productivity shocks, the procyclical movement of the *Solow residual* supports the RBC hypothesis, but much of this movement probably reflects labor hoarding and measurement errors.

The aggregative RBC model concentrates on supply shocks, which suggests countercyclical changes in prices. But the predominant relationship over the business cycle between output and prices is positive, not negative. In the 1970s, actions of the OPEC cartel caused explosive increases in the price of oil that resulted in unique inflationary recessions. The RBC model can help explain these episodes but no other similar examples have been identified.

Other Real Factors and Disaggregation

Several originating factors other than shifts in technology and productivity are in principle consistent with the RBC theory, e.g., temporary changes in defense and other government purchases, income-tax rates, preferences for consumption, relative input prices, etc. Keynesian, Monetarist, and New Classical economists would largely agree on the directional effects of these factors, and some have stressed their role as sources of outside shocks. But so far these factors have not been integrated into the existing RBC models.

In the disaggregated versions of the RBC theory, random local shocks to technology and tastes are propagated across markets. Although prices are flexible, complex lags may arise because sectoral shifts are not recognized promptly and correctly, and specialized labor and capital require time to be reallocated. But the shifts benefit some sectors and harm others, and their net macroeconomic effects may not be strong or persistent. There is yet little evidence either to support or refuse the sectoral-shifts hypothesis convincingly.

Financial Instability

Speculative excesses and financial crises marked by large business and bank failure occurred before or during a number of severe economic contractions, notable in 1818-19, 1836-37, 1856-57, 1872-73, 1892-93, 1907, 1929-33. Some of them were associated with the stock-exchange panic or banking crises and panics, in several cases on an international scale. However, no systematic timing relationship exists between these events and the chronology of business-cycle peaks and troughs.

No significant financial disruptions occurred between 1934 and 1965 despite the tumultuous events of this period. Federal insurance of bank deposits prevented bank panics by radically reducing both bank failures and depositors' fears for the safety of the money. The depression of the 1930s led to a large reduction in private debt and a temporary rise in financial conservatism.

Financial disorders became more frequent and serious in the next quarter-century as real growth slowed, inflation accelerated, and interest rates fluctuated widely and reached very high levels. But it was only in the 1980s that total nonfinancial debt, and mainly the federal government's debt, increased sharply relative to GNP. Concurrently, a massive deterioration occurred in the liabilities of the financial sector, particularly the loans to less-developed countries and real-estate developers, A new wave of failures followed, involving some large banks and many savings-and-loan associations that suffered huge losses on their fixed-interest mortgage. The federal deposit-insurance system greatly reduced the incentives for bankers to be careful with other people's money and those of depositors to be watchful.

Financial disturbances range from minor credit crunches to major banking and market panics, and their sources and effects vary greatly. Some are consistent with the hypothesis of speculative bubbles in selected asset prices driven by contagious and temporarily self-fulfilling expectations. The bubbles may or may not have important macroeconomic causes or consequences. Some financial disorders can be linked to deflationary shocks and disruptions in the availability and cost of credit.

Monetarists link banking panics to prior monetary disturbances, whose real effects they aggravate.

According to Minsky, long periods of prosperity breed overconfidence, excessive short-term financing of long-term investments, growing indebtedness, and illiquidity. Such predominantly expansionary times are terminated by rising uncertainty about real investment prospects, cutbacks in credit supply, steep increases in interest rates, forced liquidation of debts by asset sales, and asset deflation. In this view, which combines an interpretation of Keynes and the debt-deflation theory of Fisher, financial and economic crises are interrelated and basically endogenous processes.

A related possibility is that financial speculation at times may be encouraged by low prospective returns on real assets. This is particularly likely after long investment booms in which some types of physical capital are overbuilt.

Rigidities and Imperfections

Much of the recent burgeoning literature on the "microfoundations" of macroeconomics attempts to explain why wages and prices do not adjust promptly to changes in the demand for labor and output. The last half-century has seen almost uninterrupted inflation and increasing downward rigidity of prices. In earlier times, the price level often decreased during contractions, but more recently only the rate of inflation decreased. Major deflations exacerbated demand contractions in some past depressions, and their nonoccurrence in recent times was salutary. But in the postwar period, monetary growth tilted upward, resulting in a long and persistent inflation, which could not remain moderate or unanticipated. Inflation itself became a source of instability as it accelerated and decelerated, causing much uncertainty, discontent, and ill-timed or ill-proportioned policy interventions.

Several factors may be responsible for the reduced cyclicality (or increased "rigidity") of wages and prices: the structural shift towards services whose prices are less sensitive to shifts in demand; the spread of long and staggered union contracts with partial indexation; the growth of long-term implicit contracts for career employment in the corporate sector, professions, and government. Some new hypotheses invoke monopolistic competition or oligopoly: one assumes that labor productivity is a rising function of real or relative wages that therefore kept high (*efficiency wages*), another posits that small deviations from the equilibrium price reduce profits only slightly and are therefore not worth correcting from the individual firm's point of view (*menu costs*). Though intriguing, these ideas remain underdeveloped. The reduced risk and cost borne by long-term transaction partners may favor nonprice market-clearing devices even under conditions of intense competition.

Depending on their sources, departures from price flexibility may or may not be destabilizing. The main contrast is between the stabilizing potential of flexible relative prices and the destabilizing potential of large movements in the general price level.

Some General Observations

Growth in the developed market-oriented economies has long proceeded through recurrent (but nonperiodic) sequences of business expansions and contractions. These movements vary greatly in length, size, and spread. But since the 1930s industrial economies have suffered no major depression, while expansions have become longer and recessions milder. The reasons include some profound structural, institutional, and policy changes, but the conditions in the early post-World War II period were especially favorable and continued moderation of business cycles cannot be taken for granted.

Business cycles are characteristically persistent and pervasive, interact with longer growth trends, and show many important regularities of comovement, relative timing, and relative amplitude of economic variables. The economy is always exposed to and affected by numerous external disturbances, but its major fluctuations are not simply aberrations due to random shocks; instead, they are to a large extent endogenous.

Although they have important common elements, business cycles are not alike and cannot be ascribed to any single factor or mechanism. Real, financial, and expectational variables all interact. No monocausal theory has explained these movements or is likely to do so.

Major economic contractions are not necessarily inevitable. In periods and countries with strong growth trends, recessions have generally been short, mild, and infrequent. Thus, market economies can achieve both higher and more stable growth, an obviously desirable result. Some economists *assume* that business cycles are caused by external disturbances about which little can be done. This not only neglects the role of internal imbalances, but may prejudice the consideration of any pro-growth stabilization policies.