International Advances in Economic Research

10.1007/s11294-012-9346-3

Regional Economic Impacts of the World-Wide Recession: A Case Study of Hampton Roads, Virginia

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Published online: 15 February 2012

Abstract
Defense spending accounts for more than 45 percent of all economic activity in the Hampton Roads, Virginia metropolitan region (population 1.67 million and gross regional product $81 billion annually). Between 2008 and 2010, this was highly advantageous. Not only did defense spending double during the decade, but also it increased by about five percent annually during the recession. This buffered the region from extensive recession damage. Hence, in November 2010, the regional unemployment rate was only 7.0 percent, while it was 9.8 percent nationally. However, this scenario has begun to reverse itself. The growth in defense spending has come to a halt and almost surely will decline in the years ahead. Difficult times are on the horizon for Hampton Roads.

Keywords Regional economics – Defense spending – Economic recession

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"My sugar daddy always takes care of me." Time-honored observation of a sweet young thing who reports she is receiving substantial financial support from an older man.

*"But the worm always turns."*A paraphrase of William Shakespeare in *Henry VI, Part 3*.

The worldwide economic recession that began in Fall 2008 imposed costs upon nearly every part of the United States. In 2009, real gross domestic product in the U.S. fell by 2.7% and the rate of unemployment rose from 7.7% in January to 10.0% in December. However, these adverse impacts were not felt equally across the nation. Economic contractions were especially difficult in California (where the unemployment rate topped out at 12.6% in March 2010), Florida (12.3% in March 2010) and Nevada (14.4% in August 2010) (Bureau of Labor Statistics, *2010a*).

Both a cause and result of the recession was the progressive deflation of impressively large residential housing price bubbles in many locations. Between 2007 and third quarter 2010, the National Association of Realtors' Median price index for Existing Single Family Homes (*2010*) declined 54% in Las Vegas, 41% in Los Angeles, and 41% in Miami. By contrast, the average decline in national home prices was only about 19.4% during this time period and only 5.2% in the Hampton Roads, Virginia standard metropolitan area (Virginia Beach/Norfolk/Newport News with about 1.67 million residents).

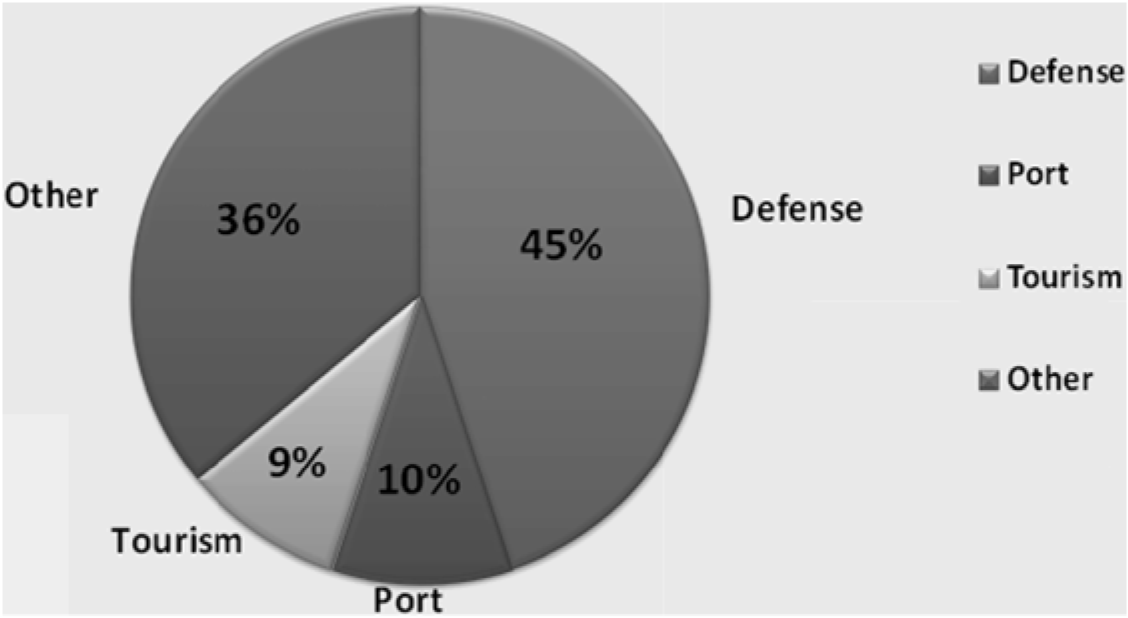
Clearly, the effects of the recession were not distributed uniformly across the United States. Why did Hampton Roads weather the recession with less economic damage than most of the rest of the country? The answer is straightforward—defense spending. Almost 46% of the economy activity of Hampton Roads is attributable to Department of Defense (DOD) expenditures and these actually increased (and significantly so) during the recession.

Can Hampton Roads expert this favorable trend to continue? Probably not. To paraphrase the unknown author of the *Book of Job* (1:21), what the Lord giveth, He also taketh away. It appears likely that defense spending in the region will contract over the next few years and that this will cause the region's economy to trail national economic recovery. Further, since the magnitude of defense expenditures is determined in Washington, D.C. rather than Hampton Roads, the region likely will occupy the role of a fascinated, but helpless spectator as this occurs. The DOD—the region's economic sugar daddy—is tightening its purse strings and Hampton Roads appears to be in for more difficult times.

The Three Prime Drivers of the Hampton Roads Economy and Their Susceptibility to Recession

The gross regional product of Hampton Roads was approximately $80 billion in 2010. If the region constituted a nation unto itself, then this $80 billion of activity would rank it about 60th among all countries of the world.

As Fig. 1 illustrates, three major forms of economic activity dominate the region: (1) defense spending; (2) port and maritime activity; and, (3) tourism. Of the three, it is defense spending that obviously is dominant and hence it calls the economic tune in the region. During the past decade, this was advantageous because defense spending increased significantly and thus was a strong countercyclical influence during the recession.



Source: Old Dominion University Economic Forecasting Project

Fig. 1 Major sources of economic activity in Hampton Roads: 2010

Figure 2 demonstrates the propitious result. The Hampton Roads regional economy grew much faster than the U.S. as a whole in the first one-half of the recent decade and did not decline nearly as much as the national economy during the international recession that took hold in 2008 and 2009.

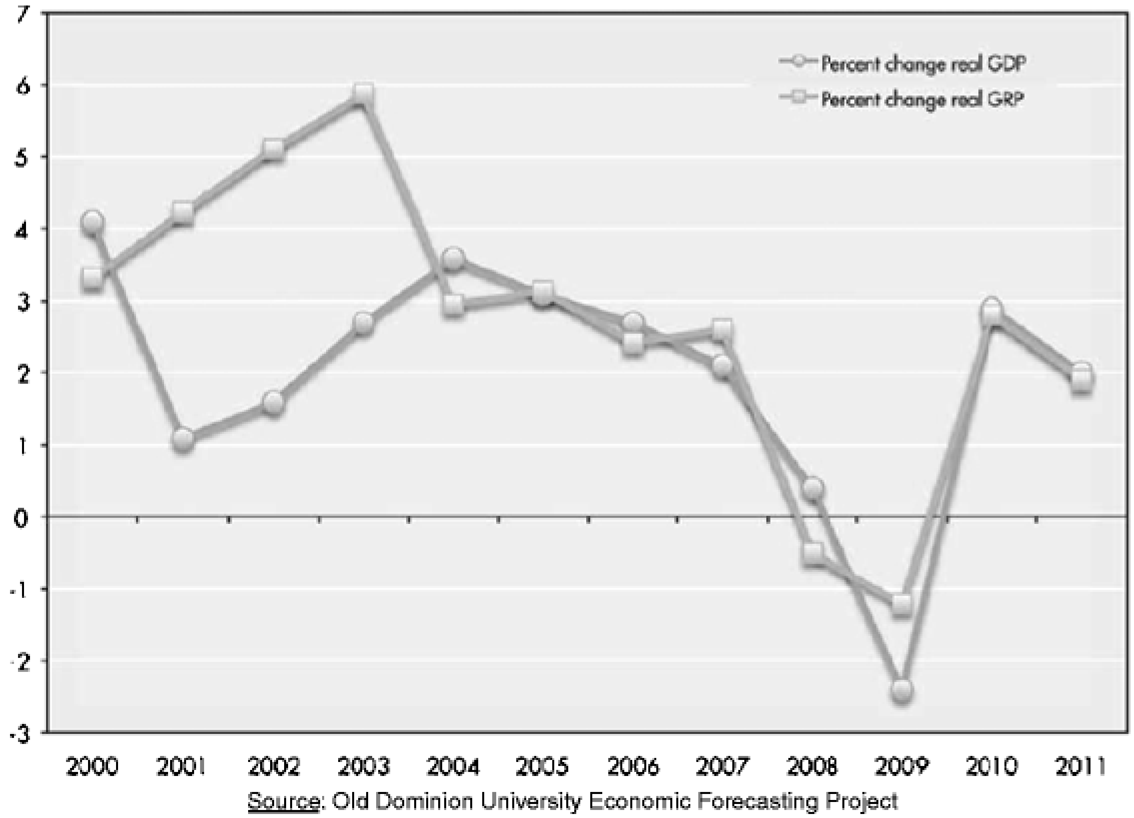


Fig. 2 Percent annual growth in GDP (U.S.), GRP (Hampton Roads), 2000–2010

Defense Spending

Figure 3 provides support for the hypothesis that the primary reason the economy of the Hampton Roads region typically outperformed the national as a whole in recent years is defense spending. Indeed, defense spending in the region approximately doubled between 2000 and 2010. Defense spending is the proverbial ten-ton gorilla in the economic room of Hampton Roads. After the tragedy of September 11, 2001, and the subsequent invasion of Iraq in 2003, defense spending in the region increased dramatically and in some years increased as much as 10% in real terms. As Fig. 4 illustrates, it now accounts for almost 46% of the gross regional product of Hampton Roads, up about 12% over the past decade.

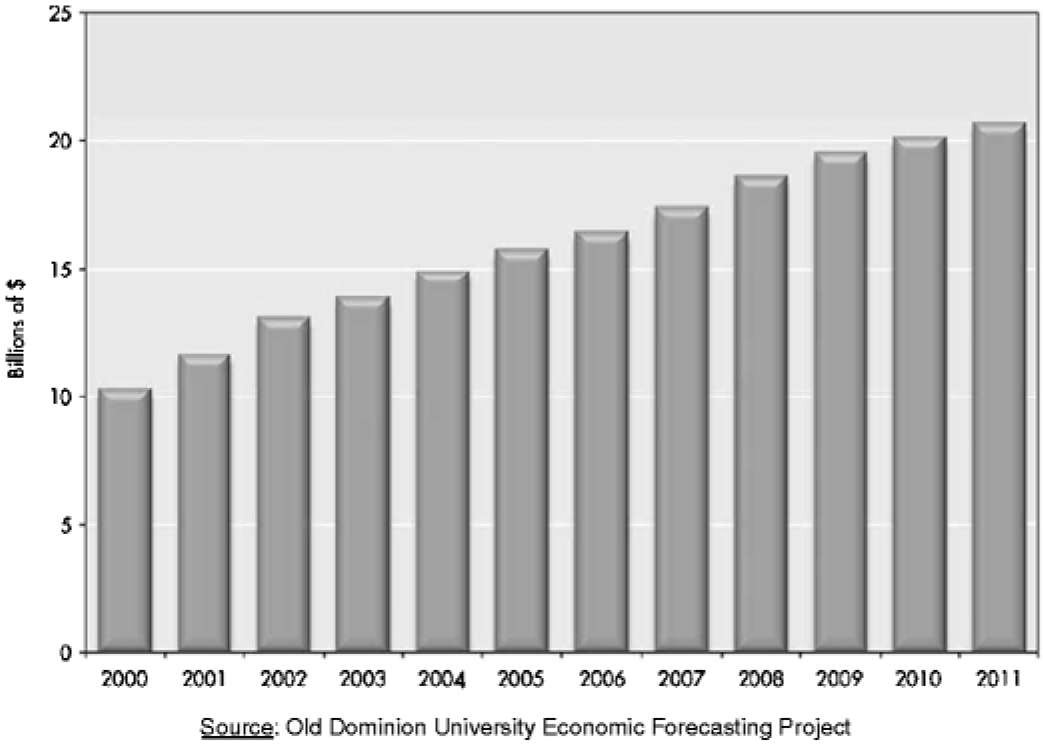


Fig. 3 Direct DOD spending in Hampton Roads, 2000–2010

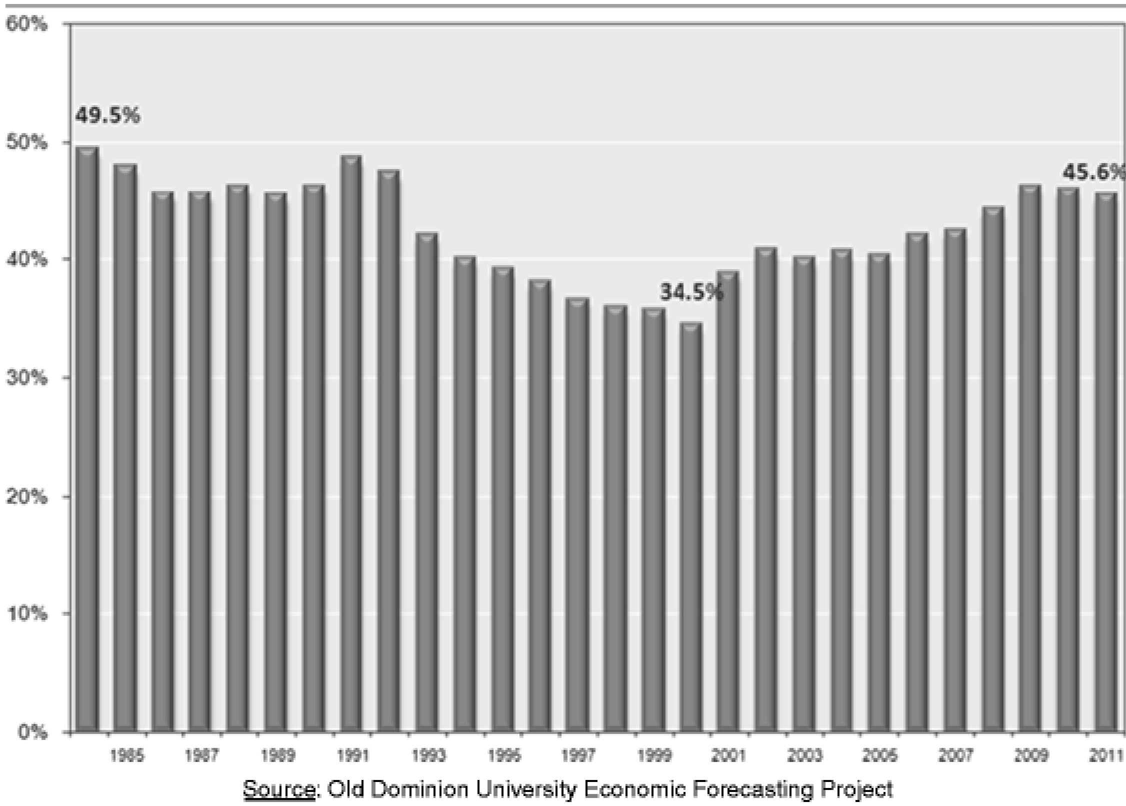


Fig. 4 Gross regional product attributable to DOD spending in Hampton Roads, 1984–2011

The DOD plugged approximately $4.0 billion in additional defense spending into the Hampton Roads economy in 2008 and 2009. Such expansions reflected the reality that Naval Base Norfolk is the largest naval base in the world and also the headquarters of the U.S. Atlantic Fleet. In addition, it hosts the Atlantic headquarters of NATO. Thus, the region is a key defense resource and a launching pad for any substantial deployment of U.S. military force around the globe.

Even so, the imprint of the military upon Hampton Roads does not stop there. The region is also home to Langley Air Force Base, which predates the country's entry into World War I. Langley is home to three U.S. Air Force wings, one of which is heavily involved in surveillance and reconnaissance. In addition, the U.S. Navy's Oceana Naval Air Station is located in the region's largest city, Virginia Beach (440,000 residents) and is classified as a master jet base. It is one of the largest air stations in the world.

The list of significant military installations does not stop there. The region also is the headquarters for JFCOM, the Joint Forces Command, which is supposed to engender inter-service and intra-service cooperation and compatibility. Its budget approaches $1.0 billion annually. However, as we will see below, its future is in doubt because former Secretary of Defense Robert Gates announced plans to close it.

Finally, Virginia Beach hosts an estimated 25,000 retired veterans. Already in 2003, military retirees in the region received approximately $1.05 billion in retirement pay (Koch *2003*).

Ultimately, what is the economic significant of this military spending? It is clear that defense spending is absolutely central to the economy of Hampton Roads. Between 2000 and 2010, nominal defense expenditures in the region increased at almost 7.2% annually and almost 4.6% annually in real terms. It is not for nothing that Norfolk is known as a Navy town, with all of the pluses and minuses that attach to such a designation. One of the obvious advantages is that increased military spending injected annual new economic stimulus into the regional economy to counteract the international recession that was in progress. Fortuitously, defense spending expanded in Hampton Roads even while the rest of the world was sinking into recession.

Increases in the compensation of both active duty military personnel and civilian employees of the DOD play an extremely important role in defense spending in the region because approximately 70% of defense expenditures in Hampton Roads are made upon personnel. Table 1 reveals that between 2000 and 2009, the compensation of active duty military in the region rose 2.49 times as rapidly as the national private sector average and about 1.5 times as fast as the comparable average for regional private sector. Civilian employees of the Department of Defense in the region did not do quite as well, but their compensation still rose 1.82 times faster than the national private sector average.

Table 1 Percent increase in compensation of various classes of employees, 2000–2009

Class of employee	Percent increase	Multiple of national private sector average

Class of employee	Percent increase	Multiple of national private sector average
Hampton Roads Active Duty Military Personnel	74.8%	2.49
Hampton Roads DOD Civilian Employees	54.6%	1.82
Hampton Roads Private Sector Average	49.7%	1.66
National Private Sector Average	30.0%	1.00

The generous increases in compensation given to uniformed military personnel over the past decade reflect the demands of recruiting and retaining a volunteer force. The absence of military draft means that the DOD must offer a combination of job characteristics sufficient to attract and retain necessary personnel. Regardless, these compensation increases counteracted declining activity in the Port of Hampton Roads and also in tourism, which are the other two major economic engines in the region.

One particular part of the compensation package received by active duty uniformed personnel—the BAH, or basic allowance for housing—deserves more attention because it had a major impact upon regional housing markets. Approximately 100,000 uniformed military personnel are stationed in Hampton Roads. Many receive a housing allowance that enables them to live outside their bases, if they choose to do so. During the past decade, the DOD has increased BAH stipends to its uniformed personnel and, at the same time, frequently has lengthened the deployments of many military families in the region. Prior to this, many military families opted against purchasing a home in Hampton Roads because they would soon be billeted somewhere else and then find it difficult to sell their Hampton Roads home. Now, more uniformed personnel can afford to purchase a home and they have greater confidence they will be billeted in Hampton Roads for a longer period of time.

DOD housing incentives are an important reason why housing prices in Hampton Roads have declined much less than the national average. Table 2 reports that between third quarter 2007 and third quarter 2008, the median price of an existing single family home fell only 5.0% in Hampton Roads, compared to 24.0% in Washington, DC and 9.0% nationally (Standard and Poor's *2010* and Koch *2010*). Between third quarter 2008 and third quarter 2009, the Washington, DC housing market began to recover, but prices nationally and in the Northeast section of the country deteriorated at increasing rates. Thus, at the very time when many regional housing markets were experiencing severe dislocation and plunging prices, increasingly generous DOD housing incentives diminished the transmission of those negatives within Hampton Roads.

Table 2 Percent Change in Median Price of Existing Family Homes in Selected Markets

	3rd Q 07 to 3rd Q 08	3rd Q 08 to 3rd Q 09
U.S.	−9.0%	−11.2%
Northeast Region	−6.5%	−9.4%

	3rd Q 07 to 3rd Q 08	3rd Q 08 to 3rd Q 09
Washington, DC	−24.0%	−2.5%
Hampton Roads	−5.0%	−5.7%

The bottom line is that defense spending provided an enviable economic cushion for Hampton Roads during the international economic crisis that emerged full throttle in Fall 2008. As a consequence, even while the rest of the country was contracting a serious case of economic flu, Hampton Roads largely avoided getting sick. Employment numbers support this conclusion. During the heart of the recession (November 2008 to November 2009), civilian employment in the region contracted only a fraction of the percentages seen in comparable metropolitan areas (see Fig. 5). To be sure, Hampton Roads is not recession proof, but continual increases in defense spending have insulated it from the vicissitudes of the national and international economies.

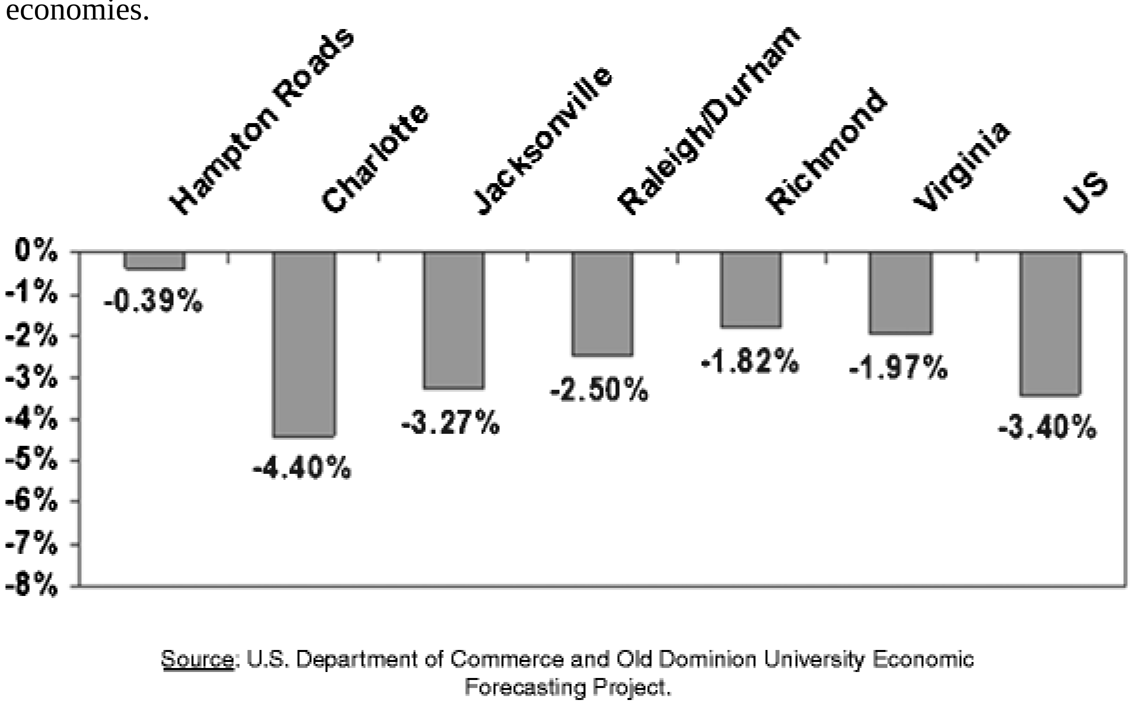


Fig. 5 Civilian employment growth in selected MSAs, Nov. 2008 to Nov. 2009

The Port

The Port of Virginia, which is overwhelmingly concentrated in Hampton Roads and whose market share nationally is represented by the golden slice in Fig. 6, is the third largest port on the East Coast of the U.S. in terms of twenty-foot equivalent units (TEUs) handled annually. It is the sixth largest port in the U.S. overall in terms of TEUs handled.

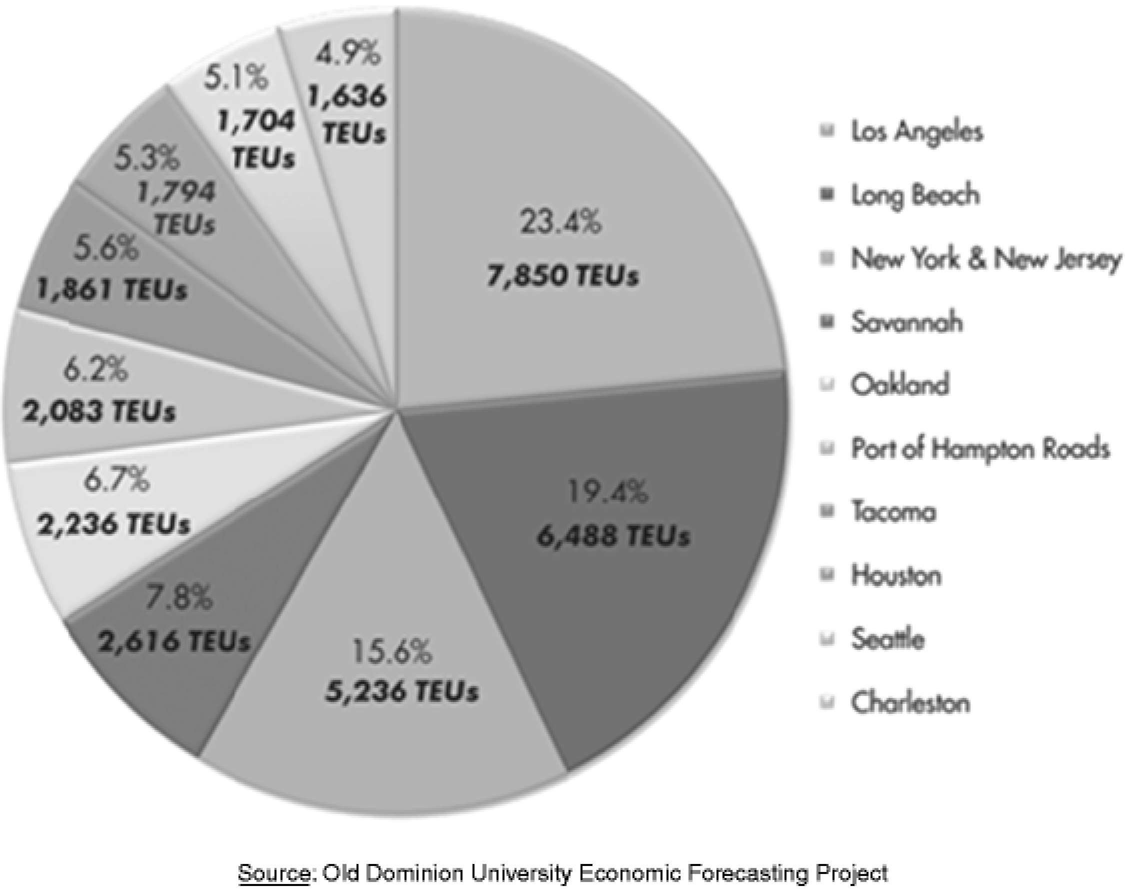


Fig. 6 Size of U.S. ports, measured by TEUs, 2010

However, defense spending has relatively little to do with the volume of activity at the Port, which is far more sensitive to the flow of international durable goods trade in general and exports of U.S. coal in particular. Hence, as one can see in Fig. 7, the global recession did put a significant dent in Port's activities. Import tonnage fell about 21% between 2008 and 2009, while export tonnage fell about 17%. The World Trade Organization reported an approximate 10% decline in trade worldwide (Wang 2010). The Port of Virginia declined relatively more because traditionally it has been especially active in the export of coal (which contracted significantly during the recession) and the durable goods which are carried in TEUs. In any case, imports and exports nearly always have fluctuated more than gross domestic product and hence activity at the Port of Hampton Roads frequently oscillates more than the economy as a whole.

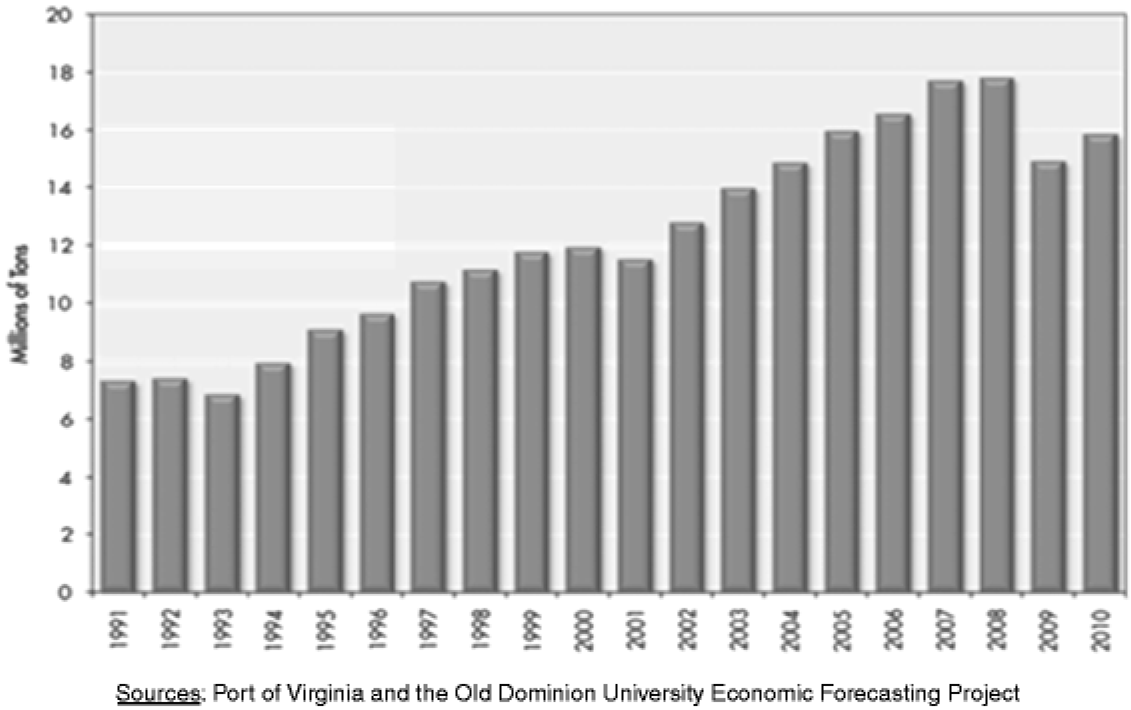


Fig. 7 General cargo tonnage entering and leaving the port of Hampton Roads, 1991–2010

Hampton Roads was a lightning rod for the recession in international trade. Declines in the volume of international trade in the region far exceeded declines in gross regional product. Were it not for continually increasing defense spending, the Port in particular and the Hampton Roads region in general would have experienced much greater economic pain. Once again, however, rising defense spending overcame the retrenchment in international trade experienced by the Port.

Tourism

Tourism expenditures are sensitive to general economic conditions; however, the economic conditions that are crucial in tourism in Hampton Roads are those that are regional. More than 80% of tourists in Hampton Roads come from within the Commonwealth of Virginia (Yochum and Agarwal *2009*).

Two major tourist destinations exist within Hampton Roads. The most significant in economic terms is the oceanfront of the City of Virginia Beach, which consists of almost 30 miles of attractive, white sand beaches along with predictable amenities that include surfing and golfing. The second major destination is perhaps better known, though less well patronized, and is the Historic Triangle consisting of Colonial Williamsburg, the Jamestown settlement and the Revolutionary War Yorktown Battlefield. Commonly, these are aggregated and labeled simply as Williamsburg.

Independent of the recession, the tourism fortunes of Williamsburg have been declining. Figure 8 illustrates the Williamsburg area's predicament—its share of regional hotel revenues has declined from 31% to only 18% between 1999 and 2009. While a variety of explanations have been proffered why this is happening, the most persuasive seems to be the declining popularity of older historical attractions such as Williamsburg among today's younger tourists.

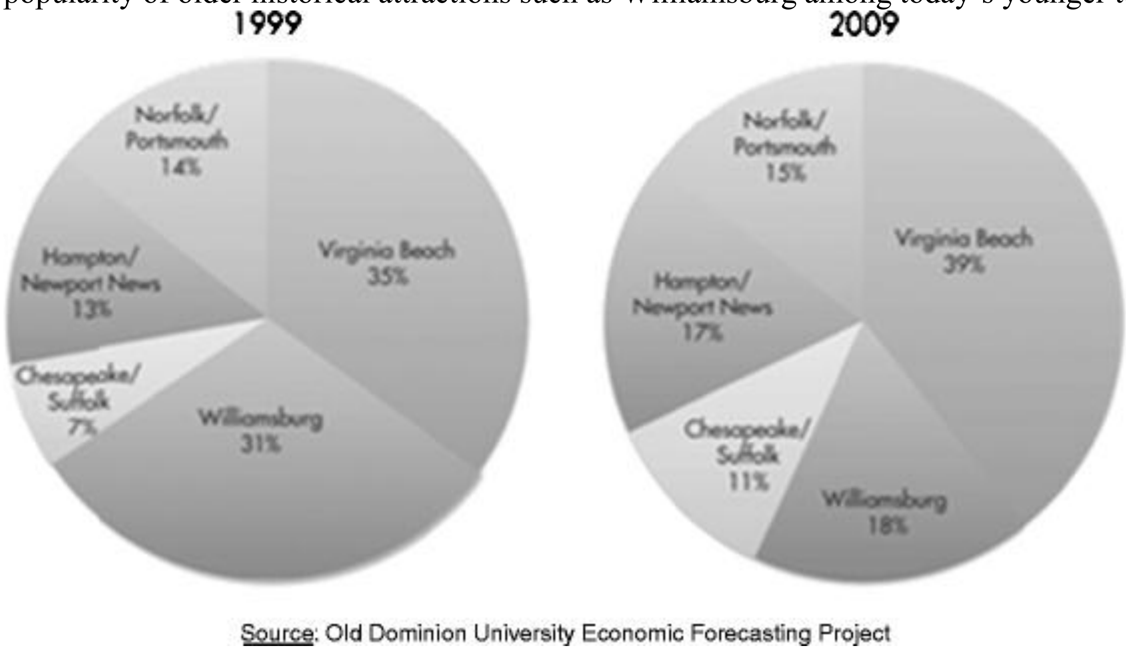


Fig. 8 Estimated market shares of the Hampton Roads hotel industry as measured by hotel revenue

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The economic recession served to magnify Williamsburg's on-going problems. Nevertheless, overall tourism in Hampton Roads as a region was affected far less than tourism nationally. Figure 9 reports that both total hotel revenue and REVPAR (hotel revenue per available room, which is the coin of the realm among hotel industry analysts) fell during the recession, but only about one-half as much as those same magnitudes fell nationally and several percentage points less than comparable declines in Virginia. Why? Both the Virginia and Hampton Roads, which generate most of the region's tourists, were doing much better economically speaking than the nation as a whole.

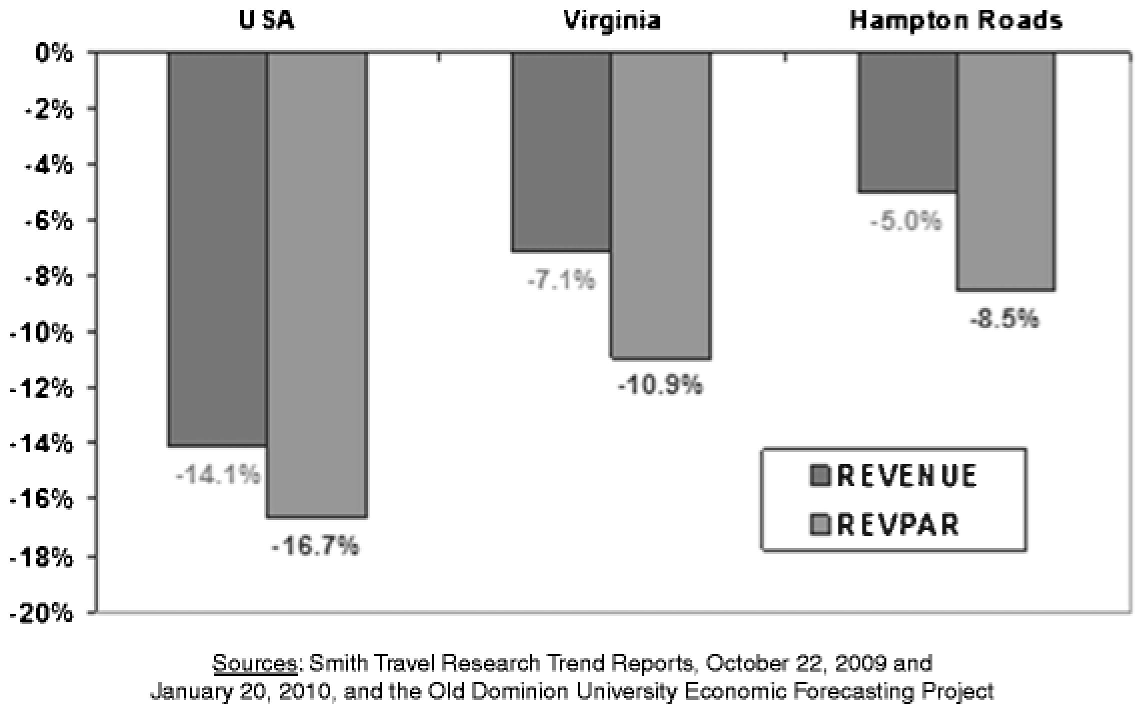


Fig. 9 Changes in hotel revenue and REVPAR, 2008 to 2009

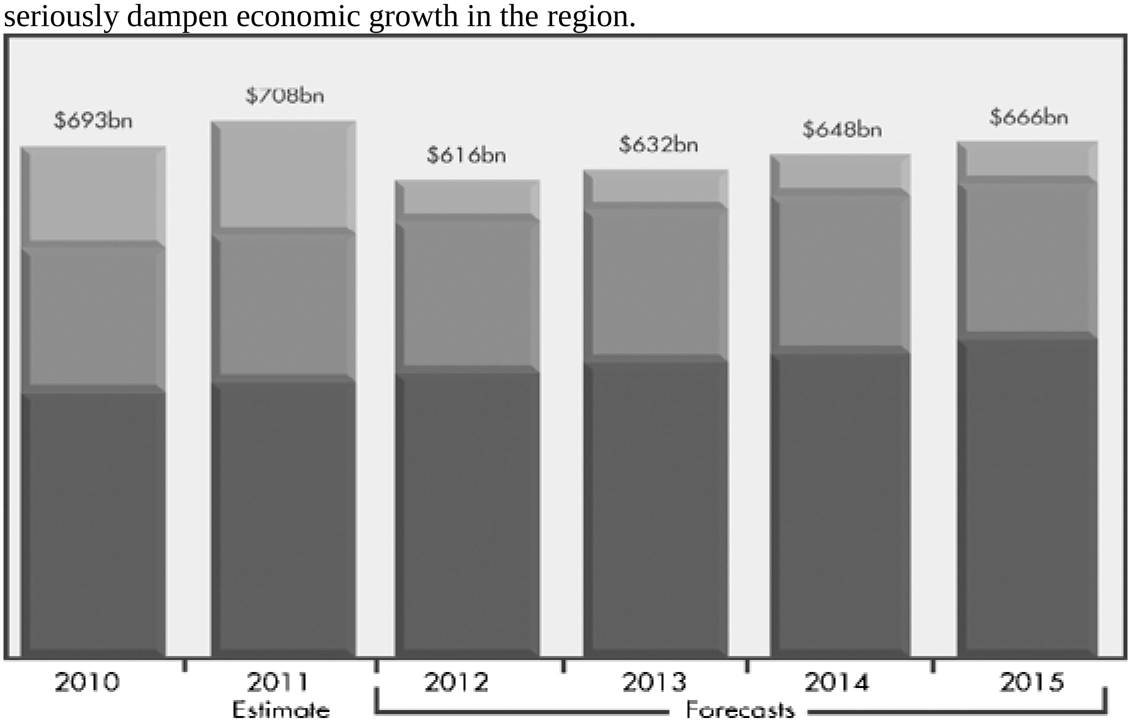
As we have seen, numerous individuals within the region actually had additional disposable income to spend during the recession because the compensation of DOD employees in the region was rising by generous amounts. Further, when compared to Florida, California, or Hawai'i resort locations, Virginia Beach is relatively inexpensive (Hotels.com *2010*). Hence, Virginia Beach, which has more than 12,200 hotels rooms, remained an attractive tourism alternative, especially to visitors from the Mid-Atlantic region who were able to drive to Virginia Beach (Yochum and Agarwal *2009*). The recession appears to have increased Virginia Beach's comparative advantage (Yochum and Agarwal *2009*) with respect to tourists emanating from within Hampton Roads and the Commonwealth of Virginia.

The Worm Turns

The strong reliance of Hampton Roads upon defense spending was a distinct boon to the region's economy throughout most of the first decade of this century. Between 2000 and 2010, annual growth rates in defense spending varied between a low of 4.2% and a high of 12.9%. In the recession years of 2008 and 2009, defense spending in the region grew 6.9% and 4.2%, respectively (Koch *2010*).

Nevertheless, that was then and now is now. Things are changing insofar as defense spending in Hampton Roads is concerned. First, former Secretary of Defense Gates announced his intention to reduce defense overhead expenditures by a minimum of $100 billion and to restrict or eliminate the growth of several major weapons systems (Shanker 2010). Second, a very specific part of Secretary Gates' recommendations involved the closure of the substantial Joint Forces Command (JFCOM), which is headquartered in Hampton Roads. Third, the bipartisan National Commission on Fiscal Responsibility and Reform (the Simpson-Bowles Commission to reduce the deficit) endorsed this judgment and recommended several other adjustments, including the off-loading of some military health costs on to military personnel, both active and retired. Fourth, another bipartisan commission chaired by former Senator Peter Domenici and former congressional budget director Alice Rivlin recommended an absolute freeze in DOD spending for 5 years, FY12 through FY16 (Drew 2010). Fifth, anticipated changes in the mix of defense spending away from major weapons systems and large naval ships to boots on the ground (additional infantry-oriented personnel) will work to the disadvantage of Hampton Roads. Sixth, changing interpretations of defense needs may result in additional ships being moved from Naval Base Norfolk to Florida and/or the Pacific Rim.

Figure 10 depicts the deceleration of defense spending anticipated by the *Financial Times*. Indeed, "deceleration" is a euphemism. The *Financial Times* foresees actual declines in absolute, overall defense spending. It is a virtual certainty that these would adversely affect Hampton Roads. Consider one critical example. Five of the U.S. Navy's 11 aircraft carrier task force groups are home ported in Hampton Roads. When a task force is in port, it contributes approximately .1% monthly to the region's economic growth rate. On an annual basis, this approximates $960 million, or 1.2% of Hampton Roads' gross regional product. A reduction in the total number of aircraft carriers from 11 to 10 already is planned for 2015. It is quite likely this reduction will be accomplished at the expense of Hampton Roads. In the interim, if an additional aircraft carrier task force is sent to the Pacific Rim (a likely event), then this will seriously dampen economic growth in the region.

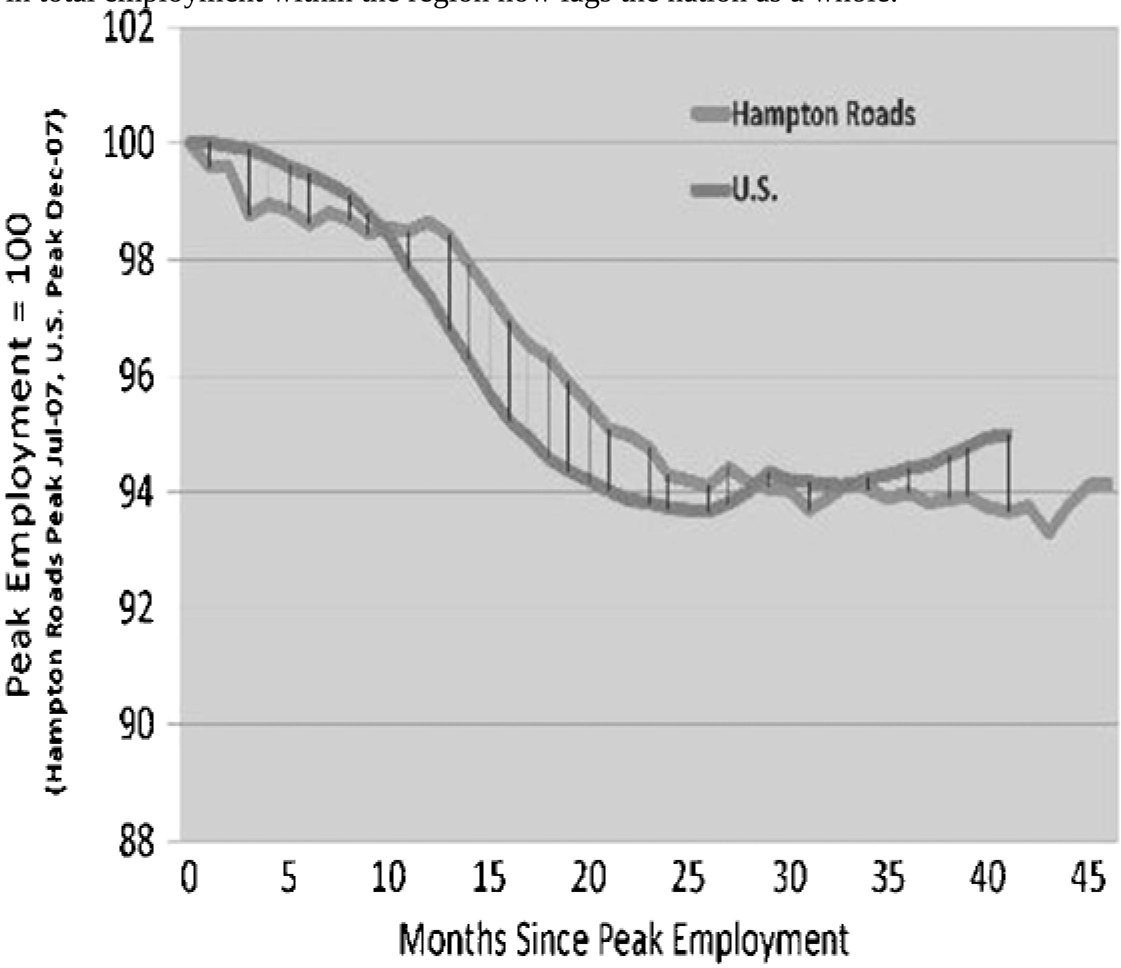


Adapted from the Financial Times, February 10, 2010.

Fig. 10 Estimated future U.S. defense spending: *Financial Times* projections

The potential bad news does not stop there. There are still additional major DOD spending reductions that have Hampton Roads' name on them. The complete closure of JFCOM would cost the region 3,700 jobs and an estimated $600 million annually in economic activity (Koch *2010*). Further, 2011 and 2012 will see further implementation of BRAC (the base realignment and closure process that dates back to 2005) and will take an additional economic bite out of the region, perhaps in the range of $50 million annually.

All things considered, the outlook for defense spending in Hampton Roads is hardly rosy and it is difficult to avoid the conclusion that the region's relative immunity to the world-wide recession will come to an end. It is likely that the region's unemployment rate will climb upward toward the national average, per capita income increases in the region will stagnate, and economic sectors such as tourism that largely sidestepped the economic grief that hit other regions during the international recession now will suffer. In fact, as Fig. 11 reveals, the growth in total employment within the region now lags the nation as a whole.



Sources: Bureau of Labor Statistics and the Hampton Roads Planning District Commission.

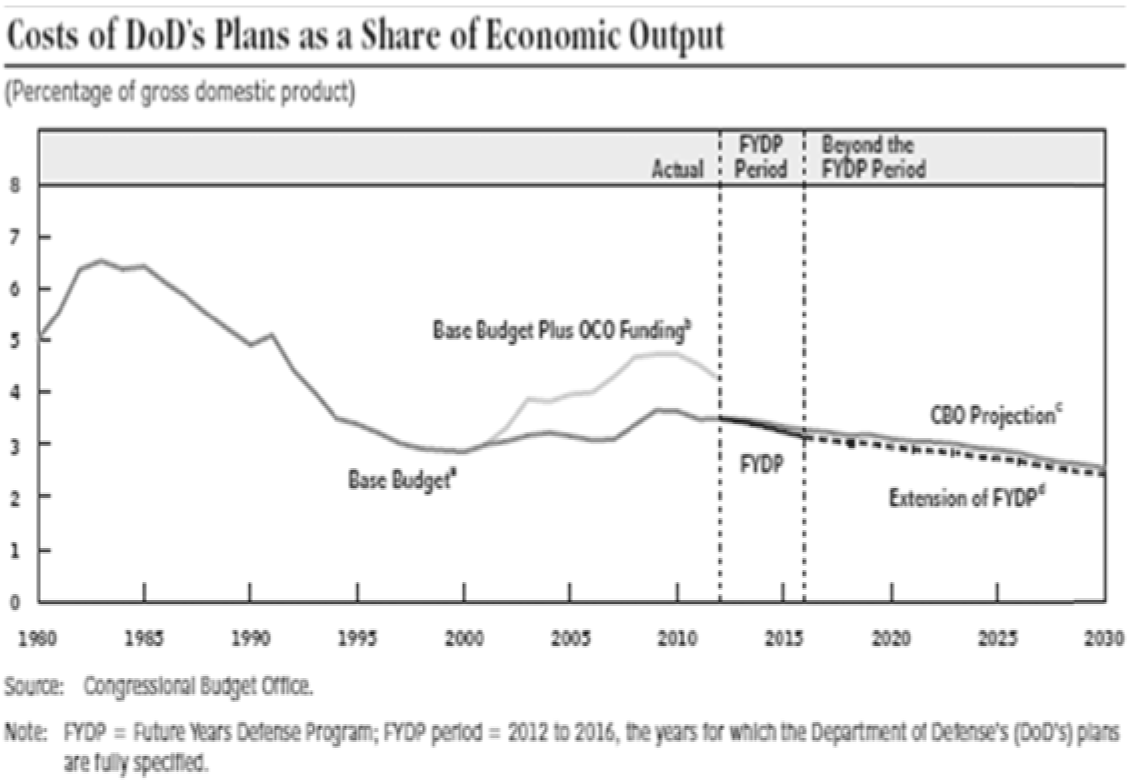
Fig. 11 Indexed employment levels, Hampton Roads and U.S., months from peak

Final Thoughts

During the recession of 2008–2009, regions that were the recipients of high levels of defense spending were injured less by the international recession than most other areas. Thus, the economies in regions such as Hampton Roads and San Diego fared better than the states in which they are located. Of course, defense spending isn't everything and many other factors influence regional economic prosperity. Metropolitan areas such as Billings, Montana, and Amarillo, Texas strode through the recession with comparatively minor difficulties because of stimulus provided by robust nearby energy-related activities, while a host of smaller cities hosting major research universities (among them, State College, Pennsylvania; Lawrence and Manhattan, Kansas; Iowa City and Ames, Iowa; and. Madison, Wisconsin) far excelled national economic performance.

In the case of Hampton Roads, however, the region's extreme dependence upon defense spending (roughly 45% of the regional economy) insulated it against what now is described as the worst economic recession since the Great Depression. By November 2010, the rate of unemployment in Hampton Roads was only 7.0%, while it was 9.8% in the entire United States (Bureau of Labor Statistics, *2010b*).

If defense spending has functioned as an economic opiate for Hampton Roads, then it will be interesting to see how the area fares as the narcotic gradually is withdrawn. It is likely that DOD spending in Hampton Roads will taper off and even decline over the next few years as a percent of gross domestic product (see Fig. 12). The withdrawal pains could be severe. During the last time period when DOD spending in the region faltered (the 1980s), per capita income in the region fell below the national average and the regional rate of unemployment rose above the national average. Barring unforeseen new developments, this might be the region's fate in the coming years.



<u>Source</u>: Congressional Budget Office (2011), p. 8.

Fig. 12 Defense spending as a percent of GDP, 2011–2021

Hampton Roads might do well to review the instructive circumstance of New York City, which in 2006 depended upon the financial industry for 30% of its tax collections (Eastern Consolidated, *2010*, p. 2). The recession reduced financially related tax collections in New York City by an estimated $1.9 billion, or roughly one-eighth of the City's total (Eastern Consolidated, *2010*, p. 2). Tax collections began to increase once again in 2010, but did not reach former high levels. What is the lesson for Hampton Roads? Absent new international crises that require additional defense expenditures, it is not clear that this region can plan upon any comparable recovery. This, in a nutshell, describes its dilemma in this decade.

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