Volume Title: The Structure of Postwar Prices

Volume Author/Editor: Frederick C. Mills

Volume Publisher: NBER

Volume ISBN: 0-87014-342-5

Volume URL: http://www.nber.org/books/mill48-1

Publication Date: 1948

Chapter Title: The Incidence of Inflation, 1939-1947

Chapter Author: Frederick C. Mills

Chapter URL: http://www.nber.org/chapters/c6675

Chapter pages in book: (p. 1 - 5)

I THE INCIDENCE OF INFLATION, 1939-1947

Since the outbreak of war in Europe in 1939 the economy of the United States has undergone a major inflation. Practically every sector of the economy and every economic process has been affected by declines in the worth of the monetary unit. Increases in the aggregate dollar values of goods produced and of services rendered substantially exceed increases in the physical volume of output and of services. This divergence is of the essence of inflation.

The degree of divergence between physical volume and value aggregates for selected elements of the economy, from 1939 to the fourth quarter of 1947, is indicated in Table 1 and Chart 1. The differences are measures of the role inflationary factors have played in swelling the monetary measures of output, trade, and employment.[1] The physical gains have been notable—27 percent in agriculture (1947 over 1939), 82 percent in manufacturing, 54 percent in the flow of goods to consumers,[2] 70 per cent in employment in manufacturing, 118 percent in volume of revenue freight carried by railroads. Here is a record of exceptional accomplishment during eight years. But in almost every field (revenue freight is the notable exception) the gains in aggregate value far outstripped the quantity advances. The monetary value of goods produced or of services rendered increased more than 200 percent in agriculture, manufacturing, and manufacturing employment; retail sales scored gains of much the same order; monetary values increased more than 100

[1] Inflation is here defined as the condition that exists when the aggregate value of all goods and services entering into exchange in a given economy advances more rapidly than the physical volume of the same goods and services. Inflation is thus an economy-wide condition. A divergence between value and volume aggregates for one class of goods is not inflationary if the price rises in this sector are offset by declines among other classes of goods or services. Thus no one of the volume and value comparisons in Table 1 is by itself an accurate index of the degree of inflation. Only a comparison comprehending economy-wide aggregates would provide a single, accurate index of inflation. But the fact that for every series in Table 1 the increase in aggregate value exceeded the increase in physical volume is clear evidence that the pressures toward higher values were truly inflationary.

[2] This estimate is derived by deflating consumer expenditures by the consumers' price index. Consideration of other retail price indexes yields a somewhat more conservative estimate — 40 to 50 percent; see App. Table 7.

TABLE 1

Changes in Physical Quantities Produced or Exchanged and in Their Aggregate Values, 1939-1947

	% Change, 1939-IV 1947	
	Physical quantity	Aggregate value
Agricultural production	+27[a]	+272[a]
Mineral production	+46	+156
Manufacturing production	+82	+248
Construction activity	+34	+150
Revenue freight (ton miles)	+118	+136
Retail sales	+73	+226
Consumer expenditures	+54	+156
Employment in manufacturing[b]	+70	+248
Employment in mining[b]	+34	+171

[a] Change from 1939 to 1947. The movement for net farm income between these dates is +242.

[b] Employment is here measured in manhours. The corresponding change in number of production workers is +57 percent in manufacturing, +3 percent in mining.

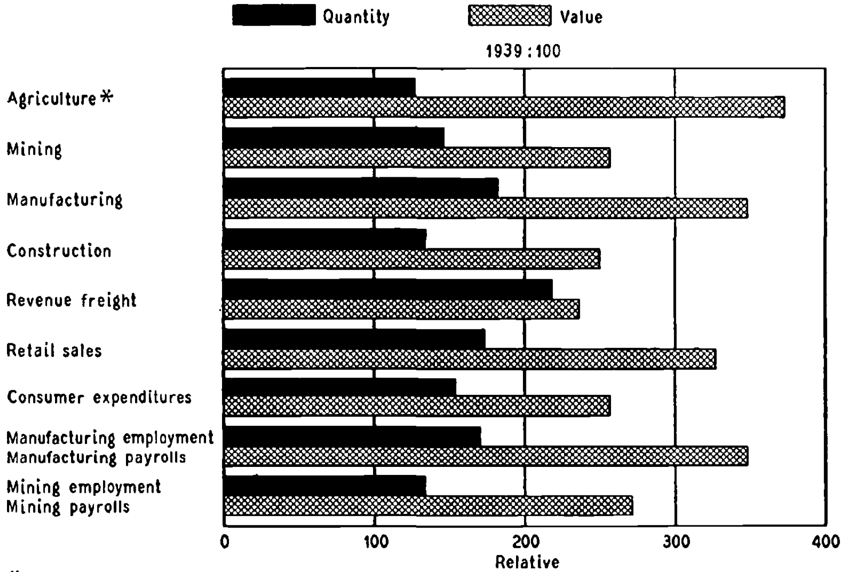
percent in mineral production, construction, consumer expenditures, and employment in mining. The customary accounting and monetary measurements of economic activity and of productive accomplishment have been swelled by the factitious gains of inflation.

Such inflationary differences as these, which are manifest in unequal movements of prices, wages, and profits, affect producing and consuming groups unequally. From these inequalities stem the major economic difficulties that grow out of inflation (and, in the reverse situation, out of deflation). Trading relations among economic groups are altered. The worth of wheat in terms of coal, of raw cotton in terms of cotton cloth, of wool in terms of shoes, of labor in terms of beef—all these are modified; some traders gain in relative position, some lose. These changes affect individuals; they also modify the conditions under which broad economic groups cooperate in the productive process. The terms on which agricultural and industrial producers exchange goods, on which wage earners, shareholders, and bondholders divide the receipts of corporate enterprise, on which producers of capital equipment trade with producers of consumer goods may be profoundly altered under the unequal incidence of inflationary price advances.

Such shifts do not mean, merely, changes on quotation boards or alterations in books of account. The price records define, in fact, fundamental relations between the aggregate physical rewards of given producing groups and their aggregate physical contributions to the economy. Thus if during a given period the average selling

CHART 1

Changes in Selected Elements of the Economy 1939 - Fourth Quarter 1947



* Index numbers relate to 1947.

price of farm products rises 20 percent more than the average price of goods bought by farmers, there has been a gain of 20 percent in the aggregate real remuneration of farmers for their services in producing a constant aggregate quantity of farm products. For the same aggregate physical contribution farmers can withdraw from the common pot 20 percent more of the goods and services they purchase for their own use. If the average hourly earnings of wage earners increase 10 percent more than the cost of goods and services they buy, there has been an advance of 10 percent in the aggregate real rewards of wage earners for their services during a constant period of working time. If dividends per unit of manufactured product rise 15 percent more than the prices of goods bought by dividend recipients, there has been a gain of 15 percent in the aggregate real rewards of corporate shareholders for the services rendered by their capital in producing a constant quantity of manufactured goods. Relative prices, as counters, merely define changes in the relations between the aggregate real rewards and the aggregate physical contributions of given producing groups. When unit prices change considerably during fairly short periods, and at quite different rates for different economic elements, relations between the total 'inputs' and the total 'takeouts' of different groups will change substantially. The economic and social consequences may be far reaching.

We should note one other important consequence of wide and unequal movements of elements of the price system. The structure of costs in individual plants, in industries, and in the economy at large may be greatly altered, with corresponding changes in the operating characteristics of the productive units involved. We may think of elements of the cost structure as components of the selling price of the product. At a given time these components (e.g., material costs, labor costs, overhead costs, profits) stand in a definite relation to one another, and this relation is a major factor in the price policy of the entrepreneur or the industry concerned and in the broader policies that determine employment decisions, operating programs, and plans for expansion or contraction of output or plant. Wide price movements in the economy at large always modify these relations. This modification may be such as to encourage or discourage expansion of employment and output, to stimulate or retard mechanization, to promote or discourage search for new types or sources of materials, to advance or reduce selling prices. It may raise or lower the 'break-even' point in industrial operations and thus affect one of the central elements in the operating decisions of entrepreneurs.

In speaking of the various consequences of unequal price changes we have assumed a certain base period or a certain set of base relations with reference to which later relations are defined. In fact these relations are in process of continuous change in the economy at large. No one set of relations may be taken as 'normal', whether we are thinking of terms of exchange among producing groups, of the ratio of rewards to contributions for a given economic group, or of the structure of costs in a given industry. Some change we shall find, no matter what base is chosen as a standard of reference. Yet periods may differ widely in degree and rapidity of price change. From September 1938 to August 1939 in the United States there were merely modest variations in the general price level and in relations among elements of the price system. From June 1946 to February 1948 there were major changes in the price level and violent shifts in the relations among prices.

In appraising shifts in price relations from a stated base period two factors are of primary importance. If the relations prevailing in a given base period have existed for some time, so that productive practices and business policies have been generally adapted to them, departures from these price relations will entail more extensive economic changes than would the same departures from transient relations to which there has been no general adaptation of business procedures and policies. In the second place, the degree and rapidity of change from an established set of price relations have an obvious bearing on the effects of these changes. Shifts in price relations that may be merely a healthy stimulus if effected at a leisurely tempo may bring major economic dislocations if the rate of change is rapid. In interpreting the price shifts that have accompanied the inflationary movements of recent years, therefore, we must take account of the conditions prevailing in the period used as a standard of reference and of the extent and rapidity of the alterations that have occurred since the base period.

It would be misleading to suggest that prices play the role of an independent variable in economic processes. In considerable degree price movements merely reflect changes in underlying factors of production, distribution, and consumption. In some degree, of course, price changes are active elements, to which physical processes require adjustment. This means, among other things, that in observing the movements of prices during any period we are dealing with one, only, of the aspects of economic change; we are tracing some, only, of the clues to an understanding of economic behavior and of the operations of a functioning economy.

With these considerations in mind we turn to an examination of the price structure existing at the beginning of 1948. Prevailing terms of exchange reflect the diverse pressures of wartime needs and shortages and of postwar adjustments, of changes in supply conditions, of extraordinary advances in the purchasing power of domestic consumers and of changes in their tastes and wants, of foreign purchasing and United States aid to foreign countries, of striking modifications in the relative bargaining power of different factors of production, of governmental controls and supports, all superimposed upon a set of relations that had developed during the interwar period of expansion, boom, sustained depression, and extensive governmental action in the economic sphere, and all operating on a price and cost system whose parts vary widely in their flexibility under the pressures of changing market conditions. Our present concern is with the nature and extent of the shifts resulting from these various pressures, and with some of their economic implications.