

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Business Cycles, Inflation, and Forecasting, 2nd edition

Volume Author/Editor: Geoffrey H. Moore

Volume Publisher: Ballinger

Volume ISBN: 0-884-10285-8

Volume URL: <http://www.nber.org/books/moor83-1>

Publication Date: 1983

Chapter Title: Inflation and Profits

Chapter Author: Geoffrey H. Moore

Chapter URL: <http://www.nber.org/chapters/c0703>

Chapter pages in book: (p. 281 - 286)

## Chapter 17

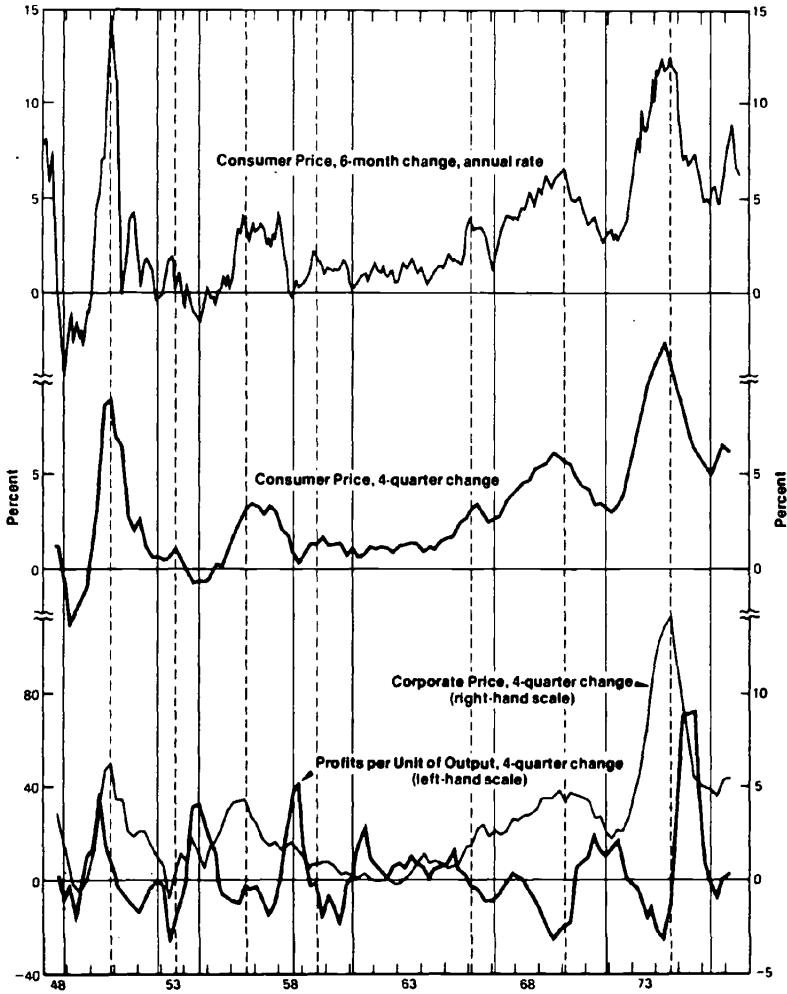
# Inflation and Profits

Does a high rate of inflation improve the profit situation of business enterprises? Or to put it the other way around, do rising profits contribute to inflation? Although the experience of individual industries will differ, the record for business enterprise as a whole suggests that the answer to both these questions is no. Indeed, profit margins during the past twenty years have, on balance, acted more as an offsetting than as an intensifying factor with respect to inflation. Profit margins were higher, on the whole, when the rate of inflation was low and lower when the rate of inflation was high.

The record since 1948 is in Figure 17-1, based upon figures published by the Bureau of Labor Statistics. The top line in the figure shows the rate of change in the consumer price index during successive six month intervals, after adjustment for seasonal variation. This is the basis for the monthly chronology of the rate of inflation, marked off by vertical lines representing peak rates and trough rates.<sup>1</sup> The next line is the rate of change in the CPI over four-quarter intervals. Both rates are centered in the middle of the interval to which they pertain, and on this basis they show similar movements, although the quarterly series is smoother. The next pair of lines pertain to the rates of change in prices and in profits per unit of output for all nonfinancial corporations, also expressed as rates of change over four-quarter intervals. Corporate prices, it will be seen, are closely related to consumer prices. The consumer, by and large, pays what the corporations charge.<sup>2</sup>

Reprinted from *NBER Reporter*, December 1977.

**Figure 17-1.** Prices and Profits per Unit of Output; Rates of Change, 1948-1977.



*Note:* Vertical Lines are peaks (P) and troughs (T) in Inflation Chronology (consumer price, six-month change). Rates are centered in middle of period covered.

*Source:* U.S. Bureau of Labor Statistics.

During the Korean War period and for several years thereafter, the rates of change in corporate profits per unit of output were, on the whole, positively related to the rates of change in corporate prices. But since 1955 or so an inverse tendency has developed. In 1972, for example, when corporate prices were rising at a modest 3 percent annual rate, profits per unit of output rose at an 18 percent clip. By 1974, when the rate of increase in corporate prices reached 13 percent, unit profits were falling at a 29 percent annual rate. In the following year, when the inflation rate dropped to 8 percent, profits per unit of output rose at a phenomenal 67 percent rate.

Table 17-1 shows the rates of change in unit profits when corporate prices were rising most rapidly and when they were rising least rapidly or falling. The first swing in prices, 1949 to 1951 to 1953, was accompanied by a similar swing in unit profits. Since then, profits have swung in the opposite direction to prices, declining when prices were rising most rapidly, rising when prices were rising least rapidly. In general, the fluctuations in profits, both up and down, are far wider than in prices: the scale for profits in Figure 17-1 is eight times as large as the scale for prices. The profit line and the price line have not always moved in the opposite direction by any means, but in recent years the tendency has been that way. High rates of inflation have not been good for profits.<sup>3</sup>

In view of the close relation, mentioned above, between corporate prices and consumer prices, the relations between corporate profits and corporate prices carry over to consumer prices (see Table 17-1). That is, the highest rates of increase in consumer prices have been associated in recent years with low rates of increase (or a decline) in corporate profits per unit of output and vice versa.<sup>4</sup>

How does this come about? To make sense of it, one has to look at the behavior of costs of production and at the changing relationship between costs and prices during the course of the business cycle. Costs and prices in the economy as a whole have a peculiar, yet characteristic, relationship during the business cycle. During a business expansion the rate of increase in prices generally rises and so does the rate of increase in costs—labor costs as well as other costs. But the cost curve rises faster. Whereas at the beginning of an expansion prices are typically rising faster than costs, at the end costs are typically rising faster than prices. Somewhere around the middle of an expansion costs per unit of output rise at about the same rate as prices, but from there on costs rise faster than prices, putting a squeeze on profits even though prices may still be rising faster than before. The upshot is that the rates of change in profits per unit of output are rising

Table 17-1. Corporate Prices, Consumer Prices, and Unit Profits, 1949-1977.

Dates of High and Low Rates of Change in Corporate Prices		Rates of Change (percent) in							
High (1)	Low (2)	Corporate Prices		Consumer Prices		Unit Profits			
		At High (3)	At Low (4)	At High (5)	At Low (6)	At High (7)	At Low (8)		
II/50-II/51	I/49-I/50	6.3	-0.7	9.2	-1.5	7.3	-4.4		
I/56-I/57	IV/52-IV/53	4.4	-0.9	3.4	0.8	-1.8	-26.2		
II/69-II/70	III/62-III/63	4.9	-0.1	6.1	1.4	-21.9	7.4		
I/74-I/75	III/71-III/72	14.6	2.3	11.1	3.1	-18.0	12.4		
	I/76-I/77		4.6		5.9		-8.3		

Note: The corporate price figures are based upon the implicit price deflator for gross domestic product of all nonfinancial corporations. Unit profits are corporate profits before taxes but with inventory valuation and capital consumption adjustments, per unit of gross domestic product of nonfinancial corporate business. All percent changes are computed from the same quarter year ago, for the intervals in columns 1 and 2.

Source: U.S. Bureau of Labor Statistics.

less rapidly, or even declining, at the end of a business expansion—the peak of prosperity—than at the beginning, even though prices are rising faster at the end than at the beginning.

#### NOTES TO CHAPTER 17

1. See Chapter 11 for a discussion of this chronology and Appendix Table A-5 for the dates.

2. This is not strictly correct. For one thing, many things that corporations sell are not sold to consumers. They may sell machinery to other corporations, to the government, or to buyers in other countries, for example. Also, consumers buy some products or services from noncorporate sources. But the prices paid by consumers, overall, are very closely correlated with the prices received by corporations. The correlation coefficient ( $r$ ), 1948–1977, based upon four-quarter changes, is +0.90.

3. The correlation coefficients ( $r$ ) between the four-quarter changes in corporate prices and unit profits are: 1948–1954, +0.40; 1955–1977, –0.07. Neither of these coefficients are statistically significant, which means that by this test the data do not refute the hypothesis that there is no relation between the rates of change in unit profits and prices. It is clear, however, that since 1955 the relation has not been positive. It should be noted that because both the unit profits and the price (implicit price deflator) indexes are obtained by dividing dollar aggregates by an index of output, errors in the latter tend to produce a spurious positive correlation between unit profits and prices, in which case an observed inverse correlation would be understated (cf. n. 4, below).

4. The correlation coefficients ( $r$ ) between the four-quarter changes in consumer prices and unit profits are: 1948–1954, +0.26; 1955–1977, –0.15. Since the CPI is statistically independent of unit profits, the influence of spurious positive correlation is not present in these coefficients (cf. n. 3), which may explain why the positive coefficient before 1955 is smaller and the negative coefficient after 1955 is larger than when the corporate price series is used. Neither of them, however, refute the hypothesis that the true correlation is zero.

