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Chapter 15

Cyclical Fluctuations
and Secular Inflation

The proposition that recessions slow inflation is now well established. In the United States as well as in other industrial countries there has been a virtual one-to-one correspondence between the occurrence of recessions or economic slowdowns and substantial reductions in the rate of price inflation. It is equally true that periods between recessions, when economic growth is more rapid, are the times when inflation accelerates.[1] A complex network of interrelations among economic variables operates to produce this result.

Although short-run "cyclical" movements in the inflation rate are of great concern, probably even greater significance attaches to the long-run trends in inflation. From 1960 to 1980 the rate of increase in the U.S. consumer price index climbed to successively higher cyclical peaks. The declines that occurred during and immediately after recessions failed to bring the rate down to as low a level as it had reached after the preceding recession. The inflation rate ratcheted upward. Recessions have slowed inflation but have not, during the past twenty years, cured it.

One of the possible reasons for the underlying trend—the changing nature of the business cycle itself—has not received much attention in recent years. In the 1920s, Wesley C. Mitchell and Willard Thorp (1926) suggested a simple hypothesis about long swings in the level of wholesale prices, namely, that they were associated with the relative length of business cycle expansions and contractions. A period during which expansions were much longer than contractions would generate more inflation than a period when expansions were relatively short. They showed that between 1790 and 1920 there had

been a regular alternation of such periods, each one lasting twenty or thirty years, corresponding with the upswings and downswings in the wholesale price index (WPI).

Some twenty years later Mitchell and Arthur F. Burns (1946) examined the same hypothesis with a different set of measurements, extended the record to the 1930s, and found a similar result. We can now add another chapter. Continuing the same chronology of long swings in wholesale prices, the entire period from 1932 through 1981 must be classified as an upswing. In only a few years have prices been lower than the year before.[2] Encompassing five decades, it is by far the longest period of rising prices in the entire record back to 1790. It is also the largest upswing: In 1981 the WPI was more than eight times its level in 1932. We find that the Mitchell–Thorp–Burns hypothesis is supported once again. The expansion phases of business cycles outlasted the contraction phases throughout the period 1932–1981, and by a margin that had not even been approached in earlier times. There were five years of expansion for every year of recession. Figure 15-1 shows the long-standing association between the rate of price inflation and the relative length of the prosperous phases of business cycles.

In these exhibits we use the wholesale price index to identify and date the long swings, as Mitchell, Thorp, and Burns did originally. In addition, we measure the changes in the consumer price index during the same intervals, even though it is based on very slender evidence in the early years (see note to Table 15-1). The dates of the long swings would be somewhat different if based on the consumer price index itself, but taking the whole period, the wholesale price index provides firmer evidence.

What the results seem to mean is that the success the nation has had in moderating the business cycle since the 1930s—specifically, shortening recessions and lengthening expansions—has been achieved only at a price, namely an ever-rising price level. The current as well as the previous manifestations of this relationship, a kind of long-run Phillips curve, were doubtless brought about by monetary, fiscal, labor market, and other factors that produced both the shifts in cycle-phase durations and the accompanying shifts in inflation. Episodic factors were at work also, such as wars, gold discoveries, oil price explosions, and new legislation or administrative procedures. Here we shall not review this long history but will instead concentrate upon some aspects of the most recent upswing, especially the period since 1948.

One aspect that is especially intriguing is the possible emergence of a new phase beginning around 1980. The business cycle expansion

Figure 15-1. Long Swings in Prices and the Business Cycle, 1789-1981.
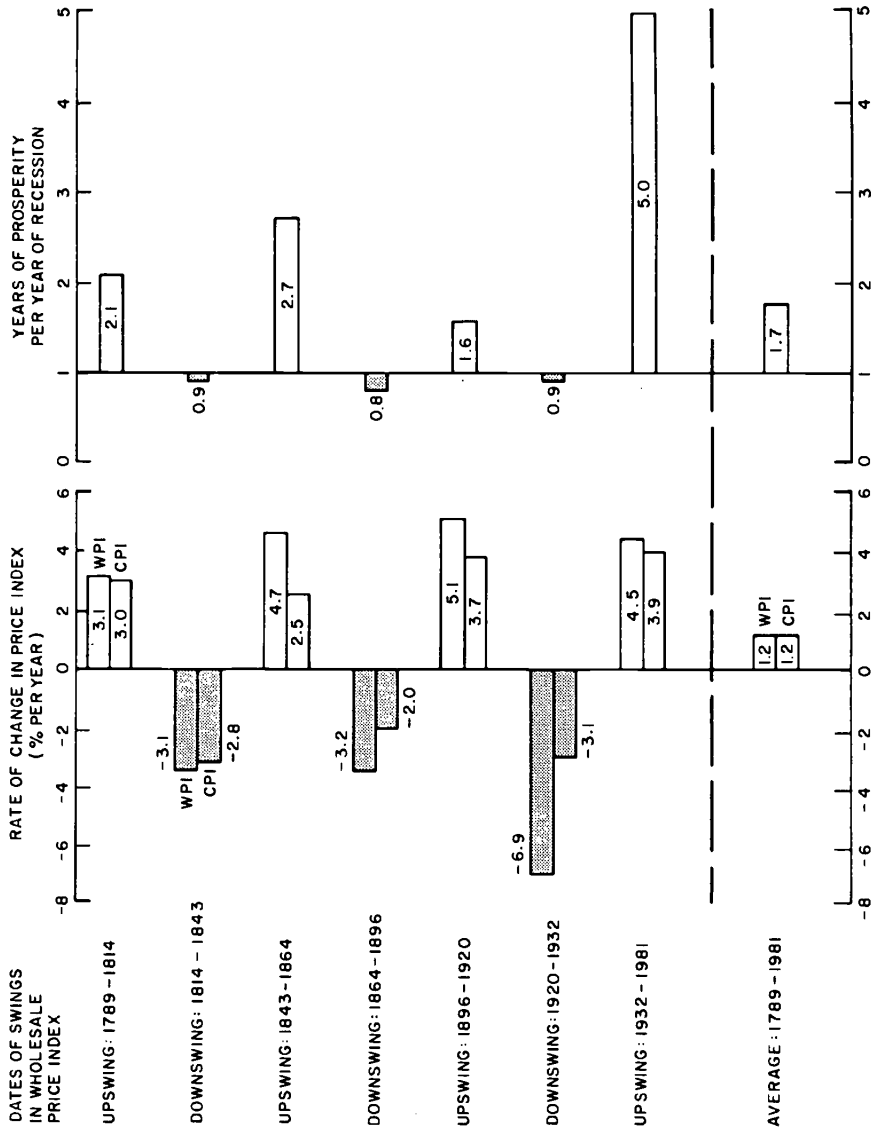
Source: Center for International Business Cycle Research, Rutgers University.

Table 15-1. Inflation and Business Cycles, United States, 1789-1981.

Trend in Wholesale Prices			Wholesale Price Index			Consumer Price Index			State of the Business Cycle		
Direction	Dates	Number of Years	First Year (1967=100)	Last Year (1967=100)	% Change Annual Rate	First Year (1967=100)	Last Year (1967=100)	% Change Annual Rate	Years of Expansion	Years of Contraction	Ratio, Expansion Contraction
Rising	1789-1814	25	30	64	3.1	30	63	3.0	17	8	2.1
Falling	1814-1843	29	64	26	-3.1	63	28	-2.8	14	15	0.9
Rising	1843-1864	21	26	68	4.7	28	47	2.5	16	6	2.7
Falling	1864-1896	32	68	24	-3.2	47	25	-2.0	15	18	0.8
Rising	1896-1920	24	24	80	5.1	25	60	3.7	14	9	1.6
Falling	1920-1932	12	80	34	-6.9	60	41	-3.1	6	7	0.9
Rising	1932-1981	49	34	293	4.5	41	272	3.9	40	8	5.0
Total or average		192	34	293	1.2	41	272	1.2	122	71	1.7

Note: The periods of rising and falling trends in wholesale prices are those designated by Burns and Mitchell, (1946: 432) from 1789 to 1932 and extended to 1981 by Moore. The periods are substantially the same as those given by Mitchell and Thorp (Thorp 1926: 66), except that Burns and Mitchell placed the trough in wholesale prices in 1843 rather than 1849. The wholesale price index from 1896 to 1981 is the U.S. Bureau of Labor Statistics' all commodities index. From 1789 to 1864 the index constructed by Warren and Pearson is used, spliced to the BLS index at 1890.

The consumer price index from 1800 was estimated by the Bureau of Labor Statistics by splicing several indexes together, namely: 1800–1851, Index of Prices Paid by Vermont Farmers for Family Living; 1851–1890, Consumer Price Index by Ethel D. Hoover; 1890–1912, Cost of Living Index by Albert Rees; 1913–date, Bureau of Labor Statistics. See *Handbook of Labor Statistics* (1971: 253). We estimate the 1789 figure by splicing the Warren and Pearson wholesale price index to the Vermont price index at 1814 (see *Historical Statistics of the United States*, U.S. Department of Commerce 1975: 201–202). In these early years the figures give only a rough indication of what was happening to consumer prices and cannot pretend to be comparable with more recent figures.

The classification of business cycle expansions and contractions into periods of upswing and downswing in wholesale prices follows Burns and Mitchell 1946: 437 and 538, from 1843 to 1932. All business cycles from 1932 to 1981 are included in the latest upswing. The monthly business cycle chronology of the National Bureau of Economic Research is used. From 1789 to 1843 the classification is based upon Thorp (1926: 94) and Mitchell (1927: 444–445), with years of revival and prosperity classified as "expansion," and recession and depression as "contraction."

Source: Center for International Business Cycle Research, Rutgers University.

from July 1980 to July 1981 was not only one of the shortest on record (twelve months) but was also short relative to the recession that preceded it, which lasted only six months. This two-to-one ratio had not occurred in any of the eight business cycles since the Great Depression of the 1930s. Before then, ratios of two to one or less were frequent, as Table 15-1 shows. Another way of looking at the same information is to say that the recession of 1980 was followed unusually quickly by the recession of 1981-1982. It would not be unreasonable to expect, in light of the long historical record, that the consequence of two recessions back to back will be a more substantial reduction in the inflation rate than would have been produced by the usual sequence of brief recessions and long expansions. Indeed, it is already clear that the decline in the inflation rate since 1980 has been unusually large. Whether this marks a new trend or is just an episode depends largely on the persistence with which policies that will promote real growth without inflation are pursued in the future. Nonetheless, it is an auspicious beginning.

A second aspect of the most recent upswing that deserves attention is the evidence that the tendency for long business cycle expansions and brief recessions to promote inflation can be materially modified by appropriate monetary and fiscal policies. Table 15-2 divides the period since 1948 into business cycle segments running from the peak of one business cycle to the peak of the next. In every cycle the contraction phase was relatively brief, the subsequent expansion phase much longer. In every cycle the consumer price index rose, as did the gross national product implicit price deflator. This is what our 200-year history has taught us to expect: Long expansions and short recessions make for a rising trend in prices.

Nevertheless, the *rate* at which the price indexes advanced during each cycle had little or nothing to do with the relative length of expansion versus contraction. In the two cycles between 1953 and 1960 the rate of inflation was very moderate, just over 1 percent per year, even though the recessions were just as short relative to the expansions as in the 1973-1980 cycle, when the rate of inflation averaged 9 percent per year. What happened was that the growth in the stock of money and in the supply of credit accelerated sharply in the intervening twenty years. This had no apparent effect on the rate of growth of real output, which was virtually the same in 1973-1980 as in 1953-1960. It did not reduce unemployment, which was somewhat higher in the later period. The money and credit went into inflation and into higher interest rates.

Table 15-2 contains an important lesson for fiscal policy as well as for monetary policy. The rates of inflation in the seven cycles

Table 15-2. Trends during Successive Business Cycles, 1948-1981.

	Business Cycles, Peak to Peak							Entire Period Nov. 48 - July 81
	Nov. 48 - July 53	July 53 - Aug. 57	Aug. 57 - Apr. 60	Apr. 60 - Dec. 69	Dec. 69 - Nov. 73	Nov. 73 - Jan. 80	Jan. 80 - July 81	
Business cycle durations								
Months of contraction (number)	11	10	8	10	11	16	6	72
Months of expansion (number)	45	39	24	106	36	58	12	320
Ratio, expansion to contraction	4.1	3.9	3.0	10.6	3.3	3.6	2.0	4.4
Rate of inflation (% per year)								
Consumer price index	2.2	1.3	1.2	2.6	5.2	9.0	10.9	4.2
GNP implicit price deflator	2.1	2.6	1.8	2.7	5.2	7.5	9.2	4.0
Prime rate (%)	2.5	3.4	4.3	5.3	6.7	9.1	16.7	6.0
Nominal GNP growth rate (% per year)	7.1	5.1	4.4	7.0	9.4	10.5	10.0	7.6
Real GNP growth rate (% per year)	4.9	2.5	2.6	4.2	3.9	2.8	0.6	3.5
Unemployment rate (%)	4.2	4.4	5.8	4.8	5.3	6.7	7.2	5.3
Money supply growth rate (% per year)								
M1	3.1	1.4	1.8	4.0	6.6	6.6	6.3	4.3
M2	3.3	2.7	5.0	7.3	10.0	10.0	9.4	6.8
Growth in debt (% per year)								
Private nonfinancial debt[a]	10.9[b]	9.7	8.8	8.8	10.5	11.2	8.9	9.9
Federal debt	1.2[b]	-0.5	2.2	2.1	4.9	11.3	11.8	4.1
Total nonfinancial debt	5.8[b]	5.4	6.5	7.0	9.4	11.2	9.4	7.8

[a] Total nonfinancial less federal debt.
[b] December 1948 - December 1953 (year-end data).
Source: Center for International Business Cycle Research, Rutgers University.

were very closely associated with the growth in total debt of non-financial borrowers—business enterprises, consumers, state and local governments, and the federal government. Indeed, the relation between inflation and the growth of debt is about as close as that between inflation and the growth of money. It should be noted, however, that the table does not allow for lags. With time units as long as a business cycle, however, lags of a year or so might not make much difference. In any case debt and inflation are closely associated, a result that bolsters the argument of those who contend that credit is an appropriate target for monetary policy.

The interesting observation for fiscal policy is that it is the behavior of federal debt that is largely responsible for the close relation between credit and inflation. Privately held debt grew almost as rapidly in the earlier cycles as in the later ones. What varied widely in its growth rate was federal debt, starting with modest growth in the 1948-1953 cycle, which encompassed the Korean War, going down to no growth in the next cycle, 1953-1957, and accelerating ever since. After 1957 the acceleration in federal debt largely produced the acceleration in total debt and hence produced the close association of total debt with the rate of inflation.[3] Federal debt did not crowd out private debt. It was an add-on of increasing size, producing the wherewithal to finance a rising rate of inflation. Since the growth of federal debt is primarily determined by the size of the deficit, the current concern about the long-run trend in the deficit is clearly justified by the record.

Table 15-2 gives a bit of support to the possibility of a turning point in the trend of inflation, referred to previously. The most recent cycle, January 1980–July 1981, was not only unusual with respect to the brevity of the expansion phase (twelve months), but also because for the first time in nearly three decades the rates of growth in money and credit were smaller than in the preceding cycle. If these rates work down below their average levels for the 1948–1981 period as a whole, to say 3 percent for M1, 5 percent for M2, and 7 percent for total debt, the simple regressions between these rates and the inflation rates, based on the seven cycle observations, suggest an inflation rate in the 3 percent range. Judging from the record in the early years of the period, this is an attainable goal. It can be attained with output growth in the 3 to 4 percent range, unemployment in the 3 to 5 percent range, and with three or four years of expansion to every year of recession.

NOTES TO CHAPTER 15

1. For a brief review of the U.S. evidence see Geoffrey H. Moore, "Will the slowdown reduce the inflation rate?" *Across the Board*, The Conference Board Magazine, 26, no. 9 (September 1979): 3-7. The international evidence is summarized in Chapters 6 and 14 of this volume.

2. In terms of annual averages, the declines in the wholesale price index (from the preceding year) came in 1938, 1939, 1949, 1952, 1953, 1961, and 1963. The consumer price index registered declines in 1933, 1938, 1939, 1949, and 1955.

3. It is true that even if federal debt had continued to grow as slowly as it did, say, in 1957-1960 (2.2 percent per year) the growth of total debt might still have accelerated, because the effect of the slower growing federal component would have diminished as it got to be a smaller part of the total. But in fact the annual rate of borrowing by the federal government grew more than sixteenfold between 1957-1960 and 1980-1981, while borrowing by the private sector (including state and local governments) merely quadrupled. Hence the acceleration in growth of total debt was largely attributable to the increasing fraction of total borrowing done by the federal government. I am indebted to Arthur Broida for bringing to my attention the interesting point that a slow-growing component of a total can cause the total to accelerate even if none of the components does so.

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