



# THE HAMPTON ROADS ECONOMIC QUARTERLY

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## Economic Impact of the H1N1 Virus (The Swine Flu)

Influenza (flu) epidemics affect 20% of the U.S. population annually, and researchers estimate direct medical costs to the U.S. are \$10.4 billion with a further \$16.3 billion in lost earnings due to illness (2005 estimate). This flu season portends to be particularly challenging because the H1N1 version of the virus (the swine flu) has been active throughout the summer, and could become widespread as the flu season comes to the northern hemisphere. The regional economic downturn complicates the flu season further, as families and business have a smaller cushion to deal with the impact from lost productivity/earnings. The CDC stresses the development of continuity and crisis plans for all businesses.

### Evaluating the Flu Season

Forecasting the severity of the flu season is extremely difficult, and as a result, most agencies prepare for the worst case scenario. The CDC and other health agencies regularly review the severity of the southern hemisphere's flu season as a possible severity benchmark (flu season runs May-Sept in South America and June-Oct in Australia). This season has the additional complication of the H1N1 virus, active in the United States since April; it is rare to have a serious influenza outbreak before the beginning of flu season, and it is difficult to estimate if this will add to the severity of the 2009-2010 flu season. Currently, outbreaks of the swine flu in the U.S. have been mainly confined to group quarters such as college campuses. The swine flu vaccine started arriving at doctor's offices the second week of October, but because there have already been outbreaks in every state, the priority will be to get the vaccine to health professionals and those most at risk.

Fortunately, the swine flu performs similarly to other strains of influenza in terms of mortality. In the U.S., that translates to 40 hospitalizations and one death for every 1000 cases of the swine flu.

### What will be the economic impact of the swine flu on the 2009-2010 flu season?

The H1N1 virus could have particularly large effects on the economy because it is mainly striking younger individuals, as most individuals under 18 have had no prior exposure to the swine flu (typically the seasonal flu primarily affects those over 65). This presents difficulties for guardians of children, who could be forced to miss work as they will be forced to stay home to take care of their dependents. Another factor to note is that the swine flu vaccine seems to be less effective than typical flu vaccines for children younger than 10 (this was the result of the British experience with the vaccine; they were the first country to receive it).

One approved tactic for combating flu pandemics consists of preemptively closing schools in the face of major outbreaks, for up to four weeks for Category 2 or 3 outbreaks, and up to 12 weeks for more severe cases (Flu seasons are measured from Category 1- the typical flu season, to a Category 5- equivalent to the 1918 Spanish Flu). This would have a significant impact on the economy. In a recent study by the Brookings Institute, a four week country wide school closure would cost between 0.1% - 0.3% of GDP for the year in lost productivity alone. Hampton Roads (cont. p2)

### Families with Minors in Hampton Roads

Type of Family	Numer of Families	
	Total	With Minors
Married-couple family-----	306,855	131,615
Male householder, no wife present-----	25,154	13,265
Female householder, no husband present-----	94,217	58,826
<b>Total Families in Hampton Roads-----</b>	<b>426,226</b>	<b>203,706</b>

Source: American Community Survey 2008

Preparation for this document was included in the HRPDC Unified Planning Work Program for Fiscal Year 2010 that was approved by the Commission at its Executive Committee Meeting on June 17, 2009. If you would like to be included on the electronic distribution list, please contact James Clary at [jclary@hrpdcva.gov](mailto:jclary@hrpdcva.gov) or by calling (757) 420-8300. This document is available for download from the Commission's website, visit [www.hrpdcva.gov](http://www.hrpdcva.gov)

would lose between \$64 and \$181 million dollars as a result of a 4 week school closure. The Brookings study also developed a different estimate based on the economic cost per student, and applying that estimate to Hampton Roads school enrollment, the Hampton Roads economy would lose between \$9-\$42 million dollars for every week schools close.

Further, there would be long term consequences to the regional economy from school closures as a result of decreased education outcomes. During summer break, disadvantaged students lose the equivalent of one month of schooling, assuming this is a constant rate, then the one month absence would cost 1.3 weeks of education, sufficient to put the region behind in accreditation exams.

HRPDC economists along with analysts from Regional Economic Modeling, Inc. examined the impact of an increased flu season on Hampton Roads. The model they developed suggests that if an additional 1% of the population misses a week of the work due to the flu (over the baseline scenario), then the Hampton Roads economy will lose the equivalent of 172 full time jobs and \$13M from the Gross Regional Product.

Additionally, alternative scenarios were modeled where 5% and 10% of the population missed a week of work with the flu, and the Hampton Roads economy would lose the equivalent 870 full time jobs and 1,723 full time jobs in those scenarios respectively.

### Key Support Personnel

Another issue is staffing of critical locations (childcare, hospitals, and government services). During this year's flu season, Argentina had as many as 40% of their hospital workers stay home. Local hospitals have already started discussing how to cooperate if significant absenteeism presents a problem, but it will require leaning heavily on their healthy staff. Assuming a category 2 influenza outbreak and a four week school closure, it would take an estimated 6-18% of key medical personnel out of the hospitals, not including absences due to illness. This would put significant strain on the healthcare delivery system at a time when it could least afford it. The CDC estimates a bad flu season would require 50-100% of ICU beds, and ICU units run at 80% capacity nationwide outside of flu season.

### Other Consideration

Another concern with a flu pandemic is the uncoordinated efforts undertaken by private individuals to avoid infection. One example of this was the extreme measures individuals took to avoid face-to-face contact during the SARS epidemic; this created a severe demand shock in the service sector, with particularly strong effects on the tourism industry. It is estimated the SARS epidemic cost South-East Asia Region 2% of the regional product during 2008Q2. This is astounding in the light of the fact that 800 people died, a relatively small amount compared to the average flu season. Thus the public perception had a larger effect on the economy than the actual decline in productivity due to illness.

Cost Estimates for the Swine Flu (4 Weeks of School Off)	
GRP Estimate	
<b>HR 2008 GRP</b>	<b>\$77B</b>
High Cost Estimate (.3%)	\$231M
Low Cost Estimate (.1%)	\$77M
Enrollment Estimate	
<b>HR 2008 Enrollment (K-12)</b>	<b>271,134</b>
High Cost Estimate (\$630)	\$171M
Low Cost Estimate (\$140)	\$38M

Source: Virginia Department of Education,  
Bureau of Economic Analysis,  
Brookings Institute, HRPDC

## American Recovery and Reinvestment Act in Hampton Roads

It is difficult to measure the progress of ARRA spending on the local level, as much of the required reporting will not take place until the end of October. The chart below has the funding that localities and regional agencies are estimated to receive directly from the recovery act. The HRPDC estimated that the region would receive \$390.1M in the 'making work pay' tax cuts and social security payments related to the stimulus bill. At a national level 29.6% of those funds have already been distributed. The Department of Defense has \$23.3M in projects that have either been completed or are in progress at Hampton Roads military installations. Additionally, there are \$147.4M in transportation projects that have been certified for Hampton Roads from the money allocated to the state for transportation.

FY2009-FY2011 Estimated ARRA Funding in Hampton Roads (Includes only funds directly allocated to localities and regional agencies)		
Programs	Funding	% of Total
Fiscal Stabilization - K-12	\$90,848,470	28.0%
Highways and Bridges	\$65,551,590	20.2%
Part B of the IDEA - School-age Special Education	\$64,044,585	19.8%
Title 1 - Grants to Local Education Authorities	\$51,273,319	15.8%
Fiscal Stabilization - Higher Education	\$30,468,111	9.4%
Other	\$21,951,701	6.8%

Source: virginia.stimulus.gov

# Economic Outlook in Hampton Roads

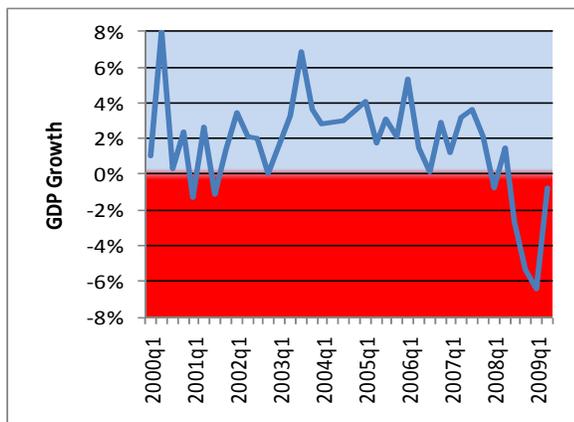
The indicators for the Hampton Roads economy are mixed, which does show improvement over the previous quarter. Real gross regional product in the Hampton Roads MSA increased by 0.55% between 2007 and 2008, edging out the nation, where real gross domestic product (GDP) grew 0.44% over the same time frame. The U.S. economy heavily influences the growth of Hampton Roads, so the GDP only contracting 0.7% (versus a forecasted 1.7% contraction) provides the first glimmer of an economic recovery. The National Association of Business Economists estimates Real GDP to grow by 2.9% in the second half of 2009, and to accelerate to 3.0% in 2010; this is below the accelerated growth that often follows a recession, indicating that the effects of this recession will be felt for an extended period of time.

The seasonally adjusted regional unemployment rate has fallen for the past three months, and has reached 6.37%. This represents significant improvement both on its own and as compared to a rising national unemployment rate. Isolating for the decline in the labor force, this represents a 4,800 person decline in the number of unemployed. While this is an extremely positive indicator, it is difficult to reconcile with payroll employment that continues to decline, and the initial unemployment rate which remains elevated at 6,000 new claims per month. High initial unemployment claims coupled with falling unemployment might indicate significant churn in the labor market (elevated levels of both hiring and firing), but with an overall trend toward employment growth. The unemployment rate captures this because unemployment rate is derived from a survey of households, and thus does a better job capturing small business and entrepreneurial activity than payroll employment.

Typically, personal consumption expenditures (PCE) and fixed residential investment drive economic recoveries, but there is no evidence of recovery in either sector. Retail sales, as measured by the local option sales tax, remain significantly below both 2008 and 2007 levels, with no growth trend developing. Single family permits are off recession lows, but are 60% off the 15 year average.

## Hampton Roads Economic Indicators

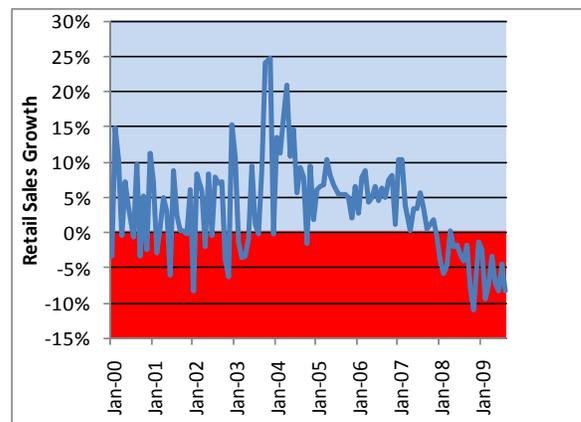
**GDP, Annualized Growth Rate**  
**United States, 2000Q1 - 2009Q2, Quarterly**



Source: Bureau of Labor Statistics

GDP: Gross Domestic Product combines consumption, investment, net exports and government spending to determine the size and general health of the economy. Changes in the nation's GDP tend to be reflected in Hampton Roads' gross regional product. The nation has experienced four consecutive quarters of falling GDP, the longest continuous stretch since this series began in 1947Q1; however, the GDP only declined at a 0.7% annual rate in the second quarter, and most economists forecast a return to economic growth in the 2009Q3.

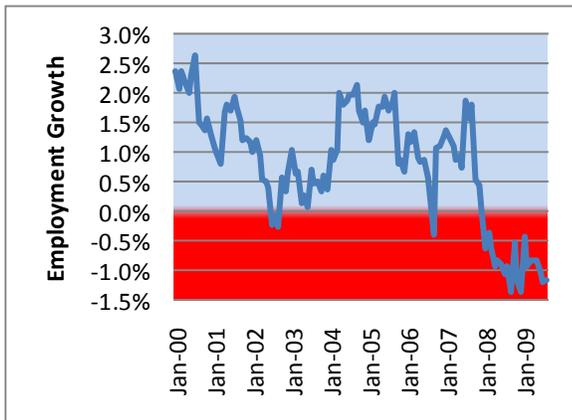
**Retail Sales, Year over Year Growth**  
**Hampton Roads, Jan 2000 - Aug 2009, Monthly**



Source: Virginia Department of Taxation

Retail Sales: Retail sales, as measured by the 1% local option sales tax, serve as an indicator for consumption in the region. Since consumption composes 70% of economic activity in the US, the growth or decline of retail sales gives a strong indication of the direction of the local economy. Retail sales have continued to be lower than last year's numbers. Regional retail sales continue to be extremely volatile in Hampton Roads, but year to date (ytd) sales are down 6.38%, and ytd sales will be a better way to track retail sales activity until a steady trend develops.

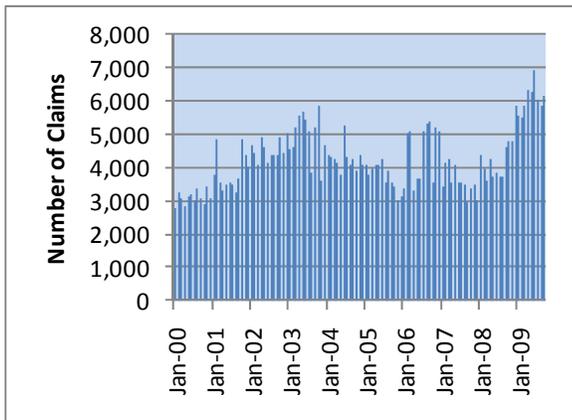
**Employment, Year over Year Growth  
Hampton Roads, Jan 2000 – Aug 2009, Monthly**



Source: Bureau of Labor Statistics

Employment: Non-agricultural employment is considered the best estimator for labor market activity by the National Bureau of Economic Research. Employment numbers have been revised downward for the past year, and rather than the strong employment growth previously indicated, the region has seen contracting payrolls since the start of this recession. Employment is down 2.05% since Aug of 2007.

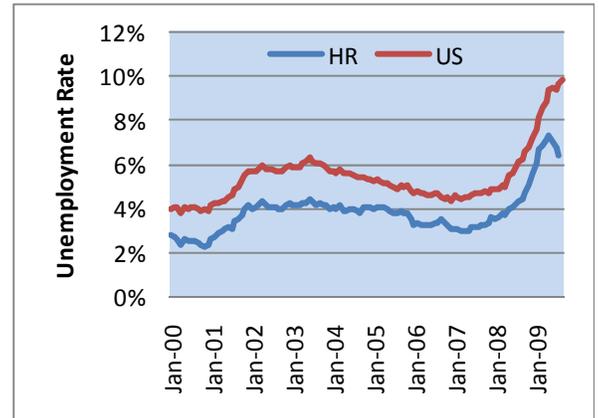
**Initial Unemployment Claims, Seasonally Adj.  
Hampton Roads, Jan 2000 – Sep 2009, Monthly**



Source: Virginia Department of Labor

Initial Unemployment Claims: The number of Initial Unemployment Claims is a leading economic indicator, reflecting those who are forced to leave work unexpectedly and thus revealing the strength of the job market with little lag time. Initial unemployment claims have averaged 6,055 a per month this year, significantly elevated over the 4,234 average of this decade.

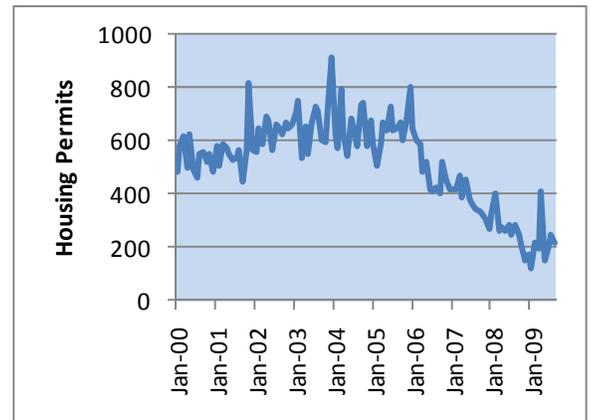
**Unemployment Rate, Seasonally Adjusted  
US & Hampton Roads, Jan 2000 – Aug 2009, Monthly**



Source: Bureau of Labor Statistics

Unemployment Rate: This is the percentage of the population which is actively seeking work, but is unable to obtain a position. The unemployment rate has been rising in both the nation and Hampton Roads since April 2007. Hampton Roads' unemployment level remains below the nation's, and August saw a gap of 3.30% between the region's and the nation's unemployment rate, as the U.S. unemployment rate continues to rise. August also marked the third straight month of a falling unemployment rate on a seasonally adjusted basis.

**Single Family Housing Permits, Seasonally Adj.  
Hampton Roads, Jan 2000 – Aug 2009, Monthly**



Source: U.S. Census Bureau

Single Family Housing Permits: Permit data indicates the level of construction employment and confidence regarding the future trajectory of the local economy. However, there is currently such a large inventory of unsold homes that it precludes its usefulness as a measure of economic sentiment. Recently permitting activity has averaged 220 units, remaining well below the long term average of 541 permits per month.