The Economy in Perspective

The medium is the message ... During this holiday season, while standing in line to buy just the right gift—or to return just the wrong one—you might stop to reflect on the evolution of shopping. There was a time when people would "go shopping" as a social pastime, but those days now appear to be the relic of a bygone era. In the second phase of the evolution, retailers learned how to reel in customers with double coupons, "midnight madness" sales, and everyday low pricing. Then came malls featuring petting zoos, beauty contests, and amusement park rides. But the inescapable truth of the shopping experience is that the transaction itself is too slow, sometimes frustrating, and not very high-tech.

Cash is a problem. No one wants to keep going to the bank, even if cash can be obtained quickly from ATMs. Check writing can be annoying when so many forms of identification are required. Standing behind a check writer is like standing behind someone giving pennies to the bank teller. Credit cards overcome many of these shortcomings, but they, too, require that a check be written when it's time to pay the bill. Besides, charge cards have been around awhile and are showing their age. No pizzazz. Heading into the twenty-first century, we need something that befits a cybershopper.

Fortunately, the shopping scene is receiving a shot in the arm from payment entrepreneurs. Thanks to technological innovations, the very act of making a purchase can now add luster to otherwise numbing encounters with parking lots, sales associates, and merchandise racks. If developers of new payment vehicles have their way, consumers will be as exhilarated by how they make a purchase as by what they take home.

Credit card issuers have found many ways to put the punch back into using these payment devices, illustrating how purely functional transactions can be turned into a more pleasant experience. Credit cards have traditionally carried an annual fee and looked stodgy. The only pleasure associated with their use was the knowledge that you really weren't paying for what you were taking out of the store: that came later at billing time (or even months later if you decided to finance the purchase). Now you can obtain several cards for free and choose from an array of colors, designs, and celebrity pictures. Using these cards can automatically provide accident and travel insurance, charitable donations, frequent-flier mileage, cash rebates, and merchandise credits. So, depending on your mood at transaction time, you can transcend the mere purchase of groceries to satisfy a deeper craving—like adding points toward that Caribbean cruise.

Retail payment vehicles have broadened well beyond cash, checks, and credit cards. Stored-value cards are designed to reduce the need to stop at the bank for cash, yet they take the place of cash for small-dollar purchases. For example, you can ride the public transit system and exit the turnstile by "swiping" a card that holds a dollar-denominated balance of "transit money" through a reading device. The device deducts the fare from your available balance. At the airport, you can place a long-distance call by using another card that stores long-distance minutes, for which you have already paid. Swipe. Your child uses a card to buy lunch at the school cafeteria. Swipe....swipe (back for seconds). And don't forget movie rental cards—swipe, swipe, swipe for that Jack Nicholson festival weekend. The possibilities are endless. One can imagine prepaid shoe-shine cards, coffee shop cards, and car wash cards.

But paper currency and checks are likely to be with us for some time before being completely replaced by electronic payment vehicles. No one wants to carry around dozens of special-purpose electronic money cards, each to be used as cash for only one merchant. Nor does it make sense to carry many cards denominated in telephone units, transit miles, and donuts, because it is not easy to exchange these units with people or merchants other than the issuer. What makes money valuable is its universal acceptance.

Yet it is apparent that the technology to replace paper payment instruments is rapidly falling into place. The attraction for payment processors lies in the knowledge that replacing paper checks with electronic ones will cut handling costs dramatically. The United States spends about $60 billion annually processing paper checks, so the business opportunities are quite attractive. Cash, too, is expensive for merchants to transport and protect from theft.

To be successful, however, service providers will have to address some important security issues and assemble a large merchant network. They will also have to persuade consumers to abandon those hopefully old-fashioned greenbacks and paper checks by offering something of better value. But the handwriting is on the wall: Faster and cheaper payment services are comin' to town. So the next time you stand in a check-out line tapping your toes and staring at your watch, think about how excited you'll feel when it's your turn to pay. Using your debit card with the Santa Claus logo may just earn you a trip to the North Pole.
Despite the absence of any explicit policy action by the Federal Open Market Committee (FOMC), interest rates have fallen across the spectrum of maturities since mid-August. Thirty-year Treasury bond rates have dropped more than 60 basis points, while three-month T-bill rates are down about 10 basis points. Thus, the yield curve has flattened significantly, but it still slopes upward.

Since the cyclical peak in long-term rates in November 1994, long-term bond yields have fallen 2 percentage points, while short-term rates remain slightly above their levels at that time. The downward swing in the yield curve over this period has been rather dramatic, as has the rise in the stock market. The sag in the yield curve around the one- to two-year maturities suggests that market participants expect further cuts in the federal funds rate over the next year.

Real interest rates are also down substantially from their January 1995 peaks. The short-term real interest rate—as measured by the one-year Treasury rate less expected inflation—stands just above 1.75%, near levels registered in June and September of this year. The real long-term rate—as measured by the 10-year Treasury rate less expected inflation—is just under 2%.

Many analysts have attributed part of the downward trend in capital market rates to the public’s increasing conviction that Congress and the
administration will produce a credible deficit-reduction package. Nevertheless, it is difficult to identify the fundamentals behind changing interest rates, since other factors may be involved. For example, the demand for bank loans, which was strong over most of the past year, has tapered off in recent months. On the other hand, business investment remains robust, suggesting that the real rate of return on new plant and equipment is still relatively high.

Fed funds futures markets reveal that the FOMC is again expected to lower its funds-rate objective sometime over the next few months. Such a move was projected to occur earlier this year, but the policy change failed to materialize. More recently, the projected funds-rate decline has been accompanied by evidence that inflation is somewhat lower than expected in the second half of 1995. Yields on some bank deposits fell early this year, but have remained relatively steady since then. As a consequence, the opportunity cost of M2—largely the difference between market rates on tradable short-term securities and rates paid on bank deposits—has stabilized. The effect of this stability is most evident in the recent growth rates of small time and savings deposits, which have fluctuated much less.

During 1995, growth in retail money market mutual funds exploded despite declining yields. Some analysts have attributed this to (continued on next page)
the flattening of the yield curve, which has induced security holders to shorten the maturity of their portfolios. In recent months, however, growth in money funds has slowed somewhat.

With M2 opportunity cost holding steady, M2 growth has climbed to near 4% this year. This pace is more commensurate with historical experience and suggests that special factors damping the aggregate's growth in recent years may have lessened.

Market analysts believe that M2's unusual behavior was a consequence of fundamental changes in the way households managed their portfolios. These changes were largely induced by an environment in which banks had limited opportunities for making good loans. Absent such opportunities, banks could not aggressively compete for funds by offering attractive yields on deposits. Higher-yielding bond mutual funds attracted the attention of deposit holders, who for the first time added bond funds to their portfolios. These conditions led to a massive substitution of bank deposits for bond funds, which are not included in M2. The recent cessation of net inflows into bond funds suggests that M2 may resume more normal growth.

The engine of deposit growth in the recent past has been strong loan demand from both consumers and businesses. In 1995, banks increasingly turned to large time deposits to fund new loans. As a consequence, M3, which includes large time deposits, has expanded a healthy 6% this year.

Recently, some unusual factors (continued on next page)
Monetary Policy (cont.)

have restrained the growth of the narrow money measures. The planned introduction of the redesigned $100 note may have had a significant effect on currency growth over the second half of 1995. Foreign holders of U.S. currency—many of whom have experienced unfavorable exchanges of their own currency—are concerned about the future acceptability of their dollar holdings, leading some to reduce this portion of their portfolio. Because it is estimated that almost 70% of all U.S. currency is held abroad, currency growth is believed to be highly sensitive to such concerns.

Another factor depressing the narrow aggregates is the widespread emergence of sweep accounts. Banks are initiating these programs to economize on their reserves, which earn no return for the bank. These arrangements sweep excess household checkable deposits, which are reservable, into money market deposit accounts, which are not reservable, thereby reducing a bank’s required reserves. Over the past few months, depository institutions’ intensified efforts to initiate sweep programs have led to sharp declines in checkable deposits and total reserves.

Because M1 comprises currency and checkable deposits, its growth has been significantly damped by these special factors. It is estimated that sweep accounts alone have depressed M1 growth more than 3% this year. Because the M2 aggregate includes money market deposit accounts, it is impervious to the development of sweep accounts.
Inflation and Prices

October Price Statistics

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<th>Annualized percent change, last:</th>
<th>1994 average</th>
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<tr>
<td></td>
<td>1 mo.</td>
<td>10 mo.</td>
</tr>
<tr>
<td>Consumer Prices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All items</td>
<td>4.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Less food and energy</td>
<td>3.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Median(b)</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Producer Prices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finished goods</td>
<td>-0.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Less food and energy</td>
<td>0.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Commodity futures prices(b)</td>
<td>-3.0</td>
<td>4.8</td>
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The latest inflation indicators are showing surprising volatility. After a four-month gain of only 1.8%, the Consumer Price Index (CPI) accelerated to a 4.0% annualized rate in October. Much of the upturn was centered in the index's housing and energy components. The rise in CPI inflation stands in stark contrast to the decline in the Producer Price Index, which switched from a 3.8% advance in September to a 0.9% contraction in October.

The median CPI — a measure of core inflation — slowed to 3.3%, hovering between its year-to-date and five-year rates.

Taking a longer perspective, the 12-month change in the CPI and the median CPI rose to 2.7% and 3.3%, respectively. Both are higher than 1994 rates, but are still within or below the central tendency range projected by the Federal Open Market Committee last July.

The Blue Chip forecast paints a far more favorable picture of expected inflation. The November 10 projection shows significant improvement over forecasts made at the beginning of the year. In January, over 57% of economists were predicting that inflation would reach 3.5% or more. In November, that share fell to less than 5%.

Purchasing managers at manufacturing firms provide additional encouraging news. The National Association of Purchasing Management's price index has dropped dramatically since the end of last year.

(continued on next page)
Hourly compensation in the U.S. grew about 3.5% over the past four quarters, exceeding the rise in CPI-measured inflation. This should come as no surprise, since, in theory at least, workers are compensated for expected inflation plus any improvement in productivity. However, the growth in labor productivity has risen markedly in the past several years. This implies that the economy's underlying inflationary thrust (measured by unit labor costs, or compensation growth less productivity) has been essentially zero over the last year—a seemingly implausible conclusion.

Business analysts are puzzled by this recent lack of conformity between productivity growth and real (inflation-adjusted) wage growth. Some have concluded that our current indicators of output, which suffer from a host of measurement problems, overstate the economy's actual growth rate and thereby overestimate the growth in labor productivity. Others believe that the inflation measures used to determine real wages are calculated incorrectly and thus cause us to underestimate the growth of real wages.

A third consideration is a reported rise in worker training, which may be a significant impetus to productivity growth, but is not necessarily computed in a worker's hourly cost. Certainly, training and education benefits have the potential to affect worker productivity dramatically. Recent research shows that increased worker education has a greater impact on productivity growth than do proportionate increases in either work effort or the capital stock.
Economists participating in the Blue Chip survey anticipate a 2.4% rate of real economic growth in 1995:IVQ — well below last quarter’s 4.2% advance. The recent flatness in industrial production and hours worked seems consistent with this slowdown. For all of 1995, the Blue Chip panel foresees a growth rate of approximately 3.2%. Economists estimate the nation’s long-term growth potential at roughly 2.5% per year.

A boom in business fixed investment has accompanied the current business expansion, but curiously, the underlying factors have not ignited residential construction. Despite some improvement in the third quarter, new home construction has been a relatively weak component of GDP this year. Real residential investment fell 1.4% in the four quarters ended in 1995:IIIQ. With single-unit housing starts remaining generally weak, residential construction will most likely stay soft. Housing starts declined 1.7% in October, the second consecutive monthly drop.

Nevertheless, a substantial deterioration in the housing sector seems unlikely. Housing starts, which rose dramatically between February and July, remain strong, and the number of months that unsold homes (continued on next page)
Economic Activity (cont.)

A continuing boom in investment spending and advances in productivity growth brighten the nation's long-term economic prospects. Real business fixed investment, which has risen 13.3% over the past four quarters, has equaled 14% of the nation's output this year—1.4 percentage points higher than last year's record level. The rapid pace of investment is welcome in an economy thought to be operating at high levels of capacity, since business fixed investment fosters productivity growth. The current expansion has witnessed above-average increases in output per hour worked, following a lengthy period (1974-91) of below-average postings.

The new chain-weighted GDP methodology will reduce the magnitude of recent productivity gains by eliminating an upward price bias in the real output data. Nevertheless, numerous downward biases also hinder our capacity to measure productivity growth accurately. Chief among these is the difficulty of measuring services, which represent a large and growing component of national output. A substantial amount of anecdotal evidence indicates that productivity growth is advancing above trend. Corporate profits, for example, have risen 10.4% annually since 1991, well above the rate of inflation. Such increases would seem unlikely and unsustainable without the support of strong productivity growth.
Despite some moderation over the past six months or so, the trend growth in inflation-adjusted, or real, disposable income continues to outpace real spending, mostly as a result of a persistent strengthening in personal income. Indeed, the recent trend in real spending growth has shown little deviation from the solid 2 1/2% to 3 1/2% range it has followed for the past three years.

Although trends in household income and spending are generally favorable, retailers are reporting the usual anxiety over holiday spending prospects. Excluding autos, retail spending during November and December typically accounts for 20% or more of a retailer's receipts for the year, making these months pivotal.

Among the factors affecting the current holiday sales outlook is a relatively high level of consumer debt, since a substantial share of holiday spending is financed by revolving debt, or credit cards. During November and December, credit card balances tend to balloon by about 4% of disposable income; consequently, a liquidity-constrained consumer could limit holiday sales prospects.

There are no current indications that households' liquidity is impaired, however. While the delinquency rate on installment debt is rising (as it often does during periods of economic growth), the current rate—less than 2%—is extremely low by historical standards.
Nonfarm payroll employment increased by 166,000 in November, although about half the gain can be attributed to special circumstances, including a longer-than-usual survey period and the introduction of new seasonal adjustment factors. Substantial job declines in manufacturing, coupled with frigid weather that flattened construction employment, resulted in a negative figure in the goods-producing sector. Durable and nondurable goods experienced identical declines of 16,000 jobs in November.

However, year-to-date losses have been much more severe in nondurable goods industries, particularly apparel.

Service-producing employment showed strength in November, fortified by sizable gains in a range of industries. Firms in the narrow services category posted a net job increase of 87,000. Both health services and management/engineering services have performed nicely over the past few months, contributing a combined net total of 378,000 jobs to the economy in 1995. Retail trade establishments added 74,000 workers over the month, while government employment continued to slide (down 8,000).

Total compensation of civilian workers rose by the smallest amount since 1981 in September—up only 2.7% from a year ago. However, the wages and salaries component continues to outpace inflation, having risen 2.8% in the year ended September 30, a period when the Consumer Price Index showed only a 2.5% uptick.
In recent years, college graduates have experienced relatively low unemployment rates and rising relative wages. The continuing low share of new four-year grads in the total workforce suggests that these trends will be sustained. Nevertheless, last year the Bureau of Labor Statistics (BLS) predicted that the supply of college graduates would outstrip demand by an average of 350,000 jobs per year between now and 2005, and that nearly 25% of new entrants to the college-educated labor pool would have to settle for work that does not require a college degree. If true, this represents a significant break with past conditions. To determine whether these dire predictions are likely to materialize, John Bishop of Cornell University recently examined the BLS' methodology for assessing job prospects of the classes of 1996 and beyond. He found that, historically, the BLS has been pessimistic about the demand for college graduates. Growth in relatively low-skill occupational sectors was systematically overpredicted between 1978 and 1990, while growth in professional and managerial jobs was underpredicted.

Bishop also noted that the BLS projections of jobs requiring a college degree and of underemployed college graduates are problematic. Aside from data issues, actual ability varies greatly among those holding college diplomas. Determining whether a person is overqualified for a job should depend not only on credentials, but also on substance. If a proxy such as "degree of literacy" is used instead of "degree in hand," it is likely that many of those the BLS identified as overqualified in fact have low skill levels that make them unable to fill other types of jobs.
Any attempt to balance the federal budget must confront the problem of burgeoning welfare payments. Means-tested entitlements, which include Medicaid and other welfare-type programs, have grown at a 12% average annual clip since 1962, increasing from 4% to 12% of total outlays. Non-means-tested entitlements, which cover Social Security, Medicare, and unemployment compensation, have grown at a 10% annual rate over the same period, rising from 26% to 42% of government outlays. Discretionary spending, on the other hand, is up only 6.4%, shrinking from 70% to 37% of total federal outlays. The current congressional proposal for limiting welfare payments would give states more control over welfare programs, require recipients to work, and limit the duration of benefits.

Welfare attempts to furnish a minimum standard of living for those unable to provide for themselves, typically young single mothers with children. The concern of many policymakers, however, is that an otherwise worthy cause creates disincentives for work and promotes long-term welfare dependency. The problem may arise not from any single program, but from a combination of in-kind and cash programs.

Welfare benefits vary from state to state and among recipients. One study estimates that the total value of a standard package of benefits for a typical recipient in the Aid to Families with Dependent Children (AFDC) program ranges from $27,736 in Hawaii to $13,033 in Mississippi. (The standard package in...
Regional Aspects of Welfare Spending (cont.)

The study includes AFDC benefits, food stamps and other supplemental nutrition assistance, Medicaid, and housing and utility assistance.) All of the states making up the Fourth Federal Reserve District—Ohio, Pennsylvania, West Virginia, and Kentucky—fell below the national average. The top left chart indicates the average percentage contribution of various components of this standard package.

The typical welfare recipient receives benefits for only a short time, and many receive only a fraction of the entire set of cash and noncash payments that are potentially available. But as many as 65% remain on public assistance for eight years or longer. Statistics such as this have led many economists and policymakers to question whether the system is constructed to facilitate the transition of persons receiving welfare benefits into full labor-force participation.

Most welfare recipients express a desire to work, and employment can usually enhance their long-term economic benefits relative to remaining on welfare. In many instances, however, fulfilling this desire means taking an entry-level job that pays less than staying on welfare. Concern about the potentially perverse incentives created by public assistance programs motivates at least some of the provisions in the welfare proposals designed by Congress. For instance, caps on the number of years that participants are eligible for benefits and work requirements for adult recipients are as much reform measures as they are budget-cutting measures.
Regional Banking Conditions

Data for the first half of 1995 illustrate the continued health of the commercial banking industry across all regions of the country. The average return on assets declined slightly to 1.13% nationally, but increased in the Southwest, West, and Central regions. This measure of profitability ranged from 0.99% in the Northeast to an impressive 1.41% in the Midwest.

Equity capital as a percentage of total assets firmed to 8.03% from 7.78%, as the increase in equity capital outpaced the gain in total assets. This improvement encompassed all regions of the country, ranging from 7.5% in the Northeast to 8.83% in the Midwest.

The percentage of assets classified as troubled declined during the first half of 1995, as total assets increased 7.2% and troubled assets fell 20.3%. Although the percentage of troubled assets is still highest in the Northeast and West, these two regions have seen this indicator fall by nearly two-thirds since 1992.

During the first half of 1995, net charge-offs (the net amount of loans and leases removed from balance sheets because they were not collectible) declined more than 12% from 1994 levels. The ratio of net charge-offs to loans and leases was little changed from last year's in every region except the Northeast, where a substantial 30% drop in net charge-offs lowered the ratio from 0.75% to 0.54%.

NOTE: All data are for FDIC-insured commercial banks. 1995 data are for the first half of the year and are annualized where appropriate.

SOURCE: Federal Deposit Insurance Corporation.
The volume of financial derivatives continues to grow at a rapid pace, although the growth has shifted somewhat from the over-the-counter (OTC) market to the organized exchanges. The 37% increase in notional value on the OTC market between 1993 and 1994, while still quite brisk, represents a slowdown from the 54% advance between 1992 and 1993. Exchange-traded derivatives increased their growth, with volume up 45% in 1994 in contrast to a mere 24% in 1993. Some observers attribute this shift to a heightened concern with risk that has scared investors away from the more complicated and exotic instruments of the OTC market. Keep in mind, however, that these numbers do not include mortgage-backed derivatives, and that notional principal does not measure exposure to risk.

Interest-rate contracts continue to dominate the OTC market, both in total volume and in growth, accounting for $14.2 trillion of the $15.3 trillion OTC contracts. Interest-rate swaps also remain the dominant form of interest-rate contract. The option-based instruments (caps, collars, floors, and swaptions) grew only 12.5% in 1994 after jumping 120% in 1993. Forward-rate agreements grew fastest—up 52%—within the interest-rate category.

Interest-rate contracts dominated exchange-traded derivatives as well, although other contracts also showed robust growth. Currency contracts, with volume up 45%, and equity-index contracts, with volume up 43%, barely lagged interest-rate contracts, which saw value increase by 46%.
Japanese Banks

Japanese Bank Loans
(Trillions of yen)

<table>
<thead>
<tr>
<th></th>
<th>Total loans</th>
<th>Problem loans</th>
<th>Loan-loss reserves</th>
<th>Unrealized gains on securities</th>
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</thead>
<tbody>
<tr>
<td>City banks</td>
<td>274.6</td>
<td>13.1</td>
<td>4.2</td>
<td>8.1</td>
</tr>
<tr>
<td>Long-term credit banks</td>
<td>54.5</td>
<td>4.0</td>
<td>1.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Trust banks</td>
<td>61.5</td>
<td>6.3</td>
<td>1.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Regional banks</td>
<td>184.5</td>
<td>7.7</td>
<td>1.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Credit unions/ cooperatives</td>
<td>129.1</td>
<td>6.3</td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>704.2</td>
<td>37.4</td>
<td>9.6</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Because Japanese banks play a greater role in the allocation of domestic credit than do their American counterparts—or banks in most other industrialized countries—their financial well-being has strongly influenced the contours of Japan's economic recovery.

According to the Japanese Ministry of Finance, approximately 5.3% of Japanese bank loans outstanding at the end of September were either nonperforming (¥14 trillion) or had been restructured (¥13.0 trillion) to forgive previously contracted interest payments. The Ministry believes that Japanese banks will write off approximately ¥18 trillion of nonperforming loans, including credit to mortgage firms. Considering loan-loss reserves and unrealized gains on securities, officials believe that the banking sector can sustain such a write-off.

The deterioration in asset values associated with the economic bust in 1990 and with the prolonged Japanese recession adversely affected household and business balance sheets and severely lowered the quality of bank loans—particularly those related to real estate. Because unrealized gains on equity formed a large share of Japanese bank capital, the stock-market collapse reduced the capital position of banks. This year, bank lending has begun to recover, but it remains weak.
International Wage Trends

Internationally, a great deal of disparity exists in average annual hours worked in manufacturing. For example, in 1990, U.S. manufacturing workers put in roughly 300 hours more on average than their counterparts in Germany and France, but 177 hours less than workers in Japan. Between 1960 and 1990, average annual hours worked fell substantially in Japan and most parts of Europe, but remained roughly constant in the U.S. Over this period, Japanese workers consistently logged the longest hours.

These facts have led some U.S. policymakers, union leaders, and economists to conclude that our manufacturing sector has "fallen behind" in reducing work hours—a situation they would like to see rectified. Typically, such an initiative is promoted as a means of increasing employment by spreading a fixed number of hours across more people. Hence, it is interesting to explore the growth of manufacturing employment, total hours, and output across countries during this 30-year period of falling average hours worked.

Japan experienced the steepest upturn in manufacturing employment—a 1.5% annual rise—yet it had by far the longest average annual hours worked in each year of the period. Germany, which posted the largest drop-off in hours worked, saw only a modest decline in its payrolls, while the decrease in hours worked in France was accompanied by an employment cutback of 0.4% per year. In contrast, employment in the U.S. expanded 0.4% annually.

Comparing the growth rates of total manufacturing hours worked, France and Germany experienced annual declines of about 1.0% each, while the U.S. and Japan posted (continued on next page)
International Wage Trends (cont.)

The downturns in Germany and France reflect the fact that employment did not increase to offset the drop in average annual hours. Employment growth in Japan, by contrast, was strong enough to compensate for the reduction in average hours and led to an increase in total hours worked.

Manufacturing output increased at an average annual rate of about 3.0% in the U.S. and Germany and 4.0% in France. France and Germany saw production pick up despite the decline in total hours worked, implying that output per hour grew more rapidly in these countries than in the U.S. In Japan, total output was up 8.0% per year, with output per hour growing 7.2% versus 5.0% for France, 4.1% for Germany, and 2.6% for the U.S.

In summary, the country with the longest average hours worked in each year of the sample period—Japan—experienced the highest growth in employment, output, and output per hour, while the nation with the largest decline in average hours—Germany—saw no employment growth and only a moderate upturn in output and output per hour. The U.S., which showed no reduction in average hours, displayed relatively strong growth in employment and relatively weak growth in output and output per hour.

While exploring these trends does not tell us how the U.S. economy would respond to a policy aimed at reducing average work hours, it does show that although several European countries “lead” the world in this regard, cutting hours does not necessarily translate into greater employment and economic growth.