

Global Commerce

Tennessee and the International Economy

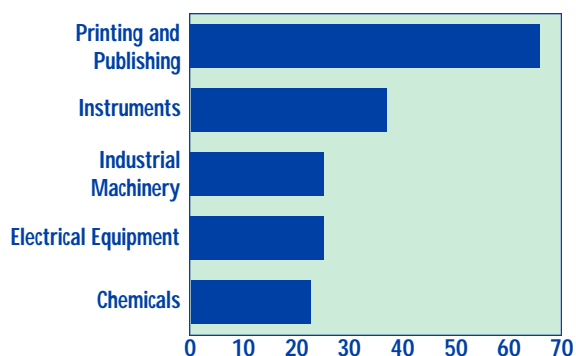
The Value of Tennessee's Exports

by Steven G. Livingston

How important are exports to the Tennessee economy? One way to answer this question is to examine the amount of Tennessee's economic activity that is generated through exporting. We can estimate this through an "impact analysis" of Tennessee exports: using an input-output model of the state economy to trace the size and location of economic flows resulting from the expenditures involved in producing and selling exported goods.

That a number of Tennessee industries are very reliant on foreign markets should come as no surprise. Almost one-tenth of the state's manufacturing production is directly sold overseas. And this figure actually understates the case, because another large chunk of Tennessee's manufacturing production is "indirectly exported"; it is incorporated into other products that are then exported. In fact, estimates are that Tennessee's indirect exports are even larger than its direct

Tennessee's Most Export-Intensive Sectors: Percent of Value of Shipments That Are Export-Related (1996 data)



foreign sales. (These estimates were based on federal surveys of Tennessee firms; once reported annually, the surveys ended in the early 1990s. For our analysis we have projected this data to 1998.) Combining direct and estimated indirect exports reveals that ten of the state's twenty major industrial sectors produce at least one-fifth of their goods for, ultimately, foreign customers.

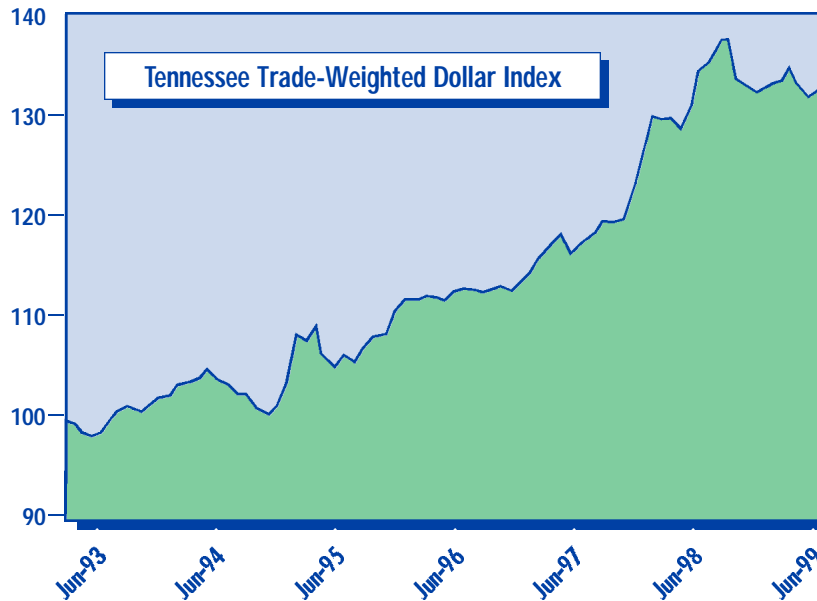
But even these figures don't tell the whole story, for the additional manufacturing generated by exporting has a secondary impact, the expansion of the production of *other* goods that are needed to create the final exported product. We might call this a secondary impact of exporting on the Tennessee economy. (*Note: this impact is often called the "indirect impact" in impact analysis studies; we are relabeling it here to avoid confusion with the idea of indirect exporting.*) And there is yet another spin-off of exporting to

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Tennessee Trade-Weighted Dollar Index

The dollar is expected to continue its fall in the months ahead.



Value

continued from front

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consider: all the increased state economic activity that occurs from the wealth and income that is pumped into Tennessee as a result of producing for foreign markets. This activity, called the induced impact, is what happens when employees and firms spend their increased income on other goods and services in this state.

Put all this activity together, and you have a very sizable piece of the Tennessee economy indeed. In 1998, we estimate that direct exports (just over \$10 billion for the year) generated some \$17.5 billion in economic output in this state. Indirect exports (estimated at \$12.5 billion) added a further \$22 billion to the Tennessee economy. This is 15.5 percent of the state's total output (GSP). The employment effects are similarly large. Direct and indirect exports together create some 362,000 jobs. This is better than one out of every ten jobs in the state. Over \$11 billion in personal income is generated by this employment.

This last figure alerts us to another important fact. Jobs in exporting industries are better-paying

jobs. This is often noted in studies on trade, but here we give some estimates for just how much better are the export-related jobs in Tennessee. As shown in the table, salaries for these jobs are seven to ten thousand dollars a year higher than the average state salary.

The benefits of exporting, however, are not limited to exporting firms and their workers. Other economic activities in this state greatly benefit from the manufacture and sales of exported goods. As we can see in the accompanying table, foreign sales create hundreds of millions of dollars in income for Tennessee service providers, and for economic activities, such as real estate or housing, that gain from economic growth.

Estimated Sectoral Impact of State Exports

	Direct Exports \$	Indirect Exports \$
Wholesale Trade	974,596,736	1,145,474,688
Real Estate	358,229,312	409,607,488
Transport/Warehousing	321,814,752	499,056,736

In short, no matter how you look at it, international trade is extremely valuable for Tennessee. At more than 360,000 jobs, eleven billion dollars in personal income, and almost forty billion dollars in output, exporting is today one of the pillars of this state's economy. Whether in terms of increased output, jobs, or pay, exporting has a huge impact on Tennessee. And it is equally clear, given the size and dynamism of the economic activity that we see created through international trade, that exporting will be one of the keys to Tennessee's robust growth in the future. ■

Estimated Average Salaries, 1998

	Direct Exports \$	Indirect Exports \$
Primary	34,211	38,493
Secondary	31,404	32,181
Induced	24,892	24,893
State Average Salary	25,298	

1st Quarter 1999

The food industry continues to post double-digit export growth.

Tennessee's Largest Export Sectors

	Exports	Change from Last Year	Change from Last Quarter
Transportation Equipment	\$530,140,235	-5.7%	0.7%
Industrial Machinery	\$367,062,544	5.6%	4.3%
Chemicals	\$344,944,164	-5.9%	-1.0%
Electronics	\$261,724,723	13.2%	-9.4%
Industrial and Medical Instruments	\$174,584,632	13.6%	-1.2%
Food Products	\$126,785,152	12.3%	11.4%

1st Quarter 1999

Environmental quality continues as the state's most dynamic trade sector.

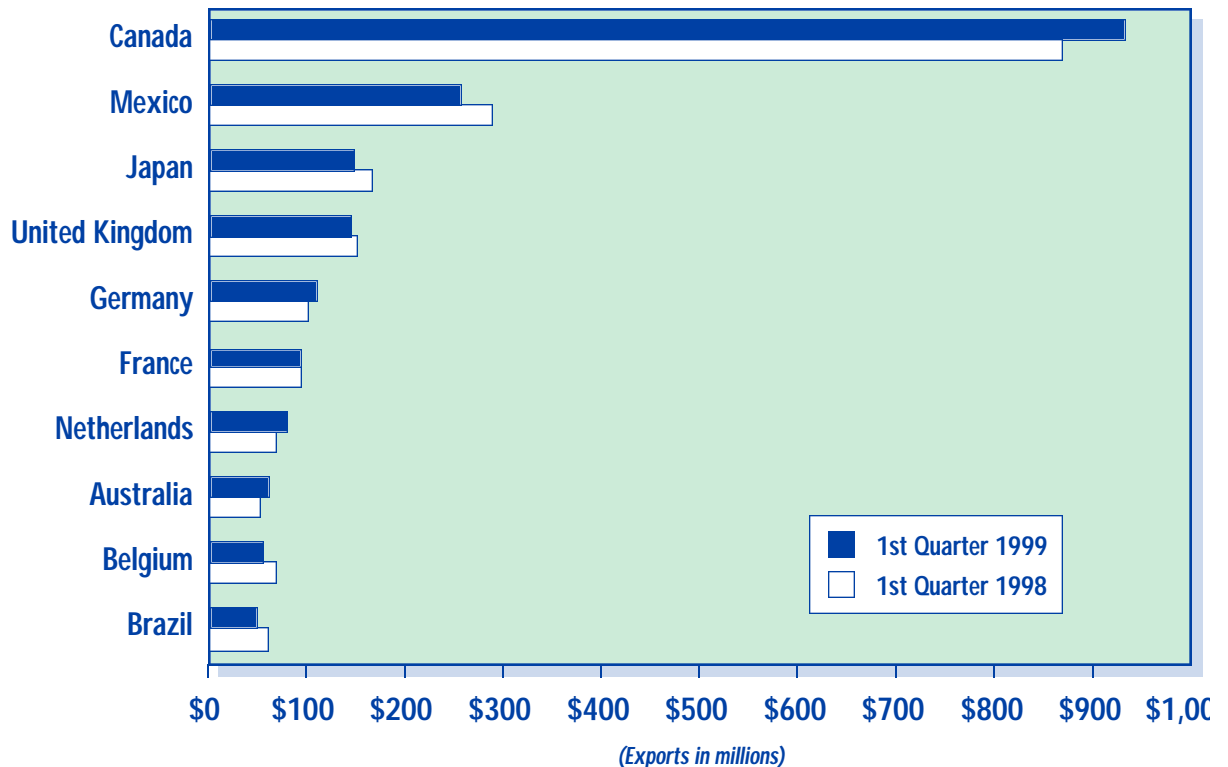
Greatest Growth and Decline in Exports by Industry

(among sectors averaging exports of more than \$2 million per quarter)

	Value of Exports	Growth	Decline
SECTORS WITH THE GREATEST GROWTH			
Environmental Quality	\$7,343,253	161.8%	
Fabricated Metals	\$125,800,069	57.9%	
Leather Products	\$9,028,807	31.2%	
Printing and Publishing	\$41,343,312	13.7%	
Industrial and Medical Instruments	\$174,584,632	13.6%	
SECTORS WITH THE GREATEST DECLINE			
Scrap and Waste	\$2,164,104		-68.7%
Agricultural Crops	\$35,228,783		-64.2%
Furniture	\$21,205,059		-50.9%
Apparel	\$51,496,919		-22.9%
Primary Metals	\$48,664,477		-19.0%

Tennessee's Leading Trade Partners

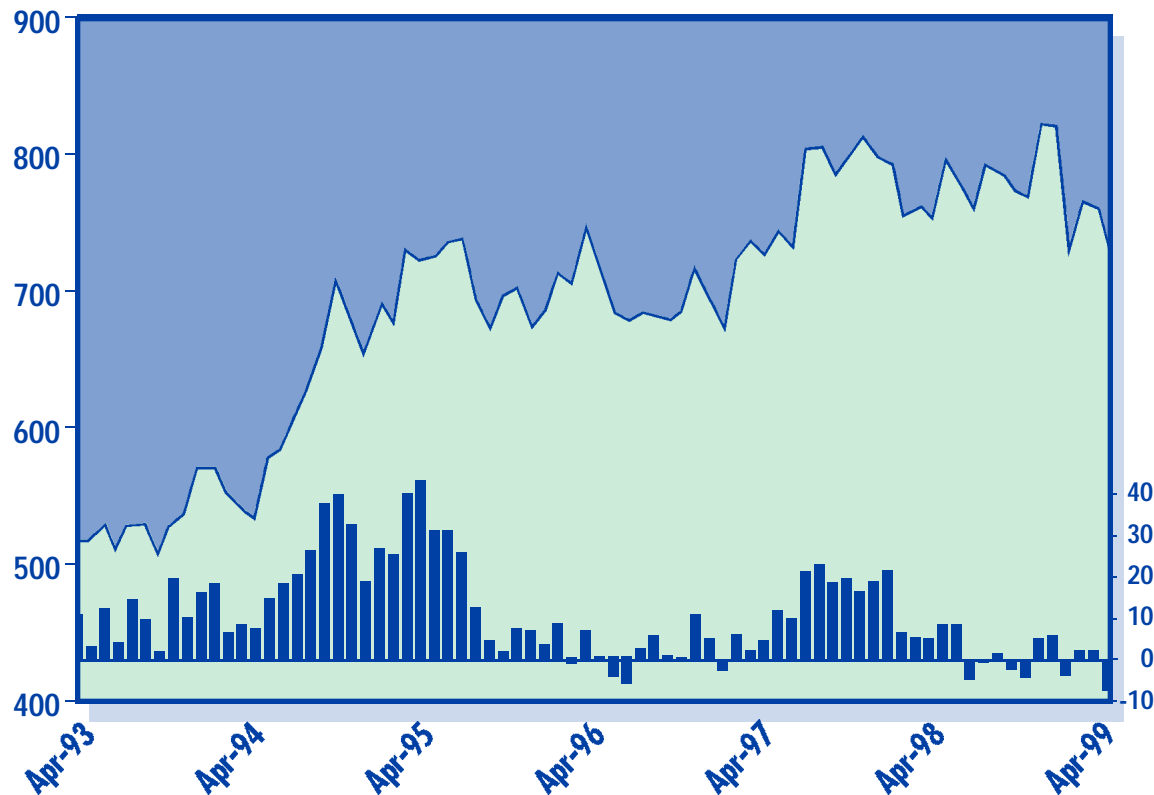
Exports gain in only four of the state's top markets.



Tennessee's Monthly Exports

Exports in \$ Millions

Nominal Growth Rate (%)



State exports have been flat for the past year.

(Seasonally adjusted, expressed in 1993 dollars)

1st Quarter 1999

GlobalCommerce

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Fastest Changing Export Destinations

(among countries averaging more than \$2 million in sales per quarter)

	Value of Exports	Gain	Decline
COUNTRIES WITH THE GREATEST GROWTH			
New Zealand	\$16,415,817	52.1%	
Thailand	\$10,775,923	37.6%	
Switzerland	\$9,412,588	37.3%	
Taiwan	\$42,763,938	34.4%	
Greece	\$6,691,782	28.4%	
COUNTRIES WITH THE GREATEST DECLINE			
Guatemala	\$4,143,028		-77.2%
Norway	\$1,990,911		-61.1%
Colombia	\$6,619,725		-54.3%
Hong Kong	\$36,694,533		-44.1%
Austria	\$2,789,308		-40.2%

Troubles in Latin America make for a difficult quarter.

Nineteen ninety-nine is proving to be a tough year for state exporters. First quarter Tennessee exports stood at \$2.56 billion, a drop of one percent from 1998. The decline was largely the result of a very poor January. Only Canada and Australasia proved strong markets for the quarter. Sales were down almost everywhere else.

The Americas is where the major trouble lay. Recent state export growth has been powered by sales to Mexico and South America. But last quarter, Tennessee's exports to Mexico dropped by a full tenth. This was due to large losses in automotive exports, which fell by some \$35 million last quarter, more than enough to swamp the five million dollar gain in sales posted by other industries. And, unfortunately, Mexico was one of the best Latin American markets for the quarter! Brazilian sales contracted sharply following the eruption of Brazil's financial crisis, and the rest of South America followed suit. This led to a one-third decline in the state's 1st quarter foreign sales to the region, down to \$129 million. Central America was just as bad; its Tennessee purchases fell by 29.5 percent from 1998.

on both sides of the ledger suggests that some of this area's export gyrations are really just due to shifts in the port of entry for these goods. State exports to the countries recovering from Asian flu have taken very divergent paths. Exports to Indonesia are still in a free fall, down another quarter from last year, but sales to Korea have stabilized, off only three percent, while the picture in Thailand has brightened considerably, as Tennessee exports rebounded by almost two-fifths from a year ago.

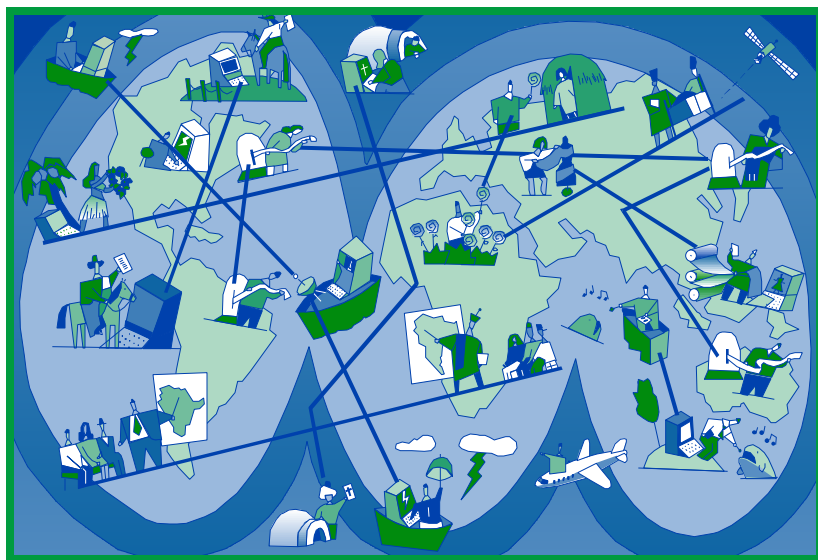
At \$591.6 billion, Tennessee exports to the European Union were virtually unchanged from a year earlier (+0.7 percent). This flat figure does disguise some movement within the Community, as significant gains in Germany, Italy, and the Netherlands were offset almost exactly by losses in Belgium, Sweden, Great Britain, and Ireland. This virtual wash left the state with two solid markets: Canada and Australasia. Sales to Canada rose 7.55 percent, primarily due to large increases in auto parts, instruments, and fabricated metals. But Down Under was by far the best market. Exports to Australia increased by thirteen million dollars (27 percent), and those to New Zealand were up another six million (53 percent). At \$76 million, combined sales to this region have grown to about equal the state's exports to the Netherlands.

Sectorally, the major state problem was softness in its two leading export industries: transportation and chemicals. While auto exports did well in Canada, and even, surprisingly, in Brazil, substantial declines of sales in Mexico, Japan, and the United Kingdom led to an overall drop of 5.7 percent in transportation exports. The chemical industry continues to suffer from the Asian flu, and now has to add woes in Brazil (where it lost half of its sales), the U.K., and Canada. Even a one-quarter gain in sales to Mexico was unable to put the industry's export numbers in the black, as it lost another 5.9 percent of its foreign sales this quarter.

Four other sectors, agriculture, apparel, furniture, and primary metals, also experienced trying times last quarter. Agriculture was the worst, with exports off nearly two-thirds from last year. Big losses in Canada, Mexico, and Brazil explain much of this story. The furniture industry's difficulty was essentially Canada, where it lost half of its sales this year.

A number of sectors, however, bucked the trend and continued to post strong export numbers. Leading the way was fabricated metals, which, due to strong sales in Canada and Britain, increased its exports by \$46 million (57.9 percent). Electronics, industrial and medical instruments, printing, and food processing all also posted gains of better than a tenth. Finally, the environmental equipment exports continued their explosive advance, up another five million dollars for the quarter (161.8 percent).

Unfortunately the early returns do not suggest a miracle recovery for state exports in the 2nd quarter. April's foreign sales were off 6.8 percent, the worst month for Tennessee exporters in over six years. ■



Sales to Japan continued to sag. Exports declined eleven percent, off twenty million dollars from last year. This was the fourth straight down quarter for this important market. Almost half of this loss was also in the automotive sector.

Exports were down, in fact, throughout most of Asia. The major exceptions were China and Taiwan, where sales actually grew strongly. For China, the reason was a big increase in chemical purchases, while for Taiwan it was large gains in automotive and instrument sales. However, this good news in the Chinese Economic Area was tempered by a very poor quarter in Hong Kong, where state exports fell by close to a half (to \$36.7 million), mostly due to big drops in chemical industry and industrial instrument sales. That the same industries come up



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