WHITHER *INFLATION*?

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2009: Phil the Groundhog Picked the Market Bottom…

…But Nobody Asked Him About Inflation in 2012

THE WALL STREET JOURNAL.
WSJ.com

FEBRUARY 2, 2010, 9:24 AM ET

Groundhog Day 2010: Is the Economy Coming Out of Its Hole

For the third year in a row groundhog **Punxsutawney Phil** saw his shadow and headed back to his hole for six more weeks of winter. Does the famous rodent meteorologist tell us anything about the economy?

According to CNN, Phil doesn't have the best record as a weatherman (he's correct just 39% of the time). During the last two years, he's had more success as an economic forecaster predicting turning points.

His record as an economic forecaster isn't much worse than some pros. (Associated Press)

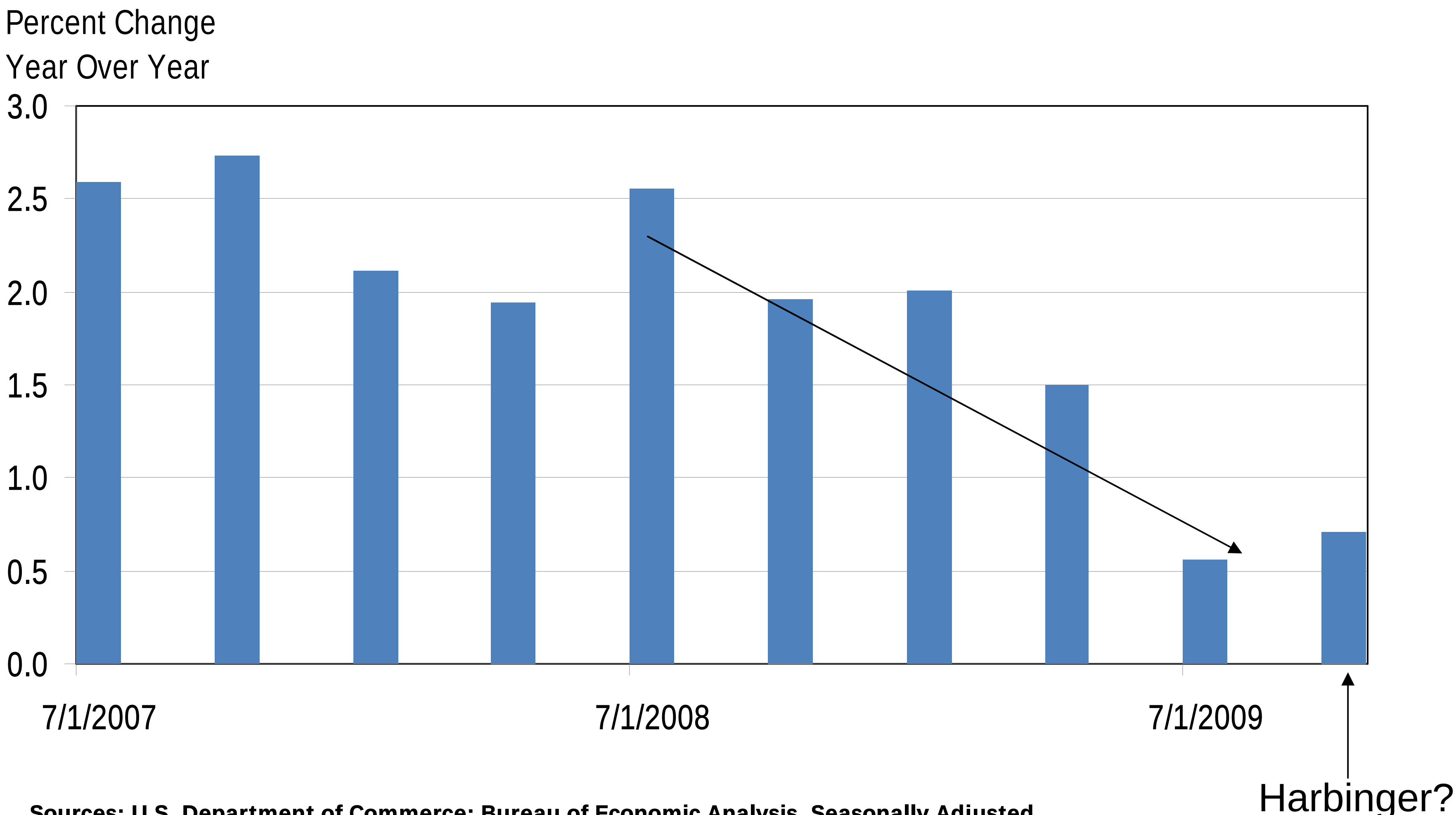
In 2008, six weeks to the day after the groundhog saw his shadow, **Bear Stearns** collapsed, signaling a new phase to the credit crisis and the first signs of the Great Panic that sent the economy into a tailspin late that year. In 2009, Phil saw his shadow again, and who could blame him for heading back into his hole? The stock market was still falling, gross domestic product was tumbling and politicians were debating stimulus plans and bank rescues.

But six weeks later, the thaw had started. The stock market hit its low and that week began a major rally that pushed shares up nearly 19% for the year. Soon, everyone was seeing the green shoots of spring.

So does Phil seeing his shadow mean we'll have another turning point for the economy six weeks from now? Probably not. As we said last year, this is all just coincidence.

But the lesson remains the same. It's important to remember that a lot can change in the economy in six weeks.

GDP Implicit Price Deflator: Trend is Downward...Or Is It?



Sources: U.S. Department of Commerce: Bureau of Economic Analysis, Seasonally Adjusted.

Prof. Milton Friedman, In WSJ,1989: Didn't Like to Extrapolate Inflation Trend

NAL WEDNESDAY, JULY 5, 1989

7/5/89

Whither Inflation?

By Milton Friedman

An increasing number of business forecasters have concluded that inflation has crested, while others continue to believe that the recent inflationary surge is likely to continue—and perhaps accelerate. Monetary data have for some time strongly supported the first view: that inflation is likely to decline sharply over the next several years.

It is a truism, expressed in what is called the quantity equation of money, that the quantity of money (M) times the velocity of circulation of money (V) equals the price level (P) times output (y) or

$$MV = Py.$$

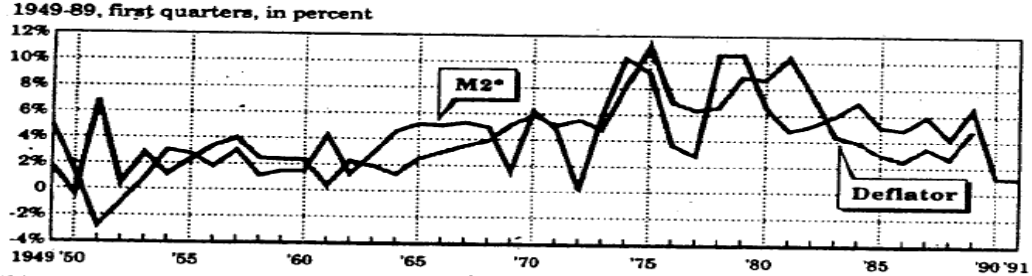
It is an empirical generalization expressed in the quantity theory of money that over any appreciable period, independent changes in V play a minor role, compared with the changes in the other variables. As a result, changes in prices (inflation or deflation) are dominated by changes in the quantity of money per unit of output. It is also an empirical generalization for the U.S. and similar countries that it takes something like two years for a change in the rate of monetary growth to affect significantly the behavior of prices.

and continued to use in our 1982 "Monetary Trends."

The relation between money and inflation is much looser over short periods, yet remains highly significant, as documented by the accompanying chart, which is for the longest post-World War II period for which I have relevant quarterly data. The rates of change (year-over-year) plotted are for only the first quarter of each year to ensure that the observations are independent of one another. Three similar charts could be drawn for the second, third and fourth quarters. A flat three percentage points is subtracted from monetary growth to allow for output growth. That is roughly the average rate for both the past century and the past quarter-century. The money rate of growth is for two years earlier than the rate of inflation

ANNUAL RATE OF CHANGE IN M2 AND TWO YEARS LATER, DEFLATOR

1949-89, first quarters, in percent



*M2 percentage change is reduced by 3 percentage points to allow for average growth in output

excess of inflation over the plotted monetary figure is 5.6 percentage points for the first quarter of 1981; the largest shortfall is four percentage points for the first quarter of 1978. (These also happen to be the largest discrepancies for any of the 153 possible overlapping four-quarter periods since the Korean inflation.) Currently, the inflation rate is lower than that implied by monetary growth and has been since the fourth quarter of 1982.

For the past two years, the rates of monetary growth have been 4.2% and 4.1%. If we subtract three percentage points for real growth, the implied inflation rates are 1.2% and 1.1% for the years ending in the first quarters of 1990 and 1991. Adding and subtracting the largest prior excess and shortfall since the Korean inflation gives an outside range of 6.8% to -2.8% for 1990, compared with an estimated rate of 4.9% for the year ending in the first quarter of 1989. Unless, as Henry Ford is reported to have said, "History is bunk," there is little chance that inflation will surge. It is far more likely to decline, possibly rather sharply.

I hasten to add that this judgment is only for the next two

The Monetarist Perspective

- When money growth exceeds real GDP growth—what Prof. Milton Friedman and others have commonly denoted as too much money chasing too few goods—the inflation rate will increase.

- Friedman thought there was around a 2 year lag between money growth and future inflation.

- He stuck his neck out by making predictions, e.g. in the WSJ 1989, he was correct.

Was/Is Fed Policy Too Easy? : Friedman's "Rule"

- Friedman's Proposal:

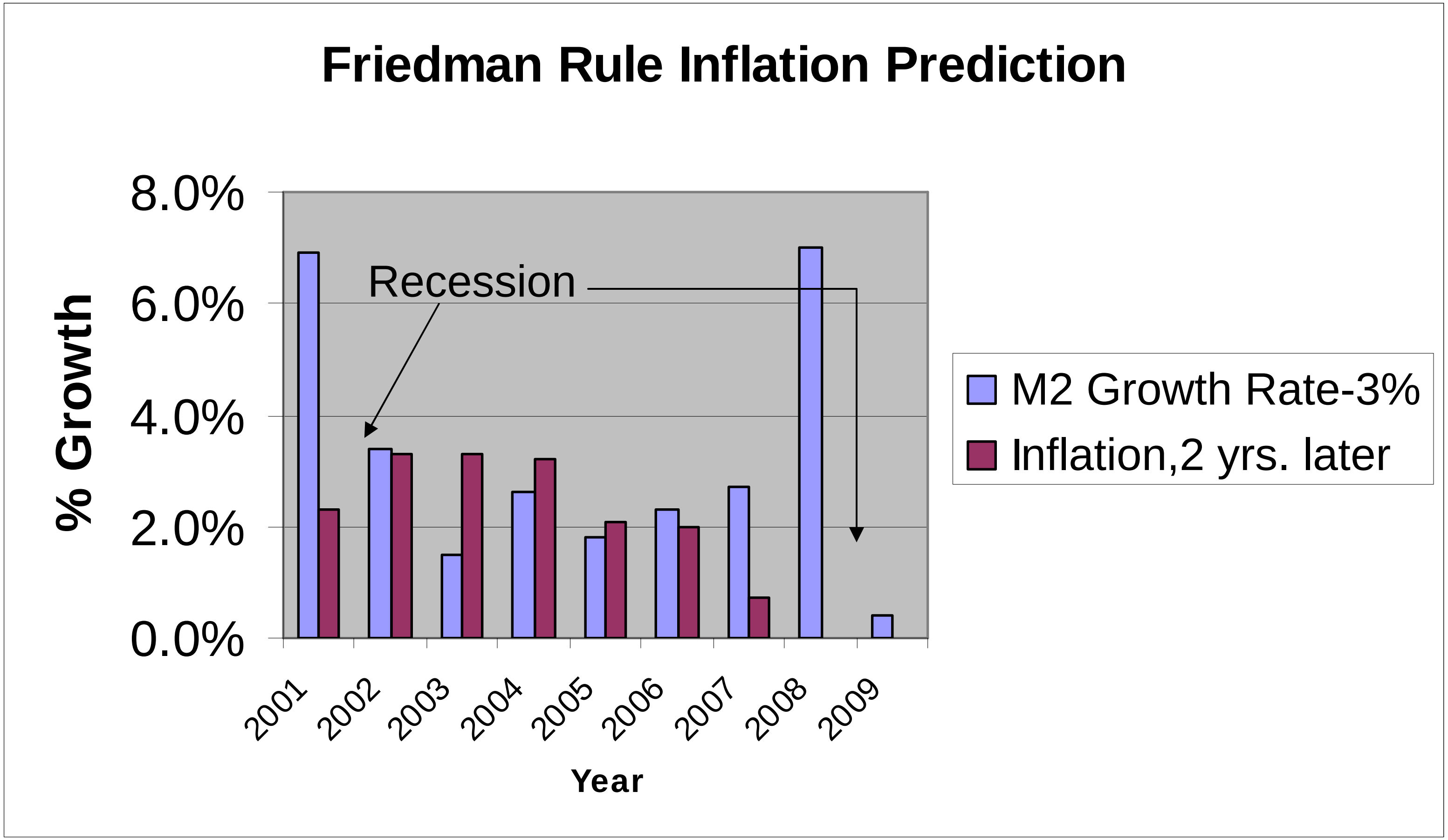
M2 Growth Rate = Inflation Rate Target + 3 %

- Higher growth rates justified to avert a depression

- How has this worked recently?

Friedman Rule vs. Actual Fed Policy:

The Fed Was NOT Too Easy Between 2002 - 2007



THE WALL STREET JOURNAL. WSJ.com :Recent Pissing On Bernanke

JANUARY 14, 2010

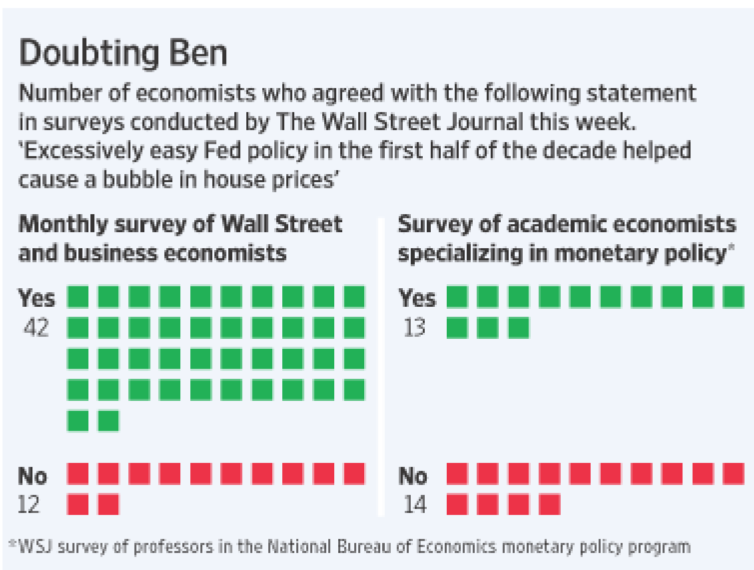
Bernanke Challenged on Rates' Role in Bust

THE WALL STREET JOURNAL.
WSJ.com

CAPITAL | JANUARY 14, 2010

Bernanke's Puzzling Bubble Logic

By DAVID WESSEL



VAS IST DAS??

Was the Fed Too Easy? Some Say Yes, Over 2002-2005

THE WALL STREET JOURNAL.
WSJ.com

OPINION | JANUARY 10, 2010, 7:08 P.M. ET

The Fed and the Crisis: A Reply to Ben Bernanke

In his recent speech, the Fed chairman denied that too-low interest rates were responsible. Does this mean we're headed for a new boom-bust cycle?

By JOHN B. TAYLOR

Federal Reserve Board Chairman Ben Bernanke spent most of his speech to the American Economic Association on Jan. 3 responding to the critique that easy monetary policy during 2002-2005 contributed to the housing boom, to excessive risk taking, and thereby to the financial crisis.

Many have expressed the view that monetary policy was too easy during this period. They include editorial writers in this newspaper, former Fed policy makers such as Timothy Geithner (now the secretary of the Treasury), and academics such as business-cycle analyst Robert J. Gordon of Northwestern. But Mr. Bernanke focused most of his time on my research, especially on a well-known policy benchmark commonly known as the Taylor rule.

The “New Keynesian” Perspective

According to an August 2009 survey, nearly two-thirds of professional forecasters surveyed by the Federal Reserve Bank of Philadelphia use some variant of the Phillips Curve to forecast inflation. The Phillips Curve is now often known as the New Keynesian model. In this view, today's inflation rate depends on (i) the inflation rate expected over some horizon and (ii) the amount of slack in the economy. The amount of slack is also often measured as the difference between actual real GDP and an estimate of potential real GDP; this is termed the output gap. This view also seems to hold sway among several members of the Federal Open Market Committee. (source: FRB)

Was/Is Fed Policy Too Easy? : Taylor's "Rule"

- Prof. John Taylor Proposed the Fed Funds Rate Guideline:

Fed Funds Rate = Average Inflation Rate over the past year + 2 %

+

Monetarist Part → **.5 * (Average Inflation Rate as above - 2%)**

-

Keynesian Part → **.5 * (Potential GDP - Real GDP)/Potential GDP**

"Output Gap"

This appears to characterize the good (i.e. the earlier) Greenspan Era

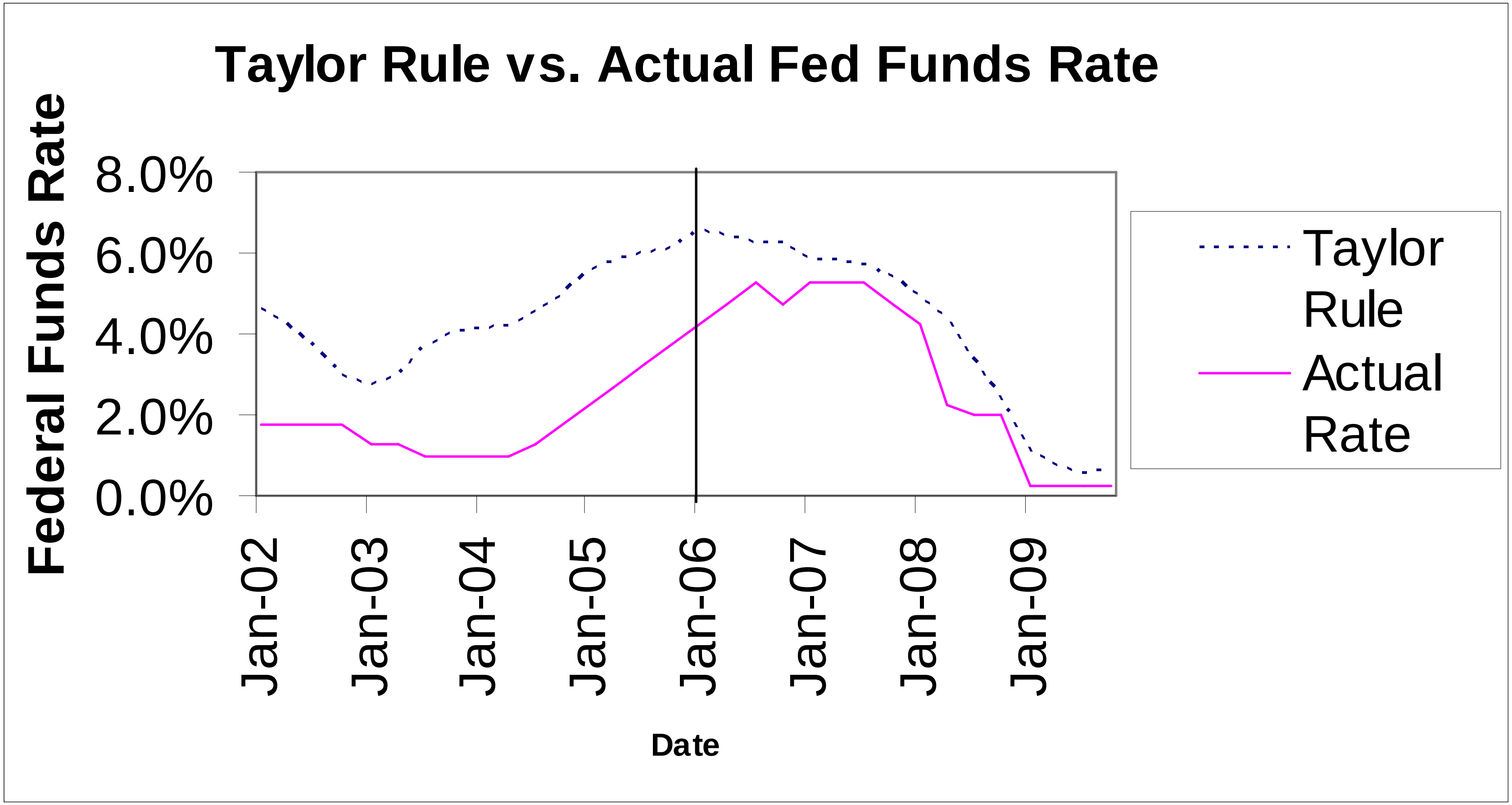
– However, there is nothing sacred about his choice of constants!

- How does it compare to Fed rate decisions over the Boom/Bust??

Taylor Rule vs. Actual FED Policy:

The FED Was Too Easy Between 2002 – 2005...

...but may be OK *Lately*, Due to Increased Output Gap.



Taylor’s Critique of the FED

- Too Easy Policy 2002-2005 led to Asset Price Bubble
  - Partly Responsible for Excess Housing Exuberance
  - But was it *mainly* responsible???
- Bubble Collapse Precipitated the Recession
- In any event, policy does not look too excessive at the moment…

….But what if the Output Gap is Overestimated??

From St. Louis Fed's *The Regional Economist*

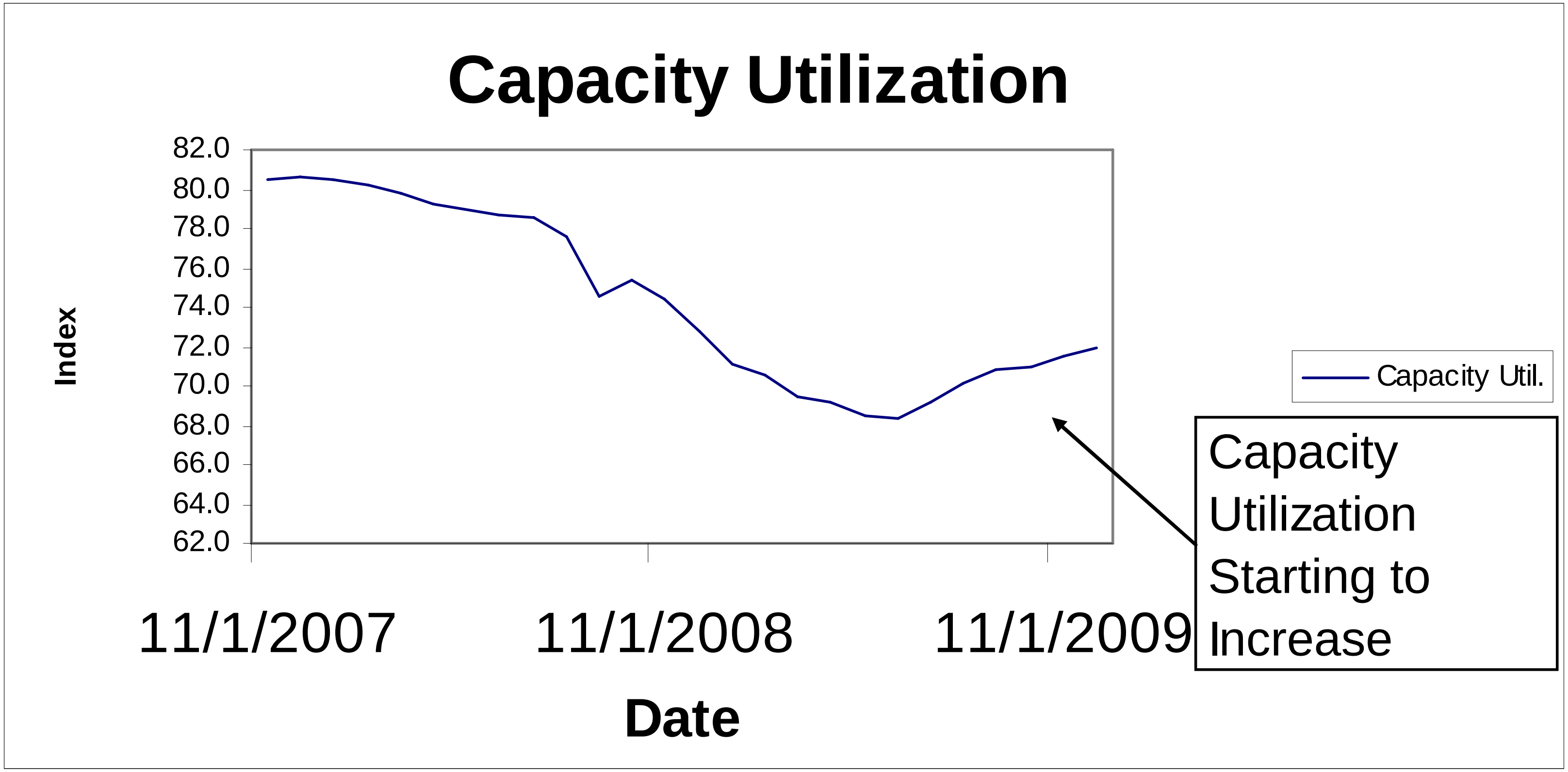
" it is conceivable that <u>estimates of potential real GDP at the start of the recession were too large</u> and that the structural adjustments noted above may have subsequently reduced potential real GDP from its artificially high level."

" While it is probably unlikely that the fall in actual real GDP during the recession has been matched by the fall in potential real GDP, <u>the size of the output gap might be smaller than conventional wisdom might believe</u>."

" If so, those who foresee little risk to the near-term inflation outlook because of a large, persistent output gap may be too optimistic."

Capacity Utilization May Help Predict Future Inflation in the U.S.

(source: Stock and Watson, J. Econ. Lit., 2003)



An Inconvenient Truth for Economists:
It Ain't Easy to Beat a Trend-Based Forecast

- " The variables with the clearest theoretical justification for use as predictors often have scant empirical predictive content."

- "The international evidence on the suitability of output gaps and the Phillips Curve for forecasting inflation is mixed."

- "Our reading suggests that many of these forecasting relations are ephemeral."

(source: Stock and Watson, J. Econ. Lit., 2003).

So What Does “The Market” Think?

- Philly Fed Survey of “Professional Forecasters”:
  - Consensus: Revised a Bit <u>Down</u> to 2% for 2009-2013

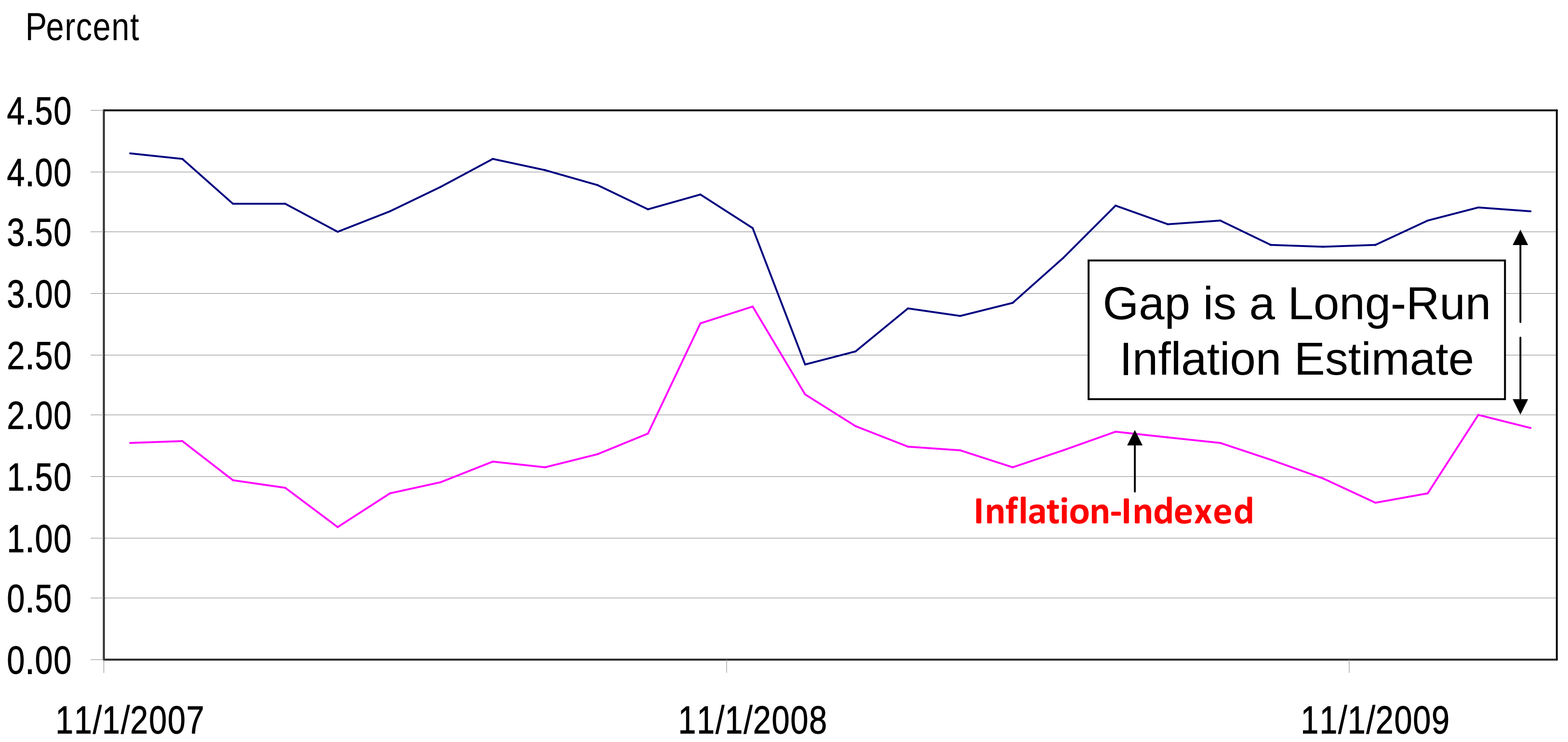
- Livingston Survey of Other Geniuses:
  - Consensus: Revised a Bit <u>Up</u> to 2.2% for 2010

- Michigan Wolverine Consumer Survey:
  - Revised a Bit Up to Something or Other

But Most Consensus Forecasts Are Lousy

- So Instead , Use Market Prices to Extract Inflation Estimates

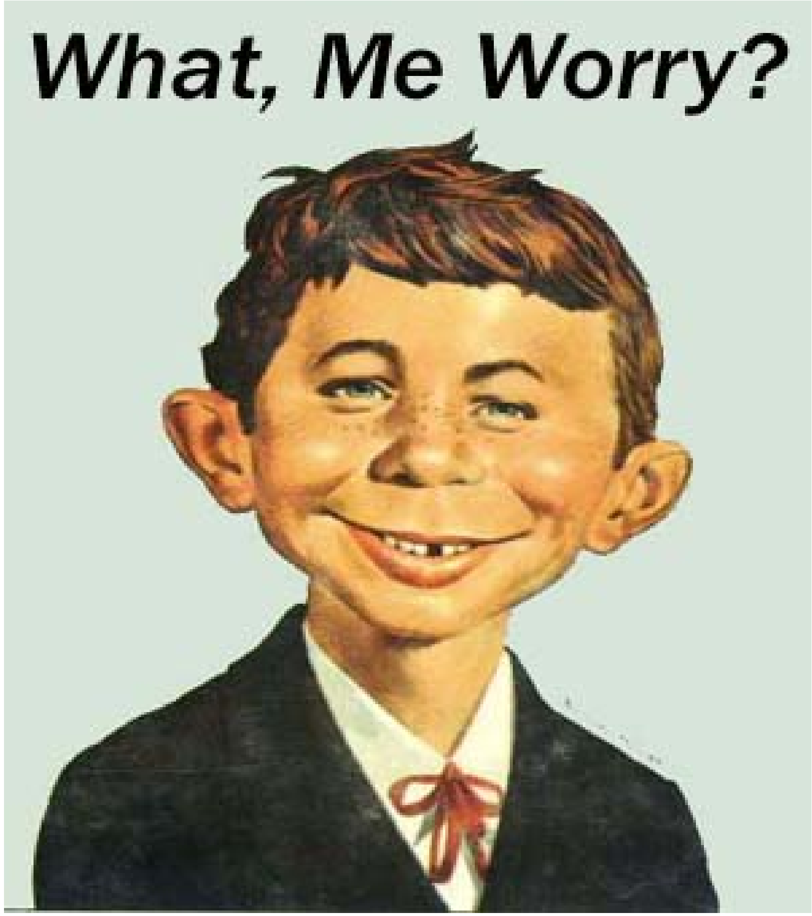
TIPS Buyers Expect Inflation < 2%: 10-Year Treasury Inflation Premium



Sources: Board of Governors of the Federal Reserve System.

So Is this a typical bond buyer?

Anyone
Remember
This
Guy?



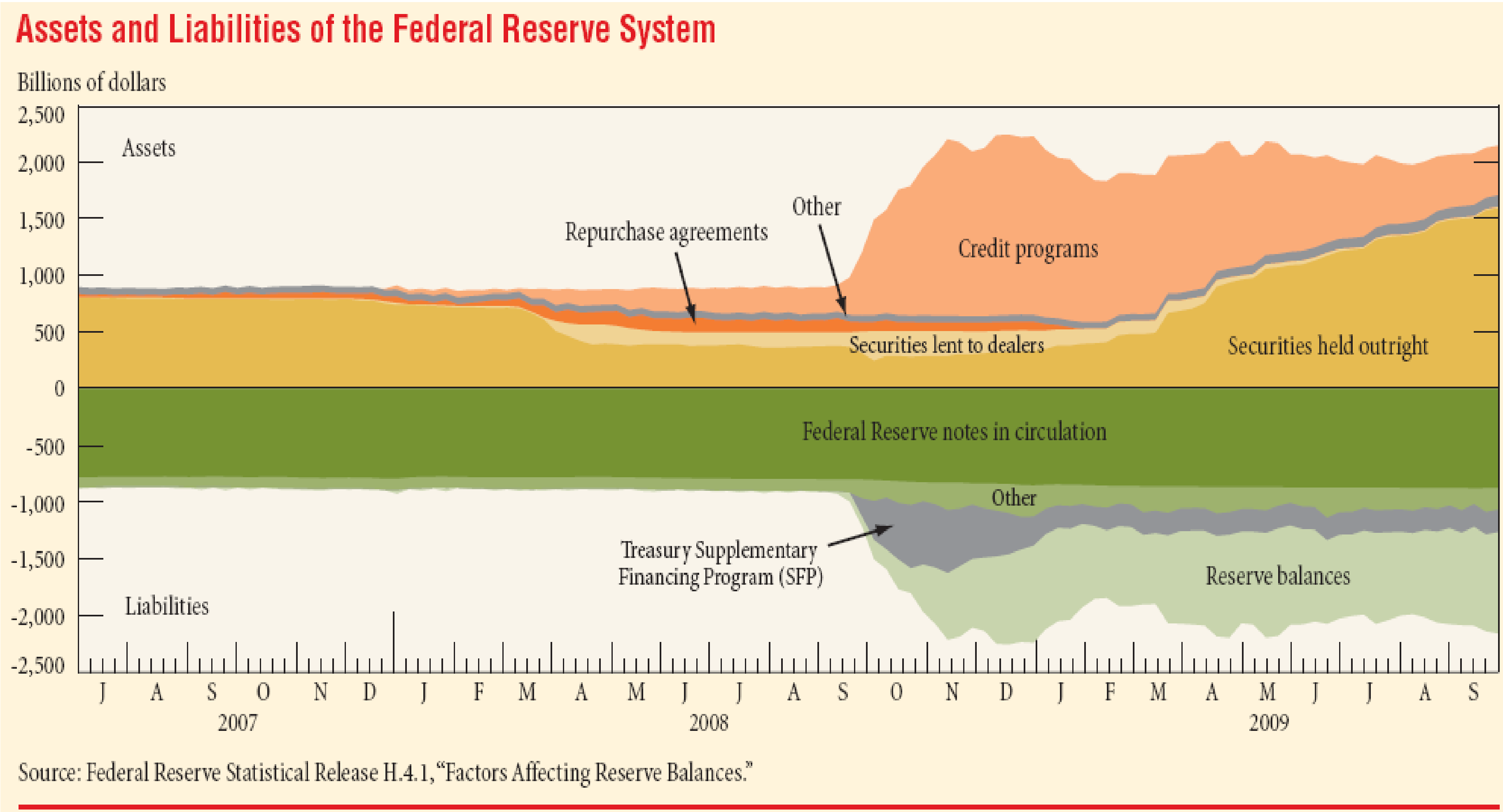
Let's Take a
Look At the
<u>Reserve</u>
<u>Overhang</u>

Some UnIntuitive Monetary Policy

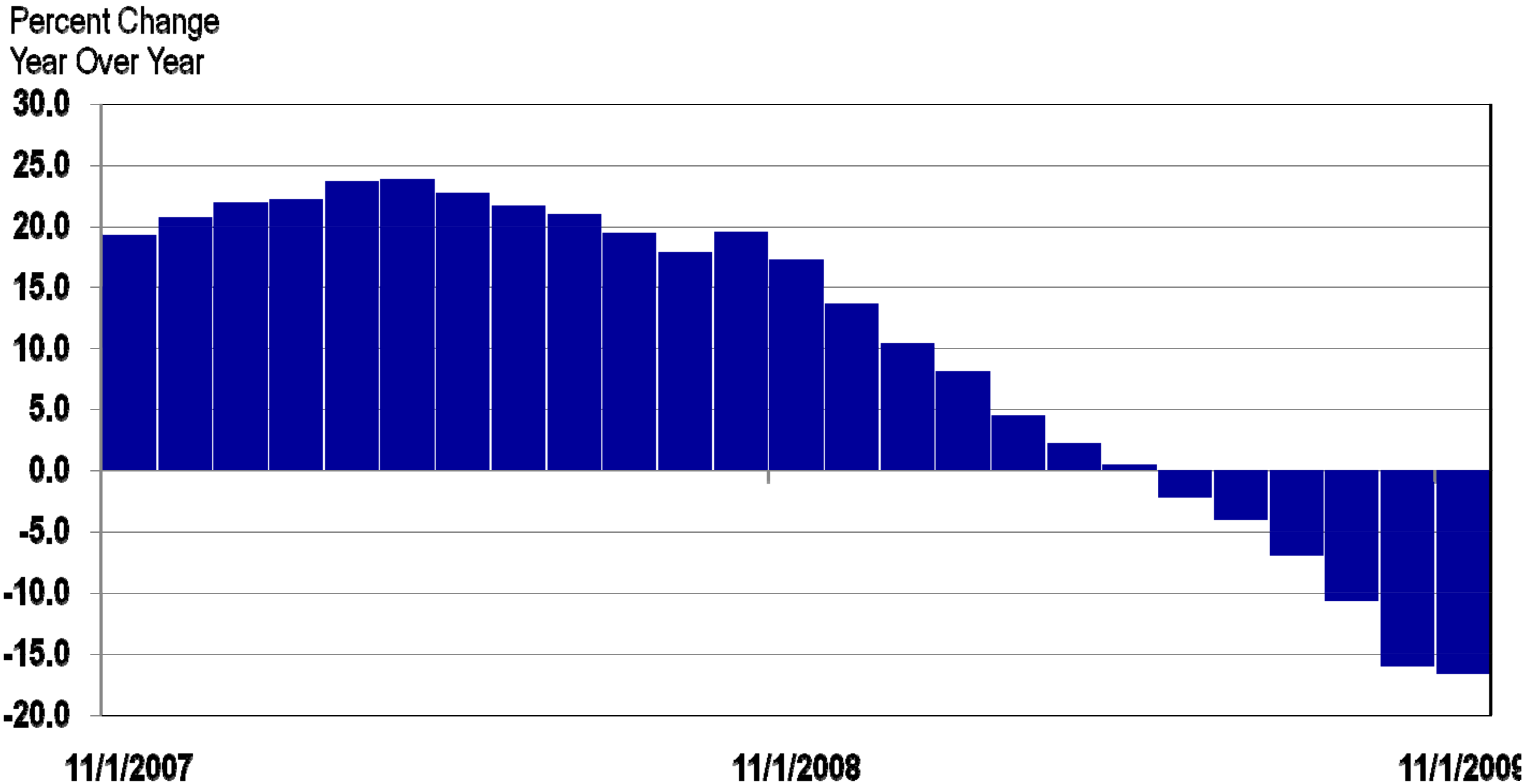
Loans to banks, loans to other firms, and direct asset purchases by the central bank all increase the level of reserves in the banking system by exactly the amount lent.

When interpreting data on reserves, it is important to keep in mind that the quantity of reserves in the banking system is determined almost entirely by the central bank's actions.

Rapid Growth of Fed Balance Sheet Dramatically Increased Bank Reserves

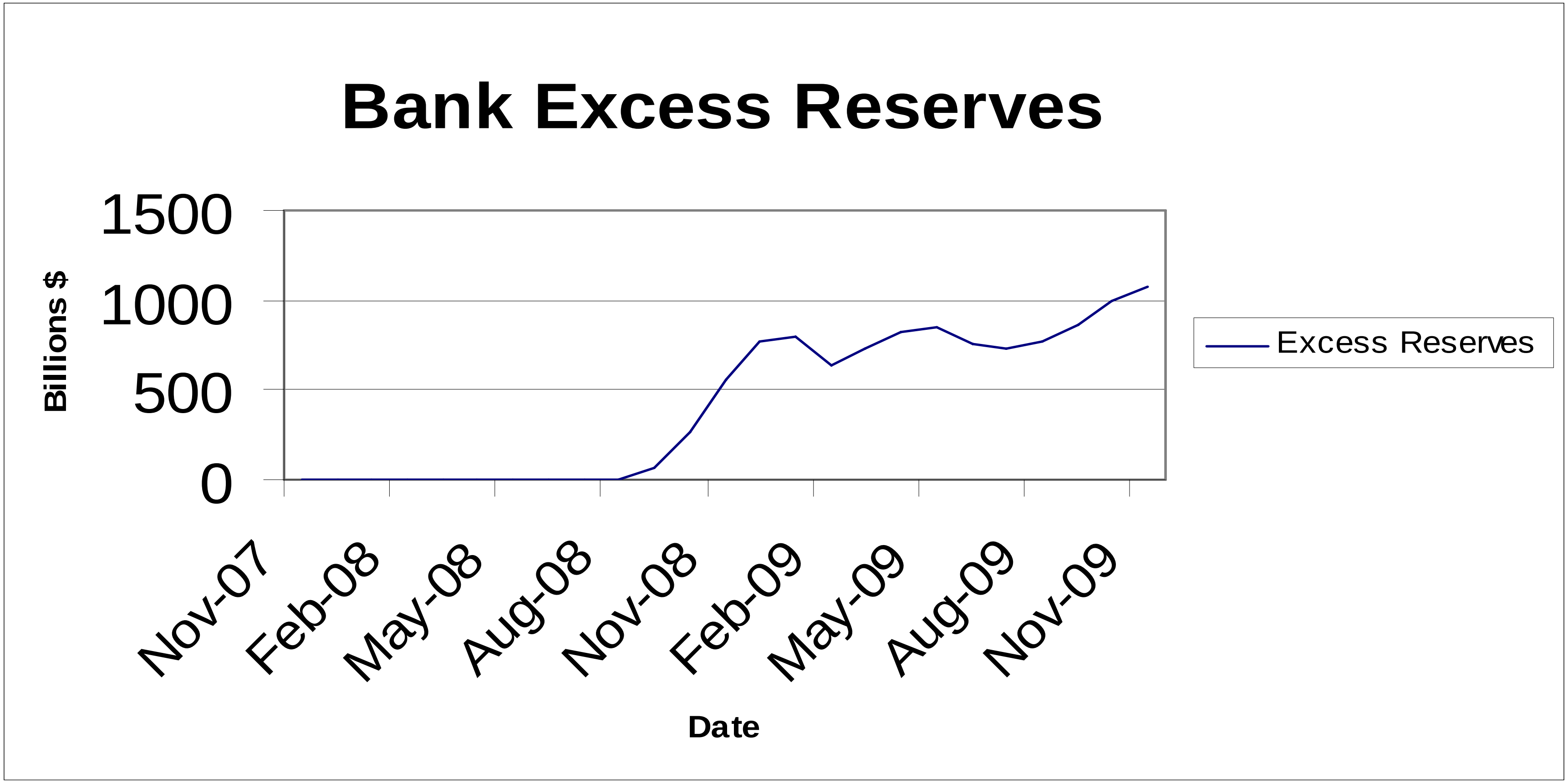


But C & I Bank Lending Is Weak…
…So What Did Banks Do With Reserves?



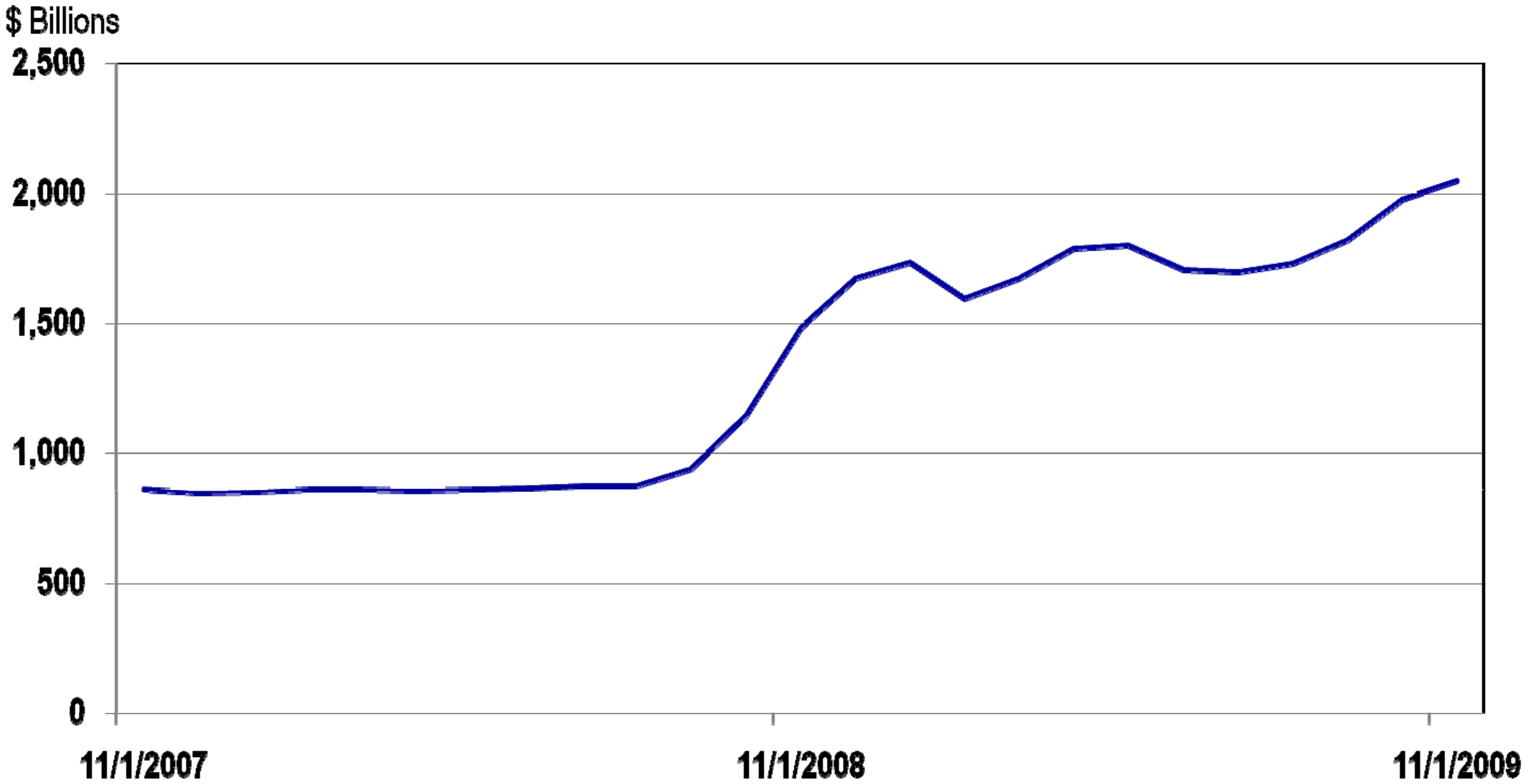
Sources: Board of Governors of the Federal Reserve System, Seasonally Adjusted.

Q: What Did Banks Do With Reserves?
A: Kept Them as Excess Reserves!



Sources: Board of Governors of the Federal Reserve System, Not Seasonally Adjusted.

Result: Monetary Base Growth Doubled In Just 1 Year!

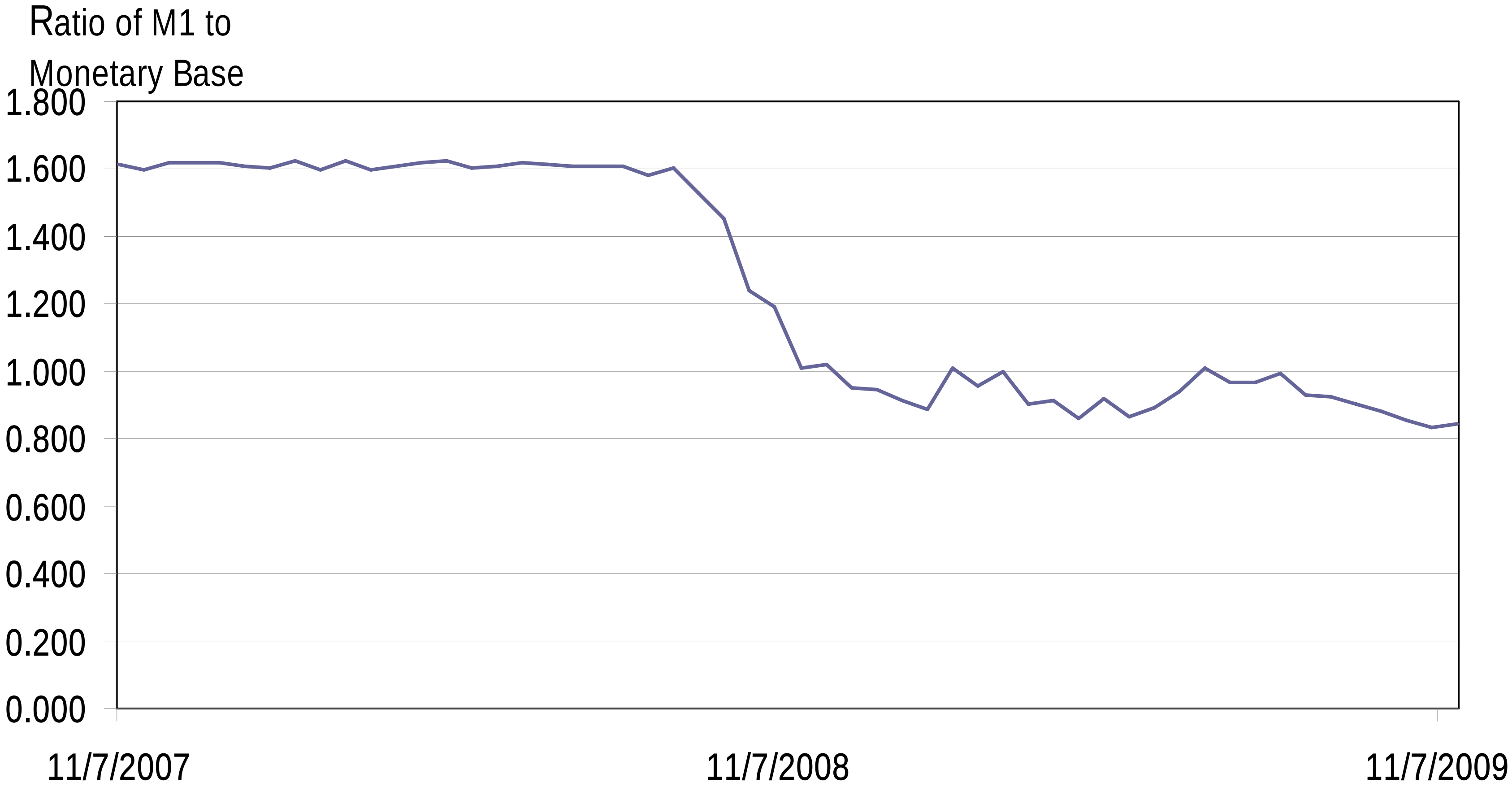


Sources: Federal Reserve Bank of St. Louis, Seasonally Adjusted.

The Result:

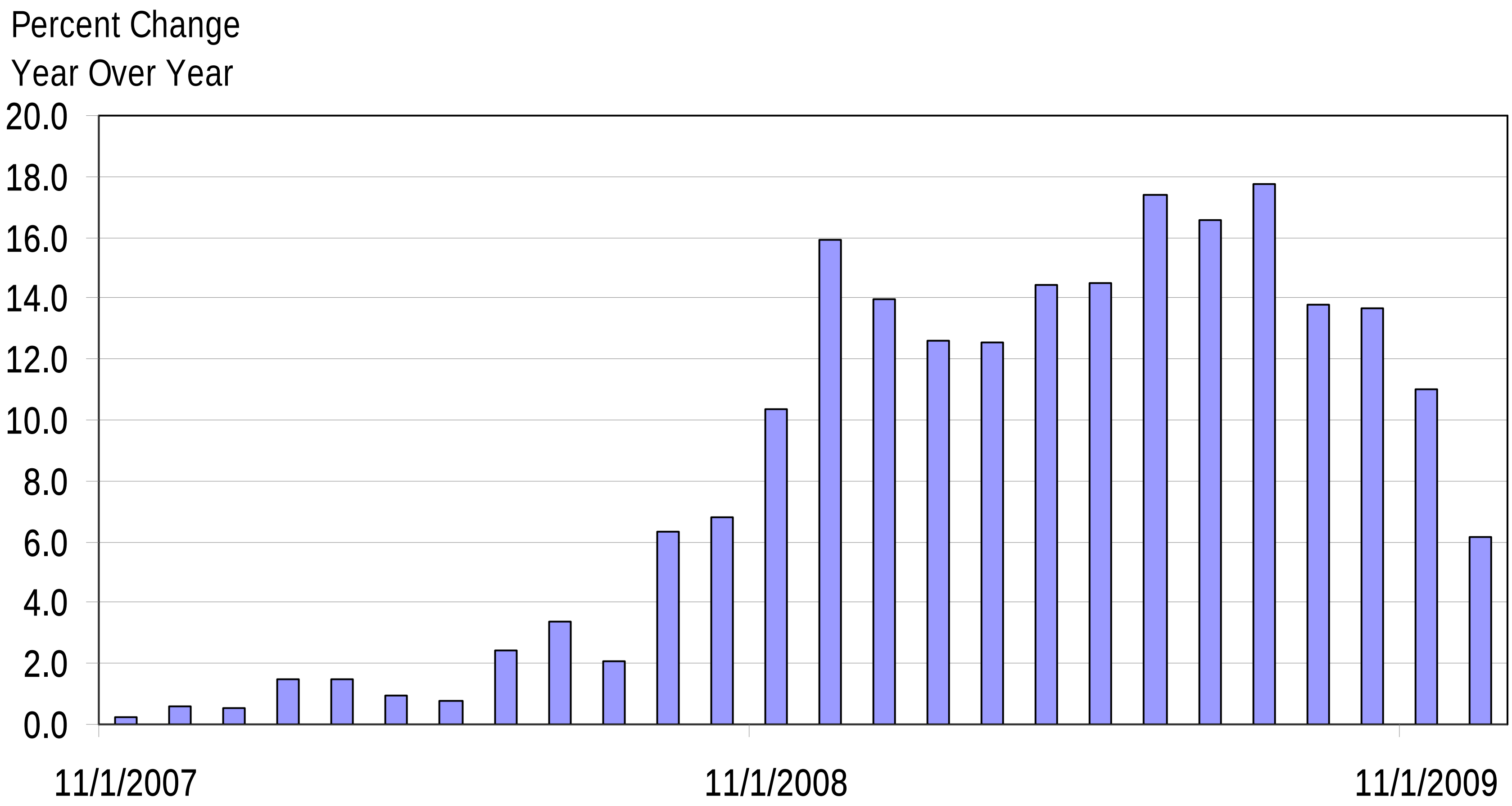
M1 Money Multiplier Has Dropped.

Otherwise, Money Growth Would Be Much Higher!



Sources: Federal Reserve Bank of St. Louis, Seasonally Adjusted.

But M1 Money Has Already Grown!



Sources: Board of Governors of the Federal Reserve System, Seasonally Adjusted.

Excess Reserves Are Partly the Result of the Fed Paying Interest On Reserves

- In October 2008, for the first time in history, the Fed started paying interest on bank reserves, comparable to rates paid on Fed Funds and T-Bills. This encourages banks to hold reserves in excess of requirements.

- As loan prospects improve, Fed will either have to drain reserves (by sales of the loans and securities on its books) or further increase interest paid on reserves, to limit rapid growth of lending and consequent creation of deposits and even larger money supply growth rates (i.e. the multiplier process).

From the Fed: Proof it Knows That Only It Can Prevent Reserve Growth From Causing Inflation

Second, the banking system as a whole cannot create or destroy bank deposits at the Fed. Only the Fed (and technically, the Treasury) can create or destroy bank reserves. If one bank makes a loan and the funds are deposited in another bank, then the ownership of the deposits at the Fed would change, but the total bank deposits *at* the Fed would remain the same. In theory, the banking system *reduces* excess reserves—but only by expanding loans and the money supply in a way that *increases* required reserves by an equivalent amount. The key is that the Fed will have to drain reserves when the economy begins to recover if it is to prevent a rapid acceleration of inflation.

From the Fed Vice Chairman (source: WSJ, 1/4/10)

- *ATLANTA -- A TOP FEDERAL RESERVE OFFICIAL SAID SUNDAY THE CENTRAL BANK WILL NEED TO BE AHEAD OF THE CURVE IN WITHDRAWING STIMULUS IN A GRADUALLY IMPROVING ECONOMY, ALTHOUGH HE WARNED THE NATURE OF THE ECONOMIC CRISIS MEANS OFFICIALS DO NOT HAVE A GOOD ROAD MAP FOR THE ACTION THEY'LL NEED TO TAKE.*
- *"WE WILL NEED TO BEGIN WITHDRAWING EXTRAORDINARY MONETARY STIMULUS WELL BEFORE THE ECONOMY RETURNS TO HIGH LEVELS OF RESOURCE UTILIZATION," FEDERAL RESERVE VICE CHAIRMAN DONALD KOHN SAID. THE INTEREST-RATE-SETTING FEDERAL OPEN MARKET COMMITTEE "HAS BEEN CLEAR THAT ITS EXPECTATIONS FOR THE STANCE OF MONETARY POLICY DEPEND ON ECONOMIC CONDITIONS, INCLUDING RESOURCE UTILIZATION, INFLATION AND INFLATION EXPECTATIONS."*

Summary: The Bottom Line

- IF Banks Start Lending Those Excess Reserves, the Money Supply Will Grow Very Rapidly

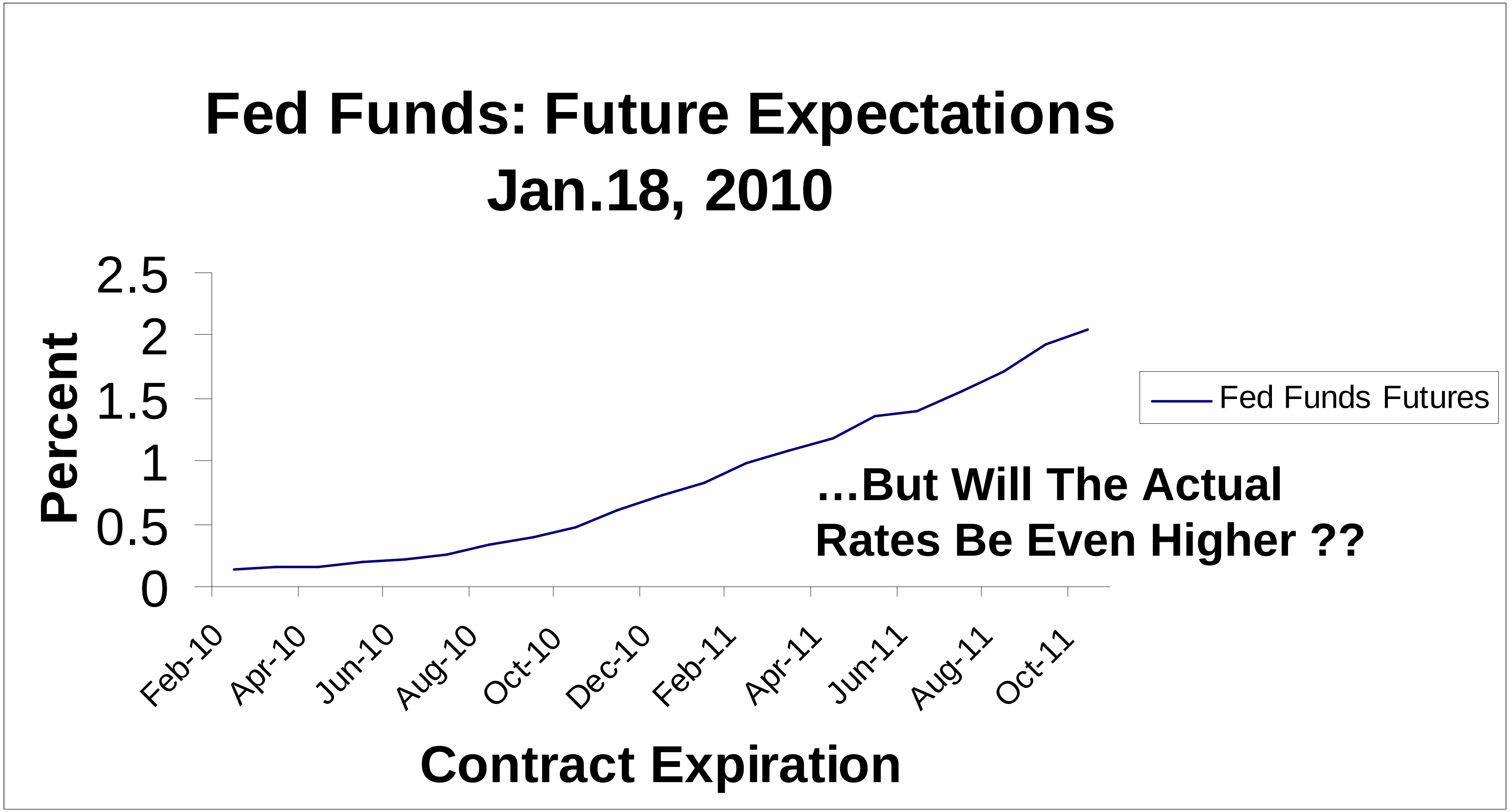
- At the Same Time, “Potential” Output Will Grow

- Milton Friedman Would Ask:

Whither Inflation???

- Answer: Up, Up, But (Hopefully) Not Away IF:
  - Fed drains reserves, thus raises the Funds Rate, by selling securities and/or loans
  - Fed raises the interest paid on reserves to prevent all the excess reserves from being loaned out.

Fed Funds Futures Mkt. Participants Do Expect Higher Funds Rates...



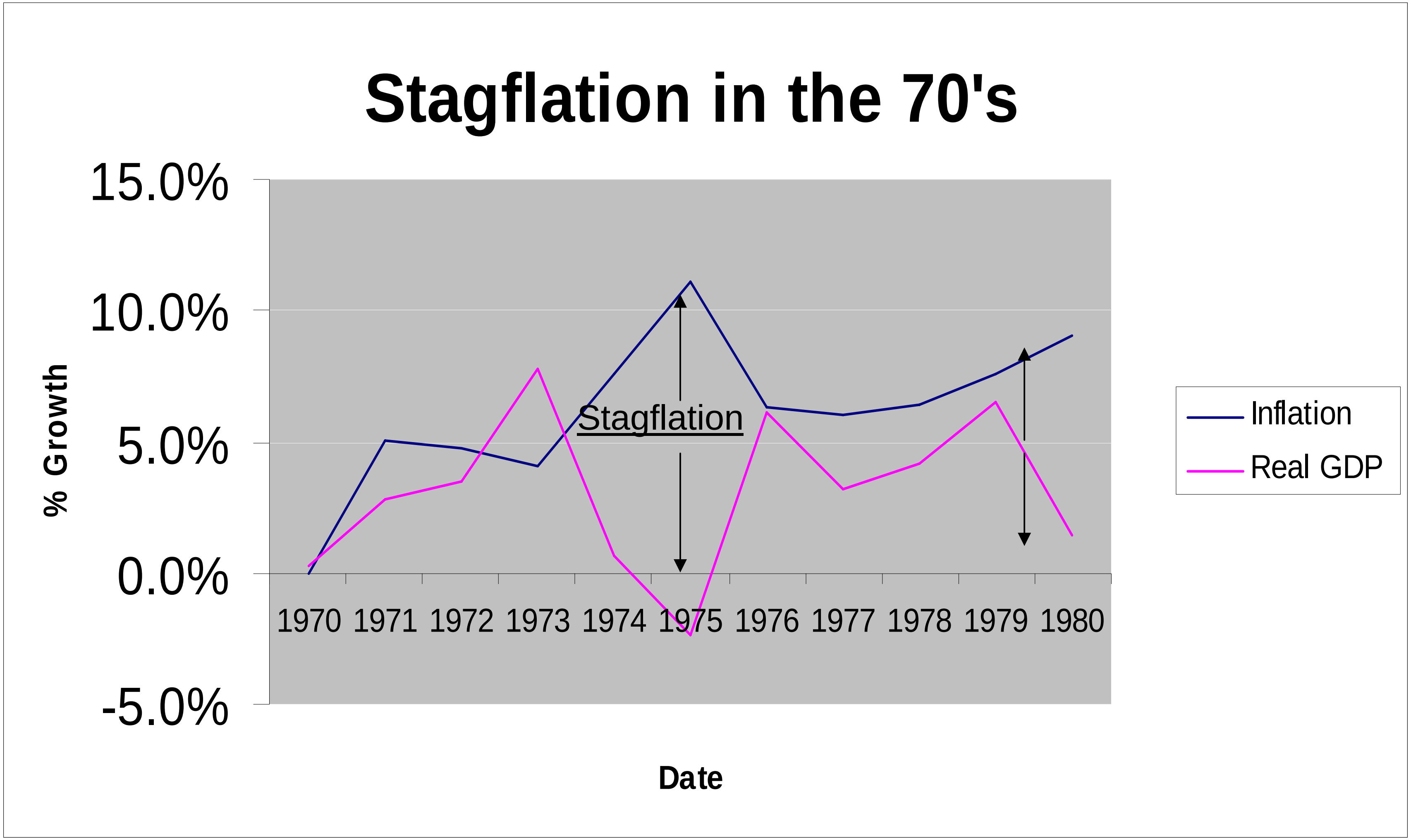
Suppose Instead That the Fed Gets Too Easy Again

- Without suitable financial reform, we will experience

  DÉJÀ VU All Over Again

- What Are the Needed Reforms?
  - For Mega-Institutions, Restrict Scope and Size
    - Volcker-Obama Proposals
    - Discourage Growth in Scope and Scale
      - Done to prevent getting Too Big To Fail
- SEE our Burridge Center webpage for proposals from our Conference's Financial Regulation Panel

OY!! Is Stagflation Again Possible? Inflation With Low Growth



For the Internationalists:
The Current View From PIMCO's Bill Gross

- **Germany is the safest**, most liquid sovereign alternative, although its leadership and the EU's potential stance toward bailouts of Greece and Ireland must be watched. Think AIG and GMAC and you have a similar comparative predicament, and

- **The U.K. is a <u>must to avoid</u>**. Its Gilts are resting on a bed of nitroglycerine. High debt with the potential to devalue its currency present high risks for bond investors.

- Given enough liquidity and current yields **I would prefer to invest money in Canada.** Its conservative banks never did participate in the housing crisis and it moved toward and stayed closer to fiscal balance than any other country.

My Proposed New Logo for PIMCO:
"Let's Be Bullwinkle In a Bear Market"

"When You Think Bonds, Think of Us Canadians"