TOPICAL STUDY #4

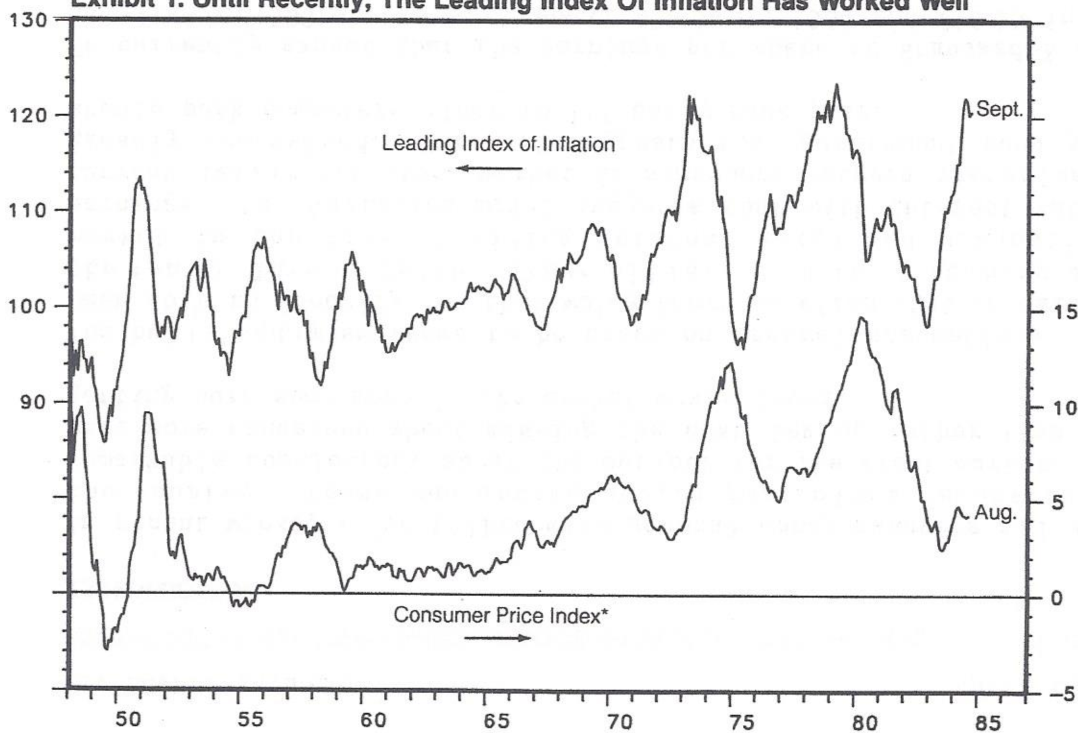
WHY HAS THE LEADING INDEX OF INFLATION FAILED SO BADLY?

Dr. Edward E. Yardeni October 24, 1984

Economics

In the July 1983 issue of *The Morgan Guaranty Survey*, Geoffrey H. Moore, Director for International Business Cycle Research of Columbia University, introduced a new inflation barometer which he called the Leading Index of Inflation. "The index reflects the intensity of demand pressures in the labor market, in the commodities markets, and in the capital markets." Moore's index is a composite of three monthly series: the percentage of the working age population that is employed, the annual rate of change in prices of industrial materials, and the annual rate of change in total business, consumer, and federal debt outstanding. As Exhibit 1 shows, the index has reached its turning point before every one of the cyclical turns (eight peaks and eight troughs) in inflation from 1948 to the present.

Exhibit 1: Until Recently, The Leading Index Of Inflation Has Worked Well



*Yearly percent change.

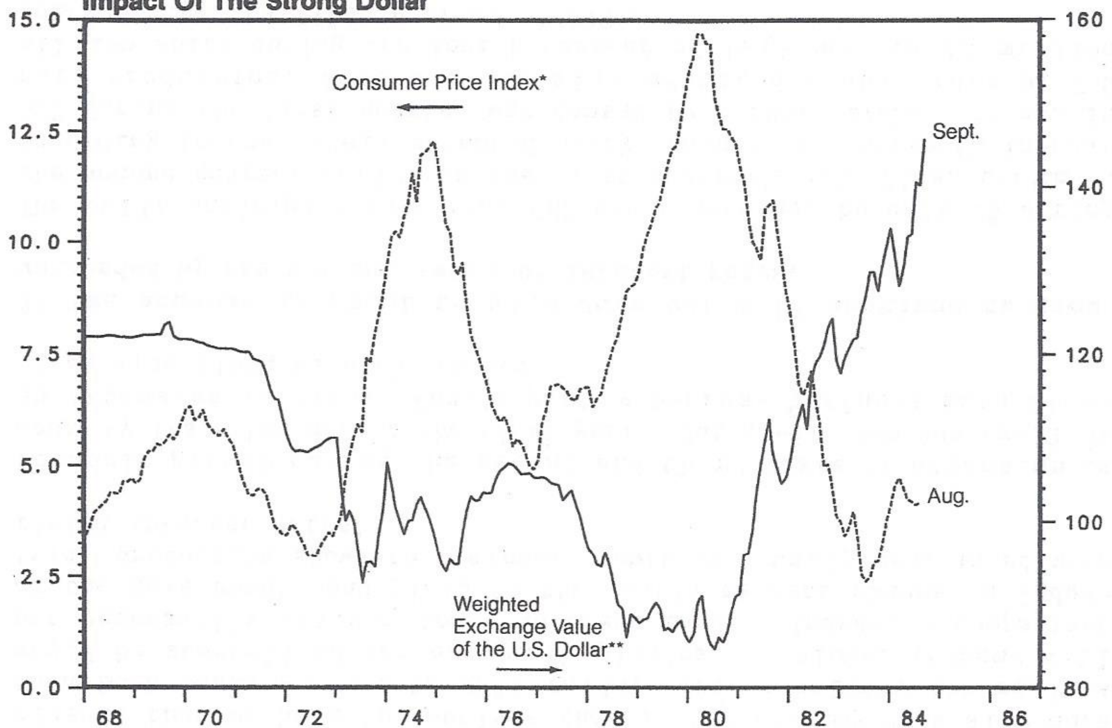
In the December 1983 issue of the *Survey*, Mr. Moore concluded that the rise in his index from its November 1982 low of 98.2 to its November 1983 reading of 111.8 is pointing to an inflation rate of around 7%. He warned that "7% is a conservative estimate, since it assumes the leading index will rise no further." Subsequently, the index did rise further, reaching its high in the current recovery at 122.1 in June. Mr. Moore noted that the 24% increase in the index from November 1982 through June 1984 was the steepest rise the index has shown during the first 19 months of any recovery since 1948. Mr. Moore concluded that inflation was heading back to 10%.

Until recently, the Leading Index of Inflation has had a tremendous influence on investors' inflationary expectations. It convinced many that the drop in inflation during 1982 and 1983 was a cyclical phenomenon. In other words, the best of the inflation news was behind us and higher inflation rates were inevitable in 1984 and beyond (until the next recession).

In recent months, the Leading Index of Inflation has lost credibility and fans because the actual inflation news has been so surprisingly low. September's Producer Price Index for Finished Goods was only 1.6% higher than a year ago. September's Consumer Price Index was only 4.2% above a year ago. September's Hourly Earnings Index was only 3.5% above a year ago.

In the December 21, 1983 issue of our weekly publication, *Money & Business Alert*, we stated that "so long as most other indicators continue to point to disinflation," we remained skeptical that inflation would rise as predicted by the Leading Index of Inflation. We noted that the foreign exchange value of the dollar is inversely and highly correlated with the rate of inflation (Exhibit 2). "The dollar has been very strong against most foreign currencies lately and is unlikely to weaken much in 1984." We believed that a strong dollar would restrain inflationary pressures.

Exhibit 2: The Leading Index Of Inflation Fails To Capture The Disinflationary Impact Of The Strong Dollar



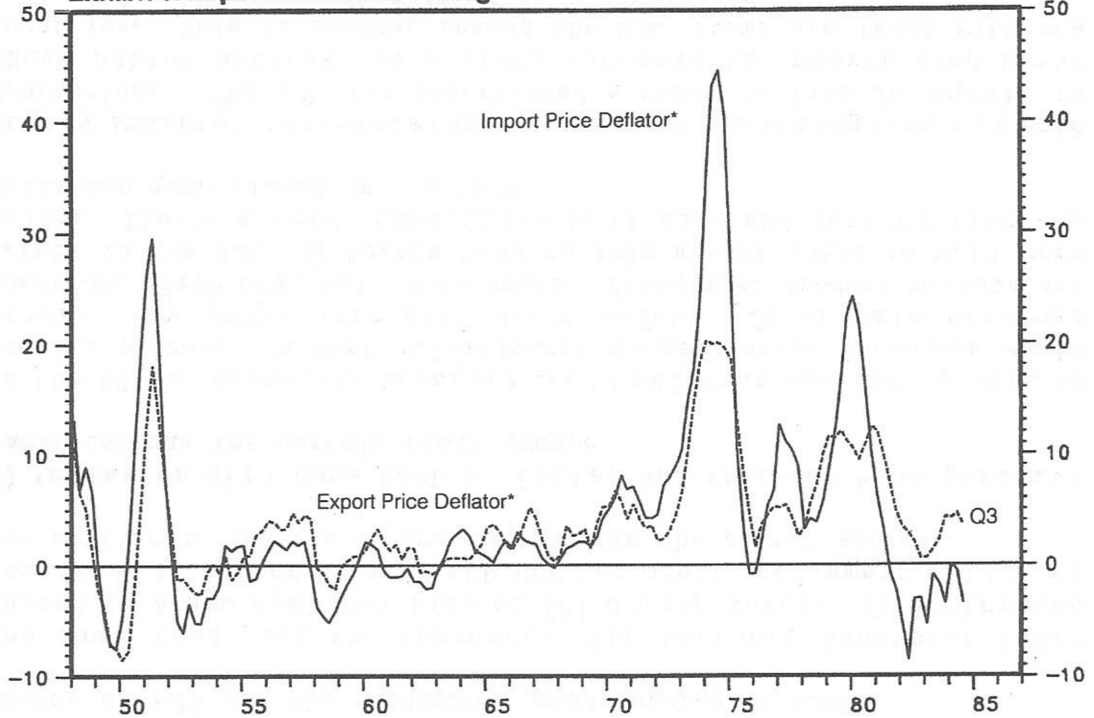
*Yearly percent change.
**Geometric weighted average of the exchange value of the dollar against currencies of the other Group of Ten countries plus Switzerland. March 1973=100. Weights are 1972-76 global trade of each of the 10 countries.

Mr. Moore's index captures the inflationary signals emitted by the labor, commodities, and debt markets. *But it fails to receive the message sent by the foreign exchange markets.* While the Leading Index of Inflation rose 24% from November 1982 to June 1984, the trade-weighted foreign exchange value of the dollar rose 8.1%. From July 1980 to September 1984, the dollar soared 72%.

A strong dollar directly and immediately reduces the dollar price of imports. It also tends to keep a lid on the dollar price of U.S. exports because foreign demand for U.S. goods is depressed as the foreign currency prices of these goods go up along with the dollar. Exhibit 3 shows the year-over-year percent change in the U.S. import and export price deflators. During the third quarter, the import deflator was 3.4% *below* a year ago. During the third

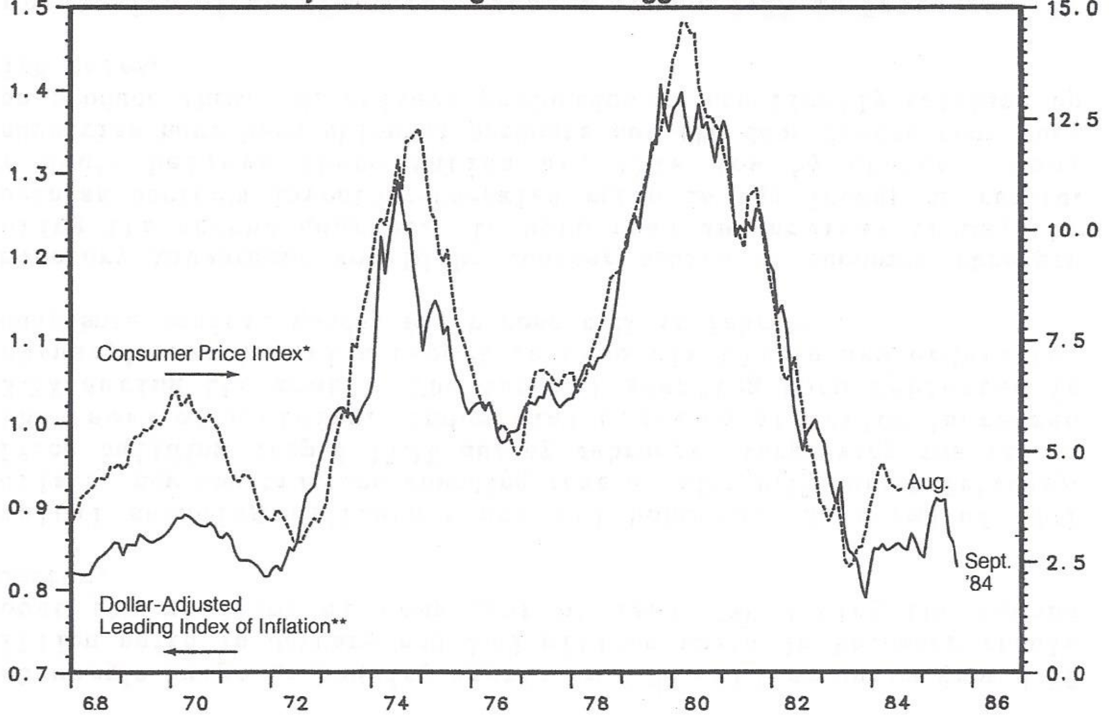
quarter, export prices in U.S. dollars were 3.6% higher than a year ago. The dollar rose 10.4%, on a trade-weighted basis, over this period. So the foreign currency prices of U.S. exports rose a whopping 14% over the past year.

Exhibit 3: Import Prices Are Falling



*Yearly percent change.

Exhibit 4: Dollar-Adjusted Leading Indicator Suggests Little Inflation In 1985



*Yearly percent change.
**Leading Index of Inflation divided by trade-weighted foreign exchange value of the U.S. dollar. Plotted 12 months ahead.

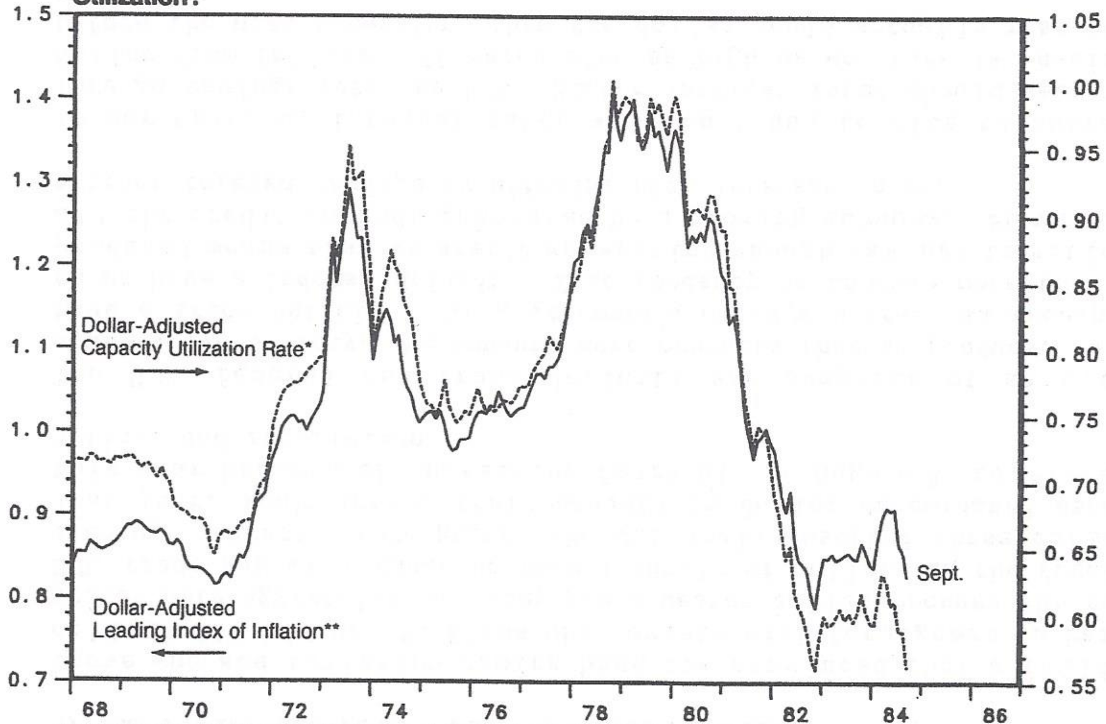
Fortunately, it's not too difficult to fix Moore's Leading Index of Inflation so that it reflects the influence of the foreign exchange value of the dollar on U.S. inflation. To do so, we simply divide his index by the trade-weighted foreign exchange value of the dollar. Exhibit 4 shows this *Dollar-Adjusted Leading Index of Inflation* versus the yearly percent change in the Consumer Price Index. The exhibit shows that our index tends to lead inflation by roughly 12 months. The correlation is extraordinarily good.

While Moore's index rose 24% from November 1982 to June 1984, our dollar-adjusted measure rose only 15.1%. As of September of this year, our dollar-adjusted index was a meager 4.8% higher than its November 1982 reading. *So not only is inflation not likely to move higher in 1985, it could actually move lower according to the relationship shown in Exhibit 4.*

In our December 21, 1983 article, we criticized the Leading Index of Inflation not only because it failed to reflect the impact of the dollar, but also because we found it "to be an analytical substitute for the capacity utilization rate; since the early 1970s both have moved very closely together over the business cycle." In other words, why bother even calculating the Leading Index of Inflation if it looks just like the capacity utilization rate and therefore provides no more new or useful information?

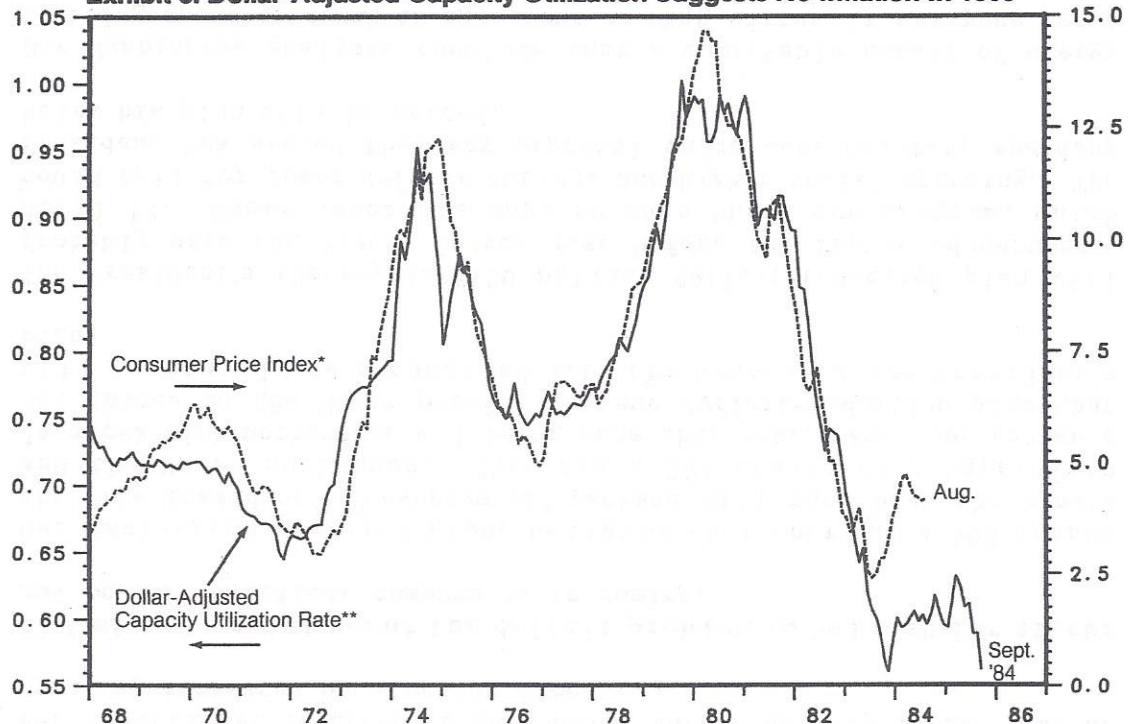
Exhibit 5 shows both the Leading Index of Inflation and the capacity utilization rate, each divided by the trade-weighted foreign exchange value of the dollar. The fit is very tight.

Exhibit 5: Is The Leading Index Of Inflation Just A Proxy For Capacity Utilization?



*Total capacity utilization divided by trade-weighted foreign exchange value of the U.S. dollar.
**Leading Index of Inflation divided by trade-weighted foreign exchange value of the U.S. dollar.

So the *Dollar-Adjusted Capacity Utilization Rate* is an excellent leading indicator of inflation. It tends to anticipate both the turning points and the actual path of inflation with remarkable accuracy (Exhibit 6).



*Yearly percent change.
**Total capacity utilization divided by trade-weighted foreign exchange value of the U.S. dollar. Plotted 12 months ahead.

In September, the capacity utilization rate equalled 81.9%. On a dollar-adjusted basis it equalled 56%, a level that according to Exhibit 6 is associated with a near-zero rate of inflation. An 80% dollar-adjusted utilization rate is usually associated with an inflation rate between 6% and 8%. Ten percent inflation occurs at dollar-adjusted utilization rates of roughly 90%.

Interestingly, the *Dollar-Adjusted Capacity Utilization Rate* suggests a lower rate of inflation next year, i.e., near-zero, than does the *Dollar-Adjusted Leading Index of Inflation*, i.e., roughly 2.5%.

Now you can see why forecasters who predicted higher inflation rates because capacity utilization rates were rising erred just as badly as those who relied on the Leading Index of Inflation. Moore forgot to incorporate into his index the influence of foreign exchange market developments. Similarly, forecasters who focused on a measure of domestic capacity utilization failed to recognize that with the dollar so strong, worldwide capacity utilization is more relevant for predicting U.S. inflation.

The bottom line is that inflation is likely to remain around current low rates through next year. If there is a surprise, the *Dollar-Adjusted Capacity Utilization Rate* suggests that zero inflation is possible in 1985. *Relative to such a rosy inflation outlook, bonds are still very cheap.* So interest rates should fall further. The improved prospects for price stability reduce the chances of a policy-engineered recession or a credit crunch. So an extended economic expansion through 1985 and 1986, possibly beyond, seems increasingly possible. *Lower bond yields and a longer cycle are ideal for equity investments.*

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