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Temporary Workers Allow Flexible Staffing

Previous research on how employers accommodate fluctuations in the demand for their products has focused largely on the choice among adjusting hours, layoffs, and using inventory buffer stocks. In a new study for the NBER, Research Associate **Katharine Abraham** emphasizes the important and largely ignored role played by temporary workers, or "temps," in employers' adjustment strategies.

In **Flexible Staffing Arrangements and Employers' Short-Term Adjustment Strategies** (*NBER Working Paper No. 2617*), Abraham reports that over 90 percent of U.S. employers use temps, who provide 10 or even 20 percent of the work force in some companies. Abraham calculates that agency temps alone accounted for nearly six-tenths of one percent of total employment during 1985, and that temps hired directly onto organizations' payrolls were of equal or greater importance.

Employers use temps to provide flexible staffing for meeting variable demands for services or products, as well as for covering employee absences, vacations, and leaves. Indeed, more than three-quarters of the employers in Abraham's study reported that temporaries play an important role in helping them to absorb fluctuations in the work load. Temps are most often used in jobs defined as office/clerical, professional/technical, and production/service. These flexible staffers are more prevalent in jobs that require little firm-specific expertise than in jobs where specialized skills are important.

As might be guessed, businesses with highly seasonal or highly cyclical demand use flexible staffing arrangements much more than firms with less seasonal or less cyclical demand. Unionized firms use fewer flexible staffers than nonunion firms do.

Abraham suggests that the growing strength of antidiscrimination legislation and tighter restrictions on an employer's right to fire an employee at any time may have raised the perceived cost of reliance on a hire/fire adjustment strategy, thus contributing to the increased use of temporary workers in recent years. In addition, youth and women, a growing proportion of the labor force, may be more willing than adult men to take temporary or on-call positions. This extra supply, plus slack labor markets, may have pushed down the relative wages of flexible staffers and thus encouraged their greater use.

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Abraham's data come from a survey, conducted in collaboration with the Bureau of National Affairs, of human resource executives in private firms. The 442 respondents were asked about their use of employment agency temporaries, short-term hires (such as Christmas workers), and on-call workers, including retirees and workers supplied by a union hiring hall, during 1985. DF

Herd Behavior and Commodity Prices

Commodity prices tend to rise and fall together from month to month to a greater degree than can be explained by the common effects of macroeconomic factors such as interest rates, inflation, and output. This tendency for commodity prices to move together may result from "herd" behavior—that is, widely held bullish or bearish opinions about all commodity prices not based on underlying economic factors—among brokers, traders, and other participants in commodity markets.

In **The Excess Comovement of Commodity Prices** (*NBER Working Paper No. 2671*), NBER Research Associates **Robert Pindyck** and **Julio Rotemberg** note that the prices of wheat, cotton, copper, gold, crude oil, lumber, and cocoa are affected by different forces: for example, droughts in wheat-producing regions; strikes among copper miners; or fighting in the Persian Gulf. On the other hand, all seven commodity prices should respond to changes in interest rates or in output. For instance, a rise in interest rates will depress the future output of the economy and thus the demands for all commodities. An interest rate increase also will raise the cost of holding commodities for future sale. Both of these effects will tend to reduce prices of all types of commodities.

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To control for these macroeconomic effects, Pindyck and Rotemberg estimate the influence on the seven commodity prices of past, current, and forecasted future changes in industrial production, the consumer price index, exchange rates, interest rates, the money supply, and stock prices for April 1960 to November 1985. They find that increases in inflation and the money supply are associated with increases in the prices of all commodities, and that increases in the interest rate are associated with decreases in commodity prices. Forecasted future increases in industrial production and inflation also tend to raise commodity prices. However, Pindyck and Rotemberg conclude that price changes for different commodities rise and fall together to a greater extent than the effects of common macroeconomic factors can explain.

Trade in Services

In recent years, there has been much speculation that the comparative advantage of the United States has shifted toward service industries, and that the export of services can help to close the U.S. trade deficit. As a result, the U.S. government currently is trying to reduce international barriers to trade in services. However, a new study by NBER Research Associates **Irving Kravis** and **Robert Lipsey** concludes that the comparative advantage in services belongs more to U.S. multinational firms than to the United States as an exporter. Therefore, most of the foreign demand for U.S. firms' service production will be met by direct investment abroad, rather than by the export of services. Service exports from the United States are not likely to be a major factor in restoring the current account balance; the investment abroad, while it increases U.S. firms' shares in foreign markets, likely will have little effect on the demand for labor in the United States or on the composition of the U.S. labor force.

In **Production and Trade in Services by U.S. Multinational Firms** (*NBER Working Paper No. 2615*), Kravis and Lipsey show that the analogy between trade in services and trade in merchandise is very tenuous. In most service industries, production and consumption take place simultaneously, so that services ordinarily are not produced and then exported in the sense that goods are. For example, the export of hotel services takes the form of foreign business or tourist travel in the United States. There are some exceptions to this, such as reinsurance and banking, but they do not make up a large part of the total trade in services.

Many service exports reported in the balance-of-payments data have little to do with domestic service producing industries. Of the $131 billion of U.S. service exports in 1984, over two-thirds consisted of income on U.S. assets abroad ($86 billion) and royalties and license fees ($6 billion), both earned mainly by goods industries rather than by service industries. Only about $40 billion was earned from spending by foreign visitors to the United States, and the sale of banking, engineering, advertising, architectural, and other services overseas. By contrast, U.S. exports of goods totaled $220 billion in 1984.

So why the strong interest in services? For one thing, because foreign affiliates of U.S. service companies apparently have been so successful. In 1982, for instance, sales of service industry affiliates of U.S. parent companies (excluding wholesale and retail trade) were almost 50 percent greater than direct service exports.

Kravis and Lipsey argue that since the output of these service industry affiliates is outside the United States, it is wrong to associate their success with U.S. comparative advantage. An increase in U.S. comparative advantage would be reflected in a move by service customers to the United States, such as an increase in tourism or a rise in the use of U.S. medical facilities or universities by foreigners. Higher sales by affiliates of U.S. parents simply may reflect the comparative advantage of those companies rather than of the United States itself. In other words, there is an important distinction between service exports and services produced abroad by U.S. companies.

In assessing the likely impact of foreign production of services by U.S. companies, Kravis and Lipsey examine the characteristics of multinationals in service industries. The stereotype is of a company that is less capital-intensive than the average manufacturer and pays comparatively low wages to low-skilled employees. In fact, U.S. service companies with foreign affiliates tend to have more physical capital per worker than goods producers. Moreover, their foreign affiliates have capital intensity that is 82 percent of the parents' capital intensity, a level considerably higher than the percentage for foreign manufacturing affiliates. Finally, the wage and salary differential between foreign and U.S. employees is much smaller among service companies than among goods producers.

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Kravis and Lipsey conclude that a major difference between direct foreign investment in manufacturing and in services is that manufacturing companies seem much more able to allocate different types of production to different areas of the world in order to take advantage of low labor costs in developing countries. Thus, foreign investment by manufacturers tends to increase the demand for highly skilled labor and for research and development in the United States, and to decrease the domestic demand for low-skilled labor. While direct investment in service industries increases the share of foreign markets captured by U.S. companies, it does not have these same effects on the U.S. labor market.

AE

Pensions, Social Security, and Retirement

The rate of participation of older workers in the labor force has declined dramatically in recent years. For example, in 1971 about 75 percent of men aged 60–64 were working or seeking work, while in 1986 that proportion had dropped to 55 percent. Many economists have sought to explain this trend by looking at Social Security, and especially at the increases in benefits during the 1970s.

However, NBER researchers **James Stock** and **David Wise** find that changes in the pension plans of private firms have had a much greater effect on the decision to retire than changes in Social Security regulations. In **The Pension Inducement to Retire: An Option Value Analysis** (*NBER Working Paper No. 2660*), they estimate that raising the Social Security retirement age by one year would cause the proportion of men retired from a large firm by age 62 to decrease by only about 4 percent. If the firm changes its pension plan in response to the change in Social Security, there is no decline at all.

On the other hand, with a defined-benefit pension plan—which links retirement benefits to age, final salary, and years of service—raising the retirement age from 55 to 60 would cause the fraction of employees retired by age 60 to drop by almost 40 percent. About 50 percent of American workers are now covered by some type of pension plan, and about 75 percent of them have a defined-benefit plan. These plans typically reward staying with the firm until a certain age (usually the age of early retirement) and then provide incentives for employees to leave the firm. Almost all defined-benefit plans incorporate a penalty for working past age 65.

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In **Pensions, the Option Value of Work, and Retirement** (*NBER Working Paper No. 2686*), Stock and Wise estimate the effect on the retirement decision of a firm's switch from a defined-benefit plan to a defined-contribution plan—in which a percentage of an employee's earnings are put in a pension fund and earn a return, and the retirement benefits are based on the employee's accumulated assets at retirement. They find that defined-contribution plans

neither encourage workers to stay nor to leave at certain ages. Switching to a defined-contribution plan would reduce the departure rates of employees aged 60 and over. However, more employees would leave before age 60, because there would be no incentive to stay with the firm to take advantage of special early retrement provisions.

Stock and Wise estimate that for employees aged 50 to 54, switching from defined-benefit to defined-contribution plans would increase departure rates from 3 percent to about 10 percent. "The net effect is to increase significantly the proportion of those employed at age 50 who have left the firm before age 60," they conclude.

These studies are based on the personnel records of 1500 salesmen with a large *Fortune* 500 firm who were aged 50 or older on January 1, 1981 and who had at least three years of service.

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