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Economic Forecasting Project

Old Dominion University 2017 National Economic Outlook

May 16, 2017

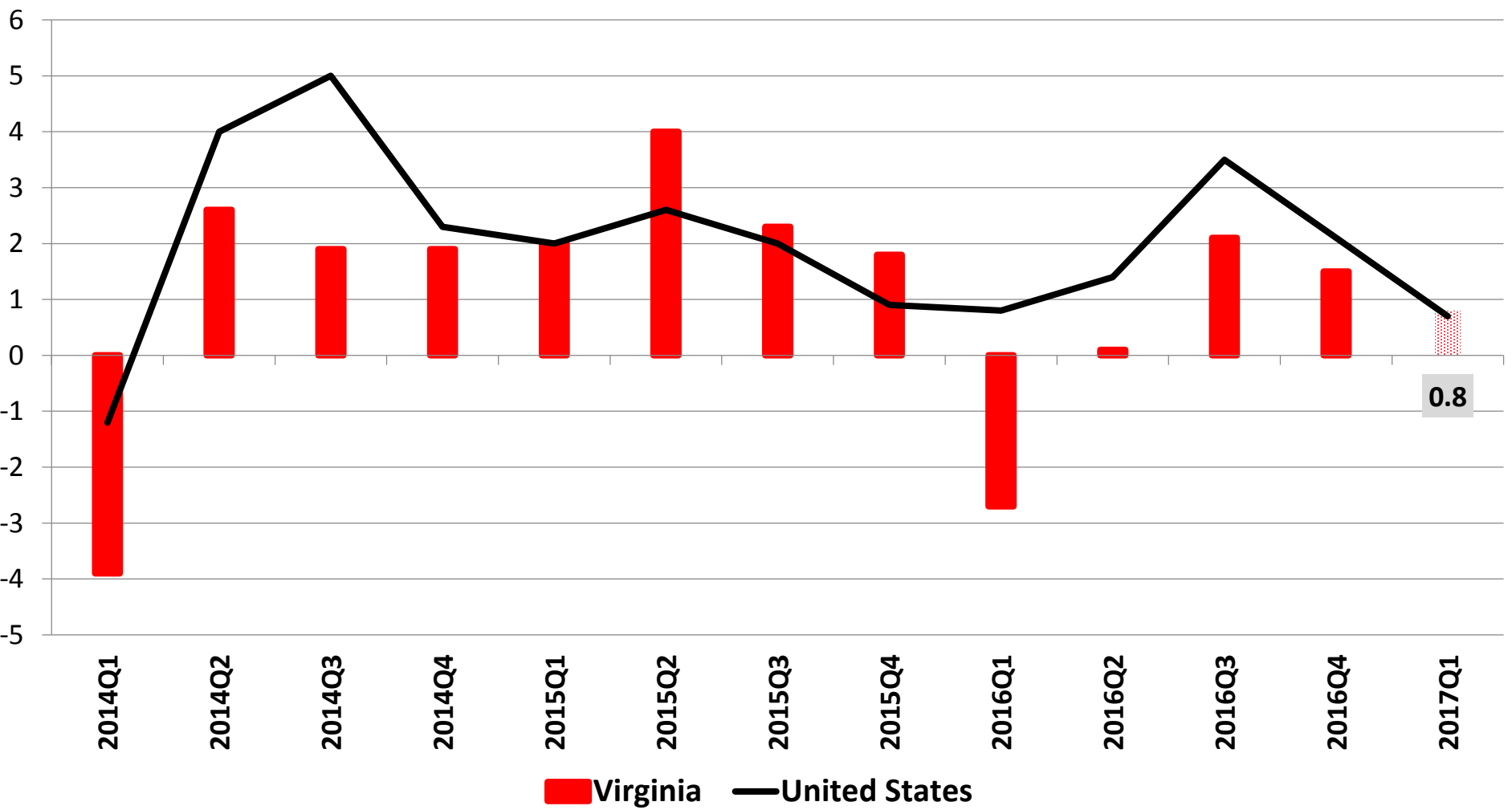
Larry “Chip” Filer

Chair and Associate Professor of Economics

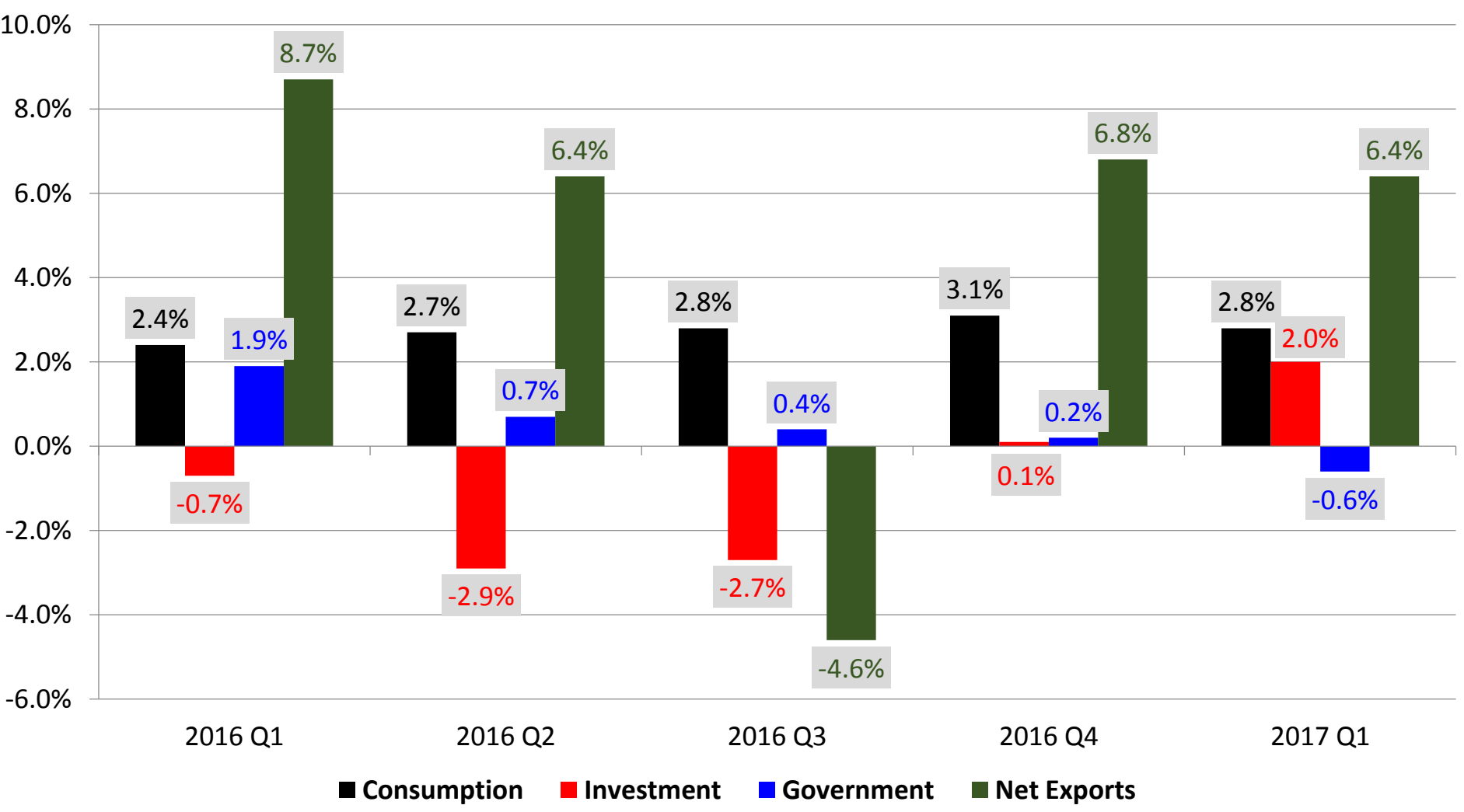
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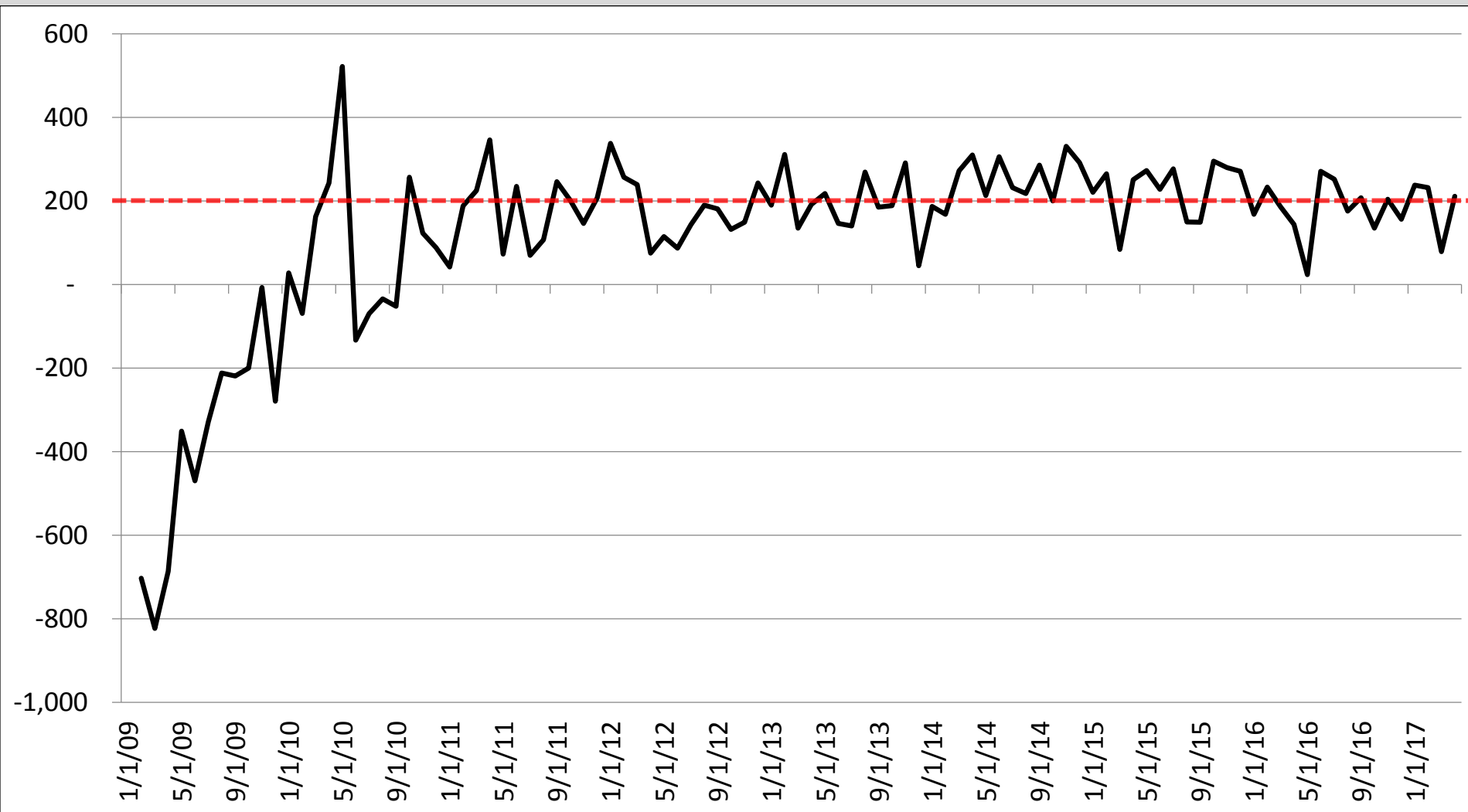
Real GDP Growth United States and Virginia



Sources of Recent GDP Growth (12-month Growth Rates)

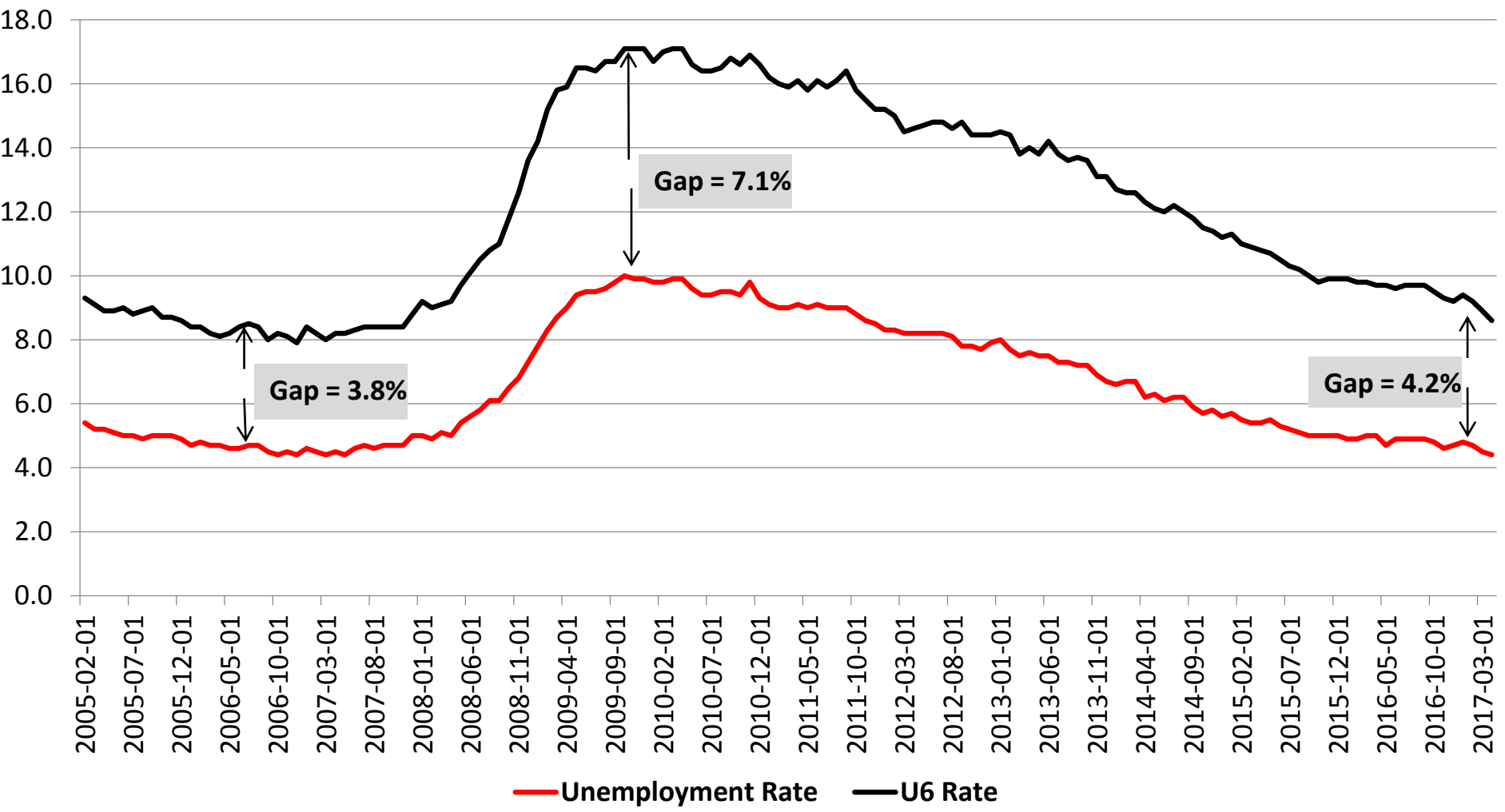


Total Nonfarm Payroll Employment (Month over Month Net New Jobs)

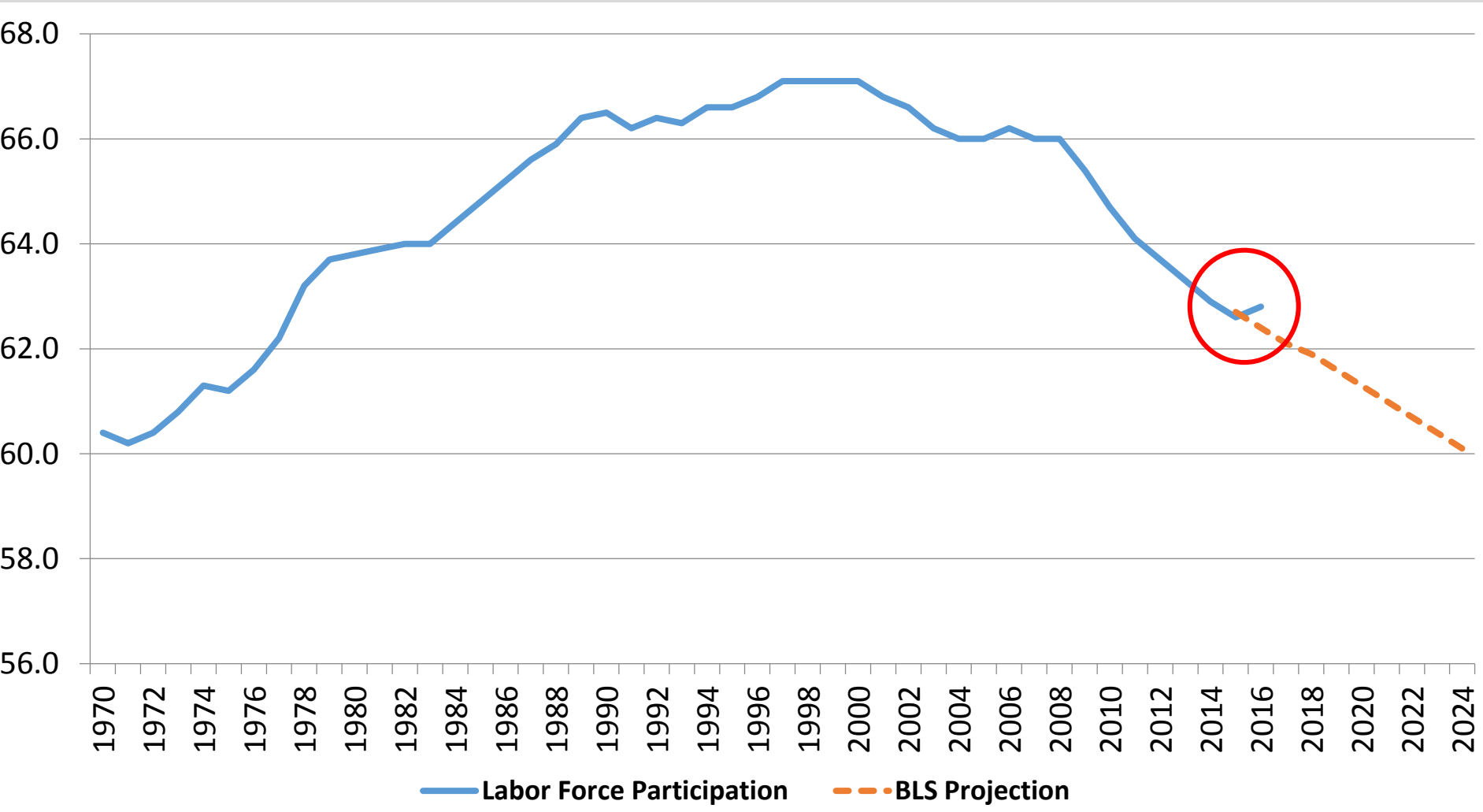


The Unemployment Situation

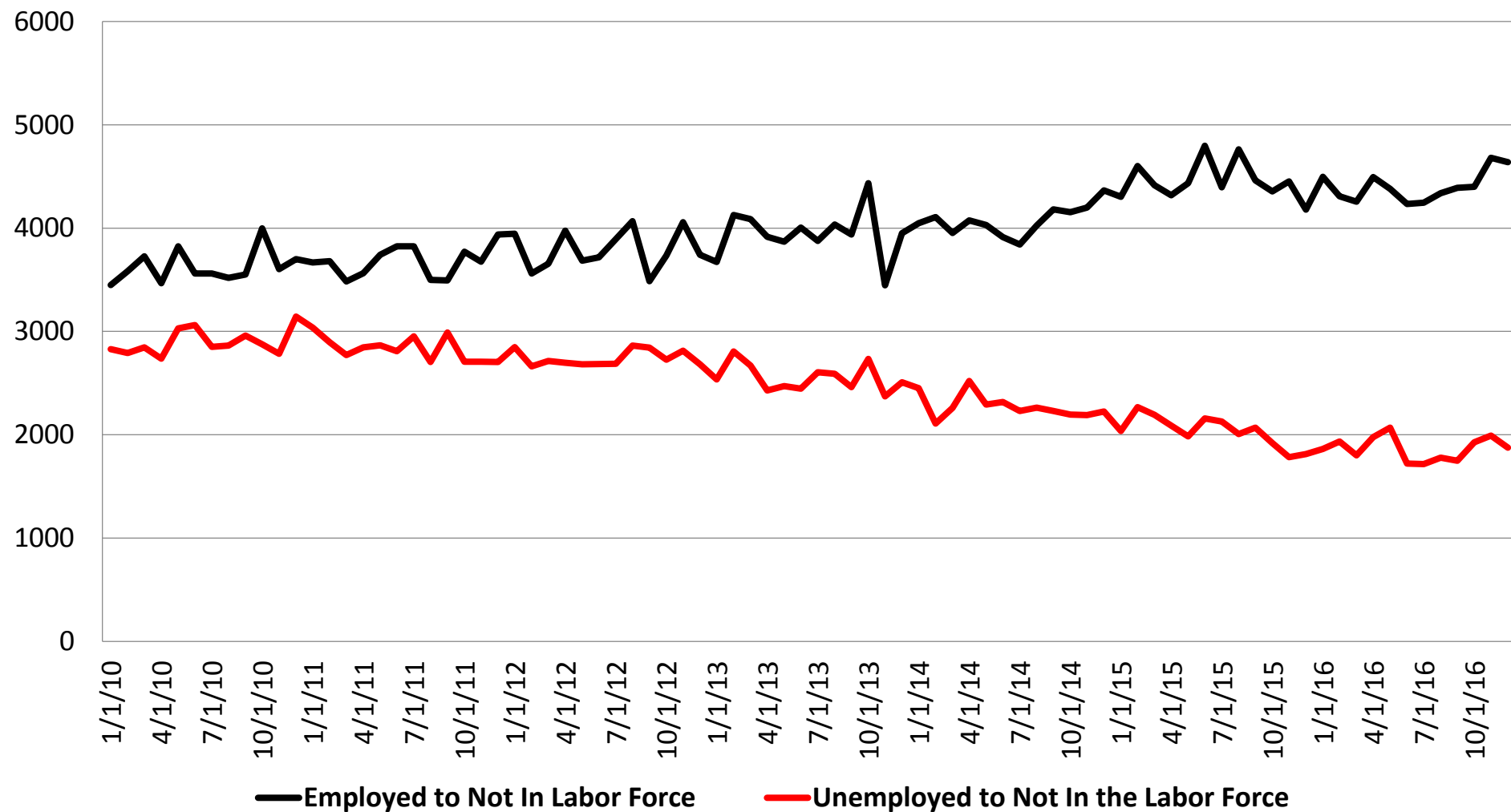
Civilian Unemployment Rate and the U6 Rate



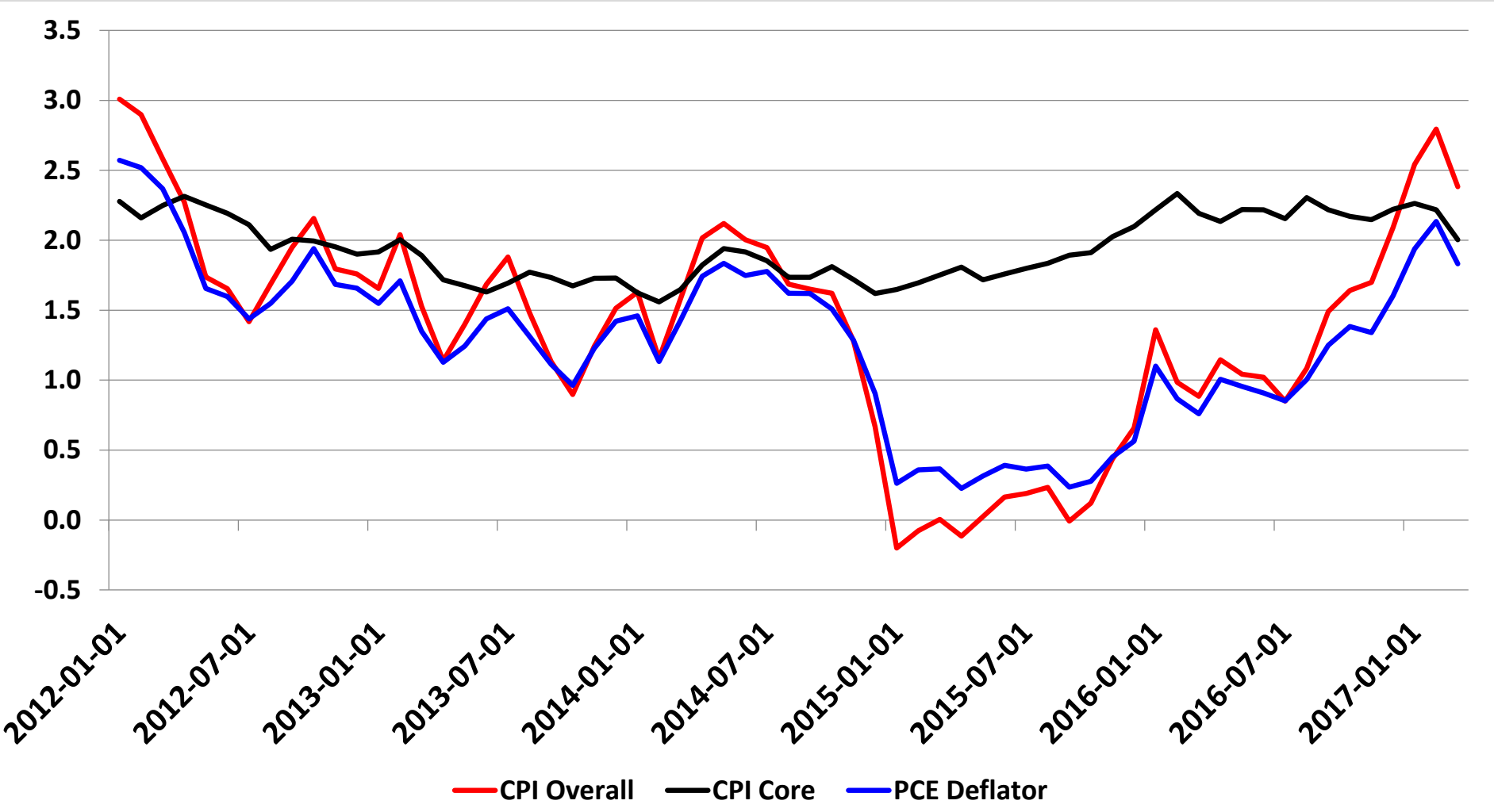
Labor Force Participation Rates Are Starting to Stabilize



Labor Force Flows from Prior Month



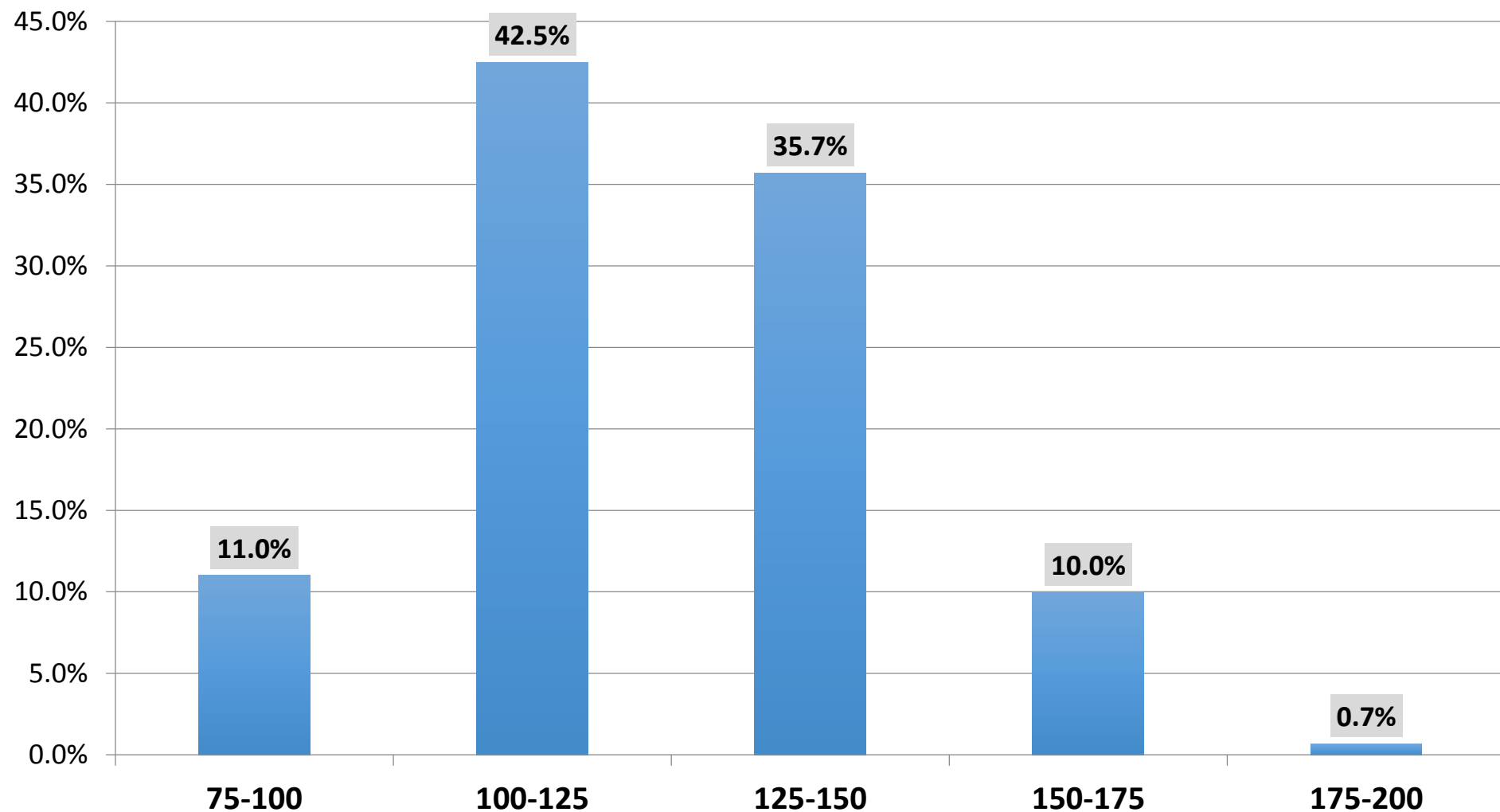
Measures of Inflation – CPI, Core CPI and PCE Deflator



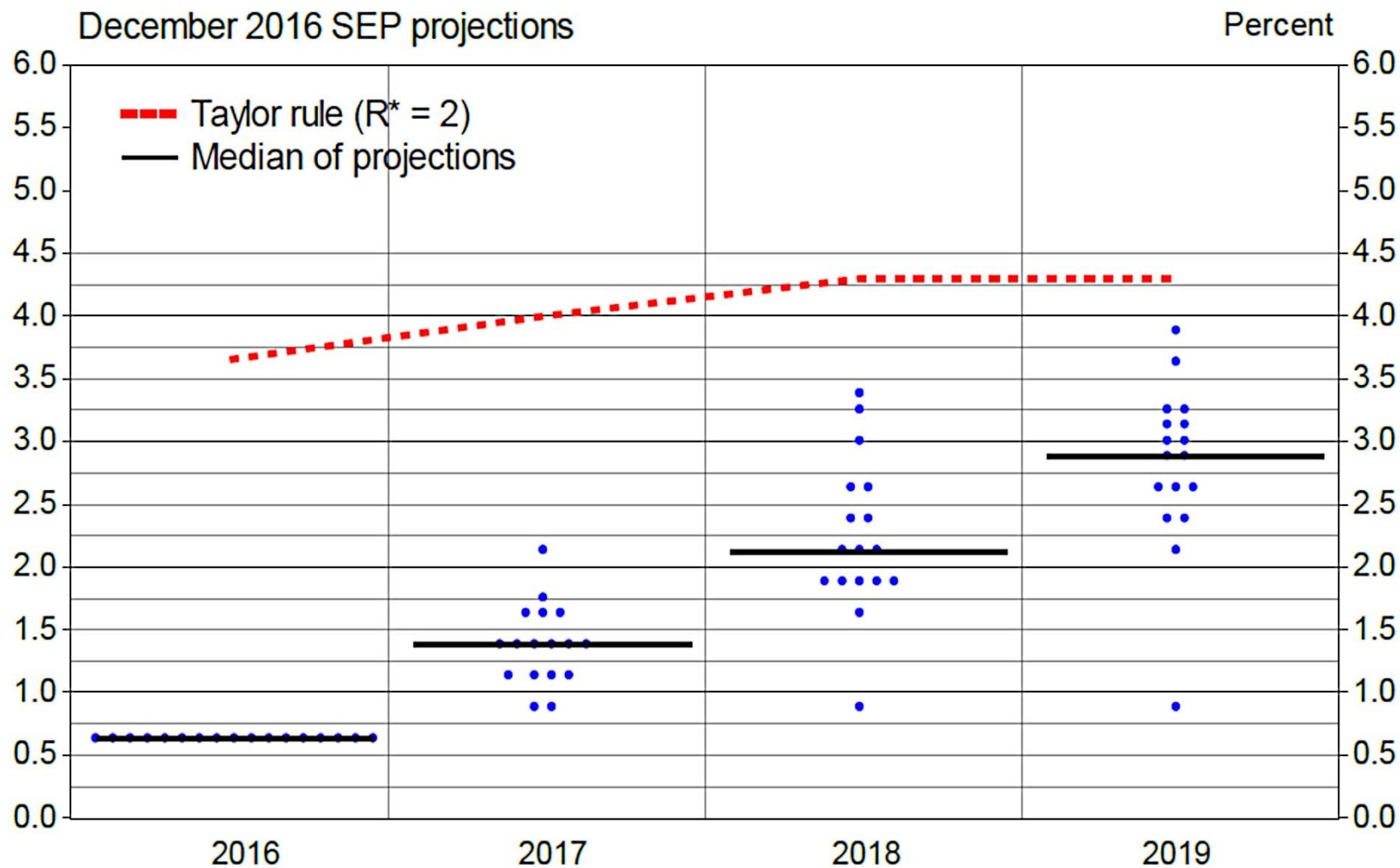
The Fed in 2017

- There is an expectation of 3 rate increases during 2017 (75 basis points total). This would leave the Fed Funds Target at the range 1.25% to 1.50% by December.
- Remaining Meeting dates in 2017:
 - June
 - July
 - Sept/Oct
 - December

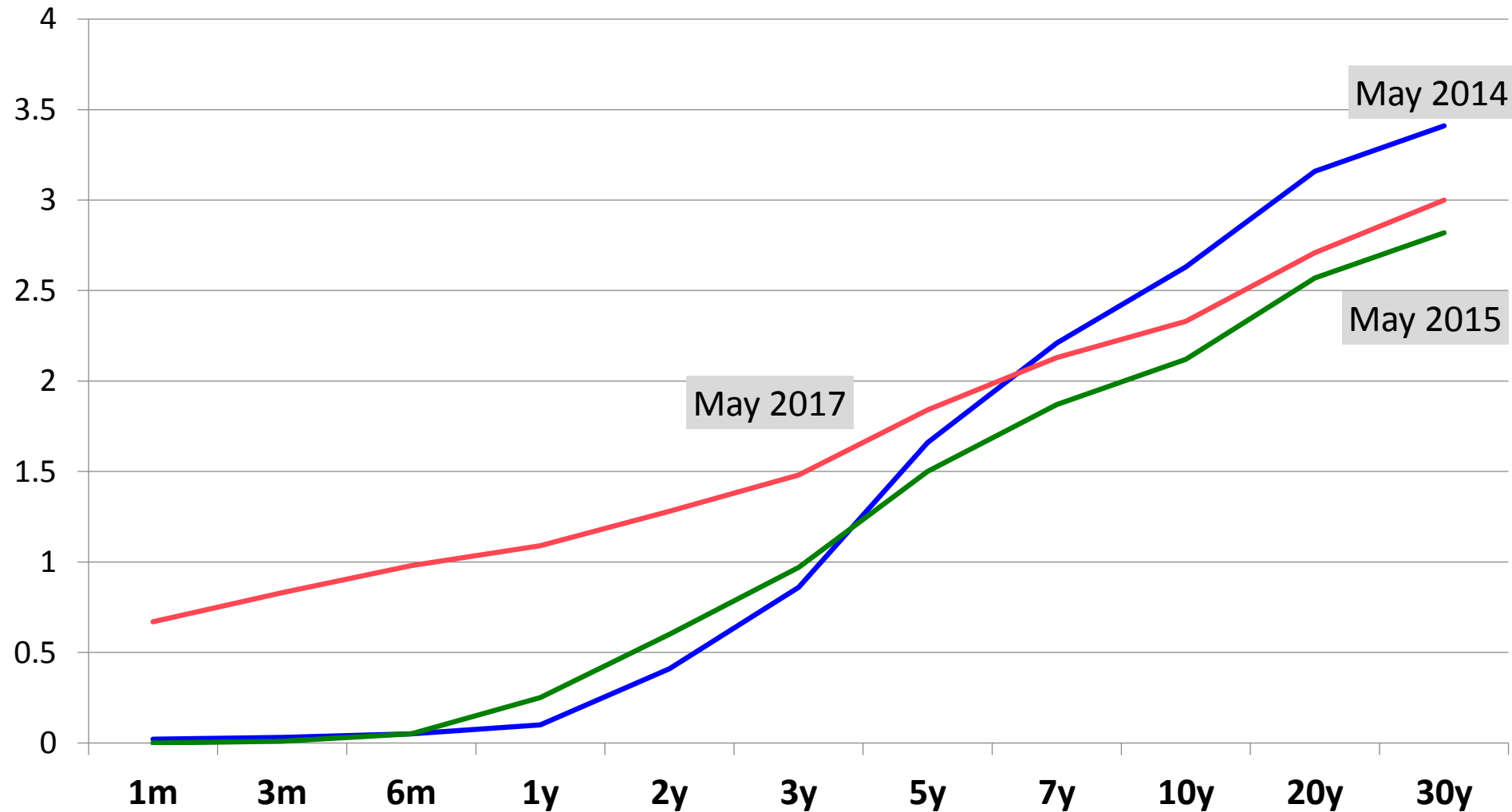
Current Implied Probabilities of Fed Funds Target Rate (December 2017 Contract)



Is The Fed Being Too Accommodative?



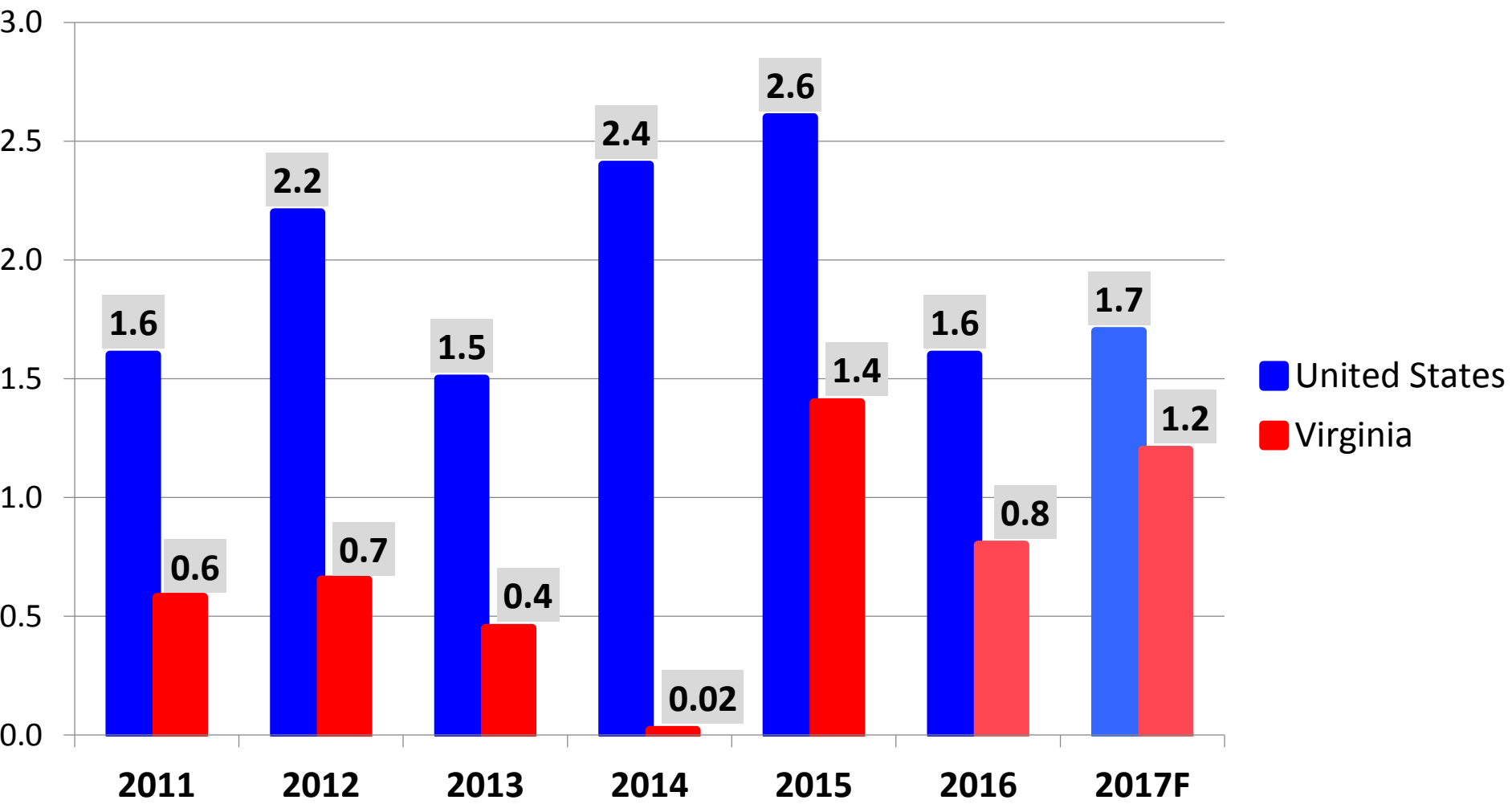
Treasury Yield Curves



The Current National Recovery

Recession End	Expansion Duration
October 1945	80 months
February 1961	106 months
March 1991	120 months
November 2001	73
June 2009	94 (ongoing)

Real GDP Growth Forecasts United States and Virginia



National Economic Outlook for 2017

	2016		2017
	Forecast	Actual	Forecast
Real Gross Domestic Product	2.03%	1.60%	1.7%
Employment Growth	1.50%	1.74%	1.5%
Unemployment Rate	5.1%	4.9%	4.6%
Consumer Price Index	1.34%	1.28%	2.7%
CPI - Core	2.03%	2.21%	2.0%
3-Month Treasury Bill	1.25%	0.32%	0.58%
10-Year Treasury Bond	3.15%	1.84%	2.39%
30-Year Conventional Mortgage Rate	4.25%	3.65%	4.25%



Economic Forecasting Project

Old Dominion University 2017 Regional Economic Forecast

May 16, 2017

Professor Vinod Agarwal

Director, Economic Forecasting Project

Strome College of Business

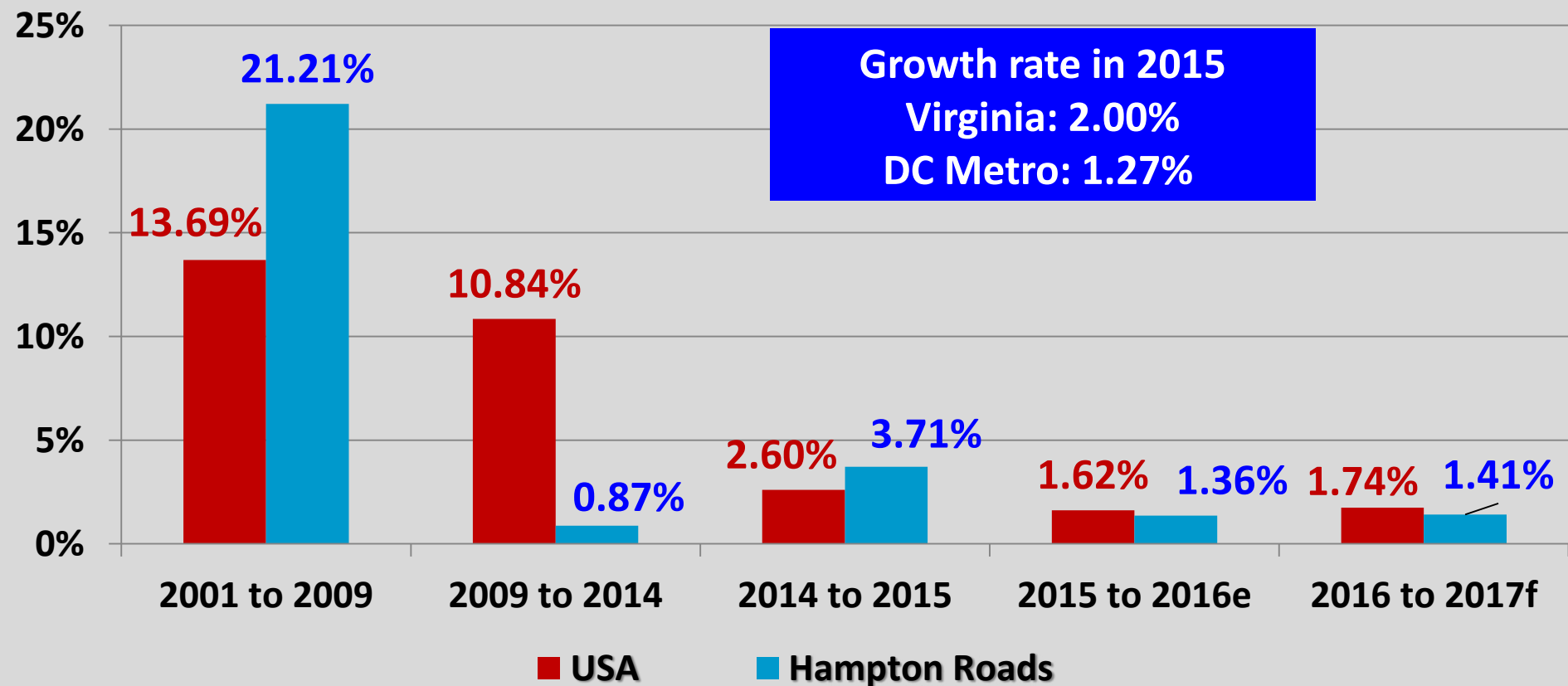
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Presentation outline

- I. 2016 Economic Performance
 - a) Regional and National Economies
 - b) Defense
 - c) Civilian Nonfarm Jobs
 - d) Hotel Industry
 - e) Port and Cargo
 - f) Single Family Residential Housing Market
- II. Forecast for 2017

Rate of Growth of Real Gross Domestic Product (U.S.) and Gross Regional Product (Hampton Roads)

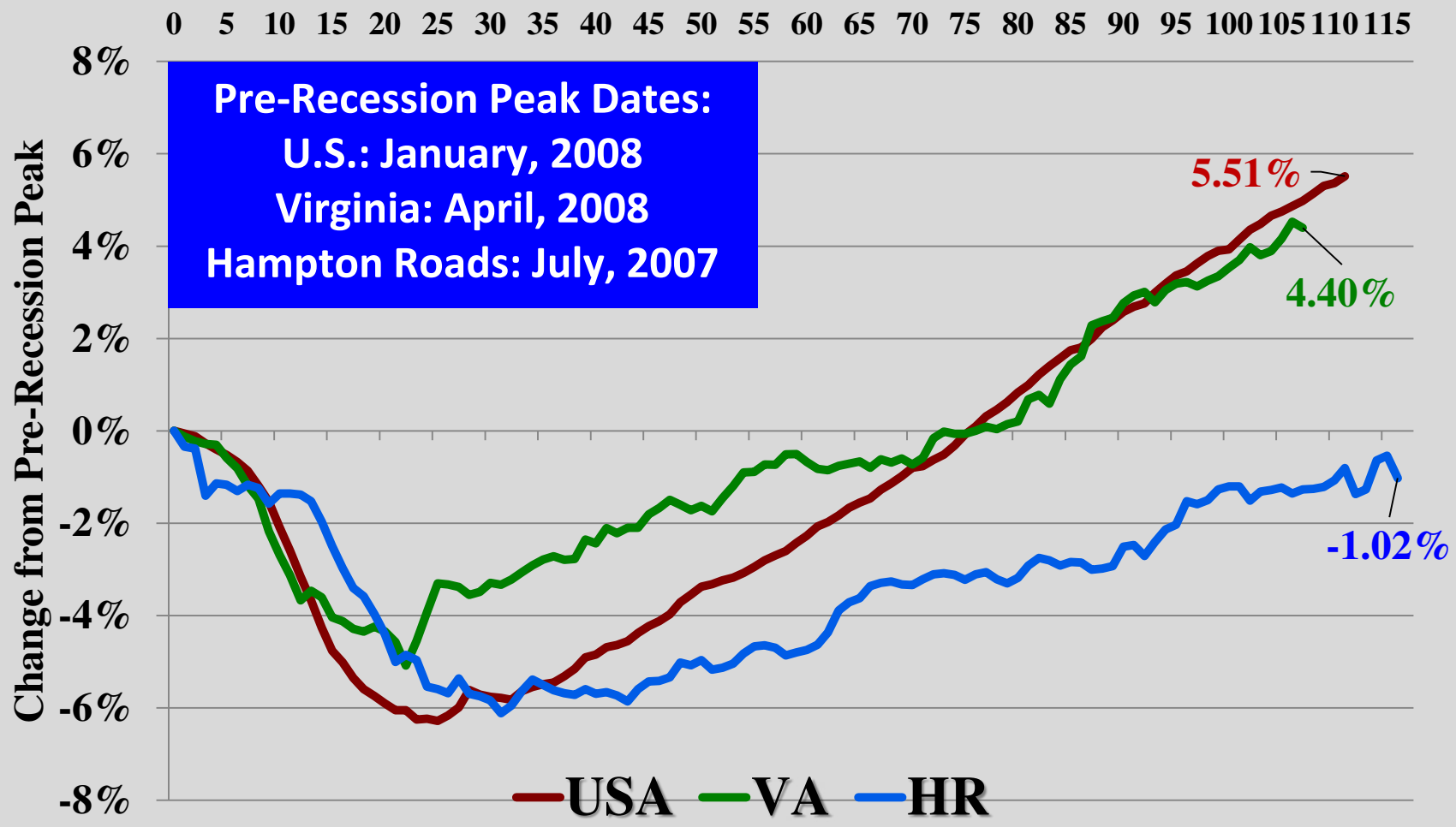
Selected Time Periods from 2001 to 2017*



The 2007-2009 Recession and its Recovery through March 2017

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

Months After Pre-Recession Peak



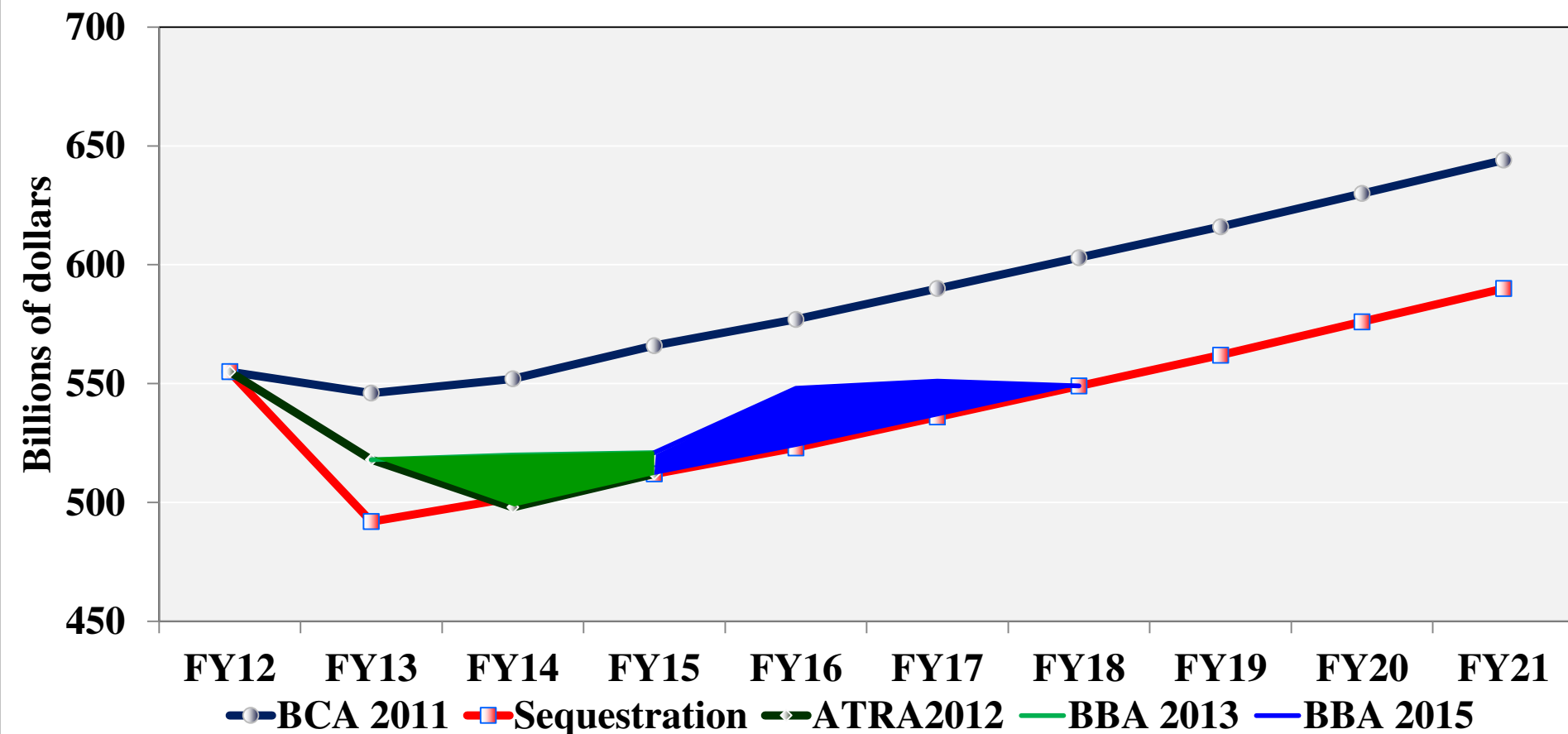


Economic Forecasting Project

Defense Spending

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

The legislated cap on spending increased by \$27B (5.18%) during FY 2016 and by only \$3B or 0.55% during FY 2017; is expected be \$2B less in FY 2018.





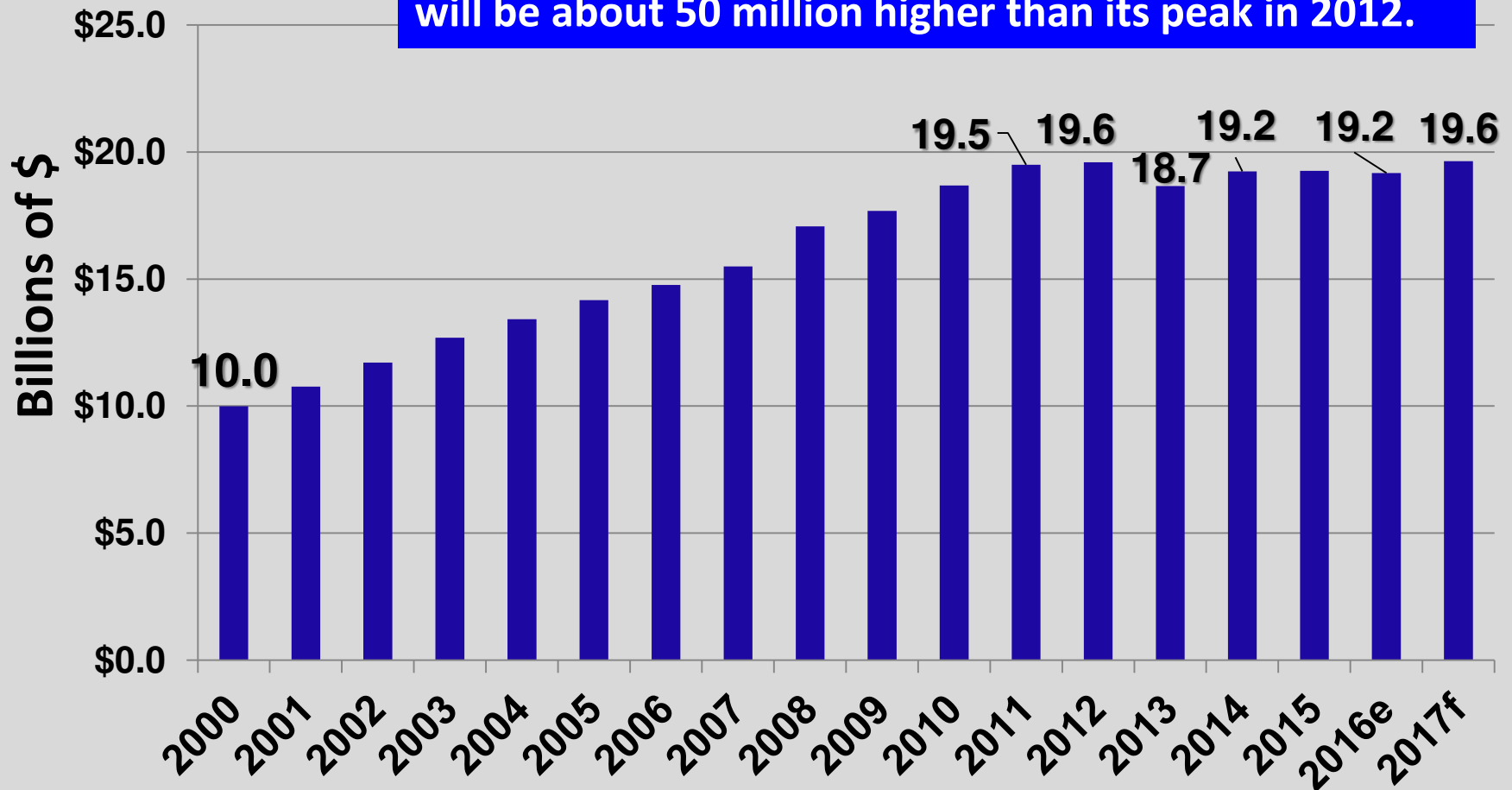
Economic Forecasting Project

Hampton Roads Economy

Estimated Direct DOD Spending in Hampton Roads

2000 to 2017

Between 2000 and 2012, DOD spending in our region increased by an annual average of 5.8%. In 2017, it will be about 50 million higher than its peak in 2012.



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

Hampton Roads: 2014 and 2015

	<u>Earnings in</u> <u>2014</u>	<u>Earnings in</u> <u>2015</u>	<u>Percent change</u> <u>2014 to 2015</u>
Military	\$91,531	\$91,283	-0.27%
Federal Civilian Govt. Employees	\$103,583	\$107,521	3.80%
State and Local Govt. Employees	\$59,150	\$60,088	3.28%
Private Nonfarm	\$41,279	\$42,185	2.19%

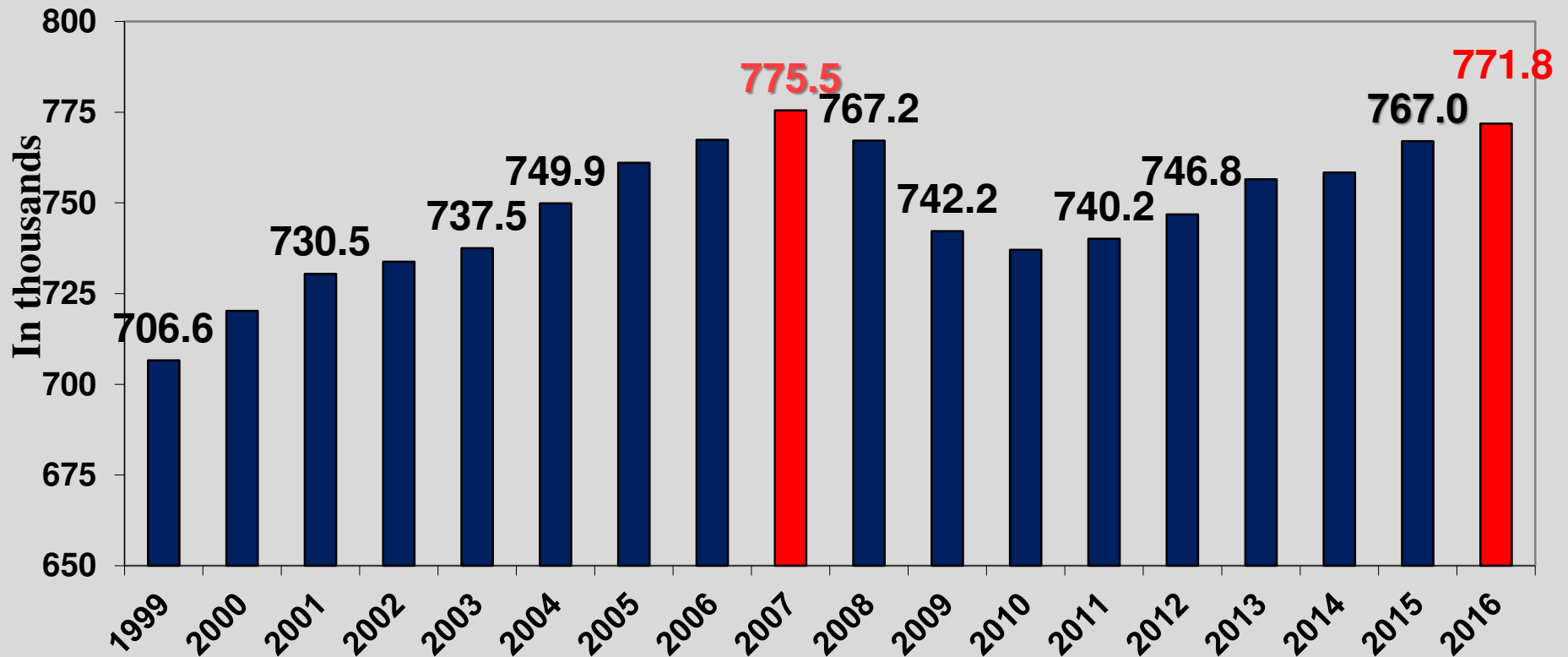
Growth (CAGR) in Estimated Average Compensation (Wages, Salaries and Fringe Benefits) Selected Categories

Hampton Roads: 2001 to 2015

	<u>Compound Annual Growth Rate 2001 to 2010</u>	<u>Compound Annual Growth Rate 2010 to 2015</u>
Military	7.2%	0.7%
Federal Civilian Govt. Employees	4.5%	2.6%
State and Local Govt. Employees	3.6%	2.1%
Private Nonfarm	2.9%	2.0%

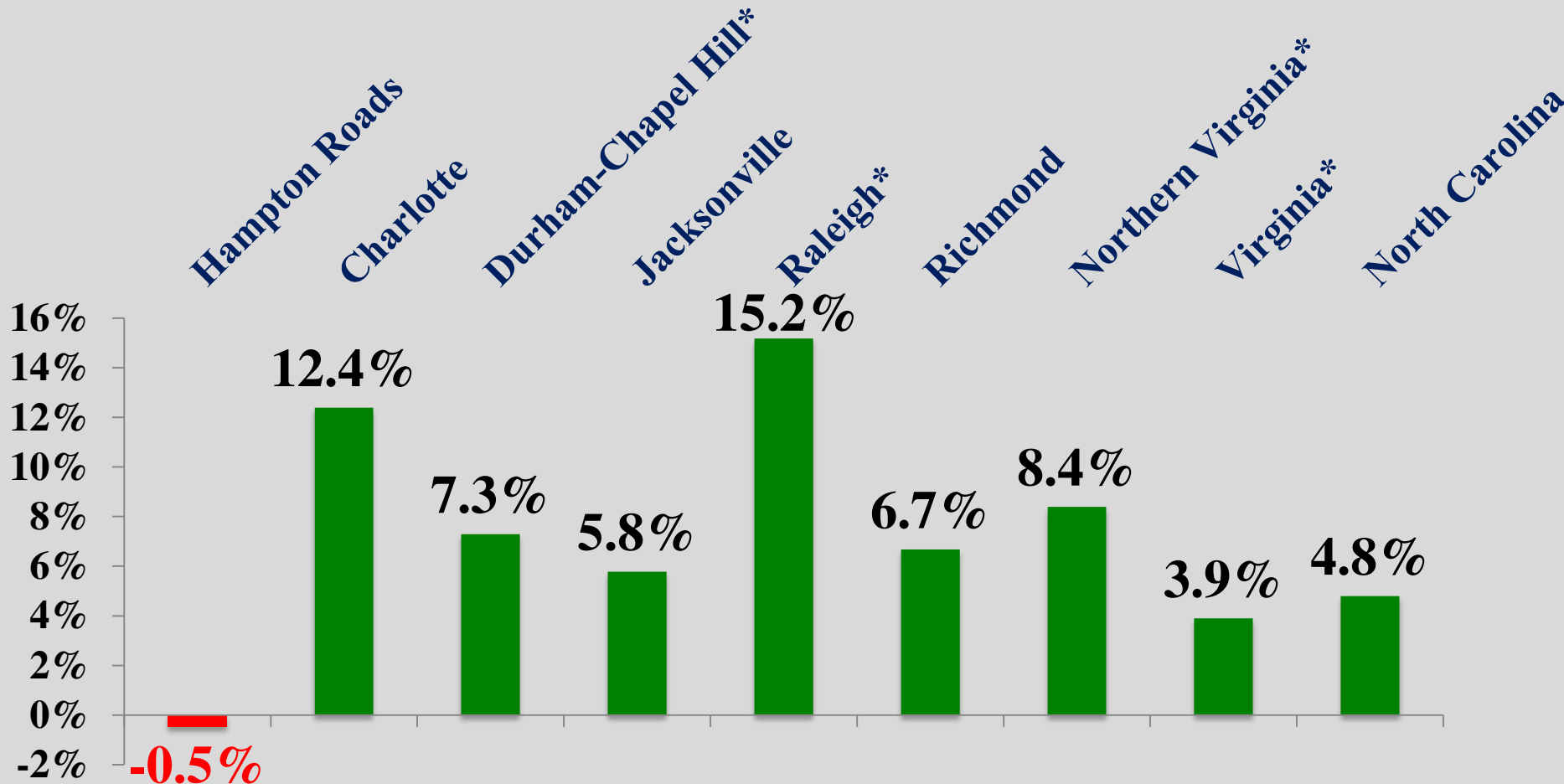
Annual Civilian Employment (Jobs) in Hampton Roads: 1999 to 2016

The HR economy added 4,800 jobs in 2016. At the end of 2016, on an annual basis, we were still about 3,700 jobs below our pre- recession level.



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

From 2007* to 2016

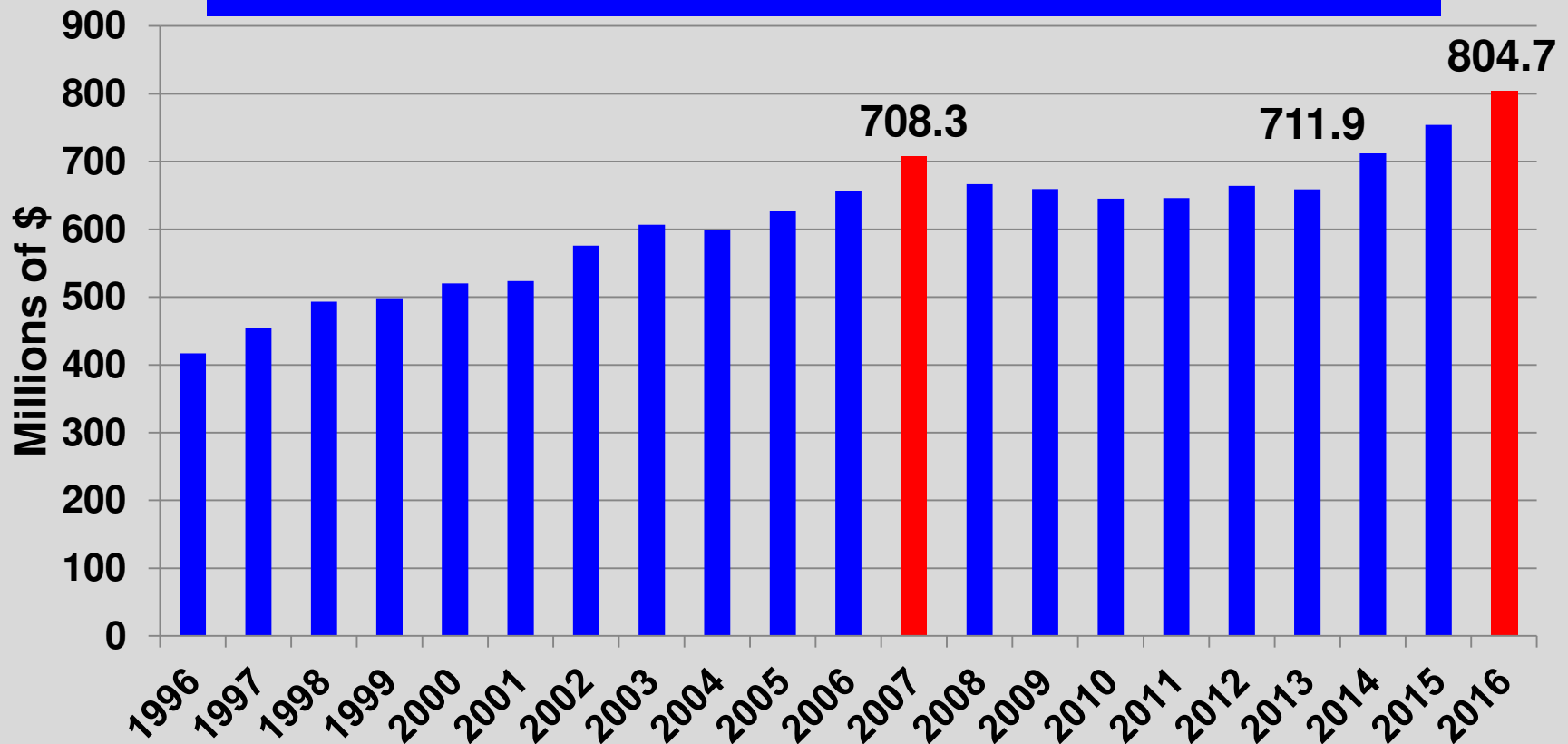


Source: U.S. Department of Labor CES **seasonally unadjusted data** and the Old Dominion University Economic Forecasting Project. * Peak employment in Raleigh, Durham, Northern Virginia, and Virginia occurred in 2008. Change for these areas is shown for 2008 through 2016.

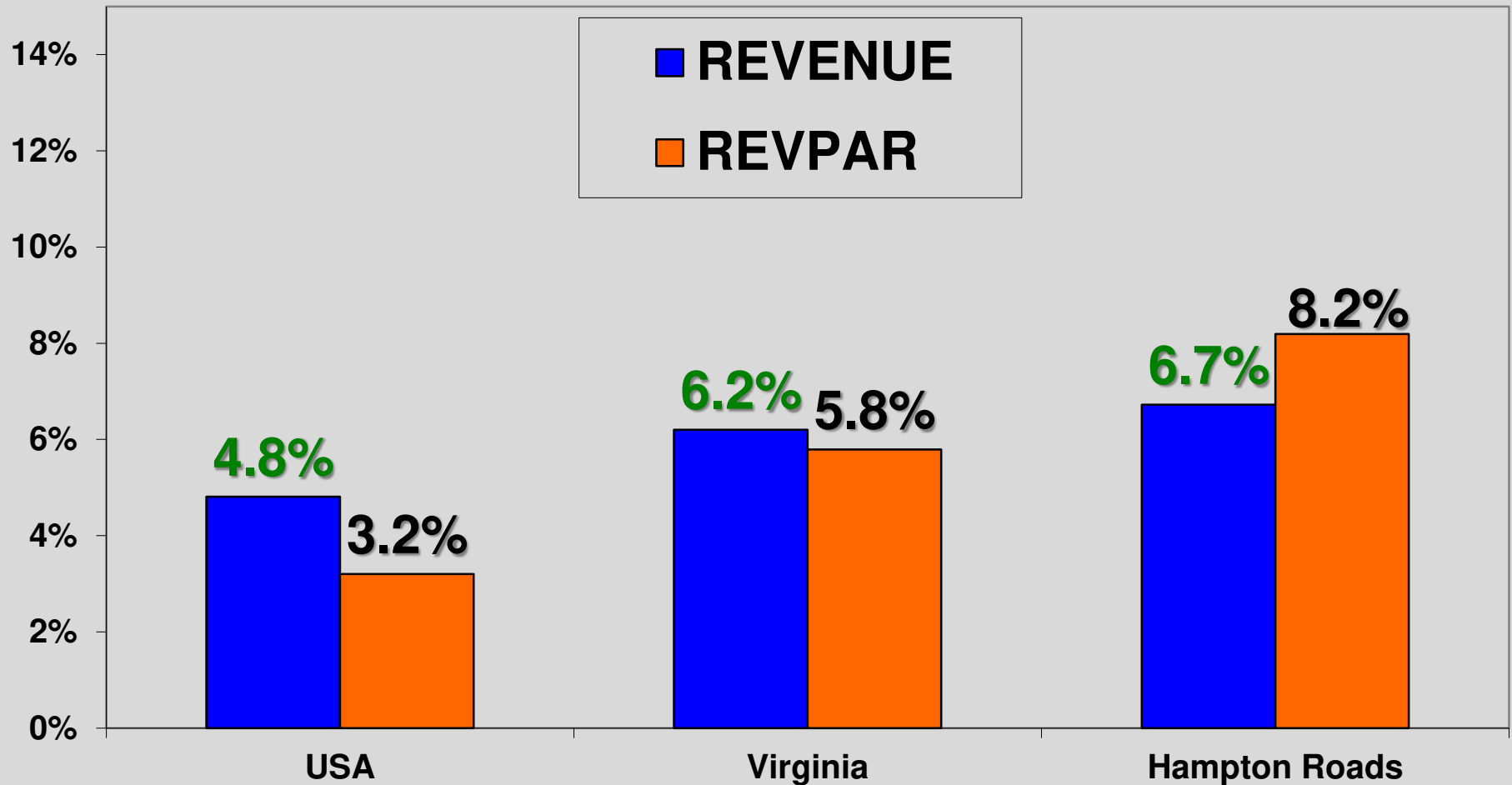
Hotel Industry in Hampton Roads

Hotel Revenue in Hampton Roads 1996-2016

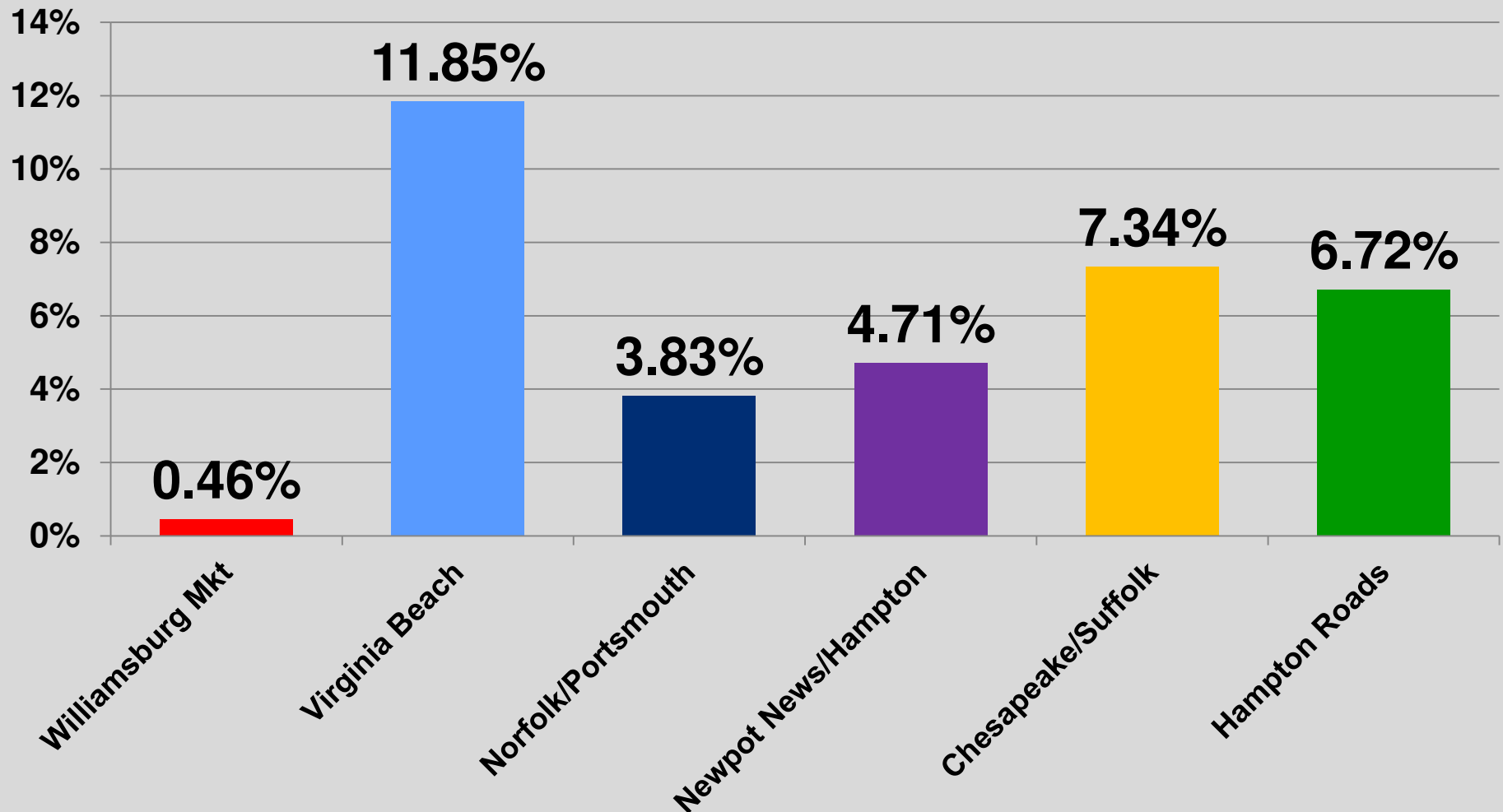
**Hotel Revenue grew by 5.9 % during 2015
and by another 6.7 % during 2016.**



Percent Change in Hotel Revenue and REVPAR: 2015 to 2016

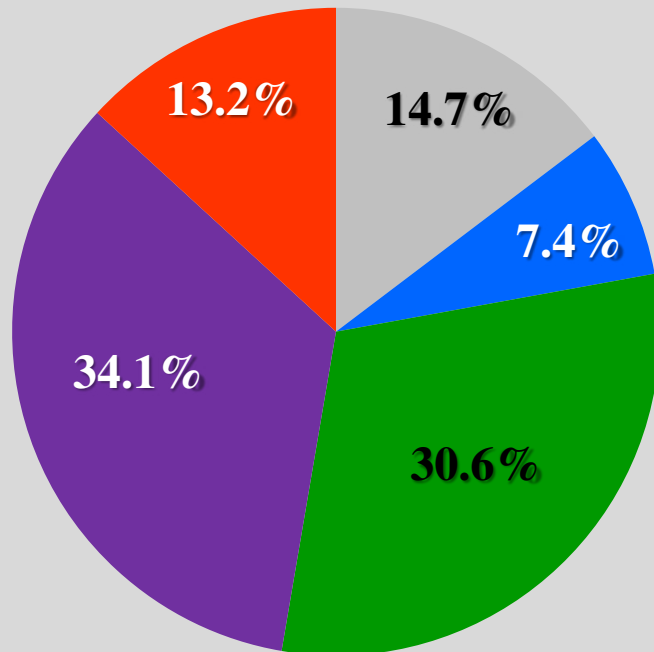


Percent Change in Hotel Revenue within Hampton Roads: 2015 to 2016



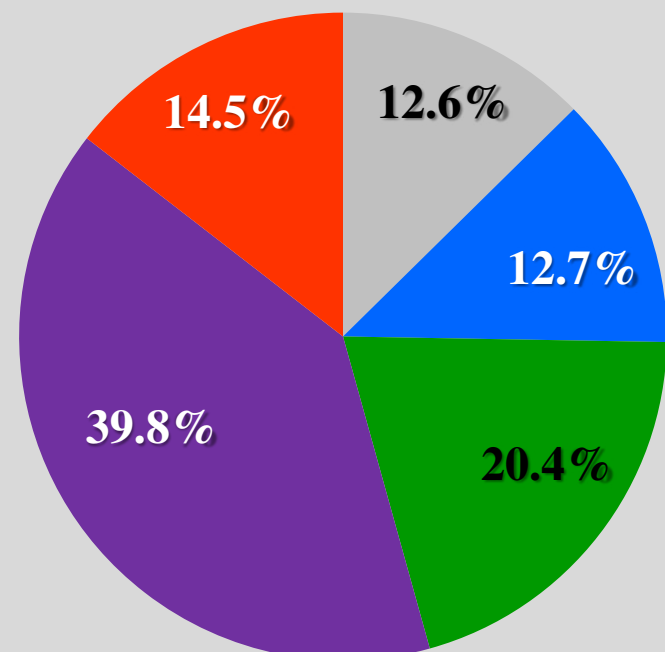
Estimated Hotel Industry Market Shares in Hampton Roads (Measured by Hotel Room Revenue, 2000 and 2016)

2000



- Norfolk/Portsmouth Market
- Chesapeake/Suffolk Market
- Williamsburg Market
- Virginia Beach Market
- Newport News/Hampton Market

2016



- Norfolk/Portsmouth Market
- Chesapeake/Suffolk Market
- Williamsburg Market
- Virginia Beach Market
- Newport News/Hampton Market

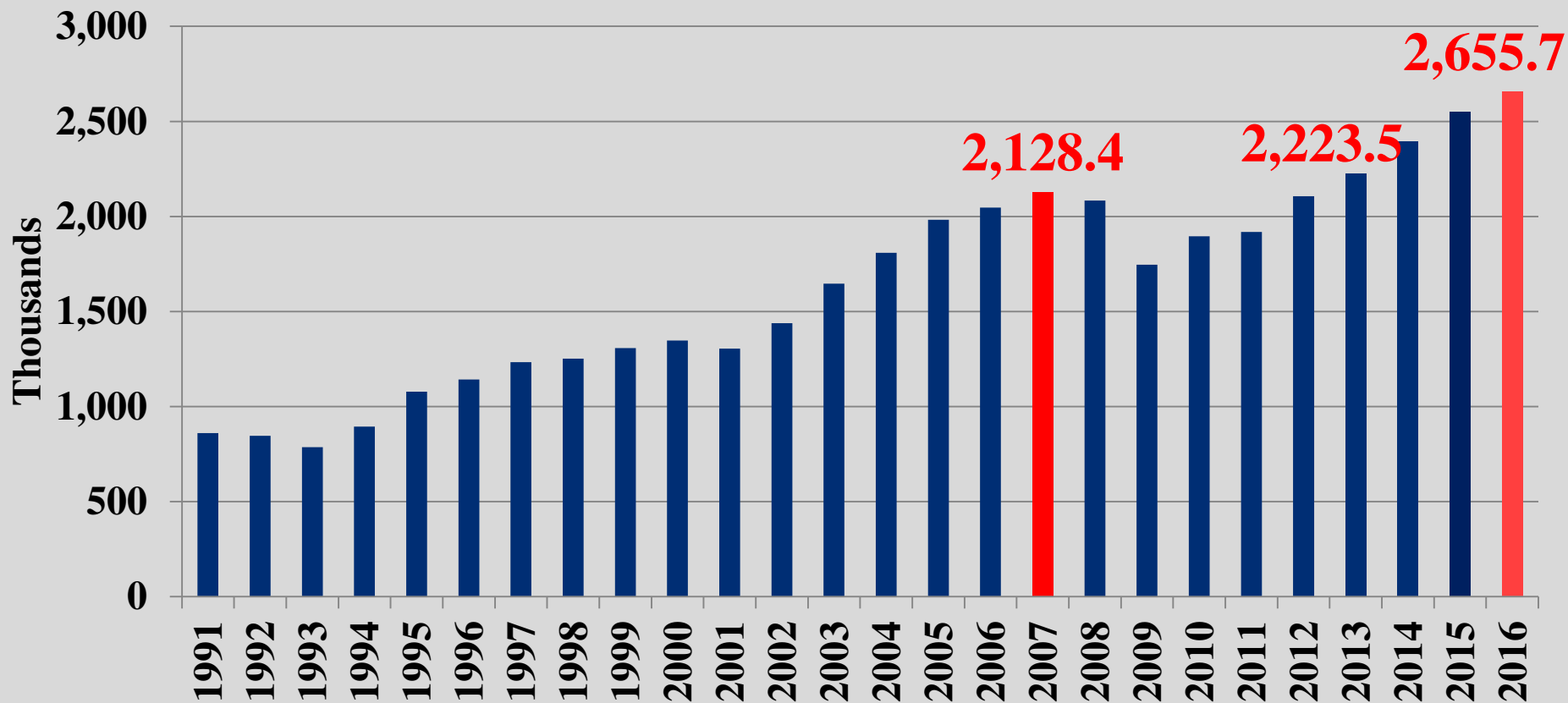
REVPAR in Selected Markets: 2007 and 2016

	<u>2007</u>	<u>2016</u>	<u>Percent Change</u>	<u>Real Percent Change</u>
USA	\$65.55	\$81.19	+23.9%	+7.0%
Virginia	\$61.91	\$68.04	+9.9%	-5.1%
Hampton Roads	\$52.93	\$59.46	+12.3%	-3.0%
Virginia Beach	\$64.62	\$79.36	+22.8%	+6.1%
Williamsburg	\$47.47	\$56.35	+18.7%	+2.6%
Newport News/Hampton	\$41.49	\$43.47	+4.8%	-9.5%
Norfolk/Portsmouth	\$54.05	\$54.68	+1.2%	-12.6%
Chesapeake/Suffolk	\$52.90	\$49.93	-5.6%	-18.5%

The Port of Virginia

Twenty-Foot Equivalent Container Units (TEUs) at the Port of Virginia: 1991 to 2016

TEUs increased by 4.2% in 2016; Loaded TEUs increased by 4.8%; empty TEUs increased by only 1.2%.



Operating Income/Loss for the Port of Virginia (In Million \$)

Fiscal Year 2006 through Fiscal Year 2016 (ending June 30)



Port of Virginia's Operating Income for the first seven months of FY 2017 is \$8.3M compared to a loss of \$6.3M for the same time period in FY 2016.

Single Family Residential Housing Market in Hampton Roads

Number of Existing and New Construction Homes Sold

Hampton Roads: 2002-2016

<u>Year</u>	<u>Existing Homes Sold</u>	<u>New Construction Homes Sold</u>	<u>Percent New Construction</u>
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%
2016	22,456	3,219	12.5%

**41%
decline
in sale of
existing
homes
from 2005
to 2010**

**existing
homes
Sales Have
increased
by 7,753
from 2010
to 2016**

Median Sale Price of Existing Residential Homes

Hampton Roads: 2002-2016

<u>Year</u>	<u>Median Price</u>	<u>Percent change year to year</u>
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%
2016	\$210,000	+3.5%

90% increase
from 2002-07

19% decrease
From 2007-11

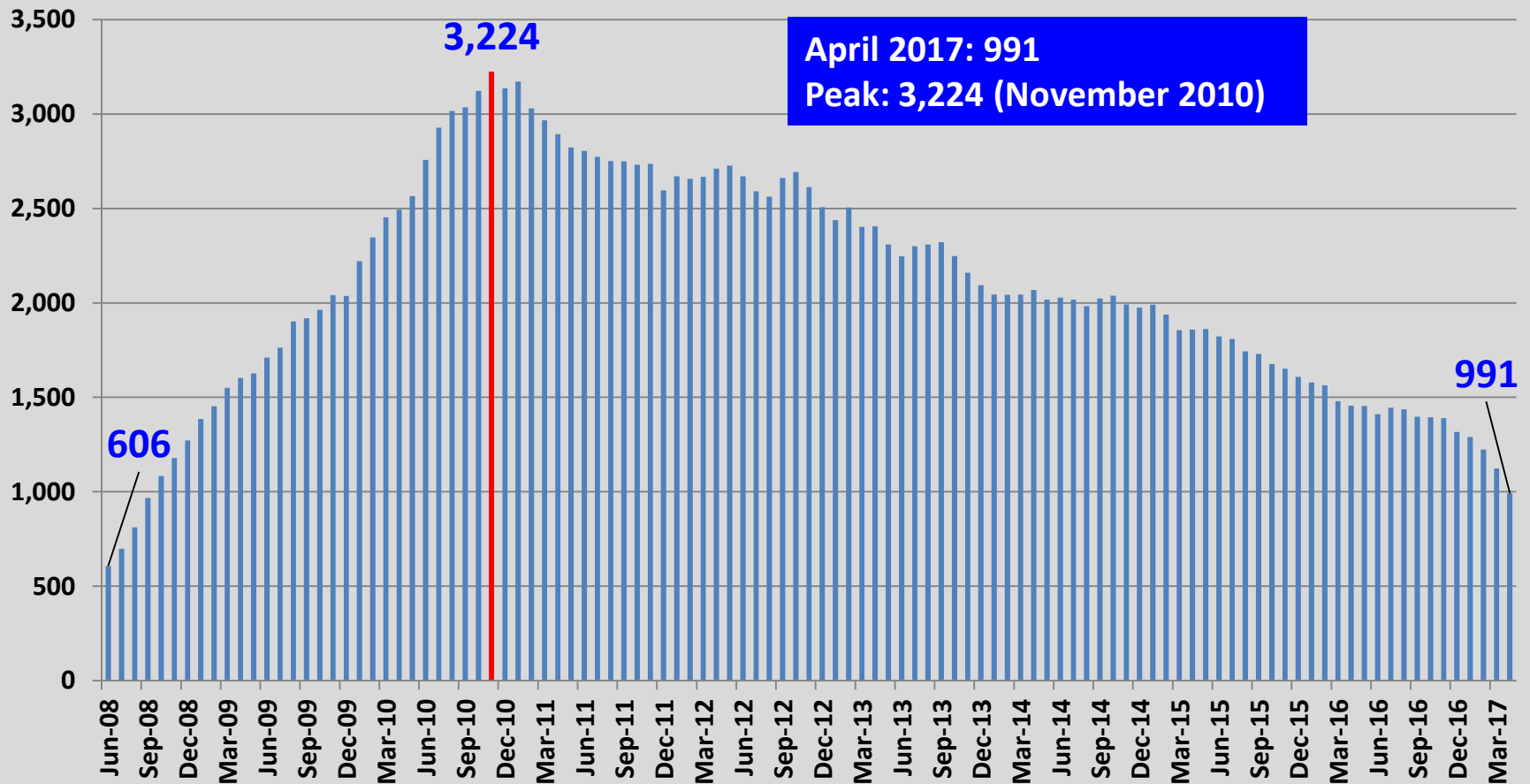
16% increase
from 2011-16

Summary on Existing Homes Market since 2011

- Inventories have decreased substantially.
- Days on market have decreased from 102 days in 2011 to 75 days in 2016.
- Number of homes sold has steadily increased.
- Estimated months of supply has steadily declined to 4.7 months compared to a historical average (January 1996 to April 2017) of 5.6 months.
- **But the median price has increased only slightly.**
- The explanation lies in the size of the *distressed market*--- which consists of short sales and bank-owned homes (REOs).

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

Hampton Roads: June 2008 to April 2017



Number of Existing Short Sale and REOs Residential Homes Sold

Hampton Roads: 2006- 2016

<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
2016	22,456	1,002	4.5	2,294	10.2

Median Sale Price of Existing Residential Homes

Selected Cities in Hampton Roads: 2002 and 2007

City	Median Price 2002	Median Price 2007	% change
Chesapeake	\$134,900	\$250,100	85.4%
Norfolk	\$ 93,200	\$195,000	109.2%
Portsmouth	\$ 80,300	\$165,500	106.1%
Suffolk**	\$139,900	\$257,500	84.1%
Virginia Beach	\$125,000	\$245,000	96.0%
Hampton	\$ 92,900	\$180,000	93.8%
Newport News	\$105,000	\$199,250	89.8%
Williamsburg*	\$157,325	\$284,450	80.8%
Hampton Roads	\$116,900	\$223,000	90.8%

Source: Real Estate Information Network and Old Dominion University Economic Forecasting Project. Information Deemed Reliable But not Guaranteed.

* Williamsburg represents Williamsburg, James City County, York County and Gloucester County. ** Median price in Suffolk peaked in 2006 at \$263,950

Median Sale Price of Existing Residential Homes

Selected Cities in Hampton Roads: 2007 and 2016

<u>City</u>	<u>Median Price</u> <u>2007</u>	<u>Median Price</u> <u>2016</u>	<u>% change</u>
Chesapeake	\$250,100	\$240,000	-4.0%
Norfolk	\$195,000	\$175,000	-10.3%
Portsmouth	\$165,500	\$134,900	-18.5%
Suffolk**	\$257,500	\$230,451	-10.5%
Virginia Beach	\$245,000	\$240,500	-1.8%
Hampton	\$180,000	\$149,000	-17.2%
Newport News	\$199,250	\$169,900	-14.7%
Williamsburg*	\$284,450	\$270,000	-5.1%
Hampton Roads	\$223,000	\$210,000	-5.8%

Source: Real Estate Information Network and Old Dominion University Economic Forecasting Project. Information Deemed Reliable But not Guaranteed.

* Williamsburg represents Williamsburg, James City County, York County and Gloucester County. ** Median price in Suffolk peaked in 2006 at \$263,950

Performance of Hampton Roads Economy through March 2017

Performance of Hampton Roads Economy

YTD March 2016 and YTD March 2017

	YTD March 2016	YTD March 2017	% Change
Civilian Labor Force	827,959	834,126	+ 0.74
Employment	788,632	797,217	+ 1.09
Unemployment	39,327	36,908	-6.15
Unemployment Rate	4.75%	4.42%	
Civilian Non-Farm Jobs	758,730	762,900	+ 0.55
New Auto Registrations	22,115	22,345	+ 1.04
Taxable Sales	\$5.05B	\$5.09B	+ 0.80

Performance of Hampton Roads Economy

YTD March 2016 and YTD March 2017

	YTD March 2016	YTD March 2017	% Change
Hotel Revenue	\$125.07M	\$132.29M	+ 5.77
General Cargo Tonnage*	6.679M	7.350M	+10.04
TEU Containers*	842,010	906,236	+ 7.63
Number of 1 Unit Housing Permits	907	1,193	+31.53
Value of 1 Unit Housing Permits	\$188.66M	\$260.12M	+37.88
Number of Existing Homes Sold**	6,178	6,424	+ 3.98
Distressed Homes as a Percentage of all Existing Homes Sold**	18.76	15.47	
Median Price of Existing Homes Sold**	\$198,000	\$206,000	+ 4.04

** Data shown here are for YTD April 2016 and YTD April 2017.

Forecast for 2017

Old Dominion University 2017 Forecast for Hampton Roads MSA

	<u>2016</u>	<u>2017</u>	<u>% Change</u>
Nominal Gross Regional Product	\$98.96B	\$103.17B	
Real Gross Regional Product**	\$86.73B	\$87.95B	+1.41 %
Civilian Employment	771,817	775,676	+0.50 %
Unemployment Rate	4.57 %	4.40 %	
Taxable Sales	\$22.18B	\$22.76B	+2.60 %
Hotel Revenue	\$804.70M	\$840.11M	+4.40 %
General Cargo Tonnage	20.87M	21.43M	+2.70 %
Housing Permit Value	\$843.13M	\$865.05M	+2.60 %

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Economic Forecasting Project

Any Questions?

Professor Vinod Agarwal
Professor Larry “Chip” Filer

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