

# Where Do We Go from Here? Interest Rates in the Post-Crisis Economy

Financial Planning Association of Kansas  
May 21, 2015

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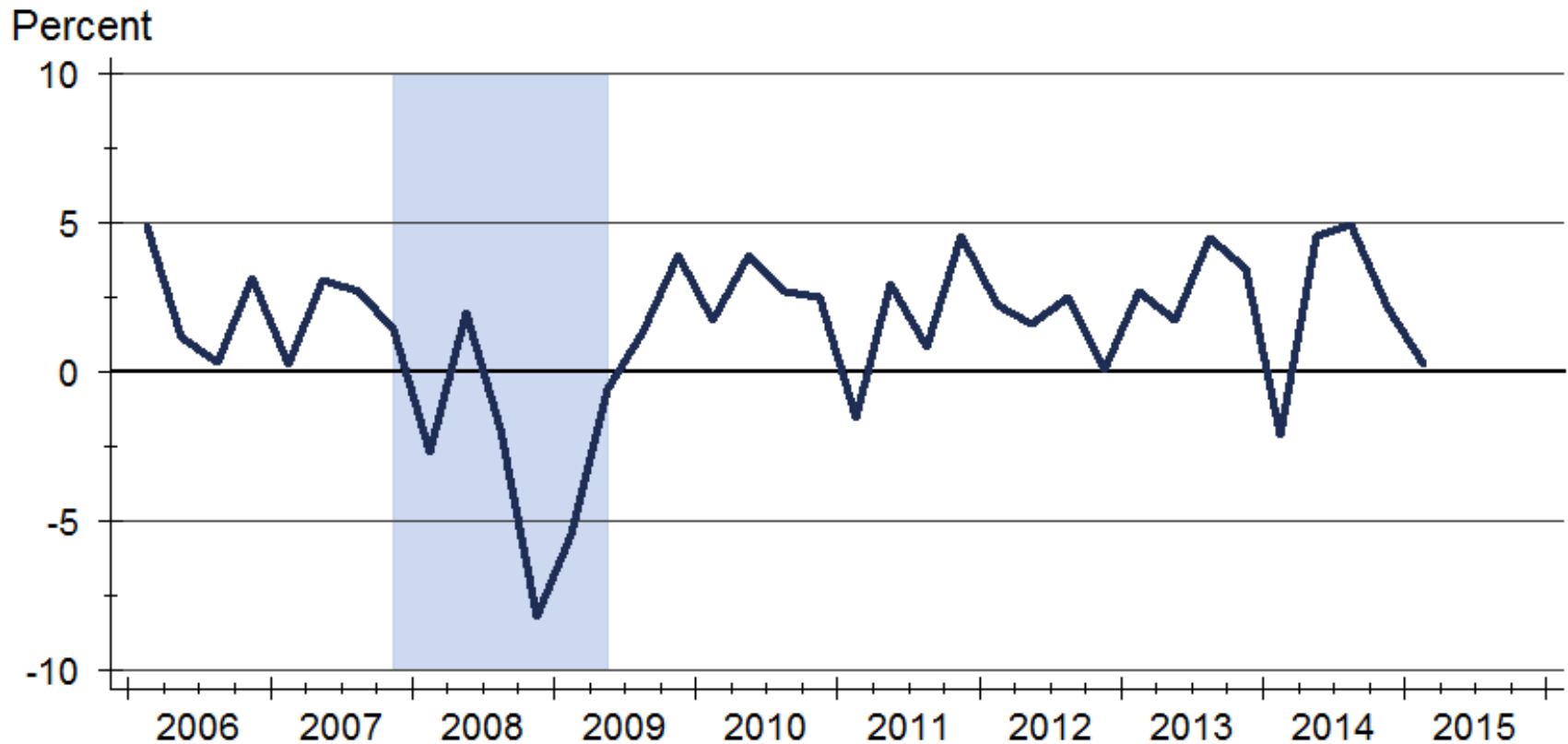


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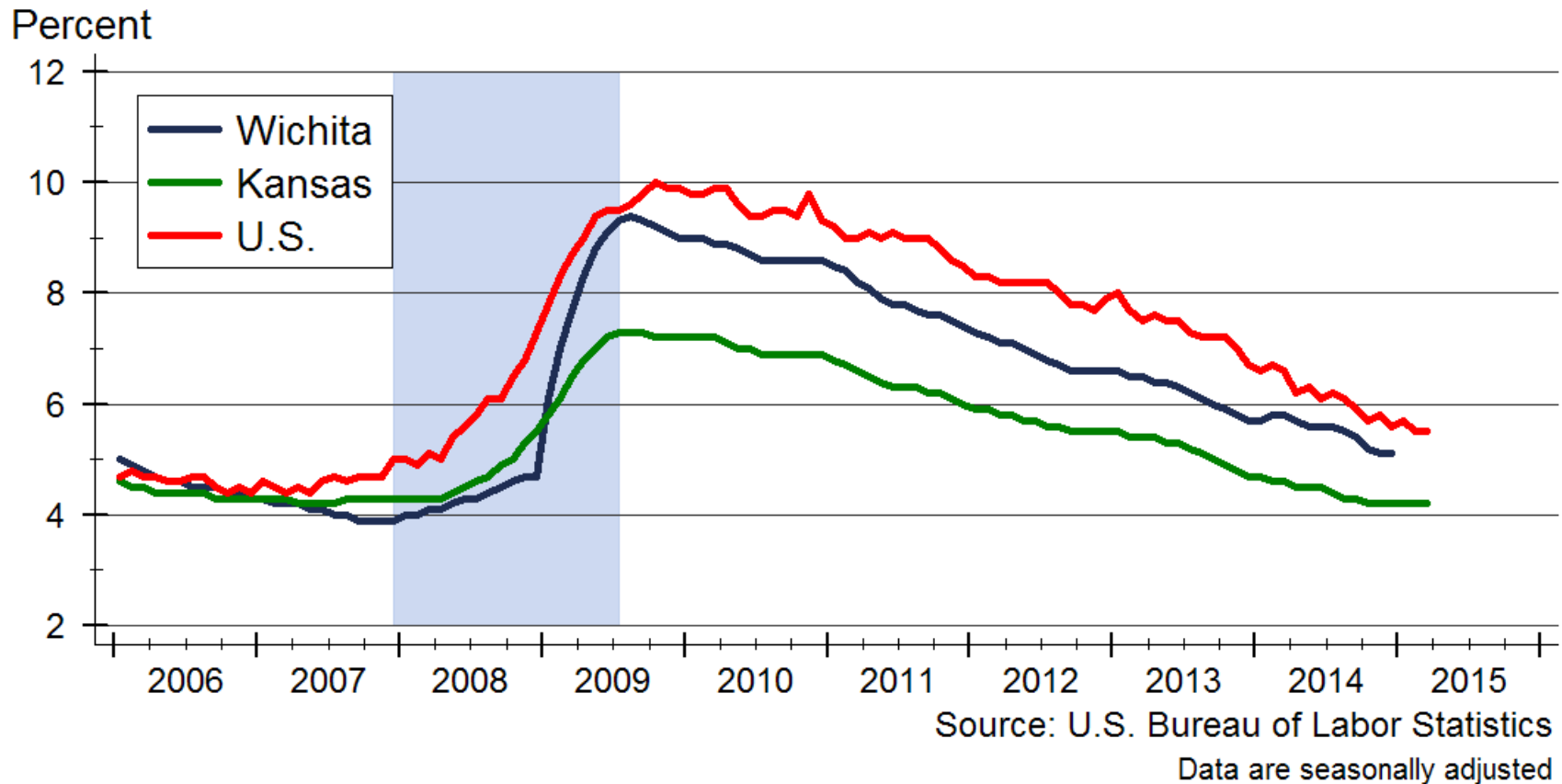
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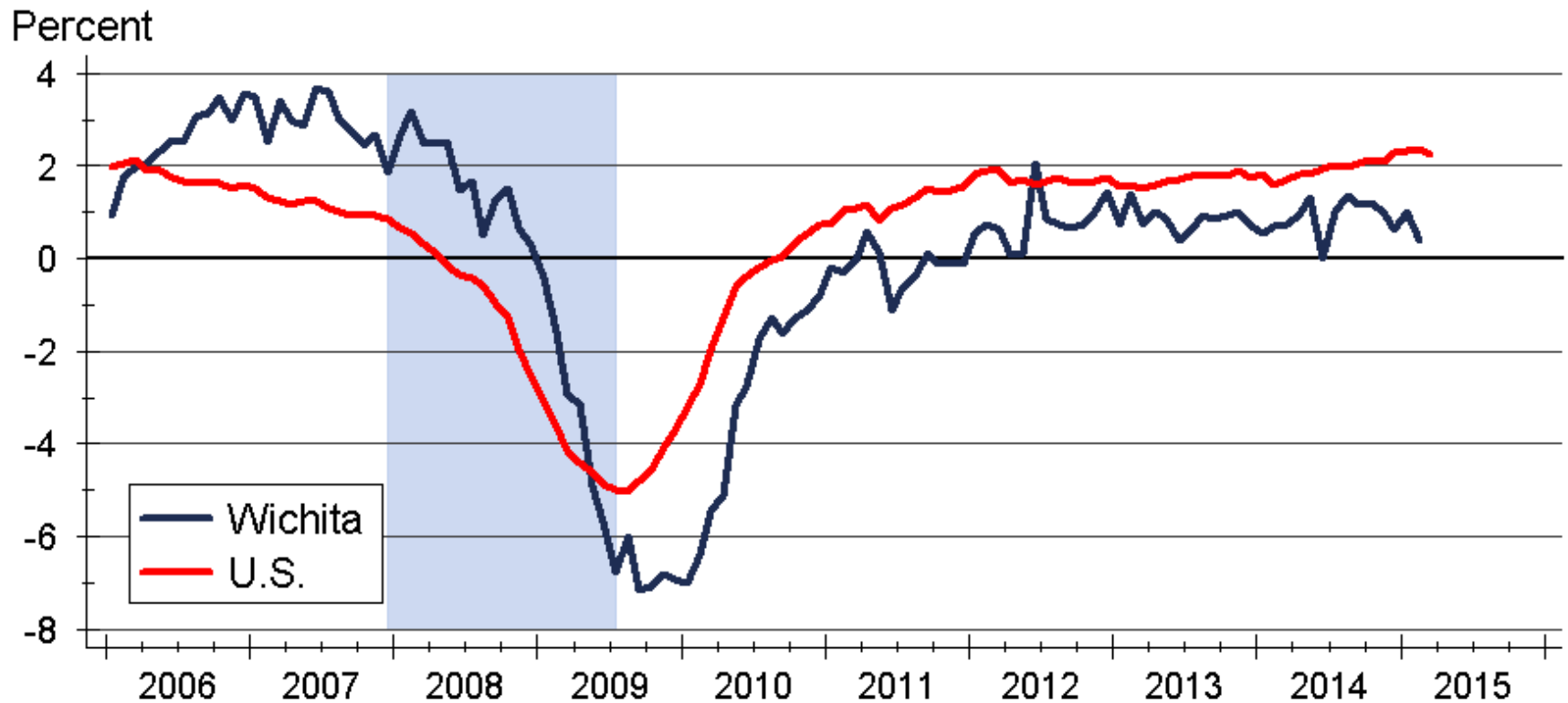
# Real GDP Growth



# Unemployment Rate

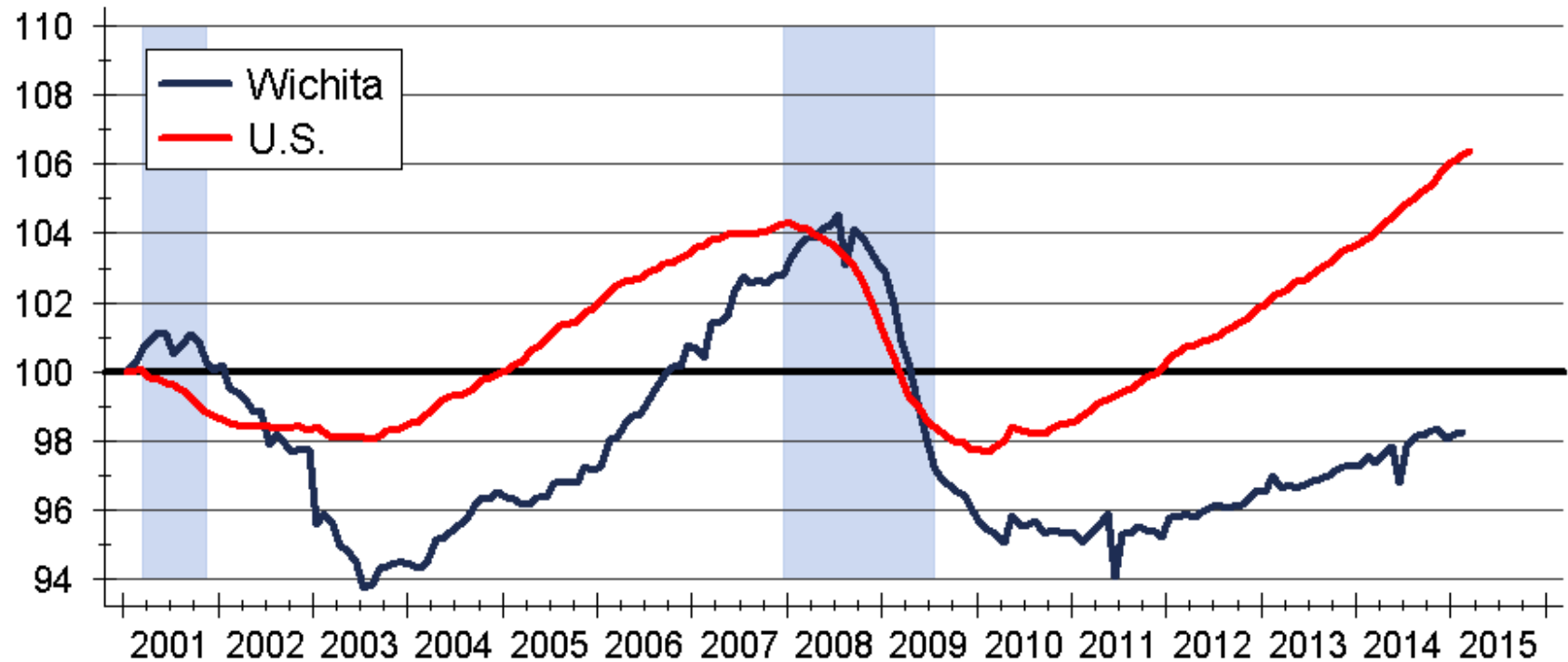


# Non-Farm Employment Growth



# Total Non-Farm Employment

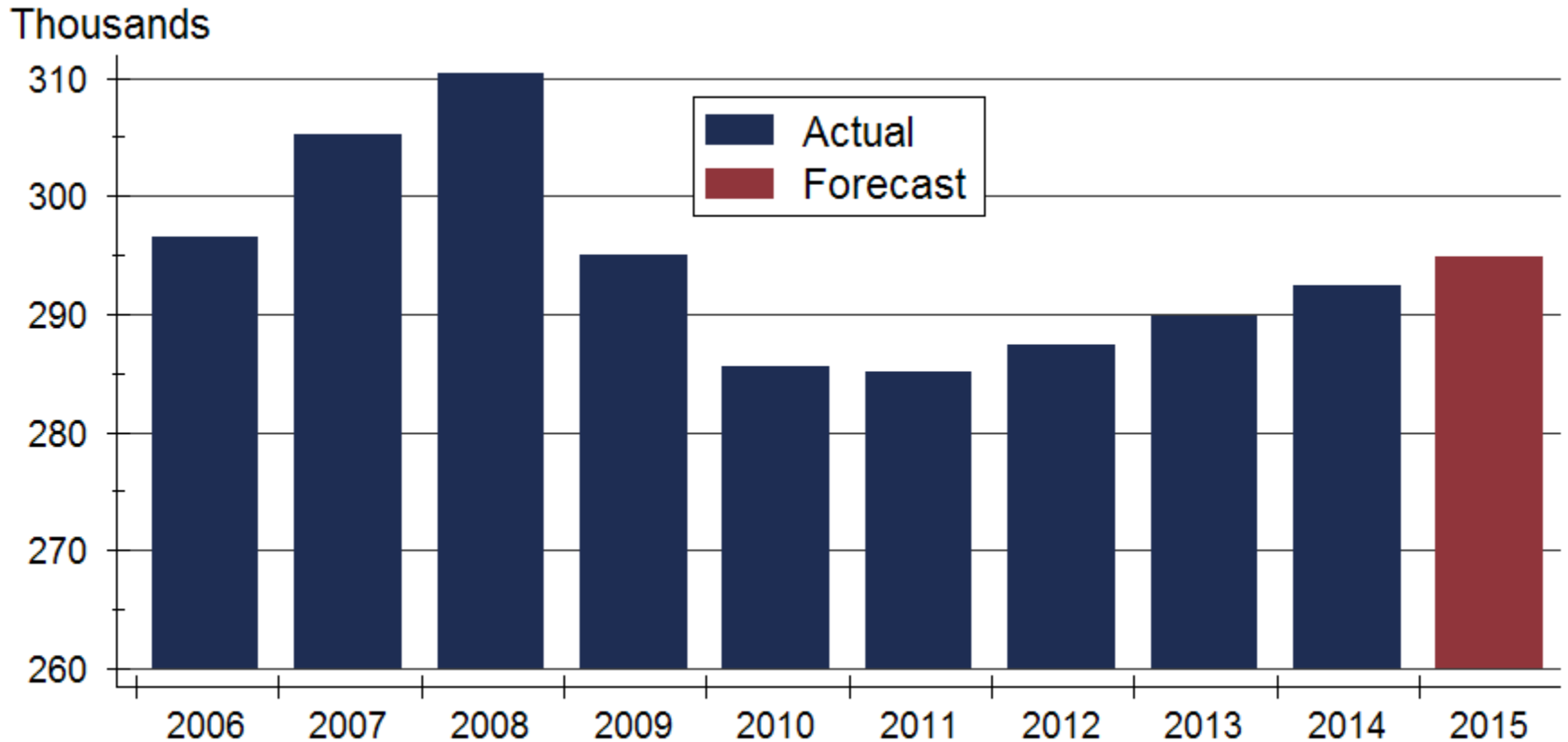
Index: 2001m1 = 100



Source: U.S. Bureau of Labor Statistics

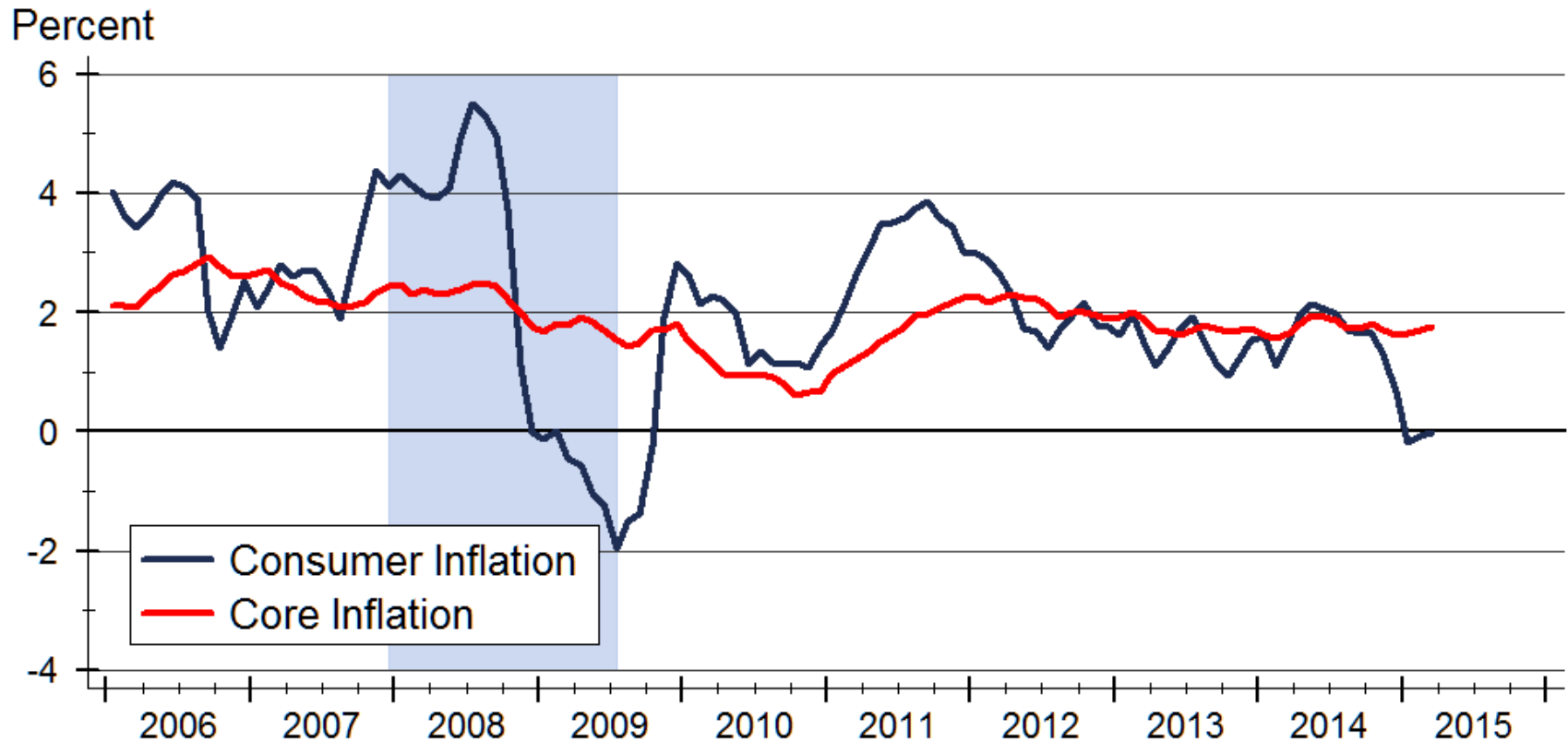
Index created from seasonally adjusted data

# Kansas Employment Forecast



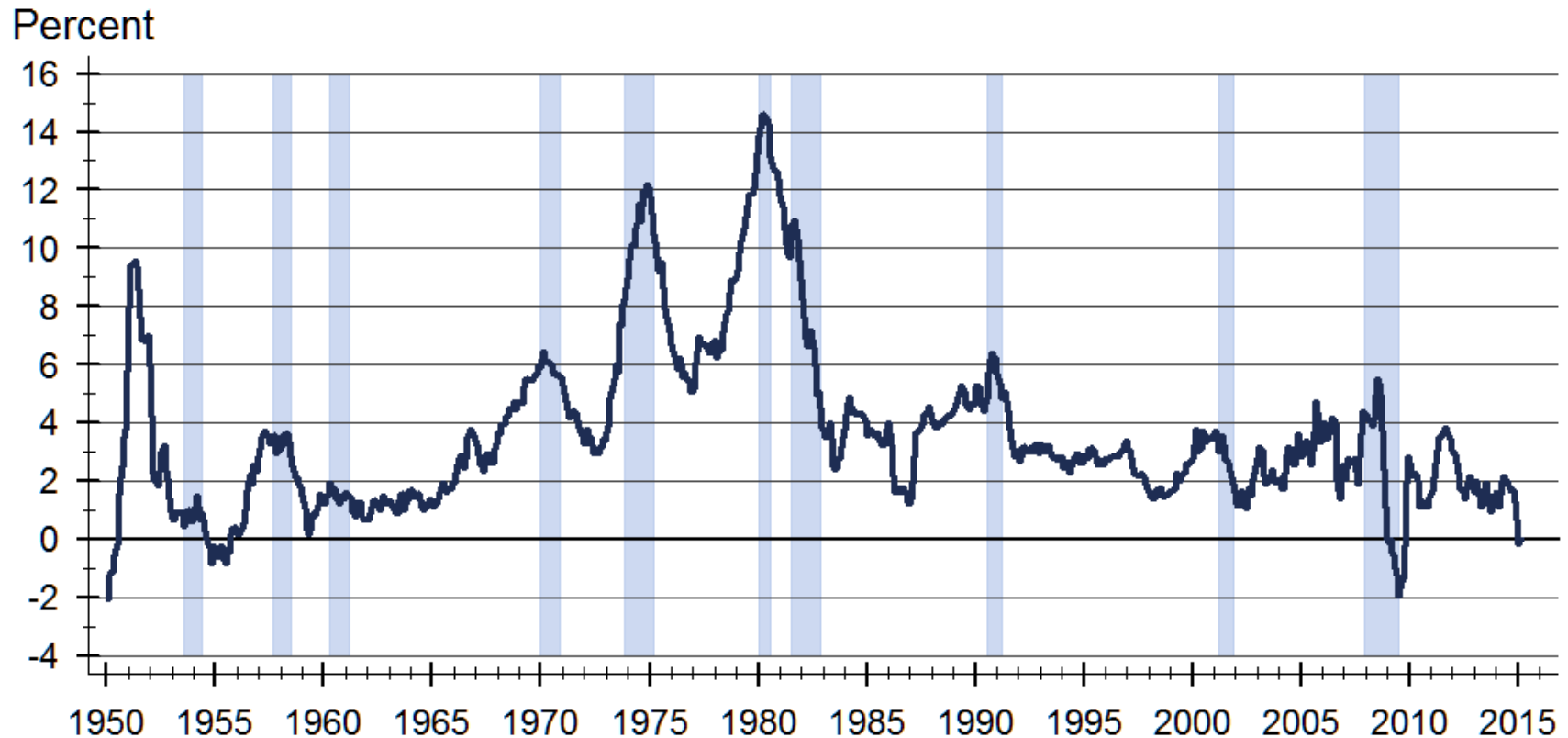
Sources: Kansas Department of Labor and WSU CEDBR

# Consumer Inflation



Source: U.S. Bureau of Labor Statistics

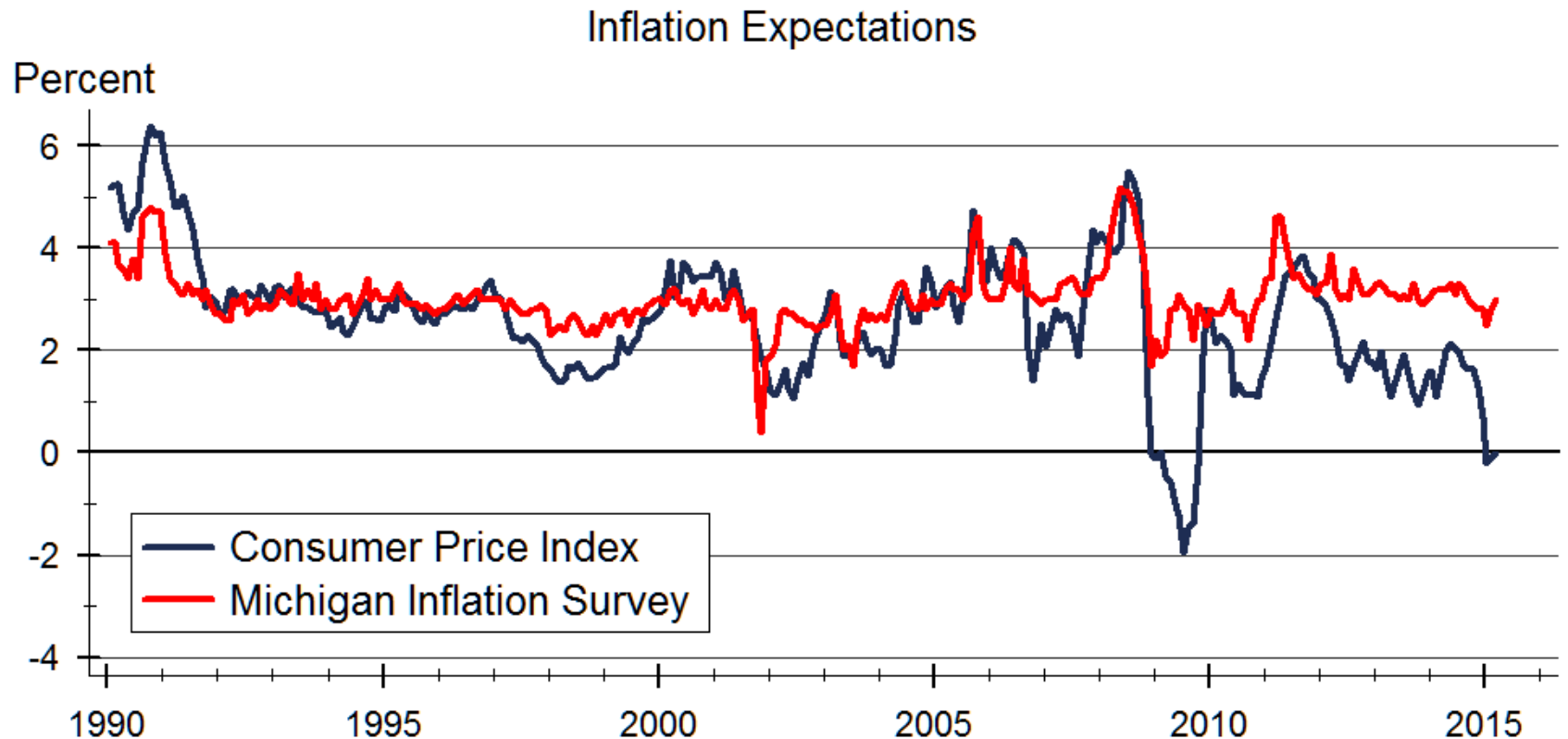
# Consumer Inflation since 1950



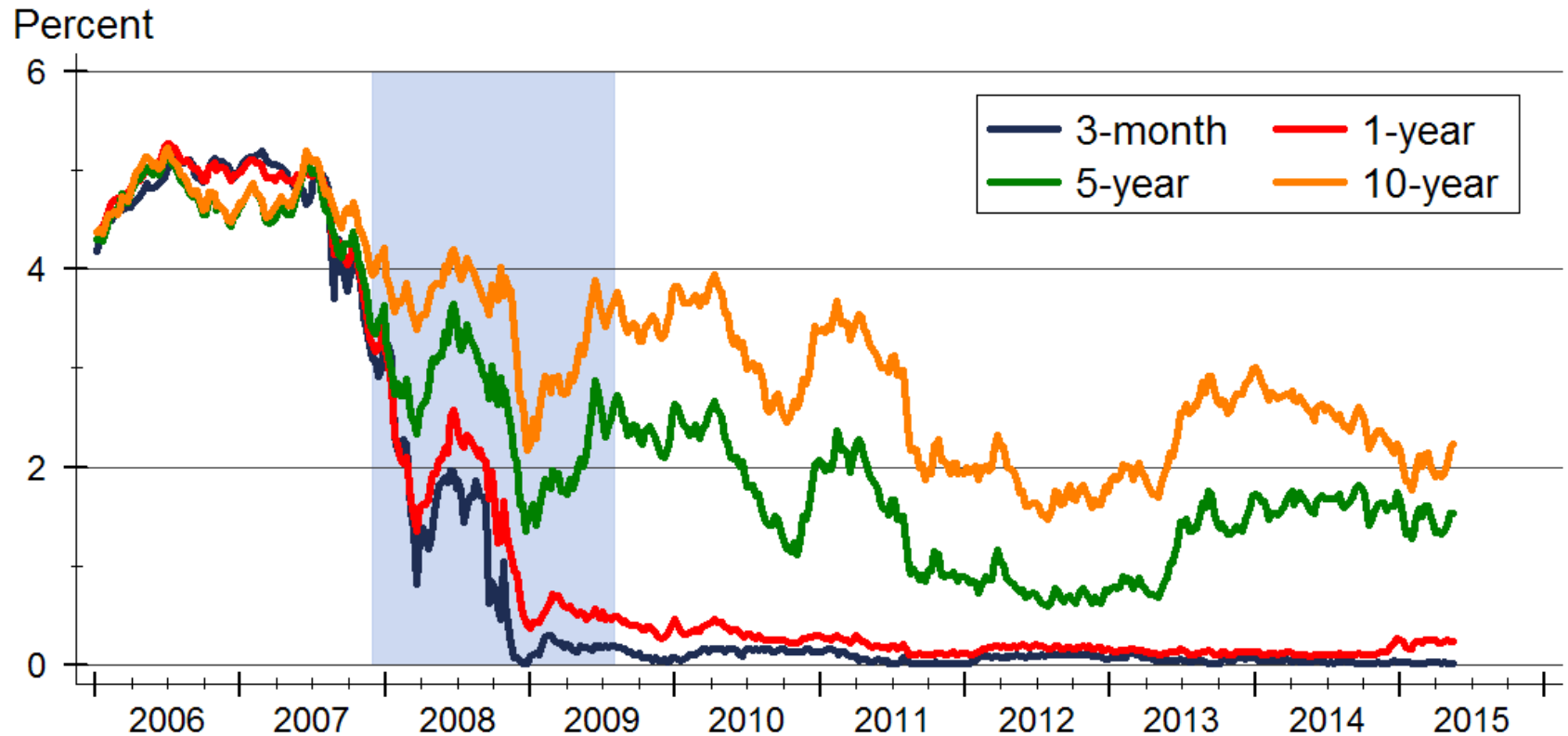
Source: U.S. Bureau of Labor Statistics



# Inflation Expectations



# U.S. Treasury Yields



# Review of the Financial Crisis

- The Great Recession was the result of a Financial Crisis that was much broader than simply the housing market imbalances that triggered it.
  - Subprime mortgage lending was not large enough to explain the fallout
  - Financial crisis resulted from a classic “bank run” in an unusual “shadow banking system”

# What is Money?

- “Money is as money does”
  - Medium of exchange
  - Unit of account
  - Store of value
- Currency
- Deposits
- Investment accounts
- Credit cards
- Stored value cards
- Virtual money

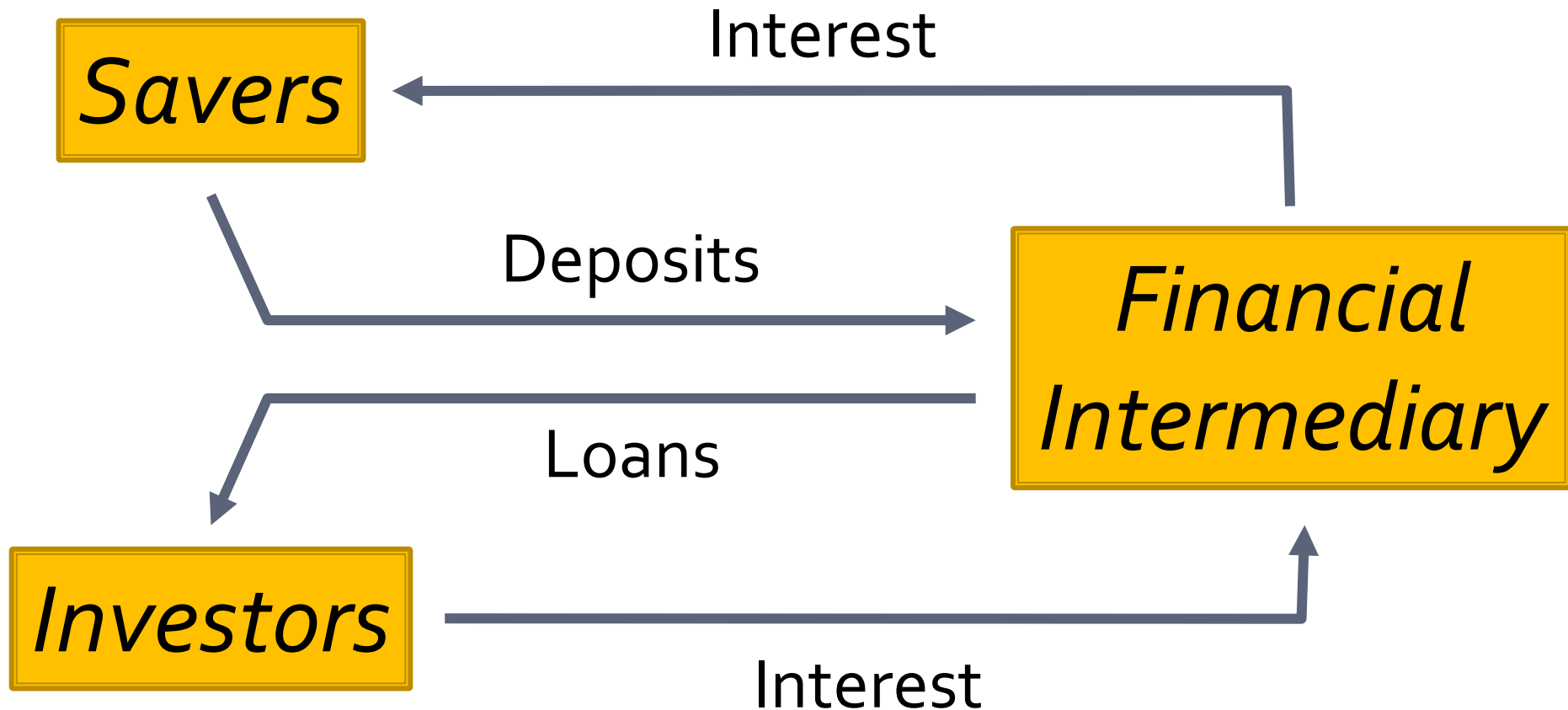
# How is Money Created?

- The Federal Reserve creates money whenever it buys things
  - Monetary base
- Banks and other private entities expand this monetary base when they make loans
  - Money multiplier
- The total money supply is the monetary base times this money multiplier
  - How large is the monetary multiplier?
  - Is it stable?

# Money and the Real Economy

- Whatever its form, money is the lubricant that keeps the economic engine running
  - All households and businesses regularly rely on various forms of “credit” on a daily basis:
    - Utilities and other bills are typically paid in arrears
    - Employees are paid at the end of a pay period
  - Working capital
  - Investment capital
- All of this credit creates money

# Banks and Financial Intermediation



# Banks and Financial Intermediation

- “Banks” are financial intermediaries that receive deposits from individuals and these funds to make loans
- Savers want their deposits in a bank to be
  - Liquid
  - Safe
  - “Easy” – Information insensitive collateral
- Banks lend out the majority of their deposits, holding fairly low levels of cash reserves



# Bank Runs

- When “bad news” is revealed, depositors may suddenly wonder whether their bank is safe
  - Depositors know that some bank may fail, but don’t know which one
- They rationally begin to withdraw their saving from the bank to avoid losses
  - These withdrawals lead other depositors to do the same, assuming others may know something they do not

# Bank Runs

- Because they have limited cash reserves, even “good banks” can fail during a bank run
  - Illiquid vs. insolvent
- Bank runs limit financing for individuals and businesses and shrink the money supply
  - Thus, a financial panic can lead to real economic contraction
  - One of the functions of the Federal Reserve is to be a lender of last resort to financial institutions in the face of financial panics

# The “Shadow Banking System”

- “Slapped by the Invisible Hand” by Gary Gorton, 2010, Oxford University Press
- Large financial institutions also need “banks”
  - Deposits that are liquid, safe and “easy”
- Suppose a large institutional investor wants to save \$500 million, short-term. It could:
  - Buy U.S. Treasury securities
    - Not enough of these to go around
  - A common alternative is the sale and repurchase (repo) market

# The “Shadow Banking System”

- Institutional investor “deposits” \$500 million with another institution by buying bonds that effectively serve as collateral
  - This collateral could be almost any type of debt instrument, including CDOs with subprime mortgages
- At a pre-specified time the “bank” agrees to repurchase these bonds, effectively returning the “deposit”
  - The “depositor” may choose to roll over the agreement as well

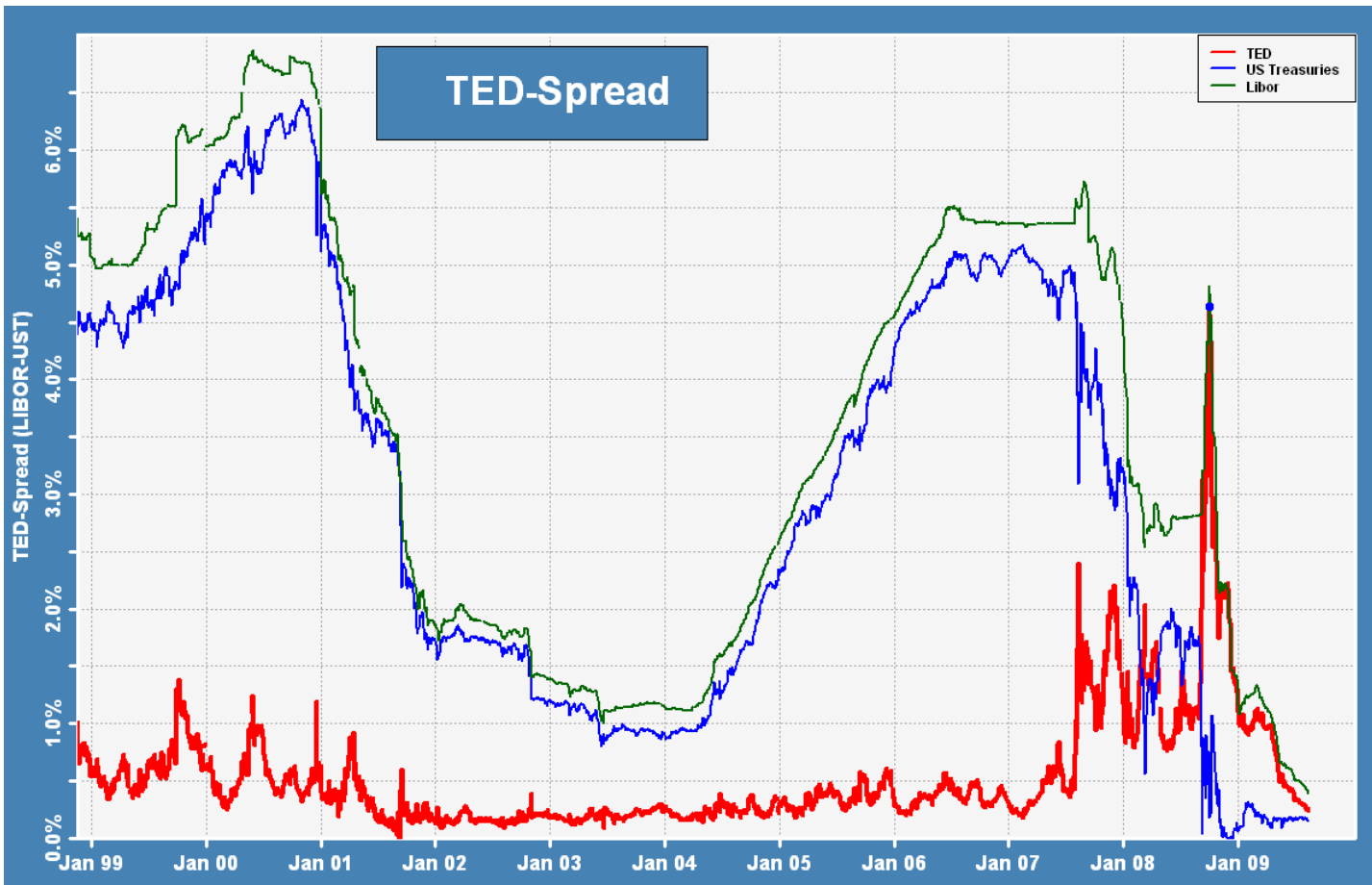
# The “Shadow Banking System”

- This transaction resembles a checking account deposit in that
  - It is a very short-term transaction, often overnight
  - The bond used as collateral can be “spent” by the depositor by being used as collateral in another transaction
- The problem is a lack of information-insensitive collateral
  - When the financial crisis hit, a bank run occurred in this shadow banking system

# A (Shadow) Bank Run

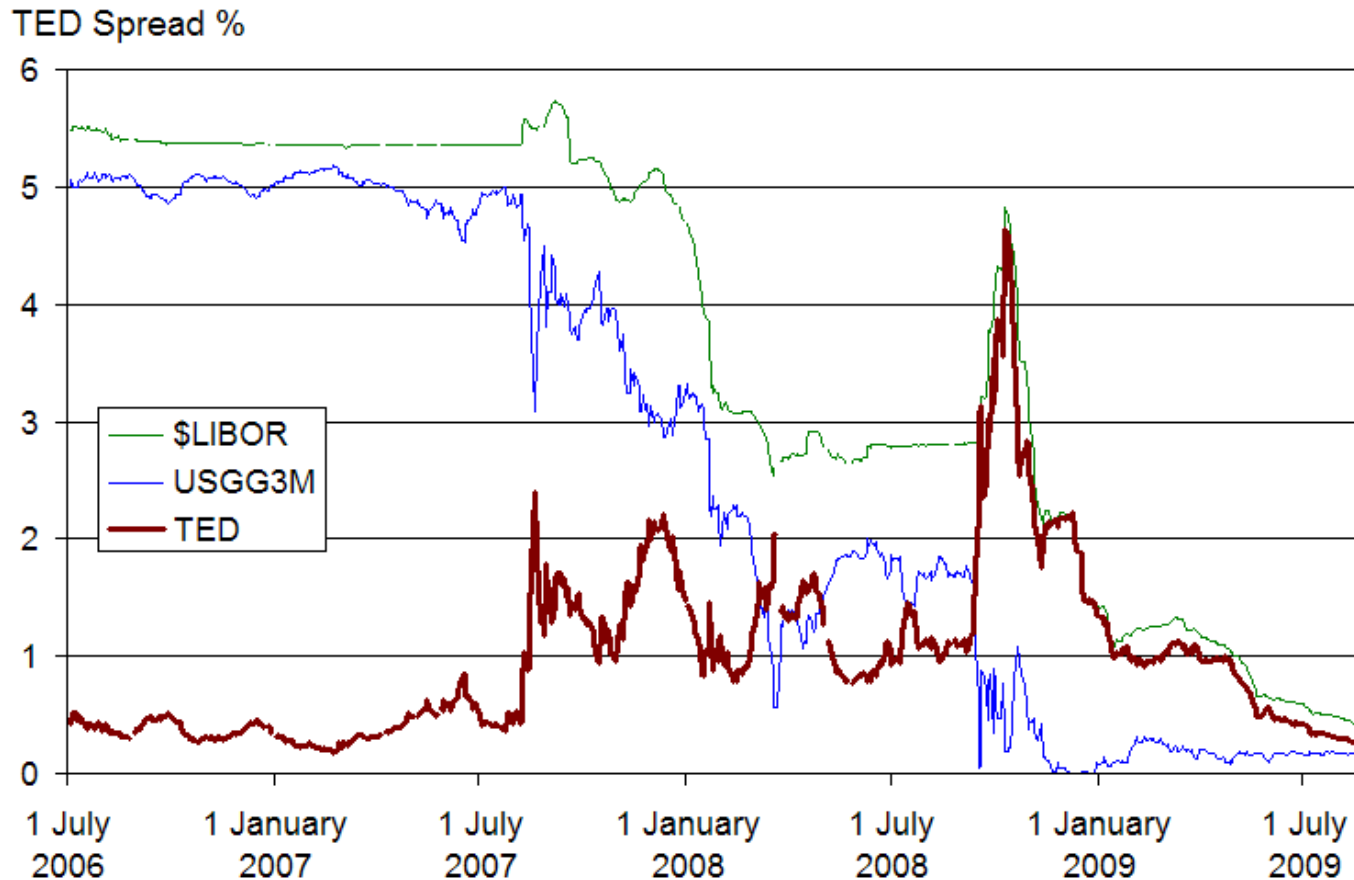
- In the face of concerns about subprime loans in the housing market, many institutions began questioning the quality of the debt used as collateral in this shadow banking system
- Transactions required more and more collateral to protect against losses; effectively the equivalent of withdrawals from the shadow banking system

# Treasury-LIBOR (TED) Spread



Source: "Ted-Spread" by Thomas Steiner - via Wikimedia Commons -  
<http://commons.wikimedia.org/wiki/File:Ted-Spread.png#/media/File:Ted-Spread.png>

# Treasury-LIBOR (TED) Spread



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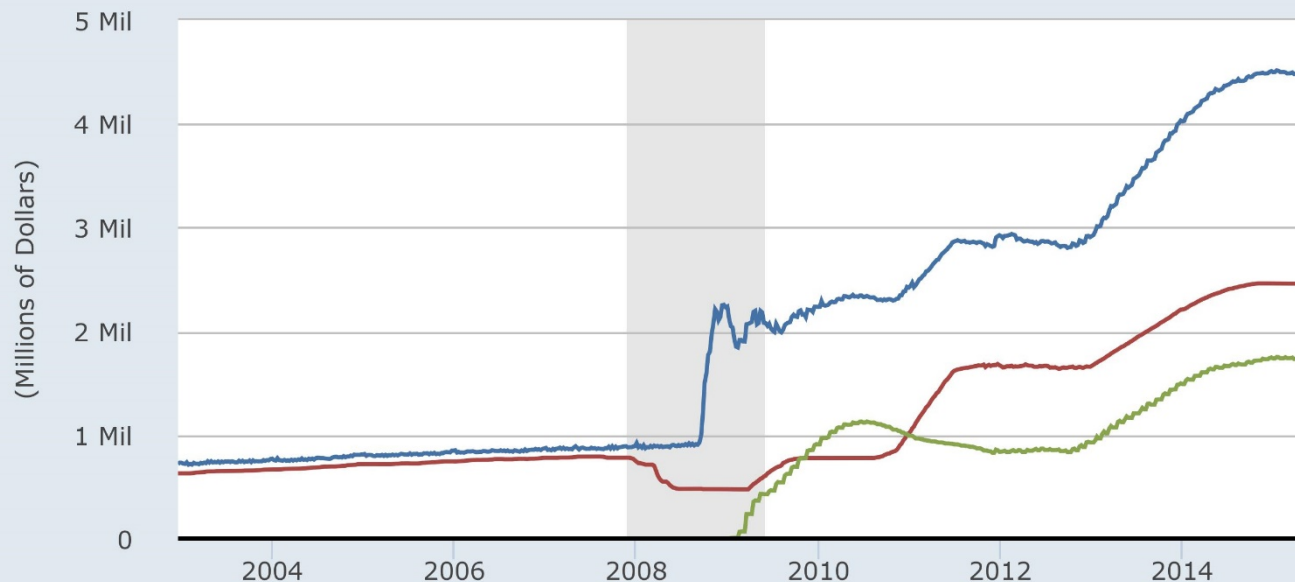
# The Financial Crisis and the Money Supply

- Massive deleveraging shrunk the money multiplier, reducing the money supply
- The Federal Reserve purchased massive quantities of securities to offset this
  - Short- & long-term Treasuries
  - Mortgage-backed securities

# Federal Reserve Assets

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- All Federal Reserve Banks - Total Assets, Eliminations from Consolidation
- U.S. Treasury securities held by the Federal Reserve: All Maturities
- Mortgage-backed securities held by the Federal Reserve: All Maturities



Shaded areas indicate US recessions - 2015 research.stlouisfed.org



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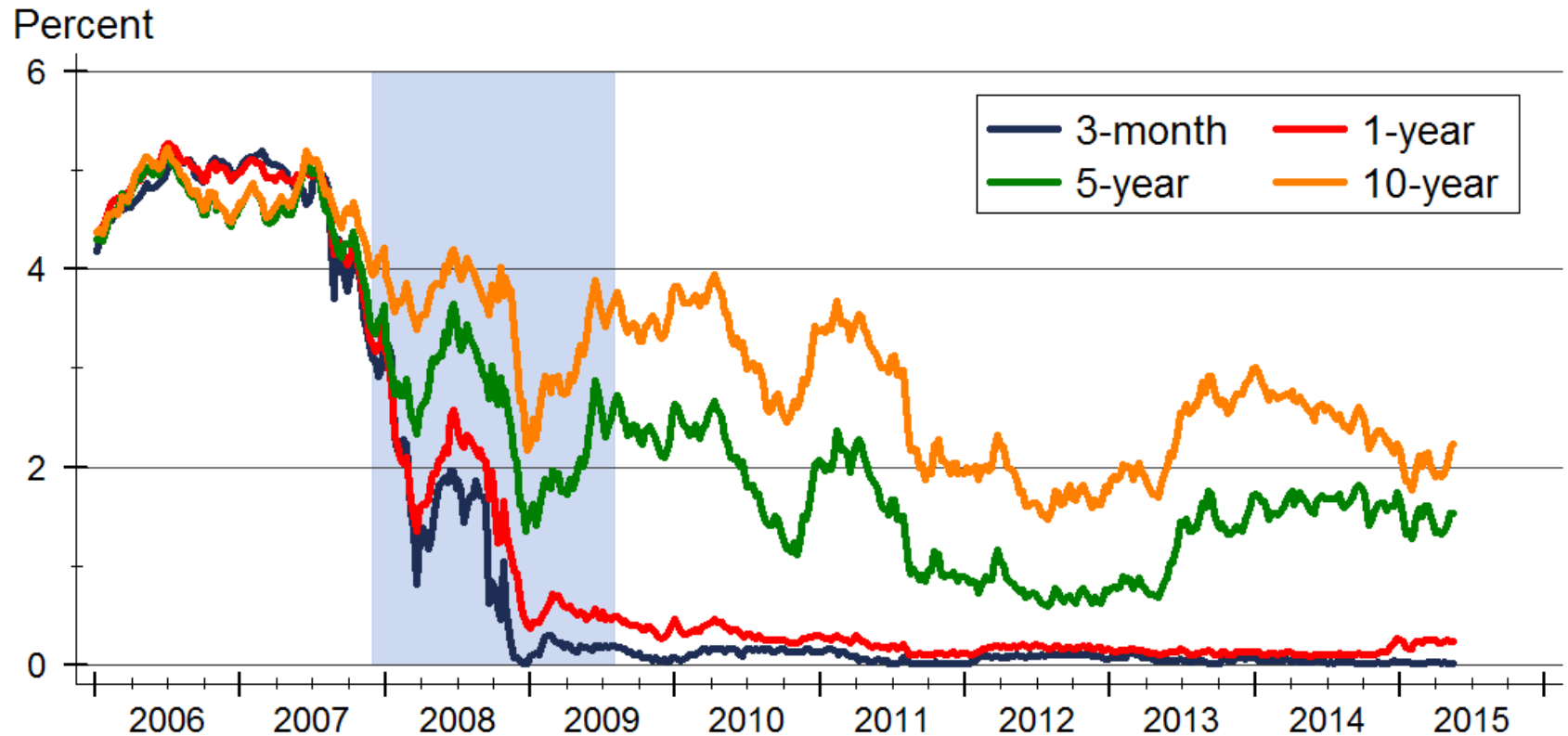
# Where Do We Go from Here?

- As private lending activity (money creation) resumes, the Federal Reserve will need to unwind its security positions
  - Traditionally they would simply let short term treasuries run off the books
  - Long-term assets may need to be sold to reduce the monetary base, resulting in losses for the Fed

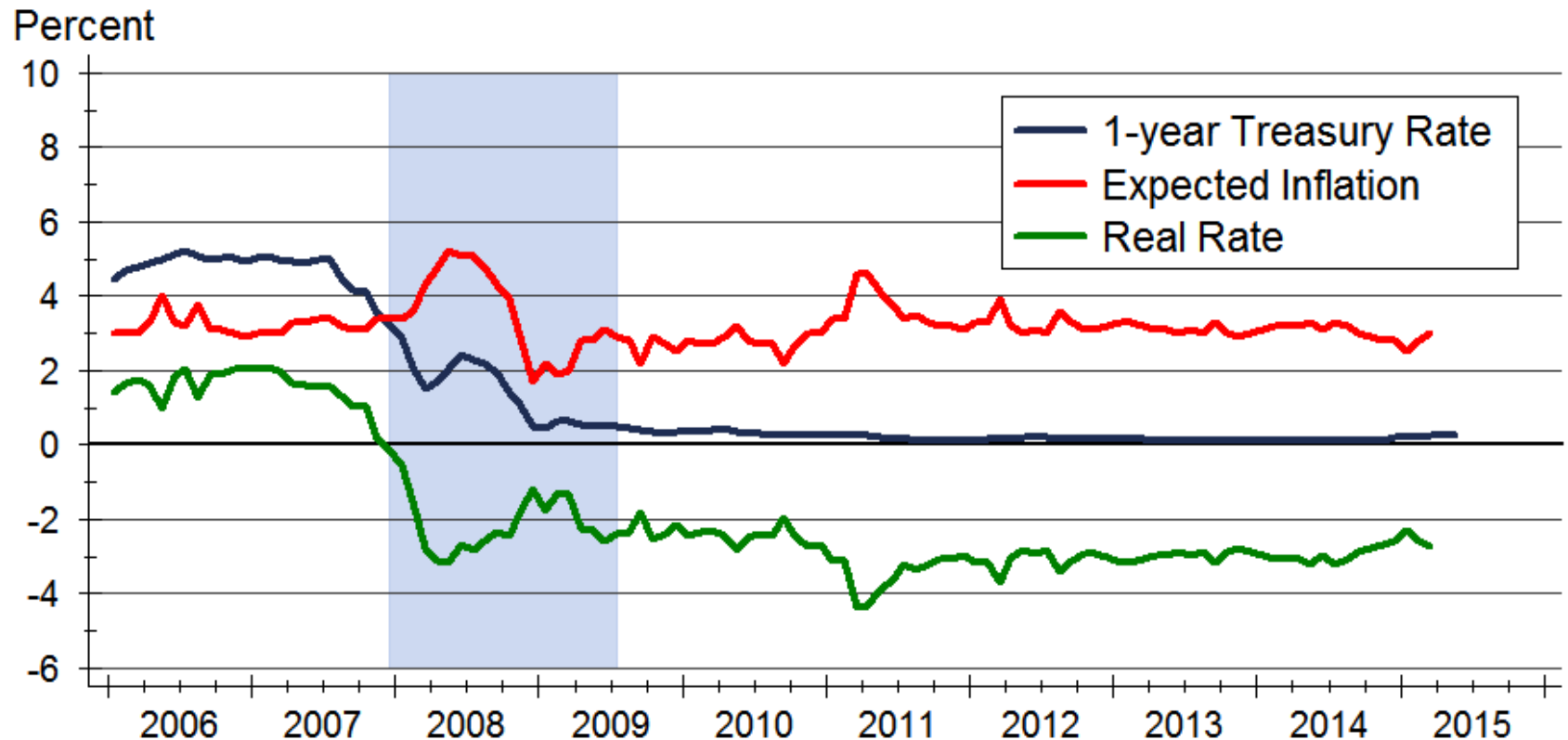
# Prospects for Future Inflation

- Last year I was concerned that it would be difficult to unwind these positions, and that interest rates could rise suddenly and rapidly in the wake of economic expansion
  - Recent changes in energy markets will ease inflationary concerns, allowing the Fed to unwind these positions slowly
- Interest rates are therefore more likely to rise slowly as real rates become positive once again

# U.S. Treasury Yields



# Real 1-Year Treasury Yield



Sources: Board of Governors of the Federal Reserve System and University of Michigan

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## Laying a Foundation for Real Estate in Kansas



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