



Global Commerce

Tennessee and the International Economy

TENNESSEE'S EXPORTERS

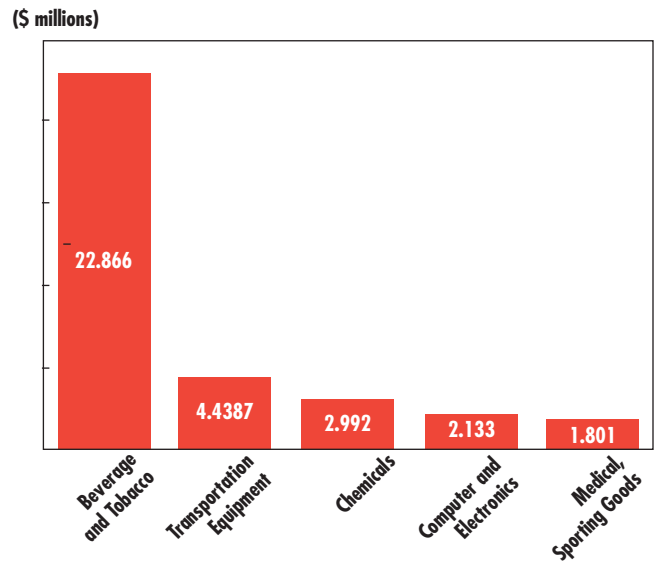
CHANGE IN CONCENTRATION

by Steven G. Livingston

Tennessee exports have grown dramatically over the past decade but have also become more concentrated in a handful of industries. Where is this concentration occurring? Which sectors have been gaining or losing importance?

Five industries today account for nearly half of state exports. In dollar value, the largest by a substantial margin is the transportation industry. In 2006, it accounted for a fifth of the value of state exports. Behind it is the computer and electronics industry, which has grown rapidly due to newly located assembly plants in the state, particularly the Dell plant in Nashville. The chemical industry, the state's largest in the early 1990s, still ranks third. The slippage is due more to the success of other export sectors than to any problems with state chemical exporters. Moreover, the state's leading chemical exporter, Eastman Chemical, has expanded its overseas chemical operations, which substitute for exports from America. The fourth largest export industry is known in U.S. export statistics as "miscellaneous manufacturing"; for Tennessee this means the medical and pharmaceutical industry and, to a lesser extent, sporting goods. Clearly the most dynamic of the state's large export industries,

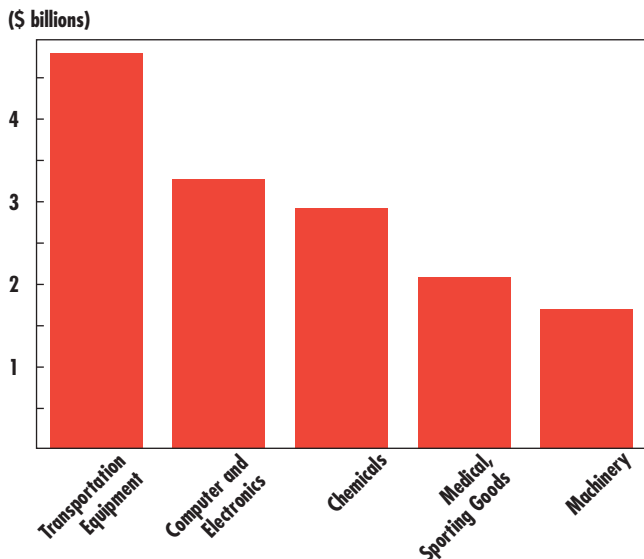
Top Five Industries, by Mean Sales of Exporters



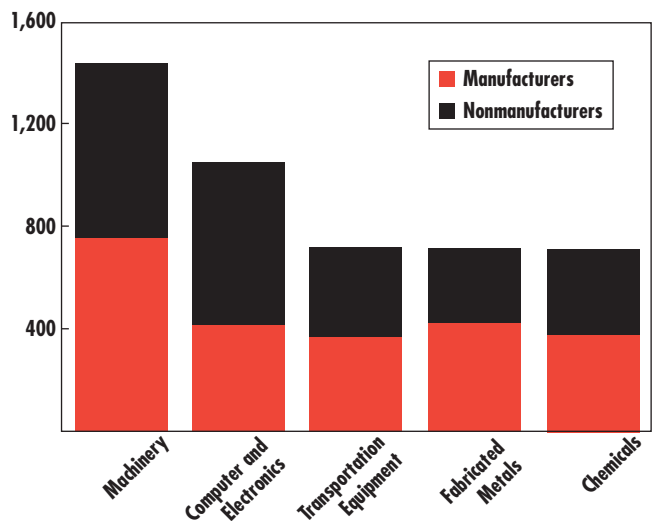
tries, medical exports, which include medical instruments, x-ray and diagnostic apparatuses, orthopedics, and medications, have experienced remarkable growth over the past several years. Nonelectrical machinery, long a sizable Tennessee export sector, is still the fifth largest by value.

continued on page 2

Top Five Industries, by Value of Exports



Top Five Industries, by Number of Exporters



The Big Six: Tennessee's Leading Export Commodities by Value (in \$ millions)

1996		2006	
Auto Body Parts	\$405	Cotton	\$1,508
Cotton	\$327	Cars	\$1,329
Artificial Filament Tow	\$322	Medical Instruments	\$806
Cars	\$273	Laptops	\$698
Auto Parts (other)	\$208	SUVs	\$527
Auto Engine Parts	\$173	Auto Parts (other)	\$520

EXPORTERS

continued from page 1

The picture is similar if we define concentration as the number of companies in an industry that export. The non-electrical machinery sector (many automobile-related products plus appliances, refrigeration equipment, and small engines) vaults into the state's lead position. Below it are the usual suspects, with fabricated metals replacing the medical industry. Together the top five industries include 54 percent of all businesses that export.

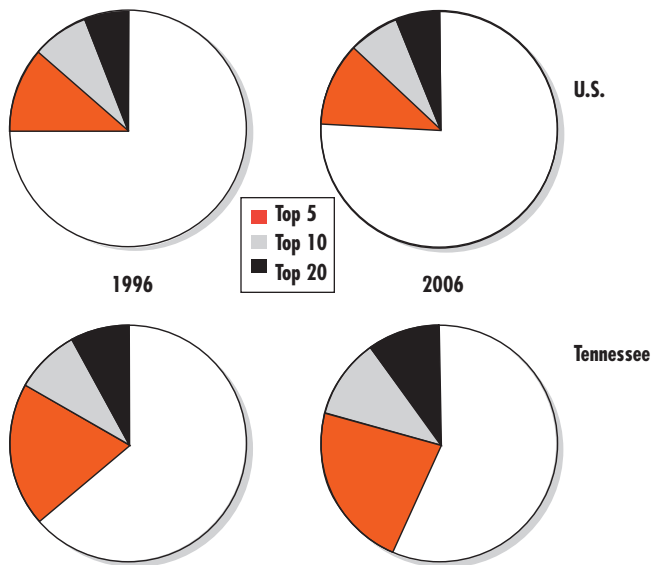
A third way to look at this issue is to examine sectors by how much the average exporter in each exports. Here there's a new star, the beverage industry, all owing to the tremendous export success of Jack Daniels. Otherwise, it is the same industries, with the medical industry retaking its position at the expense of fabricated metals and machinery, which appear to be industries in which many firms export but not at large volumes.

A few large industries repeatedly pop up no matter how we measure. On one hand, there's a fair amount of stability: the chemical industry, for example, has been one of the big three for

America's Top 5 Exports

	\$ billions
Commercial Aircraft	\$36.69
Computer Components	\$19.87
Airplane Parts	\$18.17
Oil	\$16.09
Cars	\$19.00

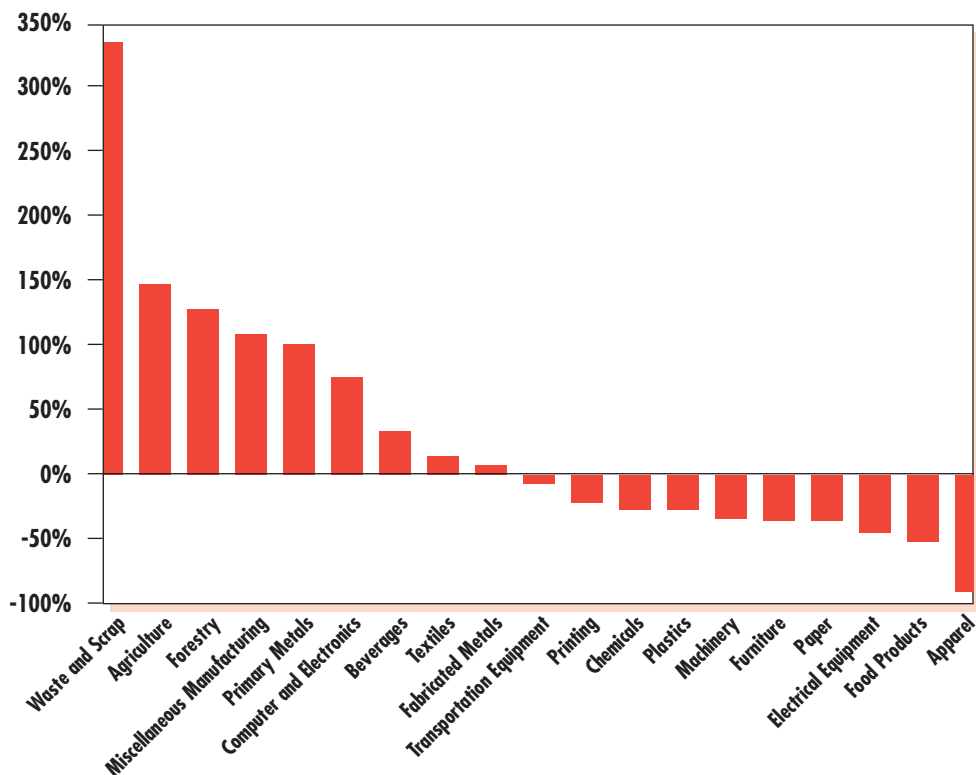
Export Concentration: Percent of Exports by Largest Commodities



over 50 years. Things don't change quickly but slowly evolve. We can measure this evolution by looking at which industry sectors are capturing an ever greater percentage of state exports. The graph below measures the percentage of exports held by an industry 10 years ago and today. Some

continued on back

Composition of State Exports: Change in Percent of Exports by Industry, 1996-2006



4th Quarter 2006

MISCELLANEOUS
MEANS MEDICAL.



Tennessee's Largest Export Sectors

	Exports	Change from Last Year	Change from Last Quarter
Transportation Equipment	\$1,275,409,494	10.0%	17.5%
Computer and Electronic Products	\$838,044,120	8.5%	5.1%
Chemicals	\$738,993,654	-3.4%	19.5%
Miscellaneous Manufactured Goods	\$646,242,511	35.8%	39.5%
Nonelectrical Machinery	\$408,302,851	-5.9%	14.3%
Primary Metals	\$231,853,074	-3.3%	34.2%

4th Quarter 2006

CHARITIES MADE
JAMAICA
TENNESSEE'S
LEADING "MARKET"



Fastest-Changing Export Destinations

	Value of Exports	Gain	Decline
COUNTRIES WITH THE GREATEST GROWTH			
Jamaica	\$15,539,448	332.3%	
Oman	\$13,110,423	305.1%	
Singapore	\$124,506,892	168.6%	
Guatemala	\$32,821,440	122.5%	
Chile	\$26,466,083	119.7%	
COUNTRIES WITH THE GREATEST DECLINE			
Kuwait	\$11,771,715		-81.2%
Luxembourg	\$5,329,574		-64.3%
Jordan	\$1,957,544		-49.1%
Turkey	\$29,384,039		-42.9%
Ecuador	\$3,113,818		-39.9%

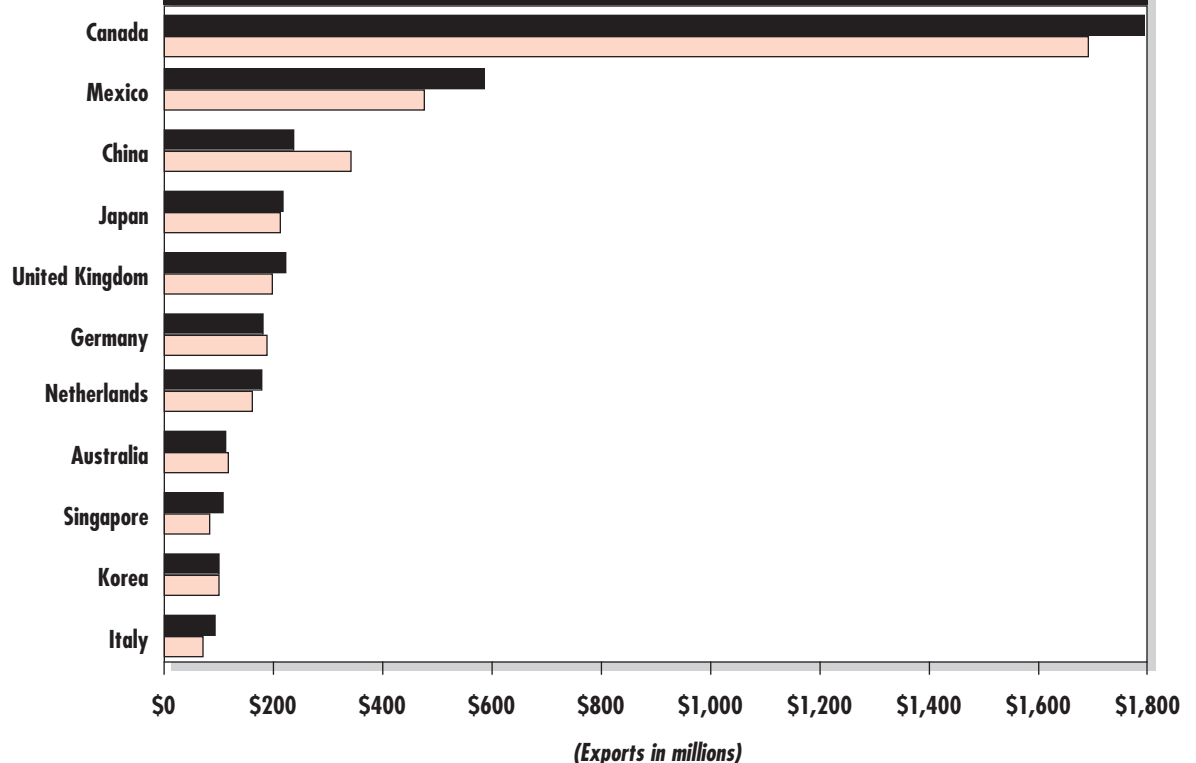
(Among countries averaging more than \$2 million in sales per quarter)

4th Quarter 2006
4th Quarter 2005

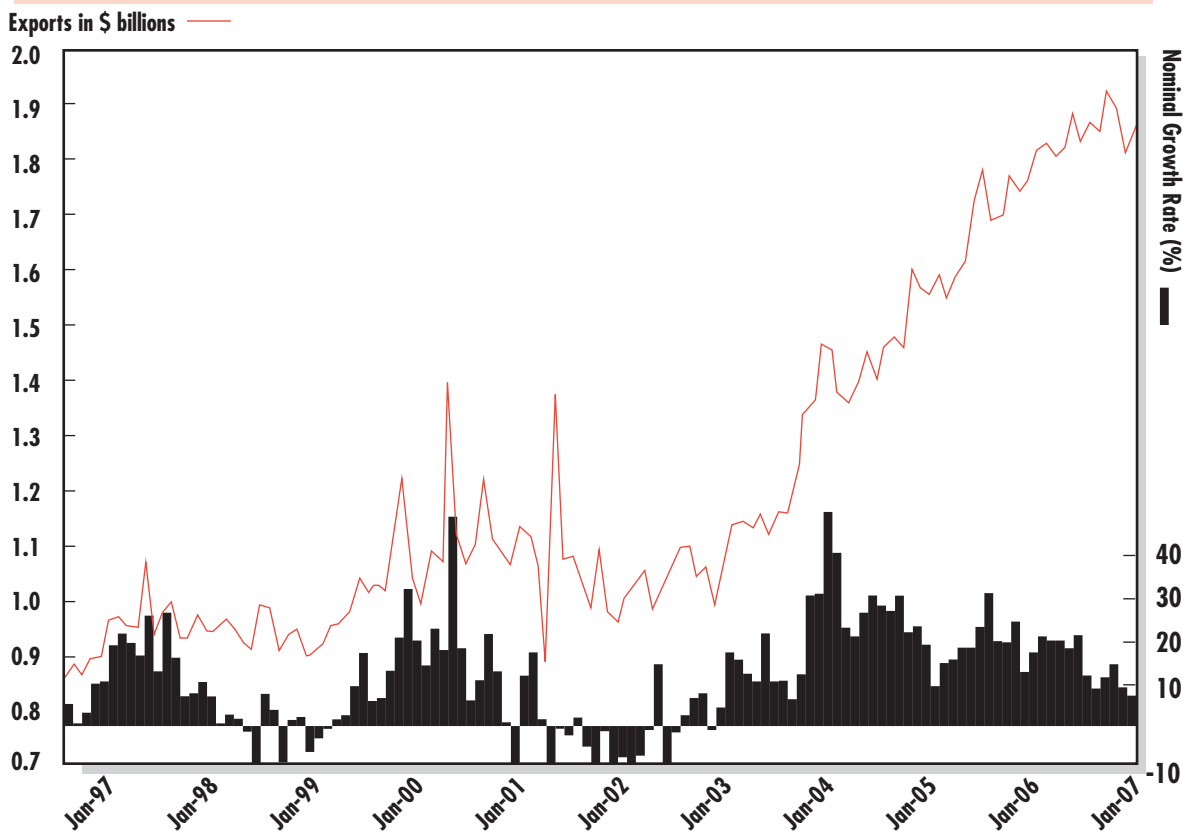
SEVEN OF THE TOP
MARKETS ARE ON
THE PACIFIC BASIN.



Tennessee's Leading Trade Partners



Tennessee Monthly Exports



(Seasonally adjusted, expressed in year 2000 dollars)

4th Quarter 2006

What's Hot and What's Not*

	Value of Exports	Growth	Decline
SECTORS WITH THE GREATEST GROWTH			
Dumpers	\$11,022,757	34,508.3%	
Polyamides	\$14,615,613	860.9%	
Automobile Clutches and Parts	\$17,424,630	561.0%	
Compression Ignition Engines	\$29,495,269	523.8%	
Wooden Seats	\$15,095,635	509.5%	
SECTORS WITH THE GREATEST DECLINE			
Cotton	\$96,720,140		-65.8%
Miscellaneous Electrodiagnostic Apparatus	\$36,838,845		-62.7%
Radiation Instrument Parts	\$12,610,473		-45.5%
Bus and Truck Tires	\$24,888,955		-33.4%
Cars with Engines < 3,000 cc	\$220,486,719		-26.1%

*Among Tennessee's top 100 exported goods.

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**MIDDLE
 TENNESSEE**
 STATE UNIVERSITY



AT \$22 BILLION, TENNESSEE EXPORTS HAVE DOUBLED IN JUST THE PAST FIVE YEARS.

Tennessee exported more than \$5.5 billion in goods in the fourth quarter of 2006, a 10 percent increase over 2005. This pushed total 2006 state exports over the \$20 billion mark for the first time ever. At \$22 billion, Tennessee exports have doubled in just the past five years.

The silver thread among this gold is that the state's export growth rate fell below that of the nation during the last quarter of 2006. However, this is entirely due to a very large loss in cotton exports. For several quarters the state's largest exported commodity, cotton sales have dropped by \$186 million from 2005. That the state's other industries could more than make up this sizable loss is an indication of how well most Tennessee exporters are doing. For better or worse, the problems with cotton are indeed state specific. Nationally, cotton exports have been holding steady. Given that several of the state's large brokers are located in several states, it is difficult to determine whether or not this loss is due simply to shifts in intra-broker operations.

The quarter's biggest stars were, as usual, automobiles, computers, and medical instruments. However, they were joined by a very strong showing by state chemical manufacturers. Argentina, Taiwan, Indonesia, and the Netherlands formed the backbone of a near 20 percent quarterly gain in foreign shipments in this industry. Terephthalic acids and polyethylene terephthalates, along with polyamides, were the quarter's strongest chemical exports. Primary metal exports were also unusually robust, growing by a third (to nearly \$232 million). Here the story was Mexico, where shipments of aluminum plating were up by \$30 million; China, which vastly increased its purchases of various scrap metals; and Germany. Sales of aircraft and aircraft parts also "soared." Singapore was the main reason for the 65 percent growth of aircraft-related exports (to \$173 million), but Algeria, Italy, and Russia were also major destinations.

The automotive sector remained the state's largest export industry. It gained 20 percent (to \$879 million) for the quarter. In spite of large increases in shipments to Mexico and Spain, auto parts sales were actually flat for the quarter, thanks to a sizable loss in Canada. And car sales declined substantially (from \$297 million to \$221 million). But this was more than balanced by a big increase in truck and tractor sales to Canada (and a smaller gain in Russia as well) and, especially, SUV shipments. SUVs were up by more than \$130 million. The bulk of this gain was the result of a shift from car to SUV shipments in the Middle East. The United Arab Emirates, Saudi Arabia, Qatar, and Bahrain combined to increase their SUV purchases from practically zero in the fourth quarter of 2005 to \$100 million this past quarter. Canada accounted for most of the remaining \$30 million gain. Several industries related to automobiles, however, did

not experience a similarly good quarter. Tire sales, for example, fell from \$76 million to \$61 million (mostly in Canada), battery exports declined by \$16 million, and auto glass dropped from \$12 million to \$3 million.

It was nothing but good news for the state's computer exporters. Sales of laptops and desktops grew 17 percent, to just under \$400 million. Most of this increase was in Canada, although there were significant new sales in Central America and Chile. Canada also accounted for the big rise in the state's exports of video games. Last quarter, these exports crossed the \$100 million mark, making them probably the fastest growing major state export. All but \$1 million of these sales went north of the border.

X-ray and other radiation equipment had a tough quarter, as sales dropped almost by half (\$82 million to \$45 million). But medical equipment and orthopedics generally continued their recent solid growth. Here the growth was worldwide. The U.K., Germany, Italy, Japan, and Korea combined to boost medical exports by close to \$40 million. Medical and orthopedic equipment now account for more than half a billion dollars of Tennessee exports each quarter.



FOR SEVERAL QUARTERS THE STATE'S LARGEST EXPORTED COMMODITY, COTTON SALES HAVE DROPPED BY \$186 MILLION FROM 2005.

The quarter's other strong export sectors included line telephony, gas turbines, and mineral sorting/screening machinery. Cotton, of course, turned in the poorest numbers, but the related artificial filament tow industry suffered as well, seeing its shipments drop from \$84 million to \$74 million (the loss occurring almost entirely in China). Finally, the state recorded a large increase in its charitable shipments. These rose by more than 300 percent (to \$65 million). Almost all went to the countries of Central America and the Caribbean. Shipments of charitable goods made Jamaica the state's fastest growing export market for the quarter.

Geographically, the Americas were the state's best market for the quarter. Canada was up \$300 million (to \$1.8 billion), Mexico was up \$100 million (to \$600 million), South America was up \$50 million (to \$230 million), and Central America was up \$25 million (to \$100 million). Together this equals virtually all of Tennessee's \$500 million quarterly gain. Asia was a wash, as a \$100 million gain in Singapore canceled out an equal loss in China (the latter the result of cotton). The E.U. also turned in a \$100 million gain, a solid 10 percent increase for state exporters. Among the E.U. states, only Ireland and Luxembourg reduced their purchases of Tennessee goods. Elsewhere in the world, there was little change.

The year has begun well for the state, as January exports are up 8 percent for the first month of the year.

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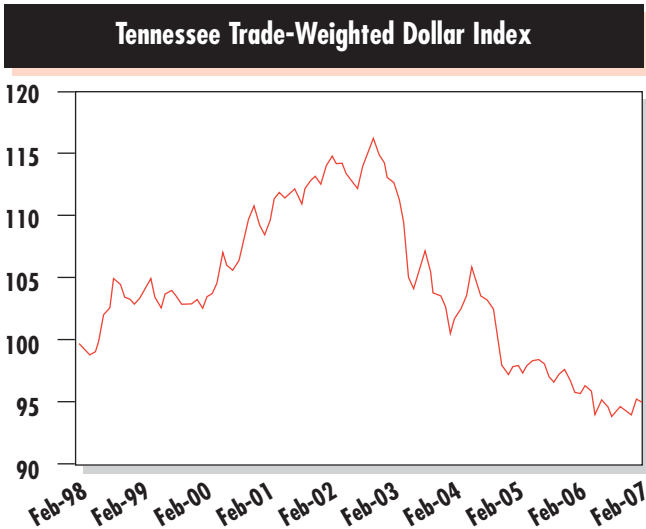
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EXPORTERS
continued from page 2

smaller sectors have done well, but the winners are mostly those discussed above. The apparel sector and processed foods (years ago the state’s second largest export industry!) have fared worst.



A legitimate fear is whether the state’s exports are becoming too concentrated. Unfortunately, there is no objective way to define optimal concentration. Tennessee’s foreign sales are more concentrated than America’s. In 2006, the state’s top 20 individual commodities accounted for 44 percent of its exports; nationally the top 20 made up a quarter of exports. We would expect a regional economy to be more concentrated than a national economy, but the concentration of exporting has grown much faster for Tennessee than for the U.S. The top 20 commodities accounted for 36 percent of state exports 10 years ago, which suggests a “de-diversification” of exports that might not be ideal, but it may be too early to worry: the state’s top export sectors made up 54 percent of its foreign sales 30 years ago and 81 percent 50 years ago. It will be interesting to see whether the past decade was a blip or if it heralds a move to the dominance of just a few exported products. ■

INTERNATIONAL
continued from page 5

Once again this was against the headwind of reduced cotton sales. January cotton exports were down about \$80 million from a year ago. Manufacturing exports, on the other hand, were up \$150 million, a good sign that the state’s export growth continues to hum along. ■