



# Global Commerce

Tennessee and the International Economy

## TENNESSEE MEDICAL EXPORTS

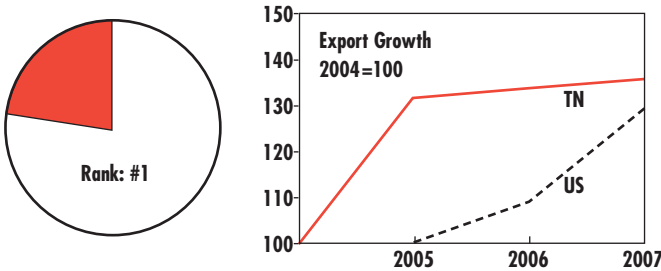
### ▶ WHAT THE DOCTOR ORDERED?

by Steven G. Livingston

Medical-related products now constitute one of Tennessee's largest and fastest growing export sectors. When the state's biggest export industries faltered in 2007, it was the medical sector that made up for much of their

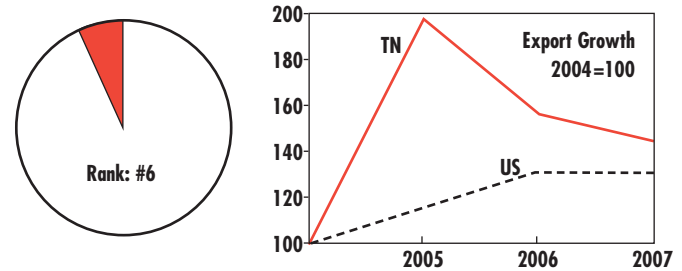
loss. Foreign sales of medical products amounted to about \$2 billion in 2007—nearly double the value exported in 2004. But what are these products? Many, unfortunately, are included under the rubric “miscellaneous manufactured commodities” in U.S. export statistics. In this *Global Commerce*, we break out the major medical items that are exported from Tennessee to cast a little more light on this very dynamic sector. Below, we describe the major export products, examine their growth trends, and look at how Tennessee ranks against other American states in the export of each.

#### Orthopedic Parts and Accessories



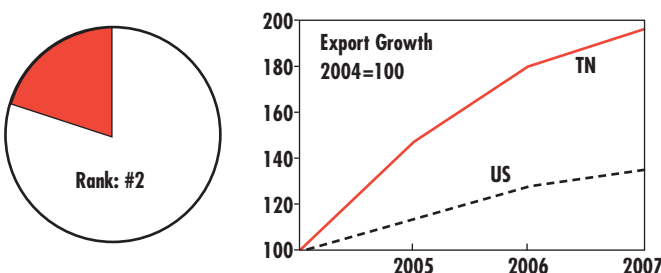
In 2007, Tennessee's foreign sales were valued at more than \$250 million. Through November, the state ranked first in the nation in the export value of these products. They are sold to 56 nations worldwide, with Netherlands by far the largest market.

#### Electrodiagnostic Equipment



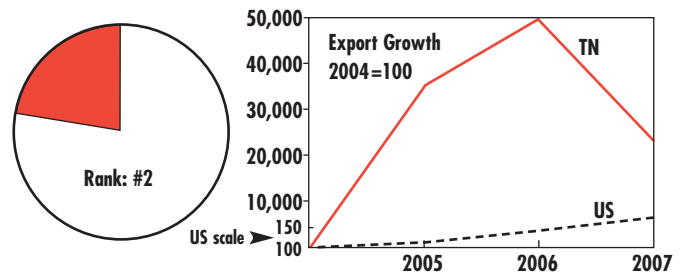
Year 2007 state exports neared \$210 million, a 20-fold increase from 2001. This makes Tennessee the sixth-largest exporting state of this equipment. Two-thirds of exports go to Germany or East Asia.

#### Artificial Joints and Parts



The state exports about \$165 million of artificial joints and parts, half going to France. It is America's second-ranked exporting state (behind Indiana). Tennessee's exports have doubled since 2004.

#### Sterile Surgical Catgut



This export grew from virtually nothing in 2004 to \$185 million in 2006. In 2007, exports retreated to \$85 million, making Tennessee the second-largest exporting state (behind New Jersey). Japanese purchases in 2005–2006 account for the rapid rise and fall.

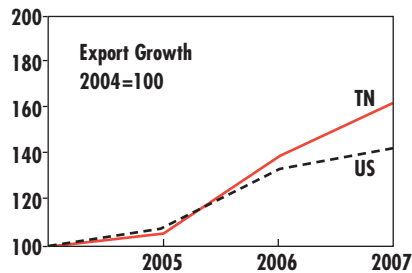
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# MEDICAL EXPORTS

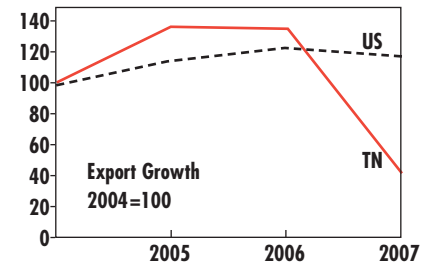
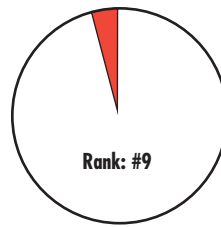
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## Medicaments



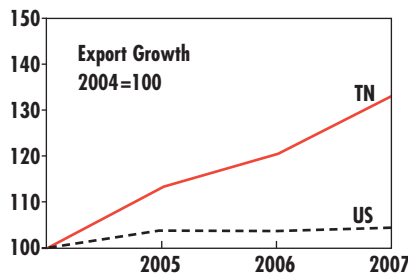
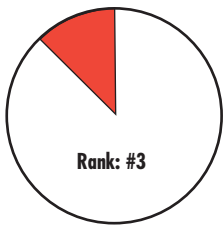
Year 2007 exports were nearly \$70 million, making Tennessee the 20th-ranking state. Exports have risen more than 2,000 percent over the past decade.

## X-Ray Tubes, Parts, and Accessories



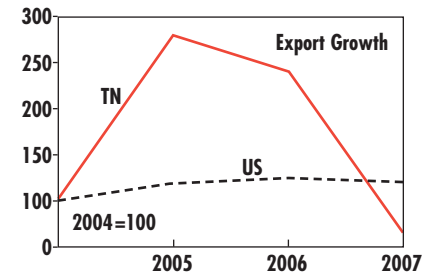
Earlier large export gains were reversed in 2007 as exports fell to a little more than \$40 million. About 80 percent went to Germany. The state now ranks ninth in the export of these products.

## Electrocardiographs, Parts, and Accessories



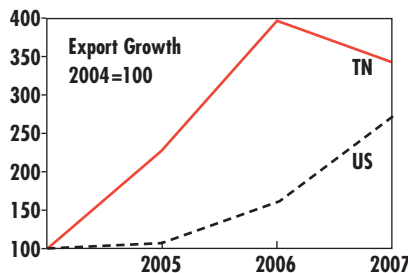
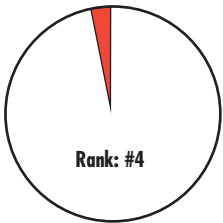
Tennessee ranks behind only New York and Massachusetts, with 2007 exports valued at \$30 million. State exports have risen from about \$1 million at the turn of the decade. Almost all go to Australia.

## Medical Needles, Catheters, etc.



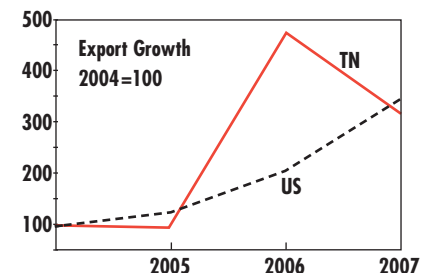
Dramatic gains over the past decade were reversed in 2007. Tennessee ranks as the 18th-largest exporting state, but foreign sales fell to under \$30 million thanks to large declines in the two leading markets, Japan and the Netherlands.

## Blood and Blood Preparations



Tennessee ranks fourth among states, with 2007 exports at \$29 million. Korea and Australia are the largest markets.

## Other Artificial Body Parts and Accessories



Year 2007 state exports tripled in value from 2002, though they fell from their 2006 level. At more than \$19 million, this value ranks eighth among states. Three-quarters of this trade goes to Canada.

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3rd Quarter 2007

LOSSES WERE  
CONCENTRATED IN  
COTTON AND CARS.



### Tennessee's Largest Export Sectors

Exports	Change from Last Year	Change from Last Quarter
Transportation Equipment	-14.1%	5.3%
Computer and Electronic Products	0.7%	13.8%
Chemicals	1.7%	-3.1%
Miscellaneous Manufactured Goods	21.3%	2.0%
Nonelectrical Machinery	7.7%	-6.3%
Primary Metal Manufacturing	-5.8%	-4.1%
Agricultural Products	-38.0%	13.5%

3rd Quarter 2007

EXPORTS WERE DOWN  
ACROSS THE MIDDLE  
EAST.



### Fastest-Changing Export Destinations

Value of Exports	Gain	Decline
<b>COUNTRIES WITH THE GREATEST GROWTH</b>		
Bangladesh	\$5,812,038	207.8%
Switzerland	\$61,921,684	172.2%
Colombia	\$44,524,591	139.4%
Pakistan	\$10,830,658	125.8%
Peru	\$18,451,750	116.8%
<b>COUNTRIES WITH THE GREATEST DECLINE</b>		
Jordan	\$890,893	-85.4%
Bahrain	\$2,073,597	-76.5%
Trinidad and Tobago	\$3,477,028	-70.4%
Qatar	\$16,941,126	-51.3%
Argentina	\$30,862,189	-51.0%

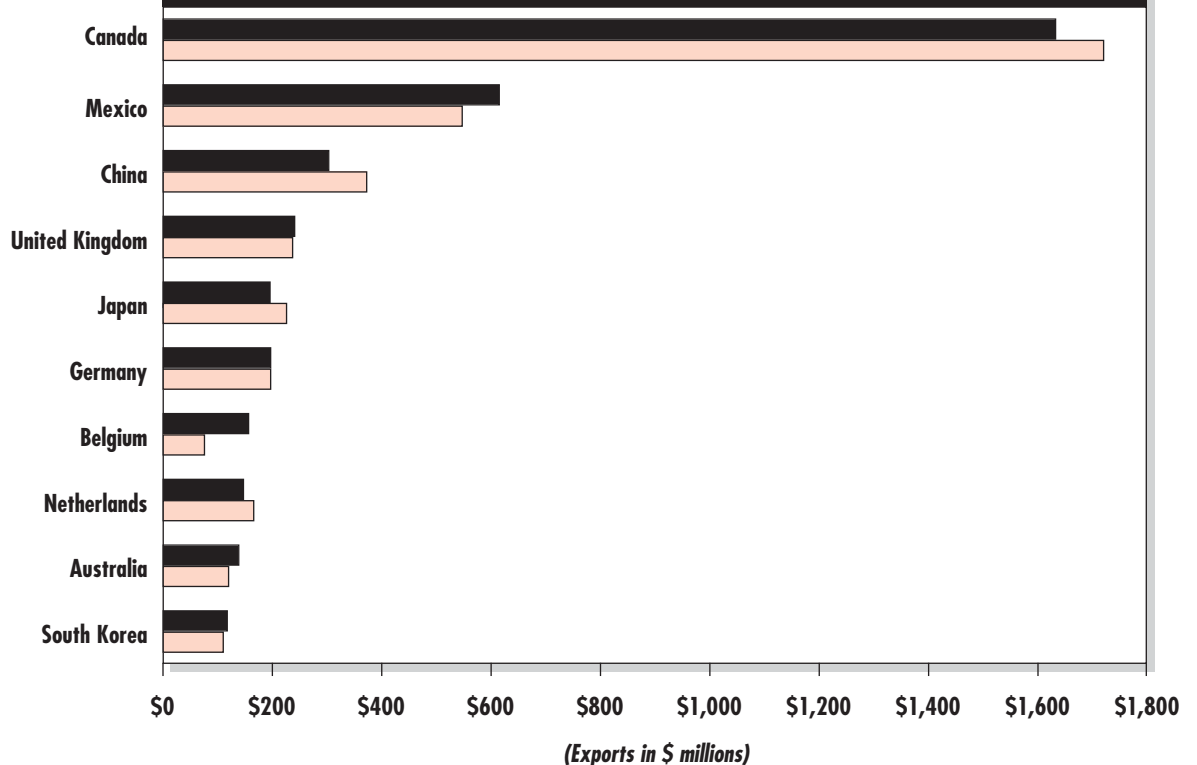
(Among countries averaging more than \$2 million in sales per quarter)

3rd Quarter 2007  
3rd Quarter 2006

MEDICAL PURCHASES  
ACCOUNT FOR  
BELGIUM'S ENTRANCE  
INTO THE TOP 10.



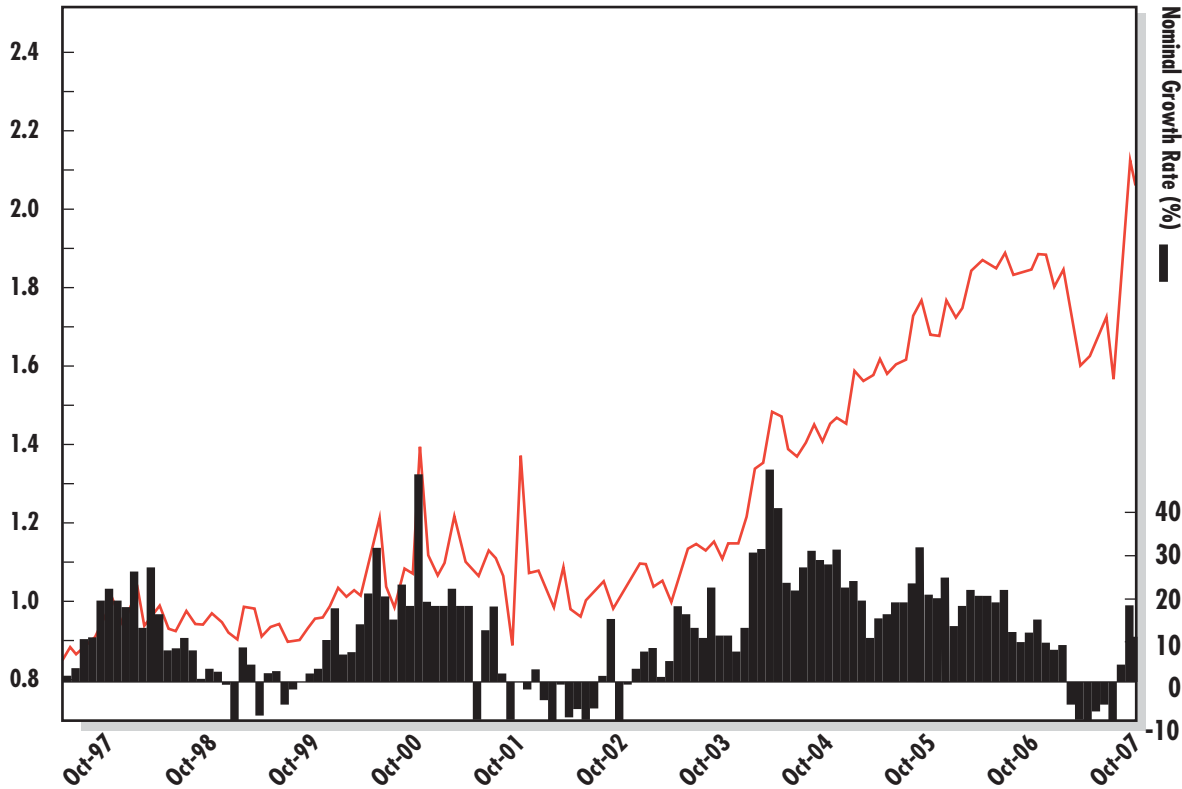
### Tennessee's Leading Trade Partners



## Tennessee Monthly Exports

Exports in \$ billions —

(Seasonally adjusted, expressed in year 2000 dollars)

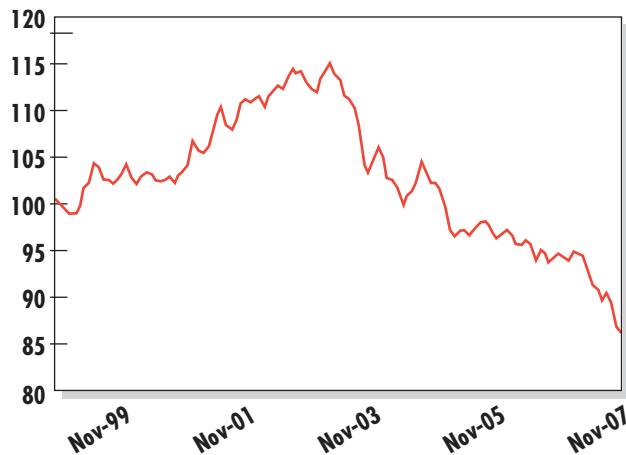


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**Editor:** Steven G. Livingston  
**Publications Editor/Designer,**  
**Jones College of Business:**  
 Sally Ham Govan

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## Tennessee Trade-Weighted Dollar Index



**MIDDLE  
 TENNESSEE**  
 STATE UNIVERSITY



TENNESSEE NOW RANKS 16TH AMONG THE STATES IN EXPORTS, DOWN TWO NOTCHES FROM LAST YEAR.

The United States is in the midst of one of the greatest export booms in its history. Third-quarter American exports were 12.7 percent higher than a year ago. Analysts credit this export growth for up to one-third of all America's current economic growth. Such, unfortunately, was not the case for Tennessee this past quarter, however. The state was able to eke out only a 1.4 percent gain in exports for the quarter. At \$5.472 billion, Tennessee now ranks 16th among the states in exports, down two notches from last year. The one bright spot: last quarter's fall in exports was not repeated.

The state's woes are not new: they are the same problems we saw throughout the first half of 2007. Cotton exports continued their fall, losing more than \$100 million for the quarter. The good news here is that losses were concentrated in June; by the end of the quarter cotton exports appeared to be on the rebound.

Automotive-related exports had another miserable quarter. SUV sales were up substantially (from \$77 million to \$114 million) as were several auto parts industries, but it was mostly a tough quarter across the sector. Car exports dropped precipitously—down 60 percent for the quarter, for a loss of \$230 million. A good portion of this is due to the continued closure of the Saturn plant. This accounted for much of the \$100 million loss in Canada. But it does not account for the loss of sales in the Gulf States, where most of the problem lay. Four of the seven countries in which Tennessee's third-quarter exports fell by over 40 percent were in the Gulf, and in each case the cause was a massive decline in auto sales. Tennessee's Middle East auto sales were down nearly \$200 million. The news is not all bleak, however. Auto sales were much higher in Mexico (growing from practically nothing to about \$32 million for the quarter). And, in September, export numbers in the Middle East finally rebounded, leading to the hope that they might stage a strong return next quarter.


Cotton and transportation exports clearly put the state in a hole, combining to lose \$275 million in exports during the quarter. If we remove this figure from the state's overall performance, things look better but still not great. The rest of the state's foreign sales were up 8.9 percent for the quarter. Not bad, but still only a bit more than two-thirds of the national rate.

This is because two other major Tennessee export sectors, though not hit as hard as those above, turned in pretty mediocre numbers. The state's computer industry, once among its fastest-growing export sectors, was able to increase its foreign sales by a mere \$6 million this past quarter (from \$837 million to \$843 million). Desktop and business computers were the problem: sales of these units fell more than \$50 million (almost all in Canada), wiping out gains in laptop and other computer sales. And the state's large chemical industry saw enough reverses to

hold its net increase in exports to a little under 2 percent for the quarter. Two products accounted for the problems in the chemical sector: a remarkable fall in sales of terephthalic acid (and its salts) to Argentina—off 90 percent for a loss of nearly \$40 million—joined a similarly big loss in surgical catgut exports to Japan. It took the rest of the chemical sector to make up for these declines.

Autos, cotton, computers, and chemicals have been the largest export sectors in this state for a number of years. So we can see why the state failed to match the export numbers posted across the rest of the U.S.

The state's overall numbers disguised the very good export growth many of Tennessee's smaller industries are seeing. The medical instrument sector has become the state's premier export industry: it posted a 46 percent gain, adding another \$86 million to its exports this quarter. The industry is making striking gains across the developed world and now exports more than \$20 million a quarter each to Italy, Japan, Germany, Belgium, and the U.K. Belgium's increase in medical equipment purchases from \$2.3 million in the third quarter of 2006 to more than \$23 million this past quarter made that country Tennessee's best-performing market among the state's 10 largest. The sci-fi sounding "appliances worn or implanted in the body"—not counted as medical instruments, but obviously in the medical sector—also made great gains this past quarter. Switzerland purchased \$39 million from this industry, accounting for the lion's share of that nation's 619 percent quarterly gain. Given the growing size of the state's medical exports, perhaps we should no longer include it among the "smaller industries"!



THE STATE'S OVERALL NUMBERS DISGUISED THE VERY GOOD EXPORT GROWTH MANY OF TENNESSEE'S SMALLER INDUSTRIES ARE SEEING.

The run-up to the holiday season is usually a good time for exporters of Tennessee whiskey, and this year was no exception. At \$141 million, the industry posted a nice 20 percent gain for the quarter. The U.K. remains by far the largest market, with whiskey purchases of over \$40 million for the quarter, but there were surprising gains in Eastern Europe alongside the steady growth across most of the developed world.

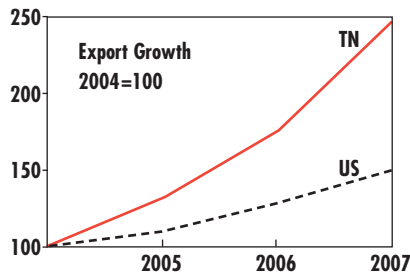
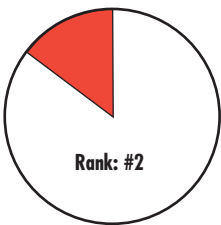
A final product worth noting is artificial filament tow, exports of which rose by 27 percent for the quarter. This crossed the \$100 million mark (\$114 million). Used in the apparel industry, like cotton, it is going to the same countries as Tennessee's (reduced) cotton exports. It is the reason for the strong performance of state exporters in Bangladesh and Pakistan this past quarter.

The third quarter was disappointing for this state, but the fourth quarter opened with much better numbers. September's seeming revival in both automotive and cotton exports provides hope that the state will turn around its subpar export performance in the months ahead. ■

**Business and Economic Research Center**

P.O. Box 102  
Middle Tennessee State University  
Murfreesboro, TN 37132  
615-898-2610

**Miscellaneous Medical Equipment**



With a value of over \$1.1 billion, this is Tennessee's largest medical export. Exports have doubled in three years, with the state ranking behind only California. Products such as stethoscopes, ultrasonic equipment, anesthetic instruments, and dialysis equipment are included here.

**MEDICAL EXPORTS**

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America exports a number of other medical products. However, only about \$70,000 of this state's medical exports are outside the 11 categories we have listed here. Tennessee's total medical exports amount to about \$2 billion, double the value of just three years earlier, making this undoubtedly one of the state's most dynamic export sectors. ■