

HOWARD J. SHERMAN

The Business Cycle

Growth and Crisis Under Capitalism



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The Business Cycle

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GROWTH AND CRISIS UNDER
CAPITALISM

Howard J. Sherman

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Preface

THIS BOOK was written out of a strong feeling of the need to understand why capitalism is so unstable and why so many millions of people are frequently and involuntarily unemployed. Most of the present literature on the business cycle is unsatisfying because it does not answer these questions. This book attempts to place the instability of the business cycle at the center of macroeconomic understanding, a position that is exactly contrary to the present dominant view in macroeconomics. Therefore, the reader should not be surprised to find that this book has a very different approach than that of most of the current literature and rather takes its inspiration from the great pioneers in this area of economics: Karl Marx, Wesley Mitchell, John M. Keynes, and Michal Kalecki.

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PART ONE

Overview

The Waste of the Business Cycle

IN THE GREAT DEPRESSION of the 1930s, millions of people were involuntarily unemployed. The unemployed did not have enough money to buy the food, clothing, and shelter that they so badly needed. To the degree that this human misery repeats itself—to a much lesser extent—in the contraction phase of every business cycle, there is a major social problem arising from a seemingly irrational economic situation.

All capitalist economies suffer from business cycles. A business cycle may be defined as an expansion in economic activity (measured by such indicators as output, employment, and profits) followed by a contraction in economic activity (including declining production, massive unemployment, and business losses and bankruptcies). It has no regular periodicity, but the same sequence of economic events does take place time after time. Each cycle is different, but there are many regularities or similar sequences found in every business cycle. Although alleged long-cycle and long-run trends are discussed in this book, the focus is on the short-run cyclical behavior of cycles ranging from two to ten years.

Since the business cycle includes a period of expansion, most economists of the neoclassical school emphasize the sunny side of the picture—that growth does occur through the business cycle. Neoclassical economists see recessions or depressions as merely a momentary, temporary problem. They view the contraction phase of the cycle as a necessary evil, which resolves some problems of the system, but opens the way to new and more vigorous growth. They contend that the present system is the only possible efficient system leading to growth, so cyclical downturns are a small price to pay. Moreover, neoclassical economists believe that people choose to be unemployed—that there is almost no involuntary unemployment.

Contrary to the neoclassical view, one hypothesis of this book is that the waste and misery of business contractions are not necessary in all efficient economic systems and could be totally eliminated in a more rational economic system. One problem of the business cycle is that it leaves workers, capitalists, and other citizens in a state of uncertainty much of the time. The problem of uncertainty is stressed as a business cycle problem throughout this book, but it must be emphasized that it is also a human problem. The other main problem is that cyclical contractions cause losses to society, business, and individual workers—espe-

cially involuntary unemployment. If the hypothesis of this book that capitalism is inherently unstable and generates cyclical unemployment is correct, then all of macroeconomics should be reconstructed around this focus. The dominant neoclassical view of equilibrium, clearing of all markets, and no involuntary unemployment should be replaced by a dynamic, historical, cycle-oriented view.

LOSSES TO SOCIETY

Society suffers many types of losses from the contractions that occur during business cycles. Thousands of factories stand idle, and millions of workers are unemployed, so society loses an enormous amount of potential output for current consumption. Society also loses because very little new plant and equipment are produced, so there is very little, if any, growth of productive potential for future expansion. For that reason, every recession or depression lowers the long-run rate of growth. Although the overall, long-run U.S. trend has been one of economic growth, the rate of growth has been lowered by these losses, according to the findings of this book. Society loses the new inventions that are not discovered because there is less motivation and less money for research and development. Society loses because millions of people are unable to work and to create to the best of their potential. Society loses because millions of people are frustrated and unhappy and the social atmosphere is poisoned.

LOSSES TO BUSINESS

In every contraction, many businesses cannot sell their goods at a profit. The number of bankruptcies skyrockets. The number of new businesses declines drastically. Millions of small businesses are forced out of business, and their owners are often left unemployed. Even a few large corporations go out of business, leaving all of their employees out of a job.

LOSSES TO INDIVIDUAL WORKERS

The greatest scourge of the business cycle, however, is the involuntary unemployment of millions of workers. Every one of these individuals suffers the disruption of a useful life. Heads of families cannot feed their children. The unemployed feel useless; each believes that he or she is a personal failure. There is a calculable increase in mental and physical sickness among the unemployed and their families. Increased unemployment causes increases in alcoholism, divorce, child abuse, crime, and even suicide.

A study for the Joint Economic Committee has documented the grim

facts. A sustained 1 percent increase in unemployment is associated with the following statistically significant percentage increases: suicide, 4.1 percent; state mental hospital admissions, 3.4 percent; state prison admissions, 4.0 percent; homicide, 5.7 percent; deaths from cirrhosis of the liver, 1.9 percent; deaths from cardiovascular diseases, 1.9 percent (Brenner 1976, v).

THE CONTROVERSIES AND A FRAMEWORK FOR THEIR ANALYSIS

Chapter 2 presents a measuring system for the empirical description of the cycle, based on the approach of Wesley Mitchell. Chapter 3 argues the institutionalist position that the business cycle is uniquely caused by the institutions of capitalism. After contrasting capitalism with precapitalist institutions, the chapter demonstrates that the history of the cycle changes with the changing stages of capitalism.

No subject in economics is more controversial than unemployment. Chapter 4 explains the dominant view in U.S. economics: that involuntary unemployment does not exist, except for an irreducible frictional, or "natural," level. This view is based on the argument that the capitalist system automatically adjusts demand to supply so that there are only brief deviations from full employment equilibrium, due to factors that are external, or exogenous, to the system. This view is rejected in favor of a mainly endogenous approach.

Chapter 4 then considers briefly the main hypothesis of this book: that internal, or endogenous, factors are the main cause of the business cycle of capitalism. Some endogenous theories emphasize the lack of consumer demand; others emphasize the cost of supply, including high wages, interest rates, or raw material prices. Both demand-side and supply-side theories have made major contributions to understanding, but it is shown that each is inadequate by itself. A synthesis is proposed, based on the theories of Marx, Mitchell, Keynes, and Kalecki.

Part Two of the book discusses the more detailed controversies involving the behavior of each important variable and the theories associated with the different aspects of the cycle. Thus, Chapters 5 and 6 discuss consumption and investment behavior, and Chapter 7 explicates the multiplier-accelerator theory based on the behavior of these two variables. Chapter 8 discusses the behavior of income distribution between labor and capital over the cycle, and Chapter 9 contains an exposition of demand-side theories, such as underconsumption, that build on the behavior of income distribution, consumption, and investment.

Chapter 10 details cost behavior of raw materials, plant, and equipment. These data set the stage for Chapter 11, which presents supply-side theories based on the cost of capital (overinvestment) or the cost of

labor (reserve army theory). Chapter 12 examines how profits and profit rates behave over the cycle, providing the foundation for a new type of profit squeeze (or nutcracker) theory in Chapter 13, which attempts a synthesis of the empirically supported elements of demand-side and supply-side theories.

Part Three of this book adds more complex reality to the theoretical framework. It does this by considering money and credit in Chapter 14, monopoly power in Chapter 15, international relationships in Chapter 16, and governmental behavior in Chapter 17. Some economists would argue for introducing each of these levels into the very first model of the economy, but that would mean an enormously complex model from the very start. If the model involved every important relationship from the start, it would be difficult, or impossible, to understand any of it. Using successive approximations starting from simple models and proceeding to more complex, realistic ones, makes the analysis both clearer and more rigorous.

Finally, Part Four considers what changes in institutions and in policies are needed in order to ameliorate or totally eliminate the waste of the business cycle.

Measuring the Business Cycle

THE PIONEER in empirical description of the business cycle was Wesley Clair Mitchell. Indeed, he helped develop many of our present national income accounts. With the help of Arthur Burns (see Burns and Mitchell 1946), he created a method specifically for measuring the business cycle. The method was used in several cycle studies of the National Bureau of Economic Research (NBER), which he founded. Alas, the NBER no longer follows Mitchell's method, but it is still usually called the NBER method.

Mitchell's NBER method depicts the exact path of a single variable over the average business cycle. Mitchell's method, the details of which are presented in this chapter, is still the best method for getting a clear picture of the business cycle. The NBER method may reveal a simple visual relationship of variables, which is helpful in suggesting a hypothesis for testing, but it should be stressed that it does not provide a statistical test of relationships. After the NBER method shows the typical cyclical behavior of a variable, then the next stage of analysis is often the use of econometric regression and correlation analysis to test its relation to other variables.

DEFINITION OF THE BUSINESS CYCLE

Before a phenomenon can be measured, it must be carefully defined. Wesley Mitchell presented the most useful definition of the business cycle; it is as follows:

Business cycles are a type of fluctuation found in the aggregate economic activity of nations that organize their work mainly in business enterprises; a cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent but not periodic; in duration business cycles vary from more than one year to ten or twelve years; they are not divisible into shorter cycles of similar character with amplitudes approximately their own.

(Burns and Mitchell 1946, 3)

It is worth examining separately each of the points in Mitchell's definition. First, it is clear that the business cycle is a phenomenon found un-

der capitalism, and not under other systems (as will be seen in the next chapter). Second, the business cycle is not limited to a single firm or industry, but is economywide, expected to show most clearly among aggregate indicators. It is widely diffused and is expected to show in most series. Third, one cycle follows after another; they are marked by regularities and similar sequences of events. Fourth, cycles differ, however, in many ways, including how long they are, so there is no regular periodicity.

Fifth, Mitchell mentioned time periods for a whole business cycle of anywhere from one to twelve years. Some authors have found shorter, mild three- or four-year cycles as well as longer, sharper ten-year cycles. Mitchell does not find that distinction in the evidence, nor does this author. Cycles vary in length from a year to ten years, each repeating roughly the same sequence of events, so that they are qualitatively similar in their pattern and relationships. There are, of course, some very mild cycles and some very severe cycles, but there is no evidence of two or three mild cycles within each severe, longer cycle. Mitchell proved in detail that cycles of shorter duration than those identified by the NBER would show no regular sequence of events, so their alleged patterns would be statistically insignificant.

On the other hand, some authors claim to have found long cycles of fifty to sixty years in length. The first person to argue this view was Kondratief, for whom they are named. Their most famous advocate was Schumpeter (1939). Little evidence was found for their existence, and discussion of them died away in the prosperous 1950s and 1960s. In the difficult times of the 1970s and 1980s, there has been a revival of interest in long cycles (see the sympathetic survey by Kotz [1987]).

Best known of the advocates of long waves in the present revival are Gordon, Weisskopf, and Bowles (1983), who argue: "The U.S. and world capitalist economies are currently in [the] midst of the third long swing crisis of the past century" (p. 152). How do they define long cycles? They admit that long cycles cannot be dated by total output or investment, but they claim long cycles can be dated by changes in the "social structure of accumulation." This concept is a multidimensional political-economic concept of great complexity, so their empirical estimates remain highly controversial.

Mitchell found no evidence of such long cycles, nor has this author in his own research. How could there be much scientific evidence of "long cycles" when even their advocates have discovered at most three of them? In the next chapter it will be shown that—rather than long waves—capitalism has passed through various stages and that the business cycle shows important differences in these stages.

We must distinguish between different types of movements over time. First, in the very long run, there is an evolution of economic systems

from one mode of production to another, for example, from ancient Roman slavery to medieval feudalism in Europe. Second, each economic system evolves and goes through various stages, involving considerable changes, but still recognizably the same system. For example, the U.S. economic system was characterized by very small economic units at one time, but is now in a stage characterized by giant corporations with varying degrees of monopoly power. Third, we may identify many long-run trends, such as the increasing percentage of women in the labor force, generally under one stage of one system, but sometimes crossing over several stages. A long-term trend is almost always completely interrupted when there is an evolutionary or revolutionary change from one system to another. Fourth, there are the alleged long cycles. Fifth, there is the business cycle as defined by Mitchell. Sixth, many economic series have seasonal variations, such as higher growth of construction in warmer months. Seventh, there are also erratic movements of each economic variable, not directly connected to any of the above systematic movements. This book concentrates only on the business cycle, but does introduce long-run trends and stages of capitalism when necessary as a background.

DATES OF THE CYCLE

Mitchell's method begins by establishing the trough and peak dates of each cycle, using all available evidence, with heaviest reliance on the main aggregate series. Mitchell's work on dating the cycle was taken over by the NBER and then by the U.S. Department of Commerce, which publishes the dates in the *Business Conditions Digest*. The quarterly dates since reconversion from World War II are given in Table 2.1.

Table 2.1 reveals that cycle troughs (the lowest point of each cycle) were reached in 1949, 1954, 1958, 1961, 1970, 1975, 1980, and 1982. The most serious of these were in 1975 and 1982. Notice that the quarter of the year in which the trough occurs varies widely, with no pattern.

These dates are used throughout this book as the best available dates of the business cycle. There are many things that could be criticized about these dates (see Sherman 1986). For example, they do not distinguish in any way between a major depression and a minor recession. They simply record each case where aggregate business activity has continuously declined or continuously risen for some lengthy period. The exact criteria used for dating the peaks and troughs are complex, including a number of indicators; the criteria are clearly explained by Burns and Mitchell (1946, ch. 4) and by Moore (1983, ch. 1). These dates are used both because no better series is available and because they are accepted and used by most scholars in the field. The NBER dates for troughs and peaks go all the way back into the nineteenth century; these

TABLE 2.1
Quarterly Cycle Dates

<i>Cycle</i>	<i>Initial Trough</i>	<i>Peak</i>	<i>Final Trough</i>
1	1949.4	1953.3	1954.2
2	1954.2	1957.3	1958.2
3	1958.2	1960.2	1961.1
4	1961.1	1969.4	1970.4
5	1970.4	1973.4	1975.1
6	1975.1	1980.1	1980.3
7	1980.3	1981.3	1982.4

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Handbook of Cyclical Indicators, A Supplement to the Business Conditions Digest* (Washington, D.C.: U.S. Government Printing Office, 1984). The dates are derived from the table on page 178 of the source.

Note: 1949.4 means the fourth quarter of 1949.

earlier dates will be given in the next chapter, which deals with the history of the business cycle.

The quarterly dates are used throughout this book because this is probably the best time unit for cycle analysis. As Burns and Mitchell (1946) point out at great length, data given daily, weekly, or even monthly tend to have too much static; in a different metaphor, they lose the forest and show only the trees. On the other hand, annual data leave out many cyclical turning points and are not sufficiently detailed.

REFERENCE CYCLES VERSUS SPECIFIC CYCLES

The dates given in Table 2.1 determine what the NBER calls a reference cycle. A reference cycle is the average business cycle for all sectors of the U.S. economy. Unless stated otherwise, all empirical analyses of cycles in this book refer to reference cycles.

Each specific economic series, however, has slightly different peaks and troughs from the average cycle. Sometimes it is necessary to look at performance of an economic variable over its own particular cycle dates; this is called a specific cycle. It is used rarely, usually for a variable that differs considerably and systematically from the reference cycle. For example, profit rates almost always *lead* the reference cycle, that is, they turn down before the peak. Some interest rates usually *lag* after the reference cycle, that is, they turn down after the peak.

Note that a cycle may be measured from trough to trough or from peak to peak. Because it is the more common procedure, all cycles in this book are measured from trough to trough.

DIVISIONS OF THE CYCLE

Mitchell called the rising period of the business cycle, from the initial trough to the peak, the *expansion* period. The declining period of the business cycle, from the peak to the final trough, is called the *contraction* period.

In the business cycle, as defined by Mitchell, there are four phases: two in the expansion period and two in the contraction period. Starting from the low point, or initial trough, of the cycle, there is a rapid upturn, called a *recovery* (or revival). Next, there is a further expansion, called a *prosperity*. This is followed by a downturn, called the *crisis*. Finally, the crisis turns into a contraction, called a *depression*. Mild depressions are sometimes called recessions, but this book will use Mitchell's term of "depression" to describe the final phase of the cycle.

In a more detailed analysis, Mitchell then divides the cycle into nine stages. The number of stages is arbitrary, but has a logic to it. Stage 1 is the initial trough of the cycle, the low point from which it begins. One could measure peak to peak, but that is not as convenient for illustrating most theories of the business cycle, so this book uses trough-to-trough cycles exclusively. Stage 5 is the cycle peak, where most business activity reaches its highest point. Finally, stage 9 is the final trough, from which a new cycle begins. Stages 1, 5, and 9 are, by definition, just three months or one quarter long.

The expansion period lasts from stage 1 to stage 5. The whole expansion (excluding stages 1 and 5) is then divided up into three equal time periods. The three periods of equal length in expansion are called stages 2, 3, and 4. Thus, if the whole expansion is 15 quarters long (excluding stages 1 and 5), each of the three stages will be five quarters long.

Similarly, the contraction period lasts from stage 5 till stage 9. The whole contraction (excluding stages 5 and 9) is then divided up into three equal time periods. The three periods of equal length in contraction are called stages 6, 7, and 8. Thus, if the whole contraction is six quarters long (excluding stages 5 and 9), then each of the three stages will be two quarters long. Since expansions are normally longer than contractions, stages 2, 3, and 4 are normally longer than stages 6, 7, and 8.

The four phases may now be more precisely defined in terms of the nine stages. Thus, recovery is stages 1 to 3, prosperity is stages 3 to 5, crisis is stages 5 to 7, and depression is stages 7 to 9. The entire expansion period is stages 1 to 5, while the entire contraction period is stages 5 to 9. In other words, recovery is the first phase of expansion (stages 1-3),

TABLE 2.2

Pattern of Real Gross National Product (in billions of 1982 dollars)

	Stage								
	Trough				Peak				Trough
	1	2	3	4	5	6	7	8	9
	E X P A N S I O N				C O N T R A C T I O N				
PART A.	1970–1975 Cycle Data								
Original data	\$2,414	\$2,485	\$2,588	\$2,721	\$2,762	\$2,747	\$2,737	\$2,695	\$2,643
Cycle relatives	91.8	94.5	98.4	103.5	105.1	104.5	104.1	102.5	100.5
PART B.	Data for Average Cycle, 1949–1982, 7 Cycles								
Original data	\$1,987	\$2,071	\$2,200	\$2,301	\$2,336	\$2,323	\$2,297	\$2,289	\$2,280
Cycle relatives	89.6	93.9	100.1	104.7	106.4	105.8	104.7	104.3	104.0

Source: Same as Table 2.1. Gross National Product is Series #50 in the source.

while prosperity is the second phase of expansion (stages 3–5). Similarly, crisis is the first phase of contraction (stages 5–7), while depression is the last phase of contraction (stages 7–9). Mitchell considers that the task of business cycle theory is to explain how each phase leads to the next.

CYCLE RELATIVES

Table 2.2 shows the data for the real gross national product (GNP in real terms, that is, in constant dollars deflated for price inflation). Part A presents the figures for one cycle, namely the fourth quarter of 1970 through the first quarter of 1975. The first row, called “original data,” simply indicates the dollar amounts averaged for each of the nine stages of that business cycle.

The second row of Table 2.2 shows the cycle relatives. The cycle relatives are the original data for a variable divided by the average of that variable for the whole cycle. The average for the whole cycle is called the *cycle base*. The average GNP in this cycle was \$2,629 billion, so the original data for each stage were divided by that amount to get the nine cycle relatives (which are each multiplied by 100 to make them percentages). For example, GNP in stage 1 was \$2,414 billion, which was divided by the cycle base of \$2,629 billion (and multiplied by 100) to obtain the cycle relative of 91.8. Thus, a *cycle relative* is just the original data as a percentage of the cycle average (or base) at each stage. This procedure normalizes the data around an average of 100 for the whole cycle. Hence, we can compare the pattern of two entirely different series, such as GNP

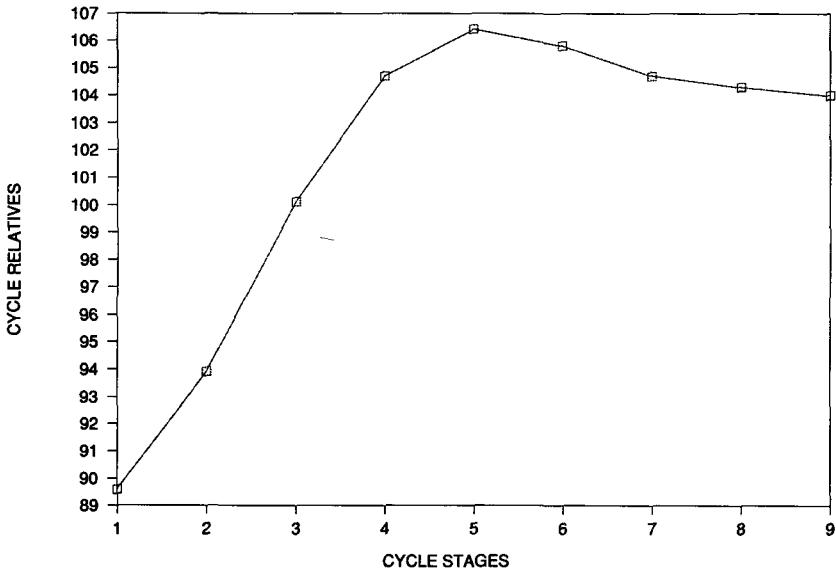


Fig. 2.1. Gross National Product: Amplitude by Stage Averaged across Seven Cycles, 1949–1982 (from series 50, Appendix C)

and interest rates, even though the original units are quite different. We can also compare or average several different cycles of the same variable, even though the cycle base is different in each cycle.

Part B of Table 2.2 and Figure 2.1 present the average GNP data and the average GNP cycle relatives for all seven cycles from 1949 through 1982. We see that GNP is lowest in stage 1, at the initial trough. GNP then rises to its peak at stage 5. GNP then falls to the final trough at stage 9. But since there is growth, the GNP is higher at the final trough of stage 9 than it was at the initial trough of stage 1. That will be true for all growing economic variables, but will not be true for those that are declining or those that are purely cyclical (such as the unemployment rate if it has no secular trend).

Whereas GNP peaks at the cycle peak (stage 5), not all series have individual peaks at the cycle peak. Some, such as profit rates, are leading indicators, which normally turn down *before* the cycle peak. Others, such as interest rates, are lagging indicators, which normally turn down *after* the cycle peak. The broader and more aggregate a variable is, the more likely it is to behave with regularity and in the same cyclical manner as the average of all business activity. GNP is the broadest aggregate variable, so it normally reflects the business cycle, moves smoothly upward in the expansion and smoothly downward in the contraction, and neither leads nor lags.

TABLE 2.3

Growth of Real Gross National Product

(average, 7 cycles, 1949–1982, as percentage of cycle base)

	<i>Segment</i>							
	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
	EXPANSION				CONTRACTION			
Total change	4.3	6.2	4.6	1.7	-0.6	-1.1	-0.3	-0.3
Number of quarters	3	5	5	3	1	1	1	1
Change per quarter	1.4	1.2	0.9	0.6	-0.6	-1.1	-0.3	-0.3

Source: Same as Table 2.1.*Note:* The average number of quarters is rounded to the nearest whole number.

RATES OF GROWTH

To study growth or decline, we must examine the change from one period to another. For this purpose, a *segment* is defined as the period from the middle of one stage to the middle of the next. While GNP rises in all segments of expansion and falls in all segments of contraction, it does so at different rates of growth or decline.

In Table 2.3 we measure the total change in the cycle relative from one stage to the next (that is, each segment). The first row of Table 2.3 depicts these amounts of total change in GNP in one segment. The second row shows the average number of quarters in each segment (rounded to be whole numbers). Note that in this period, from 1949 to 1982, the number of quarters in the average expansion varies from three to five quarters per segment, but in the average contraction, there is only around one quarter per segment. Thus, expansions are much longer than contractions in this particular period. This situation—greater length of expansions—does not hold in all periods. In ten of the last twenty-five business cycles, the contraction was longer than the expansion (for example, the latest contraction, 1981–1982, was longer than the preceding expansion).

Finally, we divide the total change in each segment by the number of quarters in that segment to find the rate of growth (or decline) per quarter. These rates of growth are presented in Table 2.3 and Figure 2.2. In the four segments of expansion in the average for all seven cycles, the GNP grew 1.4, 1.2, 0.9, and 0.6 per quarter (as a percentage of its average cycle base). This pattern is typical of most private economic activity in expansions under capitalism. In other words, economic growth is most rapid in the first segment of expansion, less rapid in the second segment,

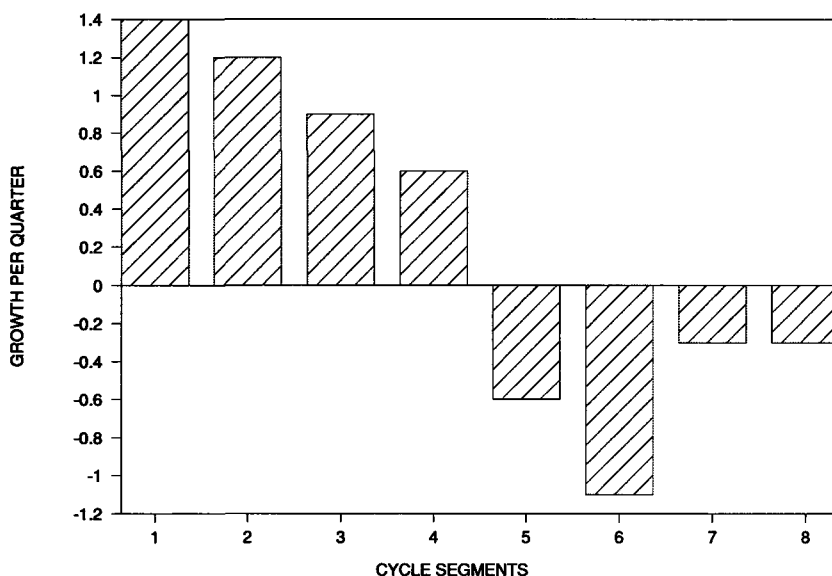


Fig. 2.2. Gross National Product: Growth by Segment Averaged across Seven Cycles, 1949–1982 (from series 50, Appendix F)

even slower in the third segment, and slowest in the final segment before the peak.

Wesley Mitchell noted that the economy always gets slower and slower until it reaches zero growth and then begins to decline. This pattern is not mathematically ordained unless God decreed sine curves. It could be different in every cycle and every variable. It could be imagined that growth is most rapid in the final segment—then there could be an external shock, followed by a sharp downturn. On the contrary, in our actual economy, in the early expansion, even major external shocks can be survived. Normally, it is only after the peak that an external shock will exacerbate the downturn. The pattern of growth is less well defined in contractions, simply because they are usually shorter. Usually, however, the first half of contraction witnesses more rapid decline than does the last half, as illustrated in Figure 2.2. Thus, in the average of all seven cycles, GNP fell at -0.9 per quarter in the first half of contraction, but at only -0.3 per quarter in the last half of contraction.

CYCLICAL AMPLITUDE

How can we measure the amplitude (or amount of rise and fall) of a cycle so that we can compare different cycles? In most investigations, there is

TABLE 2.4
Cyclical Amplitude of Real Gross National Product

	<i>Expansion Amplitude (Peak – Initial Trough)</i>	<i>Contraction Amplitude (Final Trough – Peak)</i>
1949–1954 cycle	25.7	– 2.8
1954–1958 cycle	10.6	– 3.1
1958–1961 cycle	9.4	– 0.3
1961–1970 cycle	35.6	– 0.4
1970–1975 cycle	13.3	– 4.6
1975–1980 cycle	19.8	– 2.5
1980–1982 cycle	3.3	– 3.3
Average	16.7	– 2.4

Source: Same as Table 2 1.

always the problem of comparison of percentages derived from different bases. Cycle relatives, however, always start from a base equal to 100, so it is easy to compare amplitudes. Table 2.4 shows cycle amplitudes.

An *expansion amplitude* equals the peak minus the initial trough of the cycle in terms of cycle relatives. The expansion amplitudes shown here—in the second column of Table 2.4—reflect (1) the rate of growth of GNP and (2) the very different lengths of expansions in different cycles. Thus, GNP grew most (35.6 percent) during the long, eight-year expansion of the 1960s, in which the stimulus of the Vietnam War played a major role. The next biggest rise in GNP was during the Korean War in the early 1950s. Notice that the rise from 1980 to 1981 was both brief and weak.

A *contraction amplitude* equals the final trough minus the peak in terms of cycle relatives. It is normally negative, indicating a decline from peak to final trough. The third column of Table 2.4 shows the contraction amplitudes of GNP for each cycle. The sharpest declines in real GNP were in the severe recessions of 1975 and 1982.

LEADING, LAGGING, AND COINCIDENT INDICATORS

Wesley Mitchell began a research program focusing on those series that usually, on the average, lead the cycle (with peaks before the cycle peak and troughs before the cycle trough), those series that are roughly coincident with cycle peaks and troughs, and those series that usually, on the average, lag behind the cycle (with peaks after the cycle peak and troughs

after the cycle trough). The U.S. Department of Commerce now compiles these indicators. Tables 2.5 and 2.6 and Figures 2.3, 2.4, and 2.5 picture the leading, lagging, or coincident behavior of these series.

Table 2.5 shows that the leading indicators peak in stage 4 (peaks are marked by a P), the coincident indicators peak in stage 5 at the cycle peak, and the lagging indicators do not peak until stage 7. Similarly, the leading indicators reach a trough in stage 8 (troughs are marked by a T), the coincident indicators reach a trough in stage 9 at the cycle trough, and the lagging indicators keep falling until stage 2 of the next cycle. In Table 2.6 and in Figures 2.3, 2.4, and 2.5, the rates of growth of each type of indicator are shown. Note that each has its lowest growth rate just before it peaks and begins to decline (this is similar to the behavior of GNP and most other economic variables). Tables 2.5 and 2.6 also show exactly which series are used by the Department of Commerce as leading, lagging, and coincident indicators.

Geoffrey Moore (1983) has done the most work on leading indicators to follow up on Mitchell's pioneering efforts. He says that leading indicators tend to measure anticipations or new commitments, while coincident indicators tend to be comprehensive indicators of economic performance. He explains some of the particular reasons why series normally turn at different times:

More specifically, series that represent early stages of production and investment processes (new orders for durable goods, housing starts, or permits) lead series that represent late stages (finished output, investment expenditures). Under uncertainty, less binding decisions are taken first. For example, hours of work are lengthened (shortened) before the workforce is altered by new hirings (layoffs). (Moore, 1983, p. 27)

Some of the lagging indicators lag because they represent activities that are influenced by the cycle. Thus, interest rates usually lag behind the cyclical downturn because the downturn causes emergency credit needs, which are accommodated in part but are charged at higher interest rates. The long-term (more than fifteen weeks) unemployment rate lags at the downturn simply because it takes fifteen weeks to add to this group as far as the records are concerned. In the upturn, long-term unemployment lags because it is harder for the long-term unemployed (on the average) to find jobs.

Moore (1983) examined indicators in six foreign countries (Canada, United Kingdom, West Germany, France, Italy, and Japan), using U.S. turning points as benchmarks. He found that "the sequence of turns among the leading, coincident, and lagging groups in each country corresponds roughly to the sequence in the United States" (p. 77). The most extensive survey of indicators, by Klein and Moore (1985), looked at both

TABLE 2.5

Leading, Lagging, and Coincident Indicators: Cycle Relatives
(average of 7 cycles, 1949–1982)

Indicators	Stage								
					Peak				
	1	2	3	4	5	6	7	8	9
	E X P A N S I O N				C O N T R A C T I O N				
12 Leading (910)	87	95	102	106P	104	103	100	99T	100
4 Coincident (920)	87	91	100	107	109P	108	106	102	100T
6 Lagging (930)	93	90T	96	106	111	112	113P	111	109

Source: Same as Table 2.1.

Note: Series numbers. The number in parentheses after the name of the series is the number of the series in the source. Peaks and troughs: The peak of each series is indicated by the letter P. The trough of each series is indicated by the letter T. These are reference cycle dates given by the NBER and Department of Commerce. Components: According to the Department of Commerce, the twelve leading indicators (in an average index in series #910) are as follows: #1—Average weekly hours of production workers in manufacturing, #5—Average weekly initial claims for unemployment insurance, #8—Manufacturers' new orders for consumer goods and materials in constant dollars, #12—Index of net business formation; #19—Index of stock prices, 500 common stocks, #20—Contracts and orders for plant and equipment, in constant dollars; #29—Index of new private housing units authorized by local building permits; #32—Vendor performance, percentage of companies receiving slower deliveries, #36—Change in manufacturing and trade inventories, in constant dollars, #99—Change in sensitive materials prices, #106—Money supply (M2) in constant dollars; #111—Change in business and consumer credit outstanding. According to the Department of Commerce, the four coincident indicators (indexed in series #920) are as follows: #41—Employees on nonagriculture payrolls, #47—Index of industrial production; #51—Personal income less transfer payments, in constant dollars, #57—Manufacturing and trade sales, in constant dollars. According to the Department of Commerce, the six lagging indicators (indexed in series #930) are as follows. #62—Index of labor cost per unit of output, manufacturing, #77—Ratio, manufacturing and trade inventories to sales, #91—Average duration of unemployment in weeks, #95—Ratio, consumer installment credit outstanding to personal income, #101—Commercial and industrial loans outstanding, in constant dollars; #109—Average prime rate charged by banks.

TABLE 2.6

Leading, Lagging, and Coincident Indicators: Growth per Quarter
(average of 7 cycles, 1949–1982)

Indicators	Segment							
	1–2	2–3	3–4	4–5	Peak	5–6	6–7	7–8
	E X P A N S I O N				C O N T R A C T I O N			
12 Leading (910)	2.6	1.5	0.7	–0.4		–1.8	–2.3	–1.5
4 Coincident (920)	1.6	1.8	1.3	0.8		–1.3	–2.6	–3.4
6 Lagging (930)	–1.1	1.3	1.8	1.9		1.8	0.5	–2.0

Source: Same as Table 2.1.

Notes: Same as Table 2.5.

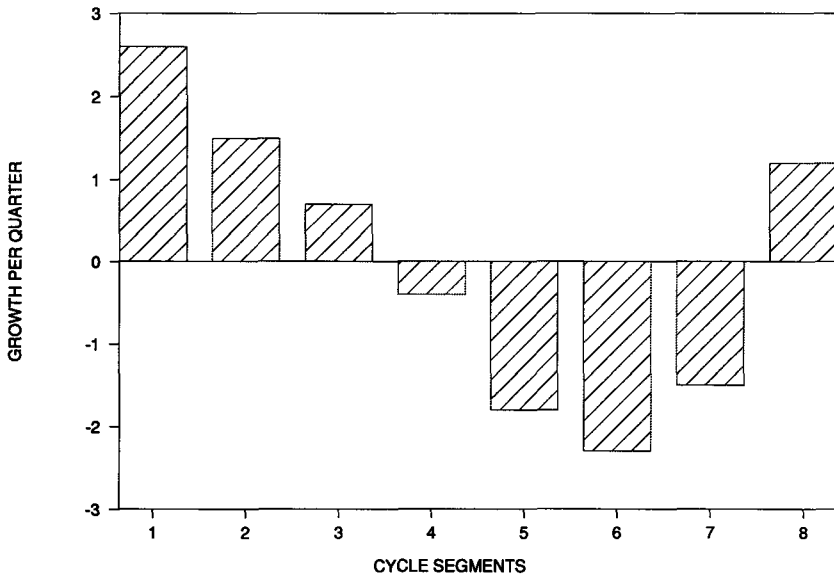


Fig. 2.3. Leading Indicators: Growth by Segment Averaged across Seven Cycles, 1949-1982 (from series 910, Appendix F)

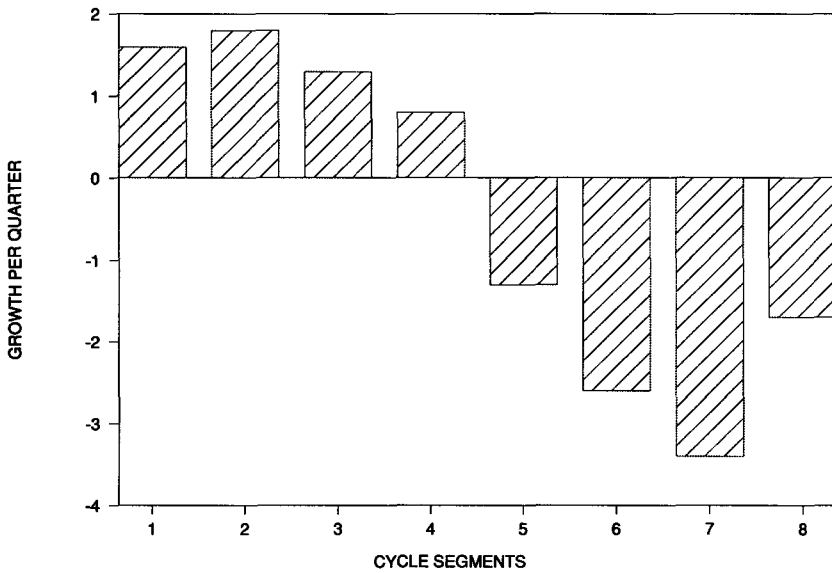


Fig. 2.4. Coincident Indicators: Growth by Segment Averaged across Seven Cycles, 1949-1982 (from series 920, Appendix F)

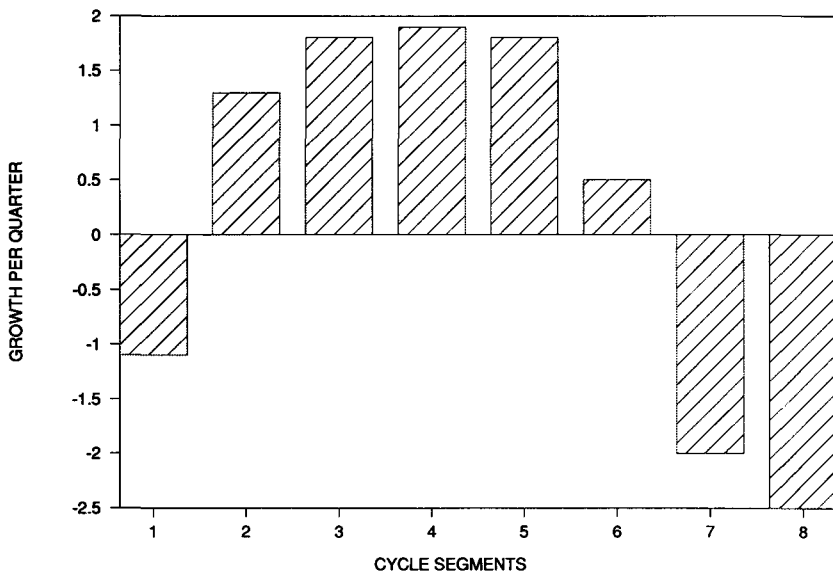


Fig. 2.5. Lagging Indicators: Growth by Segment Averaged across Seven Cycles, 1949–1982 (from series 930, Appendix F)

so-called classical cycles (actual upturns and downturns) and so-called growth cycles (upturns and downturns in growth rates). When the U.S. economy suffered classical downturns, Europeans and Japanese sometimes suffered only growth rate downturns. Klein and Moore found:

So far we have seen that most of the leading and lagging indicators that display consistent behavior at classical turning points in the United States have a similar record of leading and lagging growth cycle turning points in at least nine additional countries. . . . The indicator systems we have developed suggest that the cyclical interrelations among economic processes are quite similar in each of them. (p. 109)

Thus, we find clear regularities in sequential processes over the cycle, not only in the United States, but in all of the leading capitalist countries. Moreover, they turn at roughly the same time in all of these countries, as we shall see in detail in the chapter on international processes.

The reader should be cautioned that, while the leading indicators always correctly predict a depression or a recovery, this can be known with certainty only by hindsight. In the first place, there is a time lag from the peak of the leading indicators to the cycle peak, but it is quite variable and unpredictable except as an average. Second, a dip in the leading indicators always forecasts a dip in aggregate activity, but the amount is

quite variable, from a small decline in the growth rate to a major depression. Thus, the leading indicators are a useful tool for understanding the past, but a very doubtful tool for predicting the future.

THE BUSINESS CYCLE AS A UNIT

Mitchell's method forces us to look at an entire business cycle, not just the expansion phase or the contraction phase separately. This means that it is not scientifically justifiable to examine a business cycle that is still in progress and not completed. As this book is being written, the present business cycle, which commenced in 1983, has not yet completed its expansion phase. Therefore, the author must resist the temptation for a full-scale examination of the present situation. As a result of the decision to examine each whole business cycle as one unit, *this book covers systematically only the time span ending in 1982*, with a few exceptions for long-run trends.

APPENDICES FOR REFERENCE TO DATA

Appendixes A through H refer to cycles in certain time periods bounded by the initial troughs and final troughs as determined by the NBER and the Department of Commerce; these cycles are called *reference cycles*, as opposed to specific cycles for each variable (which could differ from the reference cycles). The cycles in the Appendixes—and throughout the book—are always dated by quarter and always use quarterly statistics.

The original data are not presented because they are so easily available, but Appendix A does provide brief definitions of all the variables; it also cites the source where longer definitions are available. Appendix B contains the cycle bases, that is, the average of a variable over the cycle, for each of the seven cycles since 1949. This allows the reader to observe absolute levels and to trace long-run trends, completely separate from business cycle influence. Appendix C presents the cycle relatives, averaged for all seven cycles from 1949 to 1982. Appendix D presents the cycle relatives for the average of four cycles from 1949 to 1970, because that is one significant period. Appendix E averages the cycle relatives for the three cycles from 1970 to 1982, because that period is significantly different from the previous period. Similarly, the growth rates per quarter are presented for all seven cycles (1949–1982) in Appendix F, for the four cycles of 1949–1970 in Appendix G, and for the three cycles of 1970–1982 in Appendix H. Not all variables are presented in every appendix, but only those pertinent to this book and mentioned in this book.

These appendixes are for reference throughout the book and are not designed to be read at once. Therefore, for the convenience of the reader, they are all located at the end of the book. Also, for the convenience of the reader, each appendix is arranged in order of the series numbers in the main source, cited in each appendix.

History of the Business Cycle

JEAN B. SAY, a French economist writing in the early nineteenth century, declared the “law” that supply calls forth its own demand; that is, after any temporary disequilibrium, demand always adjusts to the level of supply so that the economy reaches equilibrium. Since demand adjusts to supply at *any* level of supply, it follows that if goods are supplied at the full employment level, the economy will adjust to a full employment equilibrium. Say’s law implies that workers are never unemployed for any significant time as a result of lack of demand for labor, so most unemployment can be interpreted as “voluntary” by workers.

The ridiculous idea that millions of workers are voluntarily unemployed and that the economy is really at full employment equilibrium most of the time was an accepted part of orthodox economic wisdom from Say’s time till the Great Depression of the 1930s—and still has many defenders. In the next chapter, the modern defenses of Say’s law are examined, as well as the thorough refutation of Say’s law by J. M. Keynes in the 1930s. This chapter considers the historical-institutional critique of Say’s law, based on the approach of Wesley Mitchell. Mitchell contends—as in his definition of the business cycle cited in the previous chapter—that the business cycle takes place if, and only if, the institutions of a private enterprise capitalism are the dominant institutions. According to Mitchell, there is involuntary unemployment under capitalism.

Say’s law denies that aggregate supply can be greater than aggregate demand (except temporarily). In the next chapter, we shall see that J. M. Keynes emphasized that the effective demand (demand in money terms) can be less than supply for a long time, causing a recession or depression. This chapter, therefore, concentrates on the historical conditions and institutions under which demand may be less than supply, causing a cyclical downturn. This does not mean that lack of demand is necessarily the only cause of cycles; that is a vital issue for later discussion and is not prejudged here.

Many economists, including Karl Marx and Thorstein Veblen (who was Mitchell’s teacher) have pointed out that Say’s law does hold true for earlier societies in which (1) production was for the self-use of the economic unit; (2) the motive of production was not to maximize individual profit; and (3) the very limited exchange that existed was conducted by

barter. Say's law, however, does not hold true for a modern private enterprise capitalist economy, in which (1) production is for exchange in the market; (2) production is motivated by private profit; and (3) the economy is characterized by the general use of money and credit. Each of these conditions are considered in detail in this chapter, after which we examine the stages of evolution of the capitalist economy, the changes that have occurred in the business cycle in different stages and in some periods within stages of capitalism, and an empirical description of the cycle in three different periods of U.S. history.

PRODUCTION FOR THE MARKET

It was characteristic of the private enterprise economy that was fully developed in England by the end of the eighteenth century that most production was solely directed toward its sale on the market. This was hardly ever true of earlier societies. In the most primitive societies, almost all productive activity was directed to production of food by mere gathering or growing of fruit and vegetables or hunting of animals by the collective unit of all the males and/or females of the tribe. Naturally, the produce was usually consumed in roughly equal proportions by these same tribal members or their families. Even at a later stage (characterized by agriculture and herding), production was for use, not sale; none of the Indian tribes of the Americas, not even the Aztecs, bought or sold land or produced crops to sell for a profit to others. In fact, "For the red man soil existed only in order to meet the necessities of life, and production, not profit, was the basis of his economy. . . . Unemployment was certainly never a problem in the Indian communities of early America" (Crow 1948, 54).

Since tribes handled most production collectively, there was little, if any, trade among its members. In fact, very little commerce was transacted between the most primitive tribes, and that was mostly limited to small and precious materials for their decorative or magical qualities. Even a relatively more advanced society, the Inca empire of South America, still was based on a self-sufficient economic unit consisting of a few families, called the *ayllu*, whose only external economic relation was the work-service tax owed to the state and paid in agricultural produce or work on government projects (see Crow 1948, 26–29). In fact, all over the world, for thousands of years, almost all economic systems—whether tribal or feudal—were based on relatively self-sufficient agricultural units.

In the Roman Empire there was a great deal of trade, but most of it was in luxury goods and did not affect the self-sufficiency of the basic agricultural unit, the slave-run plantation (although a lack of surplus

could bring starvation to large numbers of city dwellers). As one author says, "[N]otwithstanding the phenomenal expansion of trade and industry the vast masses inside the Empire still continued to win their livelihood from the soil. Agriculture remained throughout antiquity the most usual most typical economic activity, and land the most important form of wealth" (Walbank 1956, 11–13). Rome did have unemployment among the urban laborers, most of whom were former peasants forced off the land by the competition of slavery. This was a long-run phenomenon caused by the complete lack of mass markets, not a cyclical breakdown of the market.

Feudal England lacked both extensive trade and towns because the primitive level of technology made the supply of large urban populations impossible and even greatly restricted trade between the villages. During most of the feudal period, England had very little trade with the rest of Europe. Of course, in the later medieval period, there were areas of more highly developed industrial production, such as Flanders and northern Italy, and even relatively backward England carried on a systematic wool trade with Flanders. Yet these were exceptions to the general rule of the feudal economy and may be considered early signs pointing to the beginning of the end of that economy.

During the Middle Ages, market institutions, as we know them today, were not well developed. If there happened to be surplus production from the slave or feudal estate, then it might be marketed in return for foreign luxury items for the lord of the estate, but it was not a matter of life and death for the economic unit. If the surplus found no market, the manor was still supplied with its necessities for that year and could and would continue the process of production for next year's needs.

Such economically self-sufficient societies could be disturbed only by those catastrophes that were more or less "external" to the economy, namely, the vicissitudes of nature (such as droughts, plagues, or floods) or the whims of human beings (such as government interference, war, or revolution). These phenomena could and did depress production (and bring about famines), both in various randomly spaced intervals and seasonally because of the special seasonal sensitivity of agriculture. Such economies could not, however, conceivably face the problem of lack of effective demand for all commodities, which is a serious frequent problem in market economics. The problem of lack of demand could not exist because the economic unit directly consumed most of the products of its own land and could do without trade altogether.

In the transitional period, in the England of the sixteenth, seventeenth, and eighteenth centuries, the majority of the people still lived on the land; but more and more products, both agricultural and industrial, were delivered to the marketplace. There was increasing long-run un-