

Date: Fri, 08 Oct 2010 11:47:47 -0400

To: "Dr. Baruch Fischhoff - Chair, National Academy Committee on Improving Intelligence" <baruch@cmu.edu>, "Dr. Richard Atkinson - Chair - NRC/DBASSE" <rcatkinson@ucsd.edu>, "Dr. Robert E. Hall - AEA President and National Academy of Sciences" <rehall@stanford.edu>, "Dr. Lawrence Brown - Chair, NRC Committee on National Statistics" <lbrown@wharton.upenn.edu>
From: Lloyd Etheredge <lloyd.etheredge@policyscience.net>

Subject: 164. Wolfram 6: Upper Bounds to CIA Performance. A better future for economists and National Academy recommendations. Notes from ALFRED

Dr. Fischhoff, Dr. Atkinson, and Colleagues:

One of early decisions of the Obama Administration, as you know, was to assign CIA Director Leon Panetta the responsibility to rethink and upgrade global macroeconomic/financial forecasting. Admiral Blair and the President had judged that there were massive, catastrophic failures of stewardship - intellectual/scientific and institutional failures - behind the failures to foresee the worst national/global economic crisis since the Great Depression. And they did not expect NSF and/or the academic world to be shifting to fast-discovery mode to diagnose and solve the intellectual/scientific and institutional problems quickly and reliably.

The Upper Bounds for the CIA: Notes from ALFRED

I am writing to underscore, and urge the National Academy's Report to underscore, the inherent upper bounds to the CIA's capacity to fulfill its assignment. They can place more spies, and obtain more secret sources, from inside leading hedge funds - and there are media reports that they have done so. But the CIA cannot compensate for data limitations in the US and the entire global system. There are upper bounds, in this area, to its achievement in behavioral science. The National Academy of Sciences should be candid and firm about the data limitations and the requirements for scientific integrity and reliability on the road ahead.

I have raised this issue, from several angles, earlier in the context of the needed recapital-

ization and upgrades, especially in a changing, complex, adaptive global system with new technologies and asymmetries of brainpower and money. The USGOV's impressive number of quantitative time series data [FRED, the predecessor to ALFRED, discussed below, has 22,000 of them online in the public domain].can be misleading. It does not mean that the US government has the needed, scientifically reliable and timely basis for key decisions, forecasts, and early warnings.

The attached slides from the Wolfram Data Summit review the capacity of the new ALFRED system to establish the rigorous history of large measurement errors that affect even the key indicators of US GDP growth. And the presentation also includes evidence of the "false alarm" problems in macroeconomics - e.g., the so-called negative savings rate - that are inherent in the USGOV system.

The CIA Can't Compensate for Everybody

It has been the conventional wisdom of specialists and insiders, for several decades, that the major sources of error in government macroeconomic forecasting have been substantial errors in the government's own input data. It also has become painfully clear - ever since the Reagan Administration's induced political "freeze" on behavioral science - that there are major problems of missing variables that can affect the magnitude and even the arithmetic signs of coefficients estimated by regression techniques. And these limitations have persisted in spite of high-level private meetings (of the Carnegie Commission on Science, Technology, and Government, related to the hierarchical psychology/motivational concerns of Republicans) and the sharp (ignored) criticisms by the scientific review panels of the economics program at NSF. . . . The CIA can't compensate for everybody.

One of the painful implications of unreliable measurements of this magnitude and missing variables is that much of the published academic research in macroeconomics may be unreliable and need, someday, to be redone. It is an unfair and destructive context for the careers of researchers, and especially younger researchers. And alarming and unacceptable for the country, if there are truths that we should be learning. <1>

Warning General Clapper? And President Obama?

I suggest that the National Academy of Sciences warn General Clapper. With his background at the DoD, he may not be aware of deep problems, of the upper bounds to CIA performance, of the leadership required, and even of the briefing that President Obama should receive. These are problems - of the US and international cooperation across the G-20 system - that President Obama surely would want corrected at a faster pace than has been underway.

LE

<1> The problems of reliability, and even easy access to comparable data, across the global system are serious. Perhaps even more so if we want science- and evidence-based, reality-connected international policies, and better sustainable growth, evolving in the 20 governments of the new G-20 system. See also

1. <http://sdmx.org>. Nobody is moving fast enough.

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[The Policy Sciences Center, Inc. is a public foundation that develops and integrates knowledge and practice to advance human dignity. Its headquarters are 127 Wall St., Room 322 PO Box 208215 in New Haven, CT 06520-8215. It may be contacted at the office of its Chair, Michael Reisman (michael.reisman@yale.edu), 203-432-1993. Further information about the Policy Sciences Center and its projects, Society, and journal is available at www.policysciences.org.]



ALFRED: Capturing data as it happens

Katrina Stierholz, Director of Library and Information Services
Federal Reserve Bank of St. Louis

The views expressed are not the official positions of the
Federal Reserve Bank of St. Louis or the Federal Reserve System.

“How is the economy doing?”

Depends on when you ask.

Federal Reserve Bank of St. Louis & data

- ▶ Long History (Homer Jones)
- ▶ FRED is the Flagship
 - ▶ Over 22,000 economic time series
 - ▶ Aggregates data from many sources, in one convenient location
- ▶ ALFRED is bigger than FRED
 - ▶ Collection of vintage versions of U.S. economic data available on FRED
 - ▶ Captures every iteration of data



Looking for revisions, and then solutions

- ▶ Our former Director of Research, Bob Rasche, was looking for the economic data that were released originally—not the revised data that we have now.
- ▶ We searched high and low...
 - ▶ Philadelphia Fed created a database with important economic series with the data points that were originally released, with monthly or quarterly observations (we wanted a day-by-day history)
 - ▶ Libraries removed news releases when the final version is published
 - ▶ Agencies historically wrote over the data, as the computing storage costs were high



2nd quarter 2010 real GDP↑2.4%



NEWS RELEASE



EMBARGOED UNTIL RELEASE AT 8:30 A.M. EDT, FRIDAY, JULY 30, 2010

Lisa S. Mataloni: (202) 606-5304
Recorded message: (202) 606-5306

BEA 10-37

Brent Moulton: (202) 606-9606 (Annual Revision)
Carol Moylan: (202) 606-9715

**NATIONAL INCOME AND PRODUCT ACCOUNTS
GROSS DOMESTIC PRODUCT: SECOND QUARTER 2010 (ADVANCE ESTIMATE)
REVISED ESTIMATES: 2007 THROUGH FIRST QUARTER 2010**

Real gross domestic product -- the output of goods and services produced by labor and property located in the United States -- increased at an annual rate of 2.4 percent in the second quarter of 2010, (that is, from the first quarter to the second quarter), according to the "advance" estimate released by the Bureau of Economic Analysis. In the first quarter, real GDP increased 3.7 percent.

2nd quarter 2010 real GDP ↑ 1.6%



NEWS RELEASE



EMBARGOED UNTIL RELEASE AT 8:30 A.M. EDT, FRIDAY, AUGUST 27, 2010

Lisa Mataloni: (202) 606-5304 (GDP)
Andrew Hodge: (202) 606-5564 (Profits)
Recorded message: (202) 606-5306

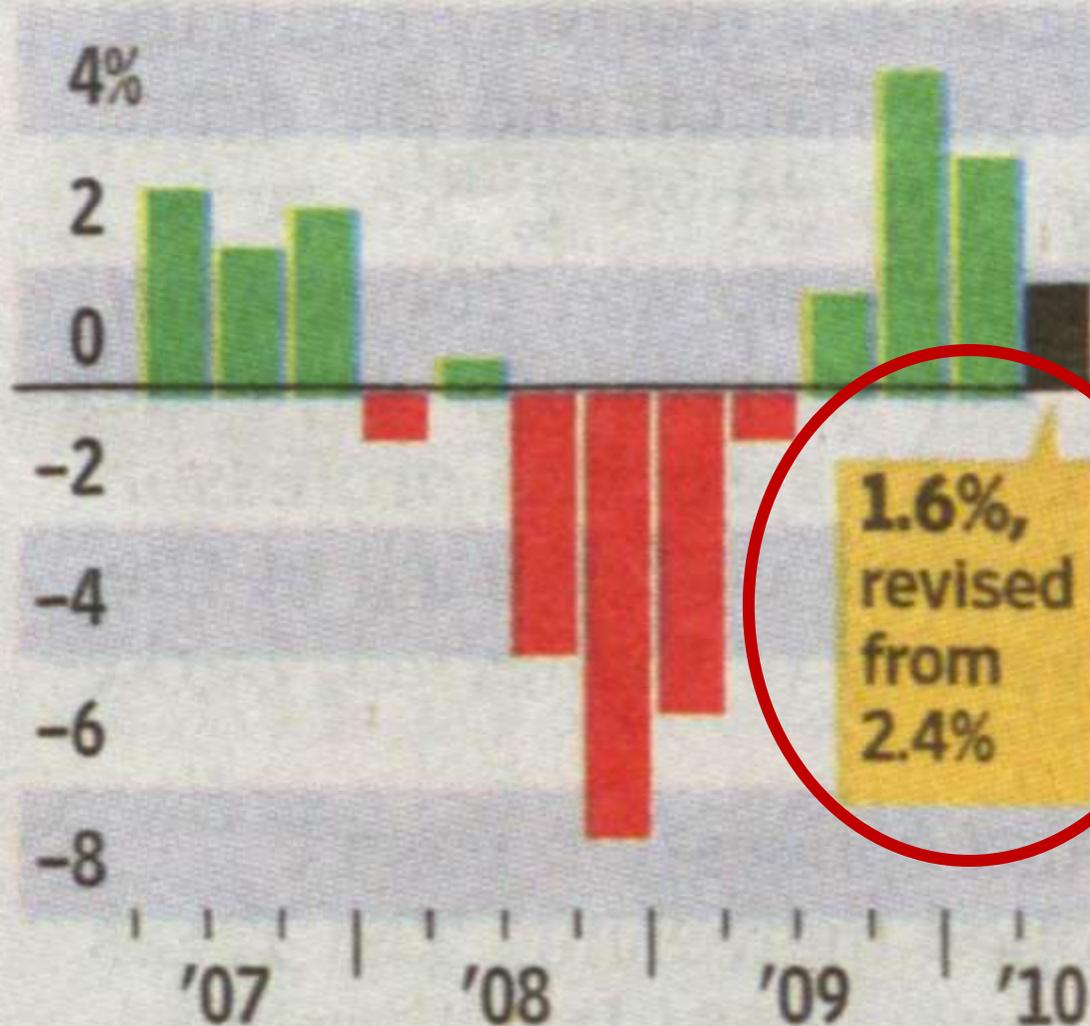
BEA 10-41

GROSS DOMESTIC PRODUCT: SECOND QUARTER 2010 (SECOND ESTIMATE) CORPORATE PROFITS: SECOND QUARTER 2010 (PRELIMINARY)

Real gross domestic product -- the output of goods and services produced by labor and property located in the United States -- increased at an annual rate of 1.6 percent in the second quarter of 2010, (that is, from the first quarter to the second quarter), according to the "second" estimate released by the Bureau of Economic Analysis. In the first quarter, real GDP increased 3.7 percent.

Slipping Down

Quarterly change at an annual rate in U.S. GDP



Source: Commerce Department

T JOURNAL.

9, 2010



★★★★ \$2.00

WSJ.com

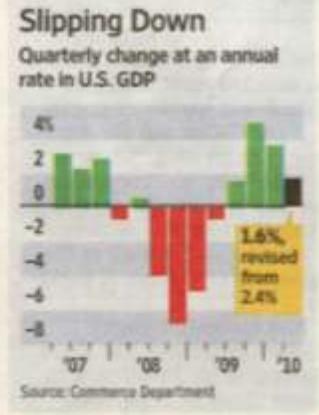
ers Bolder Moves

More Securities If Economy Falters Further

to the U.S. be necessary. of trouble for e Friday as the tment revised e for second- gross domes- economy grew period, not the eviously esti- g growth adds idy created by les and other ers are shying ug. Technology Corp. warned orted revenue

could fall short of estimates because of weak demand for personal computers. All of this drives home a grim political reality for the Obama administration and for Democrats facing elections this fall: What many had hoped would be a "summer of recovery" is ending on a dismal note. "The pace of recovery in output and employment has slowed Please turn to page A2

- Economy will dog Democrats up to November _____ A2
- For updates from Jackson Hole during the weekend, WSJ.com



The value to capturing this history

- ▶ Revisions reflect the level of accuracy regarding early estimates
- ▶ Allows researchers and analysts to evaluate policy decisions using information available at the time, not what is known in hindsight
- ▶ Allows economists to model the economy using data that was actually available





FRED

ALFRED

FRED and ALFRED

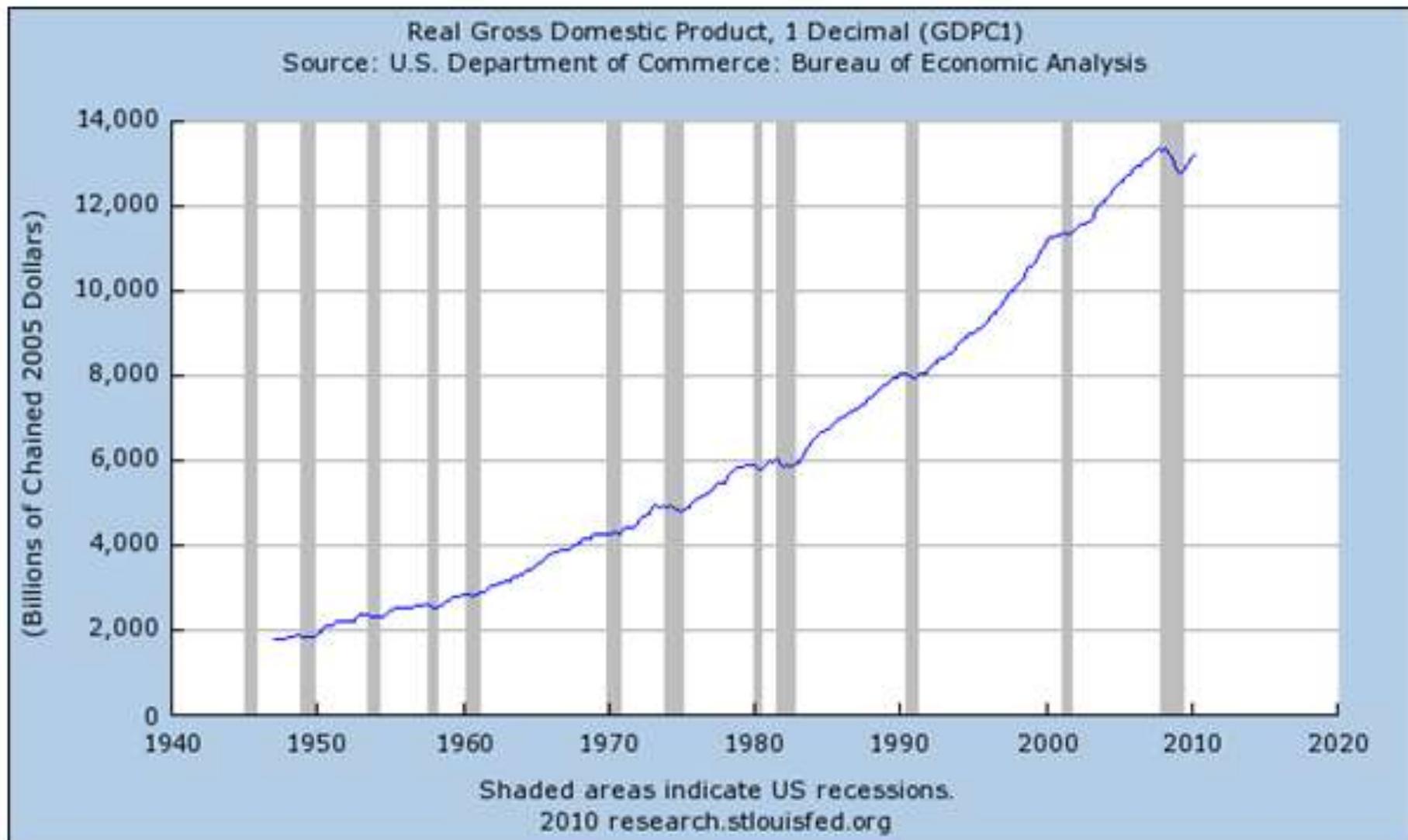
- ▶ Underneath the hood, FRED and ALFRED are the same application.
 - ▶ ALFRED was populated by collecting historical data for series in FRED, and ALFRED continues to be extended by capturing "expiring" FRED values when new ones are published.
 - ▶ ALFRED only contains historical data on series that are in FRED -- it does not go back further than FRED.



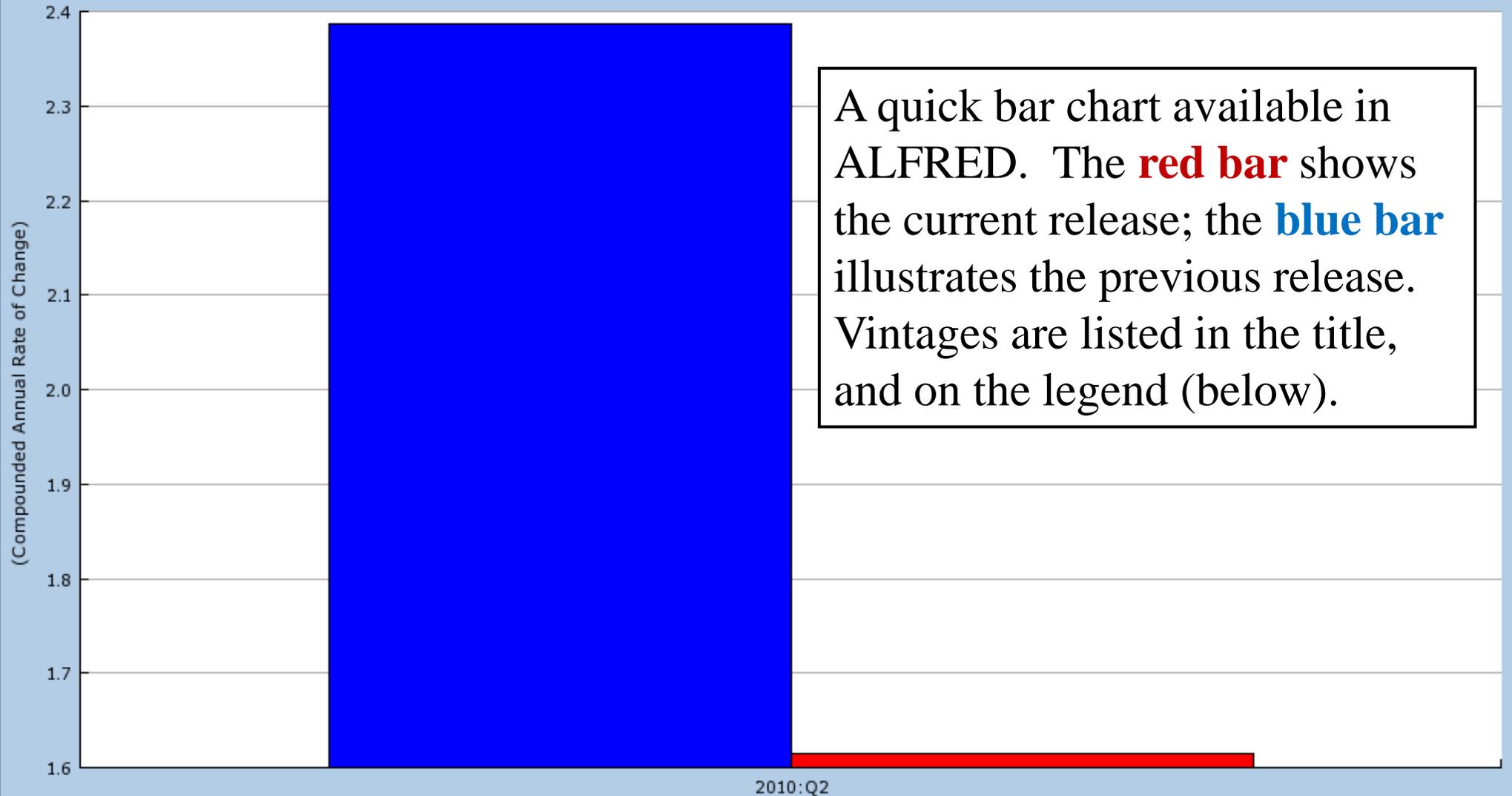
FRED graph

Series: GDPC1, Real Gross Domestic Product, 1 Decimal

[View Data](#) | [Download Data](#) | [Notify Me of Updates](#) | [Add to My Data List](#) | [Vintage Series in ALFRED](#)



Real Gross Domestic Product, 1 Decimal (GDPC1) Vintages: 2010-07-30, 2010-08-27
Source: U.S. Department of Commerce: Bureau of Economic Analysis



A quick bar chart available in ALFRED. The **red bar** shows the current release; the **blue bar** illustrates the previous release. Vintages are listed in the title, and on the legend (below).

A quick download from ALFRED of the quarterly GDP data released so far this year.



| | A | B | C | D | E | F |
|---|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1 | observation_date | GDPC1_PCA_20100430 | GDPC1_PCA_20100527 | GDPC1_PCA_20100625 | GDPC1_PCA_20100730 | GDPC1_PCA_20100827 |
| 2 | 2010-01-01 | 3.2 | 3.0 | 2.7 | 3.7 | 3.7 |
| 3 | 2010-04-01 | | | | 2.4 | 1.6 |
| 4 | | | | | | |
| 5 | | | | | | |

Users can download the history of the real GDP back to 1991;
vintage Gross National Product data are available back to 1947.
The earliest vintage available is 1927 for Industrial Production Index.



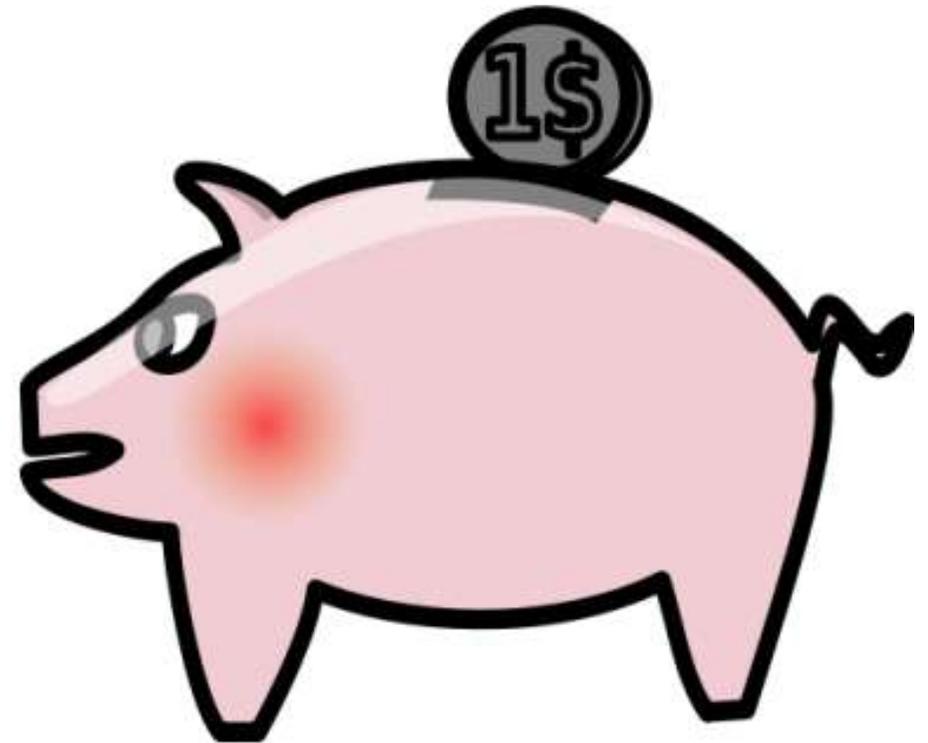
Background

- ▶ Our programmer, George Essig, used Richard T. Snodgrass' book Developing Time-Oriented Database Applications in SQL.
- ▶ These data are saved only when there are revisions; each data value has three pieces of information
 - ▶ The time period it applies to (e.g., 2nd quarter 2010)
 - ▶ The time period it is true for (e.g., from July 30th to August 26th)
 - ▶ The date that the information was entered into the database to allow for tracking of data entry errors



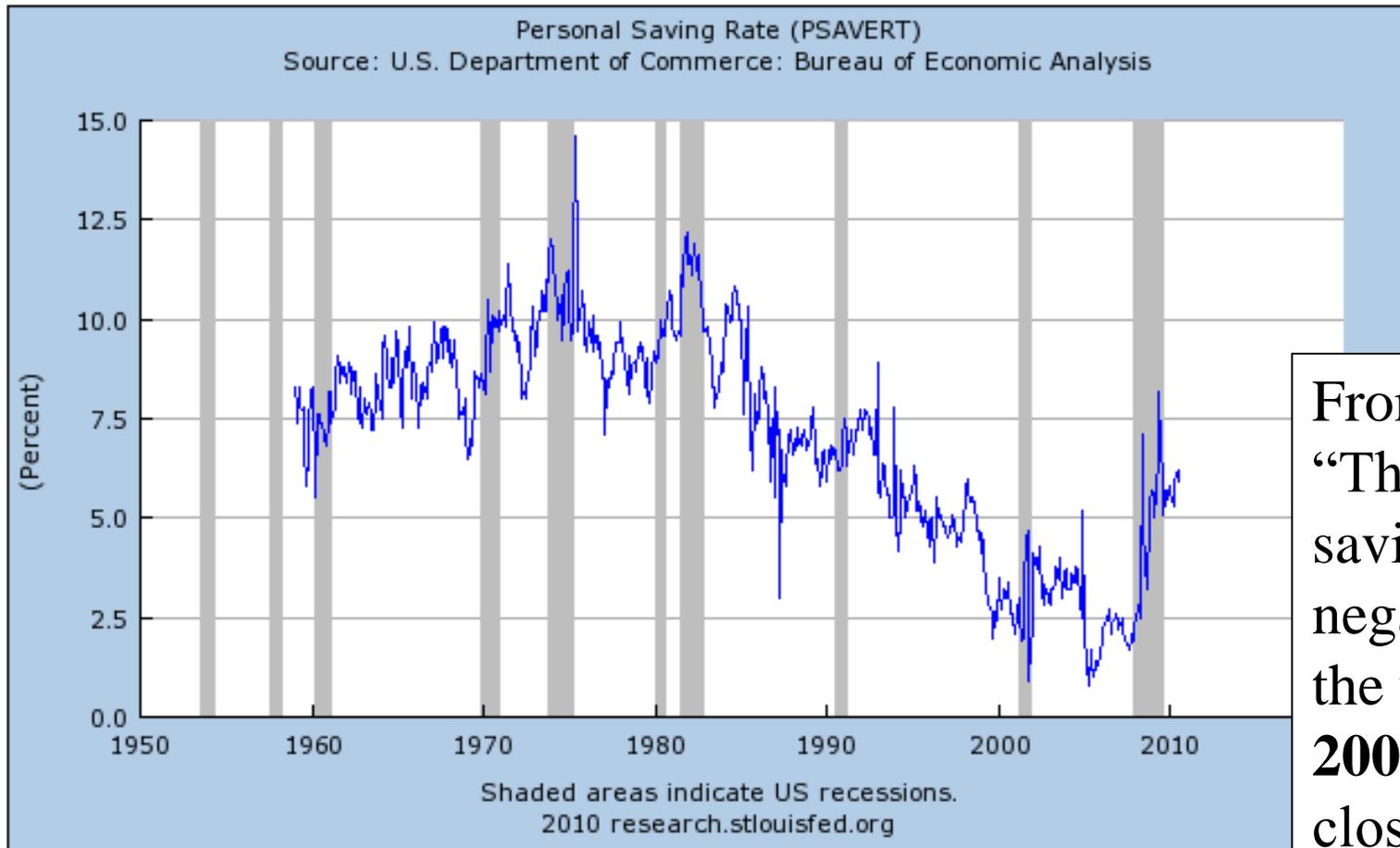
Negative Saving Rate—or not

- ▶ Remember the negative saving rate? I thought I'd use those data and an article in our librarian newsletter for a talk I was giving to an economic education class.



Series: PSAVERT, Personal Saving Rate

[View Data](#) | [Download Data](#) | [Notify Me of Updates](#) | [Add to My Data List](#) | [Vintage Series in ALFRED](#)

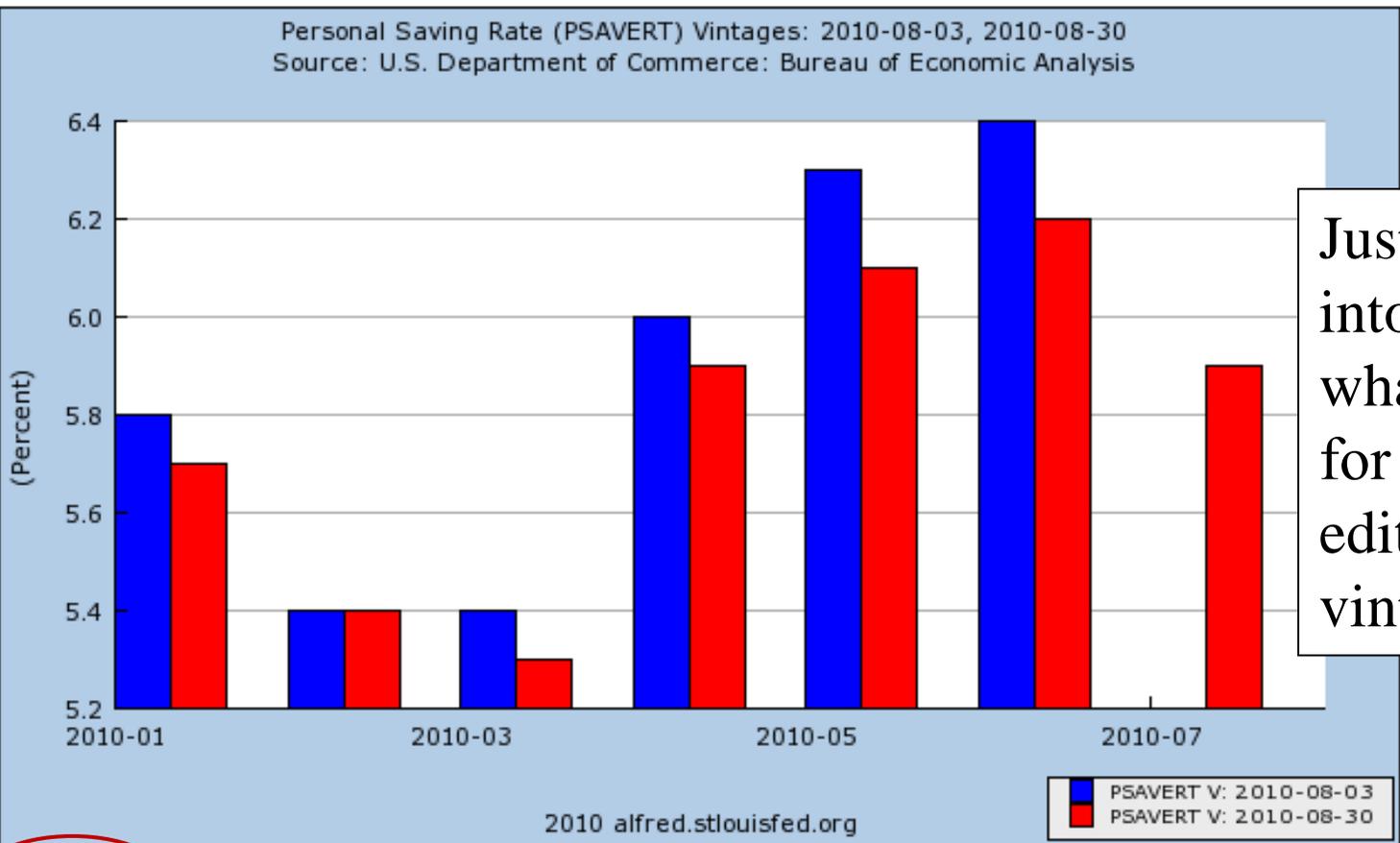


Graph: [Edit](#) | [Print](#) | [PDF](#) | [Save](#)

From a *Liber8* article:
“The U.S. personal saving rate fell into negative territory during the **third quarter of 2005** and has remained close to zero since then.”
Here’s the data:
What’s the problem?

Series: PSAVERT, Personal Saving Rate

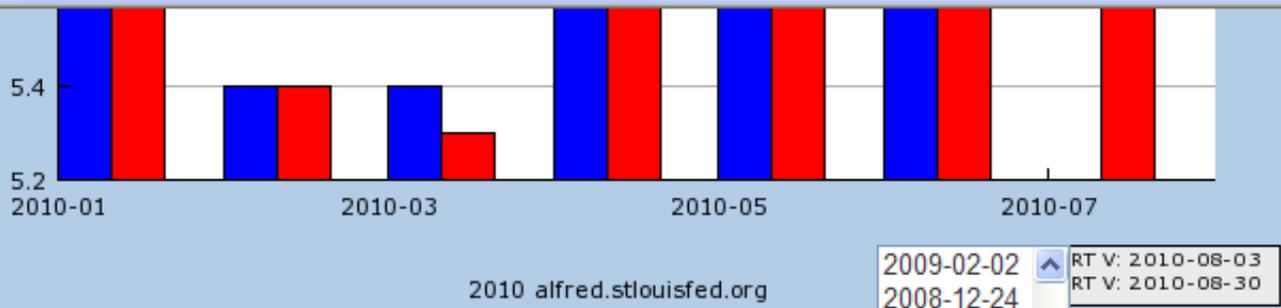
[Download Data](#) | [Add to My Data List](#) | [Current Series in FRED](#)



Just a quick check to get into ALFRED and to see what revisions look like for this data. I'm going to edit this to see an earlier vintage.

Graph: [Edit](#) | [Print](#) | [PDF](#) | [Save](#)





Settings

Graph

Bar Series 1: Personal Saving Rate (PSAVERT) Vintage

Bar Series 2: Personal Saving Rate (PSAVERT) Vintage

Scale: Color:

[Min, Max, and Avg Settings](#)

Observation Date Range: to

Observation Quick Range: Custom 1yr 5yrs 10yrs

(a) Personal Saving Rate (PSAVERT), Monthly, Seasonally Adjusted

Units:

Enter an as-of Date:

Or Select a Vintage:

[Create Your Own Data Transformation](#)

- 2009-02-02
- 2008-12-24
- 2008-11-26
- 2008-10-31
- 2008-09-29
- 2008-08-29
- 2008-08-04
- 2008-06-27
- 2008-05-30
- 2008-05-01
- 2008-03-28
- 2008-02-29
- 2008-01-31
- 2007-12-21
- 2007-11-30
- 2007-11-01
- 2007-09-28
- 2007-08-31
- 2007-07-31
- 2007-06-29
- 2007-06-01
- 2007-04-30
- 2007-03-30
- 2007-03-01
- 2007-02-01
- 2006-12-22
- 2006-11-30
- 2006-10-30
- 2006-09-29
- 2006-08-31

RT V: 2010-08-03
RT V: 2010-08-30

2008-03, Monthly, Percent, Seasonally Adjusted Annual

2008-03, Monthly, Percent, Seasonally Adjusted Annual

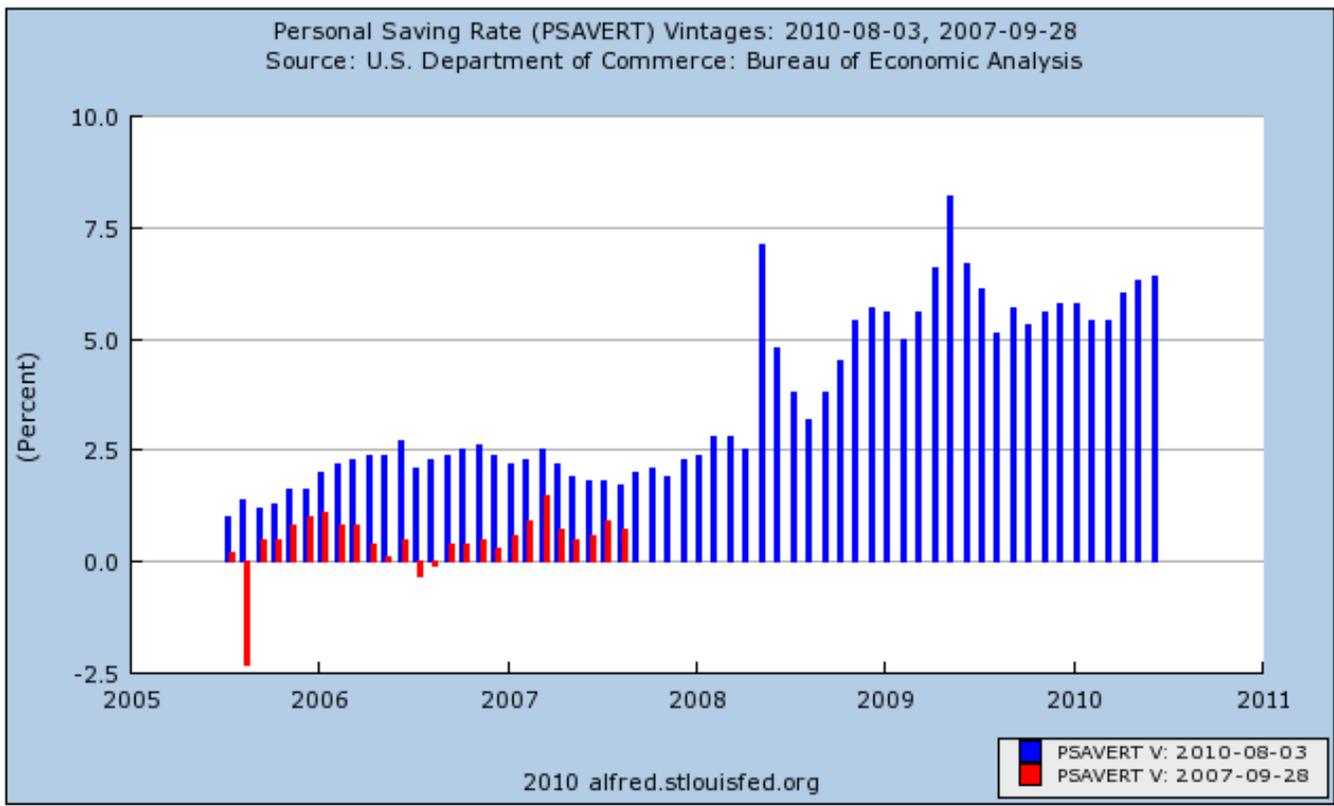
Series

te

I changed the vintage to the vintage just before the publication of our *Liber8* article. The observations date range is the last 5 years.

ALFRED Graph

[Download Data in Graph](#) | [Print](#) | [PDF](#) | [Link](#) | [View Saved Graphs](#) | [Save Graph](#)



Here's the chart with the original series and the revised data. Revisions have moved the saving rate into positive territory.

Settings

- ▶ **Graph**
- ▶ **Bar Series 1: Personal Saving Rate (PSAVERT) Vintage: 2010-08-03, Monthly, Percent, Seasonally Adjusted Annual Rate**
- ▶ **Bar Series 2: Personal Saving Rate (PSAVERT) Vintage: 2007-09-28, Monthly, Percent, Seasonally Adjusted Annual Rate**
- ▶ **Add Data Series**



ALFRED's goals

- ▶ ALFRED allows users to see the revisions to a series. Users may also select a particular date and see the data as they were at that point in time.
- ▶ Unique information, easily accessed
- ▶ Preserving important data for future research
- ▶ <http://alfred.stlouisfed.org/>

