

# **Impact of Foreign Exports On Tennessee Counties**

Raman Vishwanathan

April 1999

Staff Paper 99-5

Raman Vishwanathan is a Research Assistant in the Department of Agricultural Economics at the University of Kentucky. He is currently working on a Ph.D. in Agricultural Economics.

Staff papers are distributed by TVA Rural Studies as part of its effort to improve the information available to rural decision makers. Each staff paper reflects the research and opinions of the authors. Research papers are published without going through a formal review process and TVA Rural Studies neither endorses nor disavows any opinions in these papers.

# **Impact of Foreign Exports On Tennessee Counties**

## **Introduction**

International trade is important to the economic well being of a nation and a region. In recent times, the United States has been the world's largest trading nation. In 1995, it accounted for almost 15 percent of world imports (\$905 billion) and nearly 12 percent of world exports (\$825 billion). The next largest trading country, Germany, accounted for 8 percent of world imports and 10 percent of world exports.

The major trading partners of the United States are mainly the industrialized countries; however, exports to many developing countries, particularly in Latin America and Asia have increased in recent years. International trade is expected to become even more important in the future.

Tennessee is very much a part of this trend, as it is becoming an increasingly active participant in today's global economy. The share of foreign exports of goods and services in Tennessee's economic activity has been growing steadily. Between 1993 and 1997, the exports of goods and services from Tennessee grew by 61.2 percent. But in 1995 exports from Tennessee constituted only two percent of the total U.S. foreign export activity, leaving great potential for Tennessee to expand in the trade arena.

This paper examines the magnitude of foreign exports in various sectors of the Tennessee economy. Of particular interest is the impact of foreign exports at the county level, especially in the more rural portions of the state.

To better understand Tennessee's situation, U.S. imports are also examined and then compared to Tennessee's exports. This provides information on the degree for which Tennessee is participating in those export sectors experiencing the greatest growth.

Both direct and indirect sale of goods and services that result in foreign exports are taken into account in the study. That is, products or services produced in one county may be shipped to another county where they are used in the production of goods or services that are exported. Thus, some of the counties, which may not have any 'reported' direct exporters, may actually have some hidden export figures as a result of its indirect exports.

## **Objective of the Study**

This report focuses primarily on the importance of foreign exports and their impact on the county economies in Tennessee. Analysis is conducted at the county level for all 95 counties of the state to measure the impact of foreign exports on local output, employment, income, and value added.

## **Key Findings**

- Over one-fourth of all U.S. goods and services are related to foreign trade. If current trends continue, it is estimated that by the year 2020 over one-half of the U.S. economy will be foreign trade related.

- Exports are important to Tennessee as well—accounting for nearly 14 percent of the state’s manufacturing employment, 7 percent of its private sector employment, and generated 17 jobs for every million dollars in exports.
- Still, there is room for improvement in Tennessee exports—the average export wage in the state is only 83 percent of the U.S. average export wage and the state accounted for only 2.15 percent of U.S. exports.
- Despite the fact that 70 percent of Tennessee’s counties are non-metropolitan, those counties account for only 34 percent of the state’s exports.
- Manufacturing and agriculture are the state’s leading non-metropolitan exports.

## **Exports and Economic Growth**

The impact of exports on economic growth has been a subject of considerable interest to development economists in recent times. Several empirical studies have shown that economies with a favorable export growth record enjoy higher rates of growth of national income. This observation of positive correlation between exports and national income is obvious, as exports are nothing but a component of the aggregate output of the economy. Because they are influenced much more by the incomes of importing countries than by the incomes of the exporting countries, exports are a relatively clear case of an exogenous source of demand unlike those sources that come from within the economy, like investment or government expenditure. Further, several studies have also shown that exports contribute to economic growth more than simply through the direct effect of an increase in the volume of exports [ Balassa (1978), Heller and Porter (1978), Michaely (1977), and Tyler (1981) ].

The idea that greater exports lead to higher rates of economic growth is firmly established in practice as demonstrated historically by the adoption of export oriented policies by countries and regions. To analyze the export-led growth hypothesis economists have either turned to development economics or regional and urban economics. Development economics primarily analyzes whether benefits from technological improvements in one sector of the economy, as a result of foreign exports, spill over to the rest of the economy. Balassa (1978) confirmed this export-led growth hypothesis. Later, Feder (1983) and Marin (1992) found their results to favor export-led growth theory.

Conversely, in regional economics, one analyzes whether a region’s export sector activity drives non-export sector activity and hence, overall economy. Thus, one is more interested in the impact of exports on employment, income and such other factors of the local economy, that is, its direct, indirect and induced effects. Krikelas (1992) provides a detailed survey on this topic but his findings were mixed. One of the major challenges in such studies is the methodology used to divide a region’s employment into export-sector employment and nonexport-sector employment. Richardson (1978) has thrown some light in this regard and outlined the challenges faced by an empirical analyst. Such studies, where export-economic growth relationship is examined, are commonly referred to as the ‘export-base theory’.

This theory is based on the idea that for a local economy to grow it has to increase its monetary inflow. And that the only way to achieve this monetary inflow is by means of

increased net exports. Therefore, export activity is considered as the engine of economic growth. In the words of Tiebout (1962),

“Export markets are considered the prime movers of the local economy. If employment serving this market rises or falls, employment serving the local market is presumed to move in the same direction. When the factory (export) closes, retail merchants (local) feel the impact as laid-off factory workers have less to spend. Because of the prime mover role, export employment is considered as ‘basic’. Employment which serves the local market is considered adaptive and is titled ‘non-basic’.”

The export sector generates the money that flows into the local economy and this income is spent and re-spent in the various other sectors of the local economy, thereby generating additional income through the multiplier effect. According to Blair (1995), the propensity of the individuals to spend ‘locally’ within a locality rather than outside the local area, determines the magnitude of the multiplier.

In most export-base analyses of local impacts, employment is used as a proxy for income because of lack of accurate regional income data and other related information which makes it impossible to compute figures like marginal propensities to consume or the marginal propensities to import. Where local employment is used as a proxy, jobs are placed in one of two categories. The first is involved in the production of goods and services for export and the other is involved in the production of goods and services for local consumption.

However, Blair (1995) argues that in using the export-base model two assumptions are critical. The first assumption is that income is proportional to employment. This allows one to measure changes in income by using changes in employment. The second assumption is that the ratio of export employment to total employment is constant. Therefore, each new export job creates the same number of nonexport-sector jobs. Or in other words, as the number of workers, or income, in the export-sector increases, the number of workers, or income, in the nonexport-sector will increase in the same proportion as the existing ratio of export to total employment or income.

## **Methodology and Data**

Several methodologies are available to measure the influence of exports on economic growth. Most of them have been employed at the national or state level. Only infrequently, have such studies been conducted at the county level. But crucial knowledge can be gained from these studies which can then be modified and incorporated in a model to suit the county level conditions, where there is typically limited information available.

International markets influence a local economy through several direct and indirect channels. These inter-industry linkages require an analysis of several sectors of the local economy simultaneously. Input-output analysis is a means of examining relationships within an economy both between businesses and between businesses and final consumers. It captures all monetary transactions for consumption in a given time period. The resulting mathematical formulae allow one to examine the effects of an economic activity on an entire economy. It is a versatile tool because it enables one to examine the linkages among the different sectors of the economy.

The models in this study are constructed with "IMPLAN", an input-output model that analyzes interdependencies among industries in a county economy. The figures for foreign exports, output, earnings, employment etc., in each county are estimated using RIMS II multipliers derived from the Input-Output analyses conducted by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce. The 10 aggregated sectors and their appropriate IMPLAN codes, which will be used in rest of this report, are listed in Table 1.

**Table 1. Sector Names and Codes used by IMPLAN**

<b>IMPLAN Code</b>	<b>Sector</b>
1	Agriculture
28	Mining
48	Construction
58	Manufacturing
433	Transportation, Communications & Utilities (TCPU)
447	Trade – Wholesale & Retail
456	Finance, Insurance & Real Estate (FIRE)
463	Services
510	Government
516	Other

It is important to mention here that these foreign export figures are aggregate figures. That is they have both the direct foreign exports from a particular county as well as indirect foreign exports from that county. Thus, as mentioned earlier, a county may have some foreign export figure even though there may not be any ‘reported’ exporters in that county.

Once again using IMPLAN, which uses data specific to each county to capture the linkages among sectors in the local economy, we estimated the impact of foreign exports on output, income, value-added, and employment. By using the same principles as export-base theory, IMPLAN estimates the number of workers required to fulfill the export obligation given the economic structure of that particular county. Once the export employment figures are estimated, the impact on other sectors of the economy is then estimated by simulating the interactions amongst the different sectors.

The IMPLAN model with 1995 data, was used to simulate the economic structure of each county. Therefore, all the figures and tables mentioned in this report are for 1995.

The strength of input-output models lies in their ability to capture the interdependencies within an economy, but it must be kept in mind that they are only representations of local economies. The data used to calibrate the models come from county level estimates and were collected several years ago. Consequently the results of the analysis should be interpreted with caution, and as providing guidance about the general magnitudes of the changes that can be attributed to foreign exports. Another important point that should be mentioned here is the fact that input-output models do not incorporate the ability to alter technology. Thus, making projections or conducting analysis over a period of time is not possible. For some sectors the change in technology occurs over a very short period of time whereas for some sectors the technology remains the same for quite sometime. Thus, the accuracy of the projections or analysis over a period of time, have to be interpreted with caution depending on the sector under consideration.

Finally, while county level models capture the impacts of foreign exports on the local economic activities in the county, they do not incorporate the effects of parallel impacts in other counties in the state as well as in other states. Thus the model implicitly assumes that the inter-industry relationships in rest of the counties as well as rest of the nation remain constant.

Given these difficulties one should be careful in interpreting the results of the IMPLAN model. The most appropriate way to interpret the model is to look at the relative magnitudes of the changes rather than the absolute levels of change. The models provide reasonable estimates of the sectors of the local economy most influenced by foreign exports and also show that different counties experience different relative effects.

### Profile of U.S. Foreign Trade

Between 1985 and 1995, the growth in U.S. exports of goods and services has averaged a little over 10 percent per year. Whereas the U.S. GDP growth rate for the same period has been little less than 6 percent. This suggests foreign trade is becoming increasingly important to the United States. Currently representing more than one-fourth of the U.S. economy, foreign trade is estimated to account for nearly half of the U.S. economy by 2020.

**Figure 1. U.S. Foreign trade as a percentage of GDP**

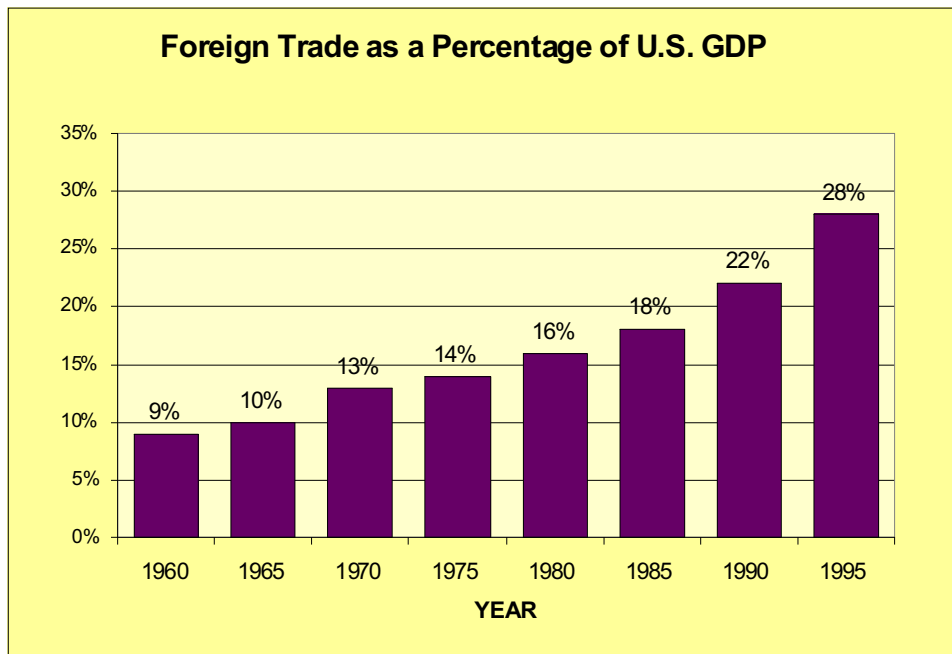


Table 2 shows the top ten U.S. export destinations in January 1996 and in September 1998. The values given are for imports and exports added together. These countries represent 71 percent of U.S. imports and 67 percent of U.S. exports in goods only.

**Table 2. Top Ten U.S. Export Destinations**

January 1996		September 1998		
Rank	Country	Total Exports (mil. \$)	Country	Total Exports (mil. \$)
1	Canada	\$10,301	Canada	\$13,054
2	Japan	\$ 5,222	Mexico	\$ 6,883
3	Mexico	\$ 4,276	Japan	\$ 4,596
4	United Kingdom	\$ 2,342	United Kingdom	\$ 3,603
5	South Korea	\$ 1,925	Germany	\$ 2,279
6	Germany	\$ 1,903	France	\$ 1,382
7	Taiwan	\$ 1,571	Singapore	\$ 1,336
8	Singapore	\$ 1,276	South Korea	\$ 1,311
9	France	\$ 1,204	Taiwan	\$ 1,306
10	Hong Kong	\$ 996	Brazil	\$ 1,219

Canada continues to be the strongest export destination for the United States. Japan, the second largest buyer of U.S. exports in 1996, fell to third place by September 1998. One can clearly see the effects of the North American Free Trade Agreement and the Asian financial crisis on the top U.S. export destinations. Both Canada and Mexico showed major increases in exports, and Mexico moved to second place. All the Asian countries in the top 10 in 1996, with the exception of Singapore, fell in their rankings. In September of 1998, Brazil became the 10<sup>th</sup> leading export destination for the U.S.

Figure 2 gives a summary of foreign exports by sector for the year 1995. Manufacturing accounts for nearly two-thirds of foreign exports. The least important sectors in terms of foreign exports are services and FIRE (finance, insurance, and real estate), together accounting for just 6 percent of the total exports for that year. Since many of the component industries of these sectors are not readily tradable, their low ranking is not surprising.

**Figure 2. U.S. Foreign exports by sector**

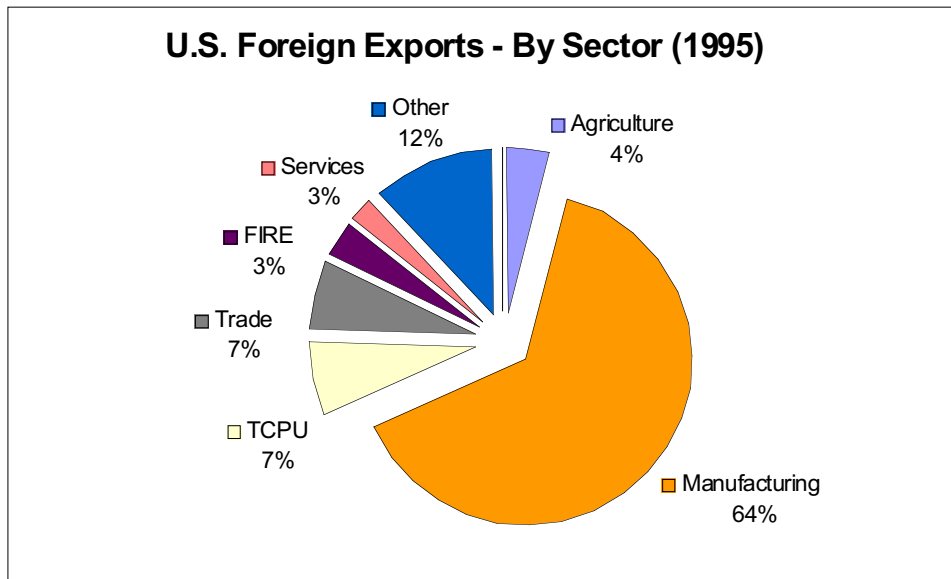


Table 3 shows the amount of employment supported as a result of one million dollars in exports. Construction was found to support the most, followed by services. Manufacturing resulted in only 10 jobs. However, it must be noted that construction and services have rather modest levels of exports.

**Table 3. Total Employment per Million Dollars of Foreign Export**

<b>Sector</b>	<b>Total Employment Per Mil. \$ of Exports</b>
Agriculture	45.54
Mining	24.50
Manufacturing	9.80
TCPU	21.56
Trade	85.51
FIRE	46.25
Services	266.35
Total	15.57

On average each million dollars of exports supported nearly 16 jobs in total, that is, those involved in ‘**direct export employment**’ and those involved in ‘**supporting export employment**’. Total export employment generated as a result of foreign exports was 20.74 million. Of which ‘**direct export employment**’ was 5.52 million and ‘**supporting export employment**’ was 15.22 million.

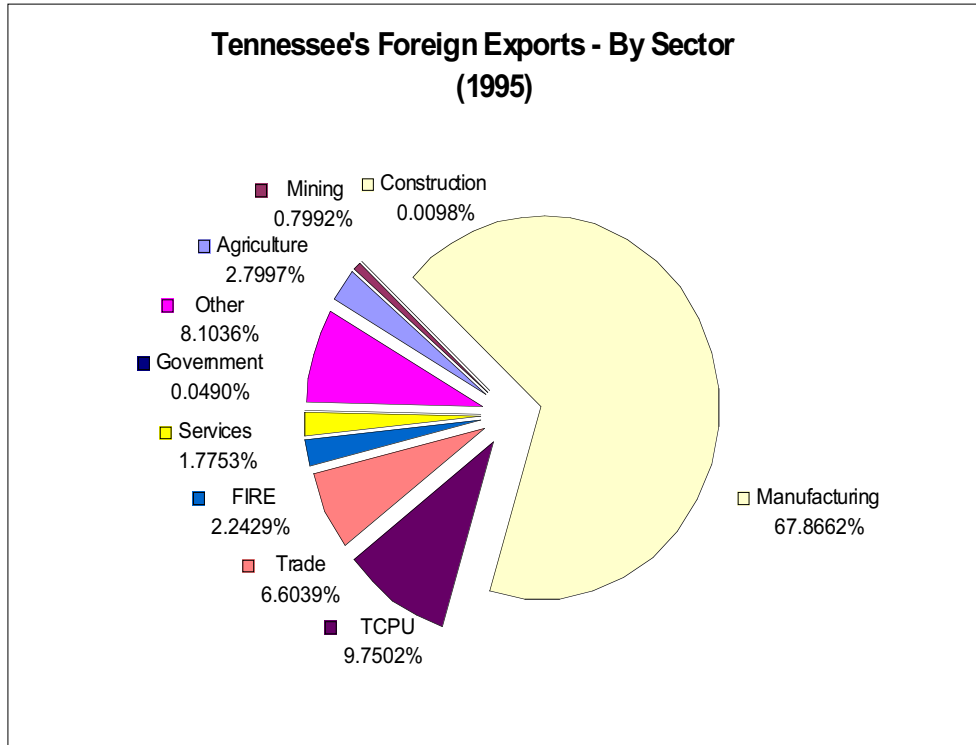
In 1995, an average export worker’s annual compensation was \$31,685—17 percent more than a non-export sector worker’s average compensation of \$26,976. The average compensation for all workers in the U.S. was \$28,167 and the per capita GNP was \$23,196 for the same year.

In 1995, \$824 billion in export of goods and services resulted in a total output impact of \$2,226 billion and the impact on total value added was \$1,168 billion. That is an impact of \$2.70 on output and \$1.48 on total value added for every dollar of foreign exports.

### **Profile of Tennessee Exports**

In 1995, Tennessee’s foreign exports (both direct and indirect) stood at \$17.5 billion. This represented a little over 2 percent of the total U.S. exports. Out of this figure, the metropolitan areas constituted \$11.6 billion (67 percent) and the non-metropolitan areas contributed \$5.9 billion (33 percent). Tennessee’s total foreign exports were 16 percent of its GDP, thereby making it an important part of the state economy. Figure 3 summarizes the various sectors’ contribution to total state exports.

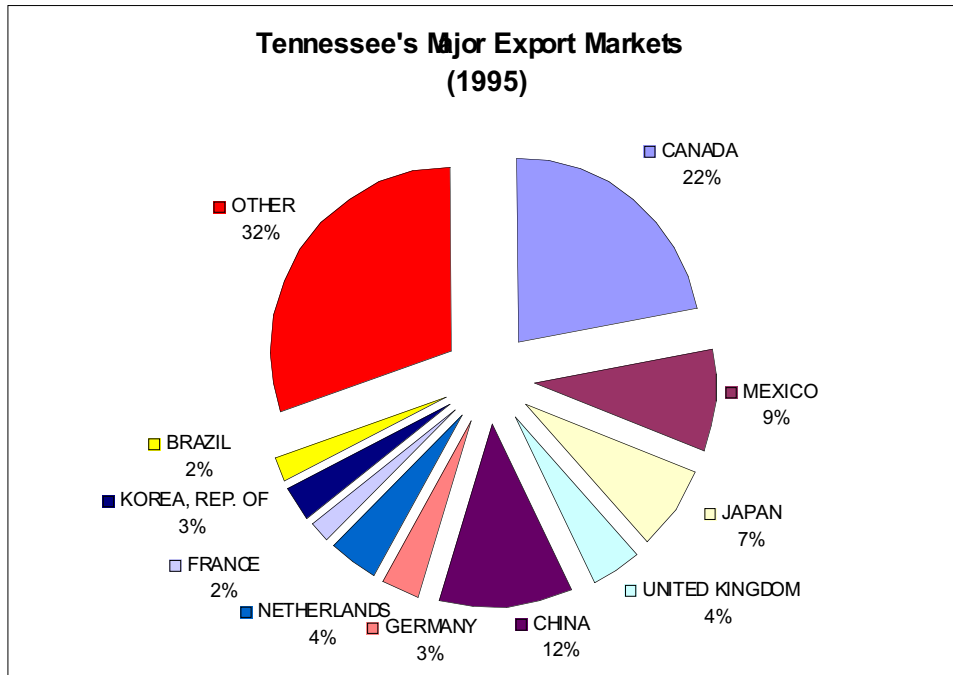
**Figure 3. Tennessee's Total Exports by Sector**



One can easily notice the importance of the manufacturing sector in foreign exports; it is two-thirds of the entire exports for the year 1995. The same year, total manufacturing employment in Tennessee was 553,915. Employment that directly related to manufacturing export activity for the same period was 75,177. Recently, however, manufacturing employment has been declining in the United States and the same holds for Tennessee. In second place are transportation, communications & utilities (TCPU), constituting nearly one tenth of the total. The mining and construction sectors contribute the least to foreign exports.

Tennessee's top ten export markets in 1995 are shown in Figure 4.

**Figure 4. Major Export Destinations for Tennessee**



Canada, China, Mexico, Japan and United Kingdom account for over half of Tennessee’s exports. When the export destinations are ranked in terms of percentage change between 1995-97, Mexico leads with a 41.6 percent increase, followed by the United Kingdom with 25.7 percent, Germany with 24.6 percent and Brazil with 22 percent.

Tennessee ranked 20<sup>th</sup> overall in the nation amongst all the states in total merchandise exports. It has increased its total merchandise exports by nearly 61 percent between 1993 and 1997. When ranked by the 1993-97 percentage change in state merchandise exports to the world, Tennessee once again ranked 20<sup>th</sup> in the nation with a percentage change in exports of 61.2 percent. However, when ranked by dollar change for the same period of time the rank improves to 18<sup>th</sup>.

**Table 4. Export Employment as a Percentage of Total Employment - By Sector**

Sector	Export Employment
Agriculture	30%
Mining	30%
Construction	2%
Manufacturing	17%
TCPU	18%
Trade	11%
FIRE	8%
Services	8%
Government	1%
Total Export Employment	6%

From the Table 4 one can examine the dependency of various sectors on foreign exports. Even though sectors like agriculture and mining are not the dominant sectors in terms of the dollar value of exports they are more dependent on foreign exports in terms of the share of employment. The least dependent in terms of the share of employment are FIRE, services, construction and government. One can also notice that on average export employment for the entire state only constitutes 6 percent of the total employment, even though exports constitute 16 percent of the state economy.

On average, in 1995, an export worker's annual compensation was \$28,236—15 percent more than the non-export sector worker who had average compensation of \$24,487. Average compensation for all the workers in the state of Tennessee was \$25,305 and the per capita GNP was \$21,060 for the same year.

In 1995, \$17.6 billion in exports of goods and services resulted in a total output impact on state GDP of \$31.2 billion, while the impact on total value added was \$15.6 billion. That is an increase of \$1.70 on output and \$0.89 on total value added for every additional dollar of foreign exports.

The relative importance of the various sectors change when measured by export employment instead of export sales. The following table shows these two rankings.

**Table 5. Ranking of the 10 Sectors by Export Sales And Export Employment**

<b>Sector</b>	<b>Export Sales</b>	<b>Export Employment</b>	<b>Change in Ranking</b>
Manufacturing	1	1	0
TCPU	2	5	-3
Other	3	10	-7
Trade	4	2	2
Agriculture	5	4	1
FIRE	6	6	0
Services	7	3	4
Mining	8	9	-1
Government	9	7	2
Construction	10	8	2

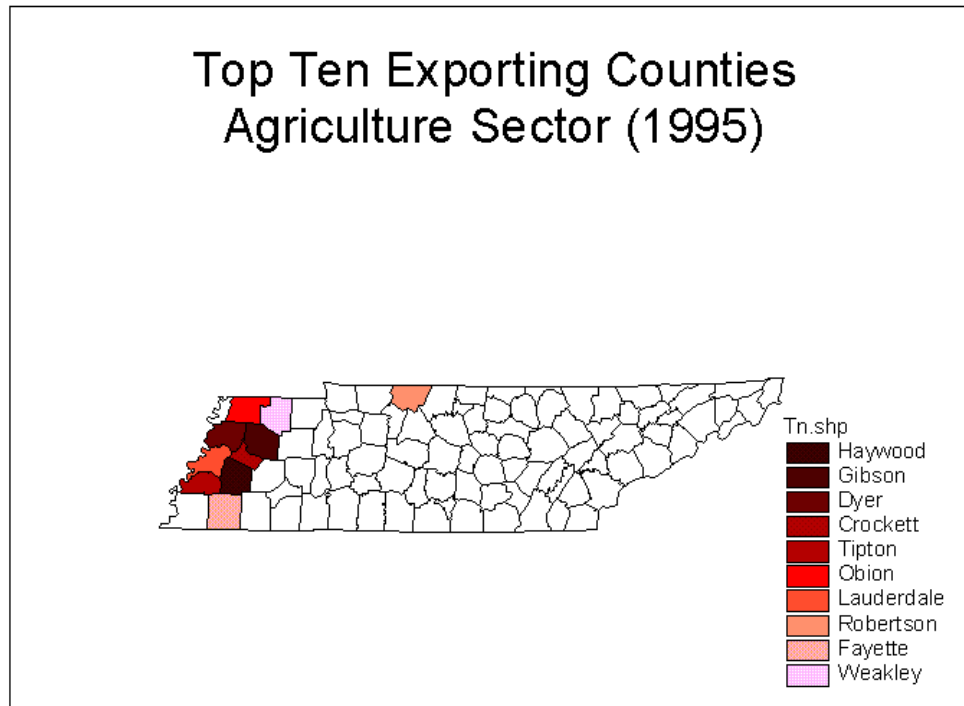
The importance of sectors like trade and agriculture is underestimated by the export sales criterion, that is, their ranking improves when judged by export employment as a share of total employment. On the other hand, the rankings for sectors like TCPU and mining deteriorated when ranked by export employment.

Now turning to the different counties of Tennessee, the top ten exporting counties by sectors are shown below in tables along with maps to show their location.

**Table 6. Top Ten Exporting Counties in Agriculture**

<b>County Name</b>	<b>Agriculture</b>
Haywood	\$ 31,414,930
Gibson	\$ 27,127,250
Dyer	\$ 26,515,340
Crockett	\$ 21,824,770
Tipton	\$ 21,578,810
Obion	\$ 21,512,710
Lauderdale	\$ 20,240,000
Robertson	\$ 18,866,070
Fayette	\$ 16,005,490
Weakley	\$ 14,345,850

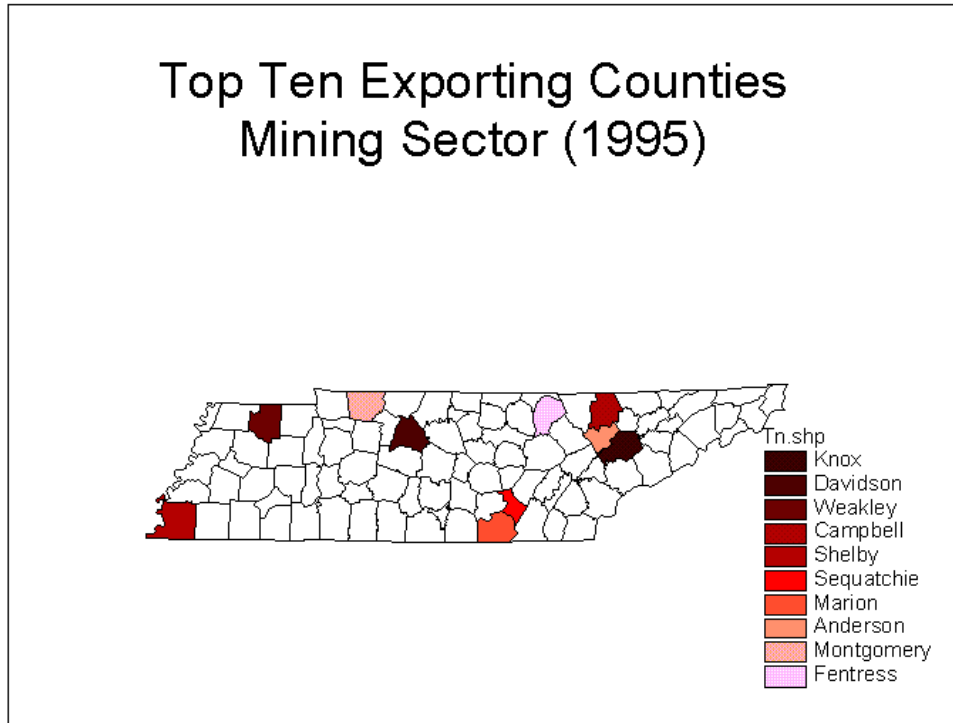
**Map 1. Top Ten Exporting Counties in Agriculture**



**Table 7. Top Ten Exporting Counties in Mining**

<b>County Name</b>	<b>Mining</b>
Knox	\$ 54,102,130
Davidson	\$ 25,831,650
Weakley	\$ 24,003,020
Campbell	\$ 6,836,264
Shelby	\$ 4,322,432
Sequatchie	\$ 3,137,763
Marion	\$ 2,987,261
Anderson	\$ 2,248,145
Montgomery	\$ 2,168,230
Fentress	\$ 1,983,705

**Map 2 Top Ten Exporting Counties in Mining**

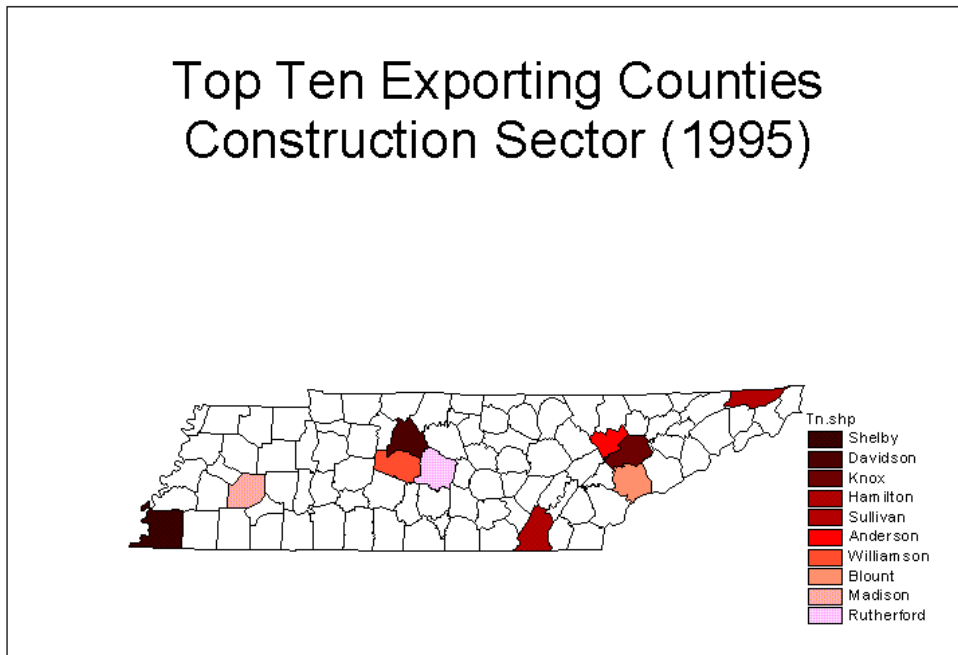


-

**Table 8. Top Ten Exporting Counties in Construction**

<b>County Name</b>	<b>Construction</b>
Shelby	\$ 280,412
Davidson	\$ 255,110
Knox	\$ 152,945
Hamilton	\$ 113,567
Sullivan	\$ 54,130
Anderson	\$ 48,667
Williamson	\$ 48,544
Blount	\$ 42,917
Madison	\$ 42,150
Rutherford	\$ 40,654

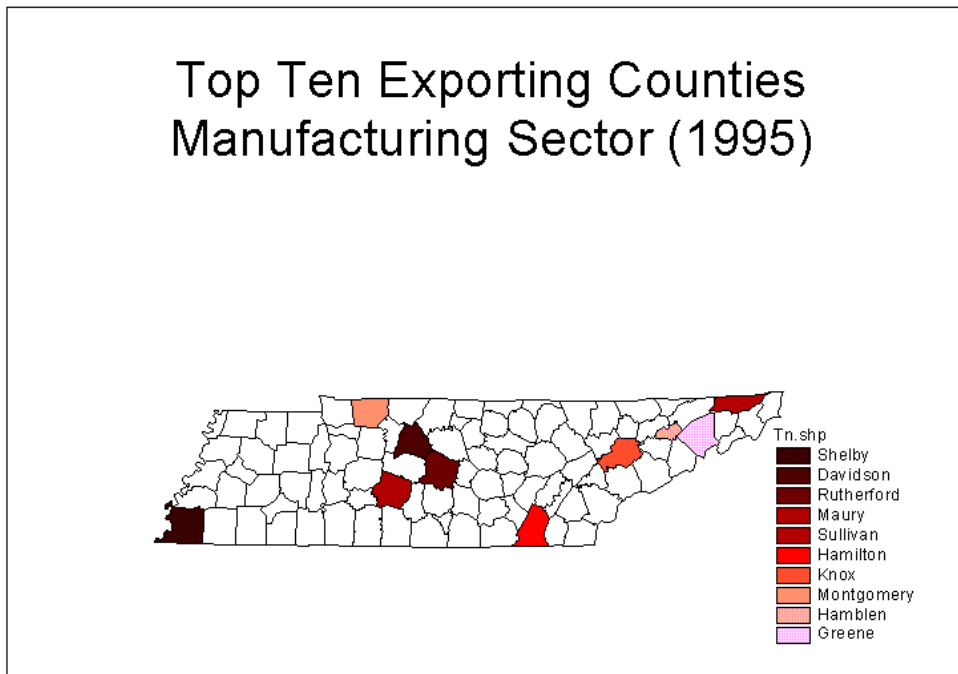
**Map 3. Top Ten Exporting Counties in Construction**



**Table 9. Top Ten Exporting Counties in Manufacturing**

<b>County Name</b>	<b>Manufacturing</b>
Shelby	\$ 1,470,927,000
Davidson	\$ 1,078,175,000
Rutherford	\$ 682,337,700
Maury	\$ 667,047,600
Sullivan	\$ 647,906,800
Hamilton	\$ 531,083,600
Knox	\$ 463,176,600
Montgomery	\$ 380,377,000
Hamblen	\$ 305,775,400
Greene	\$ 289,239,600

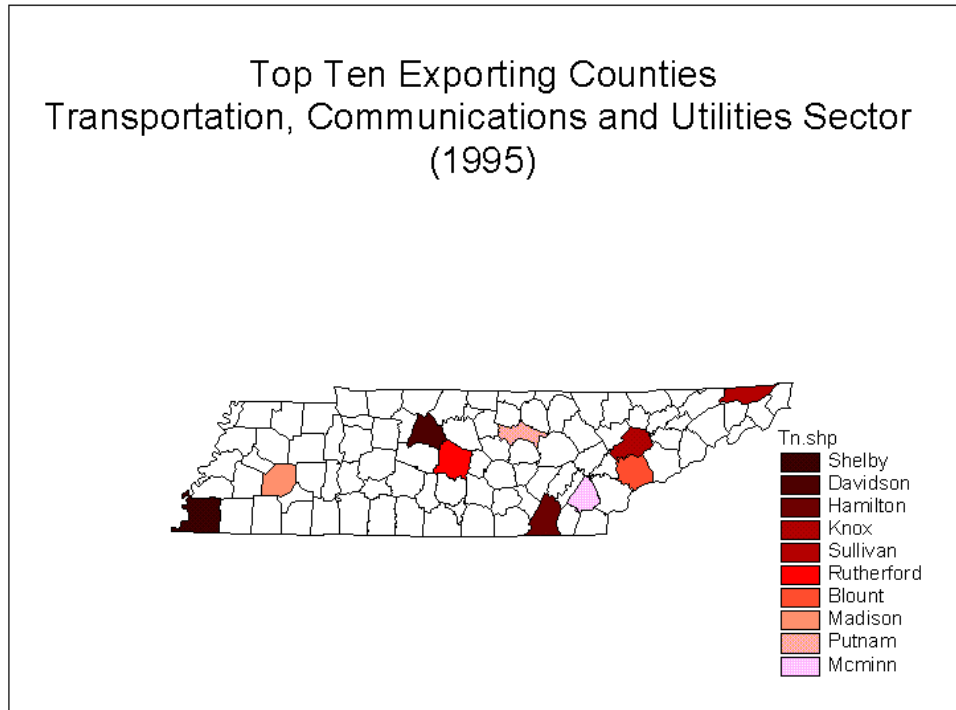
**Map 4. Top Ten Tennessee Exporting Counties in Manufacturing**



**Table 10. Top Ten exporting Counties in TCPU**

<b>County Name</b>	<b>TCPU</b>
Shelby	\$ 1,152,350,000
Davidson	\$ 196,649,400
Hamilton	\$ 53,788,040
Knox	\$ 52,490,500
Sullivan	\$ 19,994,050
Rutherford	\$ 16,416,990
Blount	\$ 13,535,130
Madison	\$ 9,089,702
Putnam	\$ 7,960,789
Mcminn	\$ 7,939,843

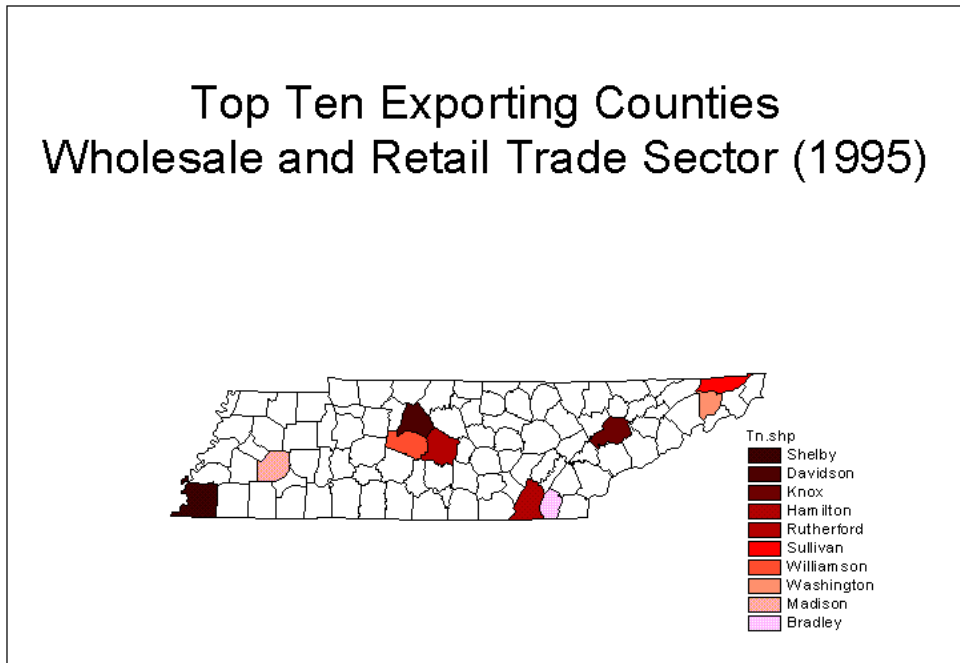
**Map 5. Top Ten Tennessee Exporting Counties in TCPU**



**Table 11. Top Ten exporting Counties in Trade**

<b>County Name</b>	<b>Trade</b>
Shelby	\$ 341,331,300
Davidson	\$ 256,056,500
Knox	\$ 122,075,100
Hamilton	\$ 81,570,780
Rutherford	\$ 42,693,170
Sullivan	\$ 25,459,140
Williamson	\$ 22,569,080
Washington	\$ 20,446,880
Madison	\$ 18,457,460
Bradley	\$ 12,119,210

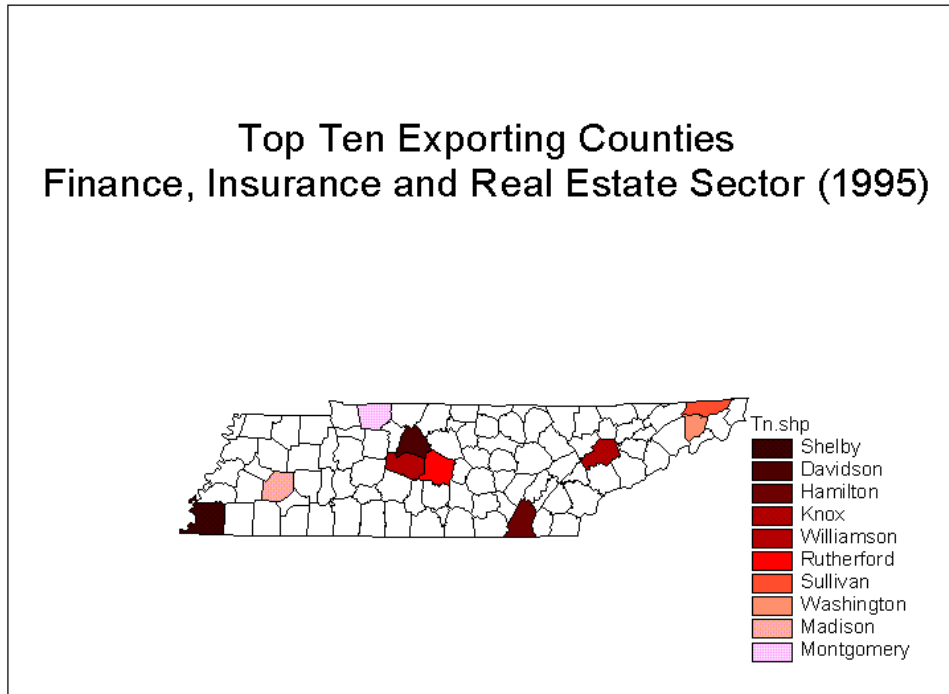
**Map 6. Top Ten Tennessee Exporting Counties in Trade**



**Table 12. Top Ten exporting Counties in FIRE**

<b>County Name</b>	<b>FIRE</b>
Shelby	\$ 101,746,100
Davidson	\$ 79,023,090
Hamilton	\$ 30,761,560
Knox	\$ 29,760,010
Williamson	\$ 12,594,040
Rutherford	\$ 7,473,585
Sullivan	\$ 6,349,875
Washington	\$ 5,700,224
Madison	\$ 5,471,785
Montgomery	\$ 5,313,602

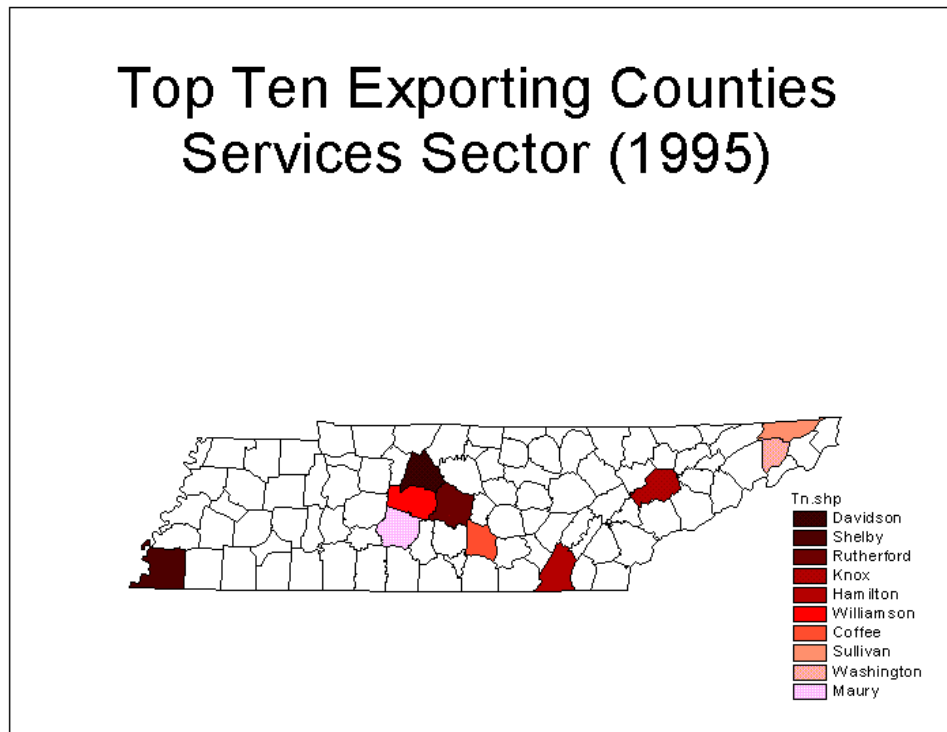
**Map 7. Top Ten Tennessee Exporting Counties in FIRE**



**Table 13. Top Ten exporting Counties in Services**

<b>County Name</b>	<b>Services</b>
Davidson	\$ 71,924,130
Shelby	\$ 55,299,460
Rutherford	\$ 39,911,650
Knox	\$ 31,294,560
Hamilton	\$ 17,693,270
Williamson	\$ 10,874,980
Coffee	\$ 9,996,546
Sullivan	\$ 4,973,015
Washington	\$ 4,582,224
Maury	\$ 3,904,077

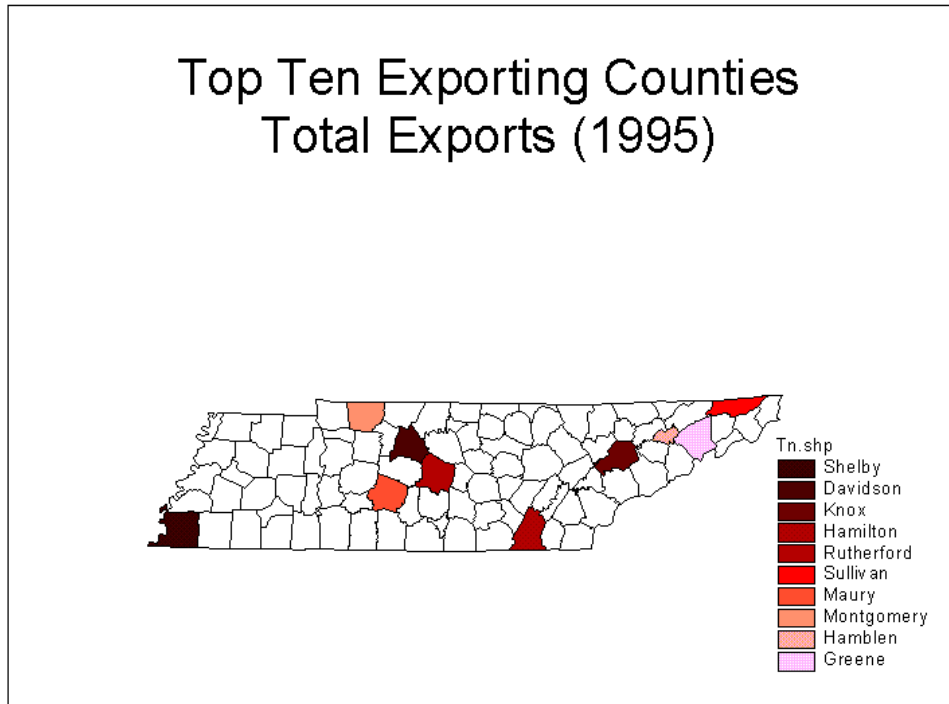
**Map 8. Top Ten Tennessee Exporting Counties in Services**



**Table 14. Top Ten exporting Counties in Total Exports**

<b>County Name</b>	<b>Total Exports</b>
Shelby	\$ 3,438,252,388
Davidson	\$ 1,888,855,797
Knox	\$ 865,198,521
Hamilton	\$ 834,718,699
Rutherford	\$ 808,077,482
Sullivan	\$ 752,956,066
Mcnaury	\$ 718,544,658
Montgomery	\$ 432,341,144
Hamblen	\$ 346,194,333
Greene	\$ 329,584,611

**Map 9. Top Ten Tennessee Exporting Counties in Total Exports**



The counties that are most export sensitive can be found by determining how much of total employment is export related. The top ten counties in terms of export share are shown in Table 15.

**Table 15. Top Ten Counties: Export Employment as a share of Total Employment**

<b>County Name</b>	<b>Percentage</b>
Lauderdale	26.03%
Sequatchie	25.15%
Smith	20.94%
Humphreys	20.82%
Greene	19.86%
Henderson	19.67%
Hamblen	18.54%
Crockett	18.26%
Chester	18.03%
Lawrence	17.71%

For Lauderdale and Sequatchie counties, nearly one fourth of their employment is export related. It is interesting to note that for Sequatchie county exports constituted 47 percent of county income. So this county would probably be the most sensitive to exports. Another interesting factor is that except for Chester County all the other counties are non-metropolitan counties.

Some of the other top ten counties when looking at the exports as percentage of income can be seen in Table 16.

**Table 16. Top Ten Counties in Total Exports as a Percentage of County GDP**

<b>County Name</b>	<b>Exports as a % of County Income</b>
Humphreys	64%
Maury	57%
Sequatchie	47%
Greene	35%
Hamblen	34%
Lawrence	34%
Henderson	34%
Marshall	32%
Smith	31%
Warren	30%

Nearly two-thirds of the income for Humphreys county come from exports, followed by Maury with nearly 60 percent. Some of the main employers in Humphreys are DuPont (Chemicals), Inland Container Corp. (Corrugated Paper) and Aqua Glass Corp. (Tub and Shower units). Similarly the major employers in Maury County are Saturn Corp. (Passenger Cars) and Zeneca Specialities (Organic Chemicals). Once again these counties are highly dependent on foreign exports.

## Impact of Foreign Exports on Tennessee Counties

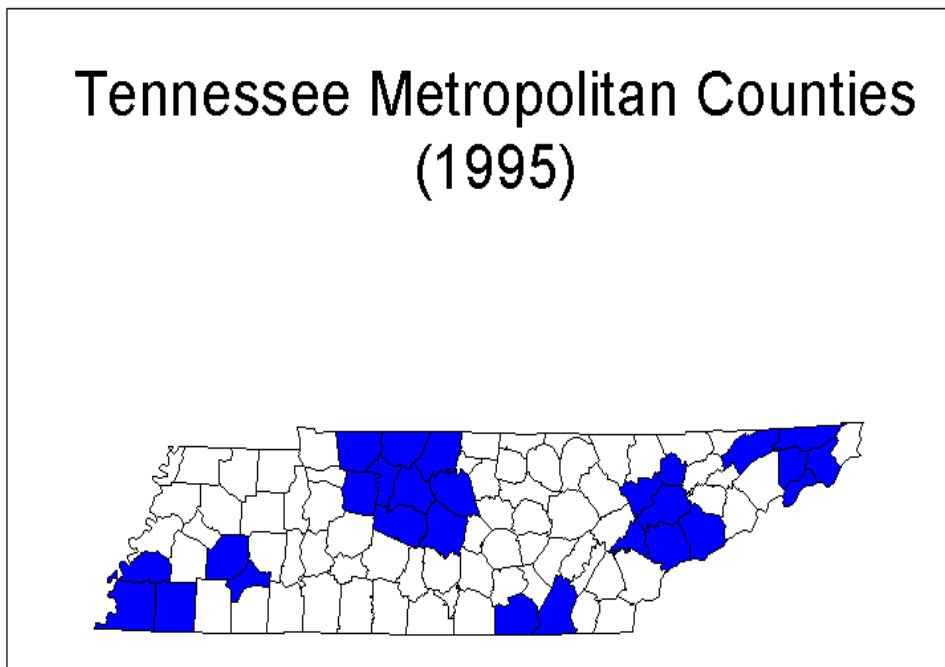
It is widely believed that foreign exports provide strong employment opportunities and high paying jobs. While there are some studies of foreign exports and their impact on the economy, especially the employment and wage impacts at the national level, there are hardly any that have attempted this at the county level.

To make the study more meaningful, the 95 counties of the state were further divided into metropolitan counties (27 counties) and non-metropolitan counties (68 counties). This also enables us to analyze if the rural areas of Tennessee are being left behind in the process of globalization. The results of the analysis are presented for the two different categories.

### *Metropolitan Counties:*

In 1995 there were a total of 27 counties in Tennessee which were classified as metropolitan counties (a detailed list of counties is provided in the Appendix). The following map shows the location of the metro counties in the state.

**Map 10. Metropolitan Counties of Tennessee**

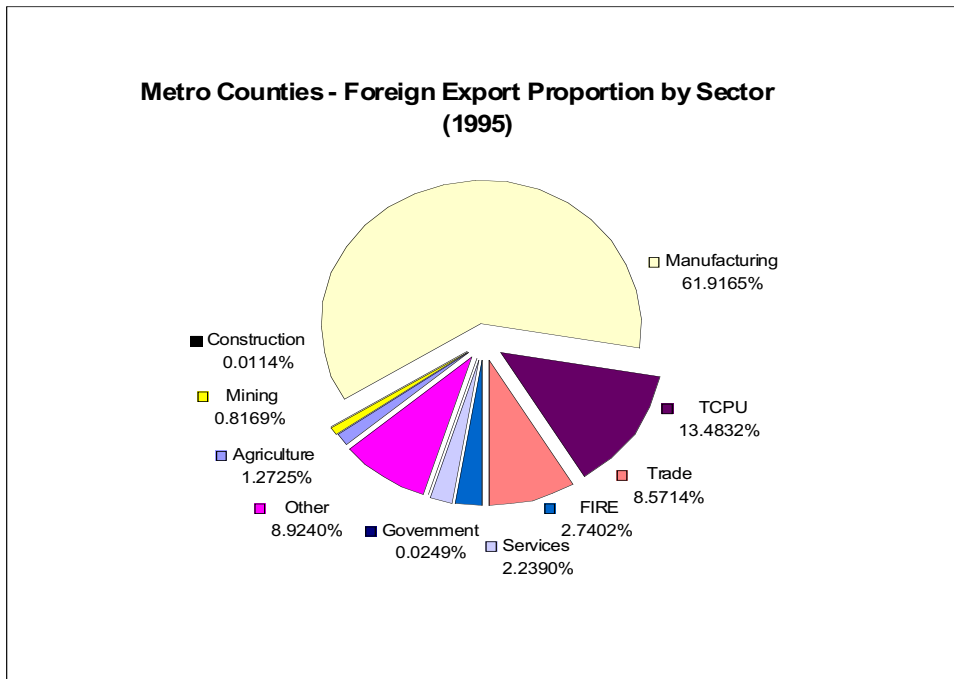


In 1995 the metro counties together had total exports of \$11.7 billion, which was about 67 percent of the total foreign exports for Tennessee. Table 17 shows the top ten counties in total exports.

**Table 17. Top Ten Metro Counties in Total Exports**

<b>County Name</b>	<b>Total Exports</b>
Shelby	\$ 3,438,252,388
Davidson	\$ 1,888,855,797
Knox	\$ 865,198,521
Rutherford	\$ 834,718,699
Hamilton	\$ 808,077,482
Sullivan	\$ 752,956,066
Montgomery	\$ 432,341,144
Blount	\$ 295,197,344
Washington	\$ 279,253,744
Madison	\$ 278,499,187

**Figure 5. Foreign Exports by Sector – Metro Counties**



It can be seen in Figure 5, that manufacturing accounted for nearly 62 percent of the foreign exports from these regions. With 13 percent, TCPU was the only other sector contributing more than 10 percent to the total exports by metro counties.

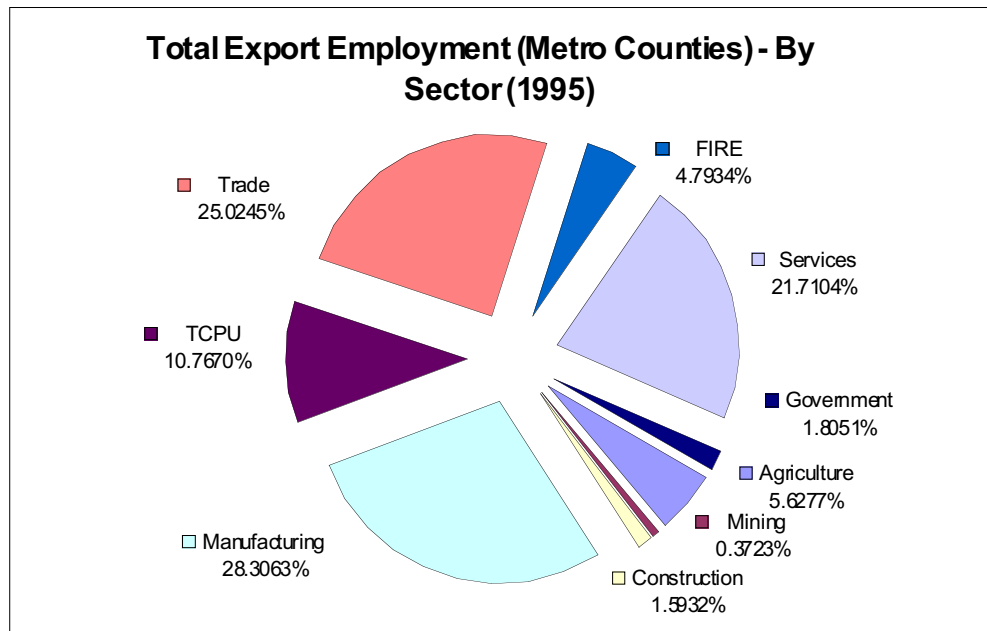
The top ten counties in per capita exports is also shown in Table 18.

**Table 18. Top Ten Metro Counties by Per Capita Exports**

County Name	Per Capita Exports
Rutherford	\$ 5,644
Sullivan	\$ 5,063
Shelby	\$ 3,985
Montgomery	\$ 3,739
Davidson	\$ 3,548
Chester	\$ 3,419
Anderson	\$ 3,373
Madison	\$ 3,331
Cheatham	\$ 3,186
Hawkins	\$ 3,109
Average (Metro Counties)	\$ 3,330

In terms of per capita exports Rutherford and Sullivan pass Shelby and Davidson. In comparison the U.S. per capita exports was \$3,135 while for Tennessee the comparable figure was \$3,373 per capita.

**Figure 6. Total Export Employment by Sector – Metro Counties**



Manufacturing, Trade, and services accounted for nearly 75 percent of metro export employment. The metro counties, as result of their export activities, generated total employment (direct and indirect/induced) of 188,837, of which 87, 281 was **direct export employment**, while the remaining 101,556 jobs were **supporting export employment**. Thus, indirect and induced employment constituted nearly 54 percent of the total export

employment. As seen in Figure 6, manufacturing, trade and services account for the largest shares of export employment with 28, 25 and 22 percent respectively.

The top ten counties generating the most employment as a result of exports are shown below in Table 19.

**Table 19. Top Ten Metro Counties in Total Export Employment**

<b>County Name</b>	<b>Total Employment</b>
Shelby	52,169
Davidson	28,867
Sullivan	16,294
Knox	14,078
Hamilton	12,535
Rutherford	10,948
Montgomery	7,304
Washington	5,108
Blount	4,286
Madison	4,175

Together the above 10 counties account for over 80 percent of total export employment in the metro counties.

A widely used rule of thumb suggests that \$1 million of exports supports between 15 to 20 workers. For metro counties in Tennessee, on average, every \$1 million of exports supports nearly 16 workers. However, policy makers should use this rule of thumb with some caution. The following table shows the top ten counties in total employment per million dollars of exports.

**Table 20. Top Ten Metro Counties in Export Employment Per Million Dollars of Export**

<b>County Name</b>	<b>Total Employment Per \$ Mil. Of Exports</b>
Union	25.55
Dickson	21.89
Sullivan	21.64
Chester	21.05
Tipton	19.51
Robertson	19.40
Wilson	18.99
Fayette	18.72
Hawkins	18.66
Carter	18.36

Interestingly, Union County tops this list by generating roughly 26 jobs for every million dollar in exports. On the other hand, Shelby County, which leads the state in total exports, supported only 15 jobs per million dollars worth of exports.

It is tempting to come to the conclusion that Union County is in some way ‘better’ than Shelby County in creating jobs per million dollars of exports. But one should recognize the fact that Shelby County generated nearly \$66,000 in export sales per export worker. By comparison, Union County generated only \$39,000 in export sales per export worker. Therefore, Shelby County’s export employment can be considered as more productive.

Similarly, when total value added and total output generated as a result of export sales, are considered, Shelby County leads. This can be seen in Table 21.

**Table 21. Top Ten Metro Counties: Total Output and Total Value Added as a Result of Exports**

County Name	Total Output	County Name	Total Value Added
Shelby	\$ 5,686,728,450	Shelby	\$ 3,092,252,407
Davidson	\$ 3,050,778,243	Davidson	\$ 1,684,560,925
Knox	\$ 1,387,790,644	Sullivan	\$ 834,064,713
Rutherford	\$ 1,382,718,730	Knox	\$ 758,451,427
Sullivan	\$ 1,348,115,586	Hamilton	\$ 686,625,300
Hamilton	\$ 1,315,997,043	Rutherford	\$ 588,707,290
Montgomery	\$ 687,493,336	Montgomery	\$ 312,300,950
Blount	\$ 481,208,874	Washington	\$ 223,655,211
Washington	\$ 454,898,206	Madison	\$ 218,354,405
Madison	\$ 444,328,056	Blount	\$ 216,671,111

But when looking at total value added and output impact per dollar of exports, Sullivan takes the lead in output impact while Cheatham the leads in total value added. This can be seen in Table 22.

**Table 22. Top Ten Metro Counties in Total Output and Total Value Added Per Dollar of Exports**

County Name	Total Output Per \$ of Exports	County Name	Total Value Added Per \$ of Exports
Sullivan	\$1.79	Cheatham	\$ 2.01
Tipton	\$1.73	Fayette	\$ 1.64
Wilson	\$1.68	Union	\$ 1.62
Rutherford	\$1.66	Robertson	\$ 1.60
Shelby	\$1.65	Loudon	\$ 1.55
Dickson	\$1.64	Hawkins	\$ 1.53
Blount	\$1.63	Anderson	\$ 1.43
Washington	\$1.63	Rutherford	\$ 1.42
Hamilton	\$1.63	Montgomery	\$ 1.38
Williamson	\$1.63	Carter	\$ 1.38

Table 23 shows total employment generated for all the metro counties in different sectors of the economy for every million dollars of exports.

**Table 23. Total Export Employment per Million Dollars of Exports by Sector (Metro Counties)**

<b>Sector</b>	<b>Total Employment Per \$ Mil. Of Exports</b>
Agriculture	70
Mining	7
Construction	2,219
Manufacturing	7
TCPU	13
Trade	46
FIRE	28
Services	154
Government	1,153
Average	16

The above table can also be an indication of the productivity of labor in each of these sectors. Thus, the labor in mining and manufacturing seem to be (relatively) the most productive in comparison to the labor in other sectors of the economy of the metro counties.

Table 24 shows the total export employment (direct and supporting export jobs) as percentage of the state total employment in different sectors.

**Table 24. Export Employment as a Percentage of Total Employment by Sector in Metro Counties (1995)**

<b>Sector</b>	<b>Percentage of Total Employment</b>
Agriculture	24.87%
Mining	26.11%
Construction	2.05%
Manufacturing	16.54%
TCPU	16.46%
Trade	8.94%
FIRE	6.43%
Services	6.14%
Government	1.09%
Total	8.20%

From the above table one can examine the dependency of each sector on foreign exports in terms of employment. While sectors like agriculture and mining have significantly lower exports in dollar value amount, in terms of employment they are more

dependent on foreign exports. The least dependent are FIRE, services, construction and government. These results are very similar to the aggregate state figures. One can also notice that on average (metro counties together) export employment only constitutes 8.2 percent of the total employment, even though exports from these counties together constitute 11 percent of the state economy.

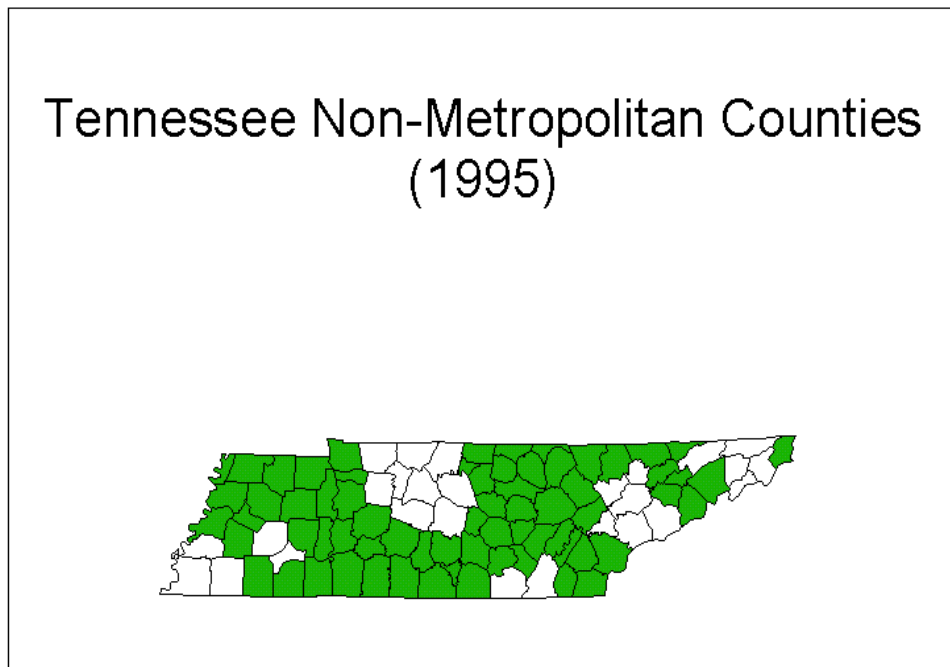
On an average, in 1995, an export worker's annual compensation of \$31,394 was 19 percent more than the non-export sector worker's compensation of \$26,496. The average compensation for all the workers in the metro counties was \$26,682 and the per capita GDP within the metro counties was \$23,073 for the same year.

In 1995, \$11.7 billion in export of goods and services resulted in a total output impact of \$19.6 billion and the impact on total value added was \$10.3 billion. That is an impact of \$1.70 on output and \$0.89 on total value added for every dollar of foreign exports. This is the same as the state figures.

*Non-Metro Counties:*

In 1995, there were 68 counties in Tennessee classified as non-metropolitan counties (a detailed list of counties is provided in the Appendix). The following map shows the location of the non-metro counties in the state.

**Map 11. Non-Metropolitan Counties of Tennessee**



These non-metro counties together had total exports of \$5.8 billion—34 percent of the total foreign exports for Tennessee. The following are the top ten counties in total exports.

**Table 25. Top Ten Non-Metro Counties in Total Exports**

<b>County Name</b>	<b>Total Exports</b>
Maury	\$ 718,544,658
Hamblen	\$ 346,194,333
Greene	\$ 329,584,611
Gibson	\$ 244,877,851
Lawrence	\$ 229,256,246
Putnam	\$ 213,178,714
Mcminn	\$ 201,349,498
Bradley	\$ 198,348,354
Warren	\$ 180,373,423
Humphreys	\$ 172,121,095

**Map 12. Top Ten Non-Metropolitan Counties in Total Exports**

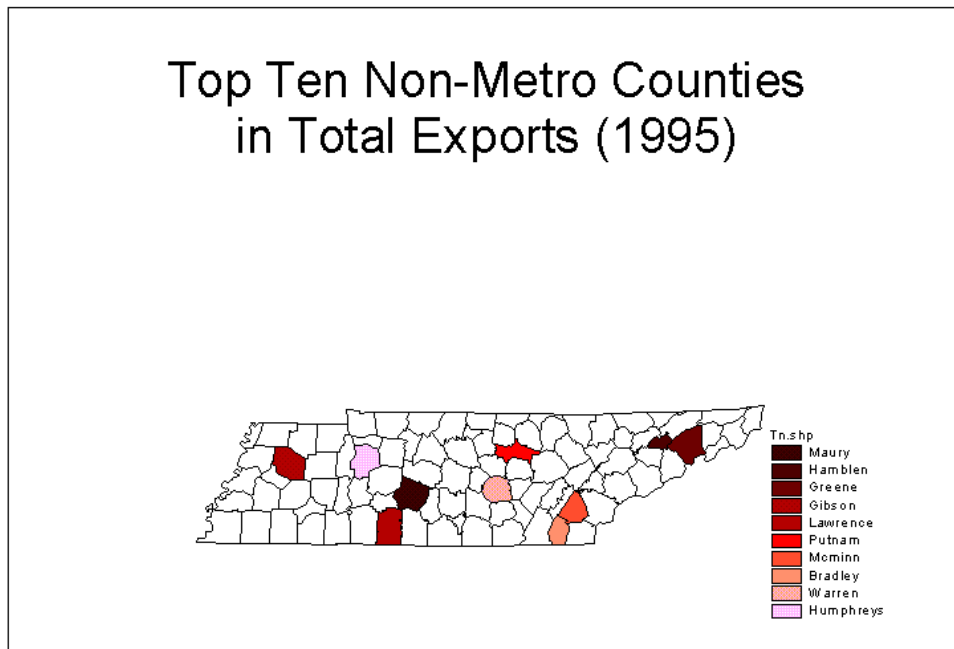
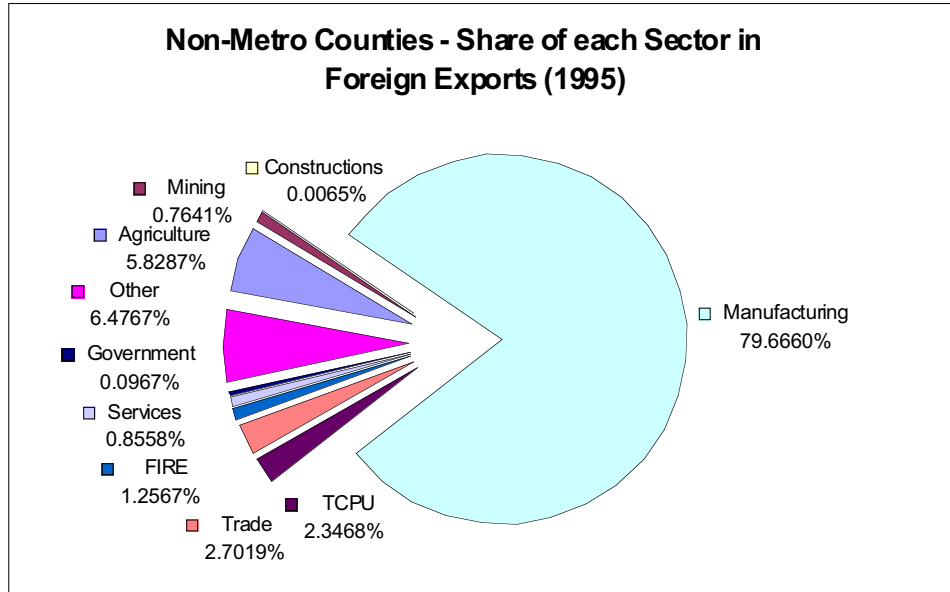


Figure 7 gives the share of each sector in total exports. Once again manufacturing comes out as the most dominant; in fact nearly 80 percent of exports from the non-metro counties comes from the manufacturing sector.

**Figure 7. Non-Metro Counties Exports Composition by Sector**



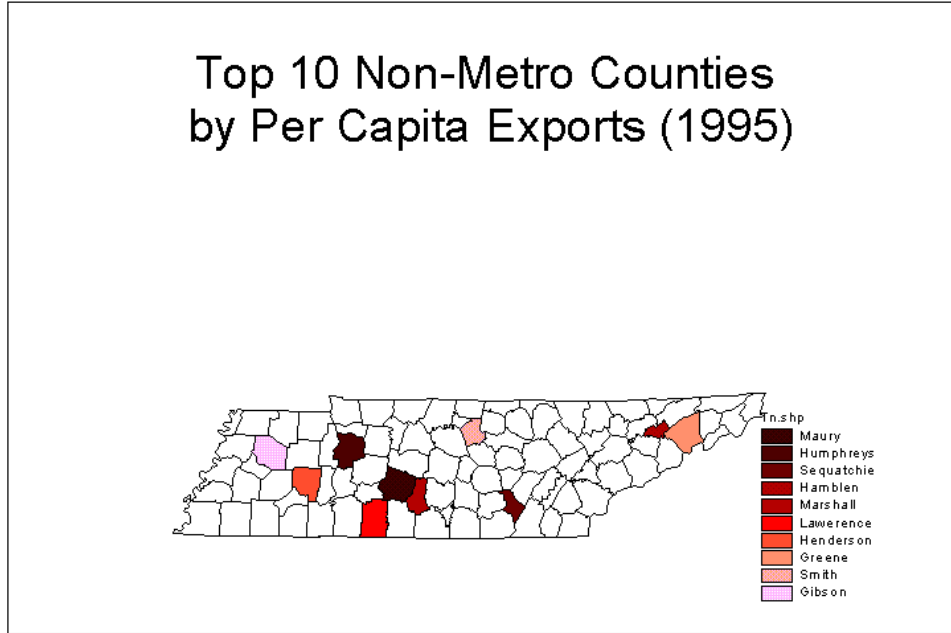
Although agriculture is a highly export-oriented sector it accounts for less than 6 percent of total exports by non-metro counties.

The top ten counties in terms of per capita exports can be seen in Table 26.

**Table 26. Top Ten Non-Metro Counties by Per Capita Exports**

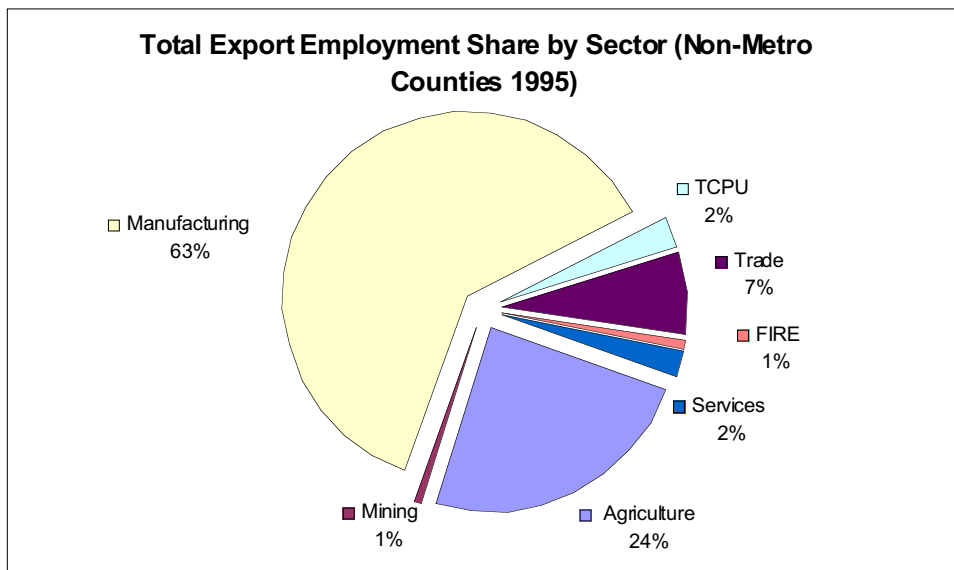
County Name	Per Capita Exports
Maury	\$ 11,063
Humphreys	\$ 10,476
Sequatchie	\$ 7,140
Hamblen	\$ 6,557
Marshall	\$ 6,178
Lawrence	\$ 5,975
Henderson	\$ 5,721
Greene	\$ 5,688
Smith	\$ 5,365
Gibson	\$ 5,149
Average (Non-Metro)	\$ 3,502

**Map 13. Top Ten Non-Metro Counties by Per Capita Exports**



Although total exports per county are much lower in the non-metro counties than the metro ones, the per capita export figures for the non-metro counties are higher. This reflects the lower population levels in these areas.

**Figure 8. Total Export Employment by Sector in Non-Metro Counties**



Nearly two-thirds of export employment in non-metro counties is in manufacturing. But the employment share of the agriculture sector is more significant than the dollar value of agricultural exports previously suggested. The non-metro counties, as result of their

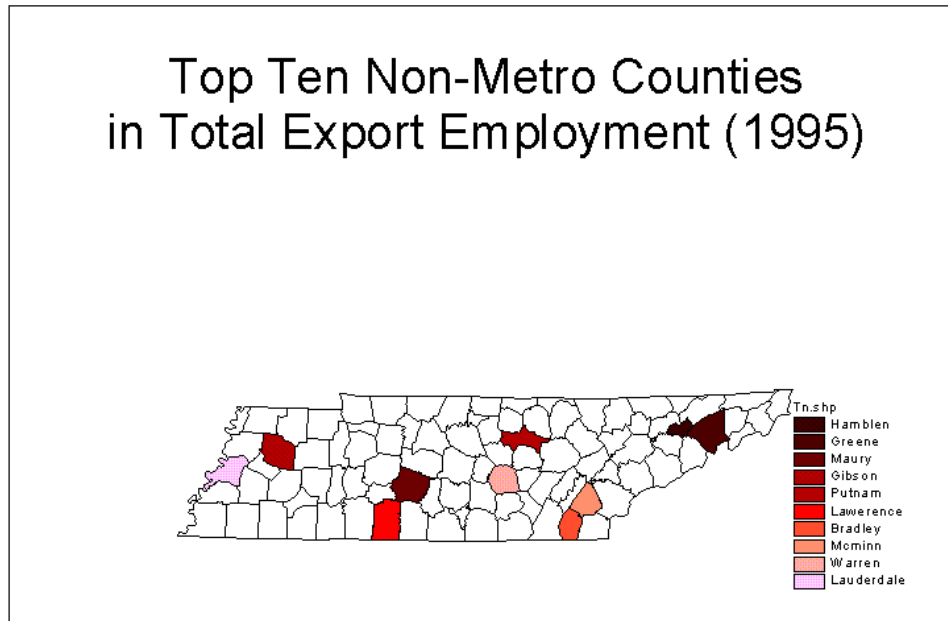
export activities, generated a total employment (direct and indirect) of 104,548, of which 51,414 were ‘**direct export employment**’, while the remaining 53,134 jobs were ‘**supporting export employment**’. Thus, 51 percent of export employment was either indirect or induced. From Figure 6, manufacturing and agriculture provided the major share of export employment with 63 and 24 percent respectively.

The top ten counties in generating the most employment as a result of exports are shown in Table 27.

**Table 27. Top Ten Non-Metro Counties in Total Export Employment**

<b>County Name</b>	<b>Total Employment</b>
Hamblen	7,032
Greene	6,864
Maury	5,640
Gibson	4,504
Putnam	3,899
Lawrence	3,741
Bradley	3,087
Mcminn	3,015
Warren	2,968
Lauderdale	2,746

**Map 14. Top Ten Non-Metro Counties in Total Export Employment**

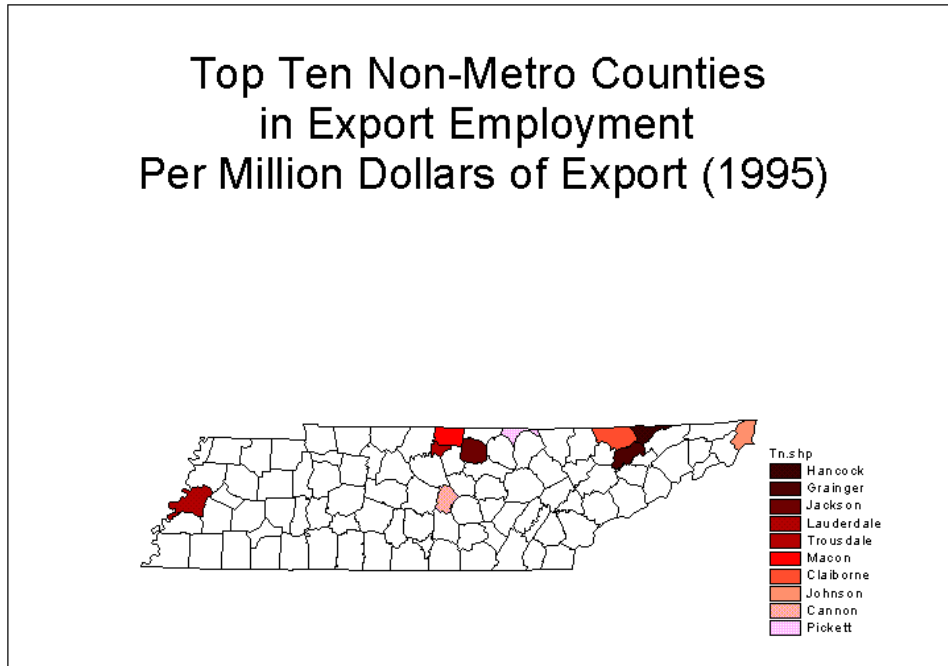


These account for 66 percent of the export jobs in all the non-metro counties. The following table shows those counties providing the largest number of for every million dollars of exports.

**Table 28. Top Ten Non-Metro Counties in Export Employment Per Million Dollars of Exports**

County Name	Total Employment Per \$ Mil. Of Exports
Hancock	78.93
Grainger	42.38
Jackson	40.00
Lauderdale	37.54
Trousdale	35.55
Macon	35.40
Claiborne	34.61
Johnson	33.52
Cannon	30.78
Pickett	28.24
Average (Non-Metro)	17.25

**Map 15. Top Ten Non-Metro Counties in Export Employment Per Million Dollars of Exports**



Interestingly, Hancock County is able generate 79 jobs for every million dollars of export, but its export sales amounted to only \$12,670 per export worker. In comparison, Maury county, which leads the non-metro counties in exports, was able to export \$127,402 for every export worker. So the most jobs per million dollars of exports may not be always good for the economy.

The following table shows the top ten counties in terms of total value added and total output generated as a result of exports.

**Table 29. Top Ten Non-Metro Counties in Total Output and Total Value Added as a result of Foreign Exports**

<b>County Name</b>	<b>Total Output</b>	<b>County Name</b>	<b>Total Value Added</b>
Maury	\$ 1,097,827,214	Maury	\$ 368,966,467
Hamblen	\$ 599,576,965	Hamblen	\$ 278,677,336
Greene	\$ 542,378,639	Greene	\$ 219,816,589
Gibson	\$ 388,248,065	Gibson	\$ 198,807,473
Lawrence	\$ 356,648,872	Putnam	\$ 161,996,341
Putnam	\$ 356,046,761	Bradley	\$ 151,713,768
Mcminn	\$ 324,248,162	Mcminn	\$ 145,849,273
Bradley	\$ 318,967,897	Lawrence	\$ 139,027,044
Warren	\$ 290,451,324	Warren	\$ 130,992,825
Humphreys	\$ 258,044,559	Obion	\$ 123,382,555
<b>Average</b>	<b>\$ 137,912,337</b>	<b>Average</b>	<b>\$ 59,841,092</b>

**Table 30. Top Three Sectors in Total Value Added for Each of the Top Ten Exporting Counties**

<b>County</b>	<b>Sector</b>		
Maury	Manufacturing (54%)	Trade (11%)	FIRE (10%)
Hamblen	Manufacturing (48%)	Trade (17%)	Services (12%)
Greene	Manufacturing (47%)	Services (12%)	Trade (12%)
Gibson	Manufacturing (55%)	Trade (11%)	FIRE (9%)
Lawrence	Manufacturing (53%)	Trade (14%)	FIRE (8%)
Putnam	Manufacturing (38%)	Trade (18%)	Services (10%)
Mcminn	Manufacturing (50%)	Trade (11%)	FIRE (10%)
Bradley	Manufacturing (39%)	Trade (17%)	Services (12%)
Warren	Manufacturing (53%)	Trade (13%)	FIRE (9%)
Humphreys	Manufacturing (65%)	FIRE (9%)	Trade (9%)

**Table 31. Top Three Sectors in Total Output Impact for Each of the Top Ten Exporting Counties**

<b>County</b>	<b>Sector</b>		
Maury	Manufacturing (76%)	Services (6%)	Trade (5%)
Hamblen	Manufacturing (63%)	Trade (11%)	Services (9%)
Greene	Manufacturing (66%)	Services (8%)	Trade (7%)
Gibson	Manufacturing (61%)	Agriculture (9%)	Trade (8%)
Lawrence	Manufacturing (72%)	Trade (7%)	Services (6%)
Putnam	Manufacturing (58%)	Trade (12%)	Services (8%)
Mcminn	Manufacturing (65%)	Trade (7%)	Services (7%)
Bradley	Manufacturing (57%)	Trade (12%)	Services (10%)
Warren	Manufacturing (67%)	Trade (8%)	Services (7%)
Humphreys	Manufacturing (75%)	FIRE (6%)	Trade (6%)

It can be seen that manufacturing is the leading sector in terms of total value added and total output effect as a result of exports in the top ten exporting counties. Trade and services follow it. Only in Gibson County is agriculture able to contribute significantly as a result of exports.

The following table shows the total value added and output impact per dollar of exports.

**Table 32. Top Ten Non-Metro Counties in Total Output and Total Value Added Per Dollar of Foreign Exports**

<b>County Name</b>	<b>Total Output Per \$ of Export</b>	<b>County Name</b>	<b>Total Value Added Per \$ of Export</b>
Lauderdale	\$ 2.75	Lauderdale	\$ 1.38
Jackson	\$ 1.76	Jackson	\$ 0.92
Hamblen	\$ 1.73	Cumberland	\$ 0.86
Scott	\$ 1.71	Dekalb	\$ 0.85
Dekalb	\$ 1.71	White	\$ 0.84
Henry	\$ 1.70	Moore	\$ 0.83
Dyer	\$ 1.69	Hancock	\$ 0.82
Haywood	\$ 1.68	Hardin	\$ 0.82
Putnam	\$ 1.67	Benton	\$ 0.82
Greene	\$ 1.65	Jefferson	\$ 0.82
<b>Average</b>	<b>\$ 1.59</b>	<b>Average</b>	<b>\$ 0.69</b>

While Maury leads the non-metro counties in total output impact and total value added impact, when these impacts are computed per dollar of exports Lauderdale takes the lead.

Following is the table showing total employment generated for all the non-metro counties, in different sectors of the economy, for every million dollar of exports.

**Table 33. Total Export Employment per Million Dollars of Export by Sector**

<b>Sector</b>	<b>Total Employment Per \$ Mil. Of Exports</b>
Agriculture	53
Mining	8
Construction	3470
Manufacturing	8
TCPU	29
Trade	113
FIRE	43
Services	302
Government	364
Average	17

One can also look at the above table as an indication of the productivity of labor in each of these sectors. Thus, the labor in mining and manufacturing seem to be (relatively) the most productive in comparison to the labor in the other sectors of the economy of the non-metro counties. This was exactly the case in metro counties also.

**Table 34. Export Employment as a Percentage of Total Employment by Sector in Non-Metro Counties (1995)**

<b>Sector</b>	<b>Percentage of Total Employment</b>
Agriculture	28.18%
Mining	21.72%
Construction	2.94%
Manufacturing	16.16%
TCPU	15.51%
Trade	12.44%
FIRE	10.64%
Services	9.82%
Government	1.72%
Total	12.40%

Once again, from the above table one can examine the significance to each sector of foreign exports, in terms of employment. While sectors like agriculture and mining have relatively low exports in terms of dollar value, in terms of employment created they are more dependent on foreign exports. The least export-dependent sectors are construction and government, which is very similar to the metro counties and state figures. One can also notice that on average non-metro counties' export employment constitutes 12.4 percent of total employment, even though exports from these counties together constitutes only 5.33 percent of the state GDP. This is quite the opposite of metro county figures.

On average, in 1995, an export worker's annual compensation of \$22,805 was only 6 percent more than the non-export worker who had an average compensation of \$21,468. The average compensation for all workers in non-metro counties was \$21,549 while per capita GDP within the non-metro counties was \$16,784.

For non-metro counties in 1995, \$5.9 billion in exports of goods and services resulted in a total output impact of \$9.5 billion and the impact on total value added was \$4.1 billion. That represents an impact of \$1.62 on output and \$0.70 on total value added for every dollar of foreign exports. This is the same as the state figures.

*Comparison between Metro and Non-Metro Counties:*

Some of key statistics for metro and non-metro counties and the state are shown in the following table.

**Table 35. Comparison of Key Statistics Between Tennessee, Metro and Non-Metro Counties**

	<b>Tennessee</b>	<b>Metro</b>	<b>Non-Metro</b>
Number of Counties	95	27	68
GDP	\$ 110,494,860,000	\$ 82,304,080,000	\$ 28,190,780,000
Population	5,246,723	3,567,147	1,679,576
Per Cap GDP	\$ 21,060	\$ 23,073	\$ 16,784
Foreign Exports	\$ 17,770,000,000	\$ 11,878,500,000	\$ 5,891,500,000
Per Cap Exports	\$3,387	\$3,330	\$3,508
Exports as % of GDP	16%	14%	21%
Total Employment	3,144,300	2,301,500	842,800
Export Employment	293,400	188,850	104,550
% in Export Employment	9%	8%	12%
Employment / Mil. \$ in Exports	16	16	18
Average Export Wages	\$ 28,300	\$ 31,400	\$ 22,800
Average Non Export Wages	\$ 25,200	\$ 26,500	\$ 21,500

In per capita exports non-metro counties have a higher figure than the metro counties. The non-metro counties have 12 percent higher per capita exports than the U.S. Whereas, the per capita exports are just 6 percent higher than that of the U.S. But in average export wages, the metro counties earn 4 percent more than the U.S. export workers and an impressive 21 percent higher than the average export wages for the entire state of Tennessee. On the other hand the non-metro export workers earn only 80 percent of what U.S. export workers earn and only 93 percent of the export wages for the entire state of Tennessee.

**Table 36. Proportion of Total Exports by Sector**

<b>Sector</b>	<b>Metro</b>	<b>Non-Metro</b>
Agriculture	30%	70%
Mining	68%	32%
Construction	78%	22%
Manufacturing	61%	39%
TCPU	92%	8%
Trade	86%	14%
FIRE	81%	19%
Services	81%	19%
Other	77%	23%
Total Exports	67%	33%

Looking at Table 36 one can see that 70 percent of the exports from the agriculture sector come from the rural areas of the state. And surprisingly 40 percent of manufactured exports also come from the rural areas. But in the rest of the sectors the rural areas contribute far less in exports in comparison with the metro areas.

**Table 37. Proportion of Total Export Employment by Sector**

<b>Sector</b>	<b>Metro</b>	<b>Non-Metro</b>
Agriculture	36%	64%
Mining	64%	36%
Construction	68%	32%
Manufacturing	56%	44%
TCPU	84%	16%
Trade	73%	27%
FIRE	74%	26%
Services	73%	27%
Total Exports	64%	36%

In Table 34, the rural areas account for 64 percent of the state's export employment in the agriculture sector. And 44 percent of the export employment in the manufacturing sector also come from the rural areas. But in other sectors the export employment is significantly lower than the metro counties. Overall the non-metro counties accounted for 36 percent of the export employment for Tennessee.

The total output impact and total value added for every dollar of export is computed and shown in for both metro and non-metro counties.

**Table 38. Total Output Impact Per Dollar of Export by Sector**

<b>Sector</b>	<b>Metro</b>	<b>Non-Metro</b>
Agriculture	\$ 1.71	\$ 1.61
Mining	\$ 1.34	\$ 1.55
Construction	\$ 193.72	\$ 286.93
Manufacturing	\$ 1.19	\$ 1.24
TCPU	\$ 1.64	\$ 3.30
Trade	\$ 2.63	\$ 4.82
FIRE	\$ 4.71	\$ 7.58
Services	\$ 9.79	\$ 13.66
Total	\$ 1.65	\$ 1.62

In almost all sectors non-metro counties had a higher output impact per dollar of exports than did metro counties. But on the whole, the output impact per dollar of exports was slightly less than that of the metro counties.

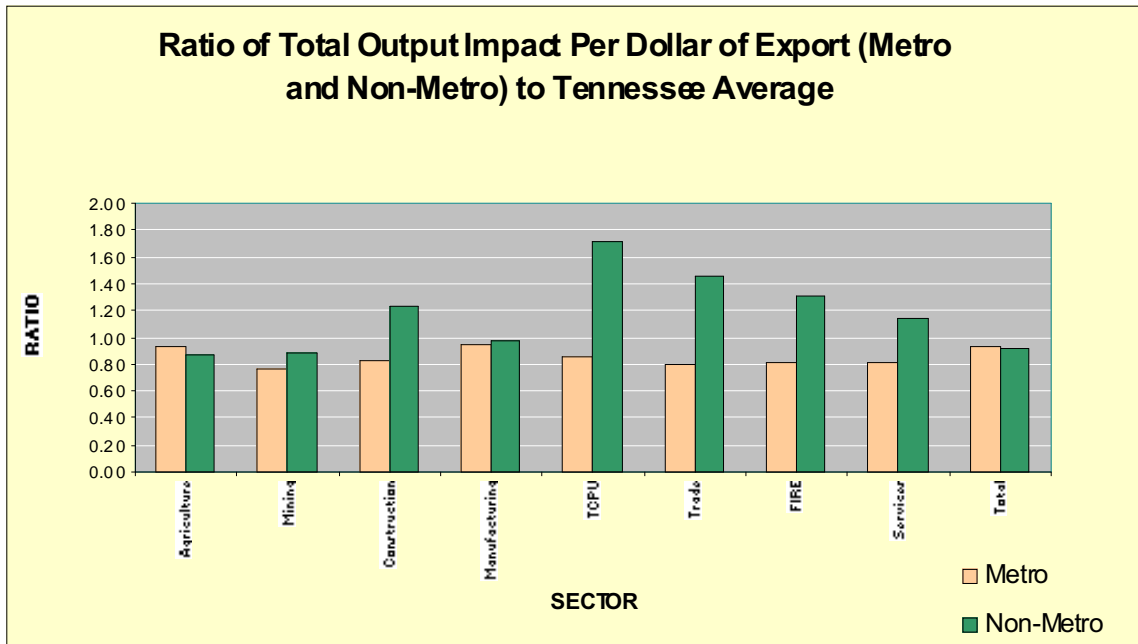
**Table 39. Total Value Added Per Dollar of Export by Sector**

<b>Sector</b>	<b>Metro</b>	<b>Non-Metro</b>
Agriculture	\$ 0.79	\$ 0.44
Mining	\$ 0.70	\$ 0.83
Construction	\$ 79.95	\$ 106.26
Manufacturing	\$ 0.42	\$ 0.40
TCPU	\$ 0.86	\$ 1.74
Trade	\$ 1.81	\$ 3.35
FIRE	\$ 3.35	\$ 5.67
Services	\$ 5.91	\$ 7.70
Total	\$ 0.87	\$ 0.70

Similarly in the case of total value added, in almost all of the sectors the non-metro counties had a higher total value added impact per dollar of exports than the metro counties. But on the whole, the total value added impact per dollar of export was less than that of the metro counties.

Another way of comparing the output impact and total value added impact per dollar of exports between metro and non-metro counties, is to compare it with the state figures. This is shown in figures 9 and 10 and is done by taking the total output impact per dollar of export figures for each sector (metro or non-metro counties) and dividing it by the total output impact per dollar export figure for Tennessee. This ratio shows the deviations from the state figure. A ratio of 1 means that the figures are the same.

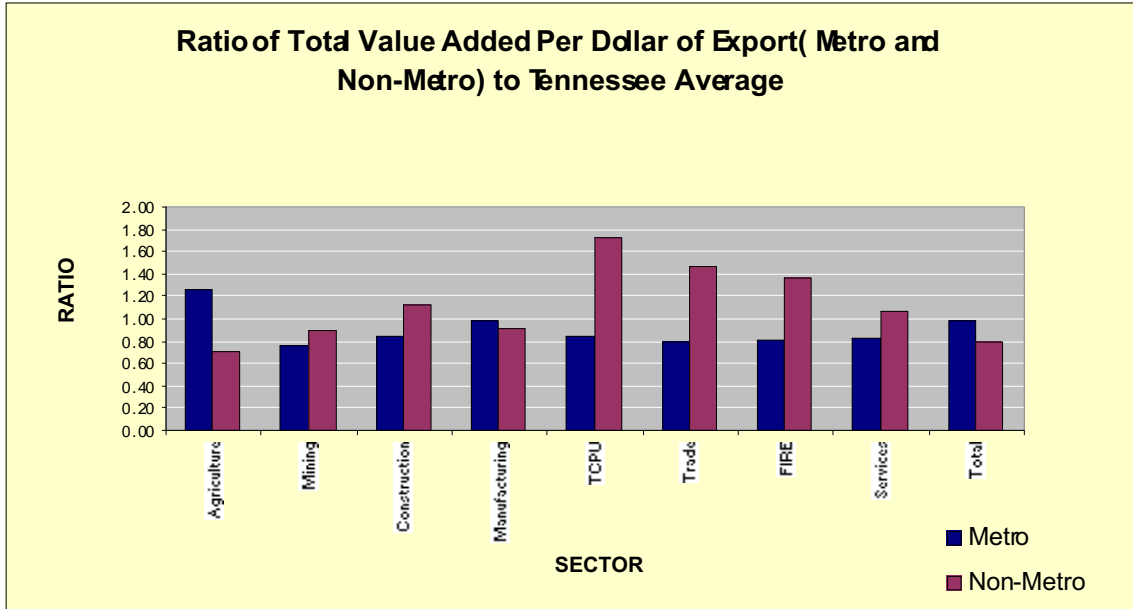
**Figure 9. Ratio of Total Output Impact Per Dollar of Export (Metro and Non-Metro) to Tennessee Average**



In Figure 9 the output impact per dollar of export in total is almost the same as that of Tennessee. But in construction, TCPU, trade, FIRE and services the output impact is higher than that of the state for the non-metro counties. For metro counties the output effect is always lower than that of the state as well as the non-metro counties.

Similarly in Figure 10, the total value added impact per dollar of export is almost the same as that of Tennessee for metro counties but not for non-metro counties. But in construction, TCPU, trade, FIRE and services the output impact is higher than that of the state for the non-metro counties. But for metro counties the output effect is always lower than that of the state as well as the non-metro counties except for agriculture and manufacturing.

**Figure 10. Ratio of Total Value Added Per Dollar of Export (Metro and Non-Metro) to Tennessee Average**



## Conclusion

If Tennessee is to grow and prosper in the midst of an increasingly global economy, it must capture its fair share of the United States export market. Tennessee businesses must be poised to reap the benefits of increasing export opportunities as a result of the opening up of several emerging markets.

In this study we found that foreign exports do benefit county economies in several ways and that export-related employment pays higher wages than non-export related employment within the same sector.

Regarding the differences between metropolitan and non-metropolitan areas of Tennessee in terms exports, there seem to be very slight differences except in export wages, where the metro export wages are estimated to be over 35 percent higher than non-metro export wages. But this is not just export wages, even in non-export wages the metro county wages are 23 percent higher than non-metro counties.

In the metro areas, the percentage of employment involved in export was about 8 percent, whereas nearly 12 percent of the total employment was involved in export in the non-metro areas.

In terms of per capita exports, the rural counties are almost the same as urban counties. In general, firms in non-metro counties are almost as likely to be exporting as the metro counties but at slightly lower volumes.

## References

- Bairak, Roman I. and Hughes, David W., *Evaluating the Impacts of Agricultural Exports on a Regional Economy*, Journal of Agricultural and Applied Economics, Vol. 28, No. 2, December 1996, 393-407.
- Balassa, Bela, *Exports and Economic Growth: Further Evidence*, Journal of Development Economics, Vol. 5, No. 2, June 1978, 181-189.
- Baldwin, William T., Erfani, Rod G., Haywood, Charles F., *The Impact of Global Trade on the Kentucky Economy*, Executive Summary of a Report Prepared for the Kentucky World Trade Center, June 9, 1995.
- Davidson, Lawrence S. and Kang Heejoon, *Export-Related Employment and Wage Estimates for Eight States, 1992 to 1996*, GE Fund Public Policy Research Grant, Global Business Information Network, Indiana University School of Business, October 1997.
- Feder, Gershon, *On Exports and Economic Growth*, Journal of Development Economics, No. 12, 1982, 59-73.
- Goldberger, Arthur S., *Impact multipliers and Dynamic properties of the Klein-Goldberger Model*, Contributions to Economic Analysis, Vol. 19. Amsterdam: North-Holland Publishing Company, 1959.
- Heller, Peter S. and Richard C. Porter, *Exports and Growth: An Empirical Re-investigation*, Journal of Development Economics, Vol. 5. No. 2, June 1978, 191-193.
- Kravis, Irving B., *Trade as a Handmaiden of Growth: Similarities between the Nineteenth and Twentieth Centuries*, Economic Journal, Vol. 80, No.320, December 1970, 850-872.
- Livingston, Steven G., *Is Globalization Dividing Tennessee?*, Global Commerce: Tennessee and the International Economy, Vol. 3. No. 4, Spring 1998, 1-2.
- Michaely, Michael, *Exports and Growth: An Empirical Investigation*, Journal of Development Economics, Vol. 4, No. 1, March 1977, 49-53.
- Nishiyama, Yasuo, *Exports' Contribution to Economic Growth: Empirical Evidence for California, Massachusetts, and Texas, Using Employment Data*, Journal of Regional Science, Vol. 37, No. 1, 1997, 99-125.
- Sprout, Ronald V.A. and Weaver, James H., *Exports and Economic Growth in a Simultaneous Equations Model*, The Journal of Developing Areas, Vol. 27. April 1993, 289-306.
- Sundrum, R. M., *Economic Growth in Theory and Practice*, The Macmillan Press LTD, 1990
- Tyler, William, *Growth and Export Expansion in Less Developed Countries*, Quarterly Journal of Economics, Vol. 9, No. 3, August 1981, 121-130.

**Appendix 1. Foreign Exports for each County by Sector (Anderson - Fayette)**

<b>County Name</b>	<b>Agriculture</b>	<b>Mining</b>	<b>Construction</b>	<b>Manufacturing</b>	<b>TCPU</b>
Anderson	\$ 426,053.00	\$ 2,248,145.00	\$ 48,667.00	\$ 206,969,200.00	\$ 3,151,693.00
Bedford	\$ 4,357,593.00	\$ 95,665.00	\$ 8,815.00	\$ 137,276,800.00	\$ 3,454,857.00
Benton	\$ 1,222,465.00	\$ 291,516.00	\$ 5,035.00	\$ 14,208,480.00	\$ 2,116,347.00
Bledsoe	\$ 978,877.00	\$ 13,847.00	\$ 1,575.00	\$ 3,039,475.00	\$ 373,714.00
Blount	\$ 2,002,760.00	\$ 18,028.00	\$ 42,917.00	\$ 237,437,600.00	\$ 13,535,130.00
Bradley	\$ 1,041,861.00	\$ 110,427.00	\$ 21,777.00	\$ 149,369,200.00	\$ 6,744,157.00
Campbell	\$ 1,152,197.00	\$ 6,836,264.00	\$ 8,403.00	\$ 29,626,960.00	\$ 3,772,625.00
Cannon	\$ 2,034,797.00	\$ 21,454.00	\$ 1,957.00	\$ 3,687,429.00	\$ 413,094.00
Carroll	\$ 7,992,327.00	\$ -	\$ 3,797.00	\$ 49,089,160.00	\$ 2,275,840.00
Carter	\$ 2,115,678.00	\$ 136,477.00	\$ 14,653.00	\$ 60,784,110.00	\$ 1,766,194.00
Cheatham	\$ 2,281,511.00	\$ 301,306.00	\$ 11,916.00	\$ 90,621,280.00	\$ 1,272,871.00
Chester	\$ 2,806,034.00	\$ 66,128.00	\$ 4,039.00	\$ 39,022,810.00	\$ 1,502,588.00
Claiborne	\$ 6,769,569.00	\$ 507,189.00	\$ 4,478.00	\$ 23,316,120.00	\$ 1,892,249.00
Clay	\$ 1,844,373.00	\$ 15,523.00	\$ 56.00	\$ 13,667,430.00	\$ 345,564.00
Cocke	\$ 3,662,827.00	\$ 16,125.00	\$ 4,293.00	\$ 95,549,780.00	\$ 1,398,597.00
Coffee	\$ 4,154,569.00	\$ 16,321.00	\$ 13,363.00	\$ 74,224,070.00	\$ 5,638,042.00
Crockett	\$ 21,824,770.00	\$ -	\$ 4,386.00	\$ 38,130,300.00	\$ 558,232.00
Cumberland	\$ 1,725,460.00	\$ 406,575.00	\$ 10,329.00	\$ 40,886,260.00	\$ 1,426,977.00
Davidson	\$ 1,106,894.00	\$ 25,831,650.00	\$ 255,110.00	\$ 1,078,175,000.00	\$ 196,649,400.00
Decatur	\$ 844,543.00	\$ 331,296.00	\$ 3,536.00	\$ 32,320,950.00	\$ 1,614,244.00
De Kalb	\$ 2,235,227.00	\$ -	\$ 3,169.00	\$ 17,221,600.00	\$ 3,766,690.00
Dickson	\$ 2,046,185.00	\$ 131,914.00	\$ 12,840.00	\$ 41,260,010.00	\$ 2,064,580.00
Dyer	\$ 26,515,340.00	\$ -	\$ 13,364.00	\$ 77,421,900.00	\$ 7,376,524.00
Fayette	\$ 16,005,490.00	\$ -	\$ 7,153.00	\$ 15,668,260.00	\$ 611,636.00

**Appendix 2. Foreign Exports for each County by Sector (Fentress - Lake)**

<b>County Name</b>	<b>Agriculture</b>	<b>Mining</b>	<b>Construction</b>	<b>Manufacturing</b>	<b>TCPU</b>
Fentress	\$ 1,611,304.00	\$ 1,983,705.00	\$ 4,240.00	\$ 11,847,080.00	\$ 1,026,334.00
Franklin	\$ 6,433,836.00	\$ 21,776.00	\$ 6,846.00	\$ 27,860,070.00	\$ 2,051,716.00
Gibson	\$ 27,127,250.00	\$ 151,877.00	\$ 13,874.00	\$ 191,864,200.00	\$ 2,894,439.00
Giles	\$ 2,589,057.00	\$ 11,409.00	\$ 6,226.00	\$ 119,114,300.00	\$ 1,178,258.00
Grainger	\$ 4,258,433.00	\$ 647,157.00	\$ 3,397.00	\$ 5,524,676.00	\$ 1,185,191.00
Greene	\$ 12,383,690.00	\$ 181,567.00	\$ 13,453.00	\$ 289,239,600.00	\$ 5,885,706.00
Grundy	\$ 863,500.00	\$ 43,008.00	\$ 2,016.00	\$ 3,314,637.00	\$ 1,021,267.00
Hamblen	\$ 2,374,690.00	\$ 22,485.00	\$ 12,633.00	\$ 305,775,400.00	\$ 7,474,856.00
Hamilton	\$ 893,474.00	\$ 667,479.00	\$ 113,567.00	\$ 531,083,600.00	\$ 53,788,040.00
Hancock	\$ 2,727,618.00	\$ -	\$ 62.00	\$ 519,175.00	\$ 25,206.00
Hardeman	\$ 7,533,135.00	\$ 66,128.00	\$ 4,582.00	\$ 72,907,670.00	\$ 781,004.00
Hardin	\$ 2,742,588.00	\$ 19,603.00	\$ 7,834.00	\$ 17,654,950.00	\$ 3,001,590.00
Hawkins	\$ 5,725,566.00	\$ 157,205.00	\$ 5,567.00	\$ 126,385,900.00	\$ 3,032,662.00
Haywood	\$ 31,414,930.00	\$ -	\$ 3,087.00	\$ 37,320,990.00	\$ 698,395.00
Henderson	\$ 3,104,214.00	\$ -	\$ 4,638.00	\$ 118,916,200.00	\$ 1,652,492.00
Henry	\$ 8,956,339.00	\$ 754,573.00	\$ 7,890.00	\$ 79,206,450.00	\$ 2,621,760.00
Hickman	\$ 1,360,735.00	\$ -	\$ 5,935.00	\$ 14,686,990.00	\$ 439,078.00
Houston	\$ 552,521.00	\$ -	\$ 1,287.00	\$ 9,658,346.00	\$ 155,641.00
Humphreys	\$ 1,397,638.00	\$ 20,693.00	\$ 5,852.00	\$ 160,154,600.00	\$ 1,527,965.00
Jackson	\$ 2,089,557.00	\$ -	\$ 1,894.00	\$ 4,965,443.00	\$ 337,803.00
Jefferson	\$ 3,499,859.00	\$ 579,128.00	\$ 68.00	\$ 19,458,570.00	\$ 5,164,058.00
Johnson	\$ 2,707,067.00	\$ 17,586.00	\$ 4,086.00	\$ 11,545,740.00	\$ 752,463.00
Knox	\$ 1,730,334.00	\$ 54,102,130.00	\$ 152,945.00	\$ 463,176,600.00	\$ 52,490,500.00
Lake	\$ 11,284,610.00	\$ -	\$ 343.00	\$ 3,675,886.00	\$ 166,435.00

**Appendix 3. Foreign Exports for each County by Sector (Lauderdale - Roane)**

<b>County Name</b>	<b>Agriculture</b>	<b>Mining</b>	<b>Construction</b>	<b>Manufacturing</b>	<b>TCPU</b>
Lauderdale	\$ 20,240,000.00	\$ -	\$ 3,853.00	\$ 42,027,970.00	\$ 1,236,996.00
Lawrence	\$ 4,328,403.00	\$ 42,040.00	\$ 8,111.00	\$ 206,246,600.00	\$ 2,894,791.00
Lewis	\$ 153,901.00	\$ 99.00	\$ 1,679.00	\$ 31,112,950.00	\$ 329,959.00
Lincoln	\$ 6,211,845.00	\$ 46,709.00	\$ 7,568.00	\$ 58,984,990.00	\$ 984,064.00
Loudon	\$ 1,480,725.00	\$ 55,887.00	\$ 7,613.00	\$ 94,070,740.00	\$ 4,383,554.00
Mcminn	\$ 3,669,293.00	\$ 66,910.00	\$ 12,820.00	\$ 170,537,600.00	\$ 7,939,843.00
Mcnaury	\$ 4,188,837.00	\$ 19,779.00	\$ 4,882.00	\$ 51,172,790.00	\$ 1,541,858.00
Macon	\$ 6,925,289.00	\$ -	\$ 2,445.00	\$ 19,615,750.00	\$ 679,739.00
Madison	\$ 13,453,140.00	\$ 146,657.00	\$ 42,150.00	\$ 202,242,500.00	\$ 9,089,702.00
Marion	\$ 1,086,802.00	\$ 2,987,261.00	\$ 3,486.00	\$ 13,080,660.00	\$ 1,433,519.00
Marshall	\$ 1,863,447.00	\$ 45,064.00	\$ 4,971.00	\$ 139,654,300.00	\$ 1,733,219.00
Maury	\$ 4,834,217.00	\$ 323,616.00	\$ 17,932.00	\$ 667,047,600.00	\$ 7,063,313.00
Megis	\$ 676,743.00	\$ 15,459.00	\$ 3,669.00	\$ 3,746,386.00	\$ 1,080,070.00
Monroe	\$ 3,008,116.00	\$ 158,017.00	\$ 5,634.00	\$ 94,544,030.00	\$ 1,131,513.00
Montgomery	\$ 10,478,990.00	\$ 2,168,230.00	\$ 27,834.00	\$ 380,377,000.00	\$ 3,918,402.00
Moore	\$ 716,691.00	\$ 16,555.00	\$ 434.00	\$ 4,192,146.00	\$ 51,911.00
Morgan	\$ 1,083,217.00	\$ 351,947.00	\$ 2,492.00	\$ 14,455,210.00	\$ 3,058,363.00
Obion	\$ 21,512,710.00	\$ 573,677.00	\$ 9,399.00	\$ 111,708,300.00	\$ 1,863,423.00
Overton	\$ 1,579,225.00	\$ 5,775.00	\$ 3,553.00	\$ 24,863,080.00	\$ 764,790.00
Perry	\$ 690,244.00	\$ 23,952.00	\$ 839.00	\$ 21,515,710.00	\$ 441,444.00
Pickett	\$ 1,309,425.00	\$ -	\$ 1,196.00	\$ 5,529,090.00	\$ 1,904,718.00
Polk	\$ 581,923.00	\$ 16,168.00	\$ 1,909.00	\$ 12,254,120.00	\$ 403,080.00
Putnam	\$ 2,456,606.00	\$ 51,238.00	\$ 20,651.00	\$ 168,575,100.00	\$ 7,960,789.00
Rhea	\$ 924,057.00	\$ 199,206.00	\$ 5,564.00	\$ 41,528,940.00	\$ 1,324,927.00
Roane	\$ 537,284.00	\$ 1,424.00	\$ 8,087.00	\$ 63,598,020.00	\$ 3,213,631.00

**Appendix 4. Foreign Exports for each County by Sector (Robertson - Wilson)**

<b>County Name</b>	<b>Agriculture</b>	<b>Mining</b>	<b>Construction</b>	<b>Manufacturing</b>	<b>TCPU</b>
Robertson	\$ 18,866,070.00	\$ 34,926.00	\$ 13,625.00	\$ 55,817,010.00	\$ 1,603,792.00
Rutherford	\$ 2,907,786.00	\$ 22,163.00	\$ 40,654.00	\$ 682,337,700.00	\$ 16,416,990.00
Scott	\$ 230,054.00	\$ 414,965.00	\$ 3,723.00	\$ 33,592,520.00	\$ 1,127,185.00
Sequatchie	\$ 319,556.00	\$ 3,137,763.00	\$ 1,812.00	\$ 61,966,460.00	\$ 339,892.00
Sevier	\$ 1,772,580.00	\$ 612,988.00	\$ 24,696.00	\$ 78,709,450.00	\$ 2,348,758.00
Shelby	\$ 11,264,740.00	\$ 4,322,432.00	\$ 280,412.00	\$ 1,470,927,000.00	\$ 1,152,350,000.00
Smith	\$ 4,152,324.00	\$ 609,659.00	\$ 4,113.00	\$ 71,282,420.00	\$ 726,773.00
Stewart	\$ 1,969,608.00	\$ -	\$ 2,769.00	\$ 4,154,271.00	\$ 231,067.00
Sullivan	\$ 3,604,583.00	\$ 121,995.00	\$ 54,130.00	\$ 647,906,800.00	\$ 19,994,050.00
Sumner	\$ 8,144,598.00	\$ 70,260.00	\$ 39,609.00	\$ 116,112,800.00	\$ 5,982,902.00
Tipton	\$ 21,578,810.00	\$ 52,831.00	\$ 12,333.00	\$ 48,624,310.00	\$ 892,798.00
Trousdale	\$ 2,891,405.00	\$ -	\$ 873.00	\$ 5,553,113.00	\$ 102,460.00
Unicoi	\$ 650,922.00	\$ 25,064.00	\$ 2,201.00	\$ 26,586,120.00	\$ 6,991,567.00
Union	\$ 1,656,717.00	\$ 27,092.00	\$ 3,634.00	\$ 8,398,927.00	\$ 1,040,573.00
Van Buren	\$ 175,806.00	\$ 42,031.00	\$ 578.00	\$ 6,024,878.00	\$ 70,737.00
Warren	\$ 2,755,253.00	\$ 22,614.00	\$ 10,703.00	\$ 159,935,000.00	\$ 1,380,900.00
Washington	\$ 7,478,066.00	\$ 26,054.00	\$ 33,536.00	\$ 204,961,700.00	\$ 5,641,768.00
Wayne	\$ 719,938.00	\$ -	\$ 1,572.00	\$ 12,273,700.00	\$ 352,095.00
Weakley	\$ 14,345,850.00	\$ 24,003,020.00	\$ 4,832.00	\$ 47,895,310.00	\$ 1,682,554.00
White	\$ 2,417,162.00	\$ 1,573,853.00	\$ 3,819.00	\$ 26,037,800.00	\$ 1,213,670.00
Williamson	\$ 4,433,638.00	\$ 90,050.00	\$ 48,544.00	\$ 154,605,400.00	\$ 6,361,290.00
Wilson	\$ 2,438,782.00	\$ 871,046.00	\$ 26,750.00	\$ 147,382,800.00	\$ 4,537,300.00
<b>TOTAL</b>	<b>\$ 491,274,723.00</b>	<b>\$ 140,239,835.00</b>	<b>\$ 1,711,639.00</b>	<b>\$ 11,908,598,328.00</b>	<b>\$ 1,710,891,443.00</b>
<b>AVERAGE</b>	<b>\$ 5,171,312.87</b>	<b>\$ 1,476,208.79</b>	<b>\$ 18,017.25</b>	<b>\$ 125,353,666.61</b>	<b>\$ 18,009,383.61</b>

**Appendix 5. Foreign Exports for each County by Sector (Anderson -Fayette)**

<b>County Name</b>	<b>Trade</b>	<b>FIRE</b>	<b>Services</b>	<b>Government</b>	<b>Other</b>	<b>TOTAL</b>
Anderson	\$ 4,271,216.00	\$ 4,011,881.00	\$ 29,453.00	\$ 11,362.00	\$ 19,704,270.00	\$ 240,871,940.00
Bedford	\$ 3,384,953.00	\$ 1,287,730.00	\$ 1,019,935.00	\$ 11,600.00	\$ 8,429,400.00	\$ 159,327,348.00
Benton	\$ 1,586,530.00	\$ 625,232.00	\$ 1,109,274.00	\$ 6,480.00	\$ 3,217,376.00	\$ 24,388,735.00
Bledsoe	\$ 254,972.00	\$ 16,201.00	\$ 45,063.00	\$ 2,534.00	\$ 1,471,648.00	\$ 6,197,906.00
Blount	\$ 9,961,102.00	\$ 5,133,318.00	\$ 3,687,263.00	\$ 32,866.00	\$ 23,346,360.00	\$ 295,197,344.00
Bradley	\$ 12,119,210.00	\$ 3,698,894.00	\$ 2,929,315.00	\$ 27,533.00	\$ 22,285,980.00	\$ 198,348,354.00
Campbell	\$ 2,417,458.00	\$ 1,713,995.00	\$ 422,102.00	\$ 11,832.00	\$ 5,935,142.00	\$ 51,896,978.00
Cannon	\$ 206,603.00	\$ 446,490.00	\$ 63,950.00	\$ 4,831.00	\$ 1,224,370.00	\$ 8,104,975.00
Carroll	\$ 1,596,210.00	\$ 1,217,258.00	\$ 437,364.00	\$ 11,465.00	\$ 5,508,447.00	\$ 68,131,868.00
Carter	\$ 1,882,899.00	\$ 1,895,625.00	\$ 618,861.00	\$ 15,209.00	\$ 7,322,938.00	\$ 76,552,644.00
Cheatham	\$ 1,074,689.00	\$ 1,099,699.00	\$ 183,649.00	\$ 9,630.00	\$ 5,528,790.00	\$ 102,385,341.00
Chester	\$ 494,573.00	\$ 522,101.00	\$ 175,564.00	\$ 4,344.00	\$ 2,430,038.00	\$ 47,028,219.00
Claiborne	\$ 1,278,699.00	\$ 956,782.00	\$ 275,625.00	\$ 9,843.00	\$ 4,552,866.00	\$ 39,563,420.00
Clay	\$ 102,930.00	\$ 175,504.00	\$ 60,579.00	\$ 2,470.00	\$ 1,440,403.00	\$ 17,654,832.00
Cocke	\$ 2,252,180.00	\$ 806,724.00	\$ 1,837,630.00	\$ 10,736.00	\$ 5,202,729.00	\$ 110,741,621.00
Coffee	\$ 3,690,481.00	\$ 3,681,221.00	\$ 9,996,546.00	\$ 8,929.00	\$ 13,187,950.00	\$ 114,611,492.00
Crockett	\$ 1,550,621.00	\$ 857,122.00	\$ 130,846.00	\$ 6,322.00	\$ 2,548,743.00	\$ 65,611,342.00
Cumberland	\$ 4,019,464.00	\$ 2,660,173.00	\$ 781,788.00	\$ 14,485.00	\$ 7,176,205.00	\$ 59,107,716.00
Davidson	\$ 256,056,500.00	\$ 79,023,090.00	\$ 71,924,130.00	\$ 611,023.00	\$ 179,223,000.00	\$ 1,888,855,797.00
Decatur	\$ 333,962.00	\$ 404,564.00	\$ 120,605.00	\$ 5,756.00	\$ 2,288,216.00	\$ 38,267,672.00
De Kalb	\$ 3,258,981.00	\$ 661,150.00	\$ 201,005.00	\$ 6,949.00	\$ 2,970,215.00	\$ 30,324,986.00
Dickson	\$ 3,360,851.00	\$ 1,330,946.00	\$ 1,054,900.00	\$ 14,680.00	\$ 7,795,297.00	\$ 59,072,203.00
Dyer	\$ 7,346,312.00	\$ 2,377,306.00	\$ 689,894.00	\$ 16,402.00	\$ 11,155,390.00	\$ 132,912,432.00
Fayette	\$ 1,578,233.00	\$ 814,451.00	\$ 261,996.00	\$ 8,304.00	\$ 4,198,287.00	\$ 39,153,810.00

**Appendix 6. Foreign Exports for each County by Sector (Fentress - Lake)**

<b>County Name</b>	<b>Trade</b>	<b>FIRE</b>	<b>Services</b>	<b>Government</b>	<b>Other</b>	<b>TOTAL</b>
Fentress	\$ 1,431,844.00	\$ 636,717.00	\$ 110,454.00	\$ 7,432.00	\$ 2,485,536.00	\$ 21,144,646.00
Franklin	\$ 2,257,546.00	\$ 823,231.00	\$ 1,645,325.00	\$ 22,430.00	\$ 5,670,892.00	\$ 46,793,668.00
Gibson	\$ 4,287,597.00	\$ 2,342,464.00	\$ 909,558.00	\$ 22,922.00	\$ 15,263,670.00	\$ 244,877,851.00
Giles	\$ 2,639,840.00	\$ 2,141,076.00	\$ 426,671.00	\$ 12,747.00	\$ 7,262,934.00	\$ 135,382,518.00
Grainger	\$ 687,061.00	\$ 248,687.00	\$ 160,967.00	\$ 6,681.00	\$ 2,292,760.00	\$ 15,015,010.00
Greene	\$ 3,552,706.00	\$ 2,328,939.00	\$ 1,626,081.00	\$ 21,309.00	\$ 14,351,560.00	\$ 329,584,611.00
Grundy	\$ 282,956.00	\$ 68,594.00	\$ 81,660.00	\$ 4,329.00	\$ 1,286,310.00	\$ 6,968,277.00
Hamblen	\$ 10,872,810.00	\$ 2,152,791.00	\$ 1,316,575.00	\$ 16,663.00	\$ 16,175,430.00	\$ 346,194,333.00
Hamilton	\$ 81,570,780.00	\$ 30,761,560.00	\$ 17,693,270.00	\$ 326,382.00	\$ 91,179,330.00	\$ 808,077,482.00
Hancock	\$ 136,898.00	\$ 18,357.00	\$ 154,446.00	\$ 1,959.00	\$ 736,667.00	\$ 4,320,388.00
Hardeman	\$ 810,838.00	\$ 856,906.00	\$ 320,048.00	\$ 9,779.00	\$ 4,348,021.00	\$ 87,638,111.00
Hardin	\$ 818,894.00	\$ 1,121,867.00	\$ 10,008.00	\$ 5,015,147.00	\$ 8,429,400.00	\$ 38,821,881.00
Hawkins	\$ 2,801,320.00	\$ 761,462.00	\$ 708,002.00	\$ 15,324.00	\$ 8,964,175.00	\$ 148,557,183.00
Haywood	\$ 1,486,141.00	\$ 832,889.00	\$ 387,604.00	\$ 6,048.00	\$ 3,713,758.00	\$ 75,863,842.00
Henderson	\$ 2,043,766.00	\$ 1,202,407.00	\$ 266,788.00	\$ 8,641.00	\$ 5,519,171.00	\$ 132,718,317.00
Henry	\$ 5,754,169.00	\$ 1,862,580.00	\$ 1,691,217.00	\$ 13,988.00	\$ 7,258,611.00	\$ 108,127,577.00
Hickman	\$ 1,123,808.00	\$ 532,925.00	\$ 405,958.00	\$ 7,866.00	\$ 2,610,219.00	\$ 21,173,514.00
Houston	\$ 94,727.00	\$ 85,794.00	\$ 23,515.00	\$ 3,441.00	\$ 1,029,304.00	\$ 11,604,576.00
Humphreys	\$ 1,388,323.00	\$ 2,513,623.00	\$ 325,452.00	\$ 7,883.00	\$ 4,779,066.00	\$ 172,121,095.00
Jackson	\$ 224,122.00	\$ 438,633.00	\$ 89,465.00	\$ 4,018.00	\$ 1,329,114.00	\$ 9,480,049.00
Jefferson	\$ 2,298,038.00	\$ 1,112,821.00	\$ 903,266.00	\$ 15,454.00	\$ 6,334,396.00	\$ 39,365,658.00
Johnson	\$ 343,685.00	\$ 431,882.00	\$ 591,848.00	\$ 6,635.00	\$ 2,336,192.00	\$ 18,737,184.00
Knox	\$ 122,075,100.00	\$ 29,760,010.00	\$ 31,294,560.00	\$ 256,842.00	\$ 110,159,500.00	\$ 865,198,521.00
Lake	\$ 257,129.00	\$ 17,574.00	\$ 9,358.00	\$ 3,536.00	\$ 953,352.00	\$ 16,368,223.00

**Appendix 7. Foreign Exports for each County by Sector (Lauderdale - Roane)**

<b>County Name</b>	<b>Trade</b>	<b>FIRE</b>	<b>Services</b>	<b>Government</b>	<b>Other</b>	<b>TOTAL</b>
Lauderdale	\$ 3,757,724	\$ 1,034,175	\$ 111,082	\$ 8,937	\$ 4,714,459	\$ 73,135,196
Lawrence	\$ 4,143,301	\$ 1,213,481	\$ 1,235,778	\$ 15,833	\$ 9,127,908	\$ 229,256,246
Lewis	\$ 1,184,841	\$ 386,310	\$ 94,156	\$ 3,121	\$ 2,155,226	\$ 35,422,242
Lincoln	\$ 2,671,163	\$ 946,004	\$ 921,094	\$ 10,762	\$ 5,356,021	\$ 76,140,220
Loudon	\$ 1,654,756	\$ 1,731,173	\$ 1,386,537	\$ 13,360	\$ 6,775,322	\$ 111,559,667
Mcminn	\$ 2,856,477	\$ 2,339,192	\$ 1,230,520	\$ 14,903	\$ 12,681,940	\$ 201,349,498
Mcnairy	\$ 1,723,253	\$ 940,507	\$ 565,519	\$ 12,055	\$ 4,661,870	\$ 64,831,350
Macon	\$ 916,942	\$ 875,620	\$ 314,928	\$ 5,464	\$ 2,521,594	\$ 31,857,771
Madison	\$ 18,457,460	\$ 5,471,785	\$ 2,824,529	\$ 61,344	\$ 26,709,920	\$ 278,499,187
Marion	\$ 1,565,366	\$ 940,724	\$ 658,848	\$ 7,825	\$ 3,873,481	\$ 25,637,972
Marshall	\$ 1,280,943	\$ 1,257,726	\$ 322,033	\$ 10,256	\$ 6,839,643	\$ 153,011,602
Maury	\$ 9,086,578	\$ 3,687,839	\$ 3,904,077	\$ 29,686	\$ 22,549,800	\$ 718,544,658
Megis	\$ 243,807	\$ 389,634	\$ 88,703	\$ 3,401	\$ 1,337,180	\$ 7,585,052
Monroe	\$ 2,065,801	\$ 923,431	\$ 452,379	\$ 11,881	\$ 6,815,378	\$ 109,116,180
Montgomery	\$ 7,014,179	\$ 5,313,602	\$ 1,583,865	\$ 38,022	\$ 21,421,020	\$ 432,341,144
Moore	\$ 2,301,659	\$ 17,814	\$ 180	\$ 1,115	\$ 830,906	\$ 8,129,411
Morgan	\$ 292,281	\$ 156,527	\$ 69,503	\$ 5,052	\$ 2,430,255	\$ 21,904,847
Obion	\$ 5,969,830	\$ 1,758,694	\$ 1,262,476	\$ 11,719	\$ 10,992,330	\$ 155,662,558
Overton	\$ 799,787	\$ 654,217	\$ 522,317	\$ 7,302	\$ 2,909,858	\$ 32,109,904
Perry	\$ 234,205	\$ 255,015	\$ 105,543	\$ 3,025	\$ 1,660,561	\$ 24,930,538
Pickett	\$ 179,688	\$ 201,519	\$ 10,355	\$ 1,468	\$ 649,411	\$ 9,786,870
Polk	\$ 327,495	\$ 667,968	\$ 144,490	\$ 6,599	\$ 1,758,701	\$ 16,162,453
Putnam	\$ 11,520,890	\$ 3,507,860	\$ 1,961,467	\$ 30,803	\$ 17,093,310	\$ 213,178,714
Rhea	\$ 993,077	\$ 960,246	\$ 1,171,317	\$ 8,672	\$ 7,451,078	\$ 54,567,084
Roane	\$ 2,665,806	\$ 1,081,213	\$ 24,628	\$ 36,151	\$ 7,894,853	\$ 79,061,097

**Appendix 8. Foreign Exports for each County by Sector (Robertson - Wilson)**

<b>County Name</b>	<b>Trade</b>	<b>FIRE</b>	<b>Services</b>	<b>Government</b>	<b>Other</b>	<b>TOTAL</b>
Roane	\$ 2,665,806	\$ 1,081,213	\$ 24,628	\$ 36,151	\$ 7,894,853	\$ 79,061,097
Robertson	\$ 4,639,005	\$ 889,940	\$ 1,146,182	\$ 15,201	\$ 8,328,349	\$ 91,354,100
Rutherford	\$ 42,693,170	\$ 7,473,585	\$ 39,911,650	\$ 49,481	\$ 42,865,520	\$ 834,718,699
Scott	\$ 593,235	\$ 596,931	\$ 340,422	\$ 6,709	\$ 3,486,506	\$ 40,392,250
Sequatchie	\$ 1,083,142	\$ 368,762	\$ 379,799	\$ 1,851	\$ 1,563,557	\$ 69,162,594
Sevier	\$ 2,712,154	\$ 4,968,451	\$ 2,414,255	\$ 22,635	\$ 14,733,790	\$ 108,319,757
Shelby	\$ 341,331,300	\$ 101,746,100	\$ 55,299,460	\$ 1,131,844	\$ 299,599,100	\$ 3,438,252,388
Smith	\$ 864,290	\$ 832,076	\$ 286,163	\$ 8,103	\$ 3,334,583	\$ 82,100,504
Stewart	\$ 37,434	\$ 973,227	\$ 222,545	\$ 5,048	\$ 2,063,689	\$ 9,659,658
Sullivan	\$ 25,459,140	\$ 6,349,875	\$ 4,973,015	\$ 50,658	\$ 44,441,820	\$ 752,956,066
Sumner	\$ 12,037,680	\$ 4,324,627	\$ 3,822,112	\$ 38,491	\$ 25,223,340	\$ 175,796,419
Tipton	\$ 2,722,239	\$ 1,499,155	\$ 573,361	\$ 14,607	\$ 6,877,564	\$ 82,848,008
Trousdale	\$ 188,812	\$ 371,050	\$ 43,052	\$ 2,025	\$ 972,571	\$ 10,125,361
Unicoi	\$ 330,514	\$ 442,701	\$ 947,146	\$ 6,554	\$ 3,295,961	\$ 39,278,750
Union	\$ 644,888	\$ 5,687	\$ 2,311	\$ 3,987	\$ 1,556,022	\$ 13,339,838
Van Buren	\$ 53,007	\$ 99,160	\$ 94,128	\$ 965	\$ 802,843	\$ 7,364,133
Warren	\$ 4,199,852	\$ 1,853,945	\$ 798,128	\$ 15,460	\$ 9,401,568	\$ 180,373,423
Washington	\$ 20,446,880	\$ 5,700,224	\$ 4,582,224	\$ 71,232	\$ 30,312,060	\$ 279,253,744
Wayne	\$ 519,931	\$ 615,791	\$ 1,106,735	\$ 5,307	\$ 2,254,907	\$ 17,849,976
Weakley	\$ 5,881,355	\$ 1,067,080	\$ 805,839	\$ 21,845	\$ 7,622,087	\$ 103,329,772
White	\$ 2,096,138	\$ 527,253	\$ 169,920	\$ 8,014	\$ 4,255,739	\$ 38,303,368
Williamson	\$ 22,569,080	\$ 12,594,040	\$ 10,874,980	\$ 44,188	\$ 28,069,420	\$ 239,690,630
Wilson	\$ 10,472,360	\$ 5,086,146	\$ 2,551,638	\$ 25,968	\$ 17,072,330	\$ 190,465,120
<b>TOTAL</b>	<b>\$ 1,158,802,642</b>	<b>\$ 393,569,328</b>	<b>\$ 311,520,822</b>	<b>\$ 8,591,970</b>	<b>\$ 1,421,958,779</b>	<b>\$ 17,547,159,509</b>
<b>AVERAGE</b>	<b>\$ 12,197,923</b>	<b>\$ 4,142,835</b>	<b>\$ 3,279,167</b>	<b>\$ 90,442</b>	<b>\$ 14,967,987</b>	<b>\$ 184,706,942</b>

**Appendix 9. Tennessee Metropolitan Counties**

<b>County Name</b>	<b>Population</b>	<b>County Income</b>	<b>Total Output</b>	<b>Total Value Added</b>	<b>Export Employment</b>	<b>Total Employment</b>
ANDERSON	71,412	\$ 1,543,974,016	\$ 319,857,580	\$ 168,707,259	2,178	25,226
BLOUNT	97,036	\$ 1,877,251,000	\$ 481,208,874	\$ 216,671,111	4,286	42,817
CARTER	52,785	\$ 774,878,000	\$ 115,375,817	\$ 55,526,753	1,406	17,244
CHEATHAM	32,141	\$ 571,245,000	\$ 141,040,686	\$ 51,024,403	933	11,024
CHESTER	13,754	\$ 193,952,000	\$ 73,506,139	\$ 38,340,359	990	5,490
DAVIDSON	532,307	\$ 14,804,520,000	\$ 3,050,778,243	\$ 1,684,560,925	28,867	489,817
DICKSON	38,692	\$ 719,217,000	\$ 97,064,379	\$ 50,970,981	1,293	17,515
FAYETTE	27,017	\$ 489,883,000	\$ 57,466,809	\$ 23,899,675	733	9,291
HAMILTON	293,960	\$ 7,032,710,000	\$ 1,315,997,043	\$ 686,625,300	12,535	217,648
HAWKINS	47,781	\$ 773,698,000	\$ 217,407,279	\$ 97,221,220	2,772	17,542
KNOX	361,597	\$ 8,355,553,000	\$ 1,387,790,644	\$ 758,451,427	14,078	249,181
LOUDON	36,051	\$ 706,829,000	\$ 173,332,029	\$ 71,857,249	1,702	15,075
MADISON	83,606	\$ 1,768,902,000	\$ 444,328,056	\$ 218,354,405	4,175	60,073
MARION	26,381	\$ 440,446,000	\$ 38,730,242	\$ 19,799,219	459	9,091
MONTGOMERY	115,645	\$ 2,056,242,000	\$ 687,493,336	\$ 312,300,950	7,304	46,860
ROBERTSON	48,019	\$ 897,124,000	\$ 137,141,891	\$ 57,205,075	1,773	18,864
RUTHERFORD	147,890	\$ 3,144,131,000	\$ 1,382,718,730	\$ 588,707,290	10,948	82,988
SEVIER	59,473	\$ 1,137,517,000	\$ 163,223,166	\$ 81,770,415	1,913	40,392
SHELBY	862,796	\$ 21,436,870,000	\$ 5,686,728,450	\$ 3,092,252,407	52,169	592,444
SULLIVAN	148,705	\$ 3,049,510,000	\$ 1,348,115,586	\$ 834,064,713	16,294	92,033
SUMNER	116,644	\$ 2,472,626,000	\$ 271,624,267	\$ 138,672,238	3,111	50,107
TIPTON	43,548	\$ 731,902,000	\$ 142,950,985	\$ 61,720,092	1,617	14,955
UNICOI	16,923	\$ 286,380,000	\$ 60,582,398	\$ 30,173,804	692	6,029
UNION	15,209	\$ 192,726,000	\$ 17,745,905	\$ 8,251,427	341	3,598
WASHINGTON	98,682	\$ 2,001,425,000	\$ 454,898,206	\$ 223,655,211	5,108	70,103
WILLIAMSON	101,964	\$ 3,209,808,000	\$ 390,345,861	\$ 215,284,995	3,991	61,144
WILSON	77,129	\$ 1,634,767,000	\$ 319,183,308	\$ 161,869,980	3,618	34,942
<b>Total</b>	<b>3,567,147</b>	<b>\$ 82,304,086,016</b>	<b>\$18,976,635,906</b>	<b>\$ 9,947,938,884</b>	<b>185,283</b>	<b>2,301,493</b>

**Appendix 10. Tennessee Non-Metropolitan Counties (Bedford – Jackson)**

<b>County Name</b>	<b>Population</b>	<b>County Income</b>	<b>Total Output</b>	<b>Total Value Added</b>	<b>Export Employment</b>	<b>Total Employment</b>
	33,232	\$ 605,376,000	\$ 251,434,739	\$ 108,486,559	2,446	17,993
<b>Benton</b>	15,809	\$ 263,937,000	\$ 39,353,888	\$ 19,988,407	543	7,279
<b>Bledsoe</b>	10,294	\$ 138,183,000	\$ 8,412,376	\$ 4,433,115	117	3,725
<b>Bradley</b>	78,895	\$ 1,567,248,000	\$ 318,967,897	\$ 151,713,768	3,087	44,311
<b>Campbell</b>	37,028	\$ 525,640,000	\$ 79,960,394	\$ 37,107,500	842	13,597
<b>Cannon</b>	11,460	\$ 189,794,000	\$ 11,782,505	\$ 5,966,726	249	3,673
<b>Carroll</b>	28,664	\$ 480,866,000	\$ 108,068,136	\$ 48,334,789	1,554	13,922
<b>Claiborne</b>	28,556	\$ 408,010,000	\$ 62,019,229	\$ 29,143,533	1,369	13,578
<b>Clay</b>	7,254	\$ 113,124,000	\$ 26,899,988	\$ 12,307,609	473	4,001
<b>Cocke</b>	31,082	\$ 467,572,000	\$ 173,382,952	\$ 71,367,647	2,127	12,670
<b>Coffee</b>	43,900	\$ 844,233,000	\$ 172,826,890	\$ 93,433,144	1,959	32,215
<b>Crockett</b>	13,625	\$ 242,054,000	\$ 100,598,958	\$ 34,972,351	1,159	6,350
<b>Cumberland</b>	40,635	\$ 617,480,000	\$ 95,214,643	\$ 51,070,503	1,174	17,629
<b>Decatur</b>	15,297	\$ 168,667,000	\$ 61,748,807	\$ 24,558,810	740	5,791
<b>De Kalb</b>	10,691	\$ 266,242,000	\$ 51,785,312	\$ 25,775,062	702	7,653
<b>Dyer</b>	35,795	\$ 697,338,000	\$ 224,290,691	\$ 94,336,473	2,414	23,795
<b>Fentress</b>	15,578	\$ 237,228,000	\$ 34,326,656	\$ 16,380,462	504	7,447
<b>Franklin</b>	36,449	\$ 620,144,000	\$ 71,736,392	\$ 31,585,354	936	14,192
<b>Gibson</b>	47,561	\$ 884,723,000	\$ 388,248,065	\$ 198,807,473	4,504	29,328
<b>Giles</b>	28,190	\$ 524,859,000	\$ 210,176,782	\$ 85,796,503	2,095	15,249
<b>Grainger</b>	18,582	\$ 264,824,000	\$ 20,842,012	\$ 11,156,338	636	6,502
<b>Greene</b>	57,942	\$ 948,168,000	\$ 542,378,639	\$ 219,816,589	6,864	34,566
<b>Grundy</b>	13,724	\$ 197,161,000	\$ 9,946,931	\$ 4,565,730	137	3,845
<b>Hamblen</b>	52,800	\$ 1,008,919,000	\$ 599,576,965	\$ 278,677,336	7,032	37,931
<b>Hancock</b>	6,883	\$ 79,007,000	\$ 5,774,167	\$ 3,560,730	341	2,459
<b>Hardeman</b>	24,136	\$ 361,734,000	\$ 133,437,405	\$ 48,163,363	1,311	9,678
<b>Hardin</b>	24,268	\$ 379,795,000	\$ 55,112,403	\$ 31,902,651	677	10,736
<b>Haywood</b>	19,604	\$ 323,993,000	\$ 127,445,274	\$ 46,466,929	1,344	8,459
<b>Henderson</b>	23,198	\$ 391,164,000	\$ 212,488,019	\$ 91,962,401	2,564	13,034
<b>Henry</b>	29,468	\$ 536,248,000	\$ 183,910,177	\$ 78,483,707	2,129	16,463
<b>Hickman</b>	19,097	\$ 292,009,000	\$ 30,069,311	\$ 14,712,645	434	6,584
<b>Houston</b>	7,638	\$ 102,375,000	\$ 17,290,818	\$ 7,633,148	240	2,680
<b>Humphreys</b>	16,430	\$ 269,738,000	\$ 258,044,559	\$ 117,671,144	1,843	8,855
<b>Jackson</b>	9,358	\$ 136,630,000	\$ 16,697,208	\$ 8,726,659	379	3,875

**Appendix 11. Tennessee Non-Metropolitan Counties (Jefferson - White)**

<b>County Name</b>	<b>Population</b>	<b>County Income</b>	<b>Total Output</b>	<b>Total Value Added</b>	<b>Export Employment</b>	<b>Total Employment</b>
Jefferson	38,700	\$ 618,694,000	\$ 59,280,821	\$ 32,259,957	906	14,393
<b>Johnson</b>	16,350	\$ 195,356,000	\$ 28,403,109	\$ 14,641,969	628	6,336
<b>Lake</b>	8,450	\$ 95,836,000	\$ 24,810,880	\$ 7,067,959	279	2,303
<b>Lauderdale</b>	24,108	\$ 362,083,000	\$ 201,184,706	\$ 101,062,674	2,746	10,549
<b>Lawrence</b>	38,372	\$ 671,455,000	\$ 356,648,872	\$ 139,027,044	3,741	21,123
<b>Lewis</b>	10,297	\$ 157,434,000	\$ 57,851,793	\$ 27,912,889	751	4,772
<b>Lincoln</b>	28,705	\$ 495,771,000	\$ 113,128,187	\$ 47,946,600	1,368	13,805
<b>Mcminn</b>	16,968	\$ 743,804,000	\$ 324,248,162	\$ 145,849,273	3,015	24,202
<b>Mcnairy</b>	24,769	\$ 370,238,000	\$ 100,368,981	\$ 40,408,941	1,150	11,051
<b>Macon</b>	64,953	\$ 254,502,000	\$ 49,782,318	\$ 23,989,034	1,128	8,055
<b>Marshall</b>	45,153	\$ 479,737,000	\$ 227,980,306	\$ 93,475,317	2,206	15,346
<b>Mauzy</b>	23,428	\$ 1,258,173,000	\$ 1,097,827,214	\$ 368,966,467	5,640	38,906
<b>Megis</b>	9,153	\$ 124,959,000	\$ 11,238,533	\$ 5,686,747	152	3,777
<b>Monroe</b>	32,762	\$ 512,195,000	\$ 174,099,723	\$ 73,008,891	2,073	15,736
<b>Moore</b>	5,147	\$ 82,088,000	\$ 9,754,127	\$ 6,764,610	111	2,129
<b>Morgan</b>	18,225	\$ 225,497,000	\$ 31,170,089	\$ 14,094,910	333	5,534
<b>Obion</b>	32,355	\$ 644,188,000	\$ 254,379,503	\$ 123,382,555	2,619	19,182
<b>Overton</b>	18,237	\$ 260,361,000	\$ 49,928,616	\$ 21,228,234	663	7,299
<b>Perry</b>	7,134	\$ 110,441,000	\$ 38,250,102	\$ 16,352,899	445	3,843
<b>Pickett</b>	4,577	\$ 67,908,000	\$ 14,815,361	\$ 5,918,001	276	2,201
<b>Polk</b>	14,342	\$ 228,519,000	\$ 23,586,075	\$ 9,828,502	257	4,436
<b>Putnam</b>	56,784	\$ 1,072,976,000	\$ 356,046,761	\$ 161,996,341	3,899	40,746
<b>Rhea</b>	26,819	\$ 397,748,000	\$ 80,379,761	\$ 37,478,399	870	13,189
<b>Roane</b>	49,078	\$ 920,174,000	\$ 103,492,383	\$ 51,597,518	890	11,564
<b>Scott</b>	19,390	\$ 269,453,000	\$ 69,260,919	\$ 32,285,066	835	7,866
<b>Sequatchie</b>	9,686	\$ 148,002,000	\$ 105,082,264	\$ 32,296,412	914	3,634
<b>Smith</b>	15,302	\$ 265,322,000	\$ 132,056,638	\$ 51,989,749	1,702	8,125
<b>Stewart</b>	10,665	\$ 157,315,000	\$ 12,549,494	\$ 6,706,884	223	3,750
<b>Trousdale</b>	6,439	\$ 89,666,000	\$ 15,161,485	\$ 7,945,138	360	2,917
<b>Van Buren</b>	5,075	\$ 62,304,000	\$ 10,647,425	\$ 5,513,214	126	1,741
<b>Warren</b>	35,269	\$ 601,297,000	\$ 290,451,324	\$ 130,992,825	2,968	20,022
<b>Wayne</b>	16,123	\$ 211,669,000	\$ 27,267,729	\$ 13,925,268	453	6,212
<b>Weakley</b>	32,295	\$ 555,893,000	\$ 161,728,796	\$ 76,193,610	1,868	17,341
<b>White</b>	21,343	\$ 325,239,000	\$ 60,927,272	\$ 32,335,180	971	10,659
<b>Total</b>	<b>786,453</b>	<b>\$ 13,036,297,000</b>	<b>\$ 4,673,789,730</b>	<b>\$ 1,960,129,076</b>	<b>46,567</b>	<b>382,744</b>

**Appendix 12. Statistics of the Key Exporting Non-Metro Counties**

	<b>Maury</b>	<b>Hamblen</b>	<b>Greene</b>
GDP	\$ 1,258,173,000	\$ 1,008,919,000	\$ 948,168,000
Population	64,953	52,800	57,942
Per Cap GDP	\$ 19,371	\$ 19,108	\$ 16,364
Foreign Exports	\$ 718,544,658	\$ 346,194,333	\$ 329,584,611
Per Cap Exports	\$ 11,063	\$ 4,388	\$ 4,178
Exports as % of GDP	57.11%	34.31%	34.76%
Total Employment	38,906	37,931	34,566
Export Employment	5,640	7,032	6,864
% in Export Employment	14.50%	18.54%	19.86%
Emp./Mil.\$ Exp.	7.85	35.45	34.61
Output Impact	\$ 1,097,827,214	\$ 599,576,965	\$ 542,378,639
Output Impact/\$ of Export	\$ 1.53	\$ 1.73	\$ 1.65
Total Value Added Impact	\$ 368,966,467	\$ 278,677,336	\$ 219,816,589
Total Value Added / \$ of Export	\$ 0.51	\$ 0.80	\$ 0.67

	<b>Gibson</b>	<b>Lawrence</b>	<b>Putnam</b>
GDP	\$ 884,723,000	\$ 671,455,000	\$ 1,072,976,000
Population	47,561	38,372	56,784
Per Cap GDP	\$ 18,602	\$ 17,499	\$ 18,896
Foreign Exports	\$ 244,877,851	\$ 229,256,246	\$ 213,178,714
Per Cap Exports	\$ 3,104	\$ 5,975	\$ 3,754
Exports as % of GDP	27.68%	34.14%	19.87%
Total Employment	29,328	21,123	40,746
Export Employment	4,503	3,741	3,899
% in Export Employment	15.36%	17.71%	9.57%
Emp./Mil.\$ Exp.	22.71	16.32	18.29
Output Impact	\$ 388,248,065	\$ 356,648,872	\$ 356,046,761
Output Impact/\$ of Export	\$ 1.59	\$ 1.56	\$ 1.67
Total Value Added Impact	\$ 198,807,473	\$ 139,027,044	\$ 161,996,341
Total Value Added / \$ of Export	\$ 0.81	\$ 0.61	\$ 0.76

**Appendix 12. Statistics of the Key Exporting Non-Metro Counties(cont.)**

	<b>Mcminn</b>	<b>Bradley</b>	<b>Warren</b>
GDP	\$ 743,804,000	\$ 1,567,248,000	\$ 601,297,000
Population	45,153	78,895	35,269
Per Cap GDP	\$ 16,473	\$ 19,865	\$ 17,049
Foreign Exports	\$ 201,349,498	\$ 198,348,354	\$ 180,373,423
Per Cap Exports	\$ 4,459	\$ 2,514	\$ 5,114
Exports as % of GDP	27.07%	12.66%	30.00%
Total Employment	24,202	44,311	20,022
Export Employment	3,015	3,087	2,968
% in Export Employment	12.46%	6.97%	14.82%
Emp./Mil.\$ Exp.	14.97	15.56	16.45
Output Impact	\$ 324,248,162	\$ 318,967,897	\$ 290,451,324
Output Impact/\$ of Export	\$ 1.61	\$ 1.61	\$ 1.61
Total Value Added Impact	\$ 145,849,273	\$ 151,713,768	\$ 130,992,825
Total Value Added / \$ of Export	\$ 0.72	\$ 0.76	\$ 0.73

	<b>Humphreys</b>	<b>Bedford</b>	<b>Marshall</b>
GDP	\$ 269,738,000	\$ 605,736,000	\$ 479,737,000
Population	16,430	33,232	24,769
Per Cap GDP	\$ 16,417	\$ 18,227	\$ 19,368
Foreign Exports	\$ 172,121,095	\$ 159,327,348	\$ 153,011,602
Per Cap Exports	\$ 10,476	\$ 4,794	\$ 6,178
Exports as % of GDP	63.81%	26.30%	31.89%
Total Employment	8,855	17,993	15,346
Export Employment	1,843	2,446	2,206
% in Export Employment	20.82%	13.59%	14.38%
Emp./Mil.\$ Exp.	10.71	15.35	14.42
Output Impact	\$ 258,044,559	\$ 251,434,739	\$ 227,980,306
Output Impact/\$ of Export	\$ 1.50	\$ 1.58	\$ 1.49
Total Value Added Impact	\$ 117,671,144	\$ 108,486,559	\$ 93,475,317
Total Value Added / \$ of Export	\$ 0.68	\$ 0.68	\$ 0.61