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Unemployment, Labor Demand, and Compensation

Despite its widespread use, the unemployment rate may not be the best indicator of labor market conditions, according to a recent study by NBER labor economists **James L. Medoff** and **Katharine G. Abraham**. In *NBER Working Paper No. 781, Unemployment, Unsatisfied Demand for Labor, and Compensation Growth in the United States, 1956-1980*, Medoff and Abraham find that "labor market pressure on wages can be more reliably assessed by looking at measures of unsatisfied labor demand than by looking at the unemployment rates on which most earlier analyses have focused."

The tightness or looseness of the labor market—that is, the relationship between the demand for labor and its supply—is one of the factors that determines the growth of wages or compensation. Traditionally, most studies of the short-run growth of wages have used the unemployment rate to indicate how tight the labor market is (the lower the rate, the tighter the market, and the faster the wage growth). In order for the unemployment rate to be a reliable barometer of the labor market, though, the typical unemployed person must represent the same number of available units of labor at each point in time, and the relationship between labor availability and labor market tightness must remain constant. Doubting the validity of those two assumptions, Medoff and Abraham perform a series of analyses on labor market data spanning more than two decades, 1956-1980.

They first ask to what extent wage growth can be explained by the official and prime age male unemployment rates and to what extent by two proxies for the unsatisfied demand for labor: the (normalized) help wanted index (based on a count of help wanted advertisements divided by employment, representing the job vacancy rate), and the quit rate in manufacturing. Taken individually, either of the demand proxies explain wage growth at least as well as the unemployment rates do. When both an unemployment rate and a demand proxy are considered in the analysis, only the unsatisfied demand proxy matters.

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The authors next turn to a graphic representation of the relationship between the official unemployment rate and the percentage change in average hourly compensation (the standard Phillips curve). Using data from the late 1950s to 1980 to plot that curve, one sees an outward shift in 1970 and again in 1974 with a slight backward shift in 1976. That is, "the rate of growth

in compensation associated with any given value of the official unemployment rate has been substantially higher since 1970 than prior to that date." (The same is true of the relationship between the prime age male unemployment rate and the percentage change in average hourly compensation.)

Medoff and Abraham find a similar shift in 1970 in the relationship between unsatisfied demand for labor and both the official and the prime age male unemployment rates. Their observations and analyses taken together seem to suggest that a substantial part of the total observed instability in Phillips curve relations can be linked to shifts in the relationships between unemployment variables and the level of unsatisfied demand for labor.

Why is the unemployment rate a poor measure of what the authors term the "effective unutilized supply of labor"? It is possible that the number of units of available labor represented by the typical unemployed person declined during these two decades. That is, it may be that the typical unemployed person now wishes to work fewer hours per week than previously or is less eager to work in general. It is also possible that the mismatch between the skills and/or location of the unemployed and the skill requirements and/or location of available jobs has become more serious over time. In other words, structural imbalance in the labor market may have become more important since the late 1950s.

Finally, the authors ask what factors have been associated with the outward shift between unsatisfied demand and unemployment. They point to the significant demographic changes in the labor force during the past two decades—especially the influx of teenagers and women—and to liberalization of the unemployment insurance system as likely to have been important. Either of these changes could have influenced the number of units of labor supplied per worker; they could also have affected the degree of structural imbalance in the labor market.

Prices and Terms of Trade for Manufactured Goods

Two NBER researchers have developed new indexes of the export prices of manufactured goods that indicate that the terms of trade for developed countries have deteriorated much more sharply over the last 25 years than is generally believed. The new indexes, coupled with a reappraisal of earlier data, also cast doubt on the widespread notion that developing countries have suffered a long-term decline in their

terms of trade. NBER Research Associates **Irving B. Kravis**, of the University of Pennsylvania, and **Robert E. Lipsey**, of Queens College, conclude in *NBER Working Paper No. 774, Prices and Terms of Trade for Developed-Country Exports of Manufactured Goods*, that the evidence for a long-term trend favoring either developed or developing countries is extremely weak, and that the safest conclusion may be that any apparent trend is soon reversed.

The subject of the terms of trade between developed and developing countries has a long history, and opinions on the direction of relative price trends have gone through several cycles. Until very recently, the majority opinion—especially in developing countries and the international agencies serving them—has been that manufactured goods have generally risen in price to the detriment of developing countries over the past century. That view has predominated even though it runs counter to a basic belief of classical economics that traces back at least as far as John Stuart Mill. Under classical theory, the pressure of rising population against a fixed supply of natural resources ought to give rise to a long-run increase in the relative price of land and therefore of primary products—especially agricultural produce—and a long-run decrease in the terms of trade for manufactured goods.

The contrary opinion began gaining adherents when Folke Hilgerdt concluded in *Industrialization and Foreign Trade* that the relative price of primary products had fallen over the 60 years prior to 1938. The theme of declining prices for primary goods was taken up in a long series of documents, many of them published by UNCTAD and the UN Economic Commission for Latin America. It has been argued back and forth over the years, with interest recently revived in connection with proposals for commodity cartels or price indexation.

Almost all studies of changing terms of trade have relied on unit-value indexes interpreted as measures of the prices of manufactured and primary-product exports. Unit value indexes are based on values per ton or unit of often imprecisely defined commodity groups, for example "paper products." Price indexes use exact commodity specifications, such as "index cards, sulphite stock, three by five inches." Consequently, unit value indexes may reflect changes in the composition or quality of commodity groups disguised as price changes. Kravis and Lipsey set out to expand the discussion by constructing price indexes of manufactured-goods exports, and also by making some estimates of the extent of quality improvements in manufactured exports. Quality improvements may be material to the discussion because they are largely ignored in price indexes and treated as price increases in unit value indexes. Thus, quality improvements may account for an apparent upward bias in manufactured-goods prices. In other words, ignoring quality improvements could make trends appear better for developed countries and worse for developing countries than they really are.

Kravis and Lipsey compare their "NBER index" with two versions of the UN unit-value index. One is the published index for total manufactured-goods exports by developed countries, and the second is a Kravis-Lipsey calculation based on UN data for the unit values of exports by developed countries to developing countries, closer in geographical coverage to the NBER index. Both the UN indexes behaved similarly to the NBER index from 1953 through the mid 1960s and then rose considerably faster. By 1977 the overall UN index had risen to 233, and the one for exports to developing countries had climbed to 245, as compared to 209 for the NBER index (all on a 1963 base).

To estimate the bias resulting from the failure to fully capture the effects of quality changes in both price and unit-value indexes, Kravis and Lipsey experiment by replacing the prices on one class of goods with a series that had been adjusted for quality changes. Based on that result, they conclude that the failure to allow for quality changes biased the NBER index upward by at least 25 percent over the 1953-1976 period. That is, the actual price increase in manufactured-goods exports was about one-fourth less than the nonadjusted index indicates. Kravis and Lipsey also compare unit-value indexes of primary products with price indexes computed by the UN and IMF and find no evidence that primary-product indexes suffer from a similar quality distortion.

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In assessing changes in the terms of trade, Kravis and Lipsey compare their manufactured-goods index with the UN and IMF price indexes for primary goods. Based on price indexes, the terms of trade moved in favor of manufactured goods from 1953 until 1970, with the prices of manufactured goods rising 28 percent relative to primary-product prices. But that gain was quickly dissipated. By 1974, the ratio of manufactured-goods prices to primary-goods prices was down from 1.06 to 0.48 (1963 equals 1.0). Much of that decline reflects rising oil prices, but the terms of trade for manufactured goods still declined by a third between 1972 and 1977—to less than the 1953 level—when oil is excluded from the calculation. In total, the price indexes indicate that the terms of trade for manufactured goods declined 36 percent from 1953 to 1976 measured without a quality adjustment and 45 percent with the adjustment. In contrast, unit-value

indexes show a decline of only 28 percent. The difference between price and unit-value indexes is more striking when oil is omitted from the primary-product mix. On that basis, unit-value indexes show an improvement in terms of trade for manufactured goods, while price indexes still show some deterioration.

Finally, Kravis and Lipsey try to put their findings in a longer-term perspective. In doing so, they must rely on crude unit-value measures for the period prior to 1953. These indicate that the terms of trade in 1953 were essentially the same as they had been in 1900 and in 1872.

However, there were wide fluctuations in the terms of trade over shorter periods, so that impressions about trends are highly dependent on the choice of starting and ending years. Kravis and Lipsey note, for example, that 1938—the final year in Hilgerdt's UN study—was the worst for primary products since 1872, so it is no surprise that he found a downward trend in the terms of trade for developing countries. AE

Partial Retirement Behavior

At least one-third of U.S. workers retire partially at some point during their lifetimes, according to *NBER Working Paper No. 763, Partial Retirement and the Analysis of Retirement Behavior*, by NBER labor economists **Alan L. Gustman** and **Thomas Steinmeier**. The semiretired people are either working fewer hours, or have taken an easier or more flexible job with their old employer ("main job"), or they have shifted to a new position that they consider as partial retirement. Thus, partial retirement "is indeed an important phenomenon," the two Dartmouth College economists note. Their paper then explores the factors that explain the likelihood of partially retiring, both on the main job and in other jobs.

The NBER study is based mainly on data from the Retirement History Survey and uses a scientific sample of several thousand white males who were 58 to 63 years old when initially surveyed in 1969, and who were not self-employed. These men were reinterviewed every two years through 1975.

Gustman and Steinmeier find that workers who partially retire do so more often than not in jobs different from their main jobs. One common reason for this, according to data presented, is that many main-job employers will not permit workers to reduce their hours below full time.

Probabilities of full retirement and partial retirement, both on and off the main job, are found to be

related significantly to such factors as the worker's pension coverage, his health, mandatory retirement provisions, family status, age, and the wage offers he obtains for partial retirement jobs. For instance, for workers in firms with both pension coverage and mandatory retirement provisions, there is a reduced likelihood of partial retirement on the main job. The overall likelihood of partial retirement is understandably higher for those not facing mandatory retirement. Among 65- to 69-year-olds facing mandatory retirement on their main job, some 11 percent are partially retired, mostly in other jobs. Among those not facing mandatory retirement, the comparable figure is 20 percent, again with most individuals partially retiring outside of the main job.

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Certain occupations are more amenable to partial retirement than others. These include farmers, sales workers, private household workers, and service work-

ers. Professionals, managers, craftsmen, and operatives are least likely to be partially retired. Similarly, individuals in agriculture, forestry, fisheries, finance, insurance and real estate, personal services, wholesale and retail sales, and construction are most likely to be semiretired, while those in manufacturing, transportation, communication, public utilities, and public administration are least likely to be semiretired.

Gustman and Steinmeier maintain that earlier studies of partial retirement did not adequately consider the various limitations on individuals' opportunities to partially retire. As a result, these studies are not adequate for analyzing retirement behavior or related policies. In a second part of their paper, Gustman and Steinmeier construct an analysis of retirement behavior that takes such factors into consideration and might eventually be used to determine the effects of major changes in retirement policy—such as changes in the Social Security system, private pensions, or mandatory retirement provisions—on the retirement and partial retirement decisions of workers. Future studies based on this analysis may provide information on whether individuals, on average, will work shorter or longer hours, retire later or earlier, and take partial retirement jobs with their main employer or elsewhere.

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