

## **Recent Trends for the Importance of State Exports**

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### **Abstract**

Exports have continued to play an increasingly important role in the United States economy. The purpose of this paper is to look at the change in the relative importance of state exports over the last decade. Two major categories of analysis are conducted: 1) the change in state exports as a percent of U.S. exports, and 2) the change in state exports as a percent of state gross domestic product (GDP). The empirical results reveal a change in the relative importance of state exports for several states. Fifteen states had statistically significant increases in the mean percentage of state exports as a percent of U.S. exports; five states had statistically significant decreases. Eighteen states had statistically significant increases in the mean percentage of state exports as a percent of state GDP; no states had decreases.

### **I. Introduction**

The development of the global economy has caused an explosion in the importance of exports to the U.S. economy. Figure I shows the total of U.S. exports of goods and services since 1930. As the graph indicates, export growth began to occur significantly in the 1970s, and rapidly increased in the 1990s and 2000s. Figure II indicates that, since 1970, the annual percentage change in exports has been consistently positive and in some years approaches 20%. Only in the recessionary periods of the early 1980s and early 2000s did the annual percentage change in exports decline.

Given the growing importance of exports to the United States economy, this research will extend the analysis of exports to the state level. The focus of this research is to analyze the change in the relative importance of state exports over the last decade. Two major categories of analysis are conducted: 1) the change in state exports as a percent of U.S. exports, and 2) the change in state exports as a percent of state gross domestic product (GDP). As exports have become more important to the United States economy, this research will analyze how recent trends in exports have impacted state economies.

### **II. Literature Review**

Previous research has explored a variety of issues concerning state exports. Coughlin (2004) examines the geographic distribution of state exports and finds that generally, for most states, state trade becomes more intense with nearby as opposed to relatively distant countries. Coughlin and Wall (2003) estimated the effects of NAFTA on a state-by-state basis and found that NAFTA had different effects across states. Brooks (2007) analyzes trends in state agricultural exports. Katz (2009) found that the Midwest region of the U.S. remains the nation's top region for imports and exports despite the U.S. auto industry's economic recession. Researchers graded each state in different areas affecting trade, including logistic health, human capital, and tax climate. Illinois, Indiana, Michigan, Kentucky and Ohio were the top five states for international trade. Wilkinson, Keillor, and D'Amico (2005) examined the relationship

between state spending on export promotion, export levels, and state appropriations directed at increasing export activity, and found that enterprises can take advantage of this information by utilizing state export promotion programs to defray the cost of their initial information gathering activities. Coughlin and Pollard (2000) examined the microeconomic effects of the Asian crisis focusing on the manufacturing sector of individual states.

### III. Data

Using data from TradeStats Express<sup>1</sup>, total state exports as a percent of total U.S. exports is calculated for each state in each year from 1999 to 2008. The mean percentage of state exports as a percent of U.S. exports between 1999 and 2003 will be compared to the mean percentage of state exports as a percent of U.S. exports between 2004 and 2008. The objective is to determine any statistically significant change in the importance of a state's exports relative to total U.S. exports. Data from the Bureau of Economic Analysis<sup>2</sup> and TradeStats Express is used to calculate total state exports as a percentage of state GDP for each state in each year from 1999 to 2008. The mean percentage of state exports as a percent of state GDP between 1999 and 2003 will be compared to the mean percentage of state exports as a percent of state GDP between 2004 and 2008. The objective is to determine any statistically significant change in the importance of a state's exports relative to its GDP.

### IV. Hypotheses

For each state, two statistical tests are performed; a total of one-hundred tests are performed over the two categories of analysis. The following tests are performed for each state.

#### Test 1

$H_0$ : mean percentage of state exports as a percent of U.S. exports between 1999 and 2003 = mean percentage of state exports as a percent of U.S. exports between 2004 and 2008

$H_a$ : mean percentage of state exports as a percent of U.S. exports between 1999 and 2003  $\neq$  mean percentage of state exports as a percent of U.S. exports between 2004 and 2008

#### Test 2

$H_0$ : mean percentage of state exports as a percent of state GDP between 1999 and 2003 = mean percentage of state exports as a percent of state GDP between 2004 and 2008

$H_a$ : mean percentage of state exports as a percent of state GDP between 1999 and 2003  $\neq$  mean percentage of state exports as a percent of state GDP between 2004 and 2008

Each test splits the last decade into two five-year periods. Test 1 will determine the statistical significance of the change in the mean percentage of state exports as a percent of U.S. exports between the two five-year periods. Test 2 will determine the statistical significance of the change in the mean percentage of state exports as a percent of state GDP between the two five-year periods. A t-test is performed to determine the statistical significance of the change in the mean percentage of state exports as a percent of U.S. exports in test 1 and the statistical significance of the change in the mean percentage of state exports as a percent of state GDP in

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<sup>1</sup> <http://tse.export.gov/>

<sup>2</sup> <http://www.bea.gov/regional/gsp/>

test 2. The results of the t-tests will show the probability that the two groups have the same mean.

## V. Results

Table I shows state exports as a percent of U.S. exports for each state in each year over the period from 1999 to 2008. The mean percentage of state exports as a percent of U.S. exports is calculated for two five year periods, from 1999 to 2003 and from 2004 to 2008. The results of the t-test to determine statistically significant changes in the mean percentage of state exports as a percent of U.S. exports are shown in the last column in Table I. Statistically significant changes are highlighted in bold. States that had statistically significant changes in the mean percentage of state exports as a percent of U.S. exports are listed in Table III. Fifteen states had statistically significant increases in the mean percentage of state exports as a percent of U.S. exports: Alabama, Arkansas, Iowa, Kentucky, Maryland, Missouri, Montana, Nevada, North Dakota, South Dakota, Tennessee, Texas, Utah, West Virginia, and Wisconsin. Five states had statistically significant decreases: California, Colorado, Rhode Island, Virginia, and Washington.

Table II shows state exports as a percent of state GDP for each state in each year over the period from 1999 to 2008. The mean percentage of state exports as a percent of state GDP is calculated for two five year periods, from 1999 to 2003 and from 2004 to 2008. The results of the t-test to determine statistically significant changes in the mean percentage of state exports as a percent of state GDP are shown in the last column in Table II. Statistically significant changes are highlighted in bold. States that had statistically significant changes in the mean percentage of state exports as a percent of state GDP are listed in Table IV. Eighteen states had statistically significant increases in the mean percentage of state exports as a percent of state GDP: Alabama, Arkansas, Georgia, Indiana, Iowa, Kentucky, Maryland, Minnesota, Missouri, Montana, Nevada, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Texas, West Virginia, and Wisconsin. No states had statistically significant decreases.

## VI. Conclusion

Exports have become increasingly important to the United States; this research extends the analysis of exports to the state level to determine relative changes in importance over the last decade. Two major categories of analysis were conducted: 1) the change in state exports as a percent of U.S. exports, and 2) the change in state exports as a percent of state gross domestic product (GDP). The empirical results showed a change in the relative importance of state exports for several states over the last decade. Fifteen states had statistically significant increases in the mean percentage of state exports as a percent of U.S. exports; five states had statistically significant decreases. Eighteen states had statistically significant increases in the mean percentage of state exports as a percent of state GDP; no states had decreases.

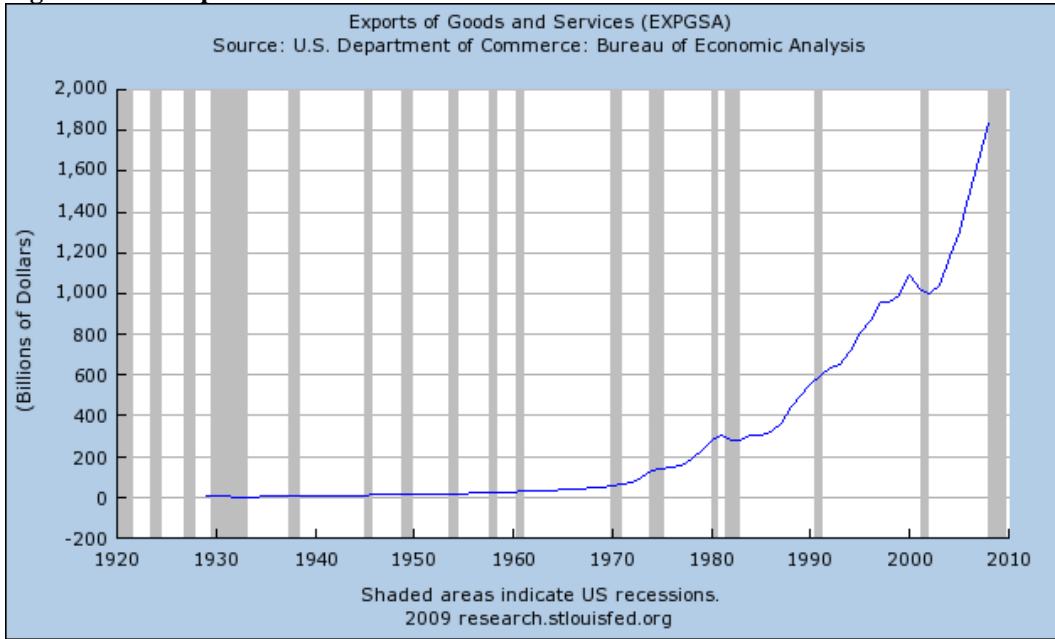
Twelve states experienced both a statistically significant increase in the mean percentage of state exports as a percent of U.S. exports and a statistically significant increase in the mean percentage of state exports as a percent of state GDP. These states are Alabama, Arkansas, Iowa, Kentucky, Maryland, Missouri, Nevada, North Dakota, Tennessee, Utah, West Virginia, and Wisconsin. This research has indicated which states have benefitted from recent, significant increases in the relative importance of exports to their economies; further research could explore

why these states experienced an increased economic importance on exports. This could have significant implications for corporate expansion, as firms placing a strategic importance on increasing exports could look favorably upon states with the infrastructure and policies that favor export growth.

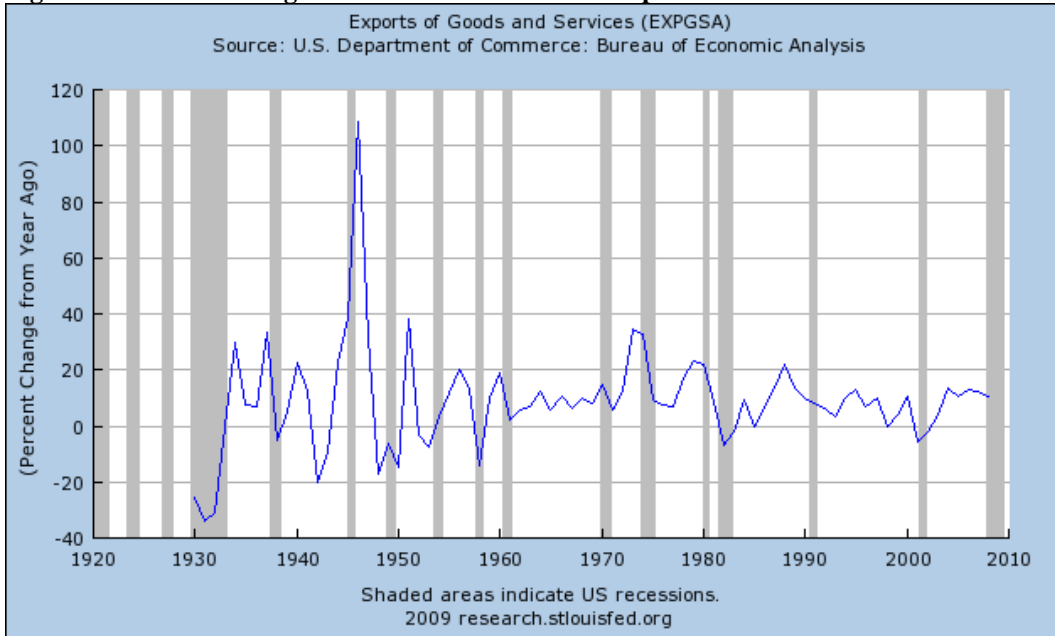
The research indicates the increasingly important role that exports play in state economies. Eighteen states had statistically significant increases in the mean percentage of state exports as a percent of state GDP; no states had statistically significant decreases. In the current political environment in which the benefits of free trade are being openly discussed, the impact of any trade restrictions could be a significant negative effect on a number of states, particularly in states whose economies have become more dependent on exports. In addition, any adverse consequences to trade resulting from currency wars could also have a significant adverse effect on states. Finally, although the macroeconomic changes in trade impact state economies, these changes are reflected by corporate profitability and shareholder returns. Policies adversely affecting exports will be felt at the firm level, which in turn will affect employment and economic growth.

Analyzing the role of exports, and the relative importance of a state's exports to state GDP and U.S. total exports, can provide insight as to importance that exports play in a state's economic development. Exports can offer some insulation from a drop in domestic demand, and provide entry into new geographical markets. Understanding trends in exports, and understanding the businesses and industries that are fueling export growth, can help states foster policies that provide job creation through export expansion. In addition, understanding the importance that exports have played on state economic growth can have implications for corporate expansion, and should have implications for U.S. trade policy.

**Figure I U.S. Exports of Goods and Services**



**Figure II Percent Change from Prior Year for U.S. Exports of Goods and Services**



**Table I State Exports as a Percent of Total U.S. Exports**

	Percent of Total U.S. Exports										Mean	Mean	t-test
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	99-03	04-08	
Alabama	0.89	0.94	1.04	1.19	1.15	1.11	1.21	1.35	1.25	1.23	1.04	1.23	<b>0.019</b>
Alaska	0.37	0.32	0.33	0.36	0.38	0.39	0.40	0.39	0.35	0.28	0.35	0.36	0.771
Arizona	1.71	1.84	1.71	1.71	1.84	1.65	1.66	1.78	1.67	1.54	1.76	1.66	0.197
Arkansas	0.31	0.33	0.40	0.41	0.41	0.43	0.43	0.42	0.43	0.45	0.37	0.43	<b>0.044</b>
California	14.13	15.33	14.61	13.30	12.96	13.52	12.95	12.45	11.70	11.25	14.07	12.37	<b>0.005</b>
Colorado	0.86	0.84	0.84	0.80	0.84	0.82	0.75	0.78	0.64	0.60	0.84	0.72	<b>0.031</b>
Connecticut	1.04	1.03	1.18	1.20	1.12	1.05	1.08	1.19	1.20	1.19	1.11	1.14	0.090
Delaware	0.33	0.28	0.27	0.29	0.26	0.25	0.28	0.38	0.35	0.38	0.29	0.33	0.317
D.C.	0.06	0.13	0.14	0.15	0.11	0.14	0.09	0.10	0.09	0.09	0.12	0.10	0.599
Florida	3.49	3.40	3.72	3.53	3.44	3.56	3.71	3.76	3.91	4.21	3.51	3.83	0.075
Georgia	1.98	1.91	2.00	2.08	2.27	2.42	2.29	1.96	2.04	2.14	2.05	2.17	0.351
Hawaii	0.04	0.05	0.05	0.07	0.05	0.05	0.11	0.07	0.05	0.07	0.05	0.07	0.275
Idaho	0.32	0.46	0.29	0.28	0.29	0.36	0.36	0.36	0.41	0.39	0.33	0.38	0.265
Illinois	4.25	4.03	4.16	3.70	3.66	3.72	4.01	4.11	4.26	4.17	3.96	4.05	0.666
Indiana	1.86	1.97	1.97	2.16	2.27	2.36	2.40	2.21	2.26	2.06	2.05	2.26	0.171
Iowa	0.59	0.57	0.64	0.69	0.72	0.79	0.82	0.82	0.84	0.94	0.64	0.84	<b>0.000</b>
Kansas	0.67	0.66	0.68	0.72	0.63	0.61	0.75	0.84	0.90	0.97	0.67	0.81	0.105
Kentucky	1.28	1.23	1.24	1.54	1.48	1.60	1.66	1.68	1.71	1.49	1.35	1.63	<b>0.030</b>
Louisiana	2.29	2.15	2.27	2.54	2.53	2.44	2.15	2.29	2.64	3.26	2.36	2.56	0.209
Maine	0.29	0.23	0.25	0.29	0.30	0.30	0.26	0.26	0.24	0.23	0.27	0.26	0.516
Maryland	0.58	0.59	0.68	0.65	0.68	0.71	0.79	0.74	0.78	0.88	0.63	0.78	<b>0.006</b>
Massachusetts	2.43	2.63	2.39	2.41	2.57	2.69	2.45	2.34	2.21	2.20	2.49	2.38	0.365
Michigan	4.49	4.34	4.43	4.90	4.62	4.41	4.20	3.95	3.88	3.51	4.55	3.99	0.060
Minnesota	1.35	1.32	1.44	1.50	1.55	1.56	1.64	1.59	1.57	1.49	1.43	1.57	0.099
Mississippi	0.32	0.35	0.49	0.44	0.35	0.39	0.45	0.44	0.45	0.57	0.39	0.46	0.200
Missouri	0.87	0.83	0.84	0.98	1.00	1.11	1.17	1.25	1.17	1.00	0.91	1.14	<b>0.028</b>
Montana	0.06	0.07	0.07	0.06	0.05	0.07	0.08	0.09	0.10	0.11	0.06	0.09	<b>0.046</b>
Nebraska	0.30	0.32	0.37	0.36	0.37	0.29	0.33	0.35	0.37	0.42	0.35	0.35	0.576
Nevada	0.15	0.19	0.19	0.17	0.28	0.36	0.44	0.54	0.50	0.48	0.20	0.46	<b>0.001</b>
New Hampshire	0.28	0.30	0.33	0.27	0.27	0.28	0.28	0.27	0.25	0.29	0.29	0.28	0.398
New Jersey	2.22	2.39	2.59	2.45	2.32	2.35	2.34	2.65	2.69	2.77	2.39	2.56	0.117
New Mexico	0.45	0.31	0.19	0.17	0.32	0.25	0.28	0.28	0.23	0.22	0.29	0.25	0.521
New York	5.35	5.49	5.77	5.45	5.54	5.60	5.75	5.76	6.19	6.32	5.52	5.93	0.057
North Carolina	2.17	2.30	2.30	2.12	2.24	2.23	2.16	2.07	2.03	1.95	2.22	2.09	0.087
North Dakota	0.10	0.08	0.11	0.12	0.12	0.12	0.13	0.15	0.18	0.22	0.11	0.16	<b>0.013</b>
Ohio	3.59	3.37	3.71	4.01	4.11	3.89	3.90	3.72	3.71	3.54	3.76	3.75	0.977
Oklahoma	0.43	0.39	0.36	0.35	0.37	0.39	0.48	0.43	0.40	0.39	0.38	0.42	0.163
Oregon	1.51	1.47	1.22	1.45	1.43	1.38	1.38	1.49	1.44	1.50	1.42	1.44	0.775
Pennsylvania	2.33	2.41	2.38	2.27	2.24	2.28	2.48	2.57	2.54	2.69	2.33	2.51	0.102
Rhode Island	0.16	0.15	0.17	0.16	0.16	0.16	0.14	0.15	0.14	0.15	0.16	0.15	<b>0.024</b>
South Carolina	1.03	1.10	1.36	1.39	1.63	1.65	1.55	1.33	1.44	1.54	1.30	1.50	0.227
South Dakota	0.07	0.09	0.08	0.09	0.09	0.10	0.11	0.12	0.13	0.13	0.08	0.12	<b>0.002</b>
Tennessee	1.42	1.49	1.55	1.68	1.74	1.98	2.13	2.11	1.90	1.80	1.58	1.99	<b>0.022</b>
Texas	12.01	13.31	12.99	13.77	13.65	14.41	14.35	14.71	14.65	14.93	13.15	14.61	<b>0.006</b>
Utah	0.45	0.41	0.48	0.66	0.57	0.58	0.67	0.66	0.68	0.80	0.51	0.68	<b>0.016</b>
Vermont	0.58	0.52	0.39	0.36	0.36	0.41	0.52	0.38	0.32	0.29	0.44	0.38	0.113
Virginia	1.66	1.50	1.59	1.56	1.50	1.43	1.36	1.38	1.47	1.47	1.56	1.42	<b>0.021</b>
Washington	5.30	4.13	4.78	5.01	4.88	3.63	3.67	4.13	4.54	4.23	4.82	4.04	<b>0.026</b>
West Virginia	0.27	0.28	0.31	0.32	0.33	0.40	0.35	0.32	0.35	0.44	0.30	0.37	<b>0.044</b>
Wisconsin	1.40	1.35	1.43	1.54	1.59	1.56	1.66	1.67	1.64	1.60	1.46	1.63	<b>0.036</b>
Wyoming	0.07	0.06	0.07	0.08	0.08	0.08	0.07	0.08	0.07	0.08	0.07	0.08	0.227

T-test results in bold indicate statistical significance at the 5% level.

**Table II. State Exports as a Percent of State Gross Domestic Product**

	Exports as a percent of State Gross Domestic Product										Mean	Mean	t-test
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	99-03	04-08	
Alabama	5.53	6.39	6.38	6.67	6.40	6.40	7.22	8.75	8.76	9.34	6.27	8.09	<b>0.012</b>
Alaska	10.54	9.11	9.09	8.58	8.77	8.99	9.18	9.35	8.93	7.39	9.22	8.77	0.343
Arizona	7.96	9.04	7.57	6.90	7.32	6.97	6.95	7.74	7.82	7.95	7.76	7.48	0.651
Arkansas	3.32	3.89	4.22	3.89	3.91	4.24	4.47	4.70	5.14	5.87	3.85	4.89	<b>0.018</b>
California	8.29	9.30	8.21	6.88	6.68	7.25	7.17	7.40	7.45	7.84	7.87	7.42	0.490
Colorado	3.80	3.84	3.44	3.03	3.25	3.37	3.19	3.53	3.12	3.10	3.47	3.26	0.226
Connecticut	4.81	5.02	5.22	5.00	4.79	4.71	5.12	6.07	6.50	7.12	4.97	5.90	0.105
Delaware	5.80	5.30	4.49	4.45	3.88	3.93	4.40	6.58	6.54	7.92	4.78	5.87	0.371
D.C.	0.73	1.71	1.62	1.57	1.13	1.49	0.99	1.18	1.17	1.23	1.35	1.21	0.620
Florida	5.46	5.63	5.47	4.68	4.46	4.78	4.99	5.34	6.05	7.29	5.14	5.69	0.462
Georgia	4.96	5.13	4.89	4.70	5.12	5.83	5.75	5.35	5.97	6.92	4.96	5.96	<b>0.014</b>
Hawaii	0.71	0.96	0.88	1.18	0.79	0.82	1.88	1.17	0.90	1.50	0.91	1.26	0.177
Idaho	6.71	10.17	5.96	5.35	5.49	6.84	7.03	7.68	9.03	9.49	6.74	8.01	0.385
Illinois	6.63	6.77	6.39	5.27	5.19	5.67	6.54	7.16	7.92	8.47	6.05	7.15	0.248
Indiana	6.95	7.91	7.36	7.30	7.64	8.41	9.27	9.45	10.41	10.40	7.43	9.59	<b>0.003</b>
Iowa	4.75	4.95	5.07	4.88	5.13	5.73	6.37	6.96	7.43	8.93	4.96	7.09	<b>0.013</b>
Kansas	5.94	6.21	5.79	5.57	4.86	5.02	6.55	7.86	8.79	10.20	5.67	7.68	0.140
Kentucky	7.82	8.59	7.86	8.85	8.59	9.91	10.79	11.79	12.92	12.22	8.34	11.53	<b>0.002</b>
Louisiana	12.77	12.78	12.41	13.09	12.49	12.19	10.60	11.88	14.62	18.86	12.71	13.63	0.569
Maine	6.04	5.00	4.88	5.13	5.48	5.63	5.25	5.70	5.73	6.07	5.31	5.67	0.161
Maryland	2.34	2.55	2.58	2.19	2.31	2.52	2.96	3.00	3.38	4.16	2.39	3.21	<b>0.060</b>
Massachusetts	6.65	7.46	6.24	5.87	6.35	7.14	6.95	7.19	7.20	7.77	6.51	7.25	0.106
Michigan	9.53	10.04	9.68	9.71	9.33	9.90	10.17	10.80	11.73	11.80	9.66	10.88	0.054
Minnesota	5.42	5.57	5.53	5.24	5.41	5.68	6.33	6.79	7.15	7.30	5.43	6.65	<b>0.019</b>
Mississippi	3.52	4.24	5.39	4.50	3.53	4.16	5.06	5.35	5.91	7.98	4.24	5.69	0.137
Missouri	3.59	3.68	3.39	3.60	3.70	4.40	4.93	5.82	5.89	5.40	3.59	5.29	<b>0.005</b>
Montana	2.09	2.53	2.17	1.64	1.42	2.06	2.40	2.83	3.31	3.89	1.97	2.90	0.138
Nebraska	3.93	4.53	4.70	4.19	4.20	3.41	4.23	4.85	5.31	6.50	4.31	4.86	0.350
Nevada	1.55	2.01	1.84	1.45	2.31	2.90	3.51	4.51	4.42	4.66	1.83	4.00	<b>0.002</b>
New Hampshire	4.80	5.45	5.42	4.04	4.01	4.46	4.78	5.03	5.04	6.25	4.74	5.11	0.543
New Jersey	4.69	5.40	5.22	4.56	4.32	4.68	4.96	6.11	6.68	7.50	4.84	5.99	0.163
New Mexico	6.39	4.71	2.73	2.26	4.05	3.23	3.74	4.03	3.44	3.48	4.03	3.58	0.614
New York	5.08	5.51	5.22	4.60	4.72	5.09	5.42	5.72	6.44	7.11	5.02	5.96	0.137
North Carolina	5.71	6.56	5.88	4.97	5.29	5.60	5.60	5.62	5.98	6.27	5.68	5.81	0.747
North Dakota	4.15	3.53	4.35	4.33	3.93	4.46	4.91	5.98	7.18	8.88	4.06	6.28	<b>0.048</b>
Ohio	6.90	7.08	7.23	7.13	7.40	7.48	8.00	8.50	9.20	9.68	7.15	8.57	<b>0.012</b>
Oklahoma	3.59	3.42	2.82	2.52	2.57	2.86	3.58	3.39	3.36	3.47	2.98	3.33	0.311
Oregon	10.04	10.18	8.02	8.61	8.51	8.44	8.99	10.12	10.44	11.98	9.07	10.00	0.403
Pennsylvania	4.30	4.82	4.29	3.72	3.68	4.03	4.63	5.18	5.48	6.26	4.16	5.12	0.159
Rhode Island	3.62	3.53	3.61	3.04	2.99	3.06	2.94	3.37	3.53	4.17	3.36	3.41	0.876
South Carolina	6.58	7.61	8.49	7.94	9.22	10.19	10.07	9.30	10.93	12.69	7.97	10.64	<b>0.006</b>
South Dakota	2.29	2.94	2.49	2.26	2.45	2.81	3.09	3.82	4.29	4.47	2.49	3.70	<b>0.035</b>
Tennessee	5.82	6.63	6.27	6.07	6.30	7.52	8.57	9.17	8.92	9.22	6.22	8.68	<b>0.001</b>
Texas	12.43	14.28	12.46	12.18	11.94	13.02	13.17	14.10	14.65	15.71	12.66	14.13	0.151
Utah	4.91	4.77	5.00	6.25	5.46	5.85	6.81	6.92	7.40	9.39	5.28	7.27	<b>0.019</b>
Vermont	23.97	23.04	15.03	12.90	12.77	15.30	20.53	16.37	14.96	14.53	17.54	16.34	0.587
Virginia	4.73	4.49	4.20	3.78	3.58	3.59	3.49	3.85	4.39	4.77	4.16	4.02	0.773
Washington	17.13	14.51	15.47	15.01	14.70	11.69	12.13	14.66	16.79	16.88	15.37	14.43	0.543
West Virginia	4.60	5.35	5.17	4.99	5.13	6.55	5.97	5.81	6.89	9.15	5.05	6.87	<b>0.042</b>
Wisconsin	5.72	5.98	5.77	5.66	5.88	6.17	6.96	7.64	8.07	8.56	5.80	7.48	<b>0.016</b>
Wyoming	2.87	2.90	2.66	2.82	2.68	2.91	2.54	2.77	2.54	3.06	2.79	2.76	0.871

T-test results in bold indicate statistical significance at the 5% level.

**Table III Statistically Significant Change in State Exports as a Percent of U.S. Exports**

<b>Increase</b>		<b>Decrease</b>
Alabama		California
Arkansas		Colorado
Iowa		Rhode Island
Kentucky		Virginia
Maryland		Washington
Missouri		
Montana		
Nevada		
North Dakota		
South Dakota		
Tennessee		
Texas		
Utah		
West Virginia		
Wisconsin		

**Table IV Statistically Significant Change in State Exports as a Percent of State GDP**

<b>Increase</b>		<b>Decrease</b>
Alabama		None
Arkansas		
Georgia		
Indiana		
Iowa		
Kentucky		
Maryland		
Minnesota		
Missouri		
Nevada		
North Dakota		
Ohio		
South Carolina		
South Dakota		
Tennessee		
Utah		
West Virginia		
Wisconsin		



## References

- Brooks, N., "U.S. Agricultural Trade Update – State Exports," United States Department of Agriculture Economic Research Services, July 2007.
- Coughlin C., "The Increasing Importance of Proximity for Exports from U.S. States," Federal Reserve Bank of St. Louis *Review*, November/December 2004, 86(6), pp. 1-18.
- Coughlin C. and H. Wall, "NAFTA and the Changing Pattern of State Exports" *Papers in Regional Science*, November 2003, 82(4), pp. 427-50.
- Coughlin C. and P. Pollard, "State Exports and the Asian Crisis," Federal Reserve Bank of St. Louis *Review*, January/February 2000.
- Katz, J., "Midwest Still Tops in Trade," [www.IndustryWeek.com](http://www.IndustryWeek.com), May 2009.
- Wilkinson, T., B. Keillor, M. D'Amico, "The Relationship between Export Promotion Spending and State Exports in the U.S.," *Journal of Global Marketing*, Volume 18, 2005.