An Initial Summary Of the Financial Impact of the Cap and Trade Bill, HR 2454

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INTRODUCTION

The Cap and Tax Bill (aka HR 2454 or Waxman-Markey Bill) passed in the HOR on 092609, 219 Ayes and 212 Nays. For a complete record of the vote, click here.

I have spent the past several weeks reading the Bill and related material. The following content is an initial summary regarding the Bill's financial impact. A more complete document of discussion is intended at a later date.

The bill is divided into parts as follows:
Title I – Clean Energy
Title II – Energy Efficiency
Title III – Reducing Global Warming Pollution
Title VII – Global Warming Pollution Reduction Program
Title VIII – Additional Greenhouse Gas Standards
Title IV – Transition To a Clean Energy Economy
Title XXII – Energy Refund Program
Title V – Agriculture and Forestry Related Offsets

The bill focuses on energy and global warming.

The Bill would, if agreed to by the Senate and signed by the President, create:

5 Administrations
5 Advisory panels
1 Authority
5 Boards
6 Centers
9 Committees
1 Corporation
2 Councils
6 Demonstrations
8 Initiatives
6 Institute
4 Partnerships
68 Programs

Many of the items on this tabulation are each multiple. For example, there are 6 centers, each for a different purpose. But each 'center' will have one of itself in a multiple, up to 10, regions in the United States.

Intended Federal spending of $940 billion, through 2030, was found in the bill. However, that spending would account for just a portion of the above list. The actual spending would probably be at least twice that amount. If actual spending is consistent with history, the total amount spent for the period (2012-2050) could be from 3 to 6 or 7 times this amount. (The Heritage Foundation places the amount collected in taxes, and spent on measures in the bill, to be $5.7 trillion by 2035.)

This bill seeks to reduce energy consumption by three means, (1) a tax, Carbon Allocation Credits, on energy consumption above a capped amount, (2) forcing disuse of hydrocarbon energy sources (oil, natural gas, and coal), and (3) forcing the use of new technology for automobiles, appliances, etc., by means of mandates, regulations, Smart Grids, and other measures. (Not as well known, the Bill places control on and reduction of the use of water. This is perhaps a more drastic aspect in that water is central to sustaining life.)

The following are comments on the three means:

1 – Forcing use of new technology

This is accomplished by a number of methods, some of which are

a - "Cash for clunker' type programs which supplement the additional cost of newer, more efficient appliances and other goods, for specified periods of time.

b – Building codes, residential and commercial.

c – Requirements for inspections of properties on their sale, the consequence of which invokes costs on the seller if the properties does not meet certain efficiency and low-use standards.

2 – Forcing disuse of hydrocarbon energy sources

This is accomplished by a number of methods, some of which are

a - Rules and regulations for the licensing, design, building, and operation of energy generation plants that use hydrocarbon energy sources, and

b - Supplementing the cost of development, construction and operation of technology for low-carbon sources of energy, such as wind, bio-fuel, biomass, solar, tidal, geothermal, etc.

3 – Carbon Allocation Credits, CAC

CAC's are units of credit that vary in value from approximately $16 to $120, or more, that are applied to the production of each ton of carbon dioxide, CO2, above a defined amount, aka a 'Cap'. The Cap varies with year and roughly the following:

- 97 % of 2005 CO2 production in 2012
- 80 % of 2005 CO2 production in 2020
- 54 % of 2005 CO2 production in 2030
- 27 % of 2005 CO2 production in 2050

(Note: One ton of Oil contains 0.79 tons of CO2, one ton of Coal contains 0.95 tons CO2, and in one ton of Nat Gas contains 0.57 tons CO2.)

COST TO THE CONSUMER

In addition to the above and other information in HR 2454, four sets of data are used by the author to determine the cost to the consumer:

Ref 1 – British Petroleum Statistical Review of World Energy, June 2009,
http://www.bp.com/statisticalreview
Ref 2 – Summary of Latest Federal Individual Income Tax Data,
http://www.taxfoundation.org/publications/show/250.html
Ref 3 – GDP History for Countries
http://www.swivel.com/data_sets/show/1004018
Ref 4 – Impact of HR2454 on U.S. GDP,
http://www.heritage.org/Research/EnergyandEnvironment/cda0904.cfm

The method employed is simple. Ref 1 provides the historical data for U.S. consumption of Oil, Natural Gas, and Coal. These data were used to project consumption up to 2030. The consumption data, from 2005 to 2030, was then used with the conversion factors noted under item (3) above to determine the CO2 that would be emitted in the U.S. if energy production continued as is. The Caps under item (3) were then used to determine the reduced CO2 emission HR 2454 would require. The difference of the two sets of emission defines the tons of CO2 to which the CAC's would apply, i.e. the amount exceeding Caps. The CAC values were then multiplied times these values exceeding Caps to determine the cost per year – see Figure 1 below.

An assumption was made that during the approximately 20-year period, 2012-2030, there would not be a significant increase in energy production through the use of low-carbon sources. This is a valid assumption for several reasons:

1 – Increased bio-fuel production has not had a significant effect on consumption of oil, in spite of the federal support of its development and production. Increase consumption has far outstripped the increase in alternate fuel sources.

2 – Wind and solar efficiencies will not significantly increase. Neither provides power on a 24/7 basis. Solar functions only during daylight hours and then depends on the level of clouds. Wind depends on there being wind. Both have limited regions of the U. S. in order to provide significant amounts of energy, the South West for solar and a north-south oriented band west of the Mississippi for wind. Both methods require long transmission lines and, as T. Boone Pickens has discovered, this is a hurdle yet to be overcome, even with his billions and the support the U.S. Government provided.

3 – Both wind and solar require much larger tracks of land and much more water than do either coal or nuclear. (More will be said on this in a later version of this report that focuses on energy production.)

4 – Both wind and energy are currently being opposed by environmentalists, for similar, if not the same, reasons they have opposed coal and oil in the past. Recent actions against solar in the Mojave desert and Wind in Oregon, for reasons of wildlife habitat and migration, visual impact, and land conservation, suggest that the combination of environmentalists, legislative bodies and individuals, the National Park Service, and others will provide very tedious and insurmountable hurdles to the development of wind and solar as envisioned in HR 2454. For more information on this click here, and then click on 'back issues' and select the September 2009 issue.

Another assumption made here is that the cost of the CAC, whether handed out at no cost, auctioned, or simply assessed, will be passed to the consumer. The reasoning for this is that if they are handed out for free then the Government must somehow pay for the costs in the Bill, either through printing money or taxation. If the Government charges, by auction or otherwise, for the CAC the money will be used for something, either the cost of the bill or otherwise, such as more earmarks, etc. But, free or not, the consumer will pay.

The annual cost of the CAC, from 2012 to 2030, determined as described above, is shown in Figure 1.

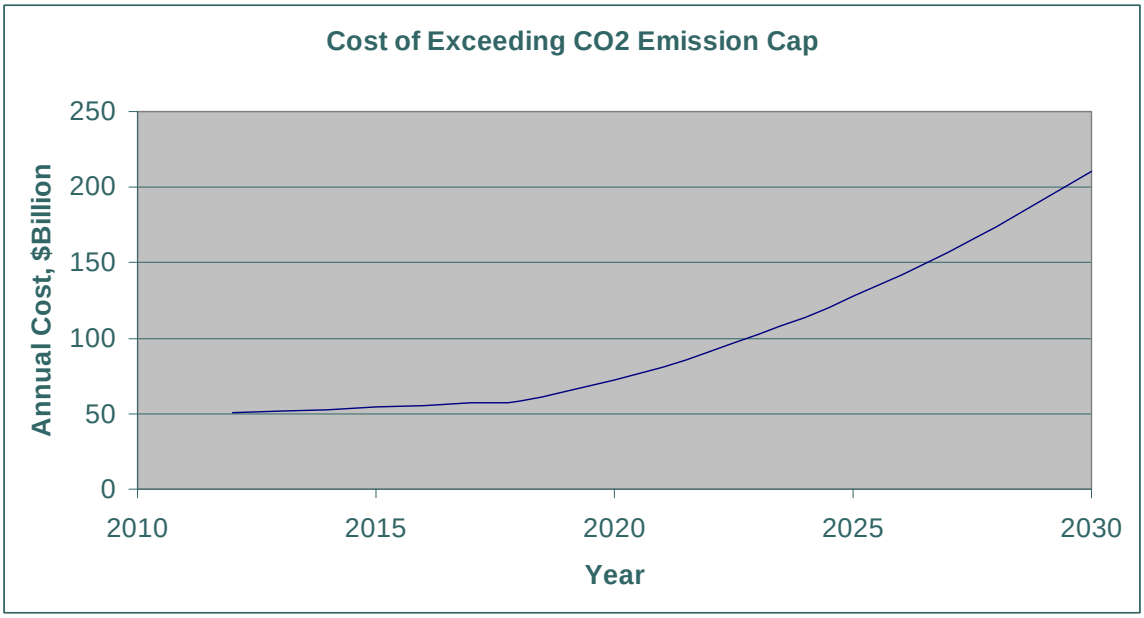


Figure 1 – Total cost to consumer for exceeding CO2 Caps in HR2454

These costs do not reflect the effect that HR 2454 will have on U.S. GDP. The Heritage Foundation has modeled and reported that effect. Figure 2 shows the cost to the consumer when that data's effect is added to that in Figure 1. (There is one aspect in this summation that introduces a small error in the values in Figure 2: The GDP is in terms of 2009 dollars whereas the referenced GDP and total tax revenue are in 2007 dollars.)

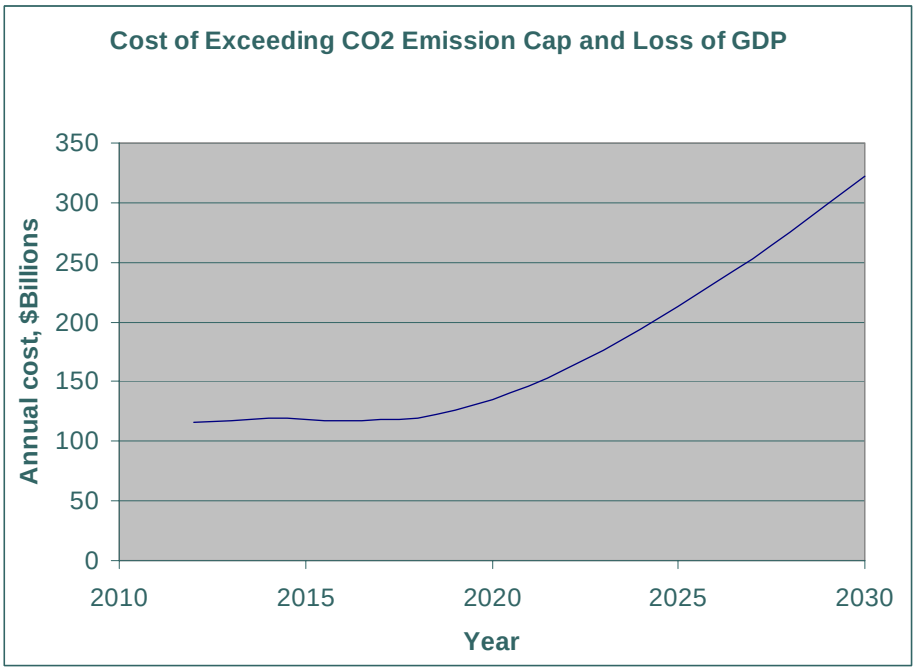


Figure 2 – Sum of cost to consumer for exceeding CO2 Caps in HR2454 and loss of GDP

The annual cost for a family of four has been determined from the data in Figure 2 and is shown in Figure 3. The average value is $2355 per year. To judge how well the data in Figure 3 indicates the effects of HR 2454, we next compare to other's calculations.

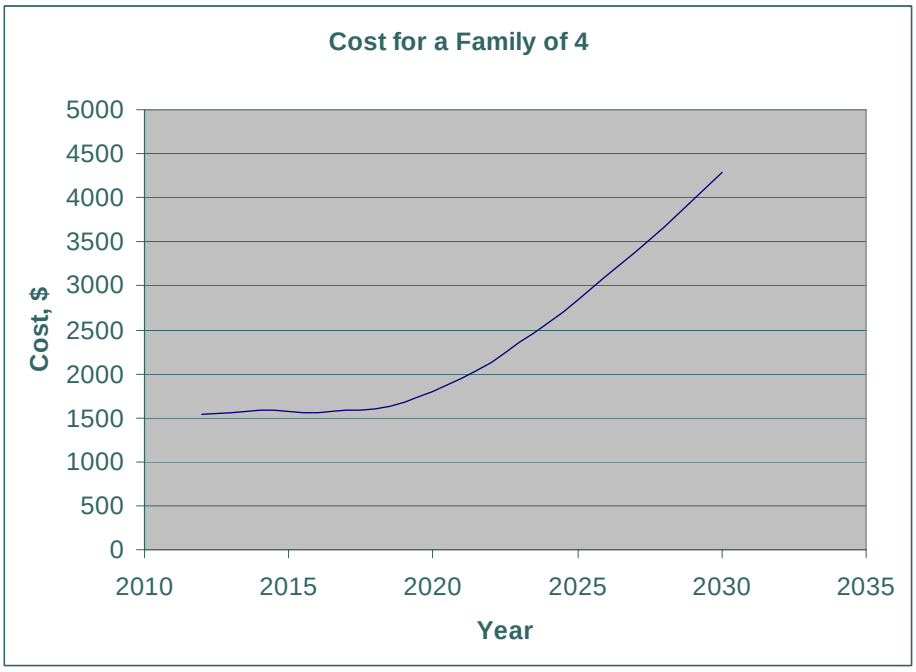


Figure 3 – Annual cost for a family of 4, due to exceeding Cap and GDP loss

The Heritage Foundation conducted and reported a highly sophisticated modeling of the effects of HR 2454 (costs of CAC, GDP loss, and taxes). In their report they provide a cost of GDP loss alone for 2020 and a cost of everything for 2050, for a family of 4. To their 2020 value I have added an amount Heritage reported as representing taxes. Then I assumed a linear change from 2020 to 2050, which would approximately be the case judging from Figure 3. From this I determined a value for Heritage's modeling for the cost of everything for the year 2030, for a family of 4.

The EPA reported for the period of the policy caused by the bill, 2012 – 2050, the annual consumption cost for a household of 2.6 people would be from $98 to $140. As Heritage notes, the EPA uses a discounting technique which it then applies to an inflation-value of $1287 in the year 2050. So what the EPA is saying is that by using a discounting method the $1287 becomes $140! If this somewhat curious approach is taken into account and if the effect of taxes is taken into account then the value in 2050 becomes $1802. If then this is converted to a family of 4 the value in 2050 becomes $2703. By assuming the same conversions for 2012 and a linear change over the period I determined an EPA value for the year 2030.

Table I shows the value from my calculations, from those of Heritage's, and from those of the EPA, after all of the corrections, for 2030. My value is a little more than Heritage's, while EPA's is far less. I can not say which is more correct, EPA's or the other two. On the other hand, I have followed a very reasonable method for my calculations and used data that is well-established and accepted. So, any bias aside, I tend to think my values are realistic if not a bit conservative. That my value agrees fairly well with Heritage's provides me with confidence I have a fair understanding of the economical ramifications of HR 2454.

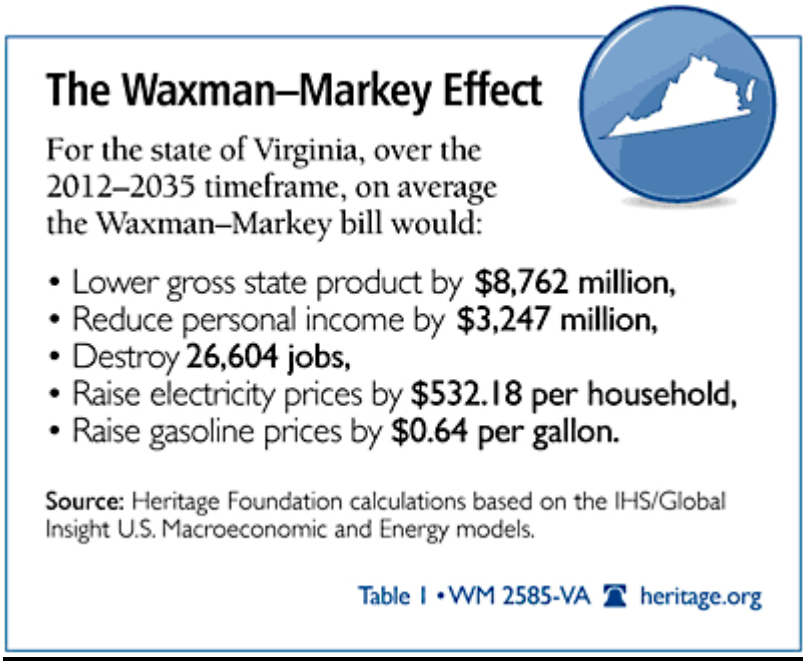
Table I – Total cost to a family of 4 in 2030, due to HR 2454.

Identification	Cost in 2030 for a family of 4
This Study	$4290
Heritage	$4023
EPA	$2276

Bottom line: The consequences of HR 2454 would not be a cheap for people. It would kill jobs and reduce income, standard-of-living, and much more. It is a linchpin for the destruction of the financial well-being of the United States. This, coupled with the fact that if other countries do nothing and if warming is due to CO2, the net reduction of temperature increase would be 0.05 C., begs the question: Why would we commit this nation to the path designed by HR 2454? Moreover, since 2004, possibly earlier, there has been a distinct drop in temperature while CO2 levels continue to increase. This observation suggests a fundamental fallacy in the assumption that CO2 increase causes a corresponding temperature increase. Historical data also denies such a linkage.

HERITAGE DATA FOR THE CONSEQUENCES OF HR 2454 IN VIRGINA

The following figures were taken directly from Heritage Reports. Comment is not necessary.

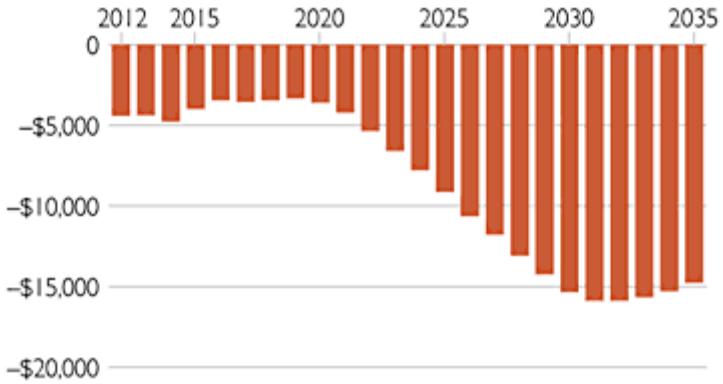


Economic Indicators in Virginia

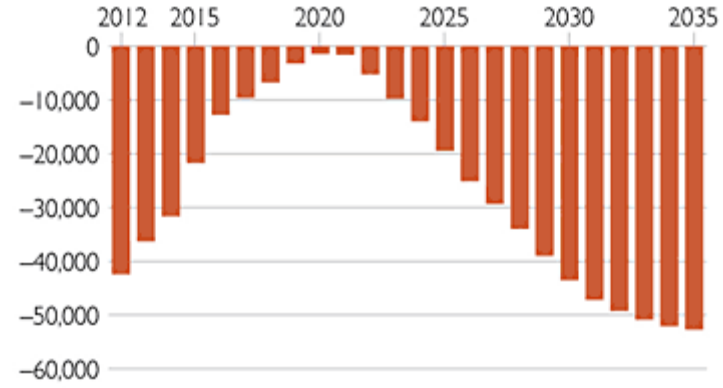
Changes in Virginia's economy due to the Waxman–Markey climate change bill. Figures are adjusted for inflation.

Change in Gross State Product

In Millions of Dollars



Change in Non-Farm Employment



Source: Heritage Foundation calculations using the IHS/Global Insight U.S. Macroeconomic model.

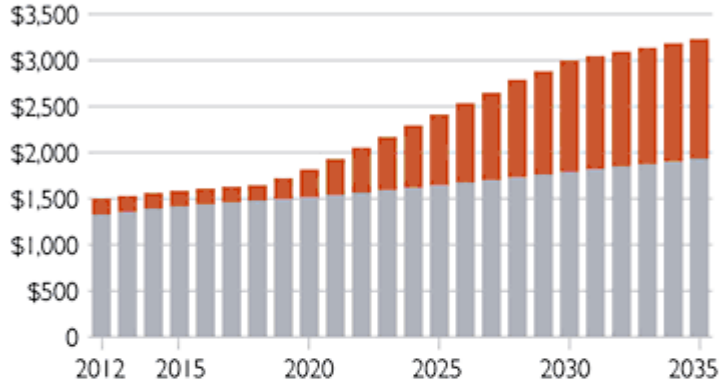
Chart 1 • WM 2585-VA ☎ heritage.org

Utility Costs in Virginia

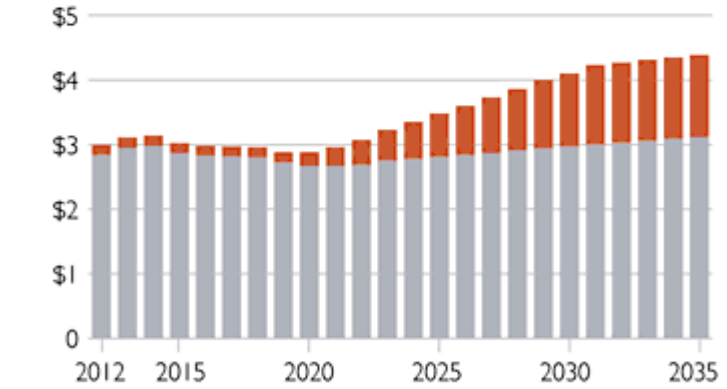
Costs for electricity and gasoline in Virginia with and without the Waxman–Markey climate change bill. Figures are adjusted for inflation.

Extra costs due to Waxman–Markey bill *Without bill*

Average Annual Household Electricity Cost



Cost of a Gallon of Gasoline



Source: Heritage Foundation calculations using the IHS/Global Insight U.S. Macroeconomic model.

Chart 2 • WM 2585-VA ☎ heritage.org

How the Waxman–Markey Bill Would Affect the States

	Average Personal Income Loss, 2012–2035 (in Millions)	Average GDP Loss, 2012–2035 (in Millions)	Average Non-Farm Job Loss, 2012–2035
Alabama	–$1,524	–$3,793	–19,090
Alaska	–$293	–$1,019	–2,051
Arizona	–$2,069	–$5,652	–24,472
Arkansas	–$868	–$2,182	–10,807
California	–$15,268	–$41,481	–134,396
Colorado	–$2,043	–$5,407	–19,870
Connecticut	–$1,910	–$4,948	–13,649
Delaware	–$347	–$1,376	–3,265
District of Columbia	–$376	–$2,147	–529
Florida	–$6,920	–$16,806	–66,938
Georgia	–$3,191	–$9,072	–38,389
Hawaii	–$507	–$1,408	–3,738
Idaho	–$475	–$1,170	–6,534
Illinois	–$5,318	–$13,947	–50,178
Indiana	–$2,107	–$5,639	–29,154
Iowa	–$1,070	–$2,952	–13,395
Kansas	–$1,036	–$2,684	–11,136
Kentucky	–$1,322	–$3,528	–16,254
Louisiana	–$1,564	–$4,945	–15,438
Maine	–$454	–$1,101	–5,209
Maryland	–$2,641	–$6,148	–17,781
Massachusetts	–$3,207	–$8,043	–21,810
Michigan	–$3,417	–$8,739	–39,445
Minnesota	–$2,173	–$5,834	–22,963
Mississippi	–$842	–$2,026	–10,694
Missouri	–$2,026	–$5,250	–23,058
Montana	–$323	–$784	–3,438
Nebraska	–$652	–$1,833	–7,137
Nevada	–$1,017	–$2,911	–9,279
New Hampshire	–$546	–$1,312	–6,060
New Jersey	–$4,291	–$10,650	–30,685
New Mexico	–$621	–$1,743	–6,209
New York	–$9,101	–$25,237	–55,878
North Carolina	–$3,091	–$9,139	–38,907
North Dakota	–$245	–$634	–2,361
Ohio	–$3,966	–$10,669	–46,065
Oklahoma	–$1,317	–$3,188	–12,622
Oregon	–$1,325	–$3,620	–15,644
Pennsylvania	–$4,888	–$12,152	–46,762
Rhode Island	–$417	–$1,073	–3,870
South Carolina	–$1,389	–$3,497	–18,572
South Dakota	–$291	–$776	–2,718
Tennessee	–$2,074	–$5,580	–25,628
Texas	–$9,187	–$26,128	–94,041
Utah	–$806	–$2,417	–11,170
Vermont	–$235	–$562	–2,667
Virginia	–$3,247	–$8,762	–26,604
Washington	–$2,697	–$7,122	–25,718
West Virginia	–$549	–$1,320	–5,611
Wisconsin	–$2,040	–$5,315	–26,759
Wyoming	–$258	–$721	–1,949

Source: Heritage Foundation calculations based on data from American Community Survey; Bureau of Economic Analysis, U.S. Department of Commerce; and the IHS/Global Insight U.S. Macroeconomic model.

Table A3 • CDA 09-04 ☎ heritage.org