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## MANUFACTURING: AN ECONOMIC DRIVER FOR JOBS AND FLORIDA'S FUTURE



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## Executive Summary

**T**he manufacturing sector plays an important role in Florida's economy. Manufacturing is a significant provider of high-wage and high value-added jobs in the state; however, Florida is lagging behind in manufacturing investment due to significant, identifiable barriers.

Florida's manufacturing sector accounts for approximately 5 percent of "non-farm, non-government" employment in the state. The average annual wages paid in Florida's manufacturing sector are higher than the state average annual private sector wage. Furthermore, manufacturing has the smallest volatility in personal income streams of all other sectors in Florida – including military, federal civilian, and other government categories – and industries that provide steady income to Florida residents help smooth out tax receipts and provide stability to the state's economy, even during recessionary periods. It is also a capital-intensive sector (i.e., high capital expenditures, which means higher value-added per worker), is key to Florida's exports, is a driver of research and development, and has the biggest multiplier of all industries in Florida

However, Florida is losing to competitor states in capital investment in manufacturing, as it has the lowest per capita capital expenditures on manufacturing among the 12 southern states. Low capital investment in manufacturing in Florida results partially from the state taxing capital formation through sales taxes on machinery and equipment, and through Tangible Personal Property taxes. Also, Florida's economic development incentive programs, specifically the Qualified Target Industries (QTI) and Capital Investment Tax Credit (CITC), are not well-targeted toward manufacturing and are ineffective at attracting many manufacturing industries.

To estimate the economic benefits of growing the manufacturing sector in Florida, an estimate of value per added manufacturing job in Florida was obtained using a well-respected econometric model. The model shows that if 1,000 manufacturing jobs were created in Miami-Dade County annually from 2012 to 2021, an additional cumulative 24,213 jobs would be added in Florida by 2021. In the first year alone, a total economic impact of \$570 million to Florida's economy should be realized through personal consumption expenditures, gross private domestic investment, change in private inventories, exports and imports of goods and services, and government consumption and investment.

Florida has a great opportunity to increase the state's manufacturing sector, which will attract capital, create high-wage jobs, increase productivity, and enhance economic stability for the state. Florida's political and economic leaders must take active steps to make Florida more attractive to manufacturers. Ways in which to achieve this are to incentivize capital investment by modifying the current QTI and CITC programs to positively affect the manufacturing sector, reduce penalties for accumulating productive capital in Florida by lowering and eliminating taxes on inputs to manufacturing, and to continue to improve Florida's infrastructure with investments, such as the forthcoming deepening of the Port of Miami.

## Introduction

**F**or decades, people have thought of Florida's economy in terms of NASA space shuttles, citrus groves, and endless beachfronts. Yet, as we move into an increasingly global economy, we must envision a new direction for Florida's economy in which manufacturing plays an important part. In fact, the manufacturing sector already plays a key role in Florida's economy; however, more focus on this unique sector is needed for it to continue to grow and drive Florida's economic growth.

According to existing economic data, Florida's manufacturing sector is a significant employer that provides high-wage and high-value added jobs, and is more stable than most other economic sectors. However, Florida lags behind other southern states in manufacturing investment per capita and is losing an important opportunity for economic growth through manufacturing related capital formation and job creation due to significant, identifiable barriers to growing this vital sector.



This Florida TaxWatch *Research Report* examines Florida's manufacturing sector to reveal its importance to the state's economy, identifies barriers to growth of the sector, and recommends changes to the state's economic development policy to ensure that manufacturing remains to be a driving force for Florida's economic growth in the 21<sup>st</sup> Century.

***Manufacturing is the 6th largest distinct “non-farm, non-government” employment sector in Florida, accounting for approximately 5 percent of “non-farm, non-government” employment. The average annual wages paid in Florida’s manufacturing sector are higher than the state average annual private sector wage.***

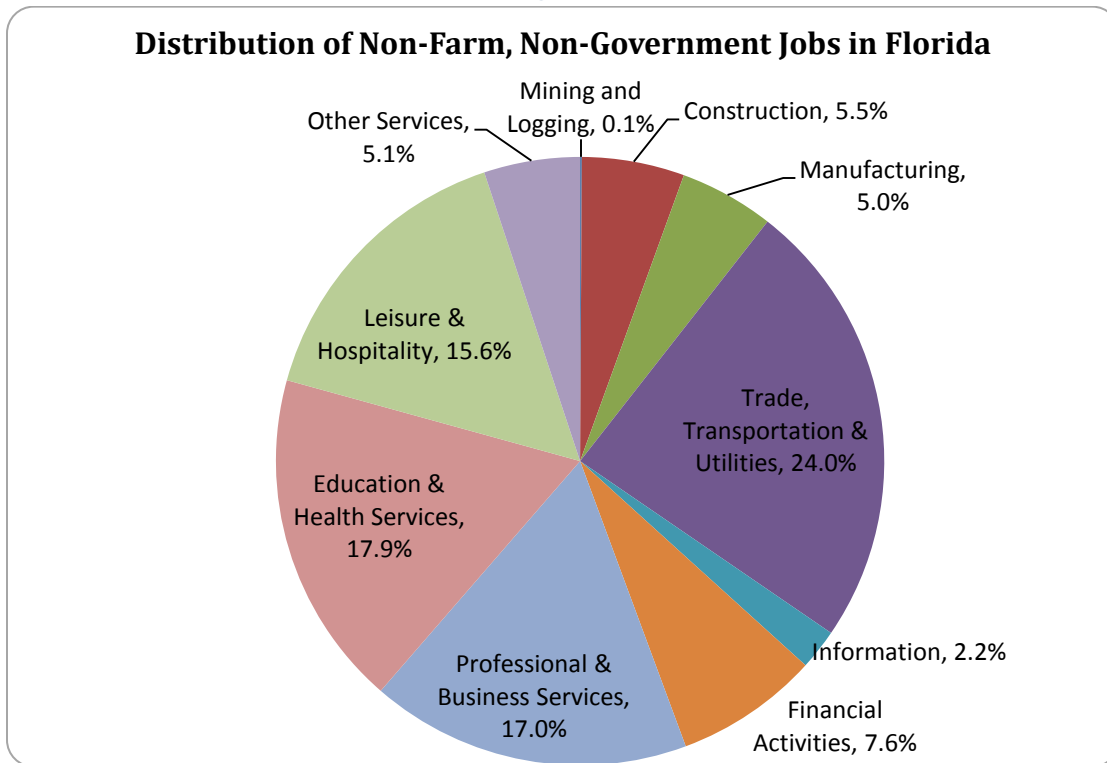
## Section 1: Examining Florida’s Manufacturing Sector

**A**n examination of economic data reveals that Florida’s manufacturing sector creates a significant amount of employment in the state (Section 1.A); has high wage jobs (Section 1.B); provides income stability (Section 1.C); is a high value-added economic sector for Florida (Section 1.D); and has other economic advantages for Florida.

### *Section 1.A: Manufacturing is Responsible for a Significant Amount of Employment in Florida*

**F**igure 1 shows the current share of employment of the major industries in Florida. This chart shows that of the “non-farm and non-government jobs,” manufacturing employs approximately 5 percent of Floridians in the workforce. Manufacturing employment is the sixth largest distinct “non-farm, non-government” employment sector in Florida, accounting for approximately 0.5 percent fewer total jobs than construction (5.5 percent; fifth largest employer by sector).

**Figure 1**



Source: Bureau of Labor Statistics, April 2011 Final Data

The dispersion of manufacturing across Florida is shown in Table 1. The largest numbers of manufacturing jobs are located in the largest population Metropolitan Statistical Areas (MSAs): Miami-Ft. Lauderdale-Pompano Beach; Tampa-St. Petersburg-Clearwater; Orlando-Kissimmee-

Sanford; and Jacksonville. The highest concentration of manufacturing relative to all non-farm jobs is located in the Palm Bay-Melbourne-Titusville area, followed by Lakeland-Winter Haven, and then Ocala.

**Table 1. Manufacturing Jobs by Florida MSA**

	<b>Manufacturing Jobs (000)</b>	<b>Non-Farm Jobs (000)</b>	<b>Manufacturing Percentage</b>
<b>Miami-Ft. Lauderdale-Pompano Beach</b>	72.3	2210.9	3.27%
<b>Tampa-St. Petersburg-Clearwater</b>	57.5	1128.1	5.10%
<b>Orlando-Kissimmee-Sanford</b>	37.7	1018.4	3.70%
<b>Jacksonville</b>	26.9	585.2	4.60%
<b>Palm Bay-Melbourne-Titusville</b>	20.1	191.2	10.51%
<b>West Palm Beach-Boca Raton-Boynton Beach</b>	15.3	505.8	3.02%
<b>Lakeland-Winter Haven</b>	14.0	195.3	7.17%
<b>North Port-Bradenton-Sarasota</b>	13.1	241.5	5.42%
<b>Deltona-Daytona Beach-Ormond Beach</b>	7.4	156.2	4.74%
<b>Ocala</b>	6.4	90	7.11%
<b>Pensacola-Ferry Pass-Brent</b>	5.4	158.6	3.40%
<b>Port St. Lucie</b>	4.7	120.5	3.90%
<b>Gainesville</b>	4.4	128.7	3.42%
<b>Cape Coral-Ft. Myers</b>	4.2	197.8	2.12%
<b>Crestview-Forth Walton Beach-Destin</b>	3.7	77.7	4.76%
<b>Tallahassee</b>	3.7	172.1	2.15%
<b>Panama City-Lynn Haven- PC Beach</b>	3.1	73.7	4.21%
<b>Naples-Marco Island</b>	2.4	111.7	2.15%
<b>Sebastian-Vero Beach</b>	1.9	43.9	4.33%
<b>Palm Coast</b>	0.7	18	3.89%
<b>Punta Gorda</b>	0.5	41	1.22%

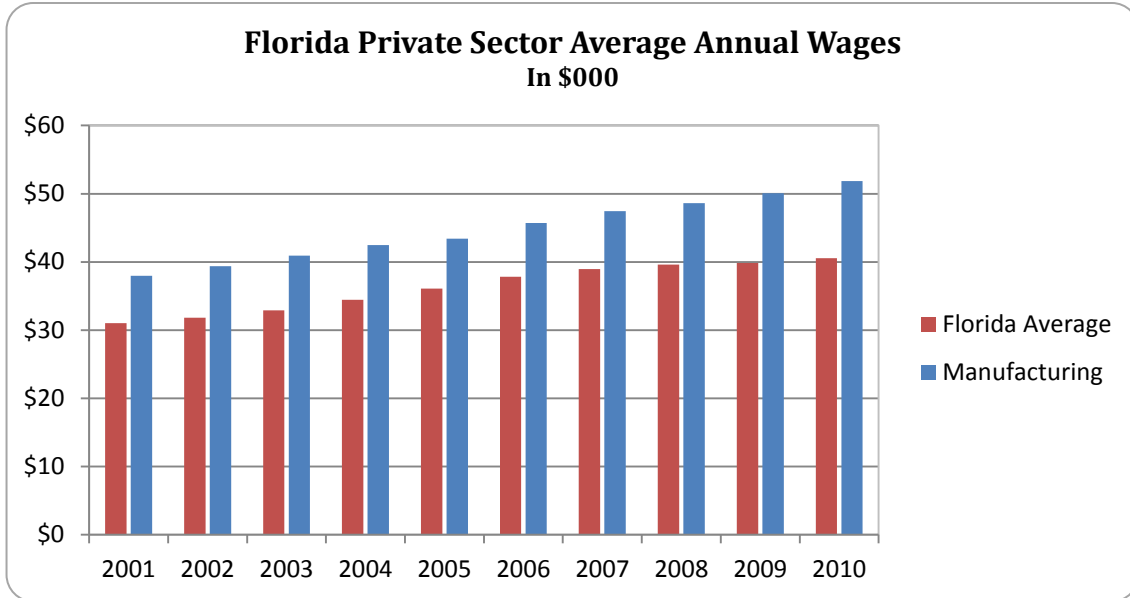
Source: Bureau of Labor Statistics. April 2011 Final Data.

### Section 1.B: Wages are Higher in Florida’s Manufacturing Sector



Florida’s manufacturing employees have seen steady increases in average wages, even throughout the most recent recessionary period. Average manufacturing wages have steadily increased and are higher than Florida’s average wage. Figure 2 below shows the average over the most recent 10-year period.

Figure 2



Source: Bureau of Labor Statistics, Quarterly Survey of Employment & Wages

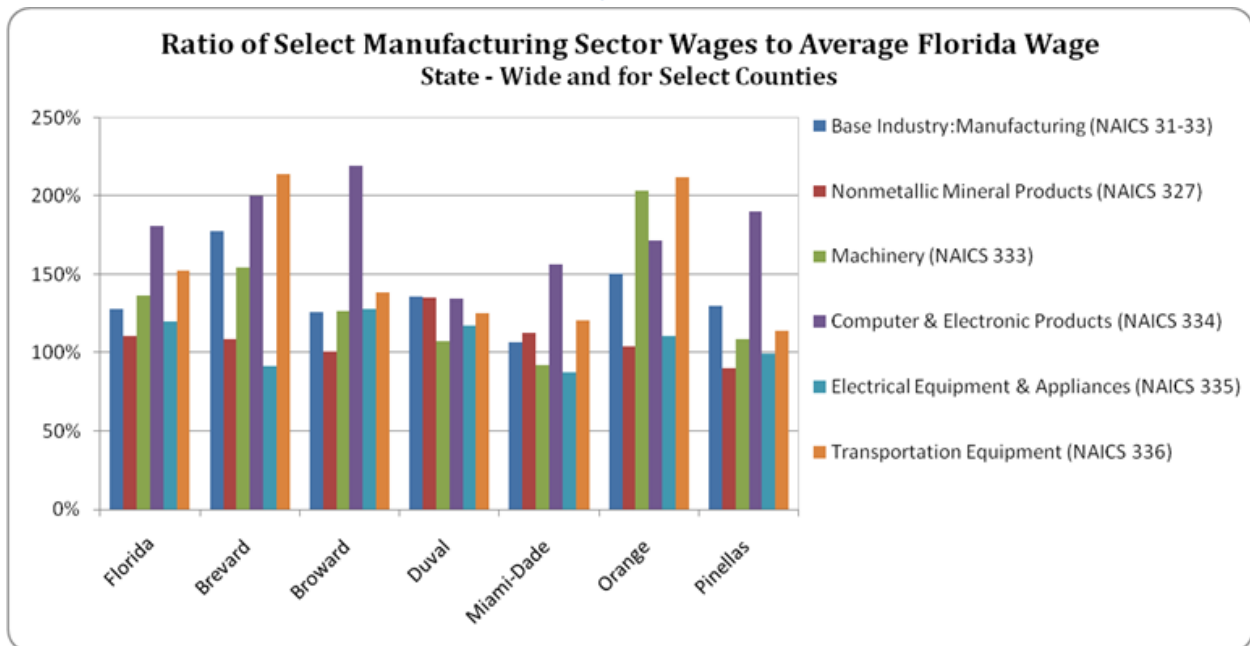
To get a more thorough look at Florida manufacturing wages, it is necessary to look at the distribution of wages both across industries and across different areas of the state. To do this, wages for manufacturers in five NAICS codes<sup>1</sup> were compared to the overall manufacturing industry (represented as the U.S. Census Bureau’s Industry Statistics Sampler “Base Industry: NAICS 31-33 Manufacturing”). NAICS is an acronym for North American Industry Classification System. This system uses a standardized code for each type of business in North America. Wages for these industries were shown for not only the state of Florida, but also in six separate Florida counties that have a strong manufacturing presence (Brevard, Broward, Duval, Miami-Dade, Orange and Pinellas counties).

<sup>1</sup> The NAICS codes used for this analysis are: NAICS 327 Nonmetallic Mineral Product Manufacturing (includes concrete and glass manufacturing); NAICS 333 Machinery Manufacturing; NAICS 334 Computer and Electronic Product manufacturing; NAICS 335 Electrical Equipment and Appliance Manufacturing; and NAICS 336 Transportation Equipment Manufacturing.

Figure 3 compares wages in each of the five NAICS codes by county against both the average in that NAICS code for Florida, and the average for Florida manufacturing. Each county's wages in that NAICS code can also be compared to the other counties and the state total.

Figure 3 presents the manufacturing wage (y-axis) relative to the percentage of the statewide average wage for Florida (the x axis) – i.e., 1.0 is equal to the average Florida wage (\$40,558 in 2010) from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages, 1.5 indicates a wage that is 150 percent of the Florida average wage, and the line at 2.0 indicates that a manufacturing wage in that NAICS code and that county is double the Florida average wage).

**Figure 3**



Source: Bureau of Labor Statistic, Quarterly Census of Employment and Wages Data

Figure 3 shows that wages vary across different parts of Florida, and manufacturing wages vary between NAICS codes. Of interest is the premium wages in *NAICS 334, Computer and Electronic Product Manufacturing* in each of the counties, as well as the premium on *NAICS 336, Transportation Equipment Manufacturing*.

The chart also shows that there are some manufacturing wages that are lower in areas of Florida, including some that are lower than the Florida average wage;<sup>2</sup> however, overall the manufacturing sector provides higher than average wages in Florida as a whole, and in most counties.

<sup>2</sup> Differences between regions could reflect differences in the technology used in manufacturing as well as differences in the supply of labor in that region.

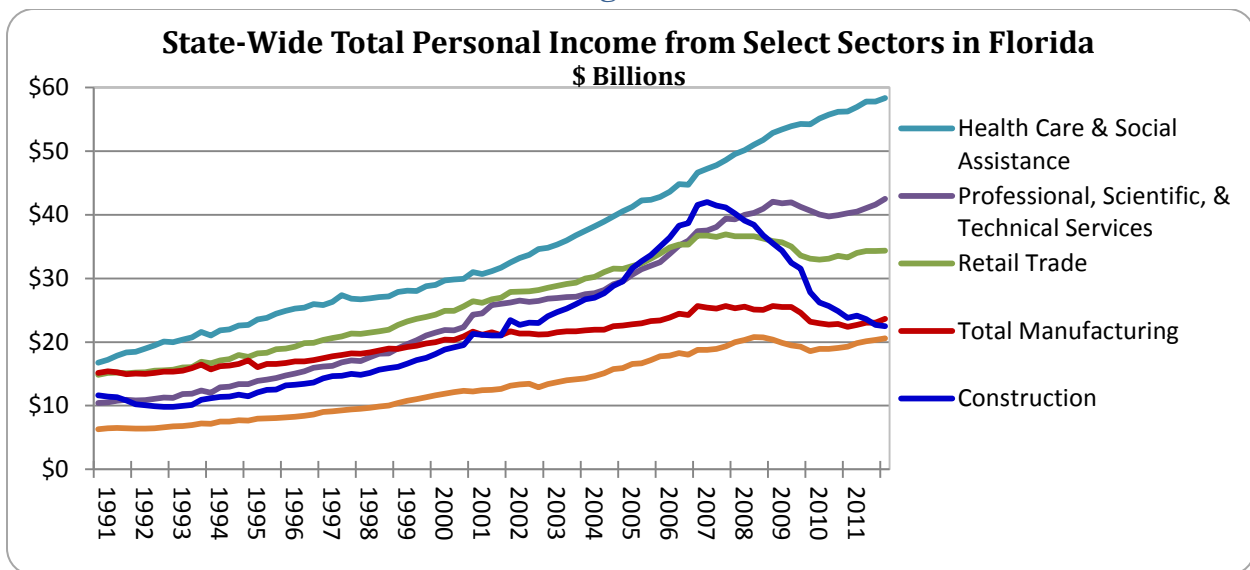


### ***Section 1.C: Manufacturing Sector Personal Income has Remained Stable During the Recession***

**P**ersonal income includes wages and salary disbursements, personal dividend income, personal interest income, and transfer payments to persons. These figures do not include capital gains or asset sales. To be clear, the figures used throughout this paper are nominal personal income, as opposed to real personal income. The difference between the two types is that real personal income is inflation adjusted.

Figure 4 below shows nominal personal income from the larger sectors of Florida's non-government economy. It is clear that personal income in the Health Care and Social Assistance industry leads all others in size and in growth since 1990. Other interesting items on the chart include the increase of Professional, Scientific, and Technical Services sector, overtaking Retail Trade in personal income in late 2005. Possibly the most interesting of all is the large increase in the Construction Sector, along with its fall after peaking in 2006. Manufacturing has shown steady growth, despite fewer Floridians employed, due to the already-indicated above-average annual wage. The Accommodation and Food Services sector has shown steady increases, yet provides less Personal Income than does Manufacturing, and even Construction, after its significant drop.

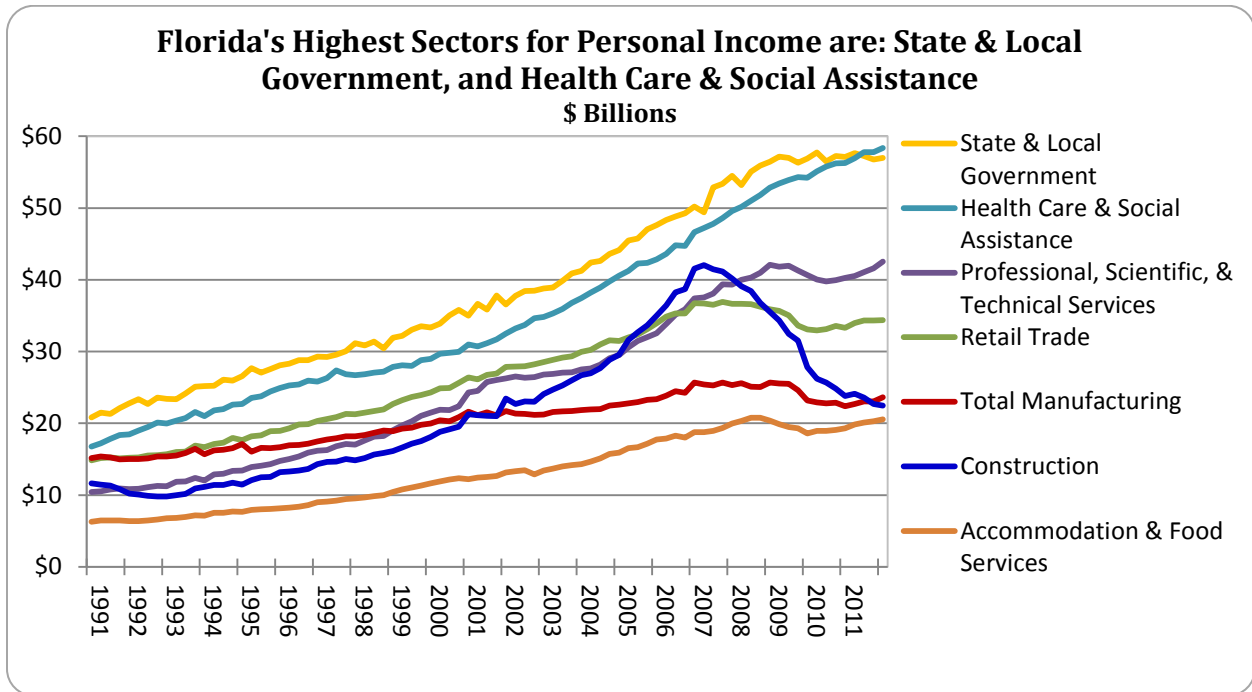
**Figure 4**



Source: Bureau of Economic Analysis Regional Data

Keeping the same Industry Sectors as in Figure 4, but adding personal income in Florida from State and Local Government, one can see in Figure 5 that just until recently, State and Local Government was the largest single provider of personal income in Florida. It has recently been surpassed by the Health Care and Social Assistance sector.

**Figure 5**

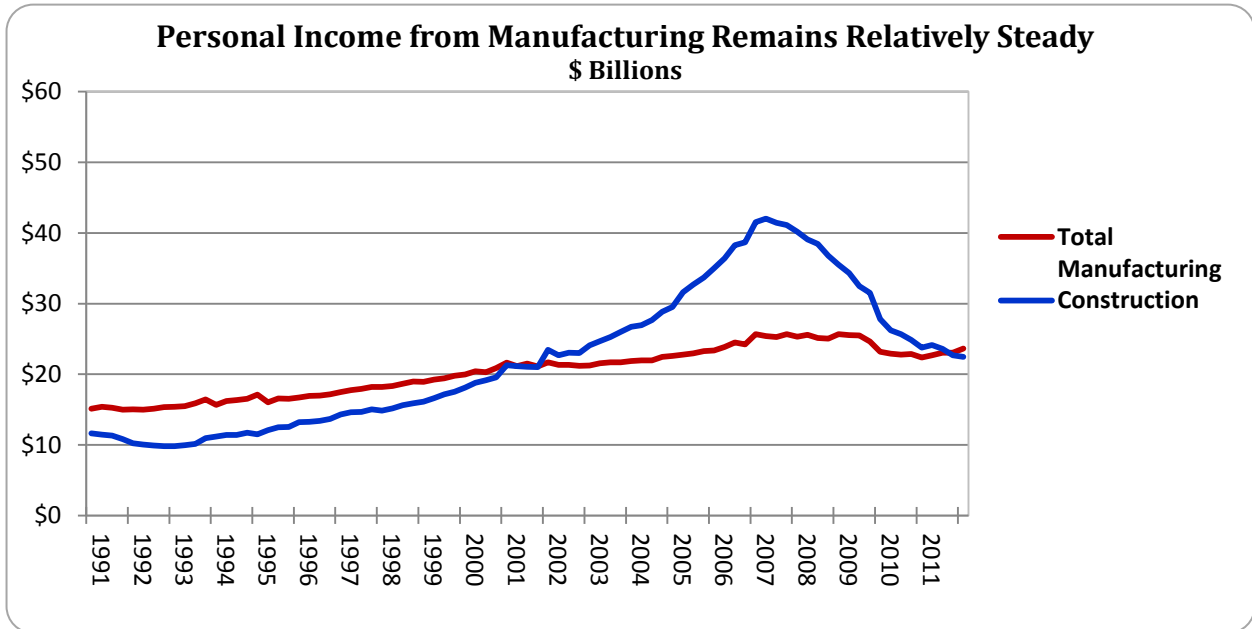


Source: Bureau of Economic Analysis Regional Data

*Personal income from manufacturing has shown steady growth, despite fewer Floridians employed, due to the sector's above-average annual wage.*

Figure 6 shows the paths of two of the significant contributors to Florida’s personal income – Construction and Manufacturing. The chart clearly shows that the Construction sector overtook the Manufacturing Sector around the beginning of 2001. However, after the demand disruptions the Construction Sector no longer provides more income to Floridians than the Manufacturing Sector, although it does provide approximately 10 percent more jobs.

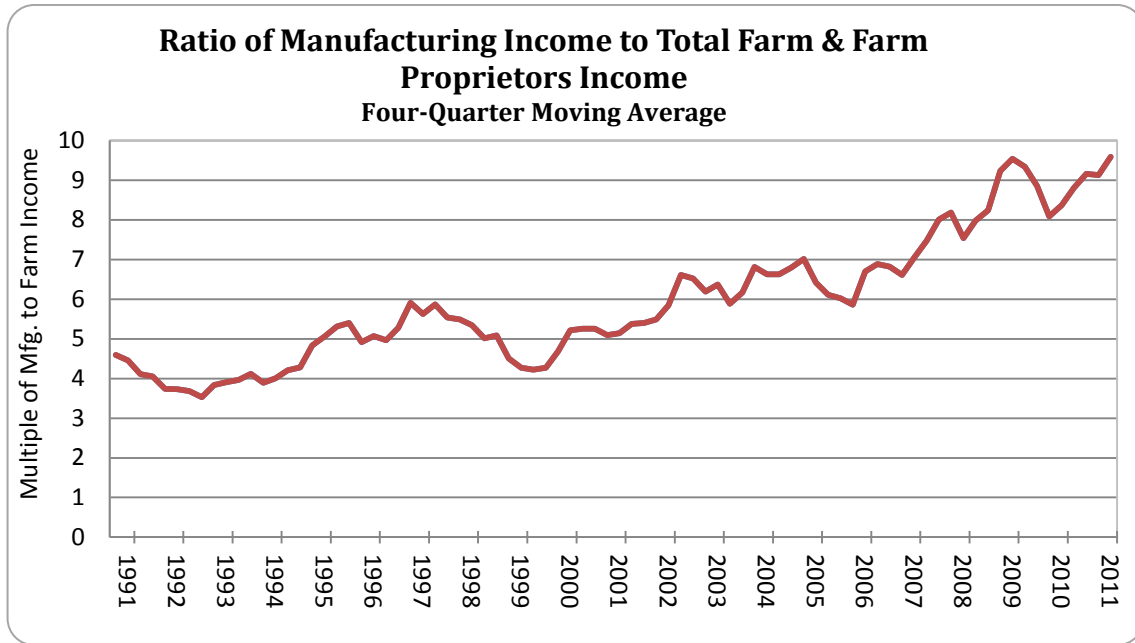
**Figure 6**



Source: Bureau of Economic Analysis Regional Data

To compare manufacturing personal income to Florida farming personal income, manufacturing income was divided by the total of farm personal income plus farm proprietor's income. Figure 7 below indicates that manufacturing provides nearly ten times as much personal income as agriculture does in Florida.

**Figure 7**



**Source: Bureau of Economic Analysis Regional Data**

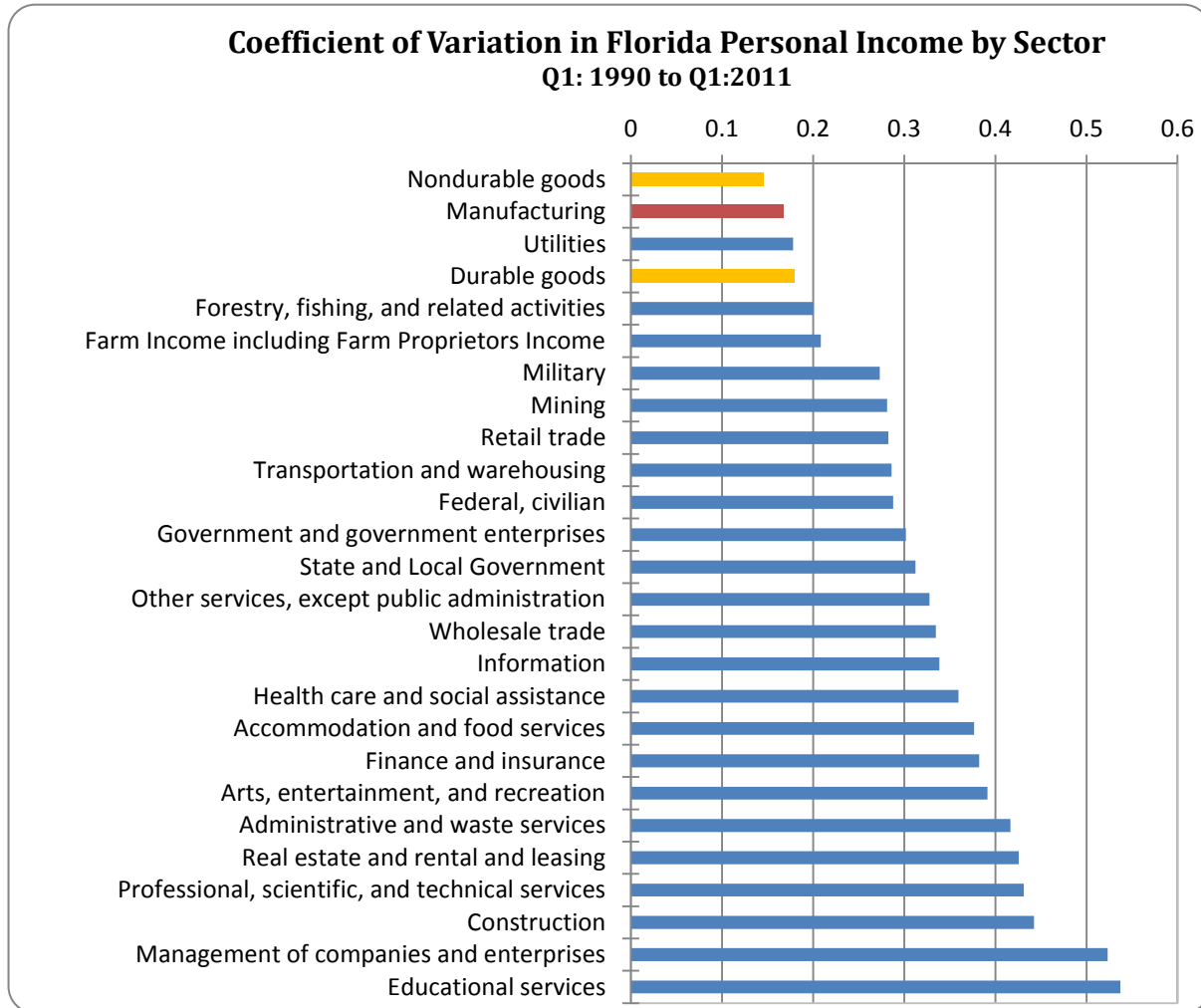
Large variability in income streams contributes to the difficulty for the State to effectively forecast revenues – especially for a state like Florida that receives much of its income from sales taxes. To diversify an economy such as Florida's, those industries that provide steady income to Florida residents should be targeted to smooth out tax receipts and provide stability to the state economy.

To find out what industries provide steady streams of income to Florida residents, quarterly data from the first quarter of 1990 through the first quarter of 2011 were analyzed for all major industries in Florida. In analyzing these income streams, each of their standard deviations was calculated. Given that they have significantly different means, the standard deviations were normalized by dividing each standard deviation by the mean of that series. This produces a statistic commonly referred to as the Coefficient of Variation. With a coefficient of variation, larger numbers indicate more variability and less predictability over time. Smaller coefficients indicate less variability and are therefore more predictable over time.

Figure 8 below shows the results of the rankings of the coefficients of variation of personal income. In Figure 8, one can see that Manufacturing is shown in red, while other industries are

shown in blue. The components of Manufacturing, Nondurable Goods Manufacturing and Durable Goods Manufacturing are shown in orange. To be clear, when totaled, the personal income from durable plus non-durable equals the Personal Income of the Manufacturing sector.

**Figure 8**



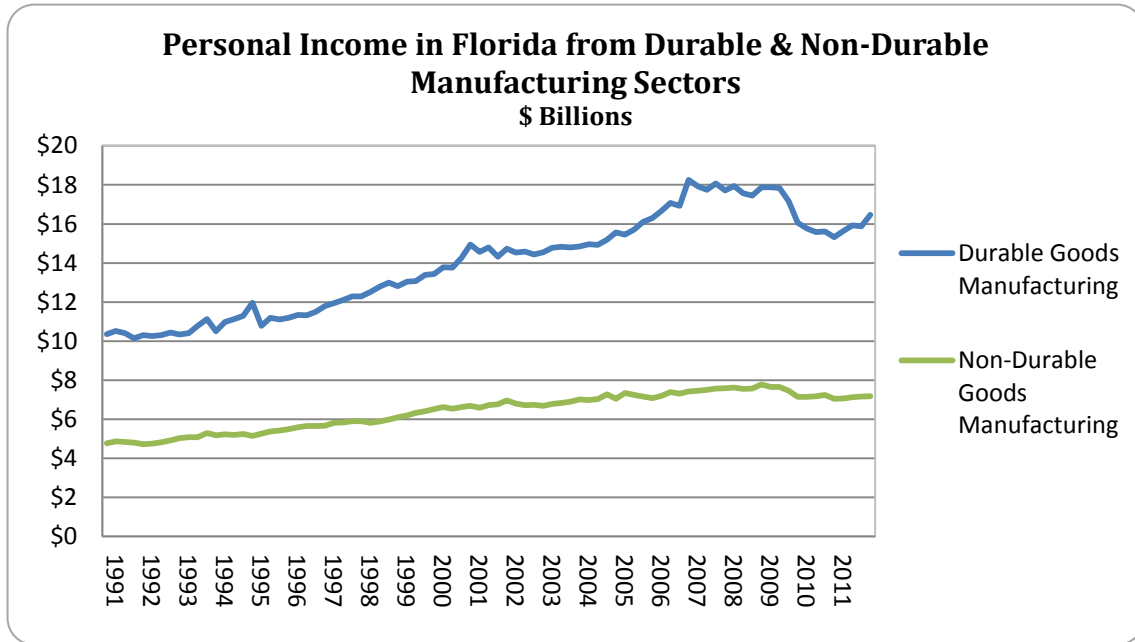
Source: Bureau of Economic Analysis Regional Data

It is clear from Figure 8 that personal income from manufacturing has a smaller coefficient of variation than any other Florida industry. The utilities industry is second, and is less variable than the durable goods portion of manufacturing. One interesting result shown on the chart is that personal income from Manufacturing is a more stable provider of personal income in Florida than sectors usually associated with stable employment and personal income such as Military, Federal Civilian, and other Government categories.

Figure 9 shows the distribution of Personal Income in Florida from the Durable and Non-durable manufacturing categories. Florida's mix of manufactured goods averages approximately 70

percent durable goods with 30 percent being non-durable. Durable goods production and its related personal income is dependent upon demand, which is dependent upon the state of the economy. The most interesting result of Figure 9 is that even with the variability in Durable Goods Production, personal income from Manufacturing remains the least volatile of any other single industry in Florida.

**Figure 9**



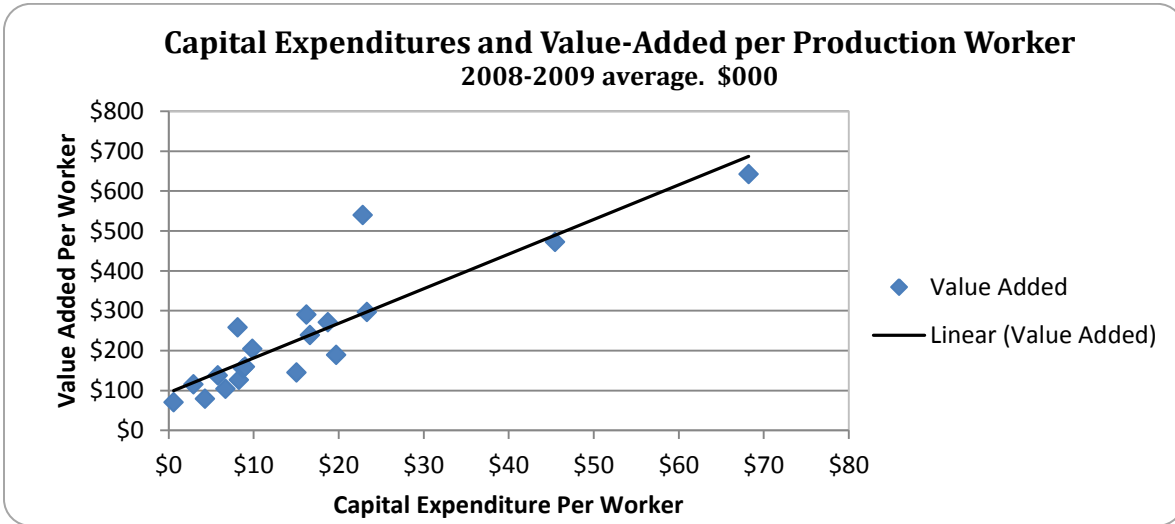
Source: Bureau of Economic Analysis Regional Data

***Section 1.D: Manufacturing is a High Value-Added Economic Sector***

**G**rowth of high value-added economic sectors, such as manufacturing, is tied to capital investment in the state and high wage jobs due to high labor productivity. Economic theory has long shown that capital intensity and labor productivity are highly correlated and that failure to invest in capital goods can have a significant negative effect on productivity in current years and in the future.

Analyzing the effect of capital intensity and value-added can show that across industries, there is a positive relationship in Florida. Figure 10 below shows the average capital expenditure in 2008 and 2009 was calculated and divided by the amount of production workers for each industry in Florida. That value, along with the corresponding value added per worker is shown in a scatter plot form.

Figure 10

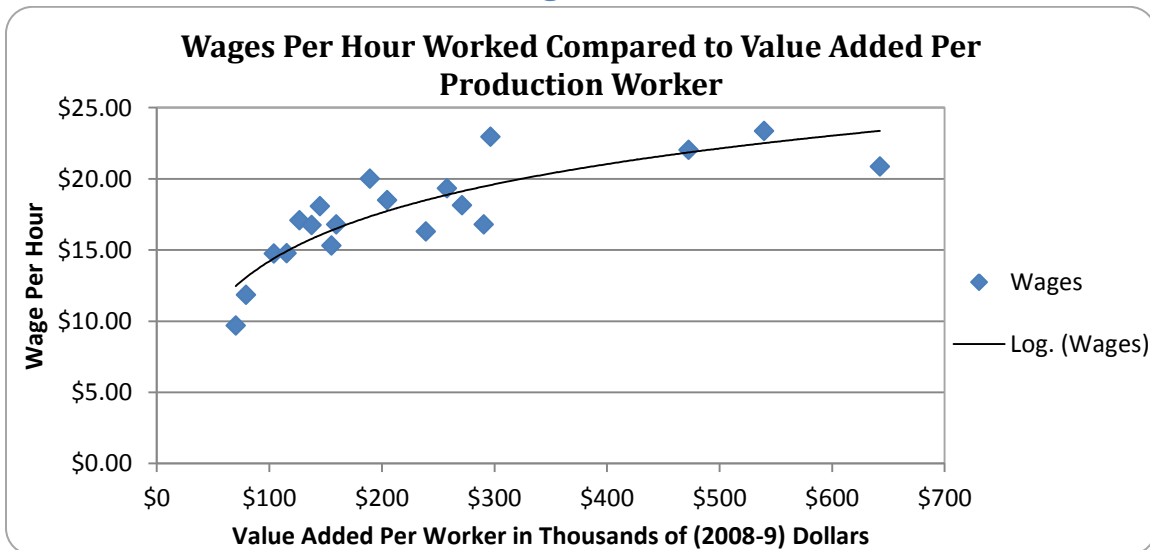


Source: U.S. Census Annual Survey of Manufacturers

Note that capital expenditure per production worker, as well as value added per production worker are both shown in increments of \$1000. Figure 10 shows that there is a linear relationship between these variables, indicating that higher amounts of capital expenditure are coincident with higher amounts of value added.

Figure 11 below compares wages to value added per worker. Although it appears that the relationship is not linear between high-value added industries and higher wages, there does appear to be a logarithmic relationship. Certainly, as Figure 11 shows, higher value-added industries are associated with higher wages.

Figure 11



Source: U.S. Census Annual Survey of Manufacturers

Improving capital intensity can help Florida workers to be more productive, leading to higher wages for workers and higher margins for companies. Higher wages leads directly to more disposable income for workers. Higher margins for companies allow them more flexibility in pricing, enabling them to be competitive in both domestic and world markets.

**Section 1.E: Additional Benefits:**

**M**anufacturing is key to exporting: Manufactured goods account for between 85 to 90 percent of all Florida exports. These exports help the trade balance for the U.S. There will soon be increased opportunities for Florida exporters with the completion of the dredging of the Port of Miami. Florida has initiated an investment of \$77 million to deepen the port, which will allow the large Post-Panamax ships to use the Port of Miami. Miami will be only one of three ports in the eastern U.S. able to accept the largest ships when the Panama Canal widening project is completed in 2014. Florida manufacturers will be able to take advantage of more efficient and lower-cost shipping to and from the rest of the world.

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*“Each dollar of manufactured goods creates another \$1.43 of activity in other sectors.”*

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Manufacturing is a driver of research and development: According to an April 2011 report by The Information Technology and Innovation Foundation<sup>3</sup>, manufacturing firms perform approximately 70 percent of U.S. Industry research and development (R&D), even though manufacturing accounts for only about 11 percent of the U.S. economy. One should note that both process innovation and product innovation are important and manufacturing is one of the leaders in both types. The report also notes that manufacturing and services are highly dependent upon each other, specifically noting that, “the technology-based service sector depends heavily on manufactured goods.” Additionally, the importance of domestic manufacturing to national defense and the increased dependence on foreign manufacturers increases U.S. vulnerability to receiving counterfeit goods. One of the important areas discussed in this study is that private companies capture less than half as much of the benefits from their own R&D as society does. This means that private company R&D has the characteristics of a public good.



**“Manufacturing has the biggest ‘multiplier’ effect of all industries in Florida.”**



Manufacturing has a large multiplier effect: Manufacturing has the biggest “multiplier” of all the industries in Florida – therefore more economic activity is gained per economic development dollar by creating manufacturing jobs than any other industries. According to Working for America’s “The

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<sup>3</sup> The Case for a National Manufacturing Strategy. Ezell, Stephen and Atkinson, Robert. The Information and Technology and Innovation Foundation. April 2011.



Economic Overview of Manufacturing”, manufacturing has the highest multiplier of all sectors. It indicates that each dollar of manufactured goods creates another \$1.43 of activity in other sectors. Further, it indicates that the manufacturing multiple is just over double the multiplier for services.

### ***Section 1 Conclusion***

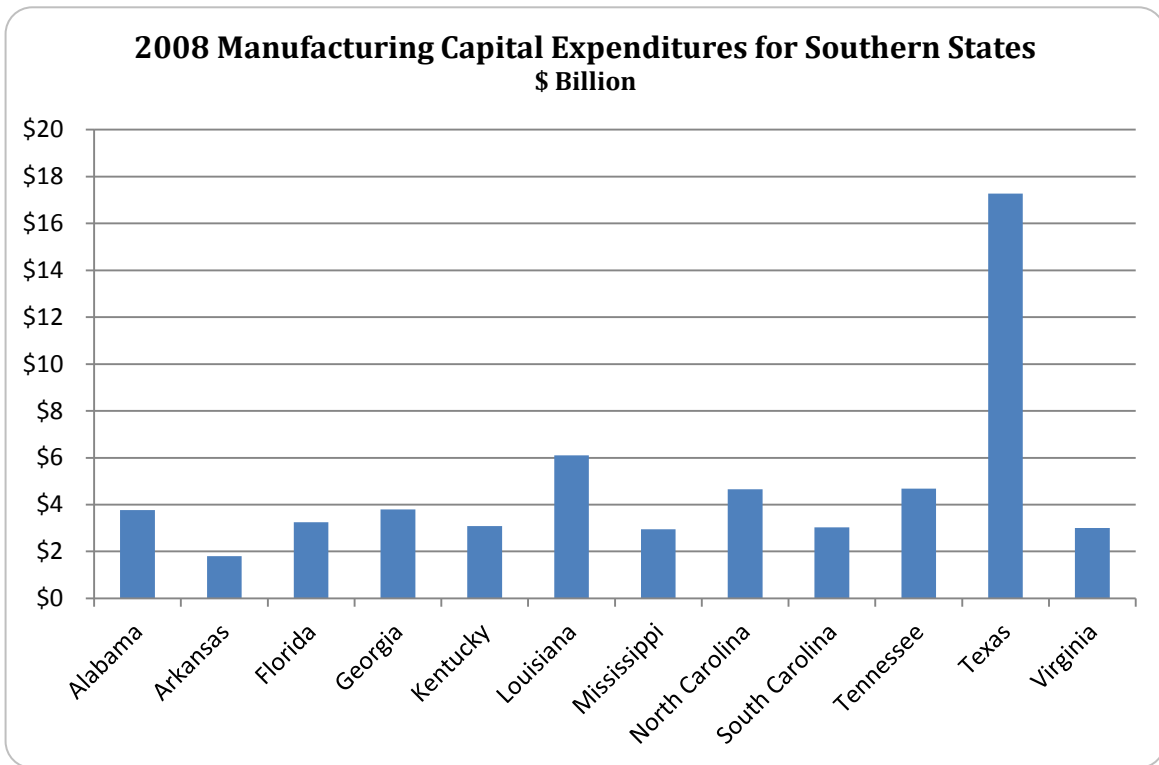
**T**he economic data examined in this section reveals that Florida’s manufacturing sector is responsible for a significant amount of employment in the state and provides higher wages and Florida economic stability in terms of number of businesses operating, employment, and levels of personal income for those involved in the sector. This is especially important given Florida’s consumption based fiscal portfolio. Furthermore, manufacturing is a high-value economic sector that adds significantly to Florida’s economy.

## Section 2: Florida is Lagging Behind Other Southern States in Manufacturing Capital Expenditures

**C**apital intensity of manufacturing enterprises is important for many reasons. It is especially interesting to economists because it affects the productivity of labor. Typically the more capital intensive a process is, the more productive labor is. There are high correlations between labor productivity and wages – therefore high productivity of labor is something both private industry and the State should encourage. This is especially true for states that are dependent upon sales tax receipts for their income – higher wages means higher discretionary spending, therefore higher sales tax receipts.

Using state-level data from the U.S. Census Bureau Annual Survey of Manufacturers on Total Capital Expenditures, Figure 12 below shows that Florida manufacturers spent approximately \$3.25 billion on capital goods during 2008. Although Florida’s manufacturers are not the largest investors in capital equipment on a statewide level for the 12 Southern States shown, Texas is certainly the leader with more than \$17.2 billion.

Figure 12

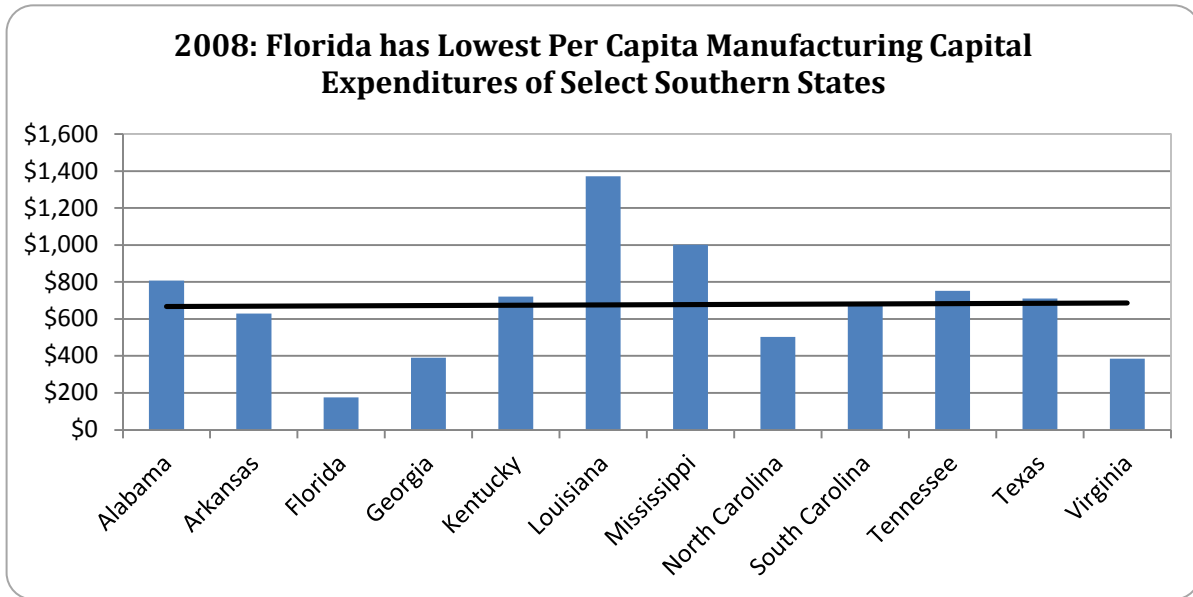


Source: U.S. Census Annual Survey of Manufacturers

In Figure 12 (above) representing capital expenditures by manufacturers, Florida seems to be competitive with many other states. However, a different picture develops when states are compared per-capita basis. Figure 13 (next page) shows the same group of states and their

ranking when capital expenditures are divided by the July 2008 Census Bureau population estimates of each state.

**Figure 13**



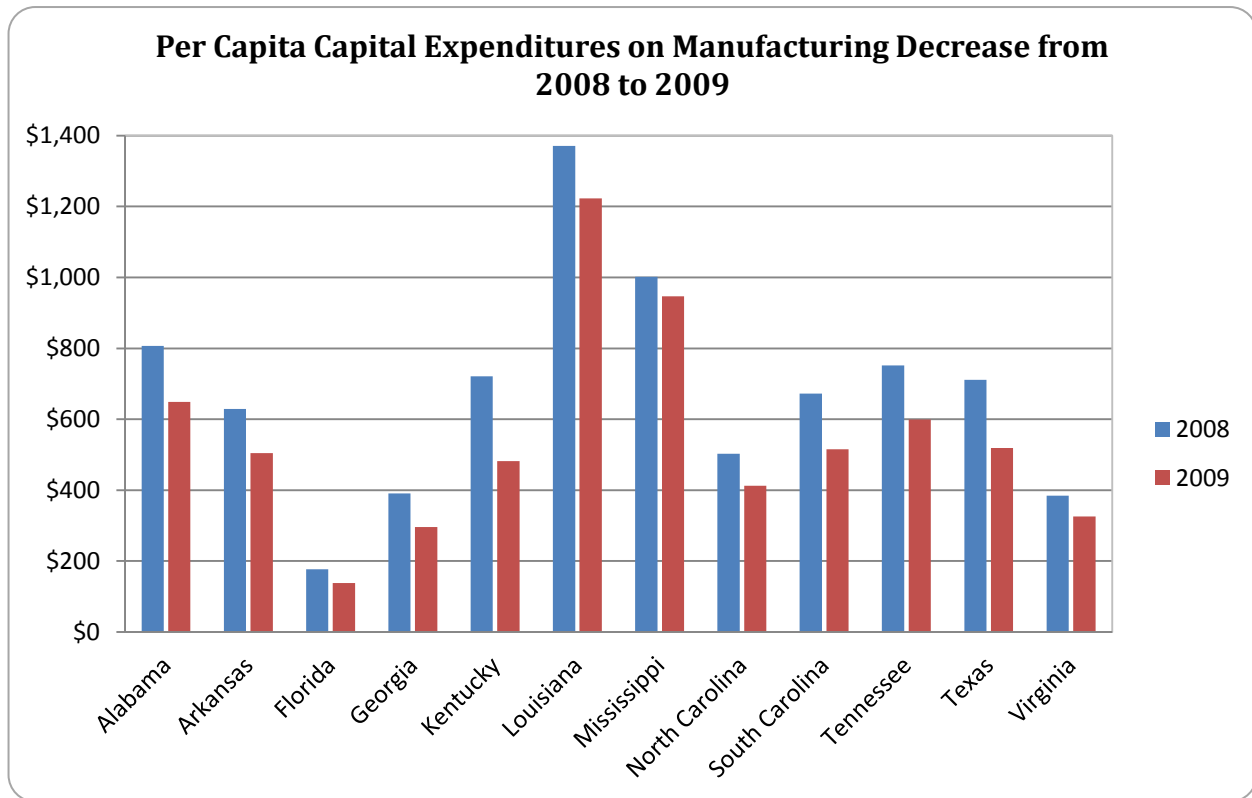
Source: U.S. Census Annual Survey of Manufacturers

Disturbingly, Florida ranks at the bottom with fewer than half of the average capital expenditures of these states. The horizontal line on the graph below shows the mean value for this group of states, \$676.53. The median value for this group is \$691.49.

Given that capital expenditures from year to year are variable, one would hope that the 2008 Florida figures were skewed, or Florida had an “off” year. Using the same technique of dividing by the estimated population – this time the July 1, 2009 estimate – the results showed that Florida’s per-capita manufacturing capital expenditures dropped from \$176.37 to \$138.20. The next-lowest in 2009 was Georgia at \$295.88 per capita.

***From Texas to Virginia, Florida has the lowest per capita manufacturing capital expenditures of the 12 southern states.***

Figure 14



Source: U.S. Census Annual Survey of Manufacturers

### ***Section 2 Conclusion***

**F**lorida is missing an important capital investment opportunity in the high value-added manufacturing sector, which (as shown in Section 1) is a stable sector linked with high wages and high personal income. Florida is losing to our competitor states (other southern states) in capital investment in manufacturing. Enhancing Florida’s manufacturing sector could lead to capital formation and job creation in the Sunshine State. The next section will examine the possible causes of Florida’s lagging manufacturing-related capital investment.

### Section 3: Why Florida Is Less Attractive to Manufacturing-Related Capital Expenditures and Investment

**A** new National Bureau of Economic Research (NBER) working paper<sup>4</sup> shows evidence Florida’s “economic development by retail” is crowding out “economic development by manufacturing.” Researchers tested the theory that governments try to maximize local receipts, so those with local and county taxes prefer retail because retail generates more local sales tax revenue than does manufacturing (or anything else). After controlling for inflation, it is indicated that local sales tax revenue in Florida increased by 380 percent between 1992 and 2008 compared with an eight percent increase in property tax revenues.

Section 1 has shown manufacturing is an important economic sector for Florida. Section 2 has shown that Florida, on a per capita basis, has far less manufacturing capital investment compared to the other 11 Southern states. Section 3 examines some of the reasons why Florida is not an attractive place for manufacturing investment.

First, Florida taxes capital formation through sales taxes on machinery and equipment. Although partial exemptions are possible for machinery and equipment, they apply only to new and expanding businesses. Existing businesses that are not expanding, but wish to invest in new capital equipment, are required to pay sales taxes on production equipment. Even those that are expanding that wish to qualify for tax credits are required to show production increases. Some of those may be difficult to show in complicated manufacturing processes. These taxes on production equipment reduce the amount of capital investment that companies make, therefore they keep Florida firms from increasing their competitiveness.

Second, Florida taxes capital formation through its Tangible Personal Property tax, exempting only the first \$25,000 of capital for businesses. Small businesses with low amounts of capital are exempted and the more capital intensive industries pay the most. This *Research Report* reveals (in Section 1.D) that more capital intensive industries are, in most cases, the high value-added industries that provide high wages to Floridians. According to an April 2011 Ernst and Young report<sup>5</sup>, on “new investment”, Florida has relatively high tax burden both on new capital and on new jobs. Their study indicates that the effective tax rate on new capital for a mix of potential businesses coming to Florida would be 7.4 percent and the effective tax rate on new jobs would be 8.7 percent – ranking Florida 27<sup>th</sup> and 26<sup>th</sup> best in the country. Other southern states that have lower tax burdens on new investment include Texas, Georgia, Kentucky and Virginia.

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<sup>4</sup> Fiscal Zoning and Sales Taxes: Do Higher Sales Taxes Lead to More Retailing and Less Manufacturing? Burnes, D., Neumark, D., and White, M. National Bureau of Economic Research. Working Paper 16932. April, 2011.

<sup>5</sup> Competitiveness of State and Local Business Taxes on New Investment. Cline, R., Phillips, A., and Neubig, T. Ernst & Young. April 2011.

Third, forthcoming Florida TaxWatch research indicates that the Qualified Target Industries (QTI) program, one of Florida's current economic development programs, favors less capital intensive industries at the expense of Florida's manufacturing. A business that uses the QTI program must be either a new or expanding business, and it must create a minimum of 10 jobs. Given that manufacturing is more capital intensive than other industries, the capital needed to go along with the production of those 10 new jobs is significantly higher than for the average business. A manufacturer that wanted to bring new capital to Florida and start a small operation with fewer than 10 employees would not be able to use the QTI program.

Fourth, Florida's Capital Investment Tax Credit (CITC) program is designed to help Florida attract large highly capital-intensive firms in targeted sectors. To qualify for the tax credits possible with the CITC, firms are required to invest at least \$25 million and to create at least 100 jobs.

Florida is missing an opportunity with both of these economic development programs. Given Florida's lagging position in the recent amount of capital expenditures and Florida's unemployment rate, the state should look at the possibility of modifying the requirements to attract more businesses to Florida. Many manufacturing businesses start with a small-scale operation with a minimum number of employees, and then add capacity once their products become established. Some of these small manufacturers can grow into companies that provide employment and income for Floridians. Florida can diversify its economy by modifying existing programs and studying lowering the requirements for the QTI and CITC programs to attract more business to Florida.

*“Given Florida’s bottom ranking in capital expenditures and high unemployment rate, the state should consider modifying the requirements of its economic development programs.”*

### ***Section 3 Conclusion***

**F**lorida has challenges to growing the manufacturing sector, which would help increase economic stability, encourage capital formation and job creation, and generate significant economic activity.

## Section 4: Potential Benefits of Growing Florida’s Manufacturing Sector

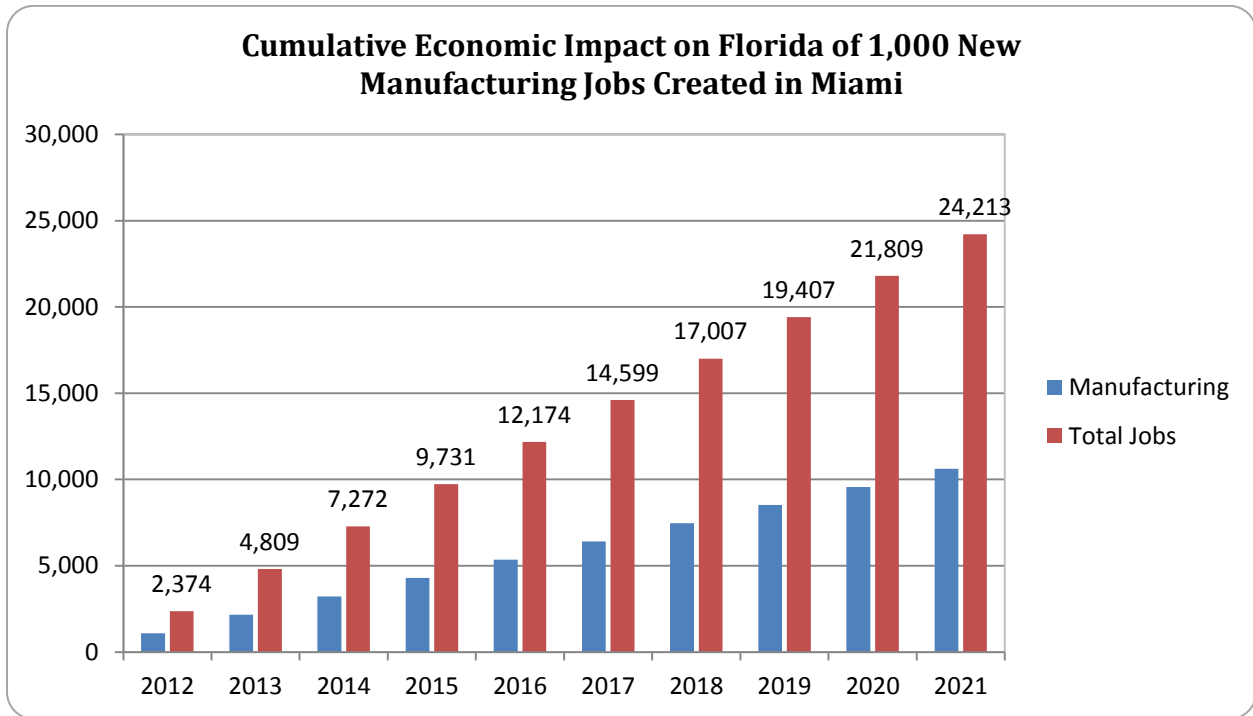
**T**o obtain an estimate of the value per added manufacturing job in Florida, Florida TaxWatch employed the well-respected dynamic model from Regional Economic Models, Inc. (REMI) to estimate the economic activity generated by the addition of manufacturing jobs in Miami, which can be scaled up to other areas using relative manufacturing wages (from Section 1.B). For this exercise, in Miami-Dade County, an increase of 1,000 manufacturing jobs each year for ten years was modeled. This appears to be a reasonable increase given the 72,300 manufacturing jobs in the Miami-Fort Lauderdale-Pompano Beach Metropolitan Statistical Area (MSA).

As shown in Figure 3 (Section 1.B on page 5), Miami-Dade County has relatively lower manufacturing wages than other counties with large numbers of manufacturing jobs, therefore the multipliers obtained in this estimate should be larger for other areas in terms of income than in Miami-Dade County. One should be careful to note that different areas have different multipliers due to features of the economies of each area, therefore if precise estimates are needed, an estimate for each area should be run.

In this exercise, some important assumptions must be noted. First, there are no construction costs for either building new factories or retrofitting old ones. If there were, the multiple would increase during the construction phase and cause significantly more economic activity. Second, the new manufacturing jobs are allocated in the current percentages of the manufacturing industry mix in Miami-Dade. Multipliers for more specific types of industries within manufacturing can have higher or lower multiples. Finally, these jobs are created exogenously – therefore the model has not been manipulated to create the jobs endogenously by increasing demand to generate these jobs.

Figure 15 (next page) shows the path of job creation using the above assumptions in the model. The total of jobs created is 24,213 over the 10 year period. Of that, 13,595 are non-manufacturing jobs. One should note that the increase in manufacturing jobs is slightly higher than the 10,000 (10,618) due to some manufacturing jobs being created because of personal consumption expenditures by each 1,000 new manufacturing workers.

**Figure 15**



Source: Florida TaxWatch analysis using Regional Economic Models, Inc. (REMI), 2011

The economic impact of these jobs is very large over the 10 year period. The first year economic impact will be approximately \$570 million in adjusted 2010 dollars. These effects include:

**Table 2: First Year Economic Impact on Florida of 1,000 New Manufacturing Jobs**

In \$ Million (2010 Dollars)	Year 1
Personal Consumption Expenditures	\$83.60
Gross Private Domestic Investment	\$18.80
Change in Private Inventories	\$5.10
Exports of Goods and Services	\$274.10
Imports of Goods and Services	\$168.20
Government Consumption & Investment	\$20.30
<b>Total</b>	<b>\$570.00</b>

The subsequent years will have effects larger than the first year, given more people are employed in the region and there will be more consumption and demand for goods and housing. One of the significant results of this estimate is that net exports to foreign countries should rise in the first year by \$105.9 million. That figure is derived by deducting the expected increase in imports of goods and services from the expected increase in exports of goods and services.



## **Section 5: Florida TaxWatch Recommendations**

**F**lorida has great opportunity to increase the state's manufacturing sector, which will attract capital, create high-wage jobs, increase productivity, and enhance economic stability for the state. Econometric analysis shows that increasing manufacturing jobs generates significant economic activity and jobs in other economic sectors, adding millions to the Gross State Product. Furthermore, comparison with our competitor states in the Southeast U.S. clearly shows that Florida is lagging behind in the strength of our manufacturing sector, a sector that is especially important to Florida because of the rising importance of international trade and the upcoming expansion of the Panama Canal.

Florida's political and economic leaders must take active steps to make Florida more attractive to manufacturers in order to attract capital formation and job creation. Specifically, Florida should:

Incentivize capital investment by modifying the current Florida QTI and CITC programs to allow for smaller companies to invest their capital in Florida. Modifying the requirements can lead to smaller, more dynamic companies in their early stages to establish their businesses in Florida and hire more Floridians.

Reduce the penalties for accumulating productive capital in Florida by: eliminating all taxes on manufacturing inputs; eliminating sales taxes on purchases of machinery and equipment; and allowing an accelerated depreciation schedule on valuations for Tangible Personal Property Taxes. Lowering taxes on inputs and machinery will encourage capital investment and its positive effects on competitiveness for Florida firms. Allowing accelerated depreciation on existing equipment will lower the amount of Tangible Personal Property Tax, therefore lowering the penalty for capital accumulation.

Continue to improve Florida's infrastructure with investments such as the forthcoming deepening of the Port of Miami. Improvements in transportation infrastructure lead to higher national and international competitiveness and lower costs for all Floridians.

This Florida TaxWatch *Research Report* was written by **Jerry Parrish, Ph.D.**, Chief Economist and Director of the Florida TaxWatch Center for Competitive Florida, with assistance from **Katie Furtick**, Research Assistant, and direction from **Robert Weissert, Esq.**, Vice President for Research.

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## *About Florida TaxWatch*

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Florida TaxWatch is a statewide, non-profit, non-partisan taxpayer research institute and government watchdog that over its 32-year history has become widely recognized as the watchdog of citizens' hard-earned tax dollars. Its mission is to provide the citizens of Florida and public officials with high quality, independent research and education on government revenues, expenditures, taxation, public policies, and programs, and to increase the productivity and accountability of Florida Government.

Florida TaxWatch's research recommends productivity enhancements and explains the statewide impact of economic and tax and spend policies and practices on citizens and businesses. Florida TaxWatch has worked diligently and effectively to help state government shape responsible fiscal and public policy that adds value and benefit to taxpayers.

This diligence has yielded impressive results: in its first two decades alone, policymakers and government employees implemented three-fourths of Florida TaxWatch's cost-saving recommendations, saving the taxpayers of Florida more than \$6.2 billion -- approximately \$1,067 in added value for every Florida family, according to an independent assessment by Florida State University.

Florida TaxWatch has a historical understanding of state government, public policy issues, and the battles fought in the past necessary to structure effective solutions for today and the future. It is the only statewide organization devoted entirely to Florida taxing and spending issues. Its research and recommendations are reported on regularly by the statewide news media.

Supported by voluntary, tax-deductible memberships and grants, Florida TaxWatch is open to any organization or individual interested in helping to make Florida competitive, healthy and economically prosperous by supporting a credible research effort that promotes constructive taxpayer improvements. Members, through their loyal support, help Florida TaxWatch bring about a more effective, responsive government that is accountable to the citizens it serves.

Florida TaxWatch is supported by all types of taxpayers -- homeowners, small businesses, large corporations, philanthropic foundations, professionals, associations, labor organizations, retirees -- simply stated, the taxpayers of Florida. The officers, Board of Trustees and members of Florida TaxWatch are respected leaders and citizens from across Florida, committed to improving the health and prosperity of Florida.

With your help, Florida TaxWatch will continue its diligence to make certain your tax investments are fair and beneficial to you, the taxpaying customer, who supports Florida's government. Florida TaxWatch is ever present to ensure that taxes are equitable, not excessive, that their public benefits and costs are weighed, and government agencies are more responsive and productive in the use of your hard-earned tax dollars.

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