

Business Cycle Basics, Part 4 Money Drives Inflation – and Deflation

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International Monetary Monitor
January 2022

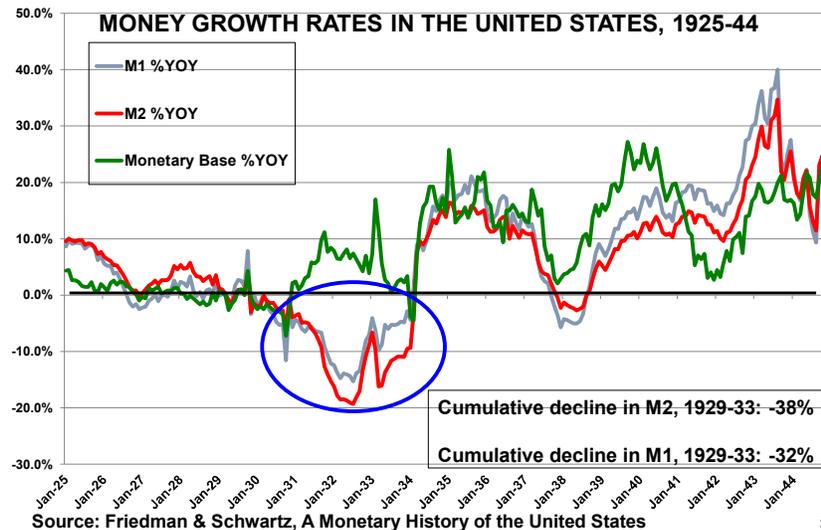
“Monetary policy is not about interest rates. It is about the rate of growth of the quantity of money.” Milton Friedman, interviewed on NBC’s Meet the Press, October 24, 1976.

Outline of the Series



- Part 1: Business Cycle Basics – The Monetary Framework
- Part 2: Business Cycle Basics – Money Drives Asset Prices
- Part 3: Business Cycle Basics – Money Drives (Nominal) Spending
- Part 4: **Business Cycle Basics – Money Drives Inflation**
- Part 5: Business Cycle Basics – The Transmission Mechanism
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- Counterparts or Drivers of Money Growth -- Exchange Rate Regime, Shadow Banks, Counterparts of Money

When US Money Contracted in 1929-33, the US Suffered 4 years of Recession and Deflation

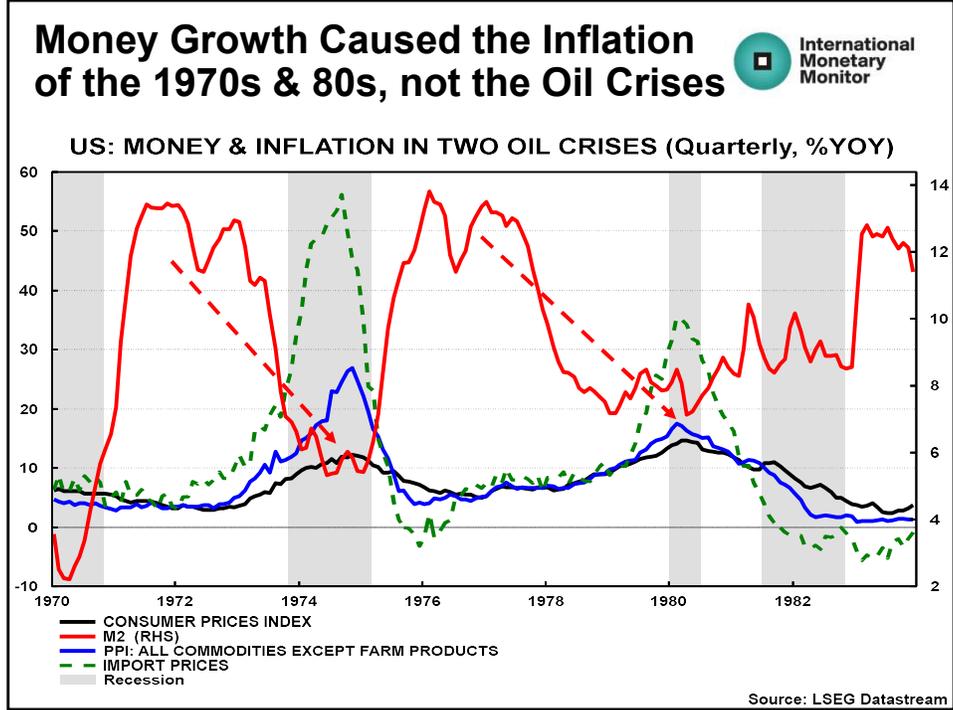


To establish the importance of the quantitative aspects of monetary policy, consider the United States in 1929-33.

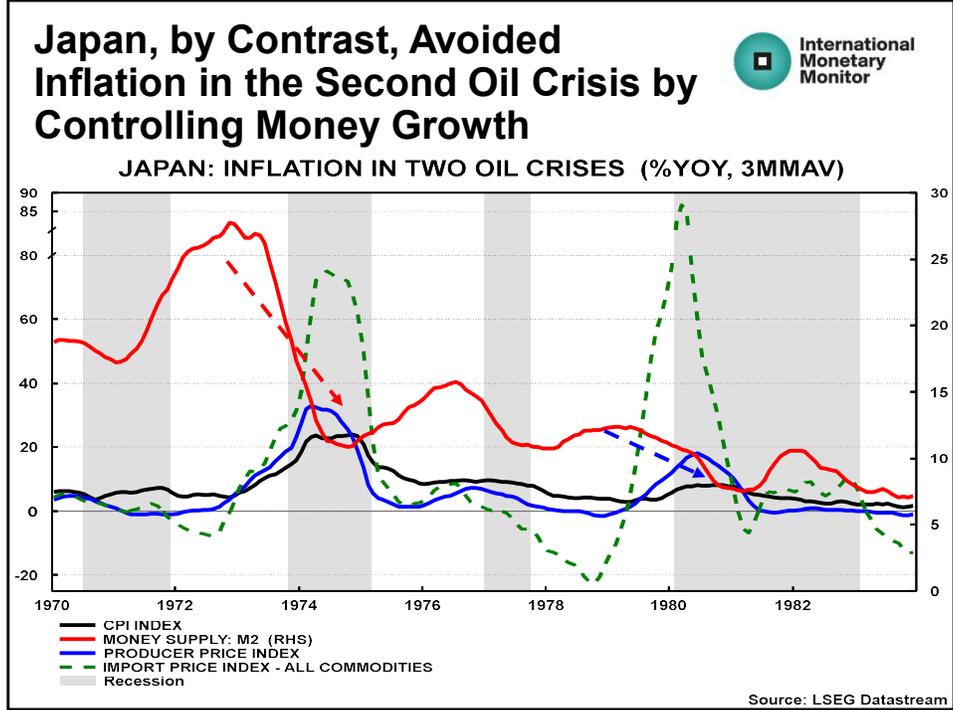
As shown in the chart above the rates of monetary growth (M1 and M2) slowed in 1929 and moved into negative territory on a year-on-year basis between November 1929 and January/February 1934. Cumulatively the declines in the money stock amounted to 38% in the case of M2 and 32% in the case of M1. The basis for this “Great Contraction” was the runs on banks, in turn precipitated by concerns about their creditworthiness and the fragility of their loan portfolios. The runs on deposits across the country led to large-scale conversions of deposits into currency, as reflected in the steep increases in cash currency held by the public and reserves held by the banks. Together cash currency and bank reserves comprise the monetary base (shown in green in the chart above) which increased rapidly in 1931-32. Note that this was due to actions by the banks and non-banks together – not due to the actions of the Federal Reserve.

For better or worse the Federal Reserve did not counteract the downturn in money growth in 1931-33 with security purchases or money creation and thereby exacerbated both the recession and the deflation. The key difference in 2008-09 was that both the Federal Reserve and the Bank of England did take countervailing action, and the result was that a monetary contraction was avoided. It is true that the Fed

under Ben Bernanke's leadership placed major emphasis on the interest rate effects of its operations (whereas the BOE under Mervyn King placed more emphasis on changes in the stock of money), but nonetheless the success of the policy came from avoiding a monetary downturn, not from lowering interest rates.

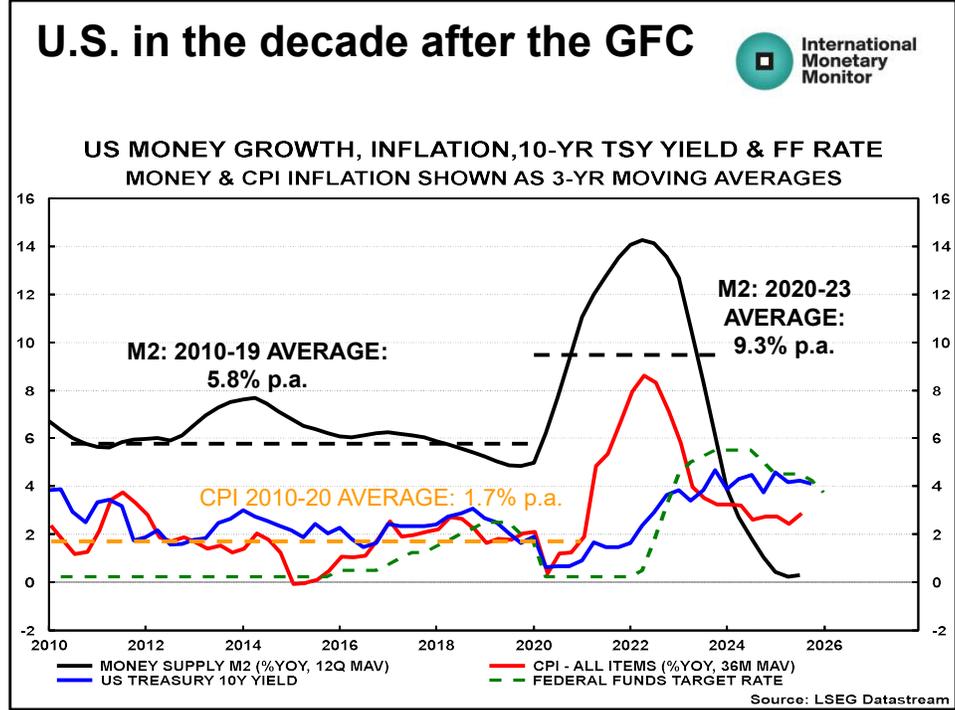


It is often said that the inflation of the 1970s and 1980s in the US and elsewhere was caused by the two oil crises of 1973-74 and 1979-80. As the chart above demonstrates, this is a false explanation. In each case, the inflations of 1973-75 and 1979-81 were generated by surges in broad money (M2) growth in the three or four years preceding the outbreak of each inflationary episode. In the first case, there was sustained double-digit growth of M2 between July 1971 and June 1973, averaging 12.5% p.a. Similarly, between January 1976 and December 1978 M2 growth averaged 11.2% p.a., leading directly to the surge of inflation in 1979-81. The broad connection between the surges in M2 growth and the surges of inflation are indicated by the dashed red arrows.



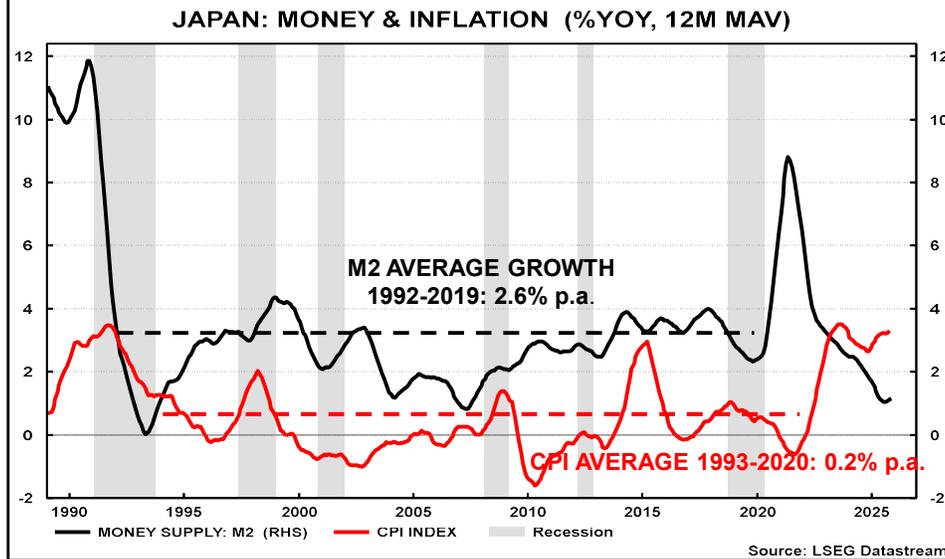
Japan's experience in the two oil crises was very different, demonstrating convincingly the relationship between money growth and inflation. Whereas in the US case there was a failure to control money growth ahead of both oil crises, in the case of Japan the authorities learned from their experience in the first episode and were determined not to repeat the mistake when the second oil crisis developed. In August 1971 President Nixon announced the closing of the gold "window", thereby terminating the promise of the US authorities to sell gold to foreign central banks at \$35.00 per ounce. The result was an abrupt appreciation of numerous foreign currencies including the Japanese yen against the US\$, a move the Japanese feared would seriously damage their export-led economy. They therefore embarked on an easy money policy, lowering interest rates and allowing money growth to accelerate to over 25% p.a. in 1972-73 in the hope of countering an external slump. The surge in money growth laid the ground for a big rise in asset prices, economic growth and inflation, which jumped to 23% year-on-year in 1973 (see red dashed arrow). After the crisis was over the Japanese authorities announced a plan to control M2 growth from July 1974. As can be seen in the chart, the growth rate of M2 gradually declined over the following decade. Consequently, when the second oil crisis occurred, although oil prices, import prices, and producer prices rose steeply, the overall CPI increased only mildly, peaking at 8.0% in September 1980 (see blue

dashed arrow), a rate judged modest in that era. In other words, while *relative prices* increased, *overall inflation* remained relatively moderate. There can be few more striking demonstrations of the effectiveness of monetary policy controlling inflation.



In the decade following the Global Financial Crisis (GFC) of 2008-09, US inflation was subdued, averaging just 1.7% p.a. between 2010 and 2020. Too many commentators attribute the low inflation to the anaemic recovery, whereas in reality both the slow recovery and the low inflation rate were both due to the low average rate of broad money (M2) growth between 2010 and 2019. Over this period, M2 growth averaged 5.8% p.a. while CPI inflation averaged 1.7% p.a. Expressed in terms of the Quantity Theory of Money, money growth was 5.8%, income velocity declined at 1.8% p.a., and Nominal GDP grew at 4% p.a., consisting of real GDP at 2.4% and inflation of the GDP deflator at 1.6% p.a. Subsequently, with the onset of the Covid pandemic in March 2020, money growth surged to 9.3% on average in 2020-23, leading directly to a serious episode of inflation in 2021-23.

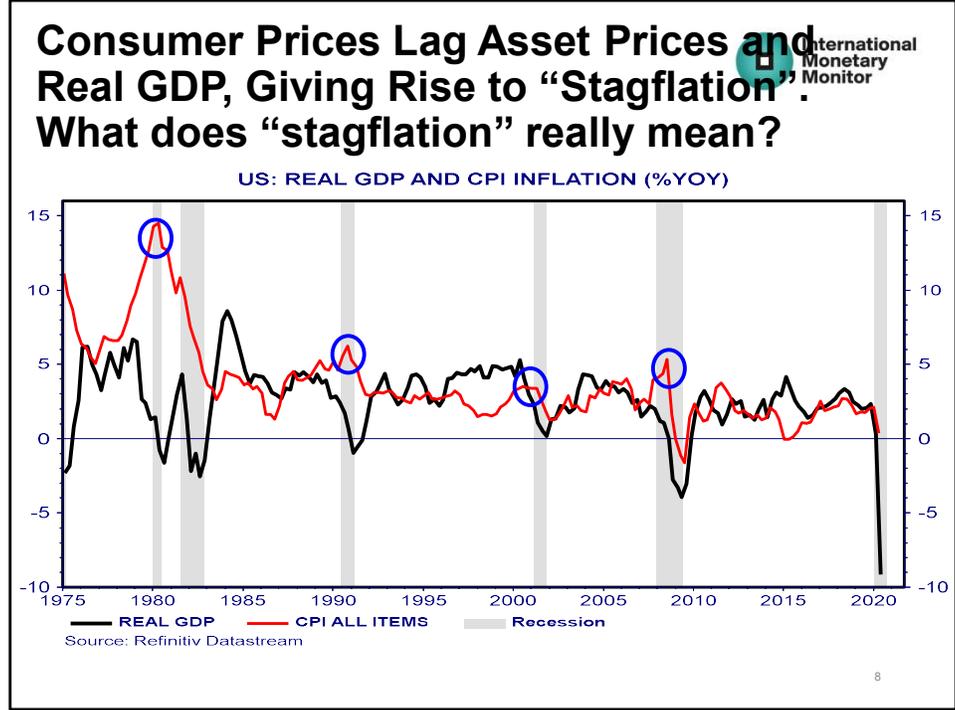
Japan's Deflation since 1989 is due to Inadequate Money Growth



Japan's experience since the asset bubble burst in 1990-91 provides another example of the relation between money growth and price inflation or deflation.

Concerned at the emergence of inflation in the late 1980s, the Bank of Japan began a series of rate hikes in 1989-90, with its discount rate reaching a peak of 6.0% in August 1990. This was enough to trigger a plunge in M2 growth, a slump in asset prices and real GDP, followed by a prolonged period of weakness in inflation. In fact, CPI inflation moved into negative territory at times in 1996 and 1999-2006, and again in 2010, 2016, and 2021. This was despite several increases in the Consumption Tax (which is included in the CPI).

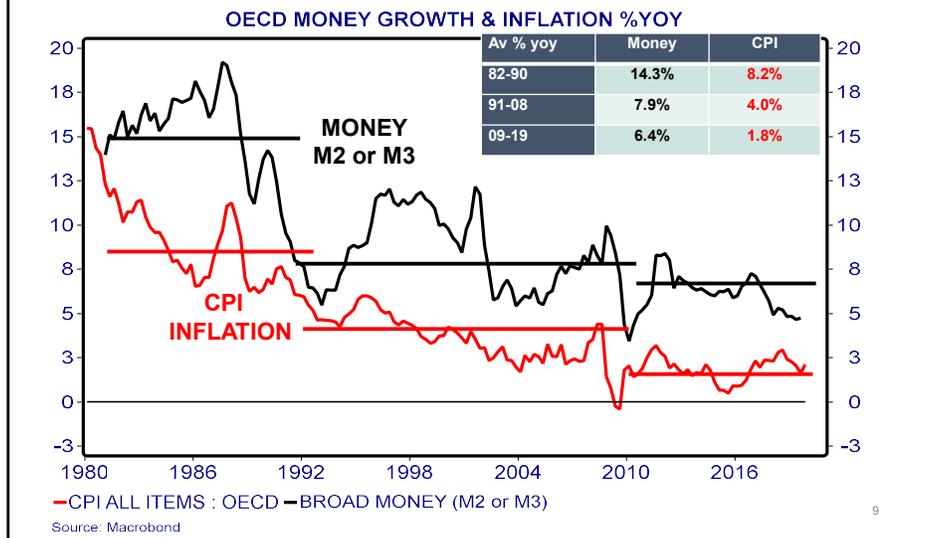
The basic reason for Japan's three-decade flirtation with deflation is that broad money (M2) growth has been too low to enable the Bank of Japan to reach its 2% inflation target. Again, using the Quantity Theory of Money, M2 growth averaging 2.6% p.a. has been absorbed by an annual 2% decline in velocity, 0.8% p.a. increase in real GDP, leaving a negative balance of -0.2% for the change in the overall price level. Despite supposedly "low" interest rates, Japanese money growth has been highly restrictive – or tight – ever since the early 1990s.



For completeness we also review the relationship between US real GDP growth and CPI inflation from 1975.

The flow charts in Business Cycle Basics Part 1 (“The Monetary Framework”) separated goods and service prices from asset prices, noting that changes in consumer prices came last in the cycle after changes in asset prices and after changes in real GDP. This means that contractionary pressures (e.g. from slowing money growth) could be showing up in asset prices or in real GDP while consumer prices – at the right-hand end of the flow charts -- are still experiencing the effects of the prior expansionary money growth phase. We should therefore expect to see consumer prices peak *after* the peak in asset prices and *after* the onset of recession, as indeed we do in the chart above. The different lags in the transmission process between, for example, tightening monetary growth, the impact on real GDP and the impact on consumer prices are what give rise to the phenomenon of “*stag-flation*” – falling or stagnating real growth combined with continuing price inflation. Each recession in the chart since 1980 shows a period when that phenomenon was evident.

Progressively slower growth of broad money in the OECD, led to 30 years of falling inflation



Although I believe it is often not appropriate to combine money growth rates across different economies, it can sometimes be helpful to show some broad trends. The chart above shows the declining average rates of broad money growth and inflation among OECD economies between 1980 and 2019. Although inflation was mostly on a downward trend over this period, declining inflation has not been a panacea. In fact, there have been two major recessions in the past 20 years: the "Great Recession" or GFC in 2008-09 and the brief but very steep recession associated with the Covid pandemic in 2020-21. The main take-away is that even with low inflation, economies can still be vulnerable to overleveraging (as with the GFC) or external shocks (as with the Covid pandemic). Nevertheless, without controlled or at least subdued money growth, low inflation cannot be assured. Central banks need to have broad money growth on their dashboard.