Vol. 88 No. 2 May 2012

The Virginia
NEWS LETTER

Beyond the Great Recession: Preparing Virginia for Expected Cuts in Federal Spending

by William M. Shobe

Introduction

Along with the rest of the country, Virginia is clawing its way out of the Great Recession that began in late 2007 and bottomed in mid-2009. While both state and national unemployment rates never reached the levels that occurred during the double dip recessions of the early 1980s, the huge loss of wealth in the housing sector along with the related retrenchment of the financial sector have made the resulting recovery in income and employment both sluggish and overly sensitive to outside events such as the Japanese earthquake and the European debt crisis. There is now an air of cautious optimism about the U.S. economy, while at the same time there is general agreement that we are in uncharted economic waters and things could turn ugly with the slightest provocation from factors such as funding of government debt in Europe, a collapse of the Chinese housing market, or a disruption in the supply of Middle Eastern oil.

In this article, I will examine some of the things that point toward continued economic expansion and will acknowledge a few of the risks that remain. I will note some of the external risks that have financial reporters adding cautionary conditionals to every report of good news. My intention here is to argue that the fundamental characteristics that have made the American economy robust in the past are, by and large, still true and still provide the foundation for future gains for many years to come.

William M. Shobe

The recent recession notwithstanding, the U.S. has greater productive capacity than at any other time in our history. As of the fourth quarter of 2011, the Congressional Budget Office estimates that U.S. economy had the capacity to produce $45,414 per person (in inflation adjusted 2005 dollars), while actual production as measured by the Bureau of Economic Analysis (BEA) was only $42,925, the difference due to the lingering effects of the Great Recession (see **Figure 1**).[1]

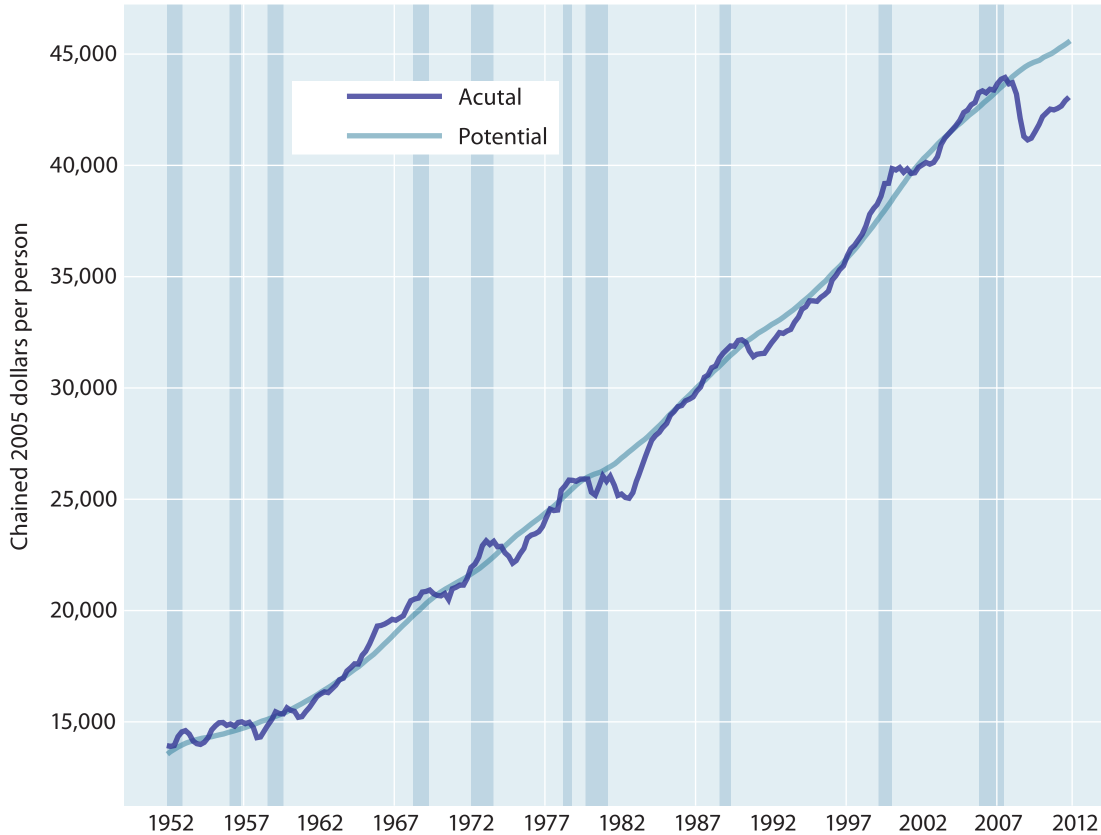
This means that on average, our potential economic output is greater than ever before in terms of what we can earn from our stock of capital and labor. Virginia's economy is well situated to participate fully in the healthier national economy, even with the prospect of what is likely to be a gradual reduction in federal spending as a share of the state's economy.

To take the greatest advantage of our nation's tremendous endowment of resources and effective institutions, we need to refocus our attention on the pillars of economic success: investments in human capital, in smoothly functioning markets, in entrepreneurship, and in the public goods that both improve our productivity and our general welfare as a nation. The same general principles are true

1 For a discussion of how potential GDP is estimated, see, Congressional Budget Office, *A Summary of Alternative Methods for Estimating Potential GDP. Background Paper (March 2004). www.***cbo***.gov/publication/15384.*

WELDON COOPER
CENTER FOR PUBLIC SERVICE
University of Virginia

Figure 1: U.S. Real Per Capita GDP: Actual and Potential, 1952 1st Qtr. to 2012 1st Qtr.



Source: BEA , Census, CBO; shading indicates recessions.

"The general consensus of economic observers is that the recovery is on an ever more sound footing and that a double dipper seems increasingly unlikely."

for Virginia as for the nation, a significant difference being that the key productive resources, people and capital, are highly mobile among states. Given this mobility, state policies can only succeed in the long run if they are efficient in providing solid foundations for improvement in the general welfare.

Leaving the Recession Behind

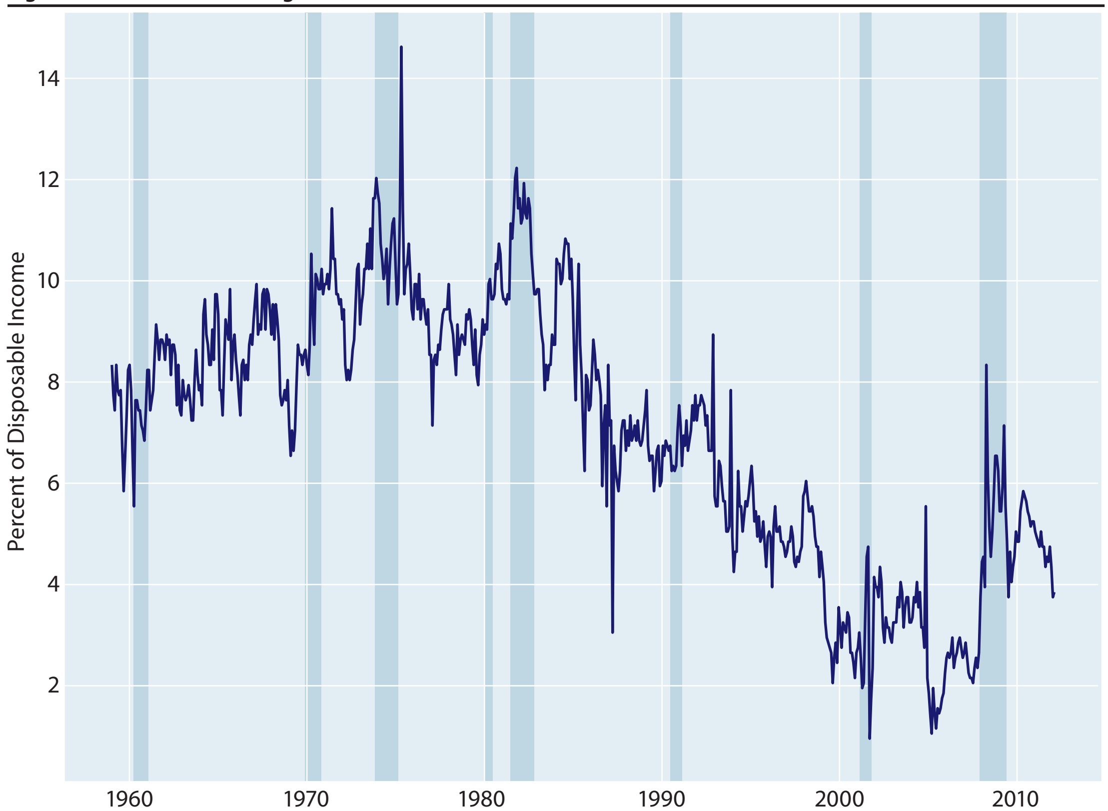
Notwithstanding the risks of a severe external shock, the U.S. economy is picking up steam. The conditions of late 2011 that had many forecasters thinking that the economy might fall back into a recession have passed. Real gross domestic product (GDP), disposable income, and personal consumption expenditures for the U.S. have all now reached levels higher than pre-recession peaks.

The Federal Reserve Bank of Philadelphia's State Coincident Index, which summarizes current conditions in domestic state labor markets, has been rising steadily for the nation as a whole, although it has yet to reach its pre-recession level. Virginia's economy is following this same general pattern, and I will discuss this later. Much of the national picture that I will describe here pertains equally to Virginia.

The general consensus of economic observers is that the recovery is on an ever more sound footing and that a double dipper seems increasingly unlikely. Some of the key factors that contributed to the severity of the Great Recession have begun to move toward more normal levels. These include the very low levels of borrowing and lending, consumers with high debt burdens relative to their income, and the shock to homeowner net wealth from falling housing prices due to the huge excess inventory of residential housing stock. High oil prices may not be as much of a threat to the economy as they were in 2008 due to increases in domestic production of oil, natural gas, and non-fossil fuel energy production along with a reduced amount of energy needed for each dollar of GDP produced. It is also worth pointing out that the U.S. economy was healthy enough in 2011 to weather the very substantial shock to industrial production that occurred after the Fukushima earthquake and the consequent disaster at the nuclear power plant there. This disruption hit the very sectors of the U.S. economy, such as auto manufacturing, that were beginning to recover from the recession.

That the U.S. economy suffered a huge shock and a hard subsequent recession should not cause us to lose perspective. The fundamentals of the U.S. economy have not changed appreciably since before the housing bubble and recent recession:

Figure 2: U.S. Personal Saving Rate, Jan. 1959 to Mar. 2012



Source: BEA National Income and Product Accounts; shading indicates recessions.

economic institutions operate with relative efficiency in an environment with low levels of corruption, a good educational system, reasonable taxes, and sensible regulation. Our educational system, while not without weaknesses, still trains a creative and highly productive workforce, and our profile of taxes and regulations remains modest compared to key competitors.

The U.S. is not even in the top 20 of the Organisation for Economic Co-operation and Development (OECD) list of tax burdens among the world's developed economies.[2] In particular, U.S. citizens have a lower average tax burden than Finland, Australia, Germany, Switzerland, Canada, Japan, and the United Kingdom.

The recovery of the domestic auto industry from the brink of disaster has been nothing short of astonishing. Sales of domestic light vehicles have reached a level last seen in early 2008. And the wider selection of more fuel-efficient domestic automobiles has made the domestic auto industry better able to accommodate periods of high gas prices.

While the future path of the national debt remains a great concern, the saving rate by individuals has recovered somewhat from the dangerously low level of around 1 percent during the middle of the last decade (see **Figure 2**). As of March 2012, the personal saving rate, still a relatively low 3.8 percent, is well below historical levels and has drifted downward in recent months, at least partly in response to the relatively slow recent growth in wages. To some extent, the recent increase in the saving rate from its low prior to the recession has come at the expense of growth in consumption and hence at the expense of a slower recovery, but since saving is essential for future growth, the low rates of the last decade were of great concern.

The moderate increase in personal saving, along with low interest rates, is reflected in a much lower burden of debt-related financial obligations for households. According to the Federal Reserve's estimate of household financial obligations, household payments on debt as a share of disposable income, after rising steadily for a decade, reached record highs of nearly 19 percent of disposable personal income in 2007. Net reductions in debt outstanding along with lower interest rates have reduced the financial burden to just over 16 percent. Along with its other good effects, the reduction in this fixed burden on income can help cushion the economy against external shocks such as a spike in oil prices.

"Our educational system, while not without weaknesses, still trains a creative and highly productive workforce, and our profile of taxes and regulations remains modest compared to key competitors."

2 OECD, Revenue Statistics: Comparative Tables, OECD Tax Statistics (Database). http://stats.oecd.org/Index.aspx?DataSetCode=REV

"The decline of residential and commercial construction from the heady days of the last decade has been catastrophic in its breadth and depth."

The good news about the economy is tempered by a sense that the economy fell into an especially deep hole and that there is a long way to go to recover to a point where economic resources in the U.S. are being used at a level approaching their full potential. Capacity utilization in manufacturing, as measured by the Federal Reserve, fell from a pre-recession value of nearly 80 percent to just under 64 percent in April of 2009. This means that an additional 16 percent of manufacturing capacity was sitting idle by the end of the recession. Since then, manufacturing capacity utilization recovered to 78.3 percent by March of 2012 and is rising quickly. In fact, against all expectations, manufacturing has been one of the key engines of recovery. This has been accompanied by a vigorous recovery in private investment in equipment and software. In spite of much commentary that risks to business have dampened the recovery—an assertion repeated with more gusto than evidence—business investment has recovered much more quickly after this recession than after the previous, much milder 2001-2002 recession, and investment in equipment and software is already well ahead of pre-recession highs.

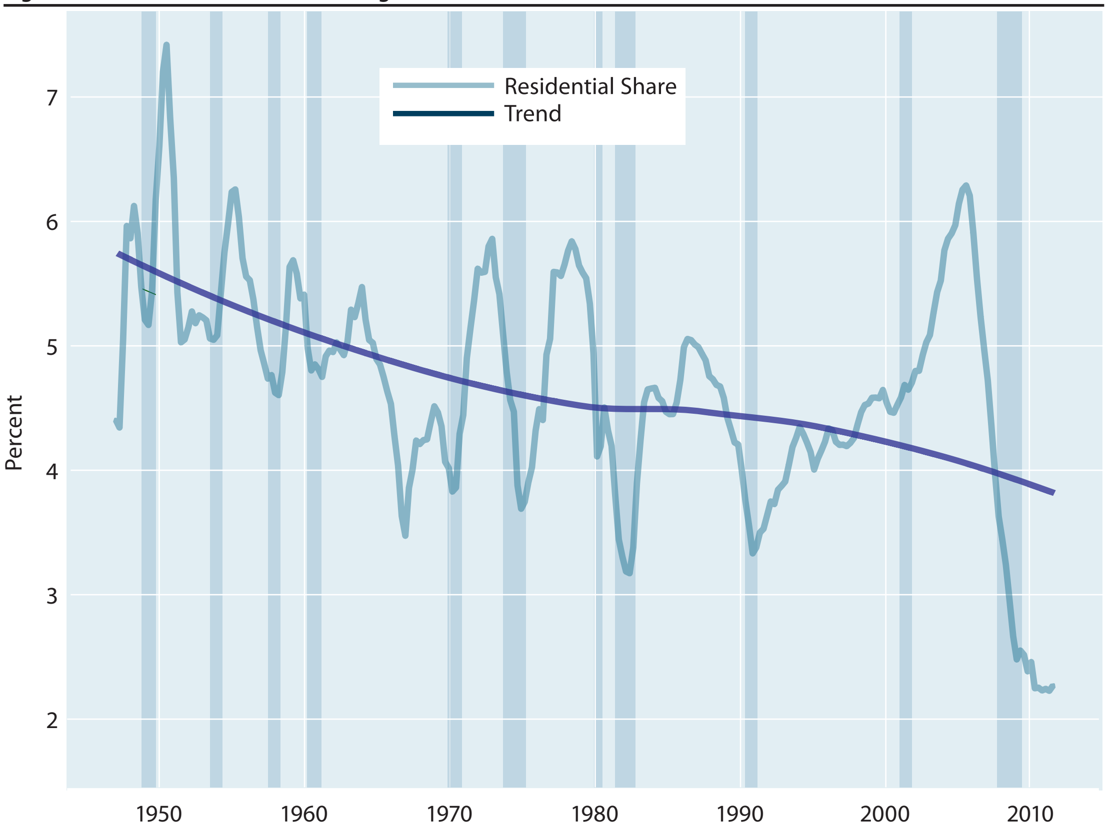
The construction sector of the economy, on the other hand, has continued to make headlines because construction of residential and commercial buildings has fallen into a sustained malaise. The decline of residential and commercial construction from the heady days of the last decade has been catastrophic in its breadth and depth. Spending on housing construction fell from previously unimaginable highs to record lows within a few short months. The price of residential housing, which many previously considered immune to declines, continues to fall in most markets across the country as they have been doing virtually non-stop since late in 2006. This decline in the value of a highly leveraged asset (i.e., most of the value of the asset has been borrowed) has many families owing more on their mortgages than their houses are worth, caught in a double bind, not able to refinance to lower interest rates because they are no longer credit-worthy due to the high interest rates they are paying on their mortgages. The oversupply of homes, tight credit, and slower household formation are all delaying the rise in housing construction. In the past, housing construction returned quickly after recessions, providing a foundation on which recoveries in manufacturing and services, along with state and local government spending, were built. The delay in the recovery of the housing sector measures for us the magnitude of the housing bubble's distortion of the U.S. economy.

It is only by understanding the full magnitude of the economic shock created by the bursting of the housing bubble in 2007 that we can make sense of this recovery where real GDP and personal income have set post-recession records and yet unemployment remains high, the labor-force participation rate remains low, and 2011 real per capita disposable personal income of $37,422 ($2011) was still more than $300 below the value achieved in 2007. The period of stagnant incomes has lasted longer than in any other since the Second World War.

The sudden run-up and subsequent collapse of investment in residential construction between 2000 and 2010 provides the key to explaining the delay in the employment recovery this time around. According to BEA's National Income and Product Accounts, over the course of the decade, the share of total private investment in fixed assets dedicated to residential housing rose from 26 percent in 2000 to 36 percent in 2005 before collapsing to record lows below 19 percent where it has remained at least through the first quarter of 2012 (see **Figure 3**). As a share of total GDP, investment in residential structures rose steadily from a low of 3.5 percent in 1990 to 6.3 percent in 2005 before dropping sharply to 2.2 percent in the first quarter of 2011, a level just below where it stands today. The long historical trend in this ratio depends on the rate of household formation, which itself depends to a great extent on the age structure of the population. A casual extrapolation of the long-term trend from pre-bubble investment patterns would suggest something around 4.5 percent as a normal level given our current population dynamics. Thus, the run-up to over 6 percent reflects a huge over-investment in housing relative to long-term patterns of housing formation. The extra stock of housing built during this period saddled the housing market with a huge surplus of homes. Also, the surge in investment in housing caused a shift in employment away from other sectors into the housing sector.

For five years, an increasing share of employment followed investment dollars into construction of housing and commercial structures. Since workers in the construction trades tend to be males with relatively fewer years of education, it is not surprising that a recession that had its greatest impact on the construction industry will also disproportionately affect men, and especially those having little education beyond high school. It follows that a delay in the recovery of the housing sector will also fall most heavily on this same group. The underutilization of this sizeable group of workers represents considerable hardship for a large group of families and a large drag on the

Figure 3: Private Investment in Housing as a Share of GDP, 1947 First Quarter to 2012 First Quarter



Source: BEA National Income and Product Accounts.
Trend line estimated by author; shading indicates recessions.

"The underutilization of this sizeable group of [construction] workers represents considerable hardship for a large group of families and a large drag on the economy."

economy. That these workers are unable to find jobs lowers the productive capacity of the economy and slows the recovery because unemployed workers consume fewer goods and make increased demands on social services. Recent evidence suggest that there are long-term consequences of extended unemployment including permanently lower wages for the displaced worker along with a likelihood of lower educational attainment and health outcomes for other family members.[3]

There are essentially two ways to bring these valuable fallow resources back into productive engagement with the economy: increased demand for their existing skills or changing their skills to better match skills in demand as the economy begins to recover. Neither of these options promises a rapid path to economic recovery.

Investing in new skills takes time and money. While unemployed workers may have plenty of the former, the same cannot be said about the latter. What is more, from the point of view of an unemployed worker, investing in the skills needed to start on a new career path is risky because there may not be a job in the new field, because the pay may be low, and because, by the time the retraining is complete, jobs using their existing skills may be coming back. It should not be surprising that workers in residential construction would expect the housing industry to be the first to grow as the recovery begins since this has been the historical pattern. Moving from a high school diploma to an associate's degree or from an associate's to a bachelor's requires a considerable commitment of money and time especially in the face of the uncertainties about the payoff.

For those not finding work in other sectors, all that is left is waiting for the return of residential construction to more normal levels. Forecasting when and how fast this will happen has been a fool's errand since the recession began.

That so many could be so wrong so often about the housing recovery follows from the highly unusual collection of factors that characterized the great housing crash. All of the important forecast variables spiked well out of their normal range, driving forecasting models, from the simple to the sophisticated, well beyond the range of experience upon which they were built. Investment in housing reached unprecedented highs relative to the levels justified by underlying population characteristics resulting in a stock of housing far higher than sustainable if there

3 Ann Huff Stevens and Jessamyn Schaller, "Short-run Effects of Parental Job Loss on Children's Academic Achievement." Working Paper No. 15480. National Bureau of Economic Research, November 2009. http://papers.nber.org/papers/w15480.

"That the economy can recover without the lead of the housing sector should cause us to step back for a moment and reconsider the value to society of the many policies ... that subsidize home ownership and hence induce an over-investment in housing."

were a downturn. Housing ownership expanded to demographic groups well outside the range of families able to purchase houses in the past. Capital markets were changing rapidly in ways unforeseen by nearly everyone, and, in retrospect, appear to have failed to accurately price risk, particularly in the housing sector.

Homeowners responded to rapidly increasing home prices by borrowing against the paper value of their homes at an unprecedented rate, leaving the household real estate debt to equity ratio[4] at what was then a historic high of around 70 percent even as home values rocketed upward. The increased borrowing drove the U.S. saving rate to near zero, creating a risk to the entire economy. Once the inevitable drop in housing prices started, homeowner equity crashed driving the homeowner debt to equity ratio above 100 percent for the first time and on to the current abysmal 160 percent (fourth quarter of 2011).

The unsold inventory of housing for sale is falling relative to the number of units actually being purchased each month.[5] Unfortunately, we don't know when that figure will be low enough to result in significant increases in construction. First, as is usually the case, household formation slowed substantially during the recession. Second, there is a "shadow inventory" of foreclosed houses owned by banks and investors not captured by the monthly sales statistics. Third, housing prices are still falling even in nominal (not inflation-adjusted) terms. Fourth, loans are much harder to obtain than anytime in recent experience. All this makes it impossible to forecast when we will experience a broadly based expansion that makes effective use of the full productive capacity of workers as well as factories.

I agree with what seems to be a general sense among economists that the residential housing sector will not reach the absurd heights of 2005-2006 in the foreseeable future. The over-investment in housing drew valuable economic resources away from more productive uses and ultimately caused a highly disruptive episode of realignment. Investment in the housing sector has yet to recover much ground after its collapse; the investment that is occurring is primarily in equipment and software. In fact, given the generally declining share of private residential fixed investment relative to both GDP and to total private fixed investment, it may be that the influence of investments in housing on recovery in future recessions may be expected to be less than it has been in recent years.

That the economy can recover without the lead of the housing sector should cause us to step back for a moment and reconsider the value to society of the many policies, such as the tax deduction on mortgage interest, that subsidize home ownership and hence induce an over-investment in housing. There is a growing sense among economists of many political stripes, that a reevaluation of government policies encouraging home ownership is in order and that the costs of these policies may substantially outweigh the benefits.

National attention must now turn to the very hard problem of reducing the long-term structural deficit in the federal budget. Whether the level of spending during this recession was appropriate is not a thicket I am prepared to enter. What is abundantly clear is that the current deficit pales by comparison to what the country will face absent a level of reasoned policy discourse among our elected representatives that the current poisonous political atmosphere has given us little reason to expect. There does appear to be some quiet coalition-building, at least in the U.S. Senate, in an effort to garner bi-partisan support for a balanced long-term deficit reduction proposal along the general lines laid out in the plan proposed by Erskine Bowles, former president of the University of North Carolina system, and Alan Simpson, former Senator from Wyoming. Virginia Senator Mark Warner deserves much credit for his leadership in this regard.

I will make this forecast: the expected, long-run federal deficit will be reduced during the next several years, but, in all likelihood, that process will not be pretty. It will either happen voluntarily after lengthy negotiations followed by political compromise or involuntarily, imposed by capital markets, after prolonged angry recriminations end in political deadlock. The choice is ours as a nation.

A Disturbing Trend in Capacity Utilization

The characteristic of the Great Recession that truly sets it apart was the disturbing waste of the productive potential of people and of capital assets such as factories and equipment. The difference between potential economic output as estimated by the Congressional Budget Office and actual economic output as measured by BEA, represents the loss of economic output due to the recession. The output gap during this recession was exceeded only during the Great Depression.

4 This is calculated from the Federal Reserve *Flow of Funds* report by dividing household equity by the sum of household equity and household mortgages. The current value of real estate can be lower than the amount of mortgage debt

5 Months of supply (inventory for sale divided by the current number of sales per month) tripled from 4 months in January of 2005 to 12 months in January of 2009. A "normal" level would be closer to 6 months of supply. (http://www.census.gov/construction/nrs/).

The magnitude of the loss arose from the fearsome combination of the sudden drop in housing construction, the huge loss in the value of highly leveraged homes, the freeze-up of credit markets, and a sudden increase in gasoline prices.

Today, more than five years since the start of the cataclysm that was the 2007-2009 recession, the capacity utilization of factories and other productive assets has begun to recover. The improvement is less dramatic in the labor market. It is true that the unemployment rate has started to move down steadily even without a recovery in residential and commercial construction. The unemployment rate will fall further in 2012 with housing construction beginning to increase. Unfortunately, it is also true that a very substantial number of productive individuals have left the labor force in recent years and have yet to return. This movement of potentially productive labor out of the economy often represents personal hardship as well as a more abstract loss of productivity for the economy.

There are two broader measures of capacity utilization in the labor market: "underemployment" and "labor force participation." The underemployment measure adds "marginally attached workers" and "part-time workers for economic reasons" to the standard unemployment measure.[6] Underemployment rose from a modest rate of 8 percent just prior to the recession to over 17 percent during the last quarter of 2009. As of March 2012, that measure had fallen to 14.5 percent.

The labor force participation rate measures what proportion of a given cohort of the population is actually participating in the workforce. Essentially, it is the ratio of the labor force (all workers employed full and part-time and unemployed) to the total population of working age (16 and over). The participation rate can be calculated for the population as a whole and for different subgroups. The overall labor force participation rate depends partly on demographic factors. A population with a larger share of people over 60, who typically have lower labor force participation than younger persons, should be expected to have a lower overall rate than a population with a smaller share over 60. Outside of demographic factors, a low participation rate may reflect underutilization of the labor resources in an economy. One of the truly striking long-term trends in the U.S. labor market is the increasing participation of women in the labor force from 30 percent when measurements were first started in the late 1940s to 60 percent in the second half of the 1990s. The participation rate for men fell over the same period from about 87 percent to 75 percent. For men, a significant portion of the decline was the demographic transition to an older workforce. For women, the dramatic movement of women into work outside the home overshadowed the effects from an aging population.[7]

The drop in the overall participation rate accelerated dramatically during the recession of 2001 and showed a small recovery just prior to the beginning of the Great Recession in late 2007 when the rate dropped quickly from 66 percent to 63 percent, a large sudden drop by historical standards. The drop was much greater for blacks than for whites. It was even greater for young black workers, going from 38 percent to 23 percent, versus young white workers, going from 50 percent to 35 percent since 2000. These patterns are not consistent with an explanation based on the age-structure of the population. What is clear is that there is a recent, relatively sudden shift toward lower participation rates and that the labor of many workers in their productive years is being underused and likely reflects a waste of the productive potential of a valuable economic resource not to mention the hardships for the individuals who find themselves with limited productive opportunities.

The State Dimension

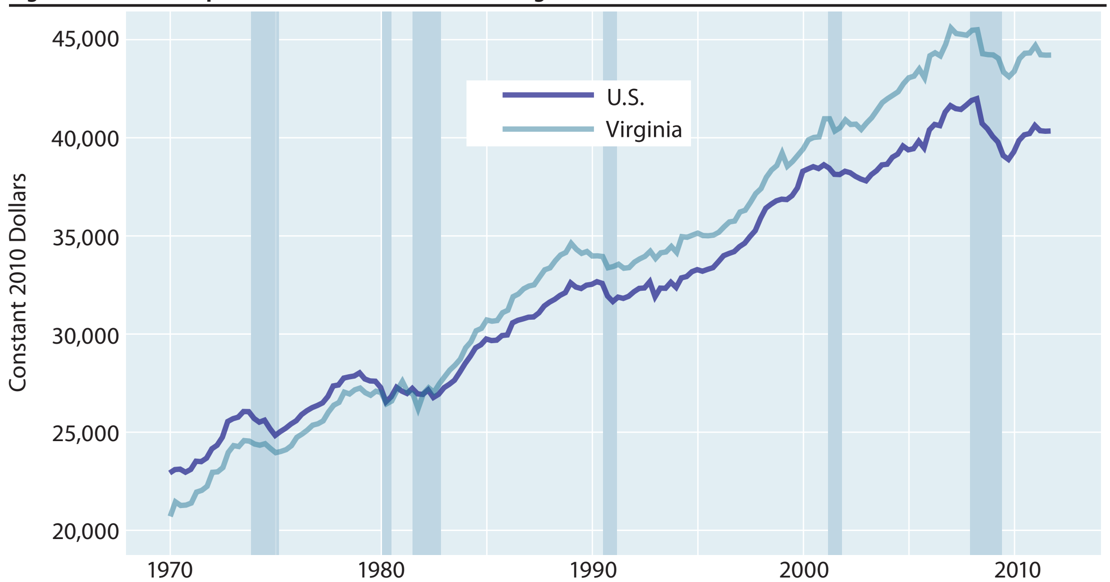
As the national economy begins to improve, the state economies will follow suit but with substantial variations across regions depending on local circumstance. Michigan suffered disproportionately from the huge recent realignments in the auto industry. Nevada, California and Florida had some of the greatest exposure to the decline in demand for housing primarily because they had the largest concentrations of excessive speculative residential construction. The mid-continental states from North Dakota to Texas have fared relatively better due to the run-up in energy prices along with new technologies such as directional drilling and hydraulic fracturing that made oil and gas extraction less costly and hence more valuable.

"Unfortunately, it is also true that a very substantial number of productive individuals have left the labor force in recent years and have yet to return."

6 The U.S. Bureau of Labor Statistics uses the following definitions: "Persons marginally attached to the labor force are those who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the past 12 months. Discouraged workers, a subset of the marginally attached, have given a job-market related reason for not currently looking for work. Persons employed part time for economic reasons are those who want and are available for full-time work but have had to settle for a part-time schedule." BLS, *Economic News* Release dated April 6, 2012, Table A-15 Alternative Measures of Labor Utilization." http://www.bls.gov/news.release/empsit.t15.htm

7 There has been a recent rise in labor force participation by older workers, but this has not been a major factor in recent trends in participation rates. See Emy Sok, "Record Unemployment Among Older Workers Does Not keep Them Out of the Job Market," *Issues in Labor Statistics* (March 2010). http://www.bls.gov/opub/ils/summary_10_04/older_workers.htm

Figure 4: Real Per Capita Personal Income: U.S. and Virginia, 1970 1st Qtr. to 2012 1st Qtr.



Source: BEA National Income and Product Accounts; shading indicates recessions.

"The story of housing in Virginia over this period, while not as dramatic as in some parts of the country, reflects a serious misallocation of economic resources."

In recent decades, Virginia's economy has tended to perform better than the national economy with lower spikes in unemployment during recessions and faster growth in income during expansions. At its peak in 2007, per capita personal income in Virginia was $47,154 (adjusted for inflation to 2011 dollars), seventh among the states and almost 10 percent higher than the national average of $43,061 (see **Figure 4**). During this most recent recession, Virginia's economy continued its recent pattern of resilience. The national unemployment rate rose from 4.4 percent to 10 percent while Virginia's unemployment rate rose less steeply than the average, reaching 7.3 percent before starting to fall. Per capita income in Virginia fell 5.5 percent below its value at the start of the recession compared to 6.6 percent nationally.

And the housing market in Virginia also seemed to fare better than the nation as a whole. The rate of new construction fell to record lows here as elsewhere, but, for most of the state, housing prices did not experience as dramatic a rise as in other parts of the country, so the decline in housing wealth and in commercial real estate has tended to be more modest. In fact, the housing market in Northern Virginia has remained one of the more healthy urban housing markets in the country. Overall, the Case-Shiller house price index for the Washington metro area, of which northern Virginia is a major component, has fallen by 28 percent since its peak, while, the composite index of the 20 largest urban markets fell by a much larger 34 percent.

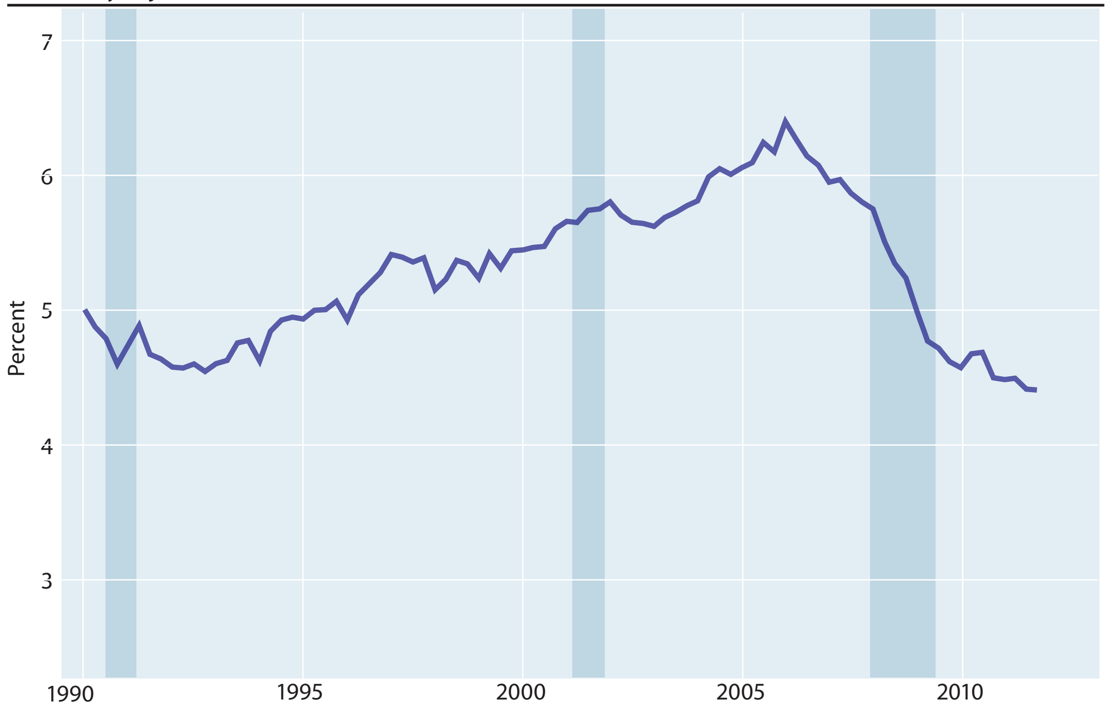
That is not to deny that Virginia did participate in the housing market excesses of the past decade and that the fall in residential constructions did cause considerable disruption in the state's economy. For example, the ratio of wages paid in residential construction to all wages paid in Virginia (see **Figure 5**) jumped from around 5 percent in the 1995 to nearly 6.4 percent when it peaked in 2006.[8] Since then, the share of construction wages has fallen steadily to its current level of 4.4 percent in the last quarter of 2011.

In terms of the number of workers involved, total employment in construction in Virginia was 209,900 people in March of 2000, already a high level by historical standards. That rose by 42,500 workers or 20 percent in just six years. After the peak, construction employment fell back to 181,500 within four years. Even the recent rise in business investment has done little for construction, since it was concentrated in equipment and software. The slow rate of construction of residential housing has kept the total employment in construction from growing since 2010. As of March 2012, construction employment in Virginia was 180,900.

The story of housing in Virginia over this period, while not as dramatic as in some parts of the country, reflects a serious misallocation of economic resources. In retrospect, it is clear that resources shifted away from other, more valuable, activities and into residential housing construction. At the margin, these resources were creating much less value for society than they would have done elsewhere. This misallocation lowers the real social productivity of the labor and other resources drawn into the housing sector, imposing

8 Bureau of Economic Analysis, State Personal Income.

Figure 5: Construction Wages as a Share of Total Wages in Virginia, 1990 1st Qtr. to 2011 4th Qtr. (Seasonally Adjusted)



Source: BEA Regional Economic Information System; Shading indicates recessions.

"The assets created in the housing sector will be paying lower rates of return compared to what could have been earned had the resources been used elsewhere."

an invisible but very real loss to society. The assets created in the housing sector will be paying lower rates of return compared to what could have been earned had the resources been used elsewhere.

The drop-off in the housing sector, when it came, was sudden, and truly catastrophic for the many families that found themselves in unforeseen financial distress either due to loss of employment or to severe drops in the market value of their main capital asset, their home. But the suddenness of the drop did not, by itself, imply the long, drawn-out recovery that followed. Capital and labor resources are generally highly mobile in Virginia and in the U.S. Had the only problem created by the housing bubble been a surplus of residential housing, we might have been able to shrug off the capital loss in housing sector with a short and modest recession. Unfortunately, the decline in the housing sector precipitated a disastrous contraction in credit markets (meaning much less lending to businesses and individuals) that arose because the borrowing related to the housing sector was large enough to raise risks to investments across the economy and ultimately even brought into question the ability of governments around the world to pay their own debts.

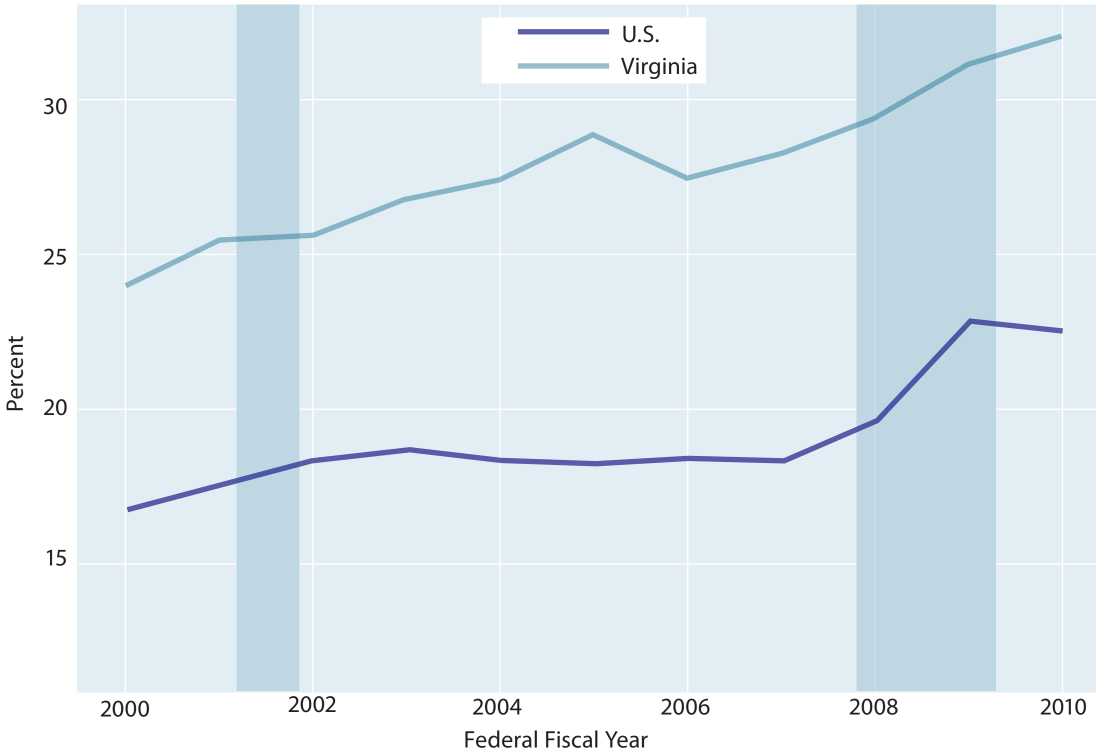
Without the availability of credit, the normal adjustment mechanisms for reallocating financial resources in the economy simply were not functioning. It became impossible for people to accept a capital loss on their homes and move on because lenders greatly tightened their eligibility standards for extending credit to buyers who would have helped clear the housing market at some lower price. This is the fundamental reason why the housing sector could not recover more quickly. People simply had no way to simply take a loss and then either refinance or sell at the new lower price. Even as credit conditions for businesses have improved, credit conditions in housing remain a drag on the recovery.

Continued deflation in housing prices also slowed the readjustment in the housing sector. Potential buyers, expecting future price reductions, remained on the sidelines, while owners, reluctant to take a loss on one of their primary capital assets, adjusted slowly to the new lower price points for housing. With prices falling only slowly, the unusually large inventory of homes on the market has taken years to decline to normal levels.

The Other Elephant in the Room

In recent years, the growth in Virginia's economy has been fueled partly by the rapidly expanding flow of federal spending in the state. The increased spending was partly the result of the wars in Iraq and Afghanistan and partly due to increased non-military expenditures in the region. It is now likely that both the military and non-military components of federal spending will not just decelerate but will fall in absolute terms. The fraction of economic activity in Virginia tied to federal spending has been growing for a long

Figure 6: Federal Direct Expenditures as a Percentage of GDP, 2000 to 2010



Source: Census, *Consolidated Federal Funds Report* (selected years); Shading indicates recessions.

"So when federal spending starts to contract, and it will contract, the reductions will be greater as a share of total economic activity in this state than in nearly all other states."

time, and has been accelerating in recent years. Just between 2000 and 2006 the ratio of federal spending (including all transfer payments, grants, contracts, and wages) to Virginia GDP rose from 24 percent to 27 percent, rising to 32 percent by 2010 (see **Figure 6**).[9] This compares to an average of 18 percent for the country as a whole before 2006 rising to 22 percent afterward. This is true even though Virginia's share of spending on some transfer programs such as Temporary Aid to Families with Needy Children (TANF) is modest compared to the rest of the country. For federal civilian and military personnel and of military procurement spending makes up most of the big wedge between Virginia and most of the rest of the country. So when federal spending starts to contract, and it will contract, the reductions will be greater as a share of total economic activity in this state than in nearly all other states.

The federal deficit, that is the difference between expenses and revenues, is projected to become so large within the next few decades that the accumulated debt and its accompanying interest payments could pose a serious threat to the nation's solvency. Except during the Clinton administration in the 1990s, the federal deficit has been increasing rapidly since the early 1970s. Essentially, the growth in federal medical programs—Medicare, Medicaid, and Medicare Part D prescription drug relief, with or without the Patient Protection and Affordable Care Act (so-called Obama Care)—along with high levels of defense expenditures have left the country with large and growing structural deficits, meaning deficits that occur during economic expansions as well as during recessions. As with any debt, the U.S. federal debt increases when income is lower than expenses. So, there must be some combination of higher economic growth, cuts in future spending, and increases in future taxes to avoid national bankruptcy. This much is not really the subject of much disagreement. What we do not know is to what extent the closure of the long-term deficit will be made through reductions in spending or through increased revenue, nor do we know what fraction of any cuts in expenditures would come from entitlement programs such as Social Security, Medicare and Medicaid, which would have less relative effect on Virginia, and, more ominously for Virginia, what fraction would come from wages for civilian employees and military spending. Nor do we know the timing of any reductions.

The intense and unsustainable expansion in the expected long-term future federal debt is a temporary aberration no less than the recent run-up of housing prices. Few thoughtful observers believed that either trend could continue indefinitely. The increase in housing values due to the

9 Sources: GDP from BEA regional accounts: http://www.bea.gov/regional/ and federal spending from Census Bureau, *Consolidated Federal Funds Report*. http://www.census.gov/govs/cffr/

speculative fever in housing was a transient gain. It could not be taken to the bank except at great risk. Federal deficit spending on track to accrue a cumulative debt greater than 100 percent of GDP has generated its own phantom gains. There is no conceivable state policy that can allow people to bank their phantom capital gains from the federal spending bubble. There is, however, much damage that could be done in trying.

Much has been written about the likely magnitude of some pattern of cuts in federal spending on civilian employees and on the military in Virginia and nationally. The details aren't likely to be pretty from Virginia's point of view, but everything is speculative at this point so I can add little to the current discussion. Instead, I want to step back and think about what happens to an economy when an external source of spending slows and how this perspective can help us think through how to respond to any anticipated reductions. Of course, one of the first responses by political leaders in all states, including Virginia, is to work to protect local spending against cuts. This response is assumed whether local politicians are conservative, liberal, or in between.[10]

The economic effect of a reduction of federal spending is, like everything else in economic life, an issue of supply and demand. The withdrawal of a million federal dollars initially reduces demand for goods and services by that amount. What many people don't realize is that this does not reduce economic activity by that same amount. The spending was buying some combination of labor and capital services, resources that have a value in some alternative use. That alternative use is what economists refer to as the opportunity cost of the resource because it is the opportunity foregone when the resource was hired by the federal dollars. When the federal dollars are withdrawn, the resource will go to its next best use, which depends, among other things, on how specialized the resource is in its current use (for example, whether the capital asset is an office building or a cruise missile guidance circuit, or whether a worker's skills are highly specialized) and on how quickly the shift in funding takes place. So what is lost is not the change in federal spending, but rather the difference in what is spent for the resources by the federal government and what will be spent by the next lower value user.

As demand for Virginia labor and for the services of Virginia capital assets fall relative to demand for them in other states, some people will move away for the higher wages their skills might earn elsewhere and some may reduce their hours or even drop out of the labor force altogether. Some new capital investment will shift elsewhere as the old capital stock is depreciated. This process of shifting to the new equilibrium takes time, of course, and there are adjustment costs as workers and capital shift among uses; the faster the change in the flow of federal spending, the greater the dislocation cost. The adjustment costs would be considerably greater if the reduction in spending occurs during a recession, or more generally during a period of high unemployment, because then displaced workers will face longer periods out of work.

"There is no conceivable state policy that can allow people to bank their phantom capital gains from the federal spending bubble."

In an effort to both reduce the magnitude of the loss of federal spending and to ameliorate some of the transition costs arising from reductions that do occur, the recently passed budget bill contains $50 million for a new "Federal Action Contingency Fund" (FACF). The governor has authority to spend this money on two classes of targets: projects and incentives to keep federal spending in Virginia and spending to reduce the impact of cuts that do occur.

Projects that might reduce the size of spending reductions include enhancing the attraction of Virginia for federal facilities. For example, some funds are specially designated for reducing the effects of the encroachment of commercial and residential development around important military facilities. Other targets are more akin to traditional industrial incentives: providing specialized facilities, worker training, or infrastructure to attract federal agency spending. This includes spending on what one might reasonably describe as marketing and lobbying activities.

The remaining money can be used for assisting firms and workers with the transition away from federally funded activities. Retraining, assisting in finding new markets for firms, and transition funding all appear to be within the range of activities authorized. As with any program responding to changing economic circumstance, it will be tricky distinguishing between those affected and those whose circumstances are not directly related to reductions in spending. The other difficulty has to do with identifying circumstances where state spending can actually change outcomes. If, once federal spending is withdrawn, the value of some economic resource is very low, then relatively large infusions of state money would need to be spent to retain such an activity. There is little good information on which to base such decisions, so

10 It may be expected that the first response to possible loss of federal funds is to try to keep the federal spending that remains in Virginia. This appears to be the main focus of the "Federal Action Contingency Fund" established in the 2012 budget bill. Ultimately, however, the focus will need to shift to making as efficient a transition as possible to a regime of much lower federal spending in the state.

"...you could say with certainty that the size of the federal reductions is not a good measure of the size of the effect on the state's economy."

we must expect that a significant fraction of this spending will have a negative net value. Even with effective targeting, when federal spending reductions do begin in earnest, the fund would have to be much larger to have a measurable effect.

My purpose here is to break from the usual practice of focusing on the magnitude of the initial changes but rather focus attention on the new equilibrium that is achieved after the adjustment.[11] Once this adjustment takes place, the net effect on the average person's income may be surprisingly small because labor resources in Virginia are part of a national, even global, market for labor. A worker with a given set of skills may sell those skills to employers in Virginia or elsewhere. In the long term, the wages in different places around the country can't stay very far apart since the wage differential will encourage migration toward higher wages, which will eventually bid the wages back into parity.[12] And for reasons I discuss shortly, the effect on purchasing power will be even smaller than the effect on actual wages.

A large reduction in federal spending will, as already noted, cause some people and some capital stock to migrate elsewhere. In response to this, land values and tax revenues will definitely fall. Land values fall because land is in fixed supply and cannot be moved to where demand is higher. Taxes, because the government cannot move to where the labor and capital are moving.

The largest part of the adjustments in labor markets take place relatively quickly, say within two to three years, while reduction in the capital stock takes longer,[13] and once they have occurred, it just is not clear how much worse off will be those who remain. People with a given level of skills must get a wage that induces them to stay in the state, and incidentally, the higher their skill level the more they will be paid, other things equal. Housing prices will be lower, so somewhat lower wages would not necessarily mean lower purchasing power. Demands on some government services such as unemployment compensation, job retraining, and social welfare could go up in the short run, but will ultimately go down as will the demand for education and public safety services. Commutes will become shorter and congestion costs lower. Who is definitely worse off? People who own land lose relative to those who do not; the more land they own near areas of high government spending areas, the more likely they are to have a net loss. Furthermore, some of the owners of land, for example corporate landowners, do not live in Virginia. It is not clear how we should value their losses.[14]

Altogether (and you can't really add things up because we simply don't know enough to measure many of these things) you could say with certainty that the size of the federal reductions is not a good measure of the size of the effect on the state's economy. The actual effect is less. And we haven't yet accounted for Virginia's share of any long-term benefits of reducing the federal debt.[15]

People who are used to reading about the economic impact of a new development may want to ask: But what about the multipliers? Doesn't a dollar spent generate more dollars spent? Yes, it does. But it does not raise a worker's productivity and it does not increase the rate of return on investments above the going rate, not in the long run. So, the multipliers don't measure increased well-being any more than the original dollars do.

My key point is worth emphasizing. If the federal spending share of Virginia's GDP fell by close to one-third from the current 32 percent to 21 percent, economic activity in Virginia would not fall by the proportionate 11 percent; it would fall by less. Per capita personal income would fall by even less since there would be some out migration. It is even possible that, if the cost of housing falls, per capita purchasing power could rise once the economy has adjusted to its new equilibrium. Would those remaining in the state feel worse off or better off? That cannot be known. It depends on the qualities of the productive resources within the state rather than how much is spent by the federal government.

I used the Virginia economic model from Regional Economic Models, Inc. (REMI) to run a very simple illustrative experiment.[16] I assumed a

11 It is certainly worth paying careful attention to what state government might do to lower the costs of the dislocation and how a fund like the FACF might help. That is a topic too large to cover in this article.

12 If a person stays put rather than moving for a higher wage, then there must be some value to staying put that outweighs the value of moving. The loss this person suffers is measured not, generally, as the loss of a job, but as the difference in the wage rate adjusted for any changes to the cost of living.

13 For even large and relatively fast adjustments in federal spending most of their adjustments would play out within five to ten years. The adjustment time is short relative to the time it took to build the path to the long-term deficit. Adjustments in labor markets and in the prices of assets are relatively quick, while adjustments in the capital stock take longer.

14 Typically, a state-level cost/benefit analysis would not count gains and losses to those from other states.

15 If one were to take seriously the current talk on the campaign trail, you would expect these benefits be huge. Other estimates tend to be more modest.

16 The REMI model is a dynamic version of the standard regional economic models referred to as input/output (I/O) models, since these I/O models are based on tables of estimates of the amount of inputs needed to produce a unit of a given output given the existing prices for these inputs and outputs. The REMI model improves on the input/output models by allowing prices to shift in response to changes in the economy. Changes in prices will, in turn, change the relationship between inputs and outputs over time. So the structure of the economic model is *dynamic* in this sense. For example, a reduction in

one-time reduction of federal workers in Virginia of 100,000 all in 2013, divided equally between military and non-military employees. In all probability, of course, the reduction in federal spending in Virginia would decline much more gradually, and the displacement costs would be lower, but to simplify the example I assume that the entire reduction takes place in 2013. This change is assumed to take place during a normal expansionary phase of the business cycle, so not during a recession. It amounts to about a 30 percent drop in federal employment, or a 2 percent drop in total employment (wage and salary workers and proprietors) in the state in one year, a draconian and unrealistically sudden change. We have implicitly assumed that the state receives no gain from the reduced federal deficit, in particular, that the rate of economic growth does not increase. In fact, in this experiment growth slows a bit because the productivity of the government sector falls a bit due to the drop in the workforce.

As theory would suggest, the immediate effect is a fall in employment, GDP, taxes, state and local government spending, and population, among other things. Private non-farm payrolls fall, in this case by about 127,000 workers, so a 30 percent reduction in federal workers causes an immediate drop of 3 percent in private non-farm payrolls. Since some people will choose to migrate out of the state, the optimal size of the housing stock falls and housing prices follow. Because of the suddenness of the drop, state revenues fall by more than state expenditures, which for Virginia would mean either a reduction in services or an increase in revenues (taxes, fees and charges), or some combination of both.

This is what you would expect. What you might not expect is that within ten years, the loss in non-farm payroll falls to under 100,000, and while wages fall some, this reduction is less than the fall in housing costs, so by the end of the decade, those living and working in Virginia have lower unemployment and higher real per capita disposable purchasing power (or income adjusted for cost of living) than they did before,[17] plus they have shorter, less congested commutes. The higher purchasing power grows over time. Finally, taxes and state and local government expenditures adjust to the new lower demand for government services at a lower absolute level but similar in comparison to the size of the state's economy.

the cost of labor relative to the cost of capital will cause producers to substitute labor for capital in production.

17 Even without adjusting for housing costs, per capita income moves higher after 15 years.

What *Can* We Do?

The focus of state policymakers on a positive balance of trade (the difference between the monetary value of exports and imports in an economy over a certain period) as an instrument of state policy is a remarkably persistent mistake confusing cause and effect. The difference in the value of imports and exports, which is one source of increased economic welfare, is the long-run result of effective state policies but is not something over which a state has much direct control. Government efforts to reduce imports can be expected to do at least as much harm as good, because government agencies are not usually in a position to know the relative value of imported versus locally produced inputs.[18] Direct efforts to subsidize investment in state economies, a long-time favorite of governors everywhere, appear to have a very low rate of return, almost certainly lower than other possible uses of the money.[19]

The distribution of the benefits from any increased net flow of money into a state may seem a little counter-intuitive at first. If capital and labor can move across state borders at a fairly low cost, as in the U.S., then an increased flow of money into a state's economy will not raise real wages for a worker of a given level of productivity nor will it raise the rate of return to investment. If either of these things were to happen in the short run, then people and resources would tend to move toward the higher wages and the higher rate of return until the increased earnings were bid back down to levels close to those elsewhere. Again, as migration and capital investment adjust to the new flow, only long-lived fixed assets can have gains, as their prices will increase in the anticipation of the future stream of income. Even here, the lion's share of the gains goes to current owners, since future purchasers must pay the new, higher price.

What state governments can do to increase individual economic well-being is to increase productivity of economic resources within the state. Productivity is the amount of goods and services that can be produced by labor and capital (including natural resources). A person with higher productivity will have greater control over resources even after all of the movements of capital and

18 The problems with these "mercantilist" local policies have been well-known at least since Adam Smith's *Wealth of Nations* published in 1776.

19 See for example:, Terry F. Buss. "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: An Overview of the Literature." *Economic Development Quarterly* 14, (2001) pp. 90-105; Alan H. Peters and Peter S. Fisher, *State Enterprise Zone Programs: Have They Worked?* (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2002; Alan Peters and Peter Fisher. 2004. "The Failures of Economic Development Incentives." *Journal of the American Planning Association* 70, 1 (2004) pp. 27-37.

"Direct efforts to subsidize investment in state economies, a long-time favorite of governors everywhere, appear to have a very low rate of return, almost certainly lower than other possible uses of the money."

"When resources are being used at a level close to capacity, what evidence we have suggests that state spending to lure producers to locate in a state is dismally ineffective."

labor described above. Capital that is more productive will earn a higher return even after the movement of resources between states. Whatever the flow of money into the state's economy from outside, in equilibrium, that is after movements of capital and labor to higher returns have bid those returns back down to prevailing rates, the remaining returns will be a function of productivity.[20]

So what state policies can actually improve the productivity of labor and capital? There are three main elements. First, education is the process of building human capital that raises an individual's economic productivity, although we generally recognize some non-market values to education as well, such as leadership and civic engagement. Second, entrepreneurship is the name we give to the mysterious process through which creative individuals generate increased value by finding ways to provide better goods and services to people at a better price. The scientific understanding of entrepreneurship is still relatively rudimentary but does point to some general principles. Encouraging entrepreneurship is not about giving tax subsidies to small business. It is more about providing a relatively stable and effective set of commercial and civic institutions. Predictable laws, reliable enforcement of contracts, and low levels of public corruption are all associated with greater entrepreneurial activity.

The third element is the efficient provision of public goods. "Public goods" is the name we give to a class of goods that may, under certain circumstances, be more efficiently provided by government, essentially a collectively run enterprise with special coercive powers. Public goods tend to arise when it is hard to define and enforce effective property rights for the goods, or when peculiar technological characteristics make it prohibitive to provide optimal quantities of the goods in competitive markets. Classic public goods are defense services, environmental quality, new basic scientific knowledge, defining and enforcing property rights, and public safety services.[21] There is one last possible public good worth mention, the management of cyclical aggregate slack in the economy via expansionary policies during recessions. This is more the province of national rather than state governments, although some state actions can reduce the local effects of national economic cycles. Some things states do to counteract the reductions in aggregate economic activity are to spend down rainy-day funds, to spend unemployment insurance balances, or to borrow against future streams of income as Virginia has done in expanding transportation infrastructure spending by borrowing against future federal transportation funds. In aggregate, these items are generally much smaller than the reductions in state revenues, and, hence, state budgets fall during recessions, sometimes dramatically. State budget reductions are thought to be a continuing drag on the recovery from the recent recession.

It is the effective focus on these three core wealth creating activities, education, entrepreneurship, and public goods, that gives a government value, not the preoccupation with the balance of trade or the great political catchall "creating jobs." Since wealth is created by reducing the jobs required for a given level of economic output, having a governor or other state official focus on creating jobs is dangerously close to having them say they want to maximize the cost side of the production ledger. When resources are being used at a level close to capacity, what evidence we have suggests that state spending to lure producers to locate in a state is dismally ineffective. States bidding against other states for a business location decision allows the firms to capture for themselves a substantial share of the social benefits of their location decisions. And naturally states are always needing to be first to the next big thing, so they tend to move like a huge herd from one enthusiasm to another–currently bidding up the location payments to businesses in hi-tech and bio-tech, and now green-tech.

During a recession, the key problem is usually slack in the use of labor and capital resources due to insufficient demand for goods and investment. Unemployment rises and jobs are lost as the general level of economic activity falls, and long spells of unemployment can do permanent harm to the well-being of workers and their families. The creation of jobs is a function of returning the level of economic activity to a level more commensurate with the amount of productive resources in the economy. Talking about creating jobs is usually just a politically attractive way of talking about increasing the level of economic activity and reducing the slack. States have quite limited power to address this problem due to constraints on borrowing. Public borrowing by, say, borrowing from pension funds, capitalizing future streams of revenue,[22] or reducing private savings by raising

20 The story is slightly more complicated than this, since wages also reflect the relative amenities or disamenities of living in a given place.

21 Achieving "fairness" in the distribution of resources, for example assuring some minimum level of income for the disabled, is a special class of public good. It is a highly controversial one and carries considerable political baggage.

22 Examples include federal revenue anticipation notes (FRANs) or money from income funds such as the Tobacco Settlement Fund.

taxes and spending the proceeds are about the only options available to states, and the latter policy is often seen as politically unpalatable, although the unemployment insurance program works this way, to some extent. More commonly, states cut back on spending right in time with falling private spending that is already generating slack demand for goods and services.

During an expansion, there are few truly slack resources, at least not that a government can do much about directly. Under these conditions "creating jobs" is a zero-sum game as between the states. In such a game all winnings of some players are exactly offset by losses of the other players. Even within a state, bringing in more spending from outside does not by itself generate net new wealth for the people most in need of help. What keeps their incomes low is low levels of human capital, not, for example, the presence or absence of a call center that is paid taxpayer funds to relocate from another state. Government attention to education, entrepreneurship, and the efficient provision of public goods will do considerably more for citizens of the state than any direct efforts to change the balance of trade with other states and with the world. The ultimate goal should be to make your human capital and your civic institutions so attractive that firms will be willing to pay a bonus to locate here rather than vice versa.

Conclusion

Every day now brings news of a strengthening economy. That we have so much ground to cover just to get back to a fully engaged economy makes it feel like none of the news is good enough to meet the dire need. For those who are unemployed or underwater on their mortgages, the only news that can really matter is a job offer or a chance to refinance. Some regions of the country and, closer to home, some parts of Virginia have yet to see really significant gains. Rates of long-term job displacement have set modern records. Overall, the Great Recession has created enormous dislocations and has tested our confidence. It has clearly demonstrated the dependence of modern economies on smoothly functioning credit markets and the real danger that credit markets can go badly awry. It has also provided positive lessons, that the fundamental institutions that make up the U.S. economy and Virginia's economy in turn, can withstand calamitous and repeated shocks without descending into a depression provided that appropriate monetary and fiscal policies are adopted. Three years out, economic output for both the state and the country have set new records. Even the labor market, so hard hit by this recession, has begun to recover, albeit slowly. Some of those who left the labor force completely have begun to return.

Simmering problems that have the potential for great mischief do remain. Some, such as Euro debt and possible oil price shocks are external and to a large extent beyond our direct control. Others, such as national political stalemate and bickering over symbolic issues such as the debt ceiling, are our own doing. Over the coming decade, much will depend on whether our nation can generate the statesmanship necessary to forge a national compromise that can bring national budget deficits down to manageable levels. For Virginia, this will mean a significant adjustment toward an economy significantly less dependent on federal spending. In the past, the large component of federal spending reduced the state's exposure to business cycles and generated many high-value jobs in the state. How the state (or a local) government responds to the challenge of reduced federal spending will have big long-term consequences.

One approach to reductions in spending by some federal agency would be for Virginia to offer bigger subsidies for firms, or even other federal agencies, to locate in the state. There is good reason to believe that such an approach would fail to produce significant net benefits because other states would respond in kind, creating a bidding war for the location decision by the firms or agencies, in which case the recipient of the subsidy will end up with a substantial share of the benefits of their location choice. Evidence suggests that buying business locations generates only modest gains at best and at a not-so-modest price. Furthermore, there is little reason to believe that any net benefits of this new spending will go to those most in need

The key to an effective response to the loss of federal funds lies in the fundamental forces that create wealth in society: labor productivity which is a product of human capital; entrepreneurship, that still mysterious creative force that is generated by market economies like gravity is generated by mass; and the efficient provision of public goods, those goods of considerable economic value but for which we do not have effective market institutions. Ultimately, these three core functions delineate much of what government can do to help improve the well-being of its citizens.

"Government attention to education, entrepreneurship, and the efficient provision of public goods will do considerably more for citizens of the state than any direct efforts to change the balance of trade with other states and with the world."

ABOUT THE AUTHOR

Bill Shobe directs the Center for Economic and Policy Studies at U.Va.'s Weldon Cooper Center for Public Service. He is Professor of Public Policy in the Frank Batten School of Leadership

and Public Policy and an adjunct professor in the Department of Economics. Before joining U.Va., he served as Associate Director for Economic & Regulatory Analysis with the Virginia Department of Planning & Budget, where he coordinated state expenditure forecasts and the economic analysis of state regulations. At DPB, he directed development of the Virginia Regulatory Town Hall website, the first-of-its-kind website for managing changes to state regulations. In 2000, he received a Fulbright Fellowship in environmental economics and policy in the Czech Republic. His current research includes auction design for emission trading programs, environmental federalism, and early childhood literacy programs. Bill has served on a number of advisory panels including the National Research Council and Virginia's Joint Advisory Board of Economists. He earned his BA in Political Science from Vanderbilt University, a Ph.D. in economics from the University of Minnesota, and a J.D. from Lewis & Clark Law School in Portland, Oregon.

If you would like to receive email notification of future Web-based issues please visit *The Virginia News Letter* subscription page to register for inclusion in our email disribution list. Then you will receive notifications six to nine times per ear with a snyopsis of each article and an opportunity to download a copy.

VOL. 88 NO. 2 MAY 2012

Editor: John L. Knapp Consulting Editor: Robert Brickhouse Student Assistant Editor: David A. Keyes

The Virginia News Letter (ISSN 0042-0271) is published by the Weldon Cooper Center for Public Service, University of Virginia, P.O. Box 400206, Charlottesville, Virginia 22904-4206; (434) 982-5704, TDD: (434) 982-HEAR.