

Updating the Price Rule

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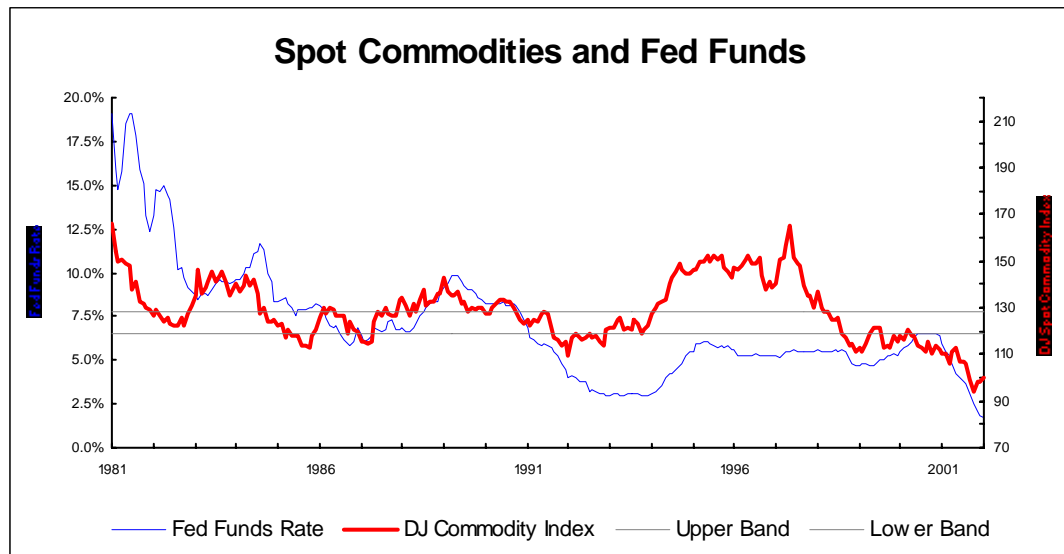
Background

Since 1989, we have monitored the relationship among price changes in the economy as measured by the Dow Jones Spot Commodity Index and the Dow Jones AIG Spot Commodity Index (Commodity Index), and changes in monetary policy as measured by the Fed funds rate. The rationale for analyzing these economic series was the belief that the Federal Reserve Board had changed monetary policy from controlling the quantity of money (monetarism) to controlling the price of money (interest rates) in order to contain inflation.

Since 1982 research papers produced by Kudlow & Co., Laffer Associates, and La Jolla Economics identified a close relationship between movements in the Dow Jones Spot Commodity Index and changes in the Federal funds rate. The mechanism that guided monetary policy under this “price rule” was the movement of the Dow Jones Spot Commodity Index relative to an arbitrary index band of 119 to 128. (Arthur B. Laffer and Charles W. Kadlec described this theory in a Wall Street Journal editorial in 1982.) If the commodity index rose above this band, then the Fed would raise the Fed funds rate target until the commodity index fell back into or below the band. Similarly, if the commodity index fell below the band, the Fed would ease until the commodity index moved back into the band. Since the Fed funds rate is the mechanism by which the Fed determines short-term interest rates, the validity of this relationship would indicate that the Fed was committed to eliminating inflation.

When we examined the results of the price rule in research papers during the Nineties, we concluded that the Fed was in fact operating on a price rule and that the historic decline in interest rates and inflation could be attributable to this price rule policy.

Figure #1



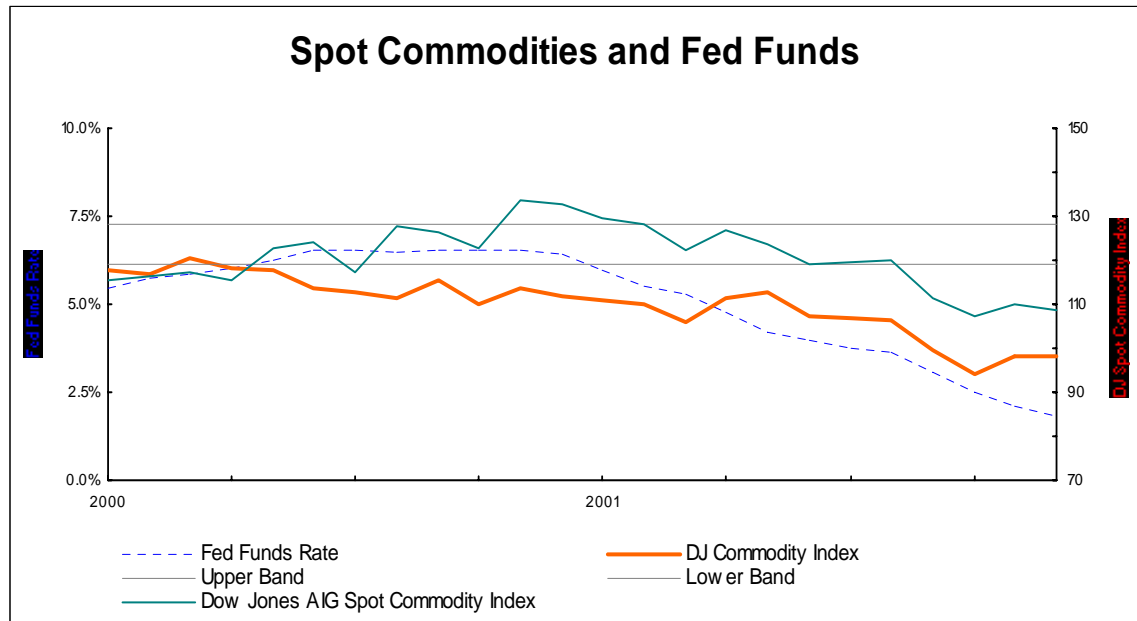
Data courtesy of Dow Jones and the Federal Reserve Bank of St. Louis

Modifying the Benchmark

In December of 1997, there was an important modification in the Dow Jones Spot Commodity Index (this index should not be confused with the Dow Jones Futures commodity index). Remember that, in the original paper on the price rule, Laffer and Kadlec selected the Dow Jones Spot Commodity Index because it was readily available—it was listed every day on the front page of the Wall Street Journal. At the end of 1997, in conjunction with American International Group (AIG), Dow Jones created another spot commodity index—the Dow Jones AIG Spot Commodity Index. This commodity index included additional commodities that supposedly improved the overall accuracy of the index as a measure of commodity inflation¹.

The Wall Street Journal continued to track the Dow Jones Spot Commodity Index until April 2002. When we examined the new index vs. the Fed funds rate (figure #2), it was evident that both benchmarks turned down in 2000 but that the declining Fed funds rate correlated better with the late decline in the Dow Jones AIG index than the Dow Jones Spot Index.

Figure #2



Data courtesy of Dow Jones and the Federal Reserve Bank of St. Louis

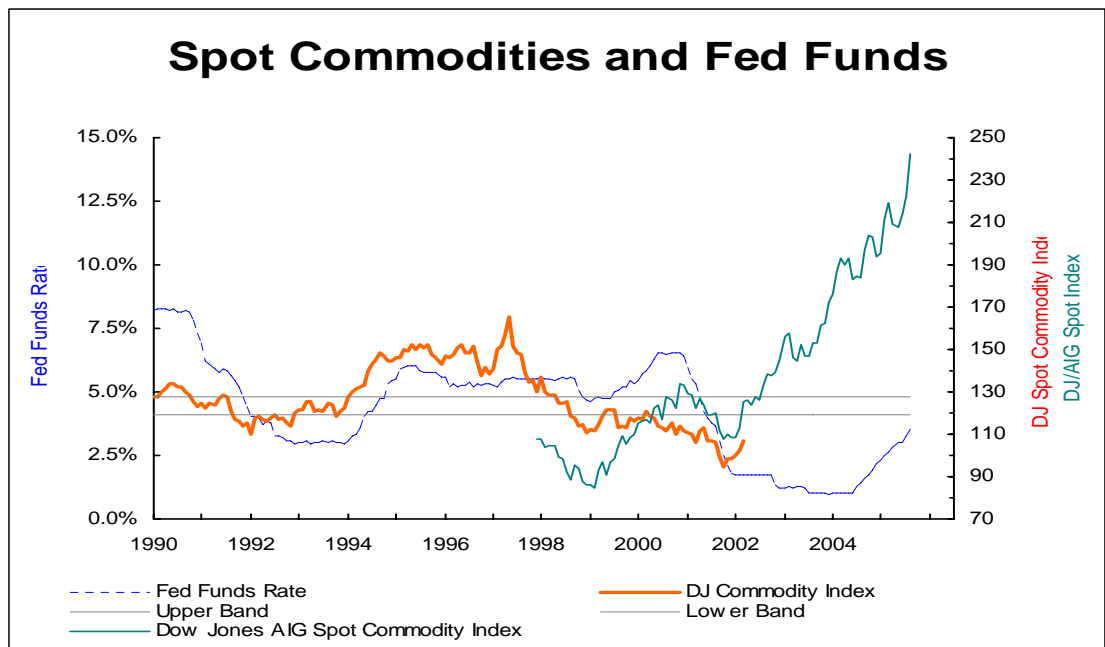
The Dow Jones Spot Commodity Index that turned down in early 2000 was an accurate signal for the Fed to begin easing. Yet, the Fed did not ease at all in 2000 even though commodity prices and long-term government bond rates declined. This decision to stay tight for too long contributed to the economic downturn of 2001.

The decline in the Fed funds rate during beginning in 2001 was consistent, although belatedly with the price rule assuming that the new Commodity Index was the basis for Fed action. The subsequent fall in this index beginning early in 2001 from a price of over 130 to a price below 110 would have been a strong signal for Fed easing. The Fed did ease dramatically during 2000-2001 as has been documented in numerous analysis of Fed policy. Ultimately, the Fed lowered the Fed funds rate from 6.50% to 1.00% in 13 distinct reductions, an all-time easing of monetary policy.

Beginning in November of 2001 the spot index began to move up sharply reminiscent of the steep increase in this index during 1999 and 2000. In response to this increase the Fed stabilized the Fed funds rate in the vicinity of 1.75%.

During the latter half of 2002, the Spot Commodity Index continued to rise, reaching a high of 144.8 at yearend. However, the Fed continued to ease as reflected in a 12th reduction in the Fed funds rate to 1.25% in mid-November 2002 in the face of a sustained rise in the Index. The Fed appeared to be ignoring a substantial rise in the Commodity Index (Exhibit #3).

Figure #3



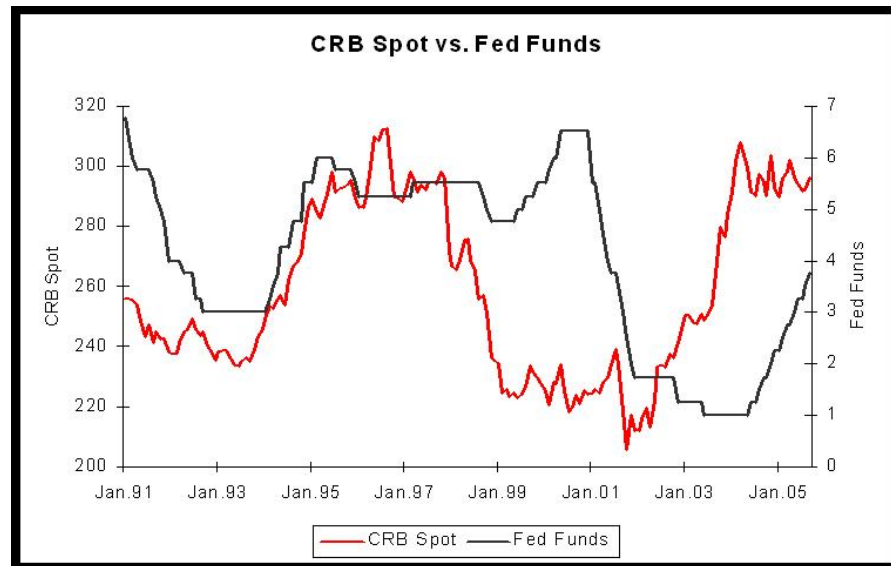
Data courtesy of Dow Jones and the Federal Reserve Bank of St. Louis

Making the assumption that the Commodity Index was a reasonable benchmark for gauging inflationary pressures and assuming that the Laffer band was a reasonable warning mechanism, the Fed's delay in implementing a tighter monetary policy may be interpreted by some as having contributed to a sustained rise in the Commodity Index. However, many Federal Reserve studies as well as other academic endeavors conclude that interest rates have no influence on the price level, particularly over the long-term, and that causation runs only from prices to interest rates via the Fed's apparent reaction to inflation and not the anticipation of it.

On the other hand, there are a number of different commodity indices. When one commodity's price surges and other commodity prices remain stable, allowances must be made for the distortions caused by that one commodity. Historically both oil and gold prices have had a distorting impact on different measures of commodities' inflation.

Contrast the relationships in the previous exhibits with the recent action of the Commodity Research Bureau Index.ⁱⁱ

Figure #4



Data Courtesy of the Commodity Research Bureau

While the Dow Jones AIG Spot Commodity Index was signaling inflation, the CRB Index peaked at 305 in March of 2004 and has moved sideways since then signaling no inflation in commodities. This divergence should give the Fed cause for concern about further increases in the Fed funds rate.

Conclusions

The Dow Jones AIG Spot Commodity Index has given an early warning indicator of pending inflationary pressures within the context of the Laffer Kadlec price rule construct. The concurrent spurt in the price of gold and a weakening of the dollar are consistent with a sharp increase in the Commodity Index. However, other measures of inflation such as the CRB Index are giving no such warning.

The Fed’s policy of raising interest rates in response to the rise in the Dow Jones AIG Spot Commodity Index may very well signal that further increases in the Fed funds rate are probable until such time as the Commodity Index turns down. Since long-term interest rates have remained stable in the face of record budget deficits and stronger economic growth, continued interest rate increases by the Fed in response to high commodity prices may create a yield curve inversion that would put severe pressure on financial institutions that have benefited from an upward sloping yield curve.

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ⁱ The original Dow Jones Spot Commodity Index consisted of twelve commodities: Cattle, Coffee, Copper, Corn, Cotton, Gold, Hogs, Lumber, Silver, Soybeans, Sugar, and Wheat. The Dow Jones AIG Spot Index deleted lumber but added the following commodities: Crude Oil, Heating Oil, Natural Gas, Unleaded Gasoline, Nickel, Soybean Oil, and Zinc.

An Oversight Committee meets annually to determine the composition of the Dow Jones AIG index in accordance with the rules established in the DJ-AIGCI Handbook. Committee members are drawn from the academic, financial and legal communities. The annual weightings for the DJ-AIGCI are determined each year in June by AIGI under the supervision of an Oversight Committee, consisting of leading academics, financial market participants, and employees of AIGI and Dow Jones. Rebalancing and reweighting means that, in general, the index may reallocate out of commodities that have appreciated in value and into commodities that have underperformed. To the extent that commodity markets exhibit mean-reverting characteristics over time, this approach may result in higher returns.

ⁱⁱ For a detailed list of the commodities in the CRB Index, visit the Commodity Research Bureau website at http://www.crptrader.com/crbindex/spot_current.asp