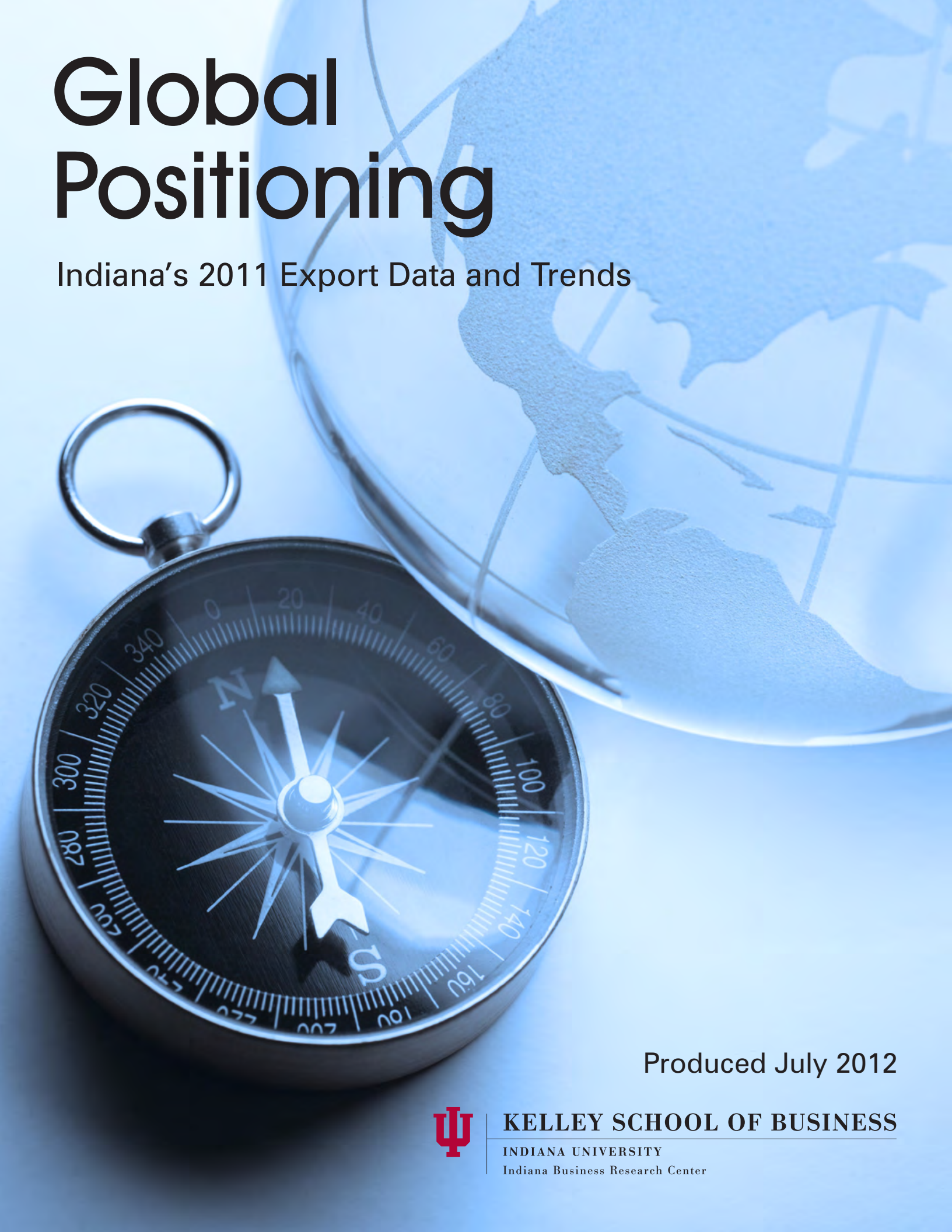
Global Positioning

Indiana's 2011 Export Data and Trends



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KELLEY SCHOOL OF BUSINESS
INDIANA UNIVERSITY
Indiana Business Research Center

Global Positioning:

Indiana's 2011 Export Data and Trends

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Indiana Business Research Center
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Executive Summary

Exports play a large and increasingly important role in Indiana's economy. The purpose of this report, produced by the Indiana Business Research Center (IBRC), is to gauge the significance of that role and the extent of Indiana's global engagement. This year's report also includes a supplemental section, Regions IN Focus, centered on trade with Latin American and Caribbean countries.

Exports

In 2011, the United States exported nearly $1.5 trillion in goods. Indiana's share of those exports amounted to $32.2 billion—a record high for the state. Over the last 10 years, Indiana has outperformed the nation in its average annual growth rate of exports, 8.1 percent versus 7.1 percent, respectively.

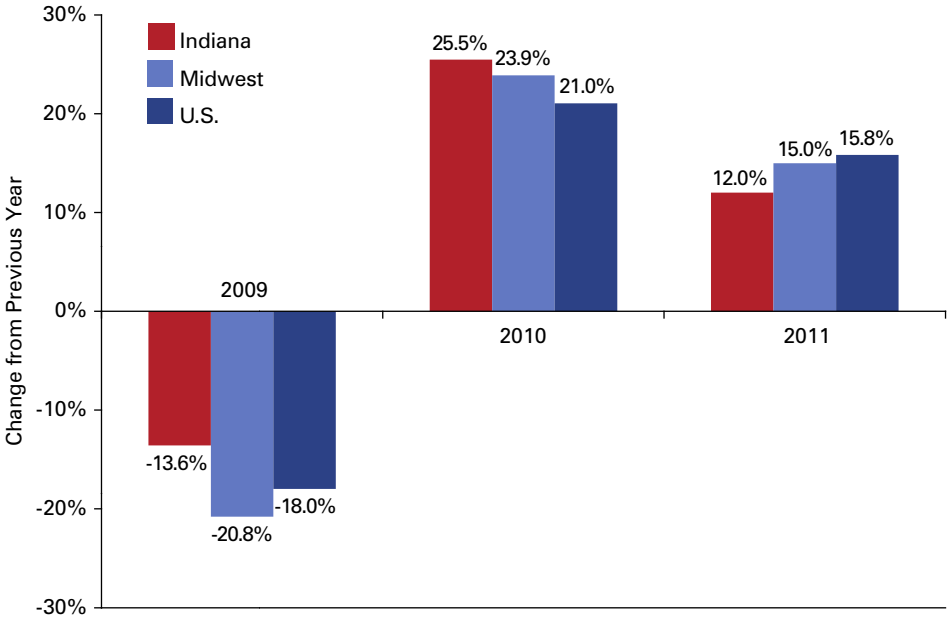
The global slowdown since 2008 certainly affected U.S. and Indiana exports, particularly in 2009. U.S. export activity contracted 18 percent in 2009 before rebounding in 2010. Indiana on the other hand, began to feel the effects of the recession in 2008, but suffered a less severe contraction in 2009. As **Figure 1** shows, Indiana's 2010 rebound was stronger than the nation and the Midwest, marking the strongest year-over-year growth in a single year since 2000. In 2011, however, Indiana's increase in exports was not as strong as either the Midwest or the nation as a whole.

The Midwest, for the purposes of this report, is defined broadly: Indiana, Illinois, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, Tennessee and Wisconsin. The Midwestern experience through the recession was generally like that of the nation as a whole. The recession didn't really register in 2008 in terms of exports, but was strongly felt in 2009. Like Indiana, the rest of the Midwest enjoyed a strong bounce-back in exports in 2010 which moderated in 2011. Much of this volatility in exporting activity can be attributed to the export of industrial machinery and vehicles and parts—manufacturing staples in the Midwest.

Canada and Mexico have long been the two major foreign markets for Indiana's goods, importing almost 50 percent of Indiana's exports. In 2011, however, export growth patterns shifted. Until 2011, the large and typically slow-growing Canadian and Mexican markets looked like they would soon be eclipsed by the smaller but quickly growing destinations in Europe, China and Brazil. From 2001 to 2011, Indiana exports to Germany, China, Spain and Brazil grew at double-digit average annual rates. But between 2010 and 2011, their increase in imports from Indiana dropped to single digits—and to a leisurely 1.7 percent in the case of Spain. Exports to Canada and Mexico grew at a modest rate of just over 6 percent (average annual rate) since 2001. However, in 2011, Indiana's exports to Canada jumped by 10.2 percent and exports to Mexico were up by 25.5 percent. The strengthening rebound in the national auto sector, together with the softening of the European economies and the moderating growth of Brazil, Russia, India and China (i.e., the BRIC economies) explain this shift in export trends.

The dominant export industry has not shifted, however. Vehicles and parts has remained Indiana's top exporting industry and experienced

Figure 1: Annual Increase in Exports for Indiana, Midwest and United States, 2009-2011



Source: WISER Trade

sustained growth in the past year (16.7 percent). Exports from industrial machinery (including computers), which provides many of the components needed by the vehicles and parts industry—notably the sector that produces engines—also grew handsomely (18.5 percent). Pharmaceutical products became the second-largest exporting industry in 2010, but stagnation in the export markets of Europe and Japan resulted in it being overtaken by industrial machinery in 2011. After growing by an average annual rate of 23.1 percent since 2001, pharmaceutical product exports grew by a mere 3.9 percent from 2010 to 2011. Exports from optical and medical instruments, another life science industry, performed even worse—declining by 0.3 percent from 2010 to 2011. Only two industries in Indiana's export portfolio maintained somewhat similar growth rates in 2011 compared to their 10-year average annual growth rate. Iron and steel products exports expanded by 27.6 percent in 2011 (12.8 percent since 2001). Aircraft, spacecraft and parts increased by 16.6 percent (24.7 percent since 2001).

Region IN Focus: Latin America and the Caribbean

In 2011, the Latin American and Caribbean (LA&C) region imported 15.5 percent of Indiana's exports, nearly totaling nearly $5 billion. Excluding Mexico, the region imported 5.3 percent of Indiana's exports in 2011, at $1.7 billion. The LA&C region's share of Indiana's exports has hovered between 12 percent and 17 percent since 2000.

While not currently close to Asia or Europe in export significance, Indiana has dramatically increased its exports to LA&C countries by a staggering 383 percent since 1997. As with other global regions, the Great Recession resulted in a dip in exports during 2009, but exports strongly rebounded in 2010 and 2011.

The top two LA&C countries were among Indiana's 2011 top 10 export partners—Mexico and Brazil. Collectively, these two countries imported $4.1 billion worth of Indiana products, accounting for 83 percent of the LA&C market. Mexico has historically been one of Indiana's top, and consistent, trading partners. Exports to Brazil, on the other hand, have fluctuated, and Brazil has not consistently been part of Indiana's "top 10" export destinations.

The composition of the leading exports has not changed much during the last 10 years, but the rankings have shifted somewhat. Six industries have had double-digit growth since 2001. Reflecting Mexico's dominance in the LA&C market, transportation equipment and non-electrical machinery are the largest Hoosier export industries that exported to the region in 2011.

Conclusion

The global recession adversely affected exports. While the U.S. and Indiana bounced back in 2010 and posted export gains in 2011, the stagnating European economies and the moderating BRIC economies do not bode well for robust increases in exports in 2012. Several of Indiana's export industries have had strong average annual growth rates over the past decade including aircraft, spacecraft and related parts, iron and steel, pharmaceutical products, and optical and medical instruments, but in 2011, the latter two industries' rate of export growth diminished. Given the strong economic headwinds currently experienced across the globe, the only bright spot on the export horizon is trade related to the auto sector with Indiana's largest trading partners, Canada and Mexico.

This report is part of an annual series that focuses on international business activities in Indiana. Please send any comments about this report to ibrc@iupui.edu. ■

Introduction

The world has become a marketplace for many businesses. It provides companies the ability to expand outside their traditional markets. Hence, one key component of Indiana's future prosperity is its integration with the global economy through exports and foreign direct investments. The Indiana Business Research Center (IBRC) monitors the global business activity occurring within Indiana's borders, as well as Hoosier-produced goods exported overseas. This report details the goods and agricultural commodities that Indiana produces and sells overseas, and includes a brief section highlighting export activity to countries in Latin America and the Caribbean.

The trade outlook chapter presents the global trends and forecasts that are expected to affect Indiana's exports. Industry mix and export destination data are presented to help understand the importance of exports as sources of employment and economic growth in Indiana. The chapter also examines discernible trends for future export growth in the global marketplace.

The data used for this report include public data sources, such as the Bureau of Economic Analysis and the Bureau of Labor Statistics, as well as commercial datasets, such as WISER Trade. With these vast stores of data, this report aims to present a complete picture of the state's integration with the global economy. ■

Trade Outlook

As a result of the recession that ensnared the world in 2008 and 2009, export activity from the U.S. slowed in 2009. U.S. exports appeared to be unaffected by the global slowdown in 2008 (marking a 12.1 percent growth), but exports contracted 18 percent in 2009. In 2010, however, U.S. exports rebounded with a 21 percent increase and in 2011, exports increased by another 15.8 percent. While Indiana's export growth was well below the national trend in 2008 (increasing only 2.1 percent), the 2009 decline in Indiana's exports (-13.6 percent) was less severe than the national contraction. In 2010, Indiana exports rebounded more strongly than the U.S., increasing 25.5 percent. The value of the state's exports in 2010 grew $5.8 billion and in 2011 increased by another $3.5 billion.

The International Monetary Fund (IMF) predicted world output to grow 4.2 percent in 2011 and 3.5 percent in 2012. The IMF forecast for advanced economies—Indiana's primary trading partners—is that they would grow by 1.4 percent in 2012 and 2.0 in 2013.[1] **Table 1** presents the Organization for Economic Cooperation and Development's (OECD) economic growth forecasts for Indiana's leading export destinations.[2]

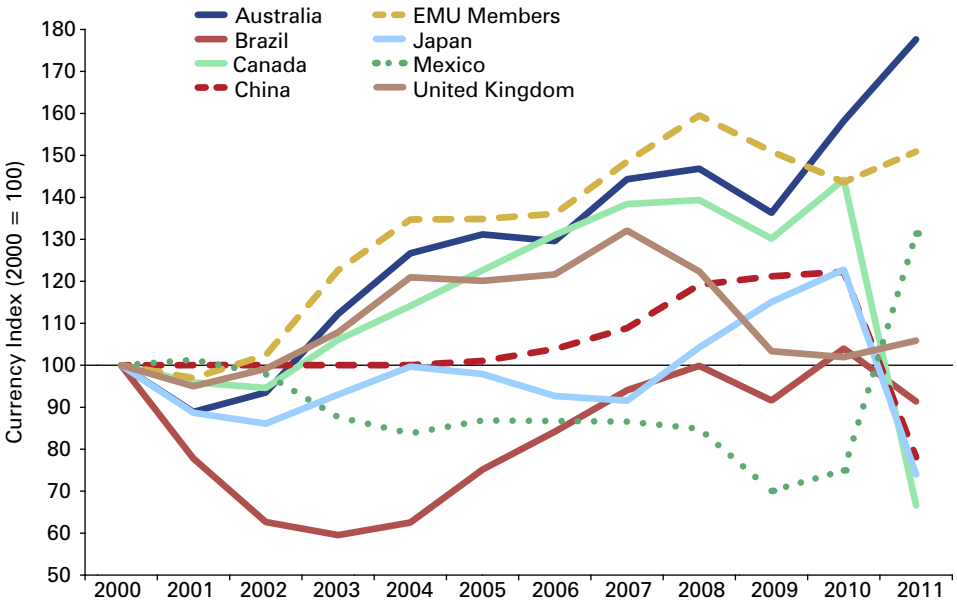
The current foreign exchange environment is mixed for strong export performance. Since 2000, most of the U.S. trading partners had an increase in their cost of foreign exchange in U.S. dollars, but the trends reversed for most countries in 2011 (exceptions were Australia, European Monetary Union members and Mexico), yielding a confused picture (see **Figure 2**).

Table 1: Percent Change in Real GDP from Previous Year, 2010-2013

Nation	Actual		Forecast	
	2010	2011	2012	2013
Australia	2.5	1.8	4.0	3.2
Brazil	7.5	3.4	3.2	3.9
Canada	3.2	2.2	1.9	2.5
China	10.4	9.3	8.5	9.5
France	1.4	1.6	0.3	1.4
Germany	3.6	3.0	0.6	1.9
Japan	4.1	-0.3	2.0	1.6
Korea	6.2	3.7	3.8	4.3
Mexico	5.4	4.0	3.3	3.6
Netherlands	1.6	1.4	0.3	1.5
United Kingdom	1.8	0.9	0.5	1.8
United States	3.0	1.7	2.0	2.5
Euro Zone	1.8	1.6	0.2	1.4

Source: Organization for Economic Cooperation and Development

Figure 2: Foreign Exchange Trends for Indiana's Top Trading Partners, 2000-2011



Note: EMU is the European Monetary Union.
Source: Federal Reserve

[1] More IMF projections can be found at www.imf.org/external/pubs/ft/weo/2010/02/pdf/text.pdf and www.imf.org/external/pubs/ft/survey/so/2012/RES041712A.htm.

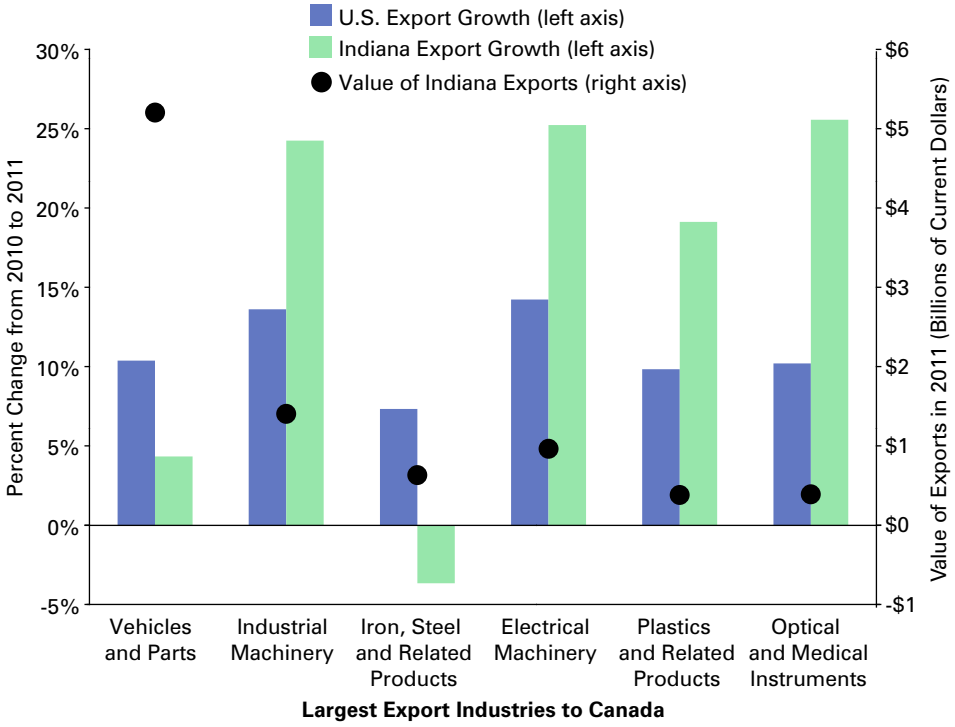
[2] The OECD forecasts growth for member countries and also for other large economies, such as China and Brazil.

> *The weakening dollar would tend to encourage export sales, but the downside is that a weak dollar also increases commodity prices.*

Indiana's exports to Canada—the state's largest export market—increased 10.2 percent between 2010 and 2011. This contrasts sharply with the 20.2 percent decline in Indiana's exports to Canada from 2008 to 2009. **Figure 3** shows the change in the six leading export categories to Canada for both the United States and Indiana between 2010 and 2011. While growth in Indiana's vehicle exports far outpaced the U.S. from 2009 to 2010, these exports didn't even grow 5 percent (less than half the U.S. growth rate) from 2010 to 2011. With the exception of iron, steel and related products, however, Indiana's export growth surpassed the U.S. growth rate between 2010 and 2011 for all other industry categories. This contrasts to last year when Indiana surpassed the U.S. in vehicles, but lagged in all other industry categories.

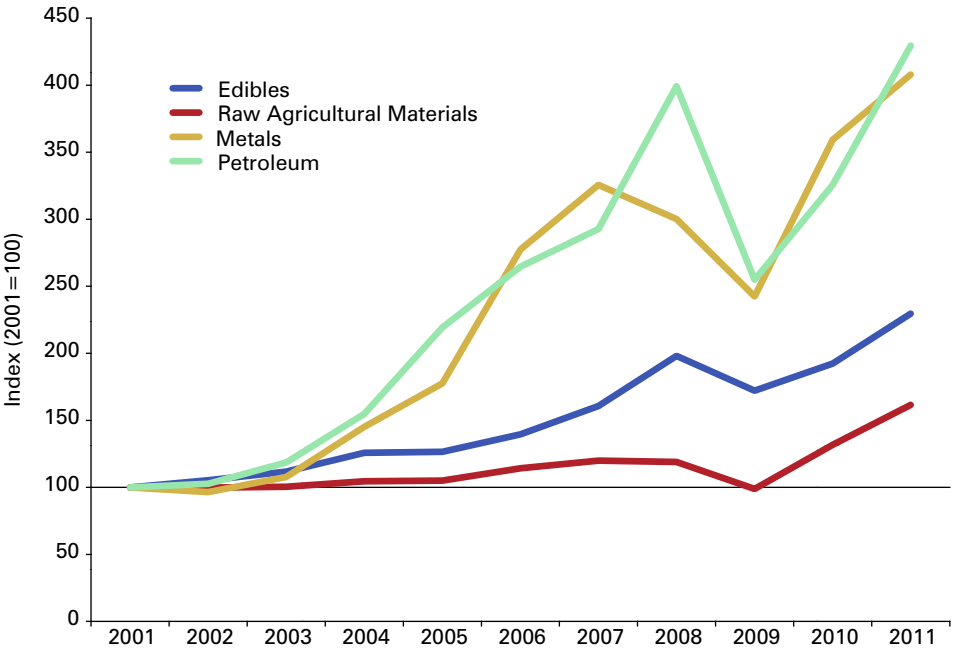
The weakening dollar would tend to encourage export sales, but the downside is that a weak dollar also increases commodity prices. A weak dollar increases the prices of raw materials that range from crude to copper to corn. **Figure 4** shows

Figure 3: Comparing U.S. and Indiana Exports to Canada by Industry, 2011



Source: WISER Trade

Figure 4: World Primary Commodity Prices, 2001-2011



Source: International Monetary Fund

> *In the past decade, BRIC countries were responsible for a third of the world's GDP growth and their share of the global economy has grown tremendously.*

the trends in commodity prices since 2001. All commodity prices declined in 2009, a reflection of the strengthened dollar and collapsing demand. Conversely, in 2010 and 2011, the weak global recovery helped to boost commodity demand and prices.

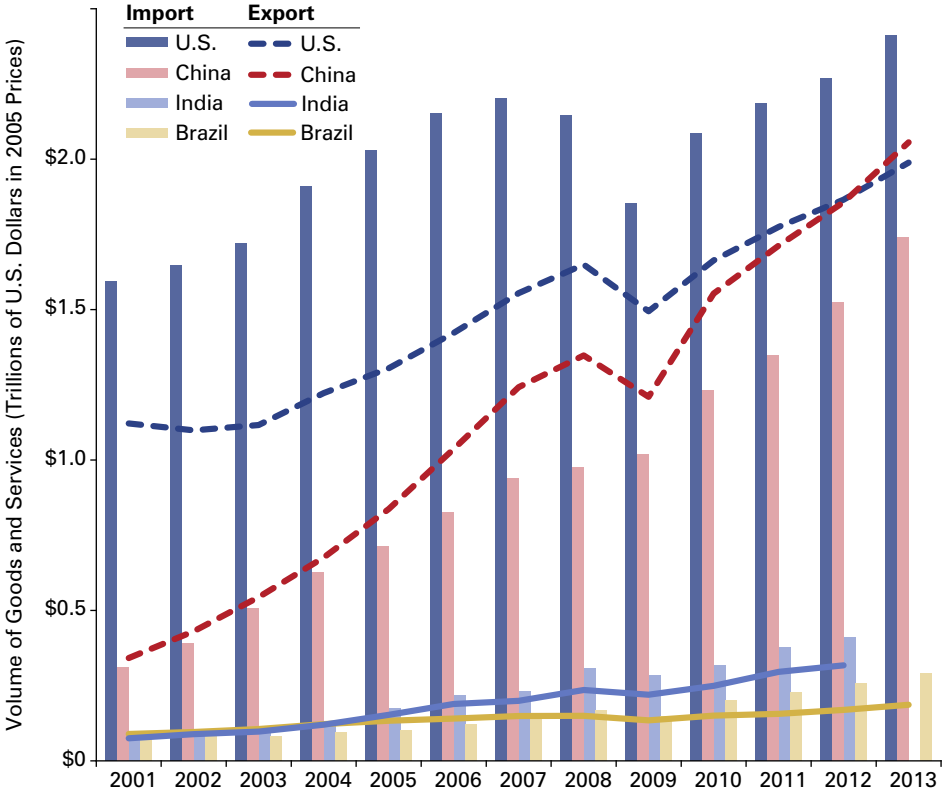
BRIC Countries

If combined, the four emerging economies of Brazil, Russia, India and China (BRIC) may well surpass the combined economies of the current richest countries in the world. BRIC countries account for more than a quarter of the world's land area and more than 40 percent of the world's population. In the past decade, BRIC countries were responsible for a third of the world's gross domestic product (GDP) growth and their share of the global economy has grown tremendously.[3] Within this decade, the growing middle class in the BRICs will import more high-value-added items, such as vehicles, office equipment and technology. As a result, it is worth giving the BRIC countries special attention, as they will likely continue to drive global growth in the coming decades.

Figure 5 shows the trading trends of the U.S., Brazil, China and India since 2001 and projected export and import trends through 2013 (the OECD did not have data for Russia to complete the BRIC analysis). China is clearly the dominant country within the BRIC group, registering the most growth in its import and export activity (see **Table 2**). Brazil and India also performed well in the past decade—their imports grew by double

[3] The Goldman Sachs report on the BRIC region can be found at www2.goldmansachs.com/ideas/brics/brics-decade-doc.pdf.

Figure 5: Trade Trends of United States, Brazil, China and India, 2001-2013



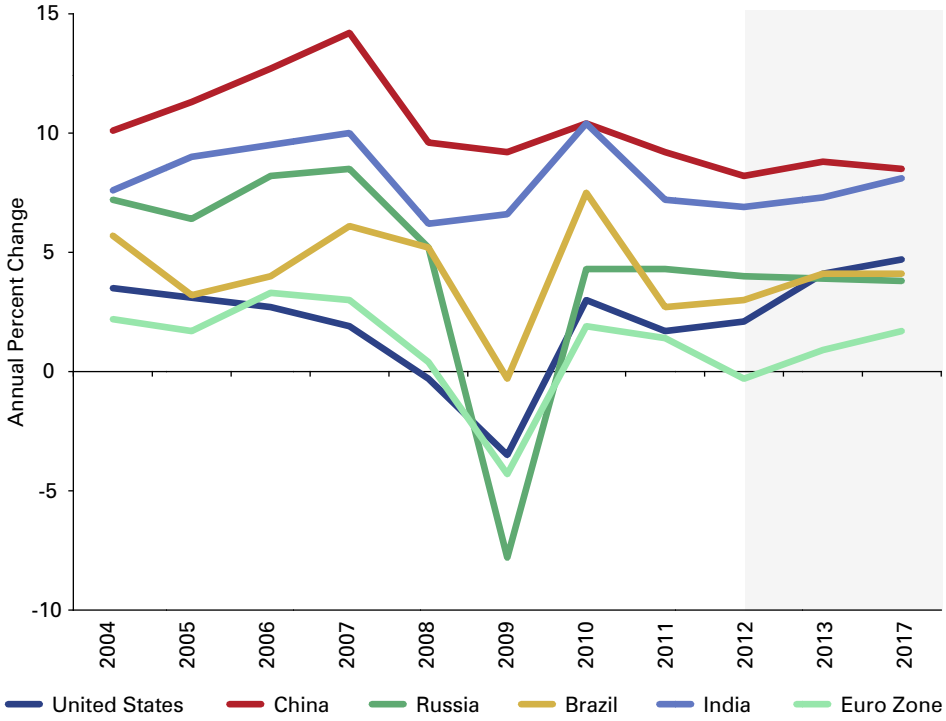
Note: Projections begin in 2011. India's data for 2013 are unavailable.
Source: OECD

Table 2: Trade Activity of the United States, Brazil, China and India, 2001-2013

	Realized Average Annual Growth Rate (2001-2011)		Projected Average Annual Growth Rate (2011-2013)	
Nation	**Imports**	**Exports**	**Imports**	**Exports**
United States	3.7%	5.8%	5.2%	6.0%
Brazil	13.5%	7.5%	14.3%	9.6%
China	33.3%	40.1%	14.6%	10.0%
India	32.3%	29.3%	n/a	n/a

Source: OECD

Figure 6: Real GDP of United States, BRIC Countries and the Euro Zone, 2004-2017



Note: Projections begin in 2012. Euro zone countries include Germany, France, Italy, Spain, Netherlands, Belgium, Austria, Greece, Finland, Portugal, Ireland, Romania, Slovak Republic, Luxembourg, Slovenia, Cyprus, Estonia and Malta.
Source: IMF, World Economic Outlook

digits. India's level of exports grew by double digits as well.

Figure 6 shows real GDP trends for the United States, BRIC countries and the Euro zone. China, again, is the fastest growing. In the past seven years, the remaining BRIC countries were directly behind China. The IMF projects that in 2012, the United States' growth will match Russia and Brazil's while exceeding the Euro zone. Through 2017, India and China's growth rates are expected to nearly converge, while the United States' growth will be stronger than Brazil, Russia and the Euro zone's annual growth rate. ■

Indiana Export Trends

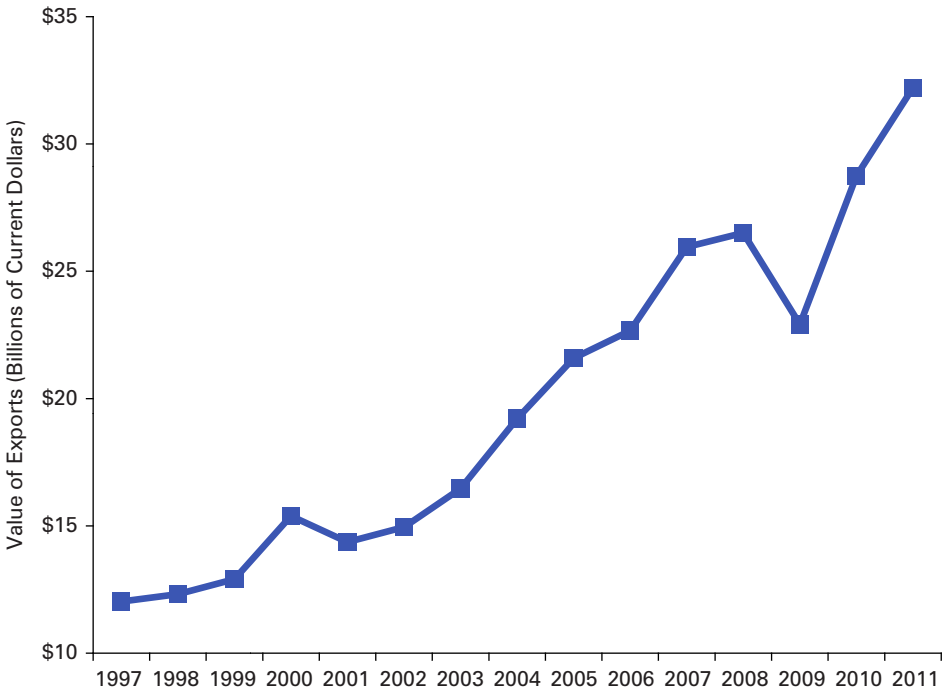
In 2011, the U.S. exported nearly $1.5 trillion worth of goods and services to foreign countries. Indiana contributed $32.2 billion to that total. Over the past decade, Indiana's export growth rate has outperformed the nation (8.1 percent versus 7.1 percent average annual rate, respectively).

As **Figure 7** shows, Indiana exports have steadily grown since 1997, except for the 2001 and 2007-2009 recessions. Indiana exports rose from $12.0 billion in 1997 to $32.2 billion in 2011.

After vigorous growth from 2006 to 2007, the rate of increase for Indiana exports from 2007 to 2008 slowed. The effects of the Great Recession can be seen in the 2008 deceleration and with the retreat in 2009, but Indiana quickly recovered lost ground. Exports rose 25.5 percent from 2009 to 2010 and 10.3 percent from 2010 to 2011. As shown in **Figure 8**, export growth in almost all industries outpaced GDP growth in those industries. The few exceptions include machinery (except electrical) and computer and electronic products.

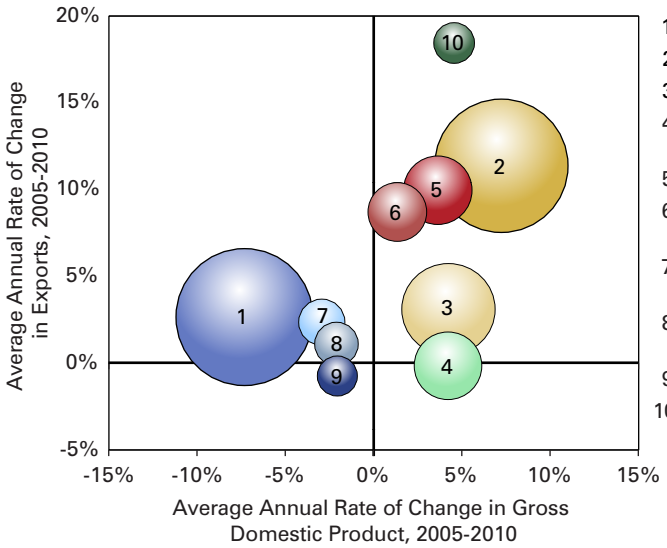
> *Indiana exports have steadily grown since 1997, except for the 2001 and 2007-2009 recessions.*

Figure 7: Indiana Exports, 1997-2011



Source: WISER Trade

Figure 8: Comparing Indiana's Growth in Exports and GDP by Industry, 2005-2010



1. Transportation Equipment
2. Chemicals
3. Machinery, Except Electrical
4. Computer and Electronic Products
5. Primary Metal Manufacturing
6. Miscellaneous Manufactured Commodities
7. Electrical Equipment, Appliances, and Component
8. Fabricated Metal Products, Nesoi
9. Plastics and Rubber Products
10. Food and Kindred Products

Note: Nesoi stands for "not elsewhere specified or indicated." Industry classifications based on NAICS industry codes. WISER Trade data based on the Harmonized System for Commodities. Bubble size indicates the 2010 export value. 2010 data were used for both GDP and export value due to suppression issues with 2011 GDP data.
Source: WISER Trade (exports) and the Bureau of Economic Analysis (gross domestic product)

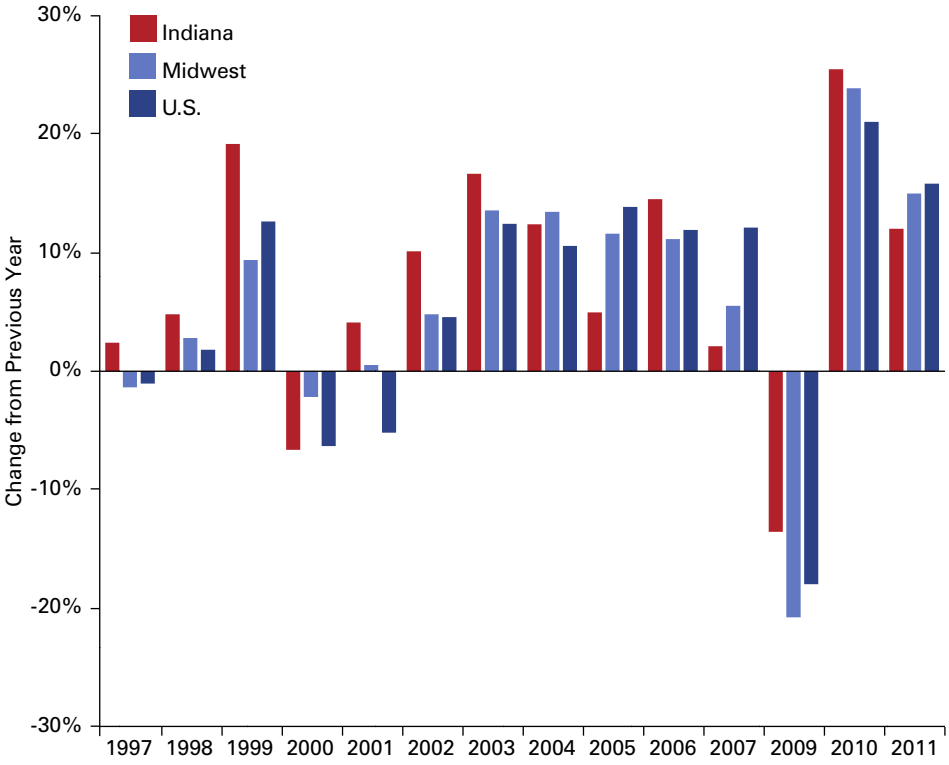
Relative to most other states, Indiana is relatively dependent upon exports.

Figure 9 compares the export performance of Indiana, the Midwest and the United States from 1997 to 2011. Indiana exports recovered from the 2001 recession more quickly than did those of its Midwestern neighbors and of the nation as a whole. In 2008, however, the worldwide recession had a relatively greater effect on Indiana exports than it did on either the Midwest or the United States. Nonetheless, Indiana recovered more quickly than the region or the country, with a surge of exports in 2010. The 2010 surge moderated in 2011, however, with both the nation and the region exceeding Indiana's increase in exports.

Relative to most other states, Indiana is relatively dependent upon exports. **Figure 10** compares Indiana's exports-to-GDP ratio with the rest of the country. GDP—the sum of all value-added components, such as wages and profits—and sales are not conceptually the same. This is because sales includes the price of intermediate inputs as well as value added; however, the exports-to-GDP ratio can provide a rough measure of the relative dependence a state has on exports. In terms of export dependency, as measured by the ratio of exports to GDP, Indiana ranks 10th.

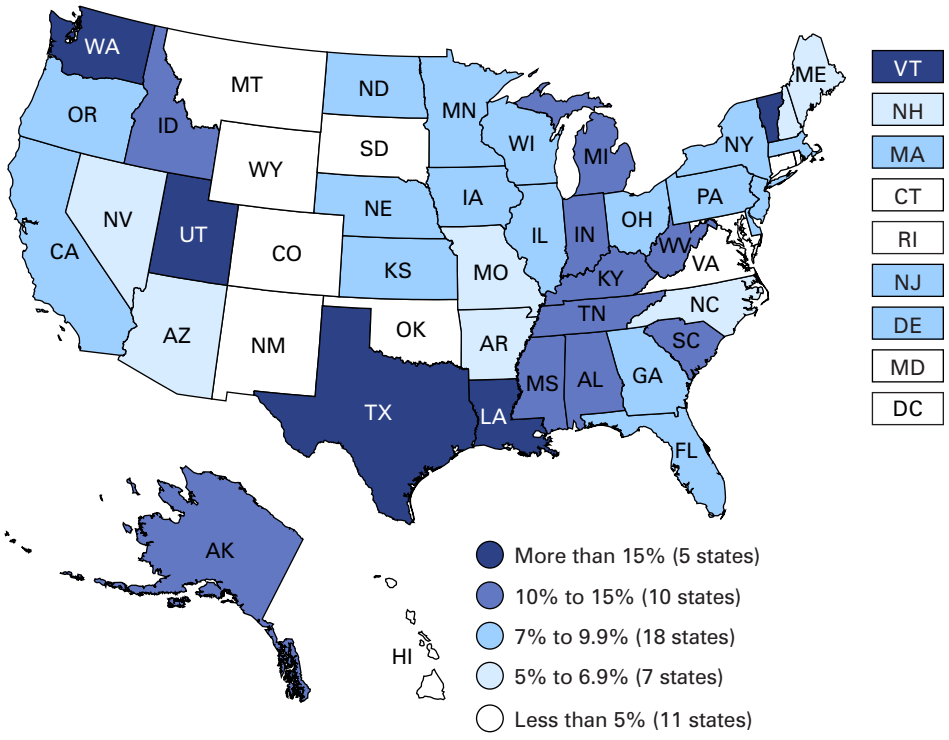
Figure 11 plots Indiana's 2011 export sales and the exports-to-GDP

Figure 9: Annual Change in Indiana, Midwestern and U.S. Exports, 1997-2011



Source: WISER Trade

Figure 10: State Export Dependency—Export Sales to GDP, 2011



Source: WISER Trade (exports) and the Bureau of Economic Analysis (gross domestic product)

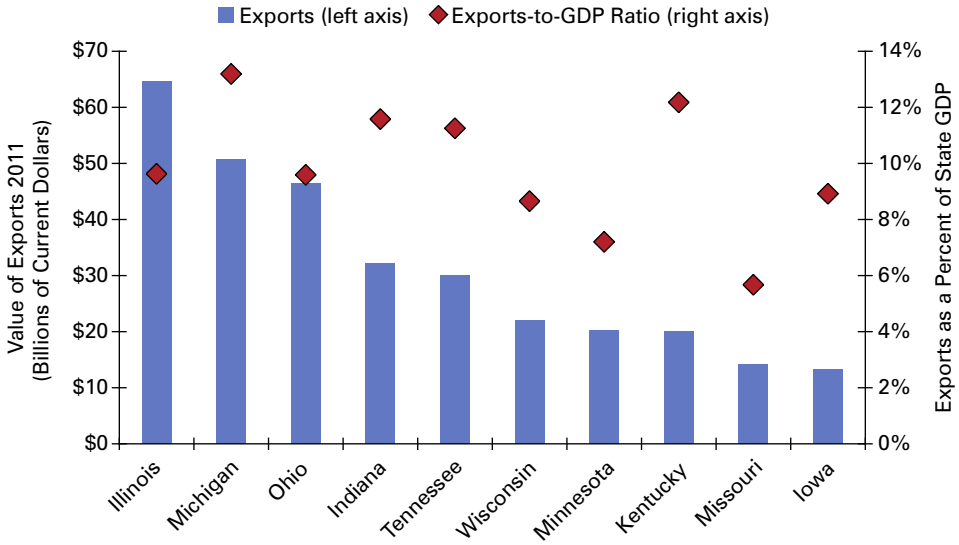
In 2009, the most recent year for which data are available, Indiana ranked fourth among the 10 Midwestern states in export-oriented manufacturing employment.

ratio against other Midwestern states. In terms of export sales dollars, Indiana falls into the upper half, trailing behind Illinois, Michigan and Ohio. Only Michigan and Kentucky were more export dependent than Indiana.

Figure 12 shows the dollar value of export sales by state. In the national rankings, Indiana holds its own, placing 13th in 2011.

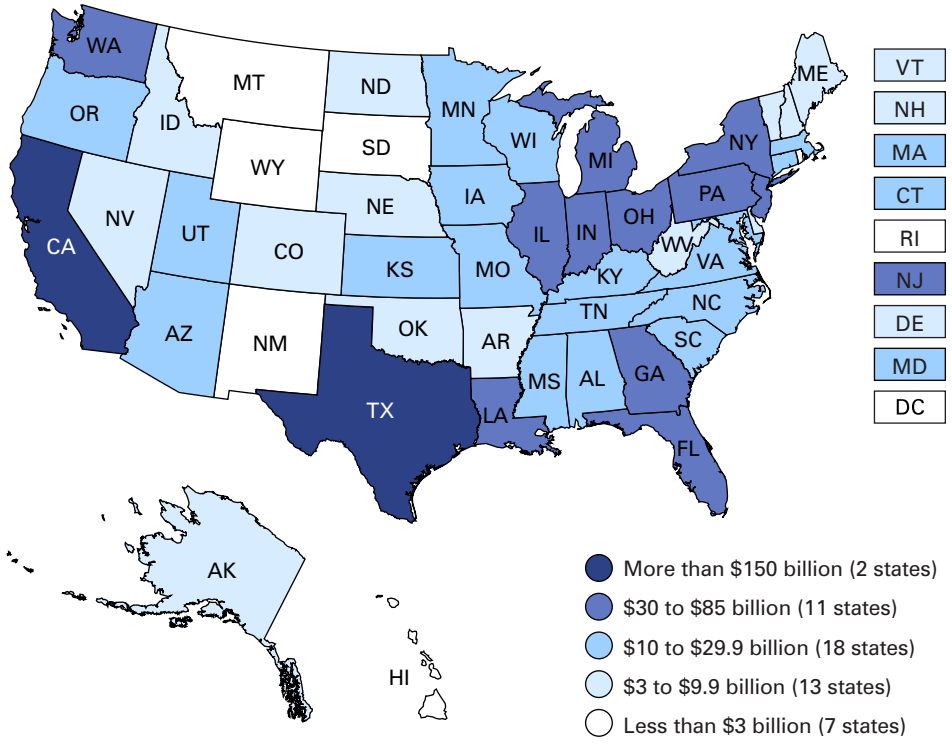
Figure 13 shows the percentage of manufacturing employment that is dependent upon exports in Indiana, the Midwest and the United States. In 2009, the most recent year for which data are available, Indiana ranked fourth among the 10 Midwestern states in export-oriented manufacturing employment. The Midwestern states tend to have higher levels of manufacturing employment related to exports than the country as a whole, reflecting the legacy of manufacturing in the American heartland.

Figure 11: Midwestern States Total Exports and Exports-to-GDP Ratio, 2011



Source: WISER Trade (exports) and the Bureau of Economic Analysis (gross domestic product)

Figure 12: Value of Exports by State in Current Dollars, 2011

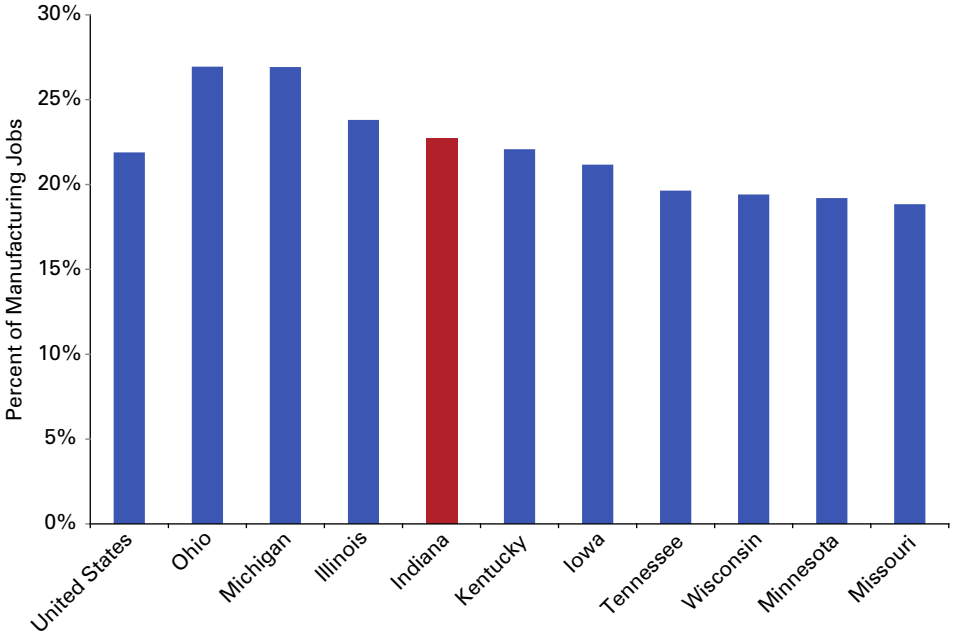


Source: WISER Trade

Figure 14 focuses on Indiana manufacturing. In 2009, export sales supported nearly 20,000

The Midwestern states tend to have higher levels of manufacturing employment related to exports than the country as a whole, reflecting the legacy of manufacturing in the American heartland.

Figure 13: Manufacturing Employment Devoted to Exports, 2009

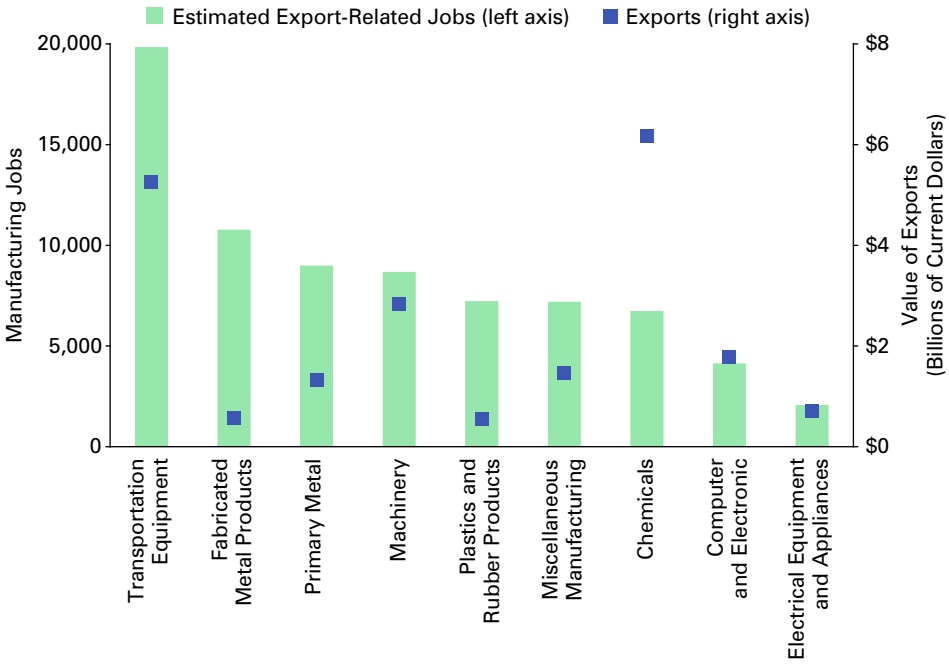


Source: U.S. Census Bureau

jobs in transportation equipment manufacturing, the industry category that includes the production of motor vehicles and parts. The data also suggest that the number of jobs is not necessarily tied to the dollar value of export sales. For example, a relatively small dollar value of exports in fabricated metal products drives a large number of jobs. Conversely, relatively low total employment in the chemicals industry generates the highest export sales.

Over the last three years, exports have been volatile. Indiana's average annual growth rate from 2009 to 2011 was 17.0 percent, a fraction greater than the U.S. average of 16.9 percent (see **Figure 15**). Indiana's average growth rate was suppressed by the global economic downturn. Even so, the rebound in 2010 and 2011 allowed Indiana to not only post positive annual export growth, but post a

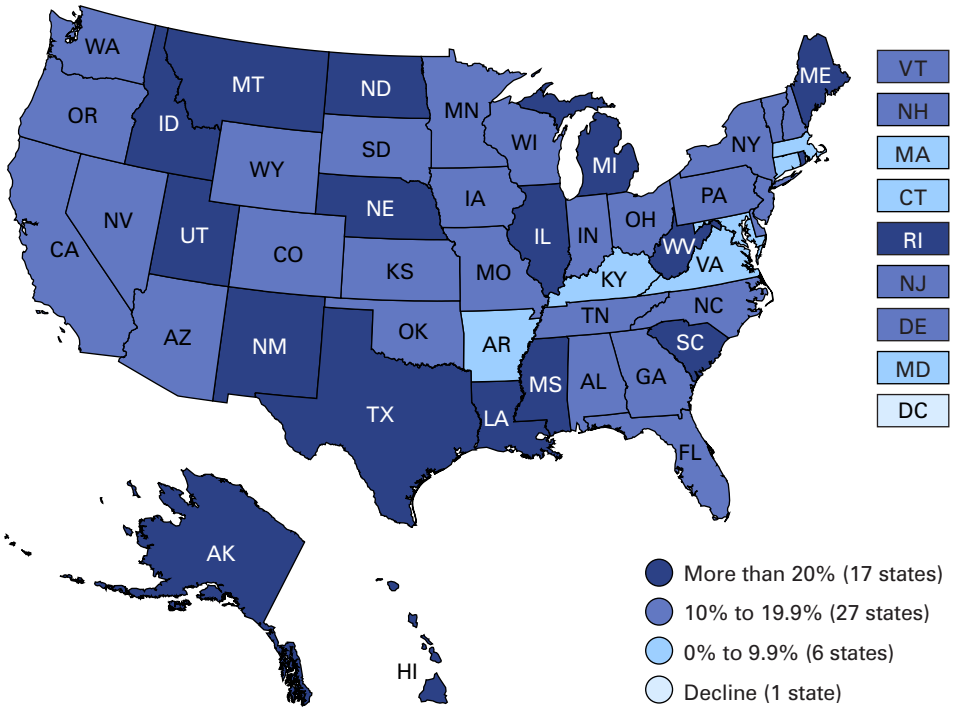
Figure 14: Indiana Export-Related Employment in Manufacturing, 2009



Note: Employment and exports are defined by NAICS industry codes.
Source: WISER Trade (exports), International Trade Administration and the U.S. Census Bureau (percentage of export-related employment by industry) and Bureau of Economic Analysis (employment by industry)

Indiana exports have consistently exceeded the national index value as well as most of its neighbors over the years.

Figure 15: Average Annual Rate of Change in Exports, 2009-2011



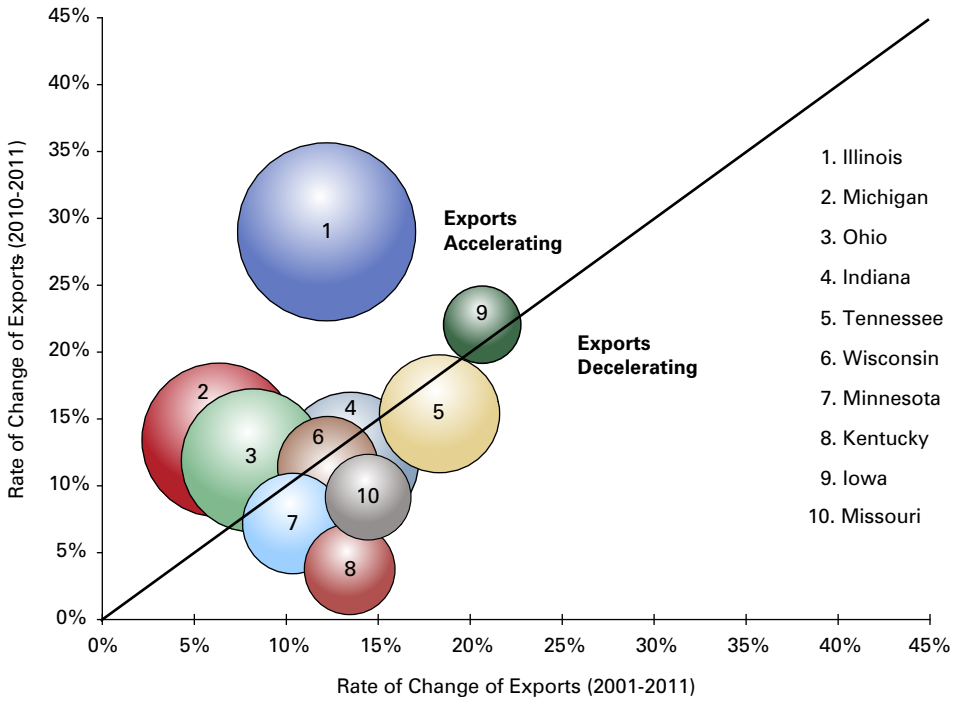
Source: WISER Trade

growth rate greater than the state's overall economic output.

Figure 16 compares the rates of export increase and the relative dollar value of exports in the Midwestern states. The horizontal axis shows the average annual growth rate for exports from 2001 to 2011. The vertical axis plots the change in exports from 2010 to 2011. The bubble size indicates the comparative value of each state's 2011 exports. A bubble above the diagonal line indicates that the most recent year's growth exceeds the 2001 to 2011 trend. For instance, Illinois' exports accelerated greatly in 2011, so its bubble is well above the diagonal line. Bubbles below the line indicate that the most recent year's growth is below trend. In other words, exports were decelerating relative to the 10-year trend. Kentucky and Missouri are examples of states that fell into this category.

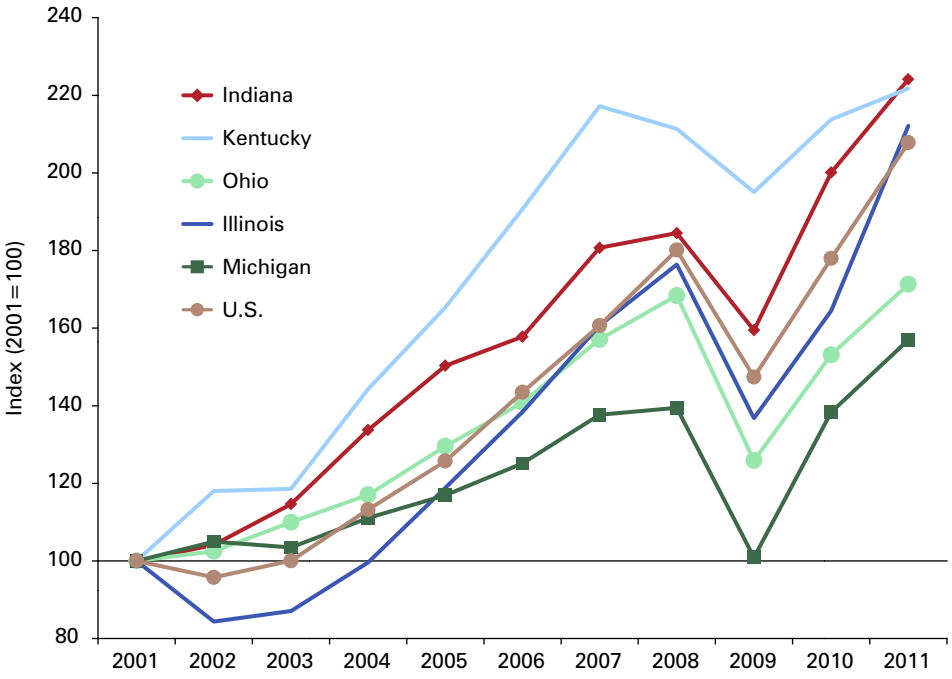
Figure 17 compares Indiana's export growth from 2001 to 2011 against its neighboring states and

Figure 16: Export Trends in the Midwest, 2001-2011



Note: Bubble size reflects 2011 export value.
Source: WISER Trade

Figure 17: Export Index for Select Midwestern States, 2001-2011



Source: WISER Trade

the nation as a whole. Indiana exports have consistently exceeded the national index value as well as most of its neighbors over the years. In 2011, Indiana's export index even surpassed Kentucky. Non-border Midwestern states with more dynamic trends and a stronger 2011 index include Missouri, Tennessee and Iowa—with Iowa surpassing all Midwestern states in its exporting strength since 2001. ■

Indiana Export Destinations

Like the nation as a whole, Canada is Indiana's leading export sales market. Since 2000, when Mexico overtook the United Kingdom as the second-largest market for Indiana exports, Mexico has consistently been in the number two spot. Germany emerged as the third top importer of Hoosier exports in 2009 and has remained in that position. **Table 3** summarizes Indiana's exports to the top 10 country destinations in 2011, presenting the current-dollar value of exports and the growth in exports over the short, medium and long run.

The top 10 destinations comprised nearly 76 percent of Indiana's exports in 2011. **Figure 18** graphically presents Table 3's data. Canada's bubble dominates. Exports to most of Indiana's top 10 destinations decelerated relative to the 10-year trend—for example, Germany, China and Brazil—while others turned negative (France and the United Kingdom). This is not surprising considering the weakening economic performance of many European nations. Exports to Spain, for example, grew at triple digits between 2000 and 2010, but more recently, the Spanish economy has been suffering.

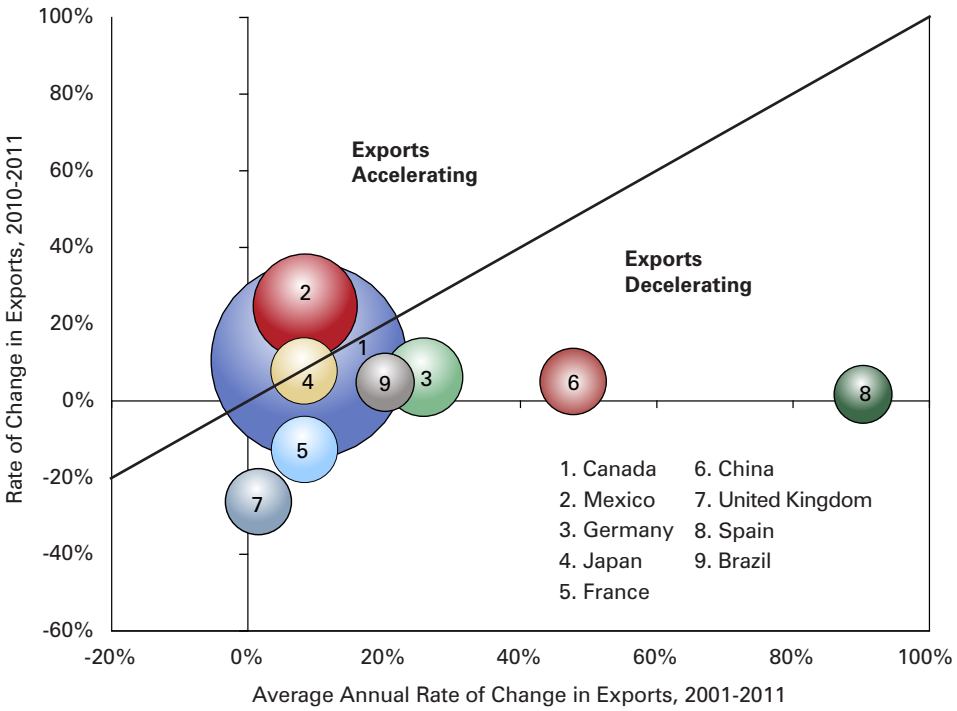
Figure 19 compares the annual rate of change in exports to these countries for three successive years. Several of the smaller destinations exhibited vibrant growth in 2008 through 2011—namely Afghanistan (92.7 percent) and Spain (27.6 percent)—whereas the larger destinations had slower or negative growth rates. During 2009-2010, the smaller export destination countries had stronger import growth than the larger countries—perhaps indicating their growing wealth and purchasing power. However, in 2010-2011, most

Table 3: Indiana's Top Export Destinations—Value and Average Annual Rate of Change, 2001-2011

Export Destination	Value of Exports (Millions of Current Dollars)			Average Annual Rate of Change		
	2009	2010	2011	2010-2011	2006-2011	2001-2011
World Total	$22,907	$28,745	$32,200	12.0%	7.0%	8.1%
Canada	$8,437	$10,685	$11,771	10.2%	3.5%	6.4%
Mexico	$1,781	$2,614	$3,279	25.5%	6.0%	6.2%
Germany	$1,249	$1,831	$1,944	6.2%	19.5%	12.6%
Japan	$824	$1,197	$1,288	7.6%	8.8%	6.1%
France	$1,291	$1,408	$1,233	-12.4%	-2.2%	6.1%
China	$869	$1,090	$1,149	5.4%	14.4%	17.5%
United Kingdom	$1,627	$1,467	$1,093	-25.5%	-11.0%	1.5%
Spain	$458	$942	$958	1.7%	38.8%	23.1%
Brazil	$534	$820	$860	4.9%	21.6%	10.9%
Afghanistan	$74	$196	$828	322.6%	153.3%	98.2%

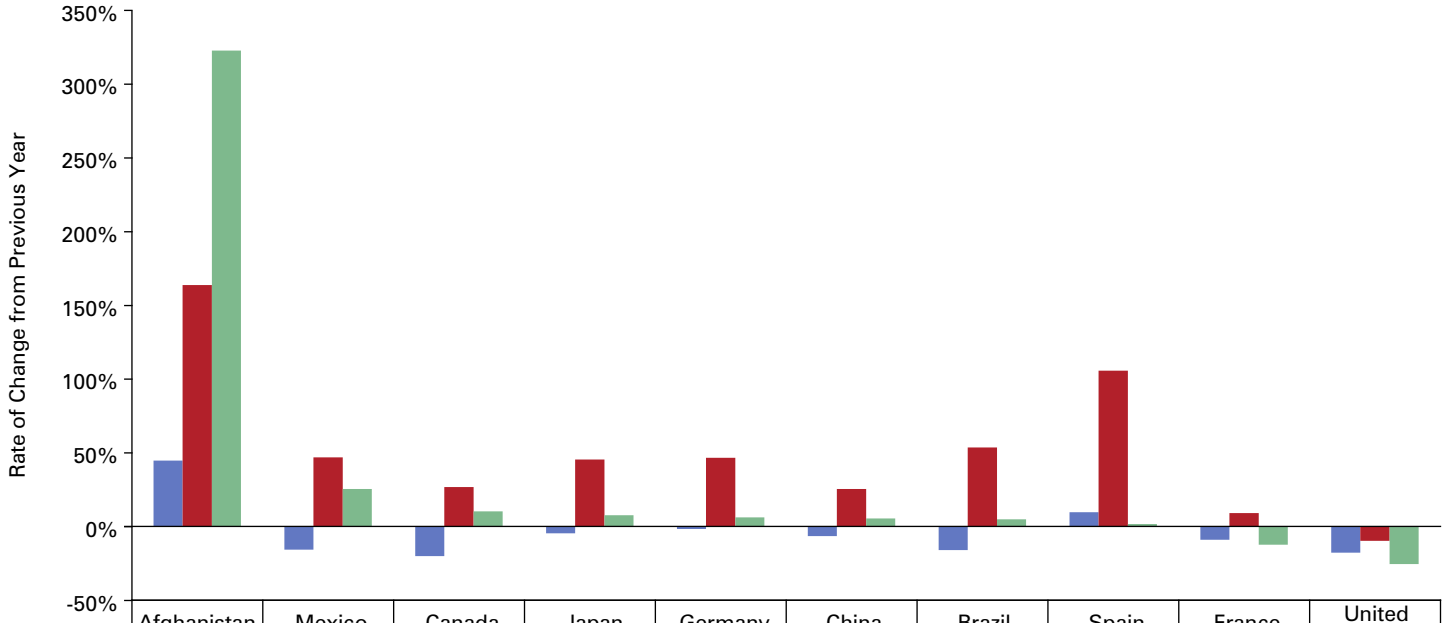
Source: WISER Trade

Figure 18: Export Trends for Indiana's Top 10 Destinations, 2001-2011



Note: Bubble size reflects 2011 export value.
Source: WISER Trade

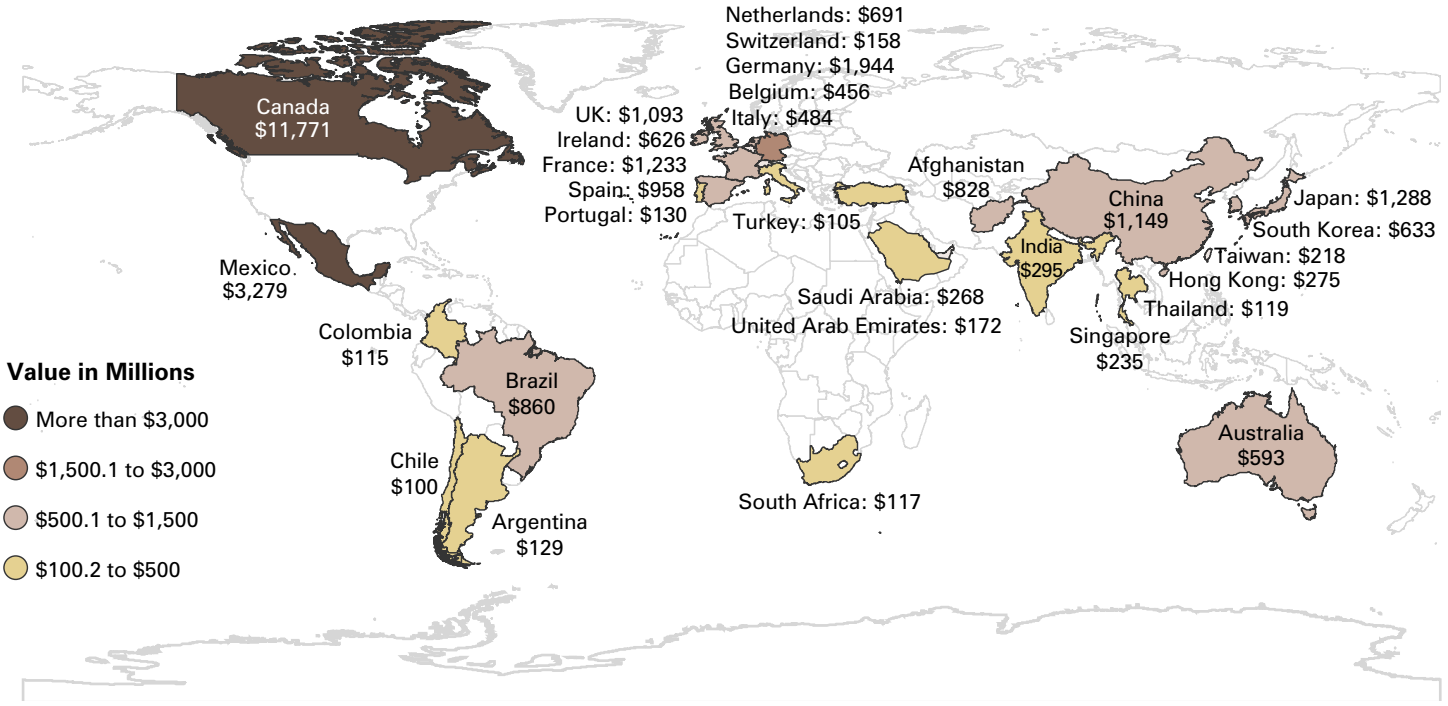
Figure 19: Annual Change in Exports for Indiana's Top 10 Export Destinations, 2008-2011



	Afghanistan	Mexico	Canada	Japan	Germany	China	Brazil	Spain	France	United Kingdom
2008-2009	44.6%	-15.7%	-20.2%	-4.6%	-1.7%	-6.5%	-16.1%	9.7%	-9.0%	-17.8%
2009-2010	163.6%	46.8%	26.6%	45.4%	46.6%	25.4%	53.6%	105.5%	9.0%	-9.8%
2010-2011	322.6%	25.5%	10.2%	7.6%	6.2%	5.4%	4.9%	1.7%	-12.4%	-25.5%

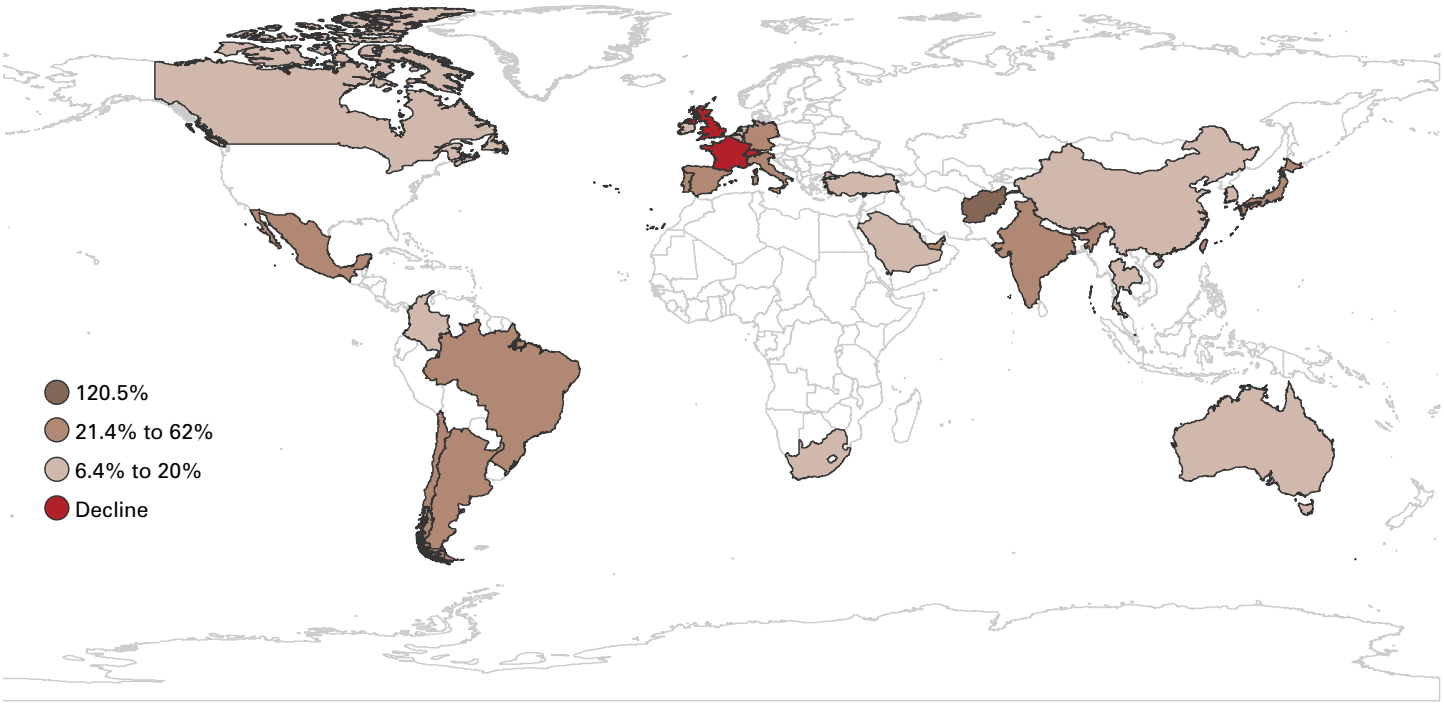
Source: WISER Trade

Figure 20: Destinations for Indiana Exports Exceeding $100 Million, 2011



Source: WISER Trade

Figure 21: Indiana Average Annual Export Growth by Destination, 2009-2011



Note: Includes only countries that purchase more than $100 million in Indiana exports
Source: WISER Trade

of these smaller export destinations pulled back on their imports as evidenced by their slight or no growth from the prior year. However, export growth surged to Afghanistan with respectable growth to Mexico and Canada.

Indiana exported to 202 countries in 2011, but only 30 had export sales greater than $100 million (see **Figure 20**). These 30 countries accounted for 94.2 percent of all Indiana exports. Certain global changes are evident in the statistics from some of Indiana's smaller trading partners. The dramatic jump in exports to Spain and Afghanistan are recent developments with Spain doubling its imports in 2010 and maintaining that level in 2011. Afghanistan began its substantial increase in imports in 2005 with a 373.5 percent growth from 2004. Year-over-year growth of more than 150 percent was experienced in 2005, 2007, 2008, 2010 and 2011 for Afghanistan. While Afghanistan's growth seems remarkable, it is due to several factors. First, 2007 was the first year Afghanistan imported more than $400,000 worth of products from Indiana; thus, the base from which the growth is measured is very small. Secondly, the war in Afghanistan creates an elevated need for imports that is not likely to be sustained once the war activities subside. Likewise, with the economic crisis occurring in the Euro zone countries, it is questionable whether Spain can maintain its import levels.

Between 2009 and 2011, trade activity to the top 20 European countries has grown 9.4 percent, yet growth rates were not consistent among all countries. For Germany, Spain and Italy, 2010 was a year of double- or triple-digit growth while others saw minimal or negative growth. In 2011, Ireland, Italy and Belgium had double-digit growth; however, the remaining five countries either had minimal or negative growth. The United Kingdom, which used to be the state's third-largest trading partner, has seen an average annual 20 percent decline in import value from 2009 to 2011.

Among Asian countries, imports from Indiana have increased at an average annual rate of 14.5 percent from 2009 to 2011, with Japan, Korea and China leading the growth. Japan, the fourth-largest importer of Indiana goods in 2011 has steadily increased its purchases, growing from $824 million in 2009 to $1.3 billion in 2011.

Figure 21 presents export growth rates from 2009 to 2011 for markets importing over $100 million across the globe. The average annual rate from 2009 to 2011 for all partners was 17 percent. Of countries that import over $100 million from Indiana, nearly all countries had double-digit import growth, except for France, the United Kingdom, Hong Kong, Singapore, Switzerland and Colombia. Much of this can be attributed to the strong export growth in 2010 for most countries.

The year 2011 was uneven, however. There were some pockets

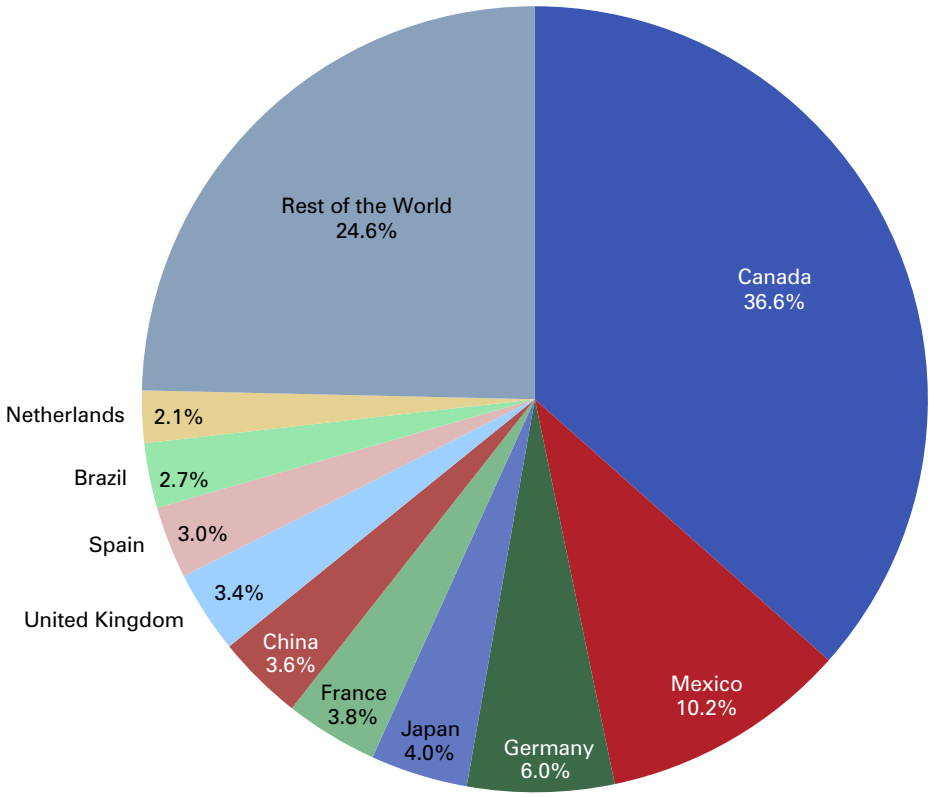
> *Exports to China have more than quadrupled since the beginning of the century.*

of strong growth that offset other pockets of negative or minimal growth. Those countries pulling the export growth rate down ranged from France and the U.K. to Saudi Arabia and Singapore. Even the fast-growing Brazil and China took their feet off the imports-from-Indiana accelerator. **Figure 22** shows how the top 10 countries compare with respect to their share of Indiana's exports.

Figure 23 presents a profile of the seven destinations importing over $1 billion from Indiana in 2011 and their import trends between 2001 and 2011. Only China and Germany appear to have a consistent rise over the last decade. Exports to China have more than quadrupled since the beginning of the century.

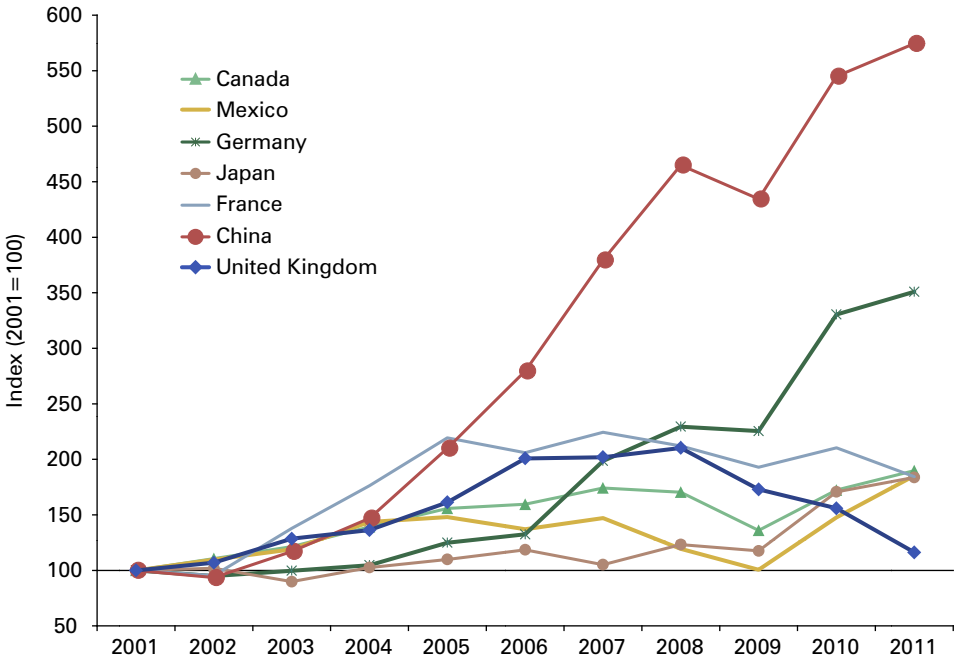
Table 4 identifies the largest changes in export sales for the top 10 export destinations in 2011 for each of the leading export industries. For example, industrial machinery exports increased $793 million from 2010 to 2011, with Canada contributing more than a third of that increase. The table also shows the

Figure 22: Top Indiana Export Destinations, 2011



Source: WISER Trade

Figure 23: Indiana Export Index for Countries Importing over $1 Billion, 2001-2011



Source: WISER Trade

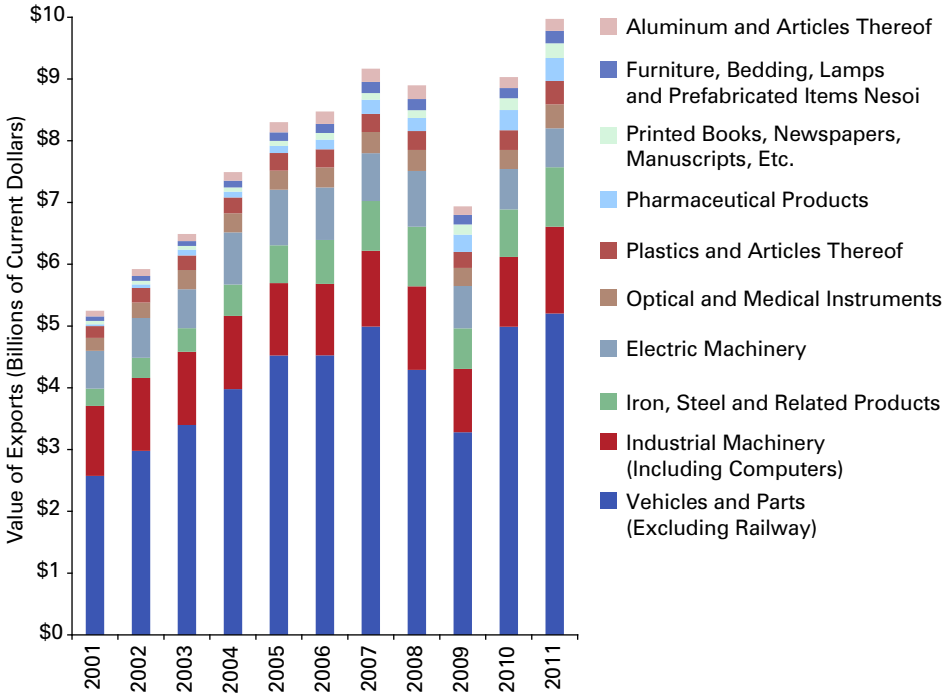
Table 4: Indiana's Largest Positive and Negative Changes in Exports by Industry for 10 Largest Export Destinations, 2011*

Export Destination	Vehicles and Parts	Industrial Machinery	Pharmaceutical Products	Optical and Medical Instruments	Electrical Machinery	Organic Chemicals
World Total	$1,106.4	$793.0	$183.1	-$7.2	-$8.7	-$112.9
Canada	$215.9	$274.2	$42.0	$78.8	-$24.1	$3.1
Mexico	$237.6	$151.2	-$2.6	$2.6	$38.5	-$9.1
Germany	$0.0	$41.4	$71.6	-$107.7	-$24.9	-$6.3
Japan	$9.1	-$11.0	$34.3	-$7.1	-$4.2	$0.6
France	$2.8	$22.9	-$111.0	-$46.3	$3.1	-$92.9
China	$11.7	-$30.5	$18.0	$22.9	-$21.7	-$18.1
United Kingdom	-$4.4	$62.5	-$511.1	-$2.5	$2.4	$84.0
Spain	$0.9	-$2.1	$122.5	-$2.3	-$0.3	-$114.2
Brazil	-$9.1	$87.4	$31.5	$1.5	-$8.8	$37.0
Afghanistan	$17.5	$4.0	$8.4	-$11.3	$0.2	-$2.3

*Values in millions of dollars
Note: Shaded cells indicate destination countries that did not experience at least a $10 million movement in exports by industry.
Source: WISER Trade

Industrial machinery exports increased $793 million from 2010 to 2011, with Canada contributing more than a third of that increase.

Figure 24: Indiana's Top 10 Exports to Canada by Industry, 2001-2011



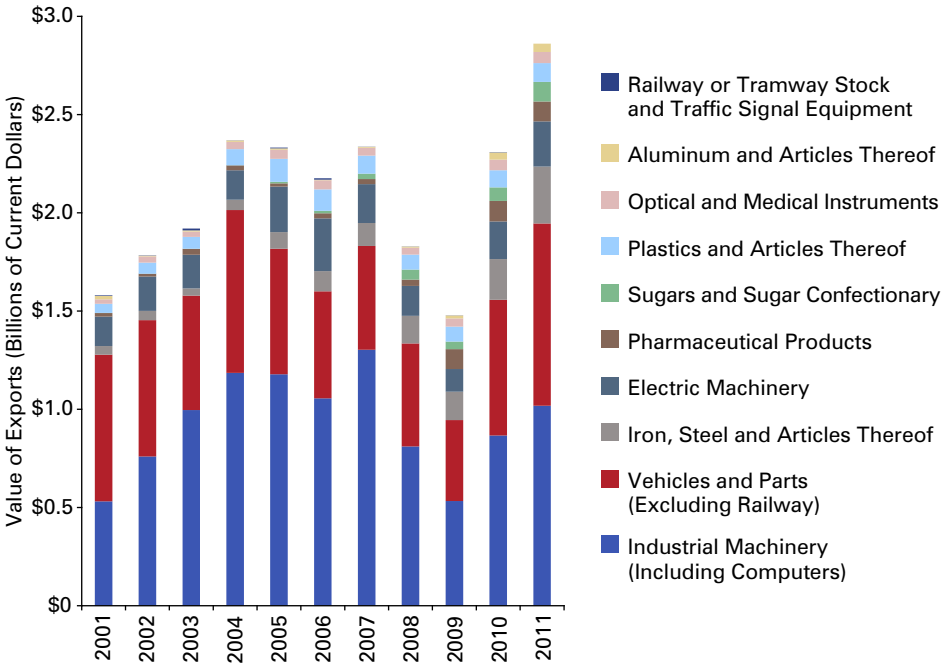
Note: Nesoi stands for "not elsewhere specified or indicated."
Source: WISER Trade

dampening effect of exports headed for Europe and how, absent a rise in exports to Canada and Mexico, Indiana would have had an off year in 2011. Even Germany, the healthiest economy in Europe, presents a mixed picture for Indiana exports.

Figure 24, **Figure 25** and **Figure 26** plot the top 10 imports from Indiana to Canada, Mexico and Germany, respectively. Comparing these graphs is instructive. While Canada and Mexico trade in vehicles and parts and industrial machinery (also likely transportation equipment related), about half of Germany's imports from Indiana are pharmaceuticals.

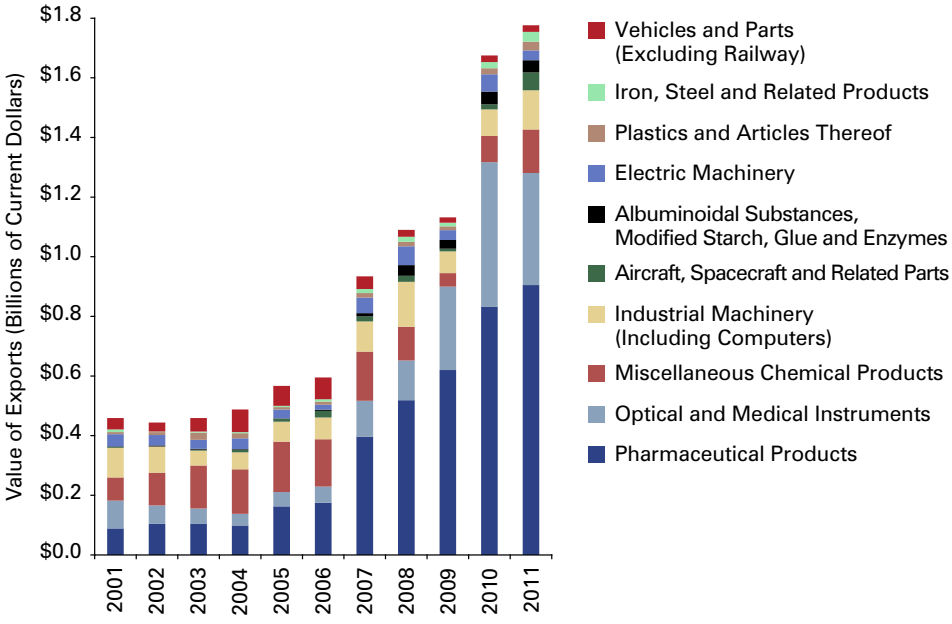
In 2011, Indiana shipments to Canada increased by $1.1 billion, or 10.2 percent, driven by a $0.7 billion increase in the top three traded products (vehicles and parts, industrial machinery, and iron, steel and related products). Increases of $79 million from optical and medical instruments and $61 million from plastics and related products also

Figure 25: Indiana's Top 10 Exports to Mexico by Industry, 2001-2011



Source: WISER Trade

Figure 26: Indiana's Top 10 Exports to Germany by Industry, 2001-2011



Source: WISER Trade

contributed to the increase in exports between 2010 and 2011.

Indiana exports to Mexico in 2011 increased $665 million, or 25.5 percent from 2010. Nearly 60 percent of this increase can be attributed to industrial machinery and vehicles and parts imports. Industrial machinery imports increased by $151 million and vehicles and parts grew by $238 million. The third-largest growth category came from iron, steel and related products, but its magnitude ($82 million) is considerably less in comparison to the top two categories.

Exports to Germany rose $113 million, or 6.2 percent, from 2010 to 2011. German imports of Indiana pharmaceuticals and miscellaneous chemical products increased modestly, compared to previous years. Indiana's traditional strength in exports to Germany, optical and medical devices, hit a soft patch in 2011, dropping by more than $100 million. ■

Indiana Export Industries

Table 5 presents the top 10 export categories for the state in 2011 as well as average annual rates of change from 2010-2011 and 2001-2011. These top 10 categories constitute 85 percent of all exports out of Indiana. **Figure 27** presents these data graphically.

Vehicles and parts exports maintained its perch as Indiana's largest export industry in 2011. In 2011, industrial machinery products re-emerged as the second-largest exported product category (in dollar value) from Indiana after being overtaken by pharmaceutical products in 2009. Pharmaceutical and industrial machinery exports will likely continue to battle for the second-place ranking considering the 23.1 percent growth pharmaceuticals has had in the past decade compared to industrial machinery (5.1 percent). However, in 2011, industrial machinery had an 18.5 percent growth whereas pharmaceuticals grew 3.9 percent. Other industries have grown steadily in the past decade as well. The three industries with the highest average annual rate of growth in the past decade

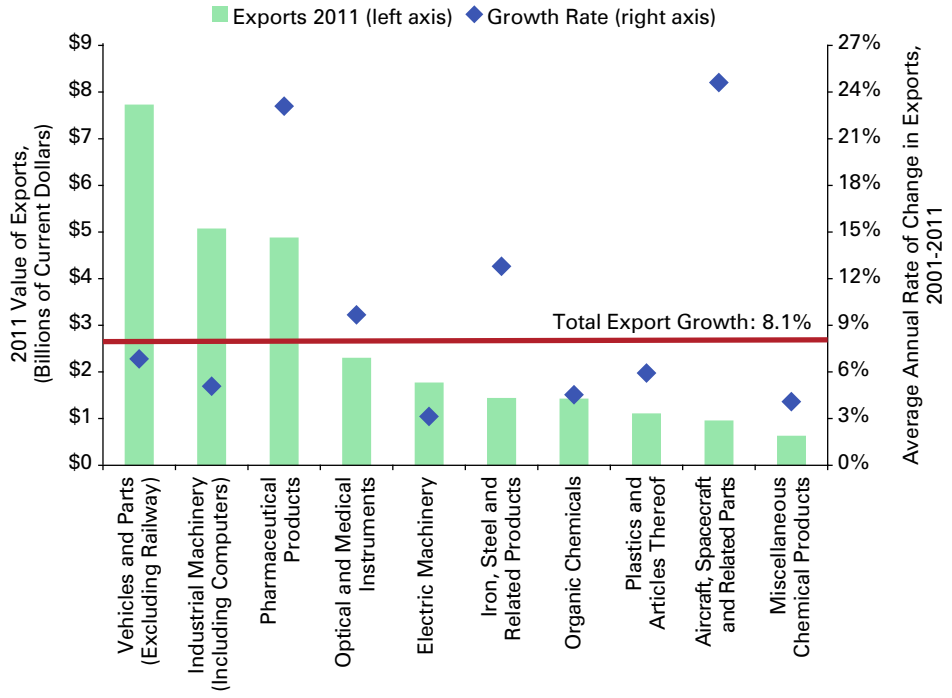
> *"Vehicles and parts exports maintained its perch as Indiana's largest export industry in 2011."*

Table 5: Indiana's Top 10 Export Industries, 2001-2011

Industries	Exports (in Millions) 2011	Average Annual Growth Rate 2010-2011	Average Annual Growth Rate 2001-2011
Vehicles and Parts (Excluding Railway)	$7,732	16.7%	6.8%
Industrial Machinery (Including Computers)	$5,075	18.5%	5.1%
Pharmaceutical Products	$4,883	3.9%	23.1%
Optical and Medical Instruments	$2,305	-0.3%	9.7%
Electric Machinery	$1,772	-0.5%	3.1%
Iron, Steel and Articles Thereof	$1,444	27.6%	12.8%
Organic Chemicals	$1,430	-7.3%	4.5%
Plastics and Articles Thereof	$1,112	11.7%	5.9%
Aircraft, Spacecraft and Parts Thereof	$961	16.6%	24.7%
Miscellaneous Chemical Products	$632	18.4%	4.1%

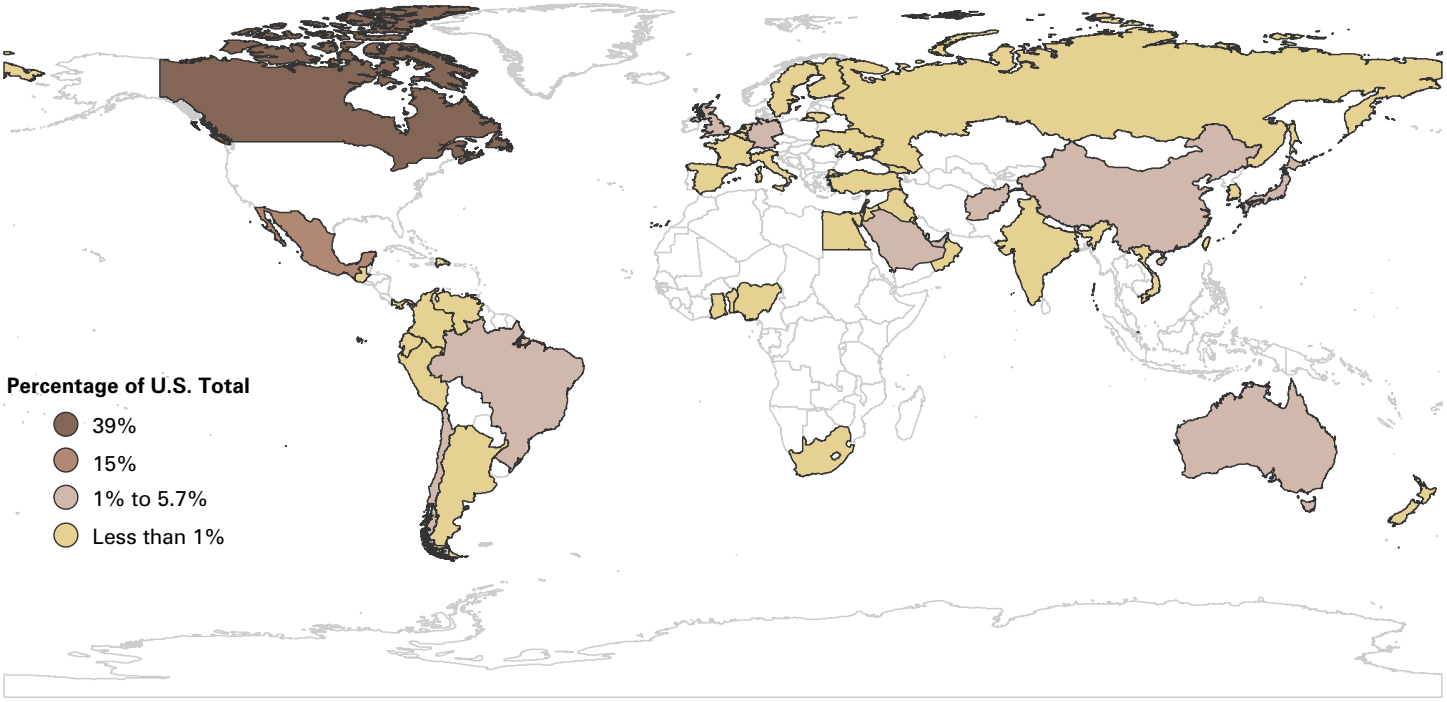
Note: Industries defined by the Harmonized System of Commodity Classifications.
Source: WISER Trade

Figure 27: Indiana's Top 10 Export Industries, 2001-2011



Source: WISER Trade

Figure 28: Destinations for U.S. Exports of Vehicles and Parts (Excluding Railway), 2011



Note: Map shows countries importing more than $200 million in U.S. vehicles and parts.
Source: WISER Trade

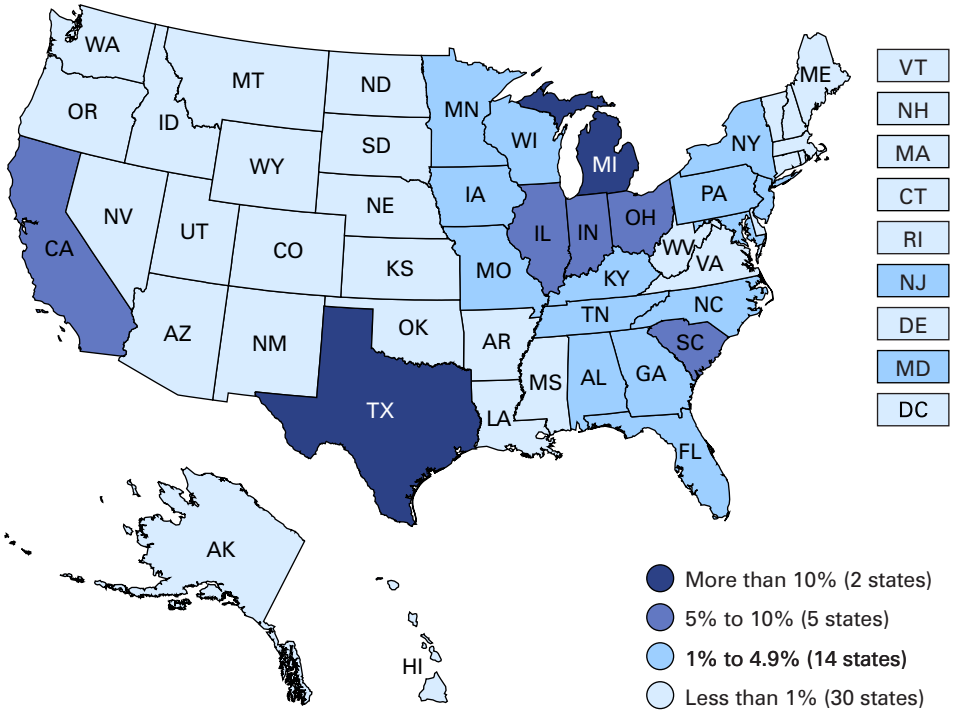
were aircraft, spacecraft and related parts; pharmaceutical products; and iron, steel and related products. The aircraft, spacecraft and related parts industry has grown from $82 million in exports in 2001 to $961 million in 2011. Should this trend continue, this industry will surpass plastics and articles thereof within the next few years.

The following section reports on the most important export industries in greater detail.

Vehicles

Figure 28 shows the share of U.S. vehicles and parts exports in 2011 for destination countries with export purchases greater than $200 million. Canadian purchases of vehicles and parts have slowly risen in the last few years, reversing the downward trend in 2008 and 2009. The share of vehicles and parts earmarked for Canada dwindled in 2011 (39 percent) compared to its high of 58 percent in 1999, though in recent years (2006-2010) it has averaged around 45 percent of all vehicles and parts exports. Mexico, the U.S.'s second-largest trading partner, has seen a slight increase in its share of vehicles and parts imports, commanding 15 percent of U.S. exports in 2011.

Figure 29: Share of U.S. Vehicle Exports (Excluding Railway), 2011



Source: WISER Trade

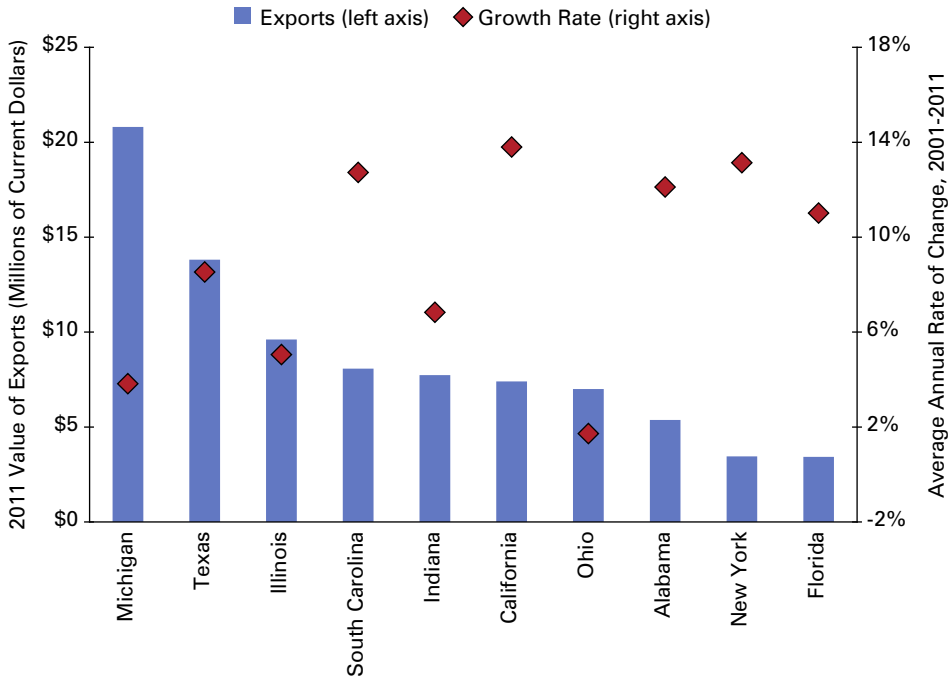
Countries with double-digit average annual growth rates of vehicles and parts imports from 2006 to 2011 include Afghanistan, China, Nigeria, Chile, the United Arab Emirates, Australia, Brazil and Saudi Arabia. Individually, these countries purchase a much smaller share of the vehicles and parts exports, but collectively they constitute 18.9 percent of this category, exceeding Mexico's share.

Figure 29 presents the state sources of U.S. vehicles and parts exports. Michigan is the unambiguous leader in this export category with a 17.4 percent share, but that is less than the pre-recession level of 18.5 percent seen in 2007. Texas holds the number two spot with an 11.5 percent share. In 2010, Indiana was the third-largest exporter of vehicles and parts at 6.7 percent, closely followed by Ohio and Illinois. In 2011, however, Illinois and South Carolina captured a larger share of exports, pushing Indiana into fifth place, with a 6.5 percent share of the vehicles and parts exports. Collectively, these top five states are responsible for 50 percent of exports in this category.

Figure 30 graphically recasts the above data on vehicle exports among the states. All top 10 vehicles and parts exporting states expanded their exports in the past decade, with California leading the pack at 13.8 percent growth followed by South Carolina at 12.7 percent. Michigan will likely retain its heavyweight status; however, Indiana and Ohio have recently been challenged or surpassed by the up-and-coming states of South Carolina, California, Alabama, New York and Florida as these states have had robust growth rates in this export category over the last decade.

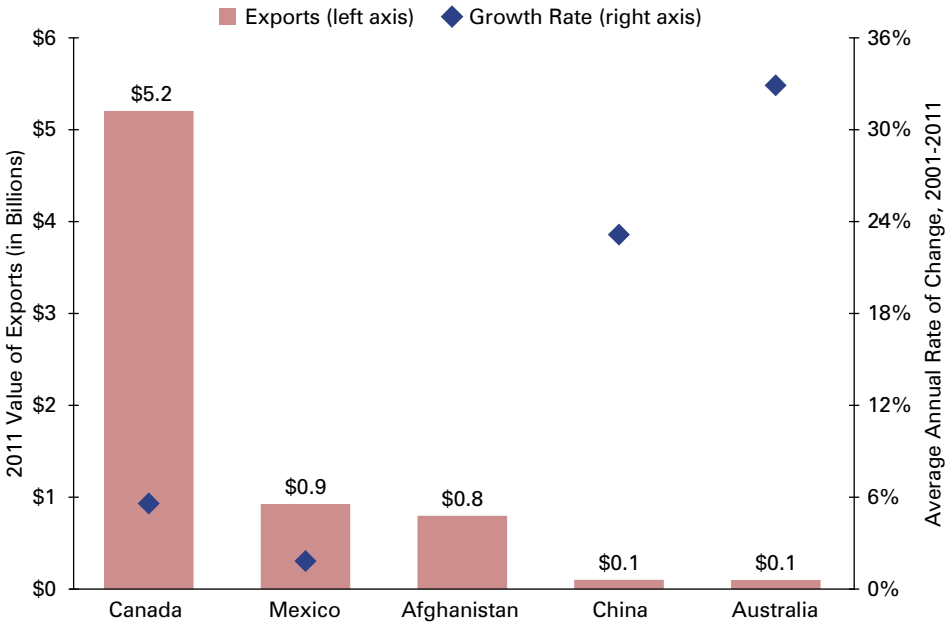
Figure 31 shows the top five destinations for Indiana's vehicle exports. Canada has long been the largest and most consistent export market for Indiana's vehicles and parts, at nearly $5.2 billion and growing by an average of 5.6 percent since 2001. Mexico is a distant second. If recent trends continue, the gap will widen. Since 2001, Indiana exports of vehicles and parts to Mexico have only grown at an average annual rate of 1.8 percent. Of the

Figure 30: Leading States in the Export of Vehicles and Parts (Excluding Railway), 2001-2011



Source: WISER Trade

Figure 31: Indiana's Top Five Export Destinations for Vehicles and Parts (Excluding Railway), 2001-2011



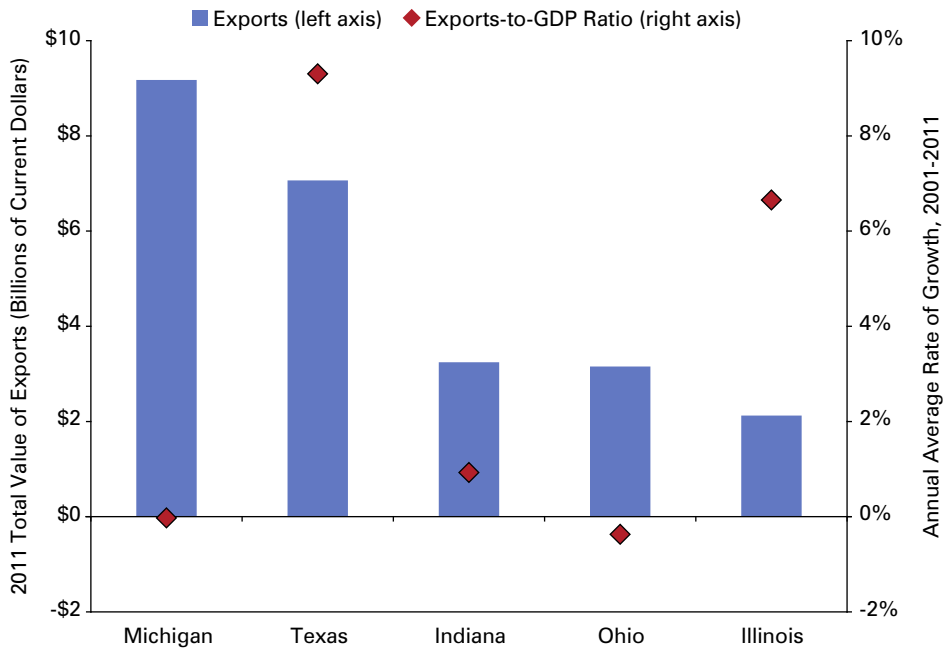
Note: For scale considerations, Afghanistan's average annual growth rate (205 percent) was omitted from the graph.
Source: WISER Trade

The top three foreign purchasers of Indiana's automobile parts and accessories are Canada, Mexico and China.

smaller markets, Afghanistan is as hot as it is new. Until 2007, it did not consistently import Indiana's vehicles and parts, but it has since grown immensely to become Indiana's third-largest trading partner. The likelihood of this persisting is small. Afghanistan's increase in imports is likely attributed to the current U.S. war efforts within the country. China and Australia also posted large increases in 2011 to be the fourth- and fifth-largest importers and have been posting high average annual rates of growth in the past decade.

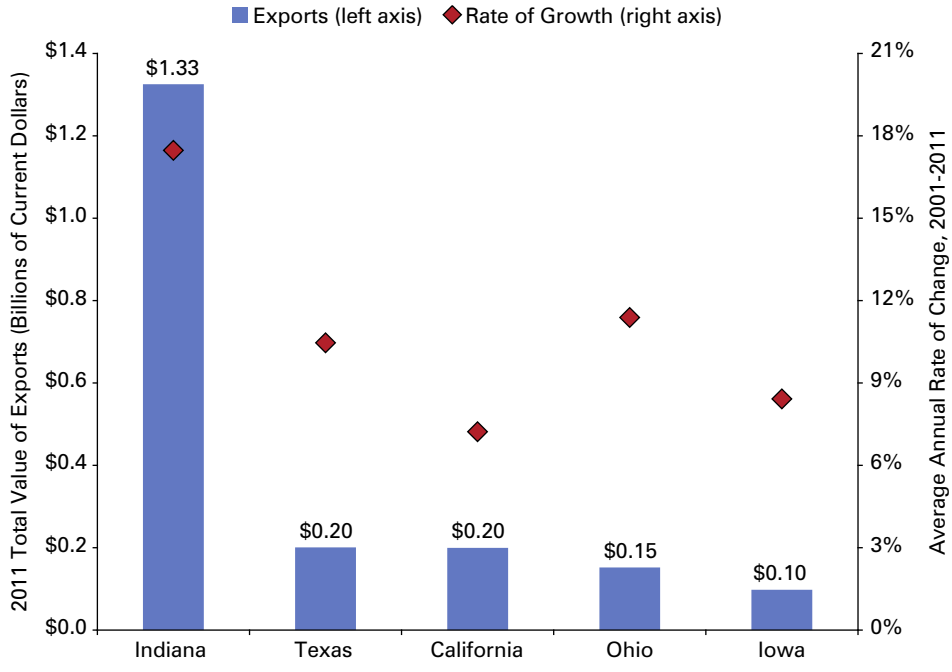
Indiana's top exported commodity within the broadly defined industry of vehicles and parts is motor vehicle parts and accessories. **Figure 32** shows the top exporting states for this commodity. Michigan led the group in 2011, but Texas is rapidly closing in due to its robust average annual growth rate of 8.4 percent versus Michigan's slightly negative trajectory. Indiana and Ohio continue to have similar export volume, but Indiana's average annual growth rate has remained positive. Since 2001, exports of this commodity have risen at an average annual rate of 2.8 percent. The top three foreign purchasers of Indiana's automobile

Figure 32: Top Five Exporting States of Motor Vehicle Parts and Accessories, 2001-2011



Source: WISER Trade

Figure 33: Top Five Exporters of Non-Mechanical Propelled Trailers, 2001-2011



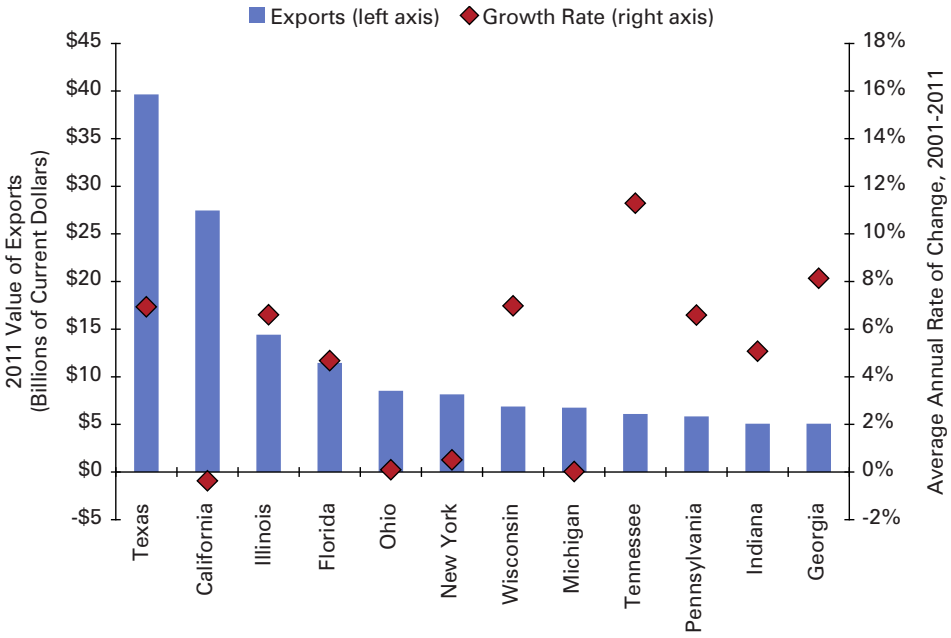
Source: WISER Trade

Non-Mechanically Propelled Trailers Industry

Non-mechanically propelled trailers includes semi-truck trailers, tanker trailers, trailers used for housing or camping and any other trailer that must be attached to a self-propelling vehicle to be mobile. This category would easily encompass the RV trailers manufactured in the northeastern part of Indiana in addition to other trailer manufacturers.

"Indiana's second-largest vehicles and parts commodity in 2011 was non-mechanically propelled trailers. Indiana is the top exporter among the states."

Figure 34: Leading States in the Export of Industrial Machinery, 2001-2011



Source: WISER Trade

parts and accessories are Canada, Mexico and China.

Indiana's second-largest vehicles and parts commodity in 2011 was non-mechanically propelled trailers. Indiana is the top exporter among the states (see **Figure 33**). Indiana grossed $1.3 billion in exports in 2011, with Texas a distant second at $200 million. The two states constituted nearly half of all U.S. exports in this category. Indiana's position as the top exporter in this category is likely attributed to the strong average annual growth over the past 10 years. While most of the remaining states in the top five have double-digit growth, it is unlikely they will overtake Indiana anytime soon.

Industrial Machinery

Figure 34 presents export value and growth among the top state exporters of industrial machinery. Indiana ranked 11th in 2011, moving up one spot from its 12th place position held since 2008. Texas and California clearly dominate the market. There are many smaller states, however, with similar levels of exports in this area and with robust average annual growth rates, e.g., Tennessee and Georgia.

Figure 35 plots the 2011 value of exports and the average annual rate of growth for industrial machinery exports to Indiana's top five destinations from 2001 to 2011. Despite the slow 2.2 percent average annual rate of growth in the past decade, Canada has maintained its position as the top importer from Indiana. Mexico was the second-largest purchaser of Indiana's industrial machinery

Industrial Machinery Industry

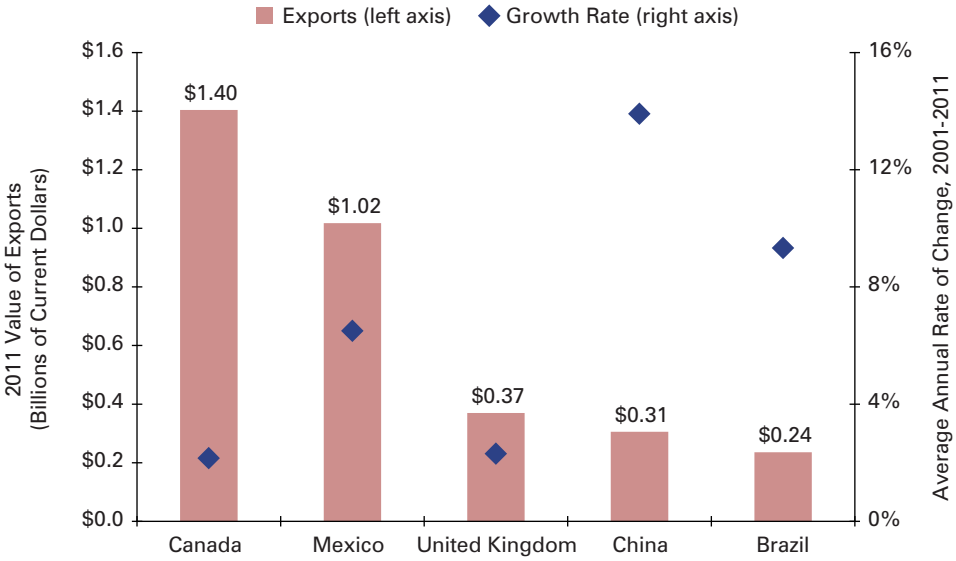
The industrial machinery industry encompasses a wide variety of machinery, ranging from those used in automatic data processing, harvest and milking machinery for agricultural production, fork lifts, ball bearings, cranes, dishwashers and much more. This category also includes engines, turbines, turbo jets and other parts related to engines. Essentially any production process that is assisted with the use of machinery or its related parts is captured in this industry.

with a 6.5 percent average annual growth rate. In 2011, the United Kingdom reclaimed its position as the third-largest importer of industrial machinery, switching positions with China who had claimed it in 2009. China and Brazil rounded out the top five markets. Collectively, these top five countries purchased 65.7 percent of Indiana's industrial machinery exports. Portugal is another growing market, as it purchased over $100 million of industrial machinery products in 2011 and has had an average annual growth rate of 29.2 percent since 2001.

While Indiana is the 11th largest exporter of industrial machinery products (as defined by industry), the state is particularly strong with regard to compression-ignition internal combustion piston engines (typically known as diesel engines). Indiana exported 30.9 percent of the nation's exports of this product in 2011. **Figure 36** shows Indiana and Illinois as the top two exporting states of this commodity, and they have had nearly identical average annual rates of growth since 2001 at about 7 percent. The remaining three states have had strong growth rates, but their export values are considerably less than Indiana and Illinois.

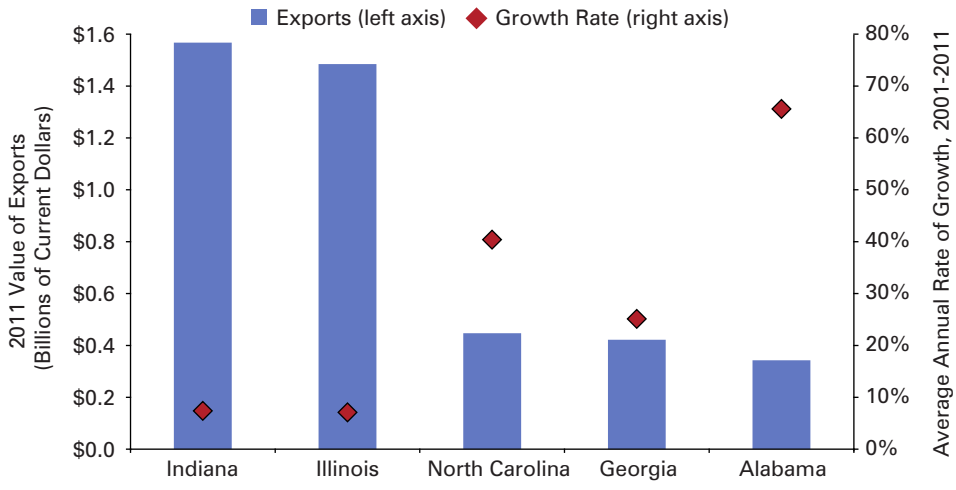
Figure 37 shows the top five foreign destinations of Indiana's compression-ignition internal combustion piston engines. Mexico is the dominant importer, purchasing 49.2 percent of all Hoosier exports

Figure 35: Indiana's Top Five Export Destinations for Industrial Machinery, 2001-2011



Source: WISER Trade

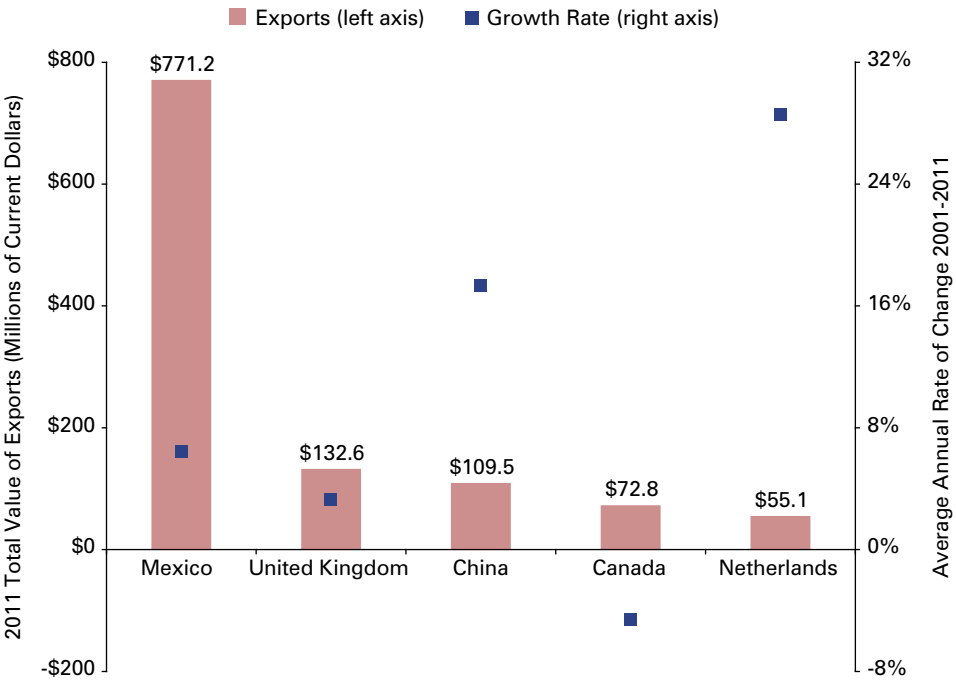
Figure 36: Top Five Exporters of Compression-Ignition Internal Combustion Engines, 2001-2011



Source: WISER Trade

Rising from a third-place position in 2008, Indiana became the nation's top exporting state in pharmaceuticals in 2009 and held its stance through 2011.

Figure 37: Indiana's Top Five Destinations for Compression-Ignition Internal Combustion Engines, 2001-2011



Source: WISER Trade

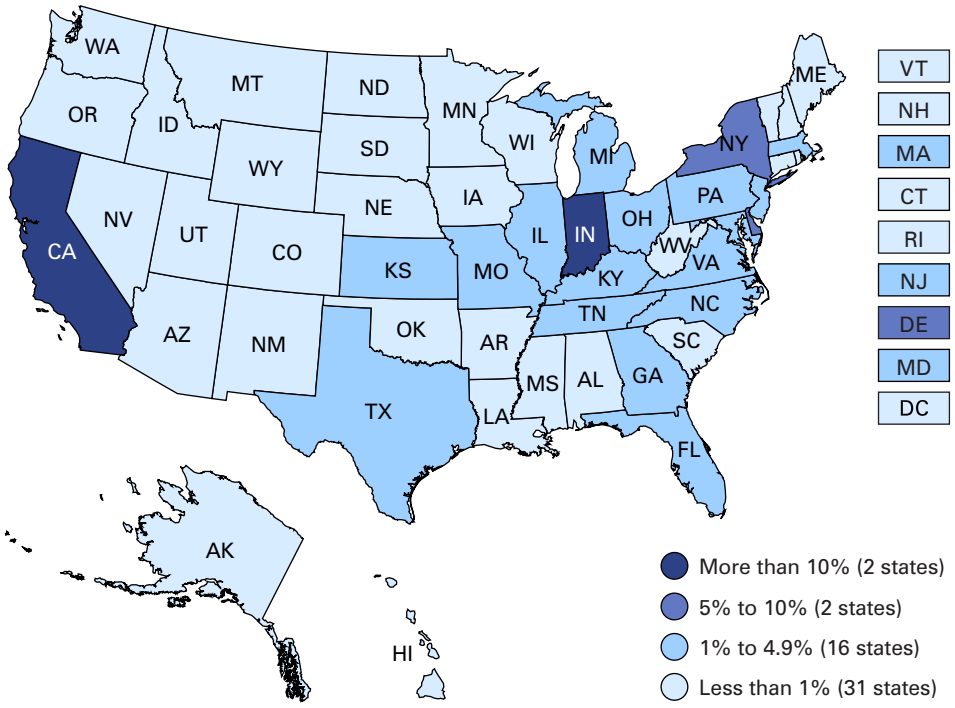
of this commodity. Of the top five countries, the Netherlands and China have had the strongest average annual growth rates (28.6 percent and 17.3 percent, respectively), far exceeding Mexico's 6.4 percent growth.

Pharmaceuticals

Figure 38 shows that Indiana and California are the leaders among the states with 12 percent and 10.1 percent of U.S. pharmaceutical exports, respectively. (Puerto Rico contributes 22.6 percent of the nation's pharmaceutical exports, but it is not regarded as a state, so its total is excluded from state ranking calculations.) Rising from a third-place position in 2008, Indiana became the nation's top exporting state in pharmaceuticals in 2009 and held its stance through 2011. In the past four years, the top 10 states' rankings in pharmaceutical exports have experienced some volatility.

As **Figure 39** shows, Indiana's 23.1 percent average annual growth in pharmaceutical product exports is

Figure 38: Share of U.S. Pharmaceutical Exports, 2011



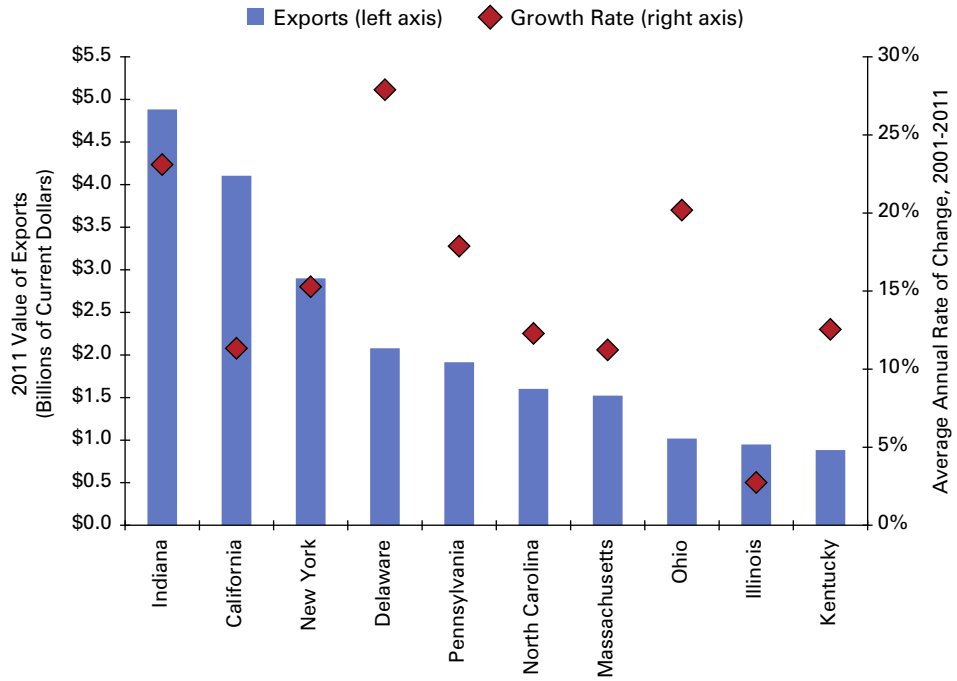
Source: WISER Trade

Indiana's 23.1 percent average annual growth in pharmaceutical product exports is one of the highest among the top 10 exporting states. Three of the top five pharmaceutical destinations are in Europe.

one of the highest among the top 10 exporting states.

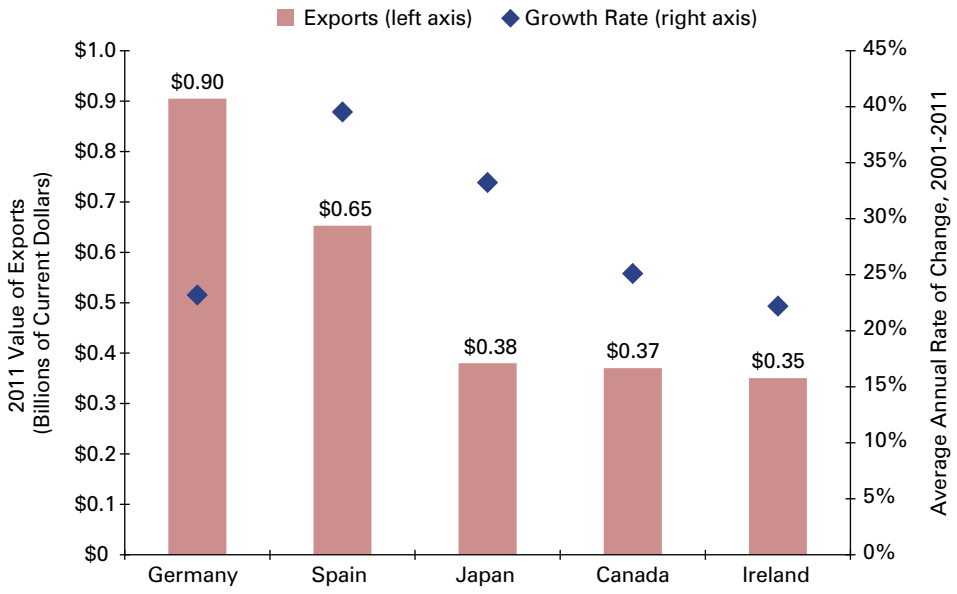
Figure 40 presents the top five export destinations for Indiana's pharmaceuticals. Three of the top five destinations are in Europe. The United Kingdom imported the most pharmaceutical products from Indiana in 2008 and 2009, but in 2010, Germany claimed the top spot and retained it in 2011. Spain and Japan have ramped-up their imports of Indiana's pharmaceutical products since 2001, with strong average annual rates of growth. Canada also continues to increase its imports with an average annual rate of growth of 25.1 percent. These increases have offset drops in pharmaceutical exports to the United Kingdom (-30.7

Figure 39: Leading States in the Export of Pharmaceuticals, 2001-2011



Source: WISER Trade

Figure 40: Indiana's Top Five Export Destinations for Pharmaceutical Products, 2001-2011



Source: WISER Trade

> *On average, Indiana's electrical machinery exports grew 3.1 percent between 2001 and 2011.*

percent and -77.6 percent for 2010 and 2011, respectively).

Optical and Medical Instruments

Figure 41 profiles Indiana's optical and medical instrument export markets. The top destinations for this category continue to shift. Canada reclaimed the top perch in 2011 with a 26.1 percent jump in imports since 2010, whereas German imports fell in 2011 by 22.3 percent after posting strong growth in 2009 and 2010. The other three countries rounding out the top five had double-digit growth rates in the past decade. While the remaining countries have had strong growth rates in the past decade, their import value is still considerably less than Canada and Germany. Australia and Belgium have only recently increased their imports of optical and medical instruments, so it is too soon to tell whether the upswing will be sustained.

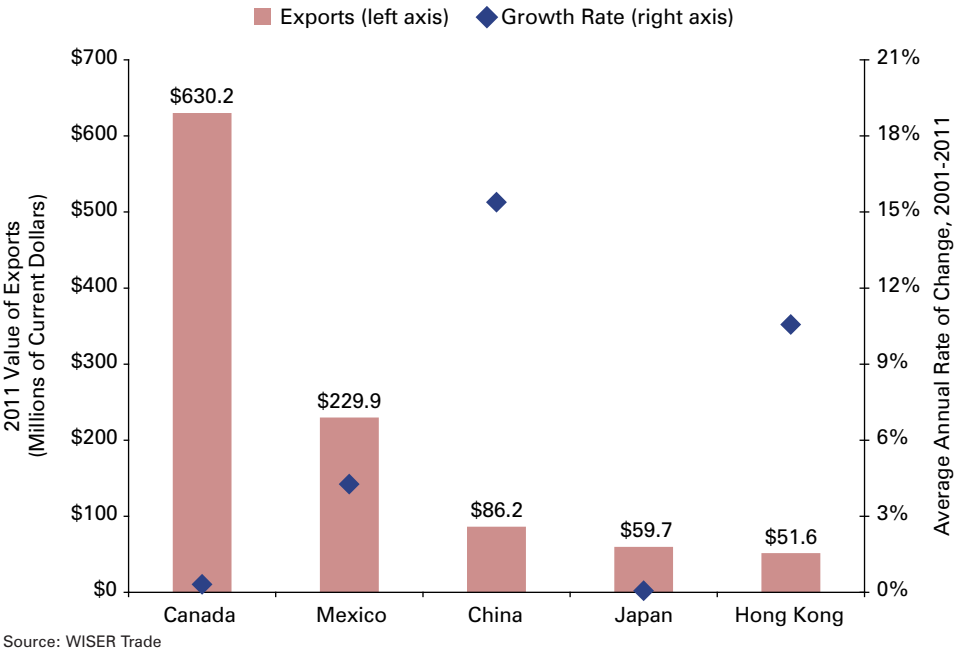
Electrical Machinery

Following the export volatility of recent years, Indiana's electrical machinery industry saw strong growth in 2008, a decline in exports in 2009 and an uptick in 2010. Export growth in the past year has stalled (-0.5 percent). **Figure 42** shows sales volume and growth rates for Indiana's electrical machinery exports to that category's top five markets: Canada, Mexico, China, Japan and Hong Kong. Canada plays the dominant role in terms of volume, but over the past decade, its imports have grown marginally (0.3 percent). In contrast, China's average annual growth rate was 15.4 percent and it currently imports $86.2 million from Indiana. On average, Indiana's

Figure 41: Indiana's Top Five Export Destinations for Optical and Medical Instruments, 2001-2011

Source: WISER Trade

Figure 42: Indiana's Top Five Export Destinations for Electrical Machinery, 2001-2011



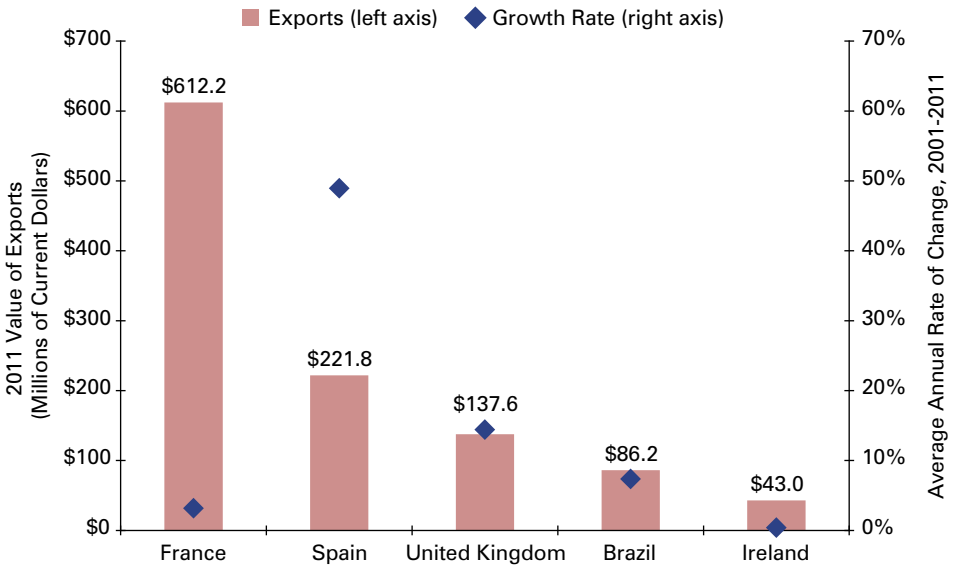
Source: WISER Trade

electrical machinery exports grew 3.1 percent between 2001 and 2011.

Organic Chemicals

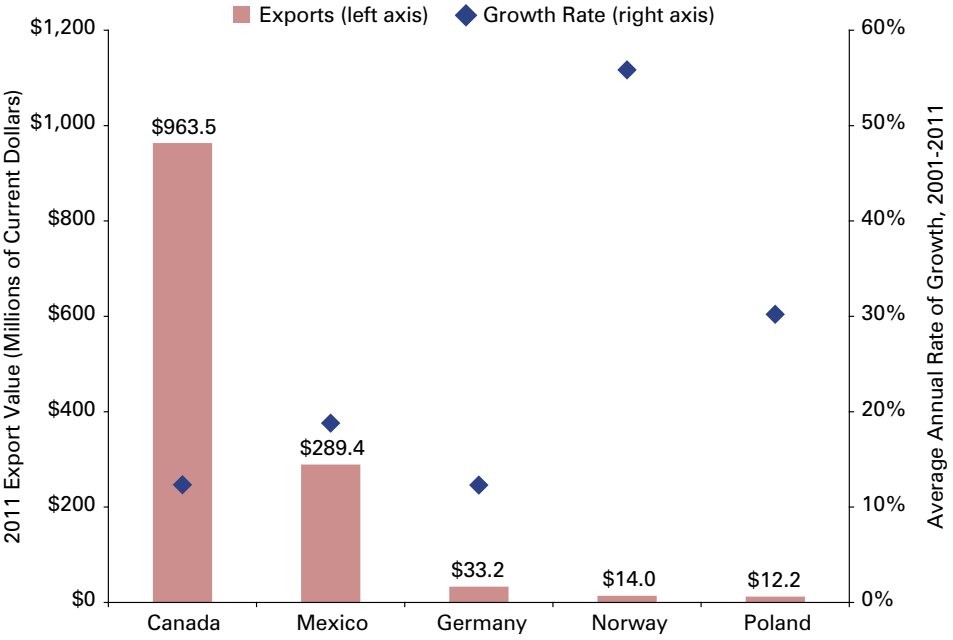
Growth in this export category has been steady at 4.5 percent since 2001—despite a 7.3 percent drop in exports from 2010 to 2011. **Figure 43** graphs the top five export destinations of Indiana's organic chemical production, a category that includes products such as insulin, various proteins, vitamins and antibiotics. France is Indiana's largest trading partner in this area, purchasing $612 million in organic chemicals in 2011. Spain was second, despite a pullback of 34 percent in 2011, largely due to a $50 million increase in imports in 2008 and another $290 million run-up in 2010. The United Kingdom has seen erratic swings in this import category. It dropped in rank from second in 2007 with $180 million in imports to fifth with $53 million in 2010 and has rebounded to third with $138 million in 2011. The remaining top countries include Brazil and Ireland, both of which had large increases in imports in 2011 (75.1 percent and 493.5 percent, respectively) and low average annual rates of growth since 2001. Outside of the top five, other emerging countries with strong average annual growth rates are Egypt (32.7 percent) and India (21.5 percent).

Figure 43: Indiana's Top Five Export Destinations for Organic Chemicals, 2001-2011



Source: WISER Trade

Figure 44: Indiana's Top Five Export Destinations for Iron, Steel and Related Products, 2001-2011



Source: WISER Trade

Iron, Steel and Related Products

Figure 44 displays Indiana's iron, steel and related product exports to Canada, Mexico, Germany, Norway and Poland. This product category is completely dominated by Canada's $963.5 million in 2011 purchases. As a whole, the market totals $1.4 billion, making Canada's share nearly 70 percent. This is also a high-growth sector, with even the dominant Canadian market growing at 13 percent per year on average. The Mexican market, a distant second, has been growing at an average rate of 12.3 percent and constitutes 20 percent of Indiana's export market share for this industry. Norway and Poland are new entrants to the top five due to recent jumps in purchases from Indiana. In 2010, Norway increased its purchases of iron and steel by $3 million and again by $10.8 million in 2011. This past year was

a big import year for Poland with a nearly $9 million jump in purchases.

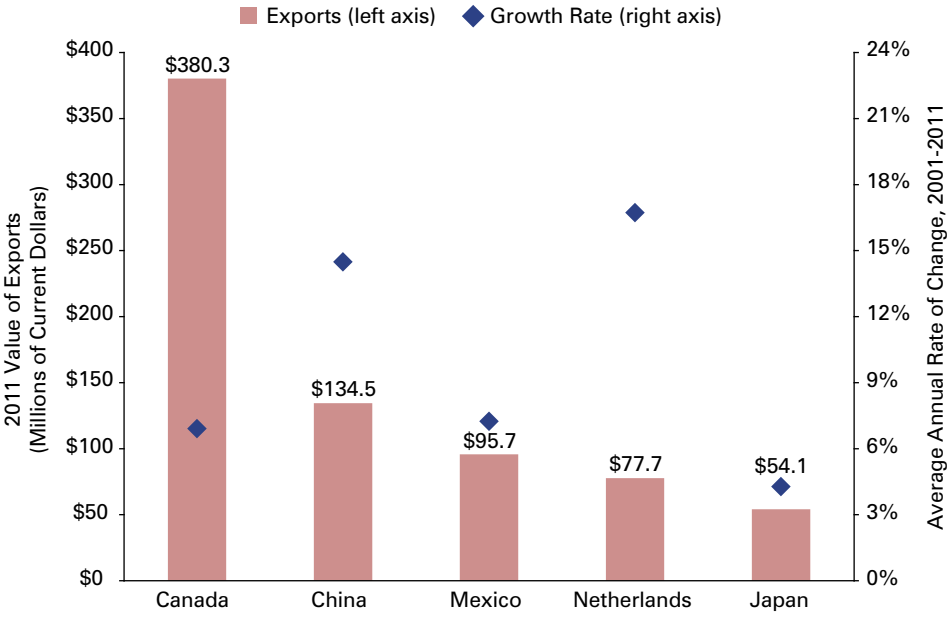
Plastics

As with most export categories, **Figure 45** shows that Canada is the primary foreign destination for Indiana plastic products. The next closest destination in dollar value is China with $134.5 million, a position China recently claimed in 2009—leaping past Mexico and the Netherlands. While other countries decreased their imports in 2009, China had a 49 percent increase in their imports. That said, its growth in 2010 (10 percent) and 2011 (18.3 percent) was not as strong. Among the top five destination countries, China and the Netherlands have had the strongest average annual rates of growth since 2001. It is likely that the Netherlands could surpass Mexico to become the third-largest destination for Indiana plastics if its trend continues. Other countries experiencing rapid growth in their plastics purchases from Indiana include Germany and France, markets that have grown at above-average rates.

Aircraft, Spacecraft and Related Parts

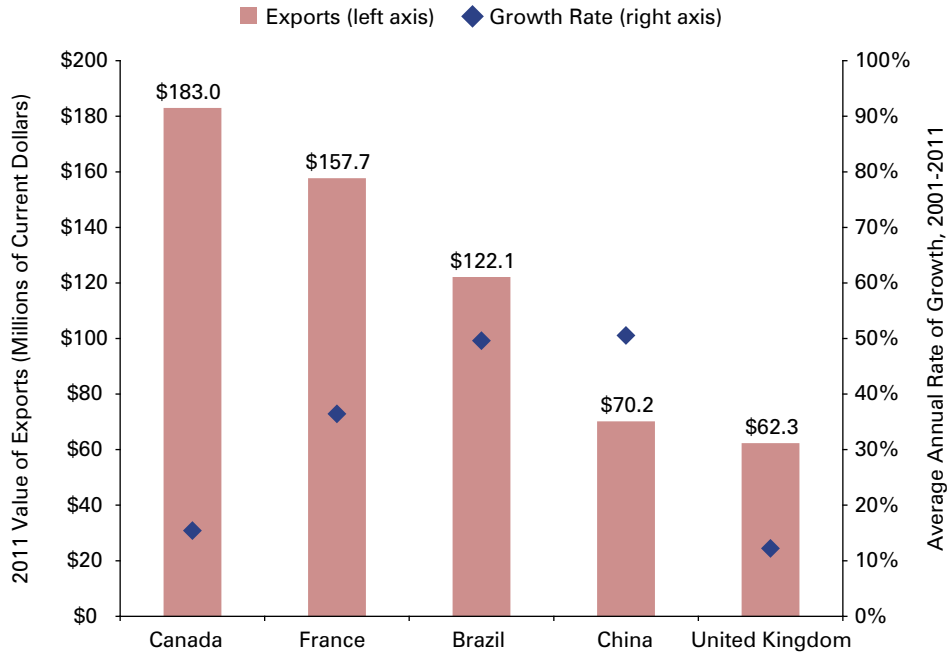
Since 2004, the aircraft and spacecraft industry has become a top contributor to Hoosier exporting activity, expanding by 24.7 percent (average annual rate) since 2001. Due to the rapid growth of this industry, all top 10 countries importing from this industry have double-digit average annual growth rates. The top five destinations, presented in **Figure 46**, account for 62 percent of Indiana's export market for this category. Like most of Indiana's manufacturing exports, Canada is the top market at $183 million. France is second at $157.7 million with an average annual growth rate of 36.4 percent since 2001. Since 2001, Brazil's imports from Indiana have grown at the super-charged rate of more than 50 percent. China and the United Kingdom are the remaining top five countries and have grown strongly in the past decade as well. Of the remaining top 10 destination countries, Germany, the United Arab Emirates, Japan, Mexico and Australia have had double- or triple-

Figure 45: Indiana's Top Five Export Destinations for Plastic Products, 2001-2011



Source: WISER Trade

Figure 46: Indiana's Top Five Export Destinations for Aircraft, Spacecraft and Related Parts, 2001-2011



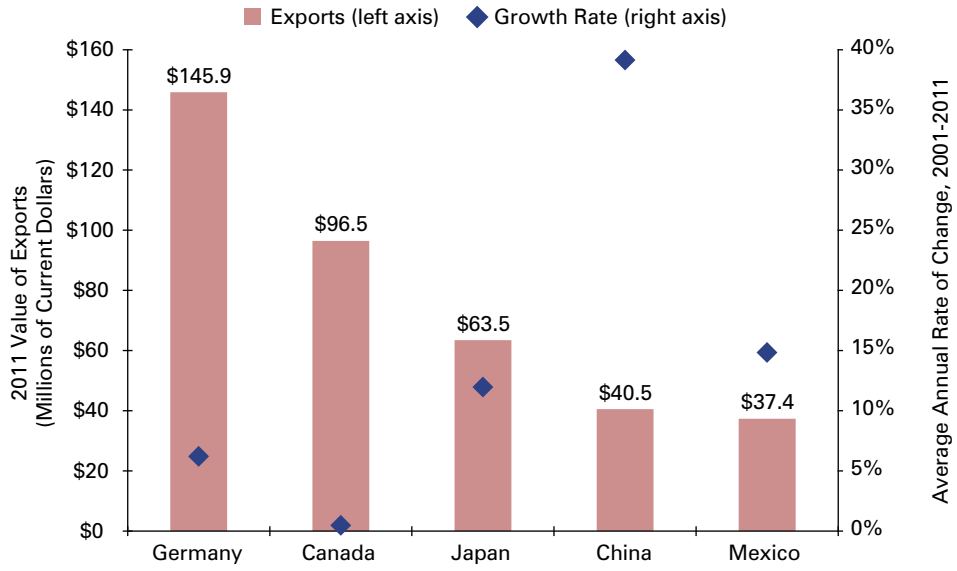
Source: WISER Trade

digit growth in the past two years, but these rates of expansion are off a much smaller volume level.

Miscellaneous Chemicals

Miscellaneous chemicals is a low-growth export industry, recording only an average annual growth of 4.1 percent since 2001. **Figure 47** shows the top five export destinations for this category. The market has typically been dominated by Germany and Canada and 2011 was no exception. However, the United Kingdom dropped from third place in 2010 to seventh in 2011 due to a 39 percent drop in imports from Indiana. Japan moved into third place followed by China and Mexico. Of the top five countries, China has had the strongest average annual rate of growth at 39 percent since 2001. Japan, China and Mexico may have much smaller import volumes than either Germany or Canada, but with their double-digit average annual growth rates, they could eclipse the two leaders.

Figure 47: Indiana's Top Five Export Destinations for Miscellaneous Chemical Products, 2001-2011



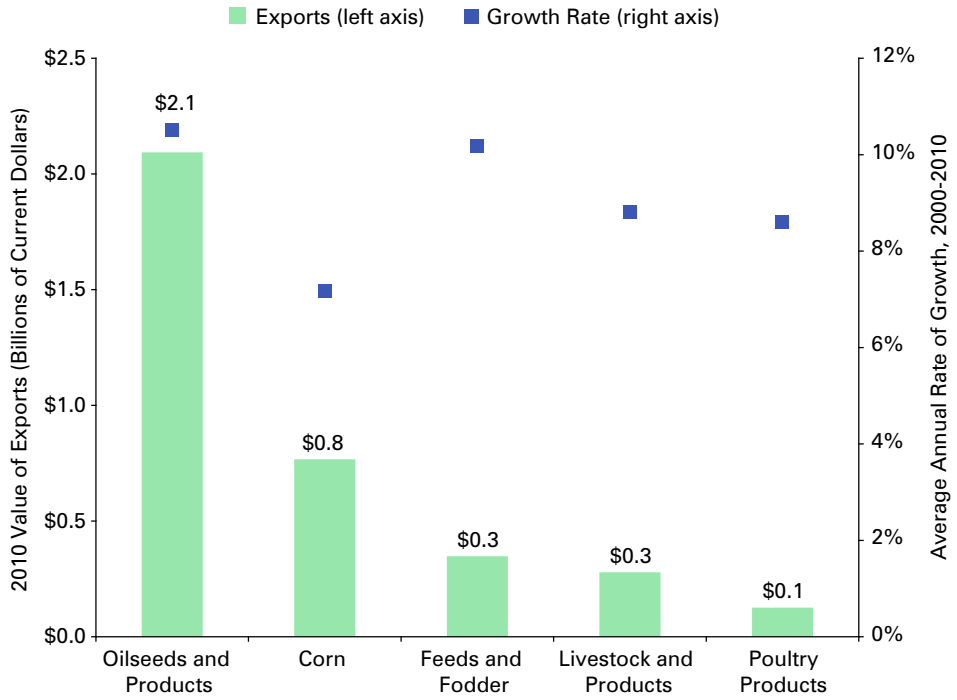
Source: WISER Trade

Agriculture

Not only does Indiana produce a wide array of manufactured goods, Indiana is also a major agricultural state. Agricultural commodities are not extensively tracked by agencies that report the exports of goods and services. Agricultural exports are difficult, if not impossible, to trace back to source states because agricultural goods are undifferentiated (one state's soybeans have the same characteristics as another's). However, the Economic Research Service (ERS) division of the U.S. Department of Agriculture uses the state's production of commodities to estimate each state's contribution to national agriculture export sales. Due to the commodity's homogeneous traits, state-level detail on where these commodities are shipped is not available.

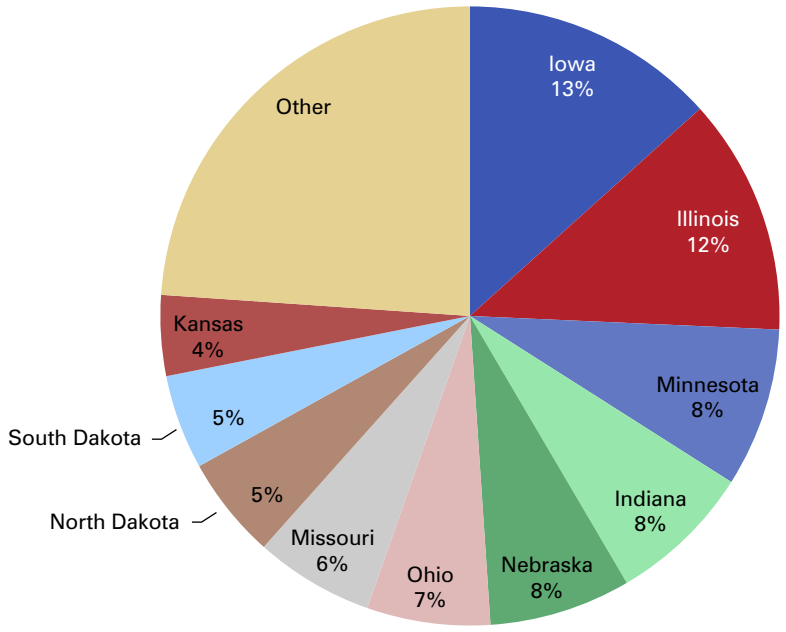
Figure 48 highlights Indiana's largest agricultural exports for 2010, the most recent year for which data are available. Oilseeds and products topped the list, totaling $2.1 billion with 72.5 percent attributed to soybean exports. Corn was the second-largest source of agricultural export revenue for the state, with $767 million in 2010. The remaining top three export categories are less significant in dollar terms

Figure 48: Indiana Agricultural Exports, 2010



Note: The ERS has changed its reporting structure and methodologies; so data presented here differ from previous IBRC reports on agricultural data for 2010.
Source: USDA Economic Research Service

Figure 49: Share of U.S. Oilseeds and Products Exports, 2010

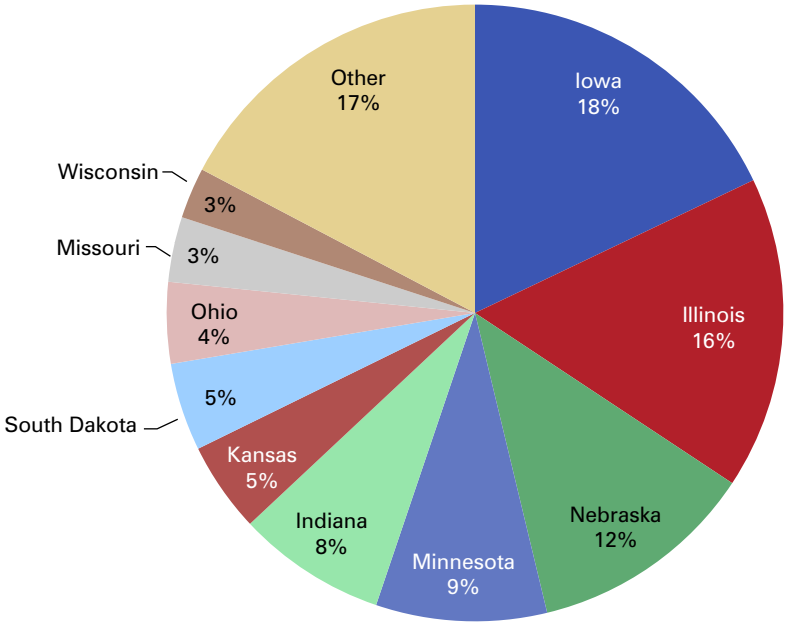


Source: USDA Economic Research Service

since none of them reach the $400 million mark. That said, nearly all commodity categories experienced positive average annual growth in sales value between 2000 and 2010 (planting seeds and unmanufactured tobacco were the exceptions). Dairy product exports grew the fastest, at 15.5 percent, followed by oilseeds and products (10.5 percent) and feed and fodder (10.2 percent).

U.S. agricultural exports totaled approximately $115.8 billion with Indiana ranking seventh in agricultural exports among the states, at $4.5 billion. In its top two commodities, however, Indiana ranked higher—fourth in oilseeds and products and fifth in corn (see **Figure 49** and **Figure 50**). Not surprisingly, Iowa and Illinois lead in both categories. ■

Figure 50: Share of U.S. Corn, 2010



Source: USDA Economic Research Service

Regions IN Focus: Latin America and the Caribbean

The Latin American and Caribbean region includes a large number of individual countries both huge and tiny (see **Figure 51**).[4] This chapter first covers the latest exporting trends to Latin American and the Caribbean and highlights the top commodities Indiana exports to this region.

Figure 51: Latin American and Caribbean Countries

Source: IBRC, using WISER Trade data

The Latin American and Caribbean (LA&C) countries vary widely in GDP, population and their import activity from Indiana. **Table 6** shows GDP and GDP per capita—both in current dollars. The leading country in terms of GDP is Brazil at $2.1 trillion. The smallest GDP is French Guiana at $4.4 million. From a GDP per capita perspective, the Cayman Islands tops the list at $47,000 (2008 data), compared to the region's average of $11,579 per person. The absolute value of U.S. GDP looms large in contrast to the LA&C countries, but U.S. GDP per capita is only slightly higher than the Cayman Islands.

In 2011, LA&C countries imported 15.5 percent of Indiana's exports for a total of nearly $5 billion. The LA&C countries' share of Indiana's exports has consistently hovered between 12 percent and 17 percent since 2000. The top five importing countries (Mexico, Brazil, Argentina, Colombia and Chile) accounted for 90 percent of all LA&C Hoosier imports. Given that Mexico is Indiana's second-largest trading partner, the question then becomes, without Mexico, how large a market is LA&C? Without Mexico, the region imported 5.3 percent of Indiana's exports in 2011—$1.7 billion.

While not currently close to Asia or Europe in export significance, Indiana has dramatically increased its exports to LA&C countries by 383.3 percent since 1997, as shown in **Figure 52**. As with other regions, the Great Recession resulted in a dip in exports during 2009, but exports strongly rebounded in 2010 and 2011.

[4] This regional definition comes from WISER Trade and omits Puerto Rico and the U.S. Virgin Islands since they are U.S. territories. Note that the Falkland Islands has only traded with Indiana once in the past 14 years.

Table 6: Latin American and Caribbean Countries GDP, 2010

Country	GDP (in Millions of Current Dollars)	Per Capita GDP (in Current Dollars)
Brazil	$2,087,890	$10,710
Mexico	$1,035,871	$9,133
Venezuela	$391,847	$13,590
Argentina	$368,736	$9,124
Colombia	$288,886	$6,240
Chile	$212,741	$12,431
Peru	$157,053	$5,401
Cuba**	$62,705	$5,398
Ecuador	$57,978	$4,008
Dominican Republic	$51,766	$5,215
Guatemala	$41,186	$2,862
Uruguay	$39,051	$11,633
Costa Rica	$35,831	$7,691
Panama	$26,689	$7,589
El Salvador	$21,215	$3,426
Trinidad and Tobago	$20,604	$15,365
Bolivia	$19,650	$1,979
Paraguay	$18,331	$2,840
Honduras	$15,400	$2,026
Jamaica	$14,252	$5,275
Bahamas	$7,702	$22,454
Haiti	$6,710	$671
Nicaragua	$6,551	$1,132
Martinique[2]	$6,117	$14,360
Barbados	$4,110	$14,998
Guadeloupe[2]	$3,513	$2,981
Suriname	$3,363	$9,100
Aruba*	$2,258	$23,300
Cayman Islands**	$2,250	$47,000
Guyana	$2,226	$2,948
Belize	$1,401	$4,061
Turks and Caicos Islands	$1,381	$36,000
Antigua and Barbuda	$1,211	$13,765
St. Lucia	$1,198	$6,884
Grenada	$773	$7,435
St. Vincent and the Grenadines	$705	$6,466
St. Christopher-Nevis	$652	$12,533
Dominica	$466	$6,859
Anguilla***	$175	$12,100
Falkland Islands[1]	$105	$35,400
Montserrat	$29	$3,400
French Guiana	$4	$19,600
United States	**$14,526,500**	**$47,050**

[1] 2002 data, [2] 2003 data, *2005 estimated data, ** 2008 data, *** 2009 data
Note: GDP data unavailable for Netherlands Antilles, Bermuda and the British Virgin Islands.
Sources: World Bank of Indicators, CIA World Factbook, UN Data and Bureau of Economic Analysis

"Mexico and Brazil were among Indiana's 2011 top 10 export partners."

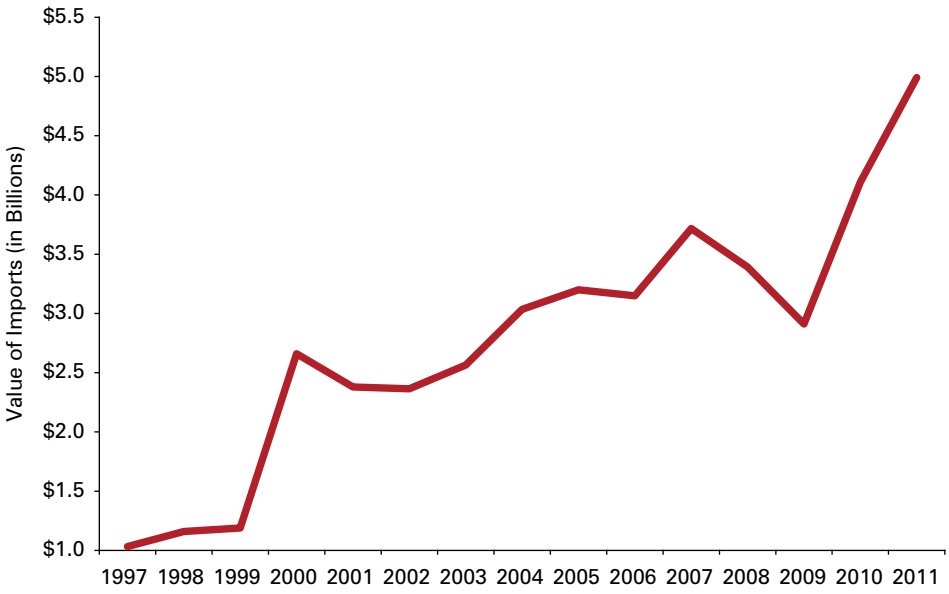
Purchases of Indiana Exports

The top two LA&C countries were among Indiana's 2011 top 10 export partners—Mexico and Brazil. Collectively, these two countries imported $4.1 billion worth of Indiana products, accounting for 83 percent of the LA&C market (see **Table 7**). Mexico has historically been one of Indiana's top, and consistent, trading partners. Exports to Brazil, on the other hand, have fluctuated; it has not been a consistent member of Indiana's "top 10" export destinations.

While a small market, Guyana had the largest average annual rate of growth over the last decade (35 percent). Of those markets ranking among the top 15 LA&C trading partners, Peru had the strongest average annual growth in the past decade. Overall, the LA&C region's trading relationship with Indiana has grown in the past decade, but especially between 2010 and 2011. **Figure 53** graphically depicts the large importers (with Mexico removed because its imports of

While not currently close to Asia or Europe in export significance, Indiana has dramatically increased its exports to LA&C countries by 383 percent since 1997

Figure 52: Indiana Exports to Latin American and Caribbean Countries, 1997-2011



Source: WISER Trade

Table 7: Top 15 Latin American and Caribbean Countries Import Trends, 2001-2011

Export Destination	2011 Ranking		Value of Indiana Exports (Millions of Current Dollars)			Average Annual Rate of Change		
	Latin American and Carribean Countries	Total Indiana Market	2001	2010	2011	2001-2011	2006-2011	2010-2011
All Latin American and Caribbean Countries	n/a	n/a	$2,379.5	$4,108.1	$4,990.6	7.4%	9.2%	21.5%
Mexico	1	2	$1,770.1	$2,613.8	$3,279.1	6.2%	6.0%	25.5%
Brazil	2	9	$290.5	$820.4	$860.4	10.9%	21.6%	4.9%
Argentina	3	25	$62.9	$101.8	$129.4	7.2%	19.4%	27.1%
Colombia	4	28	$31.4	$90.7	$114.6	12.9%	17.9%	26.4%
Chile	5	30	$32.5	$70.3	$100.2	11.2%	16.7%	42.4%
Venezuela	6	38	$47.3	$53.6	$74.2	4.5%	10.7%	38.6%
Honduras	7	39	$23.2	$51.2	$69.3	11.0%	-5.3%	35.2%
Costa Rica	8	40	$16.3	$53.3	$61.8	13.3%	21.4%	16.0%
Peru	9	43	$13.6	$40.3	$58.0	14.5%	22.7%	44.2%
Panama	10	49	$11.9	$37.4	$39.6	12.0%	18.4%	6.0%
Dominican Republic	11	50	$16.6	$24.1	$32.1	6.6%	19.1%	33.1%
Guatemala	12	52	$12.5	$18.6	$27.9	8.0%	17.1%	50.4%
Ecuador	13	54	$11.4	$17.7	$26.3	8.3%	23.8%	48.1%
Jamaica	14	55	$8.4	$29.1	$24.4	10.7%	1.0%	-16.1%
Trinidad and Tobago	15	60	$6.0	$12.9	$17.7	10.8%	14.2%	36.9%

Source: WISER Trade

Indiana goods dwarf even Brazil), **Figure 54** shows the bottom tier of LA&C importing countries as a point of comparison.

The Top Commodities Exported from Indiana to the Latin American and Caribbean Region

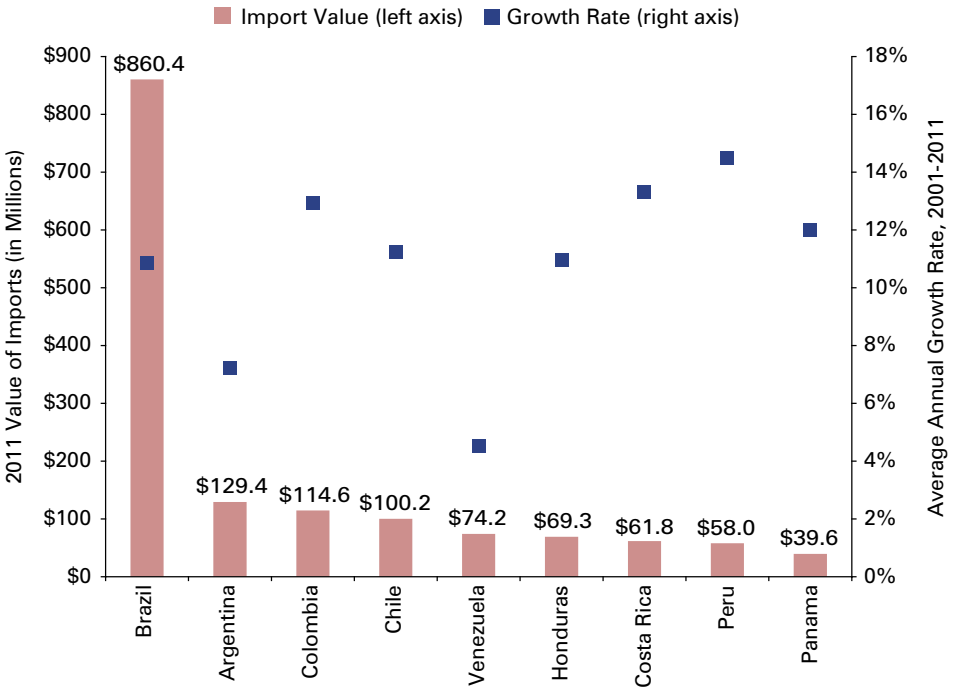
Table 8 presents the top 10 commodities exported from Indiana to LA&C countries in 2011 and their average annual growth rates. The composition of the top 10 commodities had very little change during the last 10 years; however, the ranking among the commodities has shifted over the years. Six industries have had double-digit growth since 2001. Reflecting Mexico's dominance in the LA&C market, transportation equipment edged out non-electrical machinery to claim the top spot in 2011. When Mexico is taken out of the mix, one can clearly see its void and the top 10 imported commodities' rankings shift with chemicals moving to the top spot followed by transportation equipment. Excluding Mexico, the strongest growth has been in miscellaneous manufactured commodities and food and kindred products within the past decade.

Because Mexico is the leading importer of Indiana goods in the LA&C region and overwhelms the import levels of other LA&C countries, and because earlier sections of this report have extensively discussed Mexico as an export destination, Mexico will not be represented in the subsequent graphs.

Transportation Equipment

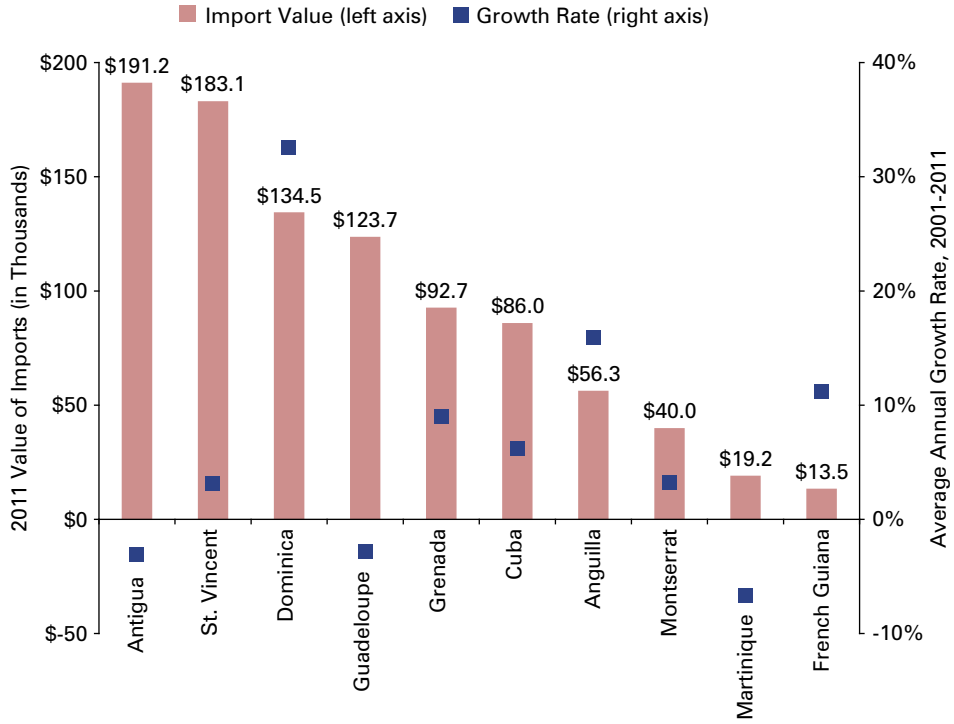
Mexico is the dominant importer of transportation equipment from Indiana at $1 billion and has grown at a 3.2 percent average annual rate. **Figure 55** presents the next top five importers: Brazil, Chile, Colombia, Guatemala and Panama. In 2007, Brazil broke the $100 million mark. Chile and Colombia's import volume

Figure 53: Latin American and Caribbean Countries Imports, High Import Values, 2001-2011



Note: Mexico was omitted from the chart due to its large import value skewing the chart.
Source: WISER Trade

Figure 54: Latin American and Caribbean Countries Imports, Small Import Values, 2001-2011



Note: The Falkland Islands was the lowest importing country, but was omitted from the chart due to having only imported Indiana goods once – in 2003.
Source: WISER Trade

Table 8: Latin American and Caribbean Countries Top 10 Imported Commodities, 2001-2011

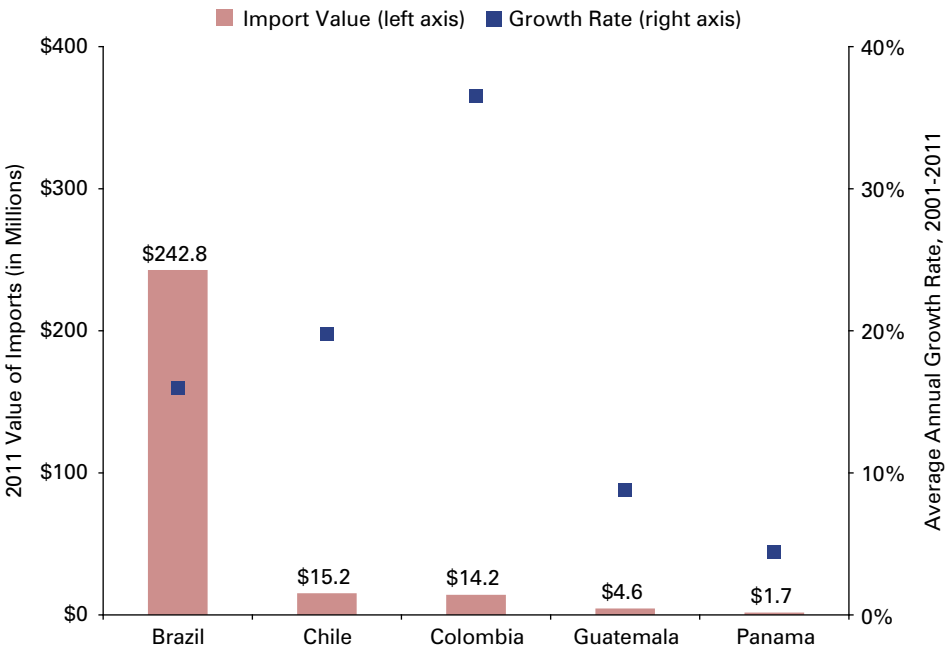
Industries*	With Mexico			Without Mexico	
	Exports (in Millions)	Average Annual Growth Rate		Exports (in Millions)	Average Annual Growth Rate
	2011	2001-2011	2010-2011	2011	2001-2011
Transportation Equipment	$1,327.4	4.6%	26.9%	$286.1	12.5%
Machinery (Except Electrical)	$1,244.7	7.3%	19.4%	$269.1	11.8%
Chemicals	$765.1	12.0%	13.6%	$520.2	11.6%
Primary Metal Manufacturing	$377.4	8.6%	32.9%	$36.8	-9.8%
Computer and Electronic Products	$241.8	3.5%	-7.5%	$139.5	9.5%
Food and Kindred Products	$225.1	19.3%	42.9%	$71.7	16.1%
Electrical Equipment, Appliances and Components	$195.4	11.9%	34.3%	$77.0	15.2%
Miscellaneous Manufactured Commodities	$132.1	15.2%	36.4%	$99.3	18.5%
Fabricated Metal Products	$129.7	5.6%	58.9%	$48.3	9.4%
Plastics and Rubber Products	$129.6	3.4%	58.9%	$55.5	3.8%

*Industries defined by the Harmonized System of Commodity Classifications
Source: WISER Trade

> *Mexico is the dominant importer of transportation equipment from Indiana at $1 billion and has grown at a 3.2 percent average annual rate.*

of transportation equipment has been somewhat volatile over the years, causing them to frequently trade rankings. Although Colombia has had the strongest average annual growth rate (36.5 percent) since 2001, it only imports $14.2 million in volume. Of all the transportation equipment Indiana exports, motor vehicle parts and aerospace products and parts were the top two imported products by the LA&C countries. Since 2002 (2001 data are not available), motor vehicle parts has had a slow average annual rate of growth of 2.1 percent,

Figure 55: Top Five Destinations for Indiana Transportation Equipment, 2001-2011§



Source: WISER Trade
§Less Mexico.

but aerospace products and parts has grown strongly at 38.9 percent, although from a relatively small base.

Machinery (except Electrical)

In 2011, 78.4 percent of Indiana's non-electrical machinery exports to our southern neighbors were destined for Mexico, its volume far exceeding the next five countries. As **Figure 56** shows, these countries had impressive, double-digit growth rates. In contrast, Mexico mustered less than 7 percent. Engines, turbines and power transmission equipment was the top traded commodity from this industry, and the second-largest exported commodity of all Indiana exports destined for the LA&C region.

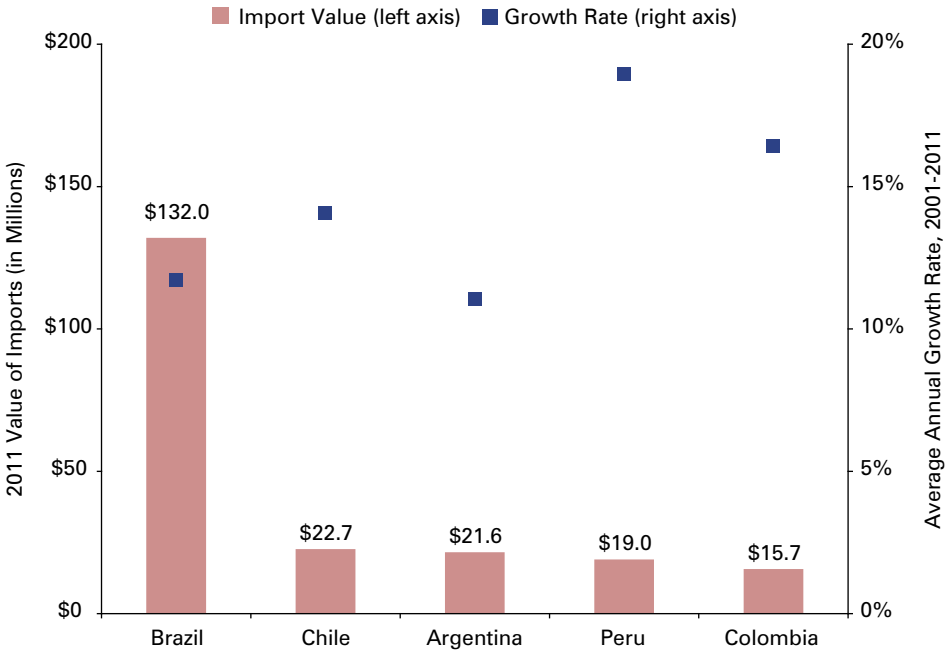
Chemicals

In contrast to the other leading Indiana industries exporting to the LA&C region, Mexico is not the top destination for chemicals. In 2011, Brazil was the top importing country of Indiana's chemical products at $312 million followed by Mexico at $245.1 million. Over the past decade, exports from Indiana's chemicals industry to the LA&C region has had an average annual growth rate of 12 percent, with double-digit growth by all of the top five importing countries except Argentina (see **Figure 57**). The predominant imported chemical commodity for the LA&C region was pharmaceuticals and medicines at $493.6 million, followed by basic chemicals at $135.6 million.

Primary Metal Manufacturing

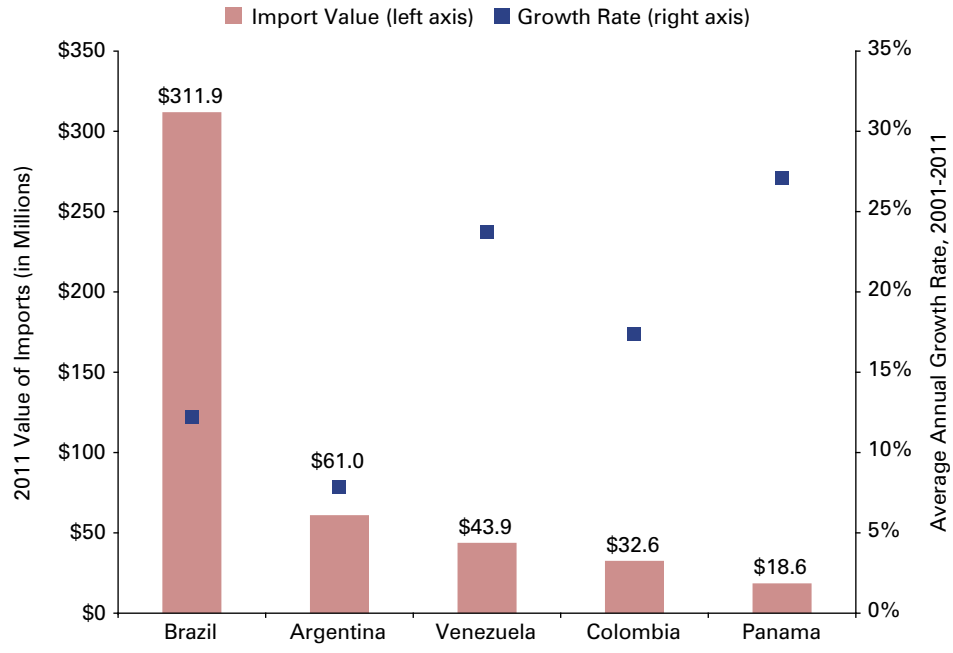
With an average annual growth rate of 17.2 percent since 2001, the share of primary metal manufacturing exports to Mexico has more than doubled (38.5 percent to 90.4 percent) and it completely overshadows the other LA&C destination markets. Imports from this industry to the region has seen a great deal of volatility—one year a country may import an amount

Figure 56: Top Five Destinations for Indiana Machinery, 2001-2011[§]



Source: WISER Trade
[§]Less Mexico.

Figure 57: Top Five Destinations for Indiana Chemicals, 2001-2011[§]



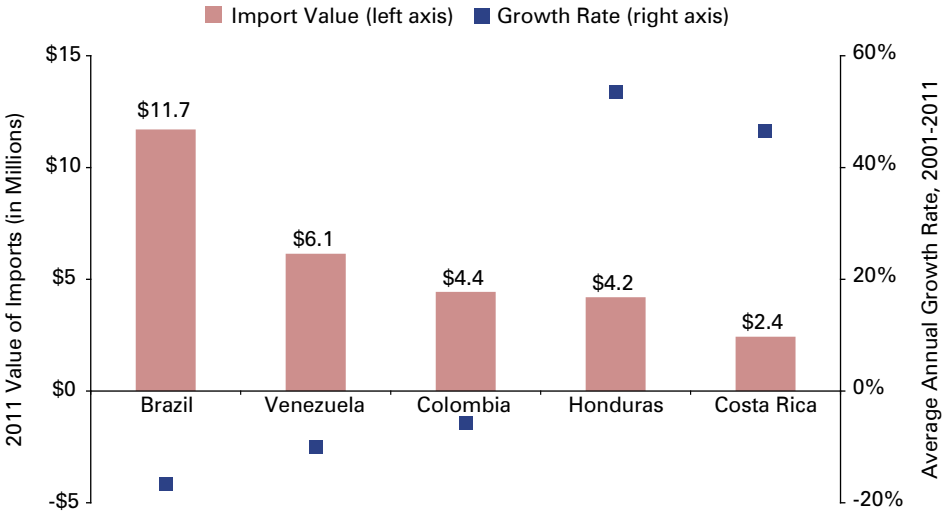
Source: WISER Trade
[§]Less Mexico.

placing them in the top five while the next year it places them in the bottom 10 countries. For Brazil, Venezuela and Colombia, 2001 was a peak import year for primary metal manufacturing products, which explains their negative average annual growth rates over the last decade (see **Figure 58**). The largest imported commodity in this category for this region—iron, steel and ferroalloy—experienced a 23 percent average annual growth rate in the past decade, due to the huge upswing in the volume exported to Mexico.

Computer and Electronic Products

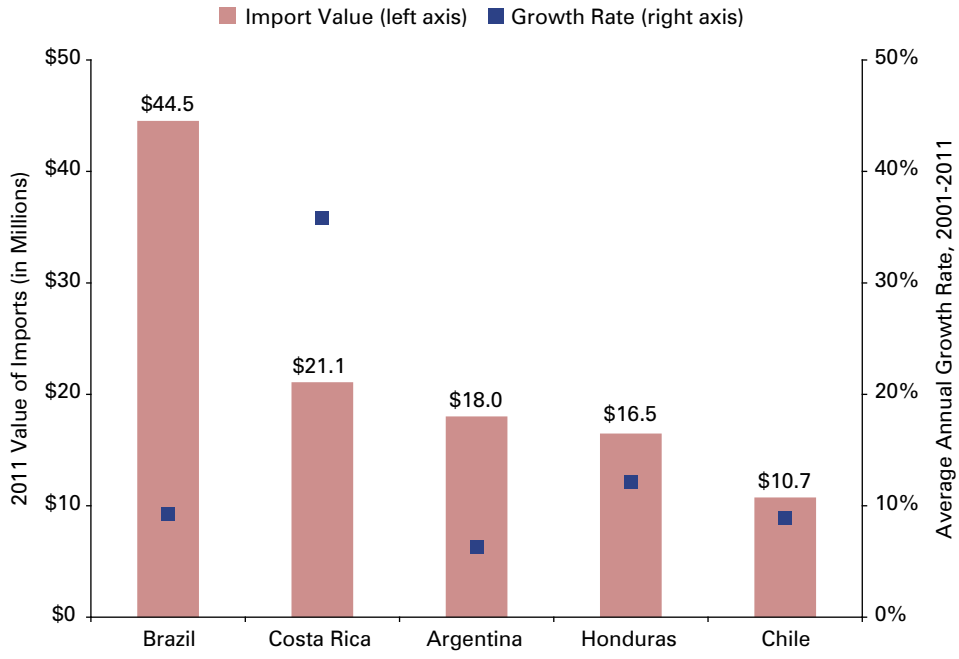
The increase in Indiana exports of computer and electronic products industry to the LA&C region was largely due to the 15.7 percent growth in navigational, measuring, electromedical and control instruments in the past decade. While Mexico's share of Indiana's exports in this industry is still the largest (43.6 percent in 2011) it is one of the few product categories for which Mexico's share has declined—it was 70 percent in 2001. Mexico's loss of import share correlates with a negative average annual growth rate of 1.3 percent. **Figure 59** presents the top five (excluding Mexico) LA&C destination markets for Indiana's computers and electronic products. While Costa Rica's average growth rate over the decade is impressive, its base import volume in 2001 was diminutive and in 2010 and 2011 exports from Indiana surged. For the entire LA&C region, exports from this Hoosier industry had a modest average annual rate of growth of 3.4 percent. ■

Figure 58: Top Five Destinations for Indiana Primary Metal Manufacturing, 2001 to 2011[§]



Source: WISER Trade
[§]Less Mexico.

Figure 59: Top Five Destinations for Indiana Computer and Electronic Products, 2001-2011[§]



Source: WISER Trade
[§]Less Mexico.

Appendix: Indiana Exports for All Commodities

Rank	Description	Annual (in Millions)			Percent Change		Commodity as a Percent of Total		Change (in Millions)	
		2009	2010	2011	2009-2010	2010-2011	2010	2011	2009-2010	2010-2011
	Total: All Commodities	$22,907	$28,745	$32,200	25.5%	12.0%	100.0%	100.0%	$5,838	$3,455
1	Vehicles and Parts (Except Railway)	$4,230	$6,626	$7,732	56.6%	16.7%	23.1%	24.0%	$2,396	$1,106
2	Industrial Machinery (Including Computers)	$3,587	$4,282	$5,075	19.4%	18.5%	14.9%	15.8%	$695	$793
3	Pharmaceutical Products	$3,809	$4,700	$4,883	23.4%	3.9%	16.4%	15.2%	$891	$183
4	Optical and Medical Instruments	$1,997	$2,312	$2,305	15.8%	-0.3%	8.0%	7.2%	$315	-$7
5	Electric Machinery	$1,720	$1,780	$1,772	3.5%	-0.5%	6.2%	5.5%	$60	-$9
6	Organic Chemicals	$1,244	$1,543	$1,430	24.1%	-7.3%	5.4%	4.4%	$299	-$113
7	Plastics and Articles Thereof	$790	$996	$1,112	26.1%	11.7%	3.5%	3.5%	$206	$116
8	Iron and Steel	$688	$798	$1,026	16.1%	28.6%	2.8%	3.2%	$110	$228
9	Aircraft, Spacecraft and Related Parts	$603	$825	$961	36.7%	16.6%	2.9%	3.0%	$221	$137
10	Miscellaneous Chemical Products	$441	$534	$632	21.0%	18.4%	1.9%	2.0%	$93	$98
11	Articles of Iron or Steel	$256	$334	$418	30.5%	25.4%	1.2%	1.3%	$78	$85
12	Aluminum and Articles Thereof	$286	$329	$393	15.0%	19.4%	1.1%	1.2%	$43	$64
13	Furniture, Bedding, Lamps, Prefabricated Beds and Nesoi	$265	$318	$358	20.1%	12.7%	1.1%	1.1%	$53	$40
14	Printed Books, Newspapers, Manuscripts and Etc.	$319	$361	$296	13.0%	-17.8%	1.3%	0.9%	$42	-$64
15	Rubber and Articles Thereof	$213	$240	$259	12.6%	7.6%	0.8%	0.8%	$27	$18
16	Copper and Articles Thereof	$106	$163	$222	54.1%	35.9%	0.6%	0.7%	$57	$59
17	Meat and Edible Meat Offal	$94	$152	$210	60.7%	38.1%	0.5%	0.7%	$57	$58
18	Art of Stone, Plaster, Cement, Asbestos and Mica Etc.	$36	$88	$206	146.2%	134.9%	0.3%	0.6%	$52	$118
19	Albuminoidal Substances, Modified Starch, Glue and Enzymes	$116	$142	$176	21.7%	24.0%	0.5%	0.5%	$25	$34
20	Mineral Fuel, Oil, Bitumin Substances and Mineral Wax	$108	$145	$176	34.3%	21.1%	0.5%	0.5%	$37	$31
21	Nickel and Articles Thereof	$169	$127	$155	-25.3%	22.4%	0.4%	0.5%	-$43	$28
22	Wood, Articles of Wood and Wood Charcoal	$151	$160	$150	6.0%	-6.3%	0.6%	0.5%	$9	-$10
23	Paper, Paperboard and Related Articles	$122	$131	$146	7.4%	11.5%	0.5%	0.5%	$9	$15
24	Prep Cereal, Flour, Starch, Milk and Bakers Wares	$70	$74	$133	6.9%	78.9%	0.3%	0.4%	$5	$59
25	Sugars and Sugar Confectionary	$58	$88	$129	52.1%	47.0%	0.3%	0.4%	$30	$41
26	Miscellaneous Articles of Base Metal	$124	$124	$129	-0.6%	4.4%	0.4%	0.4%	-$1	$5
27	Tanning and Dye Extract, Dye, Paint, Putty, Inks and Etc.	$96	$127	$124	33.0%	-2.2%	0.4%	0.4%	$32	-$3
28	Glass and Glassware	$97	$104	$124	6.5%	20.0%	0.4%	0.4%	$6	$21
29	Special Classification Provisions, Nesoi	$109	$112	$112	2.6%	0.1%	0.4%	0.3%	$3	$0
30	Soap, Waxes, Polish, Candles, Dental Preps and Etc.	$66	$75	$100	12.7%	33.4%	0.3%	0.3%	$8	$25
	Total of Top 30 Commodities	**$21,971**	**$27,789**	**$30,947**	**26.5%**	**11.4%**	**96.7%**	**96.1%**	**$5,817**	**$3,158**

Note: Nesoi stands for "not elsewhere specified or indicated."
Source: WISER Trade