

PRODUCTIVITY, LABOR COSTS, AND PRICES

How successful will stabilization policy be in bringing inflation under control? Will the rate of inflation continue to subside in the months ahead? If so, how far and how fast will it subside? The answers to these questions will largely depend on the behavior of productivity, which, together with movements in hourly wage rates, is one of the key determinants of changes in the price level.

The Productivity-Wage-Price Nexus Productivity, or output per man hour, affects the price level via its influence on labor costs per unit of output. Unit labor costs are equal to average hourly compensation divided by productivity. Whether unit labor costs rise or fall depends upon which one—compensation or productivity—is rising faster. If hourly compensation rises faster than productivity, which has been the case in recent years, unit labor costs will rise. Since unit labor costs constitute the largest component of production costs per unit of output of most goods and services, a rise in unit labor costs is likely to result in upward pressure on prices.

The productivity-labor cost-price relationship is illustrated in Chart 1. As indicated in the third panel of the chart, the percentage change in unit labor costs is approximately equal to the difference between the percentage changes in hourly compensation and productivity. The size of the spread between percentage changes in compensation and productivity also influences the rate of inflation (shown in the bottom panel of the chart) via the unit labor cost link.

Recent Experience As shown in Chart 1, from the middle of 1968 to the second quarter of 1970, rapidly rising compensation per man-hour combined with virtually nonexistent productivity growth to produce high rates of increase in unit labor costs. Over the same period, the rate of inflation accelerated in all but two quarters.

Following a two-year period of stagnation, productivity growth revived sharply in the second and third quarters of 1970 before sustaining a temporary set-

back in the strike-distorted fourth quarter. In the first quarter of 1971 the productivity growth rate spurted to 6.6% as auto production resumed following the strike. Over the next two quarters, however, productivity registered only modest gains. Increases in hourly compensation persisted at high levels in 1970 and the first half of 1971 as workers sought, via large money wage gains, to restore real earnings eroded by past inflation and to protect future earnings from anticipated further inflation. The rate of increase in unit labor costs, however, was moderated by productivity growth, which partially neutralized the rapid rise in compensation.

Data for the fourth quarter of 1971 show productivity growing almost twice as fast as in the preceding two quarters. Moreover, the rate of increase of compensation per man-hour slowed, reflecting mainly the influence of the 90-day wage freeze. The combined influences of accelerating productivity growth and the constraints of Phases I and II produced a significant reduction in both the rate of increase of unit labor costs and the rate of inflation.

Current vs. Past Cyclical Recoveries Productivity typically rises faster than its long-term rate of growth during the later stages of recessions and initial stages of recoveries. These cyclical phases typified the 1970 economy and, accordingly, the rise in productivity that began in that year was not unexpected.

Chart 2 contrasts the behavior of productivity, hourly compensation, and unit labor costs during the 1969-70 recession and subsequent recovery with the average patterns established in the three previous cyclical swings in business. The chart indicates that productivity gains in the most recent recovery fell short of the average gain for previous recoveries. Productivity advanced 4.1% over the four quarters following the trough of the 1970 recession, whereas its average post-trough increase over comparable time spans in previous recoveries was 5.0%. Actually, the chart somewhat overstates the strength of productivity's recovery from the most recent recession be-

cause the post-trough gain is measured from the fourth quarter of 1970 when productivity was depressed below its level of the preceding quarter.

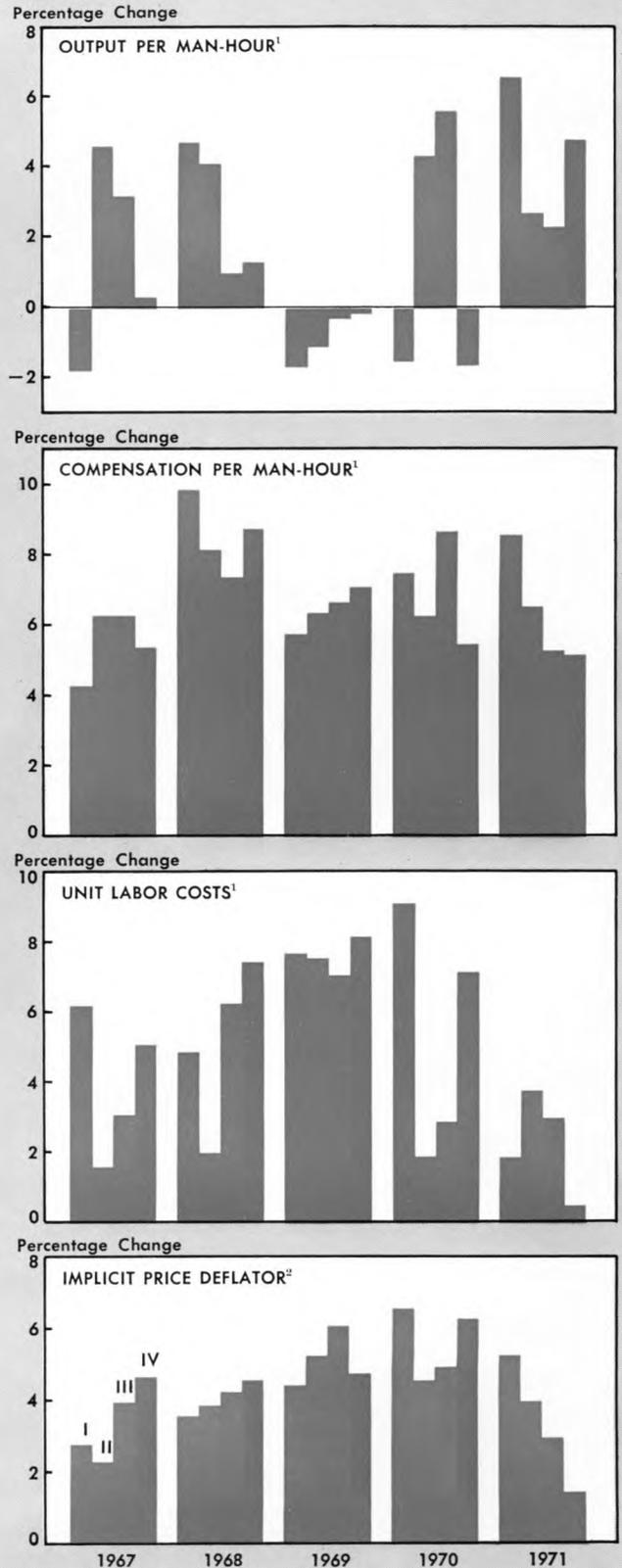
Except for its slightly weaker performance, relative to past revivals, the overall pattern of productivity growth in 1970-71 was roughly similar to that shown in earlier cycles. The same cannot be said for compensation per man-hour and unit labor costs, however. As shown in Chart 2, the 1970-71 recovery profile of these two series deviates markedly from the average pattern established in earlier post-war cycles. For example, increases in employee compensation over the past two years were substantially in excess of rises occurring in earlier recession and recovery periods. Hourly compensation rose 7.0% and 6.4%, respectively, over the four-quarter intervals preceding and following the most recent cyclical trough. The average increase for comparable periods in earlier cycles was only 2.7% and 4.5%, respectively.

Partly because of the below-average rebound in productivity growth, but chiefly because of the extraordinarily rapid rise in hourly compensation, recent movements in unit labor costs bear scant resemblance to those displayed in earlier cycles. In the past, unit labor costs typically exhibited relatively little growth over the four quarters preceding, and absolute declines over the four quarters following, a cyclical trough. In contrast, unit labor costs rose 5.3% and 2.3%, respectively, in the pre-trough and post-trough periods of the most recent recession. Were it not for the price-wage controls, moreover, the 1971 post-trough rise in unit labor costs likely would have been even higher.

In summary, the 1970-71 performance of productivity roughly conformed to its typical behavior in past recoveries. This was not true for hourly compensation or unit labor costs, however.

Factors Influencing Productivity Besides being influenced by random events, such as the auto strike of late 1970, productivity is also affected by both cyclical and structural factors. Cyclical movements in productivity are related to variations in growth of total output and in rates of capacity utilization. They are also affected by employer policies with respect to labor hoarding. Noncyclical movements in productivity are related to such basic factors as technological change and changes in the average levels of education and experience of the labor force. Other structural factors affecting productivity are changes in the age-sex composition of employment and shifts away from industries with relatively large productivity gains (e. g., manufacturing) to in-

Chart 1
PRODUCTIVITY, COMPENSATION, UNIT LABOR COSTS, AND PRICES: 1967-1971
 PERCENT CHANGE OVER PREVIOUS QUARTER AT ANNUAL RATE



¹Private Nonfarm Economy

²Private Economy

Source: Bureau of Labor Statistics

dustries with relatively small productivity gains (e. g., services). That some of these cyclical and structural factors may have influenced the recent behavior of productivity is suggested by the data shown in Chart 3.

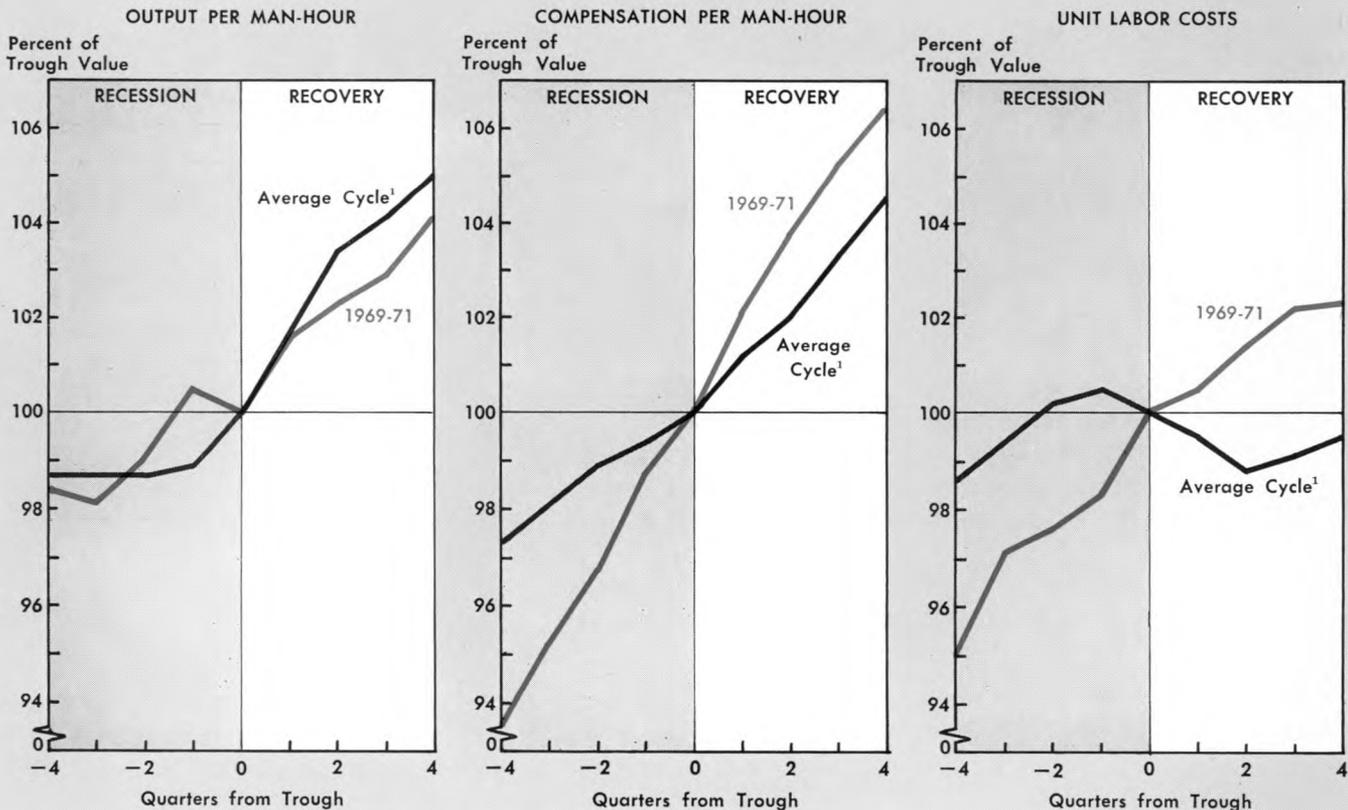
Cyclical Influences Slow growth of output combined with fast growth of employment is the wrong recipe for productivity advance. Yet this combination was characteristic of the economy's performance in the late 1960's. As indicated in the chart, in 1968 and 1969 growth of real product of the private nonfarm sector slowed markedly. While the rise in output was slackening, employers continued to expand their work rolls at a rapid pace. Even after output reached a peak and turned down in the third quarter of 1969, employment continued to rise until the second quarter of 1970.

The slowness of employers in adjusting payrolls to the reduced pace of output reflected in part a desire to hoard labor. This, in turn, was apparently related to anticipations of renewed expansion of aggregate demand and to difficulties experienced in replacing help in the tight labor markets of the middle and late 1960's. But labor hoarding in the face of stagnant output growth had an adverse effect on productivity. Not until employers finally began to pare their work forces in early 1970 did productivity growth revive. The strong advance of productivity in the third quarter of 1970 stemmed almost solely from the continued decline in employment. In the second and fourth quarters of 1971, however, *both* cutbacks in employment *and* spurts in total output contributed to the surge of productivity. The vigorous growth of output expected for 1972 should

Chart 2

PRODUCTIVITY, HOURLY COMPENSATION, AND UNIT LABOR COSTS IN RECENT RECESSION AND EARLY RECOVERY PERIODS

INDEXES: TROUGH QUARTER = 100

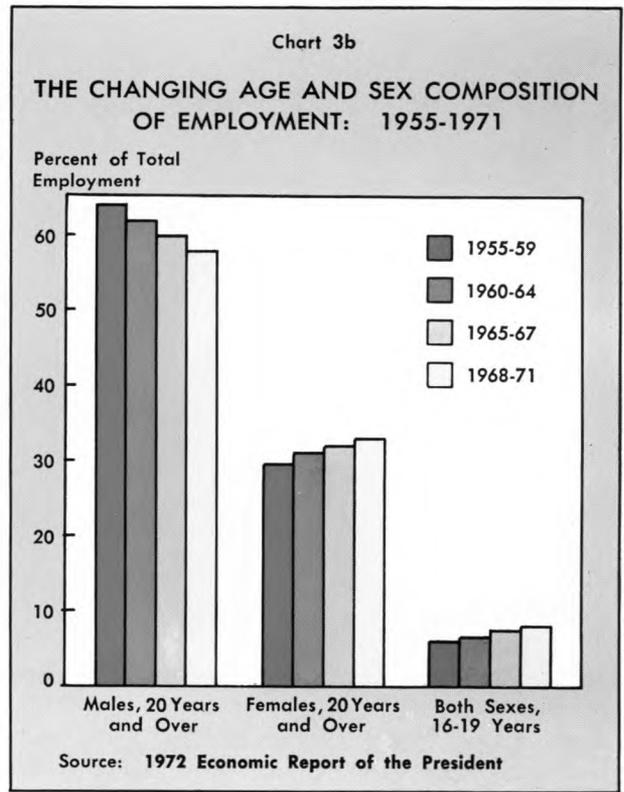
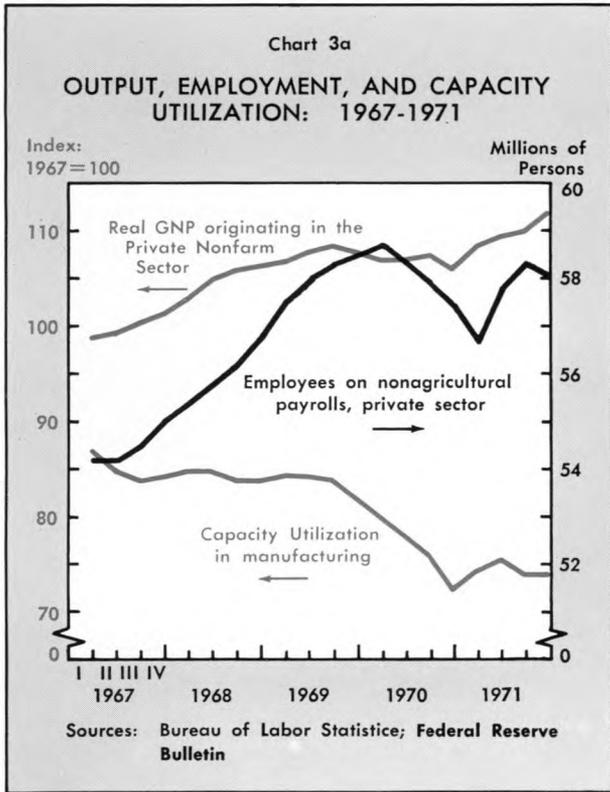


¹Average of 1953-55, 1957-59, and 1960-62 recession and early recovery periods.

Notes: Data are for private nonfarm economy.

Trough quarters of most recent recession: 1970 IV. Trough quarters of three earlier recessions: 1954 III, 1958 II, 1961 I.

Source: Bureau of Labor Statistics.



help sustain the rate of advance registered by productivity in 1971.

Finally, the falling and low rates of capacity utilization that have prevailed since 1968 are probably associated with impaired productivity of *overhead labor*, i.e., the component of firms' work forces whose size is invariant to the level of production.¹ In 1972, however, as the economy picks up steam and firms operate at higher rates of capacity, overhead labor can be spread over a greater volume of output, thereby increasing its productivity.

Structural Influences Changes in the age-sex composition of employment also affected productivity. One economist, George Perry of the Brookings In-

¹ Apparently, overhead labor is now a less inclusive category than it was in the past. Formerly, the term "overhead labor" referred to nonproduction workers (professional, administrative, clerical) as well as to production workers retained during economic slumps because of (1) their specialized skills, (2) the high costs of rehiring and retraining them, and (3) employer contractual commitments (e.g., a guaranteed annual wage). Contrary to earlier recessions, however, in 1970-71 nonproduction workers were among the hardest hit by layoffs as employers endeavored to cut costs by reducing the number of workers not essential to production. Evidently, employers have ceased to regard white-collar employees as overhead labor.

stitution, estimates that shifts in the employment mix accounted for fully one-fifth of the gap between the potential or long-term trend growth rate of productivity and the lower, actual growth rate registered over the span 1965-1970.² In the late 1960's employment of women and teenagers grew much faster than employment of prime-age males. But teenagers often lack the experience and training of older workers, and women are frequently relegated to inherently low-productivity jobs. Because of these factors, the average productivity of women and teenagers suffers in comparison with that of prime-age males. Since the former groups tend to have lower, and the latter group higher, than average productivity, the change in the employment-mix acted to retard the overall rate of productivity increase over the last five years.

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² George L. Perry, "Labor Force Structure, Potential Output, and Productivity," *Brookings Papers on Economic Activity* (3:1971), pp. 558-9.