

## Japanese Inflation And The Yen

Inflation is a scourge, which makes you sit up and take notice whenever someone tells you they would like to see a little more of it. The Bank of Japan, which has been seeking every reason imaginable to end its policy of near-zero interest rates, produced a study in May 2007 entitled "[The Costs And Benefits of Inflation: Evaluation For Japan's Economy.](#)" The study is 63 pages long, filled with quantitative macroeconomics and attempts to find the optimal inflation rate for Japan. We will spare you the bother: They conclude annual consumer price increases between 0.5 and 1.0% are optimal.

Why might the BOJ consider some inflation to be better than no inflation or the deflation Japan has experienced over much of the past decade? Briefly, as we have discovered in several venues since July 2007, modern economies depend on credit. Any such economy has a preponderance of debtors over creditors, and inflation allows these debtors to repay their loans in a depreciated currency. The logical rejoinder is why creditors would not demand full and complete protection from inflation in the rates they charge, and the short answer is twofold. First, expected inflation often is lower than future realized inflation, especially on an after-tax basis; this has been the experience to-date with the U.S. Treasury Inflation Protected Securities, or TIPS, market. Second, in a world with a small number of extremely liquid creditors – Chinese exporters, OPEC states in current account surplus, etc. – and with aging populations in key countries, the marginal lender often is willing to accept a lower rate in exchange for the safety of government bonds.

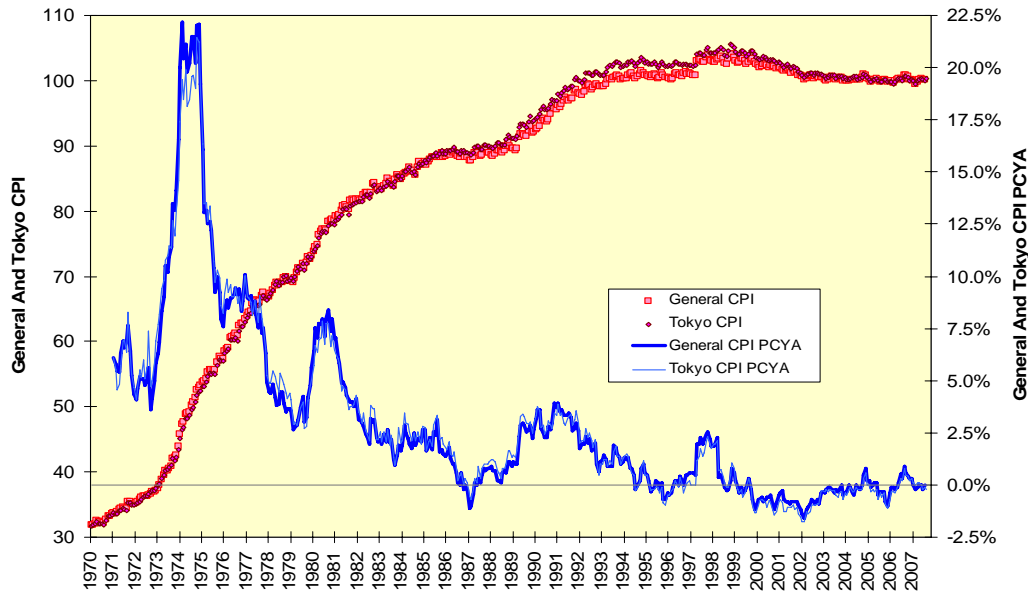
A second reason why the BOJ regards non-zero inflation as optimal is a concept most of us forget about after Economics 101, and that is the demand for cash balances. If inflation induces preemptive buying, or the conversion of cash into assets before the cash depreciates further, deflation does the opposite. Savers are rewarded both for holding on to cash and with cheaper prices tomorrow. Think of your own experiences in consumer electronics: You know whatever you buy today you would have been able to buy for less tomorrow. That incentive, spread across an entire economy, encourages savings over consumption and makes low nominal interest rates completely ineffective as a tool of economic stimulus.

### **Inflation In Japan**

As currency trading is nothing but an assessment of relative rates of inflation and the supply-demand balance for a given currency, any signal by a central bank it is trying to create more inflation is of utmost importance. We should presume, all else held equal, expected inflation can be increased in Japan only through excess creation of yen. As "excess" is a relative and not an absolute term, how do we know excess yen have been created? The answer, quite simply, is either when short-term interest rates fall, the yield curve steepens, the currency falls or some combination thereof. In the case of the yen, this has been happening for years and has created a global liquidity engine called the yen carry trade (see "Looking At The Yen Carry Trade," June 2007).

Let's step back and take a long-term look at inflation in Japan. Given the outsized role of the Tokyo region in the nation's economy, we should compare both the general CPI and that of the Tokyo region. And is often experience with differing inflation measures, we can easily lose the forest for the trees. Over time, the general and Tokyo region measures are very similar. The year-over-year changes for the general CPI first turned negative in October 1986; Tokyo regional CPI first went negative on a year-over-year basis in January 1987. If consumer inflation had been a real problem in Japan in the mid-1970s, the BOJ broke it successfully and to the extent that stable, near-zero or negative inflation in Japanese consumer prices has been a fact of life in Japan since the second Reagan administration.

## Near-Zero Consumer Inflation In Japan Not New



### Money Supply And Monetary Base

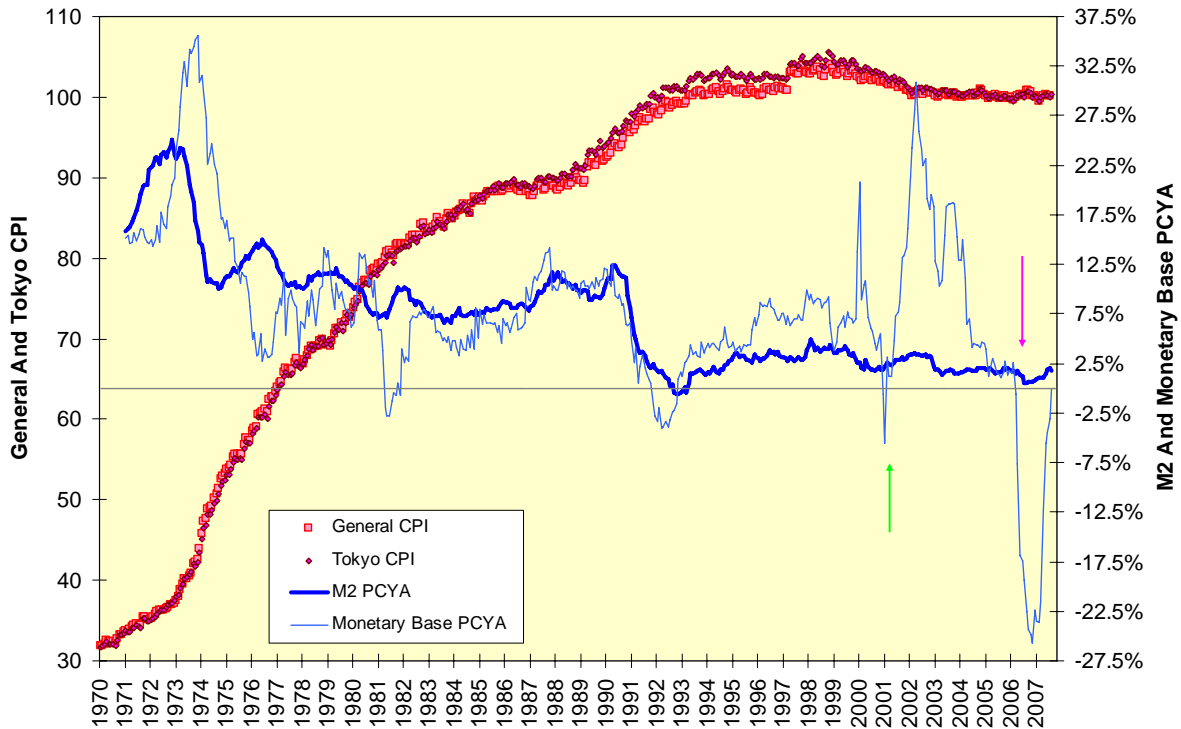
If inflation is a monetary phenomenon, and it most certainly is, we probably should see what is going on with the money supply in Japan. We can look at two measures of money, monetary base and M2. Monetary base consists of cash in circulation plus current account balances (excess reserves available to lend) on the books of the BOJ. M2 is cash, demand deposits and certificates of deposit.

In another throwback to Economics 101, monetary base is the fuel with which the banking system can create new money and credit via fractional reserve lending. Central banks rely on this mechanism to induce large changes in the money supply via their relatively small transactions in the purchase and sale of securities. However, what happens in an economy such as Japan's, which endured simultaneous bursting of its twin stock and real estate bubbles in 1990? If commercial banks find themselves awash in non-performing loans, they are unable to extend new credit, and if borrowers are faced with slack demand for their products and services, they are not borrowing. In short, the entire credit expansion mechanism freezes up and no amount of addition to the monetary base can lead to an expansion of the money supply. Low interest rates and excess money both are ineffective at stimulating new borrowing in this situation, and deflation results.

As an aside, this mechanism, also called a "liquidity trap," was described by John Hicks during the Great Depression, the study of which was Benjamin Bernanke's academic specialty. He feared this while a member of the FOMC in 2002-2003, and it was his advocacy of extraordinary measures to preserve the flow of credit that led the Federal Reserve to maintain a 1.00% federal funds rate into 2004. The Federal Reserve studied the Japanese experience as well. The only criticism offered here is the American stock and real estate cycles are out of phase; stocks fell in 2001-2002, and real estate began its downturn in 2006. Thus the U.S. never was in danger of a Japanese-style deflationary epoch.

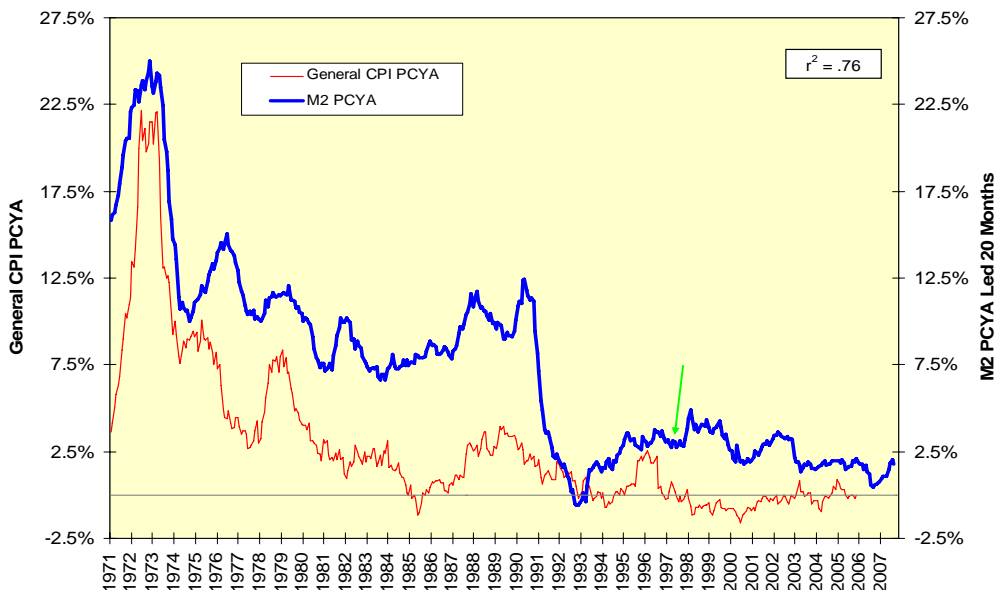
We can see the ineffectiveness of the BOJ's policies by mapping both the year-over-year changes in the monetary base and M2 against the two CPI measures described above. M2 growth fell in the early 1990s after the bubbles burst and has yet to recover. The changes in the monetary base have been violent, both higher and lower. The BOJ concluded in 2001 that near-zero interest rates were insufficient to stimulate credit demand, so they embarked on a policy of quantitative easing, or the shoving of funds into their current account (green arrow). This had no impact on M2 or on the price indices. When they decided to end this policy in 2006 (magenta arrow), M2 growth declined slightly, but once again the impact on inflation was nil. We can conclude the funds injected by the BOJ were borrowed elsewhere. Restated, the BOJ aimed at Japanese consumer prices and hit global asset prices instead.

### Monetary Base Volatility Did Not Affect CPI



Would it have been any different had the BOJ been able to stimulate M2 growth? Quite possibly yes. If we map the year-over-year changes in M2 against those for the general CPI, we find M2 leads the CPI by 20 months on average. The  $r^2$ , or percentage of variance explained, is .76. A second factor in the Japanese experience has to be accounted for as well. The single-party domination of the Liberal Democratic Party has led to public works expenditures run amok; with the result that Japan's national debt now stands in excess of 150% of GDP. The LDP chose to pay for their actions by raising the consumption tax in April 1997 (green arrow in the chart below). This tax negated any incentive for the Japanese consumer to increase spending. The wholly predictable result was an immediate and pronounced downturn in the CPI.

### M2 Leads CPI



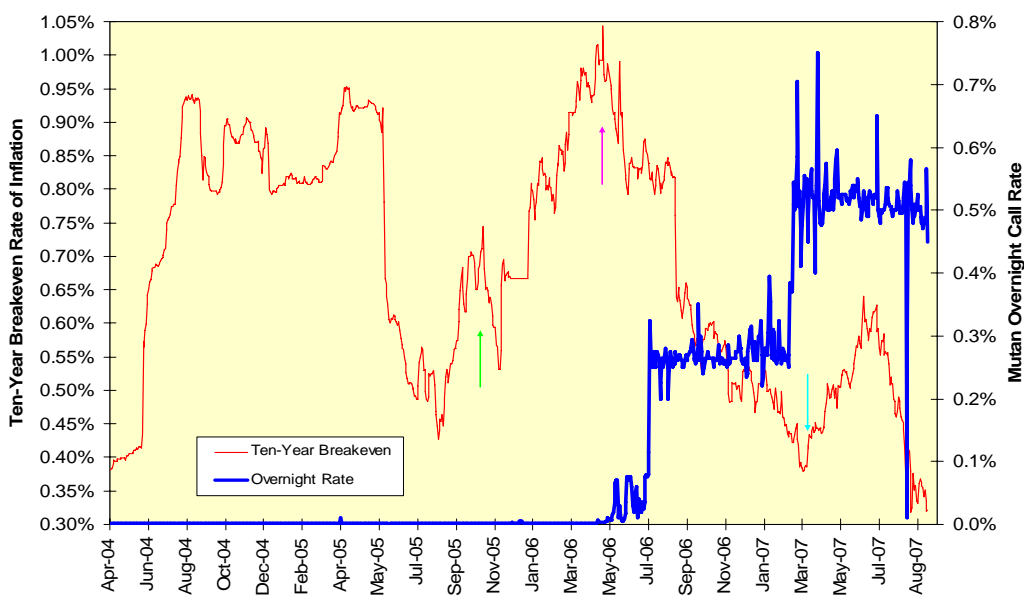
## Interest Rate Impact

What will the impact on expected inflation be from higher short-term interest rates in Japan? Japan has had an inflation-linked bond market since April 2004. While this history is nowhere near as long as we would like it to be, we can make three intriguing observations by mapping ten-year expected inflation against overnight call money.

First, while the expected inflation rate more than doubled between August 2005 and May 2006, it fell sharply in November 2005 (green arrow) when BOJ Governor Fukui warned of an impending tightening of credit. Second, expected inflation peaked in May 2006 (magenta arrow) just before the BOJ raised rates. Third, inflation expectations hit a local bottom in early March 2007 (turquoise arrow) and then rebounded sharply as the BOJ injected liquidity into the banking system. The BOJ's current account balance jumped from ¥5.88 trillion on March 7, 2007 to ¥12.51 on April 3, 2007. Those inflation expectations then fell sharply as the global credit crunch developed in July 2007.

It would appear from this limited history that higher short-term interest rates lower inflation expectations unless offset by an increase in the monetary base. This provides the BOJ with a tool for ending its years of low interest rates and quantitative easing. If Japan was an economic island like it is a geographic archipelago, they could maintain higher levels of expected inflation by keeping excess money in their account while raising nominal interest rates to levels that will maintain the global yen carry trade without repeating the disruptions of May 2006 and February 2007. However, Japan's large external sector and its exposure to those who have borrowed massive quantities of yen over the years subjects its domestic inflation policies to global cross-currents.

**Short-Term Interest Rates And Long-Term Inflation Expectations**

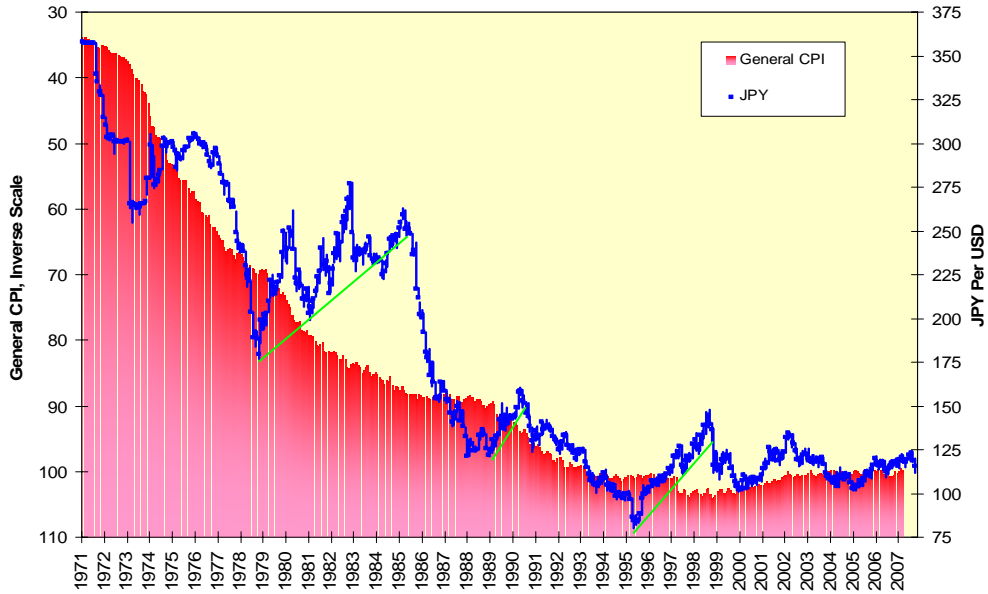


## Inflation And The Yen

Now let's conclude by taking a long-term look at the yen in relation to Japanese inflation. The declining rate of inflation in Japan led to a continuing firming of the yen except during those periods when the U.S. consciously pursued a strong dollar. These retracements are noted with green trendlines. The last two periods so marked, the late 1980s and mid-1990s, saw both an upturn in Japanese inflation and a weakening of the yen. We would have to conclude future yen weakness will emerge if the BOJ is successful in increasing inflation, unless inflation and interest rates rise faster outside of Japan.

The opposite effect, a weaker yen leading to an upturn in the rate of inflation, does not appear in the data at all. The 2006-2007, called a period of yen weakness by some, is not a period of yen weakness by historic standards. Moreover, the unwind of various yen carry trades and widespread expectations of laxer monetary policies in the U.S. and Europe during the July-August credit crunch actually strengthened the yen.

**Yen Strength Follows Declining Consumer Inflation...  
And Yen Weakness Does Not Lead Consumer Inflation**



Eventually the credit crunch will end and the world's central banks will return to their mission of the first half of 2007, fighting inflation via higher short-term interest rates. The lesson for currency traders is clear. Whenever a central bank declares war on its own currency and wins, go with the flow and sell that currency. What has made the last decade tough for yen traders is deflation in Japan. If this ends, and the BOJ had been appears ready and able to end it prior to July 2007, the trade of selling the yen could be a profitable one for a long time to come.