Conventional wisdom says the oil shocks that have buffeted the global economy since the 1970s have all had one cause: instability in the Middle East. The 1973 Arab oil embargo, the 1979 Iranian revolution and oil workers' strike - and now the Iraq conflict - have all coincided with dramatic increases in the price of crude.

But these crises had another thing in common: low real interest rates worldwide. The link between oil prices and financial markets is often overlooked, but has profound implications for both energy security and economics. Could it be that oil shocks are a monetary phenomenon, rather than purely the result of the supply of and demand for oil?

A number of economists have tackled this question, with varying success. All argued that monetary policy has a much greater influence on commodity prices than is widely assumed.

The most rigorous research was conducted by Jeffrey Frankel, professor of economics at Harvard's Kennedy School of Government. His "overshooting" theory argues that commodities prices are volatile because they trade on fast-moving auction exchanges, which respond to interest rate expectations and monetary fluctuations more dramatically than consumer prices do.

This year's sharp spike in oil prices appears to support this. Oil prices have risen by about 48 per cent over two years - Nymex crude hit a new record above Dollars 42.50 yesterday - while the consumer price index has risen by just 5.5 per cent.

As in 1979, global real interest rates - nominal rates adjusted for inflation - are at a low point. And, as in previous oil shocks, the sustained rise in the price of crude is accompanied by rising prices in other commodities. Nickel prices have more than doubled in two years, while steel is up by 62 per cent and gold by 25 per cent.

These simultaneous price increases follow a historical pattern. During the oil shocks of 1973 to 1974 and 1979 to 1982, for example, not only oil spiked, but a number of other commodities did: gold more than doubled from 1972 to 1974 and it hit its all-time high average price of Dollars 615 per ounce amid the second oil shock in 1980. Soybean prices doubled in 1974 and wheat hit its all-time high of Dollars 5.29 per bushel that year. Both spiked again in 1980 to 1981.
It is an article of faith among commodities traders that prices of goods that are unrelated tend to be correlated in an odd way.*

The behaviour of commodity prices, meanwhile, is in stark contrast to retail prices for consumer goods. The only fluctuation in consumer prices is in the rate at which they grow: the level of inflation. But commodities prices do not grow steadily - rather, they rise and fall in dramatic cartwheels. The only relationship between the two is that when the rate of growth of consumer prices - inflation - is high, the absolute level of commodities prices is also high, and vice versa. This is known as "overshooting".

Mr Frankel argues in his 1986 paper* that this is due to the way different types of markets react to inflationary pressure. An increase in the money supply, if all prices in the economy rise at the same speed, will increase all prices uniformly.

But if prices for some goods adjust more rapidly than others, the faster adjusting markets will experience disproportionate price increases until the slower adjusting markets catch up - which will cause prices in the faster-adjusting markets to fall back to the new "equilibrium level".

Because commodities are traded on exchanges, Mr Frankel says, their prices can adjust faster than prices for goods sold in stores. So an inflationary increase in the money supply will be felt disproportionately in commodities markets first, causing them to "overshoot" their long-run equilibrium.

But why would commodities traders bid prices up over the long-term equilibrium? The answer is partly that they do not know where the new equilibrium is. Meanwhile, Mr Frankel argues, rising money supply (or other inflationary pressure) would cause the real interest rate to fall, making financial investments less attractive and alternatives to holding money more so.

This observation is borne out by the data: finding a hard measure of real interest rates (nominal rates adjusted for expected inflation) is difficult, but a good proxy is the price of bonds, which shows the attractiveness of giving credit at current yields: when bond prices fall, the real interest rate must be falling as well. There is an inverse historical relationship between commodities and bond prices, showing how financial markets see them as alternatives (see chart).

Mr Frankel's theory has invited some controversy. Critics said it does not adequately explain why a trader would see low real interest rates as an opportunity to invest in commodities, which are often "backward-dated" - the future price is below the spot price, implying a trader would lose money by holding it.

Indeed, the trading rationale for overshooting may not be fully understood yet - but that does not change the obvious link between commodities prices and real interest rates.

The implications for monetary policy are profound. If oil prices are determined not in palaces of the Gulf, but in the boardrooms of the Federal Reserve, this casts US energy security in a whole new light, and should give pause for thought to US foreign policymakers.

* Web links to these references can be found at www.ft.com/world economy

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