



# PERSPECTIVES

## What's in a Name?

19 July 2009

### Inflation or Deflation, Act 1

Nowadays, one can hardly watch TV news or read a financial publication without being bombarded by reporters or headlines intoning breathless warnings of impending doom from either runaway inflation or deflation. The average person can be forgiven for shrugging his or her shoulders in jaded resignation and switching channels or turning the page; after all, what hope does a layperson have for making the correct “call” when even the so-called experts can’t agree on what the future holds?

Despite the resigned indifference, the question of what’s in store for the United States’ and the world’s economies is a crucial one. Making the right call, and following through in a manner consistent with that expectation, could spell the difference between a company’s financial success or failure. In our opinion, much of the confusion decision makers face stems from a misunderstanding of what inflation (or deflation) really is, and what are the causes. Were we to conduct “person on the street” surveys, our suspicion is that - when asked what inflation is - most respondents would say, “A situation in which prices rise.” If pressed for what causes inflation, most probably wouldn’t know how to answer; a few might point to either wage pressure or demand outstripping supply.

While such responses would certainly be understandable, they would show that many people confuse the symptoms with the cause. Yes, prices rise during periods of inflation; but rising prices aren’t necessarily indicative of inflation. How can that be? We’ll get to that answer momentarily, but let’s first set the record straight on what exactly inflation is and what is the underlying cause of inflation.<sup>1</sup>

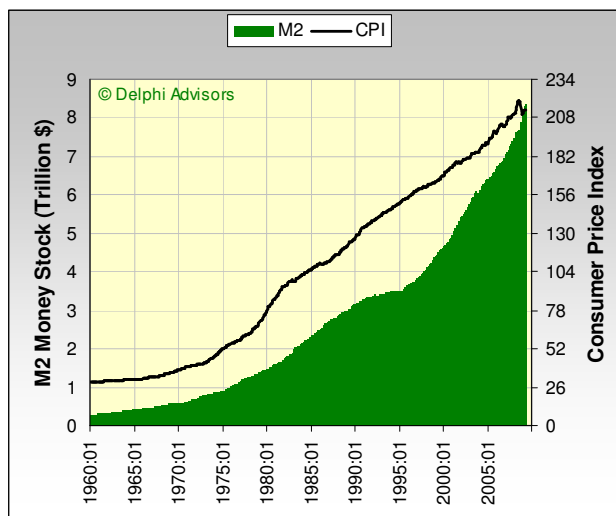
Nobel laureate economist Milton Friedman once famously said, “Inflation is always and everywhere a monetary phenomenon.” In other words, inflation occurs when too much money gets flushed into the economic system. Just like any other good or service, if there’s too much of it, it declines in value. Conversely, if there is not enough of it, it increases in value. “Inflation” occurs when a currency’s value *decreases*; “deflation” occurs when a currency’s value *increases*.

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<sup>1</sup> Definitions of inflation vary from source to source. We prefer to lean toward the more classic definition, which points to inflation as a consequence of changes in the money supply instead of the how the price of a basket of good changes. The following website does a nice job of highlighting the range of definitions: [http://inflationdata.com/inflation/Inflation\\_Articles/Inflation\\_Definition.asp](http://inflationdata.com/inflation/Inflation_Articles/Inflation_Definition.asp). We think this particular definition effectively bridges both concepts: WordNet ® 1.6, © 1997 Princeton University, which says: “**inflation** 1: a general and progressive increase in prices; ***in inflation everything gets more valuable except money***” (emphasis added).

Figure 1 shows that Dr. Friedman was onto something: Since 1960, the M2 money stock<sup>2</sup> has swollen nearly 30-fold (2,695 percent, to be more precise); by comparison, the all-items price index for urban consumers (CPI) has risen 628 percent over that same time frame. A statistician would caution that correlation doesn't necessarily imply causation, but the strength of this relationship ( $r = 0.98$ ) is hard to dismiss.

Some economists are reluctant to agree with Friedman unless a qualification is added. Namely, one must apply Friedman's rule over a "sufficiently long" time period.<sup>3</sup> How long that time period needs to be is a subject of yet more debate, but Figure 2 shows that the response time between a "flush" of money and a subsequent rise in the CPI can actually be quite short - often between two and four years.



**Figure 1. Comparison of M2 money stock and the all-items, urban consumer price index. Sources: Federal Reserve Board and Bureau of Labor Statistics**

If there is a caveat to be applied, it's the one incorporated in our simplification of Friedman's statement - that "too much" money is being created. In other words, inflation is not likely to be a problem unless the rate of increase in the money supply exceeds the real (i.e., inflation adjusted) rate of economic growth. Figure 3 addresses that issue by comparing the change in the rate of growth of the M2 money stock to the change in the rate of growth in the economy. In that figure, the further the M2/Real GDP line strays from zero, the faster the growth rate in the money supply than in the economy. Conversely, as the M2/Real GDP line moves closer to zero, the rates of growth in the money supply and the economy come into better balance. Much of the short-term "noise" is eliminated in Figure 3 by using 10-year moving averages, leaving the underlying long-term trend more obvious.

What Figure 3 shows is that the "loose" monetary policies of the 1960s and 70s contributed to rising inflation that was finally checked only after then-Fed Chair Volker imposed "tight" money policies in the early 1980s. The rate of M2 growth gradually came into better alignment with GDP growth through the

<sup>2</sup> According to the St. Louis Federal Reserve Bank, the M2 measure of money stock (supply) consists of:

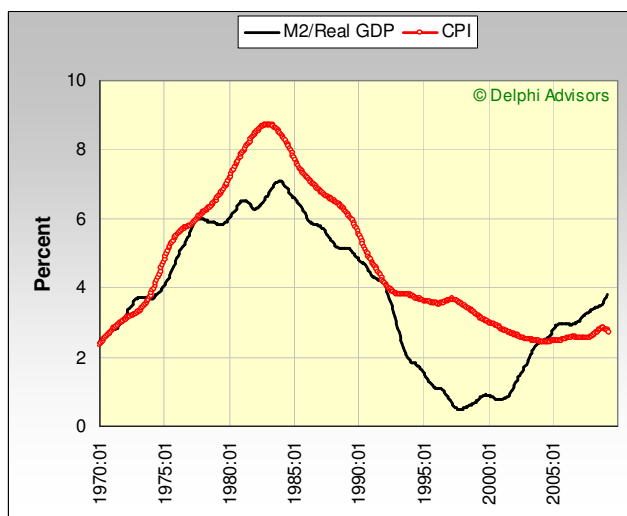
- currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions;
- traveler's checks of non-bank issuers;
- demand deposits;
- other checkable deposits, which consist primarily of negotiable order-of-withdrawal accounts at depository institutions and credit union share draft accounts.
- savings deposits, including money market deposit accounts;
- time deposits of less than \$100,000; and
- balances in retail money market mutual funds. {<http://research.stlouisfed.org/publications/usfd/notes.pdf>}

<sup>3</sup> [http://www.investorsinsight.com/blogs/john\\_mauldins\\_outside\\_the\\_box/archive/2005/02/07/inflation-is-always-and-everywhere-a-monetary-phenomenon.aspx](http://www.investorsinsight.com/blogs/john_mauldins_outside_the_box/archive/2005/02/07/inflation-is-always-and-everywhere-a-monetary-phenomenon.aspx)

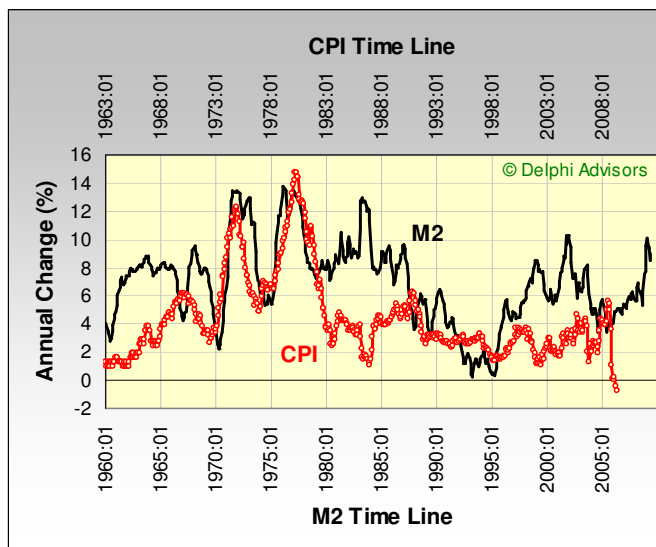
mid-1990s, which helped to further tame the rate of rise in inflation. Figures 2 and 3 both provide a warning, however: the outsized rate of growth in the money supply relative to GDP growth since 1995 (especially given the recession that has been ongoing since December 2007) could stimulate a renewed bout of inflation.

Now that we've established that excessive growth in the money supply is the root cause of inflation, let's go back and address the question of why rising prices, measured by indices such as the CPI, may not necessarily be indicative of inflation and conversely, a falling CPI may not necessarily be indicative of deflation. Increasing the money supply means there is an abundance - an over supply - of currency relative to the goods and service in the economy that

currency is used to value. An abundance of currency results in the currency losing value, just like the fundamental laws of supply and demand when applied to goods and services. Because the currency loses value, it takes more units of the currency to purchase a good or service. The increase in the amount of currency to purchase a good or service is what is reflected in the CPI. This is why increasing the money supply often results in the CPI increasing.



**Figure 3. Comparison of the rate of growth in the M2 money stock relative to real gross domestic product, and the consumer price index (all items). Data are 10-year moving averages of year-over-year percentage changes. Sources: Federal Reserve Board, and Bureaus of Economic Analysis and Labor Statistics**



**Figure 2. Annual percentage change in M2 money stock and consumer price index. Sources: Federal Reserve Board and Bureau of Labor Statistics**

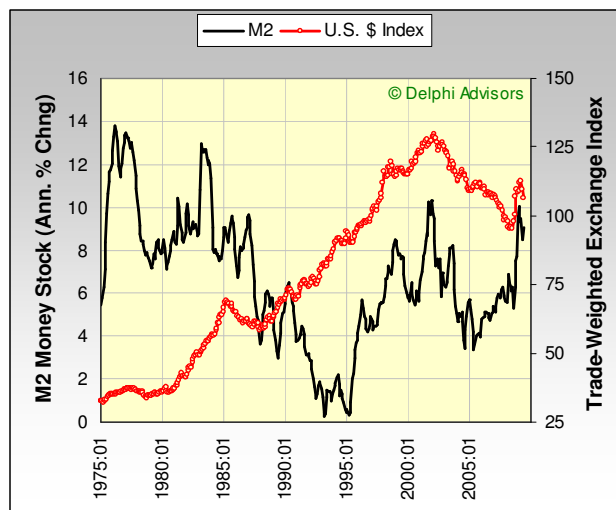
the money supply often results in the CPI increasing.

However, the CPI increasing isn't due exclusively to a change in value in the currency. Indices like the CPI track changes in the value of a common basket of goods and services over time. To the extent the value of the currency is changing, changes in CPI can reflect inflation or deflation. But, we can think of two situations where changes in CPI do not exclusively reflect either inflationary or deflationary pressures in the economy:

- Demand outstripping supply. The price for a good or service may indeed rise in such a situation. In a competitive market, however, that price rise sends a signal that brings more production into play. At the same time, the higher price reduces the quantity demanded. Market forces thus bring supply back into line with demand,

and the price for the good or service in question gradually settles back toward the previous price level.

- Depreciation of the local currency. To a certain extent, this situation is related to the topic of growth in the money supply, or at least the public's faith in the soundness of that currency and the fiscal responsibility of the government issuing it. Figure 4, for example, shows that the U.S. dollar continued to strengthen against a basket of 26 other currencies well after the rate of M2 growth shot higher in 1995; other forces besides just money supply helped determine the greenback's value. In any event, as a currency depreciates more units of that currency are required to purchase the same quantity of a good or service (assuming the characteristics of the item being purchased remain constant).



**Figure 4. Comparison of growth in the M2 money stock and the trade-weighted, U.S.-dollar exchange rate index (declining index values mean a weakening dollar). Source: Federal Reserve Board**

The first situation is grounded in economic theory. For example, is it necessarily inflationary when the CPI goes up because food costs are rising due to bad weather that reduced food supplies? Or, for a more recent example, was it inflationary when significant corn production was re-directed to produce ethanol and created food shortages? Or growing demand from China and India? The debate goes on as to the causes for why food prices were rapidly increasing in 2007 and much of 2008, but fundamental to the increase was more demand than supply.<sup>4</sup> There was no significant component of the increase that was apparently related to falling value of the U.S. dollar due to inflation. Yet the rising cost of food contributed to increasing CPI over the first nine months of 2008.

This circumstance is germane to the current debate over whether inflation or deflation is in the offing. Many (but not all) who argue that deflation is the greater risk to the economy point to “slack in the economy” as being deflationary. Slack in the economy is another way to saying there less demand than supply. Is it really deflationary when prices that were part of an “asset bubble” are in the process of “correcting?” We would counter that this view assumes the pre-financial meltdown of 2008 was “normal;” yet it was generally known the conditions were unsustainable, with demand, and consequently prices, amplified by the use of debt. Those higher prices in turn induced investment in new capacity. As the de-leveraging process continues to unfold the U.S. economy will have to define a new normal. To us characterizing the transition from a debt-laden and asset bubble economy to one on a more sustainable path as “deflationary” isn’t accurate. A “correction”, perhaps, but not deflationary.

An example of the second situation involves the price of crude oil. As Figure 5 demonstrates, the value of the dollar and the price of crude oil are negatively correlated with each other. In other words, the

<sup>4</sup> <http://www.nytimes.com/2008/04/15/business/worldbusiness/15food.html>

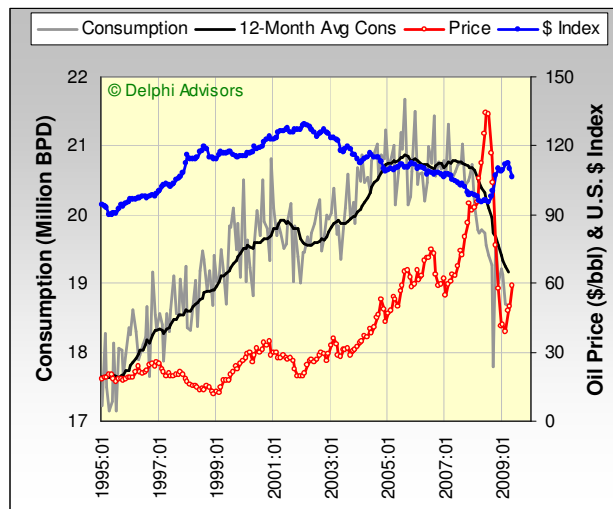
price of oil generally rises when the dollar depreciates against other currencies and falls when the dollar appreciates. This inverse relationship was particularly evident during 2007 and 2008, when oil rocketed from a monthly average of \$54.57 per barrel to \$133.93 before collapsing back to \$41 at the end of 2008. The mid-year 2008 price spike coincided with the dollar being the weakest it had been since 1996, whereas the subsequent oil price collapse coincided with the dollar strengthening abruptly against the basket of currencies as the second wave of the financial crisis crashed ashore. Now, granted, there were many more factors than just exchange rates contributing to oil's price behavior; nonetheless, the dollar's relative strength/weakness was part of the equation.

While the oil price run-up was billed as being inflationary in the popular press and official government reports (oil was "blamed" for a large percentage of the rise in the prices of goods and services during 2007 and 1H2008), in reality that was another case of mistaking the symptom, or at least one of the symptoms, for the cause. While it's true that:

- demand for crude oil in China and India expanded while OPEC supply fell,
- price expectations fed speculative pressure in crude oil futures markets, causing prices to temporarily rise, and
- geopolitical risks and associated perceptions of an elevated likelihood of supply disruptions applied upward price pressure,

we feel a generally under-recognized cause was the excessive money creation that occurred after 2005 and led to a decline in value of the U.S. dollar against other global currencies. Had the Fed's monetary policy continued to tighten after 2005 as it had been from 2001 through 2004, it's possible the oil price jump and rise in both consumer and producer price indices would not have occurred, or at least been more muted. The Dallas Federal Reserve Bank confirmed this contention in its analysis of the crude oil price run-up in May 2008, saying, "How much has the weakening dollar added to oil prices? If the U.S. currency had held its 2001 value against the euro, oil would have traded at about \$80 a barrel in early 2008, about \$21 below its actual price... Put another way, exchange rate movements accounted for roughly a third of the \$60 increase in oil prices from 2003 to 2007."<sup>5</sup>

Hopefully this explains why, when CPI increases, it doesn't necessarily mean inflation is increasing - or when CPI decreases, deflation is taking hold. Certainly one can argue pragmatically, "What do we care? - if prices increase, then it's inflationary, and if prices decrease, it's deflationary. It doesn't matter if it's supply/demand pressures, currency rate changes, or changes in the rate of the money supply. It's the



**Figure 5. U.S. consumption (monthly and 12-month moving average) of total crude oil and petroleum products, in million barrels per day (BPD), versus the spot price for West Texas Intermediate crude oil and the trade-weighted, U.S.-dollar exchange rate index. Sources: U.S. Energy Information Administration, Dow Jones & Co. and Federal Reserve Board**

<sup>5</sup> <http://www.dallasfed.org/research/ecllett/2008/el0805.html>

final result that affects our business.” While we empathize with that perspective, we believe the distinction is more than the simple semantics of naming what is inflation and what is not; without properly diagnosing the underlying cause, how can one hope to make intelligent business decisions to best cope with whatever economic future may be in store?

Some might argue “what’s in a name”? Why can’t inflation refer both to rising prices or inflation a devaluation of a currency due to the increase of the money supply? We would maintain that applying the name “inflation” to rising prices, a symptom of a devalued currency, can cloud the picture of what is actually occurring across an economy. Further, we think the lack of distinction is in part responsible for the confusion evident as scenarios described as “deflationary” and “inflationary” are bandied about in the financial press today. Just like Shakespeare’s plays were never only one act long, this subject can’t be covered in just one Perspective. In subsequent Perspectives, we intend to lay out the evidence for both inflationary and deflationary futures before drawing a conclusion about what we think is in store for the economies of the United States and the world.