The Economic Impacts of Forest Industry in Virginia

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Center for Economic and Policy Studies

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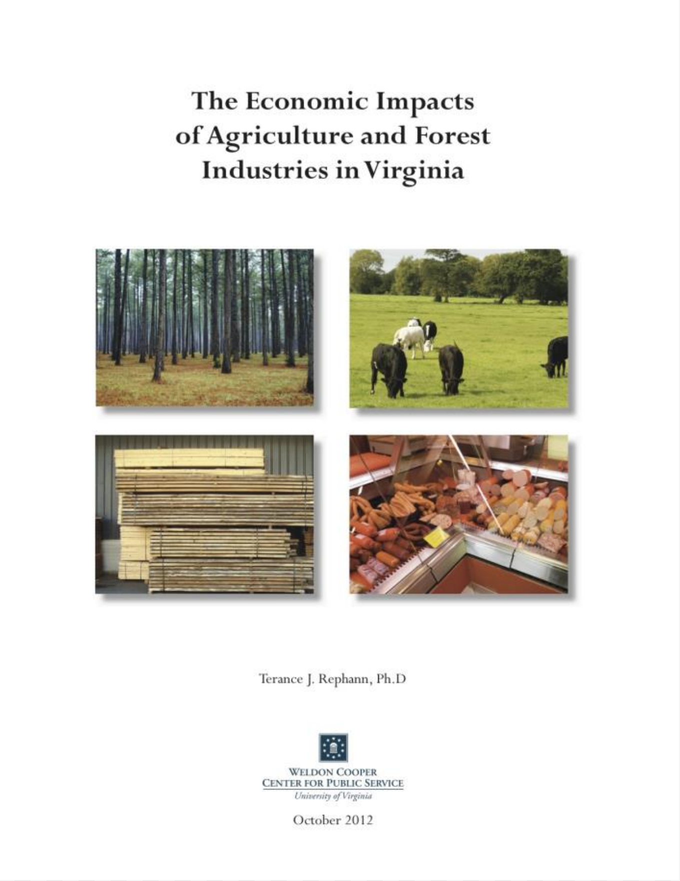
Outline

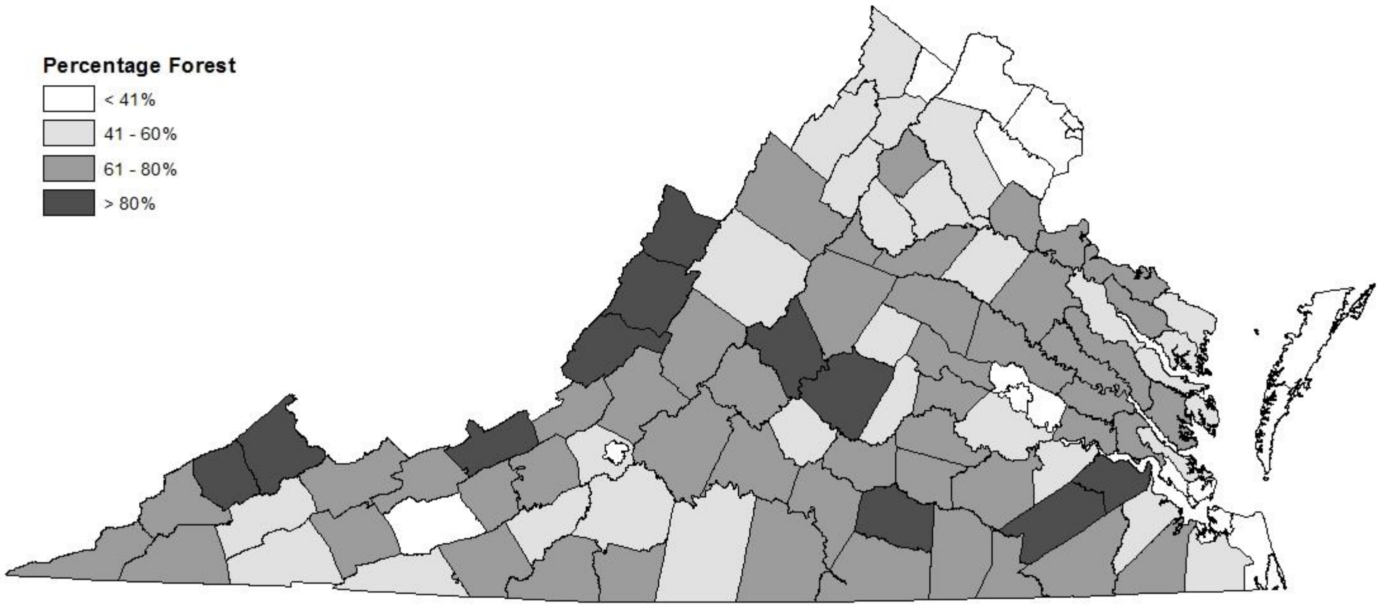
- Forest Industry Patterns and Trends
- Methodology
- Results
- Conclusion

- Report is available at the Weldon Cooper Center for Public Service (http://www.coopercenter.org) and Virginia Department of Forestry websites



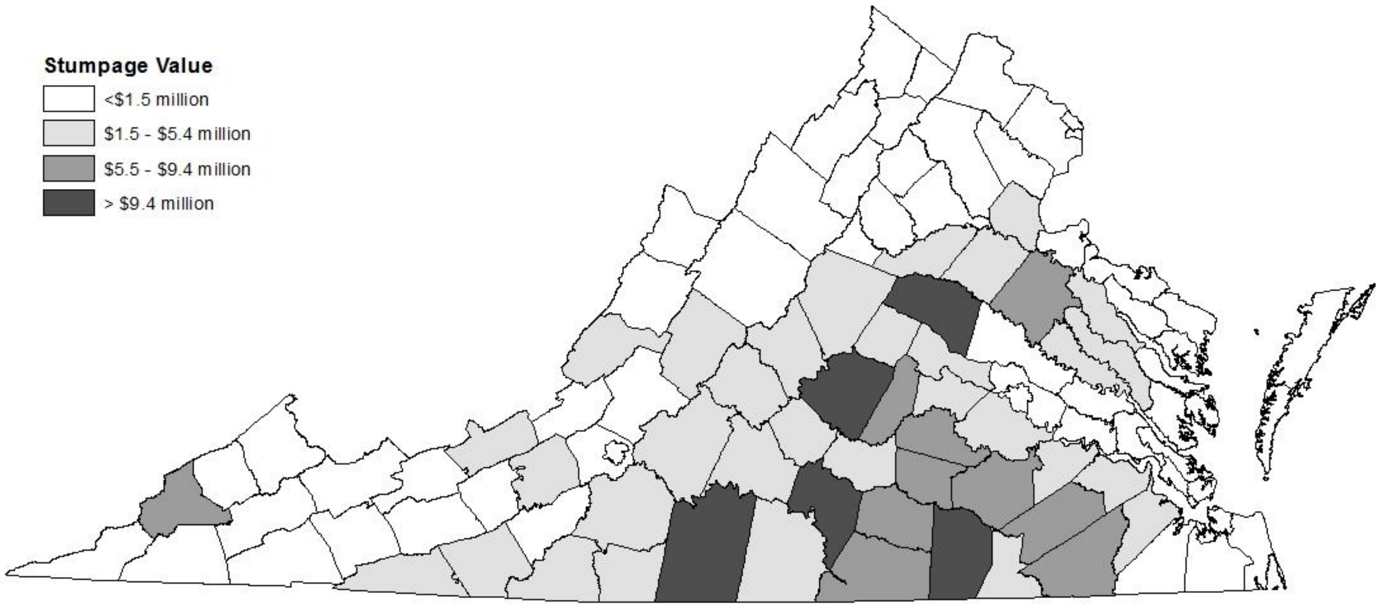
PATTERNS AND TRENDS

Forest Land as Percentage of Total Land Area, 2008-2011



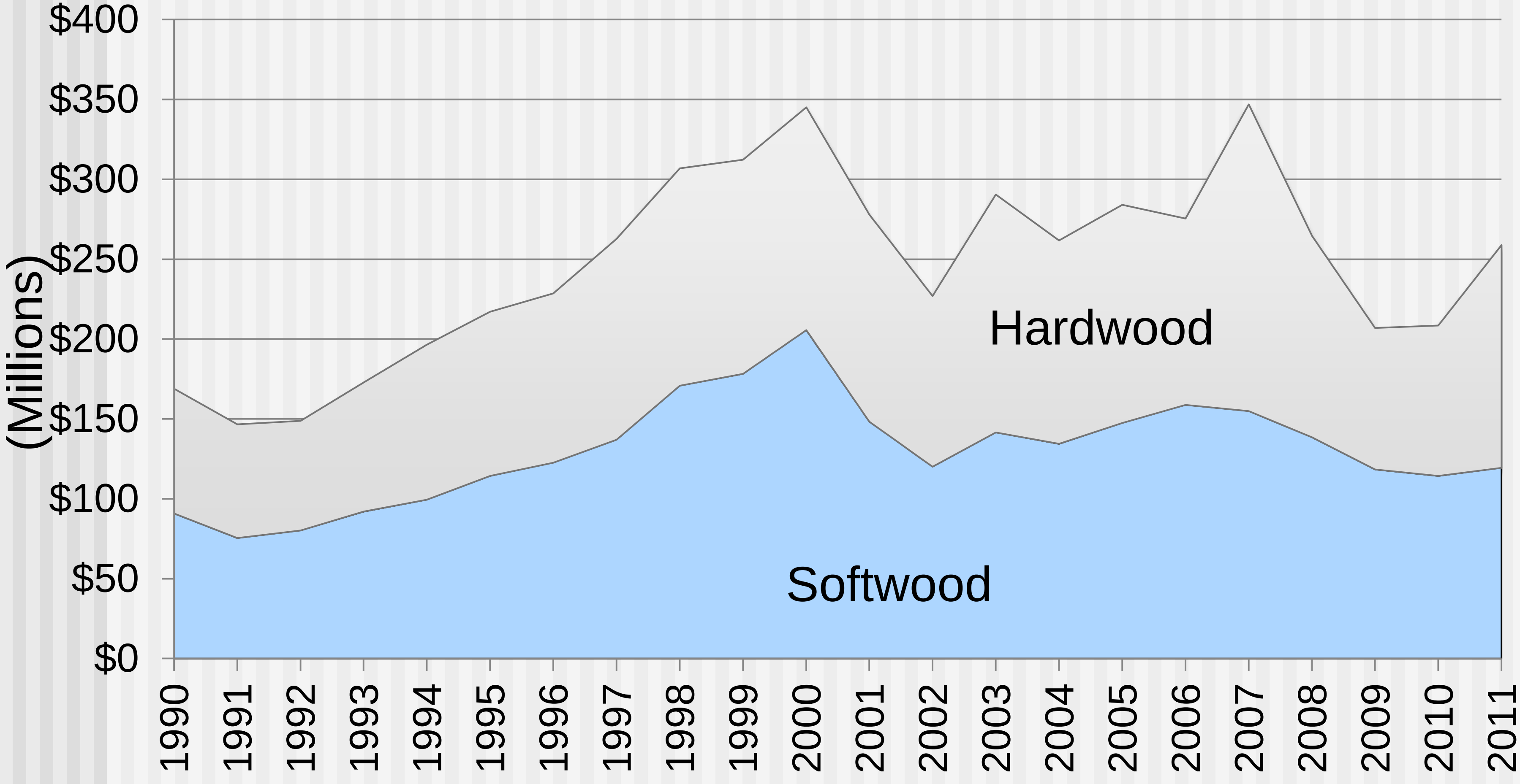
Source: U.S. Forest Service, Southern Research Station, Forestry Inventory Analysis System

Stumpage Value



Source: Virginia Department of Forestry

Total Stumpage Values

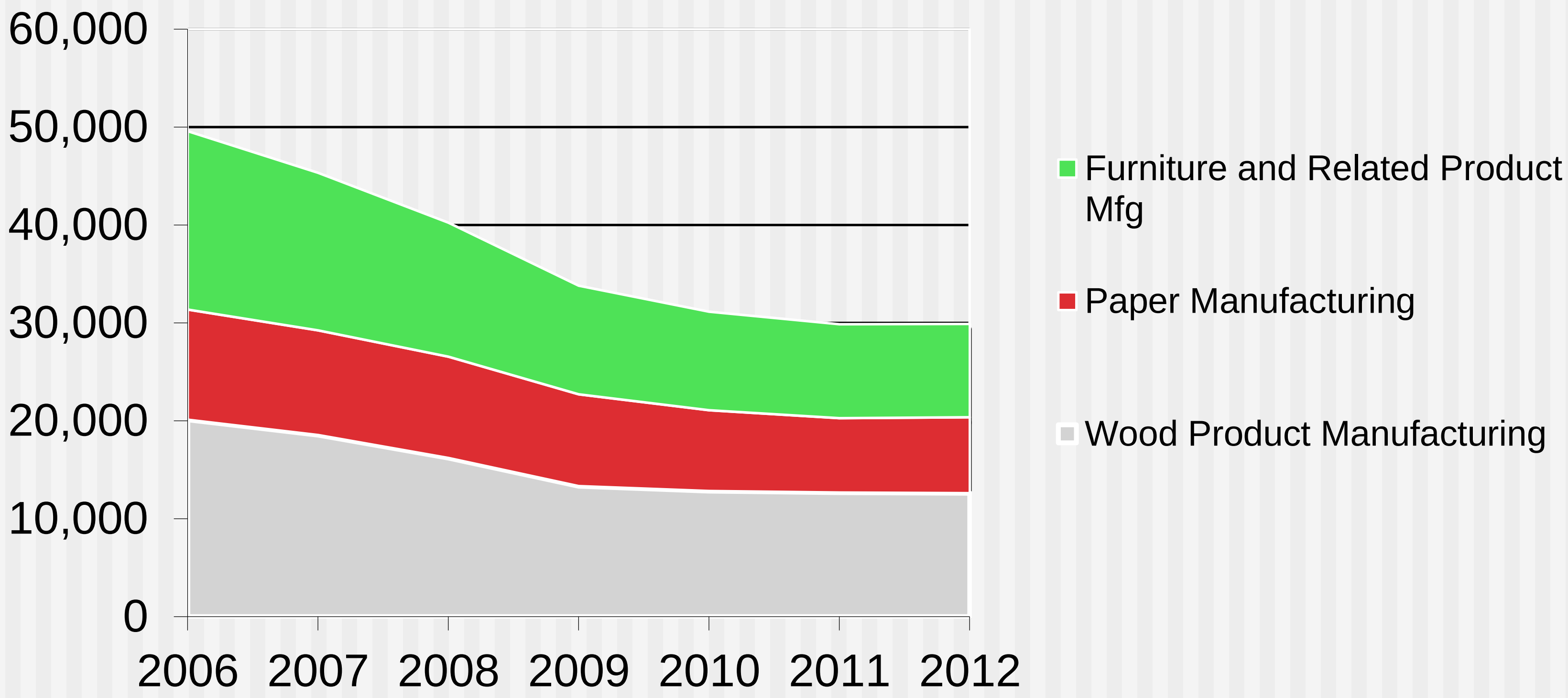


Source: Virginia Department of Forestry

Extractive Forestry Employment

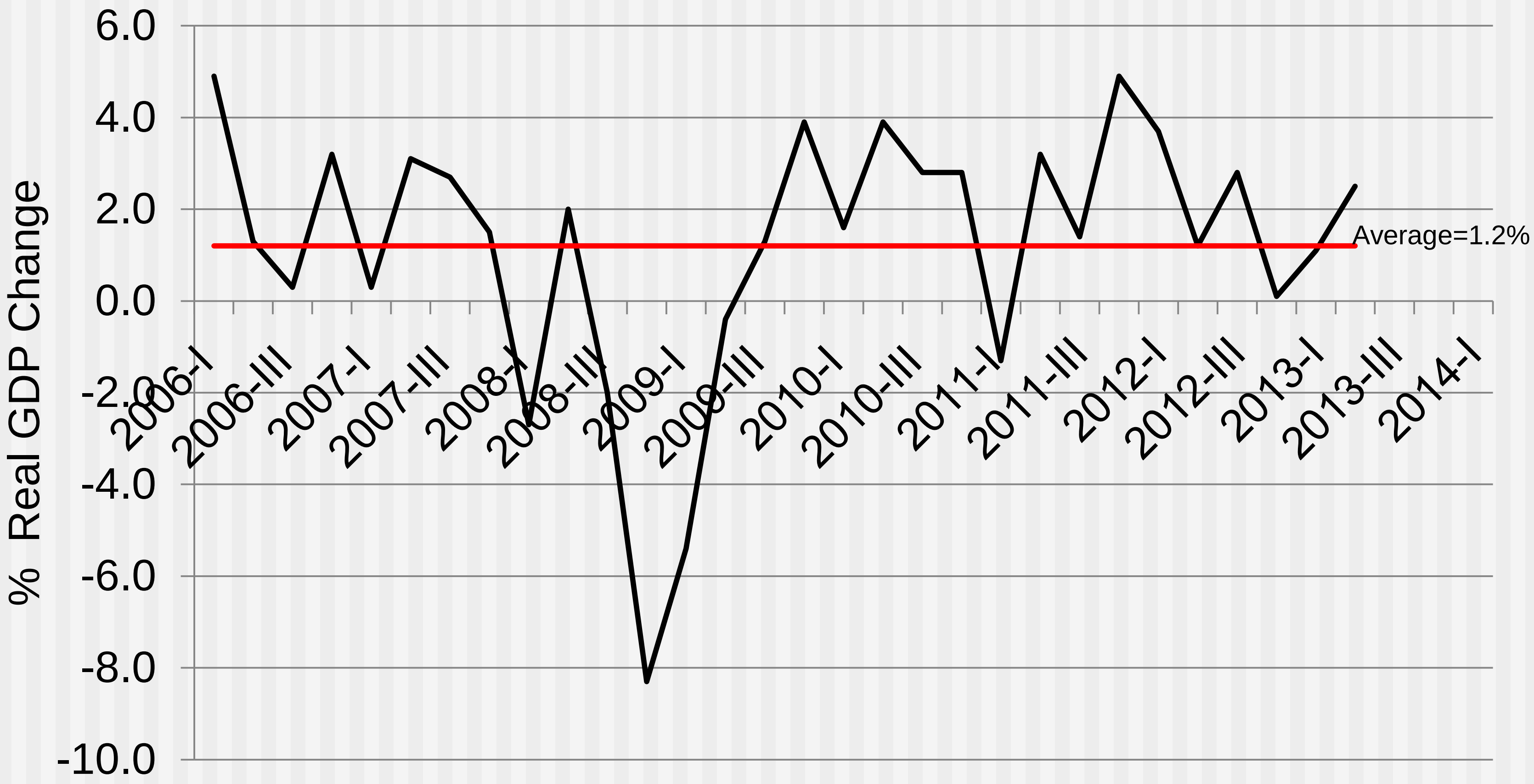
Source: Virginia Employment Commission, Quarterly Census of Employment and Wages

Virginia Forestry Related Manufacturing Employment



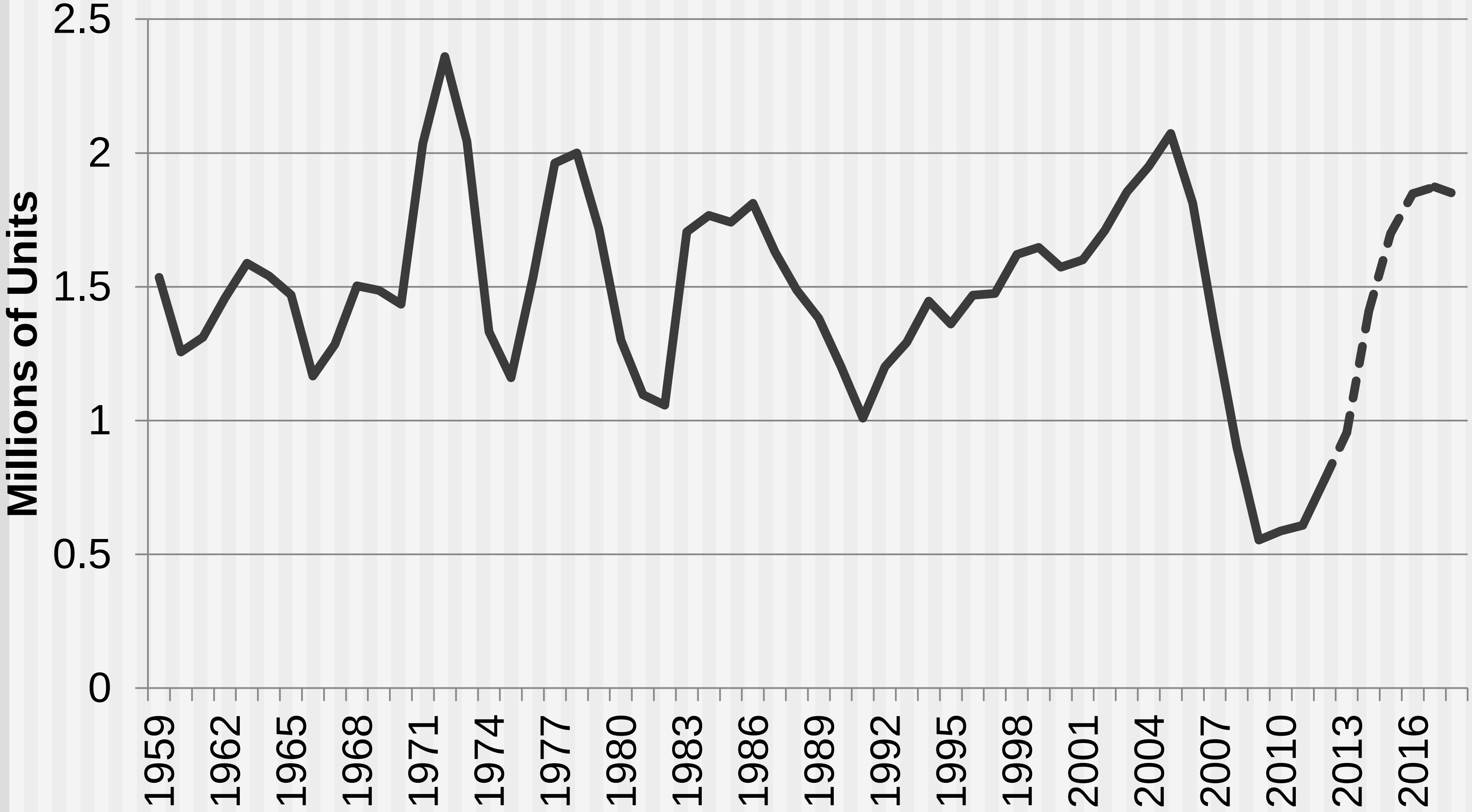
Source: Virginia Employment Commission, Quarterly Census of Employment and Wages

Real GDP Growth, 2006 to Present



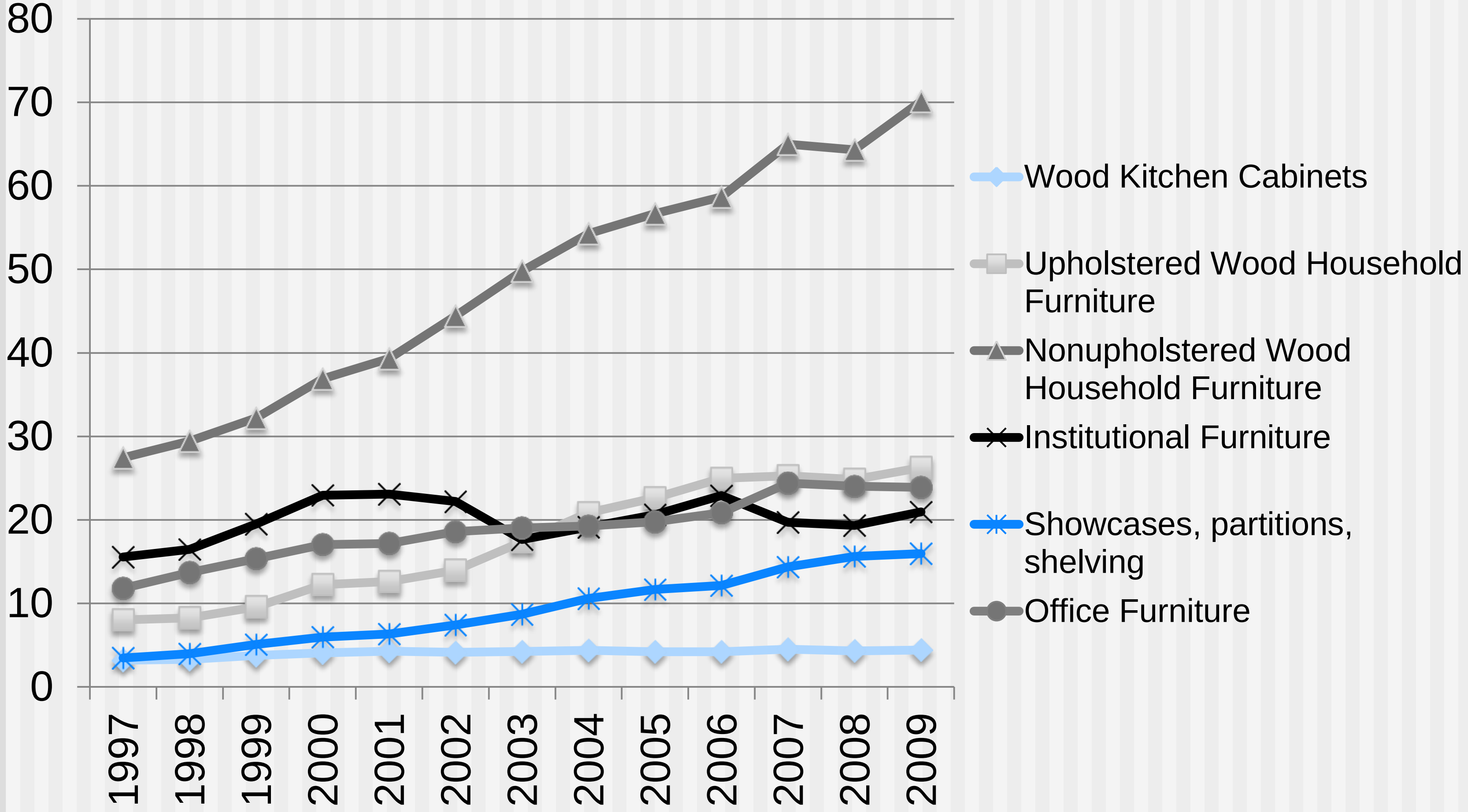
Source: Bureau of Economic Analysis

U.S. Housing Starts, Actual (1959-2012) and Forecasted (2013-2018)



Source: Census Bureau and Global Insight

Import Share of U.S. Consumption of Furniture and Related Products



Source: International Trade Administration

METHODOLOGY

Methodology

- Use input output analysis to estimate the contribution of the forestry industries to Virginia
- Implement the general approach of last study
  - Start by defining the industry as those industries with strong forward (selling) linkages and distribution linkages (e.g., food processing)
  - Uses input-output model to measure magnitude of backward (purchasing) linkages and the ripple effects of household, business, and public sector spending and investing

Changes

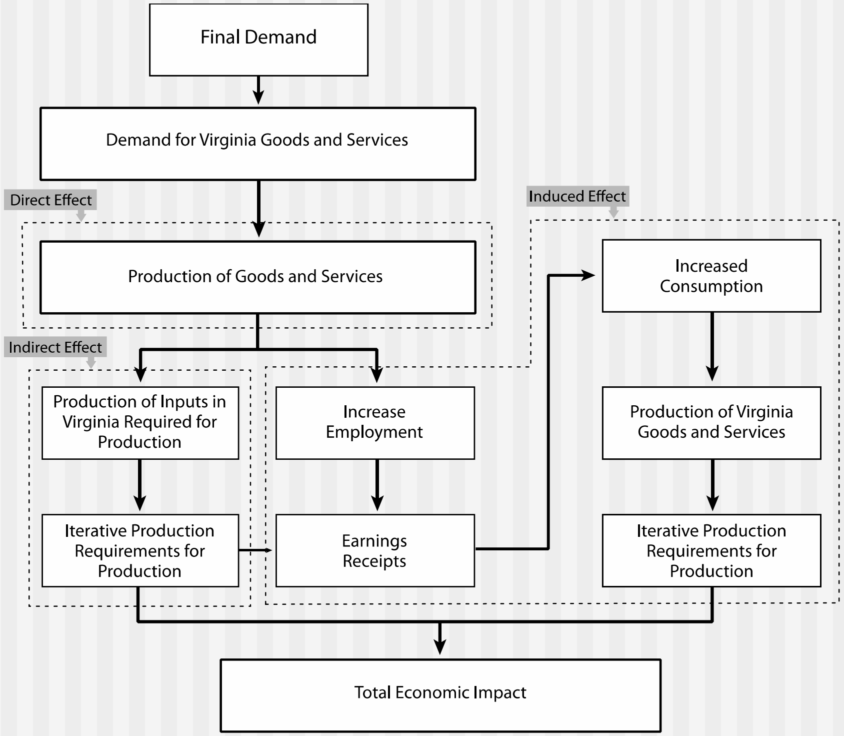
- Addition of biomass power production .
- Estimate impacts for counties and independent cities
- Estimate impacts of wood exports (e.g., roughwood, lumber, veneer, fiberboard, and wood chips)

Forest Industry Sectors

- Division into production, processing, distribution/power generation sectors
- Processing sectors are further divided into *core* and *extended* industries.
  - **Core (primary)**. Heavily dependent on raw materials from the state.
  - **Extended (secondary)**. Clearly identified with the sector but not necessarily dependent on Virginia raw materials.

Input Output Models

- An input-output table provides a picture of an economy. It shows flows of goods and services among industries, households, and government.
- IMPLAN (IMpact analysis for PLANning)
  - Software that implements input-output analysis



Input Output Models

- For a one dollar change in final demand for forest industry products, the total impact will include direct, indirect, and induced components:
  - ***Direct effect***. Initial injection of new economic activity or expenditure
  - ***Indirect effect***. Change in input purchases due to direct effect.
  - ***Induced effect***. Change in employee household, business and public sector expenditures due to direct and indirect effect.

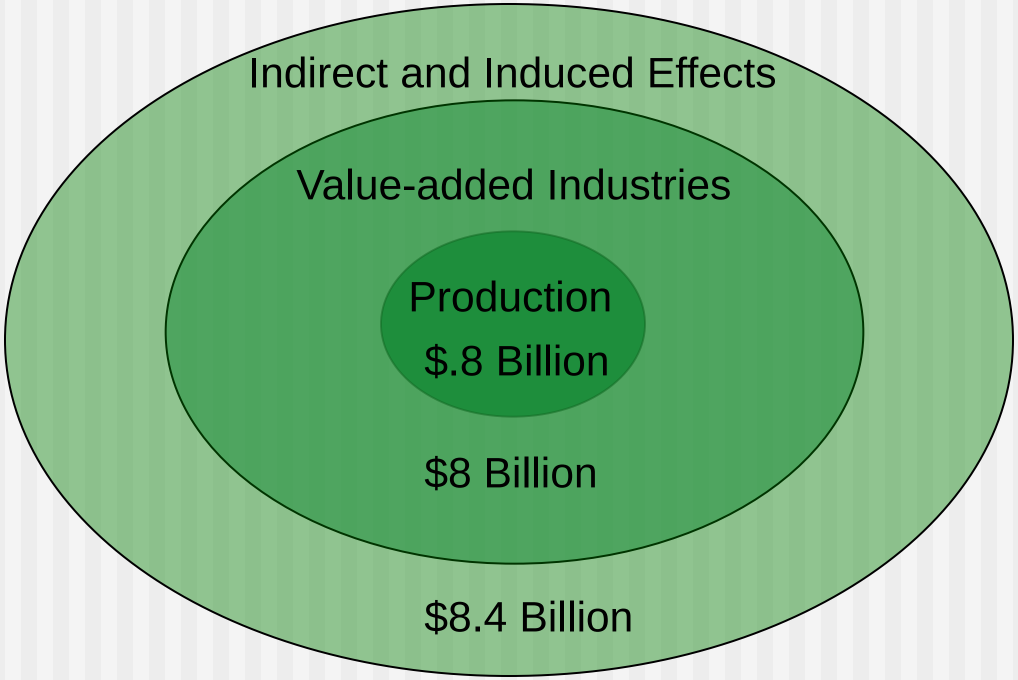
Input Data

- Input data from 2011 for
  - Quarterly Census of Employment and Wages (VEC)
  - Harvest value and volume (Virginia Department of Forestry)
  - IMPLAN database (to adjust for self-employed in logging and other industries)

RESULTS

Economic Impacts Breakdown

Total industrial output impact of $17.2 billion

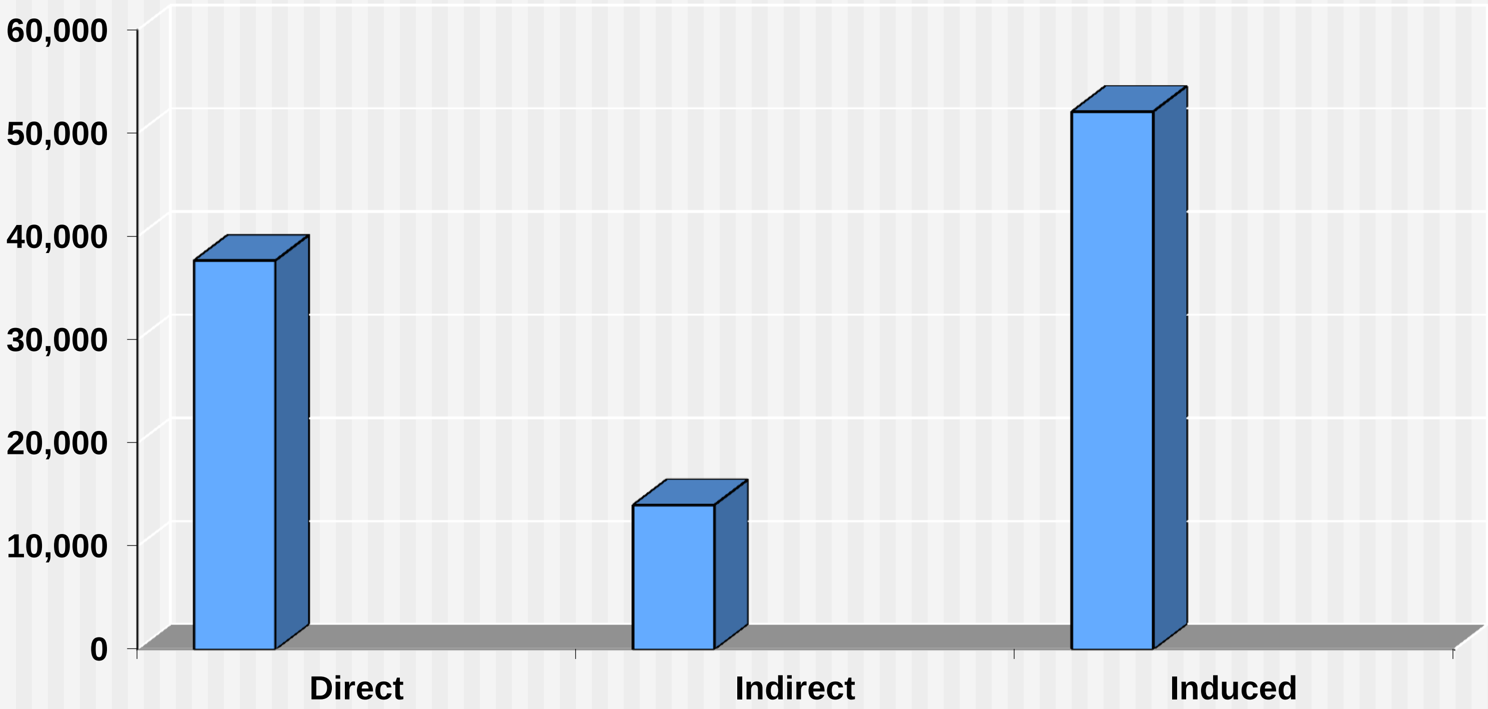


Total Impacts

	Output (Million $)	Employment	Value Added (Million $)
Direct	8,855	37,704	3,154
Indirect	2,231	14,010	1,407
Induced	6,131	52,133	4,187
Total	17,217	103,848	8,748

Employment Impacts

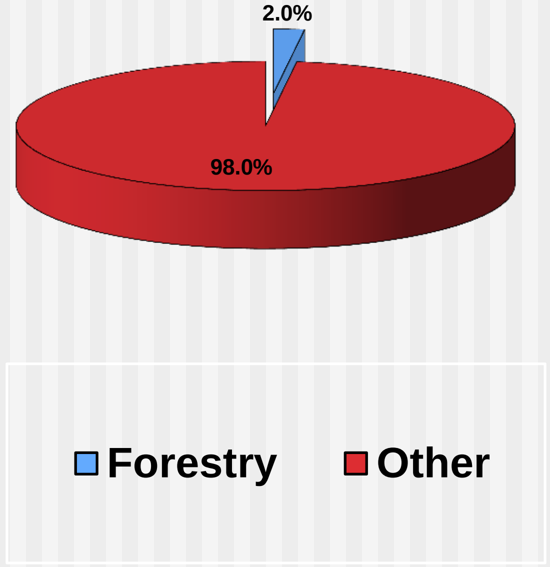
Every job results in another 1.75 jobs elsewhere

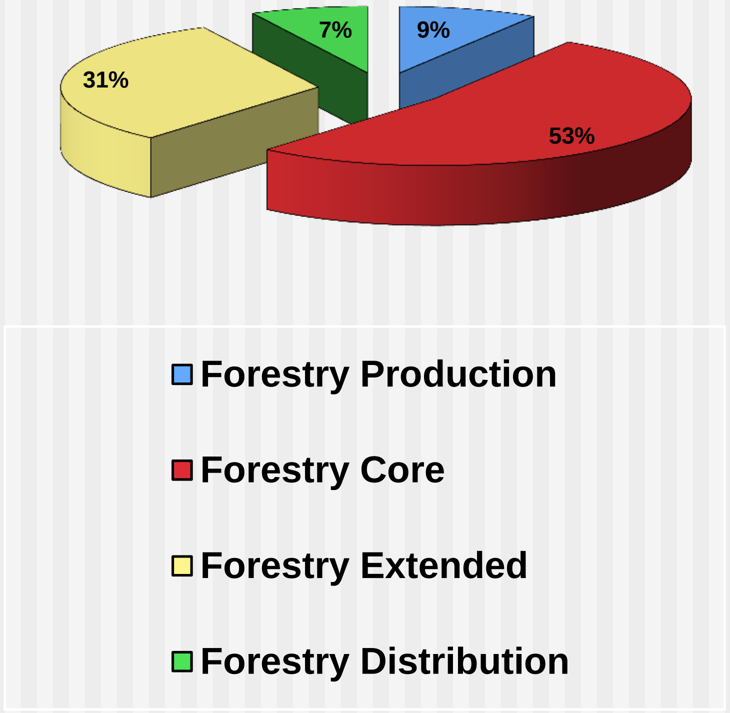


Value Added Impacts

Bulk of impact in forest primary manufacturing

One in 20 dollars





Forestry-Related Exports

	Output (Million $)	**Employment**	**Value Added (Million $)**
Direct	789.3	2,723	275.0
Indirect	319.3	2,114	175.1
Induced	473.8	3,987	331.7
Total	1,582.4	8,824	781.9

What has changed since previous studies?

- Decline in logging and forest-related manufacturing due to collapse of housing market, deep recession, and continued global competition facing portions of industry.

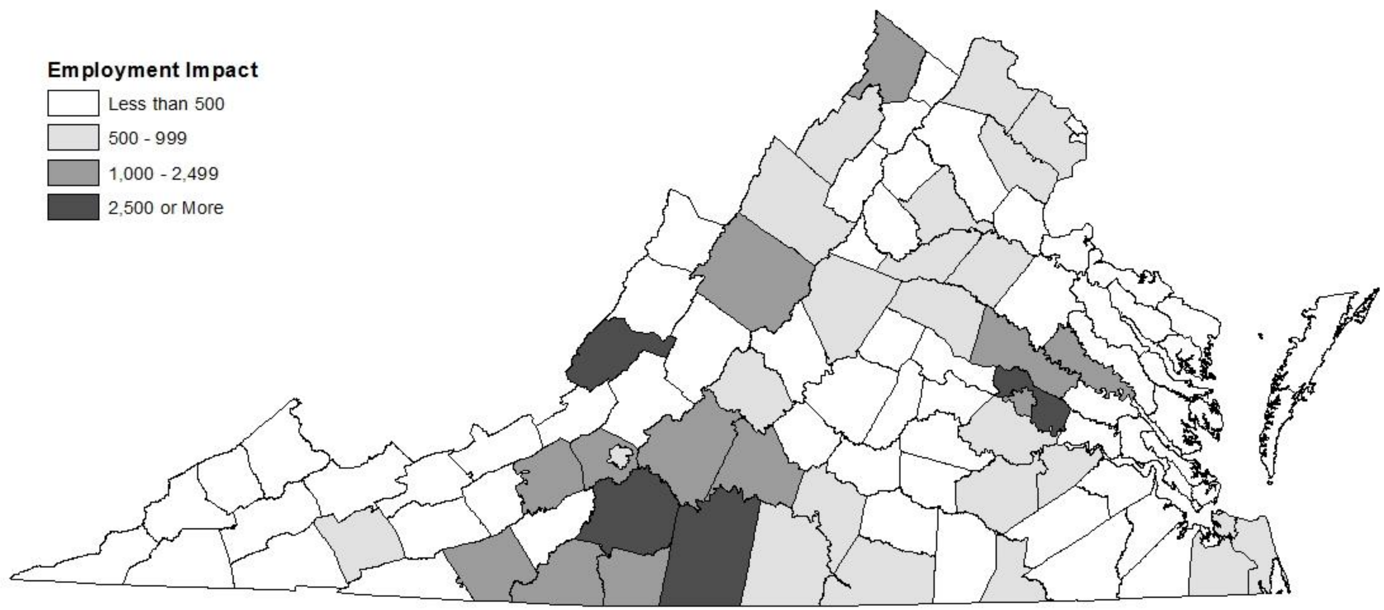
Forestry Direct Employment Changes, 2006 and 2011

Sector	2006	2011	Change	% Change
Forest (Prod)	6,931	5,931	-1,000	-14%
Forest (Core)	21,479	15,034	-6,445	-30%
Forest (Extended)	27,309	13,606	-13,703	-50%
Forest (Distribution)	4,528	3,133	-1,395	-31%
Forest Total	60,247	37,704	-22,543	-37%

Forestry Total Employment Impact Changes, 2006 and 2011

Sector	2006	2011	Change	% Change
Forest Total	144,380	103,848	-40,532	-28%

Forestry-related Industry Employment Impact by Locality



CONCLUSION

Takeaways

- Economic impacts are lower than last study because of erosion in forestry industry output and employment.
  - Housing market collapse
  - Recession and slow economic growth
  - Furniture and pulp and paper competition
- Forestry industry employment has stabilized in 2011-2012 and is poised for some growth, particularly with revival of housing and increased demand for wood products

Takeaways

- The forest industries still account for 2 percent of state output and employment.
- The forest industries are particularly important for some regions.
  - Sixty-eight localities have total employment impacts in excess of 1,000
  - Seven localities have employment impacts greater than 2,000 jobs
    - Alleghany/Covington, Henrico, Pittsylvania/Danville, Franklin, Richmond, Henry/Martinsville