

Life In The Slower Lane: The Hampton Roads Economy



LIFE IN THE SLOWER LANE: THE HAMPTON ROADS ECONOMY

We've seen this movie before.

– William Ackman in The New York Times, Oct. 30, 2015

Have we seen this movie before? Perhaps, if the cinematic story line focused on the economy of Hampton Roads. With regard to our regional economy, 2016 turned out to be very much like 2015. Stagnant defense spending, modest improvements in the tourism and port sectors, slow growth in jobs and incomes, and continued gentle improvements in the housing market – together, these added up to an unimpressive economic performance for Hampton Roads in 2016.

In this chapter, we will assess our overall economic performance and focus on two of our regional “big three” economic pillars – defense spending and the port. We’ll also take a look at our gradually improving housing market. We will examine the third pillar, hotels and tourism, in the next chapter.



Regional Economic Growth

Our regional economy is on track in 2016 to record a “real” (after inflation) economic growth rate of 1.20 percent – well below our 2.60 percent average economic growth rate over the past 30 years (see Table 1 and Graph 1). This translates to total regional economic activity valued at \$96.27 billion.

While Hampton Roads would have the 60th-largest economy in the world if it were an independent nation, our relatively anemic economic growth when compared to similar metropolitan areas in the southern United States should be of concern. The challenge of fostering economic growth in Hampton Roads in the face of decelerating defense spending, slow growth in the private sector, and modest improvements in the housing market should be a major agenda item for decision makers in both the public and private sectors.

If we peruse Graph 1 a bit more, we can see that Hampton Roads grew faster than the nation during much of the last decade. Between 2001 and 2009, our gross regional product grew 26.6 percent – almost twice the 14.8 percent national rate of growth during the same time period. There is little mystery why this was so – rapid increases in defense spending. Decelerating defense spending is an important (though not the only) reason why our regional economic growth rate has declined.

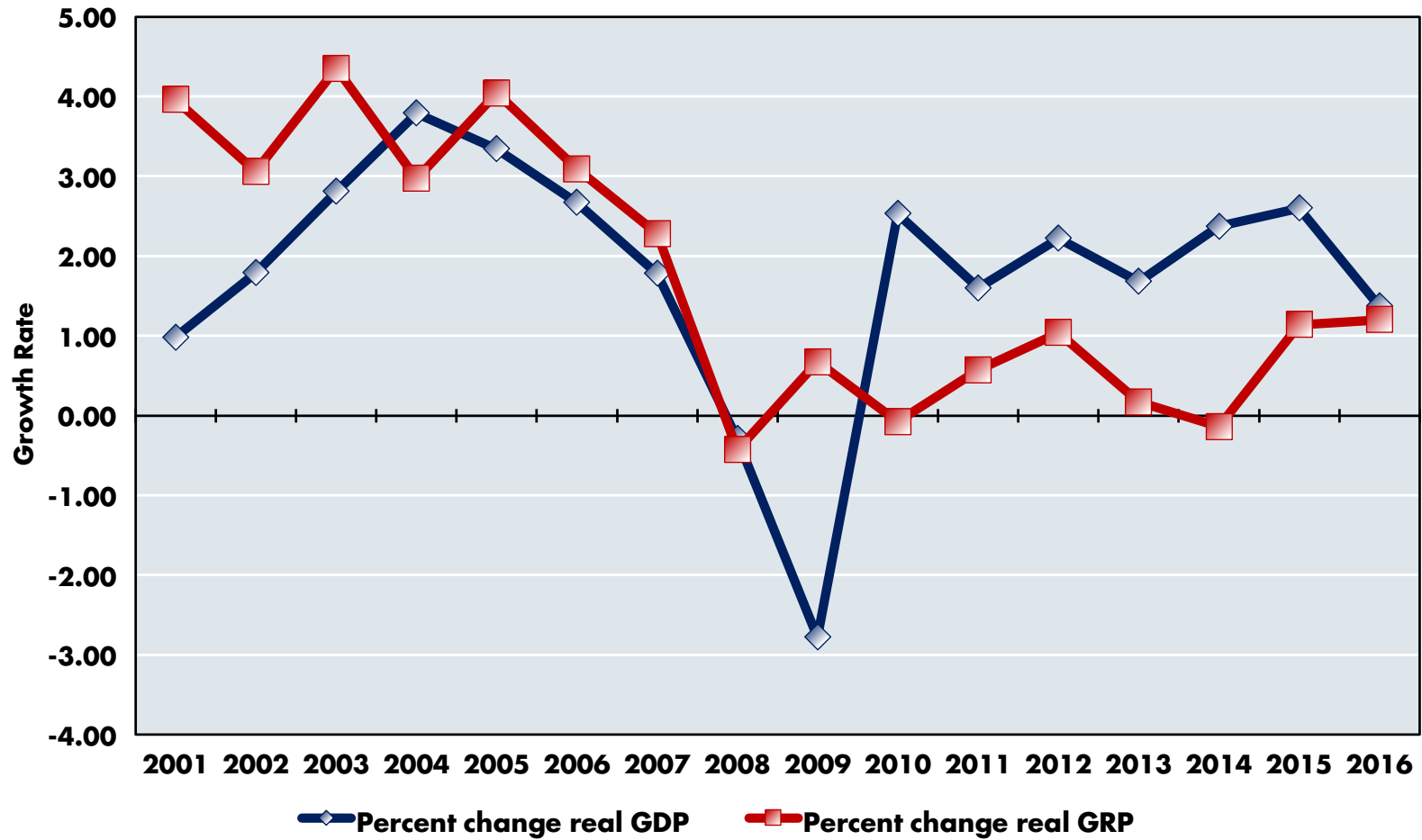
At the same time, Graph 1 discloses that our regional economic growth has been relatively stable in recent years. While we would prefer higher economic growth rates, there are some virtues associated with economic stability. Consistency reduces economic disasters, bankruptcies and unanticipated economic reverses.

YEAR	NOMINAL GRP BILLIONS OF \$	REAL GRP (2009=100) BILLIONS OF \$	REAL GRP GROWTH RATE PERCENTAGE
2001	\$54.04	\$67.46	3.96%
2002	\$57.37	\$69.52	3.06%
2003	\$61.73	\$72.55	4.35%
2004	\$65.40	\$74.70	2.97%
2005	\$70.44	\$77.72	4.04%
2006	\$74.95	\$80.12	3.09%
2007	\$78.94	\$81.94	2.28%
2008	\$80.18	\$81.59	-0.43%
2009	\$82.14	\$82.14	0.67%
2010	\$83.12	\$82.08	-0.08%
2011	\$84.66	\$82.55	0.57%
2012	\$87.36	\$83.41	1.04%
2013	\$89.05	\$83.55	0.17%
2014	\$90.77	\$83.43	-0.14%
2015	\$93.10	\$84.38	1.14%
2016	\$96.27	\$85.39	1.20%

Source: Old Dominion University Economic Forecasting Project
 Note: Data incorporate U.S. Department of Commerce personal income revisions through September 2015.
 Base year is 2009.

GRAPH 1

**REAL GROWTH RATES IN GROSS DOMESTIC PRODUCT (GDP) IN THE UNITED STATES AND
GROSS REGIONAL PRODUCT (GRP) IN HAMPTON ROADS, 2001-2016**



Sources: Table 1 and U.S. Department of Commerce

The Impact Of The Great Recession

National economic conditions are at least as important as defense spending in deciding the fate of our regional economy. The National Bureau of Economic Research (NBER) is tasked with determining when economic recessions begin and end. For the United States, the NBER says that what now is termed the Great Recession began in December 2007 and ended 18 months later in June 2009. However, even when the NBER says economic growth has resumed and a recession is over, economic conditions still may be mediocre, or even dismal.

In the Great Recession, for example, the country lost more than 8 million jobs and millions of Americans remained unemployed even after the NBER declared the Great Recession ended. Graph 2 drives this point home. It took 76 months (more than six years) for the U.S. economy to recover all of the jobs it shed during the Great Recession. Measured in terms of job losses and the duration of those job losses, this was indeed the worst economic recession our nation experienced since the Great Depression.

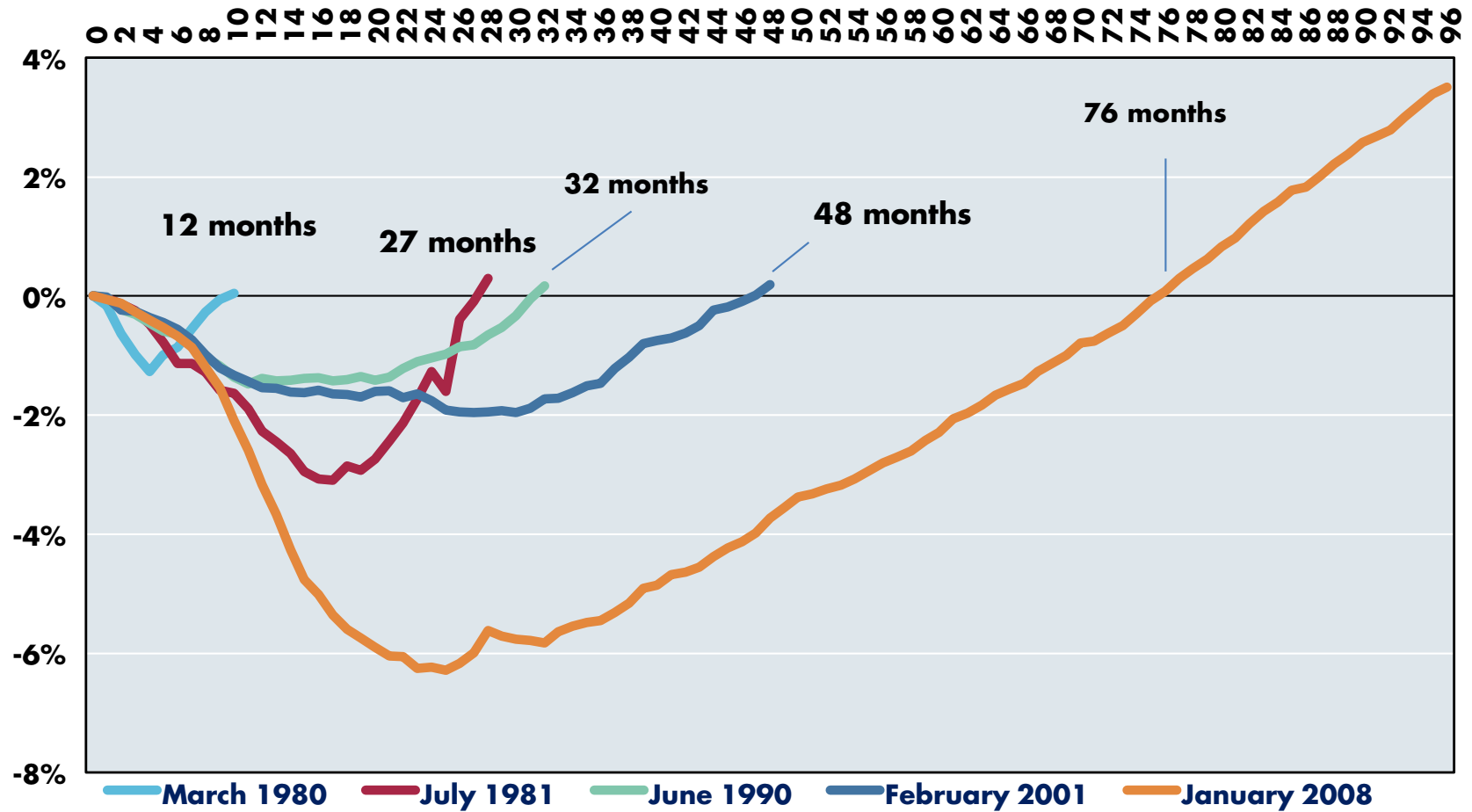
So also it was in Hampton Roads, where we lost more than 38,000 jobs from our previous peak level of employment in July 2007. The unfortunate truth is that we have yet to recover all of these jobs (see Graph 3). Mid-2016, our regional job total still was 1.68 percent below our 2007 pre-recession level. Graph 4 reveals that at the beginning of 2016, we still were about 10,000 jobs short of regaining all of the jobs we lost in the recession.

Job losses and gains in our region have not been spread proportionately across all occupations (see Graph 5). Health care and social assistance jobs continue to increase in number, recession or not, in Hampton Roads. Additional jobs also have appeared in the general areas of management of companies and enterprises, accommodation and food services, and professional, scientific and technical services. The big job losses in Hampton Roads over the past decade have occurred in construction, retail trade, information, wholesale trade and real estate.

Why was the Great Recession so devastating in terms of job losses in Hampton Roads? Stagnant defense spending is the major reason, but the growing use of labor-saving technologies by employers also appears to have had an impact. In addition, there may have been an increase in the number of structurally unemployed people in our region – there were jobs available, but those who were unemployed were not qualified to fill them.

GRAPH 2

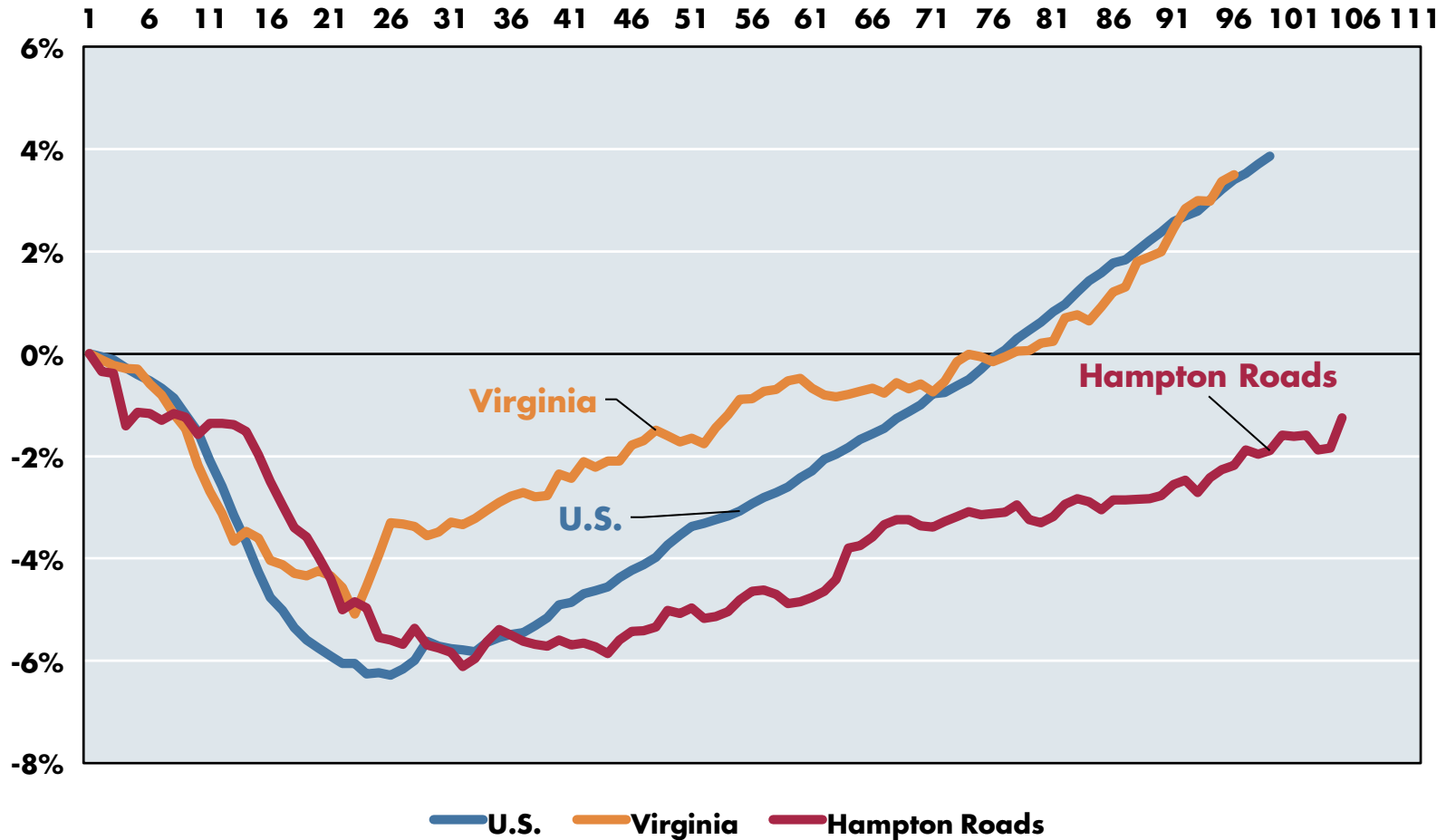
COMPARING THE GREAT RECESSION TO OTHERS: HOW MANY MONTHS IT TOOK THE UNITED STATES TO RECOVER ITS LOST JOBS



Sources: Bureau of Labor Statistics and the Old Dominion University Economic Forecasting Project

GRAPH 3

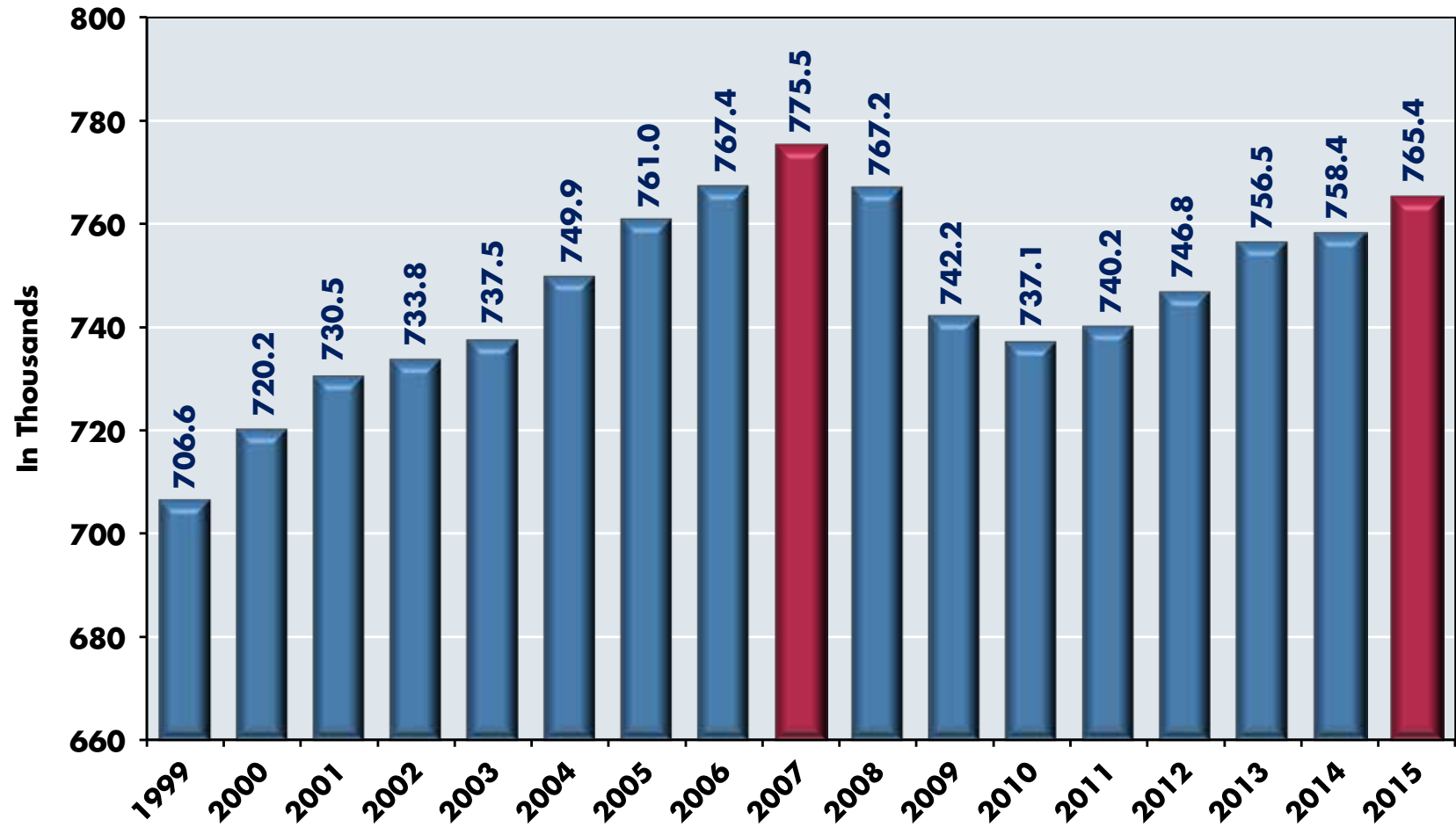
**POST-RECESSION JOB RECOVERY IN HAMPTON ROADS, VIRGINIA AND THE UNITED STATES:
MEASURED BY TOTAL JOBS RESTORED, 2007-2016**



Sources: Bureau of Labor Statistics and the Old Dominion University Economic Forecasting Project
Note: Data for Virginia and Hampton Roads are through March 2016.

GRAPH 4

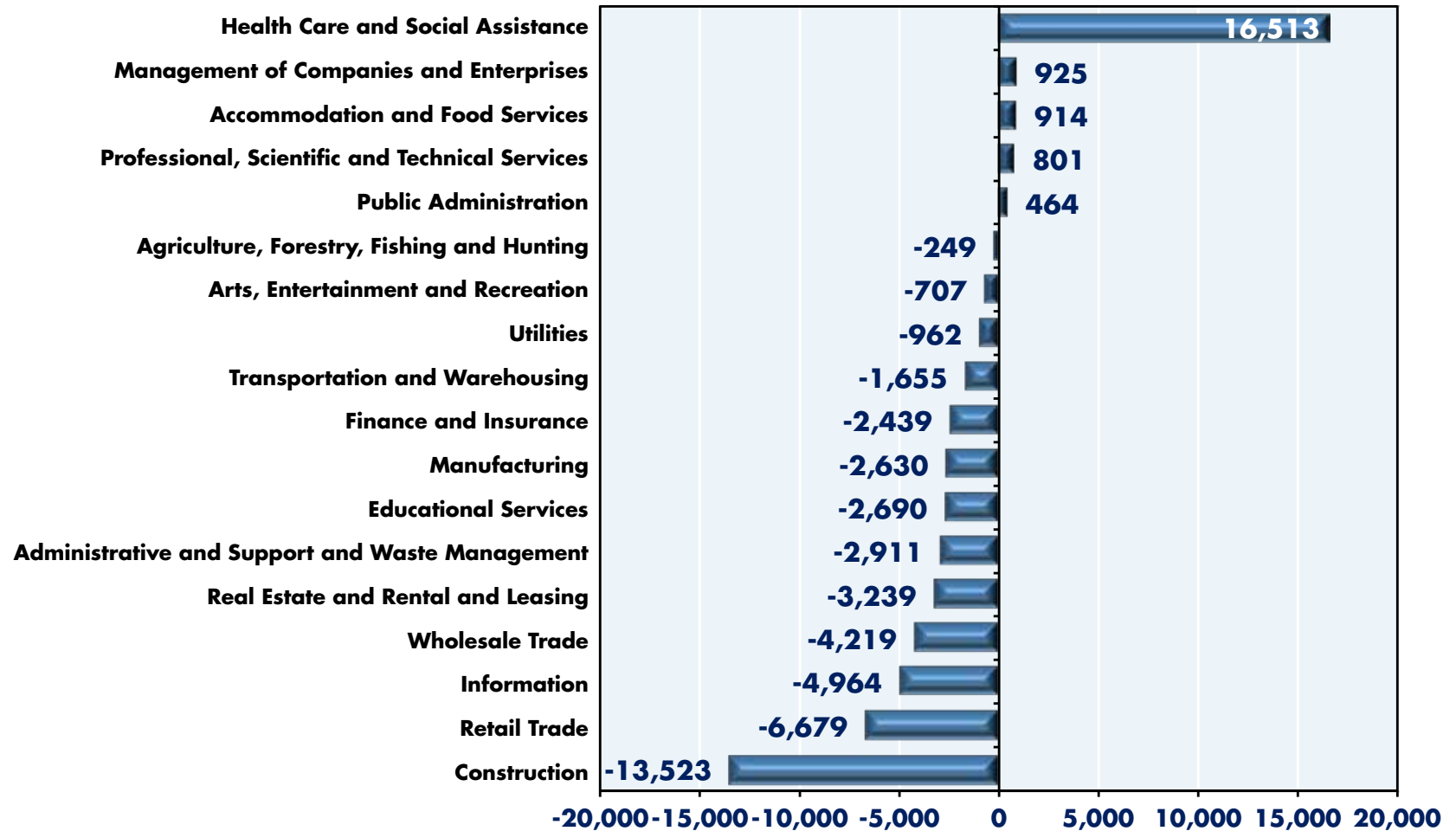
ANNUAL CIVILIAN EMPLOYMENT (JOBS) IN HAMPTON ROADS, 1999 TO 2015



Sources: U.S. Department of Labor CES data and the Old Dominion University Economic Forecasting Project (not seasonally adjusted)

GRAPH 5

CHANGES IN EMPLOYMENT BY OCCUPATIONAL SECTORS IN HAMPTON ROADS, 1ST QUARTER 2007 TO 1ST QUARTER 2015



Sources: Virginia Employment Commission: Covered Employment and Wages and the Old Dominion University Economic Forecasting Project
Note: All data are for the Virginia portion of the Virginia Beach/Norfolk/Newport News metropolitan area.

There is a bright spot associated with these job reallocations. With the major exception of the health care and social assistance area, the occupations in Hampton Roads that have been adding jobs also have tended to pay higher salaries than those formerly occupied by job losers (see Table 2). This change in the mix of jobs in our region is one of the reasons why the median (50th percentile) household income in Hampton Roads has continued to increase and actually expanded a bit faster than was true nationally between 2014 and 2015 (see Graph 6).

Some observers have been puzzled by the simultaneous presence of falling unemployment rates and tepid job growth in Hampton Roads. After all, how could our regional rate of unemployment fall five years in a row (see Graph 7) when our regional job creation engine almost stalled?

The major reason is that labor force participation rates in our region (and nationally) have declined. That is, many thousands of people have dropped out of the labor force. A complete discussion of the reasons for this is beyond the space available to us here, but economic evidence suggests that some individuals have become “discouraged workers” who have stopped looking for jobs because they don’t think they can find one; an aging population may have resulted in fewer people seeking work; a generous social safety net may provide some with disincentives to work; and, in some jurisdictions, it has become easier to claim disability and leave the labor force.

The prime age span for people to be in the labor force is 16-64. It is precisely people within this age group who have been leaving the labor force. Graph 8 presents data showing the percentage increase in the rate of those who declined to participate in the labor force among ages 16-64 in our region’s seven largest cities between 2009 and 2014. That is, these individuals neither are employed, nor are they looking for a job. **In Hampton, for example, between 2009 and 2014, the labor force participation rate of individuals ages 16-64 fell by 7 percent.**¹

Why are these numbers alarming? Because one way or another, society ends up devoting resources to support people of conventional working age who are not in the labor force (and in many cases, their families as well). This implies increased social safety net expenditures that result in higher taxes or stretched services of lower quality, expanded family contributions that draw away from

¹ www.headquarterseconomics.org/par.

other family needs, additional illegal activity, etc. Whatever the reasons, it is easy to see that declining labor force participation rates should be a matter of concern.

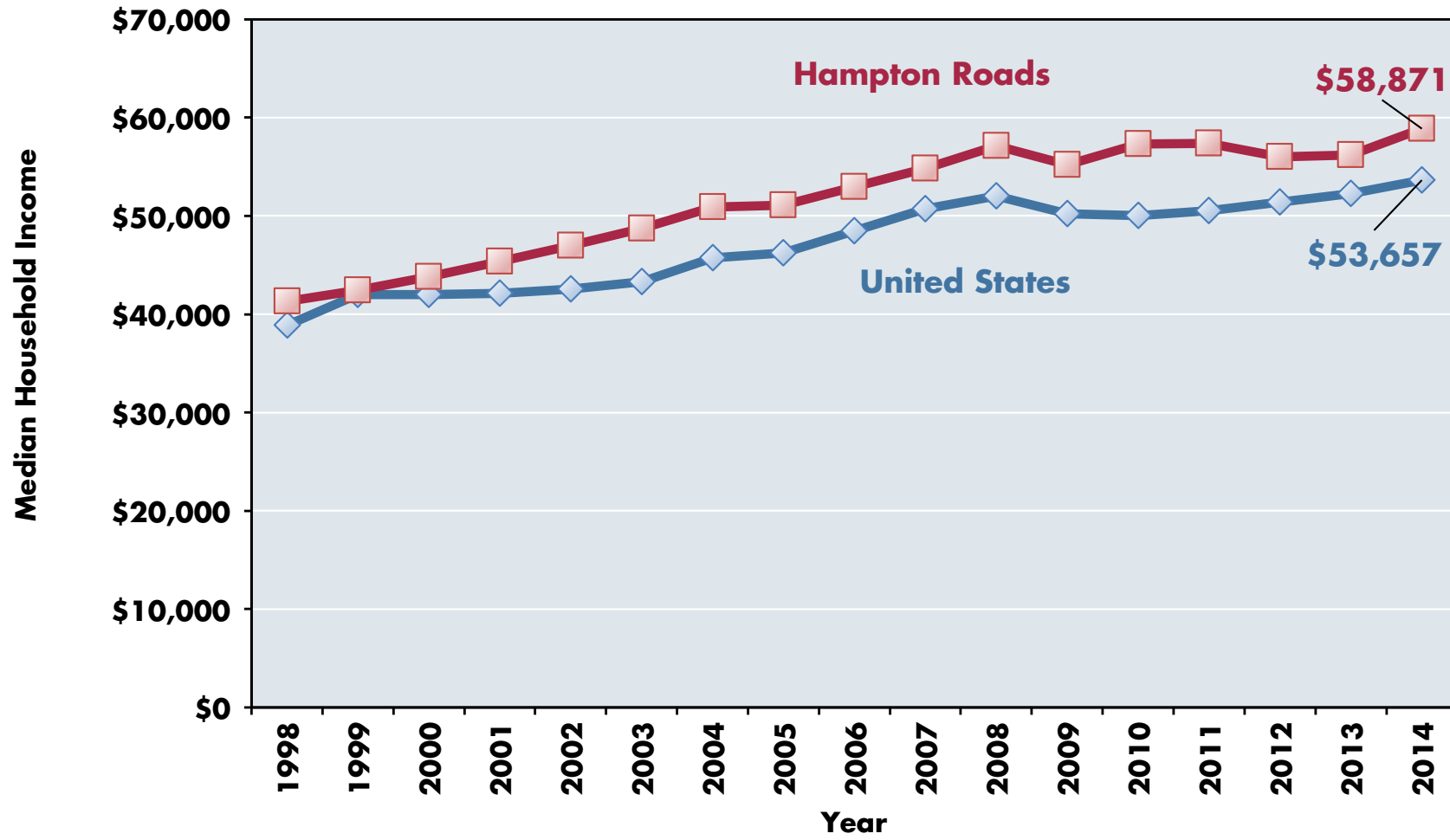
TABLE 2
AVERAGE WEEKLY WAGES IN SELECTED INDUSTRIES IN HAMPTON ROADS, 2007 AND 2015

Industry	1st Quarter 2007	1st Quarter 2015	Changes
Management of Companies and Enterprises	\$1,268	\$2,491	\$1,223 (96.5%)
Finance & Insurance	\$1,093	\$1,454	\$361 (33.0%)
Manufacturing	\$1,075	\$1,251	\$176 (16.4%)
Professional, Technical and Scientific Services	\$1,085	\$1,278	\$193 (17.8%)
Wholesale Trade	\$902	\$1,097	\$195 (21.6%)
Transportation & Warehousing	\$867	\$1,053	\$186 (21.5%)
Information	\$891	\$1,025	\$134 (15.0%)
Health Care & Social Assistance	\$716	\$864	\$148 (20.7%)
Construction	\$739	\$844	\$105 (14.2%)
Real Estate and Rental and Leasing	\$671	\$821	\$150 (22.4%)
Educational Services	\$681	\$769	\$88 (12.9%)
Retail Trade	\$428	\$468	\$40 (9.4%)
Accommodation & Food Services	\$258	\$301	\$43 (16.7%)

Sources: U.S. Department of Labor Quarterly Census of Employment and Wages for Virginia portion of the Hampton Roads area and the Old Dominion University Economic Forecasting Project

GRAPH 6

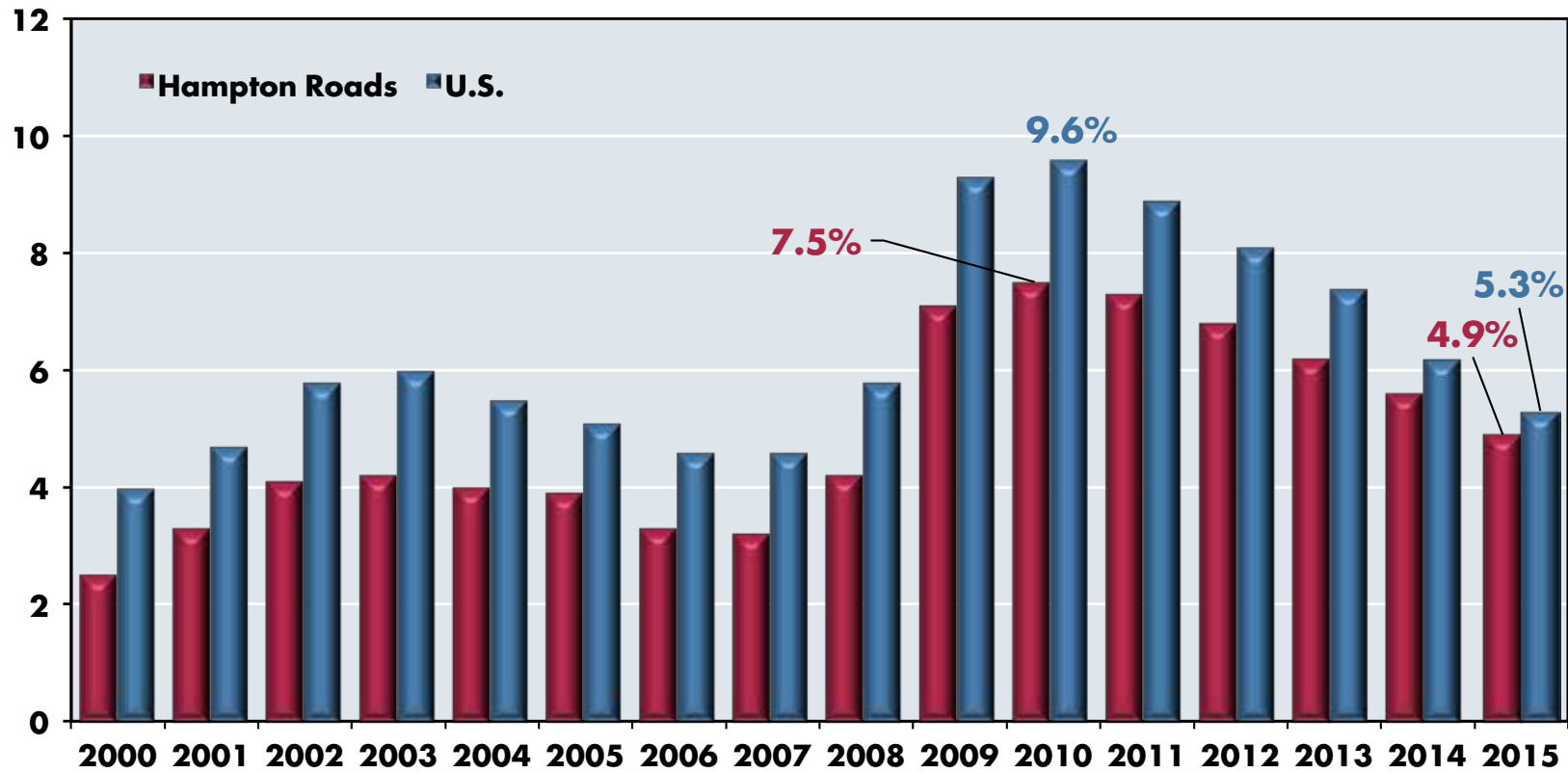
MEDIAN HOUSEHOLD INCOME IN HAMPTON ROADS AND THE UNITED STATES, 1998-2014



Source: www.census.gov/quickfacts (various years)

GRAPH 7

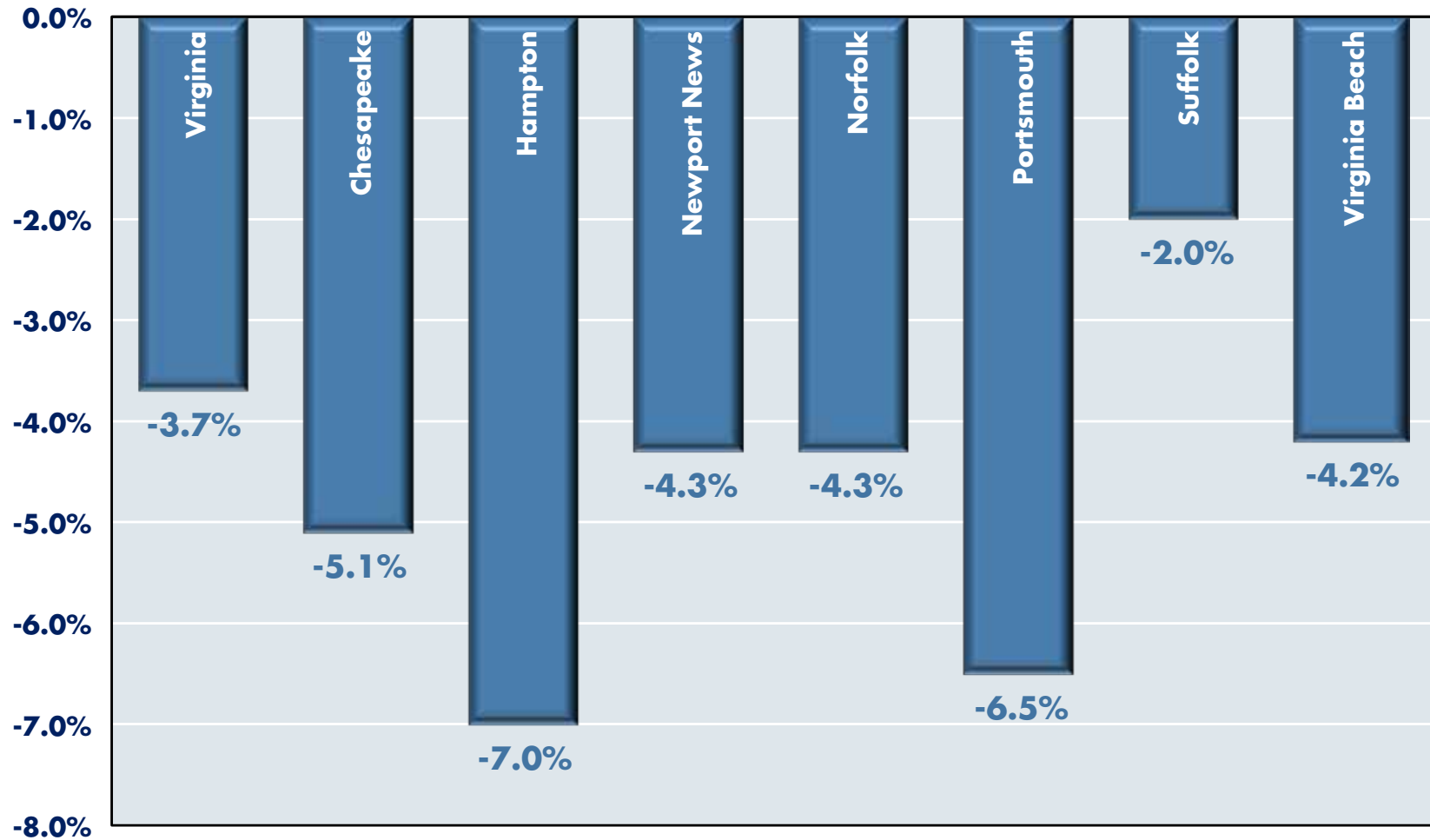
UNEMPLOYMENT RATES IN HAMPTON ROADS AND THE UNITED STATES, 2000 TO 2015



Sources: U.S. Department of Labor and the Old Dominion University Economic Forecasting Project (not seasonally adjusted)

GRAPH 8

ABSOLUTE PERCENTAGE DECLINE IN THE FULL-TIME LABOR FORCE PARTICIPATION RATES OF THOSE AGES 16 TO 64 IN THE LARGEST CITIES IN HAMPTON ROADS AND VIRGINIA, 2009-2014



Source: www.headwaterseconomics.org/tools/economic-profile-system

Defense Spending And Defense Employment

The 10,000-ton economic gorilla that simply cannot be banished to a corner in Hampton Roads is defense spending and employment. Yes, the national recession inflicted serious damage on our regional economy, but the recession is over and we continue to grow slowly. Why? One of the primary reasons is tepid defense spending.

Between 2000 and 2012, total Department of Defense (DOD) spending in Hampton Roads almost doubled and grew at an average rate of 5.8 percent per year. Things have been very different since then. DOD spending increased only 0.5 percent in 2012 and actually declined 4.8 percent during 2013. In 2016, DOD spending is on track to be 1.9 percent lower than its peak level in 2012 (see Graph 9).

How important has defense spending been to Hampton Roads? Graph 10 shows that defense spending accounted for 44.9 percent of the value of our region's gross output in 2011 and has declined in importance since then. Without question, defense spending was the primary economic engine of Hampton Roads in the first decade of this century. It is somewhat less important in 2016, when we forecast that only 38.9 percent of the value of our regional output will be due to defense spending.

Perhaps the most visible evidence of defense spending in Hampton Roads is Newport News Shipbuilding, which employs more than 20,000 people and constructs huge aircraft carriers and submarines. While physical assets such as these are impressive, it is actually defense *personnel expenditures* that truly energize defense spending in Hampton Roads. Expenditures upon the people who build and maintain ships, submarines and airplanes and the payments made to active-duty and civilian personnel provide the largest defense-oriented economic thrust to our regional economy.

Table 3 compares growth patterns in employment and *total employee compensation* in Hampton Roads for military, federal civilian and private-sector employees between 1991 and 2014. One can see that military

employment has shrunk continuously in Hampton Roads over the past quarter-century even while the total value of compensation paid to this smaller number of employees increased, especially between 2001 and 2010, when their compensation increased approximately 62 percent. Without question, this was the single most important contributor to our splendid regional economic growth during this time period.

Note that the number of federal civilian employees in Hampton Roads also has declined overall since 1991, even while the total compensation paid to this smaller cadre of employees nevertheless increased.

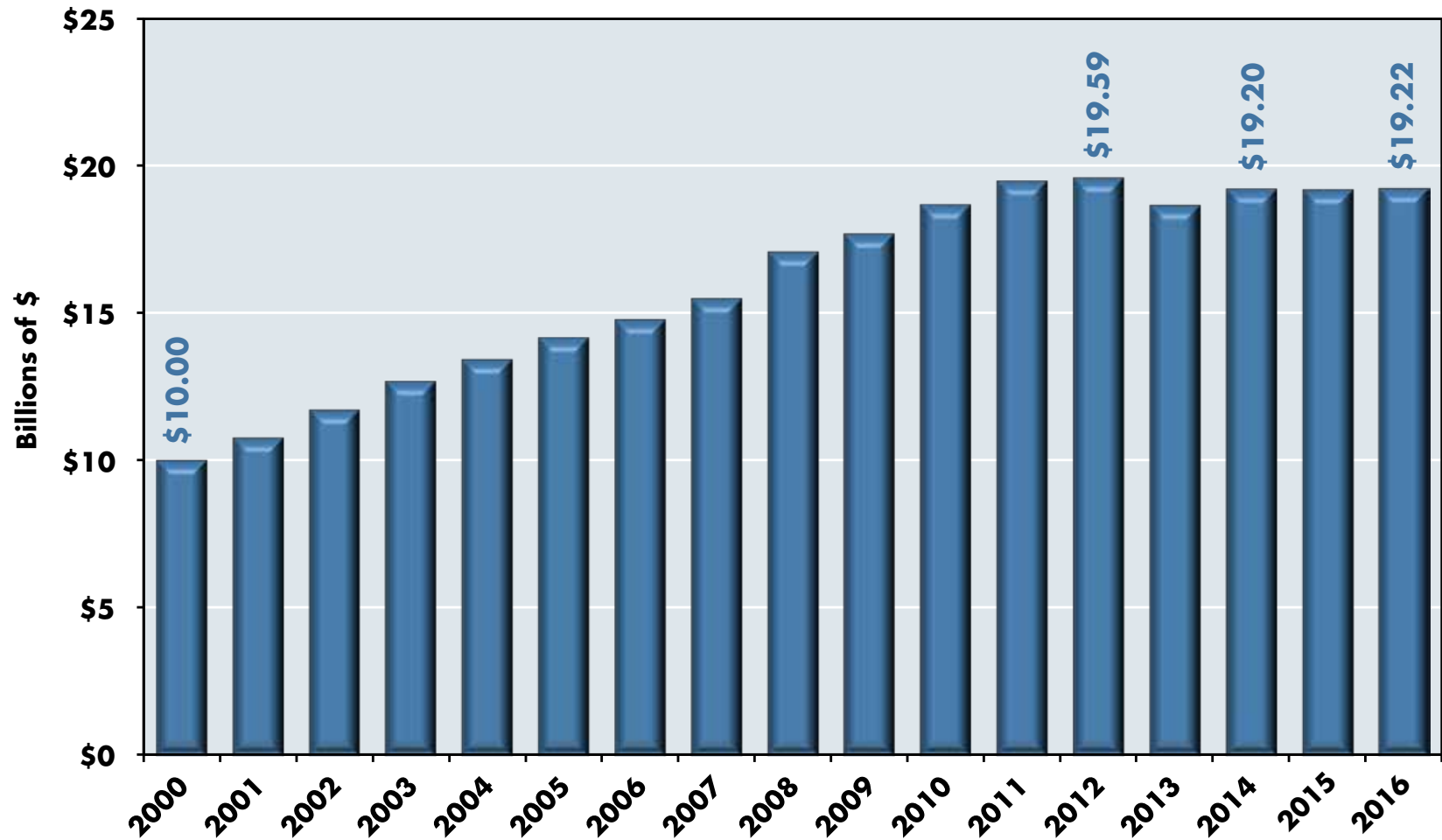
Meanwhile, private-sector employment in our region has grown since 1991 (though the Great Recession put a serious crimp in this growth). The total compensation paid our private-sector, nonfarm workers increased more than 50 percent between 2001 and 2014, well in excess of the 34 percent increase in the consumer price index over the same period. This means that the typical real, after-inflation compensation of a private-sector employee increased by an average of more than 1 percent annually.

The real compensation increases of many workers in our region again focus attention on a somewhat unusual employment situation – a period of slow total job growth nevertheless paired with a period of increased real employee compensation. Ordinarily, sluggish job growth translates into very slow wage and fringe benefit growth because employers do not feel the need to compete for labor. In recent years in our region, however, a change in the mix of jobs in the direction of higher-paid jobs has required employers to bid up the wage rates and fringe benefits they offer workers in the expanding occupations. Hence, the real compensation of these workers has been increasing.

It would be a mistake, however, to conclude that this rising compensation circumstance has applied to all employees, or even a majority of workers. Employees in retail trade, for example, on average experienced declining real incomes as did those involved in providing educational services. Even so, it is a positive development that the real compensation of many Hampton Roads employees has increased in recent years.

GRAPH 9

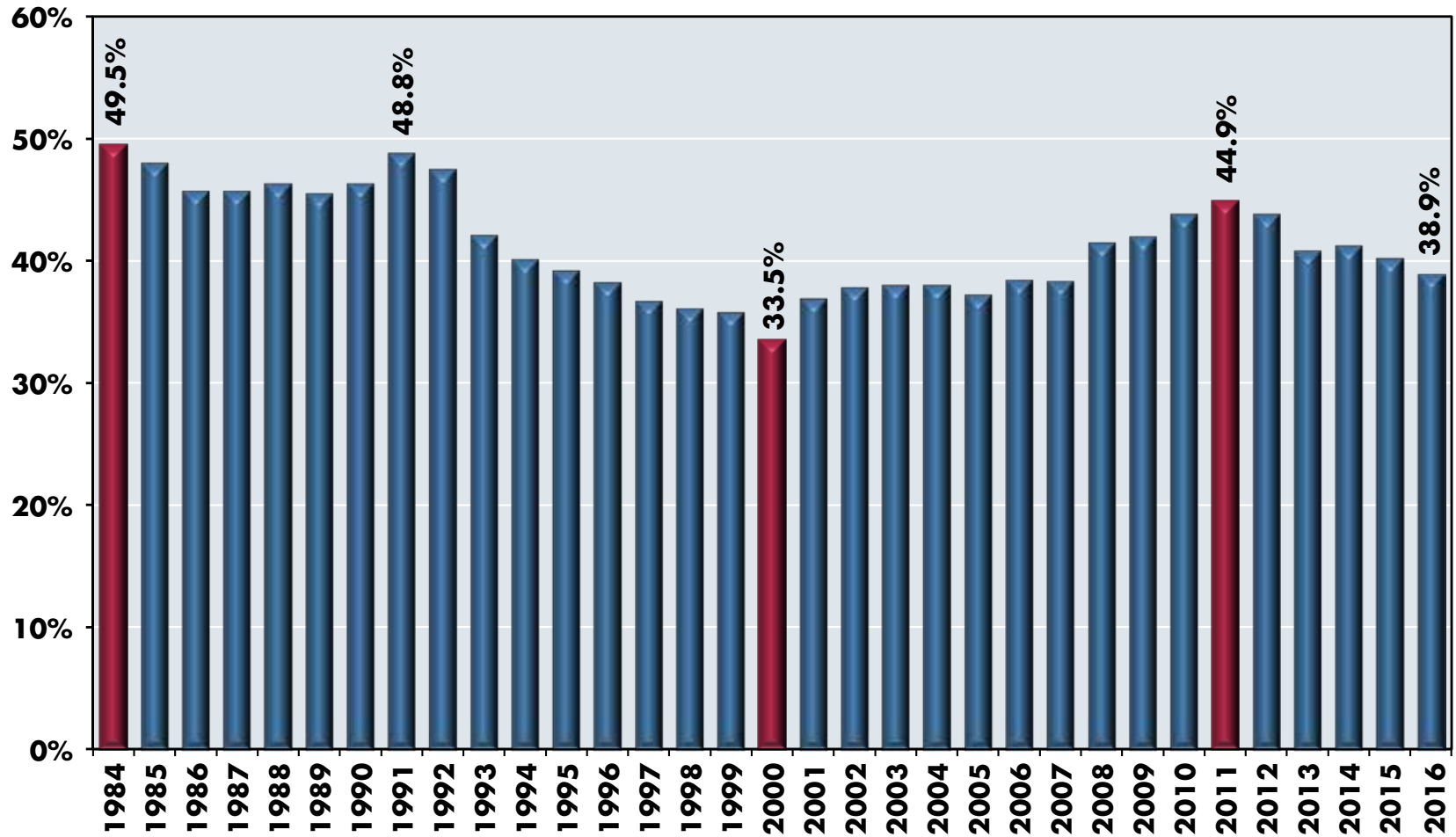
ESTIMATED DIRECT DOD SPENDING IN HAMPTON ROADS, 2000-2016



Sources: U.S. Department of Defense and the Old Dominion University Economic Forecasting Project (includes federal civilian and military personnel and procurement)

GRAPH 10

PERCENTAGE OF THE GROSS REGIONAL PRODUCT (GRP) OF HAMPTON ROADS
ATTRIBUTABLE TO DEPARTMENT OF DEFENSE SPENDING, 1984-2016



Sources: U.S. Department of Defense, U.S. Department of Commerce and the Old Dominion University Economic Forecasting Project

TABLE 3

GROWTH IN EMPLOYMENT AND TOTAL NOMINAL COMPENSATION (WAGES, SALARIES AND FRINGE BENEFITS) FOR MILITARY, FEDERAL CIVILIAN GOVERNMENT AND PRIVATE NONFARM SECTORS IN HAMPTON ROADS, 1991-2000, 2001-2010, 2010-2014 AND 2013-2014

	Percent Change 1991-2000	Percent Change 2001-2010	Percent Change 2010-2014	Percent Change 2013-2014
Military Employment	-21.30%	-13.60%	-10.00%	-0.80%
Military Compensation	5.90%	61.60%	-6.50%	0.70%
Federal Civilian Government Employment	-20.60%	13.30%	-0.60%	-1.70%
Federal Civilian Government Compensation	11.00%	68.60%	7.90%	3.40%
Private Nonfarm Employment	22.30%	5.30%	4.20%	0.80%
Private Nonfarm Compensation	69.30%	36.40%	12.70%	3.20%

Sources: U.S. Bureau of Economic Analysis (BEA) and the Old Dominion University Economic Forecasting Project
 Note: The BEA chooses to label compensation as earnings.

Decelerating Defense Spending

There is an unmistakable connection between our region's disappointing job growth and the deceleration of defense spending. The most important dynamic in this regard has been several rounds of federal government budget sequestration. Simply put, this involves Congress placing caps on federal spending in many areas, including defense.

Graph 11 provides a visual representation of the impact of federal government budget sequestration on "discretionary" defense spending, which conceptually includes all defense spending except expenditures on "temporary" overseas contingency operations in areas such as Afghanistan, Iraq and Syria. This fiscal story begins with the Budget Control Act of 2011, which mandated decreases in many kinds of federal spending, including defense spending. Since then, there have been three compromise budget bills that have restored some federal spending – that is, increased spending above the levels outlined in the Budget Control Act of 2011. Where defense spending is concerned, these restorations have restored spending in amounts that are represented by the areas labeled A, B and C in Graph 11. The area of budget deal C, for example, included \$25 billion of additional defense spending in FY 2016 and \$15 billion in FY 2017 – compared to what would have been true without sequestration relief.

Table 4 supplies actual defense spending numbers relating to sequestration. One can see that the legislated increase in defense spending between FY 2016 (which ended on Sept. 30, 2016) and FY 2017 is only \$3 billion. Will additional sequestration relief be provided? Probably, but such an outcome is by no means guaranteed and in any case would not fundamentally alter longer-term trends that are moving us toward a smaller active-duty military force and gradual reductions in maintenance and readiness levels. The reductions in maintenance and readiness reflect both limited funding and the relatively heavy recent use of assets and people in order to fulfill the defense commitments that the president and Congress have made. It is not clear that

this approach to defense funding and deployments can continue without degradation of performance.

It seems likely that the size of the active-duty military establishment in Hampton Roads will decline further over the next few years. As Graph 12 reveals, the number of active-duty military personnel stationed in Hampton Roads in 2014 already was more than 27,000 (or about 24 percent) below the most recent peak of 113,400 in 2003. Future reductions of active-duty personnel in Hampton Roads could be mitigated somewhat because scheduled reductions in the overall number of active-duty military personnel appear to focus more on the Army and Air Force establishments rather than the Navy.²

What are the longer-term influences that likely will have a negative influence upon the size of the naval military establishment in Hampton Roads?

- If the United States continues to pivot its military attention toward Asia, then the probability increases that our region will lose one aircraft carrier group to the Pacific Coast or Hawaii. However, there is increasing uncertainty about the ability of the United States to undertake such a pivot given the rise of ISIS, the re-emergence of Russia as a regional competitor and the uncertainty of allies such as Turkey. The impact of such a movement would be reduced by the necessity of all aircraft carriers being refueled and refitted in Hampton Roads.
- If the prices of new naval ships, airplanes and equipment continue to inflate at current rates, and significant budget relief is not forthcoming, the DOD will confront a harsh reality – it will be unable to afford the ships and airplanes it says it needs, and even replacing the current inventory of ships and airplanes will be challenging. This would translate to a decline in the number of ships and airplanes in our region and almost surely result in even fewer people being based here.

² The DOD plans to decrease the active-duty Army roster by 40,000 between 2015 and 2020, while the Navy complement will increase by 6,000 during the same period. www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51050-2016_FYDP.pdf.

- The cost of fringe benefits provided to DOD employees (active-duty and civilian) has increased significantly in recent years. Even after some unpopular additional cost sharing by DOD employees, this cost exceeded \$45 billion in FY 2015.³ The rapid rate of growth of fringe benefits, especially those involving medical care, diminishes the expenditures that can be made for other defense purposes. Once again, the same dollar cannot be spent in two places.
- Some new defense assets require fewer personnel to operate because they increasingly rely upon technology rather than people. For example, the new 100,000-ton super carrier, USS Gerald R. Ford (CVN 78), will operate with a crew of 800 fewer personnel than older-generation aircraft carriers.⁴
- Some argue that future defense spending should emphasize Special Forces, cyber warfare and other nontraditional defense strategies rather than notably expensive assets such as aircraft carriers.⁵ This is not the appropriate venue to debate whether military tools such as aircraft carriers best fit the United States' defense needs in contested areas such as the South China Sea.

What we can observe is that a de-emphasis on aircraft carriers in favor of other defense approaches would seriously disadvantage Hampton Roads.

All things considered, the outlook for future defense spending in Hampton Roads is hardly sanguine. We now have experienced more than a half-decade of parsimonious or zero annual increases in defense spending in our region. Some optimism is required to predict a brighter future.

TABLE 4

ACTUAL AND ANTICIPATED DEFENSE SPENDING, FY 2010-FY 2021 (BILLIONS OF \$)

Defense Spending Caps												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Budget Control Act of 2011	552	552	555	492	502	512	523	536	549	562	576	590
American Taxpayer Relief Act of 2012	552	552	555	518	498	512	523	536	549	562	576	590
Bipartisan Budget Act of 2013	552	552	555	518	520	521	523	536	549	562	576	590
Bipartisan Budget Act of 2015	552	552	555	518	520	521	548	551	549	562	576	590

Source: U.S. Department of Defense

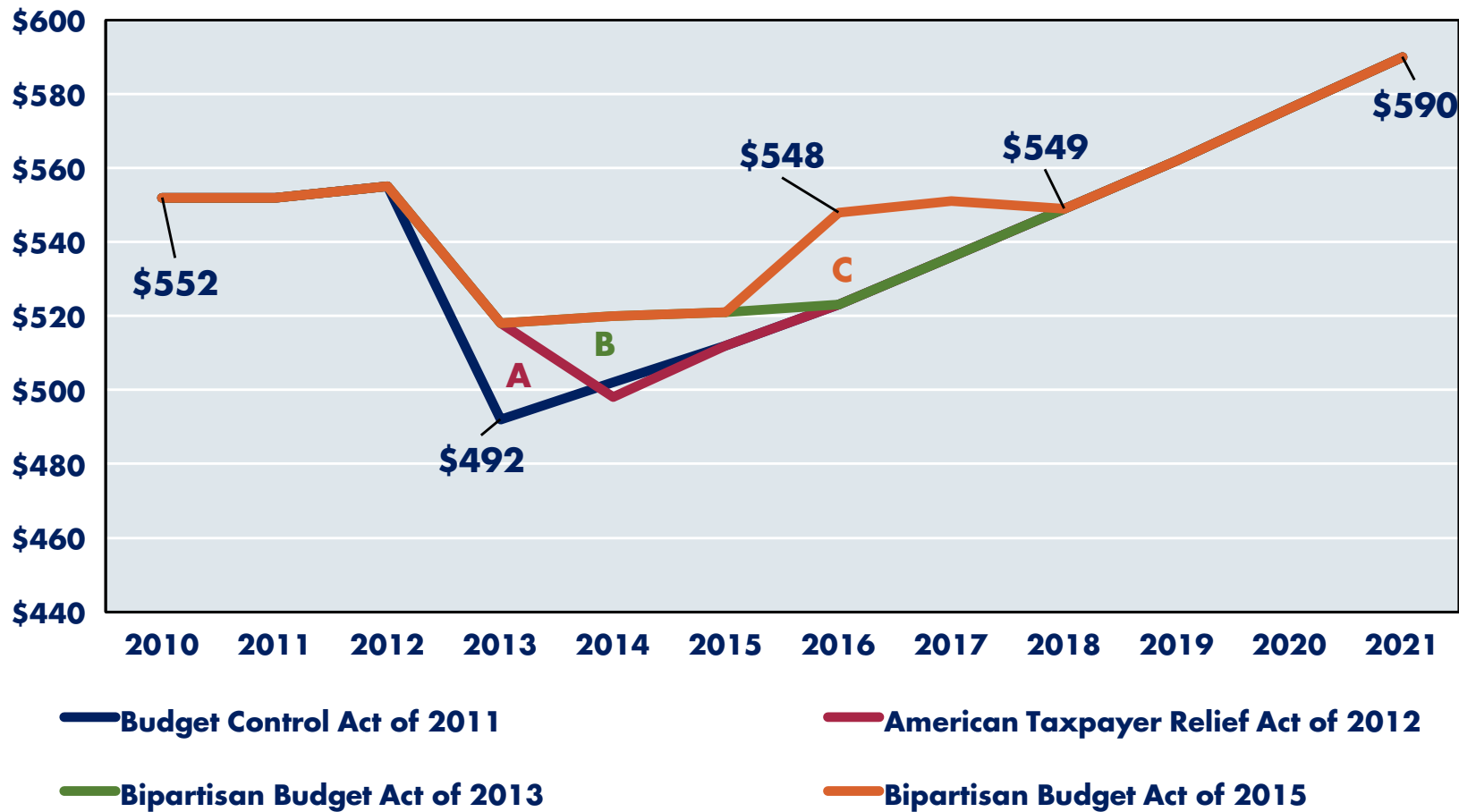
³ www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51050-2016_FYDP.pdf.

⁴ Interview with Matt Mulherin, president of Newport News Shipbuilding, June 27, 2016.

⁵ See, for example, Jeremy Bender, "A New Chinese Anti-ship Ballistic Missile Is Bad News for U.S. Aircraft Carriers," www.businessinsider.com/chinas-growing-military-power-may-make-us-aircraft-carriers-obsolete-2015-10.

GRAPH 11

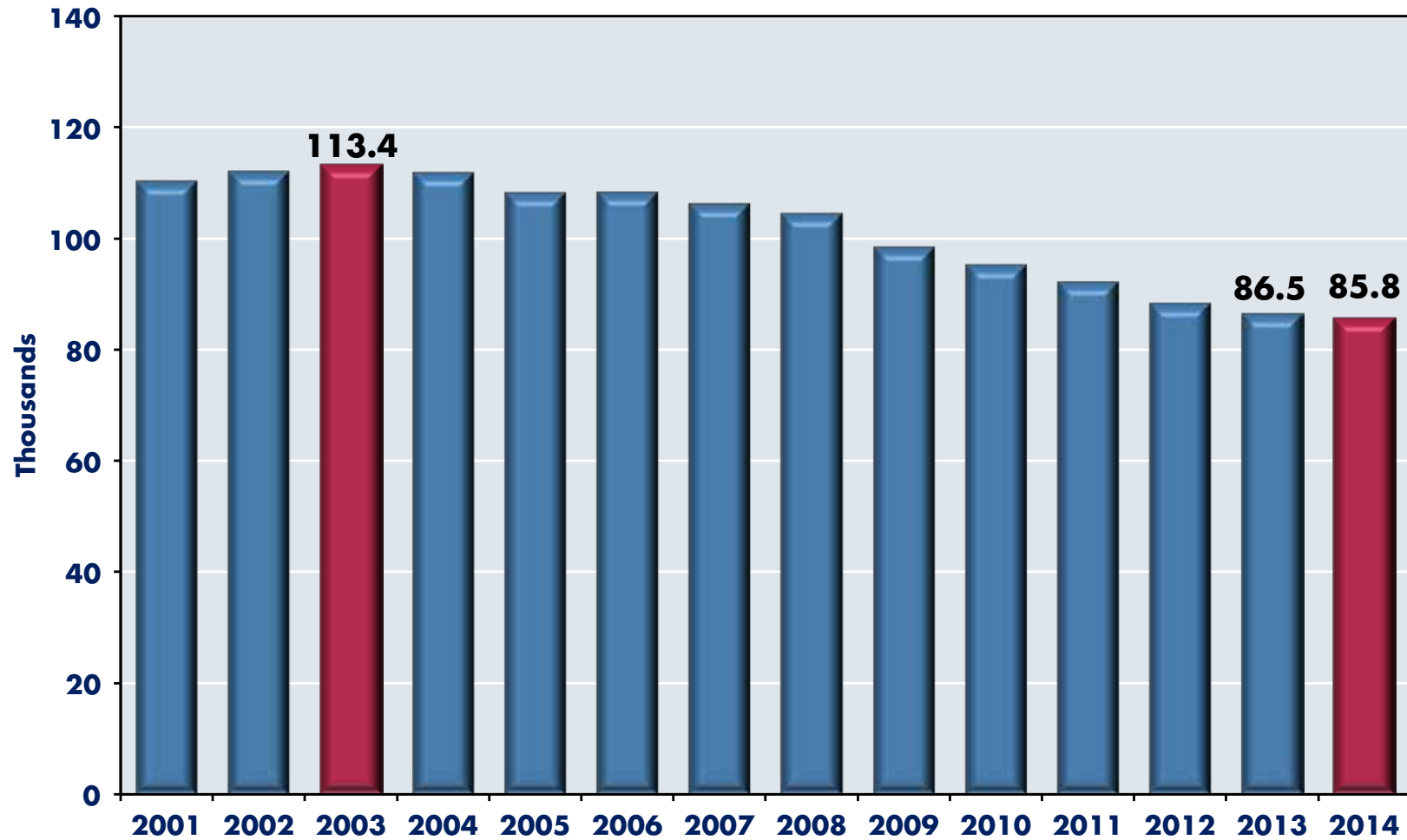
SEQUESTRATION AND DEFENSE SPENDING CAPS: FY 2010 TO FY 2021 (BILLIONS OF DOLLARS)



Source: Congressional Research Service: "Defense: FY 2017 Budget Request, Authorization, and Appropriations," April 12, 2016

GRAPH 12

MILITARY EMPLOYMENT IN HAMPTON ROADS, 2001-2014



Sources: Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project

The Port

Economic activity connected to the Port of Virginia long has been an important contributor to the region's economic well-being. Depending on who is doing the counting, the Port may directly and indirectly be responsible for up to 7 percent of the value of our region's economic activity.

The Great Recession adversely impacted the Port and the cargo flowing through it – whether measured by general tonnage or by 20-foot equivalent container units (TEUs). Already by 2009, general cargo tonnage and TEUs had declined by 16.4 percent and 18 percent, respectively, from their peak levels. The volume of general cargo and TEUs flowing through the Port increased every year, 2009 through 2015, with particularly large increases in tonnage occurring in 2012 (12.2 percent) and 2013 (7.5 percent). Nevertheless, it took the Port almost five years to recover the losses incurred during the Great Recession.

For those not familiar with the terms, we note that general cargo includes containers, autos, roll-on/roll-off (automobiles and farm and construction machinery), forest products and break-bulk cargo. Most people can identify a TEU by sight, but in reality the definition of a TEU is rather flexible. The most common notion of a TEU is a 20-foot-long metal box that can be easily transferred between ships, trains and trucks. But, the heights of these containers are far from being standardized and both 40-foot-long and 45-foot-long containers are considered to constitute the equivalent of 2 or 2.25 TEUs.

Old Dominion University's Economic Forecasting Project estimates that both general cargo tonnage and TEUs at our port will increase in 2016 (see Graphs 13 and 14 for data through 2015), but by rather modest rates because our port's 2015 numbers were inflated by now settled labor problems on the West Coast that diverted cargo from ports such as Los Angeles, Long Beach and Seattle to the East Coast.⁶

⁶ May over May, loaded incoming TEUs were down 5 percent at Savannah and 2.3 percent at the Port of Virginia. Loaded outgoing TEUs were up only 1 percent at Savannah and down 12 percent at the Port of Virginia. "Volume Declines at Top Three U.S. Southeast Ports," *Journal of Commerce* (June 17, 2016).

Over the past decade, the Port of Virginia has maintained a TEU market share of approximately 16-17 percent of the total TEUs handled by the four largest East Coast ports: New York/New Jersey, Savannah, the Port of Virginia and Charleston. It appears that in 2016 the Port of Virginia may regain the small bit of market share it lost between 2014 and 2015 (see Graph 15).

A note of concern relates to the increasing proportion of empty TEUs being sent out from the Port of Virginia. TEUs loaded with actual product increased by only 1.4 percent in 2015, while empty TEUs increased about 35 percent. The slow growth of loaded TEUs reflects a variety of factors – declining demand for U.S. exports, excess capacity among major ocean carriers, possible adverse reactions to congestion challenges at our Port, the expiration of contracts with shippers that involved attractive financial incentives, the M2 pact between Maersk and Mediterranean Shipping that diverted some Maersk traffic from Virginia to Baltimore, the absence of labor problems at other ports that had stimulated activity at the Port of Virginia in previous years, and the cooling of the Chinese economy.

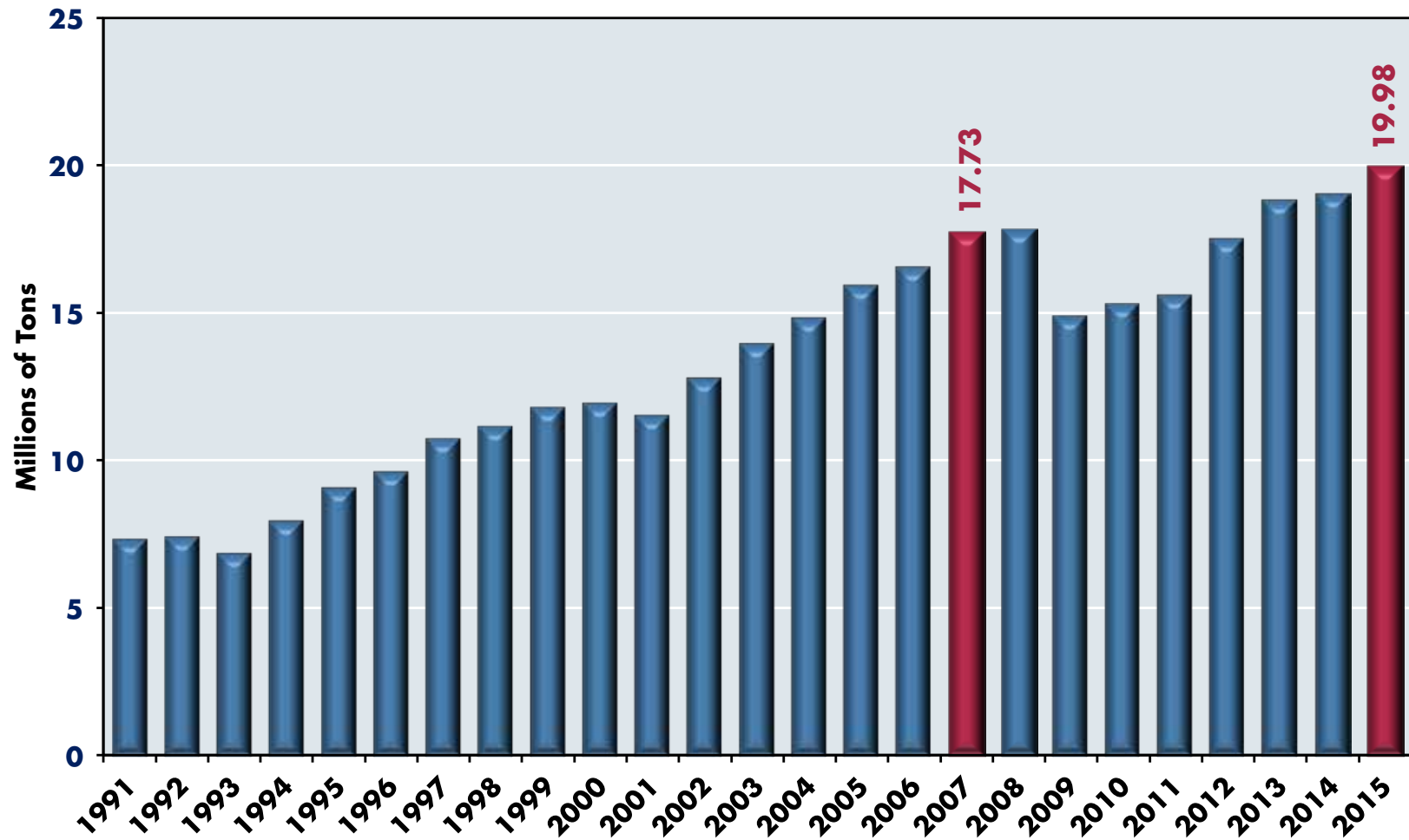
Against this, the proportion of shipments leaving the Port of Virginia to destinations inside the United States via rail increased from 31.9 percent in 2012 to 32.9 percent in 2015. This is good news because rail cargo tends to be discretionary cargo that might have been routed via a different port. It suggests that the Port is winning competitive battles with customers who are capable of using multiple ports to ship their products.

Two big international trade developments relating to the Port of Virginia have garnered considerable attention. The first is Brexit, the United Kingdom's departure from the European Union. At first glance, it appears that the United States has limited exposure to this situation. Only 13.49 percent of U.S. GDP is derived from exports, much less than the U.K.'s 27.84 percent, or Germany's stupendous 50.87 percent. Less than 8 percent of Virginia's gross state product is derived from exports. In addition, only 4 percent of U.S. exports go to the U.K. (though this is almost 6 percent in Virginia).⁷

⁷ www.census.gov/foreign-trade/statistics/state/data/va.html.

GRAPH 13

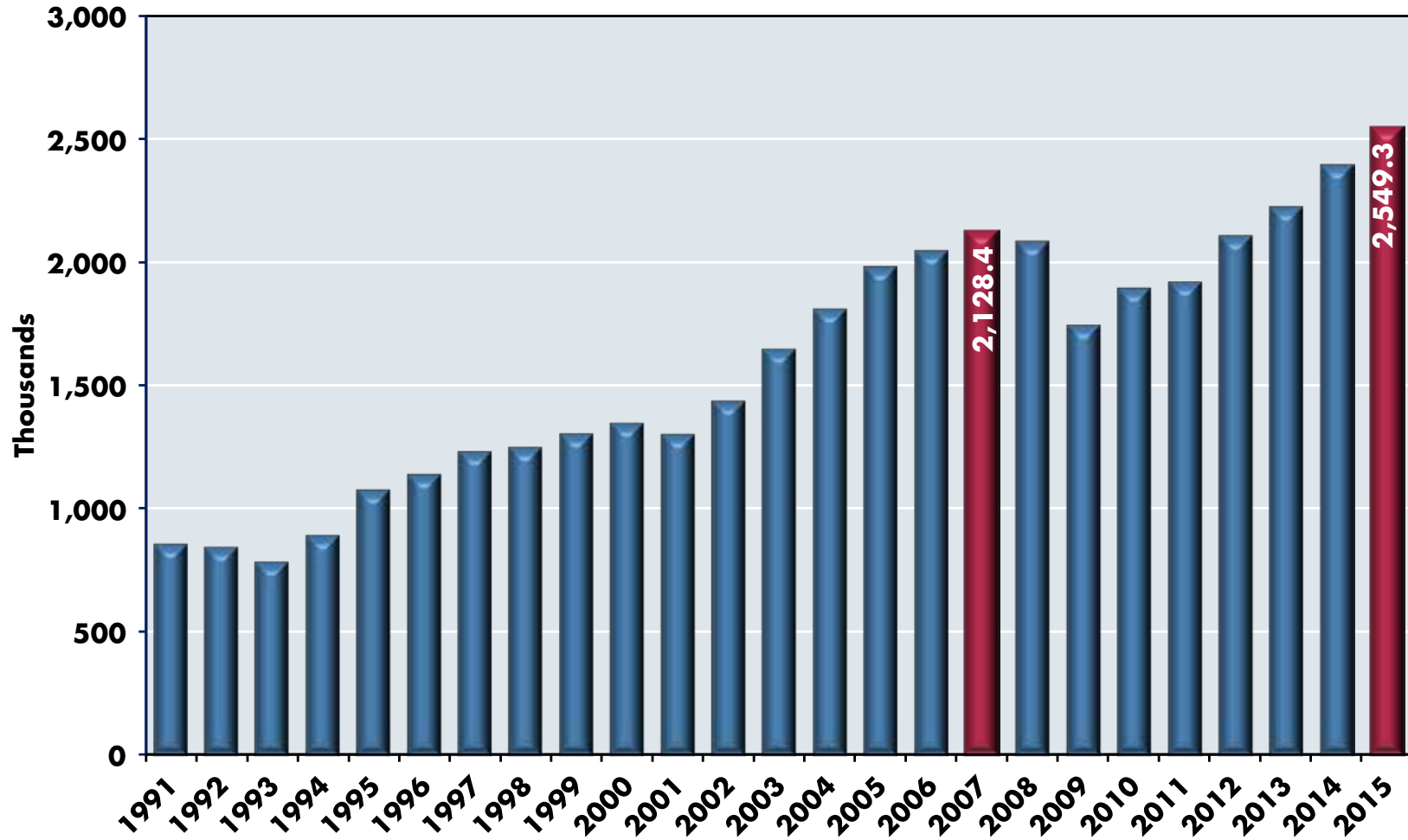
GENERAL CARGO TONNAGE AT THE PORT OF VIRGINIA, 1991-2015



Sources: Virginia Port Authority and the Old Dominion University Economic Forecasting Project

GRAPH 14

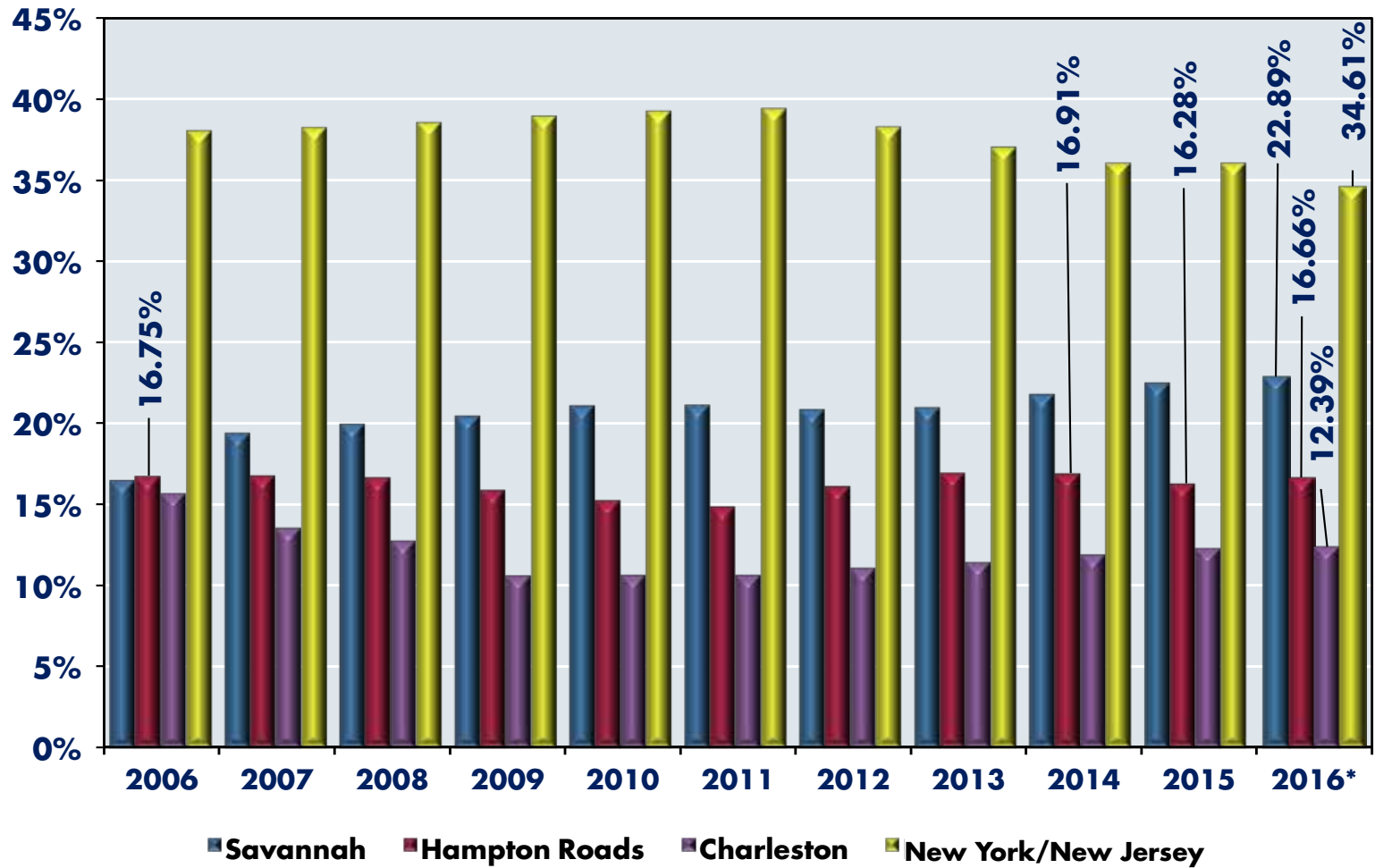
TWENTY-FOOT EQUIVALENT CONTAINER UNITS (TEUS) AT THE PORT OF VIRGINIA, 1991-2015



Sources: Virginia Port Authority and the Old Dominion University Economic Forecasting Project

GRAPH 15

EAST COAST-LOADED TEU MARKET SHARES OF MAJOR PORTS, 2006-2016



Sources: American Association of Port Authorities and the Old Dominion University Economic Forecasting Project
Note: Market shares exclude TEUs for Philadelphia, Miami, Palm Beach and Port Everglades.
*Data are through April 2016.

With respect to Brexit, greater potential dangers reside in the possibility of an international financial crisis that would send lethal ripples around the globe. Brexit is uncharted territory, but the 2008 recession should have taught us that financial runs can occur in unexpected ways. It will take time to determine the ultimate effects of Brexit and much will depend on the negotiations between the U.K. and other countries.

Another highly advertised (but surely overemphasized) international trade development was the opening of the “new,” improved Panama Canal on June 26, 2016. The expanded canal now can handle ships carrying up to 10,400 TEUs.⁸ The Port of Virginia already is capable of handling such large ships because of its enviable 50-foot draft. Our two major East Coast competitors – Savannah and New York/New Jersey – have limited capacity to handle such ships, though both are spending billions of dollars on dredging, raising bridges and other infrastructure improvements designed to remedy their deficiencies. For the next year or two, however, the Port of Virginia will retain its advantage with respect to large, deep-draft ships.

An important and expensive public policy question relates to whether our Port should be dredged to a depth of 55 feet – which may well be necessary to handle the 20,000-TEU ships that already are under construction and will begin to dominate the U.S.-Asia trade lanes. The answer to this question is not clear. Most of the ships that enter the Port of Virginia currently clearly are not giant vessels; however, the global trend is toward larger ships. Even in 2015, the Port reported that the average number of TEUs handled per ship was only 1,510, though this has grown more than 21 percent since 2011. Much more than additional dredging would be required in order to unload and service huge ships. A variety of potentially expensive adjustments at the Port, including multiple shifts of personnel, expedited truck and railroad handling to combat congestion, and new equipment and technology would be needed.

There is little doubt that the Commonwealth of Virginia should be planning for deep dredging of the Port of Virginia. Still, how quickly the dredging needs to occur is not yet obvious because currently there are many other potentially productive uses for funds in and around the Port. Indeed, the most recent

⁸ Note that the expanded Panama Canal will not be able to handle the large ships currently being constructed. Further, many large ships plying Asia/U.S. routes may opt to travel through the Suez Canal for cost and operational reasons.

General Assembly invested \$350 million in expanding capacity at the Norfolk International Terminal (NIT), the Port’s largest container-handling facility. The Port has many needs.

Moderate Recovery Continues In Regional Housing Markets

Make no mistake – these are not boom times in housing markets in Hampton Roads. Our overall regional housing market has continued to struggle relative to the national housing market. Nevertheless, by a variety of measures, economic conditions have improved dramatically in Hampton Roads housing markets since the Great Recession.

Initially, let’s focus on what has happened to the median sales prices of existing homes. Nationally, by the second quarter of 2016, median prices were only 4 percent below their 2005 level. **In Hampton Roads, median sales prices of existing homes have increased modestly since 2011 (see Table 5), but even by the second quarter of 2016, the \$203,000 median sales price remained 8.96 percent lower than its previous peak in the third quarter of 2007.**

On the supply side of the market, the size of the inventory of unsold homes on the market is an important measure of overall housing market conditions. Graph 16 illustrates that the inventory of homes on the market in our region has declined about one-quarter from its 2010 peak of 13,070. This metric is highly variable and very cyclical so it is not easy to say what the “normal” level is or should be. However, the average inventory of homes on the market over the past 22 years has been slightly more than 8,300. The current inventory remains substantially above that level.

Much the same pattern appears with respect to the average time a house spends on the market before it is sold. This stood at a mere 27 days in the halcyon days of 2004 (see Graph 17) and peaked at 102 days in 2011. By

May 2015, it had declined to 84 days. However, the average number of days on the market since 2000 has been only 68.

A potential housing market wild card, however, relates to the insertion of bank-owned homes (“REO”)⁹ and short sale homes into the regional housing inventory. In general, these two classes of homes are properties that have been foreclosed upon and/or repossessed by lenders, abandoned by their owners or simply never occupied at all. Short sale homes specifically refer to those that will be sold, or have been sold, for a price less than the value of the outstanding mortgage.

Together, bank-owned homes and short sale homes constitute “distressed” homes. When distressed homes are placed on the market, they typically sell for much lower prices than other homes and hence have a distinctly negative influence on overall home prices. It is as if a discount box store were to begin to sell recognizable, frequently purchased goods, such as computers and running shoes, for prices well below those advertised by conventional sellers. It drives down prices.

Graph 18 displays the *known* inventory of bank-owned and short sale homes in Hampton Roads. From a low point of 606 in June 2008, the known inventory of existing single-family bank-owned and short sale homes steadily rose to an estimated 3,224 homes in November 2010 – a more than five-fold increase. Since then, this inventory steadily declined to 1,311 in May 2016, but still is slightly more than two times the levels observed in June 2008.

Note that we have attached the adjective “known” to this inventory. One of the imponderables associated with this and other housing markets is how many additional distressed properties banks and others are holding, but have not yet fed into the market. If this number is substantial, then our housing market remains far from complete recovery. The problem is we do not know how many, though conversations with lenders suggest that they have yet to feed all of their distressed properties into the market.

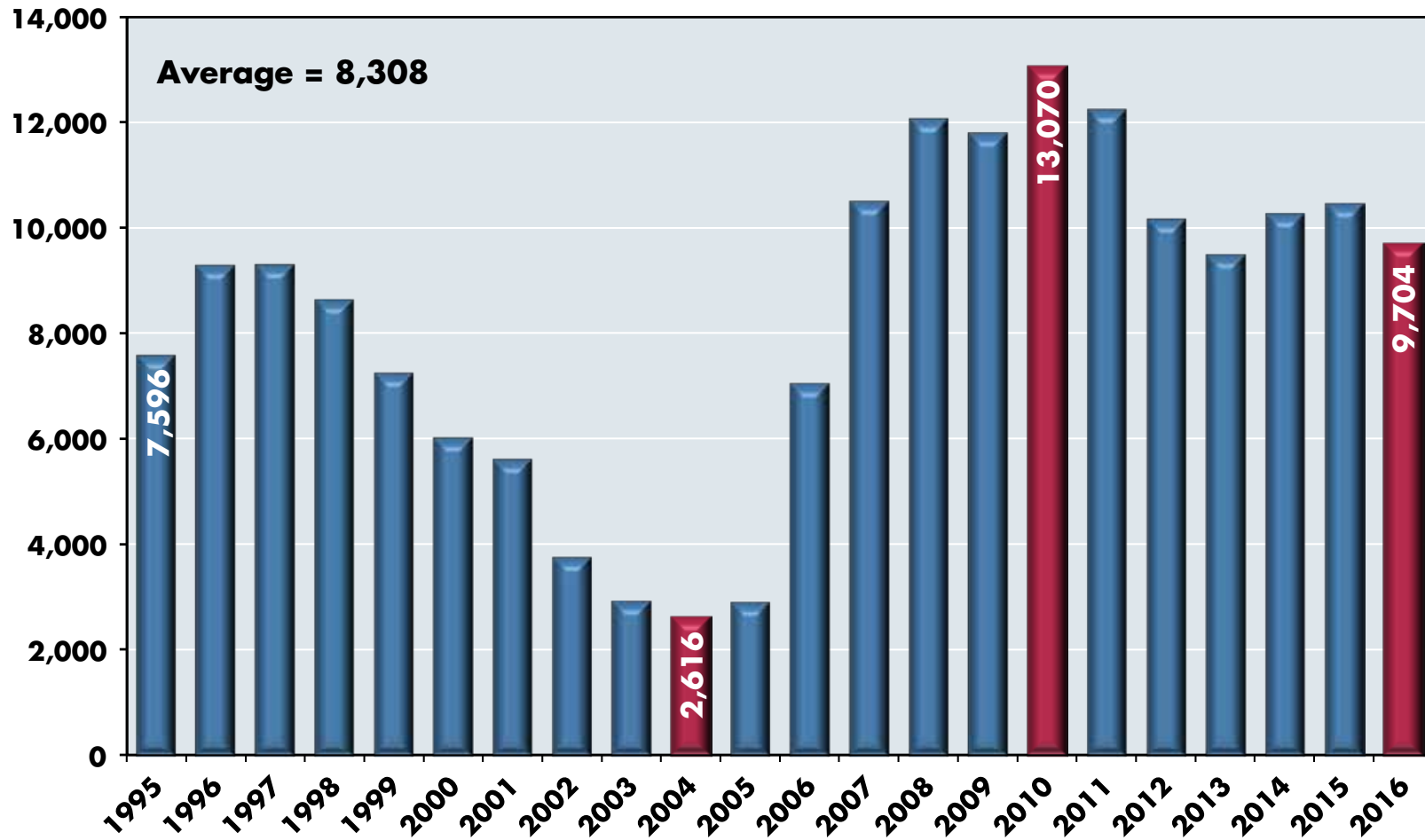
⁹ REO is an abbreviation for real estate owned properties owned by lenders, for whatever reason.

Year	Median Price	Annual Percentage Change
2002	\$116,900	7.30%
2003	\$130,000	11.20%
2004	\$156,500	20.40%
2005	\$192,000	22.70%
2006	\$214,900	11.90%
2007	\$223,000	3.80%
2008	\$219,000	-1.80%
2009	\$207,000	-5.50%
2010	\$203,900	-1.50%
2011	\$180,000	-11.70%
2012	\$185,000	2.80%
2013	\$190,000	2.70%
2014	\$193,205	1.70%
2015	\$203,000	5.10%
2016*	\$203,000	+4.1%*

Sources: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project.
*Data for 2016 are through May 2016 and are compared to median price (\$195,000) through May 2015.

GRAPH 16

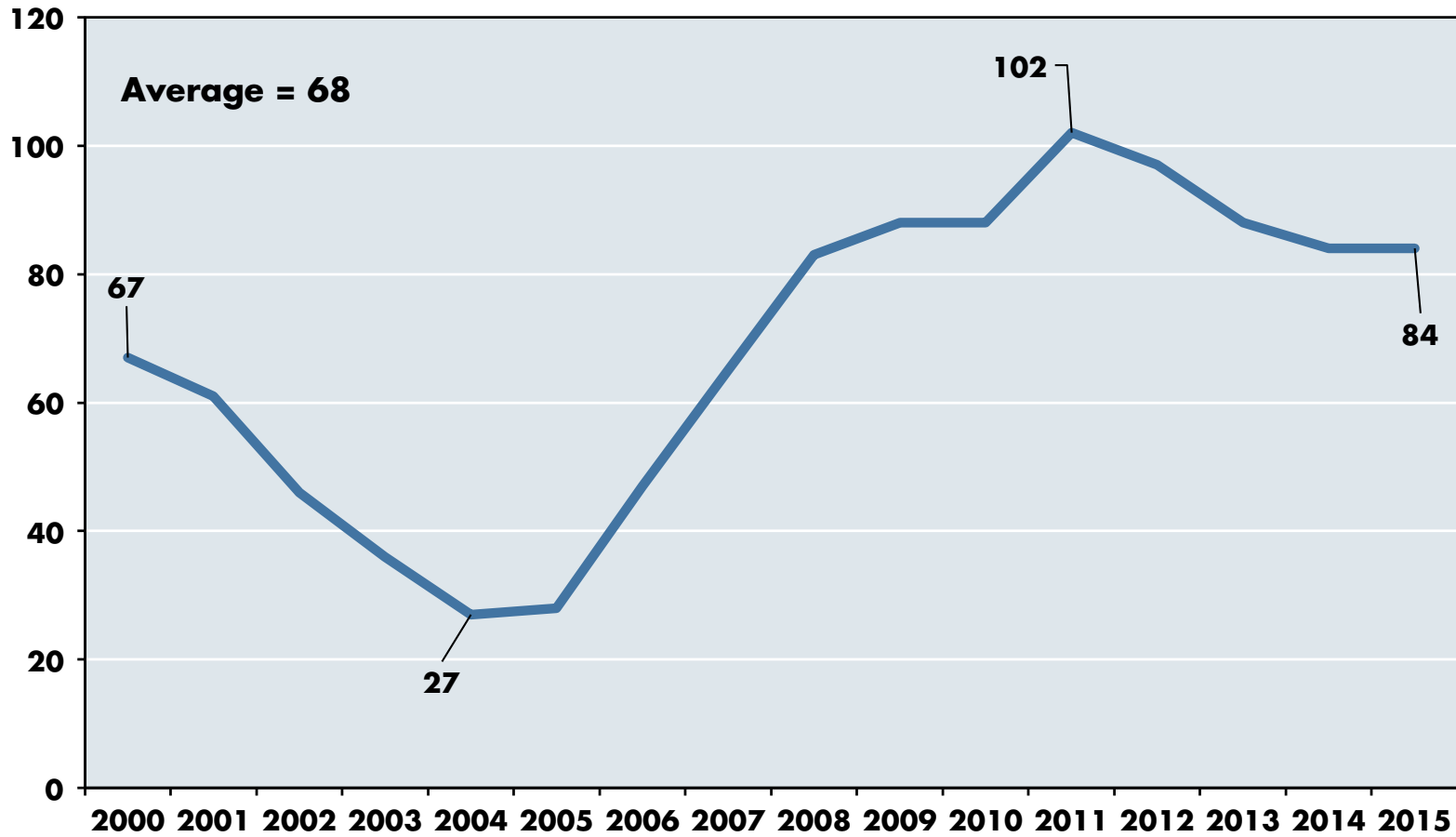
ESTIMATED INVENTORY OF HOMES ON THE MARKET IN HAMPTON ROADS, 1995-2016



Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project
Note: Inventory is measured by active listings on May 31 of each year.

GRAPH 17

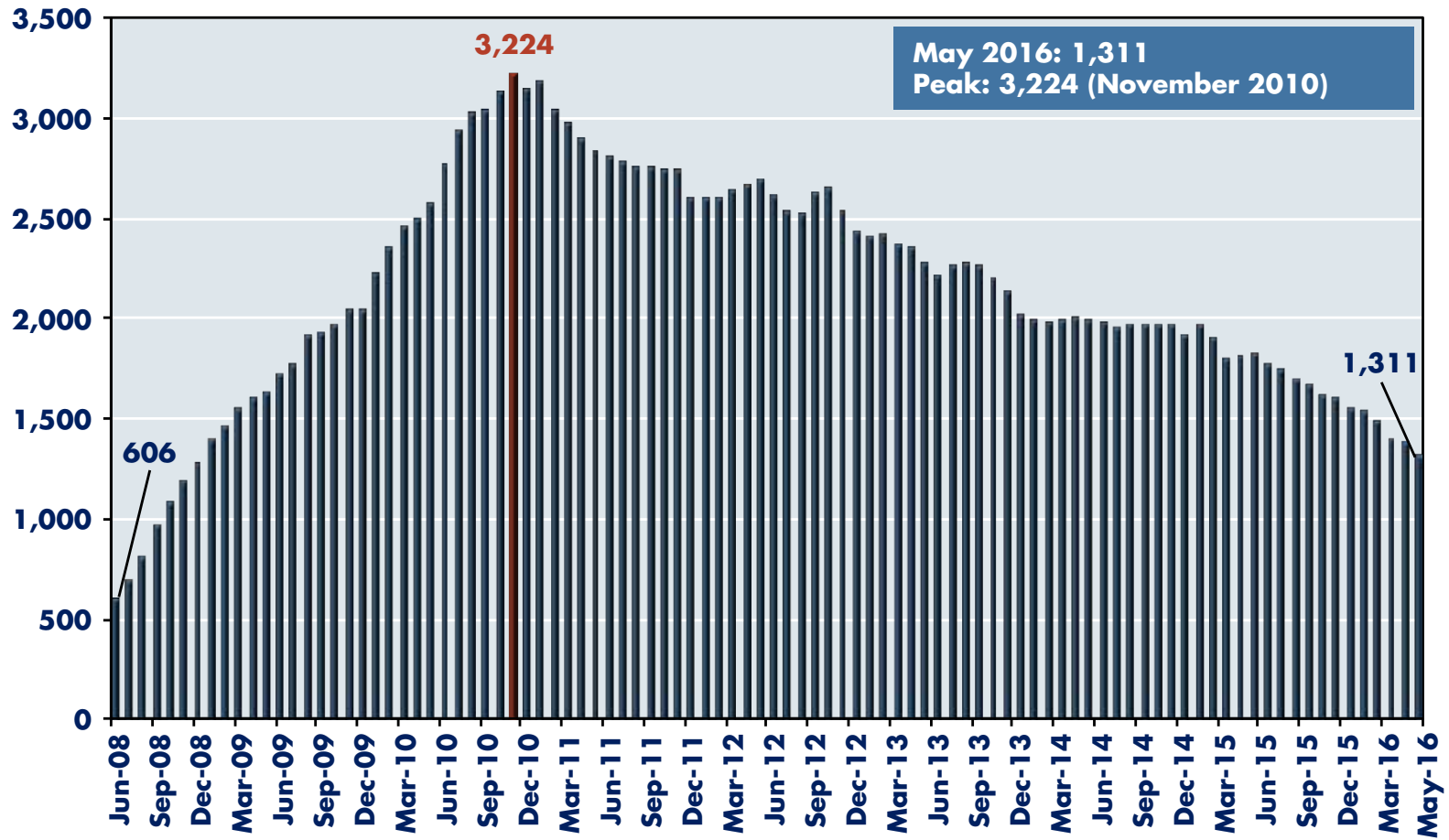
AVERAGE NUMBER OF DAYS A HOME IS ON THE MARKET PRIOR TO SALE IN HAMPTON ROADS, 2000-2015



Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project
Note: Days on market are calculated from the date listed to the date under contract for existing homes sold.

GRAPH 18

ACTIVE LISTING OF DISTRESSED HOMES (REO AND SHORT SALES) IN HAMPTON ROADS, JUNE 2008-MAY 2016



Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project

In any case, Table 6 reveals that distressed home sales as a percentage of all home sales have declined continuously since REO sales peaked at 26.6 percent in 2011 and short sales topped out at 9.8 percent in 2012. Even so, in 2016, we estimate that 16 to 18 percent of home sales will fall into the distressed category. This has a negative influence on home sale prices, and Table 7 demonstrates how much. Short sale prices were only 69.4 percent of non-distressed sale prices in 2016, while REO (bank-owned) sale prices were a dismal 53 percent of non-distressed prices in 2016.

Taking all into account, what does the future hold for the residential housing market in Hampton Roads? Several favorable influences are present. First, as has been noted, we do appear to be slowly working our way through the distressed housing inventory that has helped depress regional housing prices for almost a decade. Second, mortgage rates continue to be attractively low and housing is quite affordable in Hampton Roads – if one qualifies for a mortgage.

Table 8 compares the monthly principal, interest and tax payment a mortgage holder likely would make on a median-priced home in Hampton Roads to the median monthly rent that would be paid to occupy a similar property. This “renting versus owning” ratio in 2015 was 1.33 – telling us that renting was relatively more expensive than owning. The 1.33 ratio was substantially higher than a decade previous, though a reduction from 2013. **Simply put, owning a home now is relatively more attractive than renting in Hampton Roads, taking into account only the basic financial numbers associated with each.** Of course, this assumes that the hypothetical individual has the ability to obtain a mortgage; the ratio has relatively little meaning if one cannot do so.



TABLE 6

REO AND SHORT HOME SALES AS A PERCENTAGE OF ALL EXISTING HOME SALES: HAMPTON ROADS, 2006-2016

Year	All Sales	Short Sales	Percent Short Sales	REO Sales	Percent REO Sales
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	8,397	431	5.1%	1,028	12.2%

Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project (data are through May 2016)

TABLE 7

THE IMPACT OF DISTRESSED HOME SALES ON HOME PRICES: HAMPTON ROADS, 2006-2016

Year	Non-Distressed Sales	Short Sales	Short Sales Price % Non-Distressed Price	REO Sales	REO Price % Non-Distressed Sales
2006	\$250,254	\$241,666	96.6	\$120,817	48.3
2007	\$261,723	\$237,897	90.9	\$163,421	62.4
2008	\$255,852	\$239,110	93.5	\$184,462	72.1
2009	\$243,902	\$239,913	98.4	\$164,229	67.3
2010	\$251,572	\$231,211	91.9	\$151,612	60.3
2011	\$236,358	\$212,967	90.1	\$135,304	57.3
2012	\$237,215	\$187,527	79.1	\$134,535	56.7
2013	\$245,344	\$180,001	73.4	\$131,644	53.7
2014	\$244,940	\$171,745	70.1	\$128,242	52.4
2015	\$251,941	\$174,577	69.3	\$130,959	52.0
2016*	\$246,296	\$170,876	69.4	\$130,438	53.0

Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. REOs represent bank-owned homes.
*Data are through May 2016.

TABLE 8

HOUSING AFFORDABILITY: THE RATIO OF MONTHLY RENT TO MONTHLY PRINCIPAL, INTEREST AND TAX PAYMENTS ON A MEDIAN-PRICED HOME IN HAMPTON ROADS, 2002-2015

Year	Median Monthly Rent for a Three-Bedroom House	PI&T Monthly for a Median-Priced Existing House	Ratio of Monthly Rent to PI&T
2002	911	861	1.06
2003	1,037	890	1.16
2004	1,044	1,073	0.97
2005	1,087	1,315	0.83
2006	1,118	1,533	0.73
2007	1,164	1,598	0.73
2008	1,247	1,507	0.83
2009	1,236	1,307	0.95
2010	1,277	1,233	1.04
2011	1,319	1,071	1.23
2012	1,454	1,015	1.43
2013	1,570	1,080	1.45
2014	1,562	1,118	1.40
2015	1,530	1,154	1.33

Sources: U.S. Department of Housing and Urban Development and the Old Dominion University Economic Forecasting Project

Notes: A real estate tax rate of 1 percent was assumed and also that the mortgage tax benefit received by homeowners compensates them for their insurance and maintenance expenditures. The prevailing 30-year average mortgage rate was used for each year.

Final Thoughts

Economic recovery continues in Hampton Roads, albeit at a relatively modest pace. A combination of the Great Recession and decelerating defense spending has caused our regional economic growth rate to trail the rates of the United States, the Commonwealth and most of Virginia's metropolitan areas. We have yet to recover all of the jobs we lost in the Great Recession.

Uncertainties loom on the horizon, and some of these (notably the possibility of an international economic slowdown and sluggish defense spending) are outside our control. Within our control, however, is a fundamental reorientation of how we approach both regional decision making and economic development.

Some pictures actually are worth a thousand words. Graph 19 tells us that employment in Hampton Roads is growing more slowly than in any comparable southeast United States metropolitan region. **Not surprisingly, our region suffers from net domestic out-migration as some residents leave Hampton Roads for other areas where jobs are more plentiful. Graph 20 illustrates this story. Only Chesapeake and Suffolk, among our seven largest cities, experienced positive average net domestic migration between 2000 and 2015. All other cities saw more people leaving and going to other states than entered from other states.**¹⁰

When we examine economic growth among comparable metropolitan areas, we observe that such growth in Hampton Roads lags that of the Charlotte, Charlottesville, Durham, Raleigh and Washington, D.C., metro areas. While growth in Hampton Roads is positive, these regions are growing much more quickly. Between 2007 and 2014, for example, real, price-adjusted gross regional product grew only 1.81 percent in Hampton Roads, but 17.74 percent in Raleigh, 4.18 percent in Richmond and 7.36 percent in Washington, D.C.¹¹

The old bromide that either we all hang together or we will all hang separately applies to Hampton Roads. An important part

¹⁰ If the populations of the other cities grew between 2000 and 2015, it is because births exceeded deaths in those cities and also because of international migration into those cities.

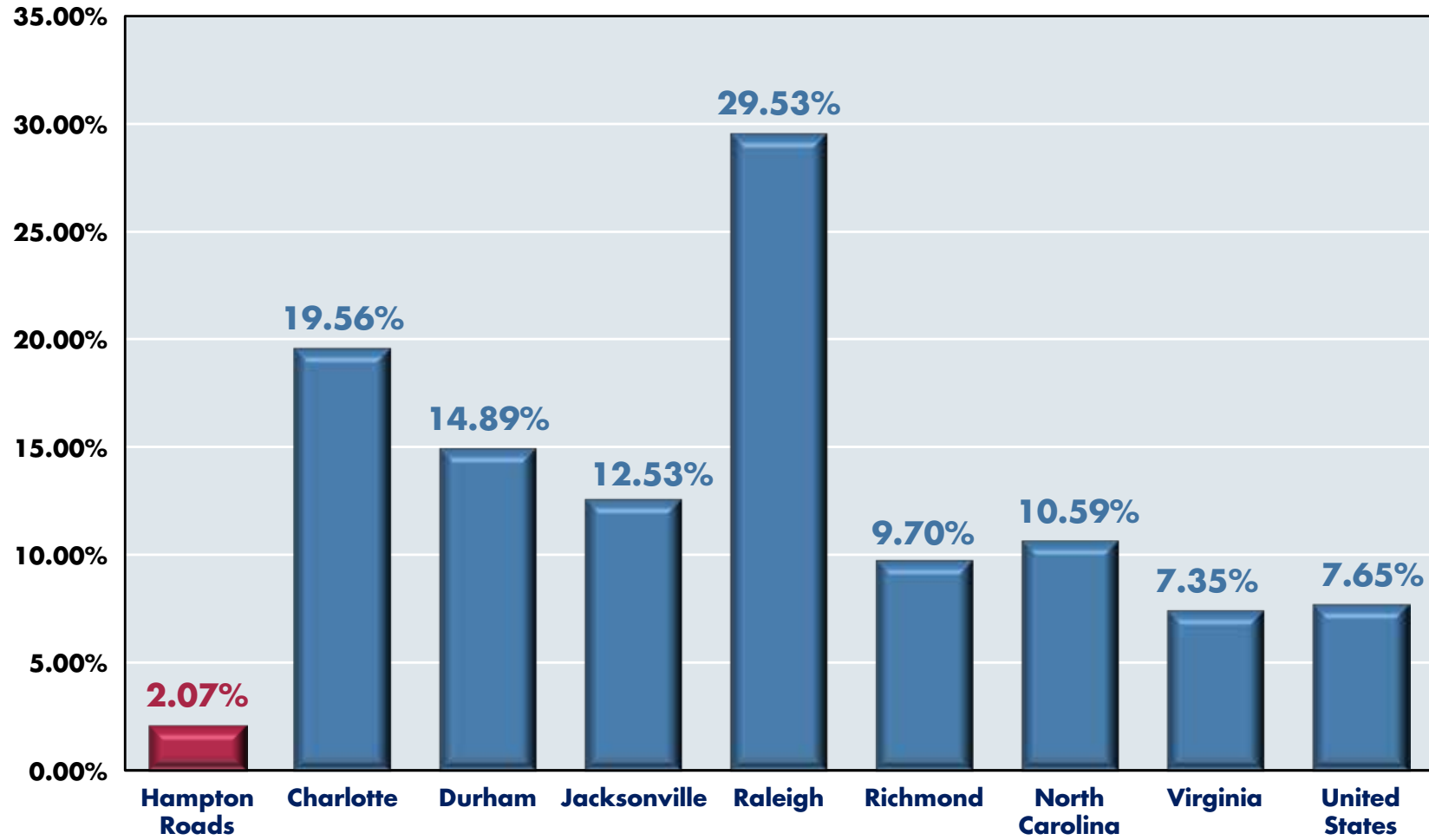
¹¹ Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project.

of the solution to our economic doldrums involves cooperation and unified regional action. Still, one must ask, how mediocre must our economic performance be, and how long must this hold true, before we are willing to act decisively together in a regional fashion? "GO Virginia" (the Virginia Initiative for Growth and Opportunity) represents a step in the right direction, but must be matched over time by a unified agenda spanning many items and dramatically more funding.



GRAPH 19

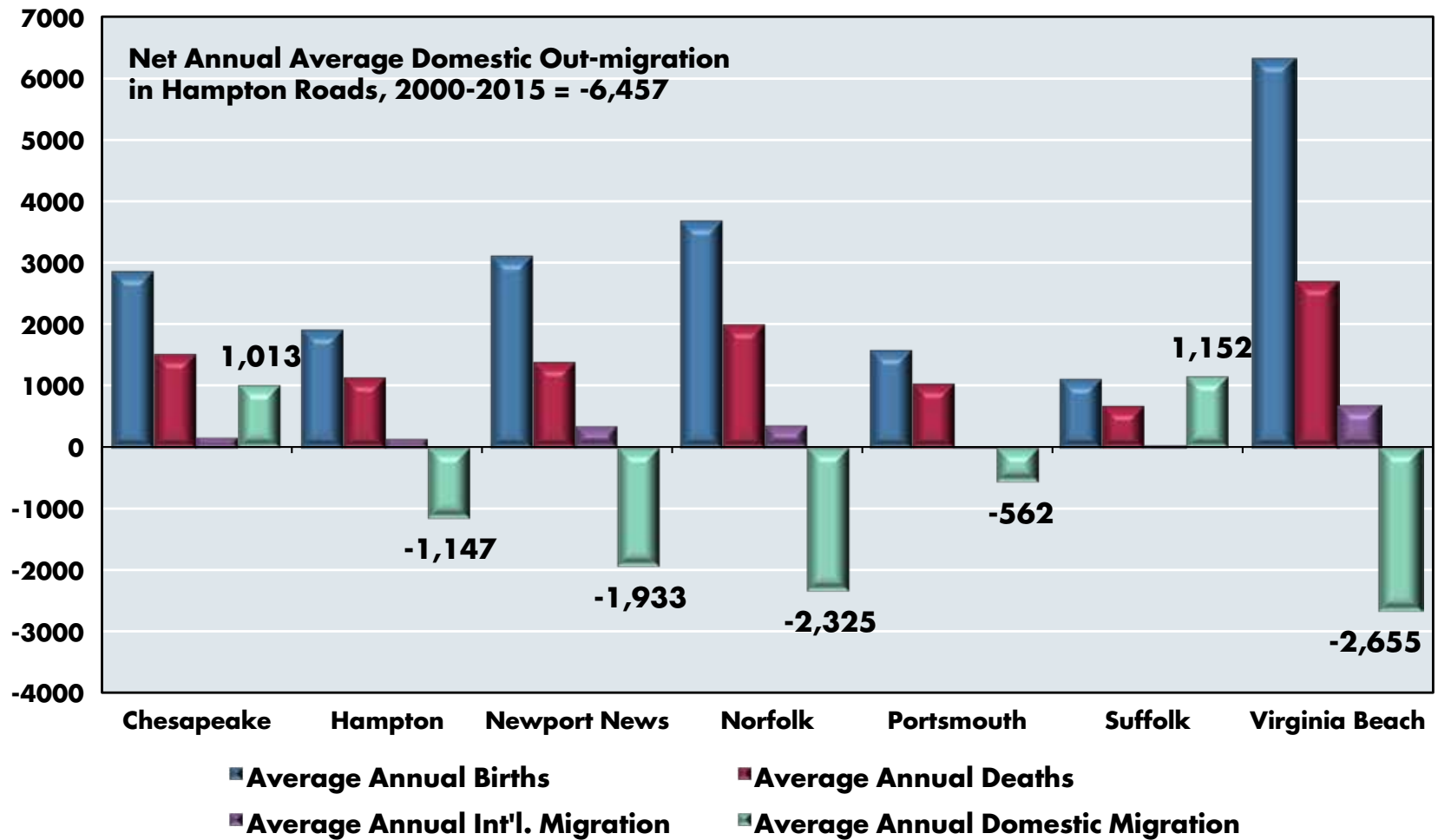
COMPARING JOB GROWTH IN HAMPTON ROADS TO SELECTED AREAS, 2004-2015



Sources: U.S. Department of Labor CES seasonally unadjusted data and the Old Dominion University Economic Forecasting Project

GRAPH 20

AVERAGE ANNUAL DOMESTIC OUT-MIGRATION FROM THE MAJOR CITIES OF HAMPTON ROADS, 2000-2015



Source: <http://headwaterseconomics.org/tools/economic-profile-system>

What should this agenda include? Based on the experience of other areas, the following items commend themselves for our consideration:

- **Make our best case for maintaining and even expanding defense spending in Hampton Roads, but incrementally diversify and learn not to depend upon it.**
- **Share and jointly provide public services across city and county lines.** Those new to this topic should consult the 2015 State of the Commonwealth Report (www.stateofthecommonwealth.com) to find a list of approximately 20 public services for which economies of scale are present and hence constitute strong candidates for sharing or merger. **We can save money and provide superior service if we are willing to ignore city and county boundaries as we supply public services. Our population already ignores these boundaries – almost 65 percent of all workers in Hampton Roads live in one city or county, but work in another.**
- **Focus on critical transportation needs.** Widening I-64 toward Richmond is vitally important if we wish to avoid being labeled the end of the longest cul-de-sac in the United States. Improving the High Rise Bridge and completing the Patriots Crossing are essential if we are to reduce congestion, enhance regional cohesiveness and serve a growing Port. Expanding The Tide can be part of a regional transportation package, but only if it extends to the locations in our area where the people actually live and work – Naval Base Norfolk, Old Dominion University and Norfolk International Airport. Light rail that extends solely from Eastern Virginia Medical School to the Virginia Beach Town Center is of limited use and will have minimal economic impact. Finally, the idea of a major regional airport south of the James River, serving Richmond and Hampton Roads, continues to be an idea that should be explored before our options disappear.
- **De-emphasize economic development ornaments** (read massively subsidized hotel and entertainment venues for which there is impressively little rigorous evidence that such investments pay off) and instead emphasize long-term factors that clearly do influence economic growth, especially the quality of K-12 schools and the quality of teachers in those schools.
- **Develop innovation districts designed to incubate startup firms and organizations** by providing them with space, equipment, high-speed internet connections, assistance in writing business plans, access to engineering advice and connections to angel investors. Fund the extension of these services to qualified small businesses throughout the region. Here is a plausible goal: provide funding for these efforts that is at least 10 percent of the amount currently being provided to highly subsidized private businesses that appear to have political clout. Anchor partner institutions, including major employers, universities and governmental units, must step forward and provide the resources necessary to make this happen. This will rebound to their ultimate benefit. See Pittsburgh, St. Louis and San Diego for successful models.
- **Expand and exploit the “med/ed” sector consisting primarily of Eastern Virginia Medical School and Old Dominion University.** This is a sound choice for two reasons. First, both health care and STEM-related occupations such as engineering and computer science are growth areas that have expanded dramatically in size and importance for extended periods of time. Second, EVMS and ODU enable us to import resources from outside our region in the form of federal research grants and highly skilled personnel. Med/ed sectors are dynamic generators of attractive, well-paying jobs. Unfortunately, when one contrasts Hampton Roads to other roughly comparable metropolitan regions (Richmond, North Carolina’s Research Triangle, Charlotte, Baltimore), a highly visible way in which we differ is that our region has a much smaller med/ed sector and therefore we are missing a vital economic engine. We need conscientious, consistent investment in health care research, development and application by elected officials and donors in order to move our region to the first rank. This is not a strategy that will pay off immediately – but the evidence is strong that it will pay off (see the Research Triangle). Virginia Beach’s biotechnical initiative fits admirably within this framework.
- **Devote much more attention to on-the-job training and retraining activities** at the area’s community colleges and employers. More focus must be given to educating and training people for the jobs that actually are available and in supporting firms that provide internships, on-the-job training and apprenticeships. We need to be results-oriented in this

arena. The 2015 General Assembly took action to move “credentialing” programs to the fore. Let’s be the region that leads the way in this regard in Virginia.

- **Renew and expand the attention we give to retiring military personnel.** Each year, approximately 12,000 military personnel retire from bases in our region. These individuals are motivated, reliable and have strong work habits. Further, they often bring retirement income with them. Among other things, we need a single, one-stop shopping location in Hampton Roads where veterans, employers and educational institutions can connect and do necessary career-related business. Our current efforts are scattered among programs and institutions. We need a unified, coherent program designed to attract, retain, train and employ veterans.
- **Continue to invest in cultural and entertainment amenities, but diminish regional competition in this regard.** The quality of our cultural amenities, entertainment venues and spectator opportunities is important to us in many ways. The quality of those amenities can be enhanced if we can avoid the “every city must have one of everything” syndrome. Most notably, we would be well served by less cultural and facility competition between Norfolk and Virginia Beach and the Southside and the Peninsula. Let’s act regionally in order to realize economies of scale and increase the quality of our amenities.

With the med/ed exception, we have not presented a “pick the winners list” of firms or industries that should be favored above others. Why? Because those who attempt to pick winners do not boast very high rates of success. They often prove unable to anticipate future changes in supply and demand and frequently are influenced by political factors. Hence, we will be better served if we invest in those aspects of our environment that accumulated evidence tells us are clearly connected to long-term economic growth.

We must recognize that unless the next Google magically develops in our midst, economic development in Hampton Roads will be a long-term process. Eye-catching, but heavily subsidized facilities that shower benefits upon individual businesses are not irrelevant, but they distract us from the

ground truth of economic development reality, namely, that sustained economic growth requires highly developed human capital, intelligent investments in infrastructure and an environment that not only supports, but even applauds, startup businesses and entrepreneurs that have found profitable ways to meet human needs. No small agenda, this.

