Extreme economics... Like a skier barreling down a triple-black-diamond run, the U.S. economy is racing into the new year. The Commerce Department reported that real growth reached 4.3 percent last quarter, substantially exceeding analysts’ expectations. The fourth-quarter pace brought the 1997 growth rate to nearly 4 percent, itself a considerably higher figure than the economy’s 20-year average of 2.6 percent. On the heels of the Commerce Department’s announcement came word from the Bureau of Labor Statistics that nonfarm establishments added 358,000 net new jobs to the economy in January, a number that overshot analysts’ earlier projections by roughly 25 percent. The nation’s unemployment rate remained steady at 4.7 percent, and the employment-to-population ratio hit a record peak of 64.2 percent. The January labor market data depict an economy performing with the same vigor it displayed last quarter.

Despite the perils of breakneck speed, a collision with inflation is not in sight. The Consumer Price Index (CPI) increased only 1.7 percent last year, about half its 1996 pace. Core inflation measures also suggest deceleration. The CPI less food and energy dropped from 2.6 percent in 1996 to 2.2 percent last year. Favorable inflation trends have clearly affected inflation expectations and interest rates. The University of Michigan’s latest consumer survey shows that the median household foresees the CPI rising only 2.3 percent over the next 12 months, a notable decline in expectations. Partly in response to this revision in thinking, interest rates stand about 100 basis points below year-ago levels at most maturity points along the yield curve.

At seven years, the current expansion has far outdistanced the post-World War II average of four years. Moreover, resource utilization rates surpass conditions traditionally associated with accelerating inflation and rising interest rates. Many mainstream economic forecasters still cling to the belief that inflation cannot remain in check with an unemployment rate below 5.25 percent. Indeed, after the Federal Open Market Committee raised the federal funds rate by 25 basis points last March, Fedwatchers thought that additional actions would be taken to avoid an inflationary wage-price spiral. But not only has the March action turned out to be the last thus far; many Fedwatchers now consider a funds rate decrease slightly more likely than an increase—despite continued reports of vigorous economic activity.

There is, of course, a rational explanation for this recent reversal in market sentiment. Many analysts expect recent developments in Southeast Asia to act as a break on the surging U.S. economy, slowing its growth and quelling incipient price pressures. Mainstream economic forecasters generally expect that U.S. net exports will decline sharply this year, with the Asian crisis subtracting anywhere from one-half to one whole point from real GDP growth. An unfortunate turn of events, to be sure, but propitiously timed if one is concerned about rapid growth.

Without this development, what could slow the economy’s pace? One unpleasant scenario involves a weakening of the forces that have boosted economic productivity. Business fixed investment began to strengthen about 15 years ago; this trend, encouraged by low inflation, deregulation, new technologies, global markets, and changes in management practices, suggests that recently improved productivity figures could be more than temporary. Higher productivity translates into faster increases in labor compensation that do not adversely affect profit margins. Consequently, strong productivity performance increases the chances that the general level of output prices will stabilize throughout an economic expansion, and supports a monetary policy aimed at that objective.

In these circumstances, monetary policymakers will want to be careful about holding on to preconceived notions about the limits to economic growth and the reliability of the unemployment rate as an indicator of labor market tightness. But they also need to be wary of other conventional expectations, including the effects of the Asian crisis on the U.S. economy. The expansion might simply continue apace, with little interruption, raising the usual questions about inflation.

Schussing down unmarked trails is exhilarating, but as policymakers know, today’s fresh powder can cover a very icy base.
At its February 3 meeting, the Federal Open Market Committee (FOMC) left the federal funds rate target unchanged at 5.5%, where it has been since March 25, 1997. Financial markets did not expect any change, so the announcement came as no surprise. The FOMC will reconvene on March 31.

A significant development occurred in the federal funds futures market in January, when, for the first time since March 1996, implied yields on federal funds futures began to slope downward. Financial markets now attach some probability to a decrease in the federal funds rate, although it is not expected to occur before the end of summer. Many analysts believe that the Asian financial crisis will slow the U.S. growth rate and that cheaper foreign goods will moderate price pressures. Implied yields on federal funds futures fluctuated throughout much of 1997. After the 25-basis-point increase in the funds rate last March, implied yields steepened in anticipation of further increases. Expected inflationary pressures did not materialize, however, and implied yields flattened in July. They soon picked up again, and market participants were expecting another increase in September or October.

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The stock market sell-off in October and Asia’s recent financial woes were enough to bias expectations slightly toward loosening.

The real ex post federal funds rate has increased 32 basis points since the beginning of 1996, and is currently at 3.34%. Some analysts interpret this as a de facto tightening of policy, even though the nominal federal funds rate has not changed since March. However, the ex ante real funds rate has been stable over the same period, suggesting that the rise in the real funds rate reflects an unanticipated drop in inflation. The ex ante rate currently stands at about 2.3%.

The monetary base, which expanded 6.5% in December, fell about 3.5% in January because its currency component dropped off. On a sweep-adjusted basis, the monetary base grew 11.5% in November. Banks frequently use sweep accounts to economize on reserves, “sweeping” money from accounts that are reservable into accounts that are not. This distorts the measurement of base growth, as well as M1.

In December, M1 fell 1%, while M2 and M3 grew 5.3% and 8.5%, respectively. On a sweep-adjusted basis, M1 was up 0.8% in November, significantly higher than its non-adjusted rate of 7.5%. Preliminary estimates for January show strong growth in both M2 (6.7%) and M3 (9.4%).

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Velocity is measured by nominal income divided by some measure of money. Thus, it can be thought of as the number of times (or the rate at which) a dollar in a monetary aggregate is used in order to produce a unit of final output. Velocity will be affected by interest rates, which impact the opportunity cost of holding money. For example, higher interest rates increase the cost of holding money and so will reduce money demand. As a consequence, for a given level of nominal income, velocity will rise because people are holding less money.

The sweep-adjusted monetary base and M1 velocity roughly follow interest rate movements. Interest rates generally increased until 1980, and have fallen since then. Base growth and M1 velocity show a similar pattern, rising until the early 1980s and then dropping off.

After maintaining a similarly positive correlation with interest rates throughout most of its history, M2 velocity rose precipitously in the early 1990s as interest rates fell. The "odd man out" in this picture is M3 velocity, which slowed throughout the 1970s as interest rates trended upward. The velocity of M3 continued to diminish during the 1980s as interest rates generally fell. The run-up in M3 velocity in the 1990s mirrors the pattern of M2 velocity, except that in the past few years, the first has been falling while the second has continued to rise.
Inflation and Money Growth

It is an article of faith among monetary economists that in the long run, inflation is everywhere and always a monetary phenomenon. The specific premise of this statement is that nominal spending in an economy is directly related to the nominal money stock and people’s willingness to hold it, a feature of money demand that is often termed velocity.

Unfortunately, monetary policy cannot wait for the long run, because it is conducted at frequencies that require predicting the relationship between money growth, nominal income growth, and inflation on a nearly month-to-month basis. Even more vexing, the relationship between growth in the monetary base — the aggregate most directly controllable by the central bank — and nominal income growth or inflation is far from tight. This holds true even when base growth is adjusted for growth in velocity.

Indeed, changes in the rate at which the monetary base expands or contracts have virtually no predictive value with respect to monthly movements in inflation. Inflation-forecast models that include the history of inflation and nominal income growth are not improved by including information on money growth rates.
Since last month, the yield curve has flattened and shifted downward. The spread between the 3-year Treasury note and the 3-month T-bill narrowed from 43 basis points to 21 basis points, and the spread between the 10-year Treasury bond and the 3-month T-bill went from 51 to 41 basis points. Especially conspicuous flattening has occurred since this time last year, when the 10-year, 3-month spread stood at 140 basis points. The coupon yield curve remains close to the zero-coupon yield curve. As expected, the 10-year zero rate exceeds the 10-year coupon rate because the coupons give the bond a shorter effective duration than the zero. This is less important in shorter rates, where the yield on zeros exceeds that on coupons.

One classic application of the yield curve — predicting future economic activity — works particularly well for real GDP growth over the next year. Its excellent predictive ability is obvious in the comparison of real GDP growth with the 10-year, 3-month spread lagged a year. The aspect most often remarked on is that inversions, where the spread turns negative (that is, where short rates exceed long ones), indicate declines, and the data bear this out. A feature that gets less attention is that the size of the spread also indicates the amount of growth. Steep yield curves and the associated large spreads mean high growth; conversely, the more negative the spread, the deeper the recession. This relationship generally holds, although exceptions still abound. A flat yield curve belied the high growth of the early 1960s. Since 1996, strong growth has accompanied a yield curve that is flat by recent standards.
The prolonged bull market has renewed investors’ curiosity about the 1920s, as many recall George Santayana’s warning that those who cannot remember the past are condemned to repeat it. Much of the current attention focuses on factors underlying the stock market boom and the possibility of asset price inflation in equities; however, the bond market also provides some useful lessons.

The first notable point is the relative performance of the two markets. With the average for 1926 set as an index value of 100, bonds kept pace with stocks only until the middle of 1927. Throughout 1928 and 1929, bonds’ performance was unspectacular, and they lost a third of their value in early 1929. This proved a blessing later, as bond prices stayed firm until late 1931 and then dropped much less precipitously than equity prices.

The flip side of bond prices is interest rates, and it is clear that 1929 was a year of high ones. Many people attribute this to speculators’ intense demand for funds to invest in the booming stock market. Short rates increased more than long rates, creating a large—and sustained—inversion of the yield curve, a harbinger of the depth and duration of the coming depression. We should be cautious when we interpret this inversion, however, remembering that the strongly positive yield curve of 1931, traditionally a precursor of strong future growth, instead preceded far worse deterioration in the economy.
Inflation and Prices

The Consumer Price Index (CPI) rose just 0.7% in December (annual rate), bringing the yearly increase to a mere 1.7%, the lowest posting since 1986’s 1.2% gain. Energy prices were substantial contributors, but if the food and energy components are excluded, inflation was still 0.4 percentage point lower than in 1996. While most price measures were down, the median CPI—an estimate of the economy’s underlying inflationary trend—ended the year higher, at 2.9%.

Price reductions predominated at the producer and commodity levels. Again, energy prices stand out, with the energy price index (final goods) falling 6.4% in 1997. Even excluding the transitory moves in energy costs, the “core” measure of price change in the industrial sector showed essentially no change for the year. While small price increases earlier in the production process do not automatically lead to lower consumer inflation rates, it is hard not to be optimistic about the 1998 inflation outlook.

Indeed, forecasters and households are now expecting lower inflation rates than just a few months ago, with the median household anticipating only a 2.3% rise. Professional forecasters’ expectations have (continued on next page)
also dropped dramatically. As recently as last August, more than half of the Blue Chip economists were looking for rates above 2.8%. Now, only one forecast exceeds that pace.

The median CPI is one of the few indicators to show underlying inflation rates of around 3%. This measure eliminates all extreme price changes and focuses on the middle of the price-change distribution. The current reading indicates that 1997's monthly numbers are statistically indistinguishable from the 3% inflation seen over the last five years.

One obvious factor keeping the median CPI high relative to other inflation measures is the stability in the cost of shelter, which accounts for a substantial portion of most household budgets. In contrast, the mean of the distribution of price changes—which excludes only those goods and services with the most extreme (15%) changes—fell sharply in 1997 to an underlying trend of only 2%. While the concept is similar to the median in that it focuses on core price changes rather than extreme ones, it excludes far fewer categories of goods and services. Aside from some volatile components, like used cars and dairy products, the trimmed mean indicates that most prices have changed little. Continuation of this pattern would support the public's recovered confidence in the purchasing power of the dollar.
According to the Commerce Department’s preliminary estimate, the economy grew 4.3% in the fourth quarter—substantially above expectations. Most economists participating in the January 10, 1998 Blue Chip survey, for example, were anticipating a 3.1% growth rate. The unexpected, but welcome, news reflects faster inventory accumulation, reduced imports, and increased exports. Personal consumption spending slowed but remained strong. Business fixed investment spending fell.

The Asian crisis, which continues to dominate the financial headlines, will have mixed effects on the U.S. economy. Firms that export and those that compete against imports will bear the brunt, while consumers who buy imports and businesses that sell or use imports in their production process will benefit. Interest-sensitive sectors of the economy may also gain from capital inflows. The net impact, however, is not likely to be overwhelming. Confirming this, the outlook for real growth over 1998 now seems more favorable than it did last June, before the Asian crisis erupted.

Approximately 90% of economists participating in the latest Blue Chip survey anticipate that real economic growth in 1998 will maintain a pace consistent with, or faster than, current estimates of the economy’s long-term growth potential (approximately 2.2%). Last June, fully 50% of the respondents expected real economic growth in 1998 to fall below that rate.

(continued on next page)
Economic Activity (cont.)

Real personal consumption spending moderated in the fourth quarter, but increased at a healthy clip on a year-over-year basis. The prospects for the consumer sector remain good. Real disposable personal income demonstrated strong fourth-quarter gains, consumer sentiment continues to be upbeat, and households have experienced substantial gains in their net worth since early 1995. Industrial production increased 7.4% in 1997:IVQ, with motor vehicles and parts, aircraft and parts, information processing equipment, and semiconductors showing especially large gains. The nation’s mines, manufacturing plants, and utilities operated at 83.4% of capacity in December, below the recent peak of 84.6%. Purchasing managers’ January index showed further advances in the manufacturing sector.

U.S. businesses added to their inventories at a faster pace in the fourth quarter than in the third, with much of the increase attributable to stocks of automobiles on dealers’ lots. (Dealers had been trimming stocks during the second and third quarters.) Nevertheless, the pace of inventory accumulation was not excessive, and inventories-to-sales ratios at the manufacturing, wholesale, and retail levels do not appear high.

### Growth in Selected Components of Industrial Production, 1997
(Percent change from previous quarter*)

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<tr>
<th>Component</th>
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<th>IIQ</th>
<th>IIIQ</th>
<th>IVQ</th>
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<td>Consumer goods</td>
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<td>2.6</td>
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<td>Information processing</td>
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<tr>
<td>Industrial</td>
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<tr>
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<td>3.3</td>
<td>-2.0</td>
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<tr>
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<td>Nondurables</td>
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</table>

*Seasonally adjusted annual rate.

### Change in Value of Business Inventories, 1997b

<table>
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<tr>
<th>Component</th>
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<th>IIIQ</th>
<th>IVQ</th>
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<td>Total</td>
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<td>Nonfarm</td>
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<td>Wholesale</td>
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<td>24.6</td>
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<tr>
<td>Retail</td>
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<td>Auto</td>
<td>10.6</td>
<td>-3.7</td>
<td>-0.6</td>
<td>7.5</td>
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**SOURCES:** U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis; and National Association of Purchasing Management.
The U.S. employment situation was exceptionally strong again in January, as the economy continued to generate jobs for a rapidly expanding labor force. Nonfarm payrolls increased by 358,000, compared with an average monthly gain of 267,000 in 1997. The construction industry added 92,000 workers, the largest rise in nearly two years. This strength can be traced in part to a solid housing market and unusually warm weather throughout much of the country. The manufacturing sector also posted healthy gains for the fifth month in a row.

The unemployment rate held steady at 4.7% in January, just slightly above the 24-year low (4.6%) reached three months earlier. Total unemployment was little changed, and the labor force swelled by 2.7%. Interestingly, the unemployment rate for high school graduates inched down 0.2% to 3.9%, while the rate for college graduates rose slightly to 1.9%. The employment-to-population ratio hit another record peak of 64.2%.

The employment cost index rose 3.2% in 1997:IVQ, with wages and salaries jumping 3.8% and benefits up a slightly lower 2.1%. Following myriad anecdotal reports of labor shortages—especially for skilled workers—the total compensation numbers came as no surprise.
The Fourth Federal Reserve District produces a large share of the nation’s steel, cars, and trucks. In 1997, the Pittsburgh–Youngstown region was the country’s third-largest steel producing area, accounting for 13% of total U.S. production.

Over the past decade, both the domestic and foreign import prices of steel have declined sharply. The domestic price is roughly 25% lower today than it was 10 years ago, although it has been increasing since the end of the 1991–92 recession. Moreover, the domestic price has been rising relative to import prices and now stands approximately 10% higher. Export of iron and steel products have shown a general upward trend, and despite lower prices, the value of exports has about doubled since 1987. Nevertheless, the U.S. still imports about twice as much steel as we export.

Steel production has also increased steadily since the last recession. The industrial production index has risen about 20%, while capacity utilization, which stood at nearly 100% in 1995, has dropped significantly. New orders have also

(continued on next page)
Steel, Autos, and Construction (cont.)

a. Seasonally adjusted.

SOURCES: DRI/McGraw-Hill; and Ward’s Automotive Reports.

continued to grow, and the rapid pace of production has allowed foundries to rebuild their inventories, which shrank between 1989 and 1994. The continuing rise in new orders has created the current three and a half month backlog of unfilled orders, the largest in almost six years.

Heavy and medium truck production increased 3% from 1996 to 1997. While the second half of 1997 was almost 8% stronger than the last six months of 1996, November and December showed the biggest gains, with production up 15% over the year-earlier period.

Although construction contracts have tapered off since the beginning of last year, they are still substantially above levels seen two years ago. The residential market has followed a similar pattern, but there was noticeably more activity in nonresidential structures in 1997—an increase that was spread consistently throughout the year. Construction activity in business structures was 5% higher in 1997 than in 1996.
Producing the nation’s output requires the use of capital and labor services. The quantity, types, and organization of capital goods (structures and equipment) and labor services determine the economy’s total output. Hence, growth in the number of these inputs, and improvements in their quality and organization in firms and households, expand productive capacity. The economy’s capital goods may be classified into two types—equipment that depreciates rapidly, like computers and machines, and structures that are relatively long-lasting, like buildings and airports. Each category may be subdivided by ownership into production capital owned by firms—for example, nonresidential buildings and computers for automated manufacturing—and consumption capital owned by households—for example, houses for shelter and computers for surfing the Internet.

The amount of investment undertaken is affected by the economic environment. For instance, growth of the capital stock decelerated significantly during the 1970s, a period of rampant inflation that magnified tax rates on capital income and dented private investment incentives. Growth in capital equipment and structures picked up during the early 1980s as inflation and nominal interest rates were reduced from their earlier double-digit rates. The growth rate for the stock of consumption-sector equipment slowed again after the mid-1980s, but production-sector equipment continued to surge. The last six years have witnessed an investment boom in general. The recent rapid increase in capital stock value probably reflects the better technology embodied in newer capital stock as well as capital gains stemming from a better
organization of the existing capital stock within firms.

The civilian labor force has exhibited healthy expansion during the post–World War II period. Growth was especially high during the 1970s because of women’s increased participation and baby boomers’ entering the workforce. The civilian labor force has continued to expand, despite the post–1980 trend toward earlier retirement and a slight reduction in average hours worked. Moreover, total hours worked have increased because the share of the population that is employed has surged since the mid-1970s.

Total hours worked in the economy have grown over time, with only brief setbacks during recession years. However, an hour of work in the mid-1990s should not be directly compared with an hour of work in the mid-1950s. Better education, job training, and the acquisition of new skills have probably made labor more efficient over time. Adjusting labor hours for worker efficiency yields a steeper time profile of hours worked than does the series on observed total hours.

In addition to better education and training, worker efficiency is also affected by the amount of capital available per worker—the capital/labor ratio. During the postwar period, this ratio (measured using production-sector capital and efficiency-adjusted total hours) has increased consistently except during the 1970s, when the investment slowdown, coupled with continued growth in the workforce, caused a sharp decline. During the past two decades, the capital/labor ratio has increased significantly, although the rate of change has varied. Given today’s low inflation environment, the prospects for continued gains—and hence greater worker productivity—appear bright.
The first three quarters of 1997 set consecutive earnings records for U.S. commercial banking. Although the dollar amount of earnings continued to rise in the third quarter, the return on assets fell slightly to 1.22% (from 1.24% in the second quarter). The industry’s position seems much strengthened since the first nine months of 1996, partly because earnings for 1996:IIIQ were depressed by a one-time assessment to capitalize the Savings Association Insurance Fund.

In 1997:IIIQ, net-interest income rose for the industry as a whole because the amount of interest-earning assets increased. Net-interest margins actually declined because the cost of funding earning assets increased more than the average asset yield. Margins remained lowest for the largest banks and increased sharply for the second consecutive quarter for banks with $1 billion to $10 billion in assets.

Although the latest gain in quarterly earnings came largely from banks specializing in credit card lending, the share of noncurrent credit card loans continued to grow for the industry as a whole. Credit card loan charge-offs were the largest contributor to the $4.8 billion in net loan charge-offs, the highest posting since 1993. Other asset quality indicators continue to improve. For example, the ratio between noncurrent assets and total assets is still declining sharply.
Despite recent financial turmoil, the latest data show that U.S. banks’ exposure to Southeast Asia and Latin America did not lessen much in 1997:IIIQ. Exposure to Thailand has been declining since early 1997, well before the country’s currency faltered. Such delays in reporting, however, are not the only obstacles to assessing exposure.

Under current conditions, assets’ book value might not equal what they could fetch on the open market. Many are loans, which, not being standardized, cannot be sold as easily as equities. This makes it hard, even in a normal market environment, to determine banks’ true condition. In the present circumstances, however, there are practically no markets for many bank assets, so no market prices exist for valuing them.

The riskiness of U.S. banks’ liabilities to foreign countries depends not only on direct loans, but also on those countries’ participation in third-party credits. Thai banks, like their counterparts in large, industrialized countries, often guarantee U.S. loans to other developing countries. Public agencies in Korea and Mexico frequently provide similar guarantees for U.S. loans. When an economic crisis hits, the quality of these guarantees weakens, and U.S. banks’ foreign risks rise.

Recent growth in off-balance-sheet commitments also complicates the regulatory task. Paradoxically, it is often assumed that a bank reduces its risk by using derivative contracts. Emerging markets are no longer the exclusive domain of money-center banks. Other banks account for more than 20% of U.S. banks’ exposure to Southeast Asia and Latin America, as well as to industrialized nations.
Every day, currencies worth more than $1.2 trillion change hands around the globe, and about 83% of these transactions involve U.S. dollars. The exchange rate is the price at which one nation’s currency trades for another’s. Economists often distinguish between nominal exchange rates, which are the values quoted by banks and newspapers, and real exchange rates, which are conceptual.

Because the dollar often appreciates against some currencies and depreciates against others, economists construct effective, or weighted, exchange-rate indexes (nominal and real) to gauge its average movements. Usually, the weights reflect trade shares between countries. The Board of Governors of the Federal Reserve System, for example, constructs trade-weighted dollar indexes against the currencies of the 10 largest foreign industrial countries. The Federal Reserve Bank of Dallas maintains trade-weighted dollar exchange-rate indexes against 100 or more industrial and developing countries. These two series show starkly different nominal patterns because the Dallas Fed’s include many developing countries, where currency devaluation is frequent.

Exchange-rate changes affect the domestic price of foreign goods, but adjustments that merely offset existing inflation differentials do not alter nations’ competitive positions. For this reason, economists construct real exchange rates, which remove changes in relative price levels from nominal exchange-rate movements.