INTELLECTUAL AMMUNITION

2010's Great Debate: Inflation or Deflation?

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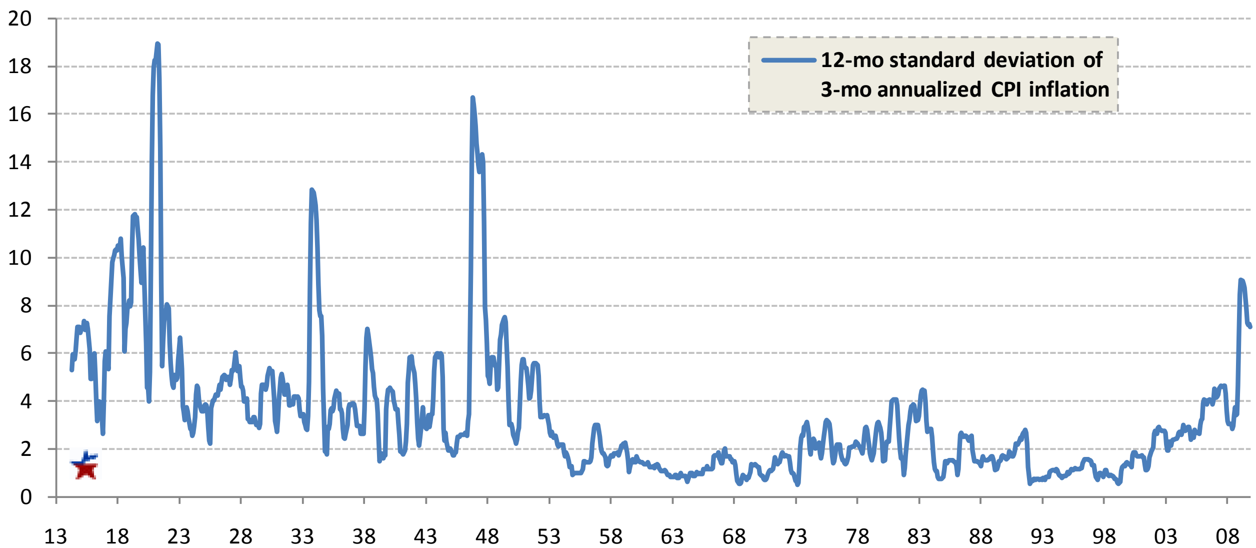
Both! Deflationary forces continue to bear down, so the Fed will inflate all the more.

Update to strategic view
US MACRO: Inflation will be the most important single factor for investors to get right in 2010, as it will determine the levels of interest rates, debt defaults and risk aversion. The consensus is divided between strong expectations of inflation *and* deflation. Arguing from first principles, and based on our knowledge of the policy players involved, we take the side of inflation.
[see Investment Strategy Dashboard]

If we could only know one thing about the economy, we'd want to know about price stability -- that is, inflation and deflation. That's because it's the one macro factor that affects all the others. It strongly and directly influences growth, discount rates, interest rates, risk aversion, debt defaults, credit availability, and effective tax rates. On this matter we agree with Fed chair Ben Bernanke, who has pointed out that dependably stable prices in the 1980s and the 1990s were a prime cause of those decades' "great moderation" in business cycle volatility. He has also argued that the extreme instability of prices was a prime cause of the Great Depression. Bernanke has yet to concede that it was the price instability unleashed by the Fed's "considerable period" of low rates in 2003 to 2005 ended the "great moderation," and ushered in the "great recession."

Prices only *seem* stable now -- with Consumer Price Index inflation running at 1.9% year-over-year, and at 3.4% on a three-month annualized basis. Though those levels are not alarming on



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the face of it, we are in fact in a period of great instability. As recently as July 2008 three-month annual CPI inflation (seasonally adjusted) was +10.4%; just five months later, in December 2008, it had turned to severe deflation at -12.4%; after less than a year, as of the latest data for November 2009, it is back to inflation of +3.4%. This whipsaw makes the fourth-worst bout of price instability -- that is, the *volatility* of inflation -- in the statistical history (not seasonally adjusted), and a close second to the instability that occurred at the worst of the Great Depression (see the chart on the previous page).

As the global economy settles down in the aftermath of the "great recession," the volatility of inflation will settle down, too. But it may take some considerable time to happen, as it will require the reduction of large and powerful competing inflationary and deflationary forces, now balanced precariously against each other like tectonic plates. As their relative weights shift, there will inevitably be earthquakes. Thus we find a very polarized diversity of opinion among our clients as to whether the endgame will be inflation or deflation. Many cite a panoply of very *deflationary* factors such as deleveraging and high unemployment, while others cite very *inflationary* factors such as the "extended period" of extremely low interest rates and the Fed's large balance sheet. If that "barbell" represents the consensus -- albeit a divided consensus -- then the contrarian view is a "Goldilocks" scenario in which there will be neither inflation nor deflation. We don't think we're going to get that lucky. We expect earthquakes -- and inflation. This report explains why, by going all the way back to basics.

WHAT IS INFLATION? The typical dictionary definition of *inflation* is a rise in the overall price level (and *deflation*, a decline). But like the shadows on the walls of Plato's cave, the price level is only *a way of indirectly observing* inflation -- it is not the thing itself. Inflation itself, as Milton Friedman said, is "always and everywhere a monetary phenomenon." In other words, in an inflation it isn't that prices rise, it's that the value of the money in which those prices are denominated falls. To see why this must be so, consider that there could not possibly be inflation in a barter economy. Under barter, while various pair-wise exchange rates between goods could fluctuate, the value of all goods overall could not change -- because, *in toto*, the aggregate value of all goods in barter terms can only equal itself. It is only when money is introduced that the overall price level can change -- because only then is there something extrinsic to the universe of goods (money) for which any or all goods, separately or *in toto*, can be exchanged.

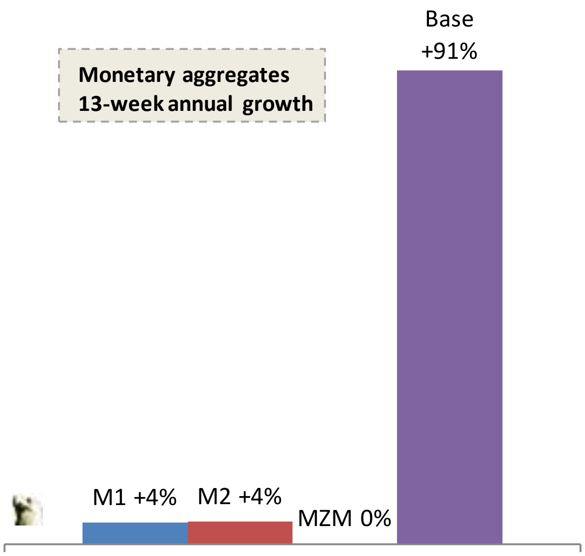
WHAT CAUSES INFLATION? If we are agreed that *inflation* is a *decline* in the value of money resulting in an *apparent increase* in overall prices (and *deflation*, a *rise* in the value of money, resulting in an *apparent decrease* in prices), then it is straightforward to get at the cause. By construction, the value of money *falls* (inflation) when, at the margin, preferences shift such that people value money *less* than goods; it *rises* (deflation) when people value money *more* than goods. To put it another way, like anything else, the value of money rises and falls in correspondence to rises and falls for the *demand* for it. There are an infinite number of factors that could determine the demand for money. But there is only one factor that can determine the *supply* of money -- the central bank. So we have now a *causal* rather a merely *descriptive* meaning for Friedman's dictum that inflation is "always and everywhere a monetary phenomenon." A central bank can always arbitrarily determine the supply of money in the face of any given level of demand, and no matter for what reason that demand arises -- so in the end, the central bank determines the inflation level.

- In brief, what causes *inflation* is a central bank supplying *more* money than is demanded, causing people at the margin to value goods *more* highly than the *surplus* money. What causes *deflation* is a central bank supplying *less* money than is demanded, causing people at the margin to value goods *less* highly than the *scarce* money.

WHAT DETERMINES MONEY DEMAND? Again, there are an infinite number of factors that could determine the demand for money. Some arise from positive economic developments and others from negative ones. A major factor behind money demand is economic growth -- because a large economy needs more money in circulation than a small economy. Another factor is risk aversion -- as people become more risk averse, they prefer riskless money balances to risky positions in assets or goods. In the "great recession" we saw this in the wholesale dumping of credit assets, and now in the aftermath we continue to see it in the ongoing quest for financial deleveraging. At the worst of the credit crisis we also saw a special variant of this, applying uniquely to the demand for dollars, the world's reserve currency -- the urgent need for scarce clearing balances in settlement of global trade and derivatives transactions.

Also, in times of high unemployment and low consumer demand, producers are willing to sell goods for lower prices. The expectation that prices will continue to fall gives rise to the preference among consumers to hold money, rather than hold goods that they expect to depreciate in money terms.

WHAT DETERMINES MONEY SUPPLY? One thing and one thing only -- the central bank, in our case the Fed. It has two major means for determining the supply of money. First, the Fed can engage in open market operations. That is, it can exchange bonds (interest-bearing debt) for money (non-interest-bearing debt), or *vice versa*, until the demand for money is satisfied. Second, it can influence expectations. If it can convince people that it intends to expand (or contract) the money supply in the future, they will lower (or increase) their demand for money in anticipation. Neither of these two means fundamentally involves setting interest rates. That is only an incidental sub-process in the service of these means, even though it has evolved into a powerful social construction enshrined in both public consciousness and the Fed's self-image.



Both these means are highly imprecise and problematic. Today the Fed is finding it difficult to increase the measurable money supply despite massive open market operations that exchange money for bonds. The Fed's aggressive acquisition of mortgage-backed securities is increasing "base money" -- that is, bank reserves plus currency in circulation -- at an extremely rapid 91% 13-week annual rate. Yet the aggregates that measure money balances held by individuals and firms in bank accounts and money-market funds are hardly growing at all (see the chart at left). Expectations are also difficult to influence. Even among elite market participants such as our clients, there is no clear or consistent set of expectations that have been established by the Fed. Other than that it will do "whatever it takes" to keep the banking system afloat, it's all informed guess-work (this report is ours).

HOW DO WE MEASURE THE BALANCE OF MONEY SUPPLY AND MONEY DEMAND? There are many ways, all horribly imperfect. Our least bad favorite is to observe the price of gold and other monetary commodities. These can be thought of as close substitutes for money, but with relatively inelastic supplies. So when their prices measured in money *rise*, we can pretty sure that the supply of money has shifted to *surplus* (that is, *inflation*) -- and when they *fall*, we can be pretty sure that the supply of money has shifted to *scarcity* (that is, *deflation*). For example, when money demand was at its peak in the intense risk aversion of October and November 2008, in the immediate wake of numerous financial firm failures, the gold price fell as low as $681, from its prior high in March 2008 at $1032. As the Fed strongly increased the money supply through aggressive open market operations that expanded its balance sheet by almost $2 trillion, the money supply was brought into better balance with money demand, and the gold price recovered to its previous peak -- and beyond.

For those who, like the Fed, do not prefer to follow commodity prices, there are other indicia of the balance of money supply and money demand that can be observed. If one is willing to accept low-frequency telemetry, one could simply observe changes in CPI inflation. For higher frequency, one could watch credit spreads. When money demand is *greater* than money supply, credit spreads *widen* because the *scarcity* of money implies an *increase* in defaults. When money demand is *less* than money supply, credit spreads *narrow* because the *surplus* of money implies a *decrease* in defaults. Like gold and commodities, these indicators both signaled a year ago an extreme imbalance of money demand over money supply, and are now signaling that supply and demand are coming back into better balance.

A year ago our confidence that gold and commodity prices would recover, and that credit spreads would normalize from their extremes, was grounded in our certainty that the Fed would succeed in curbing the extremes of monetary deflation then being seen.

ARE MONEY SUPPLY AND MONEY DEMAND IN BALANCE NOW? Yes -- but only in the sense that the tectonic plates are in balance at the San Andreas fault. The balance is only meta-stable, representing a temporary and dangerous interface of high-energy extremes that will be very difficult to transition to true stability.

Consider a few of the factors driving unusually high money *demand*:

- The unemployment rate is 10%. The probability of an unemployed worker finding a new job is virtually at all-time lows. The portion of the employed workforce working part-time involuntarily is virtually at all-time highs.
- Household wealth is off $12.6 trillion from its peak two years ago.
- Banks are deleveraging, and will be forced to continue to do so by emerging regulation. Loans and leases have declined non-stop for the last year, and are still falling at a 5.7% 13-week annual rate.

Now consider a few of the factors driving unusually high money *supply*:

- The fed funds rate is at zero, and the Fed has promised to keep it extremely low for an "extended period."
- The fed has grown its balance sheet from about $800 billion in the summer of 2008 to about $2.4 trillion today, by acquiring enormous securities positions funded by the creation of excess bank reserves.

One way of visualizing how powerful these forces are, and how amazing it is that they are perfectly balanced against each other at the moment, is to go back to the chart on the previous page, comparing growth of base money to growth in the monetary aggregates. What is remarkable about it is how *unremarkable* the monetary aggregate growth is -- considering how remarkable the base money growth is. In other words, a gigantic input of base money is required to get even modest growth in the aggregates. Without such aggressive base money growth, surely the aggregates would be contracting -- which would be indicative of downright deflation.

WHAT CAN WE EXPECT IN 2010? Let's review the two key points we've learned so far:

- Price stability is the product of the balance of the supply and the demand for money. Inflation and deflation are the product of an imbalance.
- As real-world factors constantly change the demand for money, ultimately the central bank controls the balance of supply and demand through its arbitrary control of the supply of money.

In other words, whatever happens in 2010 will be the product of the Fed's policies. That's a good thing, because it means that smart and well-intentioned people will be doing their best -- we won't just be at the random mercy of random real-world factors. But it will be especially difficult for the Fed to design and carry out effective policies, for several reasons:

- The real-world situation determining money demand is unprecedented. No one knows how demand will evolve in a post-crisis world of deleveraging from historic levels of debt, with historic levels of global interconnectedness, and in the presence of new financial technologies.
- The policy situation determining money supply is also unprecedented. No one has any experience of how to recoup from the zero-bound on policy interest rates, how to manage interest-bearing excess reserves, or how to deal with a balance sheet laden with long-term assets funded with short-term liabilities that is so large it represents a record 22% of the balance sheet of the whole US commercial banking system.

If we know that the outcome will be determined by the Fed in the context of all these risks, and if we know that Ben Bernanke will be the prime decision maker and risk manager, then the question focuses down to an assessment of how that one man will behave under uncertainty. What do we know about this?

- We know that Bernanke believes in targeting an inflation rate, and that his ideal state of the world is one with a positive inflation rate of about 2%.
- We know that Bernanke believes that deflation is asymmetrically pernicious compared to inflation, and that the Great Depression was caused, in large part, by deflation.
- We know that in the presence of uncertainty, Bernanke believes that central bank policy should evolve gradually.

For us, it is a fairly straightforward conclusion from all this that, when and if real-world factors driving high levels of money demand are reduced, Bernanke is highly likely to *more slowly reduce the offsetting factors of money supply*. He will do this in order to *both* intentionally maintain a positive level of inflation, *and* to rule out the risk of accidentally triggering deflation. The cost of proceeding in this deflation-averse way will be to risk, indeed *to deliberately seek*, a higher level of inflation than he would normally tolerate. We are highly certain that this will be Bernanke's approach, and that if successful, it will lead to higher inflation. We cannot be so certain that it will be successful -- but arguing in favor of success, remember that there is no limit to the extent that a sufficiently determined central bank can supply money. So even if there are some big deflationary bumps along the way, an inflationary conclusion is highly likely.

As it plays out, be sure to remember these key takeaways:

- If the real-world factors exacerbating money demand accelerate -- for example, if there is a recurrence of intense risk aversion due to some alarming credit event somewhere in the world -- then the Fed will correspondingly accelerate its effort to supply money. Our mantra: *the more the deflation, then the worse the inflation.*
- If warning signs of higher than normal inflation emerge -- for example, if the dollar declines or TIPS spreads widen -- then the Fed will not react as quickly or aggressively as it otherwise might. Our mantra: *a lot of inflation is better than a little deflation*.

WHY IT MATTERS To go back to the beginning, whether or not Bernanke successfully engineers a path away from deflation toward inflation matters tremendously to the economy and the markets.

- If Bernanke fails, and we lapse back into deflation, then credit spreads will widen again, default rates will rise, and as a result bank balance sheets will deteriorate, and we will quickly find ourselves back in a world of widespread insolvency.
- Other asset prices will deteriorate, including stocks, real estate and commodities, destroying household wealth, reducing credit demand, and feeding back into bank insolvency.
- If Bernanke succeeds, and we experience higher inflation, then credit spreads will continue to narrow and bank balance sheets will improve.
- Asset prices will rise, supporting household wealth. Banks can begin lending again, and households and firms will want to borrow again.
- That said, inflation -- especially higher than average rates of inflation, and even more so when those rates are unexpected -- is itself costly. It erodes the real value of savings, and raises real tax rates on capital gains, both of which discourage capital formation.

BOTTOM LINE: Inflation will be the most important single factor for investors to get right in 2010, as it will determine the levels of interest rates, debt defaults and risk aversion. The consensus is divided between strong expectations of inflation and deflation. Arguing from first principles, and based on our knowledge of the policy players involved, we take the side of inflation.