Using Data to Make Macroeconomics Current

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- Some general observations…

- Microeconomics is "fun" to teach…

- Students often don't realize the value of macroeconomics until they are older.
  - Is this their fault?

Macro – General Questions

- Who is our audience?

- What do students need to know for upper level courses?

- How can we make macro relevant to students?

Using Data

- We need to be better at incorporating data throughout lecture.

- Visualizing data leads to more inquiry from the students.

- How can we use data to better inform our students?

- Pressure is on the professor to have updated data tables and figures to reflect the current state of the macroeconomy.

- How many professors have time to update data prior to each class?

Common Learning Outcomes

Unemployment:

- How unemployment is measured and how the unemployment rate is calculated

- The significance of the unemployment rate for the economy

- The relationship between the unemployment rate and economic growth

Macro – Learning Outcomes

- To better understand macroeconomics students need to be able to find, understand, and analyze current macroeconomic data
  - Throughout history
  - Across countries

- We don't emphasize current events.
  - Textbooks cannot keep up

"A picture is worth a thousand words"

What is the current unemployment rate?

- "For 2012, they estimated a natural rate of 5.5 percent, well below the actual unemployment rate of 8.1 percent. Later in this book, we discuss short- run economic fluctuations, including the year- to-year fluctuations in unemployment around its natural rate. In the rest of this chapter, however, we ignore the short- run fluctuations and examine why there is always some unemployment in market economies."

  -N. Gregory Mankiw (p301, Principles of Macroeconomics, 7th edition)

What is the current unemployment rate?

- Figure 9.4 shows unemployment rates in August 2013 for different ethnic groups and for groups with different levels of education. While the overall unemployment rate was 7.3 percent, Asians had an unemployment rate of 5.1 percent, and African Americans had an unemployment rate of 13.0 percent. The unemployment rate for people over age 25 without a high school degree was 11.3 percent, while the unemployment rate for college graduates was only 3.5 percent.

  -Hubbard (p269, Macroeconomics 5th edition)

What is the current unemployment rate?

- The U.S. unemployment rate in October 2014 was 5.8%. That was a substantial improvement from the situation a few years earlier. In late 2009, after the Great Recession, unemployment peaked at 10%. But unemployment was still well above pre-recession levels; it was only 4.7% in November 2007.

  -Krugman and Wells (p218, Principles of Macroeconomics, 4th edition)

Current Unemployment Rate

FRED — Civilian Unemployment Rate

October 2015: 5.0

Source: US. Bureau of Labor Statistics

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Current Unemployment Rate (Race)
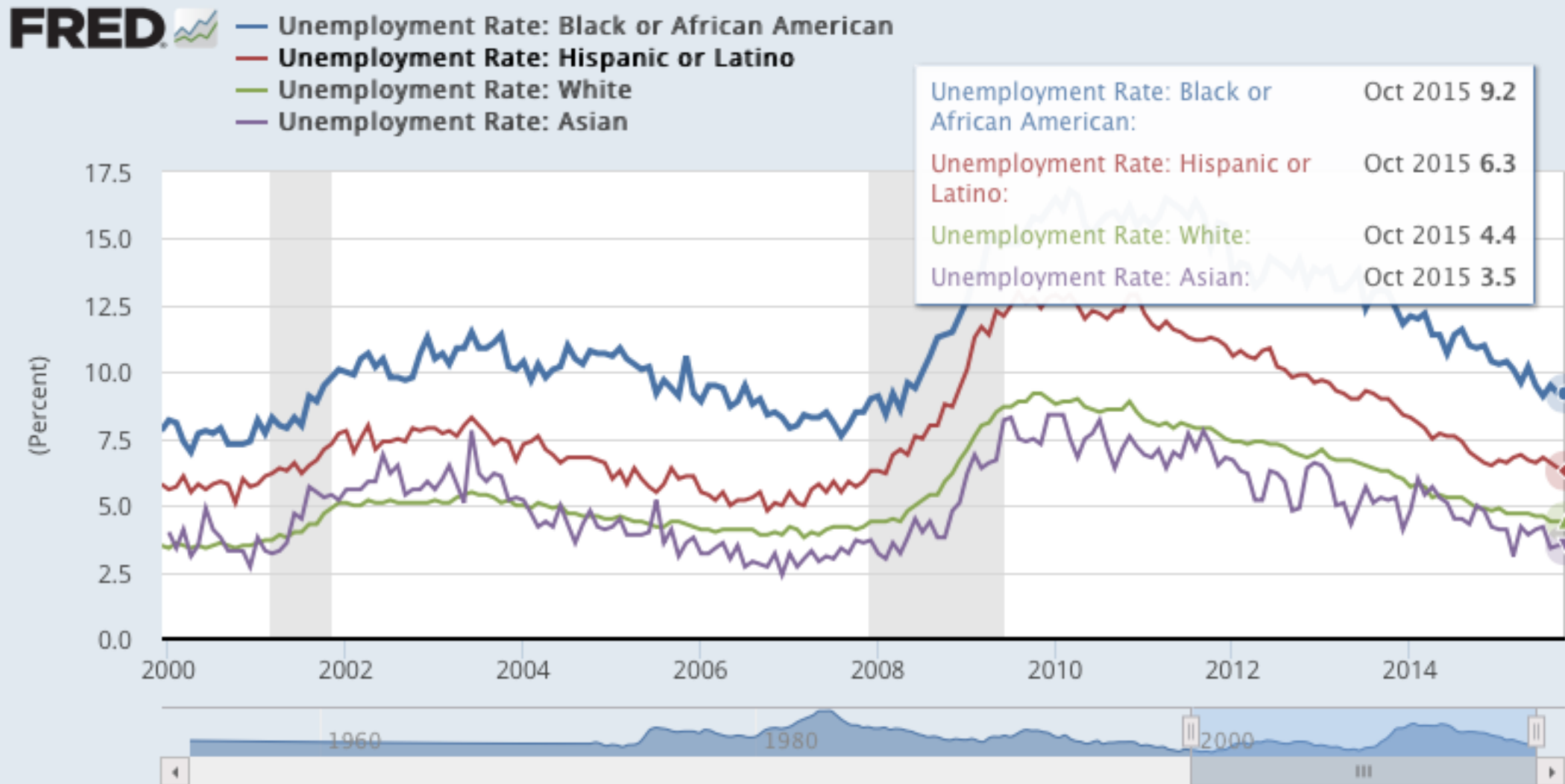
Current Unemployment Rate (Education)
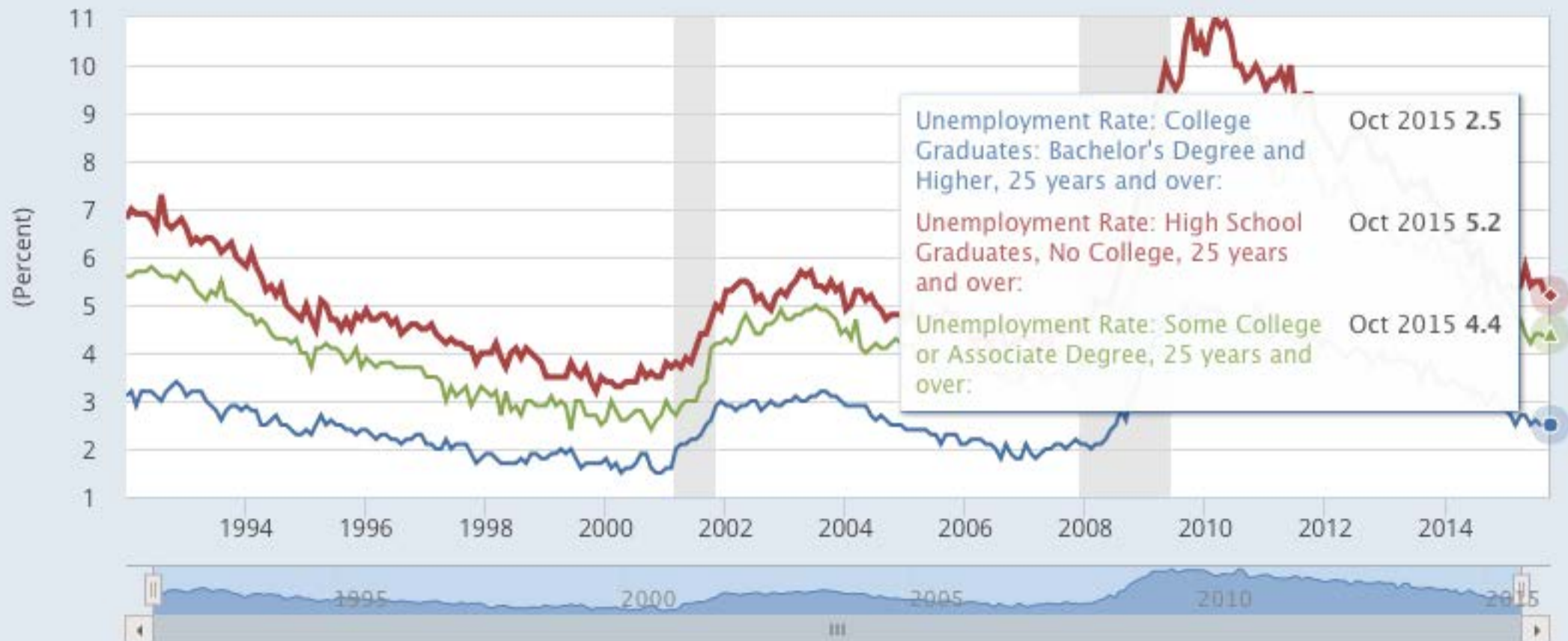
Federal Reserve Economic Database (FRED)

- Database that allows the user free access to nearly 300,000 series:
- Users can access data from:
  - The Federal Reserve System
  - OECD
  - NBER
  - BEA
  - BLS
  - US Census
  - World Bank

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FRED now has data on number of exporters by state and value of their exports to each country
bit.ly/1MqcClr

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AT A GLANCE   POPULAR SERIES   LATEST RELEASES   TOOLS   NEED HELP?

FRED

- Allows users to create an account to save key graphs.
  - Users can save graphs that automatically update to the most current data.

- Users can create a dashboard for easy classroom integration.
  - NEW FEATURE – Bulk download FRED graphs into PowerPoint.

- Data can be accessed on mobile devices.

- Graphs can be embedded into webpages/blogs which will preserve the interactive features of the graphs.

- Integrated data with GeoFRED for a unique innovative mapping tool.

FRED (cont.)

- NYU, Stern Economics has created a great series of video tutorials

- Follow FRED Blog for helpful tips and graphing suggestions.

- Easiest way to update graphs prior to class is to save graphs from within FRED.
  - Before class you can save over old images and have the presentation software automatically updated.

Examples – Traditional Graphs

Examples – Traditional Graphs (cont)
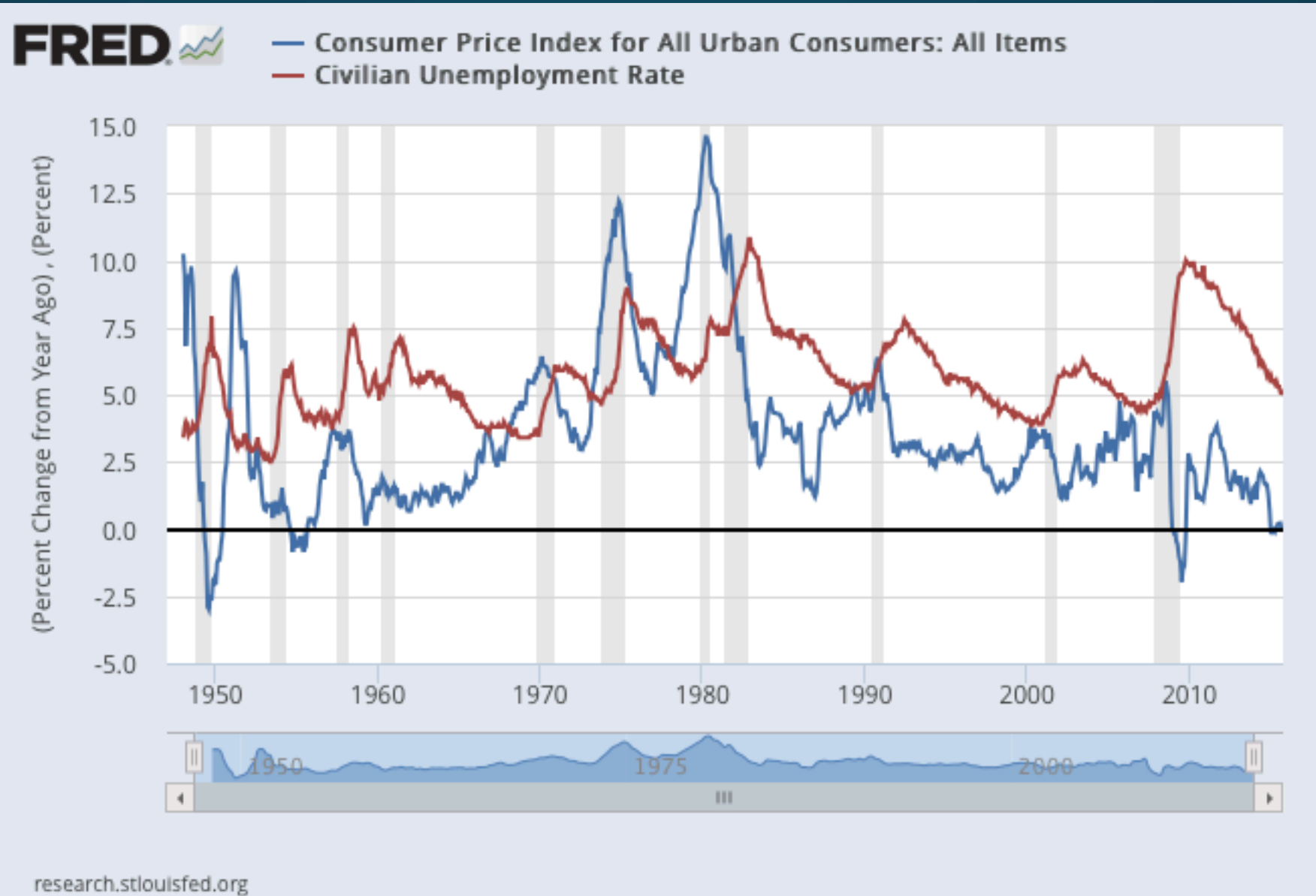
Examples – GDP Components
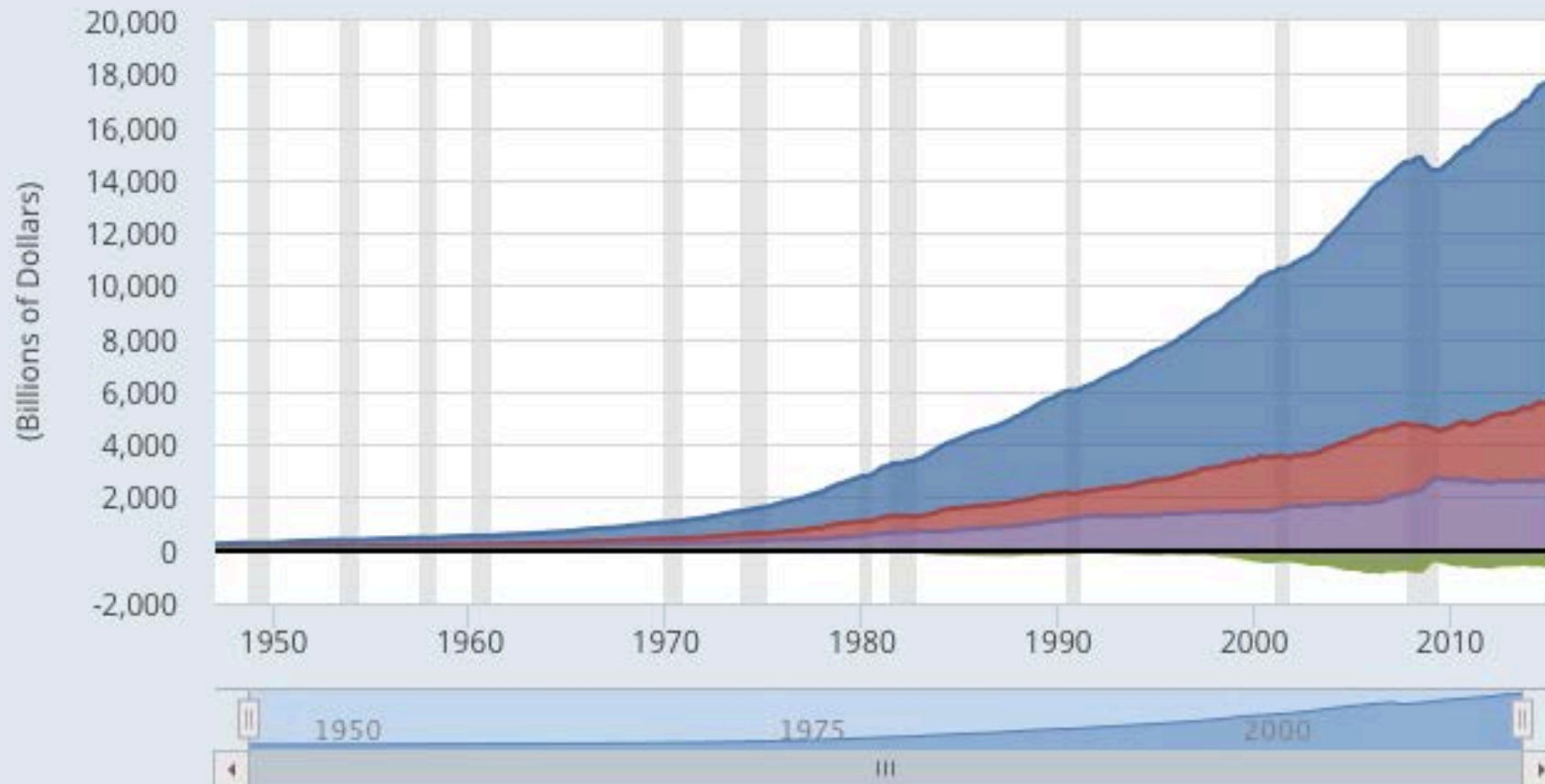
Examples – GDP Components (%)
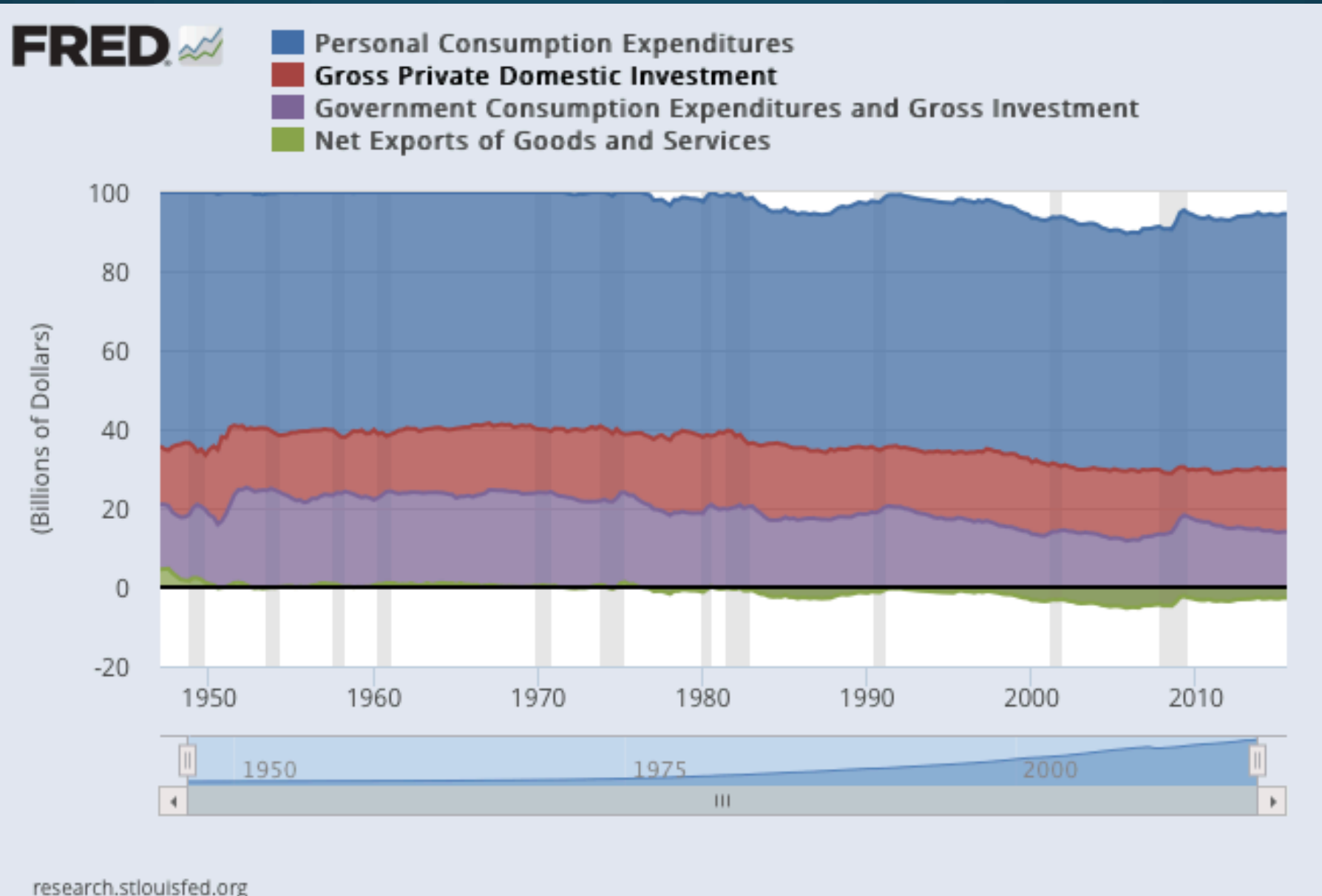
Examples – Unemployment

FRED
- Civilian Employment
- Unemployment Level
- Not in Labor Force
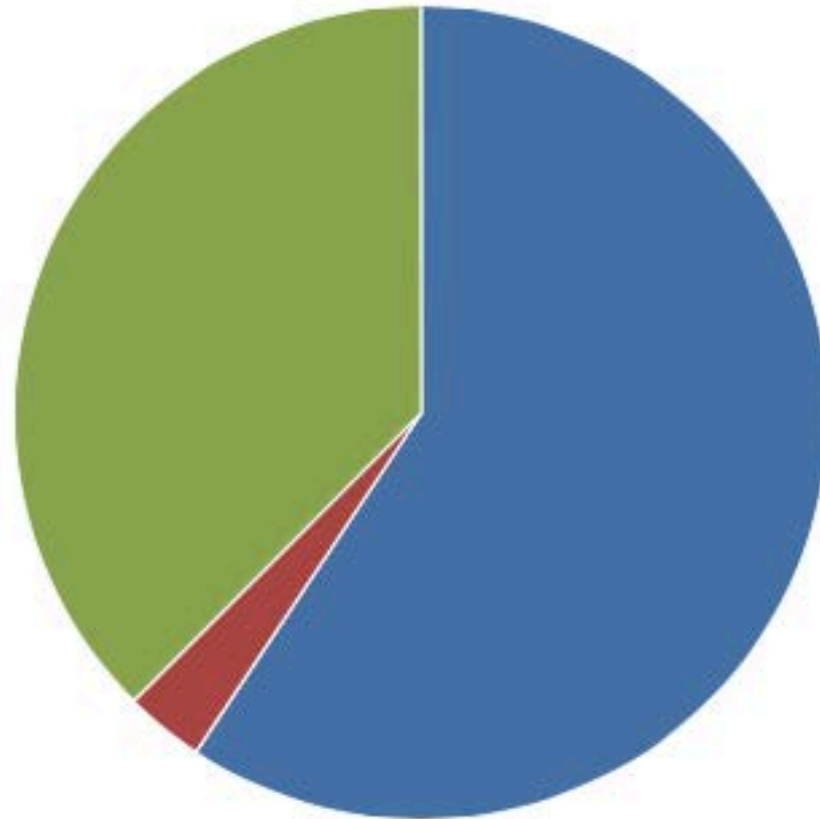
2015-10
2015 research.stlouisfed.org

Examples – Nonfarm Employment
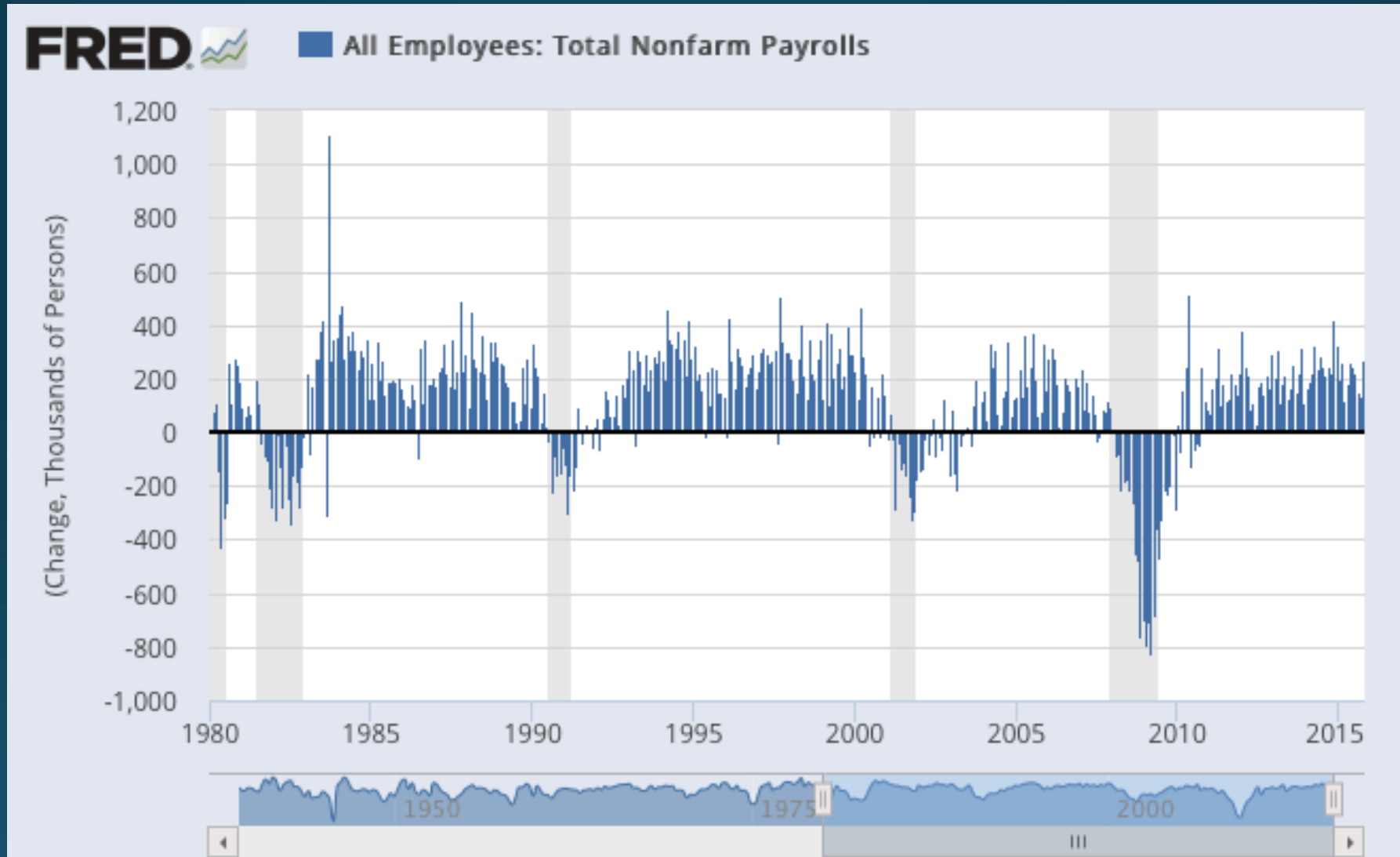
Source: US. Bureau of Labor Statistics

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Examples – Employment (industry)

Examples – Employment (Recoveries)
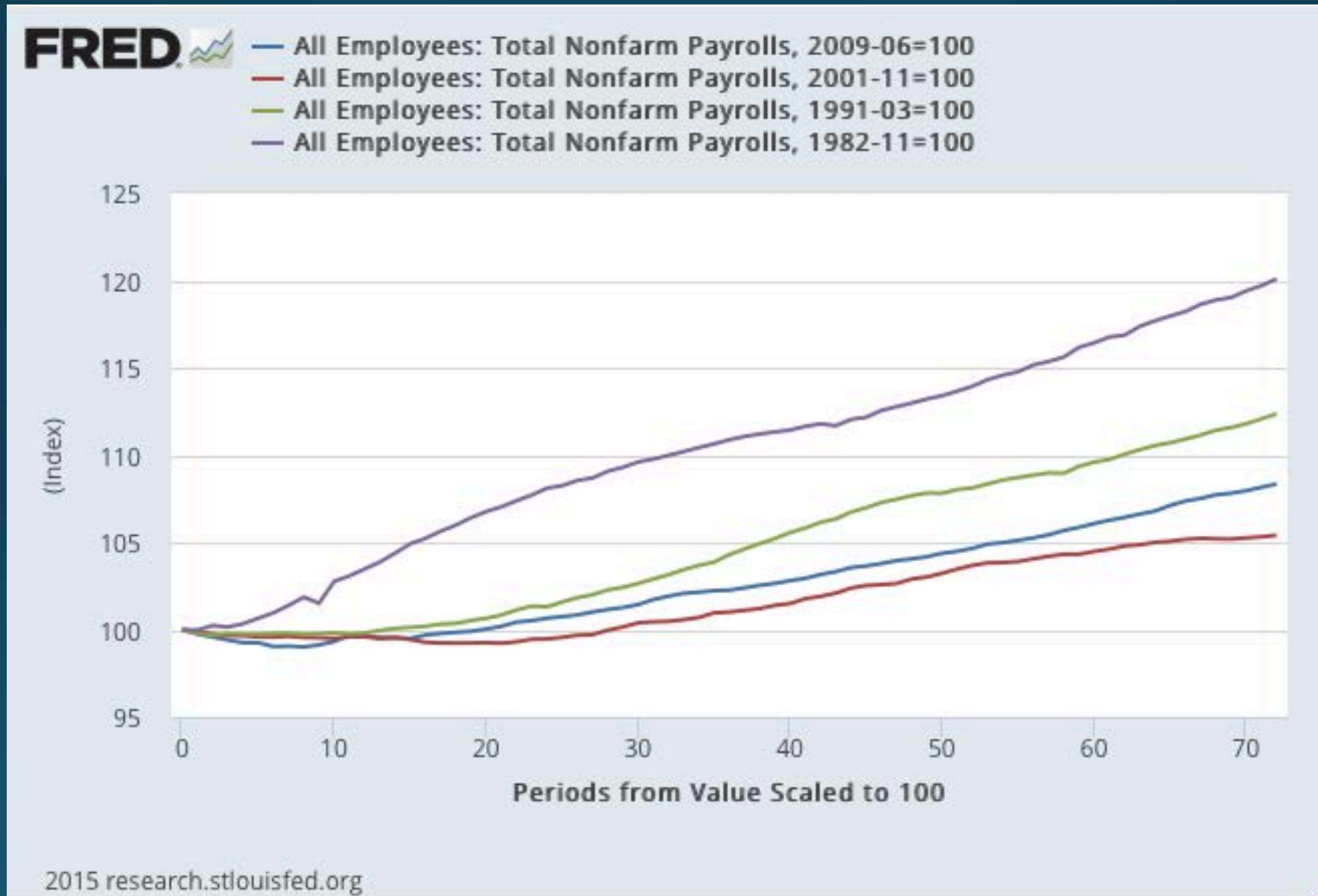
Examples – Employment (Duration)

FRED
- Of Total Unemployed, Percent Unemployed Less than 5 Weeks
- Of Total Unemployed, Percent Unemployed 5 to 14 Weeks
- Of Total Unemployed, Percent Unemployed 15 to 26 Weeks
- Of Total Unemployed, Percent Unemployed 27 Weeks and over

2015-08

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Examples – Employment (Duration)

Examples – Employment (Duration)
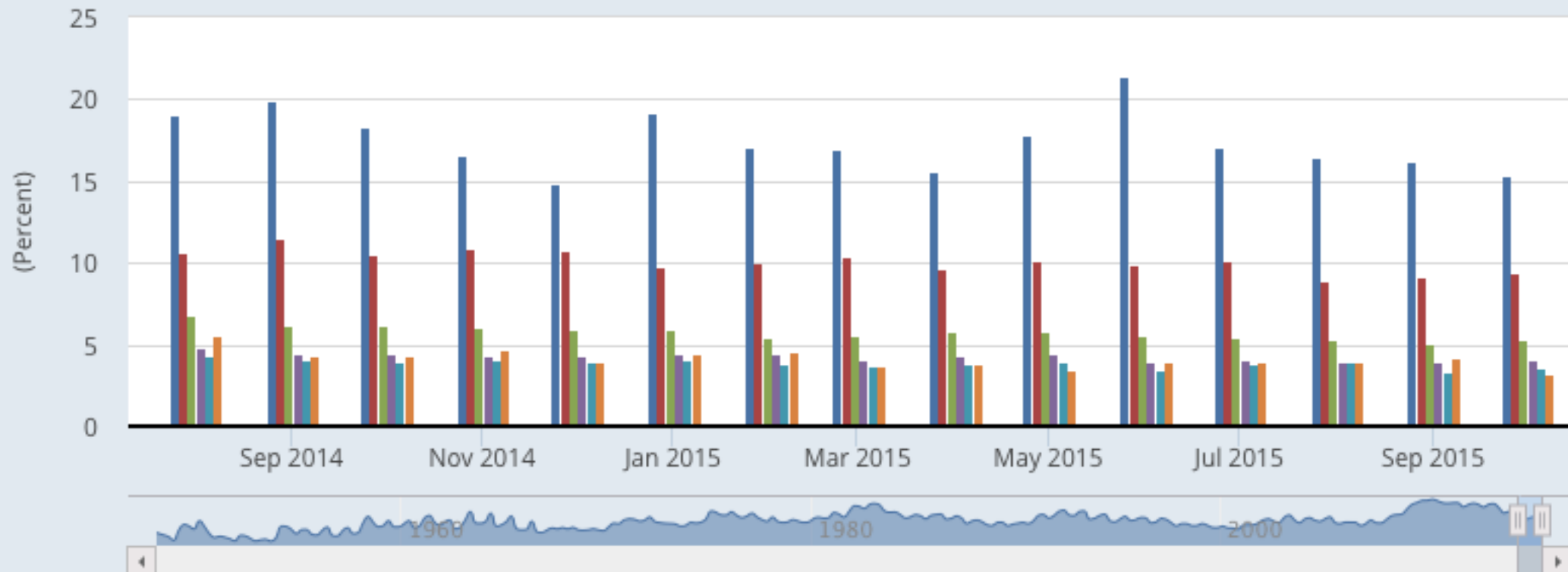
Examples – Across States
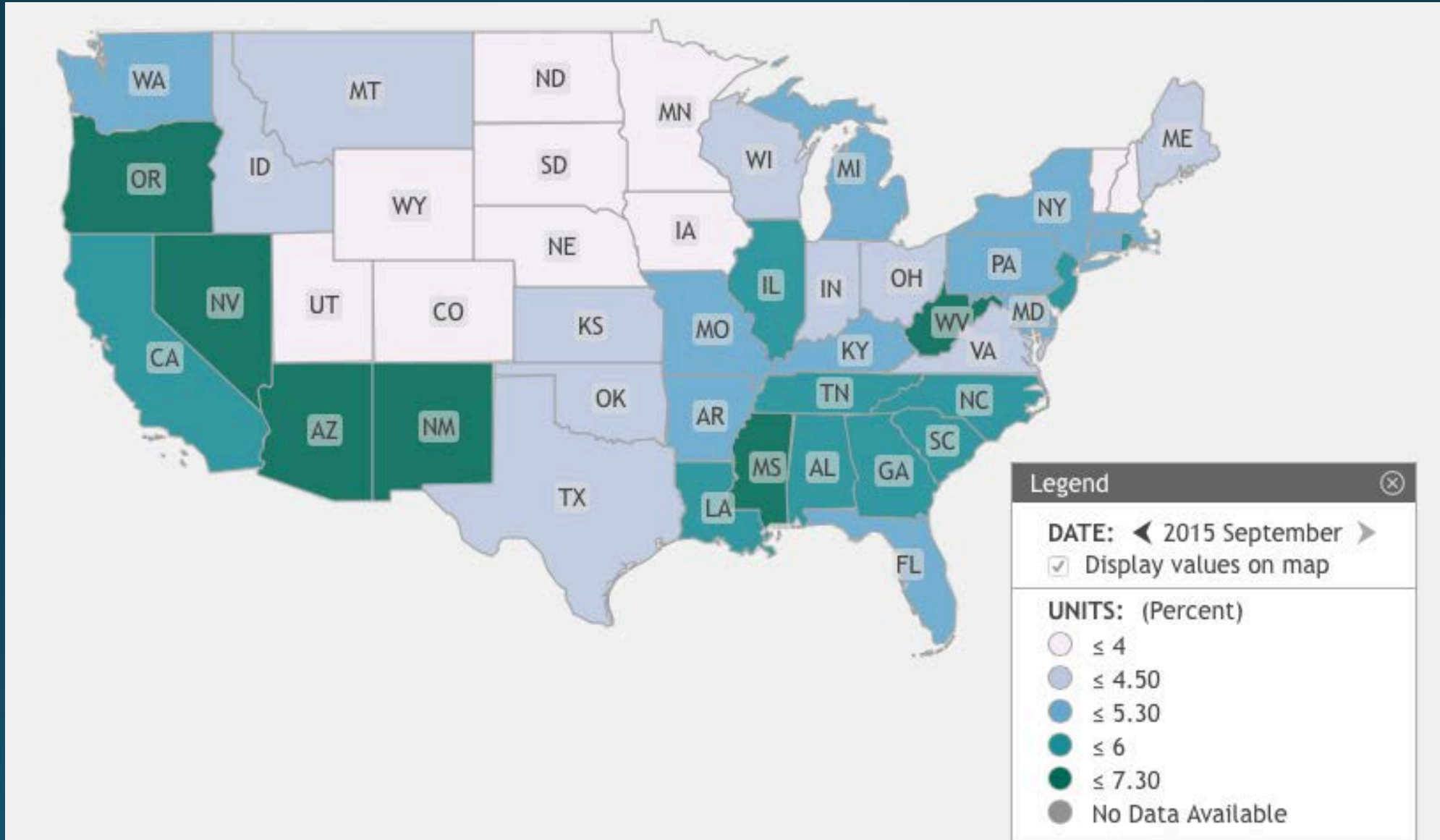
Examples – Across Counties
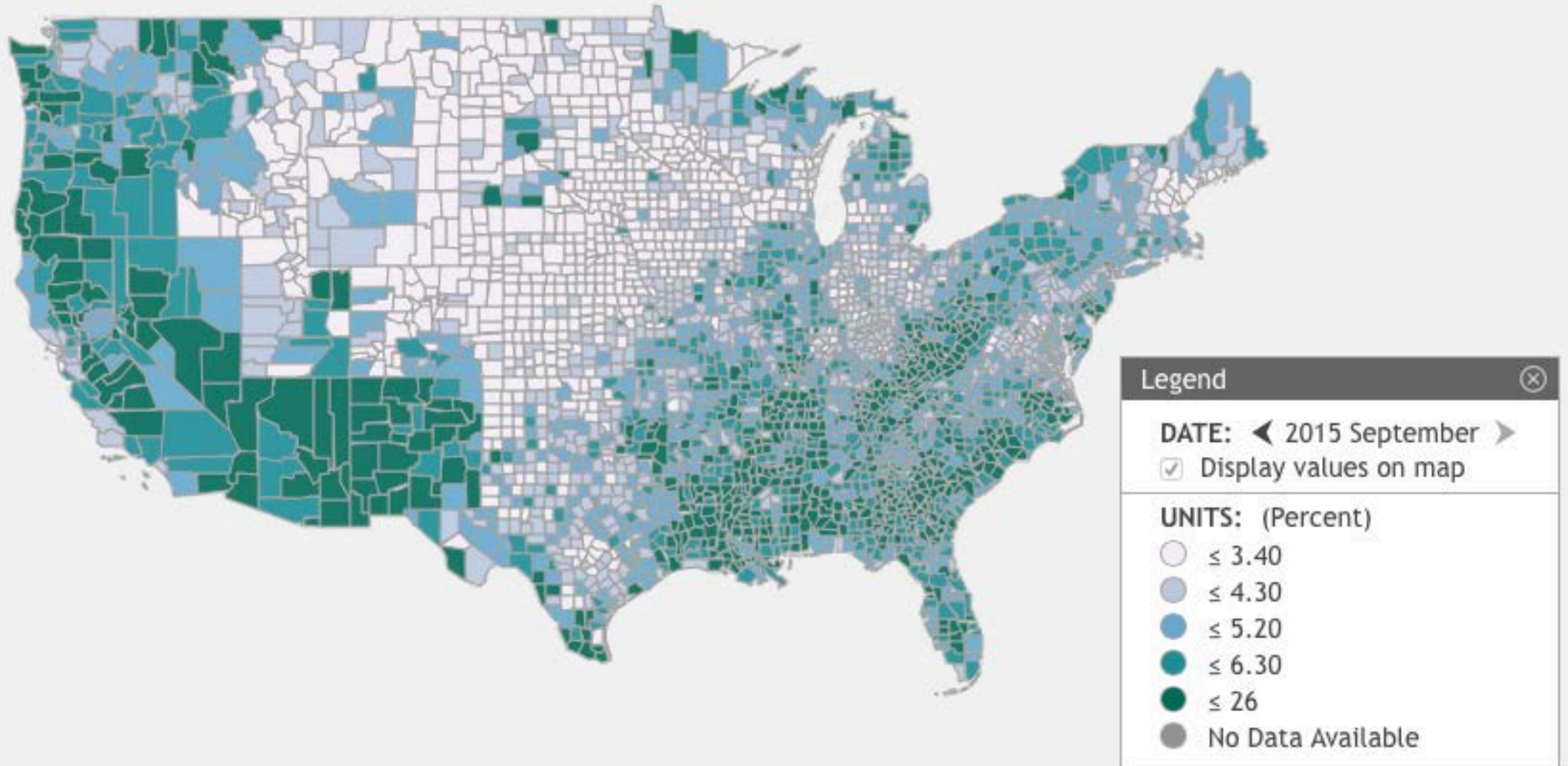
Legend

DATE: ◀ 2015 September ▶
☑ Display values on map

UNITS: (Percent)
○ ≤ 3.40
○ ≤ 4.30
○ ≤ 5.20
○ ≤ 6.30
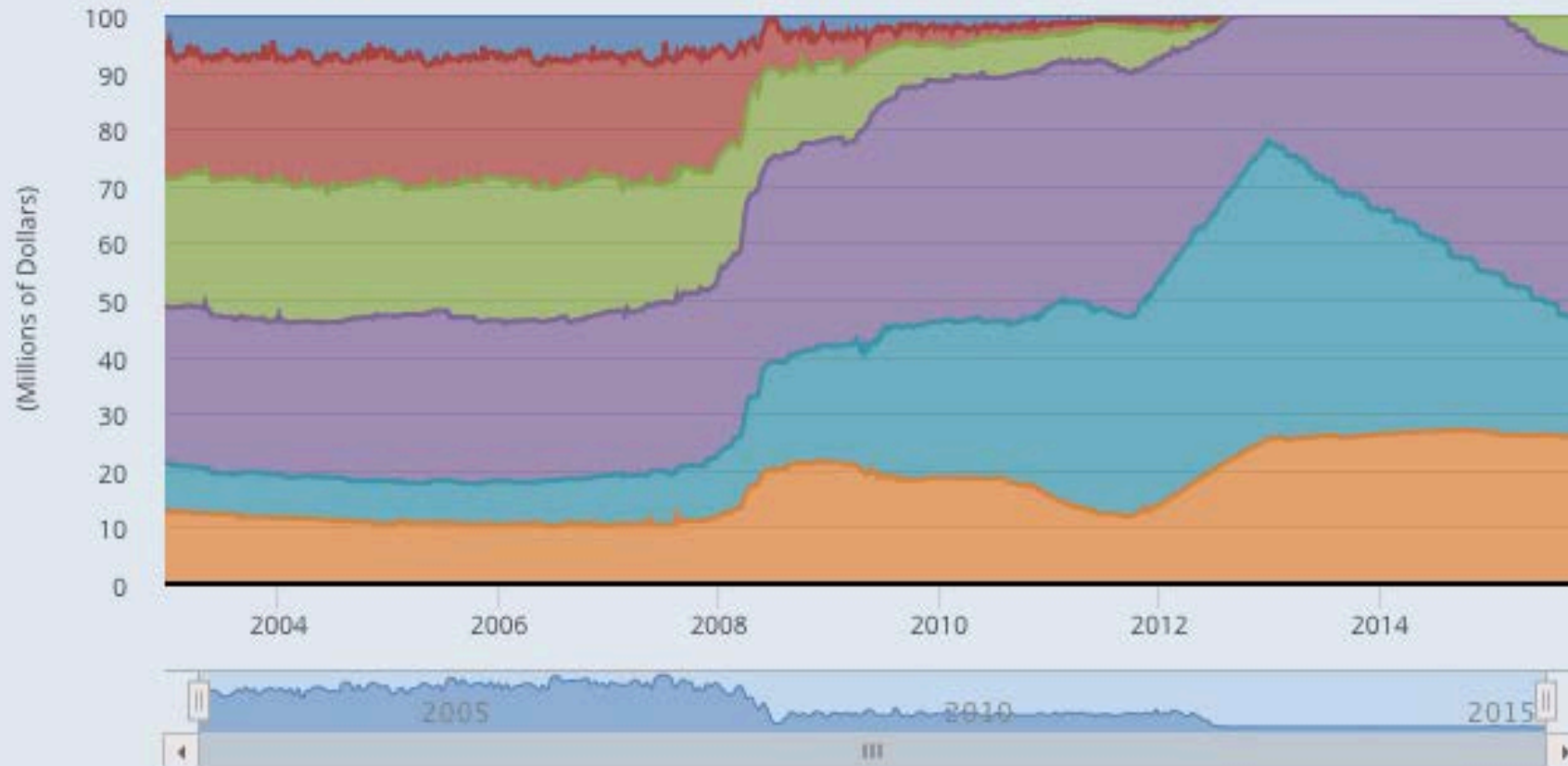○ ≤ 26
○ No Data Available

Examples – Inflation
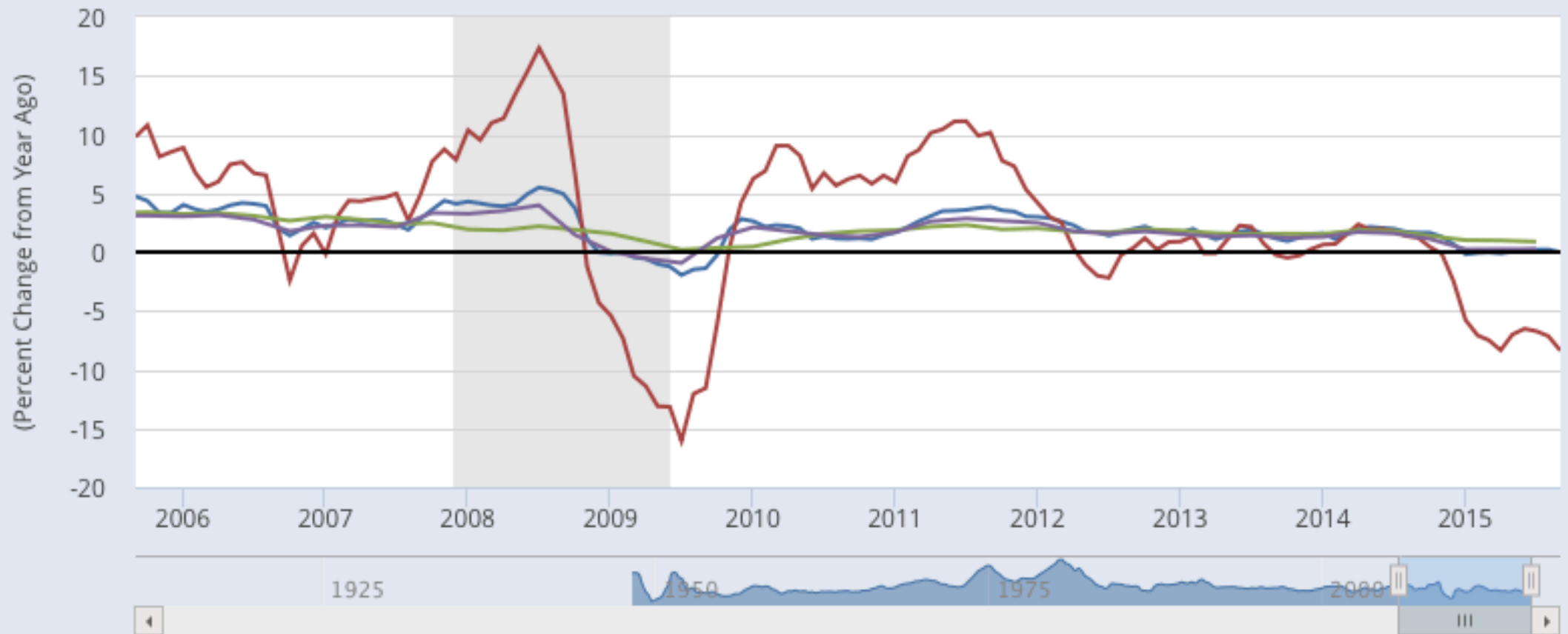
Examples – Treasury Holdings
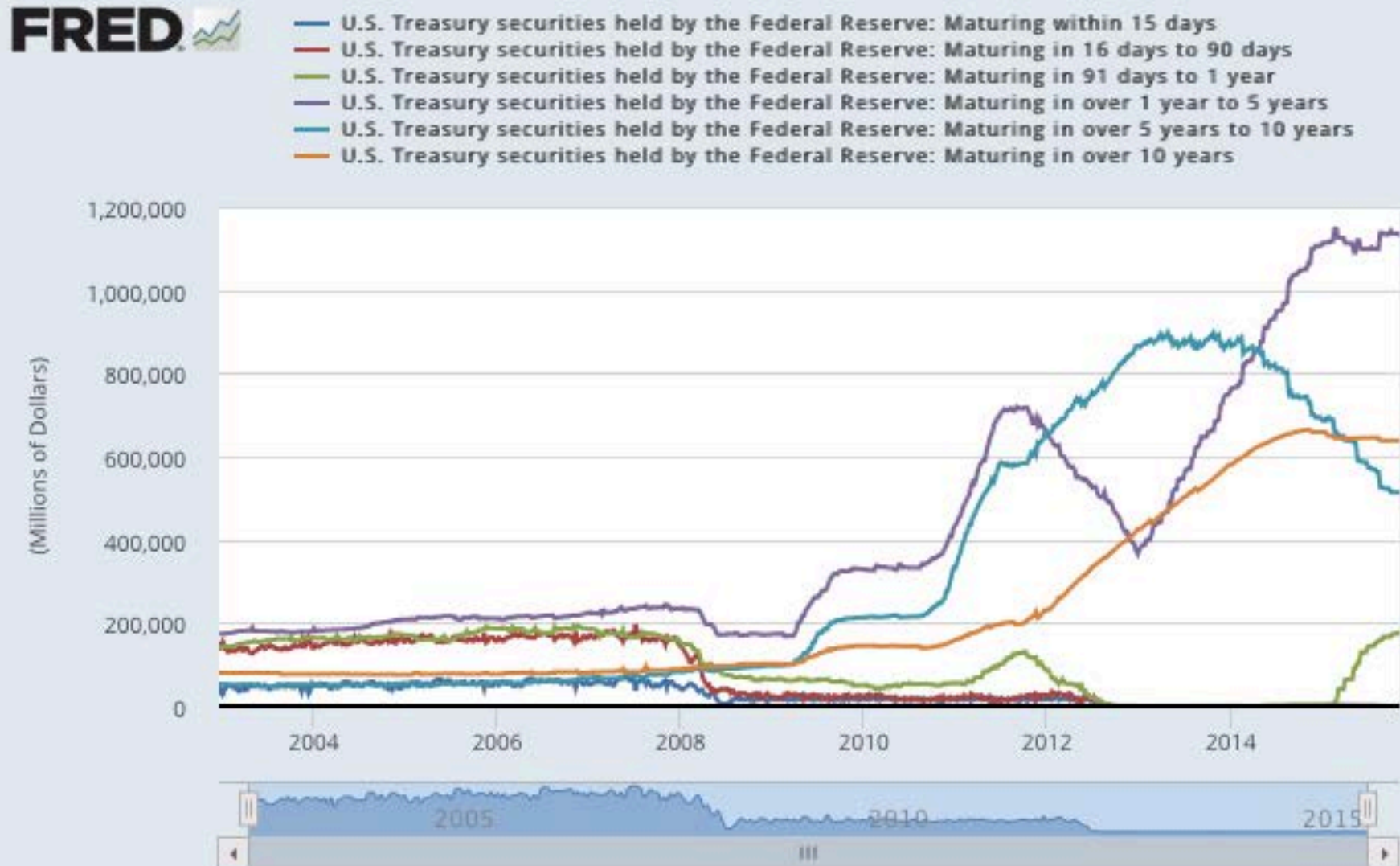
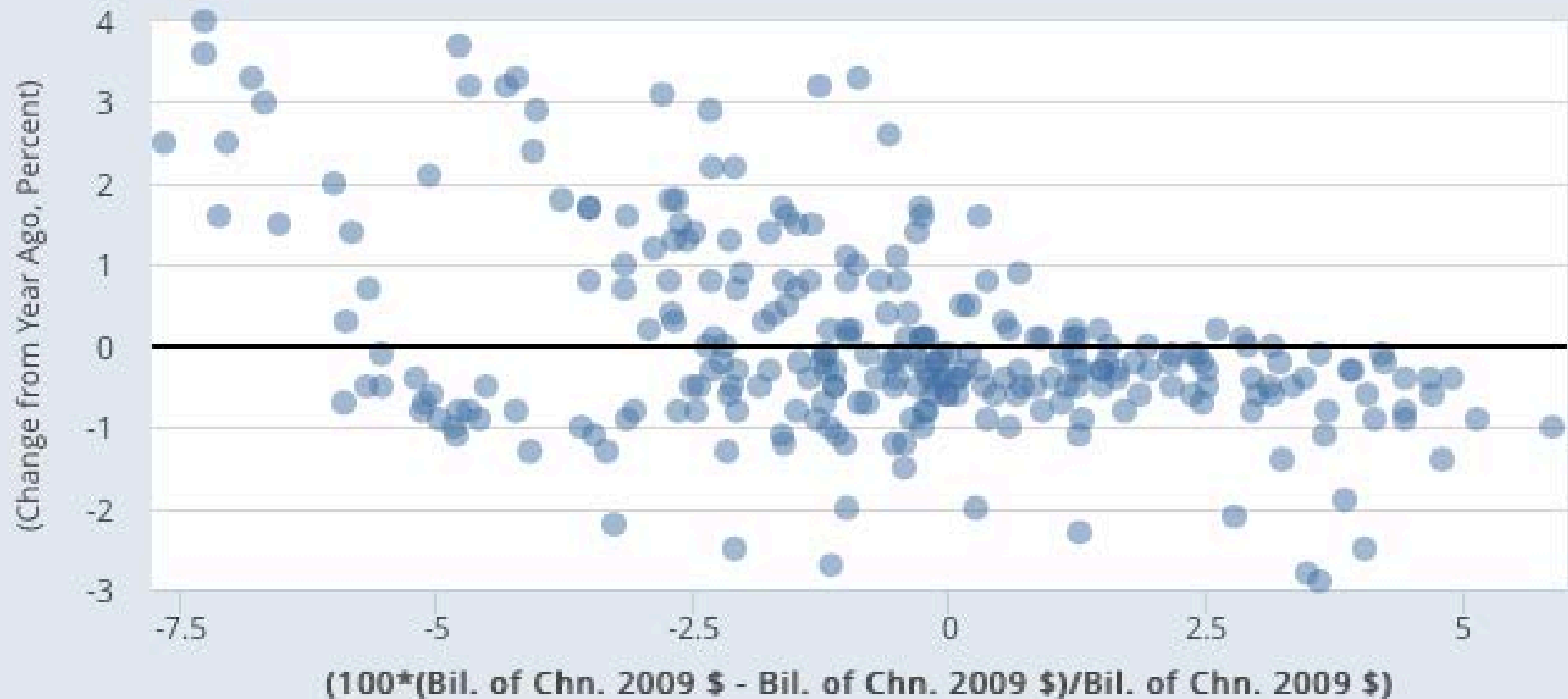# Examples – Treasury Holdings

FRED

- U.S. Treasury securities held by the Federal Reserve: Maturing within 15 days
- U.S. Treasury securities held by the Federal Reserve: Maturing in 16 days to 90 days
- U.S. Treasury securities held by the Federal Reserve: Maturing in 91 days to 1 year
- U.S. Treasury securities held by the Federal Reserve: Maturing in over 1 year to 5 years
- U.S. Treasury securities held by the Federal Reserve: Maturing in over 5 years to 10 years
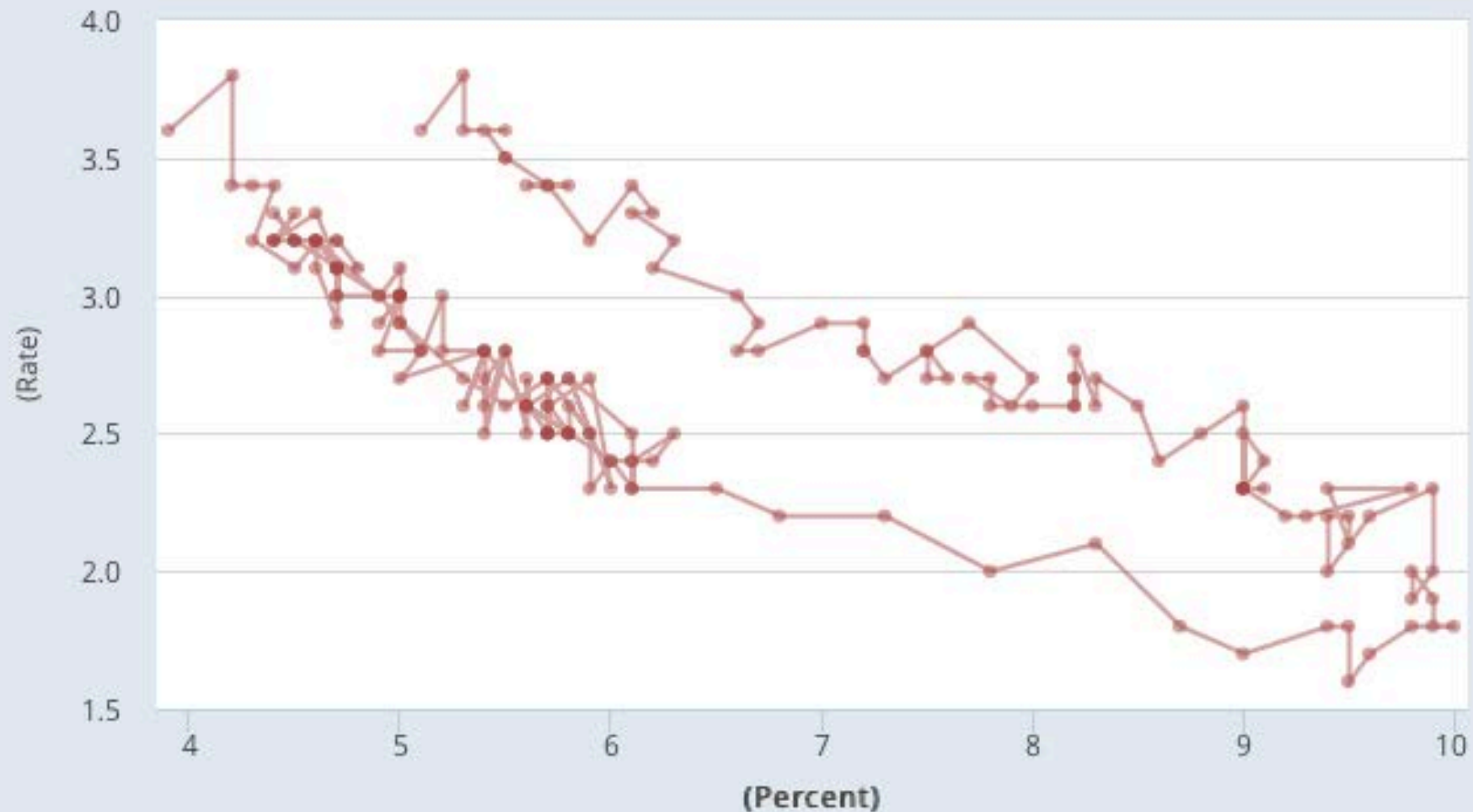- U.S. Treasury securities held by the Federal Reserve: Maturing in over 10 years
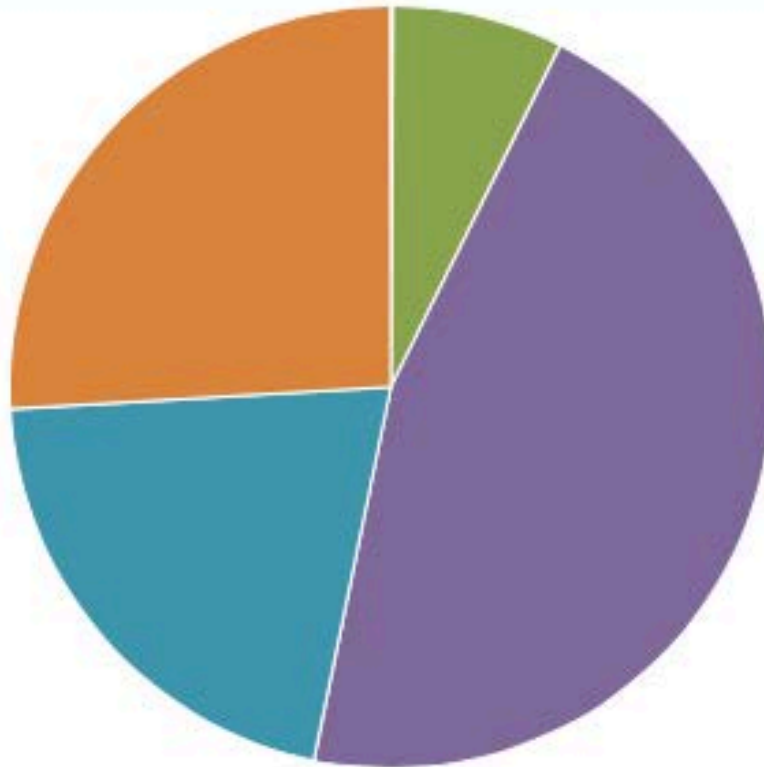
2015-11-04

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Examples – Treasury Holdings

Examples – Treasury Holdings

Examples – Okun's Law

Examples – Beveridge Curve

Job Openings: Total Nonfarm (left), Civilian Unemployment Rate (bottom), 2000-12 2015-08
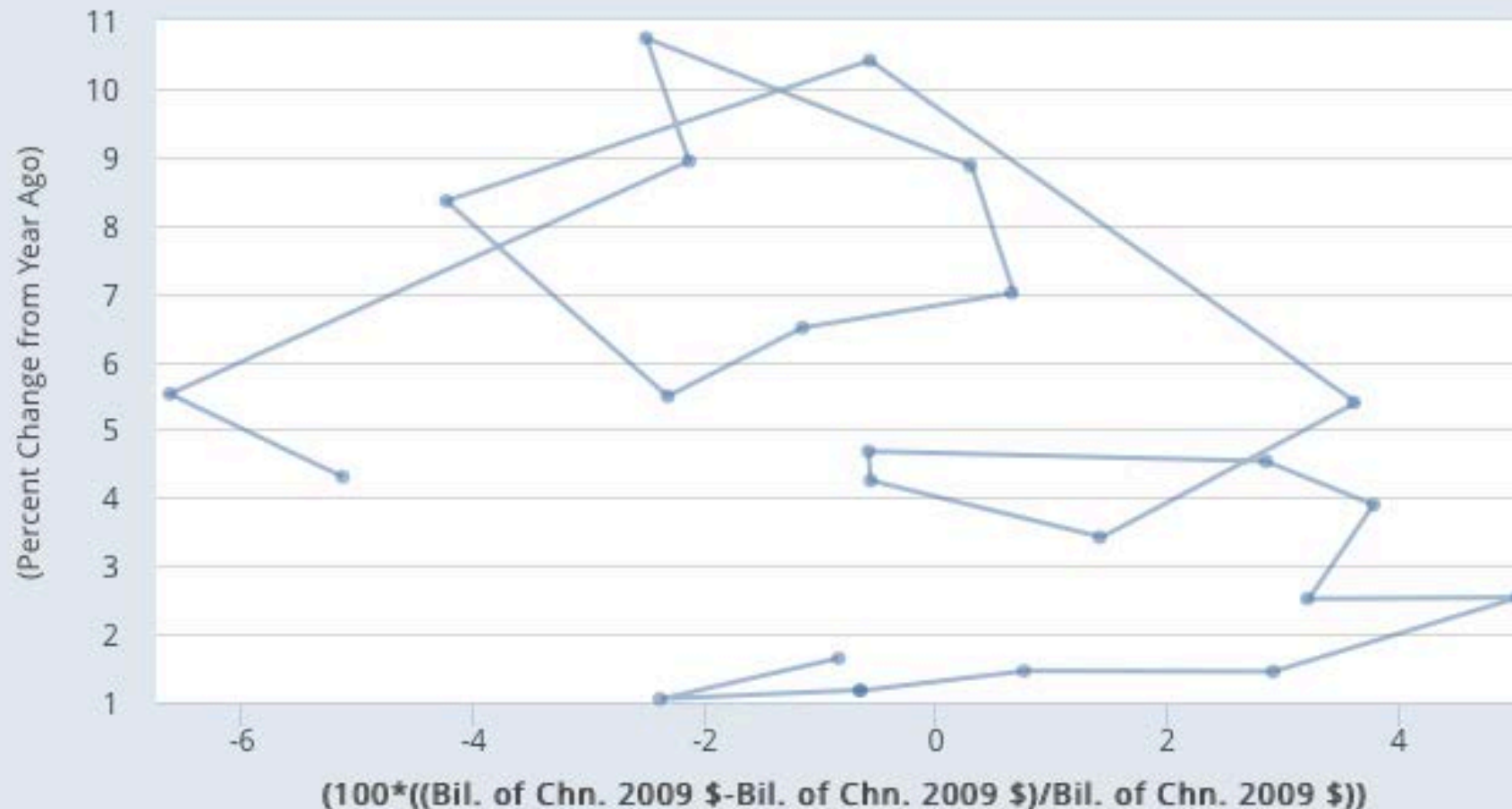
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Examples – Phillip's Curve

FRED

Civilian Unemployment Rate (left), Personal Consumption Expenditures: Chain-type Price Index (bottom), 1970-01 2015-08
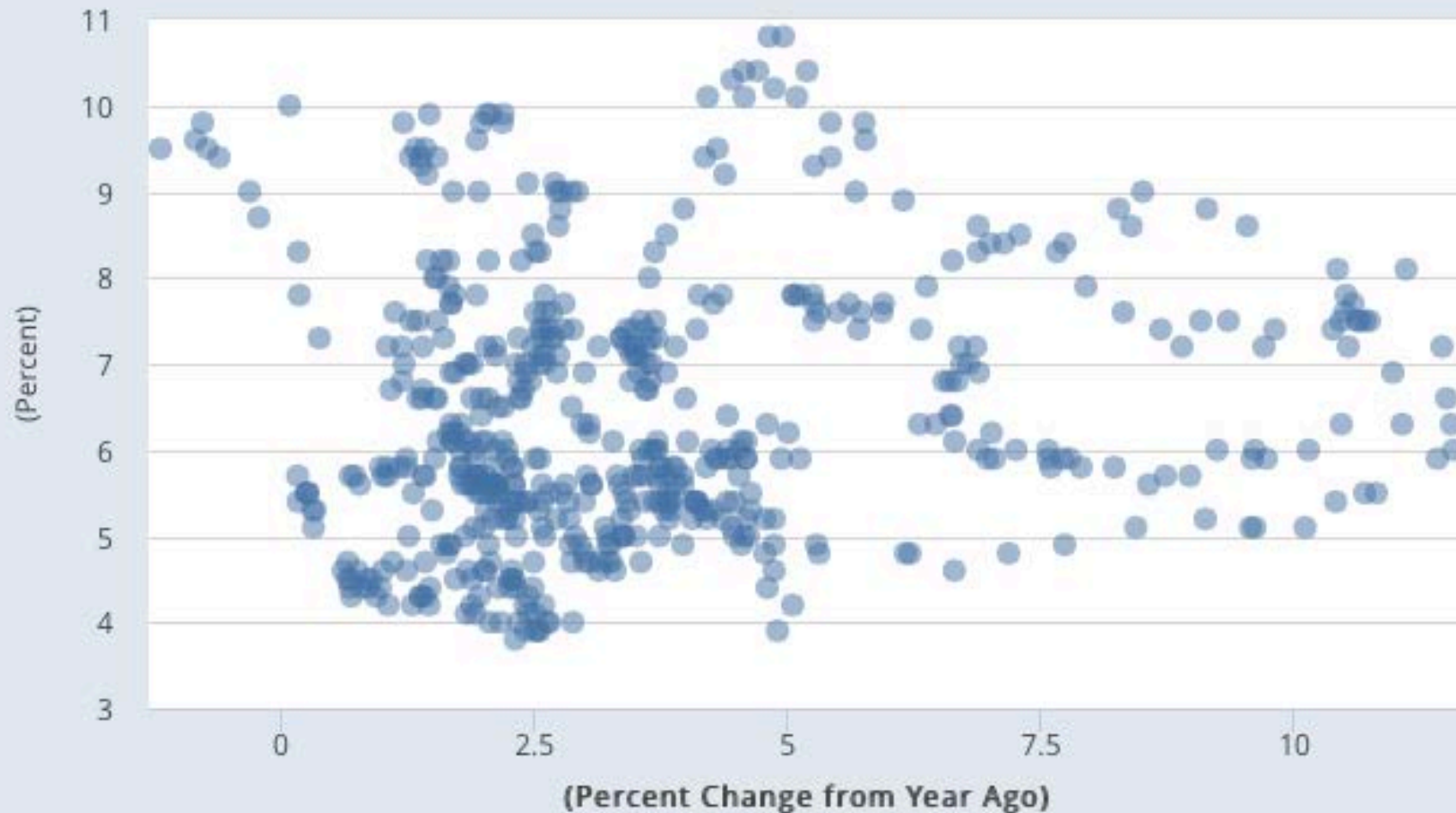
(Percent) — vertical axis

(Percent Change from Year Ago) — horizontal axis

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Examples – Inflation/Output Loops

Examples – Inflation/Output Loops

Examples – Taylor's Rules

FRED

— Effective Federal Funds Rate
— 8.5+1.4*(Personal Consumption Expenditures: Chain-type Price Index-Civilian Unemployment Rate)
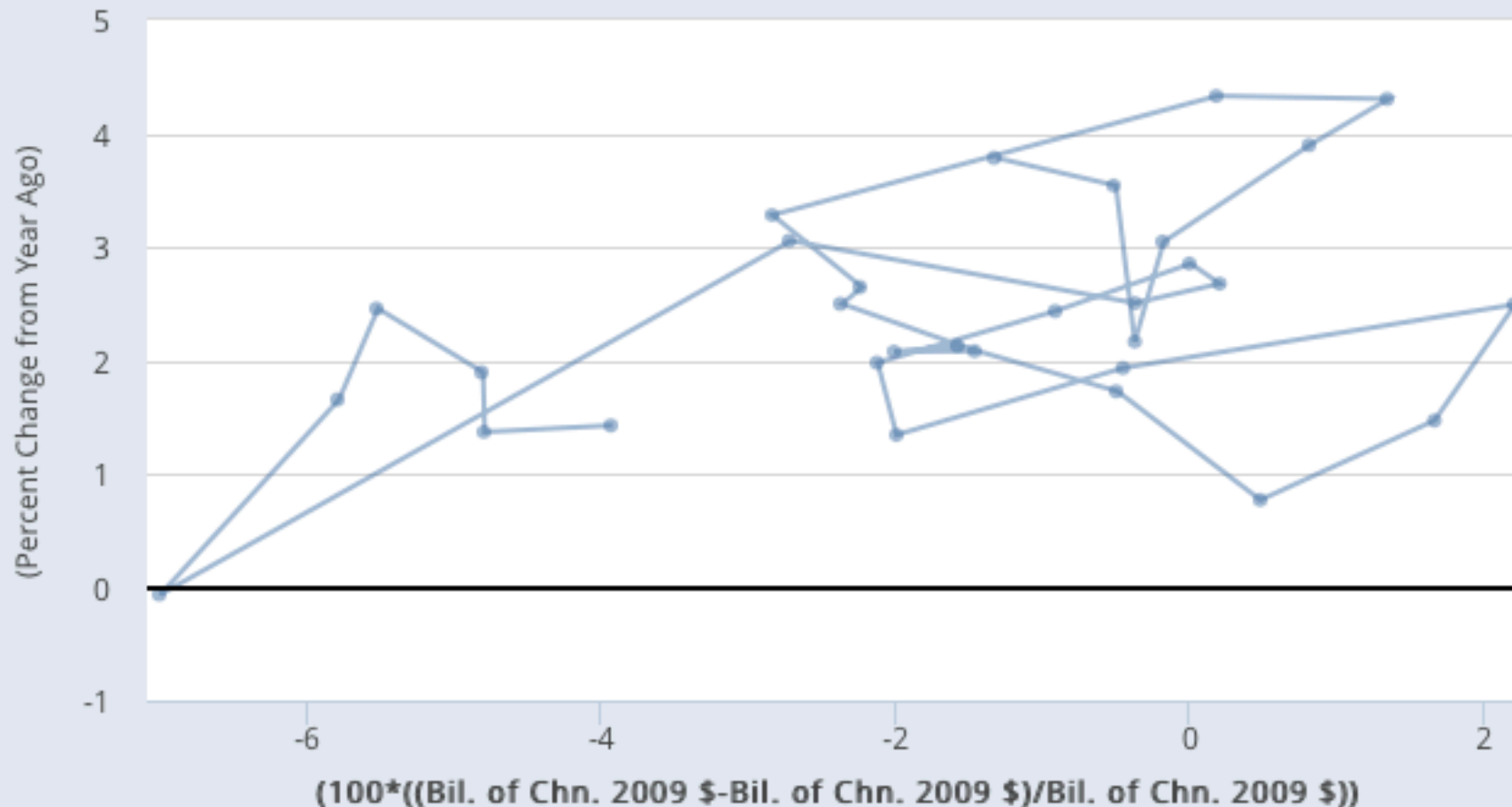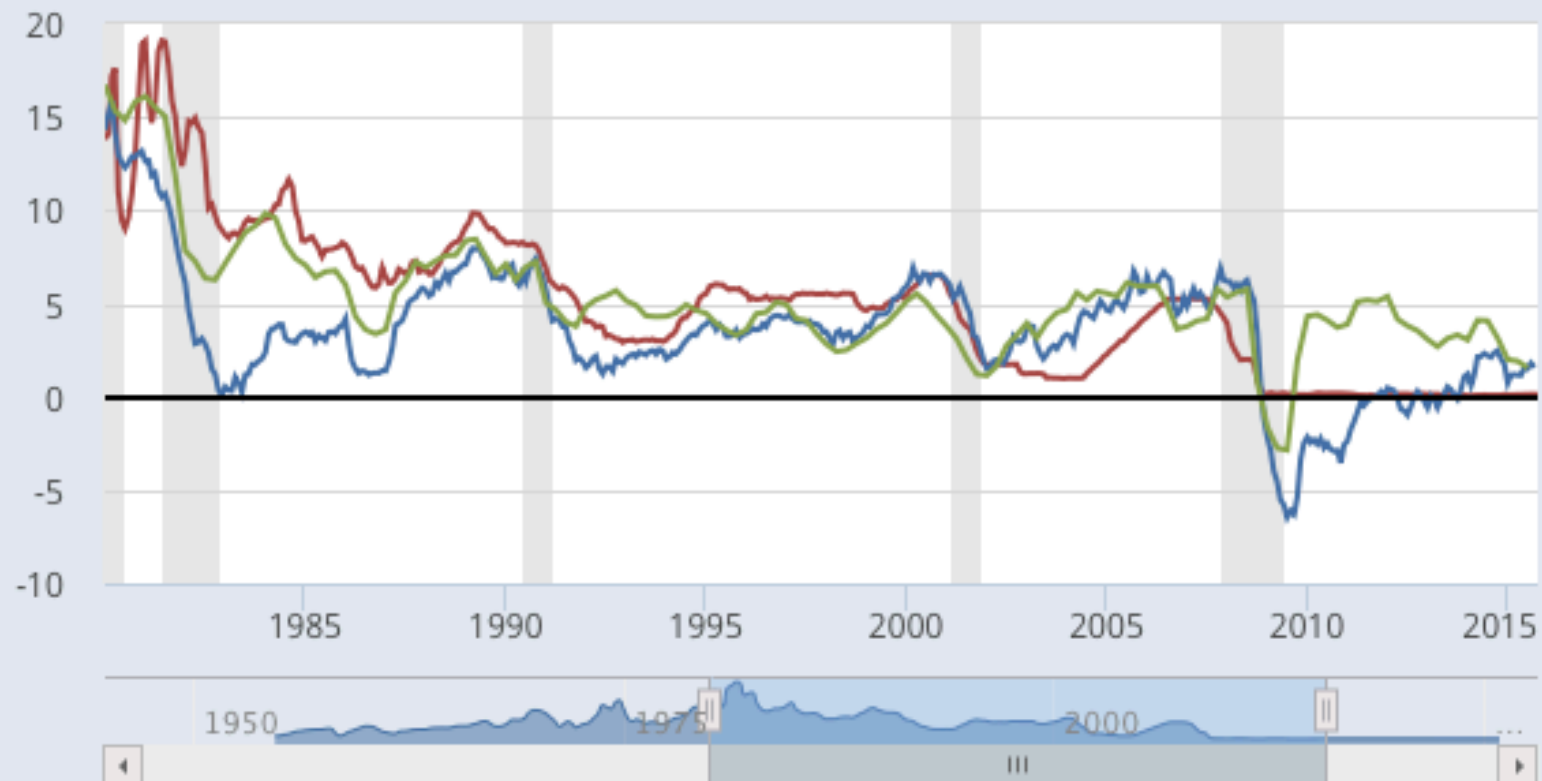— 2 + Personal Consumption Expenditures: Chain-type Price Index + 0.5*(Personal Consumption Expenditures: Chain-type Price Index-2) + 0.5*((Real Gross Domestic Product-Real Potential Gross Domestic Product))

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Improvements

- Allow trend lines for scatter diagrams

- Allow users to include variable lags

- Create custom title and axis labels

- Include data labels

- Allow different color options for different time periods