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Economic Forecasting Project

Old Dominion University 2016 National Economic Outlook

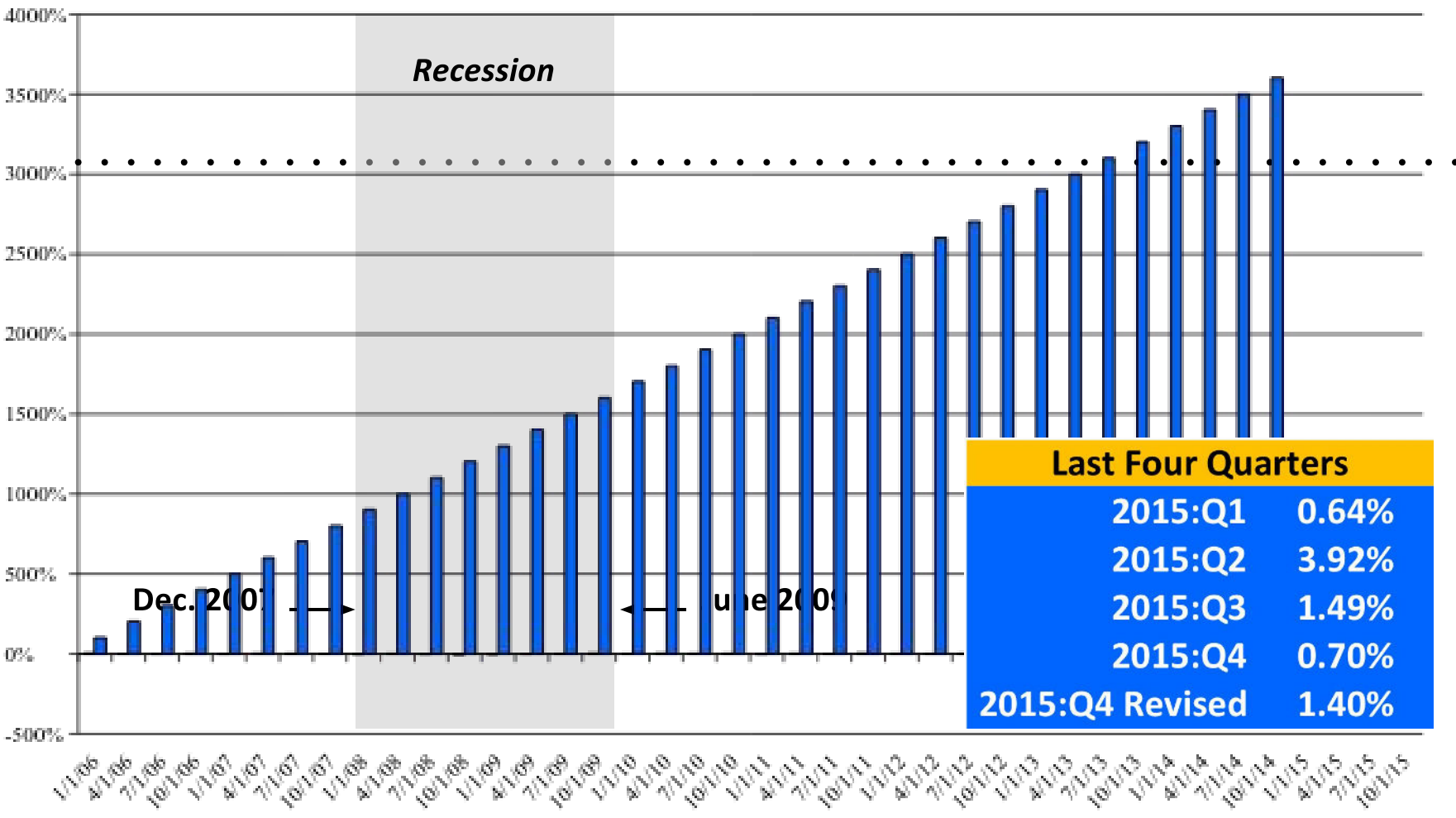
April 27, 2016

Larry “Chip” Filer
Associate Professor of Economics

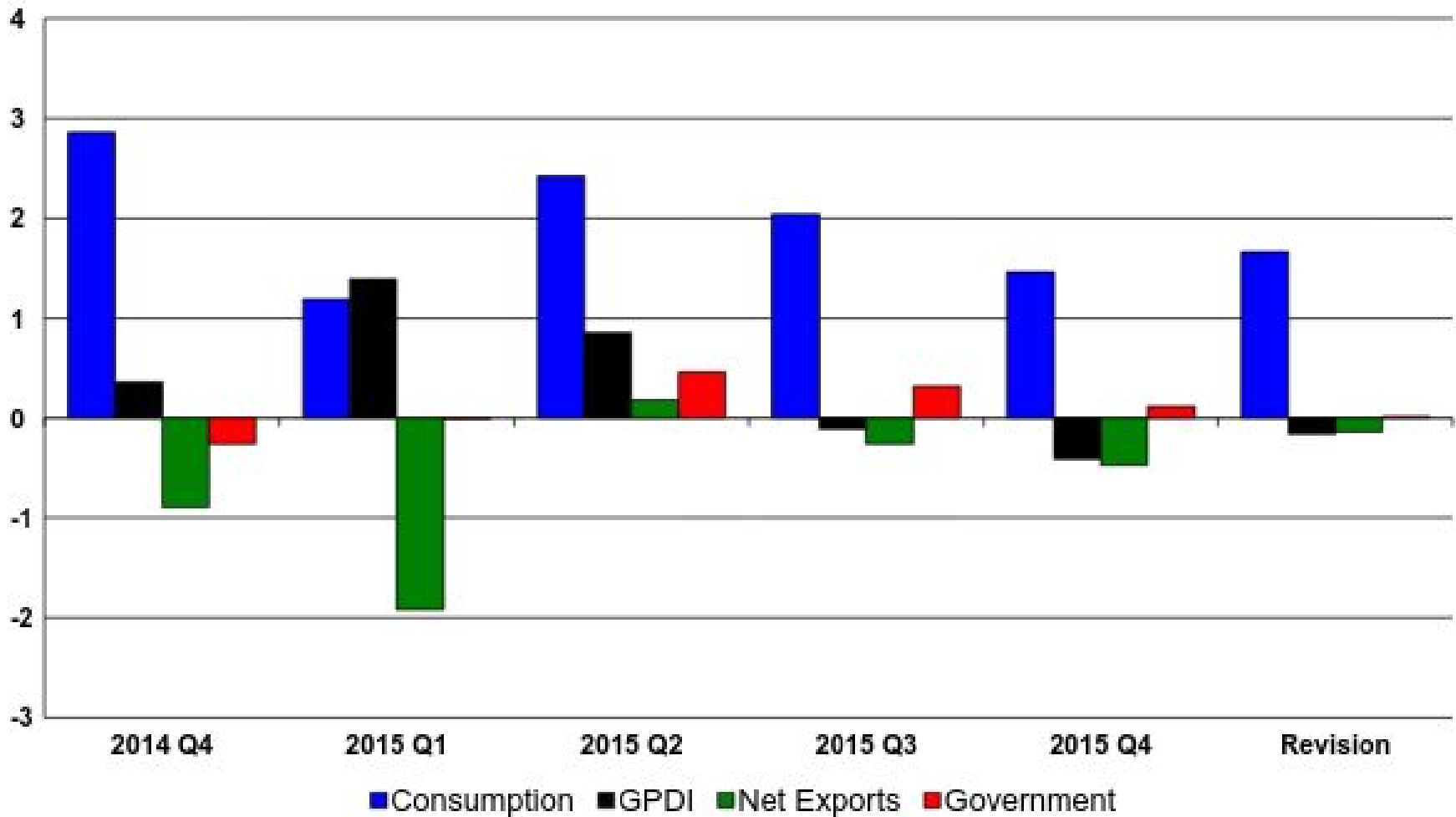
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Growth in Real Gross Domestic Product (GDP),

Seasonally adjusted annualized rate



Why the Big Revision to Q4 GDP? Contributions to GDP



Nowcasts of Real GDP Growth for 2016 Q1 (Advanced Estimate Announced on April 28th)

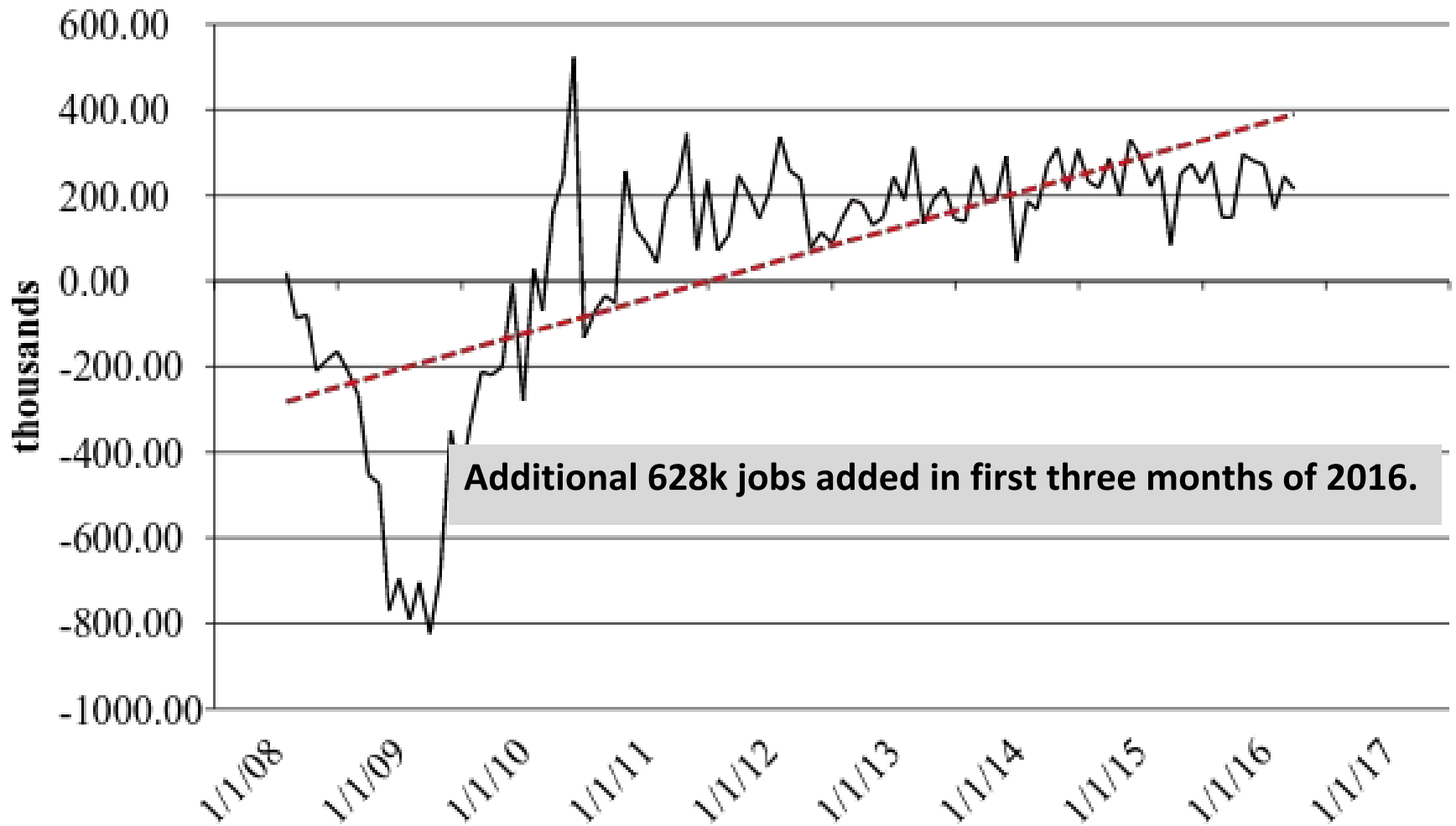
Nowcast for 2016 Q1	February 2	February 26	March 16	Current
Atlanta Fed	1.2%	2.1%	1.9%	0.3%
Economy.com	1.2%	1.6%	1.9%	0.1%
New York Fed			1.1%	1.1%

Learn to Say “Residual Seasonality”

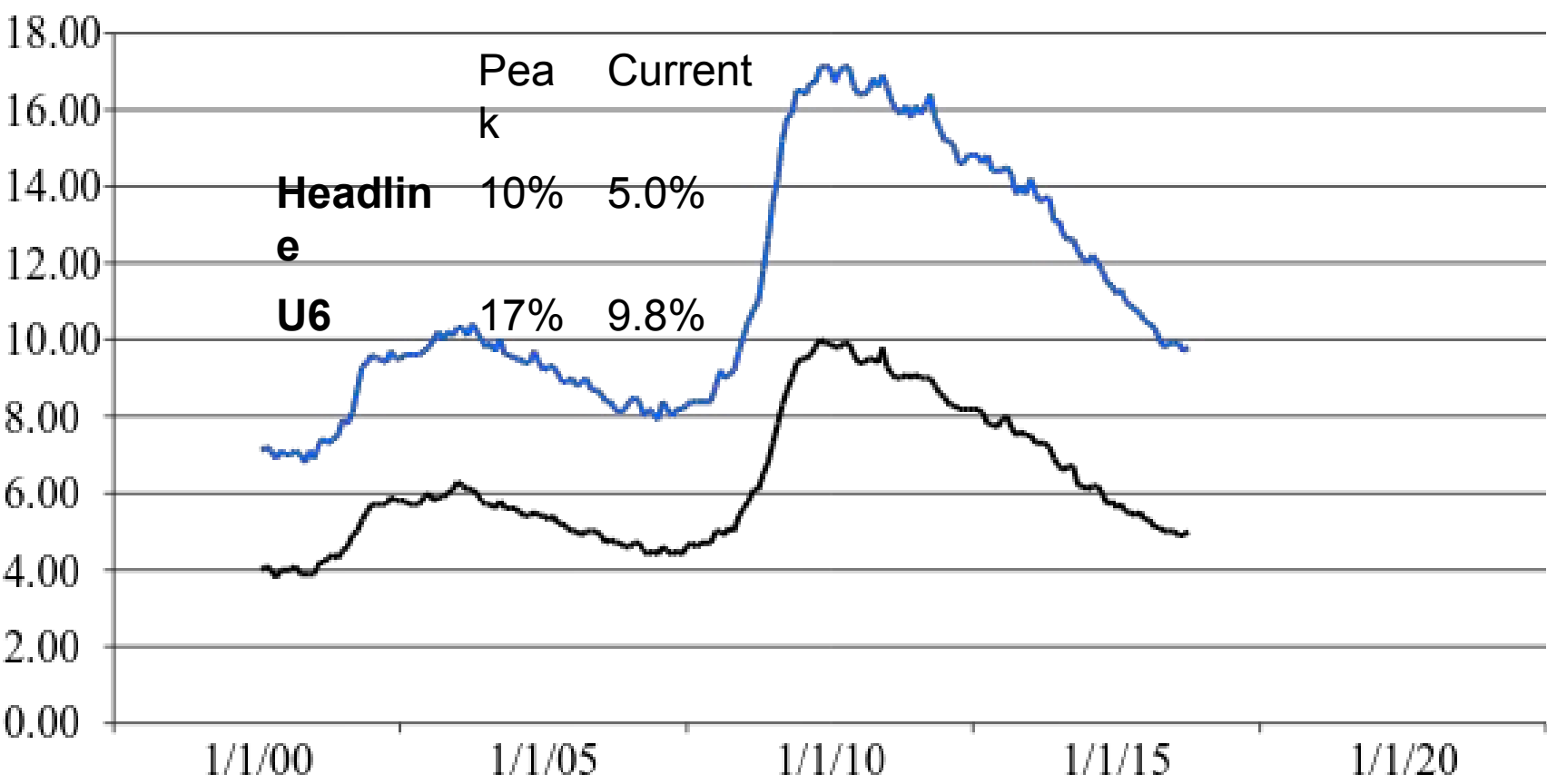
- Q1 GDP has been weak for several years
- This has been blamed on weather related factors.
- Recently some economists are suggesting that the numbers reflect seasonality in the data that is not being eliminated properly – residual seasonality
- The effect of this on Q1 numbers can be as large as a 1% drag.

**The Labor Market Had a Really Good 2015
(And Early 2016 Has Been Decent)**

Nonfarm Employment Continued Its Strong Growth (1-Month Net Change and 3-Month Moving Average)



Measures of Unemployment Continued to Decline (Headline=Black, U6=Red)

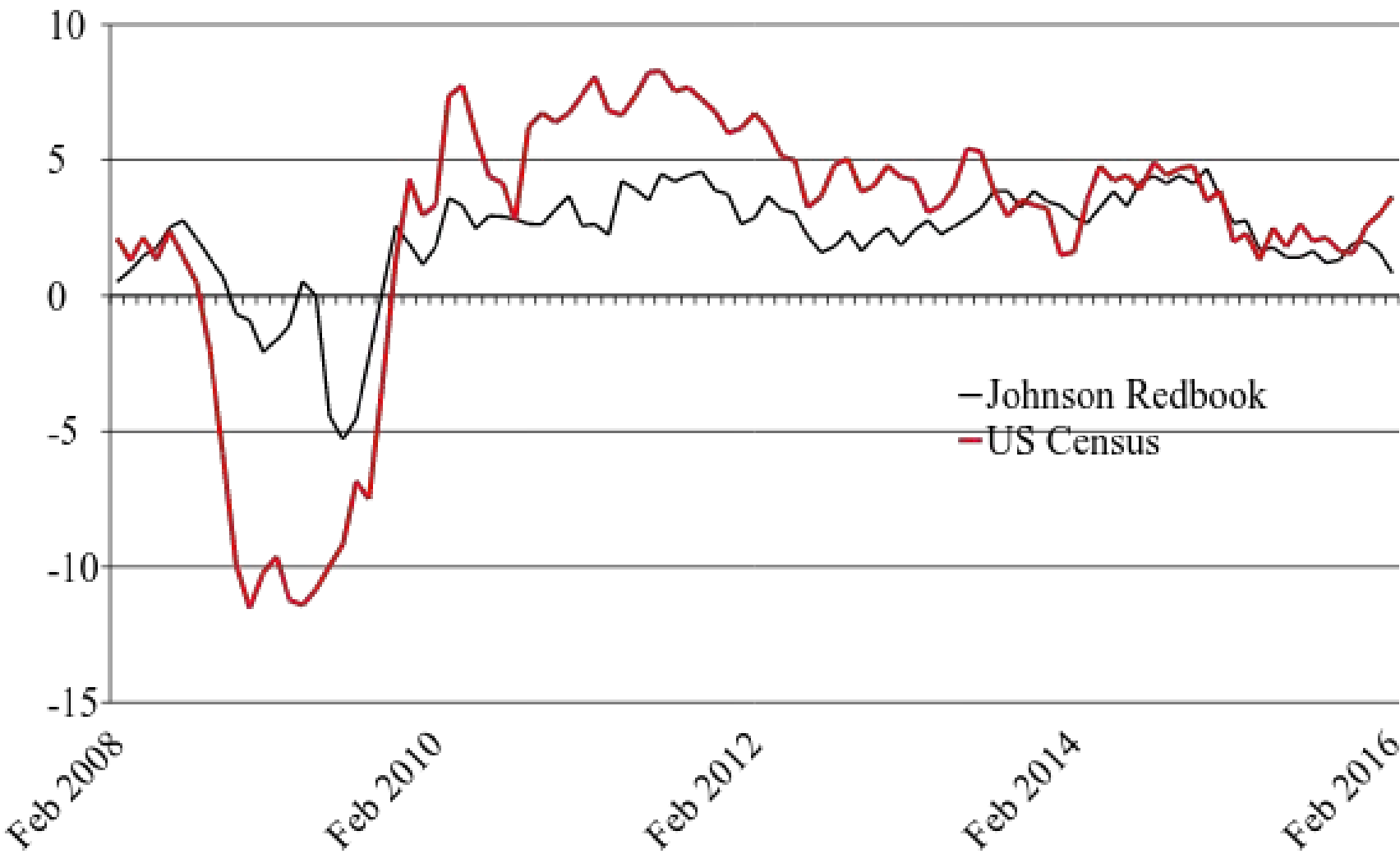


What Has Happened With Recent Incoming Numbers?

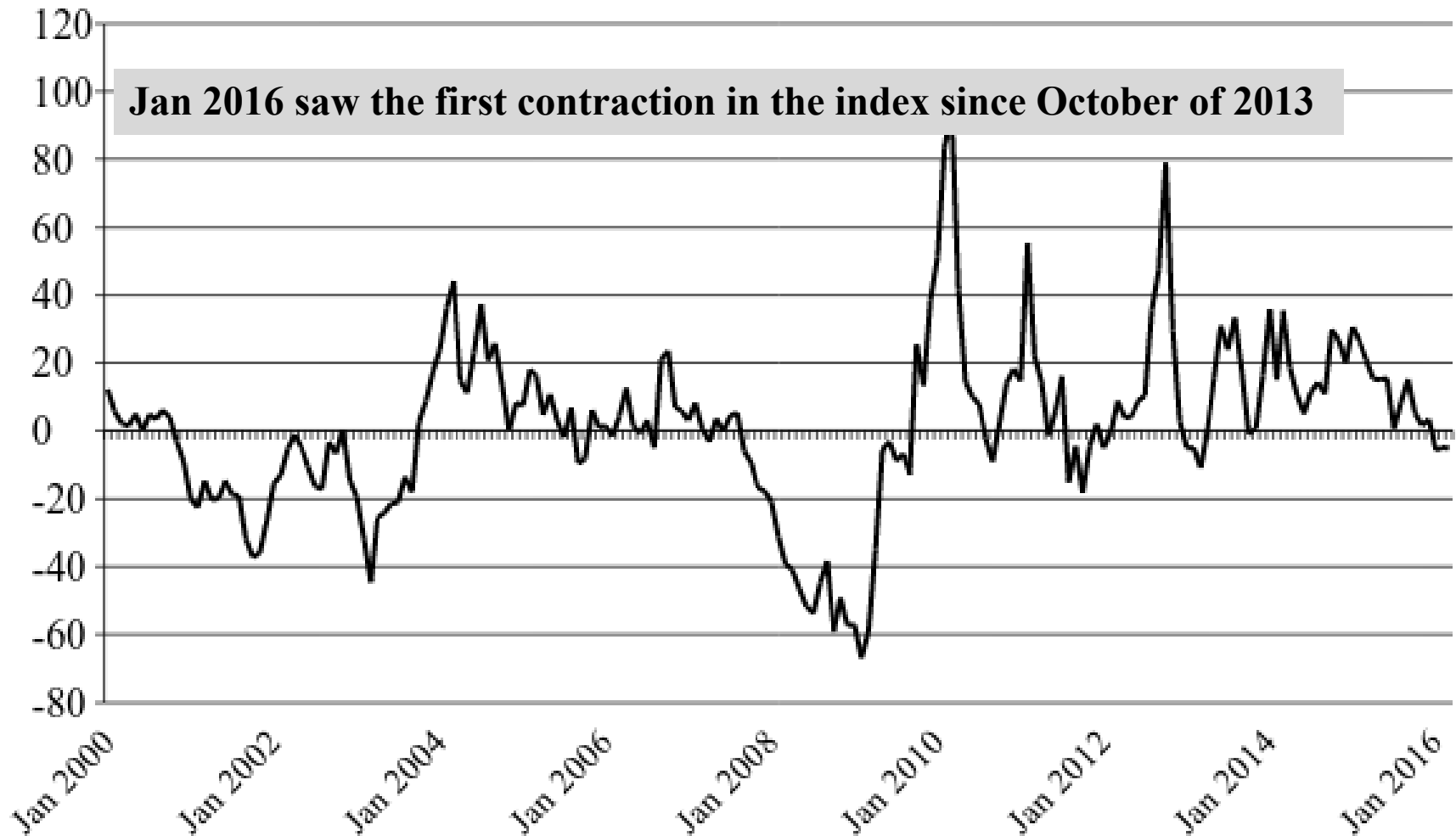
- Retail Sales were weak
- Business Investment continues to be a drag
- Dollar appreciation continues to hurt exports

Retail Sales

(Year over Year Sales Growth)



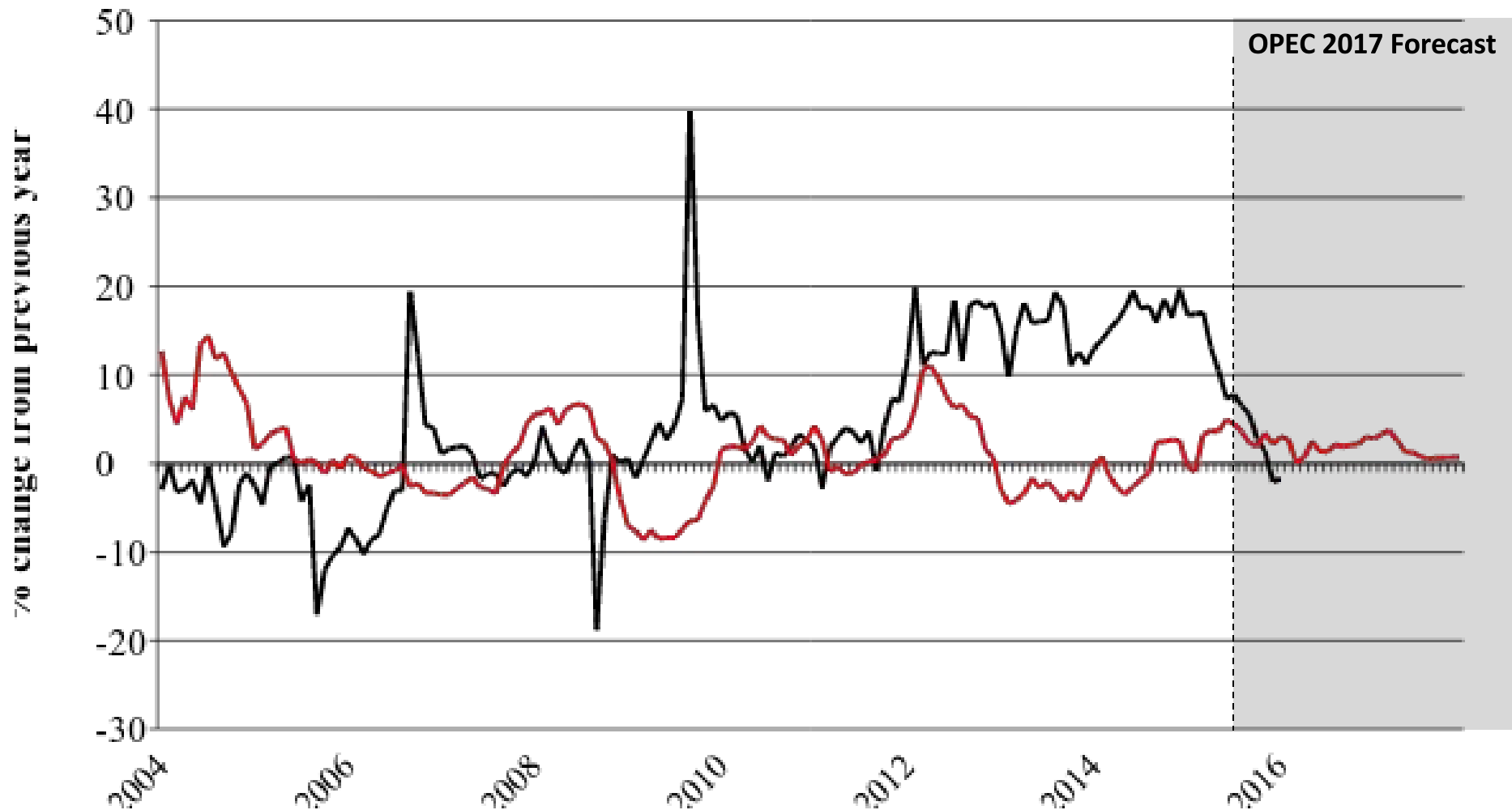
Consumer Confidence is Eroding (Year over Year Growth in Consumer Sentiment Index)



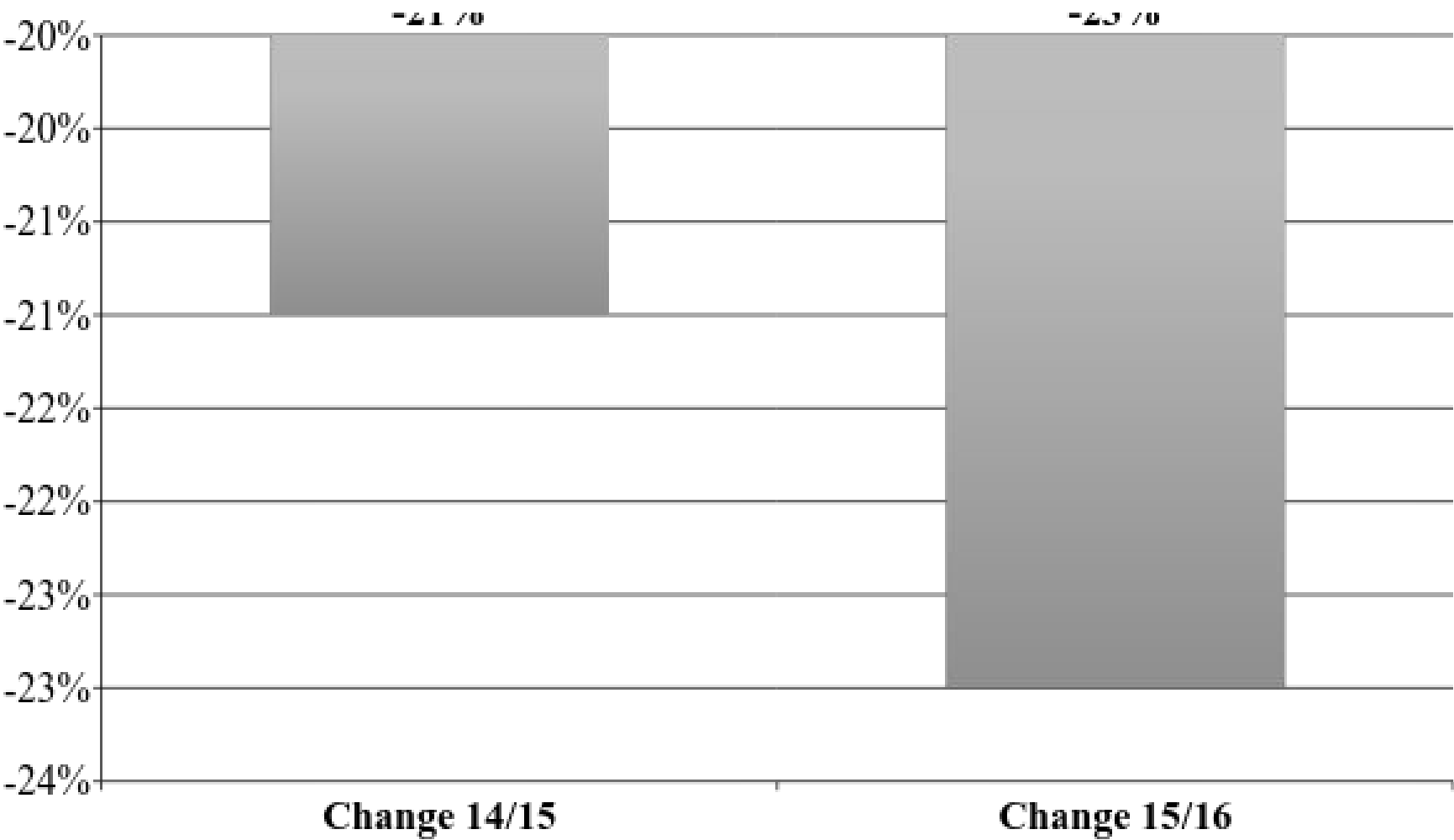
Impact of Cheap Oil (Slide from January 2015)

- **Positive**
 - \$1000 per household
 - Equivalent to a \$100 billion tax cut
- **Negative**
 - Global contraction?
 - Perhaps a .2 to .5 % decrease in fixed investment
 - Certain regions may feel the squeeze
- **Timing matters**
 - 2015 impact undoubtedly positive
 - Positive impacts deteriorate in future years

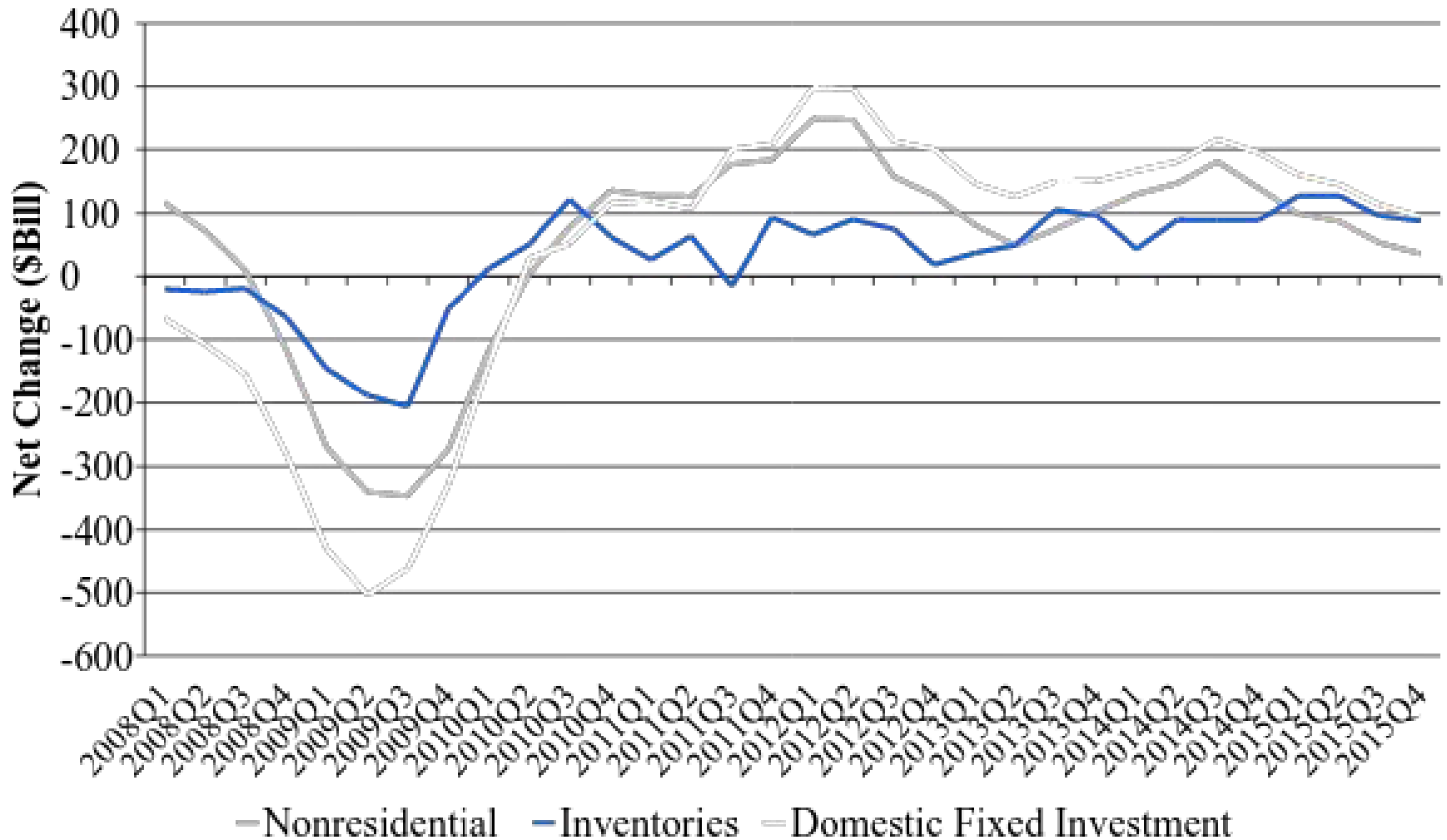
US and OPEC Crude Production



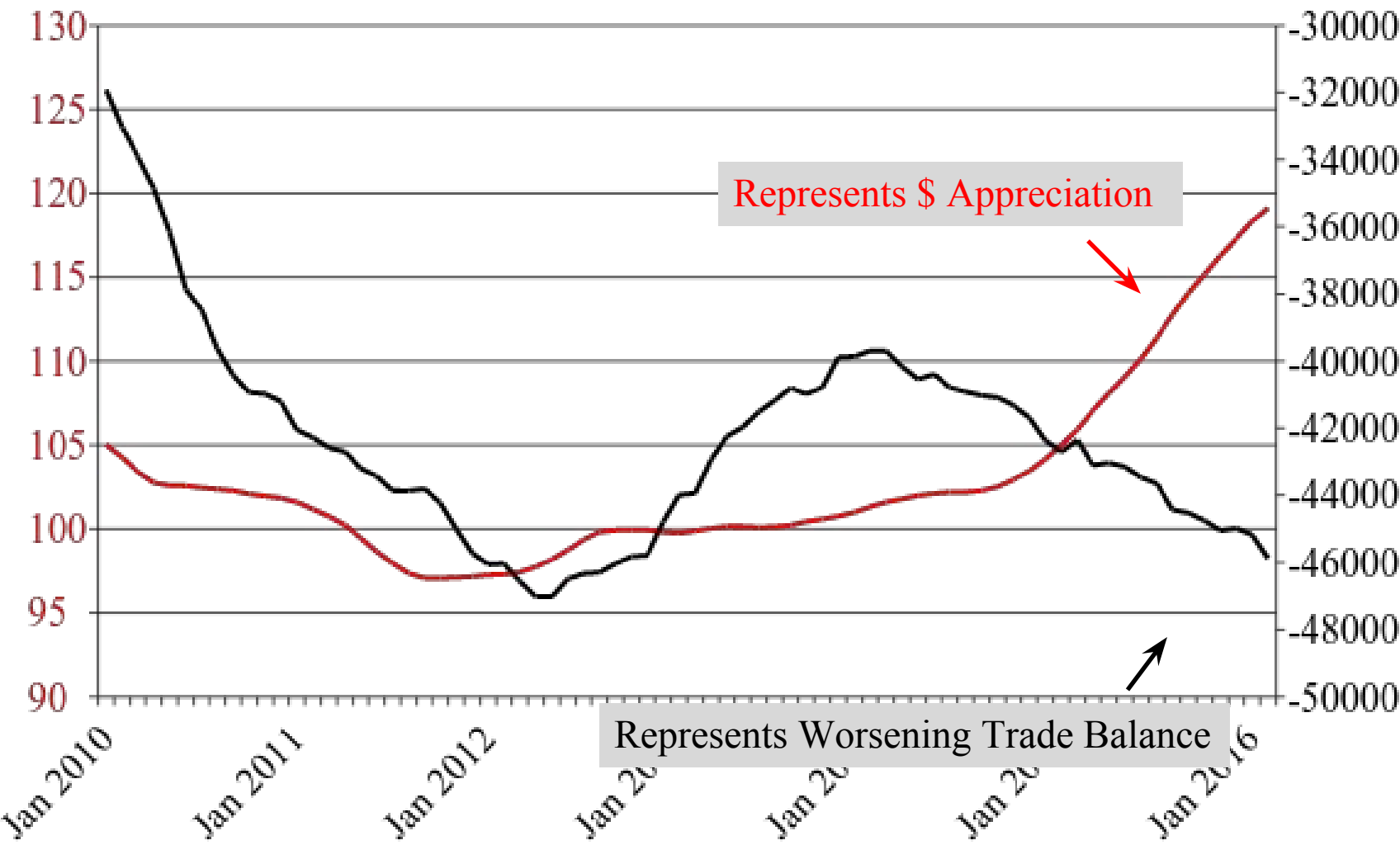
US Oil Companies Change in CAPEX Spending Guidance



Business Fixed Investment (The Drag from Inventories and Energy)



Trade Weighted Dollar Value versus Trade Balance (12-Month Moving Average)

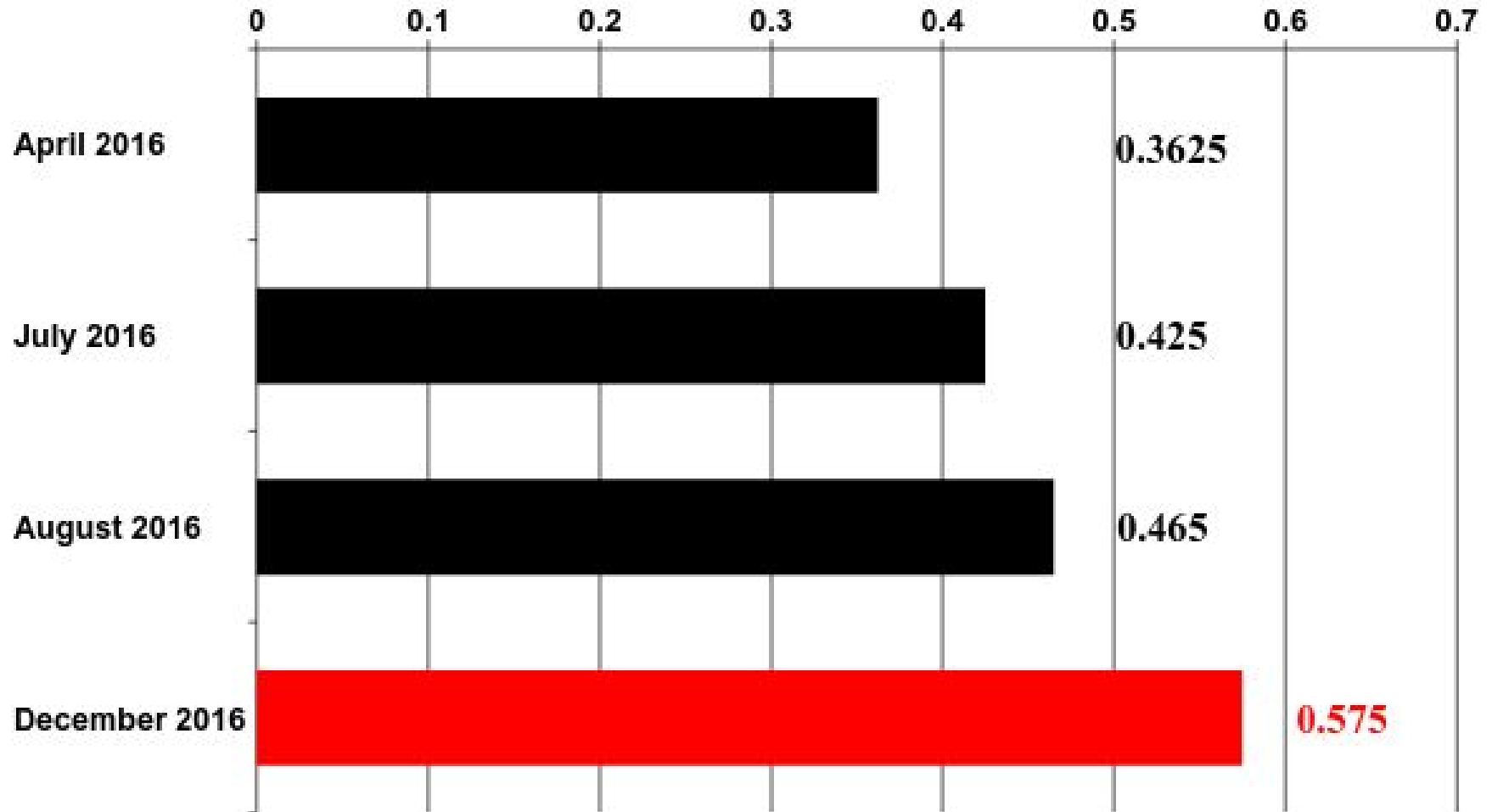


A Look At 2016

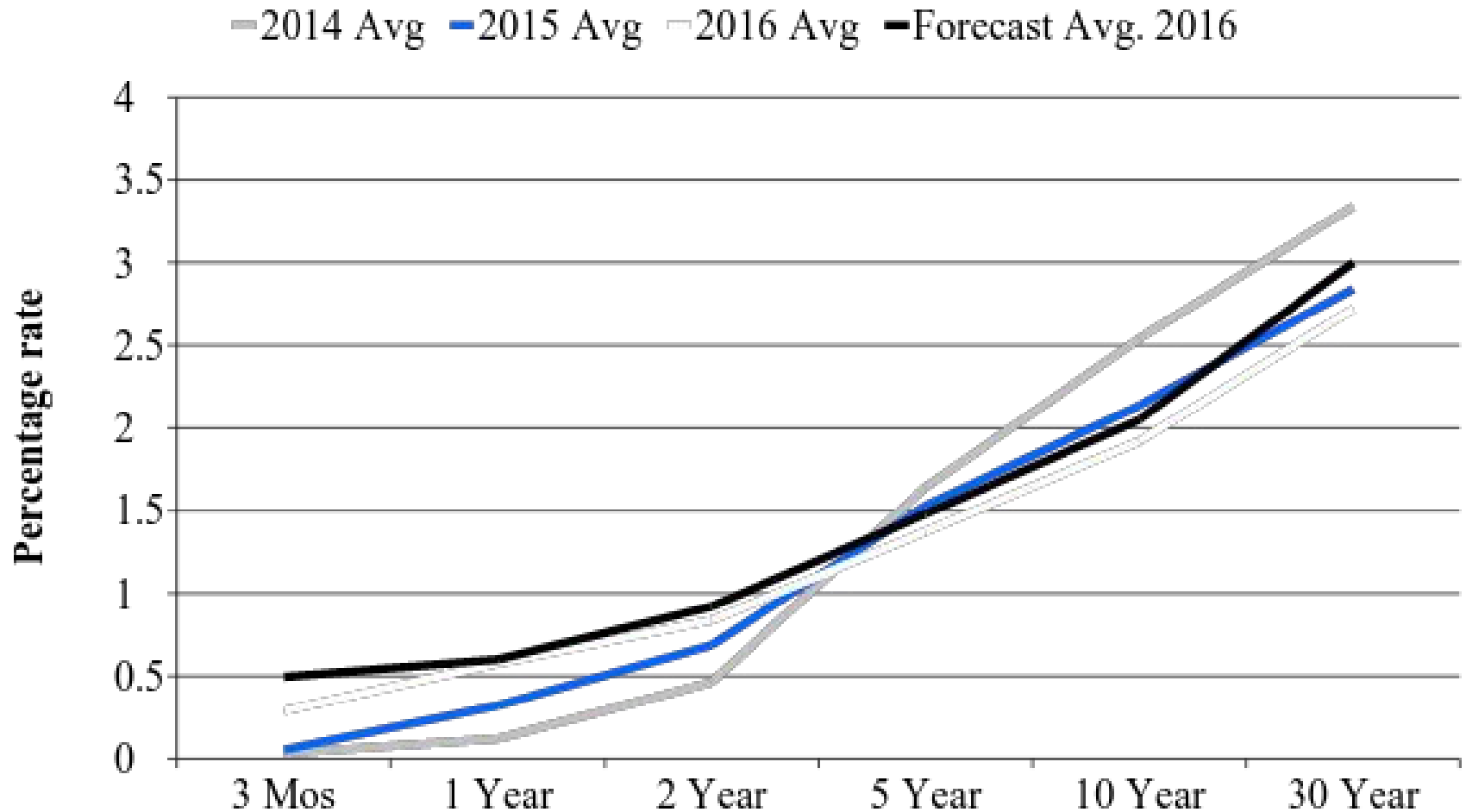
The Fed in 2016

- 2015 Q4 illustrates why the Fed did not “commit” to any path for normalization.
- The Fed has flexibility
- The Fed is unlikely to raise rates at every meeting during 2016.
- We are forecasting 2 increases during 2016 putting the Fed Funds Rate in the 1% - 1.25% range by the end of 2016.

The Fed Funds Futures Market is “Bearish” (Close on April 25th)



Yield Curves – Doing the Twist in 2016



National Economic Outlook for 2016 (April 13th update)

	Historical			
	2013	2014	2015	2016
Real Gross Domestic Product	1.49%	2.42%	2.40%	2.03%
Employment Growth	1.70%	1.90%	2.11%	1.50%
Unemployment Rate	7.4%	5.6%	5.3%	5.1%
Consumer Price Index	1.22%	0.70%	0.13%	1.34%
CPI - Core	1.71%	1.60%	1.83%	2.03%
3-Month Treasury Bill	0.06%	0.03%	0.05%	0.50%
10-Year Treasury Bond	2.35%	2.55%	2.14%	2.05%
30-Year Conventional Mortgage Rate	3.98%	4.17%	3.85%	4.12%



Economic Forecasting Project

Old Dominion University 2016 Regional Economic Forecast

April 27, 2016

**Professor Vinod Agarwal
Director, Economic Forecasting Project**

Strome College of Business

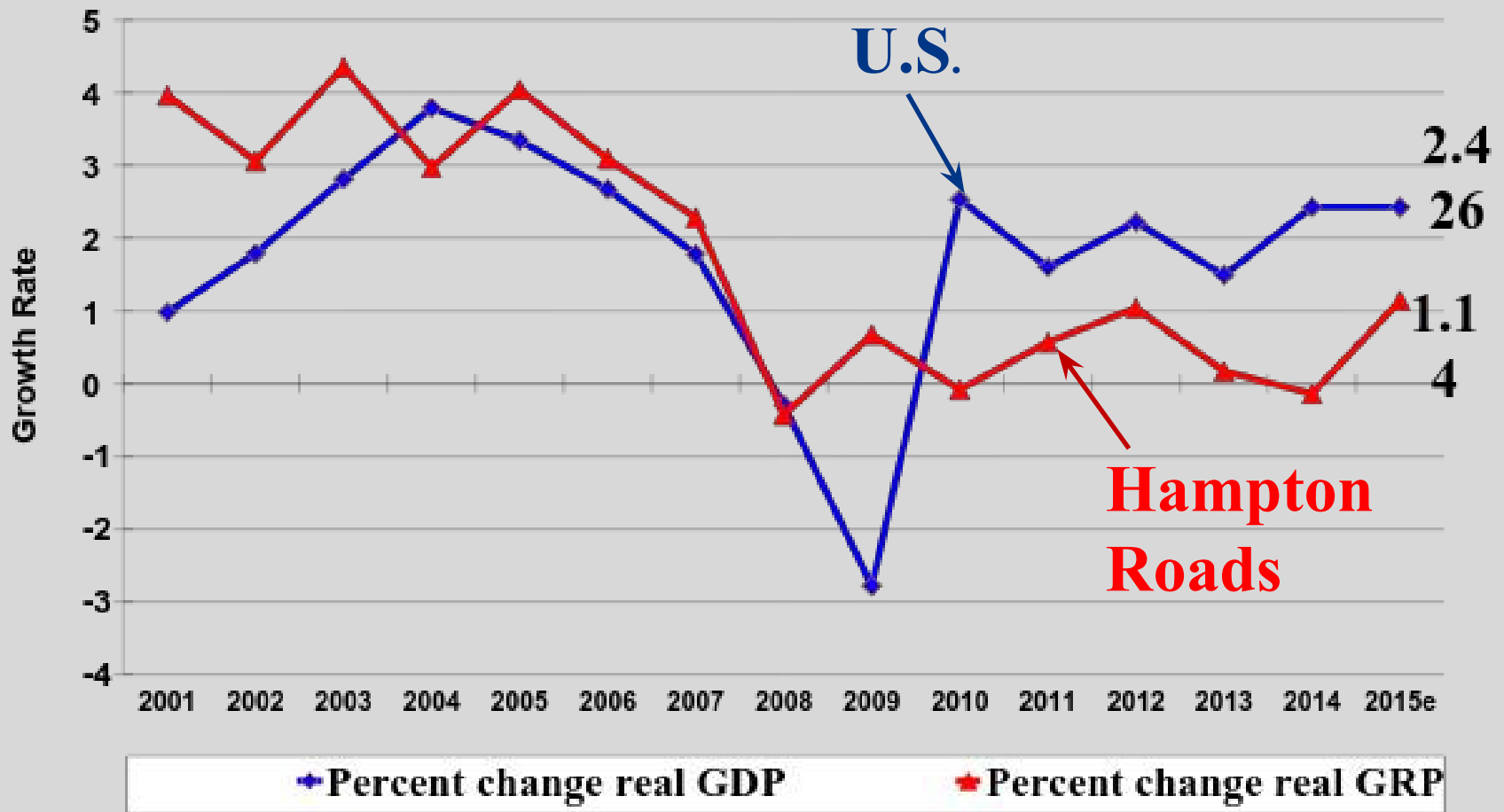
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Presentation outline

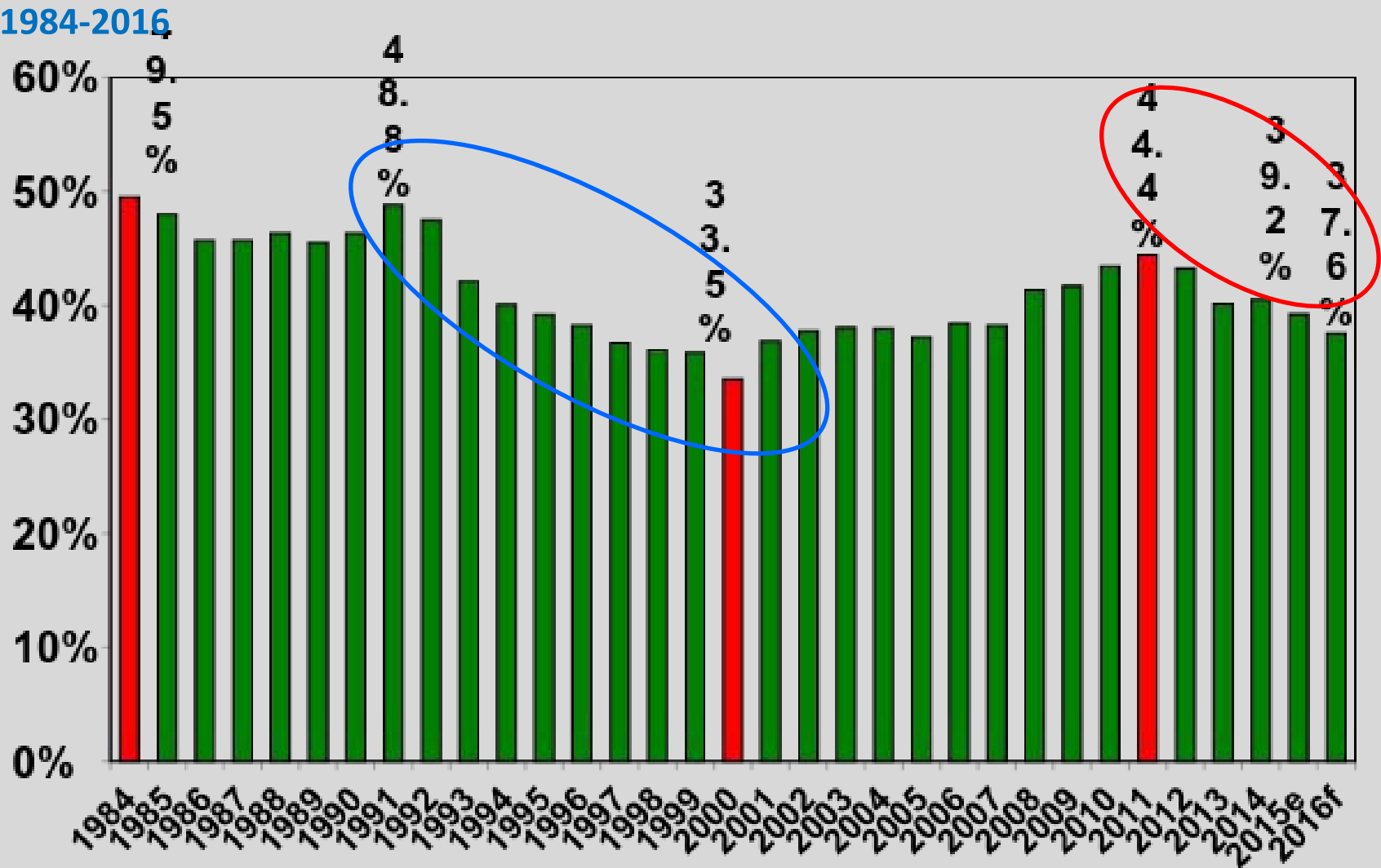
- I. 2015 Economic Performance
 - a) Regional and National Economies
 - b) Defense
 - c) Civilian Nonfarm Jobs
 - d) Residential Market in Hampton Roads
 - e) Taxable Sales and Hotel Revenue
 - f) Port and Cargo
- II. Forecast for 2016

Rate of Growth of GDP (U.S.) and GRP (Hampton Roads): 2001-2015

2001- 2015

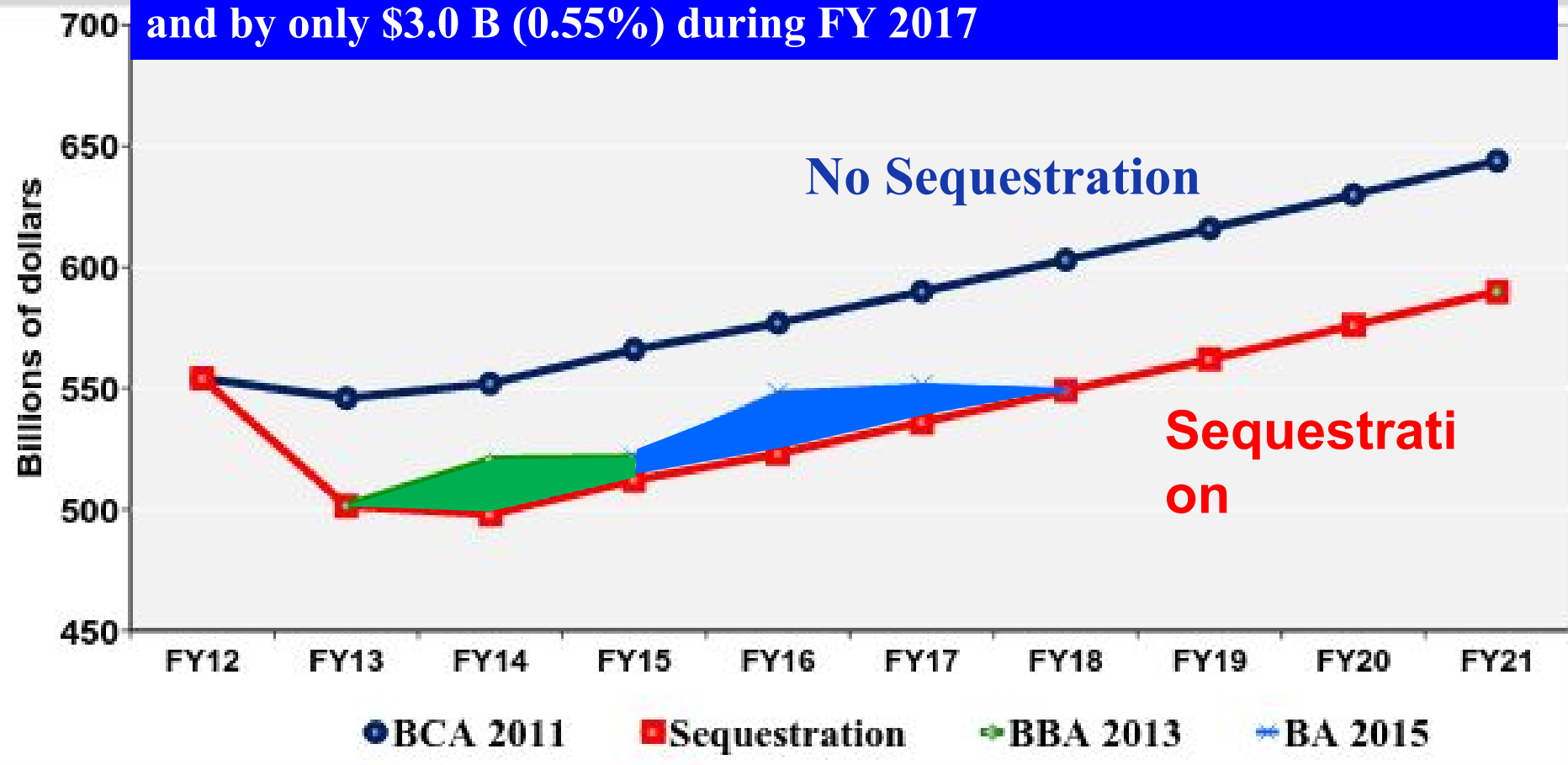


Hampton Road's Gross Regional Product Attributable to DOD Spending



Caps on Department of Defense Discretionary Spending, FY 2012 to FY 2021

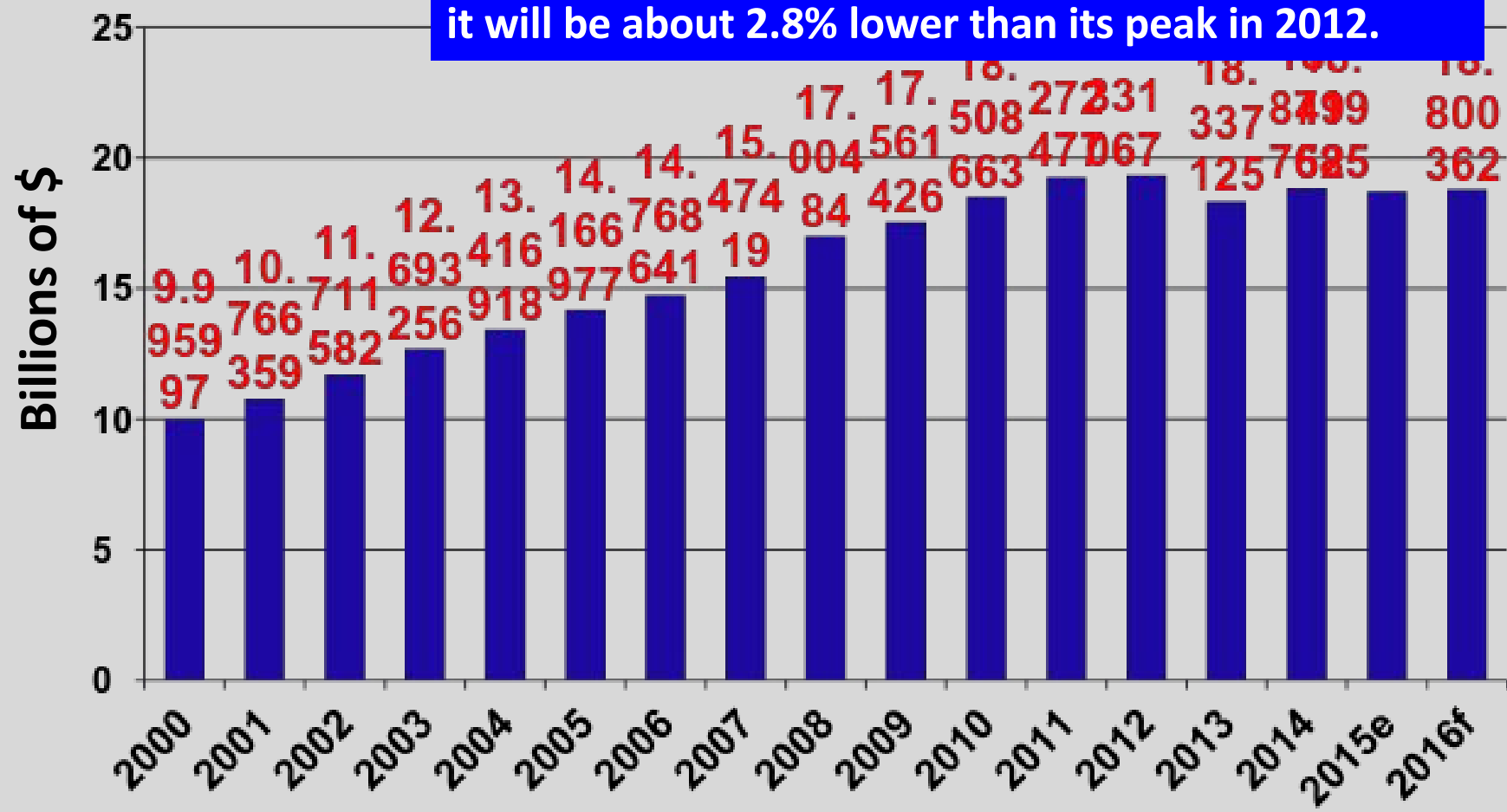
The legislated cap on spending increased by only \$0.8B (0.15%) for FY 2015 and is now expected to increase by \$26.8B (5.14%) during FY 2016 and by only \$3.0 B (0.55%) during FY 2017



Estimated Direct DOD Spending in Hampton Roads

2000 to 2016

Between 2000 and 2012, DOD spending in our region increased by an average of 5.65% annually. In 2016, it will be about 2.8% lower than its peak in 2012.



Estimated Average Compensation (Wages, Salaries and Fringe Benefits) Selected Categories

Hampton Roads: 2013 and 2014

	<u>Earnings in 2013</u>	<u>Earnings in 2014</u>	<u>Percent Change 2013 to 2014</u>
Military	\$90,115	\$91,503	1.54%
Federal Civilian Govt. Employees	\$97,800	\$102,829	5.14%
State and Local Govt. Employees	\$56,933	\$58,318	2.43%
Private Nonfarm	\$40,262	\$41,198	2.33%

Growth(CAGR) in Estimated Average Compensation (Wages, Salaries and Fringe Benefits) Selected Categories

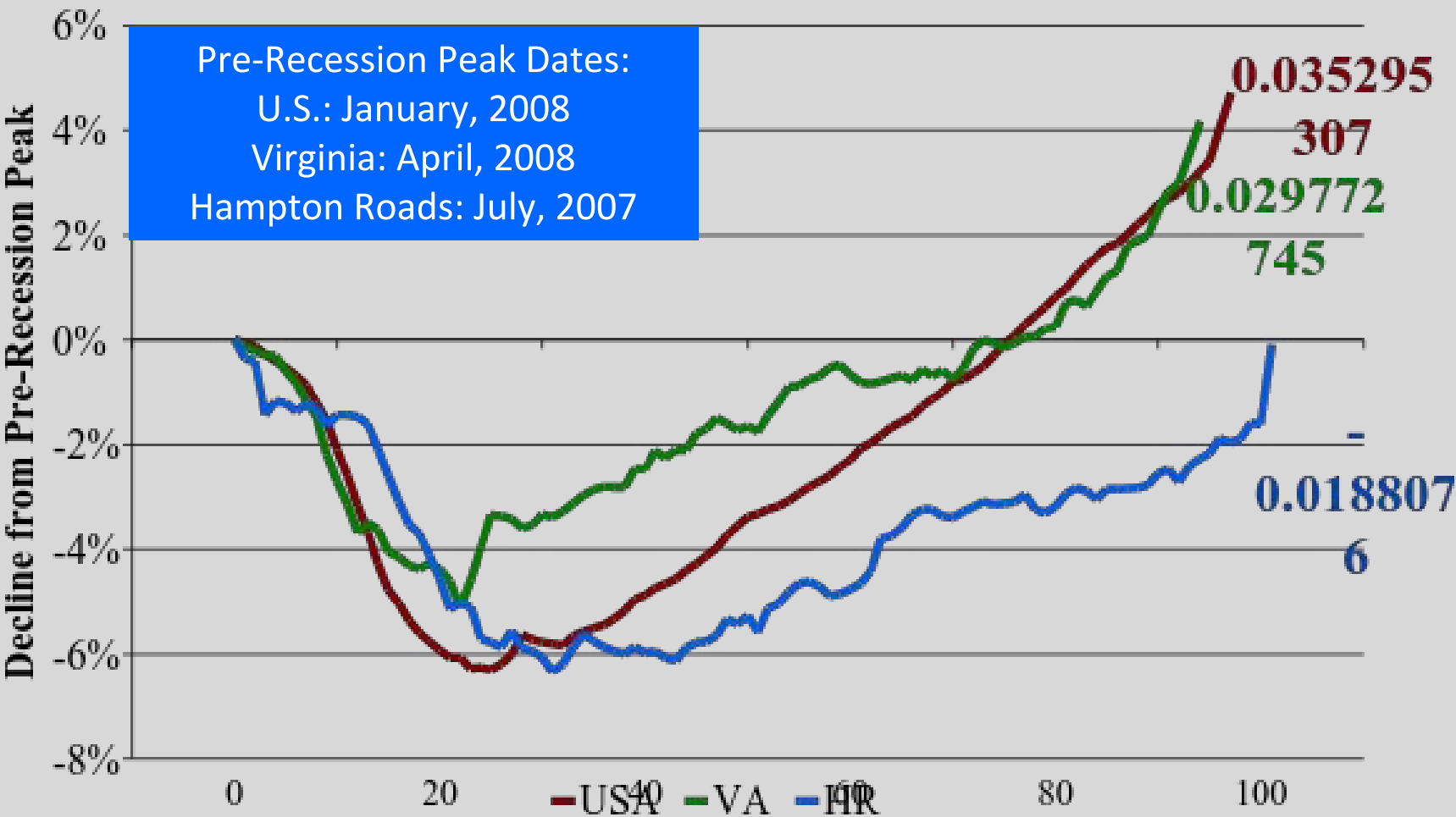
Hampton Roads: 2001, 2013, and 2014

	<u>Compound Annual Growth Rate 2001 to 2010</u>	<u>Compound Annual Growth Rate 2010 to 2014</u>	<u>Percent change 2013 to 2014</u>
Military	7.2%	1.0%	1.5%
Federal Civilian Govt. Employees	4.5%	2.1%	5.1%
State and Local Govt. Employees	3.6%	1.3%	2.4%
Private Nonfarm	2.9%	2.0%	2.3%

The 2007-2009 Recession Including Virginia and Hampton Roads

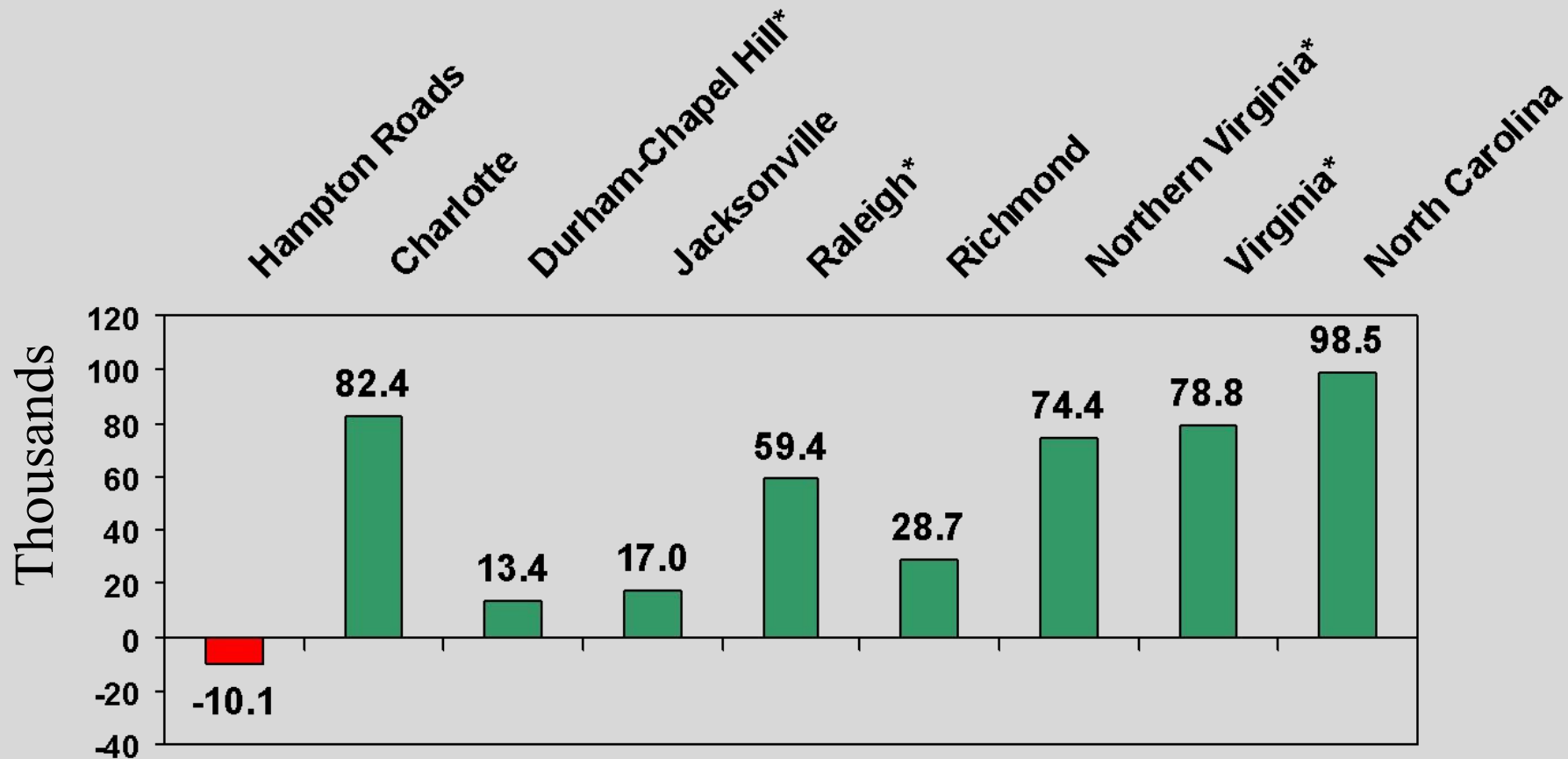
% Decline in Total US Non-farm Payroll Employment from Pre-Recession Peak

Month After Pre-Recession Peak



New Civilian Jobs Gained/Lost in Selected MSA's, Virginia, and North Carolina

2007* to 2015



Rethink and Diversify the HR Economy

- REGION --not just individual cities and counties
 - Go Virginia is an excellent start
- Traffic Problems– Not just roads, but also airports
- Diversification – HR Community Foundation Economic Competitiveness Initiative suggested:
 - Advanced manufacturing --- Bio Sciences
 - Coastal Energy --- Cyber Security
 - Modelling and Simulation --- Unmanned Systems
- Entrepreneurship

Performance of Residential Housing Market During 2015

Number of Existing and New Construction Homes Sold in HR 2002-15

Year	Existing Homes Sold	New Construction Homes Sold	Percent New Construction
2002	19,869	4,969	20.0%
2003	21,421	4,757	18.2%
2004	23,548	4,587	16.3%
2005	24,755	4,379	15.0%
2006	22,405	4,327	16.2%
2007	19,154	3,912	17.0%
2008	15,046	3,178	17.4%
2009	15,851	2,673	14.4%
2010	14,703	2,265	13.4%
2011	15,818	2,366	13.0%
2012	16,856	2,664	13.6%
2013	18,791	2,878	13.3%
2014	18,700	2,485	11.7%
2015	20,595	2,954	12.5%

Source: Real Estate Information Network and Old Dominion University Economic Forecasting Project. Information Deemed Reliable But not Guaranteed. Figures reported here represent only those properties that are listed through REIN by REIN members and may not represent all new construction activity in our region.

Median Sale Price of Existing Residential Homes in HR 2002-15

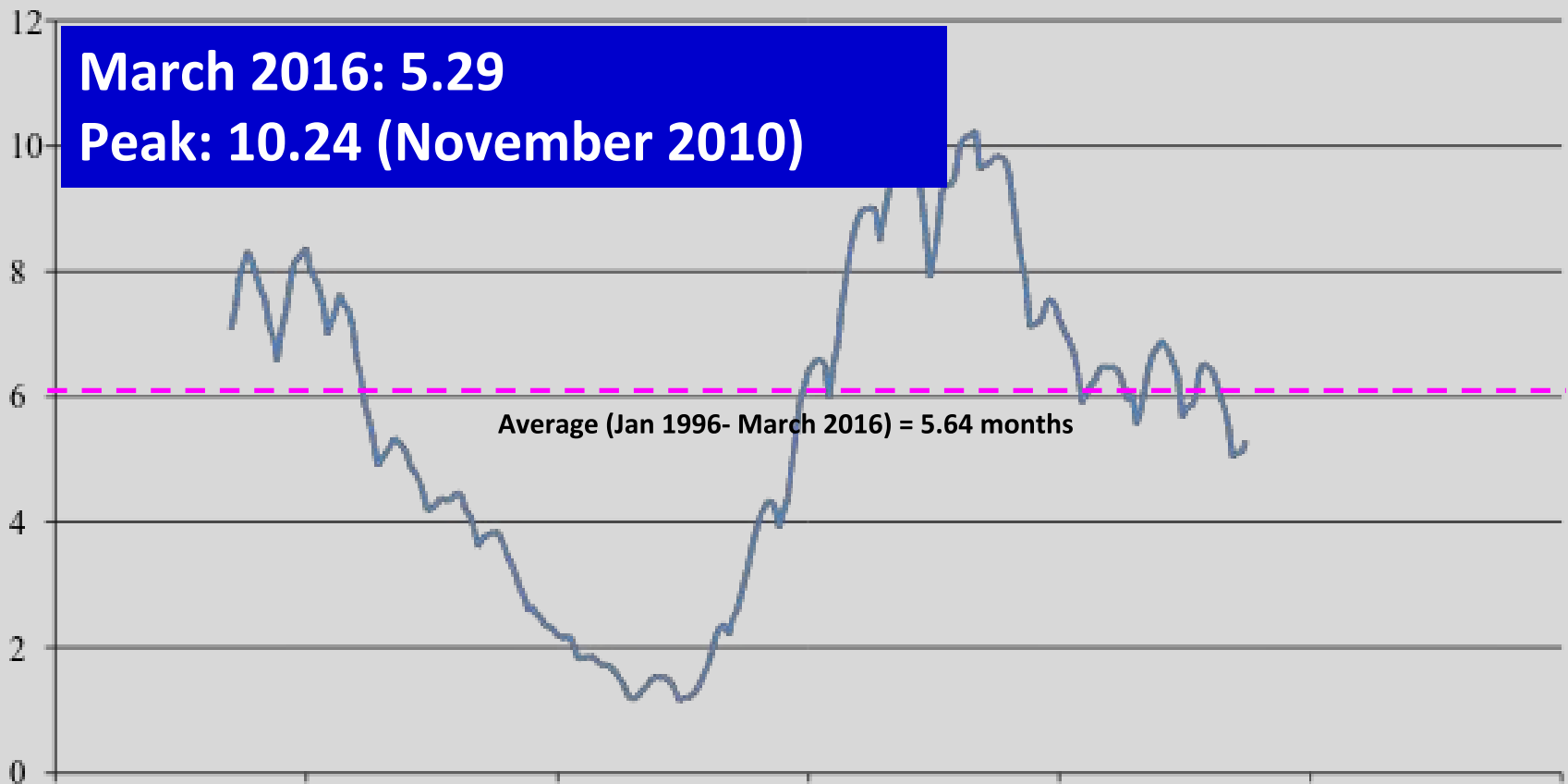
Year	Median Price	Percent change year to year
2002	\$116,900	7.3%
2003	\$130,000	11.2%
2004	\$156,500	20.4%
2005	\$192,000	22.7%
2006	\$214,900	11.9%
2007	\$223,000	3.8%
2008	\$219,000	-1.8%
2009	\$207,000	-5.5%
2010	\$203,900	-1.5%
2011	\$180,000	-11.7%
2012	\$185,000	+2.78%
2013	\$190,000	+2.70%
2014	\$193,205	+1.70%
2015	\$203,000	+5.07%

90% increase from 2002-07

19% decrease From 2007-11

Estimated Months of Supply of All Existing Homes in Hampton Roads

Based on Average Sales in the Last 12 Months: January 1996 – March 2016

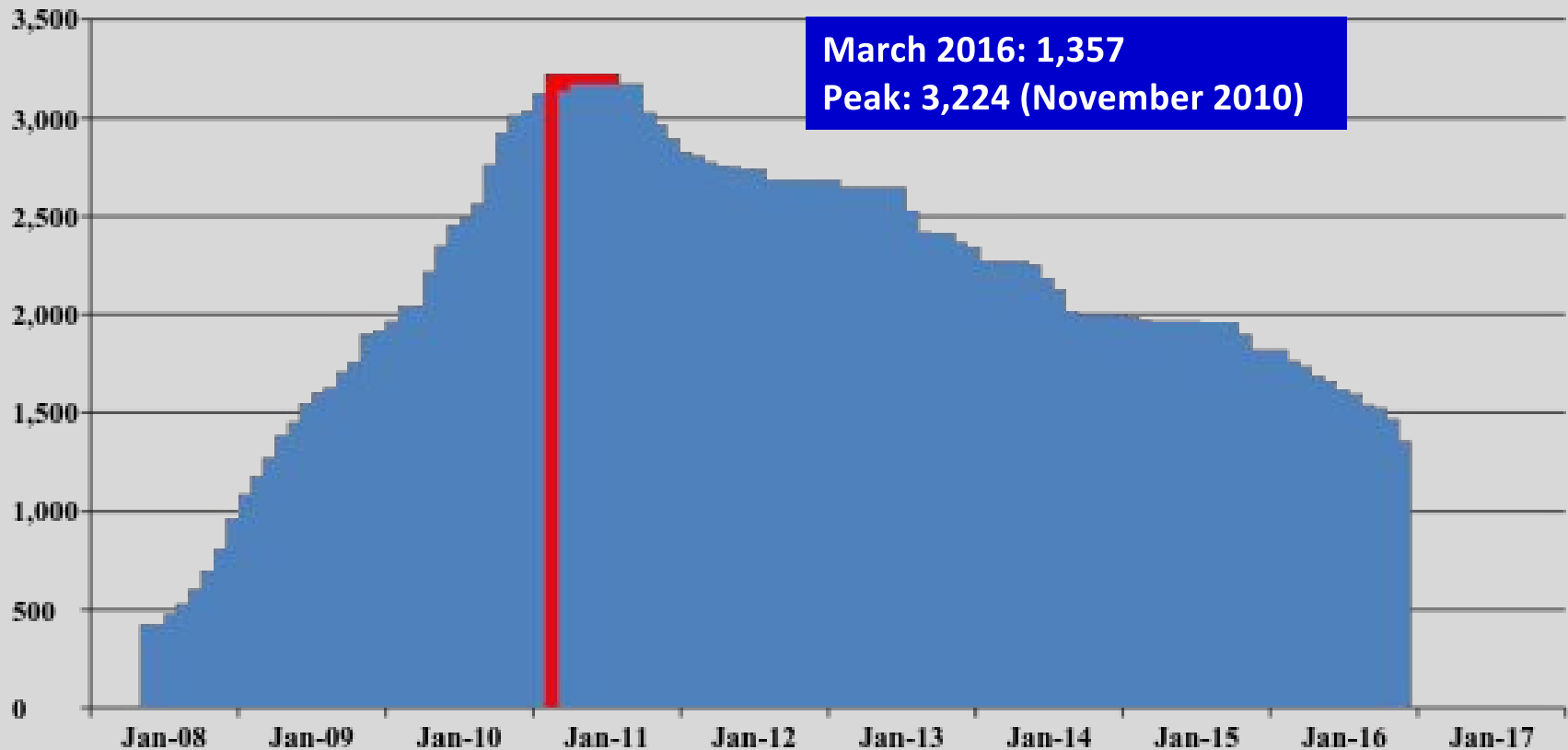


Observations on Existing Homes Market since 2011

- Inventories have decreased substantially.
- Days on market have also decreased.
- Number of homes sold has increased.
- Estimated months of supply have declined substantially.
- But the median price of homes has increased only slightly
- The explanation lies in distressed market– short sales and bank-owned homes (REOs).

Number of Active Listing of Distressed Homes (REO & Short Sales)

Hampton Roads: June 2008 to March 2016



Number of Existing Short Sale and REOs Residential Homes Sold

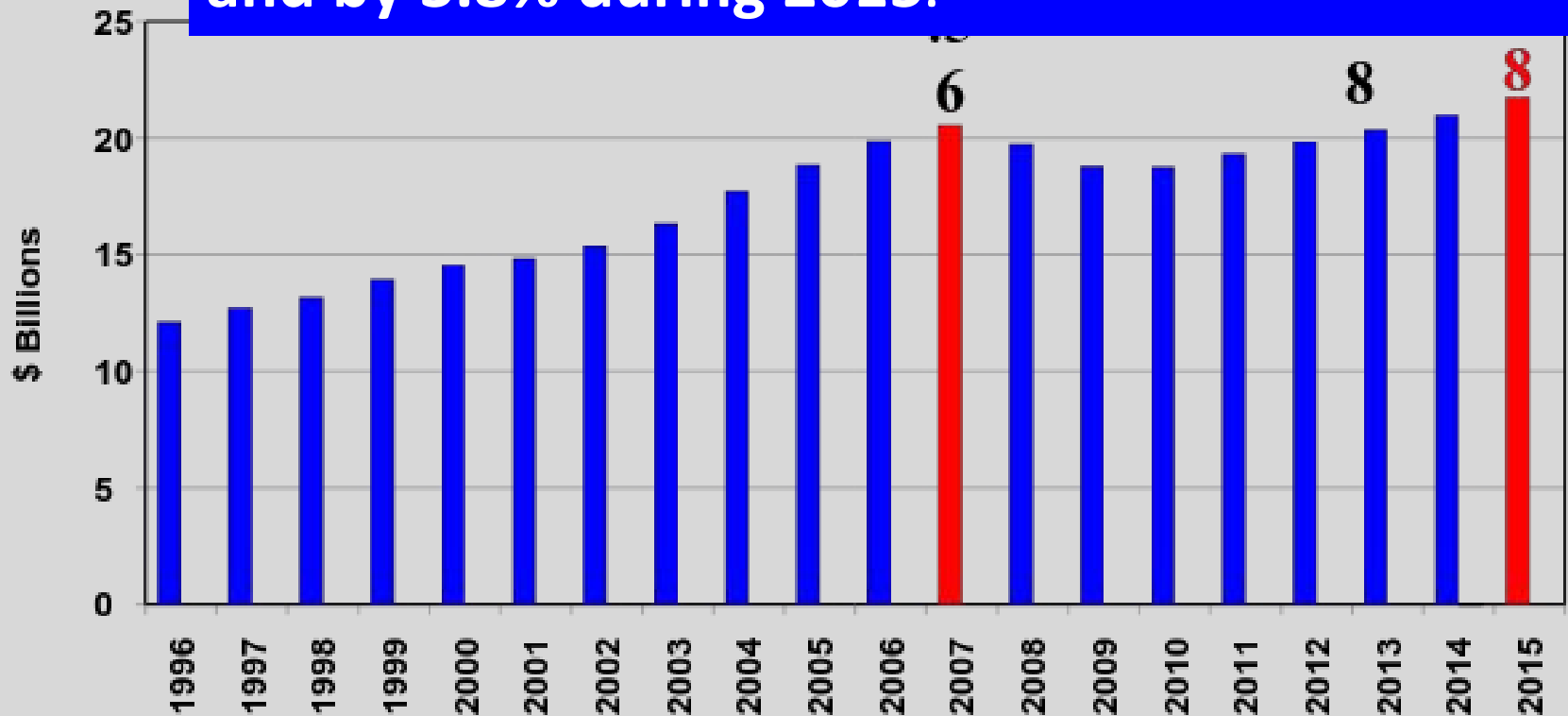
Hampton Roads: 2006- 2015

<u>Year</u>	<u>All Sales</u>	<u>Short Sales</u>	<u>Percent Short Sales</u>	<u>REO Sales</u>	<u>Percent REO Sales</u>
2006	22,405	3	<1%	56	<1%
2007	19,152	40	<1%	223	1.2
2008	15,047	217	1.4	833	5.5
2009	15,849	598	3.8	2,271	14.3
2010	14,696	784	5.3	3,021	20.6
2011	15,817	1,127	7.1	4,213	26.6
2012	16,856	1,644	9.8	3,337	19.8
2013	18,791	1,769	9.4	3,178	16.9
2014	18,700	1,347	7.2	2,744	14.7
2015	20,592	1,230	6.0	2,542	12.3

Retail Sales and the Hotel Industry in Hampton Roads during 2015

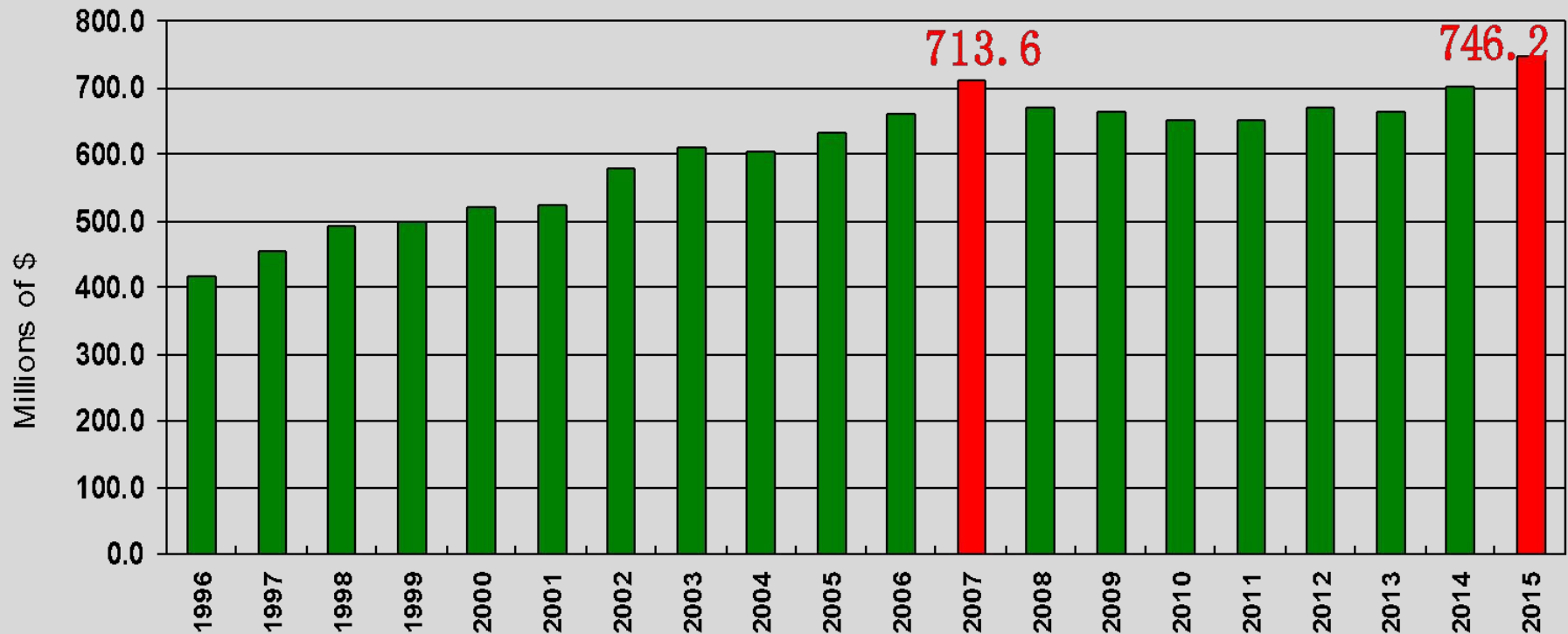
Taxable Sales, Hampton Roads: 1996 to 2015

Taxable sales increased by 2.9% during 2014 and by 3.8% during 2015.

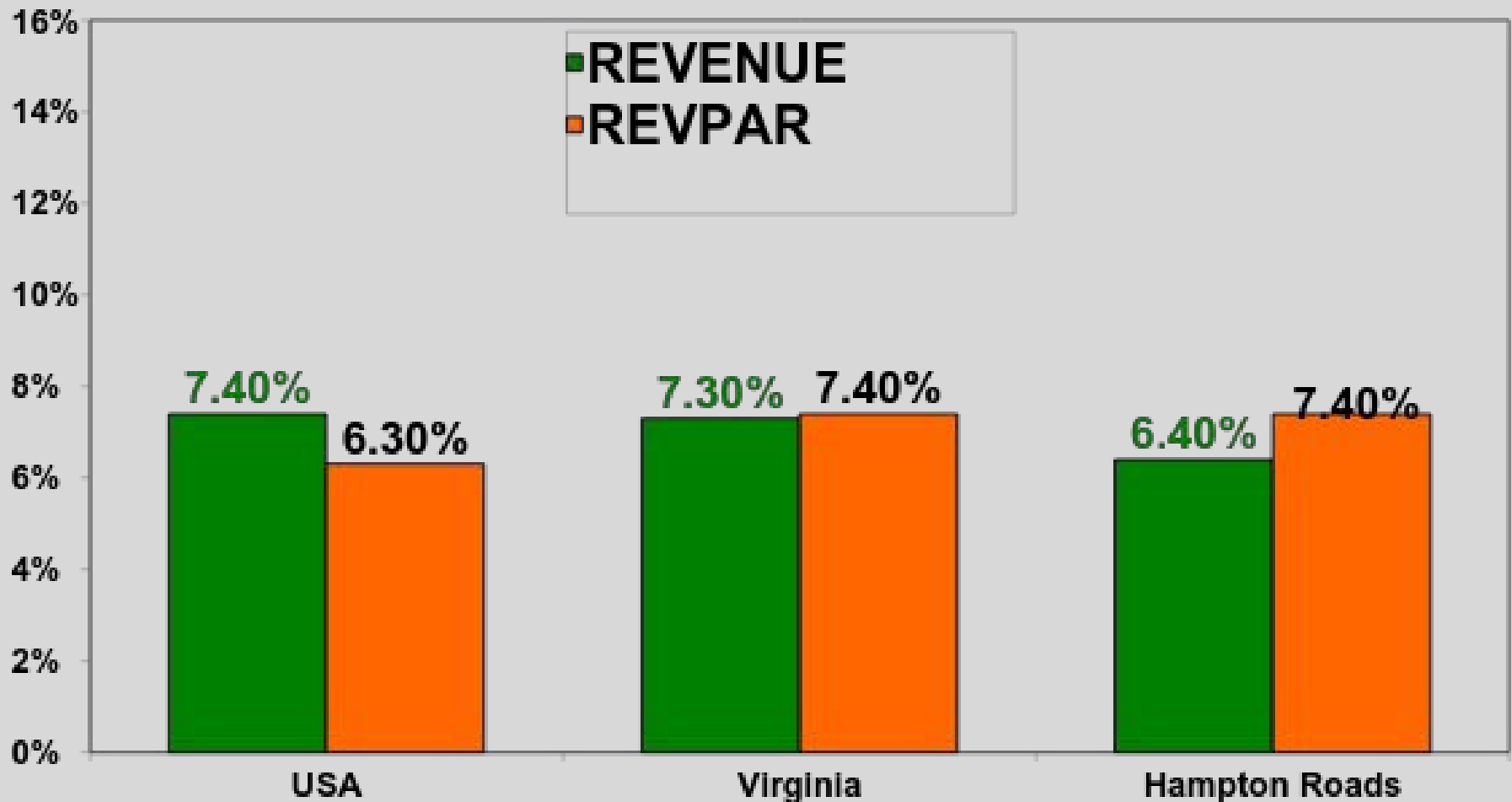


Hotel Revenue in Hampton Roads 1996-2015

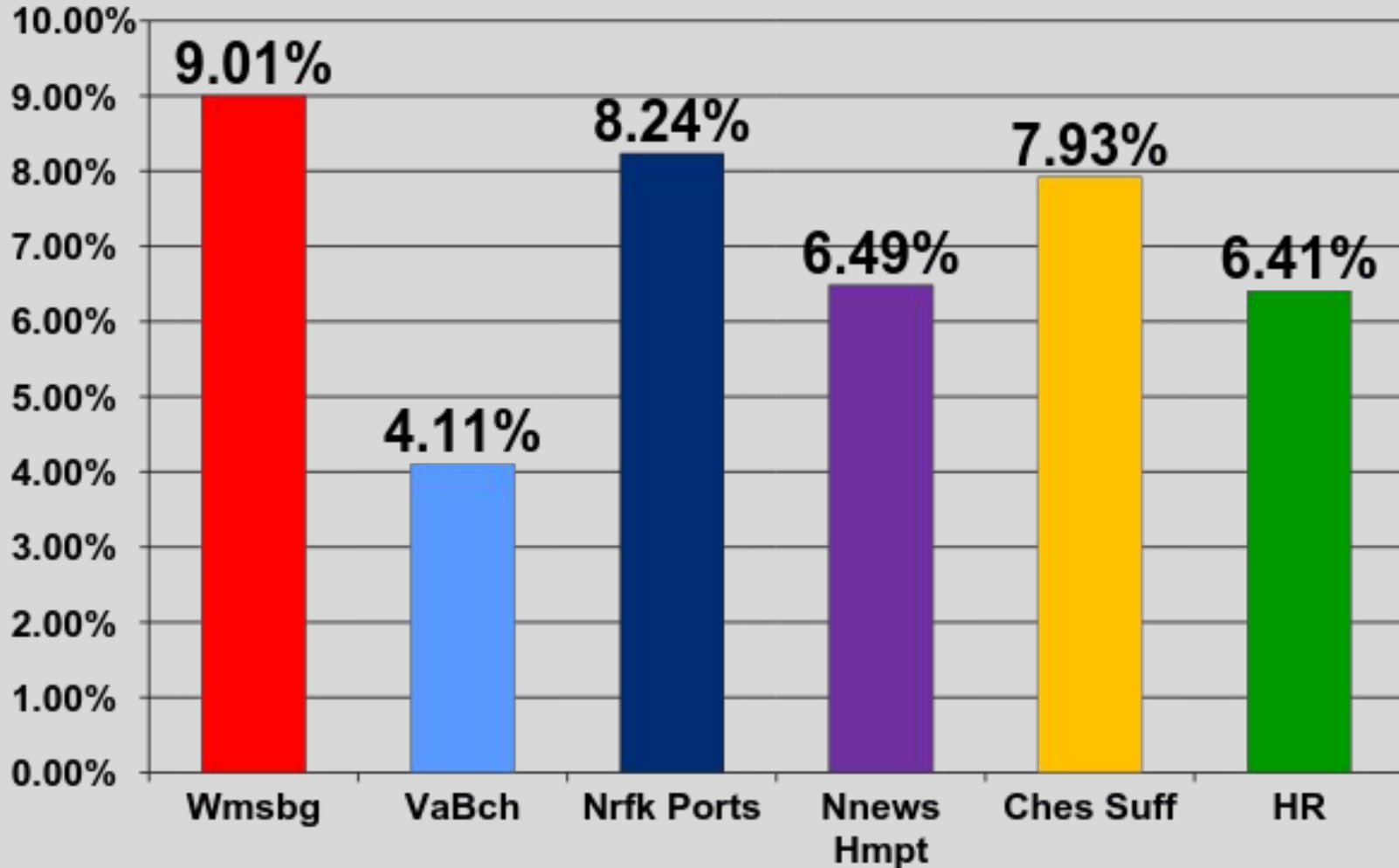
Hotel Revenue in 2015 exceeded their previous peak observed in 2007. Revenue grew by 5.4 % and 6.4 % during 2014 and 2015 respectively.



Percent Change in Hotel Revenue and REVPAR 2014 to 2015

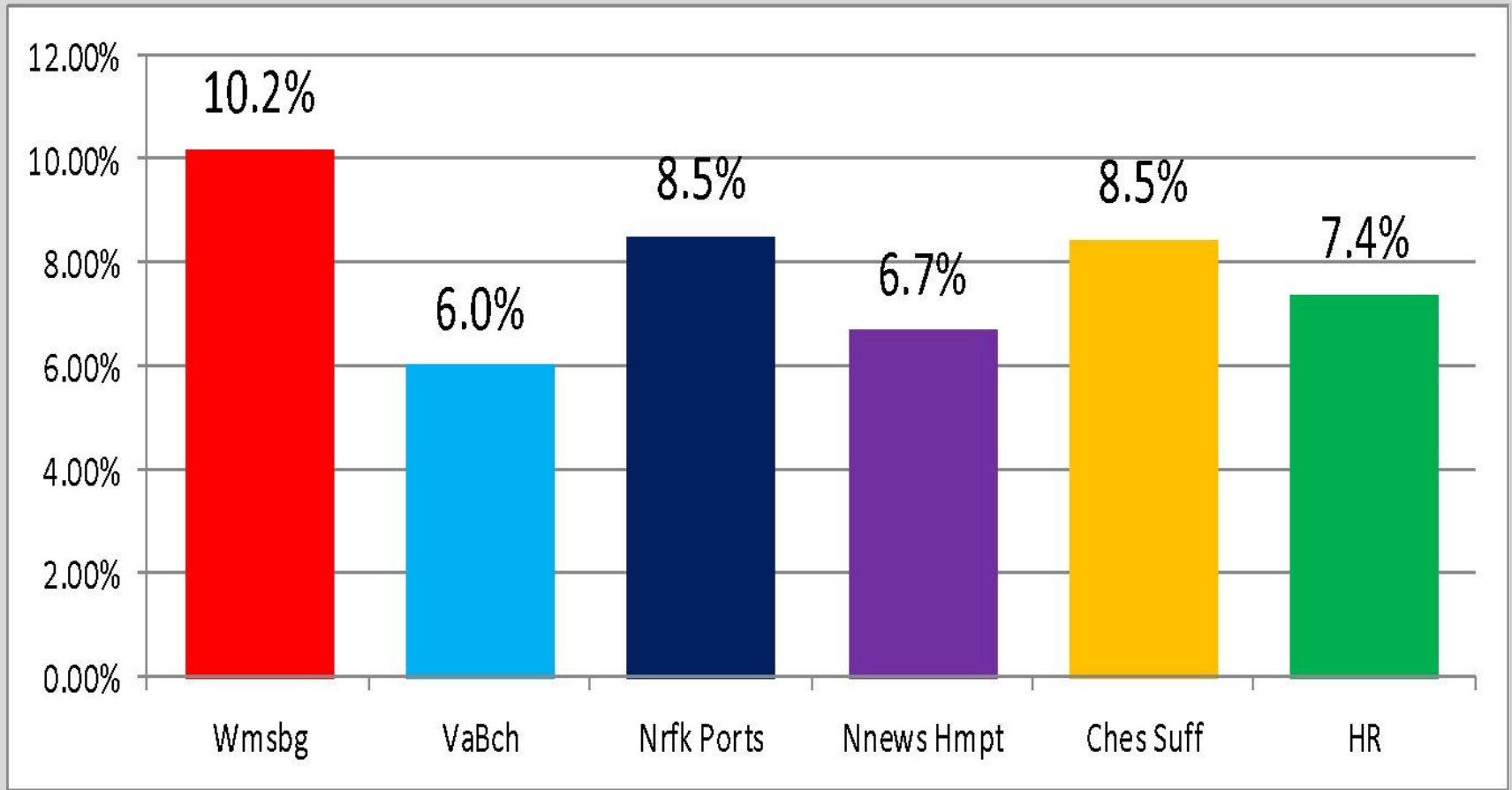


Percent Change in Hotel Revenue within Hampton Roads: 2014 to 2015



Percent Change in REVPAR within Hampton Roads

2014 to 2015



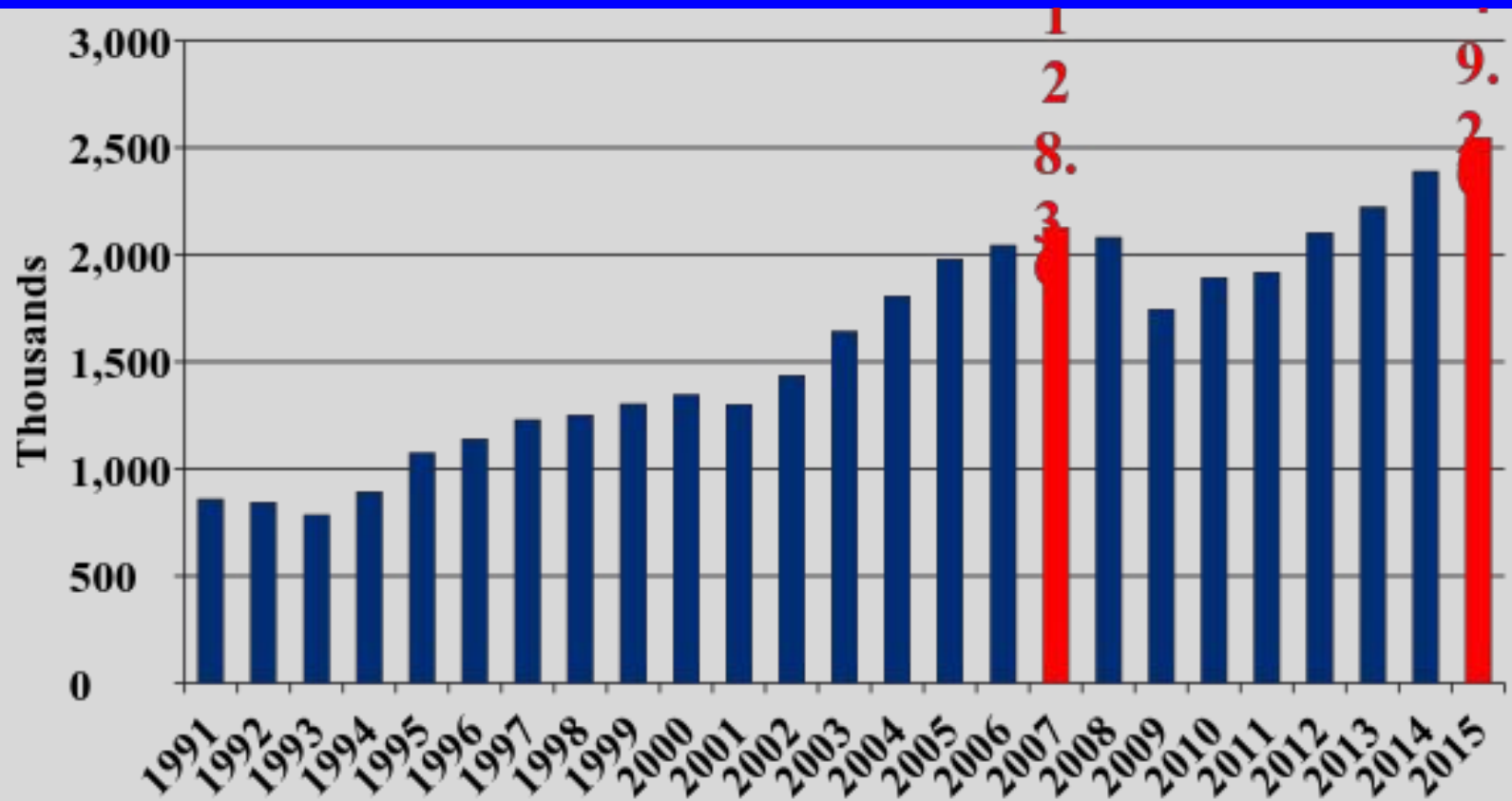
REVPAR in Selected Markets: 2007 and 2015

	<u>2007</u>	<u>2015</u>	<u>Percentage Change</u>
USA	\$65.55	\$78.67	+20.0%
Virginia	\$61.91	\$64.03	+3.4%
Hampton Roads	\$52.93	\$53.87	+1.8%
Virginia Beach	\$64.62	\$71.80	+11.1%
Williamsburg	\$47.47	\$48.16	+1.5%
Newport News/Hampton	\$41.49	\$39.98	-3.6%
Norfolk/Portsmouth	\$54.05	\$51.48	-4.8%
Chesapeake/Suffolk	\$52.90	\$47.36	- 10.5%

Performance of the Port

Twenty-Foot Equivalent Container Units (TEUs) at the Port of Hampton Roads 1991 to 2015

TEUs increased by 6.5% in 2015. However, loaded TEUs increased by only 1.2%, and empty TEUs increased by 37.7%.



Performance of the Hampton Roads Economy through March 2016

Performance of Hampton Roads Economy

YTD March 2015 and YTD March 2016

	YTD March 2015	YTD March 2016	% Change
Civilian Labor Force*	837,785	825,999	- 1.41
Employment*	790,874	784,820	- 0.77
Unemployment*	46,910	41,180	-12.22
Unemployment Rate*	5.60%	4.99%	
Civilian Non-Farm Jobs	749,700	756,567	+ 0.92
New Auto Registrations	19,077	22,115	+15.92
Taxable Sales*	\$3.050B	\$3.136B	+ 2.84

* Data shown here are for YTD February 2015 and YTD February 2016.

Performance of Hampton Roads Economy

YTD March 2015 and YTD March 2016

	YTD March 2015	YTD March 2016	% Change
Hotel Revenue	\$109.48M	\$120.53M	+10.09
General Cargo	5.043M	4.983M	- 1.19
Tonnage			
TEU Containers	599,511	626,756	+ 4.54
Number of 1 Unit Housing Permits	1,003	907	- 9.57
Value of 1 Unit Housing Permits	\$217.73M	\$188.66M	-13.35
Number of Existing Homes Sold	3,893	4,329	+11.20
Distressed Homes as a Percentage of all Existing Homes Sold	24.04	20.10	
Median Price of Existing Homes Sold	\$187,500	\$194,900	+ 3.95

Forecast for 2016

Old Dominion University 2016 Forecast for Hampton Roads MSA

	<u>2015</u>	<u>2016</u>	<u>% Change</u>
Nominal Gross Regional Product	\$93.07B	\$97.63B	
Real Gross Regional Product**	\$84.38B	\$85.72B	+1.59%
Civilian Employment	765,383	772,578	+0.94%
Unemployment Rate	5.07 %	4.30%	
Taxable Sales	\$21.78B	\$22.56B	+3.60%
Hotel Revenue	\$746.22M	\$777.56M	+4.20%
General Cargo Tonnage	19.98M	20.52M	+2.70%
Housing Permit Value	\$819.15M	\$847.00M	+3.40%

2016 Regional Summary

- Look for regional economic growth to be below its half-century annual average of 3.1 percent and also below that of the nation.
- The port, health-care industries, and tourism are likely to help the region's moderate economic expansion in 2016
- Single-family home prices in 2016 are likely to continue to increase at a moderate pace.
 - Inventories, sale volume, and days-on-market are all moving in the right direction. Months of supply of existing homes are lower than their historic average.
- Lingering distressed home volume remains a concern

Any Questions?

*Professor Vinod Agarwal
Professor Larry “Chip” Filer*

Strome College of Business

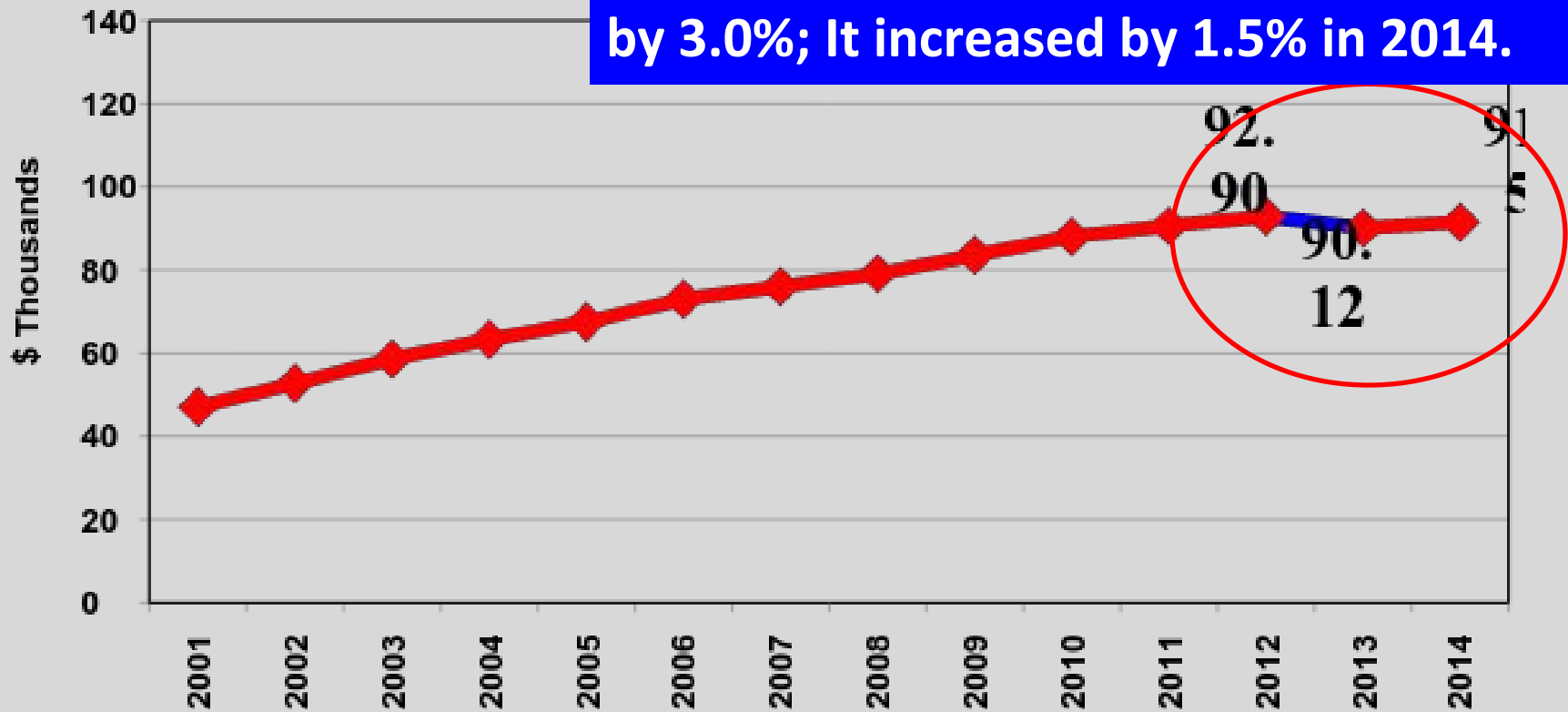
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Average Military Compensation

Hampton Roads: 2001 to 2014

Average Military Compensation for the first time since 1969 declined in 2013 by 3.0%; It increased by 1.5% in 2014.

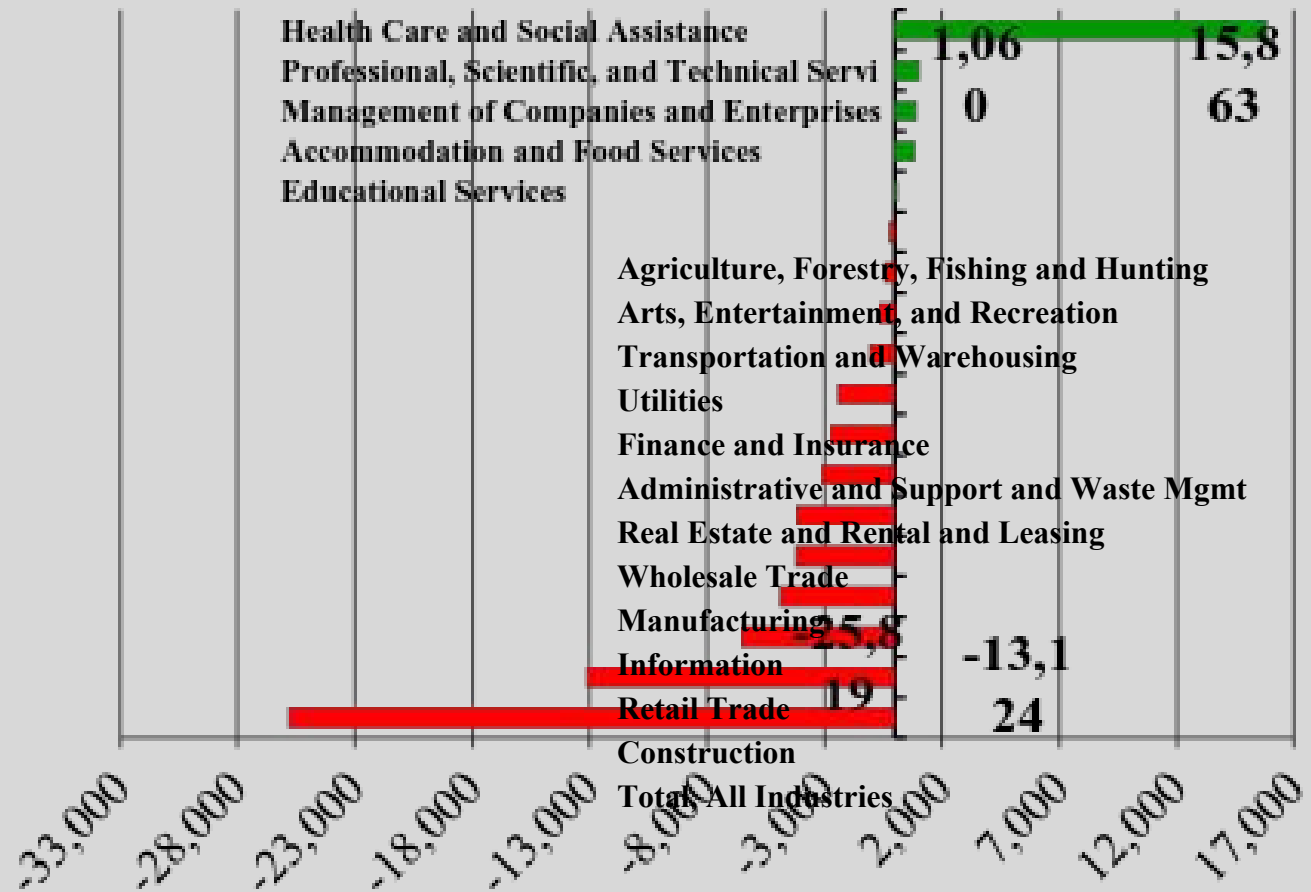


Old Dominion University 2015 Hampton Roads Scorecard

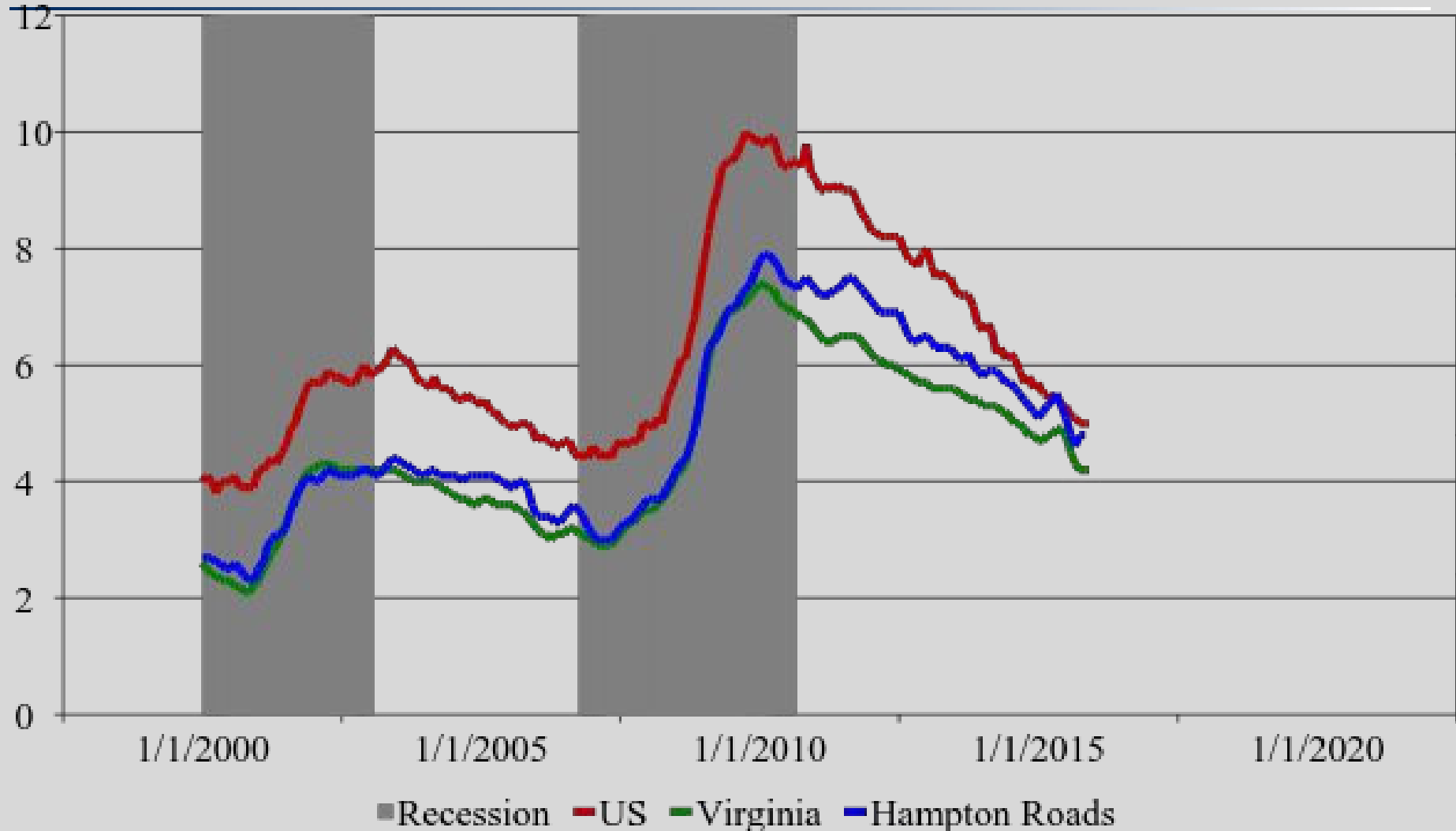
	<u>Actual Change</u> <u>2015*</u>	<u>Predicted</u> <u>Change 2015</u>
Civilian Employment**	0.86%	+0.90%
Unemployment Rate**	5.07%	4.90%

Change in Employment by Sectors (Private Ownership) in Hampton Roads

From 1st Quarter 2007 to 1st Quarter 2015 (Virginia Portion of Hampton Roads)

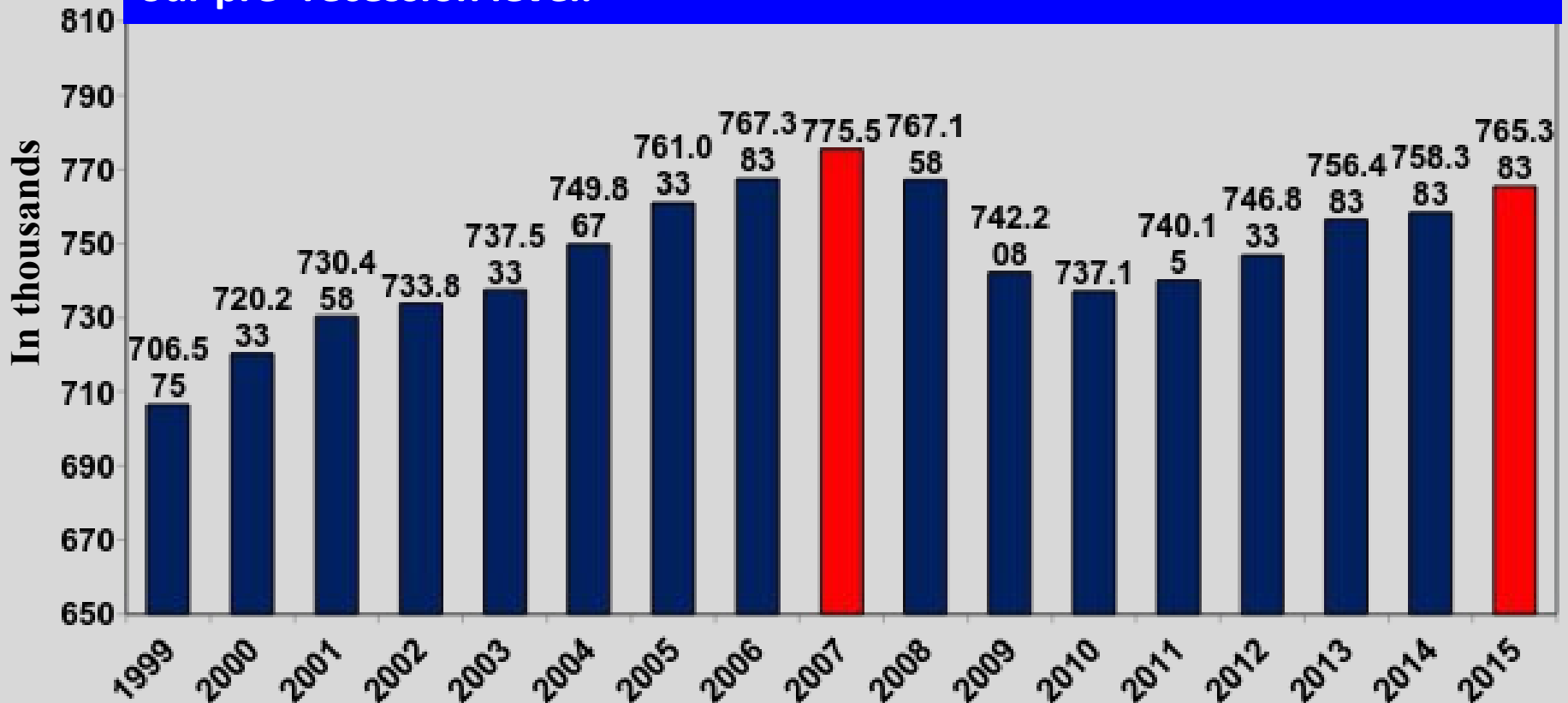


Unemployment Rate in U.S., Virginia, and Hampton Roads



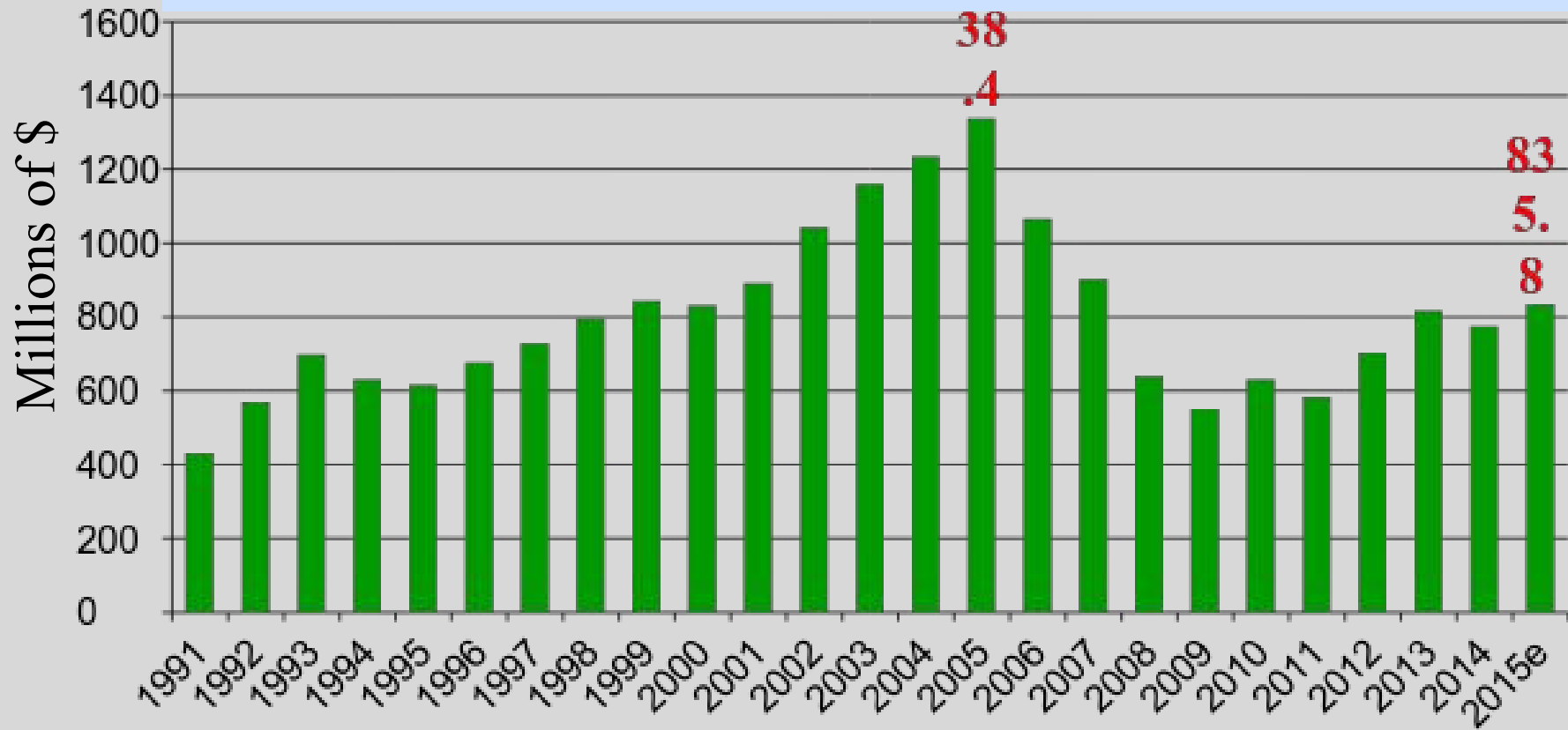
Annual Civilian Employment (Jobs) in Hampton Roads: 1999 to 2015

The HR economy added only 1,900 jobs in 2014. By the end of 2015, even with 7,000 jobs created in 2015, we will still be about 10,000 jobs below our pre-recession level.



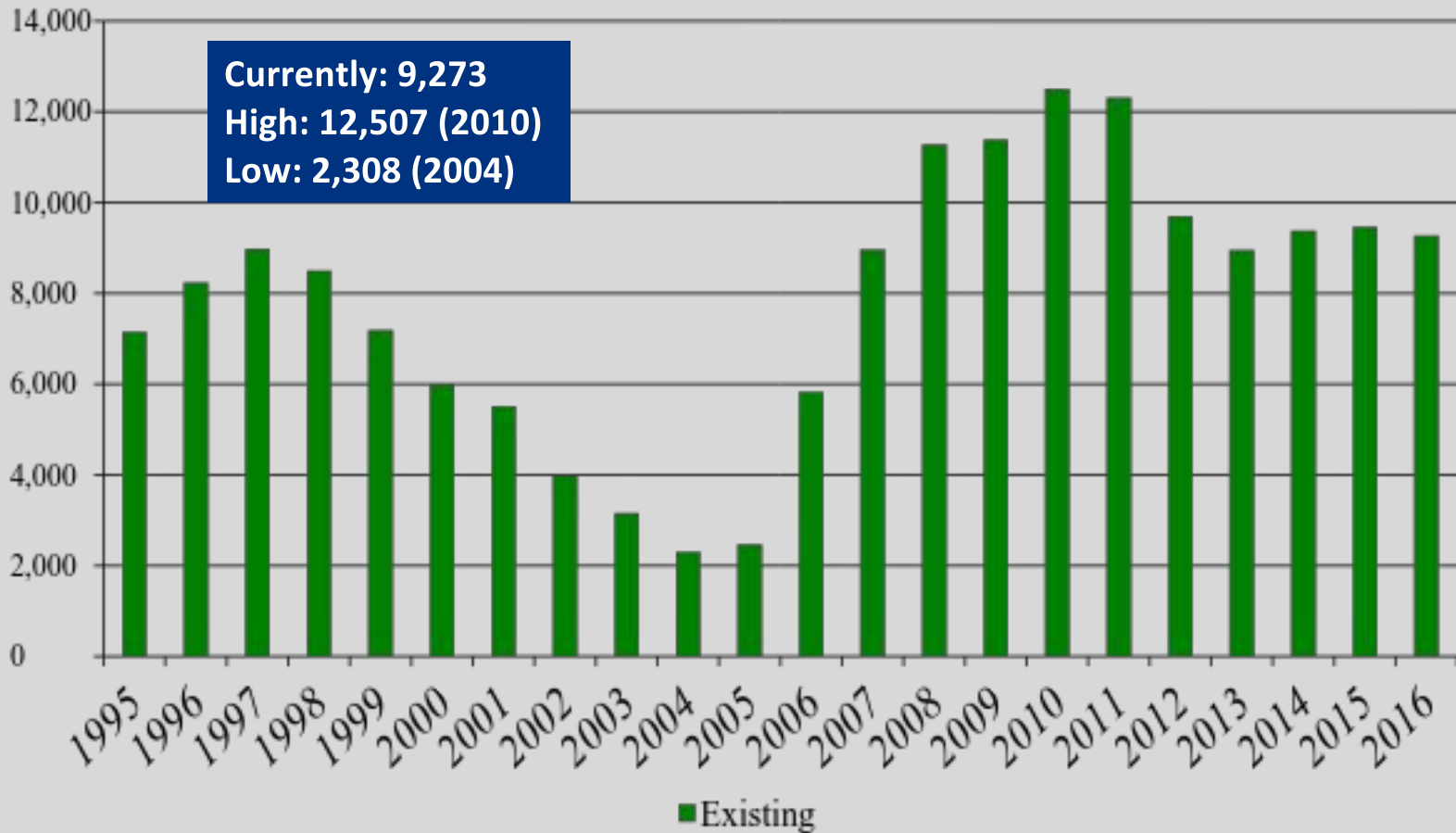
Value of Building Permits for One Unit Family Homes in Hampton Roads: 1991-2015

Value of permits increased by 8.0% in 2015; Our forecast was an increase of 3.2%. It is 37% below its peak in 2005



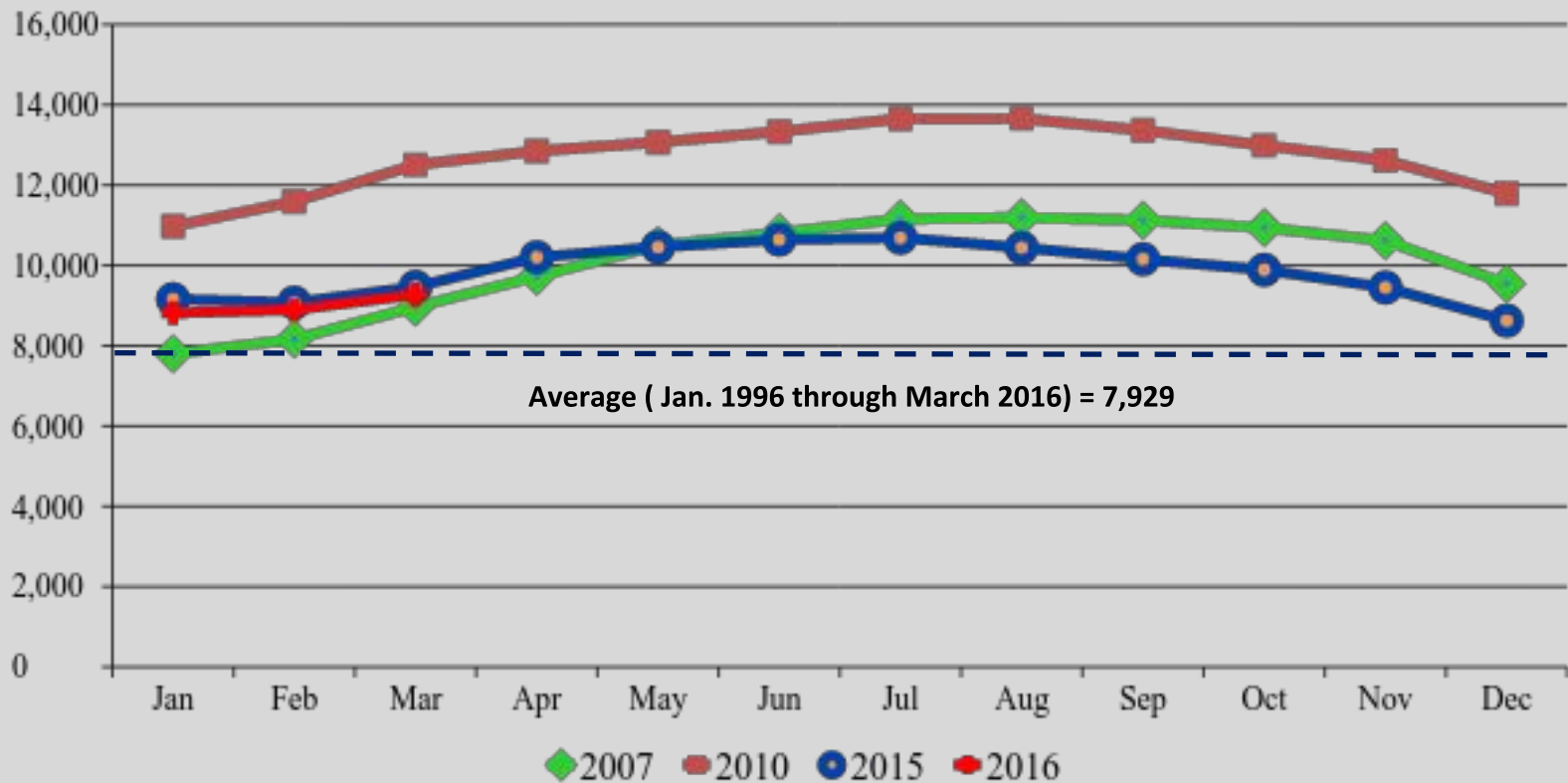
Estimated Inventory of Existing Residential Homes as Measured by Active Listings on March 31 of Each Year

Hampton Roads: 1995-2016



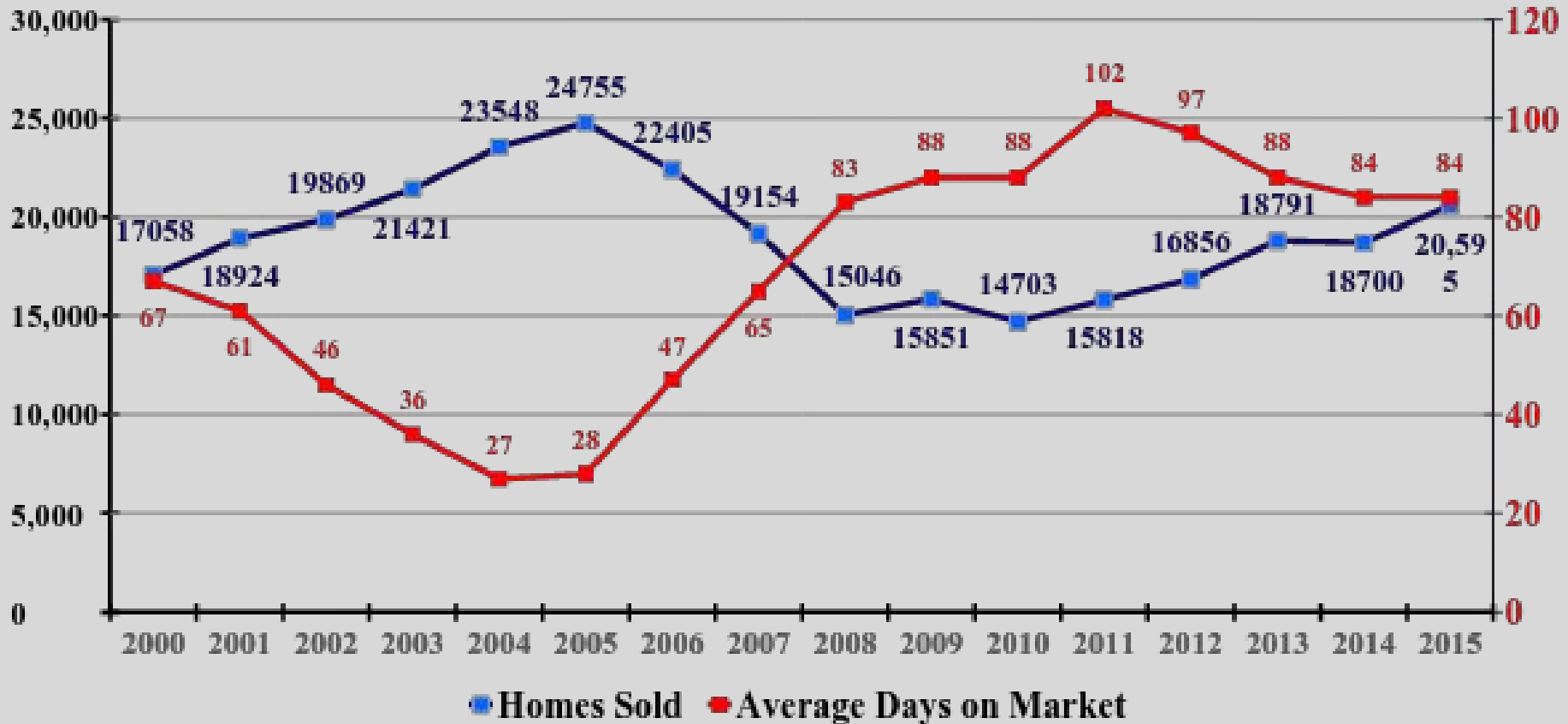
Estimated Inventory of Existing Residential Homes as Measured by Active Listings

Hampton Roads: 2007, 2010, 2015, and 2016



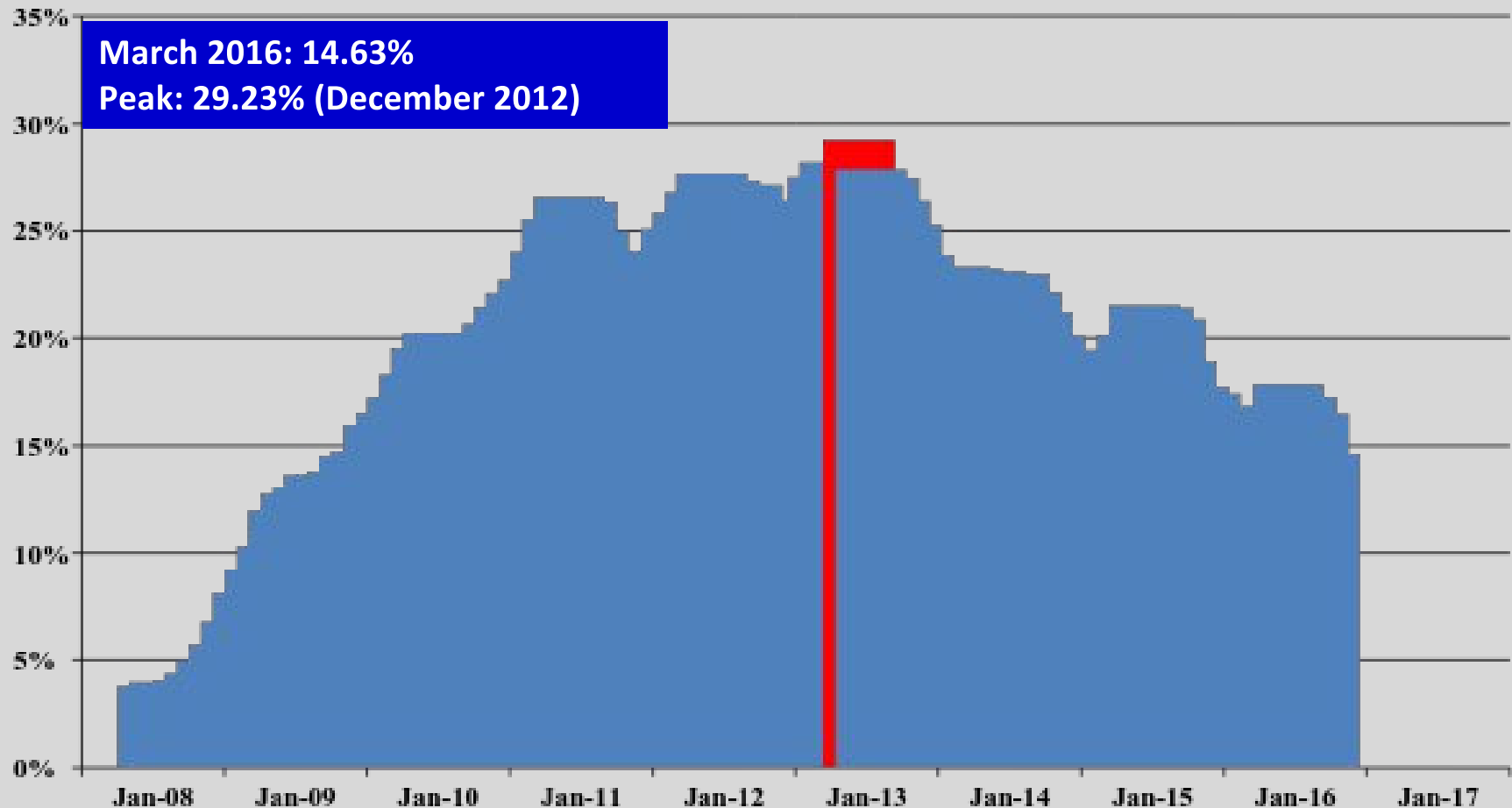
Existing Residential Homes Sold and Average Days on the Market

Hampton Roads: 2000-2015



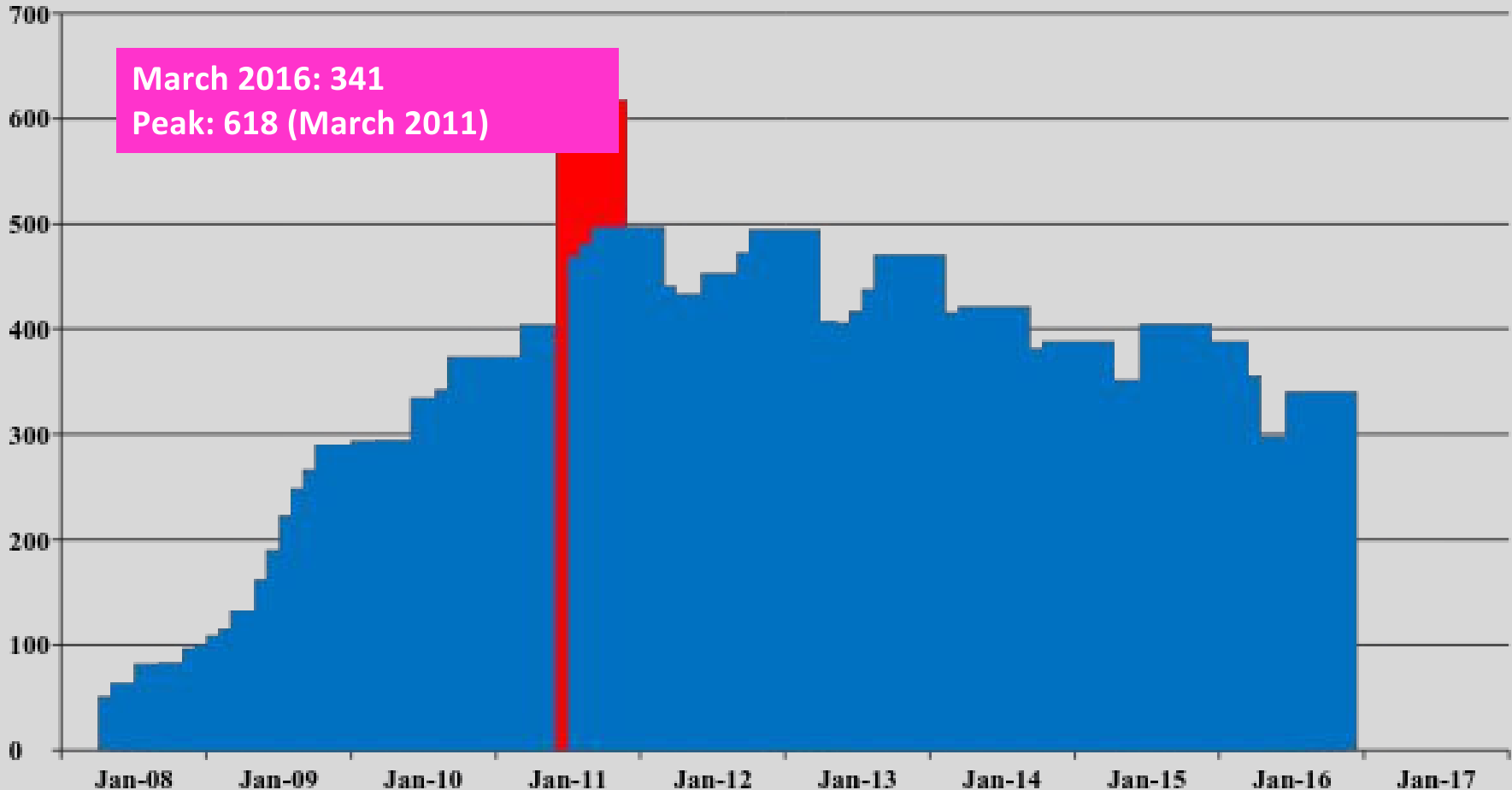
Active Listing of Distressed Homes (REO & Short Sales)

As a Percentage of Total Existing Residential Homes Listings in Hampton Roads



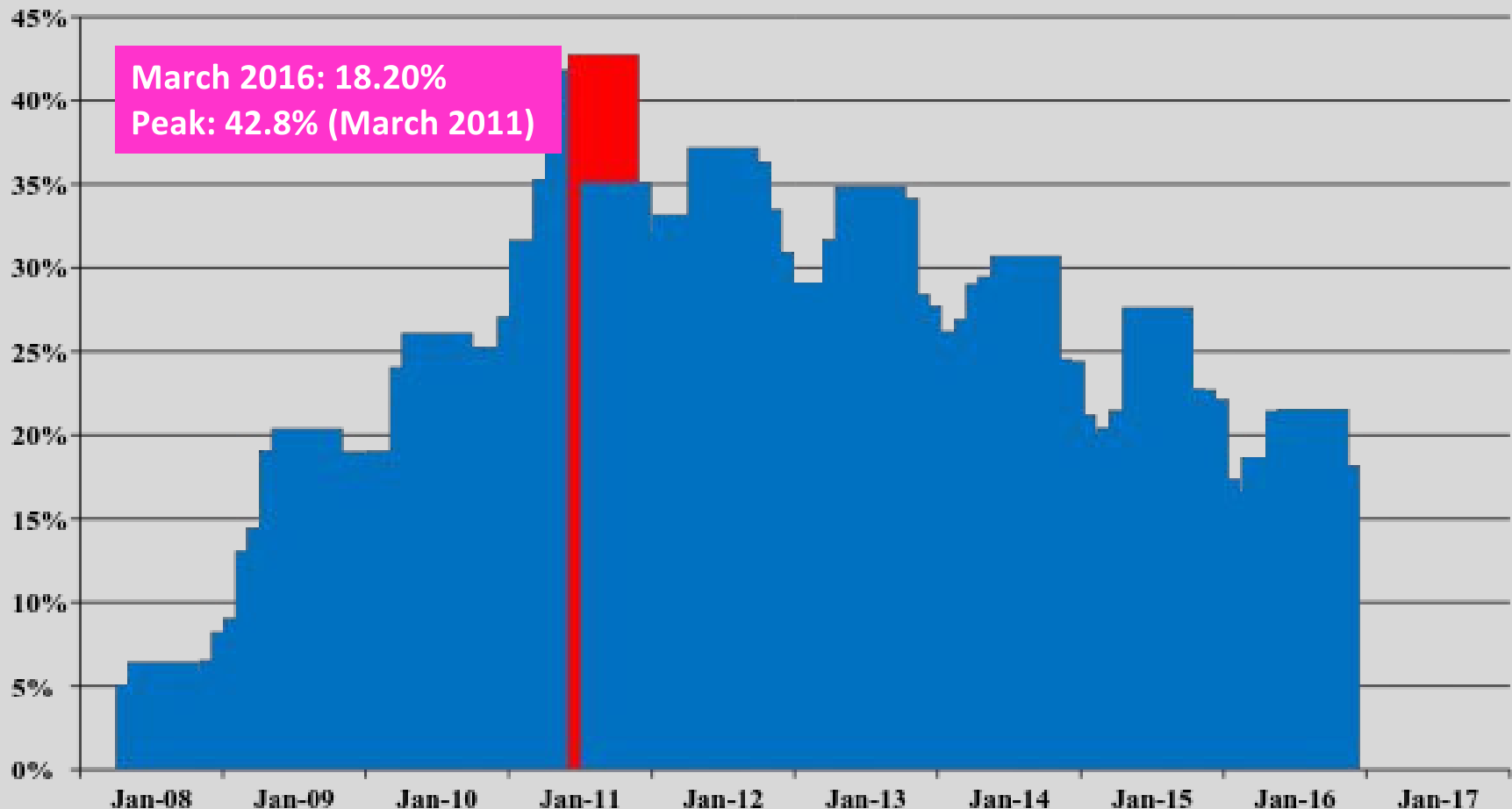
Number of Distressed Homes Sold(REO & Short Sales)

Hampton Roads: June 2008 to March 2016



Sales of Distressed Homes (REO & Short Sales)

As a Percentage of Total Existing Residential Homes Sold in Hampton Roads



Old Dominion University 2015 Hampton Roads Scorecard

	<u>Actual Change</u> <u>2015*</u>	<u>Predicted Change</u> <u>2015</u>
Taxable Sales	+3.46%	+3.80%
Hotel Revenue	+6.46%	+4.90%

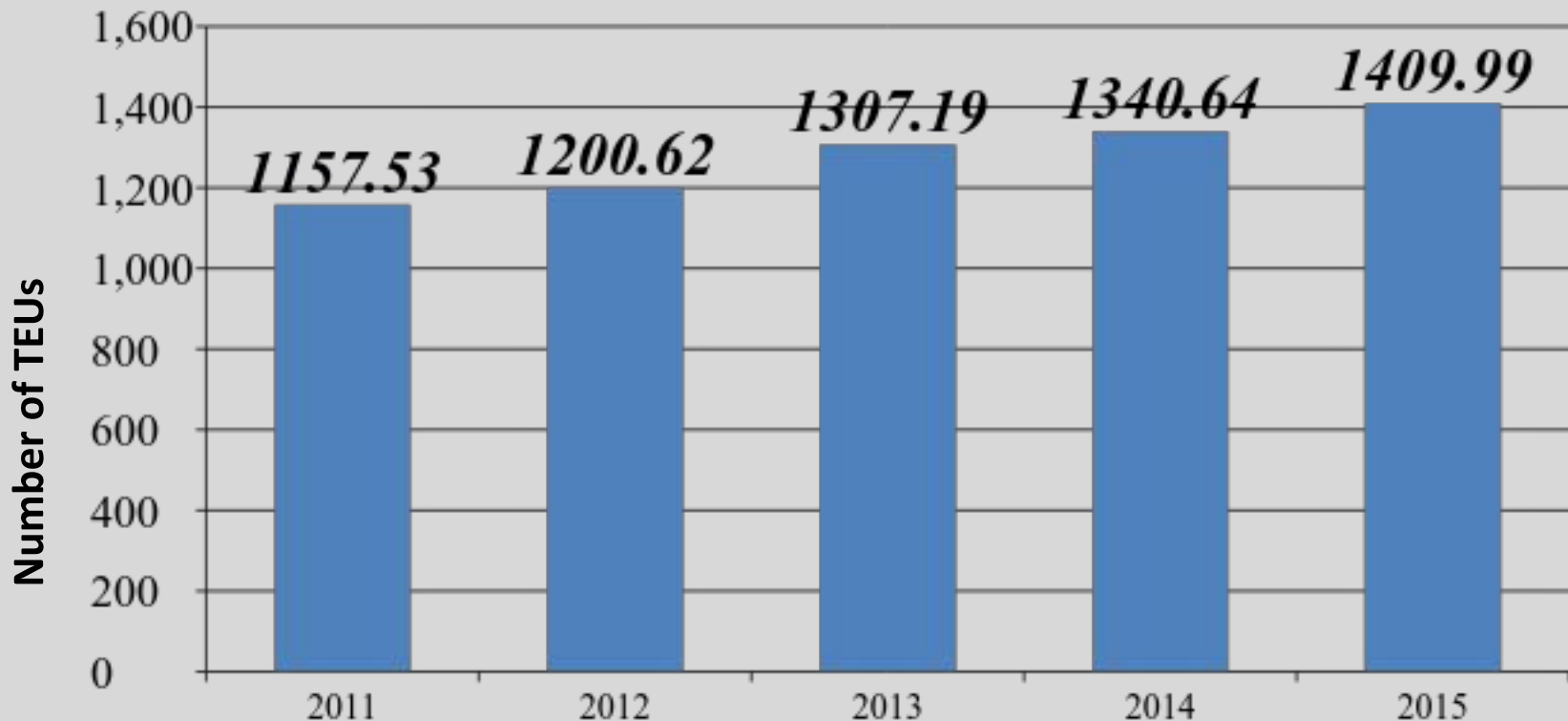
Source: Virginia Department of Taxation, Smith Travel Research and the Old Dominion University Economic Forecasting Project.

*Figures for calendar year 2015 include predicted values for December 2015.

Operating Income/Loss for the Port of Virginia (In Million \$) : 2011 to 2015

<u>Time</u>	<u>Operating Income/Loss</u>
Fiscal Year 2011	-\$20.67
Fiscal Year 2012	-\$11.32
Fiscal Year 2013	-\$11.07
Fiscal Year 2014	-\$16.89
Fiscal Year 2015	+\$13.61

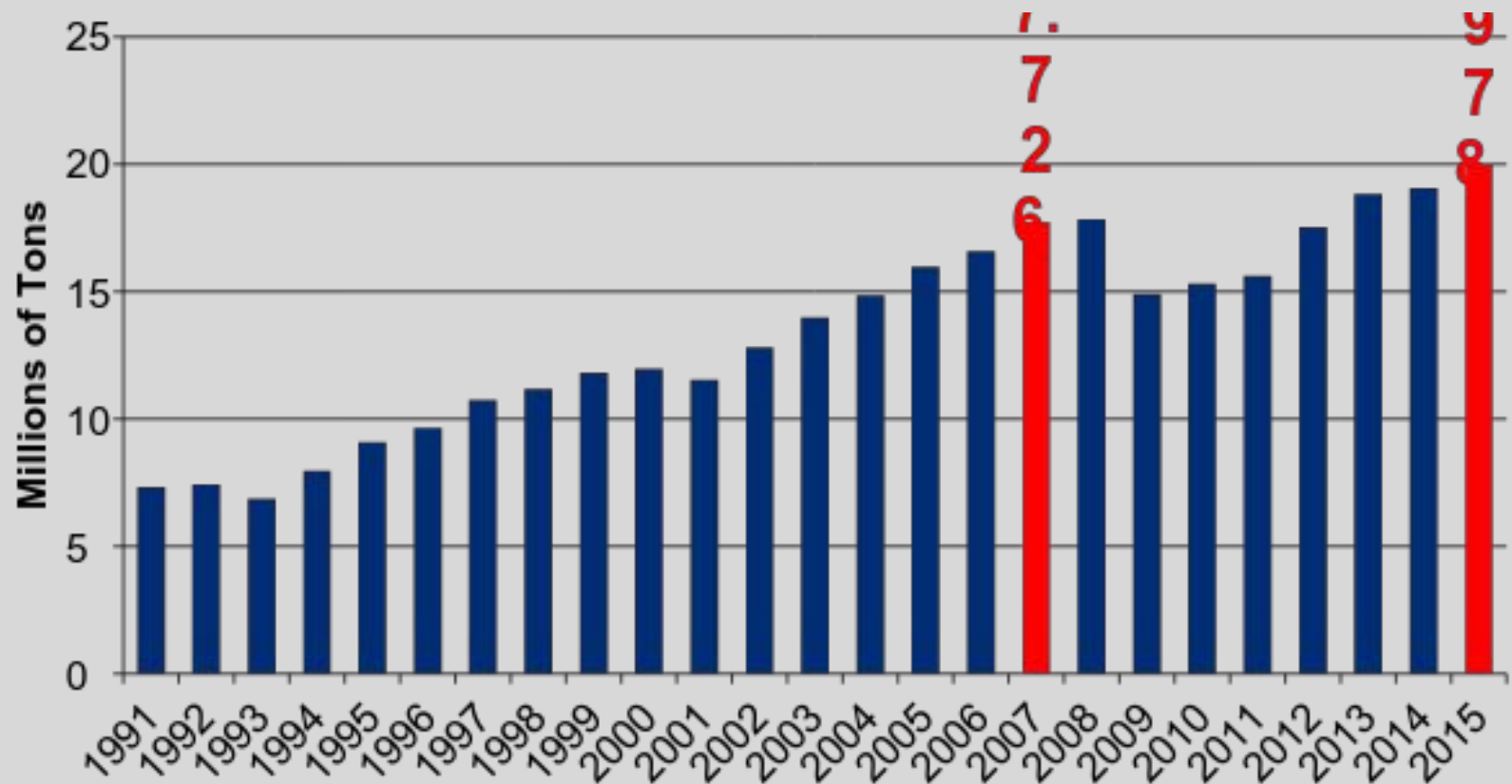
Average TEUs per Container Vessel Call 2011 to 2015



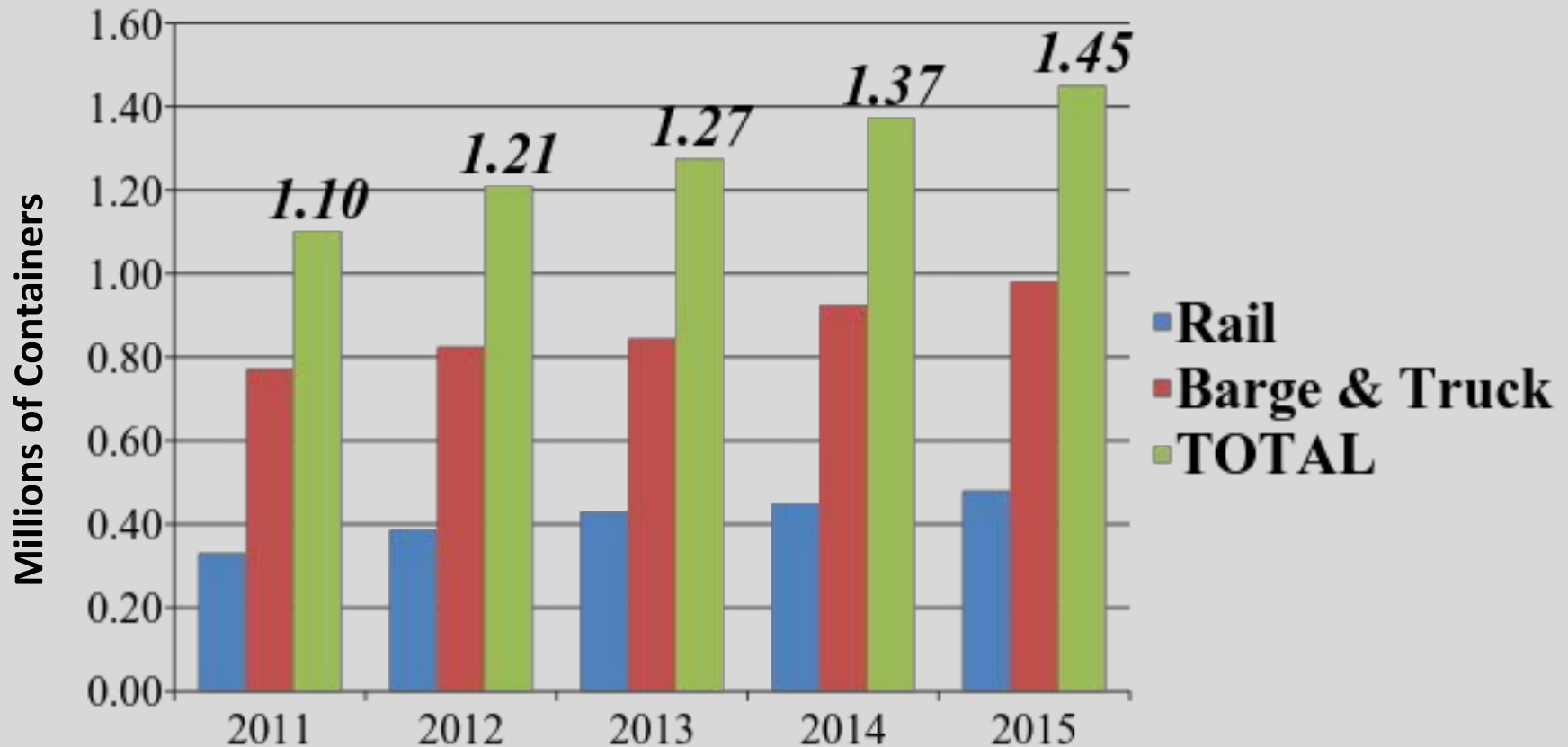
Average TEUs per Container Vessel Call continues to increase; It increased by 8.9% in 2013, 2.6 % in 2014, and 5.2% in 2015.

General Cargo Tonnage at the Port of Hampton Roads: 1991 to 2015

General Cargo Tonnage increased by 4.8% in 2015



Movement of Containers at the Port of Hampton Roads by Type of Transportation: 2011 to 2015



Percent of containers moved by rail has gradually increased from 31.9% in 2012 to 32.8% in 2015.