



EDWARD B. GRIMBALL, Chairman
HOWELL CLYBORNE, JR.
EMERSON F. GOWER, JR.

SOUTH CAROLINA REVENUE AND FISCAL AFFAIRS OFFICE

FRANK A. RAINWATER
Executive Director

BOARD OF ECONOMIC ADVISORS WORKING GROUP/REGIONAL ADVISORY COMMITTEE MEETING AGENDA

October 18, 2018, 10:50 A.M.
Room 112 – Solomon Blatt Building

1. Welcome
2. Adoption of Meeting Minutes for September 25, 2018
3. A. Overview of First Quarter Results – (Frank Rainwater)
B. Economic Outlook – (Robert Martin)
4. Recess for Lunch (*Please note that lunch is by invitation only*)

Regional Advisory Committee Meeting will begin at 12:45 P.M.

5. Presentations on Personal Income and Employment Growth in South Carolina for FY 2018-19 and FY 2019-20
 - A. Introduction - (Frank Rainwater)
 - B. Regional Advisory Committee Members
 - ***Tentative – Dr. Scott Baier** – Associate Professor of Economics and Chair - Clemson University, John E. Walker Department of Economics
 - Dr. Frank Hefner** – Professor of Economics, Director of Office of Economic Analysis – College of Charleston
 - Dr. Matthew Martin** – Senior Vice President – Federal Reserve Bank of Richmond, Charlotte, N.C. Branch
 - Dr. Russell S. Sobel** – Professor of Economics and Entrepreneurship – The Citadel, Baker School of Business
 - Dr. Joseph Von Nessen** – Research Economist, University of South Carolina, Darla Moore School of Business
 - *Forecast and Analysis received from **Mr. Mark Vitner** – Managing Director and Senior Economist – Wells Fargo Securities
 - C. BEA Staff – **Robert Martin** – Chief Economist

6. Discussion of Forecast Assumptions
 - A. Identification of major factors affecting the economy
 - B. Discussion of risks to the forecast
 - C. Developing range of Personal Income and Employment Growth Rates for FY 2018-19 and FY 2019-20
7. Reports from Working Group Members
 - A. Governor's Office
 - B. Senate Finance Office
 - C. Ways & Means Office
 - D. Treasurer's Office
 - E. Comptroller General's Office
 - F. Executive Budget Office
8. Future Meeting Schedule:
 - A. November 8, 2018, 2:00pm – Preliminary Estimate; RFA Meeting to follow
 - B. December 13, 2018, 2:00pm – **If necessary**, *GoToMeeting* for Members
 - C. 2018 Calendar at <http://rfa.sc.gov/meetings>
9. Adjournment



South Carolina Revenue and Fiscal Affairs Office

OVERVIEW

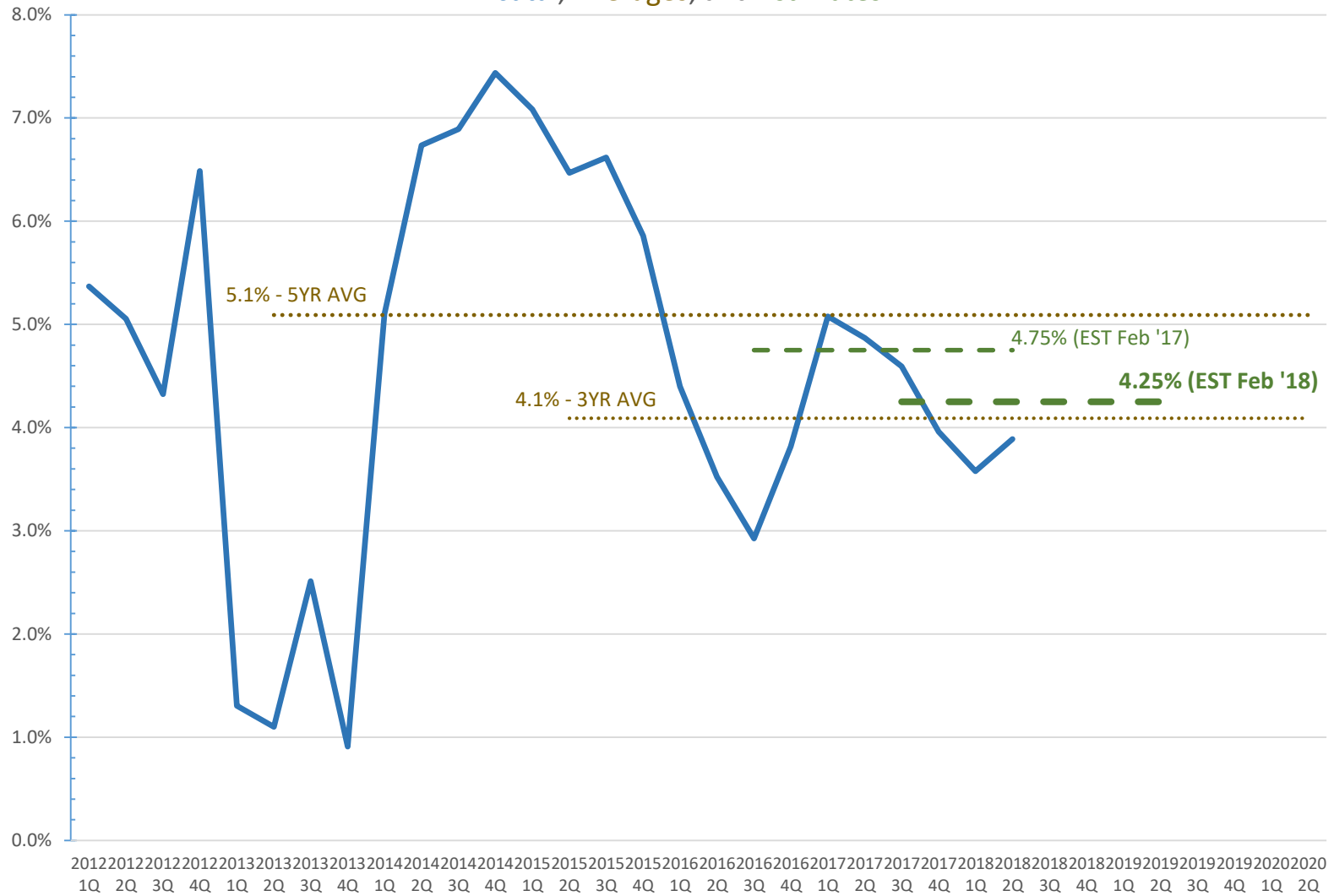


Overview

- Through the first quarter of FY 2018-19, General Fund Revenues grew 8.4 percent and exceeded the first quarter estimate by \$94.6 million.
- Growth was driven by biennial licensing collections, audits, and timing issues.
- The FY 2017-18 revenue surplus is contributing to the current revenue excess but any adjustment to the forecast will be made in November when all economic and fiscal issues will be considered.

GROWTH IN SC PERSONAL INCOME

Actual, Averages, and Estimates



Source: Revenue and Fiscal Affairs Office/FAR/221/10-15-18





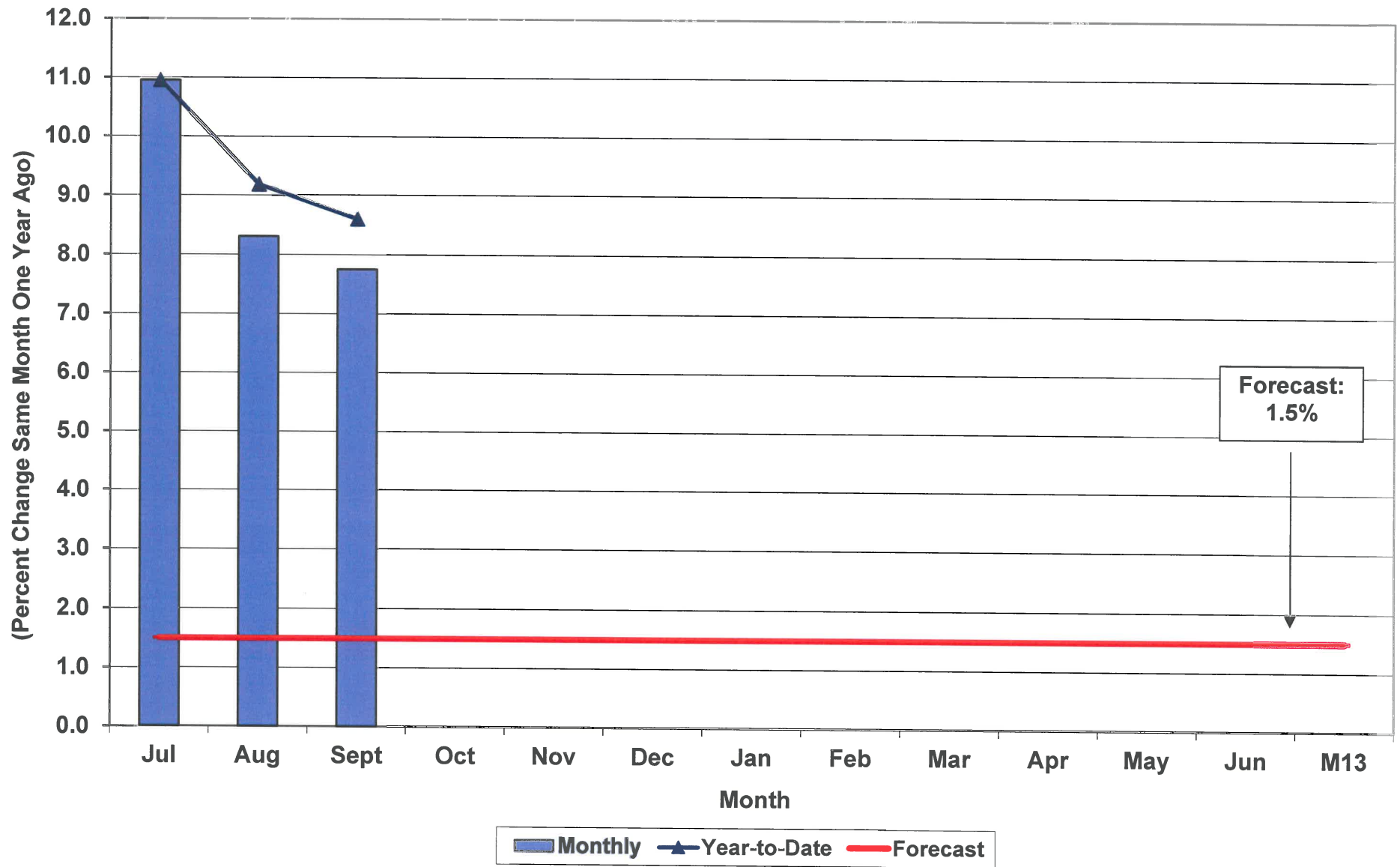
September 2018

Preliminary FY2019-20 General Fund Revenue Forecast

- **Review of General Fund Revenues – September 2018**
- **Review of Base Economic Assumptions for FY2018-19 (Current FY)**
- **Economic Assumptions for Revised Forecast (FY2018-19) and FY2019-20 General Fund Revenue Forecast**
 - **Economic Growth**
 - **Personal Income**
 - **Employment**
 - **Contingencies**
 - **Legislative Offsets/Adjustments**



Growth in Total General Fund Revenue Collections FY2019 Monthly and Year-to-Date



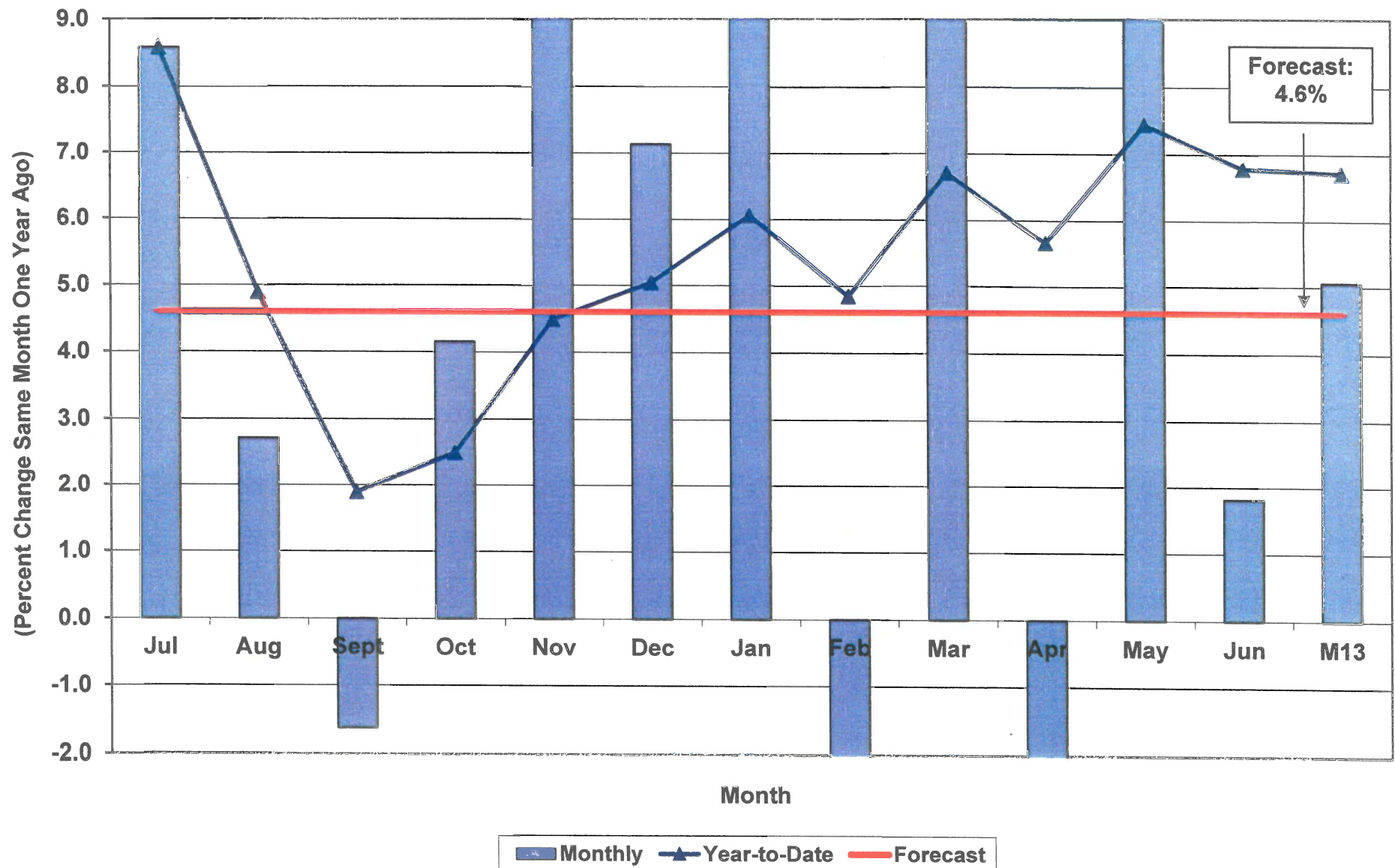


September 2018

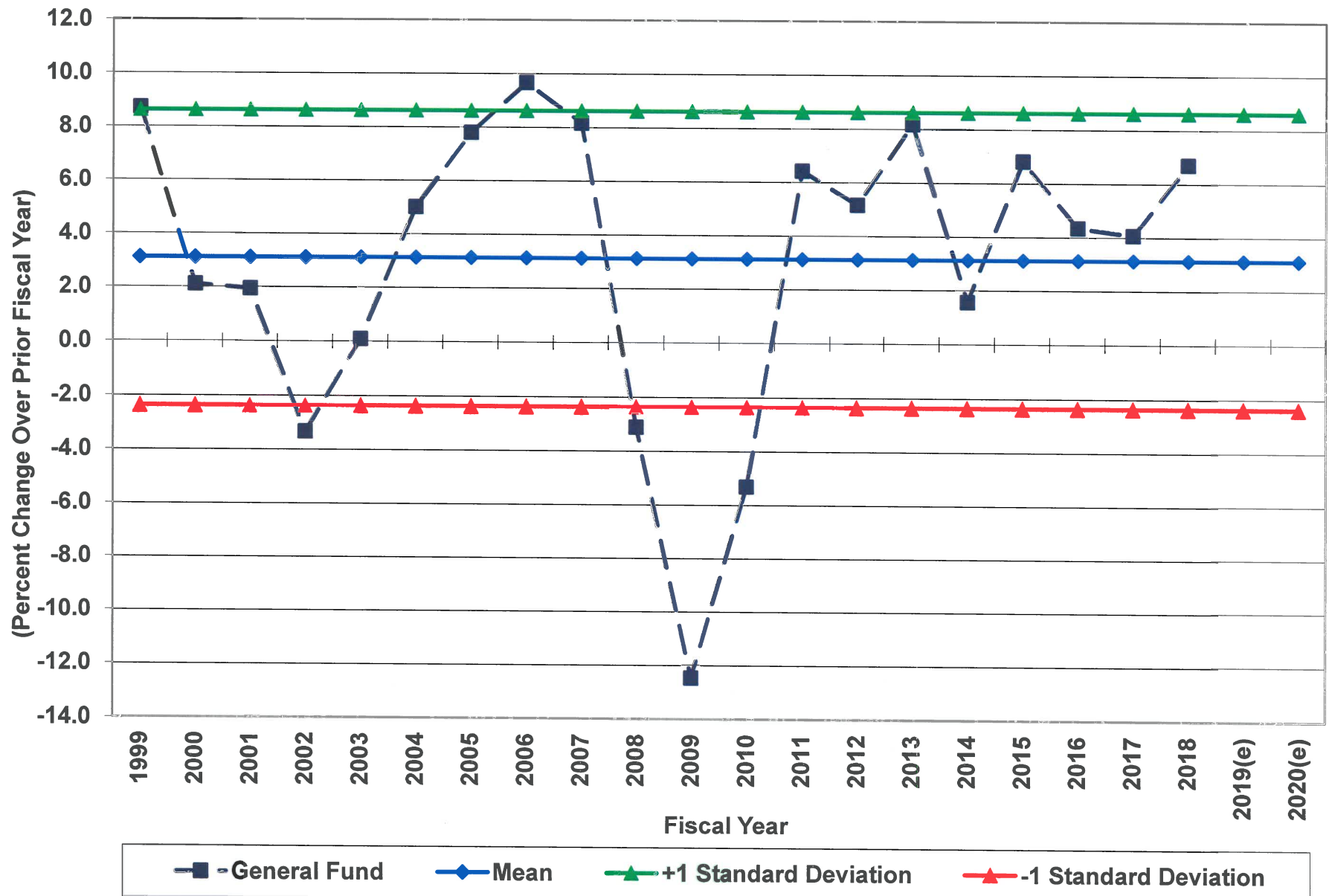
Total General Fund Revenue

- General Fund revenue increased 8.3 percent during the month of September 2018 from September 2017
 - biennial collection of insurance agent's licenses
 - a large increase in Corporation Income tax declarations
 - strong showing in a variety of Other Revenues due to comparisons with one year ago when the Department of Revenue transitioned to a new computer system
- Revenues have grown 8.8 percent year-to-date

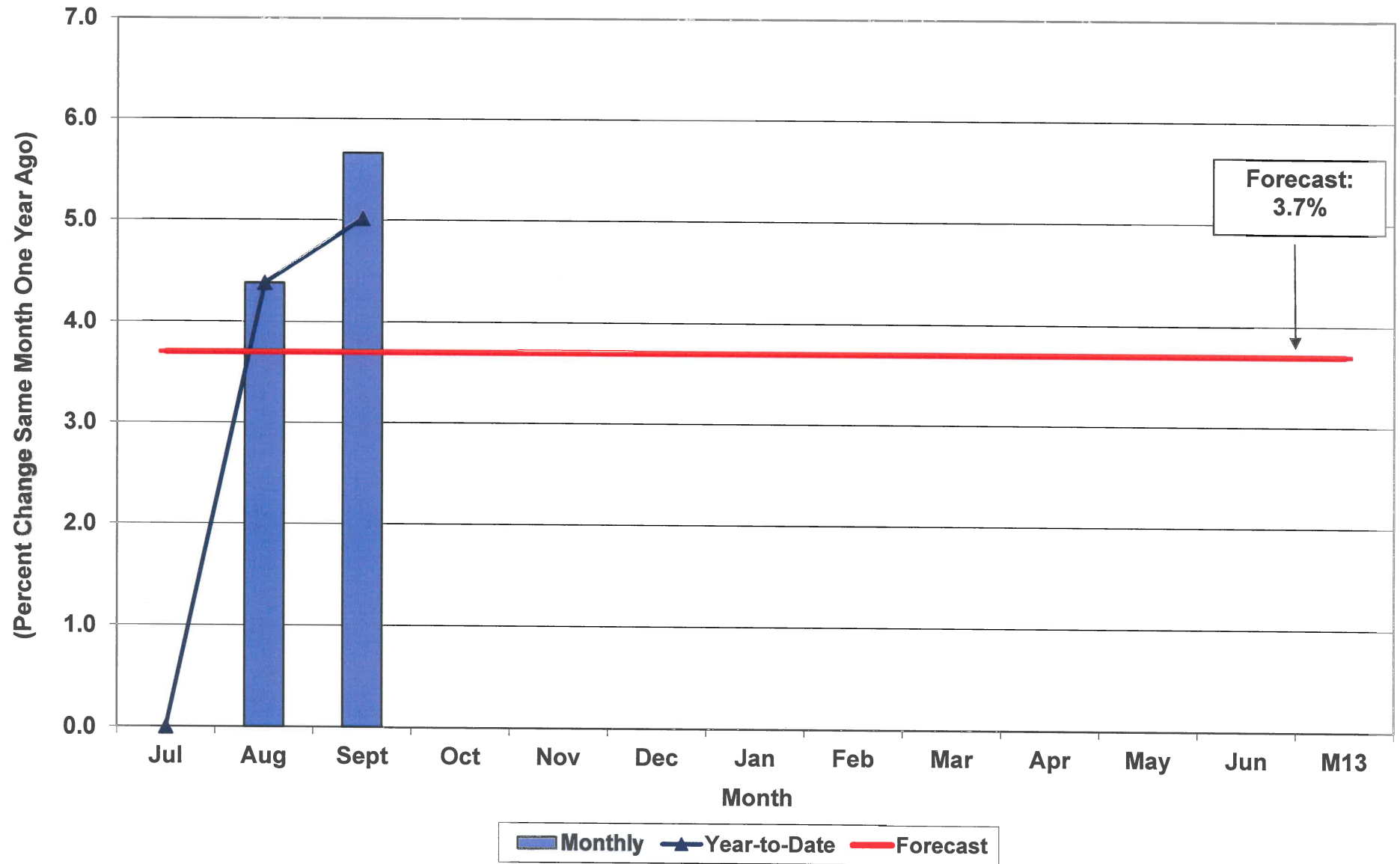
Growth in Total General Fund Revenue Collections FY2018 Monthly and Year-to-Date



Growth in General Fund Revenue in South Carolina



Growth in Total Sales & Use Tax Revenue Collections FY2019 Monthly and Year-to-Date





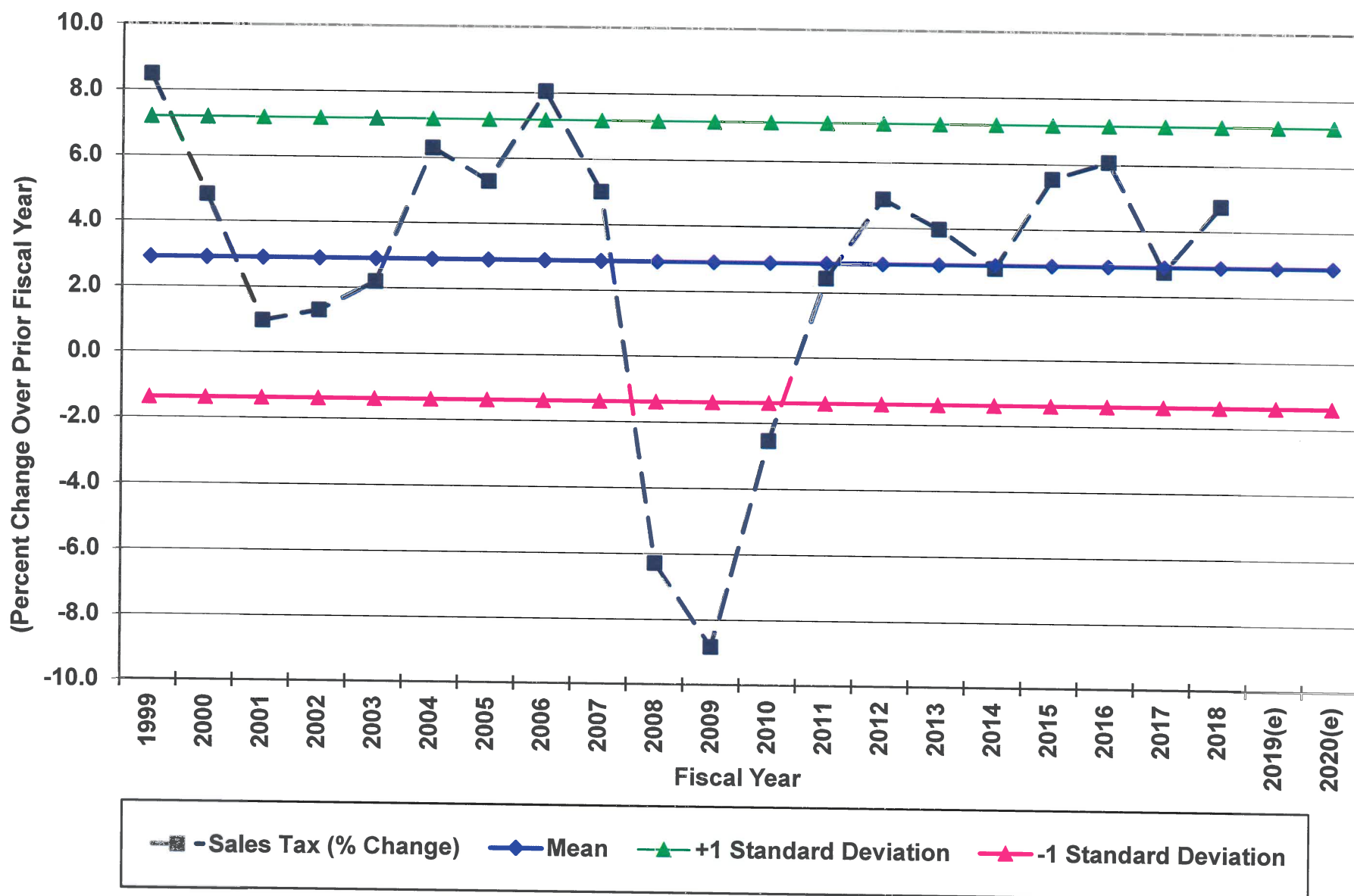
September 2018

Sales Tax Revenue

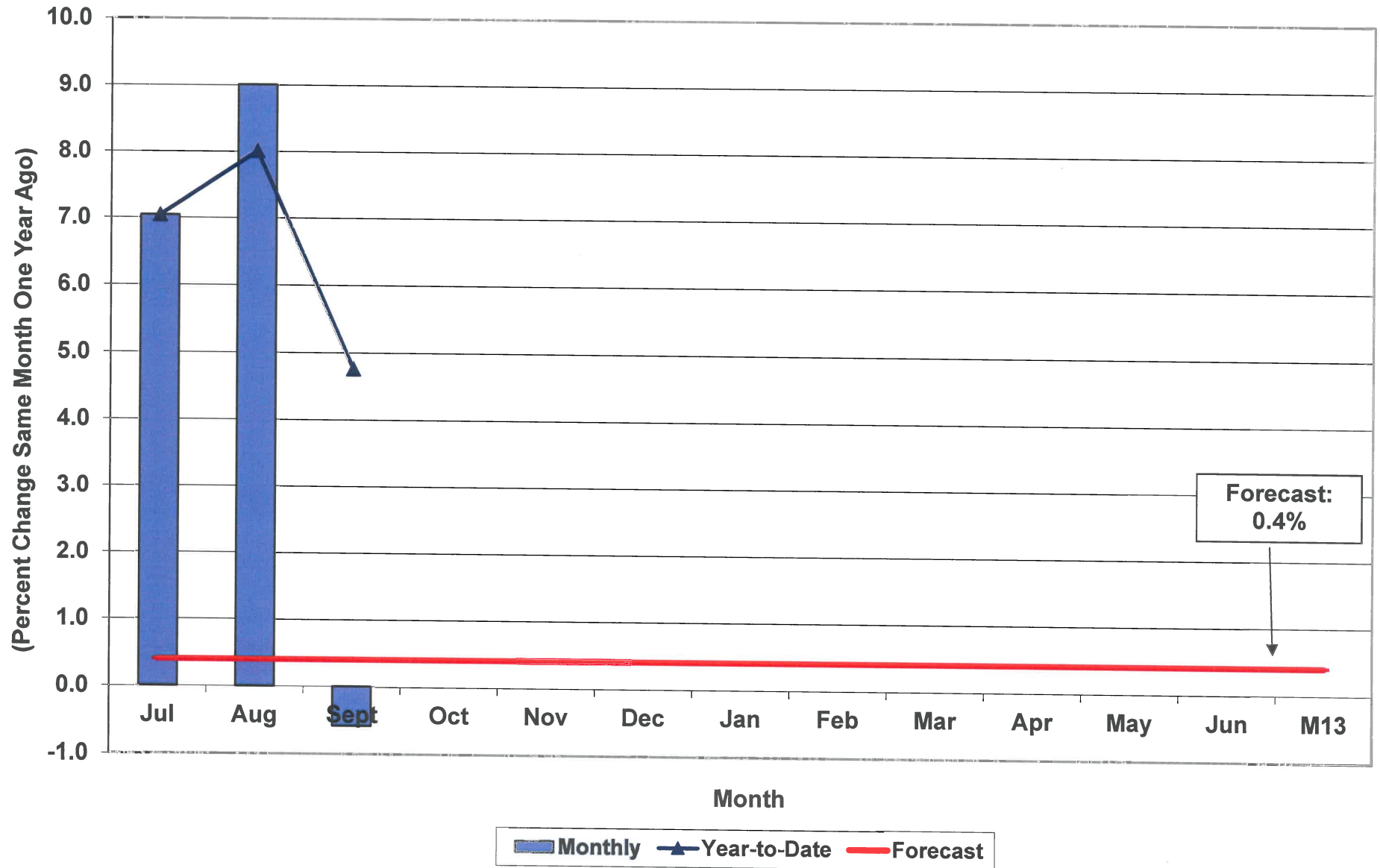
- Sales and Use tax revenue increased 5.7 percent for the month of September resulting in year-to-date growth of 5.0 percent
- The retail sales tax posted its best monthly mark since this past holiday season nine months ago
- The cumulative Sales and Use tax revenue growth through September is running ahead of the 3.7 percent revenue forecast for FY2018-19



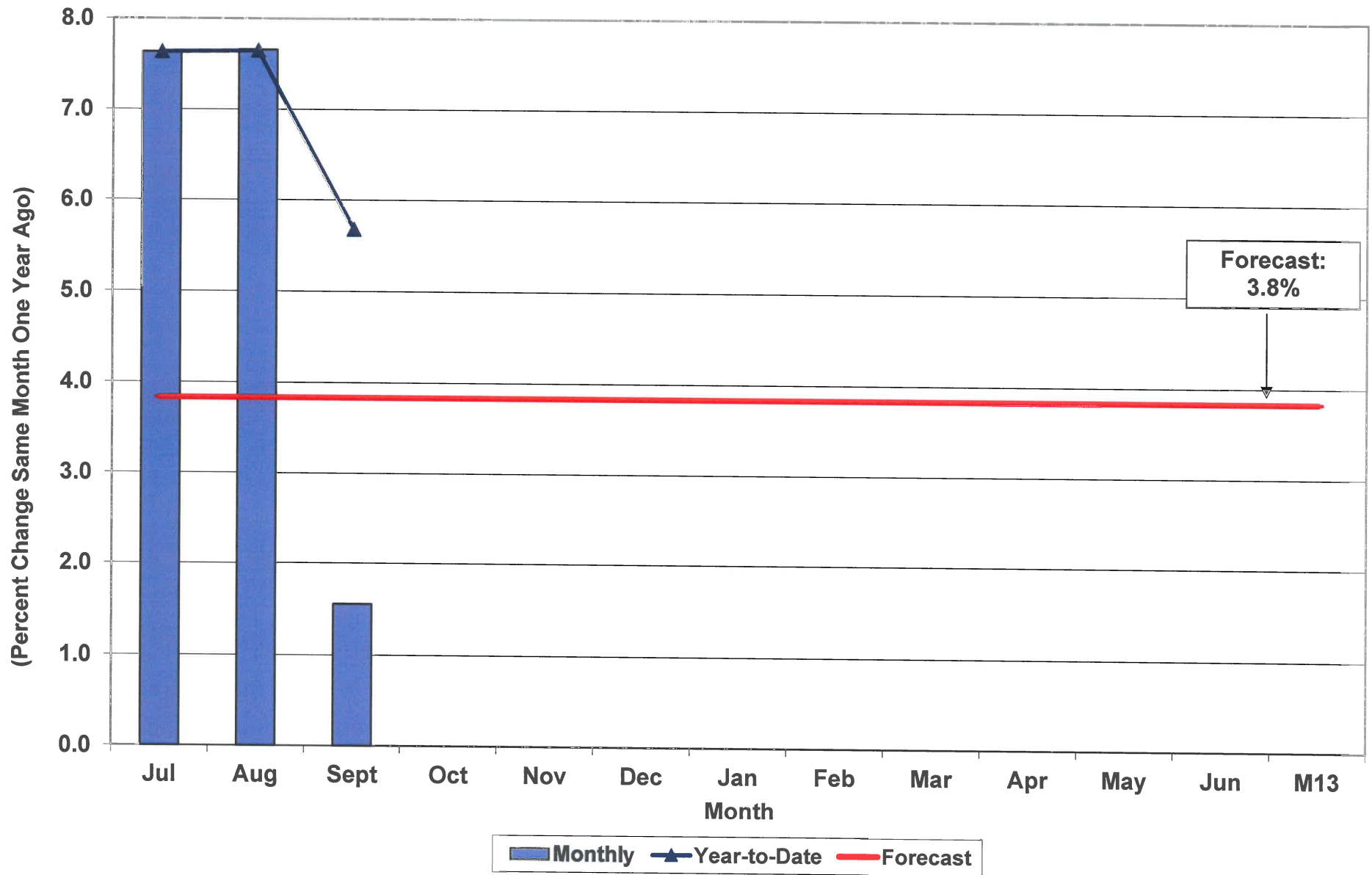
General Fund Sales Tax Revenue Growth in South Carolina



Growth in Total Individual Income Tax Revenue Collections FY2019 Monthly and Year-to-Date



Growth in Individual Income Tax Withholding Revenue FY2019 Monthly and Year-to-Date





September 2018

Individual Income Tax Revenue

- The Individual Income tax revenue decreased 0.6 percent during the month of September mainly from two events:
 - A \$7.1 million transfer out of the Individual Income tax withholdings to the Department of Commerce for the State Rural Infrastructure Fund occurred in September 2018. This same transfer occurred last year in August 2017
 - Also, the Department of Revenue transitioned to a new Individual Income tax computer system in September 2017. During that month, the number of Individual Income tax refunds processed and paid to taxpayers during the month of September 2017 were constrained. This resulted in an unusually large refund





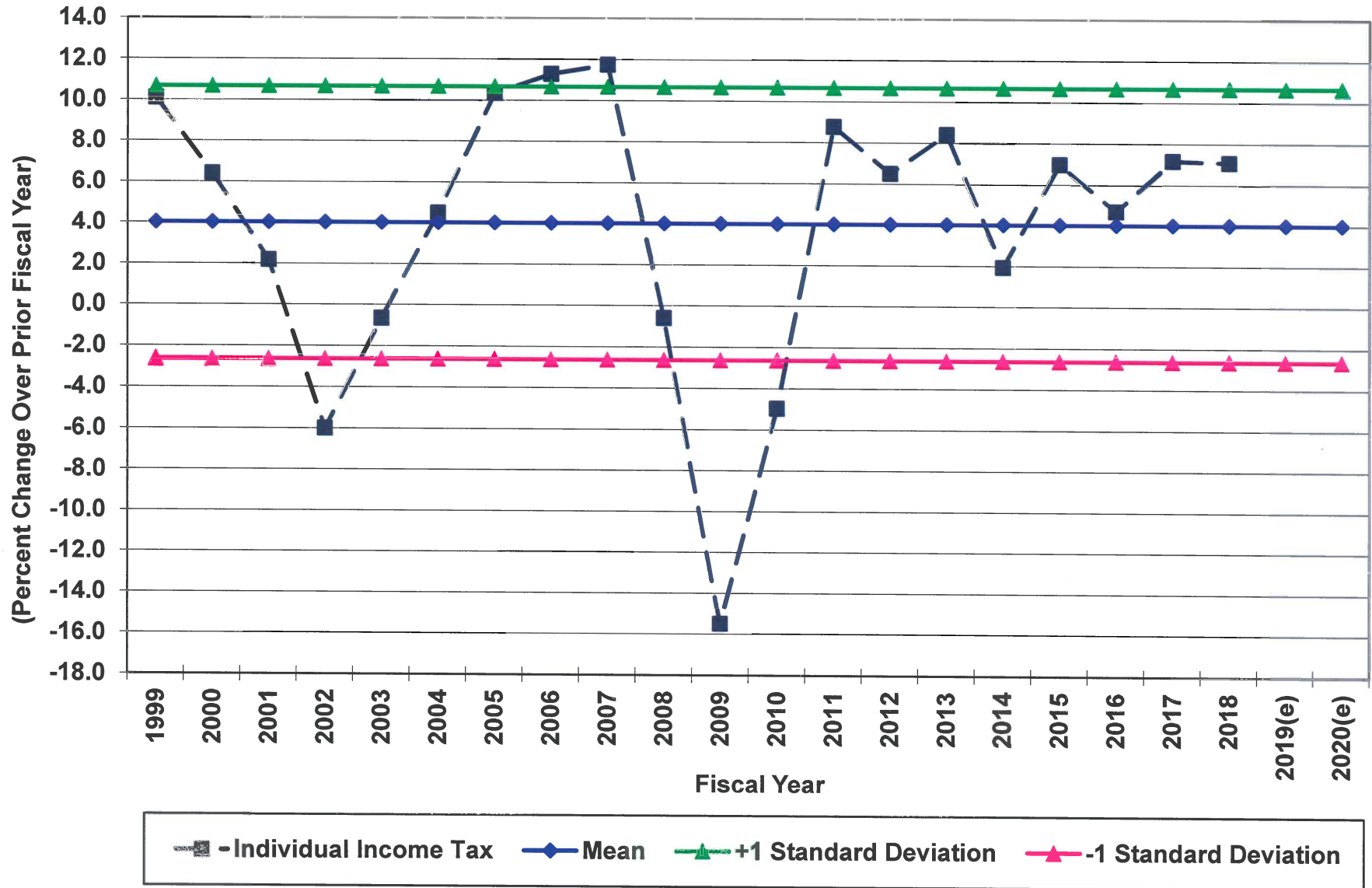
September 2018

comparison in September 2018 causing the Individual Income tax revenue category to be deflated.

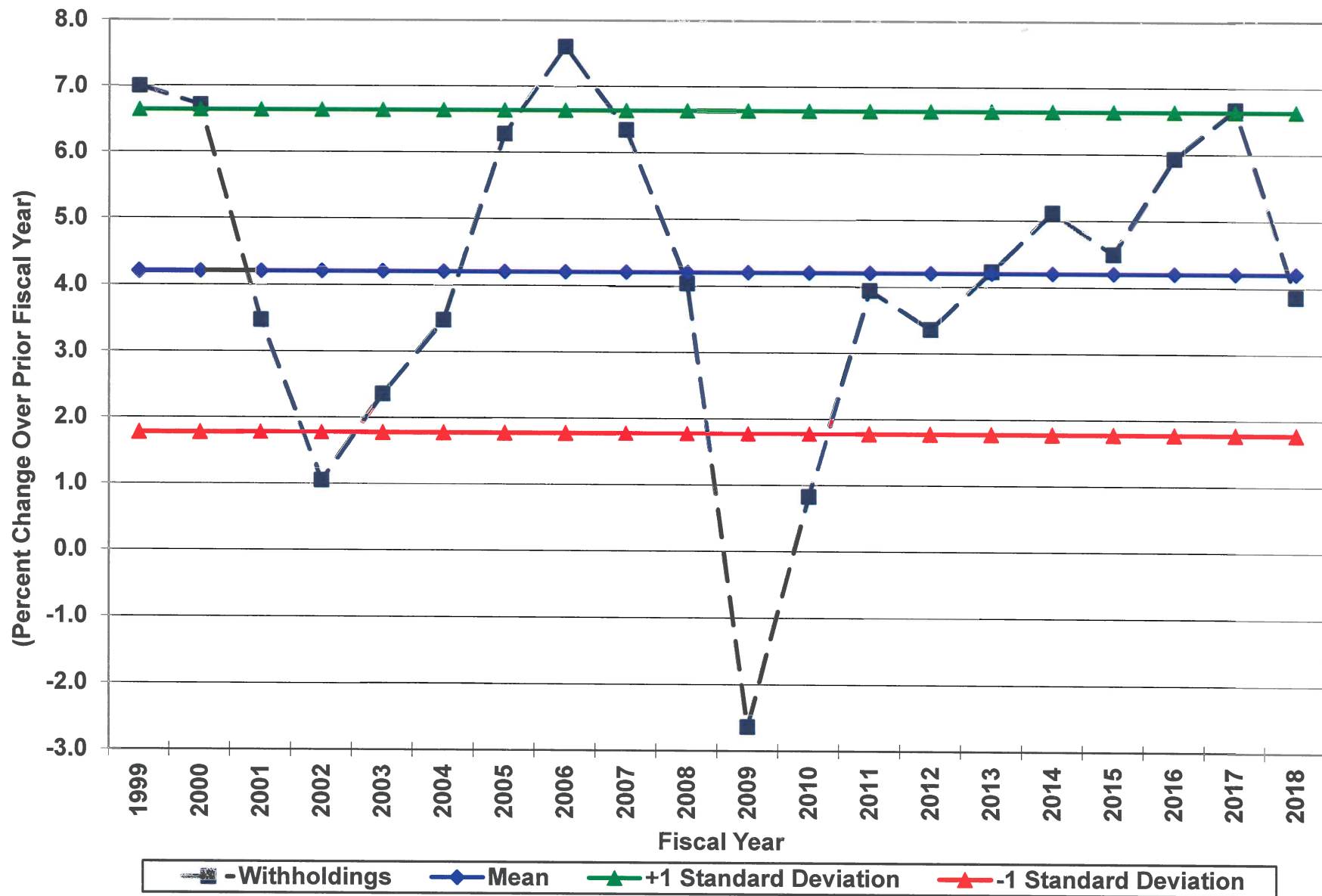
- Total Individual Income tax revenue growth is 4.8 percent year-to-date through September and is well above the 0.4 percent revenue forecast for FY2018-19



General Fund Individual Income Tax Revenue Growth in South Carolina

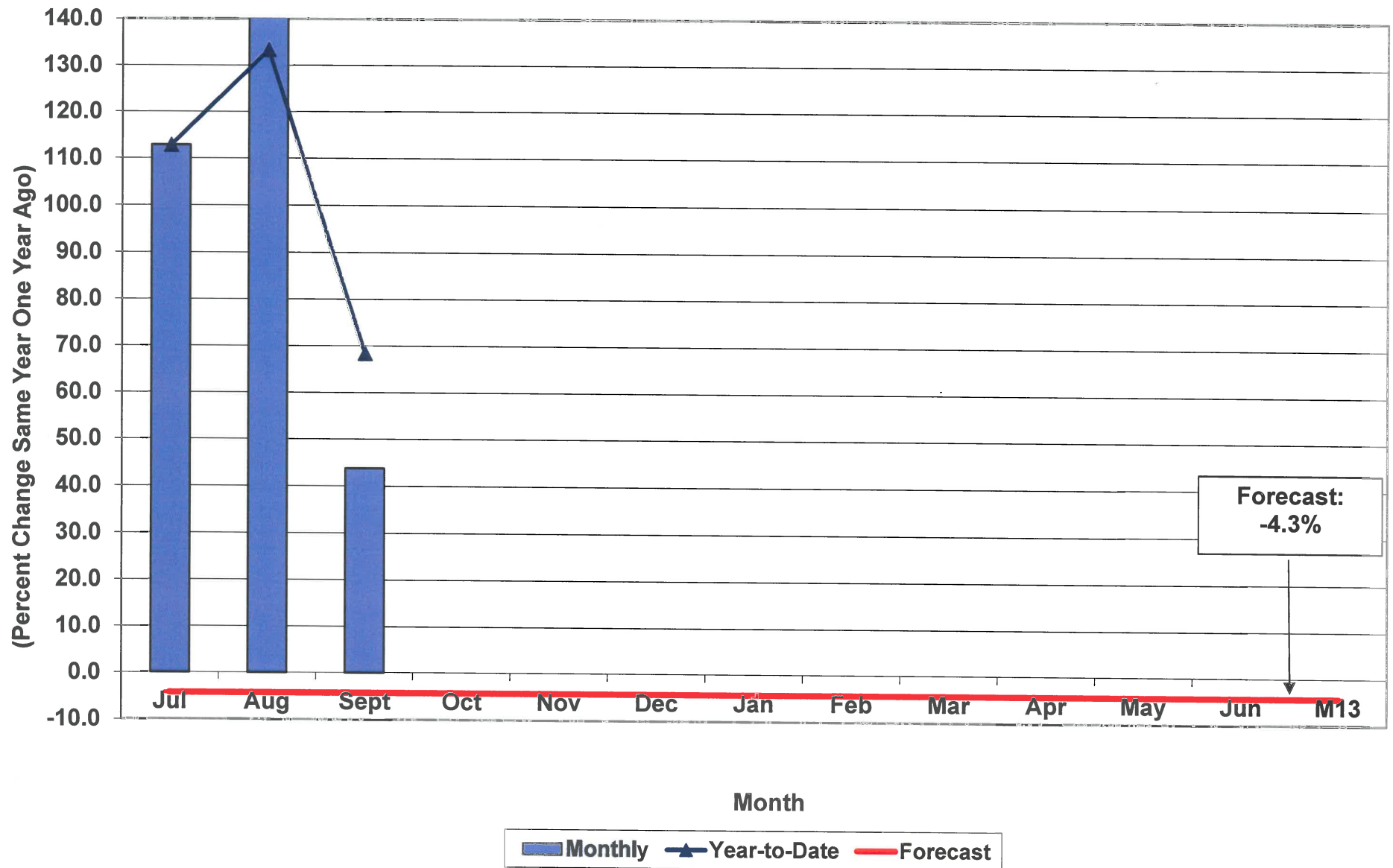


Individual Income Tax Withholdings in South Carolina



Source: Board of Economic Advisors
BEA/RWM/08/27/18

Growth in Total Corporation Income Tax Revenue Collections FY2019 Monthly and Year-to-Date





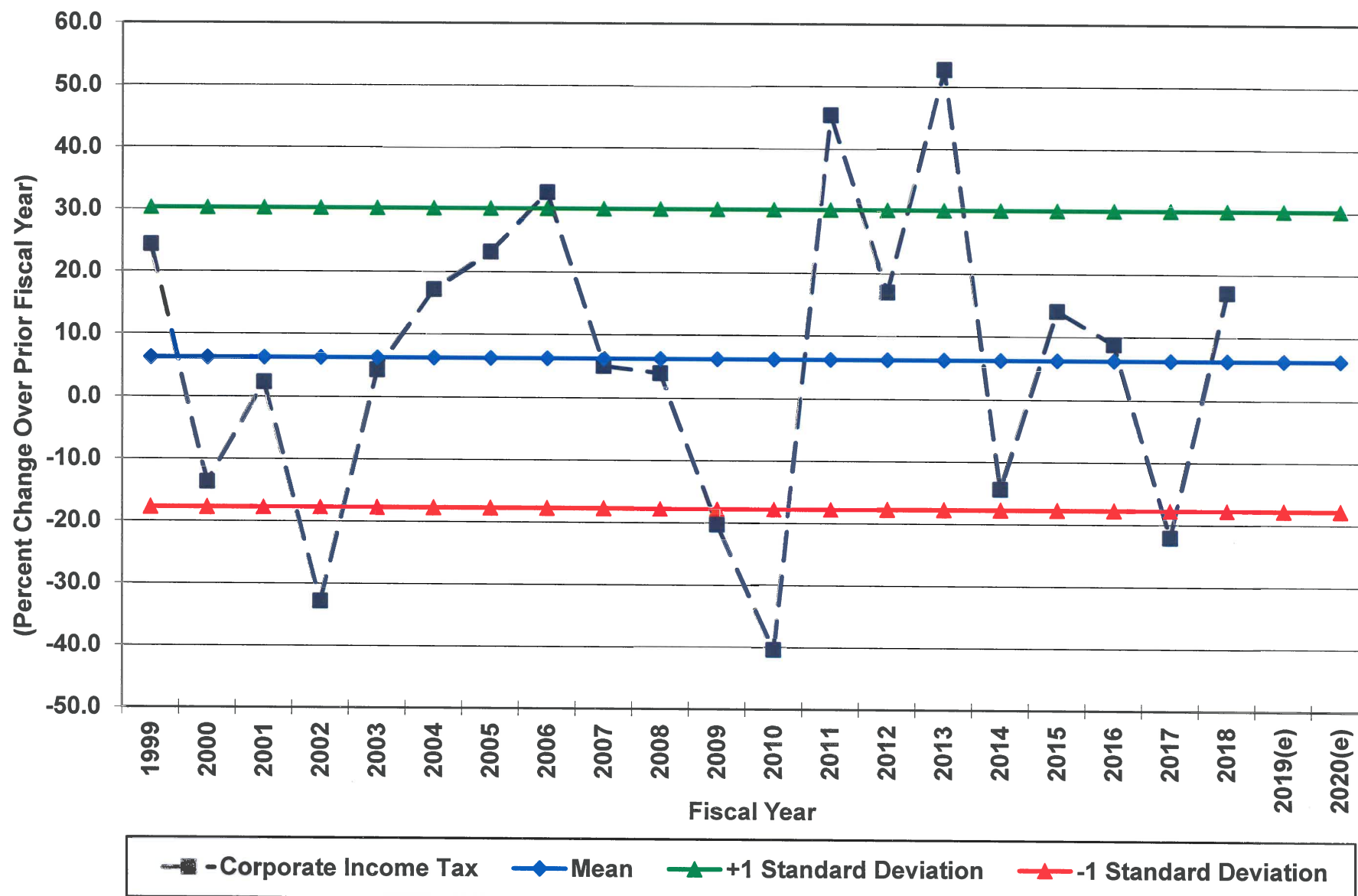
September 2018

Corporate Income Tax Revenue

- Corporate Income tax revenue increased 43.8 percent in September
- Increase in Corporation Income tax declaration payments of \$21.6 million
- The Corporation Income tax has increased 68.4 percent through the first quarter of FY2018-19, primarily from the settlement of a single audit payment for \$11.4 million received in August and stronger than expected tax declarations in September



General Fund Corporate Income Tax Revenue Growth in South Carolina





September 2018

Other Tax Revenues

- Other Revenues were also largely affected by the transition and implementation of a new computer system at the Department of Revenue in September 2017 that caused many of the Other Revenue categories to be artificially understated
- This caused artificially large comparisons in September 2018. These large monthly swings in Other Revenues should become ameliorated in coming months
- Other Revenues increased 42.1 percent in September 2018 from one year ago, and have increased 32.8 percent year-to-date from a variety of sources and timing of receipts



September 2018

- The licensure of insurance agents and brokers are paid every two years with the majority of the licenses coming due in odd-numbered fiscal years. This was the case this fiscal year with Insurance Tax revenue up 35.0 percent through the first quarter of the fiscal year.
- Other Revenues have also benefitted from continued strong Interest Earnings on state General Fund investments, the documentary stamp tax (real estate deed tax), and the bank tax





September 2018

Summary

- Through the first three months of FY2018-19, General Fund revenues have increased 8.8 percent and are trending above the growth rate of 1.5 percent needed to meet the estimate for FY2018-19
- Pursuant to Section 11-9-890, total General Fund revenue collections through the first quarter of FY2018-19 have exceeded the quarterly revenue estimate. At this time, no are warranted.
- The current Board of Economic Advisors' (BEA) revenue forecast is based upon an employment growth rate of 1.8 percent and a personal income growth rate of 4.25 percent in FY2018-19.





September 2018

- Revised state personal income figures released in September exhibited more strength than in previous income estimates supporting that the economy somewhat stronger than previously believed.
- The BEA will meet with its Regional Advisory Committee in October 2018 to receive input concerning the health of the state economy and tax revenues from a group of business leaders and academics.
- The BEA will then adopt and release a revised General Fund revenue forecast for FY2018-19 and a preliminary General Fund revenue forecast for FY2019-20 in November 2018.





September 2018

Contingencies and Other Items of Concern

- **Legal Decisions**

- **Tax conformity**
- **Wayfair decision (internet sales)**
- **Sports betting (no legislation has been filed)**

- **Revenue and Economic Issues of Concern**

- **Capital gains and the stock market**
- **Effect of Trump tax change**
- **Oil prices & OPEC**
- **Tariffs (China retaliation; doubling tariffs for Turkey)**
- **European debt crisis**
- **Value of Dollar**

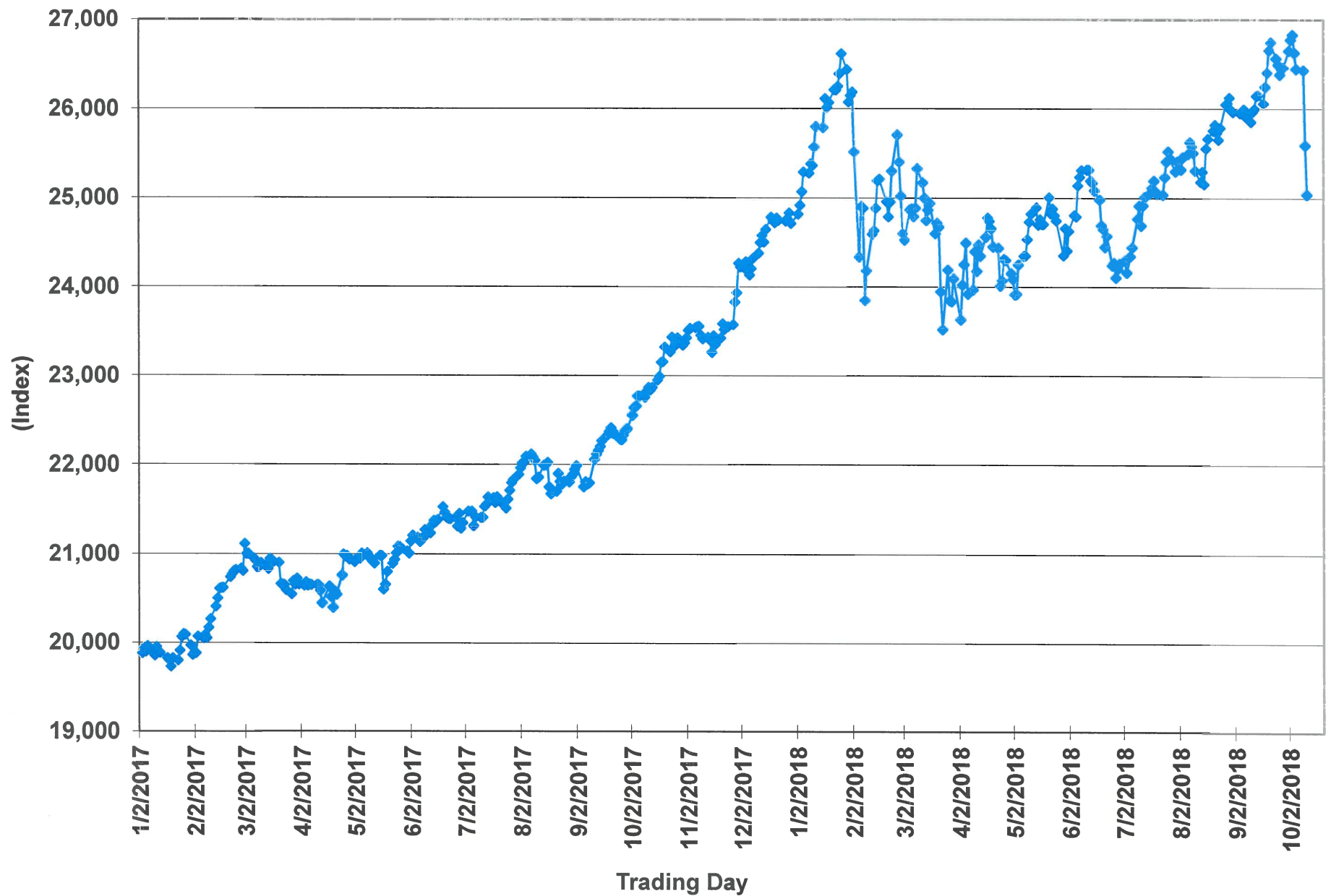




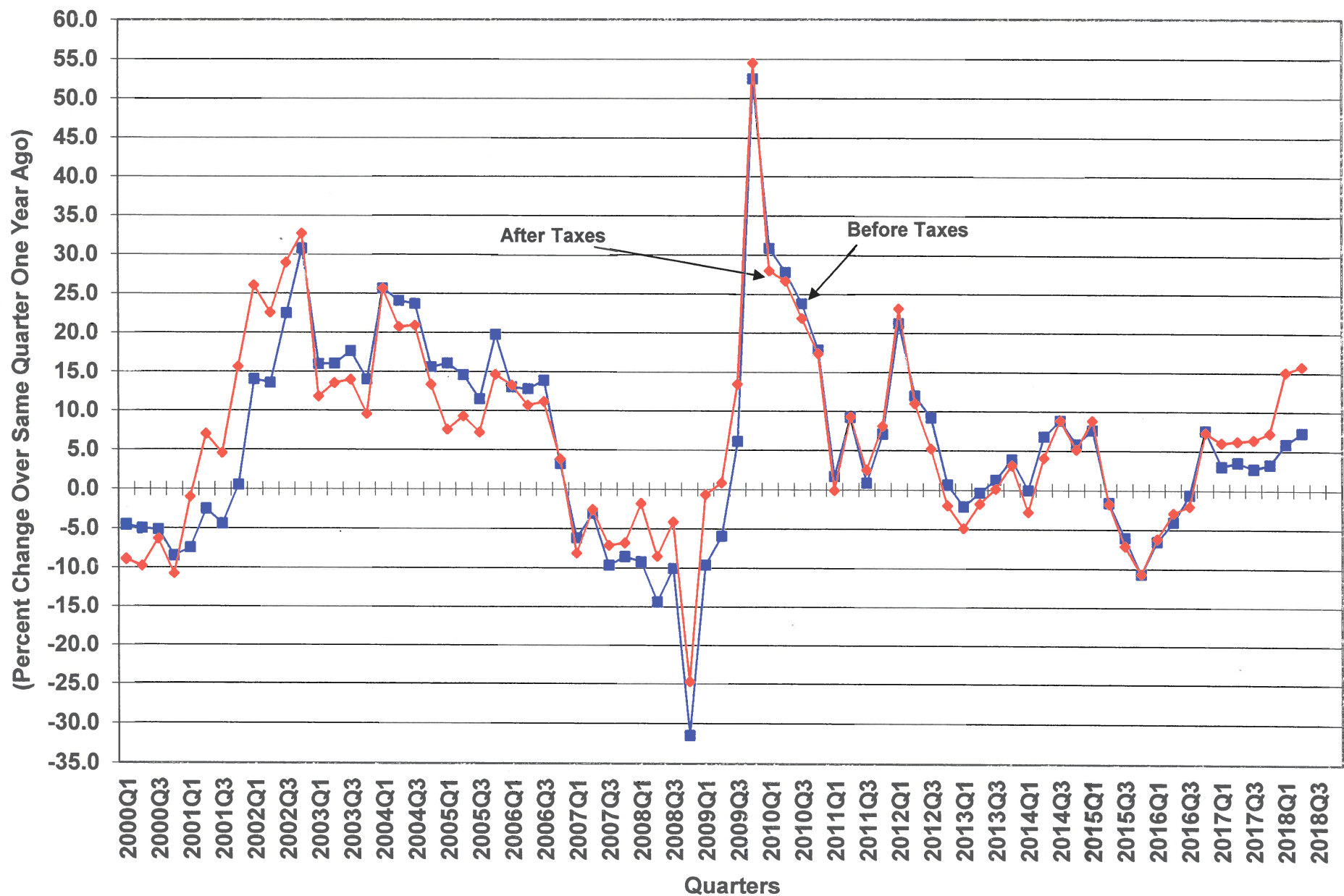
September 2018

- **Retail Sales**
- **Housing market**
- **Flattening of the yield curve spread**
- **Disaster tax relief for Hurricanes Florence and Michael**

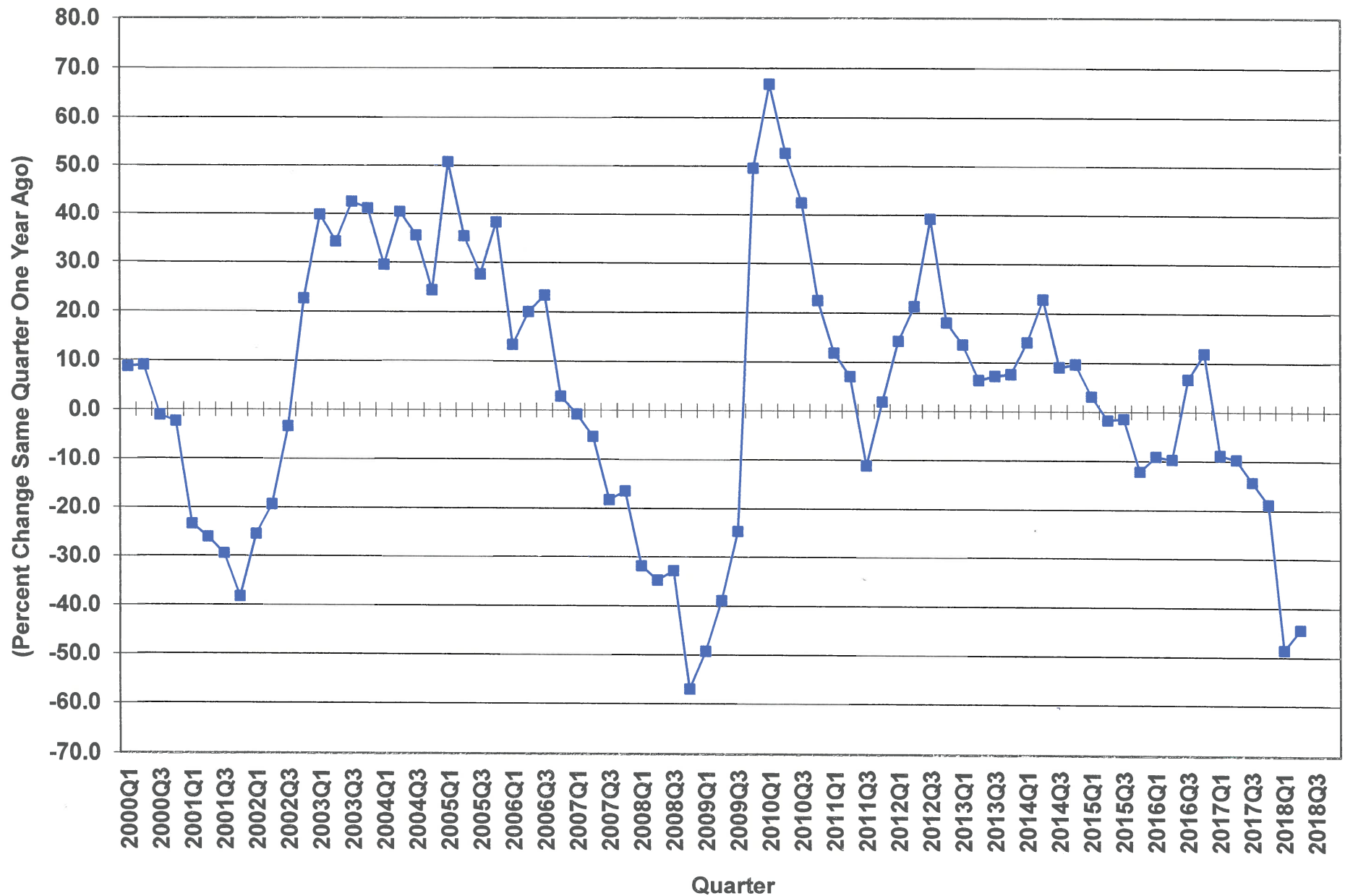
Dow Jones Industrial Average



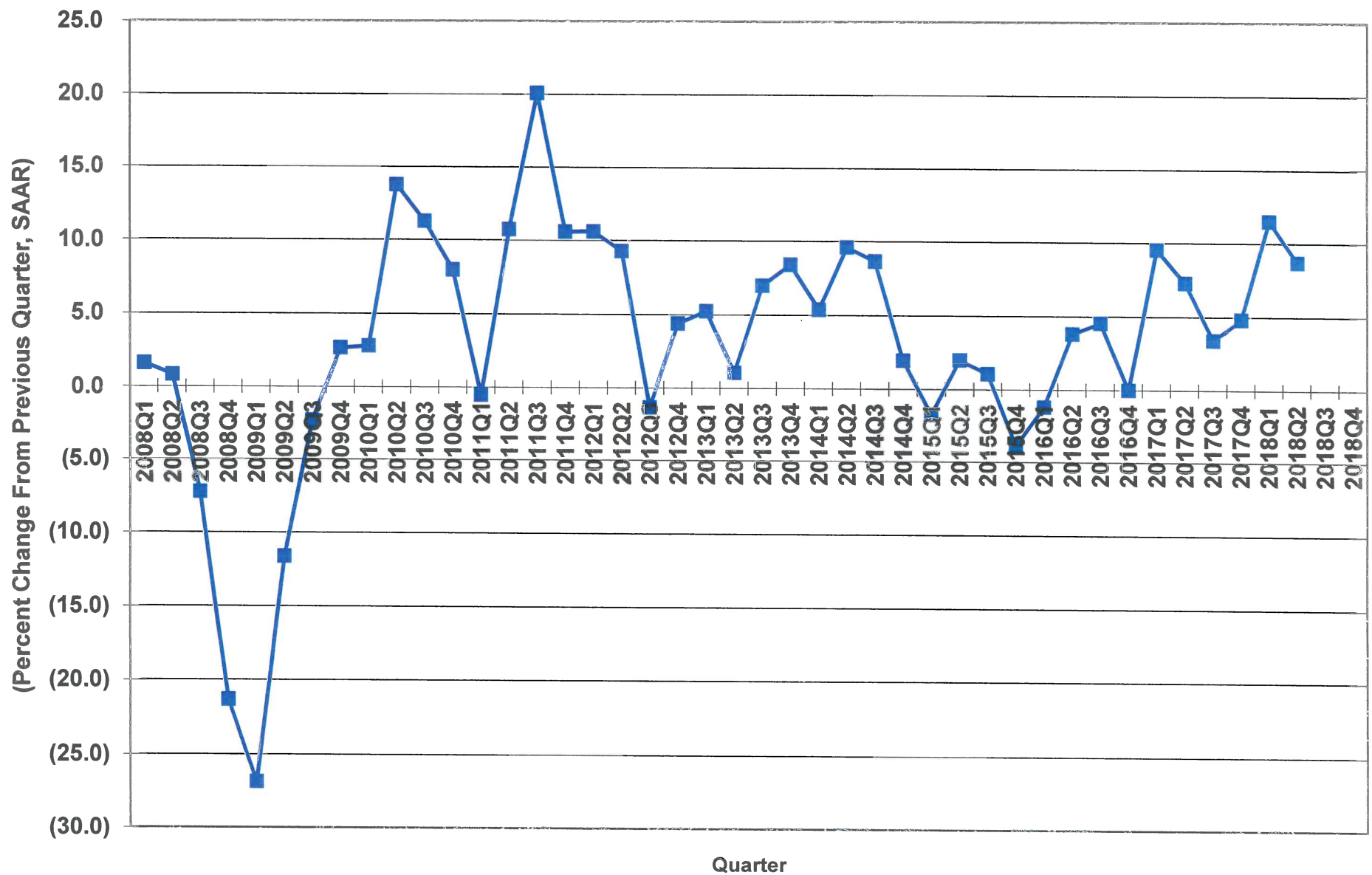
U.S. Corporate Profits Before and After Taxes



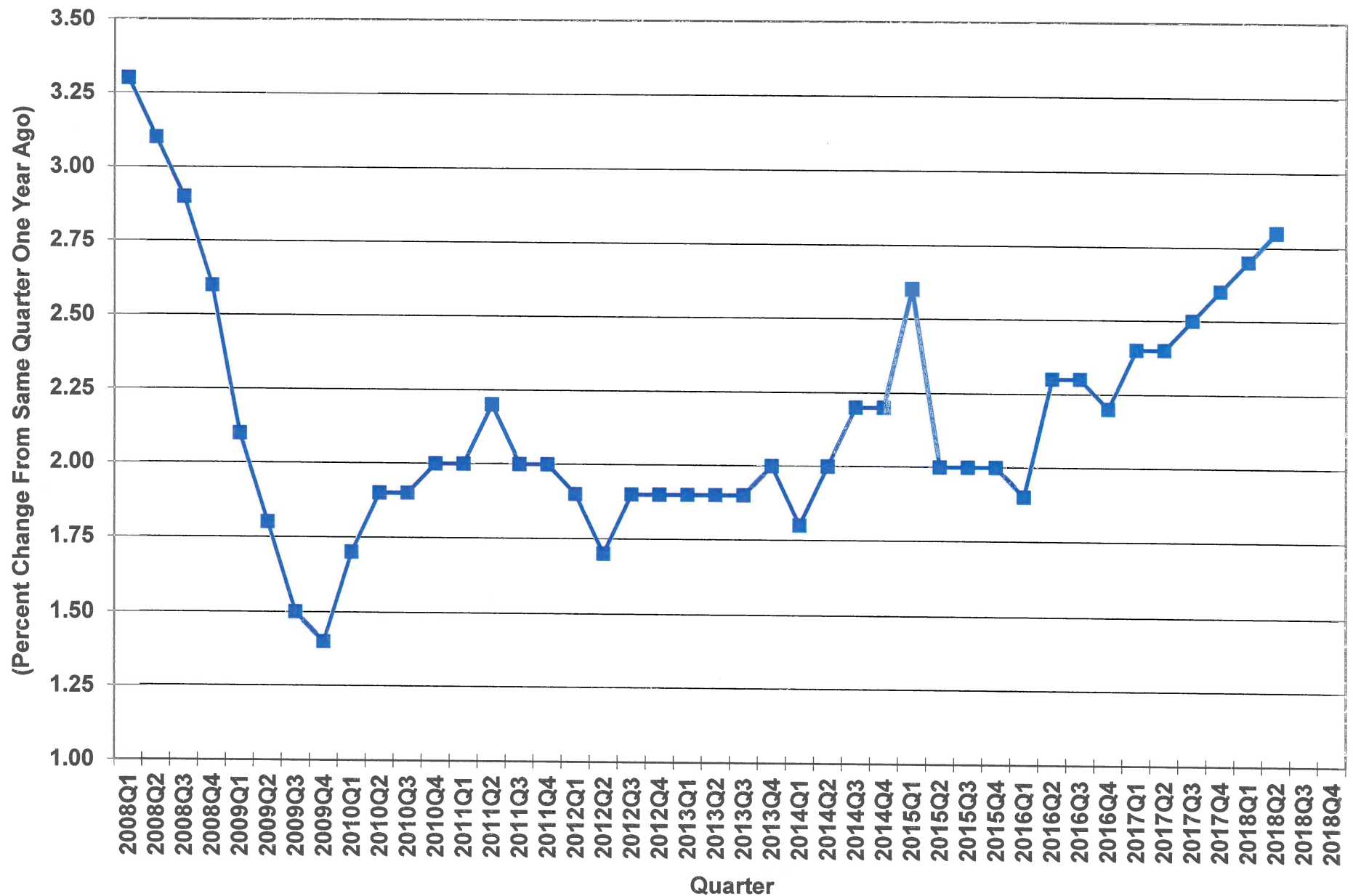
Growth in Corporation Income Taxes in the U.S.



Growth in Real Private Nonresidential Fixed Investment in the United States



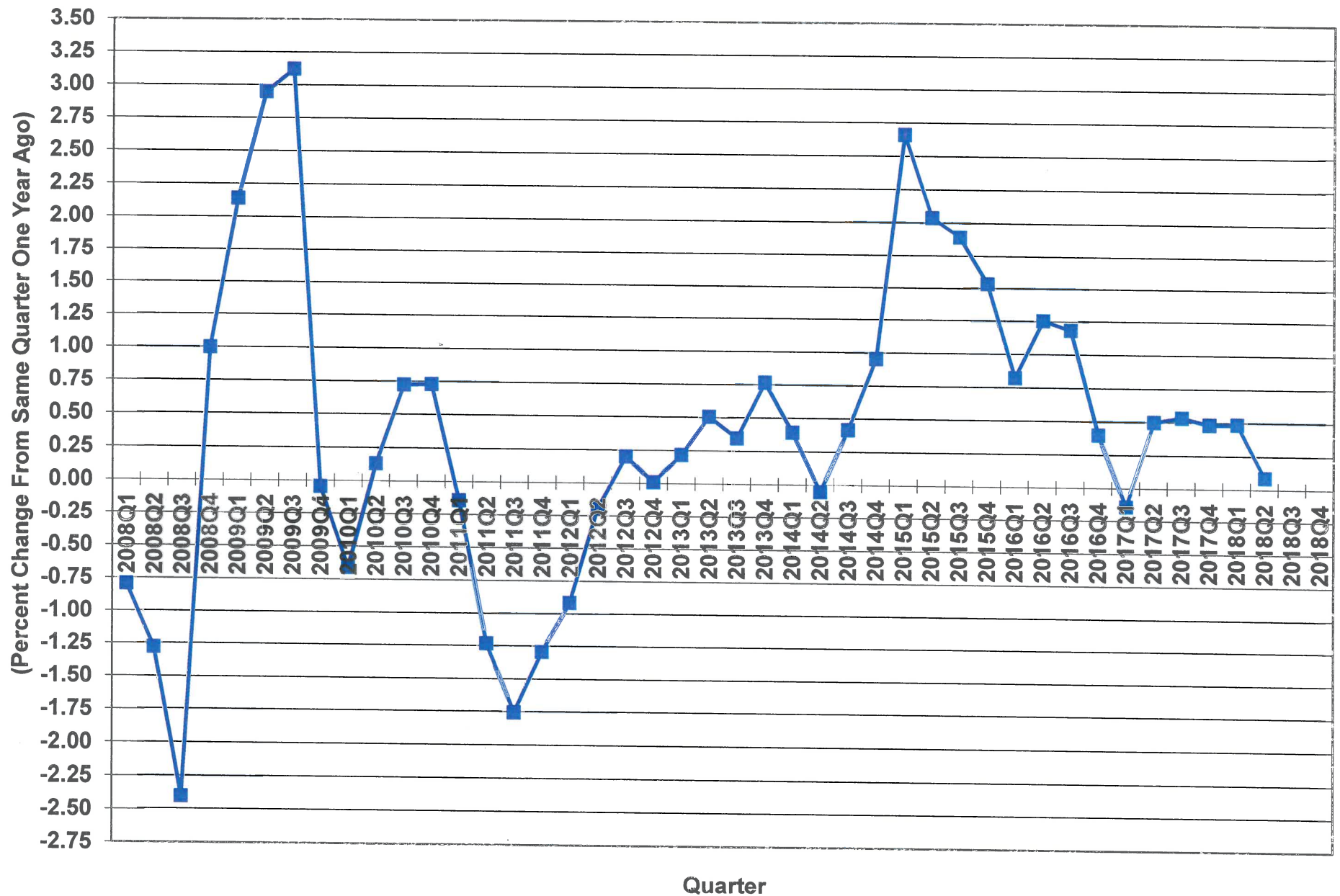
Growth in Total Compensation for All Workers in the U.S.



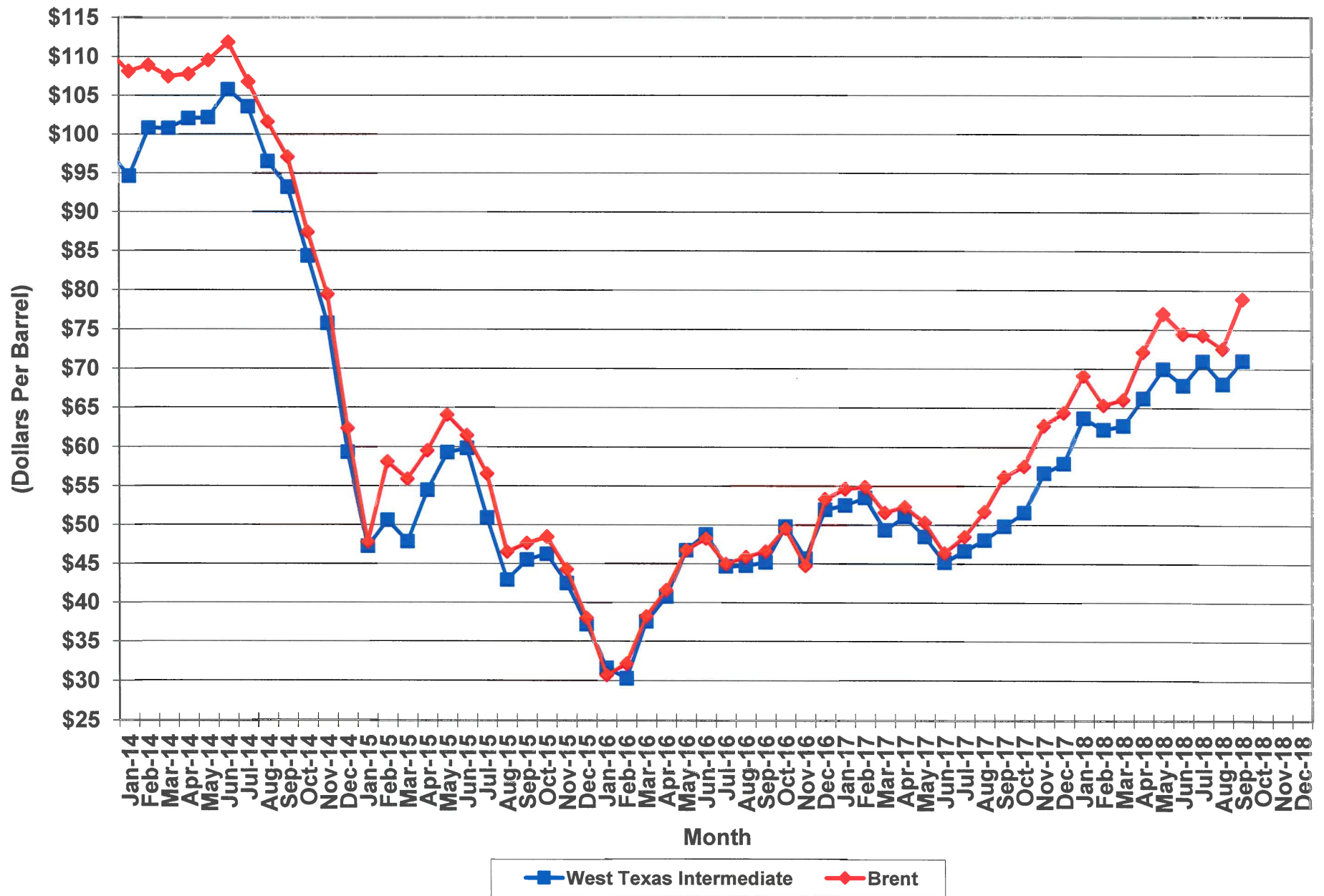
Source: U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

S.C. Board of Economic Advisors

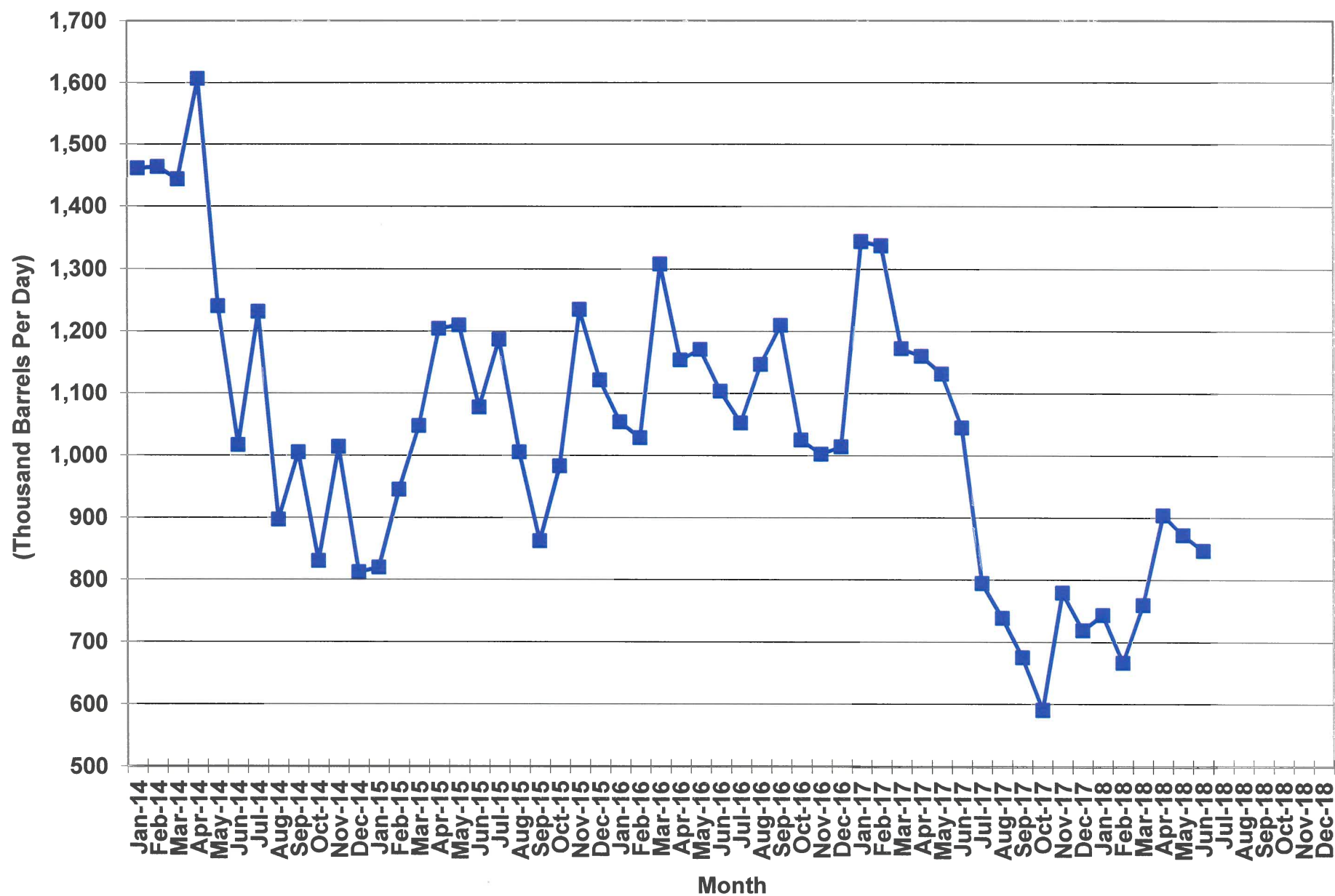
Growth in Total Real Compensation for All Workers in the U.S.



Spot Crude Oil Prices



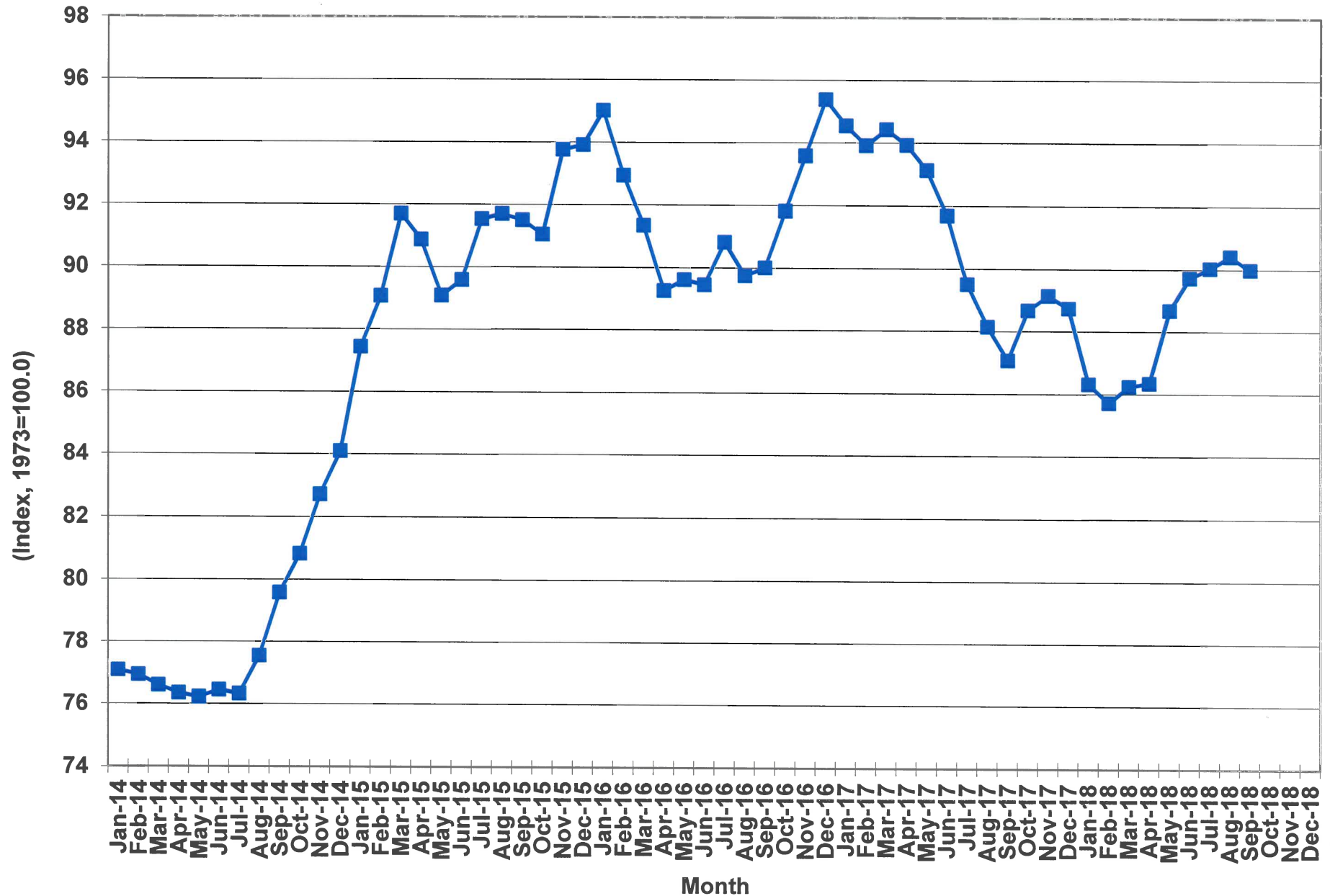
U.S. Crude Oil Imports From Saudi Arabia



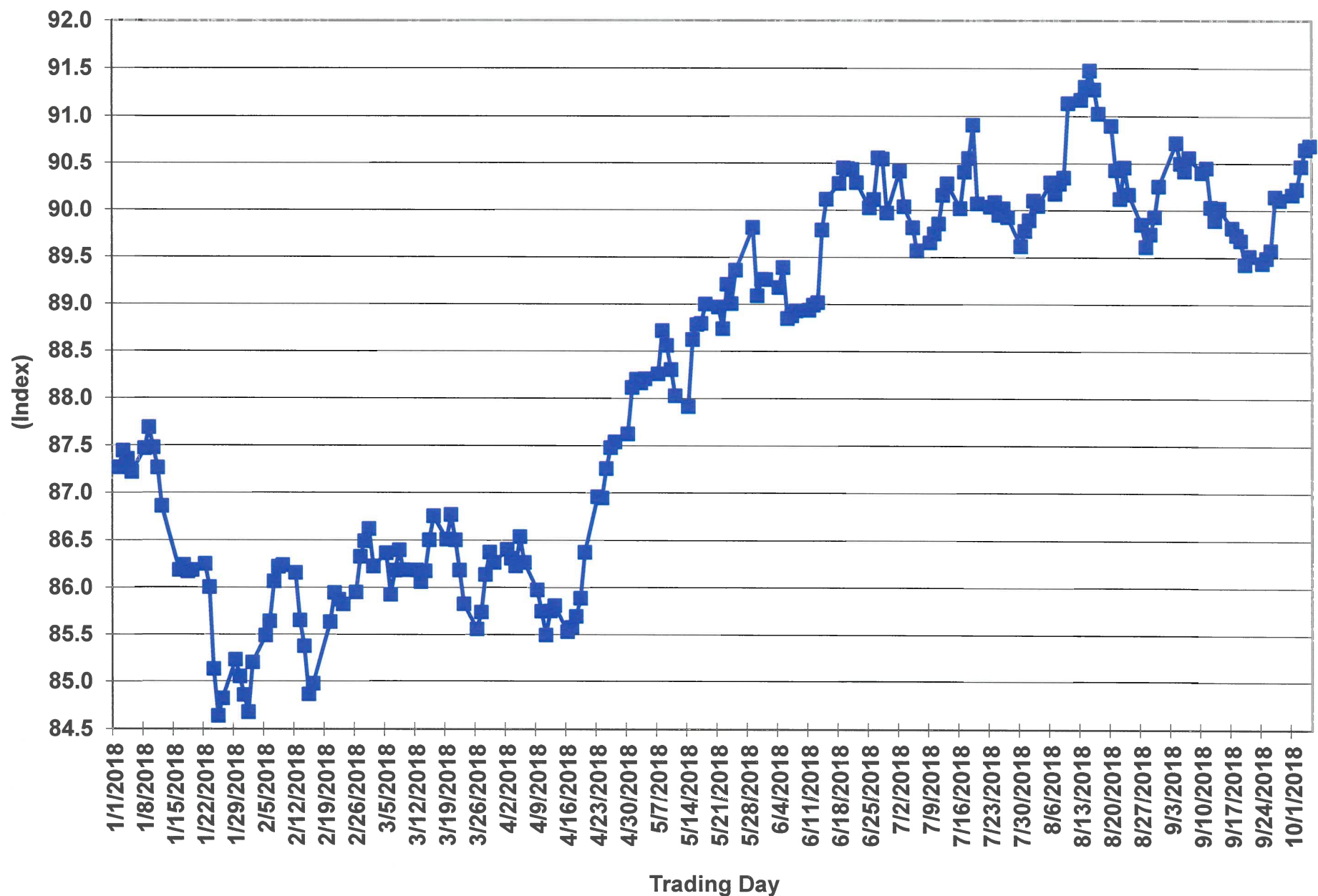
Source: U.S. Department of Energy, Energy Information Administration, Washington, D.C.

S.C. Board of Economic Advisors

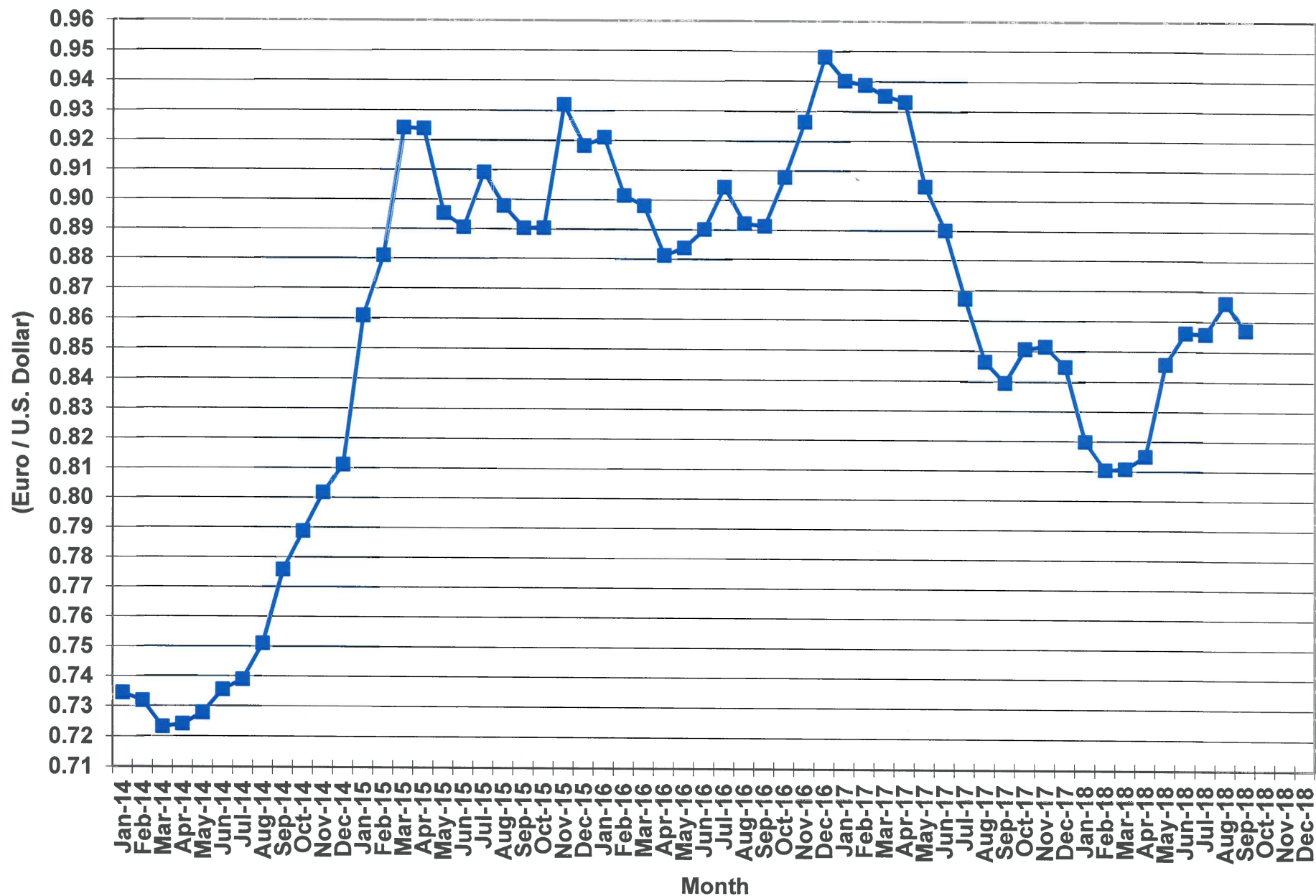
U.S. Trade-Weighted Exchange Rate Index of U.S. Dollar



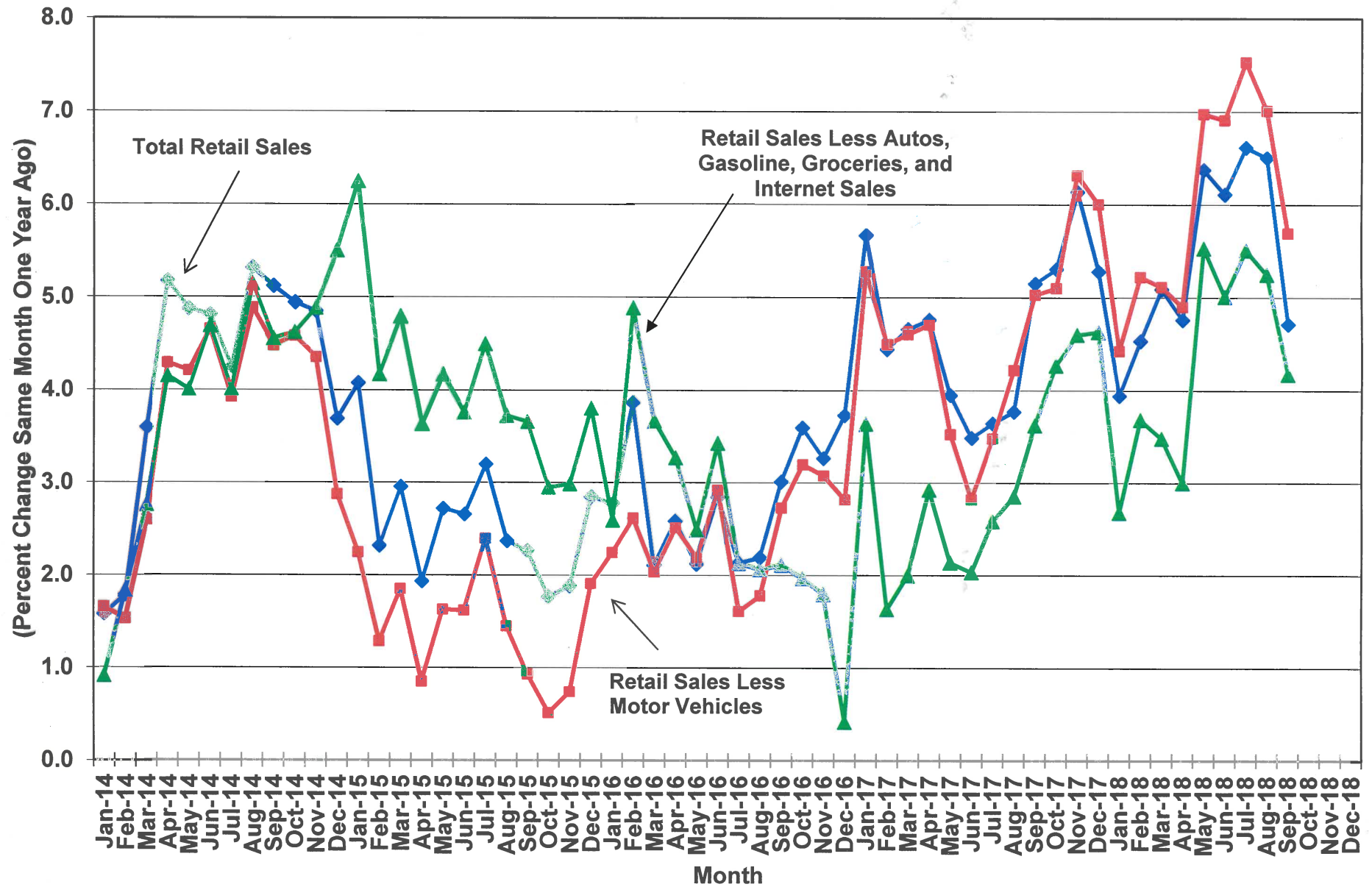
Daily Trade-Weighted Exchange Rate Index of U.S. Dollar



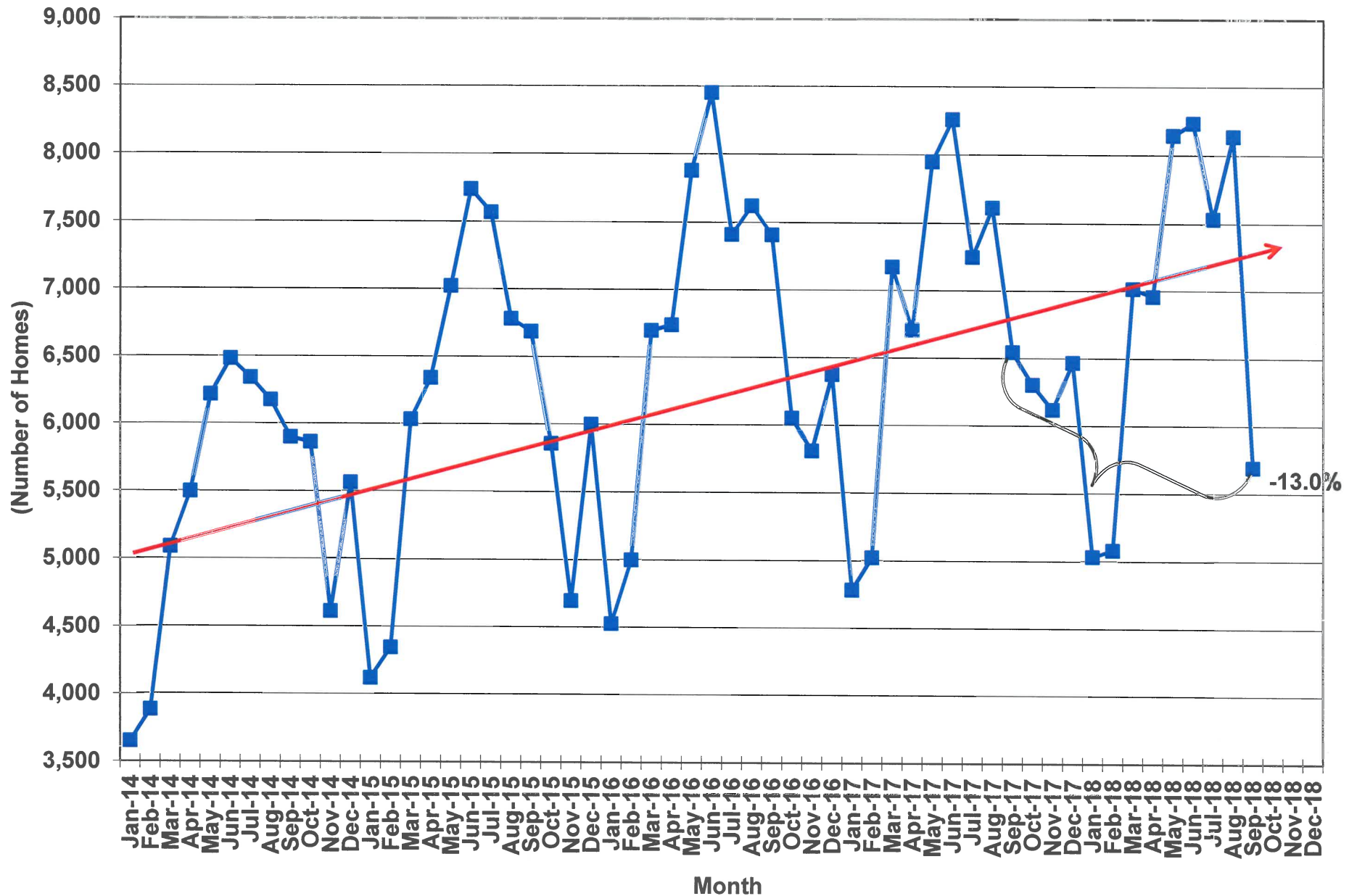
Value of the Euro vs. the U.S. Dollar



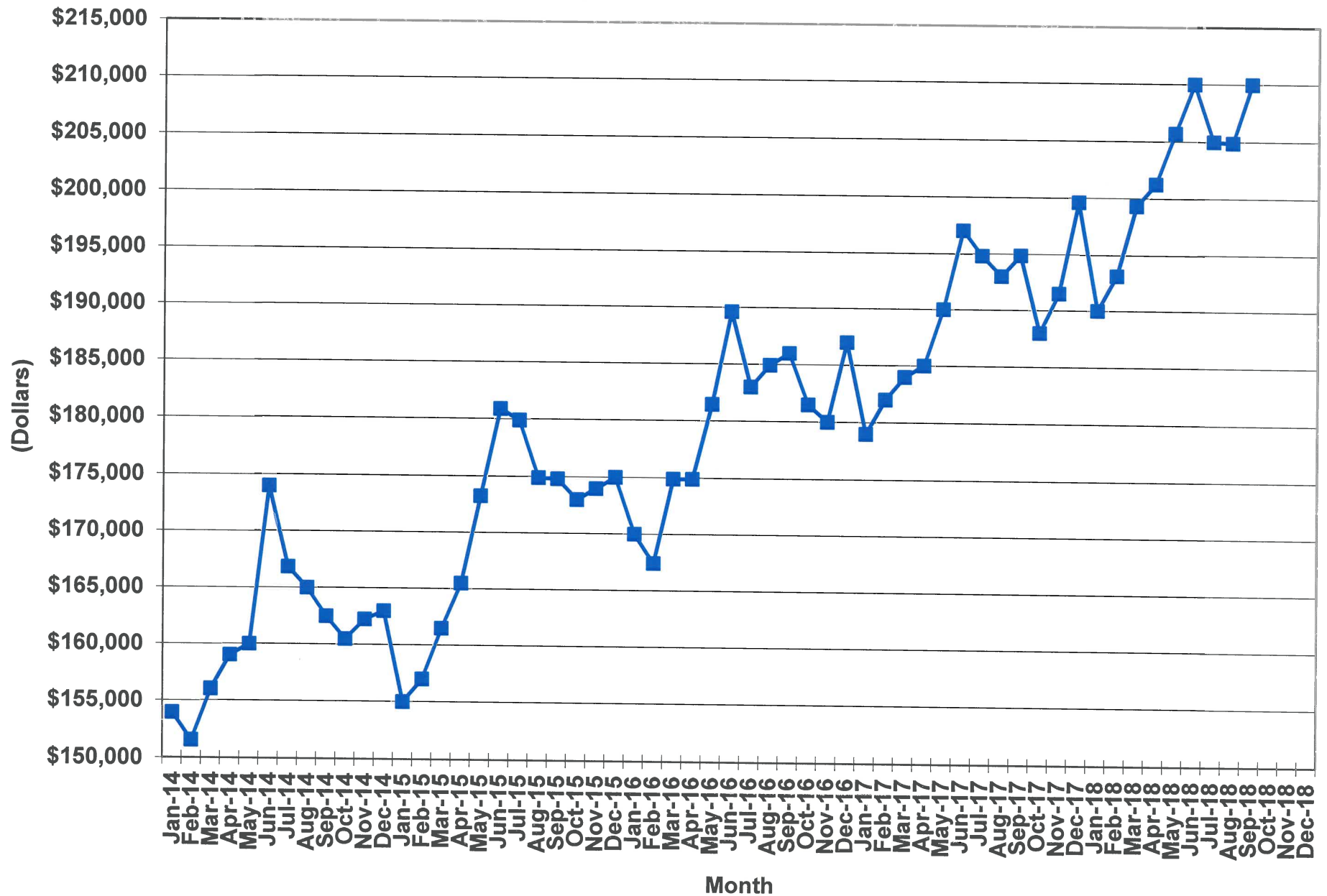
U.S. Retail & Food Service Sales



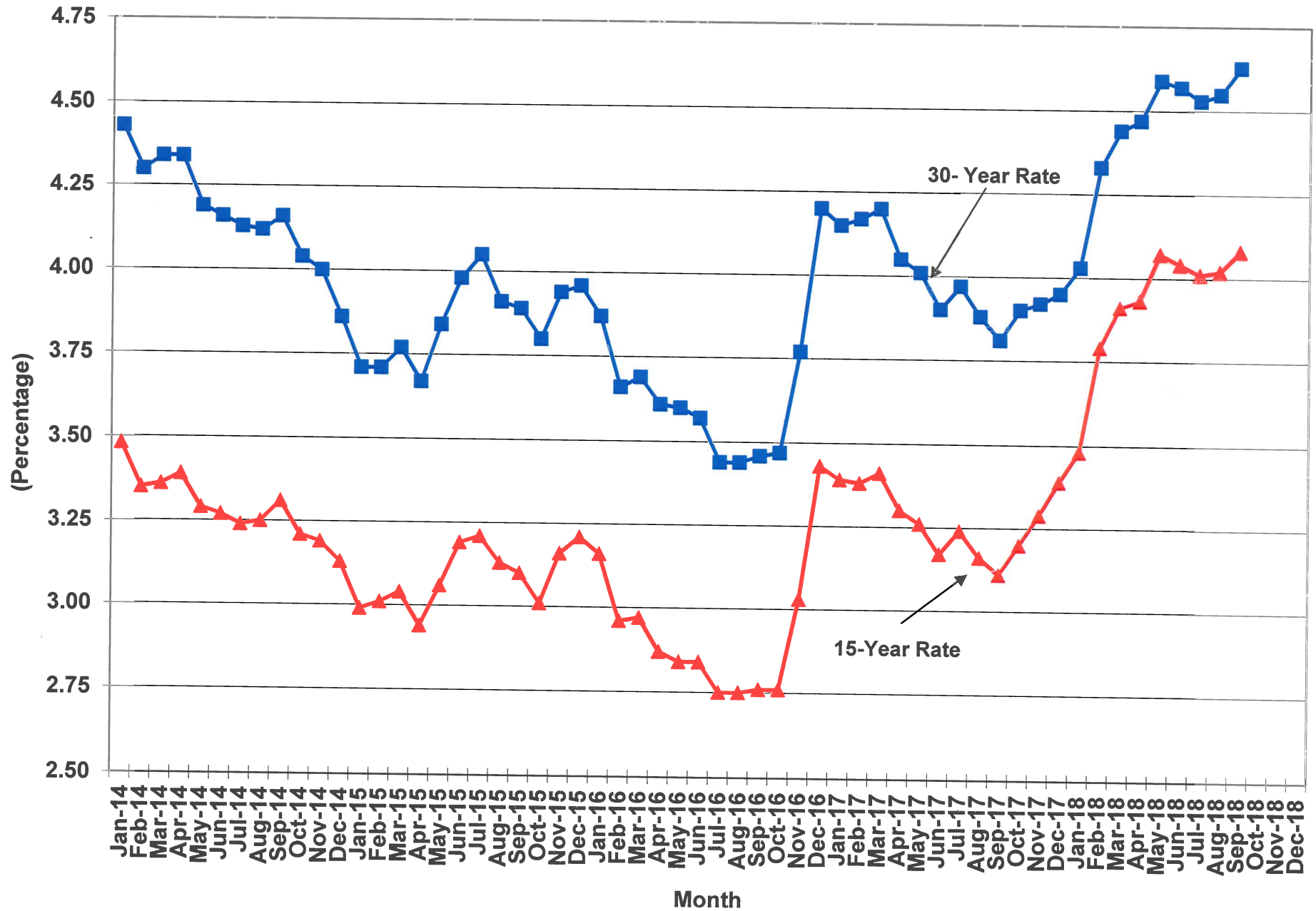
Number of Homes Sold in South Carolina



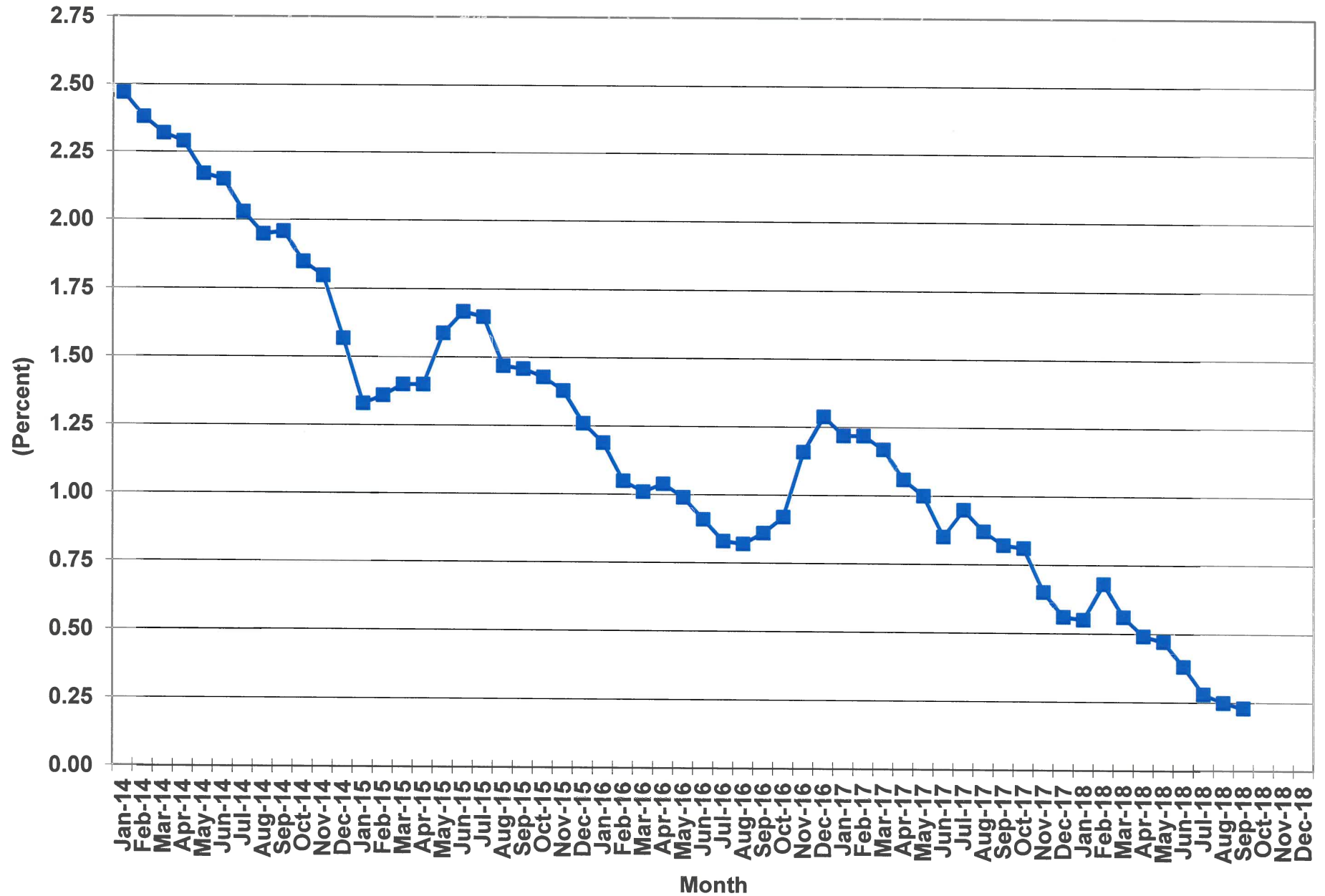
Median Price of Homes Sold in South Carolina



Mortgage Rates



Interest Rate Spread Between 10-Year Bond & 2-Year Bond





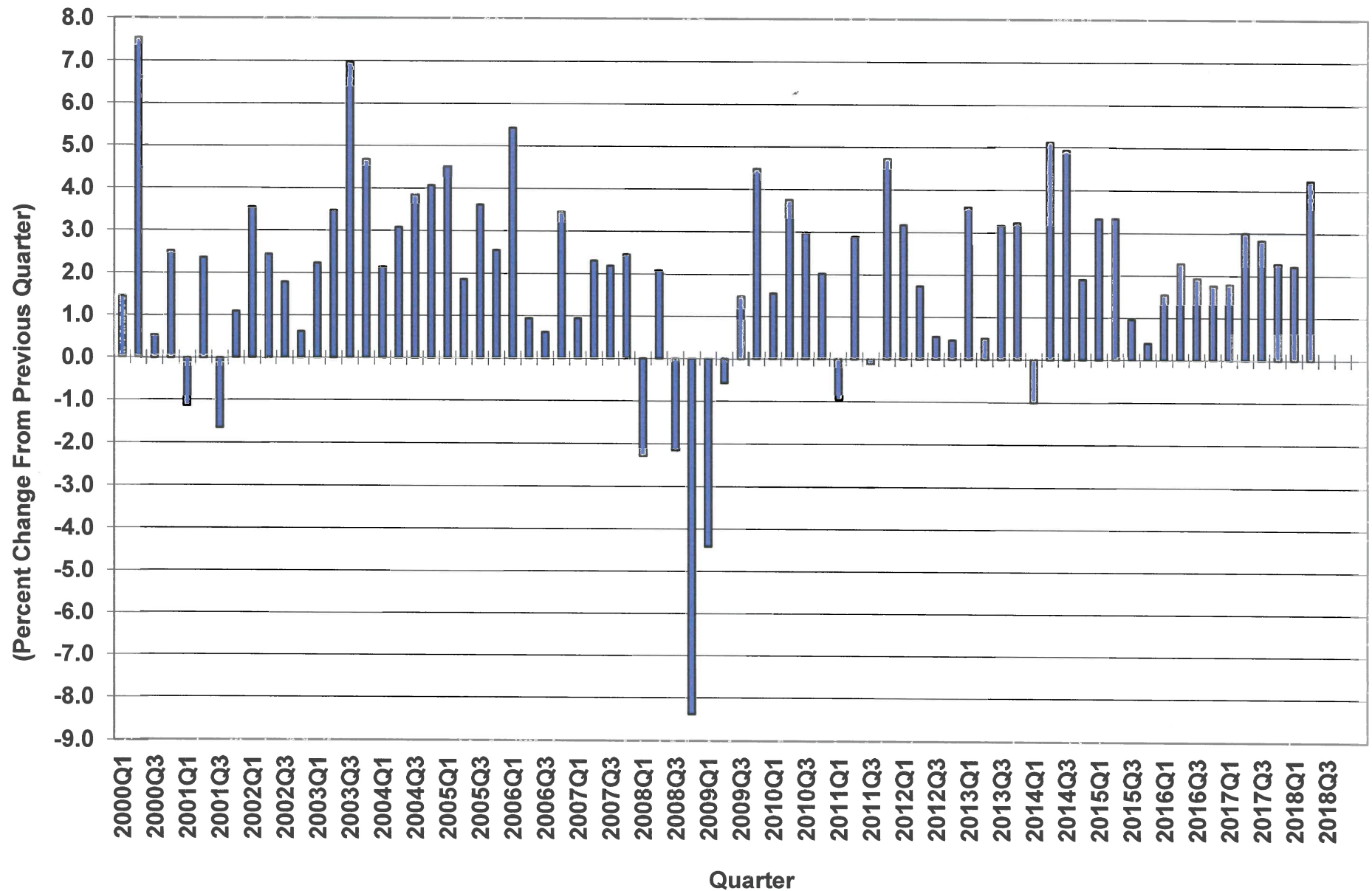
September 2018

Base Economic Assumptions for FY2018-19 and FY2019-20

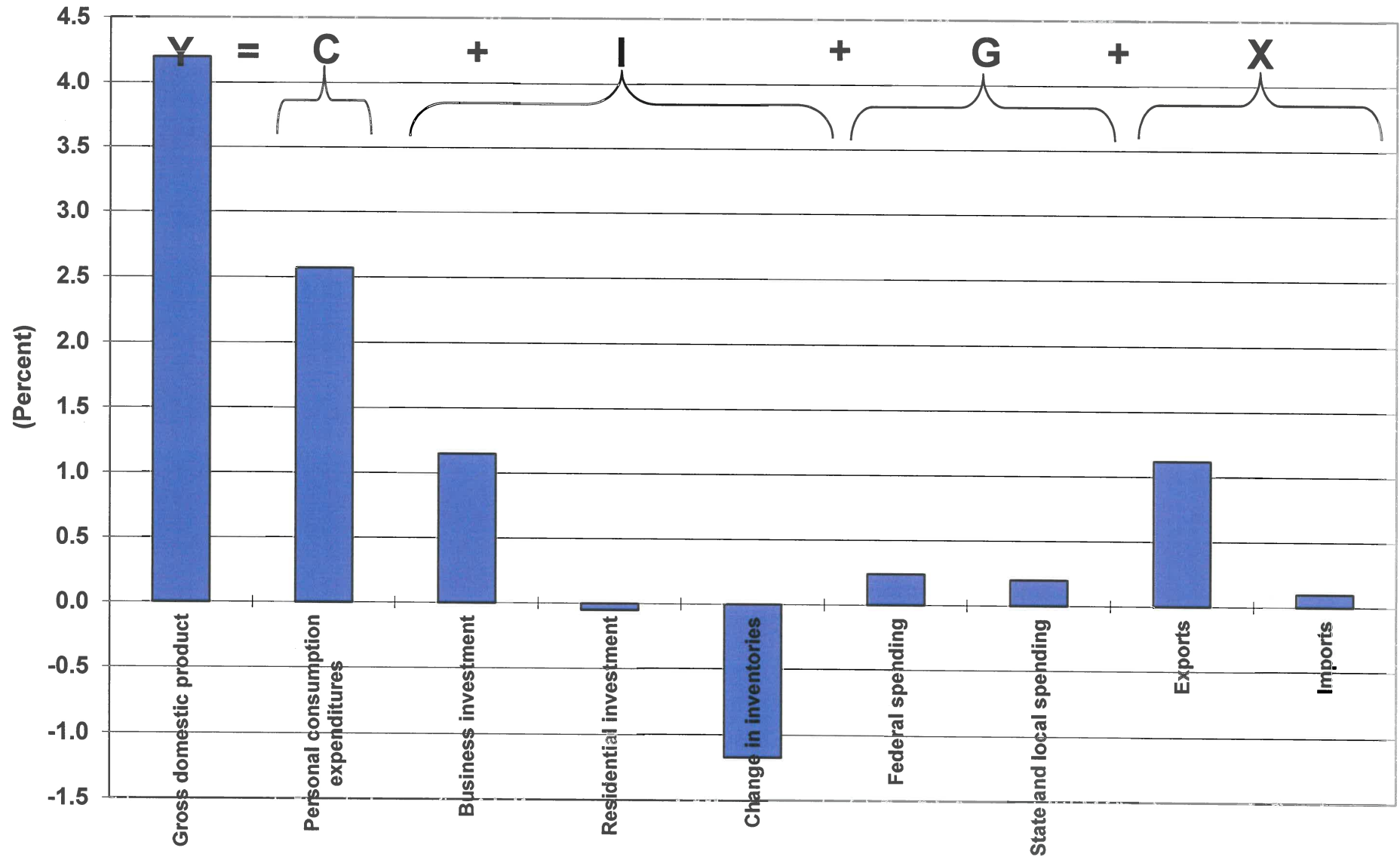
- **Gross Domestic Product**
- **South Carolina Personal Income**
- **South Carolina Employment**
- **Inflation**
- **Federal Reserve meeting – next meeting on November 7th – 8th**



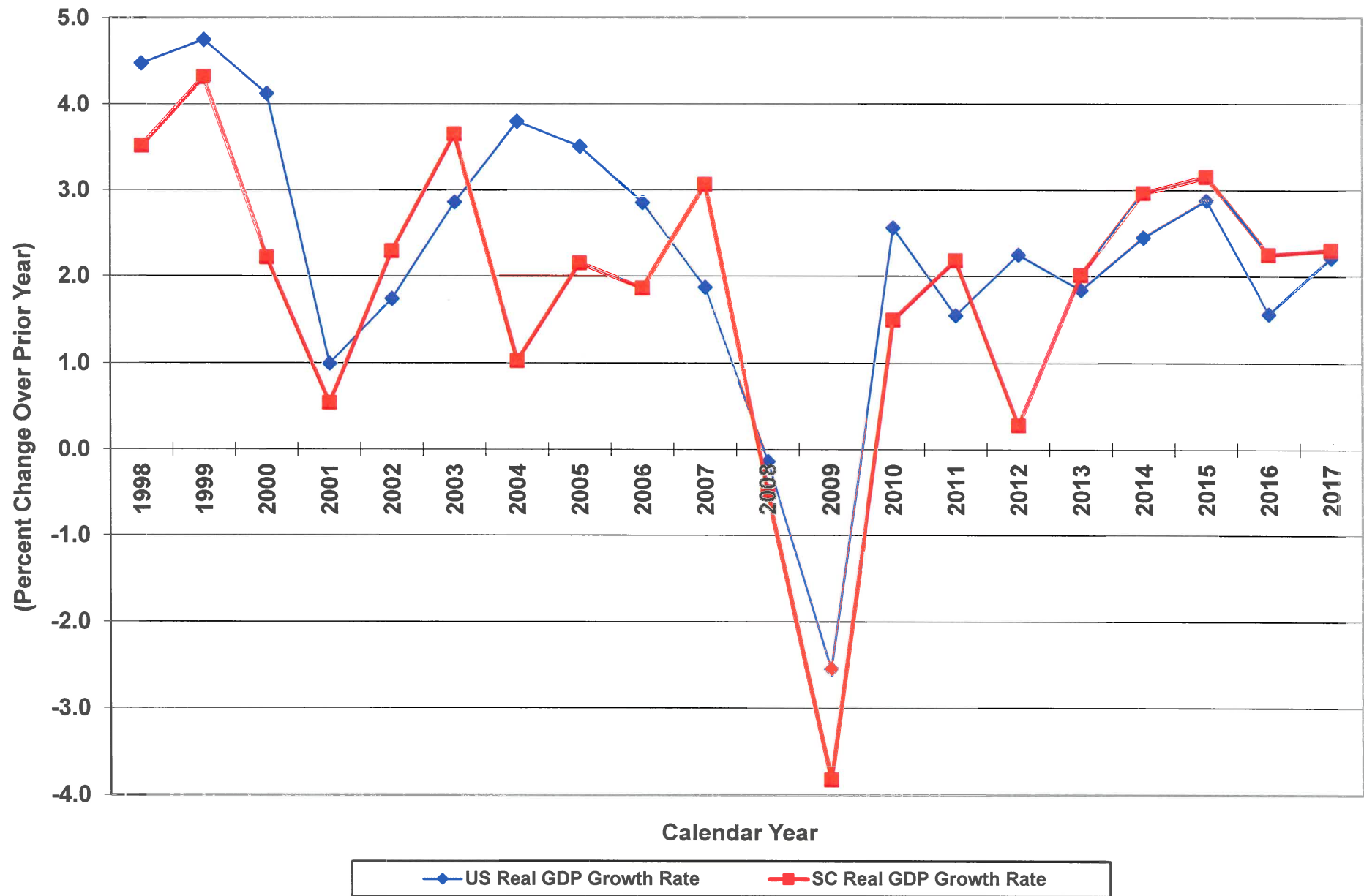
Real Gross Domestic Product in the U.S. (2012 = 100.0)



Contributions to Real Gross Domestic Product in the U.S. 2018, Second Quarter, (Final Estimate)



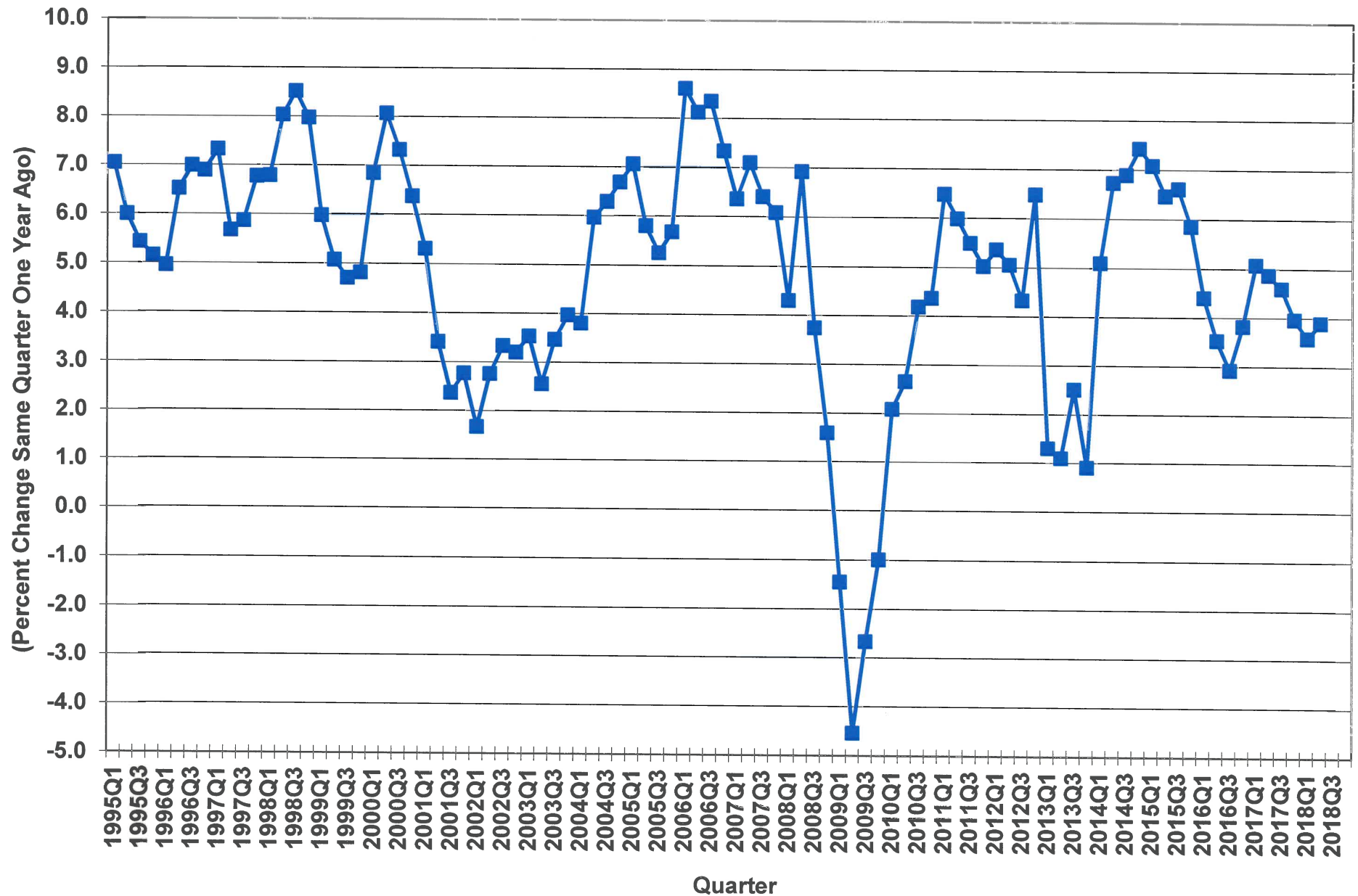
Comparison of Real Gross Domestic Product Growth Rates



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.
BEA/RWM/10/12/18

S.C. Board of Economic Advisors

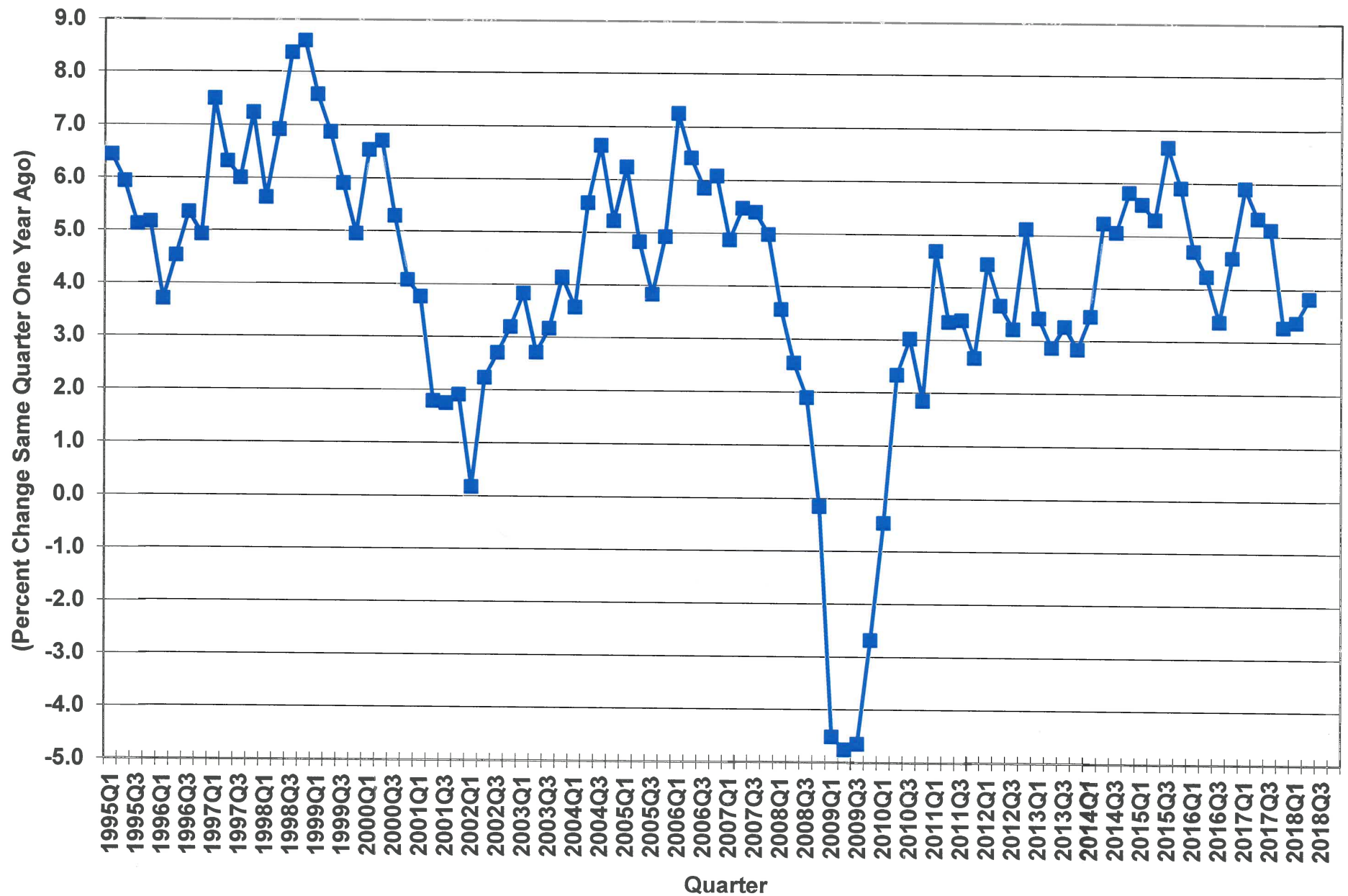
Growth in Personal Income in South Carolina



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.

S.C. Board of Economic Advisors

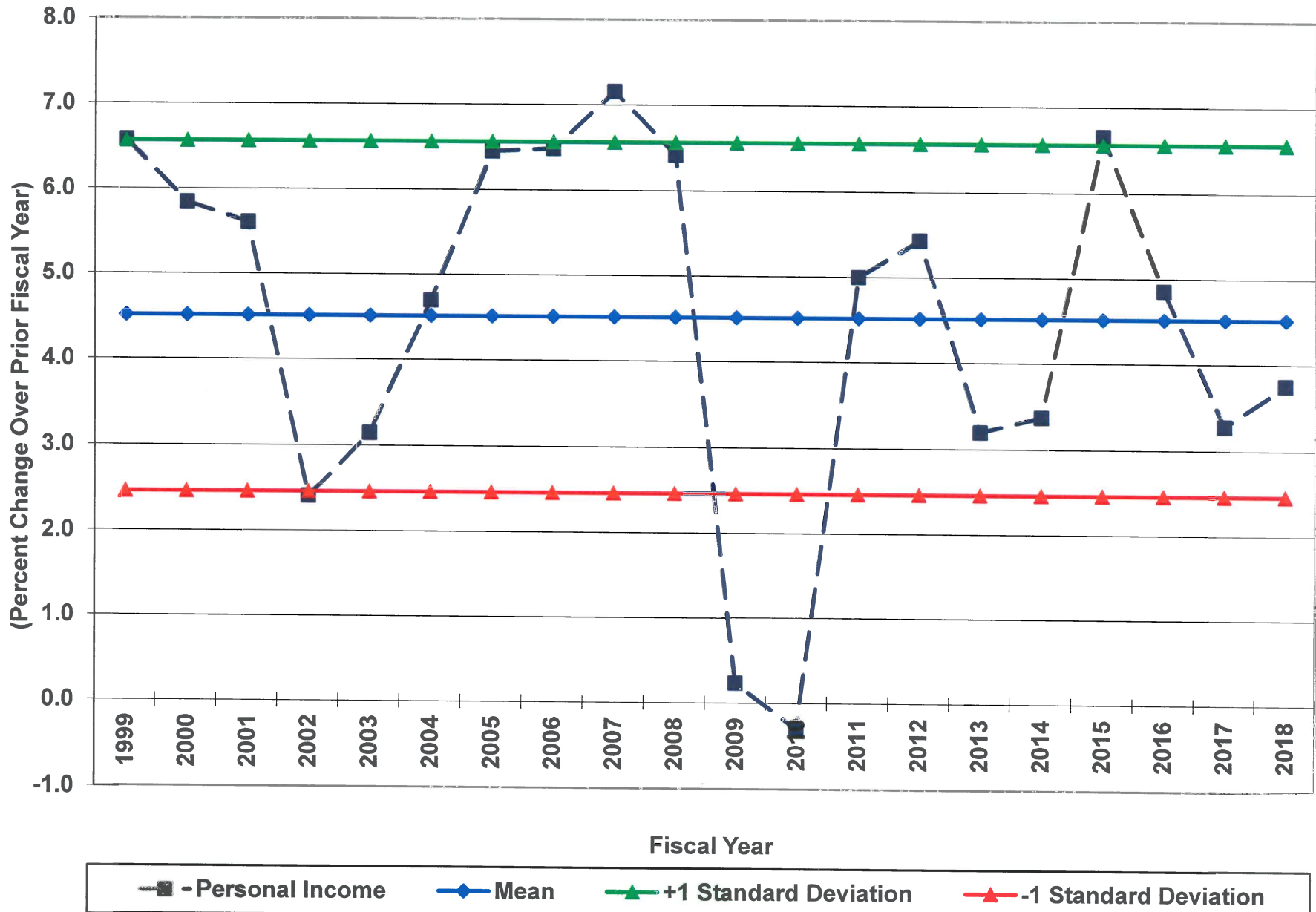
Growth in Wages and Salaries in South Carolina



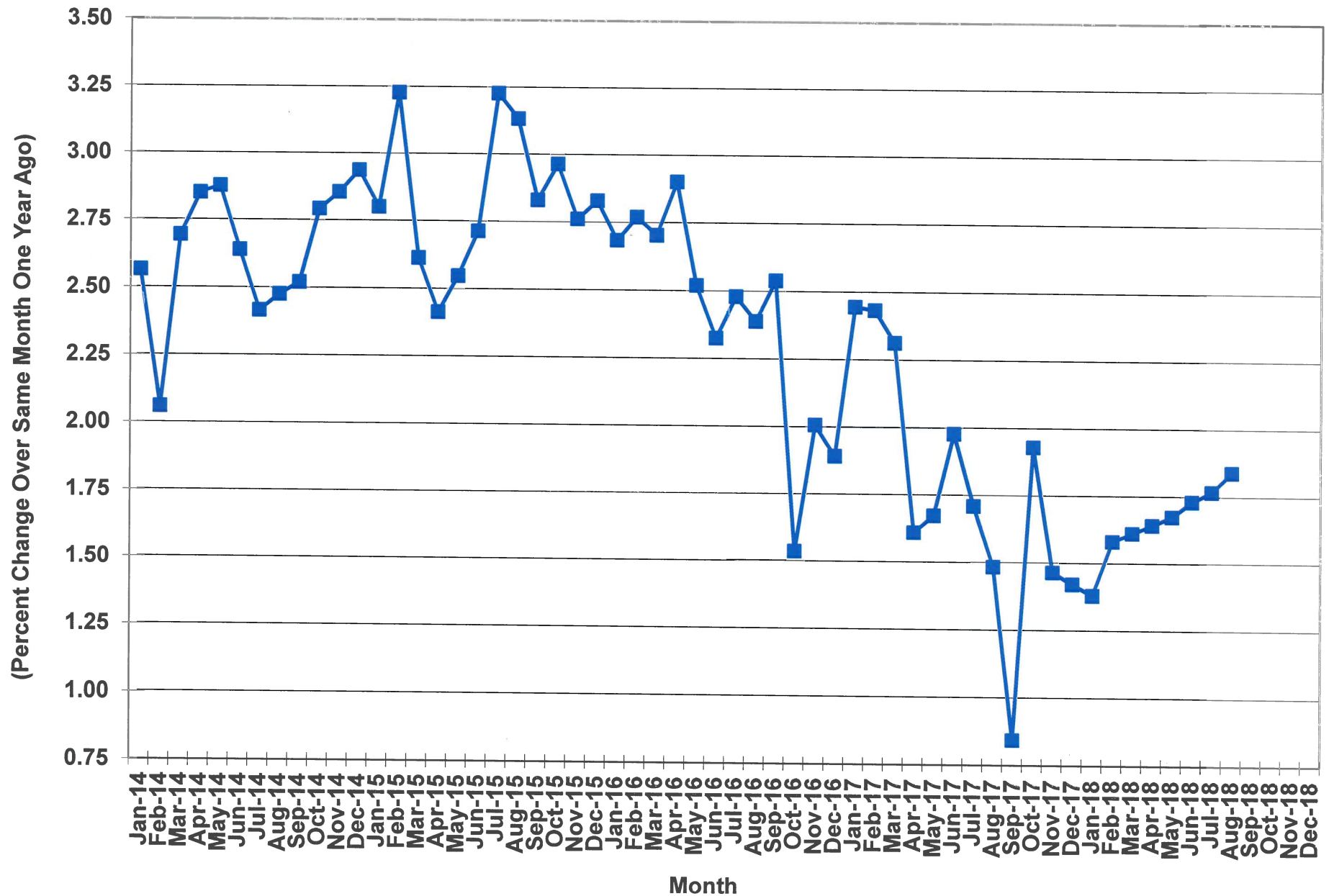
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.

S.C. Board of Economic Advisors

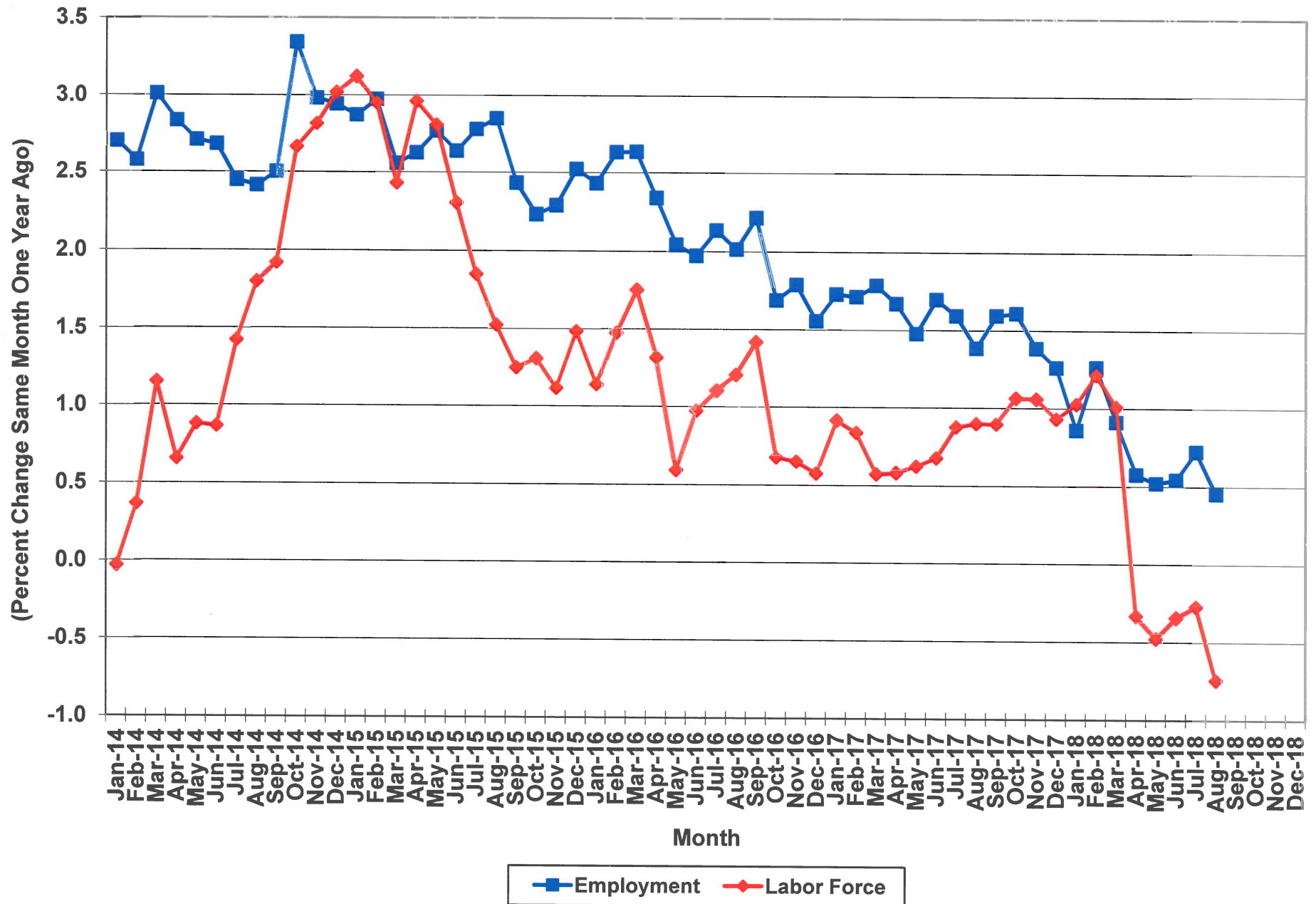
Growth in Personal Income in South Carolina



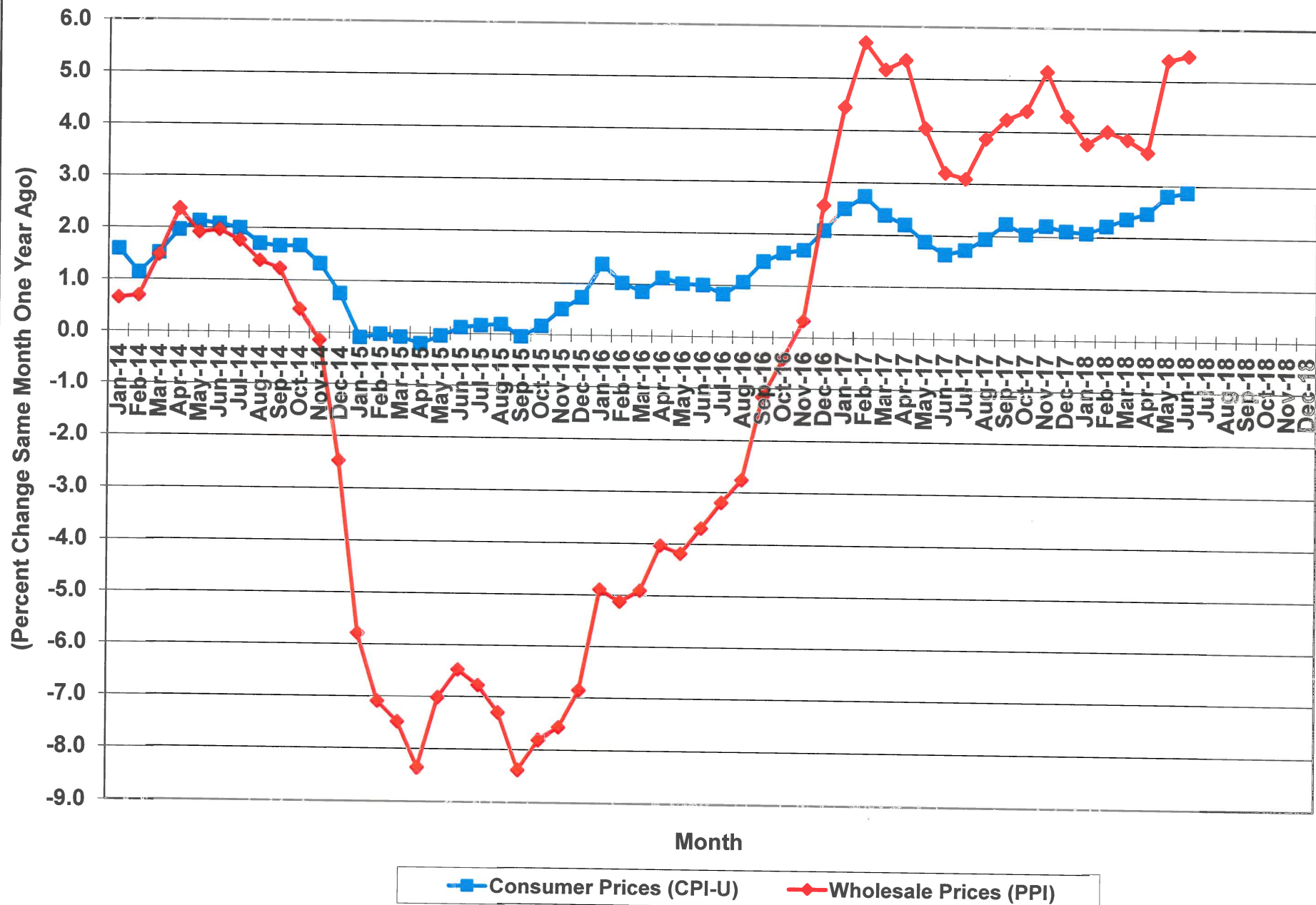
Total Nonfarm Employment Growth in South Carolina



Change in the Labor Force in South Carolina



Growth in Consumer Prices and Wholesale Prices in the U.S.



Source: U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

S.C. Board of Economic Advisors



September 2018

Legislative Offsets

- **Legislative Offset and Adjustments to General Fund Revenue Estimates in FY2018-19 and FY2019-20**
- **See attachment (preliminary)**



OTHER ITEMS



REPORTS FROM WORKING GROUP



FUTURE MEETING SCHEDULE

- A. November 8, 2018, 2:00pm – Preliminary Estimate
- B. December 13, 2018, 2:00pm – **If necessary,**
GoToMeeting for Members
- C. 2018 Calendar at <http://rfa.sc.gov/calendar>

RECESS FOR LUNCH



WELCOME

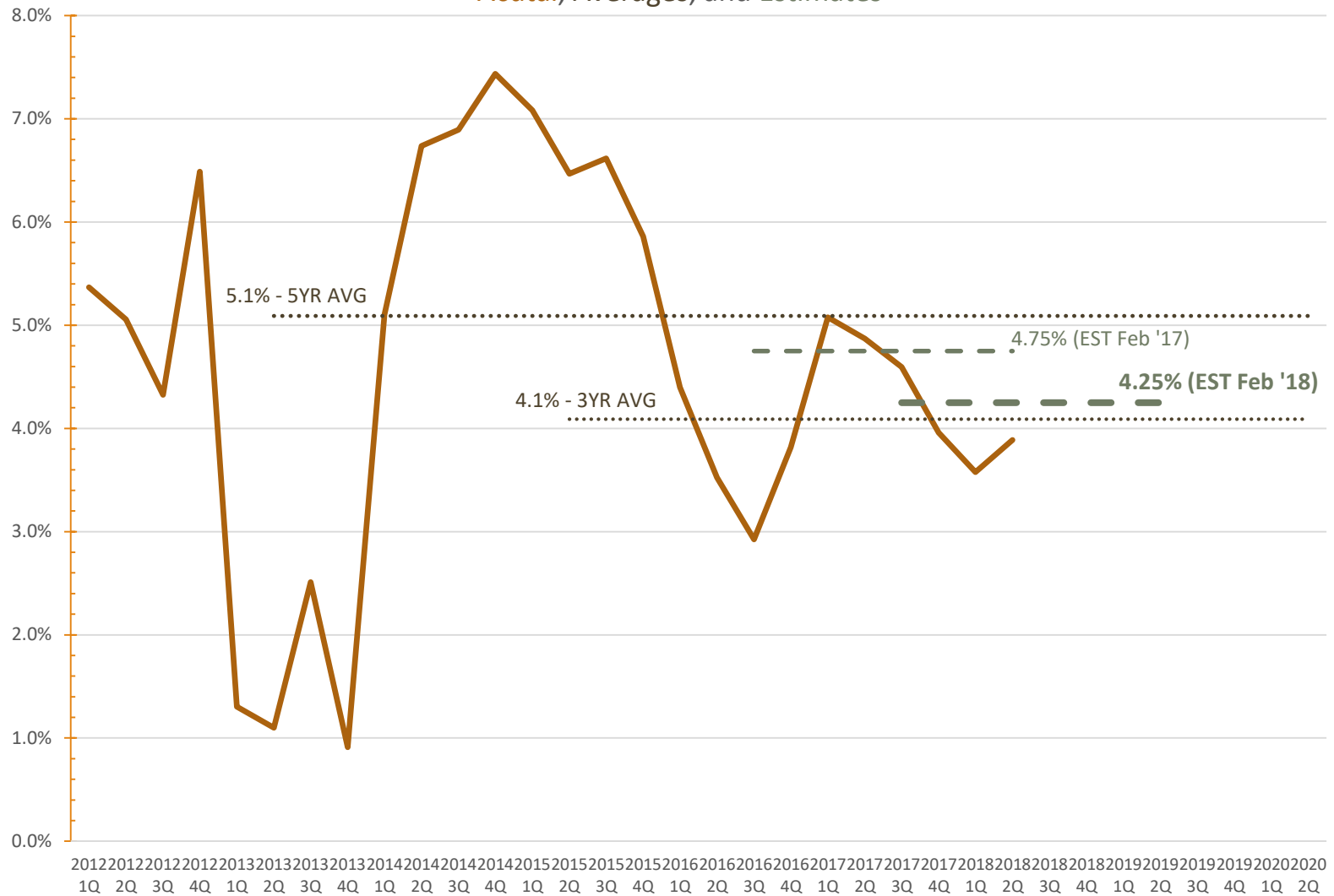
to the
2018

ANNUAL REGIONAL ADVISORY MEETING



GROWTH IN SC PERSONAL INCOME

Actual, Averages, and Estimates



Source: Revenue and Fiscal Affairs Office/FAR/221/10-15-18

REGIONAL ADVISORY COMMITTEE

Dr. Scott Baier (Tentative)

Dr. Frank Hefner

Dr. Matthew Martin

Dr. Russell S. Sobel

Mr. Mark Vitner

Dr. Joseph Von Nessen

(Unable to attend - submitted
Forecast and Analysis)

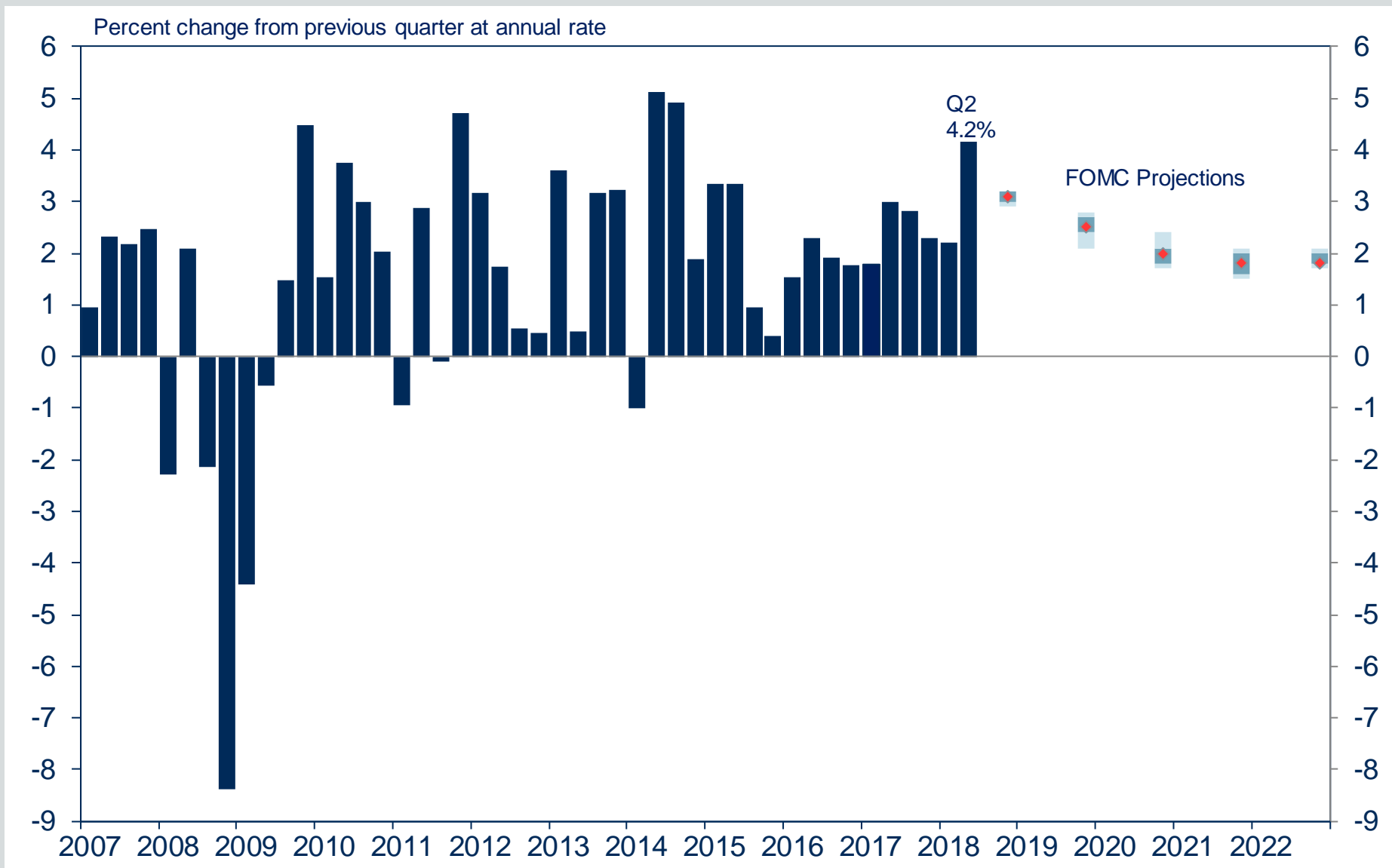


National and State Economic Outlook

October 18, 2018



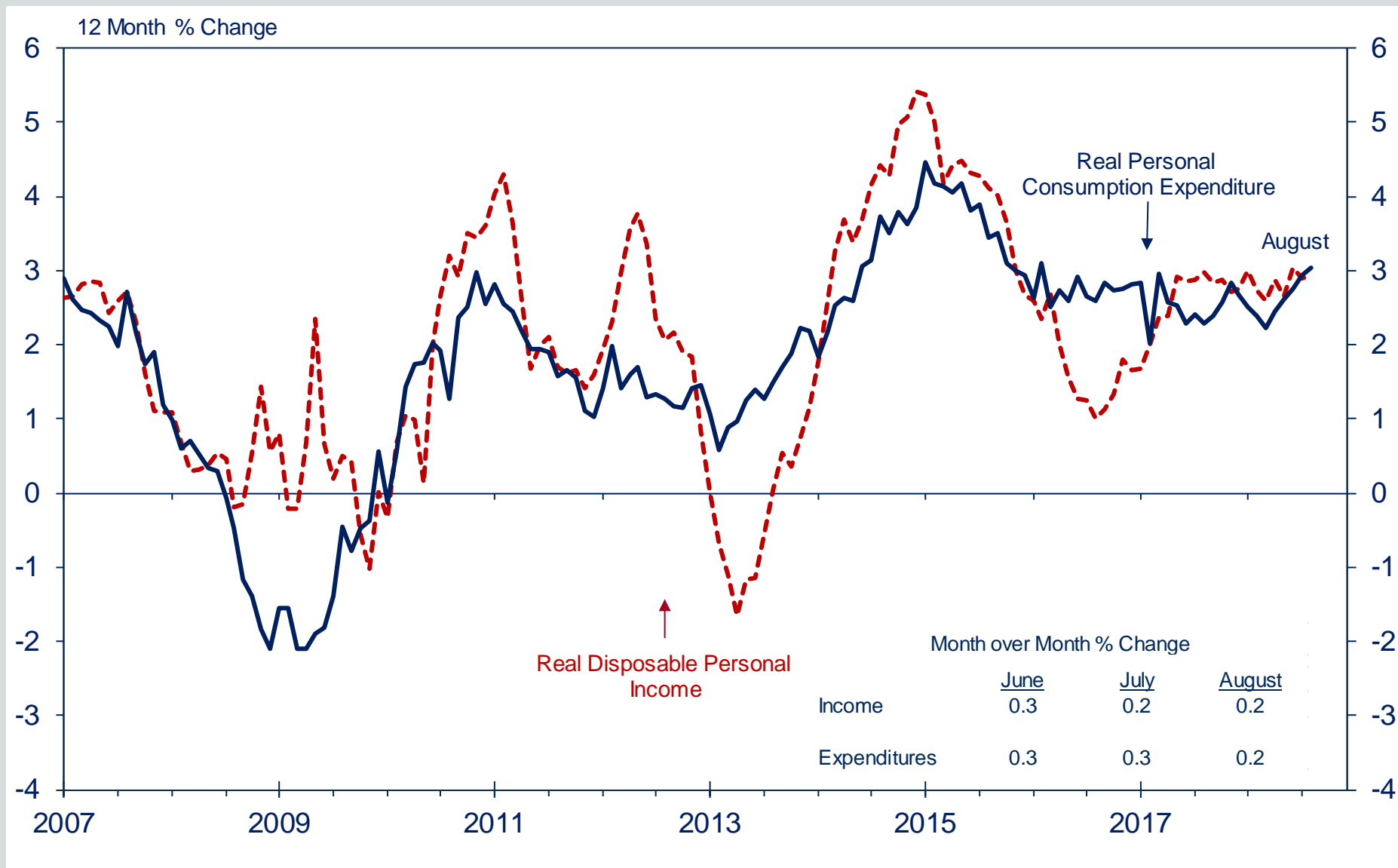
Real Gross Domestic Product



Note: Projection is the median, central tendency, and range from the September 2018 Summary of Economic Projections. Red dots indicate median projections. Projections of change in real gross domestic product (GDP) are from the fourth quarter of the previous year to the fourth quarter of the year indicated.

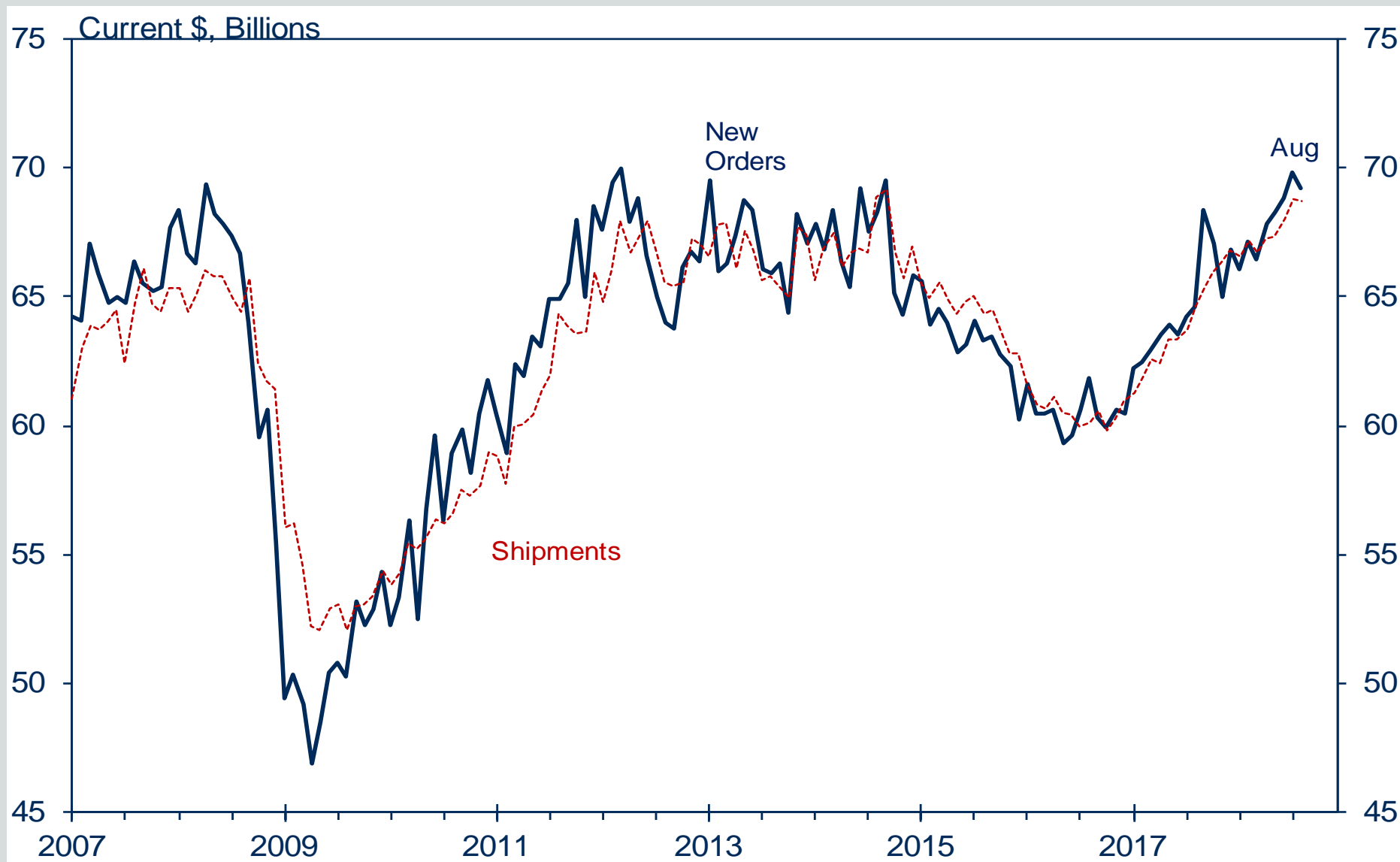
Source: Bureau of Economic Analysis via Haver Analytics & Federal Reserve Board

Consumer Spending and Income



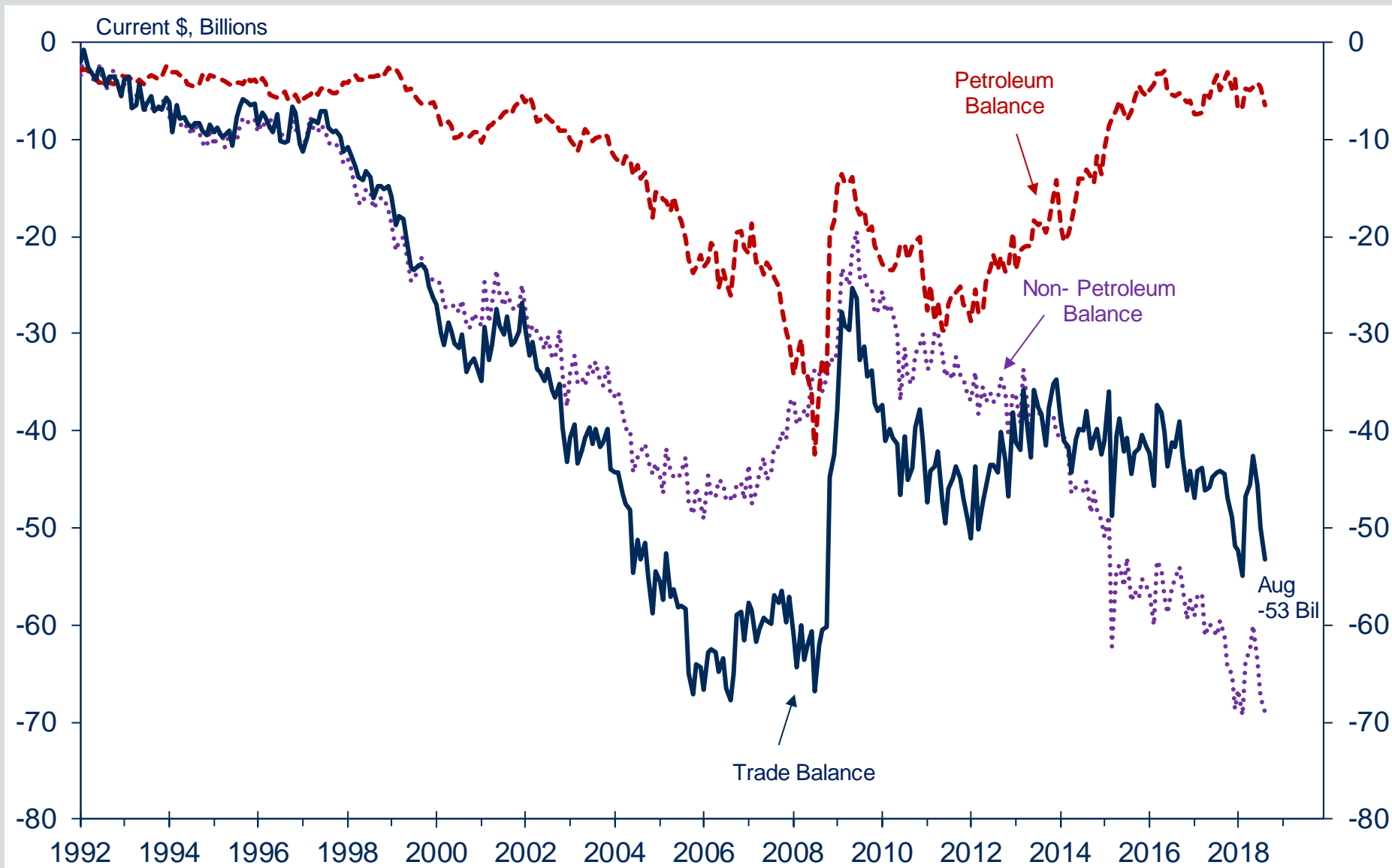
Note: Income has been adjusted to account for temporary fiscal actions in 2008 and 2012-2013.

Core Capital Goods



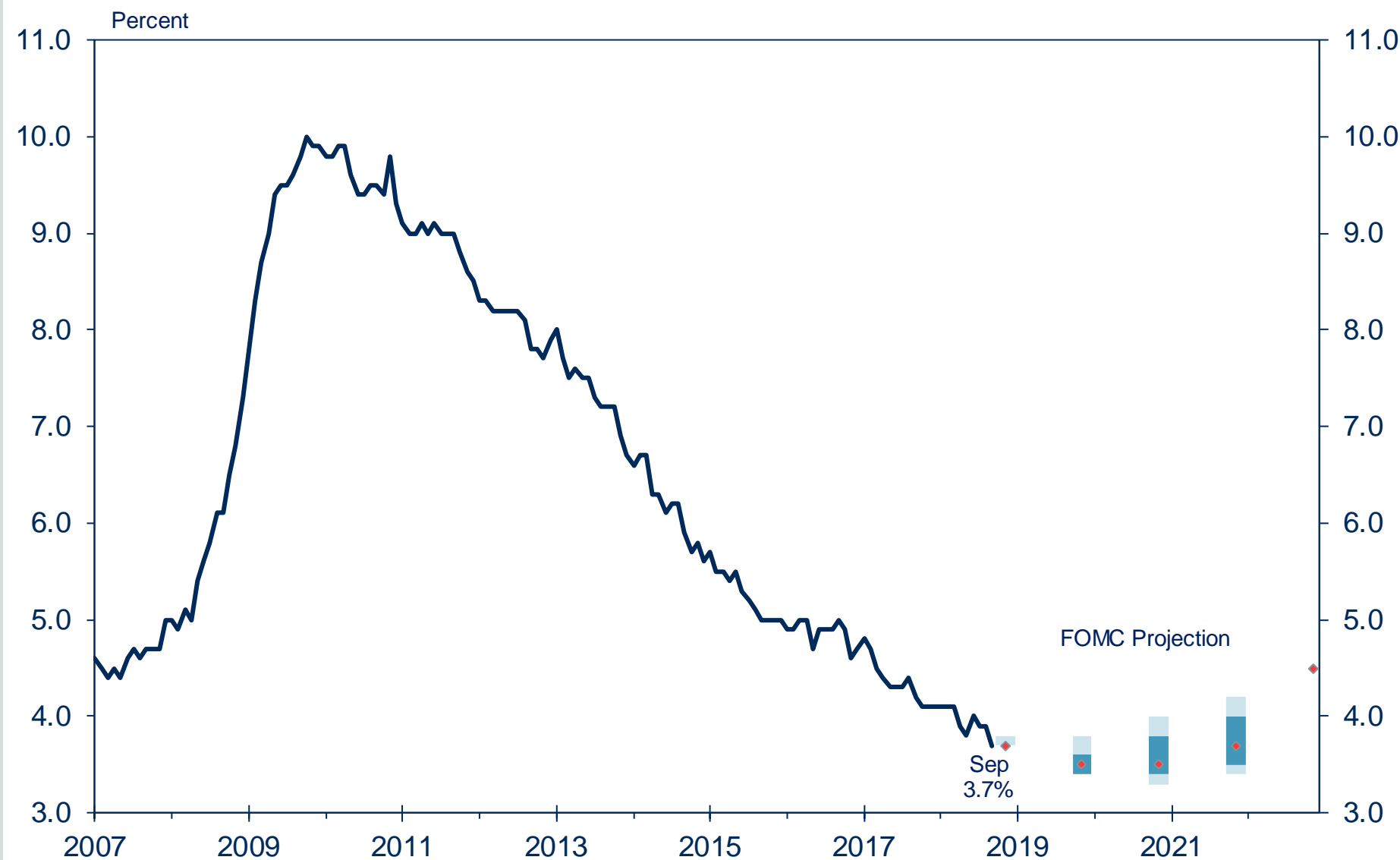
Notes: Core capital goods are nondefense capital goods excluding aircraft.

Balance of International Trade



Note: Customs Value of Trade Balance

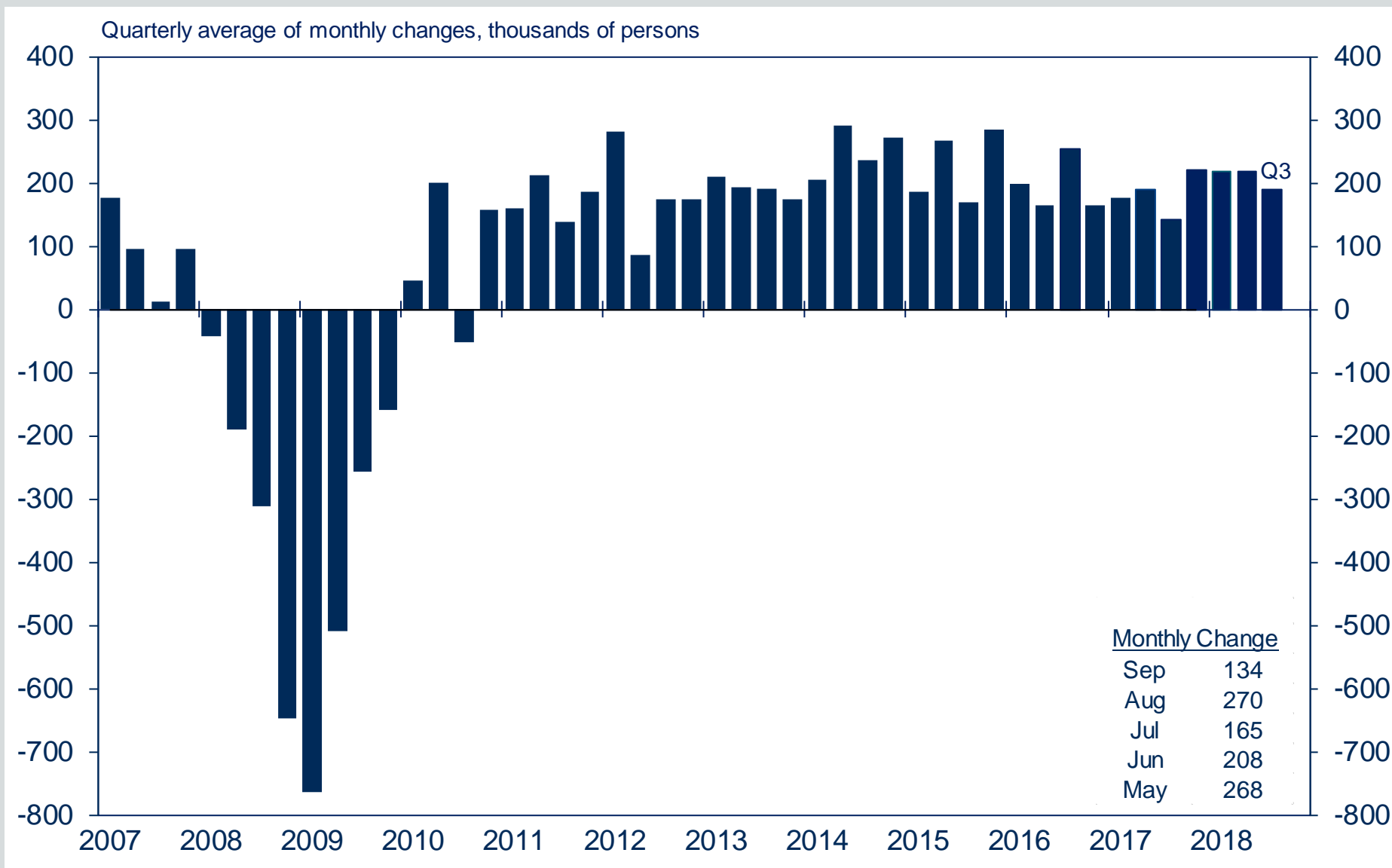
Unemployment Rate



Notes: FOMC projection is the median, range, and central tendency for the Q4 levels, from the September 2018 meeting. Red dots indicate median projections

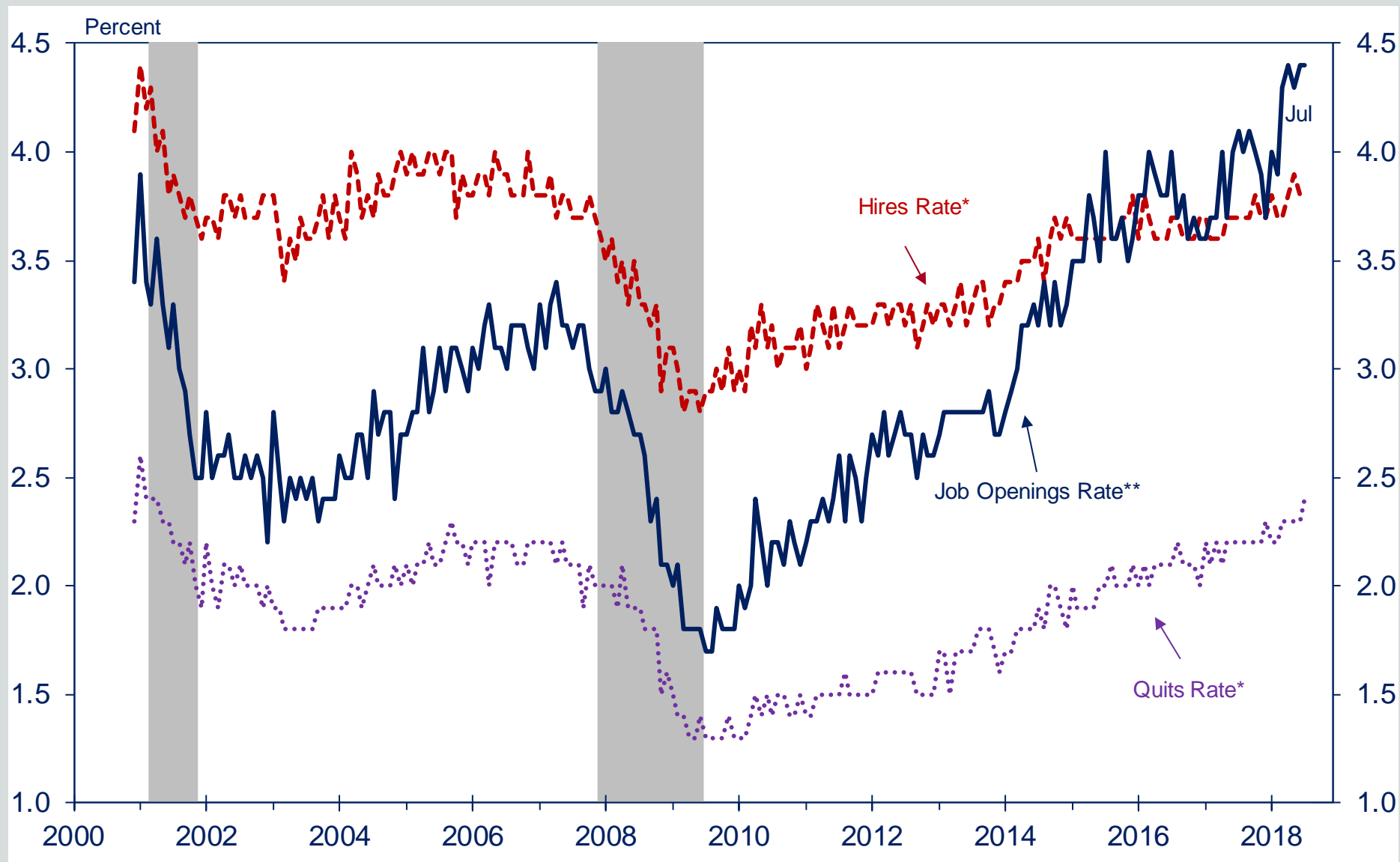
Source: Bureau of Labor Statistics & Board of Governors via Haver Analytics

Nonfarm Payroll Employment



Notes: White bar on the right is based on an incomplete quarter

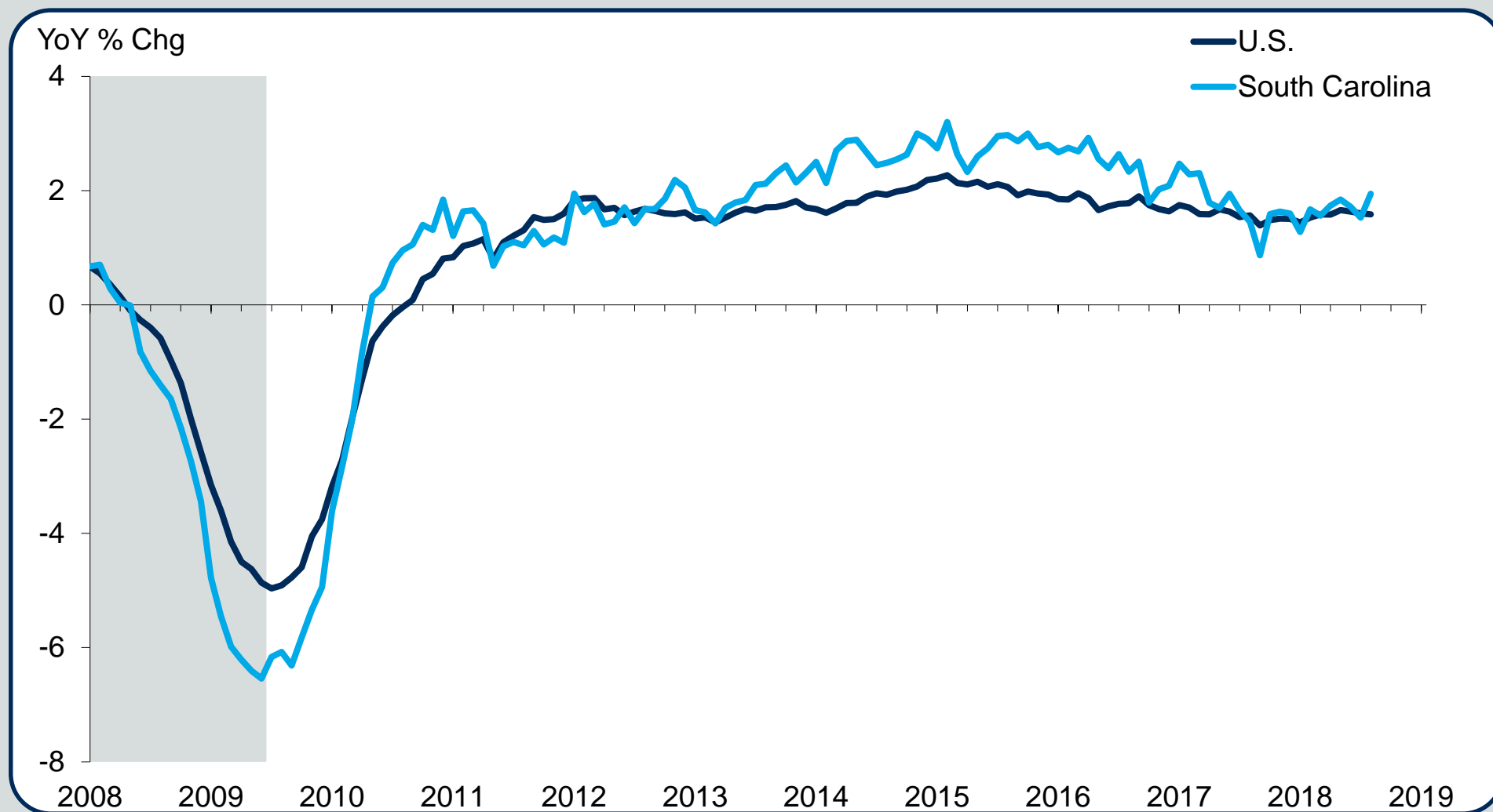
Labor Market Flows



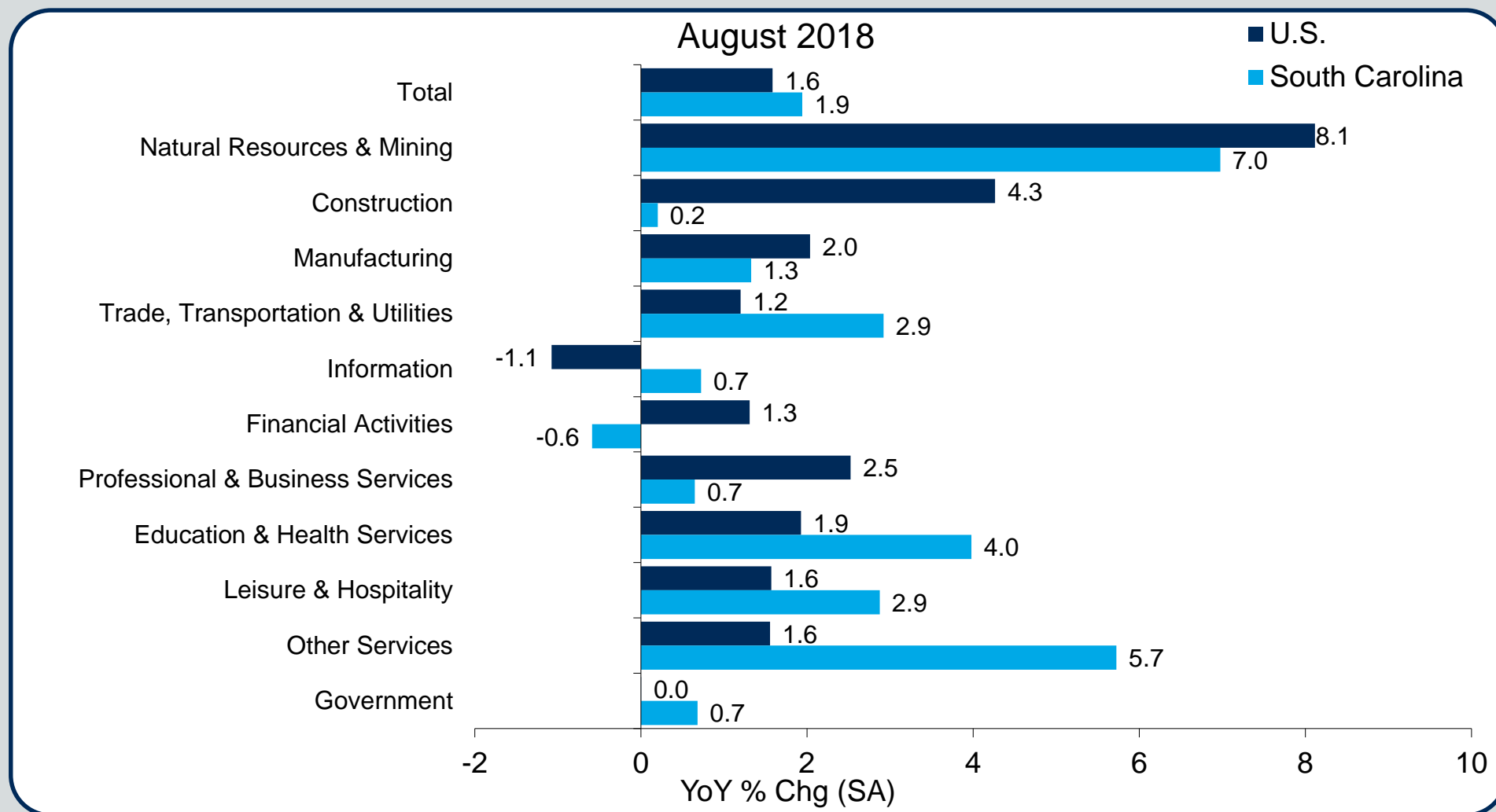
Note: *Percent of total employment. **Percent of total employment plus job openings.

Source: JOLTS via Haver Analytics

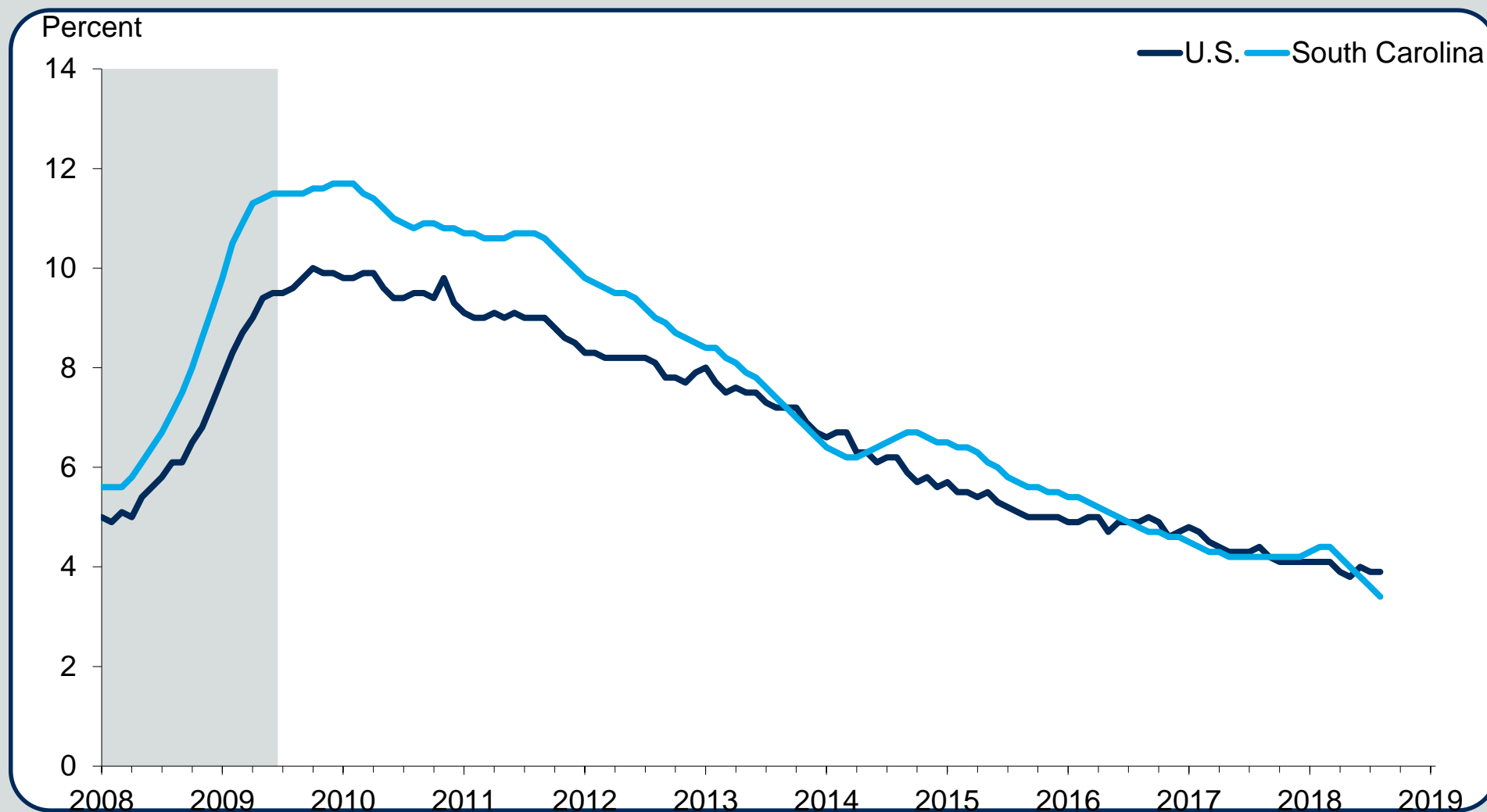
Payroll Employment Growth



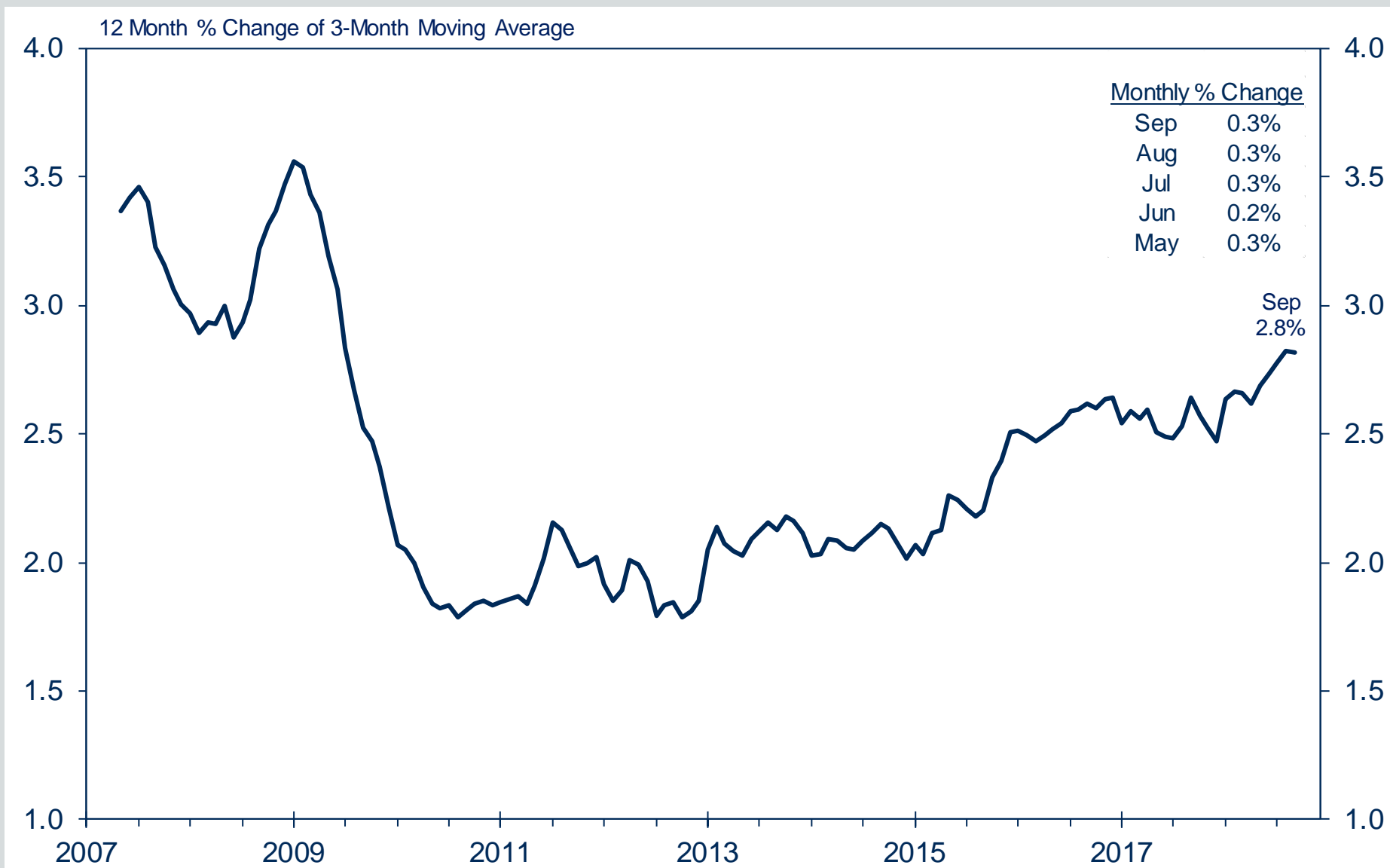
Industry Employment Growth



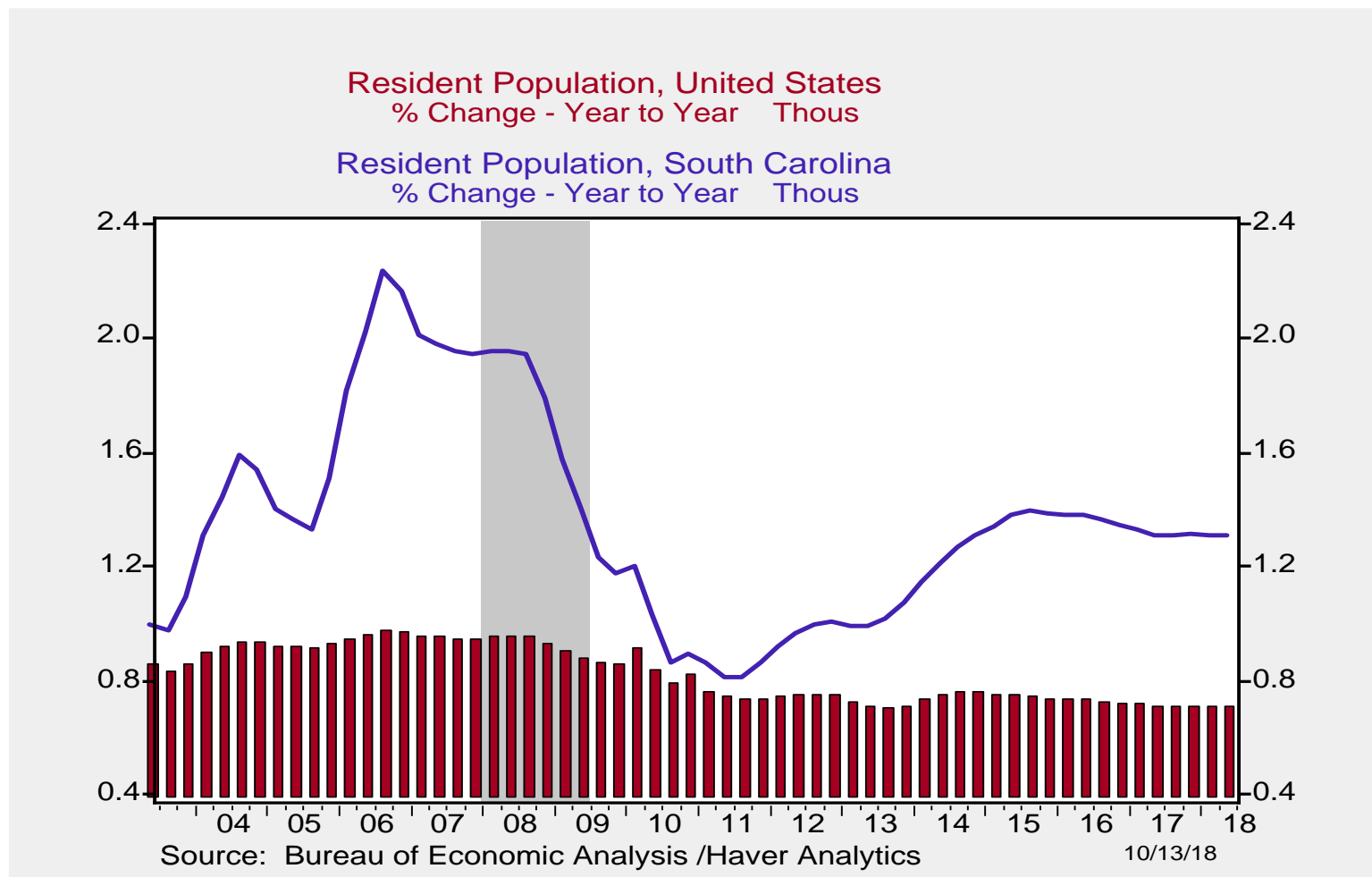
Unemployment Rate



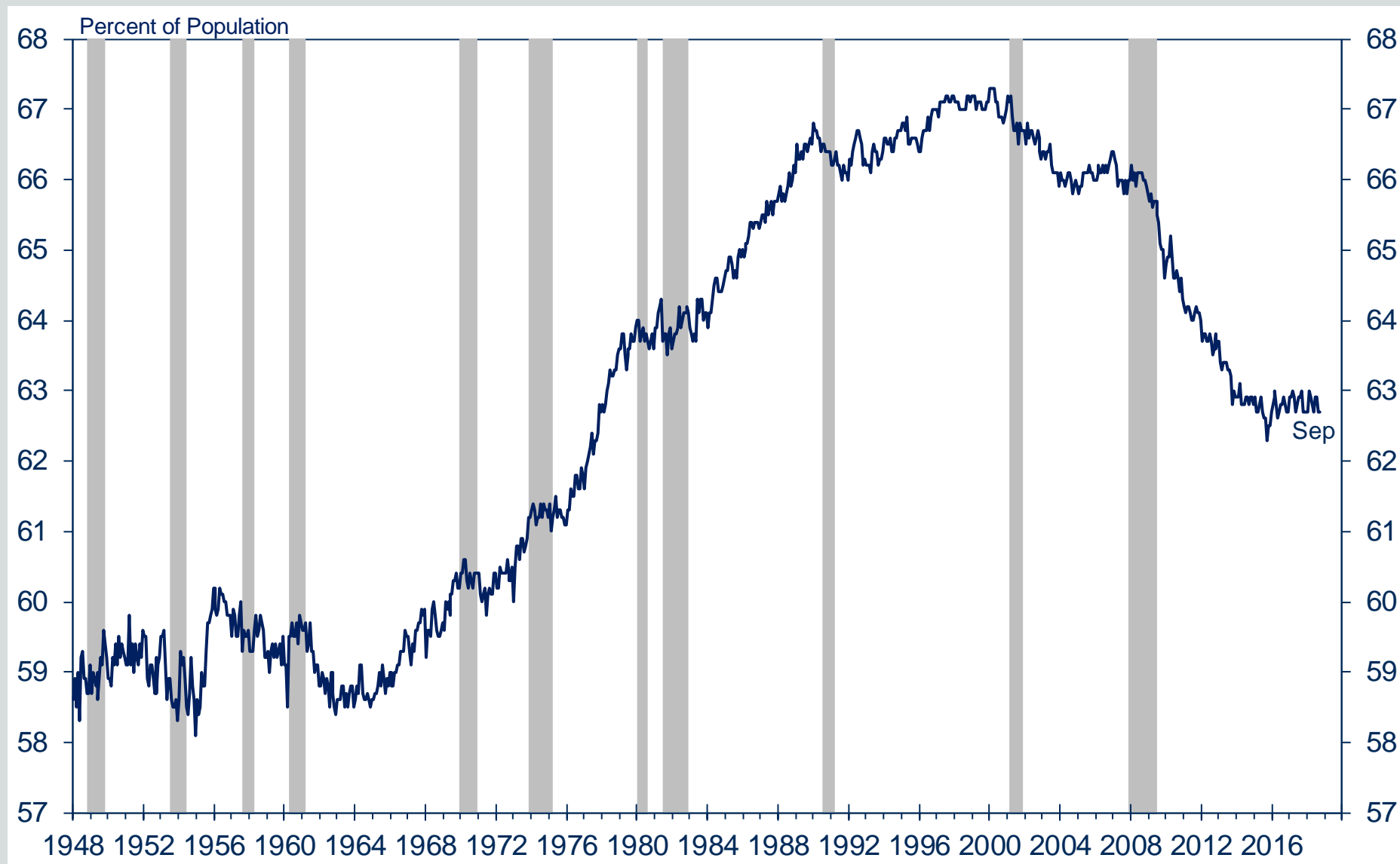
Average Hourly Earnings



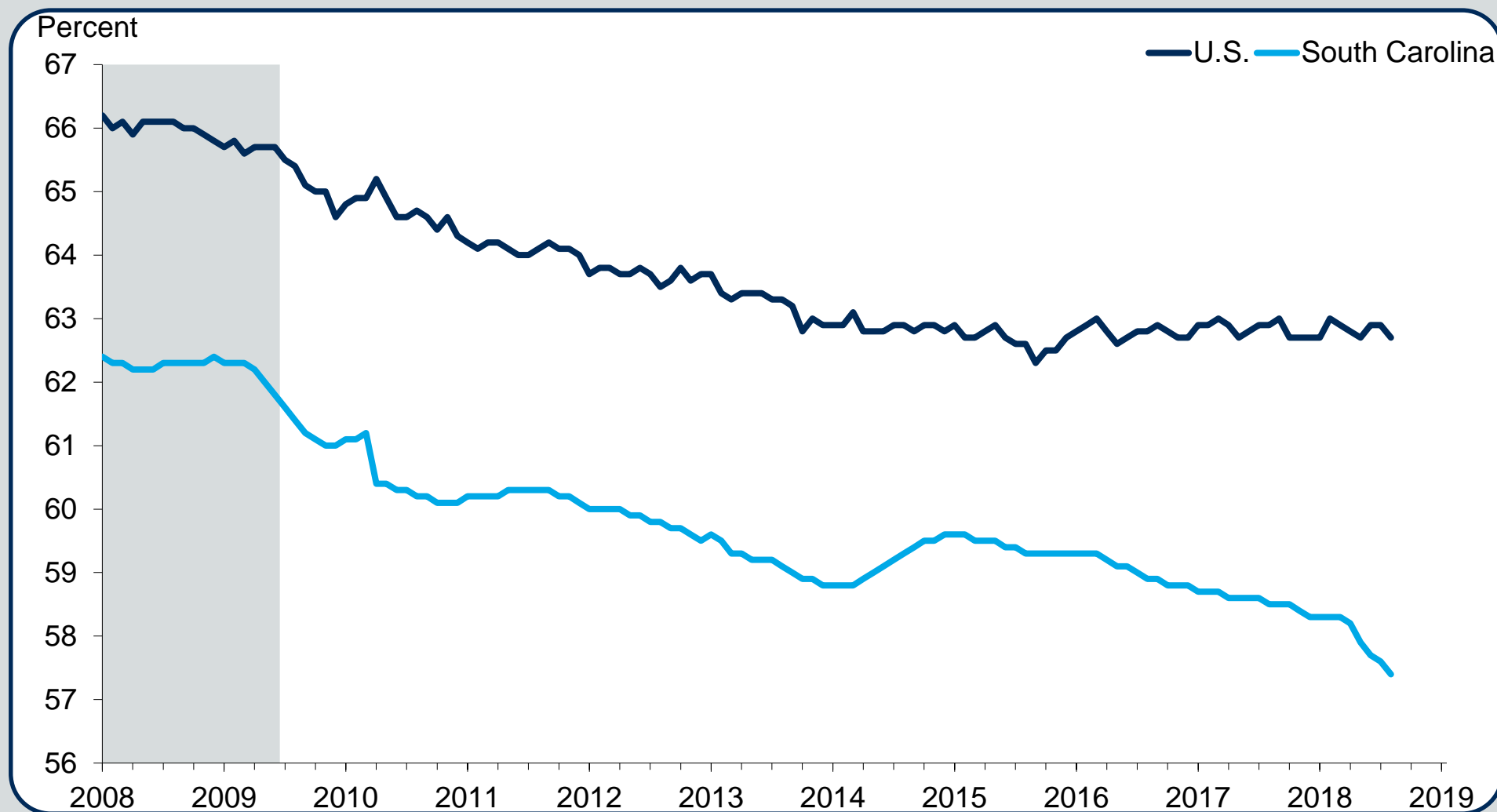
Population Growth



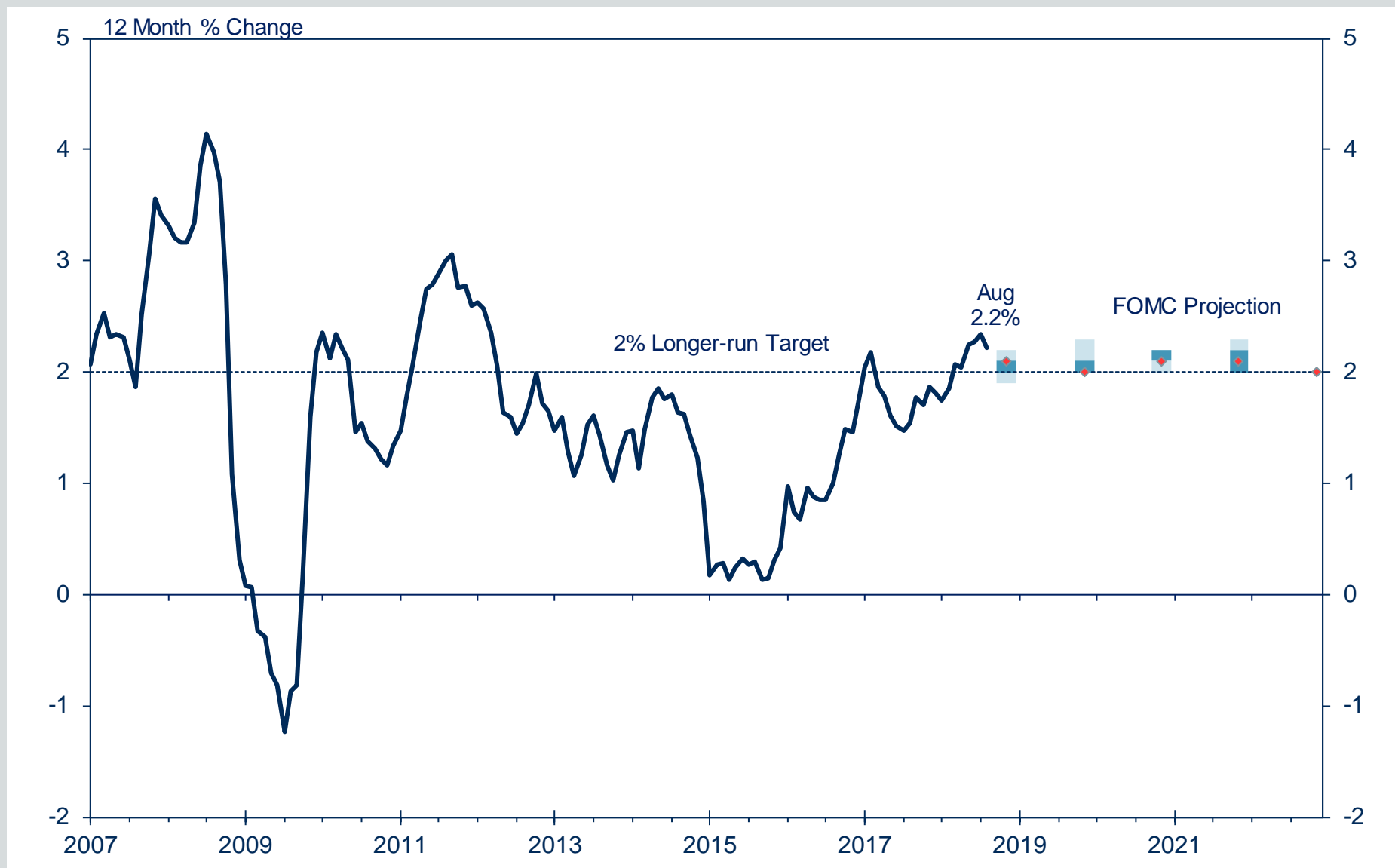
Labor Force Participation



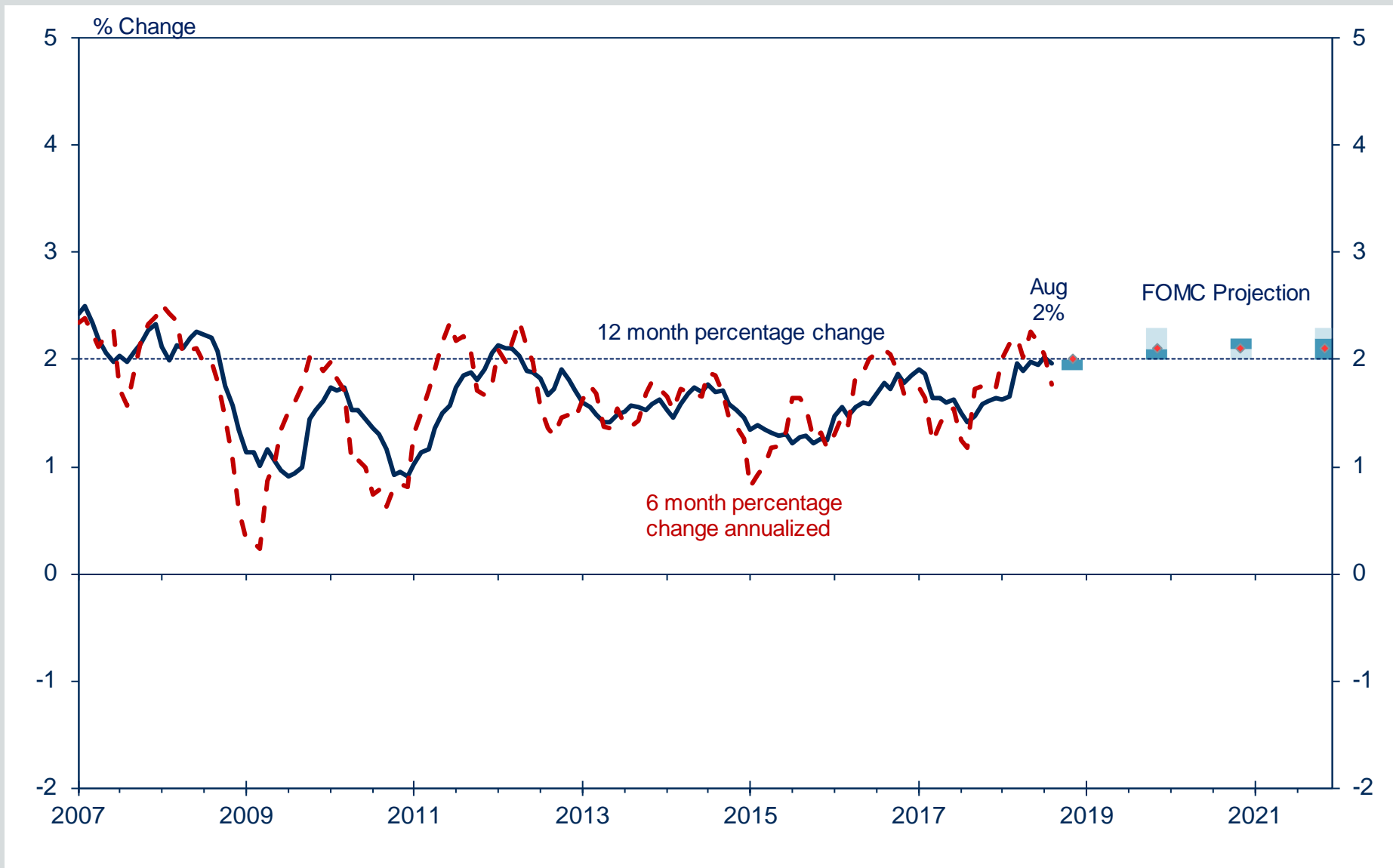
Labor Force Participation



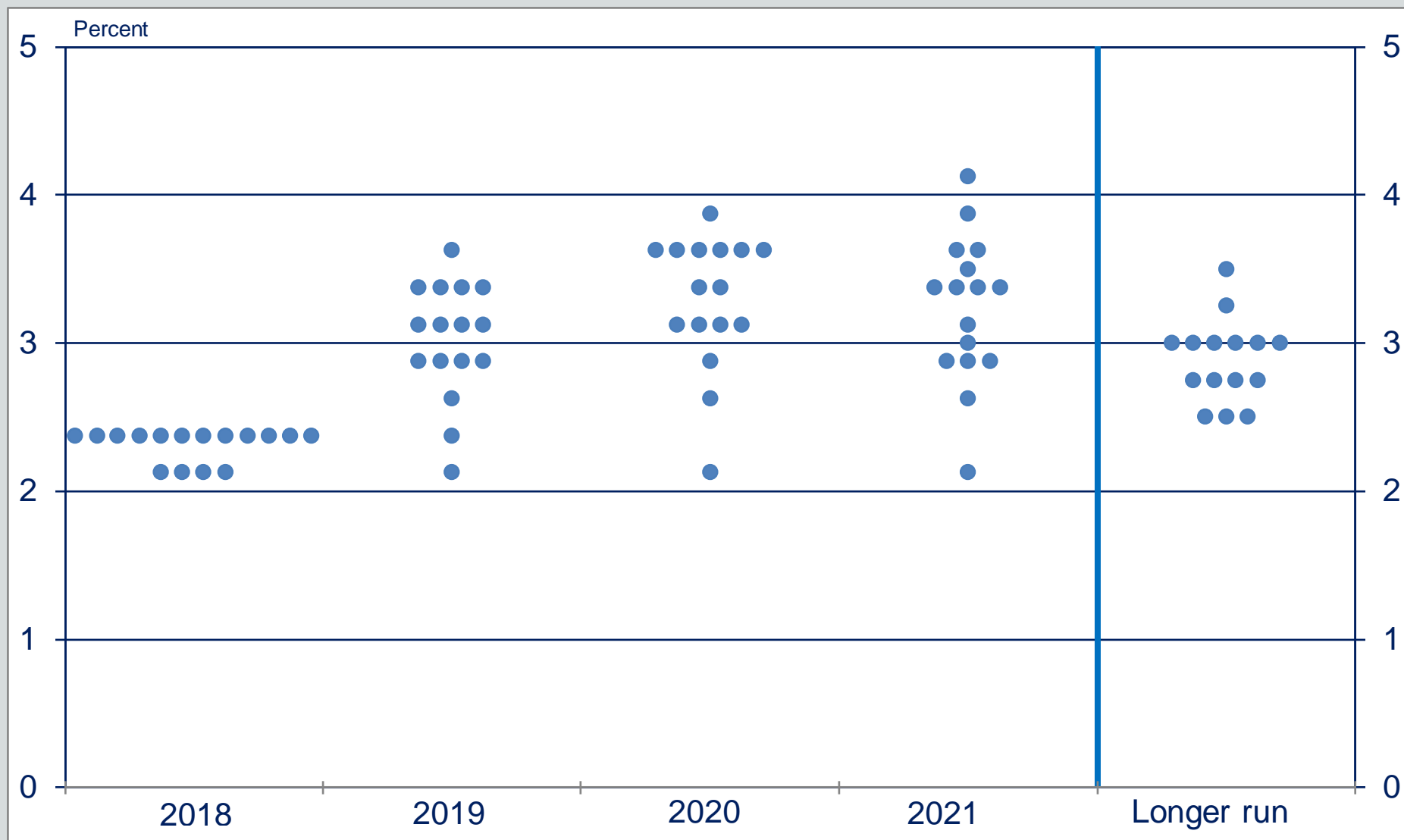
Personal Consumption Expenditure Price Index



Core Personal Consumption Expenditure Price Index



Summary of Economic Projections: Federal Funds Rate



Note: Each dot in the chart represents the value of an FOMC participant's judgment of the midpoint of the appropriate target range (or the appropriate target level) for the federal funds rate at the end of the calendar year. Projections made for the September 2018 meeting.

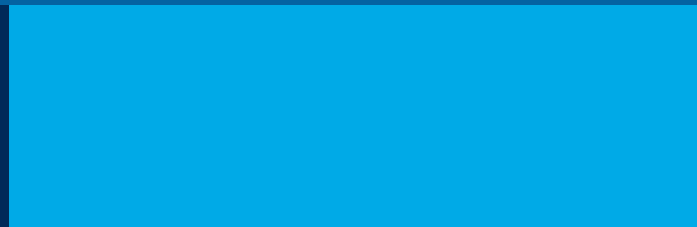
Source: Board of Governors

TIPS Inflation Compensation





Thank You





Wells Fargo Economics *Monthly Macro Manual*

Your guide to the data and events that will shape the economic outlook and drive financial markets in the month ahead

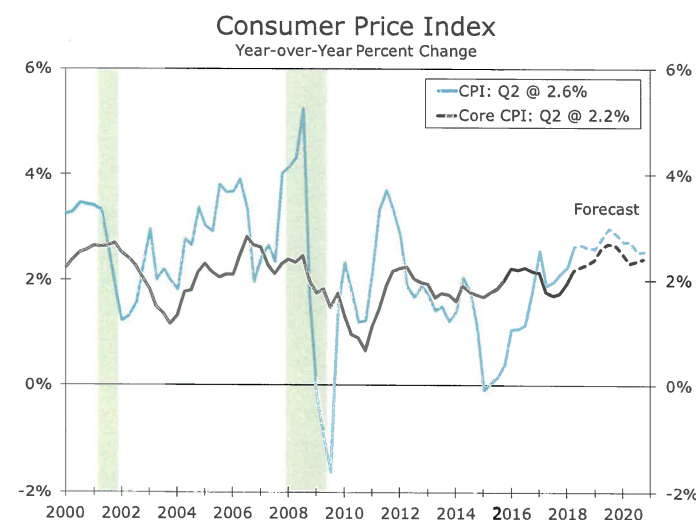
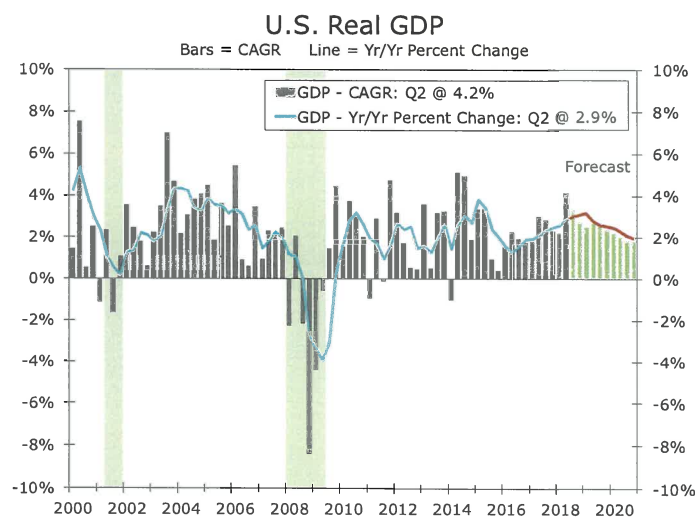
October 10, 2018



Key Takeaways

Developments since our September Monthly Economic Outlook

- Our updated forecast for Q3-2018 U.S. real GDP growth is 3.3%, up from 3.1% in our last monthly. Real personal consumption appears to be growing in excess of a 3% annualized rate, while both federal and state & local government spending are likely to boost growth in the quarter.
- Our fed funds forecast is unchanged: one more hike this year, then three in 2019 occurring in Q1, Q2 and Q3. As next year comes into view, we think economic conditions will remain strong enough for the Fed to continue hiking each quarter through Q3-2019, eventually pushing the fed funds rate a bit above neutral. Slowing economic growth by late next year will put the Fed on hold after Q3-2019, in our view.
- We have upwardly revised our inflation forecast as a result of enacted tariffs and oil prices rising faster than expected. We look for the headline CPI to reach 3% year-over-year in the second half of next year.
- The U.S. Treasury yield curve has steepened over the past month, in-line with our expectations. Our updated forecast for the 10-year yield is 3.35% at the end of 2018 and 3.70% at the end of 2019.



Source: U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

Monthly Macro Calendar: October 8-November 2

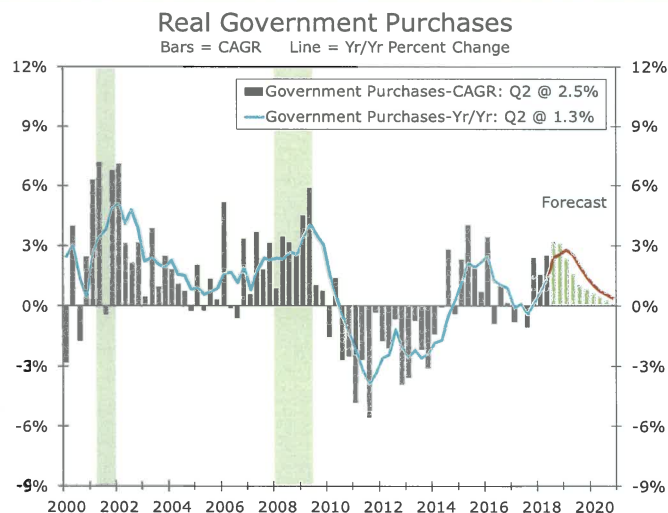
Monday	Tuesday	Wednesday	Thursday	Friday
8	9	10	11	12
Bullard (St. Louis Fed) Speaking in Singapore	Kaplan (Dallas Fed) Speaks to Economic Club of New York Harker (Philadelphia Fed) Speaks on Importance of Education Williams* (New York Fed) Speaks on Monetary Policy Developments	Evans (Chicago Fed) Speaks on Economy and Monetary Policy Bostic* (Atlanta Fed) Speaks on Economic Outlook PPI Final Demand (MoM) August -0.1%; September 0.2% (W)	Bostic* (Atlanta Fed) Discusses Recruitment, Economics & Policy Consumer Price Index (MoM) August 0.2%; September 0.2% (W) Monthly Budget Statement August \$7.9B; September \$116.0B (W)	Import Price Index (MoM) August -0.6%; September 0.3% (W)
15	16	17	18	19
Retail Sales (MoM) August 0.1%; September 0.7% (C)	Industrial Production (MoM) August 0.4%; September 0.2% (C) JOLTS July 6.9M	Housing Starts (MoM) August 9.2%; September -5.2% (C) United Kingdom CPI (YoY) August 2.7%; September 2.5% FOMC Meeting Minutes	Bullard (St. Louis Fed) Speaks to Economic Club of Memphis China Q3 GDP (YoY) Q2 6.7% Asia-Europe Meeting (ASEM) Summit	Kaplan (Dallas Fed) Speaks in New York Bostic* (Atlanta Fed) Speaks on Economic Outlook Existing Home Sales (MoM) August 0.0%; September -0.5% (C)
22	23	24	25	26
Bostic* (Atlanta Fed) Speaks on Atlanta		Bostic* (Atlanta Fed) Speaks at Energy Summit in Baton Rouge Bank of Canada Rate Decision Previous 1.50% Federal Reserve Releases Beige Book	Durable Goods Orders (MoM) August 4.4% European Central Bank Rate Decision Previous 0.25%	U.S. Q3 GDP (Annualized QoQ) Q2 4.2%; Q3 3.3% (W)
29	30	31	1	2
Personal Income (MoM) August 0.3%	Consumer Confidence September 138.4 Eurozone Q3 GDP (YoY) Q2 2.1% Bank of Japan Rate Decision Previous -0.10%	Central Bank of Brazil Rate Decision Previous 6.50% Eurozone CPI (YoY) September 2.1% U.S. Treasury Quarterly Refunding	Nonfarm Productivity Q2 2.9% ISM Manufacturing Index September 59.8 Bank of England Rate Decision Previous 0.75%	Nonfarm Payrolls September 134K Trade Balance August -\$53.2B

Note: (W) = Wells Fargo Estimate, (C) = Consensus Estimate, * = voting FOMC member in 2018

Source: Bloomberg LP and Wells Fargo Securities

U.S. Growth Outlook

- Most recent real GDP growth forecast for Q3-2018: 3.3% (seasonally adjusted annual rate)
 - **Change since last *Monthly Economic Outlook*: +0.2 percentage points**
 - Commentary: Real GDP growth looks solid again in Q3. Personal consumption growth looks likely to post another strong quarter and, unlike the past few years, both federal and state & local governments are providing a direct contribution to growth. Inventories and trade could be bigger swing factors than usual amid the noise created by the recently-enacted tariffs. Higher interest rates appear to be weighing on the housing sector, which has been one of the few sector laggards of late.
- Real GDP growth forecast for full-year 2019: 2.8%
 - **Change since last *Monthly Economic Outlook*: no change**
 - Commentary: Our forecast for 2019 economic growth largely remained unchanged. We still expect stronger growth in H1-2019 to give way to a gradual softening starting in the second half of the year as government spending, corporate profits and disposable income begin to decelerate.



Source: U.S. Department of Commerce and Wells Fargo Securities

Key Themes and Upside/Downside Scenarios

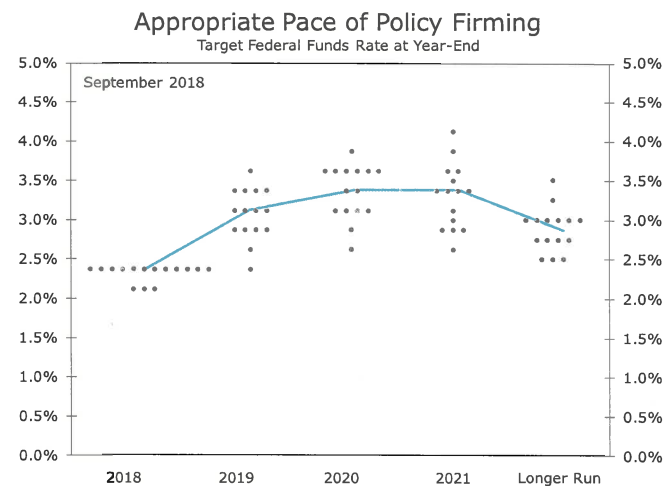
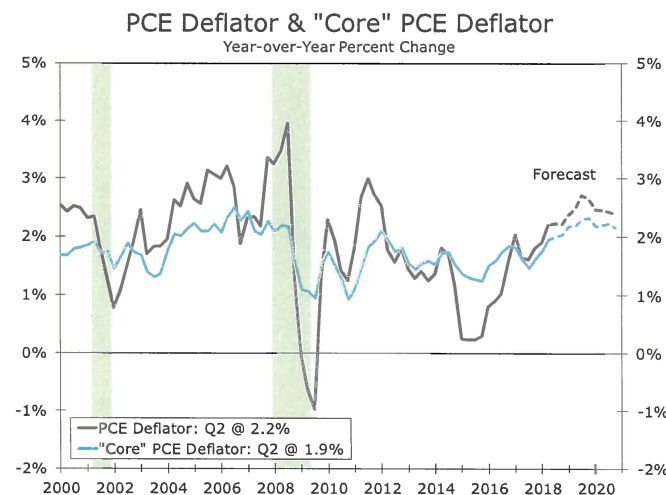
- Fiscal policy has swung from a neutral to an expansionary stance, helping to propel economic growth above potential.
- *Upside scenario*: After a solid H1-2018, consumption and investment gather steam and fiscal stimulus helps push full-year growth above 3.0%, with momentum headed into 2019.
- *Downside scenario*: Higher interest rates pressure consumers and businesses, while a trade war adds to uncertainty and inflation pressures, leading economic growth to start slowing earlier than we currently expect.

Federal Reserve Watch

- Inflation Forecast
 - We have upwardly revised our 2019 and 2020 inflation forecasts to reflect pressure from enacted tariffs as well as oil prices rising faster than previously expected.
 - The upward revisions to our inflation forecast are relatively modest, especially for core inflation, and **not materially large enough to alter our outlook for monetary policy.**
- Labor Market Forecast
 - As before, we expect the unemployment rate to steadily decline throughout our forecast horizon as employers continue to add jobs, albeit at a slightly slower rate over time as it becomes harder to fill positions. We forecast the unemployment rate will fall to 3.3% in 2020.

Fed Funds Outlook

- Fed funds forecast for 2018
 - One more 25 bps hike in Q4
- Fed funds forecast for 2019
 - Three 25 bps hikes in Q1, Q2 and Q3
 - Rational: With growth and inflation still solid heading into 2019, we think the Fed will continue hiking until monetary policy is mildly restrictive.
- Fed funds forecast for 2020
 - One 25 bps cut in Q4 as quarterly economic growth eventually falls to slightly below 2% in H2-2020.



Source: Federal Reserve Board, U.S. Department of Commerce and Wells Fargo Securities

U.S. Interest Rate Outlook

Wells Fargo U.S. Interest Rate Forecast

	Actual				Forecast							
	2018				2019				2020			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Quarter End Interest Rates												
Federal Funds Target Rate	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.25	3.25	3.25	3.25	3.00
3 Month LIBOR	2.31	2.34	2.40	2.70	2.95	3.15	3.40	3.40	3.40	3.40	3.40	3.15
Prime Rate	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.25	6.25	6.25	6.25	6.00
Conventional Mortgage Rate	4.44	4.57	4.63	4.95	5.05	5.15	5.25	5.30	5.30	5.25	5.20	5.15
3 Month Bill	1.73	1.93	2.19	2.40	2.65	2.90	3.05	3.10	3.05	3.00	2.95	2.75
6 Month Bill	1.93	2.11	2.36	2.60	2.80	2.95	3.10	3.15	3.10	3.05	3.00	2.80
1 Year Bill	2.09	2.33	2.59	2.80	3.00	3.05	3.15	3.20	3.15	3.10	3.05	2.90
2 Year Note	2.27	2.52	2.81	3.00	3.10	3.15	3.25	3.25	3.20	3.15	3.10	3.00
5 Year Note	2.56	2.73	2.94	3.15	3.25	3.35	3.45	3.50	3.45	3.40	3.35	3.25
10 Year Note	2.74	2.85	3.05	3.35	3.45	3.55	3.65	3.70	3.70	3.65	3.60	3.55
30 Year Bond	2.97	2.98	3.19	3.55	3.65	3.80	3.90	3.95	4.00	4.00	3.95	3.90

Forecast as of: October 10, 2018

Source: Federal Reserve Board and Wells Fargo Securities

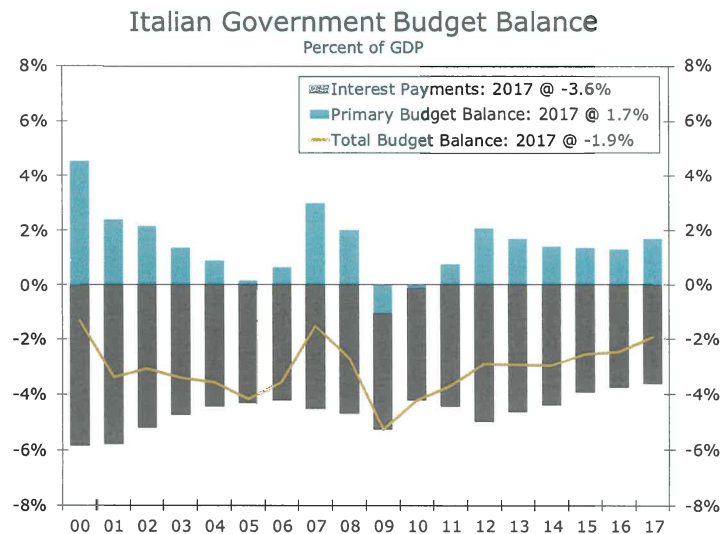
What Are We Watching in the Month Ahead?

- FOMC: Where is balance sheet normalization headed in 2019?
 - Will the Fed minutes released on October 17 offer any new insight on the future of the Fed's balance sheet?
- Treasury curve steepening, but inflation still relatively in check?
 - Though our inflation forecast has moved somewhat higher, we expect it to remain within a range that is still fairly comfortable for the Fed.
 - However, with other factors pressuring yields at the long-end of the Treasury curve, such as higher deficits, a surprise to the upside in inflation could cause another sharp adjustment in longer-dated Treasuries.
- Quarterly Refunding Statement – Where along the curve will Treasury finance its funding needs?
 - The next Quarterly Refunding Statement from the U.S. Treasury will be released on 10/31. With more Treasury auction size increases likely coming, any signals from Treasury that it is looking to further term out new debt issuance could induce some additional steepening pressure.

Global Economic Outlook: Advanced Economies

Fiscal Stimulus in Italy Inches Closer

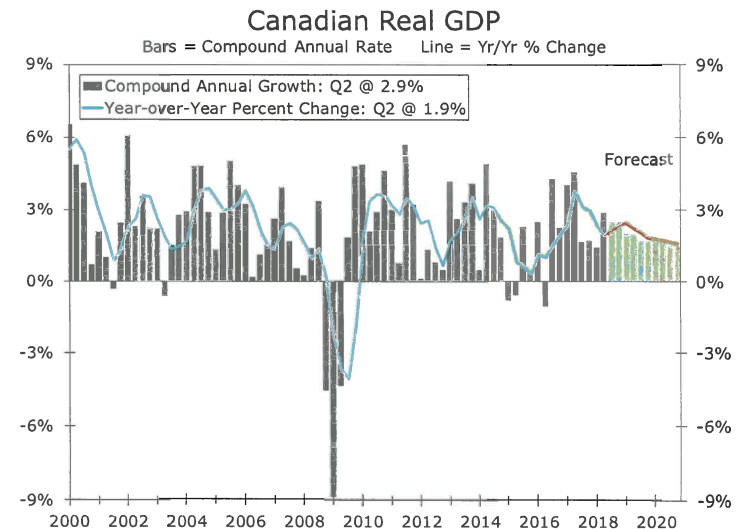
- Another big step in the Italian budget process occurred on Sept. 27, when policymakers set their top-line budget figures. The key number was a deficit target of 2.4% of GDP for 2019, above the 0.8% target set by the previous government. Italian bond yields have remained elevated, and interest costs already consume a large chunk of the budget (bottom left chart). With concrete policy proposals set to come in the coming weeks, the turbulence is likely to continue in the near-term.
- For further reading, see our recent report ["Italy Takes Another Step Towards Fiscal Easing."](#)



Source: International Monetary Fund, IHS Markit and Wells Fargo Securities

Canadian Outlook Brightening

- We have modestly revised up our forecast for Canadian economic growth over the next couple years after the major breakthrough that occurred on NAFTA renegotiation. Thus, with the extra boost to the economy and falling levels of uncertainty, we now anticipate one more rate hike from the Bank of Canada in 2018 and three hikes in 2019 (up from our previous forecast of two hikes).
- For further reading, see our recent report ["Assessing Canada's Economy and Markets as Trade Clouds Lift."](#)



Global Central Bank Watch

Wells Fargo Central Bank Policy Forecasts

Central Bank	Current Policy Rate	Last Major Policy Change	WF Next Forecasted Policy Change
United States (FOMC)	2.25	September 2018 25 bps hike	Next Rate Hike: Q4-2018
Eurozone (ECB)	-0.40 (Deposit Rate)	September 2018 <i>Confirmed taper of asset purchases to €15 billion/month in Oct. 2018</i>	End QE Program at end of 2018 Next Rate Hike: Q3-2019 (Deposit Rate)
United Kingdom (BOE)	0.75	August 2018 25 bps hike	Maintain size of balance sheet through Q4-2019 Next Rate Hike: Q3-2019
Japan (BOJ)	-0.10	July 2018 <i>QQE and a greater degree of variation in 10-year govt. bond yield target</i>	Maintain annual asset purchases of ¥80 trillion Change 10-year govt. bond yield tolerance band in Q2-2019
Canada (BOC)	1.50	July 2018 25 bps hike	Next Rate Hike: Q4-2018

Forecast as of: October 10, 2018

Source: Bloomberg LP and Wells Fargo Securities

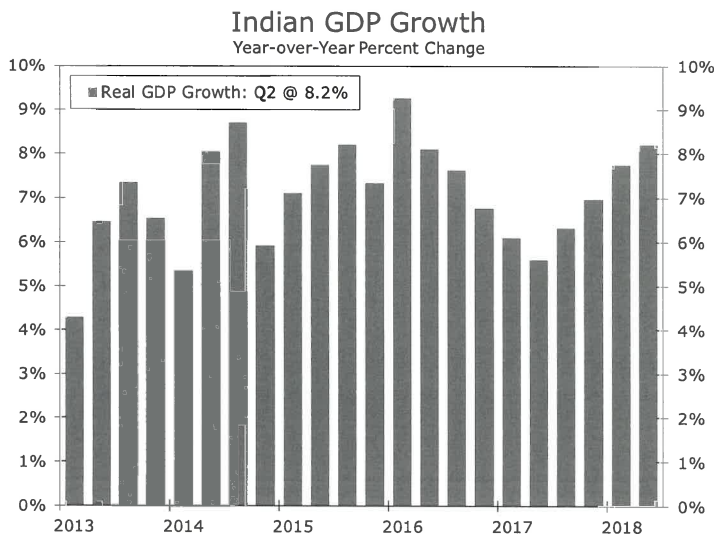
What Are We Watching in the Month Ahead?

- European Central Bank
 - It would likely take a material increase in core inflation to spark a more hawkish tone from the ECB; core inflation, which started the year at 1.0%, remains stagnant at 0.9% year over year.
 - How will the ECB's reaction function/communication change, if at all, in response to Italian budget drama?
- Bank of Japan
 - We expect the BoJ to raise its main policy rate to 0.00% and increase the band of its 10-year yield target to 25 bps in Q2-2019.
- Bank of England
 - We look for the BoE to remain on hold for the remainder of the year in the face of Brexit uncertainty.
- Bank of Canada
 - We expect the BoC to hike rates once more this year, given on-target inflation and growing supply constraints.

Global Economic Outlook: Developing Economies

Indian Economic Growth a Bright Spot...

- Economic growth in India has been a bright spot in the global economy of late. Real GDP in India has accelerated for four consecutive quarters, reaching a robust 8.2 percent year-over-year pace in Q2-2018.
- Indian policymakers undertook a series of structural economic reforms over the past few years that, in part, led to the slowdown in growth exhibited in the chart below. The near-term drag to growth from these disruptions is clearly fading, however, and the long-term benefits combined with India's favorable demographics suggest a positive outlook for both the near-term and for potential growth in the country.



Source: CEIC, IHS Markit and Wells Fargo Securities

...But Like Most of EM There Are Challenges

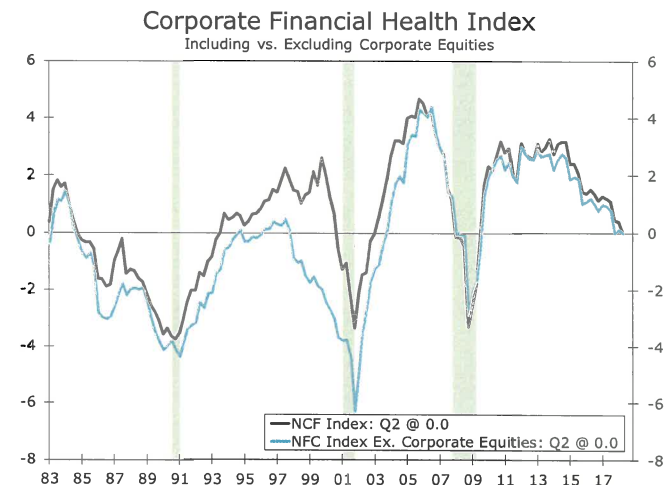
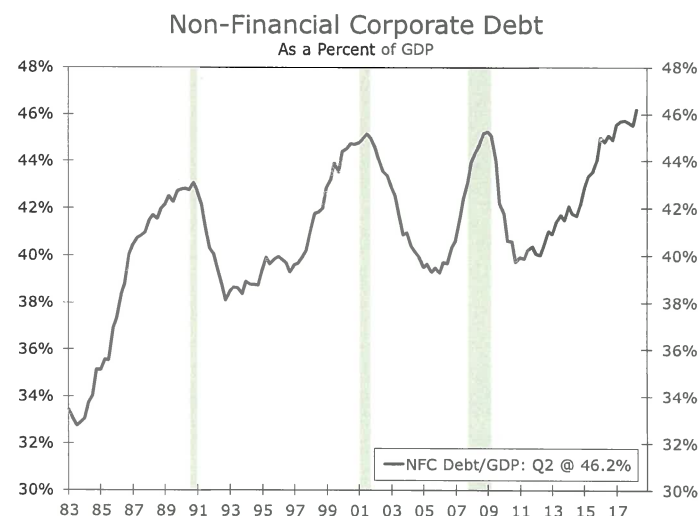
- That said, the Indian economy is not without its challenges. Despite stronger growth and rising real interest rates, the rupee has depreciated against the dollar this year. Budget deficit concerns continue to linger in the background. At present, consumer price inflation is 3.7%, just below the Reserve Bank of India's target band of 4-6%. While higher oil prices could be a catalyst for higher inflation, it could also worsen the external deficit, as India is a net energy importer. More broadly, the generally negative sentiment surrounding emerging markets of late has likely caught Indian assets up in the tide.



Topic of the Month

U.S. Corporate Sector Health: Should We Worry?

- Corporate debt as a share of GDP is at an all-time high (top chart), while margins are coming under pressure and interest rates are rising. Consequently, **one area where an imbalance may be developing in the U.S. economy is in the non-financial corporate (NFC) sector**, which accounts for nearly two-thirds of the debt of all non-financial businesses.
- To gauge the health of the American business sector, we have developed a **Corporate Financial Health Index which succinctly captures eight metrics** that have been identified as important determinants of corporate financial health (bottom chart).
- Our index suggests that **the financial health of the NFC sector has deteriorated in recent years**, and currently stands below the level that preceded the 2001 recession. Should we worry?
- The stock market bubble in the late 1990s pushed up the value of equities that corporations held. When we remove equities from the asset side of the affected financial metrics, **our adjusted Corporate Financial Health Index is in a much better position today relative to the late 1990s** (revisit bottom chart).
- However, more than nine years into the current cycle, the financial health of the NFC sector has weakened. While we are not saying that the financial health of the NFC sector is “bad” at present, **we foresee further deterioration in the financial health of the U.S. corporate sector** in coming quarters.
- For further reading, see our recent report “U.S. Corporate Sector Health: Should We Worry?”



Source: Federal Reserve Board, U.S. Department of Commerce and Wells Fargo Securities

U.S. Economic Forecast

Wells Fargo U.S. Economic Forecast

	Wells Fargo U.S. Economic Forecast															
	Actual								Forecast							
	2017				2018				2019				2020			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Real Gross Domestic Product (a)	1.8	3.0	2.8	2.3	2.2	4.2	3.3	2.7	2.5	2.7	2.6	2.4	2.2	2.0	1.9	1.8
Personal Consumption	1.8	2.9	2.2	3.9	0.5	3.8	3.4	2.8	2.2	2.9	2.6	2.5	2.1	2.2	1.8	1.7
Business Fixed Investment	9.6	7.3	3.4	4.8	11.5	8.7	5.5	5.4	4.7	4.9	4.4	4.0	3.7	3.6	2.9	2.8
Equipment	9.1	9.7	9.8	9.9	8.5	4.6	4.1	4.8	3.8	4.2	3.7	3.1	2.7	2.6	2.1	2.0
Intellectual Property Products	8.0	6.6	1.7	0.7	14.1	10.5	7.1	5.2	4.8	5.3	4.7	4.6	4.7	4.6	3.7	3.6
Structures	12.8	3.8	-5.7	1.3	13.9	14.5	7.0	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.5
Residential Construction	11.1	-5.5	-0.5	11.1	-3.4	-1.3	0.5	2.5	4.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
Government Purchases	-0.8	0.0	-1.0	2.4	1.5	2.5	3.2	3.1	2.4	1.6	1.0	0.8	0.7	0.5	0.3	0.1
Net Exports	-845.5	-844.1	-845.9	-899.2	-902.4	-841.0	-916.6	-945.8	-960.3	-982.8	-997.6	-1008.1	-1009.6	-1019.1	-1016.5	-1010.6
Pct. Point Contribution to GDP	-0.1	0.1	0.0	-0.9	0.0	1.2	-1.6	-0.6	-0.3	-0.5	-0.3	-0.2	0.0	-0.2	0.1	0.1
Inventory Change	-2.4	11.9	64.4	16.1	30.3	-36.8	48.0	50.0	51.0	52.0	57.0	56.0	56.0	55.0	55.0	55.0
Pct. Point Contribution to GDP	-0.8	0.2	1.0	-0.9	0.3	-1.2	1.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Nominal GDP (a)	3.9	4.2	4.8	5.1	4.3	7.6	4.7	5.5	5.7	5.2	5.3	4.9	4.6	4.4	4.4	4.2
Real Final Sales	2.6	2.8	1.8	3.2	1.9	5.4	2.2	2.7	2.5	2.7	2.5	2.4	2.2	2.0	1.9	1.8
Retail Sales (b)	4.9	4.1	4.2	5.6	4.5	5.7	6.1	4.9	5.4	4.8	4.4	4.5	4.5	4.4	4.4	3.7
Inflation Indicators (b)																
PCE Deflator	2.0	1.6	1.6	1.8	1.9	2.2	2.2	2.2	2.4	2.5	2.7	2.6	2.5	2.4	2.4	2.4
"Core" PCE Deflator	1.8	1.6	1.5	1.6	1.7	1.9	2.0	2.0	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.1
Consumer Price Index	2.6	1.9	2.0	2.1	2.3	2.6	2.7	2.6	2.6	2.8	3.0	2.9	2.7	2.7	2.5	2.5
"Core" Consumer Price Index	2.1	1.8	1.7	1.7	1.9	2.2	2.3	2.3	2.4	2.6	2.7	2.7	2.5	2.3	2.4	2.4
Producer Price Index (Final Demand)	2.0	2.2	2.4	2.8	2.8	3.0	2.9	2.7	2.8	2.8	3.1	3.1	2.9	2.9	2.7	2.6
Employment Cost Index	2.4	2.4	2.5	2.6	2.7	2.8	2.8	2.9	2.9	3.0	3.1	3.2	3.2	3.3	3.3	3.3
Real Disposable Income (a)	4.5	2.2	2.2	2.3	4.4	2.5	2.5	2.5	2.8	2.6	2.6	2.6	2.6	2.5	2.2	2.0
Nominal Personal Income (b)	4.1	4.3	4.5	4.6	4.3	4.7	4.6	4.3	4.5	4.7	4.8	4.8	4.6	4.3	4.2	3.9
Industrial Production (a)	1.0	5.0	-1.5	7.7	2.5	5.1	3.4	3.7	2.4	4.2	1.2	4.0	2.5	4.7	0.7	0.1
Capacity Utilization	75.4	76.2	75.8	77.0	77.2	77.8	78.1	78.4	78.5	78.6	78.6	78.8	78.9	79.1	79.0	78.9
Corporate Profits Before Taxes (b)	3.0	3.6	2.8	3.3	5.9	7.3	8.0	6.2	5.6	1.8	0.5	-0.8	-1.6	-2.2	-2.6	-3.4
Corporate Profits After Taxes	6.0	6.2	6.4	7.3	15.1	15.8	17.0	12.5	4.7	1.9	0.3	-1.0	-1.8	-2.4	-2.9	-3.7
Federal Budget Balance (c)	-317	4	-143	-225	-375	-7	-168	-321	-396	-63	-270	-337	-416	-63	-283	-364
Trade Weighted Dollar Index (d)	94.0	90.5	88.1	87.5	86.3	90.0	90.1	90.5	89.8	88.5	87.3	86.3	84.8	84.0	82.8	81.8
Nonfarm Payroll Change (e)	177	190	142	221	218	217	190	180	170	170	160	160	150	140	100	90
Unemployment Rate	4.7	4.3	4.3	4.1	4.1	3.9	3.8	3.8	3.7	3.6	3.6	3.5	3.4	3.3	3.3	3.3
Housing Starts (f)	1.23	1.17	1.17	1.26	1.32	1.26	1.25	1.33	1.34	1.36	1.36	1.38	1.39	1.40	1.41	1.42
Light Vehicle Sales (g)	17.1	16.8	17.1	17.6	17.1	17.2	16.9	16.8	16.8	16.7	16.7	16.6	16.6	16.5	16.4	16.3
Crude Oil - Brent - Front Contract (h)	54.6	50.8	52.2	61.4	66.9	74.6	75.8	82.0	80.0	85.0	88.0	82.0	80.0	74.0	70.0	70.0
Quarter-End Interest Rates (i)																
Federal Funds Target Rate	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.25	3.25	3.25	3.25	3.00
3 Month LIBOR	1.15	1.30	1.33	1.69	2.31	2.34	2.40	2.70	2.95	3.15	3.40	3.40	3.40	3.40	3.40	3.15
Prime Rate	4.00	4.25	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.25	6.25	6.25	6.25	6.00
Conventional Mortgage Rate	4.20	3.90	3.81	3.94	4.44	4.57	4.63	4.95	5.05	5.15	5.25	5.30	5.30	5.25	5.20	5.15
3 Month Bill	0.76	1.03	1.06	1.39	1.73	1.93	2.19	2.40	2.65	2.90	3.05	3.10	3.05	3.00	2.95	2.75
6 Month Bill	0.91	1.14	1.20	1.53	1.93	2.11	2.36	2.60	2.80	2.95	3.10	3.15	3.10	3.05	3.00	2.80
1 Year Bill	1.03	1.24	1.31	1.76	2.09	2.33	2.59	2.80	3.00	3.05	3.15	3.20	3.15	3.10	3.05	2.90
2 Year Note	1.27	1.38	1.47	1.89	2.27	2.52	2.81	3.00	3.10	3.15	3.25	3.25	3.20	3.15	3.10	3.00
5 Year Note	1.93	1.89	1.92	2.20	2.56	2.73	2.94	3.15	3.25	3.35	3.45	3.50	3.45	3.40	3.35	3.25
10 Year Note	2.40	2.31	2.33	2.40	2.74	2.85	3.05	3.35	3.45	3.55	3.65	3.70	3.70	3.65	3.60	3.55
30 Year Bond	3.02	2.84	2.86	2.74	2.97	2.98	3.19	3.55	3.65	3.80	3.90	3.95	4.00	4.00	3.95	3.90

Forecast as of: October 10, 2018

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter

(b) Year-over-Year Percentage Change

(c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.

(d) Federal Reserve Major Currency Index, 1973=100 - Quarter End

(e) Average Monthly Change

(f) Millions of Units - Annual Data - Not Seasonally Adjusted

(g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold

(h) Quarterly Average of Daily Close

(i) Annual Numbers Represent Averages

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Securities

U.S. Economic Forecast: Change Since Last Monthly Macro Manual (September 12, 2018)

Changes to the Wells Fargo U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast			
	2017				2018				2019				2020				2017	2018	2019	2020		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q						
Real Gross Domestic Product (a)	0.00	0.00	0.00	0.00	0.00	-0.07	0.22	-0.06	-0.12	-0.19	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.01	-0.05	-0.01		
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.03	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00		
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	0.18	-1.30	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.12	-0.10	0.00		
Equipment	0.00	0.00	0.00	0.00	0.00	0.11	-2.73	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.30	-0.23	0.00		
Intellectual Property Products	0.00	0.00	0.00	0.00	0.00	-0.52	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	-0.03	0.00		
Structures	0.00	0.00	0.00	0.00	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.08	0.00		
Residential Construction	0.00	0.00	0.00	0.00	0.00	0.30	-1.50	-1.50	-1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.22	-0.70	0.00		
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.16	-0.17	0.18	0.19	0.19	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.14	0.07		
Net Exports	0.0	0.0	0.0	0.0	0.0	2.8	-16.6	-16.9	-17.1	-17.4	-17.6	-17.9	-18.1	-18.4	-18.6	-18.9	0.0	-7.7	-17.5	-18.5		
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.05	-0.41	0.00	0.00	-0.01	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	-0.04	-0.05	-0.01		
Inventory Change	0.00	0.00	0.00	0.00	0.00	-9.88	18.00	15.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.78	2.50	0.00		
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	-0.20	0.61	-0.06	-0.11	-0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.02	-0.01		
Nominal GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.42	0.41	-0.27	0.10	0.10	0.21	0.12	0.42	-0.22	0.00	0.04	0.16	0.13		
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.14	-0.37	0.01	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	-0.02	-0.03	0.01		
Retail Sales (b)	0.00	0.00	-0.01	0.00	0.00	0.02	-0.06	-0.22	-0.22	-0.23	-0.14	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	-0.15	0.00		
Inflation Indicators (b)																						
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.11	0.24	0.20	0.24	0.14	0.07	0.12	0.20	0.13	0.00	0.03	0.21	0.13		
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.03	-0.04	0.00	0.10	0.07	0.13	0.12	0.01	0.00	0.01	-0.03	0.00	0.00	0.11	0.00		
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.26	0.39	0.37	0.34	0.16	0.08	0.20	0.23	0.20	0.00	0.08	0.32	0.18		
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.02	0.12	0.18	0.23	0.20	0.05	0.00	0.00	0.00	0.00	-0.02	0.18	0.01		
Producer Price Index (Final Demand)	0.00	0.00	0.00	0.00	0.00	0.00	-0.17	0.04	0.23	0.26	0.43	0.22	0.10	0.11	0.11	0.11	0.00	-0.03	0.29	0.11		
Employment Cost Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Real Disposable Income (a)	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Nominal Personal Income (b)	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.06	0.06	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00		
Industrial Production (a)	0.00	0.00	0.00	0.00	-0.02	-0.85	0.44	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	0.07	0.00		
Capacity Utilization	0.00	0.00	0.00	0.00	0.00	-0.16	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	0.00	0.00		
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	-0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	0.00	0.00		
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	-0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	0.00	0.00		
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	-0.25	-0.50	-0.50	0.00	-1.00	0.50	0.75	1.75	0.00	0.03	-0.31	0.50		
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	0.00	10.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	0.00	0.00		
Unemployment Rate	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00		
Housing Starts (f)	0.00	0.00	0.00	0.00	0.00	0.01	-0.02	0.00	0.00	-0.01	-0.03	-0.04	-0.03	-0.03	-0.02	0.00	0.00	-0.01	-0.02	-0.02		
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00		
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.83	10.00	5.00	5.00	3.00	2.00	4.00	3.00	0.00	5.00	0.00	2.71	3.75	3.00		
Quarter-End Interest Rates (i)																						
Federal Funds Target Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3 Month LIBOR	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00		
Prime Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Conventional Mortgage Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.15	0.10	0.10	0.10	0.10	0.15	0.10	0.10	0.10	0.00	0.04	0.10	0.11		
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.01	0.01	0.01		
2 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.10	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.04	0.05	0.01		
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.10	0.05	0.05	0.05	0.10	0.10	0.05	0.05	0.00	0.00	0.05	0.06	0.05		
10 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.15	0.10	0.10	0.10	0.10	0.15	0.10	0.10	0.10	0.00	0.05	0.10	0.11		
30 Year Bond	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.15	0.10	0.10	0.10	0.05	0.10	0.15	0.10	0.10	0.00	0.05	0.09	0.11		

Forecast as of: October 10, 2018

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter

(b) Year-over-Year Percentage Change

(c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.

(d) Federal Reserve Major Currency Index, 1973=100 - Quarter End

(e) Average Monthly Change

(f) Millions of Units - Annual Data - Not Seasonally Adjusted

(g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold

(h) Quarterly Average of Daily Close

(i) Annual Numbers Represent Averages

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Securities

International Outlook

Wells Fargo International Economic Forecast

(Year-over-Year Percent Change)

	GDP			CPI		
	2018	2019	2020	2018	2019	2020
Global (PPP Weights)	3.8%	3.7%	3.4%	3.6%	3.8%	3.7%
Advanced Economies ¹	2.5%	2.5%	2.0%	2.2%	2.4%	2.4%
United States	2.9%	2.8%	2.2%	2.5%	2.8%	2.6%
Eurozone	2.0%	2.1%	1.7%	1.8%	1.9%	1.8%
United Kingdom	1.2%	1.5%	1.5%	2.4%	2.1%	2.0%
Japan	1.2%	1.2%	0.5%	1.0%	1.2%	2.0%
Canada	2.2%	2.2%	1.7%	2.5%	2.2%	2.0%
Developing Economies ¹	4.7%	4.6%	4.5%	4.5%	4.8%	4.7%
China	6.6%	6.3%	6.1%	2.1%	2.3%	2.3%
India	7.7%	7.5%	7.3%	4.9%	5.1%	4.8%
Mexico	2.0%	2.4%	2.3%	4.8%	4.0%	3.7%

Forecast as of: October 10, 2018

¹Aggregated Using PPP Weights

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	3-Month LIBOR						10-Year Bond					
	2018	2019				2020	2018	2019				2020
	Q4	Q1	Q2	Q3	Q4	Q1	Q4	Q1	Q2	Q3	Q4	Q1
U.S.	2.70%	2.95%	3.15%	3.40%	3.40%	3.40%	3.35%	3.45%	3.55%	3.65%	3.70%	3.70%
Japan	-0.01%	0.00%	0.00%	0.00%	0.01%	0.01%	0.18%	0.20%	0.24%	0.27%	0.30%	0.30%
Euroland ¹	-0.35%	-0.30%	-0.25%	-0.15%	0.05%	0.30%	0.65%	0.80%	0.95%	1.05%	1.15%	1.25%
U.K.	0.80%	0.85%	0.95%	1.05%	1.10%	1.10%	1.70%	1.80%	1.85%	2.00%	2.10%	2.15%
Canada ²	2.15%	2.40%	2.65%	2.90%	2.85%	2.85%	2.70%	2.80%	2.90%	3.00%	3.05%	3.05%

Forecast as of: October 10, 2018

¹ 10-year German Government Bond Yield ² 3-Month Canada Bankers' Acceptances

Source: International Monetary Fund and Wells Fargo Securities

International Forecast: Change Since Last Monthly Macro Manual (September 12, 2018)

Changes to the Wells Fargo International Economic Forecast

	GDP			CPI		
	2018	2019	2020	2018	2019	2020
Global (PPP Weights)	-0.01%	-0.02%	0.01%	0.03%	0.07%	0.02%
Advanced Economies ¹	-0.03%	0.02%	0.00%	0.01%	0.15%	0.04%
United States	-0.01%	0.00%	0.00%	0.03%	0.34%	0.12%
Eurozone	-0.05%	0.03%	0.03%	0.00%	0.00%	-0.03%
United Kingdom	-0.12%	0.04%	0.00%	0.00%	0.00%	0.00%
Japan	0.00%	0.04%	-0.14%	0.00%	0.00%	0.00%
Canada	0.10%	0.13%	0.09%	0.00%	-0.10%	-0.08%
Developing Economies ¹	-0.01%	-0.05%	0.01%	0.05%	0.01%	0.00%
China	0.00%	-0.05%	0.00%	0.00%	0.00%	0.00%
India ²	0.08%	0.04%	0.12%	0.26%	0.07%	0.00%
Mexico	-0.03%	-0.17%	-0.10%	0.00%	0.00%	0.00%

Forecast as of: October 10, 2018

¹Aggregated Using PPP Weights

Changes to the Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	3-Month LIBOR					10-Year Bond				
	2018	2019				2018	2019			
	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4
U.S.	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	0.10%	0.10%	0.10%	0.10%
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%	0.03%	0.05%
Euroland ¹	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%	0.05%	0.05%	0.05%	0.05%
U.K.	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.20%	0.15%	0.10%	0.10%
Canada ²	-0.05%	0.15%	0.25%	0.40%	0.20%	0.30%	0.30%	0.30%	0.30%	0.30%

Forecast as of: October 10, 2018

¹ 10-year German Government Bond Yield ² 3-Month Canada Bankers' Acceptances

Source: International Monetary Fund and Wells Fargo Securities

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Economics Group

MONTHLY OUTLOOK

U.S. Overview

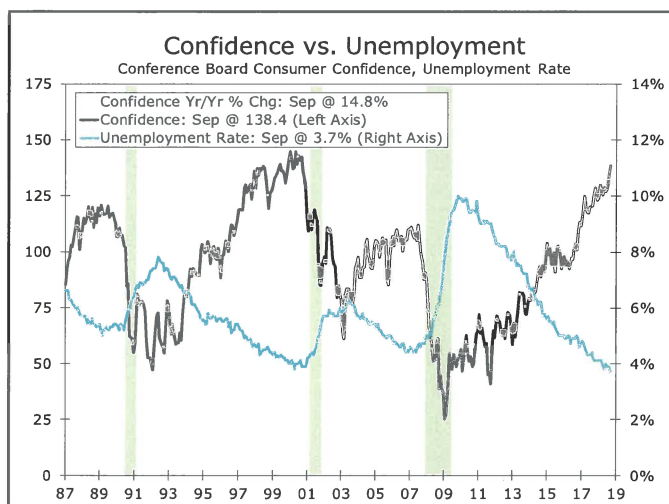
Solid Growth Despite Being Late in Economic Cycle

The general theme of a U.S. economy growing above potential in the near term before gradually losing momentum remains more or less intact. The incoming data over the past month have been broadly positive, though admittedly sometimes a mixed bag, and we have updated our forecast accordingly.

Our full-year GDP growth numbers for this year, 2019 and 2020 are unchanged at 2.9%, 2.8% and 2.2% respectively. Our forecast for third quarter GDP growth benefited from a slight upward revision. We now expect the economy grew at a 3.3% annualized rate in the period, up from just 3.1% in our September forecast. Some of the faster Q3 growth is “borrowed” from the current quarter, and we have pared our estimate for Q4 by just a tenth of a percentage point to 2.7%.

Real personal consumption is shaping up a bit stronger than we had anticipated previously and the indicators in this sector have been broadly positive. Retail sales for August came in a bit weaker than expected, but upward revisions to prior data indicated that retailers were having a good year ahead of the key holiday shopping season.

Consumer confidence is firming as well; though the measures of just how well the consumer is faring vary slightly between the two bellwether measures. Michigan consumer sentiment rose to a six-month high, but the Conference Board’s consumer confidence index rose to a new cycle high of 138.4. The last time this measure of consumer confidence was as high as it is today was in the year 2000. A number of financial and economic indicators from that era are similar to where they are today.



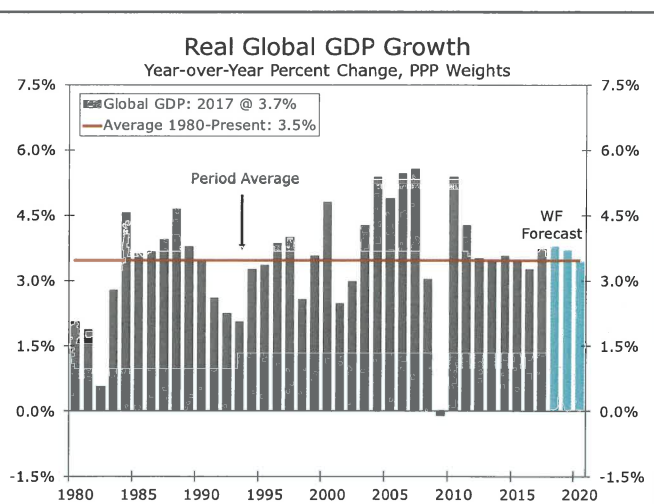
International Overview

Global Growth Stirs Beneath a Calmer Surface

The global economy maintained a steady and solid pace during the first half of 2018, with Q2 GDP growth for the G20 economies at 3.9% year-over-year, near the fastest rate of growth since mid-2011. Still, this relative calmness on the surface masks some areas of instability among the details. U.S. growth has been particularly strong this year, boosted by fiscal stimulus, but growth for the other G7 economies has slowed noticeably. There is also a similar split among the emerging economies, with areas of both strength and weakness.

There are some important downside risks that could lead to a faster global slowdown. Trade tensions between the U.S. and China have continued to escalate, although the latest data for July (which captures the early rounds of tariffs) shows a still-respectable pace of export volume growth. Meanwhile, there are hints of stronger wage growth starting to emerge from some of the major economies. Were that to lead to a more rapid removal of monetary policy accommodation than we currently expect, that could unsettle markets and hurt global economic growth.

There are some reasons for optimism as well. The recently announced trade agreement between the U.S., Canada and Mexico has perhaps eased trade tensions at the margin, and boosted our outlook for the Canadian economy. Meanwhile, with only moderate financial headwinds and as Brexit uncertainty lessens, we expect Eurozone and U.K. growth will firm going forward. Our overall global GDP growth forecasts are unchanged from last month—we see a modest slowing to 3.7% in 2019 and 3.4% in 2020.



Source: The Conference Board, U.S. Department of Labor, International Monetary Fund and Wells Fargo Securities



Consumer Spending Stronger...at Least for Now

The stock market was soaring to all-time record highs, the unemployment rate was below 4% and the economy was in its 10th year of uninterrupted expansion. Then, as now, there were few people seeing an end in sight.

For now, the surge in consumer dynamics cannot be denied and we would be foolish to bet against the consumer with such a solid backdrop. But there are some things that are different from 2000. The bottom chart plots consumer confidence alongside both retail sales (ex-autos) and real income growth on a per-capita basis.

Here we see something that Fed policymakers have been wringing their hands over throughout this cycle, which is: if the labor market is so hot, how come income growth is so tepid? That slower income growth tempers our enthusiasm for the ability of consumer spending to sustain growth indefinitely. Personal income grew just 0.3% in August, which was shy of the 0.4% growth that had been expected and the jobs report revealed that despite the lowest jobless rate since the 1960s, average hourly earnings are still growing at less than 3% on a year-over-year basis. As the benefit of tax cuts begins to fade, and without a significant pick-up in earnings, we have limited expectations for the long-term sustainability of spending growth. In the meantime, we expect slightly faster consumer spending in the third quarter at the expense of fourth quarter consumer spending, which we have pared slightly.

Trade Giveth and Trade Taketh Away

We had already expected trade to go from being a help (as it was in Q2) to a hindrance (as we expect it to be in Q3). Net exports added 1.2 percentage points to the blockbuster headline GDP print of 4.2%. It appears that at least some of the pick-up in exports during the second quarter was an attempt by some businesses to get merchandise out the door ahead of the expected retaliatory tariffs. The higher frequency data confirm that some of these vulnerable categories, particularly soybeans,

are already retrenching. We expect trade to be a 1.6 percentage point drag on headline GDP in the third quarter.

Inventories to the Rescue

That might ordinarily be enough to derail the headline growth rate, but despite the big drag from trade we still have a 3-handle for third quarter GDP, thanks to a boost from inventories.

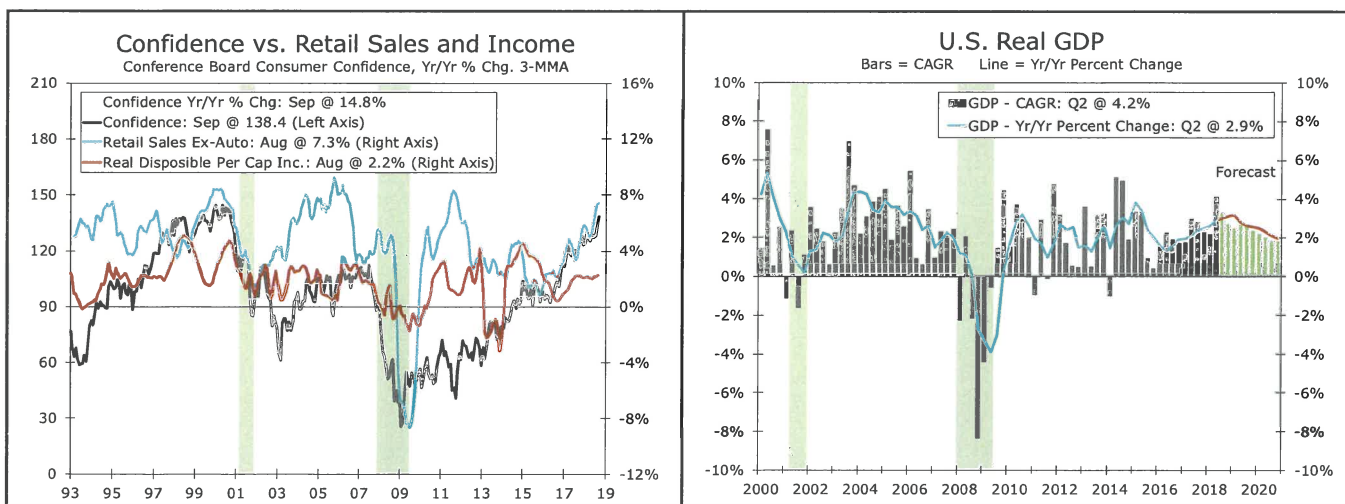
After a big inventory drawdown in the second quarter, even a modest build in the third quarter can translate into a big contribution to headline GDP. The average quarterly change in inventories in this cycle is about \$60 billion. We are penciling in a number of closer to \$50 billion, but even that would result in a nearly 2 percentage point boost to the headline number.

Big Picture: Expansion Intact, No Change in Fed Call

If the economy is still in expansion by next summer, this expansion will break the record for the longest uninterrupted expansion on record. Not only do we not have a recession, we have above-trend growth. Our expectation at this point is that with the job market remaining white hot and inflation cresting above the Fed's 2.0% target, policymakers will continue to raise the fed funds rate a quarter of a point in each of the next four quarters.

If that proves accurate, that would put the fed funds rate at 3.25% by this time next year. We forecast that GDP growth will generally remain solid in coming quarters, but that it will slow somewhat from its current above-potential pace as fiscal stimulus fades and as monetary tightening exerts some headwinds on the economy (bottom right chart).

Looking into 2020, we believe that growth will slow enough to lead the Fed to reverse itself by cutting rates 25 bps at the end of 2020. That is admittedly pretty far out into the forecast horizon and there is a lot that could change. But by that point the current expansion would have exceeded the record for longest duration by about a year and a half, so a circumspect Fed at that stage would not be unusual. In the meantime, the FOMC will continue to hike rates at a gradual pace.



Source: The Conference Board, U.S. Department of Commerce and Wells Fargo Securities

Wells Fargo U.S. Economic Forecast																				
	Actual								Forecast								Actual			
	2017				2018				2019				2020				2017	2018	2019	2020
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	1.8	3.0	2.8	2.3	2.2	4.2	3.3	2.7	2.5	2.7	2.6	2.4	2.2	2.0	1.9	1.8	2.2	2.9	2.8	2.2
Personal Consumption	1.8	2.9	2.2	3.9	0.5	3.8	3.4	2.8	2.2	2.9	2.6	2.5	2.1	2.2	1.8	1.7	2.5	2.6	2.8	2.2
Business Fixed Investment	9.6	7.3	3.4	4.8	11.5	8.7	5.5	5.4	4.7	4.9	4.4	4.0	3.7	3.6	2.9	2.8	5.3	7.3	5.1	3.7
Equipment	9.1	9.7	9.8	9.9	8.5	4.6	4.1	4.8	3.8	4.2	3.7	3.1	2.7	2.6	2.1	2.0	6.1	7.4	4.1	2.8
Intellectual Property Products	8.0	6.6	1.7	0.7	14.1	10.5	7.1	5.2	4.8	5.3	4.7	4.6	4.7	4.6	3.7	3.6	4.6	7.4	5.6	4.5
Structures	12.8	3.8	-5.7	1.3	13.9	14.5	7.0	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.5	4.6	7.1	6.8	4.5
Residential Construction	11.1	-5.5	-0.5	11.1	-3.4	-1.3	0.5	2.5	4.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	3.3	0.7	3.3	3.5
Government Purchases	-0.8	0.0	-1.0	2.4	1.5	2.5	3.2	3.1	2.4	1.6	1.0	0.8	0.7	0.5	0.3	0.1	-0.1	1.8	2.2	0.7
Net Exports	-845.5	-844.1	-845.9	-899.2	-902.4	-841.0	-916.6	-945.8	-960.3	-982.8	-997.6	-1008.1	-1009.6	-1019.1	-1016.5	-1010.6	-858.7	-901.4	-987.2	-1013.9
Pct. Point Contribution to GDP	-0.1	0.1	0.0	-0.9	0.0	1.2	-1.6	-0.6	-0.3	-0.5	-0.3	-0.2	0.0	-0.2	0.1	0.1	-0.4	-0.2	-0.5	-0.1
Inventory Change	-2.4	11.9	64.4	16.1	30.3	-36.3	48.0	50.0	51.0	52.0	57.0	56.0	56.0	55.0	55.0	55.0	22.5	22.9	54.0	55.3
Pct. Point Contribution to GDP	-0.8	0.2	1.0	-0.9	0.3	-1.2	1.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Nominal GDP (a)	3.9	4.2	4.8	5.1	4.3	7.6	4.7	5.5	5.7	5.2	5.3	4.9	4.6	4.4	4.4	4.2	4.2	5.2	5.4	4.7
Real Final Sales	2.6	2.8	1.8	3.2	1.9	5.4	2.2	2.7	2.5	2.7	2.5	2.4	2.2	2.0	1.9	1.8	2.2	2.9	2.7	2.2
Retail Sales (b)	4.9	4.1	4.2	5.6	4.5	5.7	6.1	4.9	5.4	4.8	4.4	4.3	4.5	4.4	4.4	3.7	4.7	5.3	4.8	4.2
Inflation Indicators (b)																				
PCE Deflator	2.0	1.6	1.6	1.8	1.9	2.2	2.2	2.2	2.4	2.5	2.7	2.6	2.5	2.4	2.4	2.4	1.8	2.1	2.5	2.4
"Core" PCE Deflator	1.8	1.6	1.5	1.6	1.7	1.9	2.0	2.0	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.1	1.6	1.9	2.2	2.2
Consumer Price Index	2.6	1.9	2.0	2.1	2.3	2.6	2.7	2.6	2.6	2.8	3.0	2.9	2.7	2.7	2.5	2.5	2.1	2.5	2.8	2.6
"Core" Consumer Price Index	2.1	1.8	1.7	1.7	1.9	2.2	2.3	2.3	2.4	2.6	2.7	2.7	2.5	2.3	2.4	2.4	1.8	2.2	2.6	2.4
Producer Price Index (Final Demand)	2.0	2.2	2.4	2.8	2.8	3.0	2.9	2.7	2.8	2.8	3.1	3.1	2.9	2.9	2.7	2.6	2.3	2.9	2.9	2.8
Employment Cost Index	2.4	2.4	2.5	2.6	2.7	2.8	2.8	2.9	2.9	3.0	3.1	3.2	3.2	3.3	3.3	3.3	2.5	2.8	3.1	3.3
Real Disposable Income (a)	4.5	2.2	2.2	2.3	4.4	2.5	2.5	2.5	2.8	2.6	2.6	2.6	2.6	2.5	2.2	2.0	2.6	2.9	2.6	2.5
Nominal Personal Income (b)	4.1	4.3	4.5	4.6	4.3	4.7	4.6	4.3	4.5	4.7	4.8	4.7	4.6	4.3	4.2	3.9	4.4	4.5	4.7	4.2
Industrial Production (a)	1.0	5.0	-1.5	7.7	2.5	5.1	3.4	3.7	2.4	4.2	1.2	4.0	2.5	4.7	0.7	0.1	1.6	3.8	3.2	2.8
Capacity Utilization	75.4	76.2	75.8	77.0	77.2	77.8	78.1	78.4	78.5	78.6	78.6	78.8	78.9	79.1	79.0	78.9	76.1	77.9	78.6	79.0
Corporate Profits Before Taxes (b)	3.0	3.6	2.8	3.3	5.9	7.3	8.0	6.2	5.6	1.8	0.5	-0.8	-1.6	-2.2	-2.6	-3.4	3.2	6.9	1.7	-2.4
Corporate Profits After Taxes	6.0	6.2	6.4	7.3	15.1	15.8	17.0	12.5	4.7	1.9	0.3	-1.0	-1.8	-2.4	-2.9	-3.7	6.5	15.1	1.4	-2.7
Federal Budget Balance (c)	-317	4	-143	-225	-375	-7	-168	-321	-396	-63	-270	-337	-416	-63	-283	-364	-666	-775	-1050	-1100
Trade Weighted Dollar Index (d)	94.0	90.5	88.1	87.5	86.3	90.0	90.1	90.5	89.8	88.5	87.3	86.3	84.8	84.0	82.8	81.8	91.1	89.2	87.9	83.3
Nonfarm Payroll Change (e)	177	190	142	221	218	217	190	180	170	170	160	160	150	140	100	90	182	201	165	120
Unemployment Rate	4.7	4.3	4.3	4.1	4.1	3.9	3.8	3.8	3.7	3.6	3.6	3.5	3.4	3.3	3.3	3.3	4.4	3.9	3.6	3.3
Housing Starts (f)	1.23	1.17	1.17	1.26	1.32	1.26	1.25	1.33	1.34	1.36	1.36	1.38	1.39	1.40	1.41	1.42	1.20	1.29	1.36	1.41
Light Vehicle Sales (g)	17.1	16.8	17.1	17.6	17.1	17.2	16.9	16.8	16.8	16.7	16.7	16.6	16.6	16.5	16.4	16.3	17.1	17.0	16.7	16.5
Crude Oil - Brent - Front Contract (h)	54.6	50.8	52.2	61.4	66.9	74.6	75.8	82.0	80.0	85.0	88.0	82.0	80.0	74.0	70.0	70.0	54.7	74.9	83.8	73.5
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.25	3.25	3.25	3.25	3.00	1.13	2.13	3.06	3.19
3 Month LIBOR	1.15	1.30	1.33	1.69	2.31	2.34	2.40	2.70	2.95	3.15	3.40	3.40	3.40	3.40	3.40	3.15	1.26	2.44	3.23	3.34
Prime Rate	4.00	4.25	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.25	6.25	6.25	6.25	6.00	4.13	5.13	6.06	6.19
Conventional Mortgage Rate	4.20	3.90	3.81	3.94	4.44	4.57	4.63	4.95	5.05	5.15	5.25	5.30	5.30	5.25	5.20	5.15	3.99	4.65	5.19	5.23
3 Month Bill	0.76	1.03	1.06	1.39	1.73	1.93	2.19	2.40	2.65	2.90	3.05	3.10	3.05	3.00	2.95	2.75	0.95	2.06	2.93	2.94
6 Month Bill	0.91	1.14	1.20	1.53	1.93	2.11	2.36	2.60	2.80	2.95	3.10	3.15	3.10	3.05	3.00	2.80	1.07	2.25	3.00	2.99
1 Year Bill	1.03	1.24	1.31	1.76	2.09	2.33	2.59	2.80	3.00	3.05	3.15	3.20	3.15	3.10	3.05	2.90	1.20	2.45	3.10	3.05
2 Year Note	1.27	1.38	1.47	1.89	2.27	2.52	2.81	3.00	3.10	3.15	3.25	3.25	3.20	3.15	3.10	3.00	1.40	2.65	3.19	3.11
5 Year Note	1.93	1.89	1.92	2.20	2.56	2.73	2.94	3.15	3.25	3.35	3.45	3.50	3.45	3.40	3.35	3.25	1.91	2.85	3.39	3.36
10 Year Note	2.40	2.31	2.33	2.40	2.74	2.85	3.05	3.35	3.45	3.55	3.65	3.70	3.70	3.65	3.60	3.55	2.33	3.00	3.59	3.63
30 Year Bond	3.02	2.84	2.86	2.74	2.97	2.98	3.19	3.55	3.65	3.80	3.90	3.95	4.00	4.00	3.95	3.90	2.89	3.17	3.83	3.96
Forecast as of: October 10, 2018																				
Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter																				
(b) Millions of Units - Annual Data - Not Seasonally Adjusted																				
(c) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold																				
(d) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.																				
(e) Federal Reserve Major Currency Index, 1973=100 - Quarter End																				
(f) Average Monthly Change																				
(g) Quarterly Average of Daily Close																				
(h) Annual Numbers Represent Averages																				

Source: Federal Reserve Board, IHS Markit, U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

Global Growth Stirs Beneath a Calmer Surface

Our outlook for the global economy is little changed from our last update, and we continue to see a slow deceleration in global GDP growth to 3.7% in 2019 and 3.4% in 2020. The global economy maintained steady and solid momentum through the first half of 2018, with Q2 GDP for the G20 economies rising 1.0% quarter over quarter (not annualized), and 3.9% year over year—the latter still near the fastest pace of annual growth since mid-2011. Even areas of significant focus and concern have shown only a modest slowing. Global export volumes rose 3.8% year-over-year in July, down from the pace seen through much of 2017, but still respectable. The July figures capture the initial round of aluminum and steel tariffs, and the initial tariffs on a wider range of goods between the U.S. and China, although there is likely some lag and admittedly, does not encompass the more recent escalation in U.S./China trade tensions.

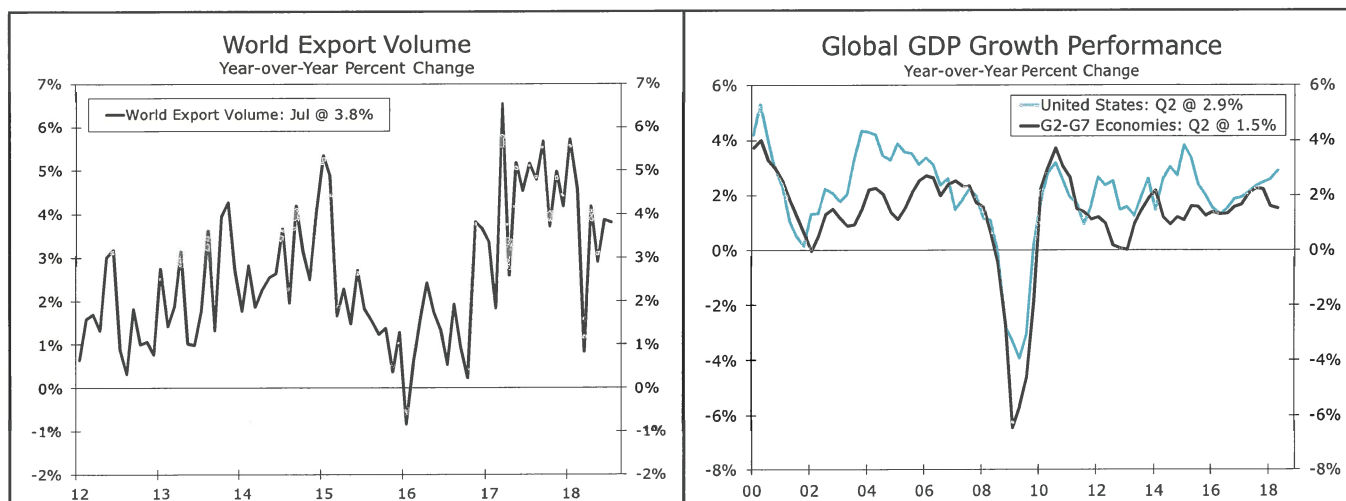
While looking calm and steady on the surface, a closer examination hints at some areas of instability across the global economy. U.S. economic growth has been particularly strong in 2018, boosted by fiscal stimulus, but growth for the other G7 economies has slowed noticeably (see chart at bottom right). A similar dichotomy is apparent among the emerging economies, which have shown areas of strength (India), steadiness (China), and weakness (Argentina). That said, there has not so far been strong evidence of widespread contagion—either economic or financial market—across emerging countries.

With some variation in economic performance, major central banks have also adopted a varied approach to removing monetary policy accommodation. The Federal Reserve continues to lead the way, followed by the Bank of Canada, where we expect one more rate hike in 2018 and three rate hikes in 2019. The European Central Bank and Bank of England are expected to be more cautious, with their initial or next rate hike not seen until well into 2019, due to subdued growth and Brexit uncertainty. Meanwhile, China's central bank has paused its deleveraging efforts in recent months.

There are some important downside risks that could lead to a faster global slowdown than we currently expect. Should trade tensions between the U.S. and China continue to escalate for an extended period, export volumes could slow noticeably further or perhaps even move into outright contraction, a dynamic that would likely restrain emerging economy performance more broadly. In addition, with some signs of wage growth starting to emerge (including in the U.S., Canada and Eurozone, among others) there remains some risk that major central banks could remove monetary policy accommodation more quickly than currently expected, a risk scenario that could both unsettle markets and hurt economic growth.

There are, however, also some reasons for optimism. The recently announced trade agreement between the U.S., Canada and Mexico has perhaps eased trade tensions at the margin. Moreover, it has led us to increase our GDP growth forecast for Canada, while we also expect Mexican economic growth to remain relatively resilient. In addition, given only moderate financial headwinds we see potential for the Eurozone to emerge from its soft patch early this year, and forecast Eurozone GDP growth of 2.1% in 2019. U.K. economic growth could also improve as Brexit uncertainty lessens, while in China easier liquidity and increased government spending should ensure that economy's slowdown remains gradual. Taking a balanced approach to the pessimistic and optimistic factors above, our global growth forecast is unchanged from last month, and continues to envisage only a gradual slowdown.

Finally, we see potential for foreign central banks to be more active next year, which could help foreign currencies to strengthen versus the U.S. dollar. In addition to policy moves from Canada, the Eurozone and the U.K., Norway's central bank recently hiked rates, and Sweden's central bank is expected to do so by early 2019. The other G10 central banks could be less active. We do not expect significant policy moves from Japan and Switzerland, while little to no change is expected from the Australian and New Zealand central banks in 2019 as well.



Source: IHS Markit, Datastream and Wells Fargo Securities

Wells Fargo International Economic Forecast						
(Year-over-Year Percent Change)						
	GDP			CPI		
	2018	2019	2020	2018	2019	2020
Global (PPP Weights)	3.8%	3.7%	3.4%	3.6%	3.8%	3.7%
Advanced Economies ¹	2.5%	2.5%	2.0%	2.2%	2.4%	2.4%
United States	2.9%	2.8%	2.2%	2.5%	2.8%	2.6%
Eurozone	2.0%	2.1%	1.7%	1.8%	1.9%	1.8%
United Kingdom	1.2%	1.5%	1.5%	2.4%	2.1%	2.0%
Japan	1.2%	1.2%	0.5%	1.0%	1.2%	2.0%
Canada	2.2%	2.2%	1.7%	2.5%	2.2%	2.0%
Developing Economies ¹	4.7%	4.6%	4.5%	4.5%	4.8%	4.7%
China	6.6%	6.3%	6.1%	2.1%	2.3%	2.3%
India	7.7%	7.5%	7.3%	4.9%	5.1%	4.8%
Mexico	2.0%	2.4%	2.3%	4.8%	4.0%	3.7%

Forecast as of: October 10, 2018

¹Aggregated Using PPP Weights

Wells Fargo International Interest Rate Forecast												
(End of Quarter Rates)												
	3-Month LIBOR						10-Year Bond					
	2018	2019				2020	2018	2019				2020
	Q4	Q1	Q2	Q3	Q4	Q1	Q4	Q1	Q2	Q3	Q4	Q1
U.S.	2.70%	2.95%	3.15%	3.40%	3.40%	3.40%	3.35%	3.45%	3.55%	3.65%	3.70%	3.70%
Japan	-0.01%	0.00%	0.00%	0.00%	0.01%	0.01%	0.18%	0.20%	0.24%	0.27%	0.30%	0.30%
Euroland ¹	-0.35%	-0.30%	-0.25%	-0.15%	0.05%	0.30%	0.65%	0.80%	0.95%	1.05%	1.15%	1.25%
U.K.	0.80%	0.85%	0.95%	1.05%	1.10%	1.10%	1.70%	1.80%	1.85%	2.00%	2.10%	2.15%
Canada ²	2.15%	2.40%	2.65%	2.90%	2.85%	2.85%	2.70%	2.80%	2.90%	3.00%	3.05%	3.05%

Forecast as of: October 10, 2018

¹ 10-year German Government Bond Yield ² 3-Month Canada Bankers' Acceptances

Source: International Monetary Fund and Wells Fargo Securities

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BEA Regional Advisory Committee

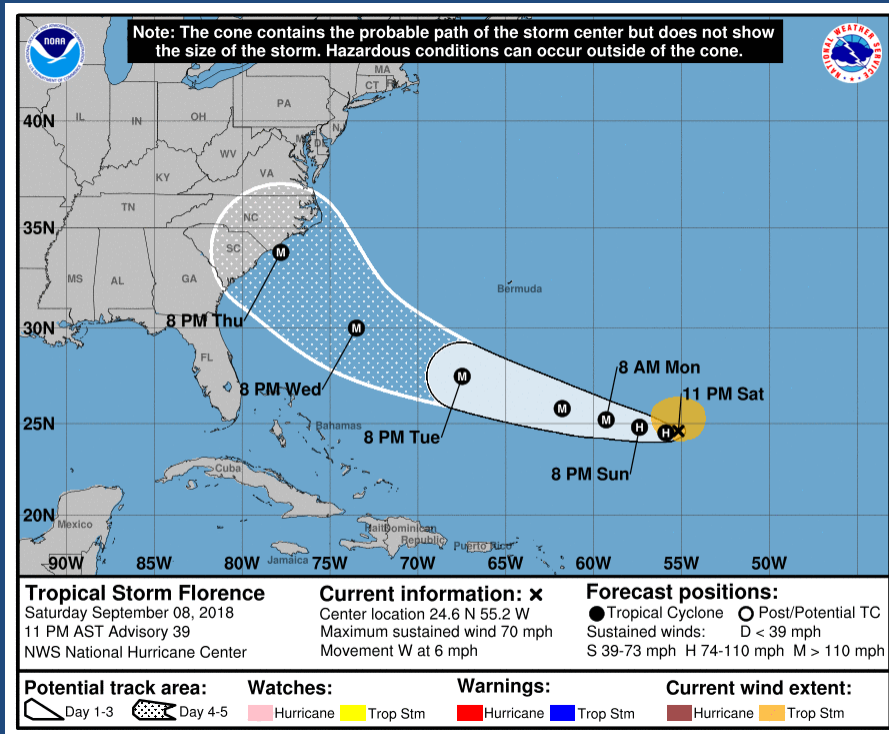
October 18, 2018

Russell S. Sobel, Ph.D.

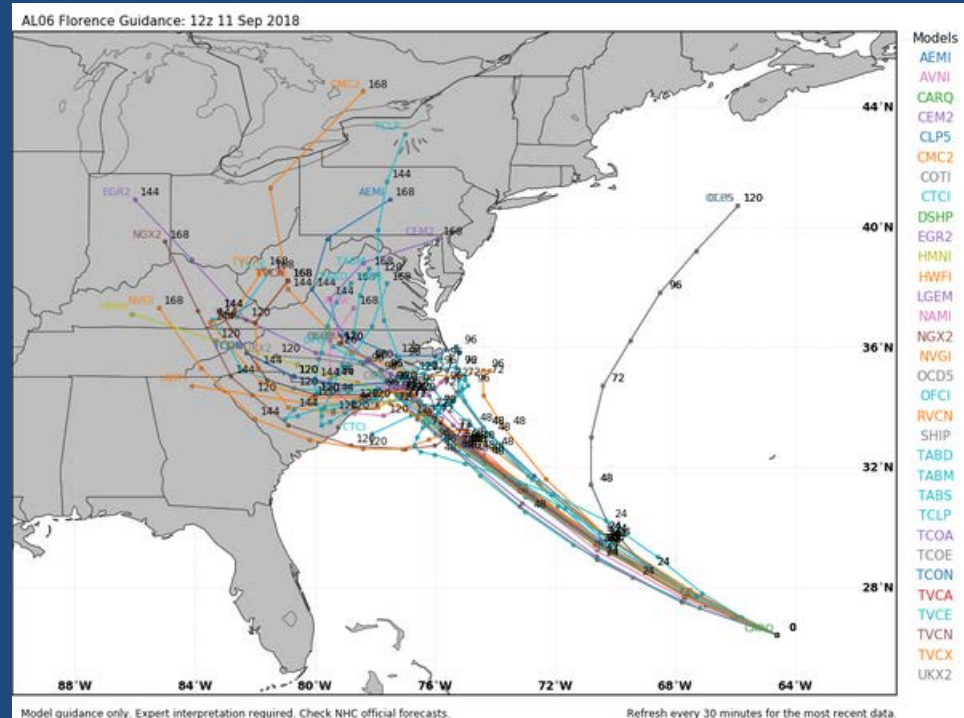


Assessing Prior Accuracy:

1. The science of forecasting improves by subjecting past predictions to the test of their after-the-fact accuracy.
2. Using the average of multiple independent forecasts does the best (I do this individually & we do as a group)



7-day advance forecast!



Using a type of AVERAGING is best

Assessing Prior Accuracy:

In 2015 the BEA began providing us with the data to begin assessing our own forecasts (and averaging methods) so we may improve.

South Carolina Board of Economic Advisors Survey Results of Regional Advisory Committee Summary of Economic Forecast Assumptions									
Most recent	Current 1/ Forecast Rates FY2016-17	Regional Advisory Committee Forecast Rates Forecast for FY2016-17					Simple Average	Olympic Scoring	MEMO BEA
		Brown	Hefner	Kaglic	Sobel	von Nessen			
4.2%	4.90%	4.50%	4.30%	4.32%	4.04%	4.00%	4.23%	4.22%	4.75%

I begin with a fourth year assessment of this prior to turning to my forecasts.

Which Averaging Methodology?

- We have 5 variables to forecast and have had 5 forecasters in the past
- “Simple” average is the normal average (mean) using the data from all forecasters for each variable
- “Olympic” averaging (scoring) drops both the highest and lowest forecasts for each variable, and then averages the remaining scores

Which Averaging Methodology?

Question 1: Olympic vs. Simple Average Methodology for Combining Forecasts

My Prior Conclusions: Olympic came closer in three of the five in both 2015 and 2016, tied in 2017

			= Closest to Actual	
FY2017-18	Simple Average	Olympic Scoring	Actual	Winner
Personal Income	4.05%	4.08%	4.00%	Simple
Employment	1.87%	1.82%	1.50%	Olympic
Inflation	1.95%	1.90%	2.30%	Simple
Sales Tax	3.43%	3.45%	4.80%	Olympic
Inc. Tax	3.70%	3.90%	7.10%	Olympic

October 2018 Update: Olympic best in three of five

Implication: Olympic still slightly better including all years

Individual Accuracy vs. Averages

Question 2: How Are We Doing Individually & Wisdom of Crowds Logic

My Prior Conclusions: “(1) I tended to underestimate employment, (2) no one person dominates forecasts, showing value of multiple forecasters; (3) the Olympic averages have done better than any one person.

Variable	Closest Forecast (Oct. 2015)	Closest Forecast (Oct. 2016)	Closest Forecast (Oct. 2017)	Closest Forecast (Oct. 2018)
Personal Income	Sobel	von Nessen	Sobel/von Nessen (tie)	Hefner
Employment	Witte (Hefner)	Hefner	Kaglic	Kaglic
Inflation	Witte (Hefner)	Kaglic	Hefner / Sobel (tie)	Sobel
Sales Tax	Sobel	Brown	Sobel	Kaglic
Income Tax	Sobel	Hefner	Hefner	Hefner

Closest Forecast = Closest to Actual

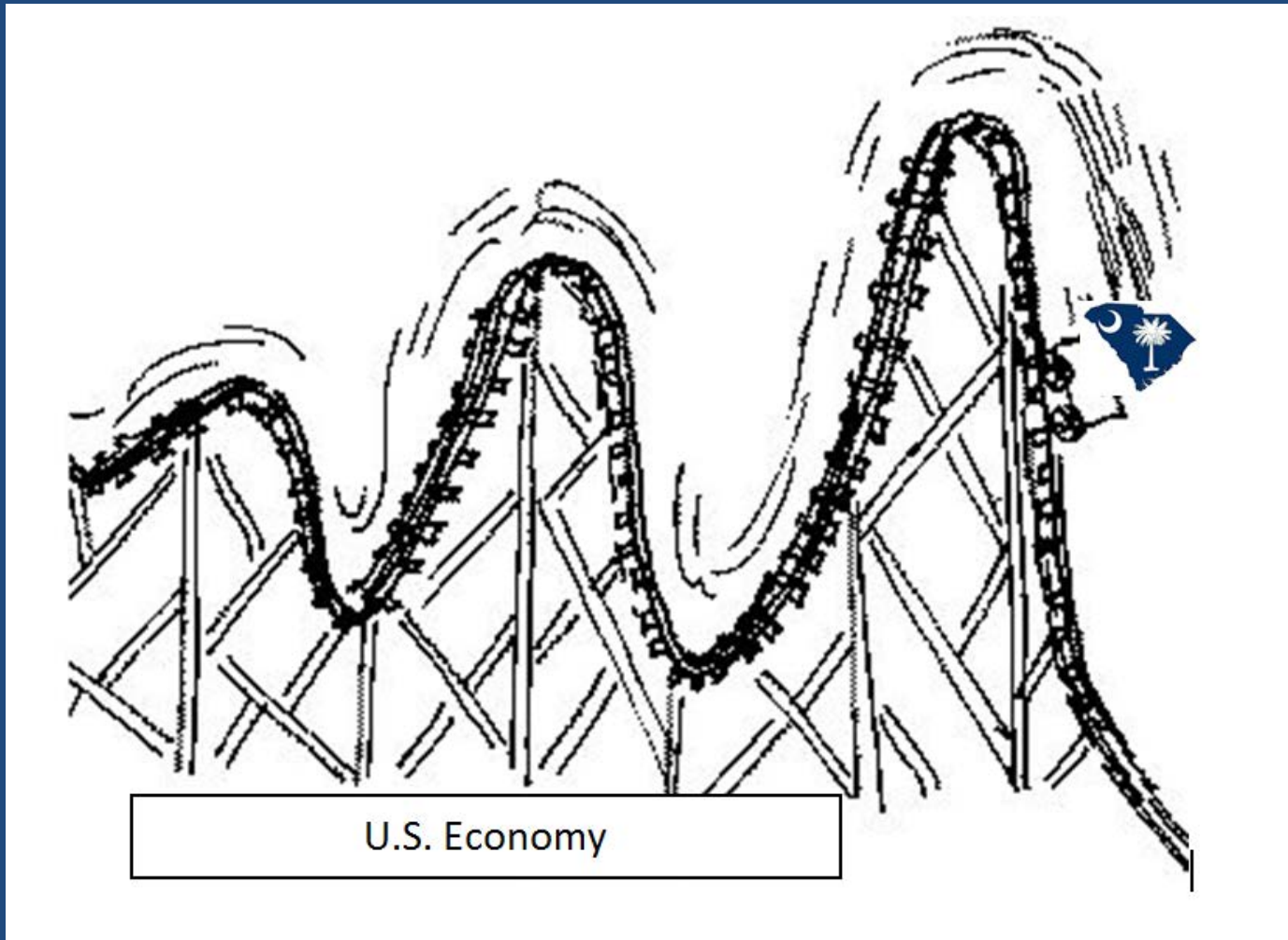
FY2017-18	Brown	Hefner	Kaglic	Sobel	von Nessen	Actual
Personal Income	4.7%	4.0%	3.8%	4.5%	3.3%	4.0%
Employment	2.3%	1.8%	1.6%	1.8%	1.9%	1.5%
Inflation	1.9%	2.0%	1.8%	2.3%	1.8%	2.3%
Sales Tax	3.7%	3.0%	3.8%	3.2%	N/A	4.8%
Inc. Tax	3.9%	4.0%	N/A	3.2%	N/A	7.1%

W-L-T vs Olympic	
Brown	1-2-2
Hefner	4-1-0
Kaglic	2-2-0
Sobel	2-3-0
von Nessen	0-3-0

October 2018 Update: My employment forecast would have been more accurate without my correction factor (would have been 1.4%), but my adjustment was closer to the group, so sticking with it one more year. Olympic average is still generally better than any one of us overall (except Hefner this year).

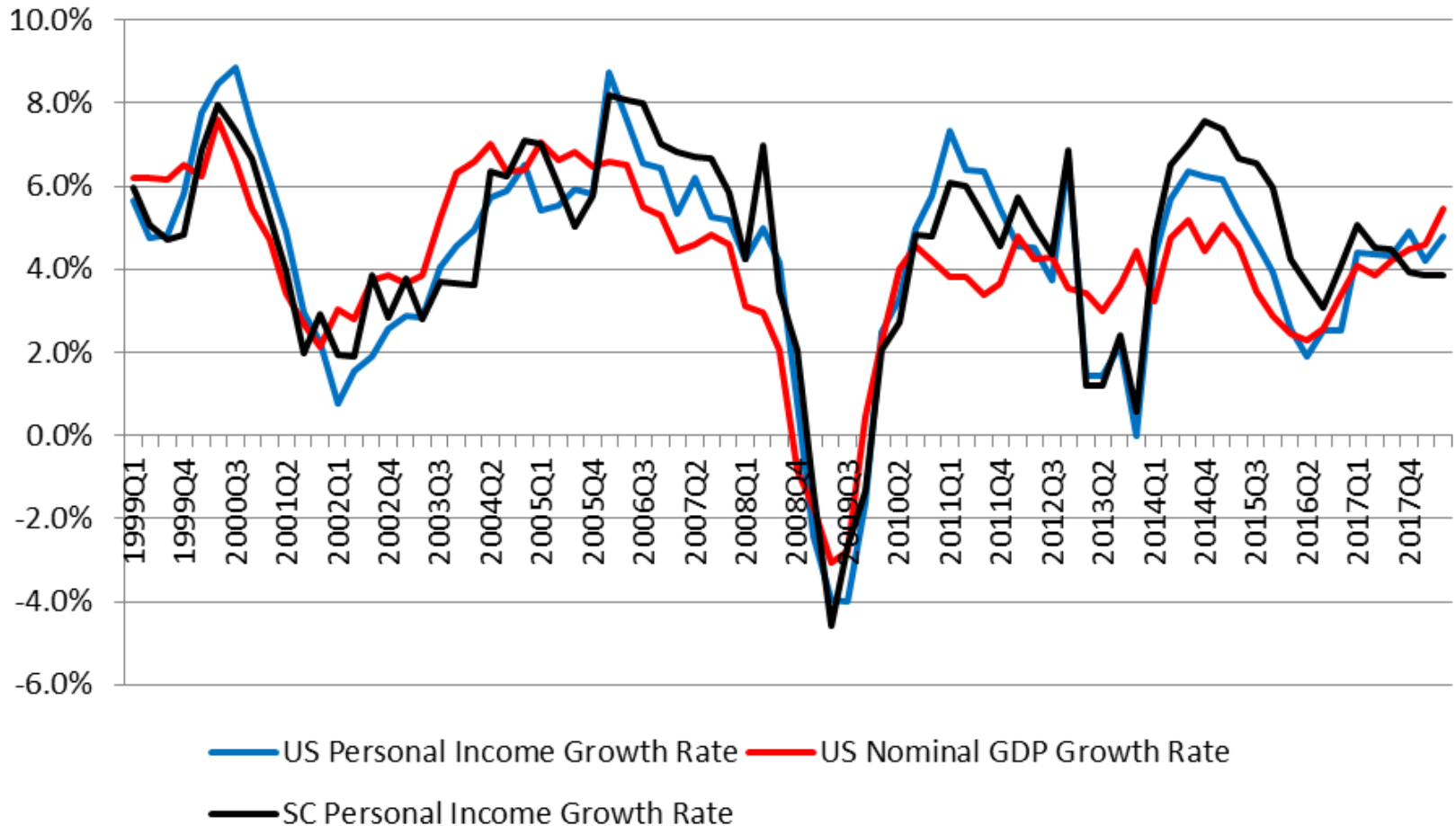
- On to my forecasts for this year and the methodology.....
- Worth explicitly noting that our job is to forecast NOMINAL income and revenue (not “inflation adjusted” REAL values as in many other forecasts)

S.C. Economy is Closely Tied to the U.S. National Economy:

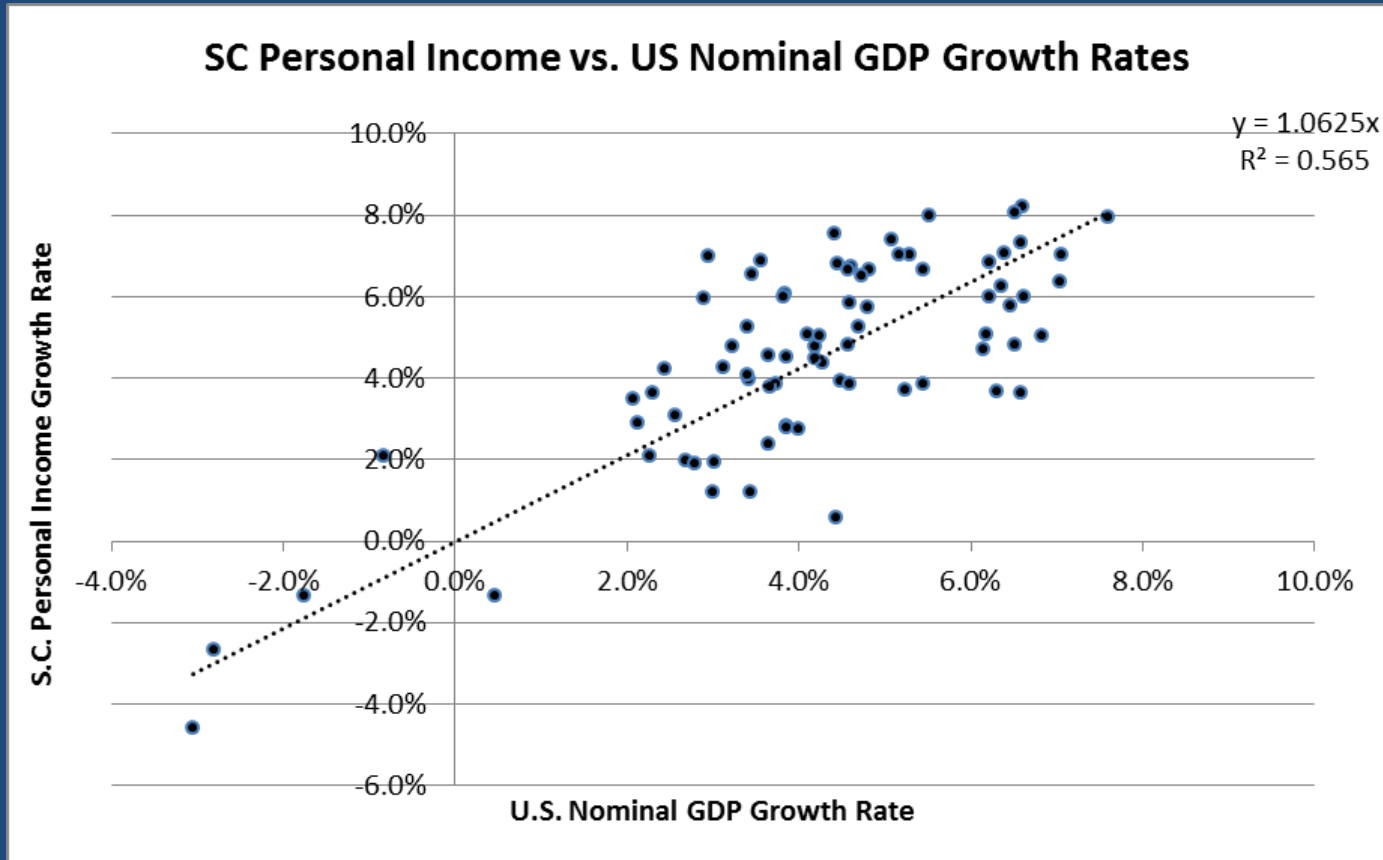


S.C. Personal Income vs U.S. Economy:

S.C. vs. U.S. Economic Growth Rates



S.C. Personal Income vs U.S. Economy:



The elasticity of S.C. Personal Income with Respect to U.S. Nominal GDP over the long term is not significantly different from 1.0 using quarterly data (converted to annual changes vs. 4 quarters ago), from 1992 Q1 to present. I therefore assume that:

S.C. Personal Income Growth Rate \approx U.S. Nominal GDP Growth Rate

Summary of Major Economic Forecasts:

I rely on three independent major national forecasts as the basis for my state-level forecasts:

1. IMF World Economic Outlook (July 2018 Update and April 2018 original)
2. Federal Reserve Bank of Philadelphia's Livingston Survey (June 2018)
3. Survey of Professional Forecasters (Third Quarter 2018 released August 2018)

I will skip quickly through the detail slides, but have them in case there are questions (in handout).

Summary of Major Economic Forecasts:

1. IMF World Economic Outlook (July 2018 Update and April 2018 original)¹

<i>World Output Growth</i>		<i>U.S. Inflation</i>	<i>U.S. Nominal GDP</i>	
2018:	3.9%	2.4%	5.3%	Averaging these two gives 5.15% for FY2018-19 , and averaging lower two gives 4.05% for FY2019-2020 .
2019:	3.9%	2.3%	5.0%	
Long Term (through 2023):	1.7%		3.1%	
		Averaging these two gives 2.35% for FY2018-19		
		Long term for FY2019-20 average of these two is 2.0%		

Summary of Major Economic Forecasts:

2. Federal Reserve Bank of Philadelphia's Livingston Survey (June 2018)²

U.S. Nominal GDP Growth Rate

2018Q2 to 2018Q4:	5.2%	}	2018Q3 to 2019Q2 is FY2018-2019 , the avg. of these two is 5.1%
2018Q4 to 2019Q2:	5.0%		
Annual 2017 to 2018:	4.9%	}	FY2019-2020 , avg. 4.8%
Annual 2018 to 2019:	5.1%		
Long Term (Next 10 Years):	4.5%		

CPI Inflation Rate

June 2018 to Dec 2018: 2.2%	}	June 2018 to June 2019 is roughly FY2018-2019 , the average of these two is 2.2%
Dec 2018 to June 2019: 2.2%		
Annual 2017 to 2018: 2.6%	}	Looking out into FY2019-2020 , inflation average 2.3%
Annual 2018 to 2019: 2.3%		
Long Term (Next 10 Years): 2.3%		

Summary of Major Economic Forecasts:

3. Survey of Professional Forecasters (Third Quarter 2018 released August 10, 2018)³

<i>Nominal GDP%</i>			<i>Employment Growth%</i>		
2018:Q3	5.1%	}	2018Q3 to 2019Q2 is	1.6%	}
2018:Q4	5.3%		FY2018-2019 , the	1.4%	
2019:Q1	5.1%		average of these four is	1.3%	
2019:Q2	4.6%		5.025%, <u>FY2019-20</u>	1.3%	
2019:Q3	4.7%		begins 4.7% for 2019Q3	1.2%	
			2018Q3 to 2019Q2 is FY2018-2019 , the		
			average of these four is 1.4%, <u>FY2019-20</u>		
			begins 1.2% for US. [My new adjustment		
			is: SC=1.3*US] or 1.82% and 1.56%		

Probability of Negative Real GDP Growth by Quarter:

2018:Q3	6.6%	}	The chance of a negative quarter of GDP growth during FY2018-19 (2018Q3 to 2019Q2) averages 11.675%, and the probability grows as we move toward first quarter of FY2019-20 – SIMILAR TO A YEAR AGO
2018:Q4	10.5%		
2019:Q1	13.2%		
2019:Q2	16.4%		
2019:Q3	19.6%		

Continued.....

Summary of Major Economic Forecasts:

3. Survey of Professional Forecasters (Third Quarter 2018 released August 10, 2018)³

U.S. Inflation Rate (CPI):

Quarterly Data

2018:Q3	2.3%
2018:Q4	2.3%
2019:Q1	2.4%
2019:Q2	2.1%
2019:Q3	2.3%

2018Q3 to 2019Q2 is **FY2018-2019**, the average of these four is 2.275%

Q4/Q4 Annual Averages

2018	2.4%
2019	2.3%
2020	2.3%

2019Q3 into 2020 is **FY2019-2020**, the average of these two is 2.3%

Summary of Forecast Data:

Economic Estimates:

	FY 2018-2019			FY 2019-2020		
	SC Personal Income Growth (=US Nominal GDP Growth)	CPI Inflation Rate	SC Employment Growth	SC Personal Income Growth (=US Nominal GDP Growth)	CPI Inflation Rate	SC Employment Growth
International Monetary Fund	5.15%	2.35%		4.05%	2.0%	
Livingston Survey	5.1%	2.2%		4.8%	2.3%	
Survey of Professional Forecasters	5.025%	2.275%	1.82%	4.7%	2.3%	1.56%
Average	5.09%	2.28%	1.82%	4.52%	2.20%	1.56%
Median	5.10%	2.28%	1.82%	4.70%	2.30%	1.56%

****I use the Medians as the basis for my overall forecast****

Revenue Estimates:

	FY2018-2019	FY2019-2020
Sales Tax Revenue ⁴	3.8%	4.4%
Individual Income Tax Revenue ⁵	3.4%	3.7%

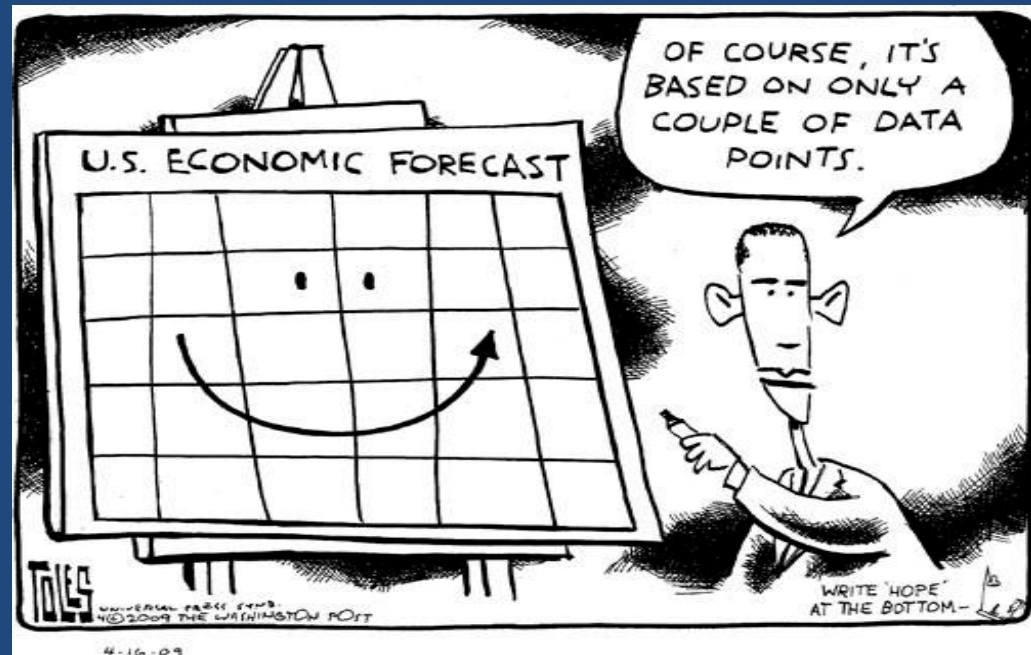
Using estimated elasticities per Sobel & Holcombe (1996) method.

Forecast Table:

What is your forecast growth rate for the following variables:

Variable	Actual FY2017-18	Most Recent 2/	Current 1/ Forecast Rates FY2018-19	Forecast FY2018-19	Forecast FY2019-20
S.C. Personal Income	4.00%	3.89%	4.25%	5.1%	4.7%
S.C. Employment	1.5%	1.8%	1.8%	1.82%	1.56%
Inflation Rate (CPI-U)	2.3%	2.7%	2.0%	2.28%	2.30%
Sales Tax (Y-T-D)	4.8%	4.4%	3.5%	3.8%	4.4%
Individual Income Tax (Y-T-D)	7.1%	8.0%	2.8%	3.4%	3.7%

Caveats & Notes:




1. The above forecasts do not include the impact of September 2018 Hurricane Florence, which may result in a short run negative (or unclear?) impact on income growth.
2. The impact of the increase in U.S. tariffs and the counter response has the potential to significantly lower overall U.S. (and S.C.) growth
3. Second year of a new adjustment factor for my employment forecasts which have been systematically low.... So we can discount my employment estimates if we want until the new method is proven more accurate.
4. Ask that the BEA continue to provide us with the numbers necessary to continue to assess the accuracy of our methodologies.

Forecasts vs. Actual – Year 4 of the Analysis

Question 1: Olympic vs. Simple Average Methodology for Combining Forecasts

My Prior Conclusions: Olympic came closer in three of the five in both 2015 and 2016, tied in 2017

 = Closest to Actual

FY2017-18	Simple Average	Olympic Scoring	Actual	Winner
Personal Income	4.05%	4.08%	4.00%	Simple
Employment	1.87%	1.82%	1.50%	Olympic
Inflation	1.95%	1.90%	2.30%	Simple
Sales Tax	3.43%	3.45%	4.80%	Olympic
Inc. Tax	3.70%	3.90%	7.10%	Olympic


October 2018 Update: Olympic best in three of five

Implication: Olympic still slightly better including all years

Question 2: How Are We Doing Individually & Wisdom of Crowds Logic

My Prior Conclusions: “(1) I tended to underestimate employment, (2) no one person dominates forecasts, showing value of multiple forecasters; (3) the Olympic averages have done better than any one person.

Variable	Closest Forecast (Oct. 2015)	Closest Forecast (Oct. 2016)	Closest Forecast (Oct. 2017)	Closest Forecast (Oct. 2018)
Personal Income	Sobel	von Nessen	Sobel/von Nessen (tie)	Hefner
Employment	Witte (Hefner)	Hefner	Kaglic	Kaglic
Inflation	Witte (Hefner)	Kaglic	Hefner / Sobel (tie)	Sobel
Sales Tax	Sobel	Brown	Sobel	Kaglic
Income Tax	Sobel	Hefner	Hefner	Hefner

 = Closest to Actual

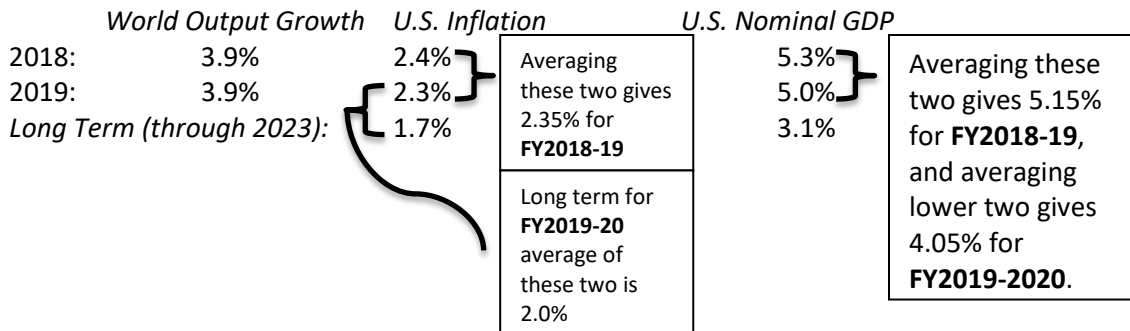
FY2017-18	Brown	Hefner	Kaglic	Sobel	von Nessen	Actual
Personal Income	4.7%	4.0%	3.8%	4.5%	3.3%	4.0%
Employment	2.3%	1.8%	1.6%	1.8%	1.9%	1.5%
Inflation	1.9%	2.0%	1.8%	2.3%	1.8%	2.3%
Sales Tax	3.7%	3.0%	3.8%	3.2%	N/A	4.8%
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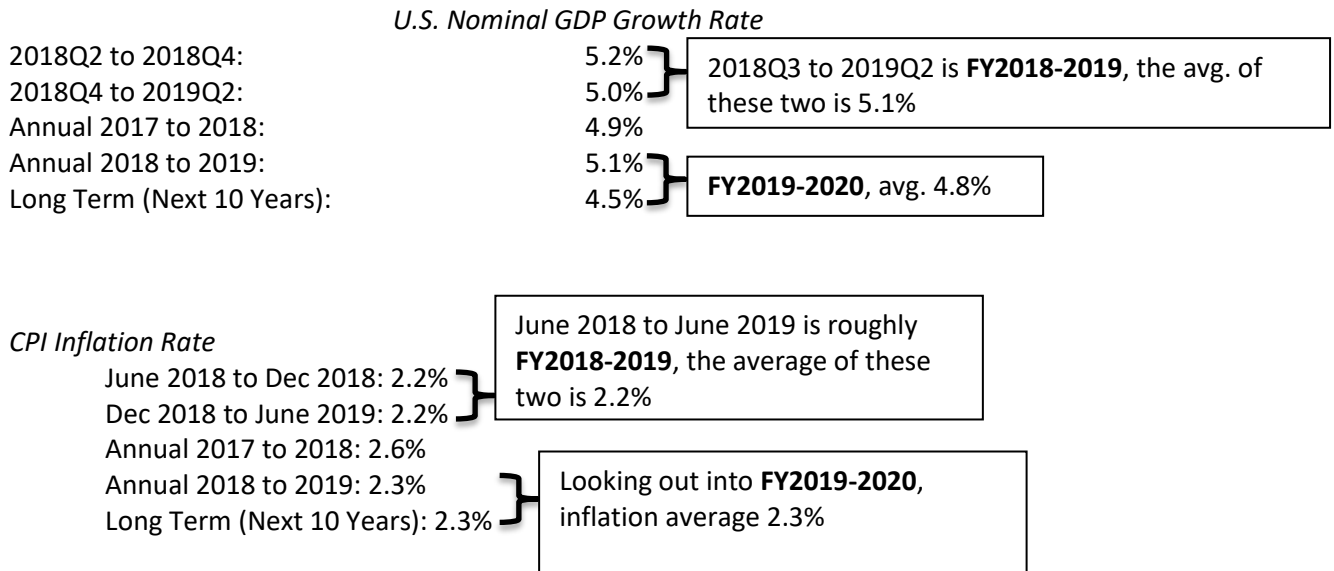
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Summary of Major Economic Forecasts:

1. IMF World Economic Outlook (July 2018 Update and April 2018 original)¹



2. Federal Reserve Bank of Philadelphia's Livingston Survey (June 2018)²



¹ See <https://www.imf.org/en/Publications/WEO/Issues/2018/07/02/world-economic-outlook-update-july-2018> and <https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018>. Inflation rates are averages of forecasted GDP deflator and CPI inflation rates; nominal GDP is sum of real GDP and inflation.

² See <https://www.philadelphiafed.org/-/media/research-and-data/real-time-center/livingston-survey/2018/livjun18.pdf?la=en>.

3. Survey of Professional Forecasters (Third Quarter 2018 released August 10, 2018)³

	Nominal GDP%		Employment Growth%	
2018:Q3	5.1%	2018Q3 to 2019Q2 is FY2018-2019 , the average of these four is 5.025%, FY2019-20 begins 4.7% for 2019Q3	1.6%	2018Q3 to 2019Q2 is FY2018-2019 , the average of these four is 1.4%, FY2019-20 begins 1.2% for US. [My new adjustment is: SC=1.3*US] or 1.82% and 1.56%
2018:Q4	5.3%		1.4%	
2019:Q1	5.1%		1.3%	
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2019:Q3	19.6%	

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2019:Q1	2.4%	
2019:Q2	2.1%	
2019:Q3	2.3%	
Q4/Q4 Annual Averages		
2018	2.4%	2019Q3 into 2020 is FY2019-2020 , the average of these two is 2.3%
2019	2.3%	
2020	2.3%	

³ See: <https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2018/survq318>.

Summary of Forecast Data:**Economic Estimates:**

	FY 2018-2019			FY 2019-2020		
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<i>Using estimated elasticities per Sobel & Holcombe (1996) method.</i>		

Caveats/Notes:

The above forecasts do not include any impact of September 2018 Hurricane Florence, which may result in a short run negative impact on income and sales revenue growth. The impact of the increase in U.S. tariffs and the counter response has the potential to significantly lower overall U.S. (and S.C.) growth

⁴ STR = -0.0059 + 0.8566*PI (employing decimal equivalents of percentages).

⁵ IITR = -0.0451 + 1.7523*PI (employing decimal equivalents of percentages).

**South Carolina Board of Economic Advisors
Regional Advisory Committee
Economic Forecast Assumptions**

What is your forecast growth rate for the following variables:

Variable	Actual FY2017-18	Most Recent 2/ FY2018-19	Current 1/ FY2018-19	Forecast FY2018-19	Forecast FY2019-20
S.C. Personal Income	4.00%	3.89%	4.25%	5.1%	4.7%
S.C. Employment	1.5%	1.8%	1.8%	1.82%	1.56%
Inflation Rate (CPI-U)	2.3%	2.7%	2.0%	2.28%	2.30%
Sales Tax (Y-T-D)	4.8%	4.4%	3.5%	3.8%	4.4%
Individual Income Tax (Y-T-D)	7.1%	8.0%	2.8%	3.4%	3.7%

Notes: 1/ Current forecast rates as of April 10, 2018 (the last official BEA forecast estimate).
2/ Growth rate as of the most recent time period, e.g. month, quarter.

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.
U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.
S.C. Board of Economic Advisors, Columbia, S.C.

BEA/RWM/010/01/18

Issues to Consider:

What are the significant/specific factors/sectors affecting personal income?
What are the significant/specific factors/sectors affecting employment?
What are the key risks you see over the next 20 months?
Are there any other key points that should be considered?

**South Carolina
Board of Economic Advisors
Regional Advisory Committee
Economic Update
Stormy Weather
Deju Vu All Over Again
With Increasing Uncertainty
October 18, 2018
Frank Hefner**



FRED 

— Civilian Unemployment Rate

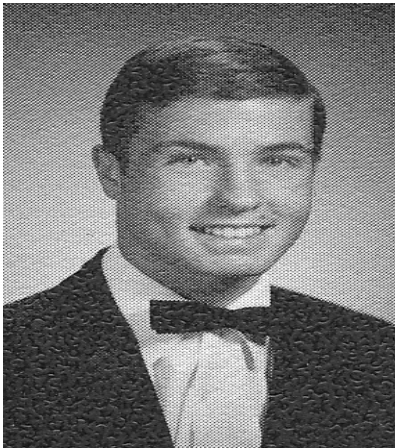


Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Labor Statistics

myf.red/g/HDP

**UNEMPLOYMENT AT A
50 YEAR LOW
IS 2018 DIFFERENT
FROM 1968?**



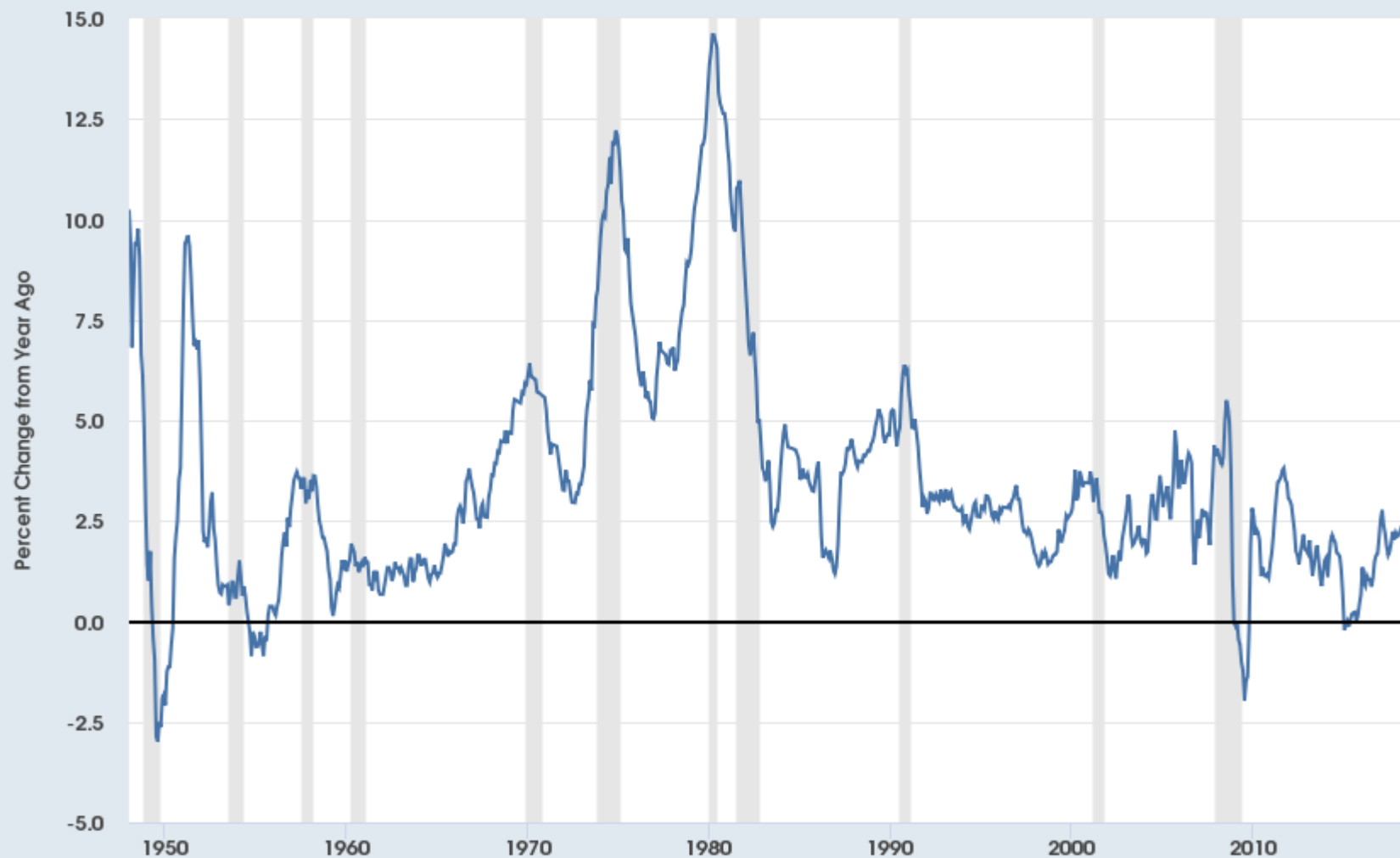
WHAT ELSE IS DIFFERENT?





FRED 

— Consumer Price Index for All Urban Consumers: All Items



Shaded areas indicate U.S. recessions

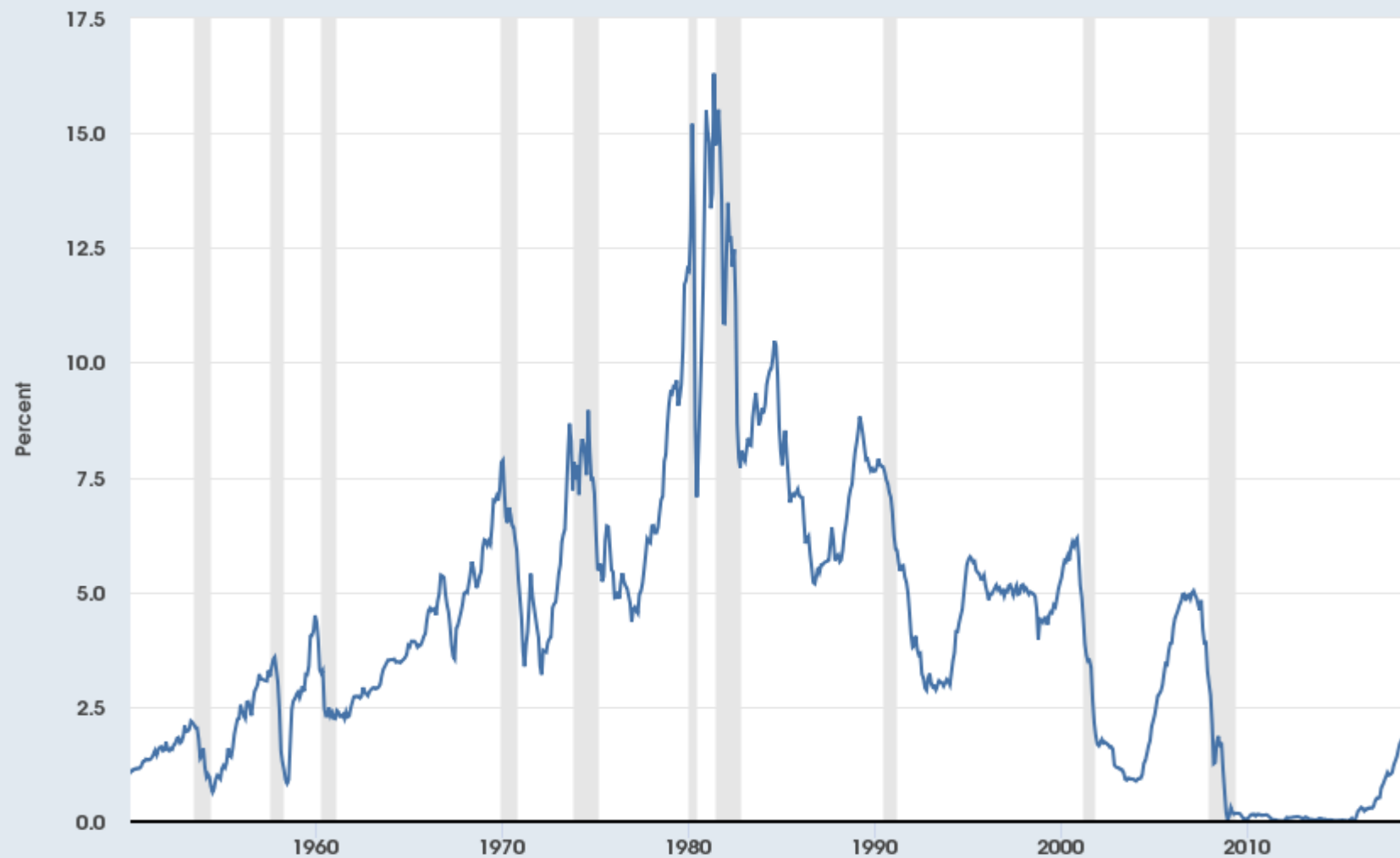
Source: U.S. Bureau of Labor Statistics

myf.red/g/lqVz



FRED 

— 3-Month Treasury Bill: Secondary Market Rate



Shaded areas indicate U.S. recessions

Source: Board of Governors of the Federal Reserve System (US)

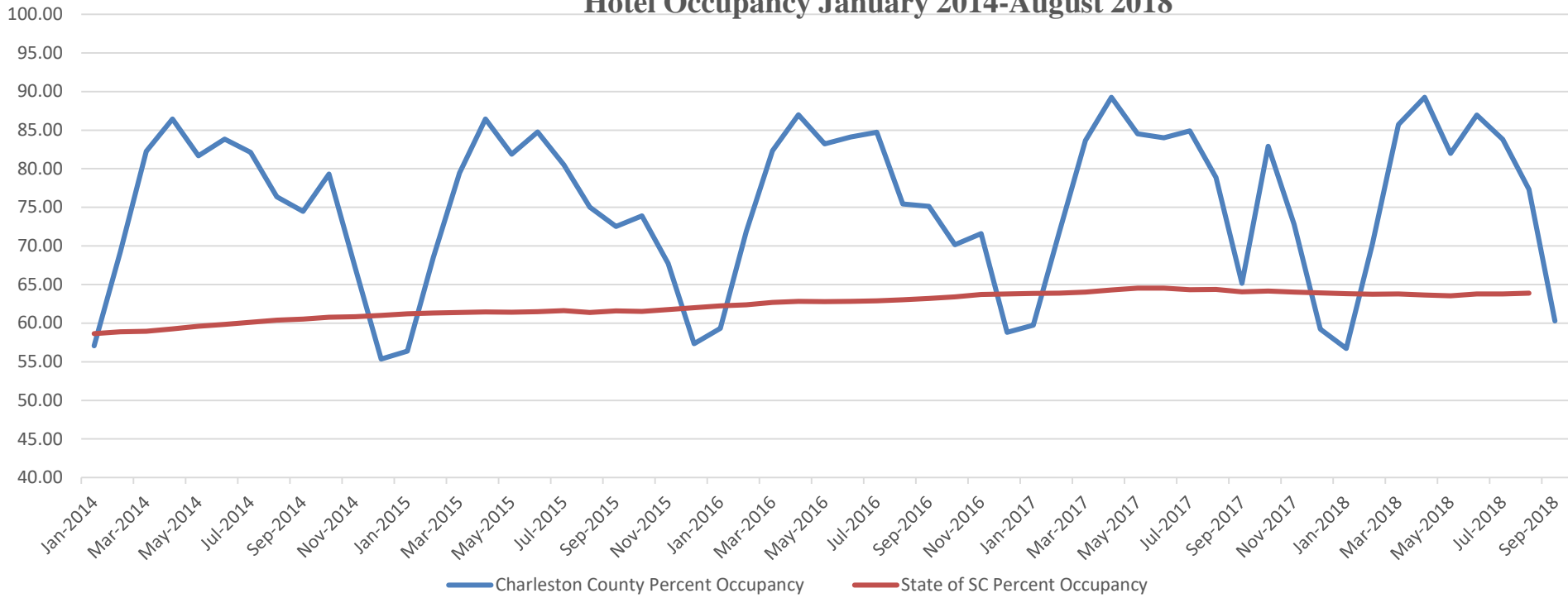
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	Hurricane Andrew	Hurricane Katrina		Hurricane Ike	Superstorm Sandy		Hurricane Matthew	
Month	Unemployment Rate in Florida	Unemployment Rate in Louisiana	Unemployment Rate in Mississippi	Unemployment Rate in Texas	Unemployment Rate in New York	Unemployment Rate in New Jersey	Unemployment Rate in Florida	Unemployment Rate in South Carolina
t-6	8.5	5.9	6.8	4.4	8.7	9.2	4.9	5.2
t-5	8.5	5.8	6.8	4.4	8.7	9.3	4.9	5.1
t-4	8.5	5.7	6.7	4.5	8.7	9.6	4.9	4.9
t-3	8.4	5.7	6.8	4.7	8.6	10.0	4.9	4.8
t-2	8.4	6.0	7.0	4.8	8.4	9.4	4.9	4.6
t-1	8.3	6.6	7.4	5.0	8.3	9.0	4.9	4.5
Hurricane Month (t)	8.2	7.3	8.0	5.1	8.2	8.9	4.9	4.4
t+1	8.1	9.3	7.7	5.3	8.2	9.0	4.9	4.3
t+2	8.0	9.5	8.4	5.6	8.1	8.9	4.9	4.3
t+3	7.8	9.3	8.4	5.8	8.0	9.7	5.0	4.4
t+4	7.6	7.7	8.3	6.1	7.9	9.2	5.0	4.4
t+5	7.5	6.2	7.9	6.3	7.8	8.7	4.8	4.4
t+6	7.4	5.4	7.3	6.5	7.7	8.2	4.5	4.3

Hotel Occupancy January 2014-August 2018



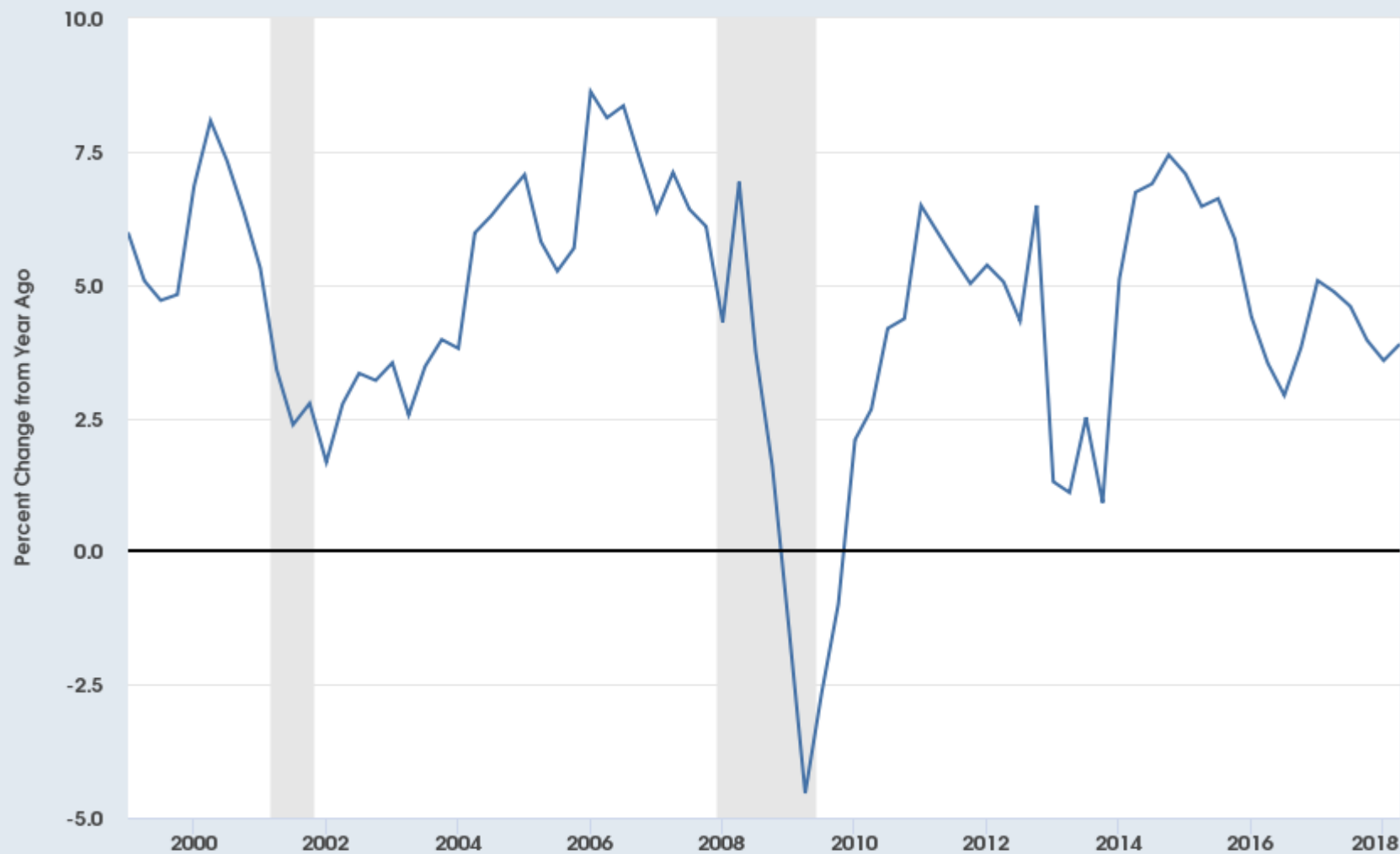
Year	Charleston County Occupancy	State of SC Percent Occupancy
2014	69.24%	61.02%
2015	73.74%	62.00%
2016	75.57%	63.79%
2017	76.68%	63.92%
2018 (to date)	77.29%	66.79%

Inclement Weather	
Month	Event
Oct-2015	Charleston flood
Oct-2016	Hurricane Matthew
Sep-2017	Hurricane Irma
Jan-2018	Ice storm
Sep-2018	Hurricane Florence



FRED 

— Total Personal Income in South Carolina



Shaded areas indicate U.S. recessions

Source: Federal Reserve Bank of St. Louis

myf.red/g/lz4l



FRED 

— Average Hourly Earnings of All Employees: Total Private in South Carolina



Shaded areas indicate U.S. recessions

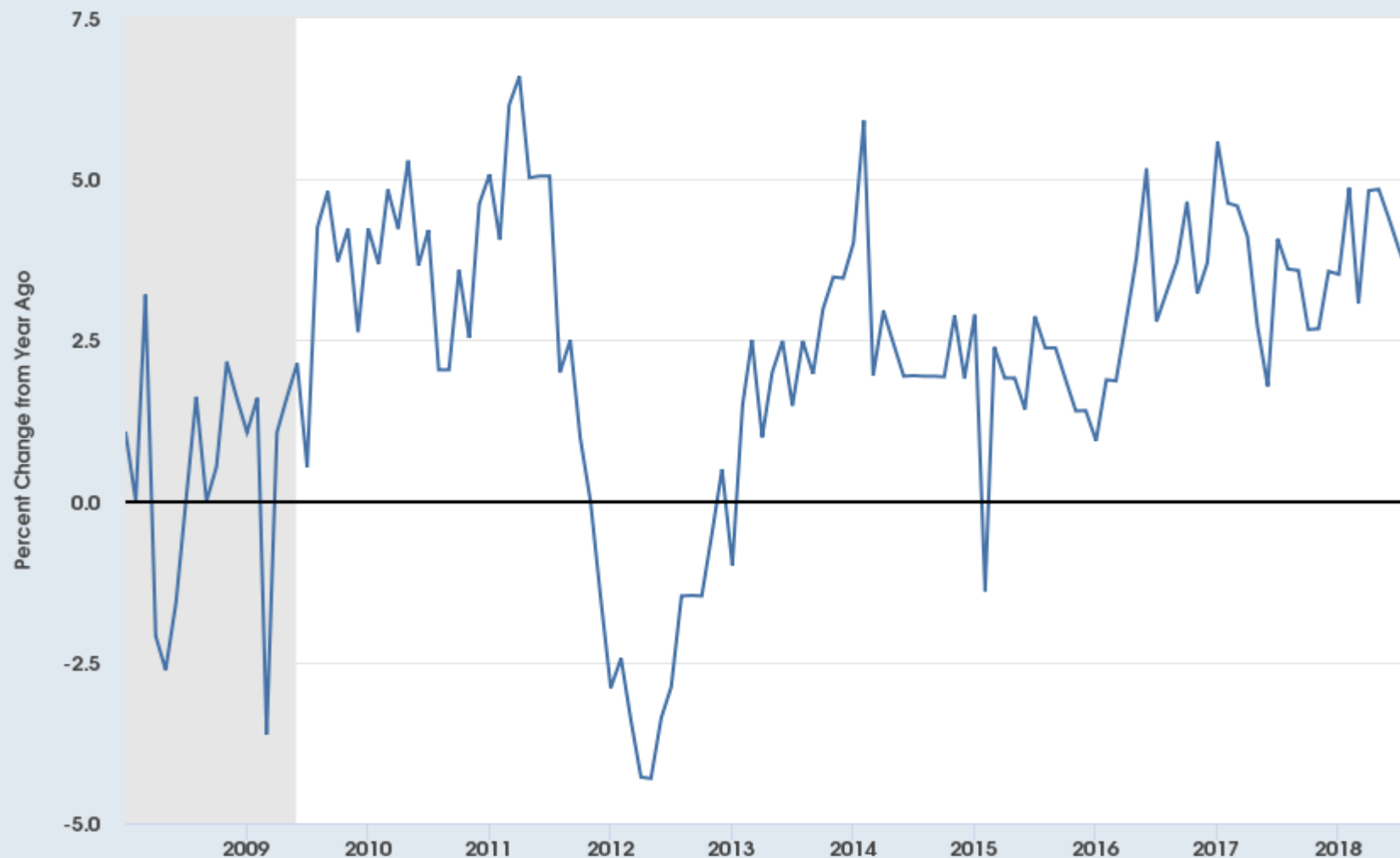
Source: Federal Reserve Bank of St. Louis

myf.red/g/lz4R



FRED 

— Average Hourly Earnings of All Employees: Total Private in South Carolina



Shaded areas indicate U.S. recessions

Source: Federal Reserve Bank of St. Louis

myf.red/g/IAfd



FRED

— Civilian Labor Force in South Carolina



Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Labor Statistics

myf.red/g/lAgw

Frank Hefner - Forecast (in red)

Variable	Actual FY2017-18	Most Recent 2/	Current 1/ Forecast Rates FY2018-19	Forecast FY2018-19	Forecast FY2019-20
S.C. Personal Income	I 4.00%	3.89%	4.25%	4.25%	4.25%
S.C Employment	1.5%	1.8%	1.8%	1.8%	1.8%
Inflation Rate (CPI-U)	2.3%	2.7%	2.0%	2.5%	2.7%
Sales Tax	4.8%	4.4%	3.5%	4.9%	5%
Individual Income Tax (Y-T-D)	7.1%	8.0%	2.8%	7%	6.5%

South Carolina in 2019

A Market Overview



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Research Economist

October 18, 2018

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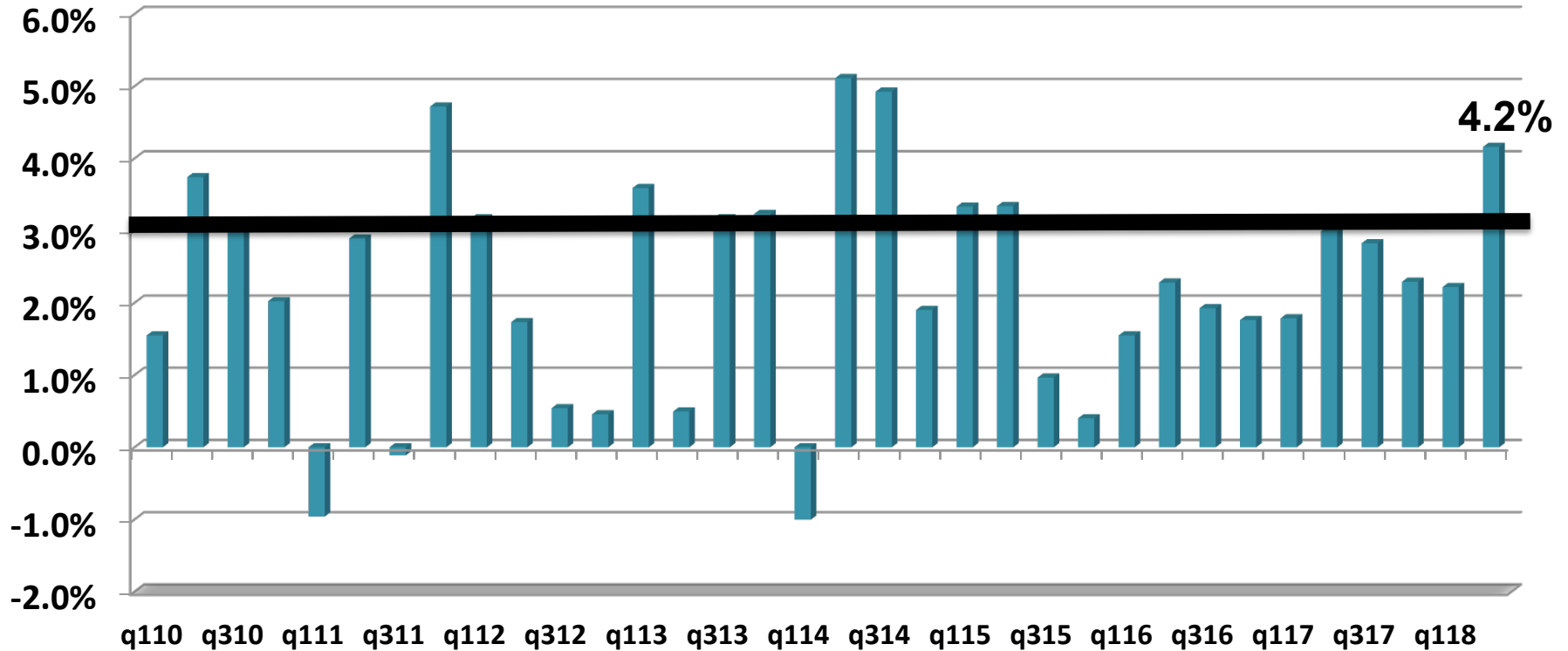


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Both the U.S. and S.C. economies
are strong and stable overall



U.S. GDP Growth (Annualized)

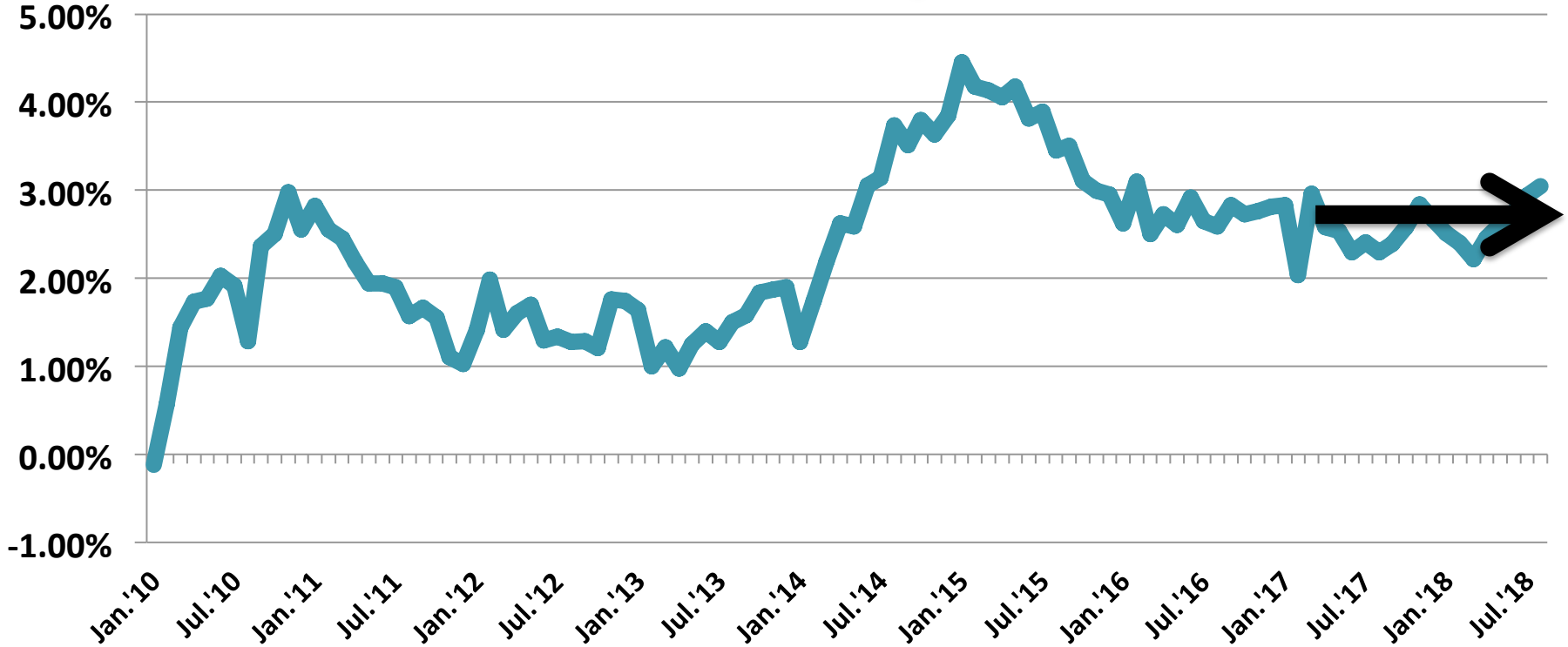


Source: U.S. Bureau of Economic Analysis



Real Personal Consumption Expenditures Growth

Year/Year Percent Change, SAAR



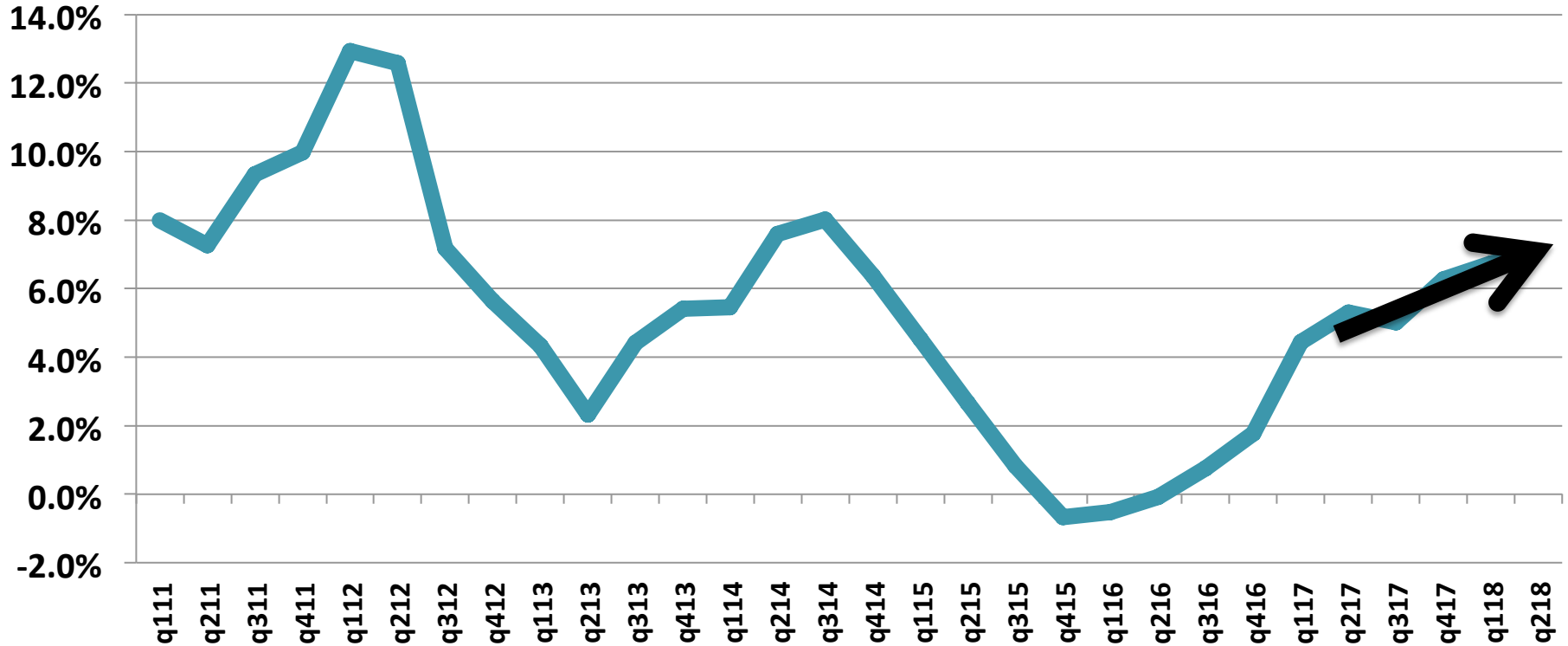
Source: U.S. Bureau of Economic Analysis



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Real Private Non-Residential Fixed Domestic Investment Growth

Year/Year Percent Change, SAAR



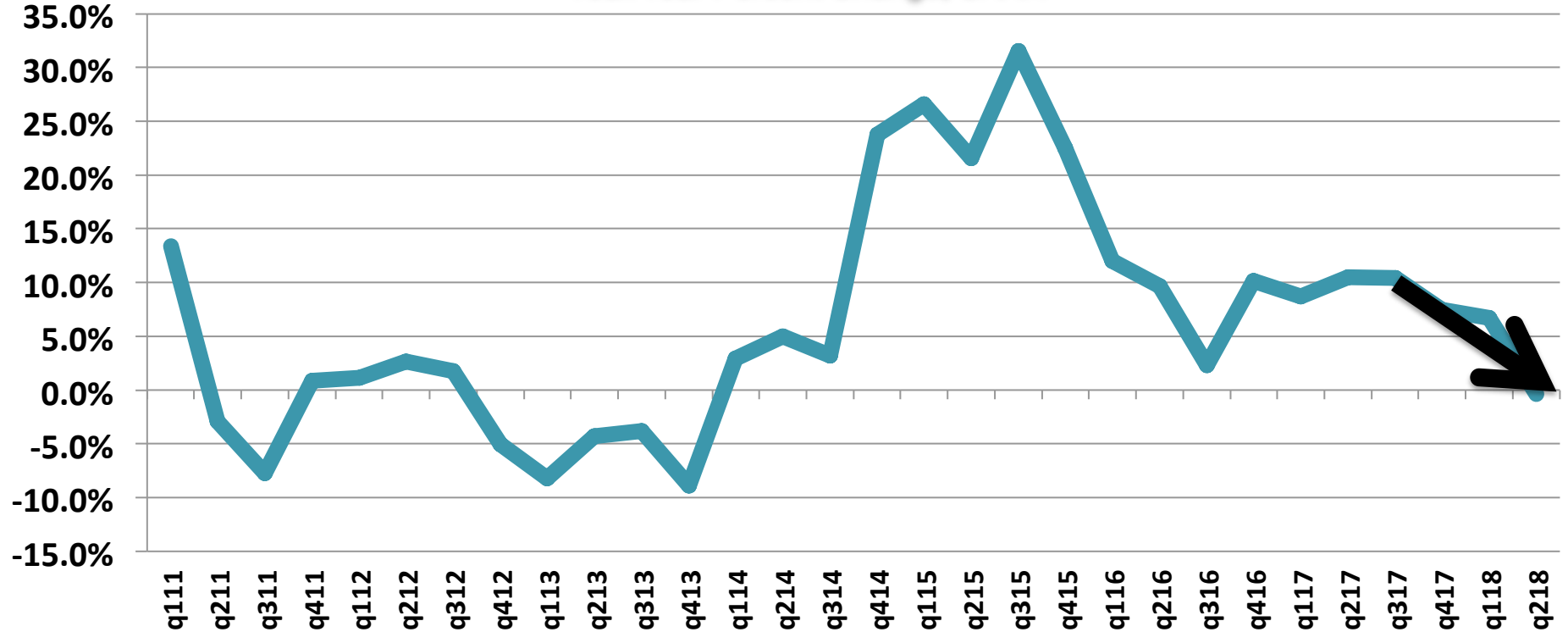
Source: U.S. Bureau of Economic Analysis



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Real Net Export Growth

Year/Year Percent Change, SAAR



Source: U.S. Bureau of Economic Analysis



Keep your eye on the fundamentals...

$$GDP = C + I + G + NX$$

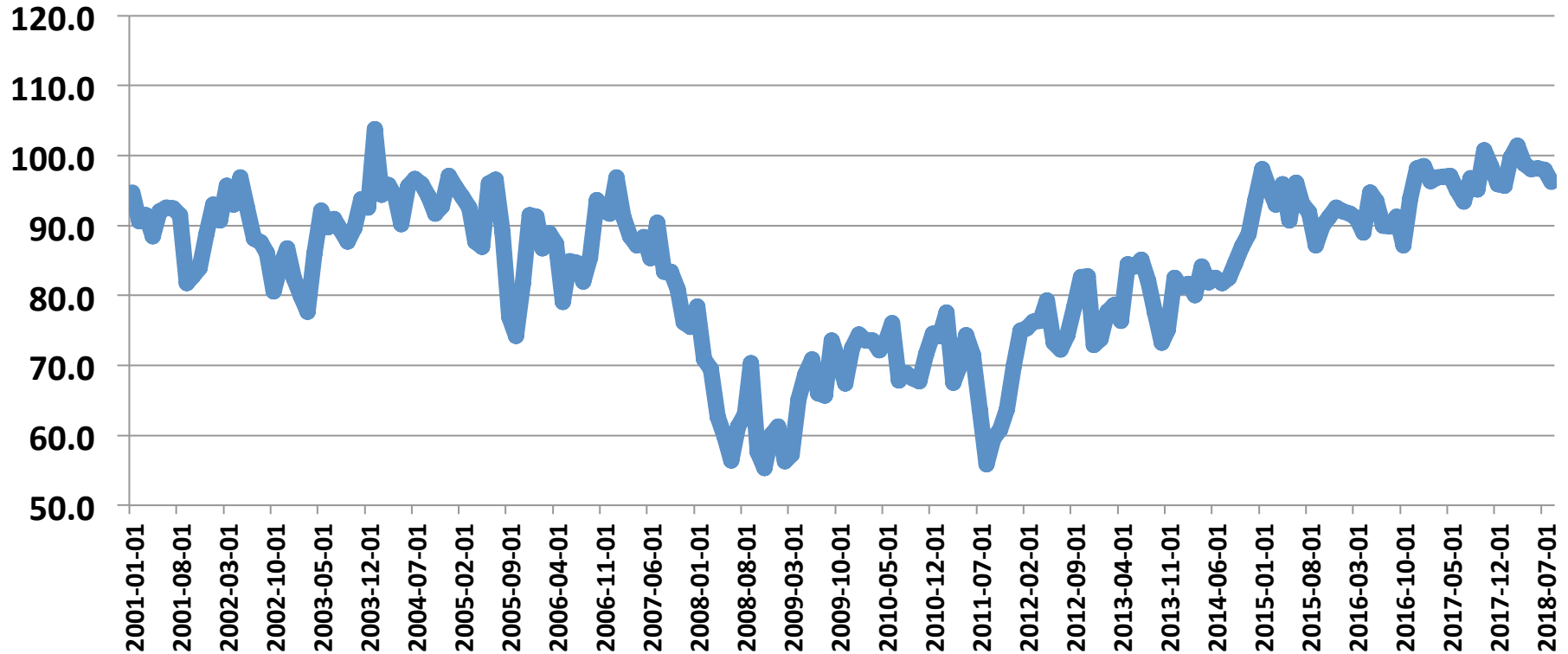


Which growth trend will
dominate?

Private Investment vs.
Net Exports in 2019



U.S. Consumer Sentiment

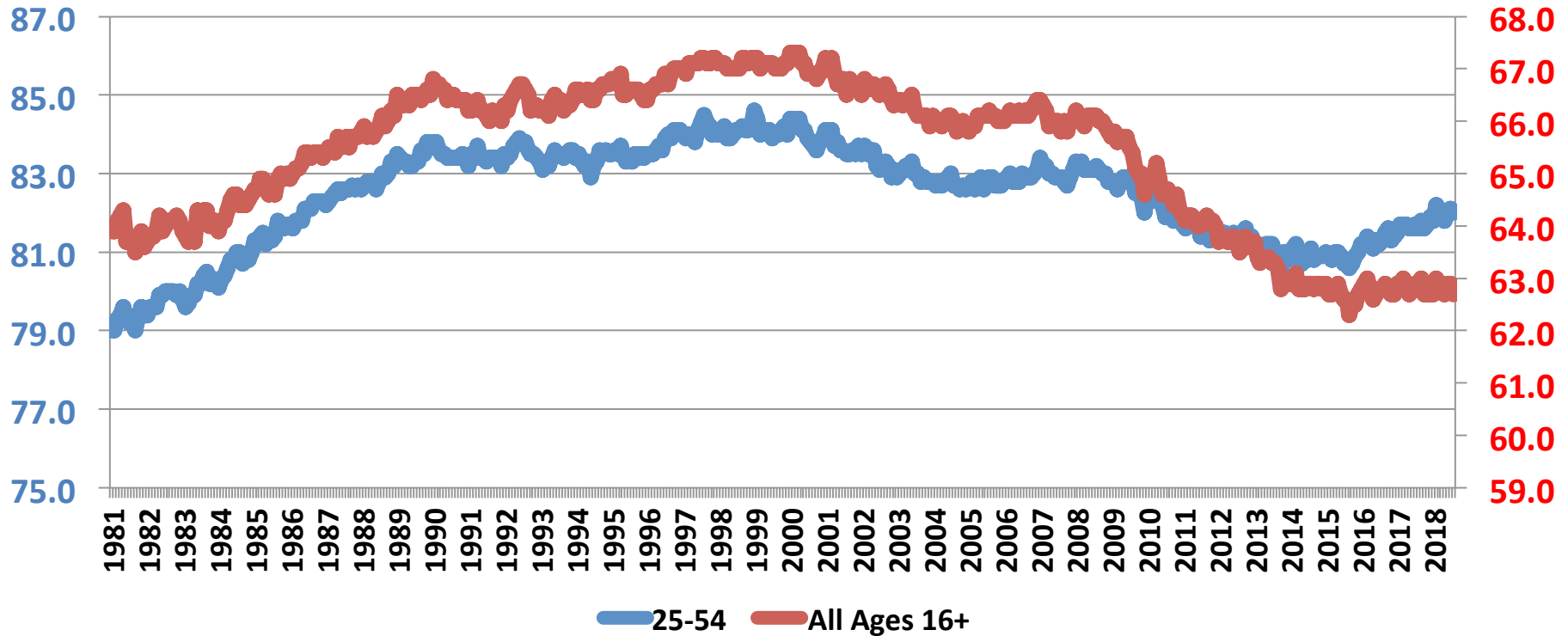


Source: University of Michigan



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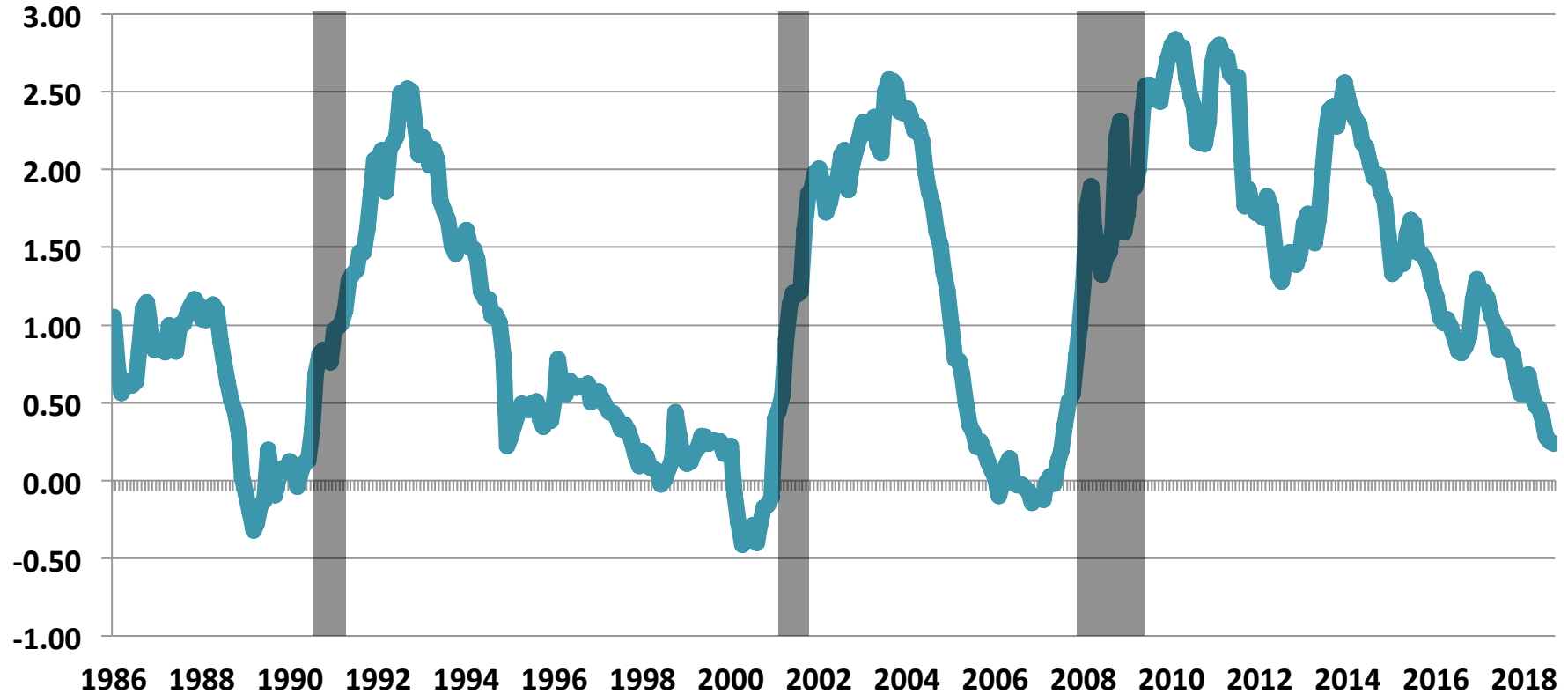
Labor Force Participation



Source: U.S. Bureau of Labor Statistics



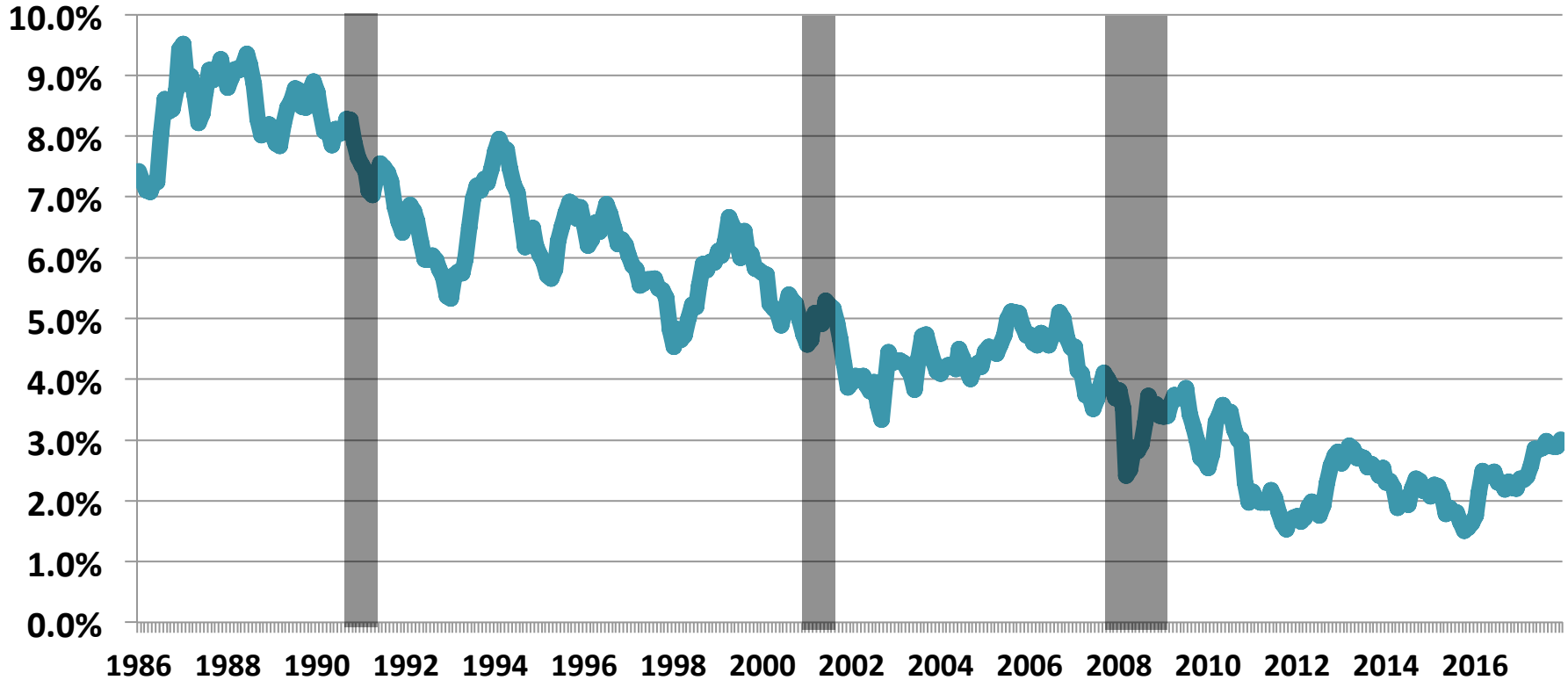
10-Year Treasury Constant Maturity Rate Less 2-Year Treasury Constant Maturity Rate



Source: Board of Governors of the Federal Reserve System



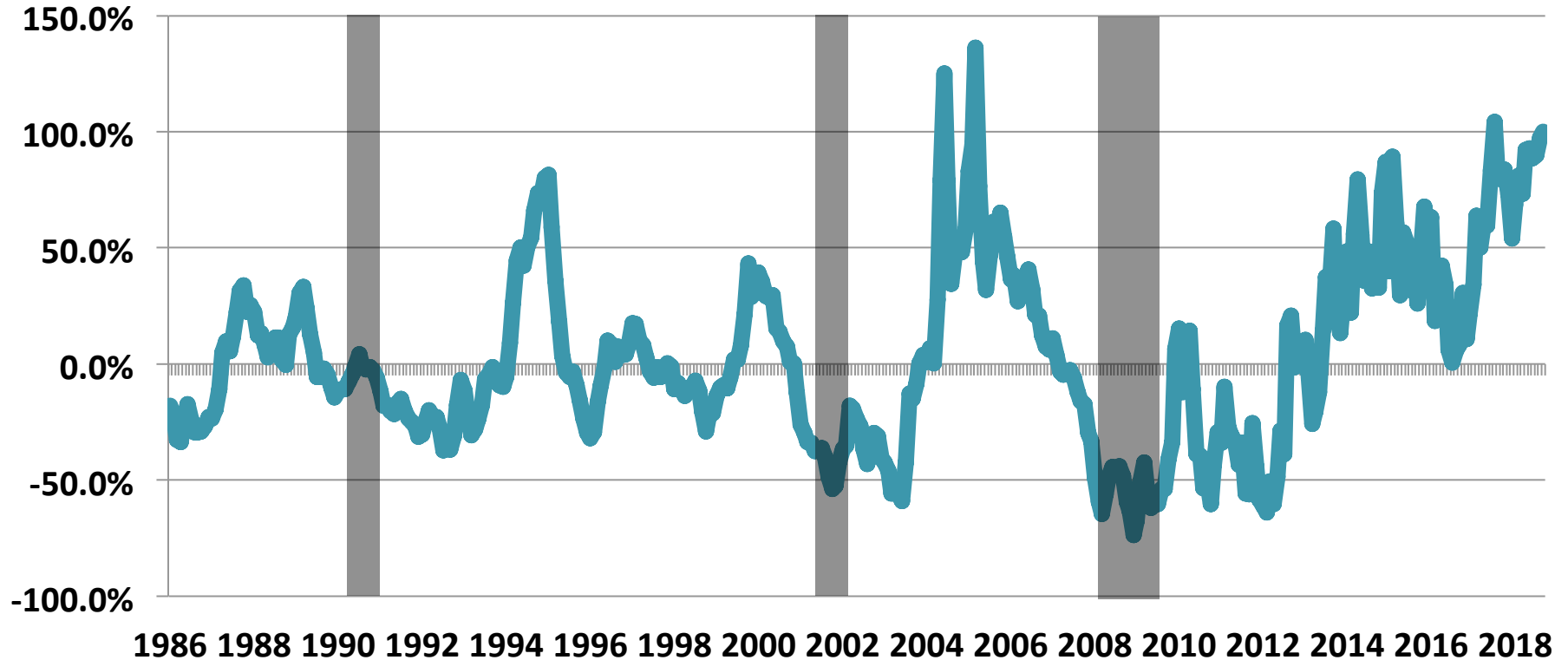
10-Year Treasury Constant Maturity Rate



Source: Board of Governors of the Federal Reserve System



2-Year Treasury Constant Maturity Rate (Yr/Yr Pct. Change)



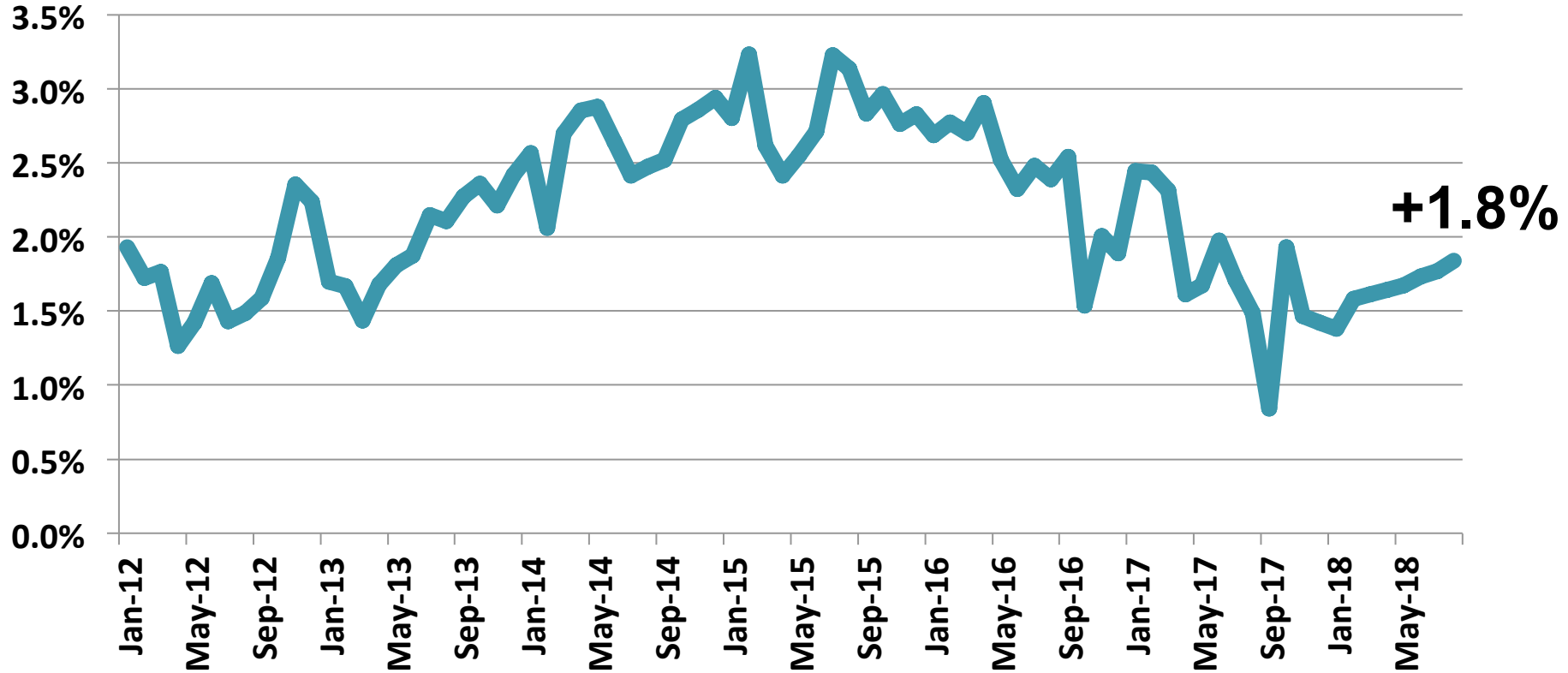
Source: Board of Governors of the Federal Reserve System



What about South Carolina?



South Carolina Employment Growth

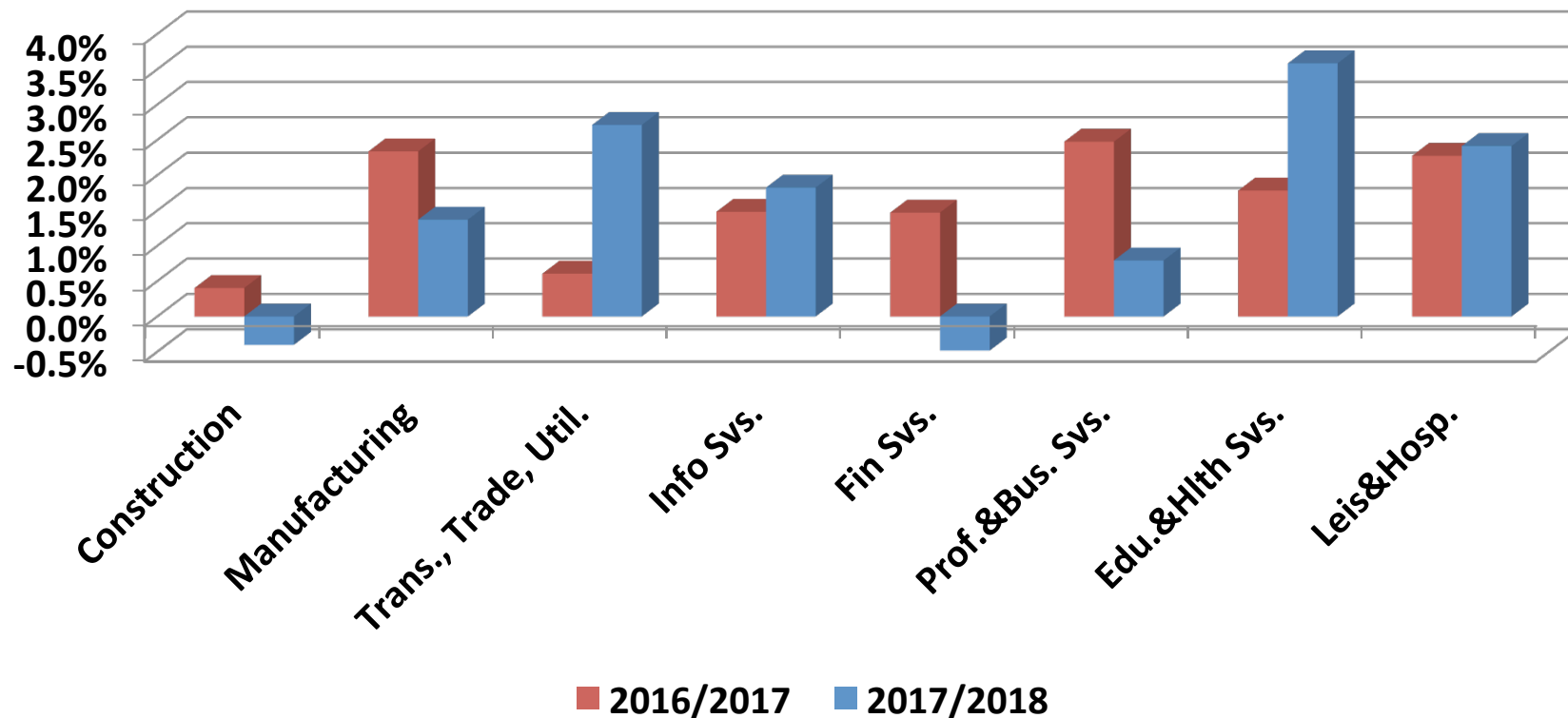


Source: U.S. Bureau of Labor Statistics



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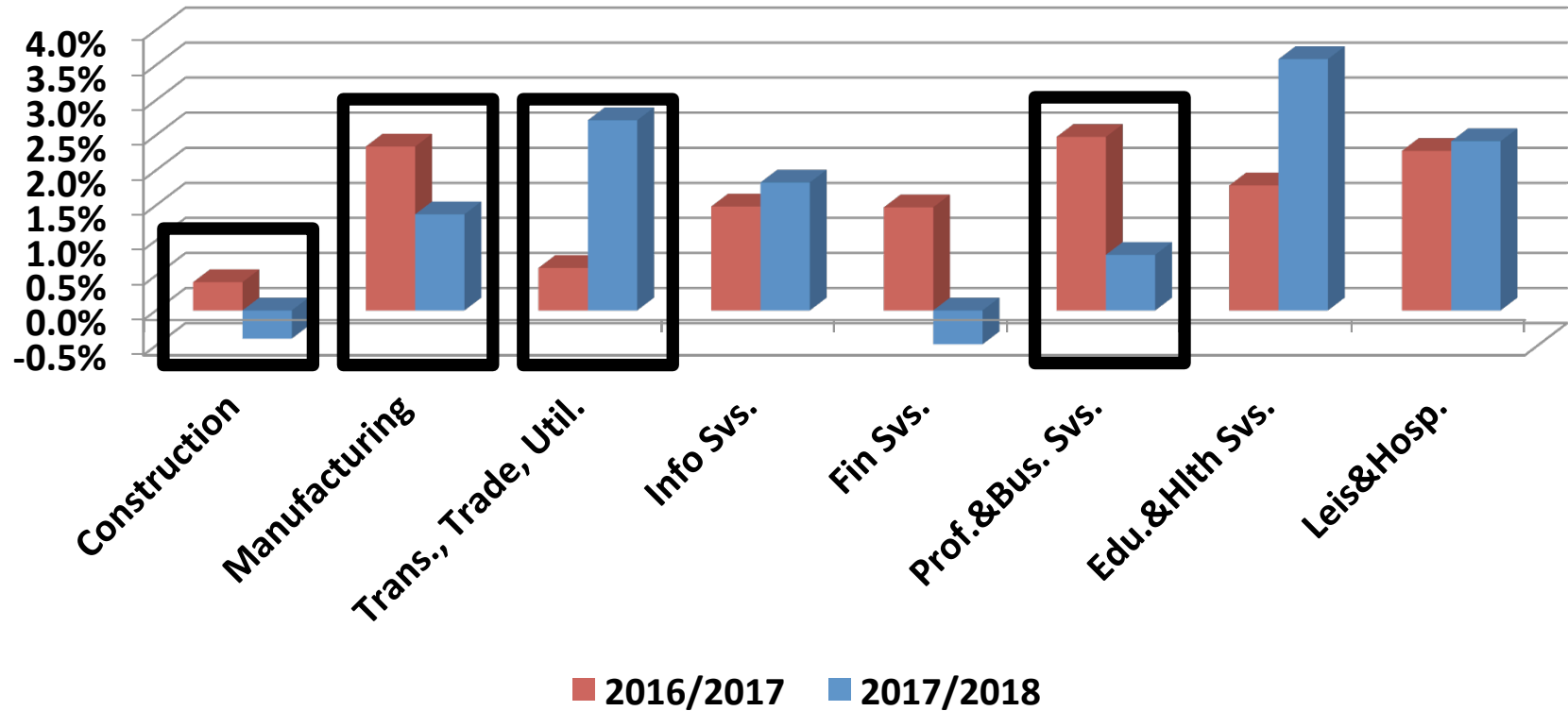
S.C. Employment Growth



Source: U.S. Bureau of Labor Statistics



S.C. Employment Growth



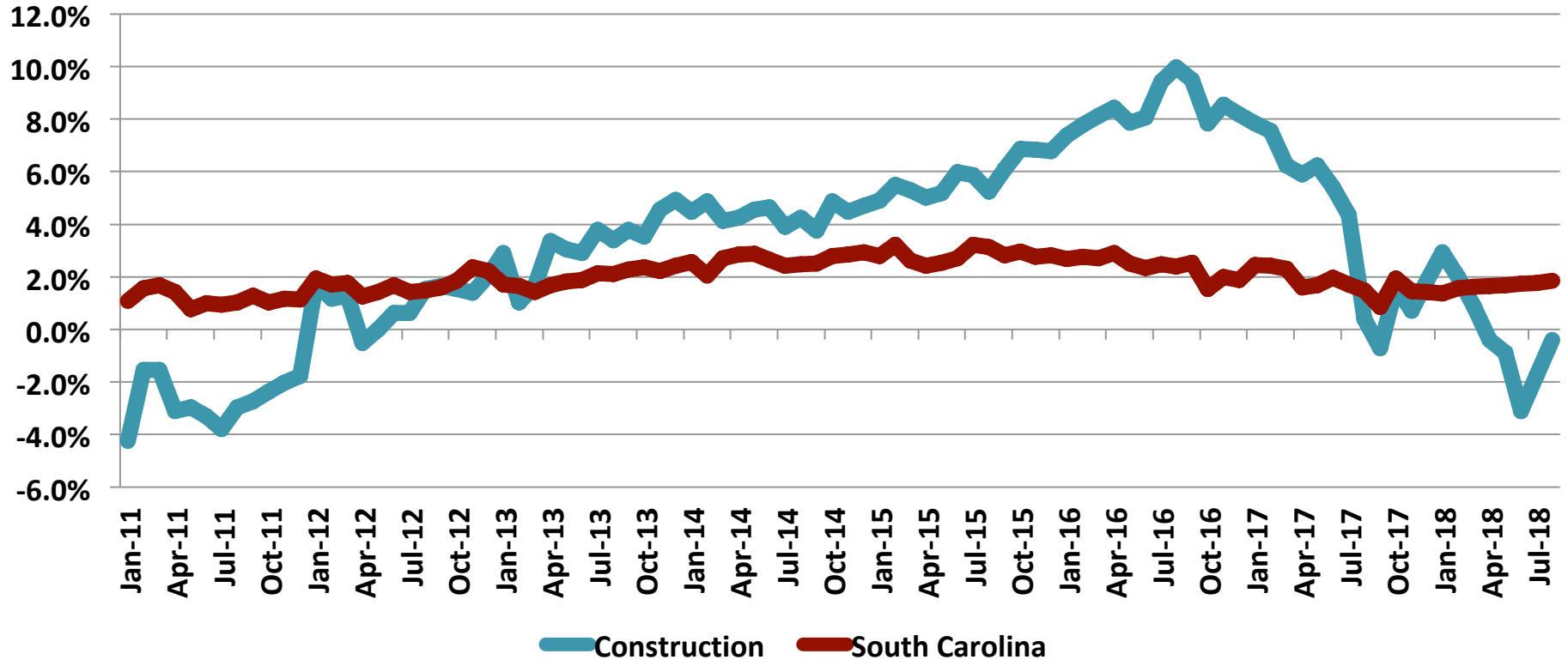
Source: U.S. Bureau of Labor Statistics



S.C. Construction Markets

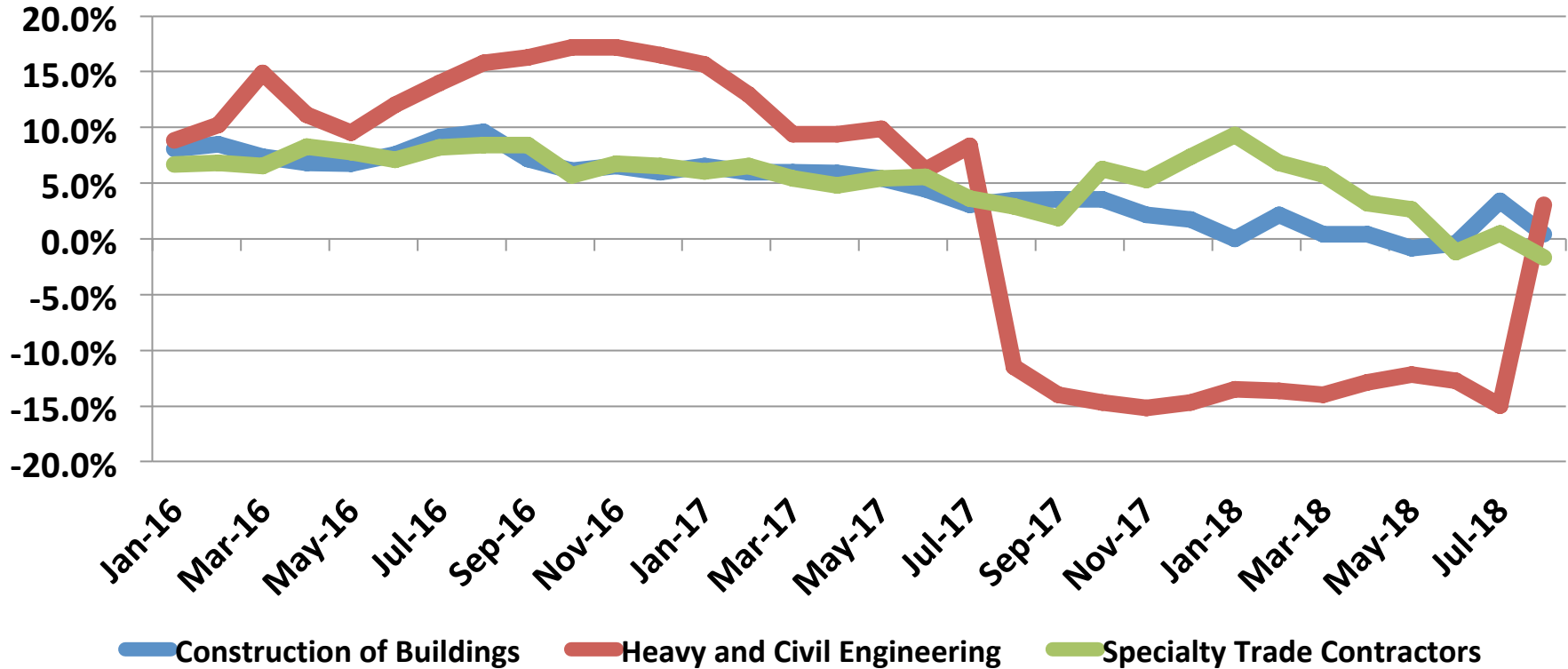


Construction Emp. Growth vs. SC Average



Source: U.S. Bureau of Labor Statistics

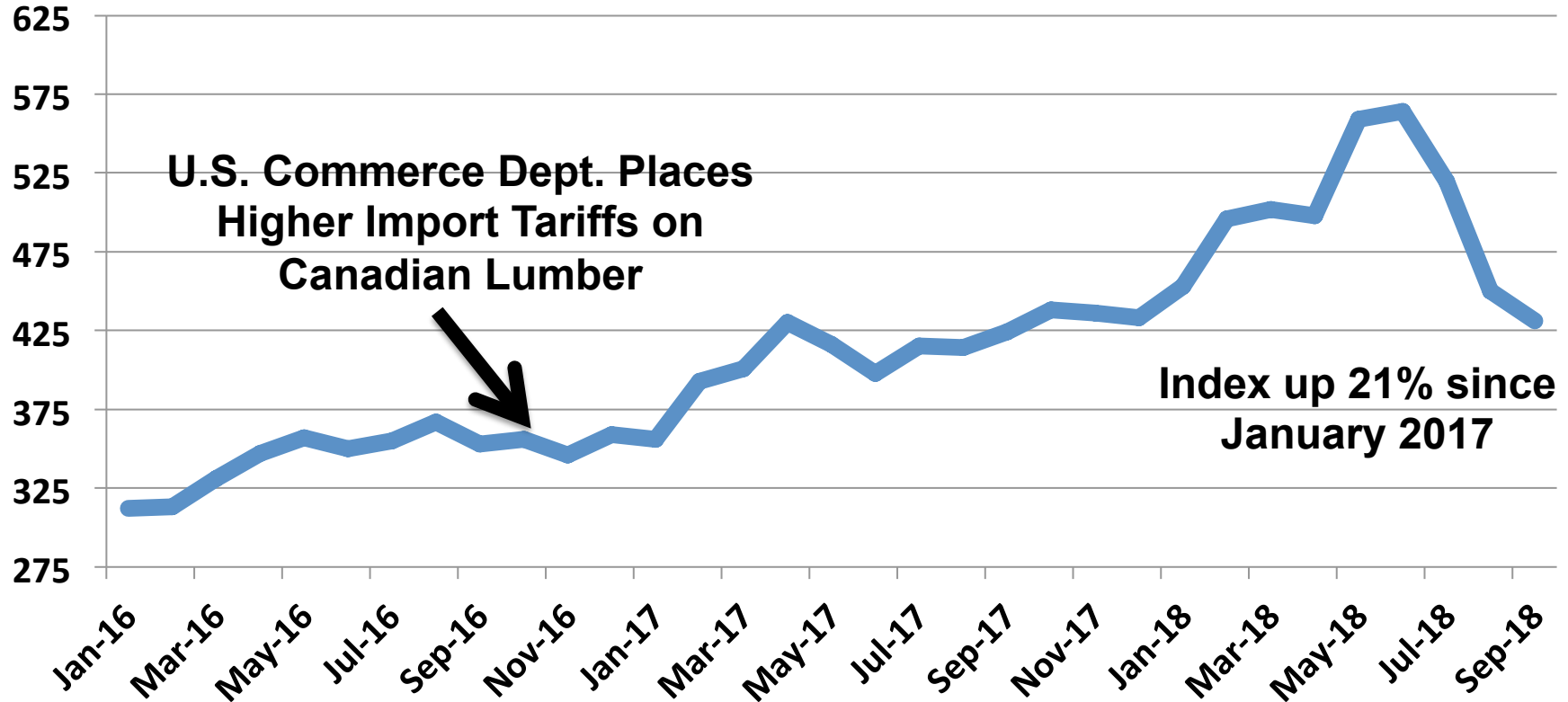
S.C. Construction Emp. Growth Components



Source: U.S. Bureau of Labor Statistics



Random Lengths Framing Lumber Composite Index



Housing Demand is Strong

Sales Activity



Permit Activity



Inventory

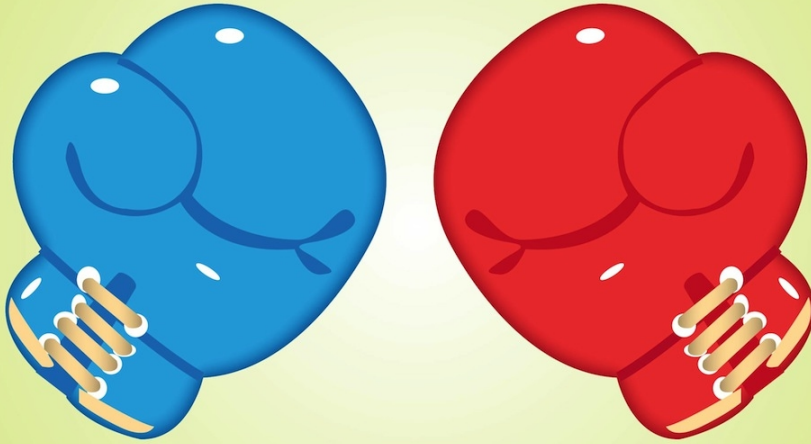


Tradeoffs!

Increasing builder costs

vs.

High demand due to steady
employment & wage growth



How are tariffs affecting manufacturing in South Carolina?

Short-run

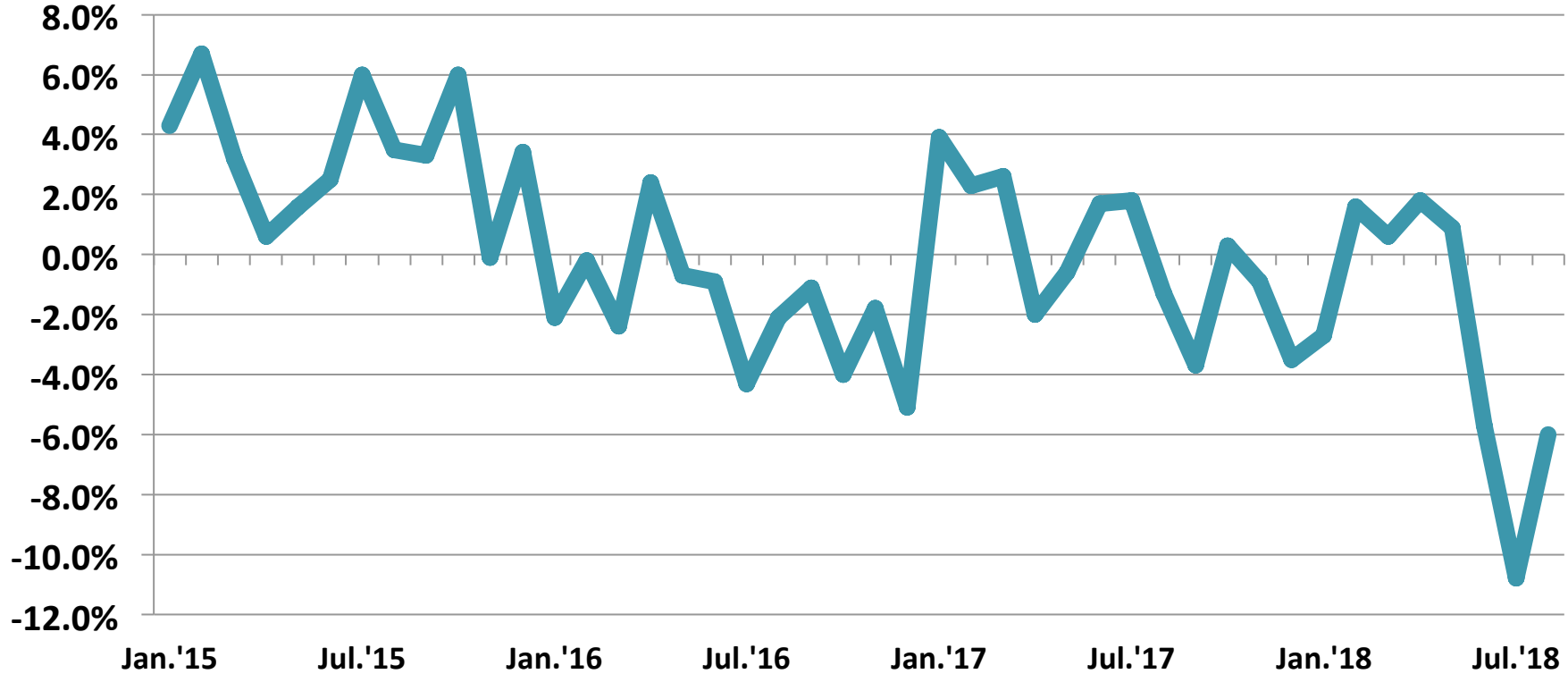
- Increased production costs
- Lower demand (-1.9%)

Long-run

- USMCA to replace NAFTA?
- Adjust global production strategies – a possible benefit for South Carolina



Growth in S.C. Employment Services



Source: U.S. Bureau of Labor Statistics



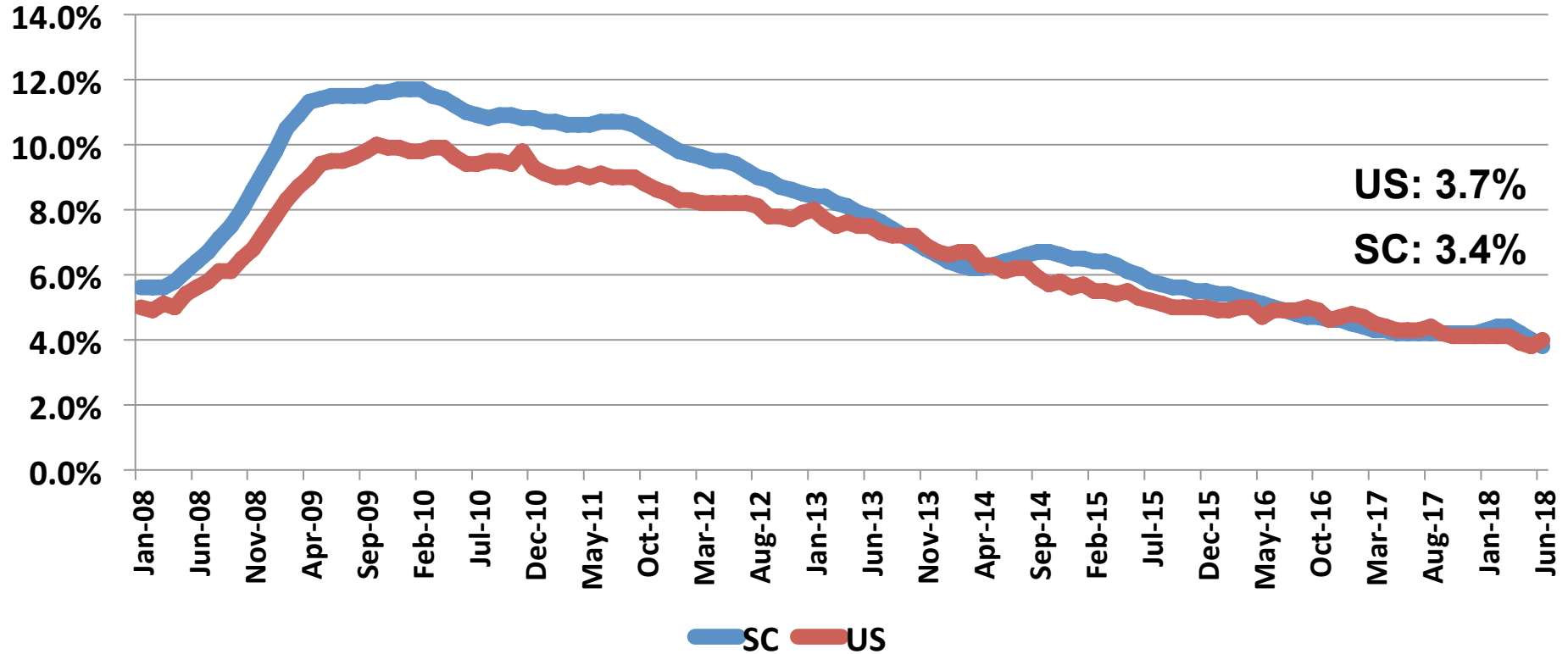
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USMCA May Benefit the S.C. Automotive Sector

- 75% of a vehicle's value must be produced in North America
- 40% of a vehicle must be made by workers earning at least \$16/hour
- *"We will allocate more U.S. production for the U.S. market"* – Harald Kruger, BMW CEO
- Moving away from export-oriented manufacturing?



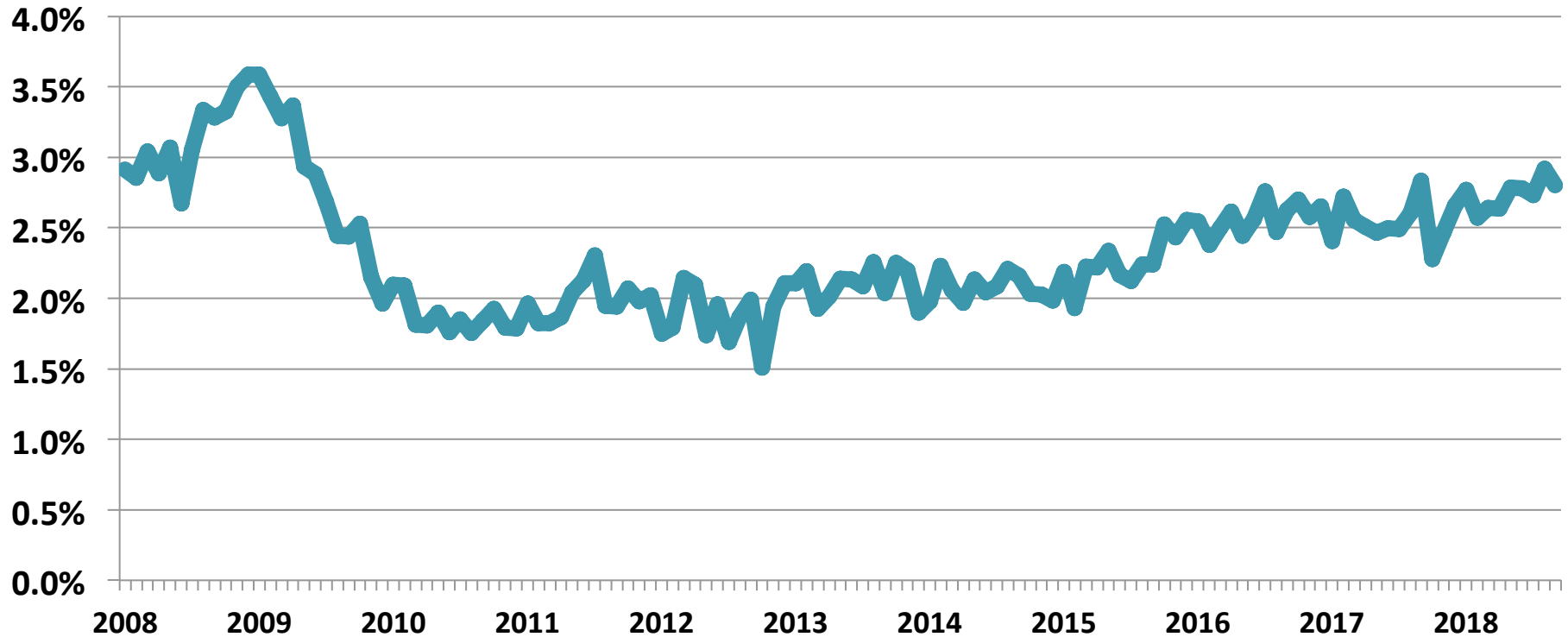
Unemployment Rates



Source: U.S. Bureau of Labor Statistics



Average Hourly Earnings of all U.S. Employees

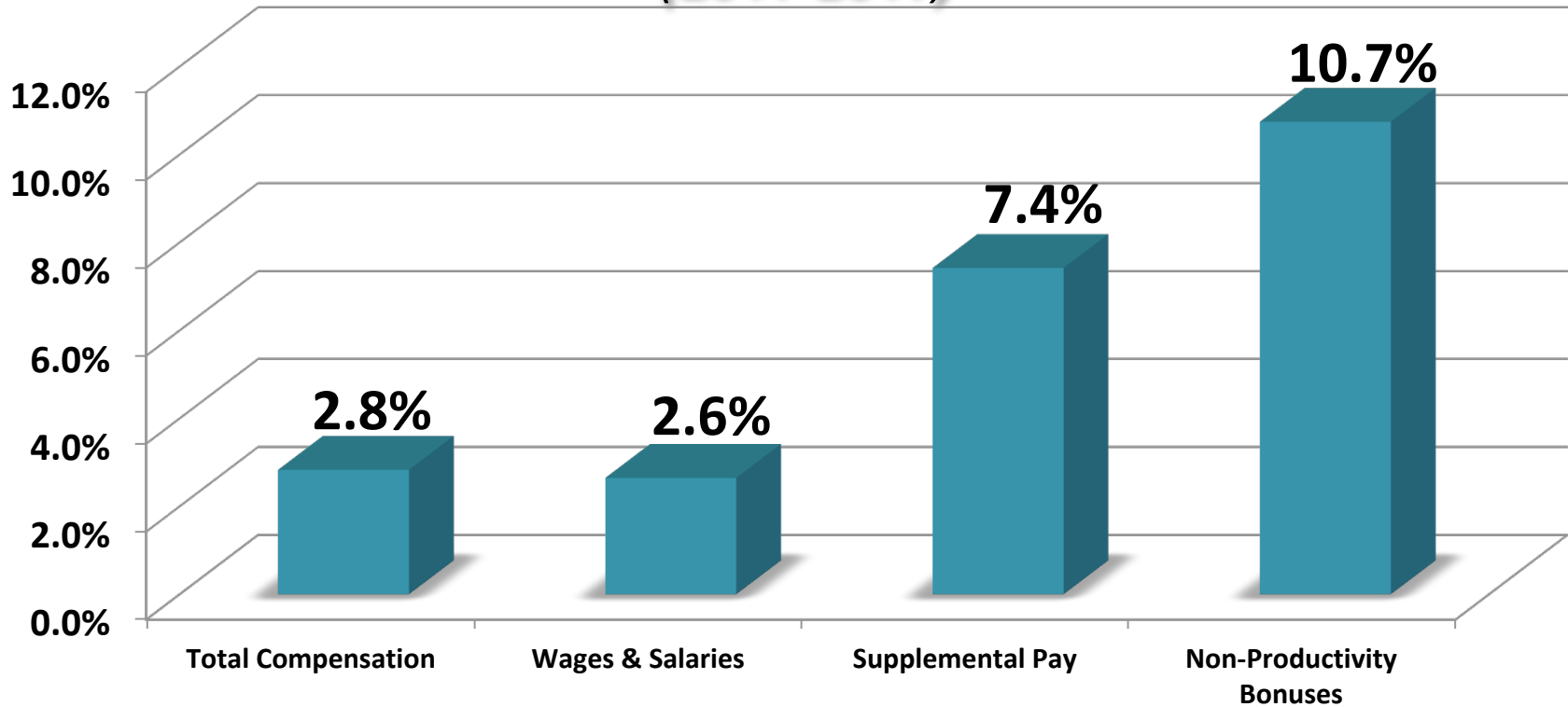


Source: U.S. Bureau of Economic Analysis



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Annualized Growth in Employer Costs per Hour Worked (2011-2017)



Source: U.S. Bureau of Labor Statistics



The Bottom Line



Strong national economic growth w/ steady employment and wage gains



Tariffs



Broad-based growth across most South Carolina sectors



Labor shortages



Consumer spending experiencing consistent growth



Interest rates



Baseline Economic Forecast

	FY18	Q218	SCRFA-FY19	FY19
Personal Income Growth	4.0%	3.9%	4.3%	4.2%
Employment Growth	1.5%	1.8%	1.8%	1.7%
Inflation Rate (CPI-U)	2.3%	2.7%	2.0%	2.5%



Thank You!



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