

# Indiana's Global Exports

## Year-End Report for 2005

A Report for the  
INDIANA ECONOMIC DEVELOPMENT CORPORATION

Produced by the  
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# TABLE OF CONTENTS



## *Indiana's Global Exports: Year-End Report for 2005*

<b>TABLE OF CONTENTS</b> .....	<b>ii</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>TRADE OUTLOOK FOR 2006</b> .....	<b>2</b>
GDP Growth .....	2
Exchange Rates .....	2
Momentum and Shocks .....	3
<b>INDIANA'S EXPORTS IN 2005</b> .....	<b>4</b>
Midwest Comparison .....	5
Indiana's Export Destinations .....	8
<b>INDIANA'S EXPORT INDUSTRIES</b> .....	<b>14</b>
Vehicles .....	16
Machinery .....	16
Electrical Machinery .....	16
Organic Chemicals .....	17
Pharmaceutical Products .....	17
Optic/Medical/Surgical Instruments .....	18
Plastics .....	18
Miscellaneous Chemicals .....	18
Iron and Steel .....	19
Iron and Steel Products .....	19
<b>APPENDIX</b> .....	<b>20</b>

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# EXECUTIVE SUMMARY



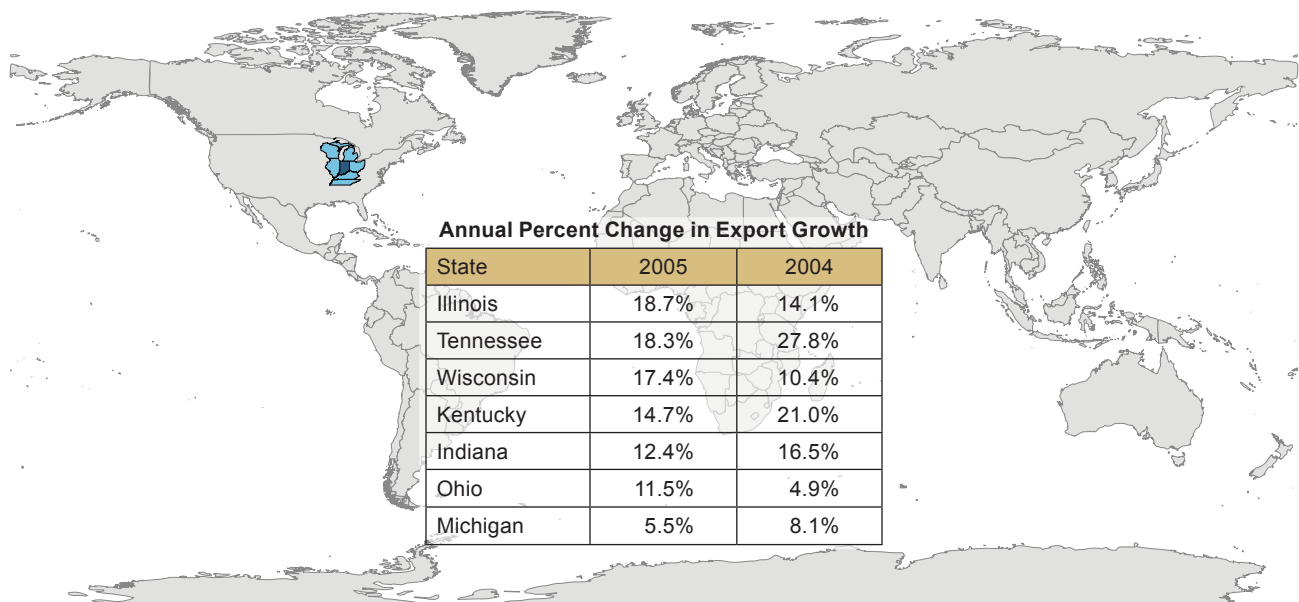
**I**ndiana exports reached \$5.5 billion in the fourth quarter of 2005 pushing the annual total to a record high \$21.5 billion. The 19.8 percent annualized increase over the third quarter led to a year in which Indiana exports increased by 12.4 percent—much higher than the approximately 7.7 percent annual average achieved since 1996. The United States’ exports increased by 10.6 percent in 2005. Indiana’s rank improved in 2005, and the state went from being the 13th largest exporter in 2004 to the 11th largest in 2005.

In 2005, exports increased, albeit at a slower rate, for most states. With the exception of six states, all enjoyed export increases. However, most states’ export growth rates declined in 2005 over the previous year. Louisiana suffered the most on a nominal basis, a \$690 million decline or 3.5 percent, probably due to the damage from Hurricane Katrina. Indiana was one of 30 states that had a decreasing rate of export growth in 2005. However, the state’s 4.1 percentage point decline in growth was less severe than 24 other states. Hawaii more than doubled its export value, while the District of Columbia fared the worst on a percentage basis (-29.1 percent). The table below compares Indiana to nearby states, showing that Indiana’s export growth slowed in 2005. Indiana exceeded only Ohio and Michigan in export growth, which was a reversal from the previous year’s performance where in only two states—Tennessee and Kentucky—did exports grow faster.

Indiana’s export sales increased to each of its top 15 trading partners, with the exceptions of Singapore and Brazil. Exports to Canada increased the most in dollar terms (a little over \$1 billion) and contributed 43 percent of the change in Indiana’s total value of exports. Indiana traded with 198 countries in 2005, seven more than the previous year; although the state’s top 15 trading partners represented almost 90 percent of the state’s export sales.

Canada has been Indiana’s predominant trading partner for some time now; however, its share of Indiana’s total exports has seen a reduction of almost 10 percentage points since its peak in 1999. With respect to one-year growth rates, China led the top 10 destinations with a 42 percent increase in Indiana exports. France, Australia and the Korean Republic had increases of more than 20 percent. Double-digit increases were recorded for Canada, the United Kingdom, Germany and the Netherlands.

Vehicles and machinery remain Indiana’s top two commodities and both had an expansion in their export sales in 2005, although their share of all commodity sales declined. Pharmaceutical products—the fifth largest export commodity for the state—experienced explosive growth with almost a 47 percent increase over the year. Since 1999, pharmaceutical products’ share of total exports in the state has increased by 4.4 percentage points. The top 10 commodities represent 85 percent of the total share of exports being shipped. ←





**A**s the world economic growth cycle picked up in 2005, so did Indiana exports. We expect another excellent year for world growth in 2006 and Indiana stands to benefit. It is clearly reasonable to believe that Indiana exports could increase by another \$2 billion or more in 2006.

The following table reports the most recent data and 2006 forecasts of economic growth for Indiana's top trade destinations. This information comes from two different sources. The italicized information comes from the International Monetary Fund's September 2005 *World Economic Outlook*. The remaining numbers were taken from the Organization for Economic Cooperation and Development's December 2005 *OECD Economic Outlook*.

## GDP Growth

World economic growth is expected to remain at a very strong rate of 4.3 percent in 2006. The 30 developed countries of the OECD will grow by 2.9 percent, a little faster than in 2005. Of the 12 major export destinations chosen, notice that economic growth will slow in only two countries—Japan and China. In both cases, the slowdowns are gentle and will hardly be noticed among the 10 increases. Mexico, Indiana's second largest export destination, will see a major increase in real GDP growth. Large growth spurts are also envisioned for the Netherlands and the Korean Republic.

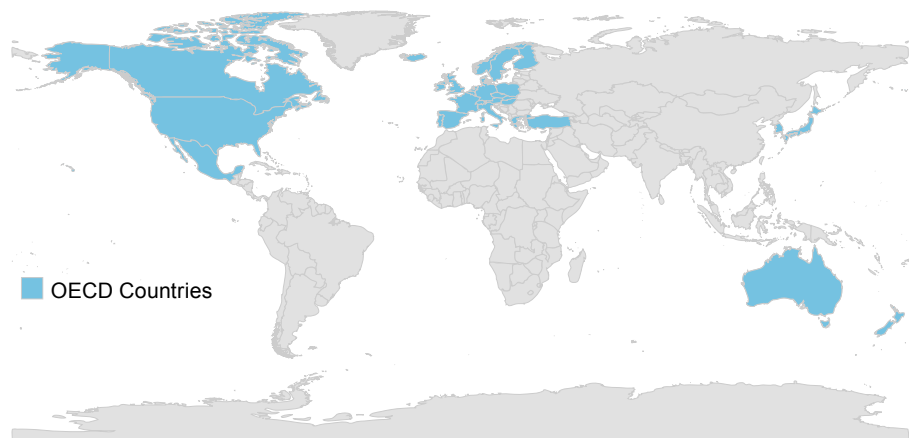
*Of the 12 major export destinations, notice that economic growth will slow in only two countries—Japan and China.*

## Exchange Rates

Indiana's trade also depends on exchange rate movements. A declining dollar value is generally thought to boost export sales, but experience suggests that it takes relatively large and sustained changes to make a noticeable difference. Over the past year (from January 2005 to January 2006), the dollar rose against the euro, sterling and the Australian shilling; it fell against the Mexican peso, Canadian dollar, Brazilian real, Chinese yuan, Korean won and Singapore dollar. The dollar resisted a broad-based and precipitous decline last year and one wonders if it can withstand another year of pressure from an ever-expanding current account deficit that threatens to soon equal \$800 billion. The most likely scenario is a repeat of last year, with the dollar's overall value remaining somewhat stable. If the risks point in any direction, it would be a large decline in value. A large and disorderly movement downward would

**Projected Real GDP Growth for Major Trade Partners**

Nation	2005	2006
Canada	3.0	3.2
Mexico	3.0	3.9
UK	1.7	2.4
France	1.6	2.1
Japan	2.4	2.0
Germany	1.1	1.8
<i>China*</i>	9.0	8.2
Netherlands	0.7	2.2
Australia	2.6	3.2
Korean Republic	3.9	5.1
<i>Brazil*</i>	3.3	3.5
<i>Singapore*</i>	3.9	4.5
<i>World*</i>	4.3	4.3
OECD	2.7	2.9



The 30 OECD member countries include Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, the Korean Republic, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.



not, however, necessarily bode well for export industries because it would arise in an environment of global distress.

## Momentum and Shocks

Forecast decisions are often the result of a clash of two forces—momentum and shocks. The momentum of the world economy is clearly toward more growth. Growth has momentum because increases in one year take some time to improve employment, income and expectations of future gains in employment and income.

As these improvements take root they create an environment of higher spending and production. But momentum can be overturned by predictable and unforeseeable events.

For example, momentum in the U.S. economy has generated optimism and led to large capital flows that kept the value of the dollar from declining. But should the U.S. economy encounter further trade difficulties or if our trading partners show more economic growth than predicted, capital flows could reverse themselves and push the dollar downward.

*It is clearly reasonable to believe that Indiana exports could increase by another \$2 billion or more in 2006.*

Expectations and speculation can create a bandwagon effect that could cause the dollar to plummet.

There are plenty of risks looming in the global environment that could impact world trade in 2006. Political strains between the United States and Muslim countries could worsen and increase uncertainty. These or other factors might tip the sensitive balance in energy supply and demand, sending the cost of energy even higher. Avian flu and other natural disasters, piled on top of last

year's global damages, would do nothing to strengthen the world's economy and trade. Lack of progress in the World Trade Organization's Doha Round could lead to a general slowdown in the reduction of trade barriers and the possible erection of new ones.

Every year has its own set of risks to offset the predictable implications of momentum. We see a year with strong spillovers of growth in most corners of the world, including the United States. That's a great environment for trade to flourish. <

# INDIANA'S EXPORTS IN 2005



**Chart 1** shows Indiana exports on a steady growth trend from 1996 to 2005 except for a correction in 2001.

Although the total value of exports for the state continued its upward climb with an over-the-year change of 12.4 percent, the rate of growth declined by 4.1 percentage points. This was not a singular experience because 30 other states saw percentage point declines from the previous year.

Indiana exports have almost doubled since 1996—increasing from about \$11 billion to \$21.5 billion.

As seen in **Chart 2**, Indiana did not have as big of an increase in export sales as in 2004, posting results of about \$341 million less.

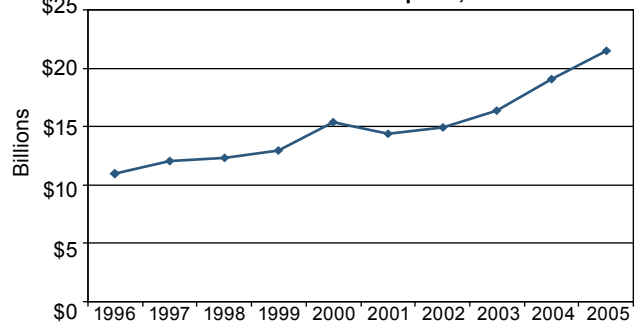
Indiana exports increased \$2.4 billion from 2004. That was double the amount of the average annual export increase (\$1.2 billion) from 1996 to 2005.

2001 was the only year in which Indiana export sales declined. The decline in that year was \$1.02 billion.

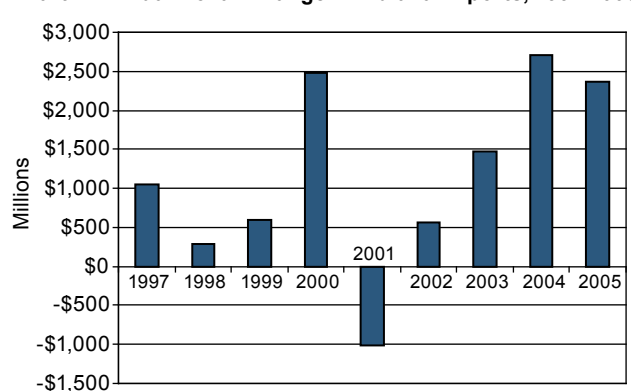
**Chart 3** shows annual percent change from 1997 to 2005. The trend in this chart is very close to that in **Chart 2**, where 2001 sticks out as a year of declining export sales. However, **Chart 3** may be the more compelling, behind-the-scenes story. Since 1997, the rate of export sales growth for the state has declined only three times. Although 2005 saw a decline in its growth rate, it was the least severe in recent state history.

**Chart 4** compares Indiana and U.S. growth from 1997 to 2005. Indiana exports grew faster than the United States in 2005, as was true of most of the previous years.

**Chart 1: Total Indiana Exports, 1996-2005**



**Chart 2: Annual Dollar Change in Indiana Exports, 1997-2005**

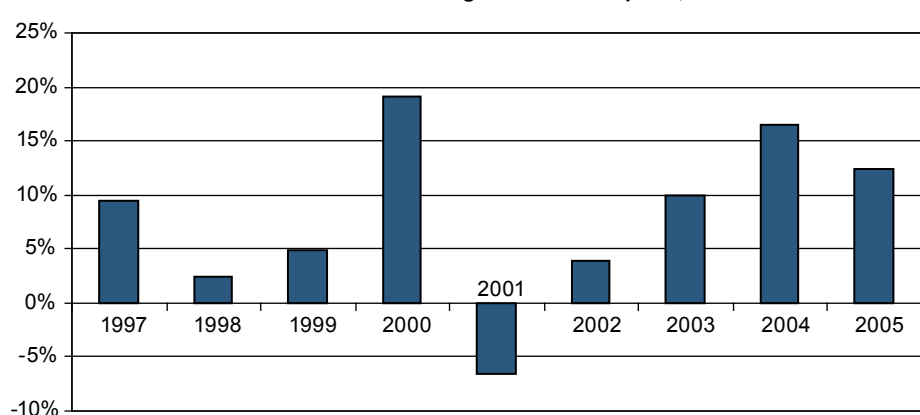


However, since 2002 the state has seen its lead over the nation cut in half with each subsequent year.

The growth rate of Indiana exports lagged behind the United States in 1997 and decreased by a larger margin than total U.S. exports in 2001.

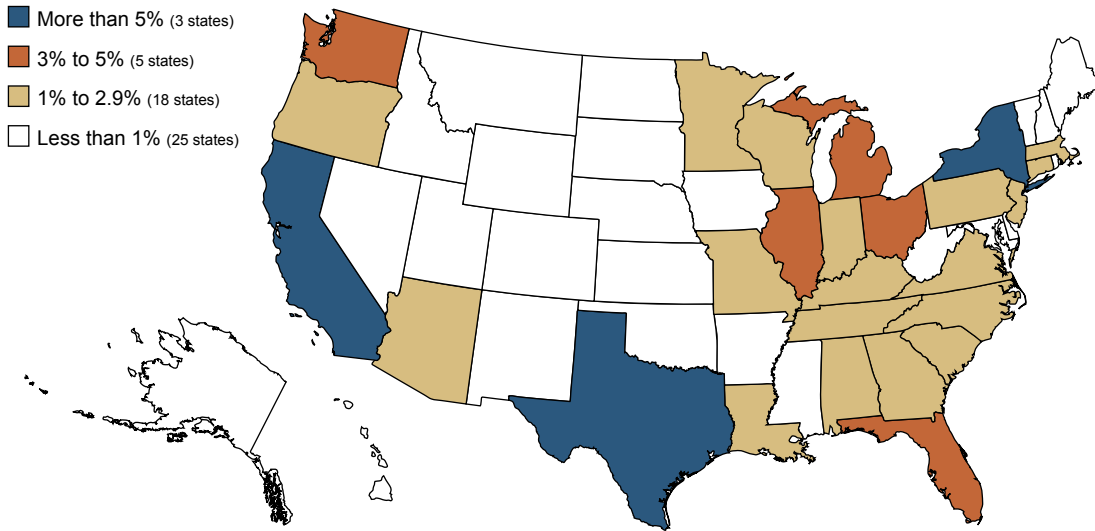
*Indiana exports have increased from about \$11 billion in 1996 to \$21.5 billion in 2005.*

**Chart 3: Annual Percent Change in Indiana Exports, 1997-2005**

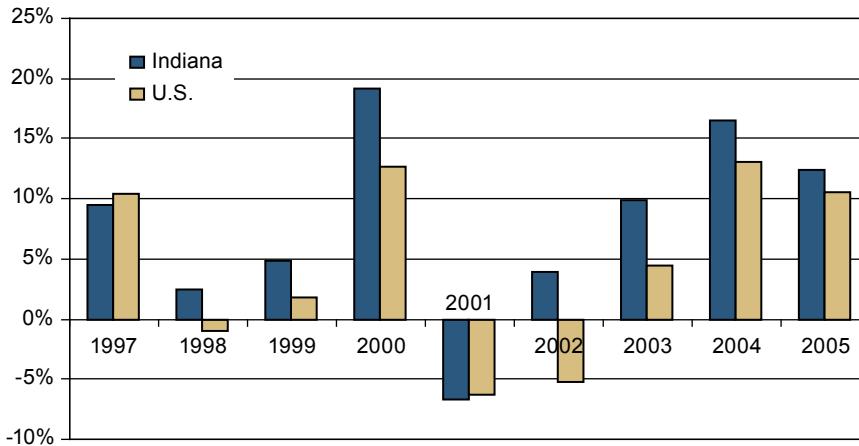




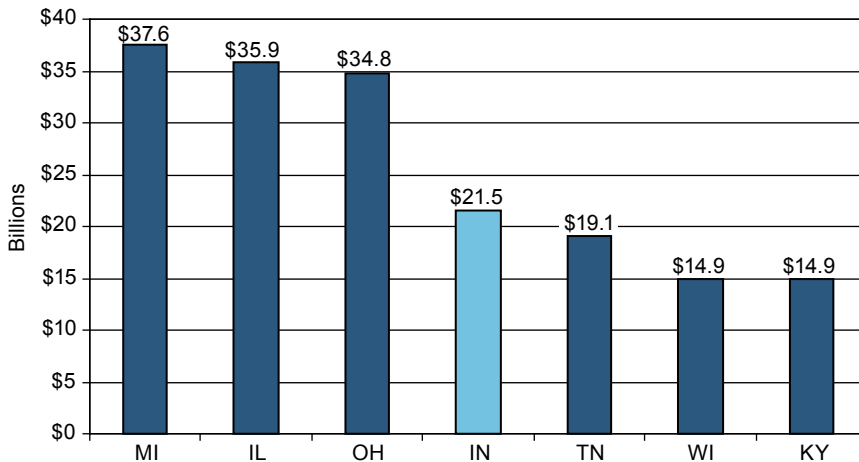
**Figure 1: Share of Total U.S. Exports, 2005**



**Chart 4: Annual Percent Change in Indiana and U.S. Exports**



**Chart 5: Total Exports for Indiana and Selected States, 2005**



With the exception of 2001, Indiana exports saw positive growth throughout, while total U.S. exports declined in additional two years: 1998 and 2002.

While on the topic of Indiana versus the nation, **Figure 1** shows each state's share of total U.S. exports. The figure clearly depicts that central states have a much smaller share than Midwest and coastal states. Indiana's share was on par with Wisconsin and Kentucky, ranging from 1 percent to 2.9 percent.

### Midwest Comparison

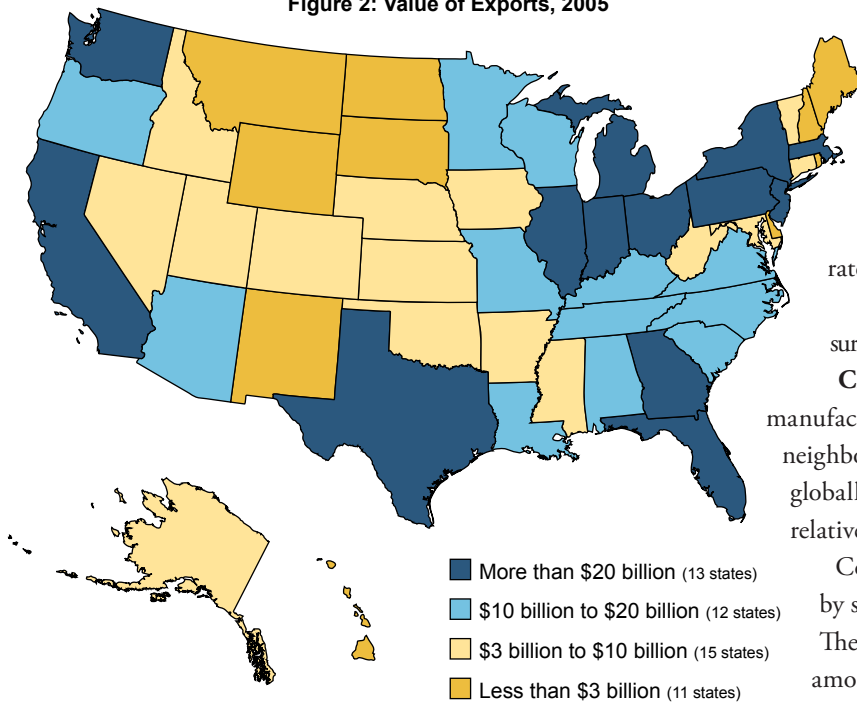
**Chart 5** pools Indiana's 2005 export sales with its six neighbors: Michigan, Illinois, Ohio, Tennessee, Wisconsin and Kentucky.

As with last year, Indiana's export sales—approximately \$21.5 billion—were in the middle of this group.

Larger states, Michigan, Illinois and Ohio, had higher export sales than Indiana. Indiana did, however, have a greater dollar change in exports



**Figure 2: Value of Exports, 2005**



than Michigan and ranked 10th among all states on this measure. **Figure 2** shows how population size and export volume go hand in hand.

Indiana's growth rate ranked 28th relative to other states. However, 24 states experienced bigger decreases in the rate of export growth than Indiana.

Illinois surpassed Ohio, and Washington surpassed Michigan in the volume of exports in 2005.

**Chart 6** reports export sales per manufacturing worker for Indiana and its six neighboring states to try to get a sense of how globally oriented Indiana's manufacturing sector is relative to neighboring states.

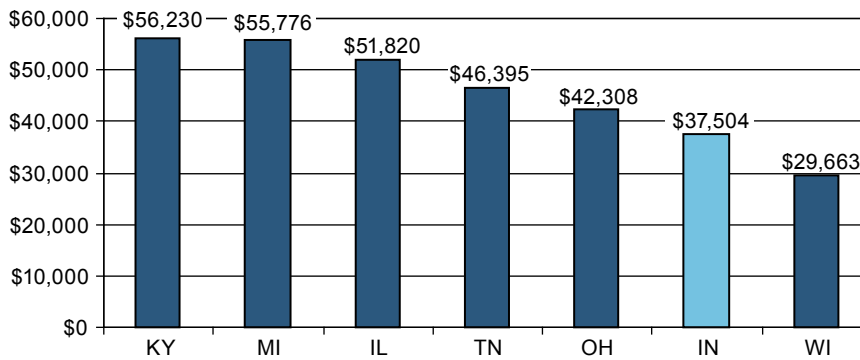
Compared with **Chart 5**, Indiana is overtaken by smaller states like Kentucky and Tennessee. The state maintained its rank in 2005 as sixth among the seven states with \$37,504 export sales per manufacturing worker. Indiana's export sales per worker in 2005 are \$4,113 higher than last year.

This ranking might reflect Indiana's role as an intermediate goods manufacturing state. If much of Indiana's output is assembled and exported from other states, then Indiana's output becomes the export sales of other states. Thus, Indiana's export sales to manufacturing worker ratio might be low, even though Indiana companies' products are heavily exported.

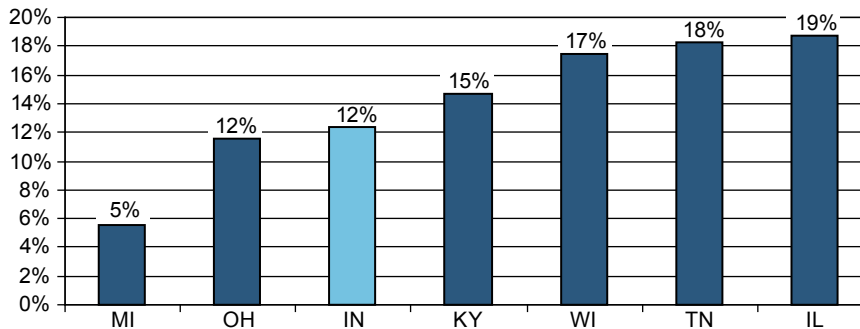
Indiana ranked 10th out of 51 in its dollar increase in export sales and Indiana was one of three of the seven Midwest states mentioned above not to lose manufacturing jobs over-the-year; however, the state's change in export sales per manufacturing worker ranked last.

**Chart 7** shows growth rates of export sales of these same seven states. Indiana ranks fifth with a 12.4

**Chart 6: Exports per Manufacturing Worker for Indiana and Selected States, 2005**



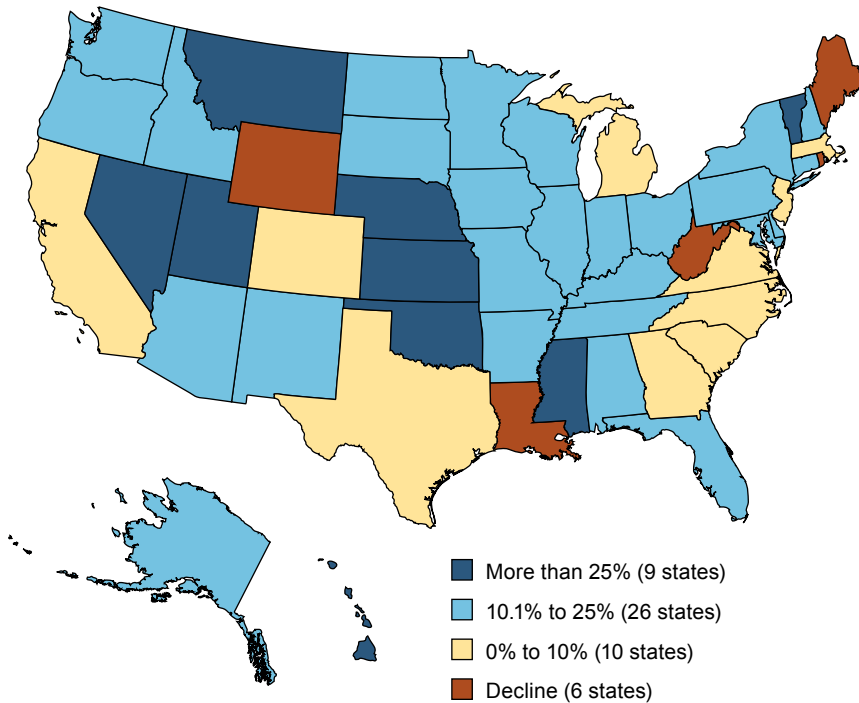
**Chart 7: Annual Change in Exports for Indiana and Selected States, 2004-2005**





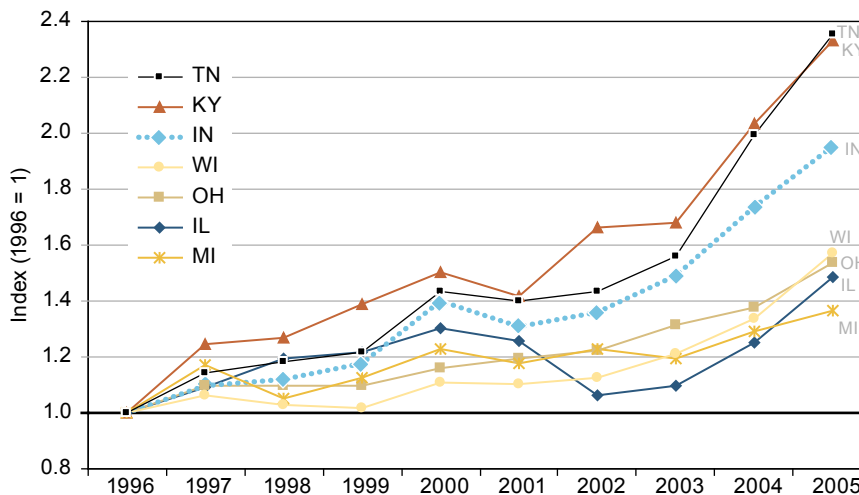


**Figure 3: Percent Change in Exports, 2004-2005**



*Indiana's exports grew \$2.4 billion between 2004 and 2005 for a gain of 12.4 percent.*

**Chart 8a: Export Index for Indiana and Selected States, 1996-2005**



percent increase from 2004, having a faster rate of growth than only Ohio (11.5 percent) and Michigan (5.5 percent). None of the seven states were on the decline in 2005.

The rate of growth in Indiana and three other states, Michigan, Kentucky and Tennessee, slowed over-the-year, while the rate of growth in Wisconsin, Ohio and Illinois accelerated.

**Figure 3** expands the focus to the entire United States and looks at export growth rates from 2004 to 2005. Only five states and the District of Columbia experienced a decline in exports. The figure clearly shows that the Midwest and the majority of states experienced growth rates between 10 and 25 percent.

**Chart 8a** shows the growth trends of the seven states between 1996 and 2005, using 1996 as the base year for the index. That is, each state's annual export figure is divided by its export sales in 1996. Thus each state had a value of 1.0 in 1996.

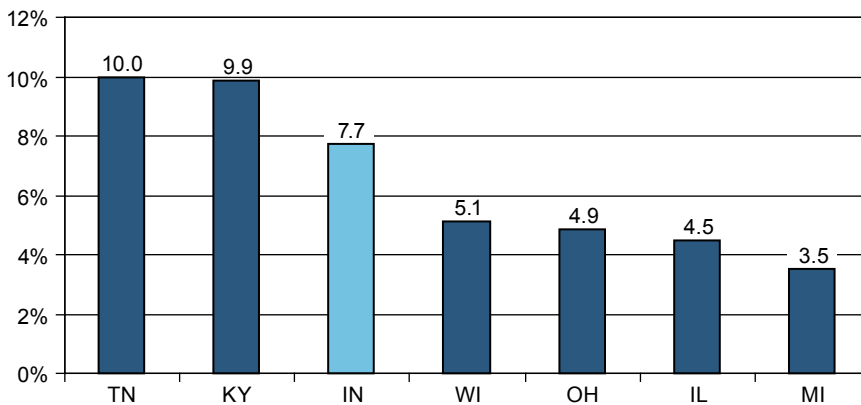
Indiana export sales had the third highest growth rates in all years except 1997, 1998 and 1999. It was behind Illinois in these years, but overtook it in 2000 and remained above it and three other states thereafter.

The two relatively small exporting states—Kentucky and Tennessee—had the fastest growth in export sales over the time period, staying above growth trend lines of all other states in almost all years.

Indiana ranked third with an annual average growth of 7.7 percent, as seen in **Chart 8b**. Tennessee ranked first (10.0 percent) followed



**Chart 8b: Annual Average Growth Rates for Indiana and Selected States, 1996-2005**



*Canada was Indiana's largest export destination in 2005 with purchases of \$9.6 billion.*

closely by Kentucky at 9.9 percent. Larger states fared the worst—Wisconsin ranked fourth with an annual average growth rate of 5.1 percent, and Michigan ranked last at 3.5 percent.

### Indiana's Export Destinations

**Table 1** summarizes Indiana's exports to top country destinations in 2005. Besides exports to the top 10 in 2005, the table also shows annual percent change in 2004 and 2005, along with annual average growth rates from 1996 to 2005.

The top 10 destinations comprised 84.3 percent of Indiana's export sales. **Figure 4** clearly shows that, although Indiana shipped exports to 198 countries in 2005, a select few received the bulk of the state's exports. Spain, which

ranked ninth in 2004, dropped out of the top 10 to place 16th in 2005. The Korean Republic entered the list and became the 10th largest Indiana export destination. China, which ranked 10th in 2003, moved up to the eighth spot in 2004 and remained there in 2005. Australia moved up one slot, becoming ninth in 2005.

Canada was still Indiana's largest export destination with purchases of \$9.6 billion in 2005, which was \$1 billion more than 2004. That represented an 11.9 percent increase from the previous year. Indiana exports to Canada in 2005 were 3.6 times the value of the second largest export destination (Mexico) and almost 32 times that of the 10th largest export destination (the Korean Republic).

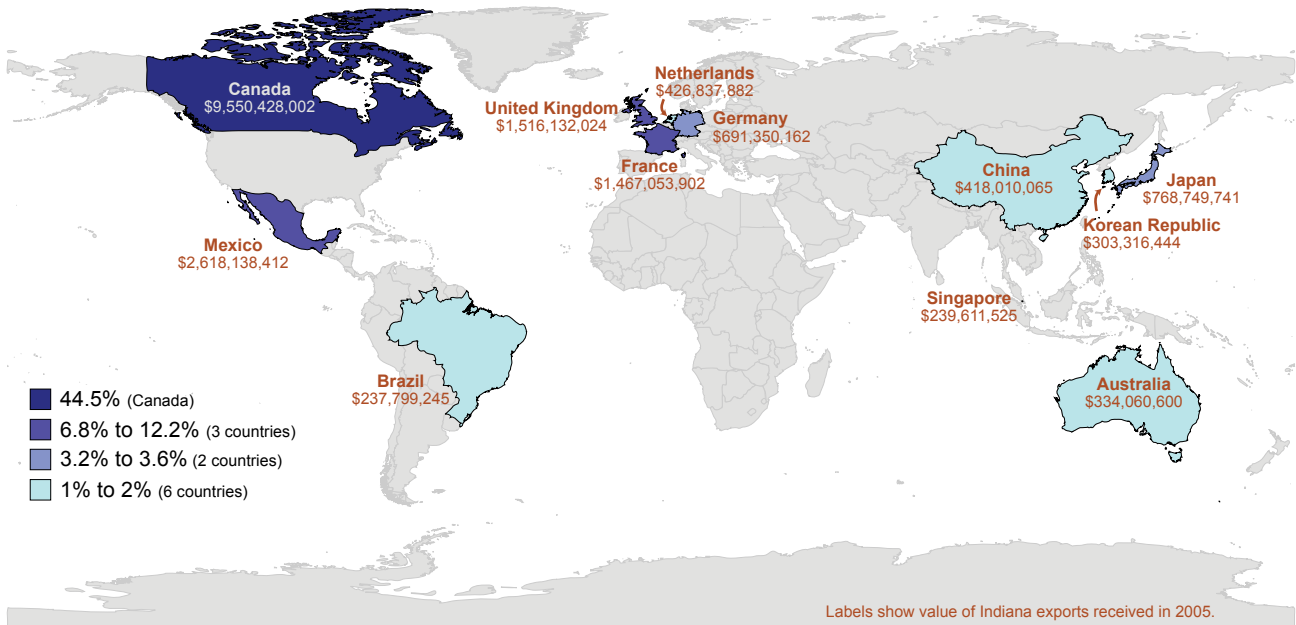
Indiana exports to all top 10 country destinations increased in 2005. Sales to China had the largest year-

**Table 1: Indiana's Top 10 Export Destinations: Value of and Change in Exports**

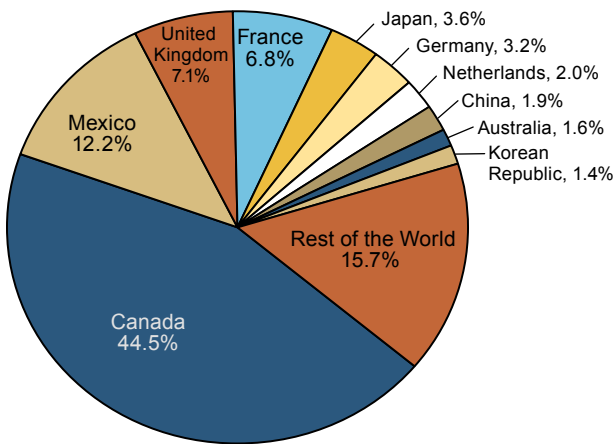
Export Destination	Exports		Percent Change		Annual Average Percent Change
	2005	2004	2004-2005	2003-2004	1996-2005
World	\$21,475,917,893	\$19,109,378,037	12.4	16.5	7.7
Canada	\$9,550,428,002	\$8,534,497,604	11.9	14.4	6.4
Mexico	\$2,618,138,412	\$2,543,045,942	3.0	20.8	26.1
United Kingdom	\$1,516,132,024	\$1,281,837,233	18.3	6.0	10.5
France	\$1,467,053,902	\$1,177,877,312	24.6	27.8	23.7
Japan	\$768,749,741	\$720,273,810	6.7	14.3	-0.1
Germany	\$691,350,162	\$578,908,792	19.4	4.8	7.7
Netherlands	\$426,837,882	\$368,885,930	15.7	27.7	4.5
China	\$418,010,065	\$294,384,501	42.0	25.0	11.6
Australia	\$334,060,600	\$267,434,863	24.9	11.9	6.3
Korean Republic	\$303,316,444	\$245,506,713	23.5	4.9	4.8



**Figure 4: Indiana's Export Destinations Where Share of Exports Equals At Least 1 Percent, 2005**



**Chart 9: Top 10 Indiana Export Destinations, 2005**



over-year increase at 42 percent. Australia, France and the Korean Republic followed with annual growth exceeding 20 percent.

**Chart 9** shows the division of Indiana exports to its top 10 country destinations and the rest of the world in 2005.

The total share of the top 10 country destinations gained 0.3 percentage points from 2004 to reach 84.3 percent for 2005; this means the state has become a little more concentrated in its export sales. The increase was largely due to an increase in France's share of 0.7 percentage points

and an increase in China's share of 0.4 percentage points. Canada made up 44.5 percent of Indiana exports in 2005, compared with 44.7 percent in 2004. Canada's share of Indiana exports has declined by 5.1 percentage points since 1996. Canada's share today is 9.8 percentage points lower than the high reached in 1999 and 1.3 percentage points higher than the low reached in 2001.

Spain, which had a 1.4 percent share in 2004, dropped out of the top 10 list in 2005. Now Spain is the 16th largest export destination for the state. Meanwhile Australia continues its dance between the ninth and 10th rank for Indiana's export destinations, and for 2005 it was the former. The Korean Republic continues to bounce in and out of the top 10, assuming the 10th slot in 2005.

**Figure 5** is a much broader perspective of the path Indiana exports take once they leave the state. Indiana's export trade is not limited to a few countries but ultimately encompasses the globe; however, the difference in export magnitude among the countries is significant. Whereas Cape Verde purchased \$3,000 worth of Indiana exports in 2005, Canada purchased \$9.5 billion.

**Chart 10** shows Indiana exports' percentage changes in 2004 and 2005 to the top 10 export destinations.



Figure 5: Indiana's Export Destinations, 2005

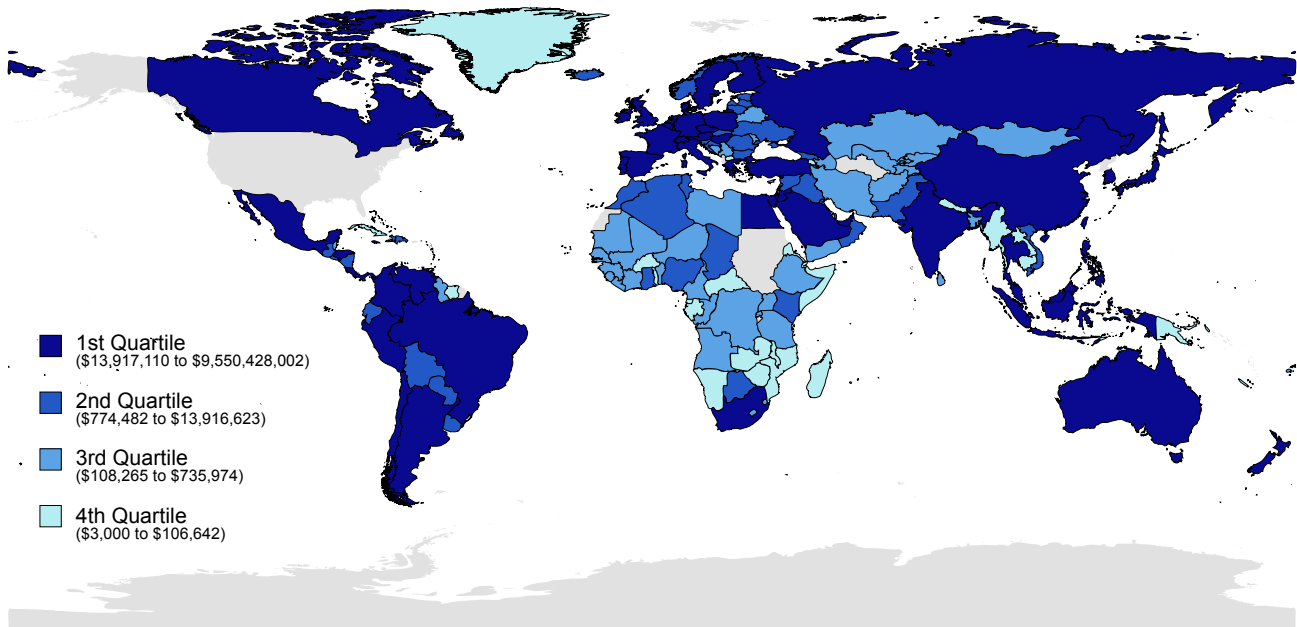
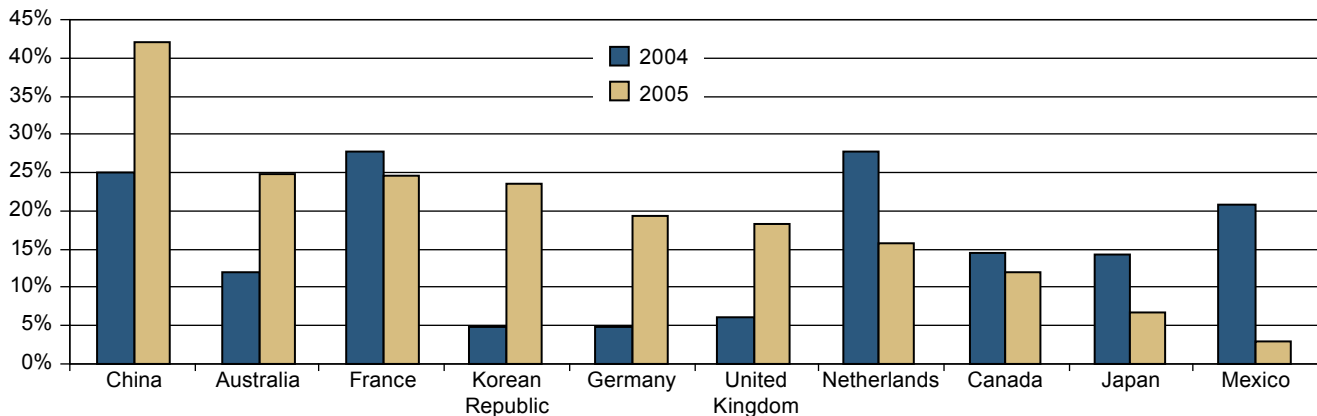


Chart 10: Annual Change in Exports for Indiana's Top 10 Export Destinations



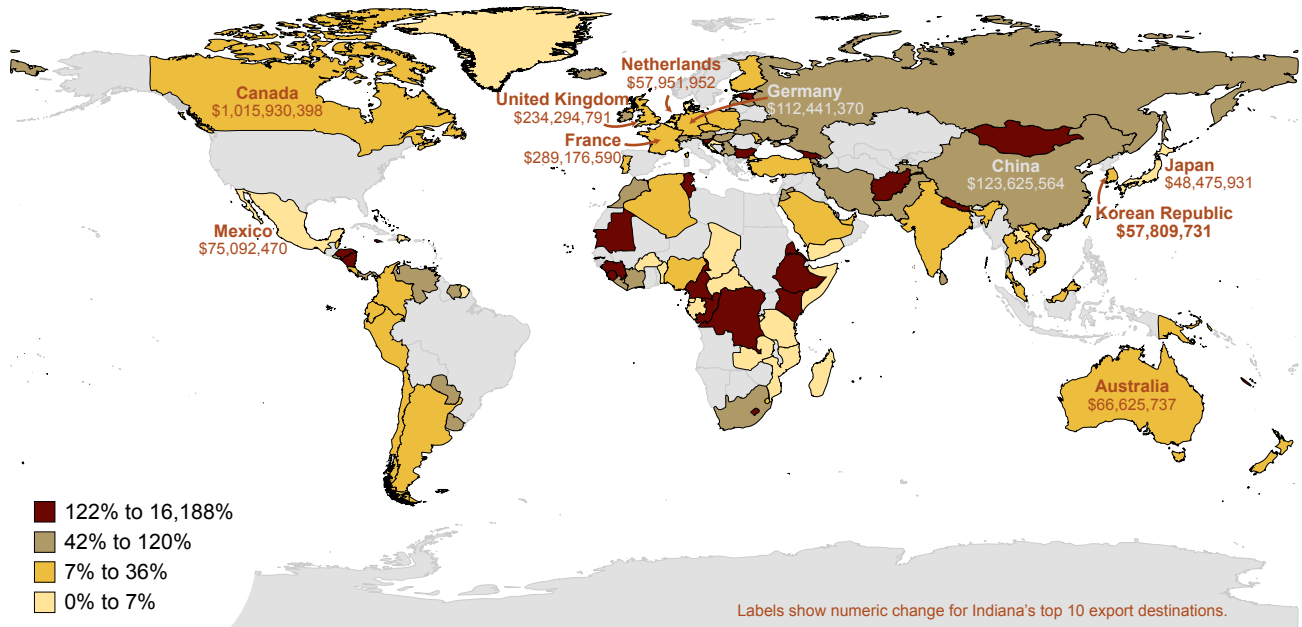
Indiana's exports to China exploded with an over-the-year increase of 42 percent; that is 17 percentage points greater than the previous year's growth rate. Where China outstripped the other top export destinations in growth, the Korean Republic saw the biggest improvement over last year in its rate of growth. Indiana's export growth rates to the Korean Republic increased almost five-fold from 4.9 percent to 23.5 percent from 2004 to 2005, an 18.6 percentage point increase.

Australia and France also had growth rates over 20 percent. Although the entire top 10 destinations had increases in Indiana exports, several of the top 10 destinations saw their growth rates slow in 2005. Mexico, Netherlands, Japan, France and Canada had slower growth in the number of exports shipped from Indiana.

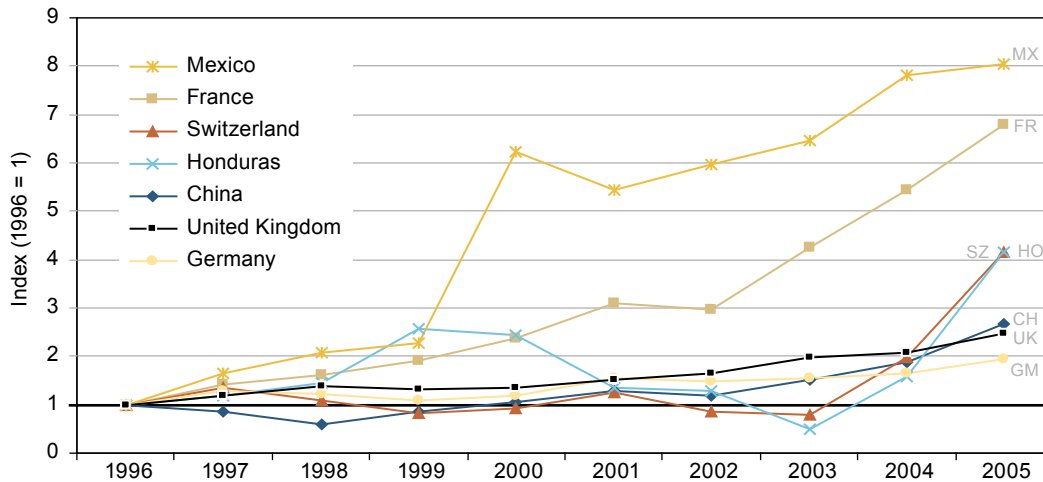
The United Kingdom's growth rate in 2005 has tripled, going from 6.0 percent to 18.3 percent. Exports to Germany picked up steam in 2005, with a 14.6 percentage point increase in the rate of growth over the previous year.



**Figure 6: Countries with Growth in Indiana Exports**  
Percent Change in Exports, 2004 to 2005



**Chart 11: Indiana Export Index for Select Destinations, 1996-2005**



**Figure 6** shows all the countries where Indiana exports increased. Note that countries experiencing the largest percent increases had little export volume to begin with, so increasing by large magnitudes is very probable.

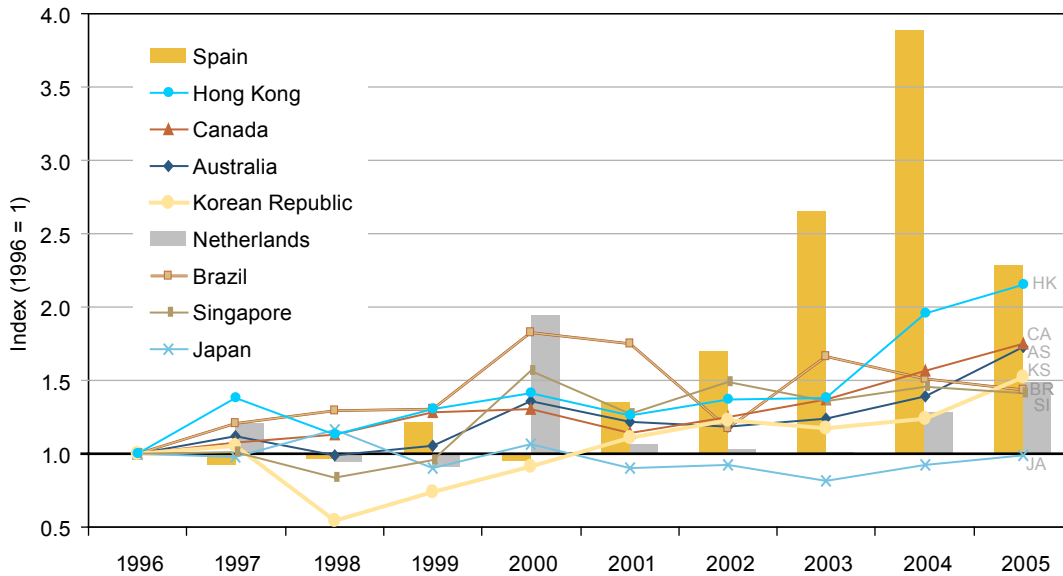
**Chart 11** presents a long-term profile of Indiana export sales between 1996 and 2005 to five of Indiana's top 10 export destinations and two additional countries in the top 25 that had notable growth over that period—Switzerland

and Honduras (the 13th and 25th largest destinations, respectively).

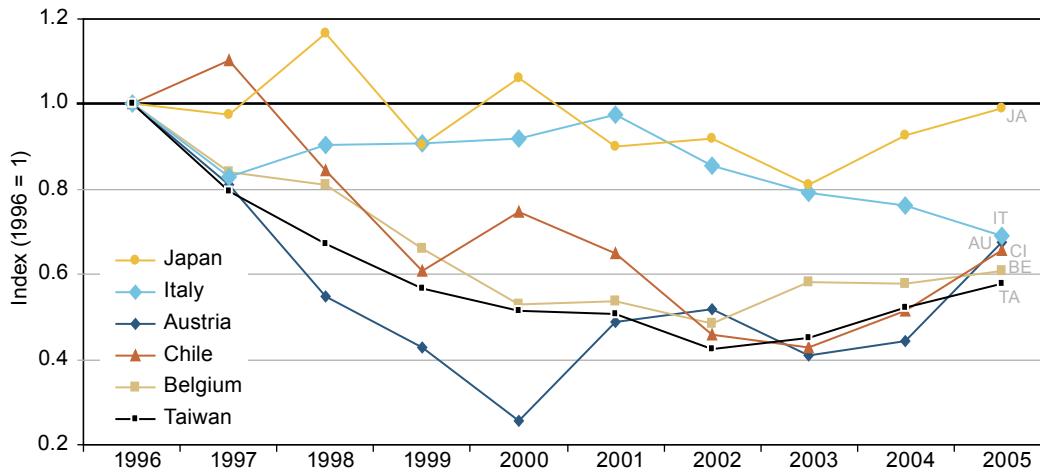
Mexico and France continued to dominate the picture. The two countries' purchases from Indiana in 2005 were 8.1 and 6.8 times the amounts in 1996. The two countries rose above the others in 1999 and remained high above ever since.



**Chart 12: Indiana Export Index for Select Destinations, 1996-2005**



**Chart 13: Indiana Export Index for Select Destinations, 1996-2005**



The rest of the countries were in a tangle for the 1996 to 2005 period and experienced 2.0 to 4.2 times the purchases made in 1996. Of the remaining top 10 countries, Japan had a slight decline in export volume (\$8.3 million) and China was 2.7 times its 1996 amount. Honduras and Switzerland both have small shares of Indiana's total exports but are clipping along at an impressive rate; their export purchases have quadrupled since 1996.

**Chart 12** continues the focus on long-term export sales, showing the results for five of the top 10 country

destinations and four other countries: Brazil, Singapore, Hong Kong and Spain.

The nine countries' purchases in 2005 were all above their 1996 levels, with the exception of Japan, which is receiving slightly fewer exports than in 1996. There is some volatility in the history but the movements have been small. The decline in exports in 2001 for the Netherlands and Spain's decline in 2005 are the most noticeable features on this chart. Note that Spain's phenomenal growth in 2004 has been curtailed and appears to be headed back to a more normal level of exports to this country.



**Chart 13** examines a group of six destinations whose exports have generally declined since 1996 and were below their 1996 levels in 2005. These include Japan, Austria, Italy, Taiwan, Belgium and Chile.

Japan, noted above, wandered around its 1996 level for several years but has remained under it since 2001. Despite a small increase in 2005, the country's purchases from Indiana were still below its 1996 level (\$8.3 million) in 2005.

Austria stood out in the chart hitting a low in 2000 and has made up some lost ground since 1996, although the country's export consumption of Indiana goods is still \$61.2 million below its 1996 level.

The remaining six countries were under their 1996 levels all along, except for Chile, which was once above the level in 1997 but declined ever since. Belgium has the most ground to recover at the end of 2005 with an export level that is \$96 million below its 1996 level.

**Table 2** identifies the largest changes between 2004 and 2005 in export sales by industry, both positive and negative, for the top 10 export destinations.

There are two entries for each country—one for the largest export sales increase and one for the largest decrease. The export amount is shown in an attempt to visually depict which industries are having the biggest net effect. In this way, we clearly see the countries and industries that accounted most for change in 2005.

The biggest increases in Indiana exports to the top 10 export destinations (indicated by the largest numbers in

the table) came from vehicles to Canada (\$533 million) and pharmaceutical products to France (\$180 million), United Kingdom (\$162 million), Germany (\$64 million) and the Netherlands (\$33 million).

The largest declines in Indiana exports sales to the top 10 country destinations (indicated by the smallest numbers in the table) came from vehicles to Mexico (-\$190 million) and the United Kingdom (-\$22 million) and plastic to Japan (-\$13 million).

The size and number of entries in each column show the impact of each industry to the total change in Indiana exports in 2005. Vehicles and pharmaceutical products each have six entries, indicating the sectors' importance for changes in Indiana exports to the top 10 countries. There has been a reversal since 2004, when vehicle exports to the world contributed 34 percent of the change versus pharmaceutical products' 9 percent. In 2005, pharmaceutical exports contributed 19 percent, while vehicles only contributed 15 percent to the change in the amount of exports from Indiana to the world. Despite the gains made in pharmaceutical exports in 2005, they only constitute 7 percent of Indiana exports to the world while vehicles are 27 percent. However, if pharmaceutical exports growth rates continue to outperform vehicles, then this sector will continue to get a bigger piece of the pie and move up in the rankings of Indiana's top commodities, as it has done since 1996. ←

**Table 2: Largest Positive and Negative Export Sales Changes by Industry for Indiana's Top 10 Export Destinations, 2005\***

Export Destination	Over-the-Year Change (In Millions)					
	Machinery	Pharmaceutical Products	Plastic	Special/Other	Vehicles/Not Railway	Electrical Machinery
Canada				-\$13	\$533	
Mexico					-\$190	\$81
United Kingdom		\$162			-\$22	
France		\$180			-\$1	
Japan		\$20	-\$13			
Germany		\$64	-\$9			
Netherlands		\$33				-\$7
China			\$35	-\$0.6		
Australia	\$30	-\$5			-\$8	
Korean Republic					-\$7	\$32

\*selected largest increases and decreases for industries the countries all have in common.

# INDIANA'S EXPORT INDUSTRIES



**T**able 3 shows Indiana's top 10 industries' export sales in 2005, plus the annual percent change in 2004 and 2005 and the average annual growth rate from 1996 to 2005.

Vehicles and machinery were Indiana's largest export industries with sales of about \$5.7 billion and \$4.2 billion, respectively. Exports sales for the two industries slowed in 2005, with annual rates of 6.9 percent (vehicles) and 4.5 percent (machinery).

Export sales for each of the top 10 industries were on the rise in 2005. As with 2004, pharmaceutical products and iron and steel had the fastest year-over-year growth rates in 2005, at 46.6 percent and 26.7 percent, respectively. Other annual growth rates in the double digits for the top 10 industries include 24.9 percent for iron and steel products, 19.2 percent for plastic, 13.4 percent for optic/medical instruments, and 12.6 for electrical machinery.

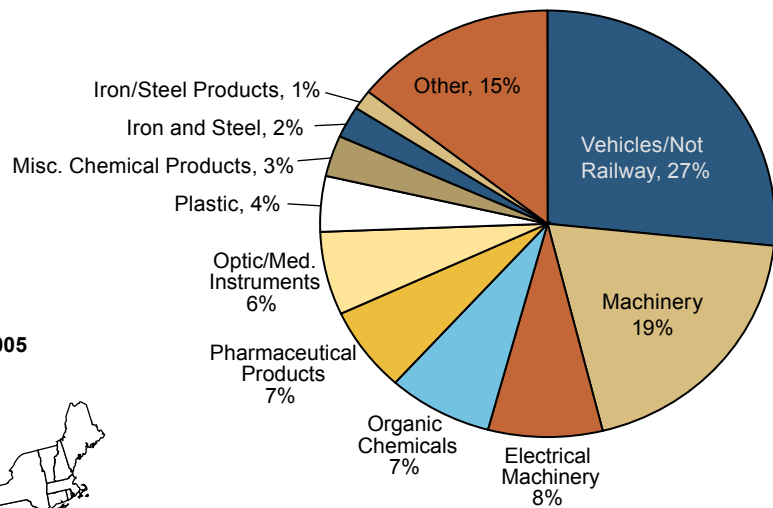
The annual average rate of return for 1996 to 2005 provided in **Table 3** represents a "smoothed" rate since growth rates can fluctuate quite a bit from year to year. Iron and steel products had the largest annual average growth rate (15.2 percent), followed by organic chemicals (12.2 percent), iron and steel (11.9 percent), and pharmaceutical products (11.2 percent).

**Table 3: Value of and Change in Exports for Indiana's Top 10 Export Industries, 2005**

Industry	Exports	Percent Change		
	2005	2004-2005	2003-2004	1996-2005*
Vehicles/Not Railway	\$5,743,677,079	6.88	20.86	7.7
Machinery	\$4,152,609,921	4.46	12.56	6.8
Electrical Machinery	\$1,733,229,333	12.62	17.22	6.1
Organic Chemicals	\$1,587,833,313	4.82	26.84	12.2
Pharmaceutical Products	\$1,425,273,187	46.64	32.07	11.2
Optic/Medical Instruments	\$1,330,857,727	13.38	17.64	7.1
Plastic	\$905,303,513	19.22	22.08	7.9
Miscellaneous Chemical Products	\$689,124,256	3.17	3.82	10.0
Iron and Steel	\$494,472,197	26.72	30.91	11.9
Iron/Steel Products	\$287,051,428	24.88	13.36	15.2

\*annual average growth rate for period 1996-2005.

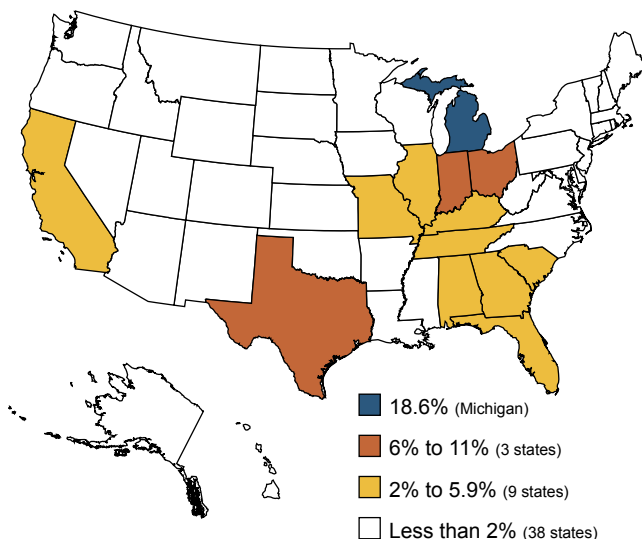
**Chart 14: Indiana's Top 10 Export Industries, 2005**



**Chart 14** shows the percentage of total sales accounted for by each of the top 10 sectors. The top 10 industries made up 85.4 percent of all Indiana exports in 2005, 1.4 points down from 2004 and back to the 2003 level.

Vehicles lost 1.4 percentage points and machinery's share declined by 1.5 percentage points from 2004. Even though vehicles lost some ground, it still is the largest export commodity for the state, consisting of 27 percent of all commodities shipped out of Indiana. Pharmaceutical products gained 1.6 percentage points. The rest of the

**Figure 7: Share of U.S. Vehicle Exports, 2005**

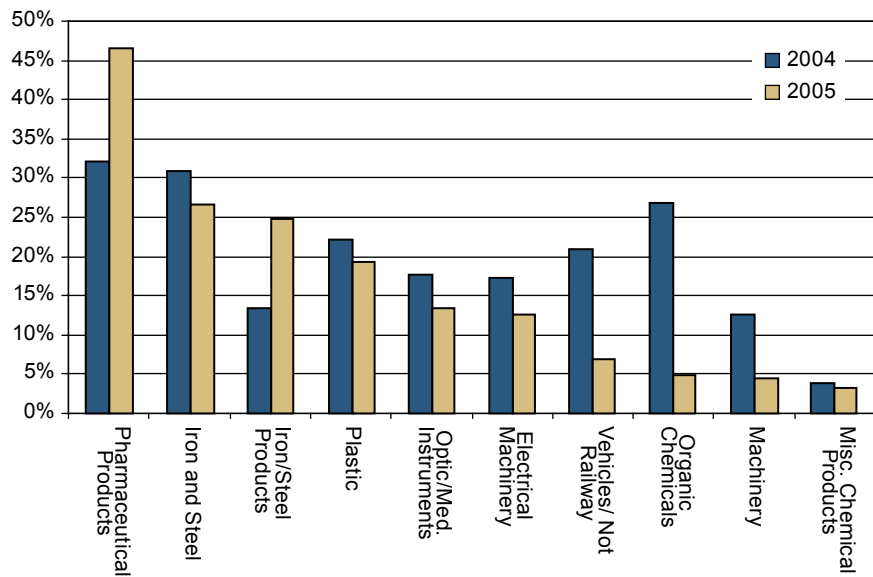






*Exports sales for the two largest industries slowed in 2005, with annual rates of 6.9 percent (vehicles) and 4.5 percent (machinery).*

**Chart 15: Annual Change in Exports for Indiana's Top 10 Export Industries**



changes in share over-the-year were fairly small. **Figure 7** clearly shows the United State's reliance on Indiana and a few select states for vehicle exports.

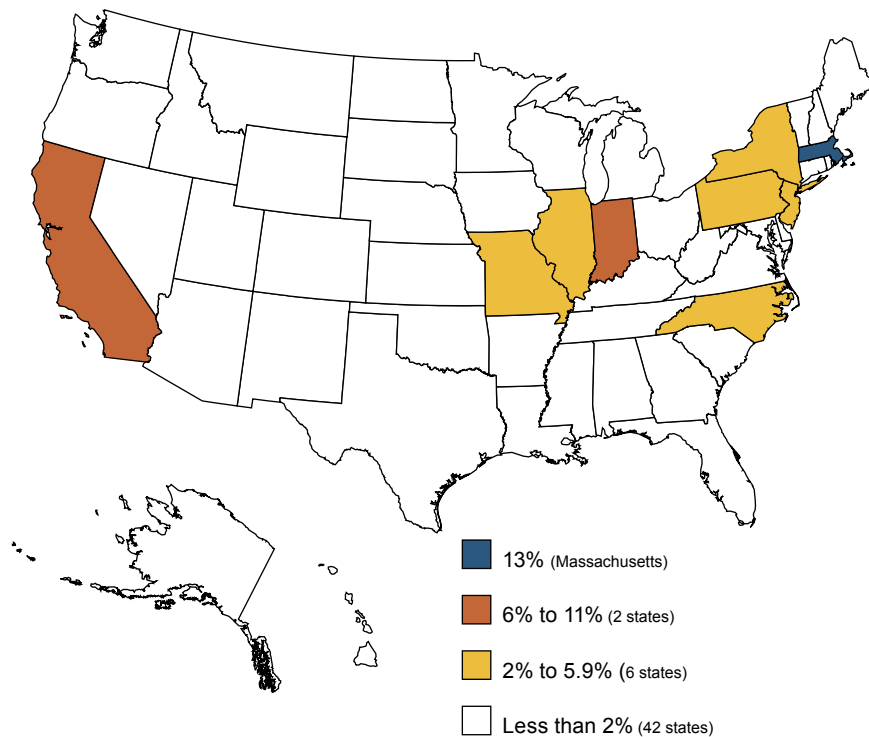
**Chart 15** shows the percent changes in export sales in 2004 and 2005 for Indiana's top 10 export industries.

Pharmaceutical products, iron and steel, and iron and steel products continued to have high growth rates in 2005; but, whereas the pharmaceutical products growth rate gained 15 percentage points, iron and steel was reduced by 4 percentage points. Meanwhile, the iron and steel

product growth rate increased by 11.5 percentage points. Eight of the top 10 commodities saw declines in their rate of growth over the year. Organic chemicals had a 22 percentage point slide and the rate of growth for vehicles declined by 14 percentage points.

Indiana has improved its position on pharmaceutical product exports. The state slipped relative to other states in this industry starting in the late 1990s, but the state has been increasing its share of pharmaceutical products since 1999. Indiana has gone from a rank of fourth in 2003 and 2004 to a rank of third—only California and Massachusetts shipped more pharmaceutical products than Indiana in 2005, as seen in **Figure 8**.

**Figure 8: Share of U.S. Pharmaceutical Exports, 2005**





## Vehicles

**Chart 16** shows some of the largest changes in Indiana's vehicle export sales to four key country destinations in 2004 and 2005, namely Canada, Mexico, Hungary and Sweden.

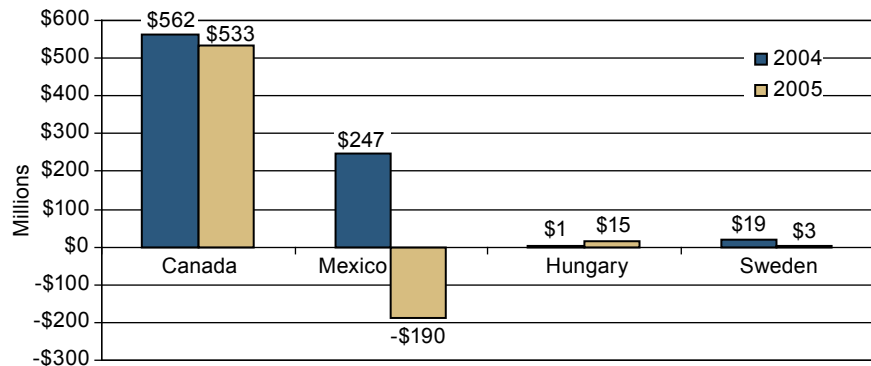
Canada continued with a large increase of \$562 million in 2004 and grew \$533 million in 2005, although the country's rate of vehicle export consumption has fallen from 16.7 percent to 13.6 percent over-the-year. Indiana's vehicle exports to Mexico reversed the gaining trend of 2004 and decreased by the considerable amount of \$190 million. Saudi Arabia and the Korean Republic have left the top 10 list and have been replaced by Hungary (ranked 8th) and Sweden (ranked 10th). Hungary moved up six positions in the rank list with the biggest percentage gain in the top 10—92 percent (\$15 million). Sweden's 2004 export level of six times the 2003 level, coupled with its 11.9 percent gain in 2005, gave the country what it needed to gain the 10th slot for vehicle export purchases from Indiana.

## Machinery

**Chart 17** compares changes in Indiana's machinery exports to Mexico, Canada and France in 2004 and 2005.

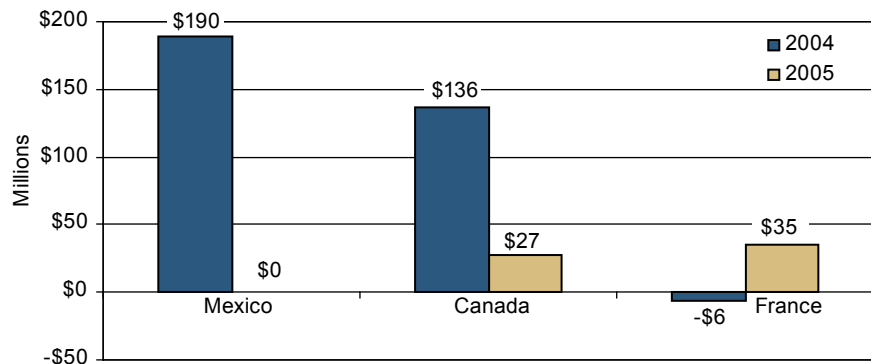
Canada and Mexico had the largest share in machinery exports, 31.9 percent and 28.5 percent, respectively, although both have lost some ground in their shares to other countries over-the-year. Mexico's purchases of machinery shipped from Indiana didn't change much and Canada had a 2.1 percent increase (\$27.2 million), which was overshadowed by an 11.8 percent (\$136.4 million) increase in machinery exports achieved the previous year. France, which was 16th in machinery exports in 2004, jumped to ninth place in 2005 with the biggest over-the-year percent increase (103 percent or \$35

**Chart 16: Vehicles/Not Railway—Change in Indiana Exports to Key Destinations**



*Indiana's vehicle exports to Mexico reversed the gaining trend of 2004 and decreased by the considerable amount of \$190 million.*

**Chart 17: Machinery—Change in Indiana Exports to Key Destinations**



million). Other notable percent changes were Australia (33 percent), Korean Republic (27 percent) and Brazil (-32 percent). Brazil has completed its slide that began in 2003 and is nearing its 2002 level. These four countries combined are only a seventh of the size of Mexico and Canada's combined shares.

## Electrical Machinery

**Chart 18** shows changes in Indiana's electrical machinery exports to Singapore, the Korean Republic and Mexico.



Whereas Mexico and Singapore held their respective rankings of second and third, the Korean Republic reversed its losses with a 162 percent increase and moved up the rankings from 11th to fifth in export purchases of electrical machinery from Indiana. Singapore continued its dance up and down the export rankings and posted an \$8.2 million loss (or -8 percent) in 2005. Mexico posted the largest gain in the top 10 and held the second largest share in electrical machinery purchases—an increase of \$81 million or 54 percent—putting an end to a downward trend that began in 2002.

### Organic Chemicals

**Chart 19** shows Indiana's exports of organic chemicals to Ireland, Brazil and the United Kingdom in 2005.

Ireland and Brazil both had strong over-the-year growth, increasing by 141 percent (\$54.4 million) and 81 percent (\$17.3 million), respectively. Brazil moved from 11th place to sixth place in purchases of organic chemicals from Indiana. The United Kingdom continued its slide that started in 2003 with a \$15 million drop (-6.8 percent). Since that time, its share of organic chemical export purchases has been almost cut in half.

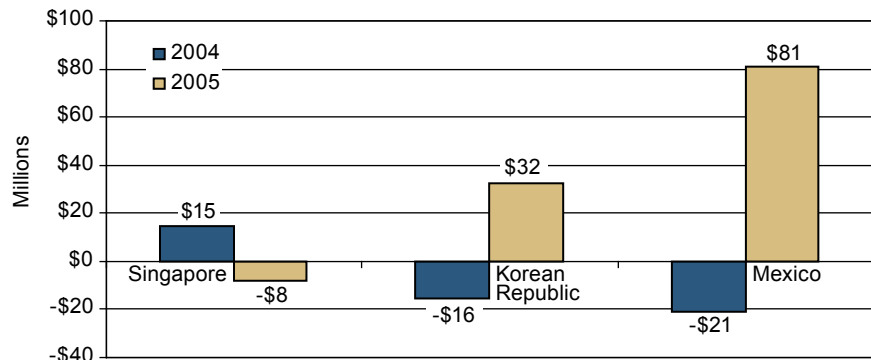
### Pharmaceutical Products

**Chart 20** vividly shows the stellar performance of Indiana's exports of pharmaceutical products to France and Switzerland. Also, Spain is examined for its recent decline in exports.

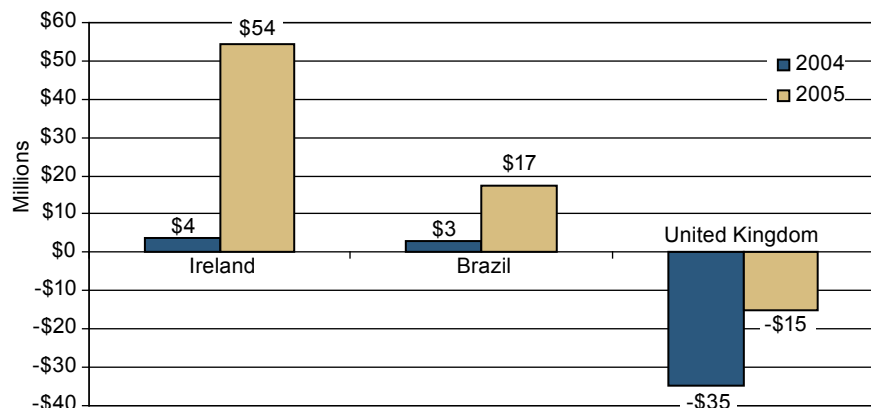
France had the largest nominal increase in pharmaceutical exports—\$180 million—and the country had the largest share of pharmaceutical exports and the

share increased by 7 percentage points over-the-year. Switzerland had the largest increase in export purchases in the top 10 with an increase of 166 percent (\$77 million). Spain was the only country in the top 10 to decrease (67 percent or \$106 million), returning to a more normal level of consumption for this country. As a result, Spain's rank

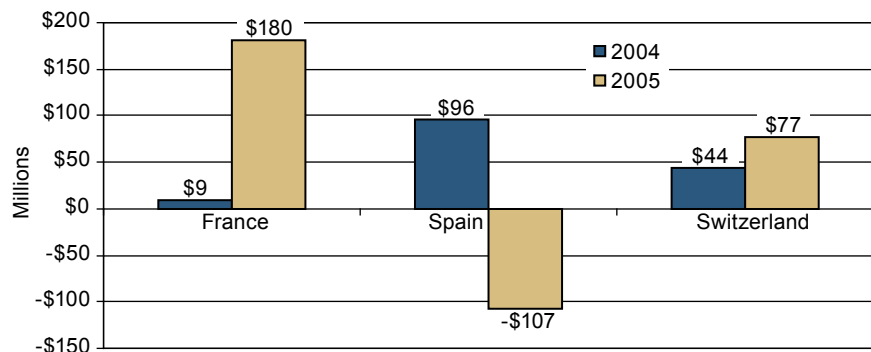
**Chart 18: Electrical Machinery—Change in Indiana Exports to Key Destinations**



**Chart 19: Organic Chemicals—Change in Indiana Exports to Key Destinations**



**Chart 20: Pharmaceutical Products—Change in Indiana Exports to Key Destinations**





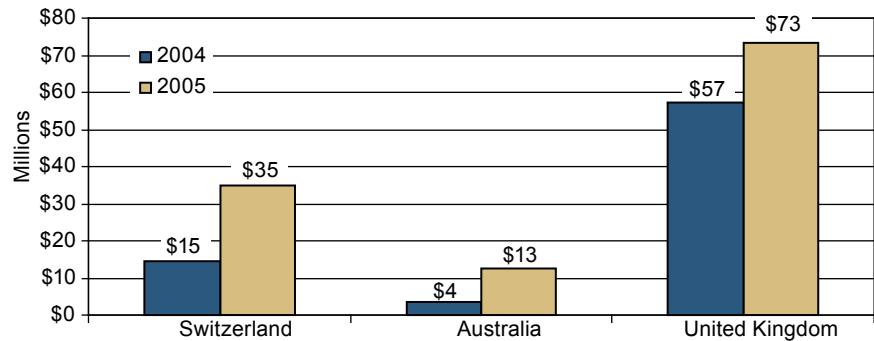
fell from second in 2004 to seventh in 2005.

## Optic/Medical/Surgical Instruments

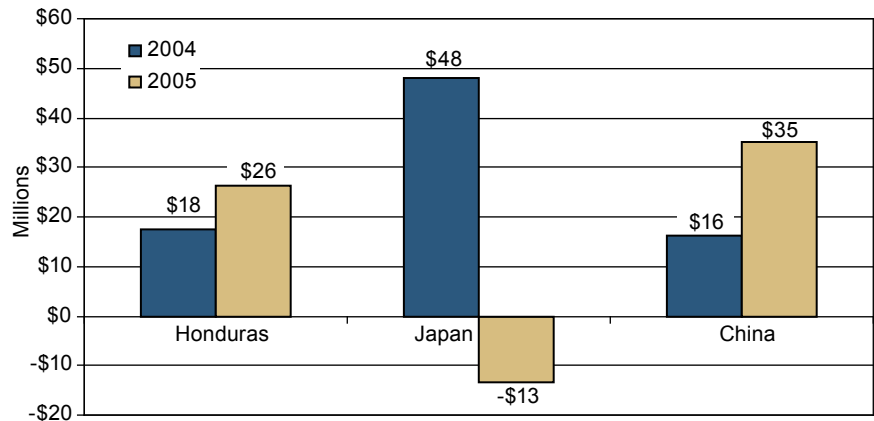
**Chart 21** shows the varied experiences of Indiana's optic/medical/surgical instrument exports to the United Kingdom, Australia and Switzerland in 2005. The United Kingdom continued along the path of growth that began in 2003 with a \$73 million increase (37 percent increase) in optic/surgical equipment export purchases. If it continues this phenomenal growth, the United Kingdom should overtake Canada in the very near future as number one in export purchases of optic/medical/surgical equipment. Switzerland again more than doubled its purchases in 2005 (149 percent increase or \$35 million). Australia continues its steady climb in exports with a 34 percent increase of \$13 million.

*If it continues this phenomenal growth, the United Kingdom should overtake Canada in the very near future as number one in export purchases of optic/medical/surgical equipment.*

**Chart 21: Optic/Medical Instruments—Change in Indiana Exports to Key Destinations**



**Chart 22: Plastics—Change in Indiana Exports to Key Destinations**



## Plastics

**Chart 22** shows changes in Indiana's plastics exports to three large country destinations— Honduras, Japan and China.

China almost doubled the amount of plastic exports it consumed in 2005, increasing by 93 percent or \$35 million. Also, it increased its share of plastic export consumption from 5 percent to 8 percent, moving up in the rank of countries from fifth to third. Honduras moved from ninth to sixth place with a 138 percent increase of \$26 million. Finally, Japan's phenomenal growth in 2004 seems to have halted with \$13 million fewer exports then last year (-17 percent).

## Miscellaneous Chemicals

**Chart 23** shows Indiana's exports of miscellaneous chemicals to three large country destinations— Canada, Brazil and the United Kingdom.



Brazil reverted back to its 2003 export level with a 31 percent drop of \$8 million. Canada replaced the United Kingdom as the second largest exporter of Indiana's miscellaneous chemical products with a \$27 million gain or a 34 percent increase. The United Kingdom, which has been building its level of miscellaneous chemical exports for several years experienced a large decline in 2005 (-29 percent or -\$34 million).

### Iron and Steel

**Chart 24** shows Indiana's iron and steel exports to three large country destinations in 2004—the United Kingdom, France and Mexico.

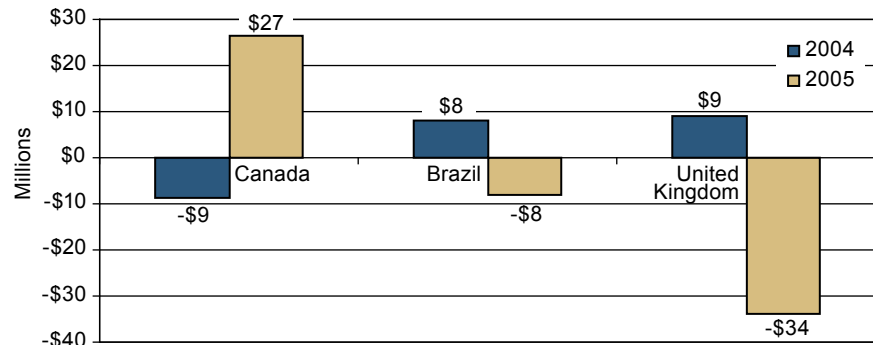
France climbed up the rankings from 18th to eighth largest exporter of iron and steel with a 376 percent increase of \$1 million. The United Kingdom experienced the largest decline in the top 10 with a 36 percent decline or -\$0.8 million. Although Canada had the largest share of Indiana's exports of iron and steel, Mexico increased its share by 4 percentage points in 2005, due to almost doubling its export purchases—an increase of \$30 million.

### Iron and Steel Products

**Chart 25** shows Indiana's iron and steel products exports to three large country destinations—Hungary, Canada and China.

Canada by far had the largest nominal increase and share in 2005 (72 percent share and \$39 million gain). China and Hungary both had large over-the-year percent increases of 300 percent and 240 percent, respectively. <

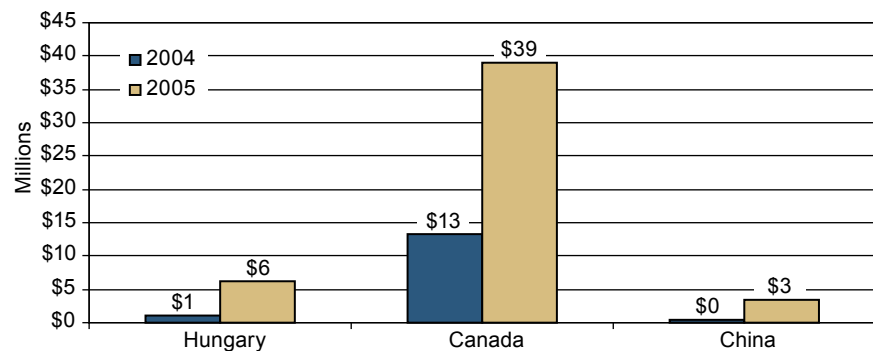
**Chart 23: Miscellaneous Chemicals—Change in Indiana Exports to Key Destinations**



**Chart 24: Iron and Steel—Change in Indiana Exports to Key Destinations**



**Chart 25: Iron and Steel Products—Change in Indiana Exports to Key Destinations**





Four tables of supplemental data are available for download in spreadsheet format at [www.ibrc.indiana.edu/exports](http://www.ibrc.indiana.edu/exports).

**Supplemental Table 1: Fourth Quarter 2005 Indiana Export Industry Report: All Countries**

Industry/Sector	QUARTERLY EXPORTS (\$ VALUES IN MILLIONS)							PCT OF QTRLY TOTAL			ANALYSIS OF CHANGE (\$ VALUES IN MILLIONS)			
	YTD 2005	YTD 2004	4th qtr 2005	3rd qtr 2005	2nd qtr 2005	1st qtr 2005	4th qtr 2004	4th qtr 2005	3rd qtr 2005	4th qtr 2004	Annualized Chg (%) Q3 2005 to Q4 2005	Change (%) Q4 2004 to Q4 2005	Change (\$) Q3 2005 to Q4 2005	Change (\$) Q4 2004 to Q4 2005
87 Vehicles/Not Railway	5,743.677	5,373.709	1,418.881	1,330.319	1,626.454	1,368.022	1,275.453	25.99	25.57	26.02	26.63	11.25	88.562	143.429
84 Machinery	4,152.610	3,975.352	1,078.249	1,094.774	999.728	979.858	962.856	19.75	21.04	19.64	-6.04	11.98	-16.525	115.393
85 Electrical Machinery	1,733.229	1,538.944	484.355	420.625	409.337	418.913	409.838	8.87	8.09	8.36	60.61	18.18	63.730	74.517
29 Organic Chemicals	1,587.833	1,514.872	367.545	297.802	510.103	412.383	394.299	6.73	5.72	8.04	93.68	-6.79	69.744	-26.753
90 Optic/Medical/Surgical Instr	1,330.858	1,173.828	333.658	314.615	347.838	334.746	330.080	6.11	6.05	6.73	24.21	1.08	19.043	3.578
30 Pharmaceutical Products	1,425.273	971.930	287.170	374.242	465.413	298.449	269.058	5.26	7.19	5.49	-93.07	6.73	-87.072	18.112
39 Plastic	905.304	759.348	234.373	226.325	220.802	223.804	193.643	4.29	4.35	3.95	14.22	21.03	8.048	40.730
38 Misc. Chemical Products	689.124	667.979	162.105	167.471	194.710	164.837	170.799	2.97	3.22	3.48	-12.82	-5.09	-5.366	-8.694
72 Iron And Steel	494.472	390.206	136.104	113.005	126.263	119.100	131.576	2.49	2.17	2.68	81.77	3.44	23.100	4.528
88 Aircraft/Spacecraft	213.244	87.956	83.640	56.663	44.508	28.433	26.646	1.53	1.09	0.54	190.44	213.89	26.977	56.994
73 Iron/Steel Products	287.051	229.856	74.473	73.890	73.044	65.644	62.799	1.36	1.42	1.28	3.16	18.59	0.583	11.675
76 Aluminum	286.145	231.765	63.417	72.203	82.460	68.065	63.274	1.16	1.39	1.29	-48.67	0.23	-8.785	0.143
94 Furniture And Bedding	209.360	165.064	60.534	52.340	46.853	49.634	44.300	1.11	1.01	0.90	62.63	36.65	8.195	16.235
49 Book and Newspap; Manuscript	210.322	153.720	59.494	63.749	43.859	43.220	47.733	1.09	1.23	0.97	-26.70	24.64	-4.255	11.761
40 Rubber	206.287	197.236	44.515	53.253	57.070	51.448	52.651	0.82	1.02	1.07	-65.63	-15.45	-8.738	-8.136
44 Wood	169.234	158.176	43.242	40.358	44.608	41.026	41.607	0.79	0.78	0.85	28.58	3.93	2.883	1.635
70 Glass And Glassware	158.597	141.698	41.867	41.215	39.784	35.731	33.903	0.77	0.79	0.69	6.32	23.49	0.652	7.964
93 Arms And Ammunition	92.920	48.352	40.857	27.962	12.892	11.209	36.199	0.75	0.54	0.74	184.46	12.87	12.895	4.658
48 Paper/Paperboard	116.847	107.362	29.005	29.300	28.001	30.540	29.880	0.53	0.56	0.61	-4.03	-2.93	-0.295	-0.875
83 Misc Art Of Base Metal	125.567	111.060	28.423	30.110	34.801	32.232	26.597	0.52	0.58	0.54	-22.41	6.86	-1.687	1.826
10 Cereals	49.738	39.129	25.803	8.855	6.841	8.239	14.124	0.47	0.17	0.29	765.54	82.68	16.948	11.679
12 Misc Grain/Seed/Fruit	29.408	11.528	25.690	1.023	1.374	1.321	5.891	0.47	0.02	0.12	9645.29	336.09	24.667	19.799
98 Special Other	72.928	75.512	24.800	15.783	12.458	19.887	22.969	0.45	0.30	0.47	228.55	7.97	9.018	1.831
81 Other Base Metals/ Etc.	80.529	38.005	23.510	20.011	19.052	17.956	9.502	0.43	0.38	0.19	69.93	147.42	3.499	14.008
35 Albumins;Mod Strch;Glue	69.288	67.446	18.327	16.260	18.075	16.626	15.739	0.34	0.31	0.32	50.86	16.44	2.067	2.588
32 Tanning/Dye/ Paint/Putty	59.330	54.210	16.324	14.534	15.419	13.053	14.501	0.30	0.28	0.30	49.26	12.57	1.790	1.823
82 Tool/Cutlry/ Of Base Mtls	69.852	54.187	15.592	16.467	17.102	20.690	17.416	0.29	0.32	0.36	-21.26	-10.47	-0.875	-1.824
27 Mineral Fuel/ Oil Etc	60.032	25.465	14.955	24.281	12.076	8.720	9.048	0.27	0.47	0.18	-153.64	65.29	-9.327	5.907
75 Nickel+Articles Thereof	63.263	52.618	14.374	17.691	14.232	16.966	15.616	0.26	0.34	0.32	-75.01	-7.95	-3.317	-1.242
28 Inorg Chem; Rare Erth Mt	55.403	51.559	14.305	14.235	14.004	12.859	12.766	0.26	0.27	0.26	1.99	12.06	0.071	1.539
Other	728.195	641.303	194.639	172.956	180.077	180.522	161.617	3.56	3.32	3.30	50.15	20.43	21.683	33.022
<b>Total</b>	<b>21,475.918</b>	<b>19,109.378</b>	<b>5,460.229</b>	<b>5,202.319</b>	<b>5,719.237</b>	<b>5,094.132</b>	<b>4,902.380</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>19.83</b>	<b>11.38</b>	<b>257.911</b>	<b>557.849</b>