Global Positioning

Indiana's Export Activity, 2014

KELLEY SCHOOL OF BUSINESS
INDIANA UNIVERSITY
Indiana Business Research Center

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October 2014

Timothy F. Slaper, Ph.D.,
Director of Economic Analysis

Tanya Hall,
Economic Research Analyst

Prepared by:
Indiana Business Research Center
Kelley School of Business
Indiana University

www.ibrc.indiana.edu

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Production of this report was partially supported by the Indiana University Center for International Business Education and Research.

Executive Summary

In 2013, the United States exported nearly $1.6 trillion in goods and services. Of these exports, Indiana's share was $34.2 billion, $0.2 billion lower than in 2012. While Indiana turned in strong export performance and recovered quickly from the adverse effects of the Great Recession, recent anemic economic growth in the eurozone and weaker than expected growth in several emerging economies put a damper on Indiana's exports in 2013.

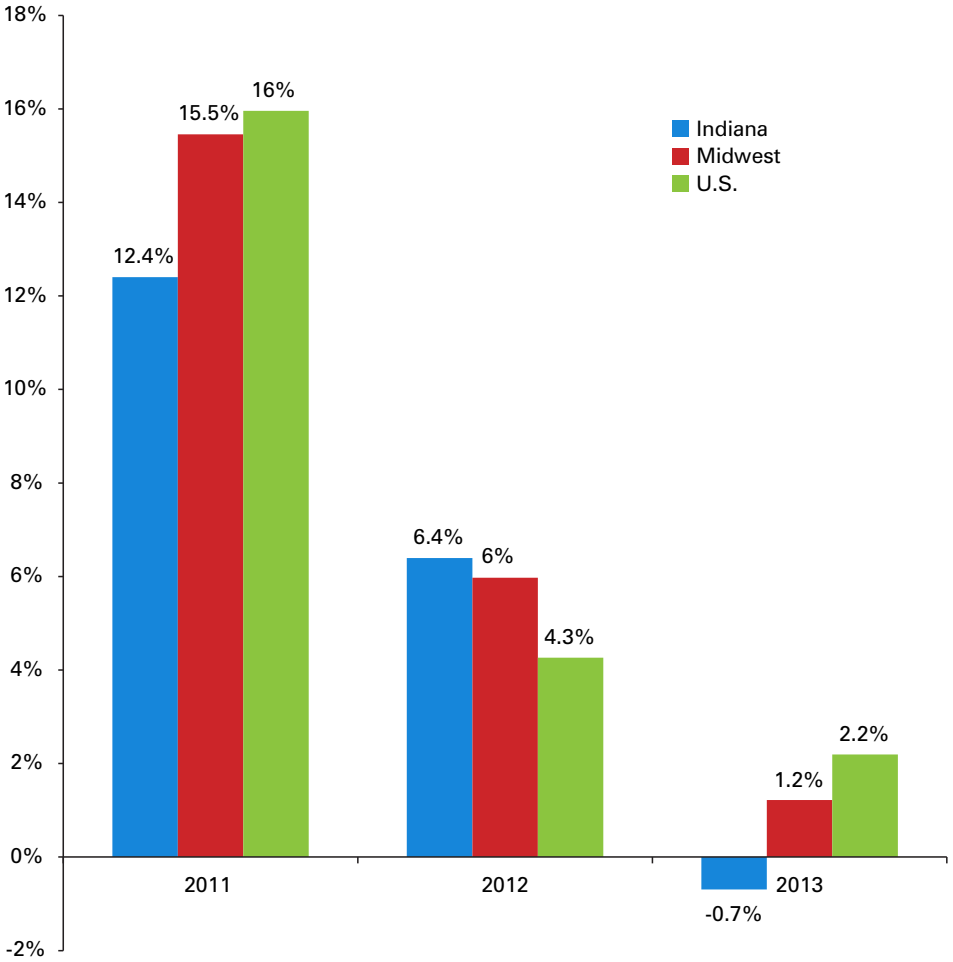
As shown in **Figure 1**, both the United States and the Midwestern states outperformed Indiana in 2013.[1] Indiana's exports decreased 0.7 percent, while exports grew by 2.2 percent nationally and 1.2 percent in the Midwest from 2012 to 2013.

Relatively speaking, exports are more important to Indiana than other states. While Indiana's economic output (GDP) ranks 16th in the country, its dependency on exports ranks 12th.

Transportation equipment and the life science industries (pharmaceuticals and medical instruments) are the leading export industries in Indiana (see **Table** 1). Most of Indiana's export industries have had strong average annual growth over the last decade, notably aircraft, spacecraft and related parts; pharmaceuticals; iron, steel and related products; optical and medical instruments; and agricultural products.

If the weak (perhaps negative) economic growth that is expected in most of the eurozone continues, it will reduce demand for exports, including those from Indiana. On the upside,

Figure 1: Annual Change in Exports for Indiana, the Midwest and the United States, 2011 to 2013



Source: WISER Trade

Table 1: Indiana's Top Five Export Industries, 2013

Industry	2013 Exports (in millions)	Average Annual Growth Rate, 2003-2013
Vehicles and Parts (Excluding Railway)	$7,561	5.2%
Pharmaceutical Products	$6,303	21.5%
Industrial Machinery (Including Computers)	$5,277	3.9%
Optical and Medical Instruments	$2,472	9.0%
Electric Machinery	$2,141	4.9%

Source: WISER Trade

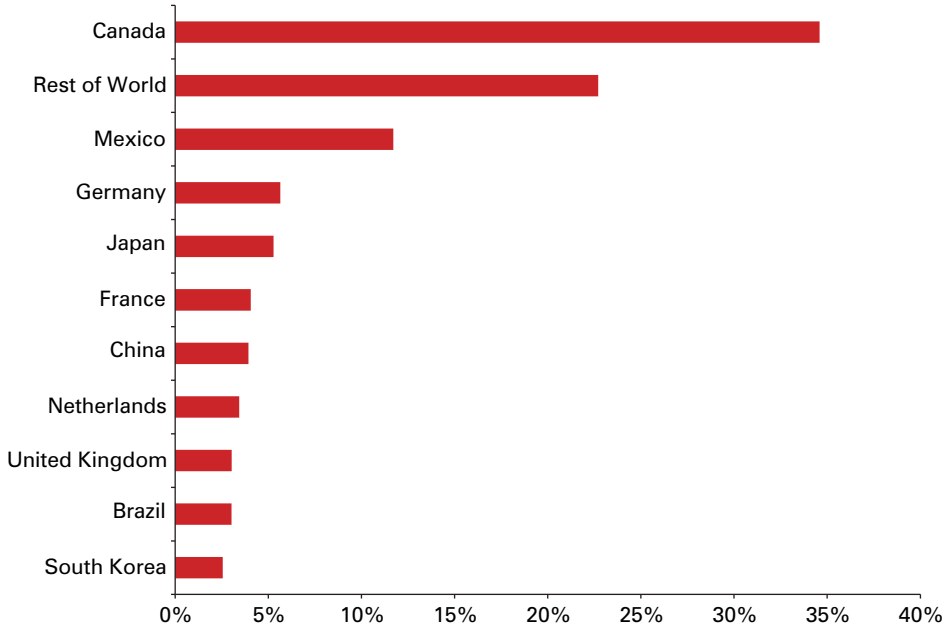
[1] The Midwest, for the purposes of this report, is defined broadly: Indiana, Illinois, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, Tennessee and Wisconsin.

Canada and Mexico are Indiana's primary markets (see **Figure 2**).

Even though China ranks sixth as far as exports from Indiana are concerned, it is important to note that over the past 10 years, the value of Indiana's exports to the country have risen 475 percent.

While many may look to the emerging economies for growth, there may be less potential for expanded export opportunities in the near future. For example, the BRICS countries (Brazil, Russia, India, China and South Africa) are, as a group, not turning in the rates of growth experienced recently. Moreover, trade between the U.S. and Russia may go from small to almost nil as a result of rising political tensions and the ripple effects of trade sanctions. All that to say: export growth will not likely be the economic stimulus it was from 2010 to 2012.

Figure 2: Indiana's Leading Export Destinations, 2013



Source: WISER Trade

Introduction

Exporting presents a significant opportunity for Indiana businesses to increase sales and profits and to create jobs. As a result, Indiana's future economic development and prosperity in some aspects depend on the state's ability to integrate into the global economy.

The Indiana Business Research Center (IBRC) monitors the global business activity occurring within Indiana's borders together with export-oriented activity elsewhere. This report provides detailed information regarding the export activity of goods and agricultural products produced in Indiana and sold internationally.

The first section presents the global economic trends and forecasts that are likely to affect Indiana's export industries. Detailed information regarding industry mix and export destination data are then presented to shed light on the importance of exports as sources of employment and economic growth in Indiana.

The majority of the data used for this report were gathered from public data sources that include the Bureau of Economic Analysis, the Bureau of Labor Statistics and WISER Trade (a commercial database). Using all of these sources, this report presents a complete picture of the state's export activity in the global economy.

Global Economic and Trade Outlook

The Great Recession had a significant impact on economies worldwide, though in some cases the effects were delayed. Data show that U.S. exports did not diminish until 2009, contracting 18 percent, but the rebounds in 2010 (21 percent) and 2011 (16 percent) were relatively strong. In 2013, the nation's export growth slowed considerably from 2012, to a mere 2.2 percent growth. Indiana's experience followed a similar pattern, with the state outperforming the U.S. in some years (2012), but lagging behind in others (2013).

The International Monetary Fund (IMF) predicted world output to grow 3.2 percent in 2013 (same as 2012 figures) and 3.4 percent in 2014. The IMF forecasts that the advanced economies—Indiana's primary trading partners—will grow by 1.8 percent in 2014 and 2.4 percent in 2015.[2]

Table 2 presents the Organization for Economic Cooperation and Development's (OECD) economic growth forecasts for Indiana's leading export destinations. It projects lethargic growth by the eurozone countries as a whole, though Germany and France will likely outperform their neighbors. The top three countries with expected growth in 2014 include China (7.4 percent), South Korea (4.0 percent) and Mexico (3.4 percent), and this growth is expected to sustain itself in 2015, according to OECD forecasts.

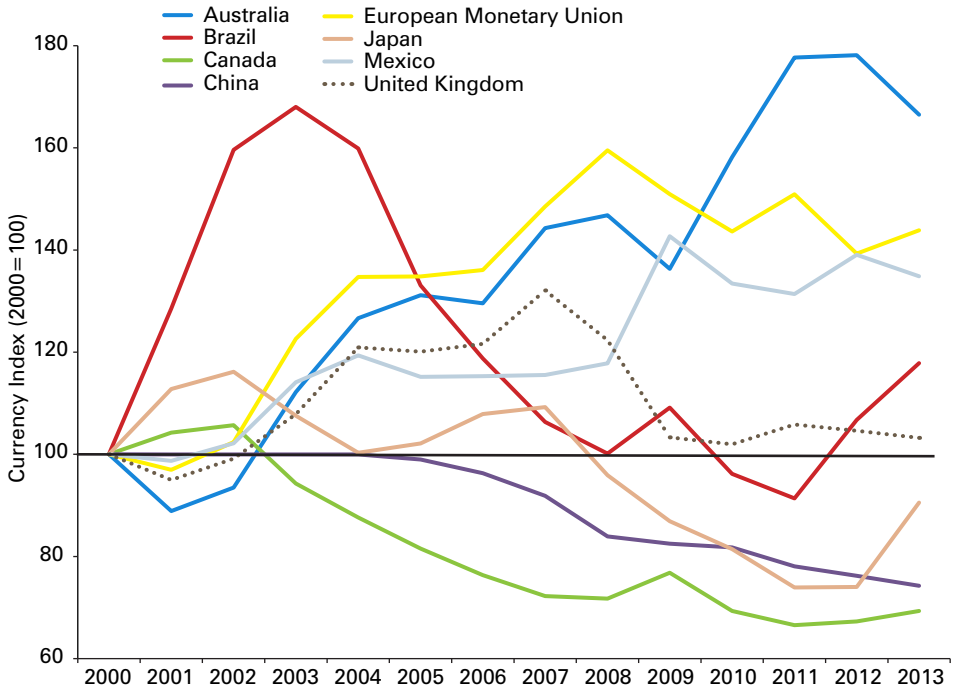
There is no single narrative in terms of movements in the foreign exchange market. Since 2000, most of the U.S. trading partners had an increase in their cost of foreign exchange in U.S. dollars. Since the end of the recession, foreign exchange trends have been mixed—a tug of war between monetary policy and a flight to safety into dollars (see **Figure 3**).

Table 2: Percent Change in Real GDP from Previous Year, 2012 to 2015

	Actual		Forecast	
Nation	2012	2013	2014	2015
China	7.7	7.7	7.4	7.3
South Korea	2.3	3.0	4.0	4.2
Australia	3.6	2.4	2.6	2.9
Brazil	1.0	2.3	1.8	2.2
Canada	1.7	2.0	2.5	2.7
United States	2.8	1.9	2.6	3.5
United Kingdom	0.3	1.7	3.2	2.7
Japan	1.4	1.5	1.2	1.2
Mexico	3.7	1.3	3.4	4.1
Germany	0.9	0.5	1.9	2.1
France	0.0	0.3	0.9	1.5
Euro Area	-0.6	-0.4	1.2	1.7
Netherlands	-1.3	-0.8	1.0	1.3

Note: This table is sorted by the actual 2013 growth rate.
Source: Organization for Economic Cooperation and Development

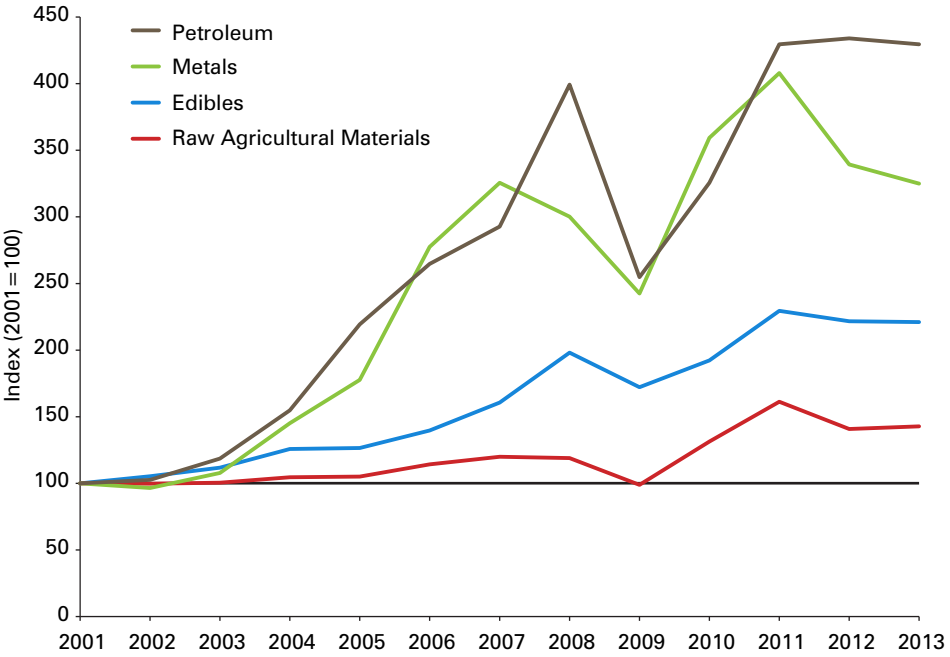
Figure 3: Foreign Exchange Trends for Indiana's Top Trading Partners, 2000 to 2013



Source: Federal Reserve

[2] More IMF projections can be found at www.imf.org/external/pubs/ft/weo/2014/update/02/.

Figure 4: World Primary Commodity Prices, 2001 to 2013

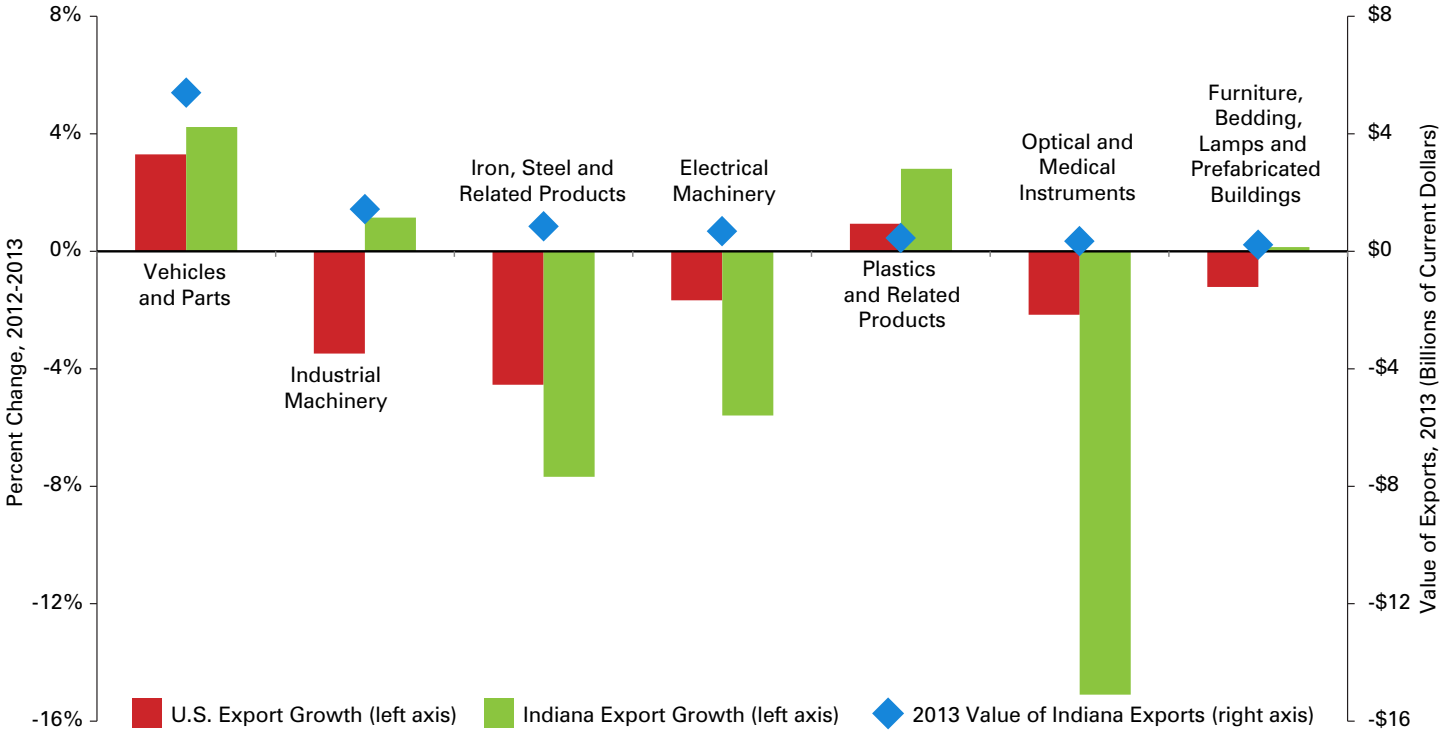


Source: International Monetary Fund

While a weakening dollar tends to encourage export sales, it also can increase raw commodity prices, thus discouraging demand. **Figure 4** presents the trends in commodity prices since 2001. The 2008-2009 dip in commodity prices reflects a strengthened U.S. dollar, the financial crisis and the subsequent lower demand for commodities. In 2011, the weak global economy helped boost commodity demand and prices. Across all categories in 2012, prices saw either declines or no growth in commodity prices. In 2013, a few countries saw positive increases, but many remained stagnant.

Canada continues to be the largest market for the U.S. and Indiana. U.S. exports to Canada grew by 3.1 percent from 2012 to 2013, while Indiana registered a 0.7 percent decline. **Figure 5** shows the change in Indiana's top seven leading export categories to Canada for both the United States and Indiana between 2012 and 2013. Vehicles and parts remained Indiana's top exported commodity, increasing 4.2 percent from 2012 to 2013. Indiana exceeded the national growth rates for vehicles and parts, industrial machinery, and plastics and related products.

Figure 5: Value and Growth of Exports to Canada by Industry, Comparison of U.S. and Indiana, 2013



Source: WISER Trade

While the traditional trading partners of Canada, Mexico, Japan and Europe are still dominant, emerging economies are becoming increasingly important. The popular acronym "BRIC" was coined in 2001 to define four large, emerging economies: Brazil, Russia, India and China. It was projected that these four nations would experience rapid economic growth and combined could possibly surpass the richest economies in the world. Recently, South Africa was added to the group, changing BRIC to BRICS. These countries are beginning to collaborate with the announcement of establishing a development bank to help fund five-year infrastructure plans. Together these five countries account for nearly 40 percent of the world's population, and GDP growth has averaged 8 percent in the past decade.[3]

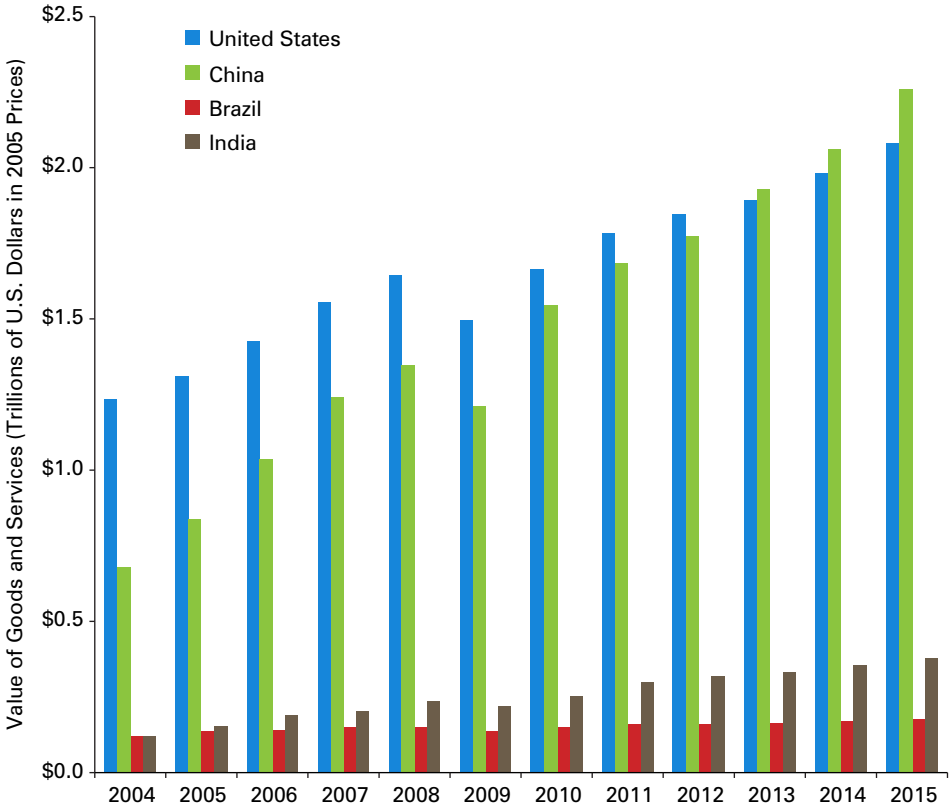
As the BRICS countries grow, the middle class is expected to demand (and hence import) more high-value-added products, such as vehicles, office equipment and technology. For these reasons, monitoring trading trends with these countries is warranted. **Table 3** shows the recent history and expectations of exports of the United States, Brazil, China and India.[4] **Figure 6** graphically displays the export trends of these countries. China is the dominant BRICS country and has had one of the highest growth rates for both imports and exports. While its trade activity is much smaller, India has experienced high growth rates in both imports and exports—a trend that is expected to continue.

Table 3: Trade Activity of the United States, Brazil, China and India, 2004 to 2015

Nation	Realized Average Annual Growth Rate, 2004-2012		Projected Average Annual Growth Rate, 2013-2015	
	Imports	Exports	Imports	Exports
United States	2.0%	5.7%	5.0%	4.7%
Brazil	11.2%	5.0%	3.3%	4.6%
China	10.4%	9.0%	12.0%	7.9%
India	15.3%	4.4%	12.2%	6.5%

Note: Data for Russia and South Africa are unavailable.
Source: Organization for Economic Cooperation and Development

Figure 6: Exports from the United States, Brazil, China and India, 2004 to 2015



Note: Data for 2014 and 2015 are projected.
Source: Organization for Economic Cooperation and Development

[3] The International Social Security Association article on the BRICS countries can be found at www.issa.int/-/brics-countries-leading-the-global-growth-of-social-security.

[4] OECD does not have data on Russia or South Africa.

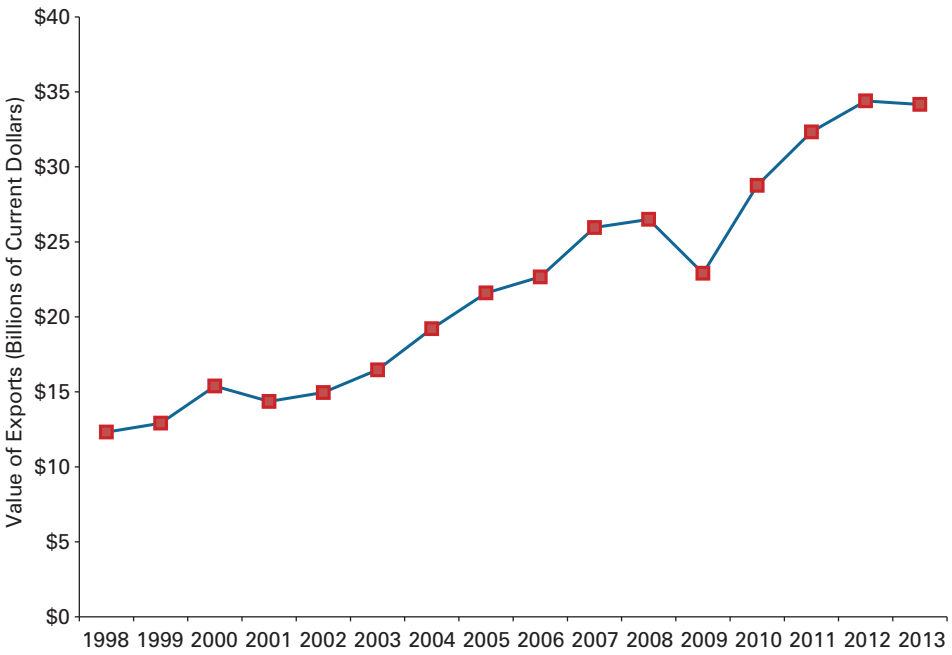
Indiana Export Trends

In 2013, the U.S. exported nearly $1.6 trillion worth of goods and services. Indiana contributed nearly $34.2 billion to that total. In the past decade, Indiana's export growth rate (7.3 percent average annual growth) is slightly below the nation's 7.8 percent average annual growth. Except for recession-induced dips in 2001 and 2009—and the weak European demand in 2013 due to the continent's anemic growth—Indiana's exports have steadily risen since 1998 (see **Figure 7**). The export value has nearly tripled since 1998, from $12.3 billion to $34.2 billion in 2013.

Indiana's exports grew steadily between 2001 and 2006 and accelerated in 2007 to 2008. While the Great Recession affected exports in 2009, the state rebounded strongly between 2010 and 2012 (growing 25.6 percent from 2009 to 2010, 12.4 percent from 2010 to 2011, and 6.4 percent from 2011 to 2012). Indiana hit a speed bump in 2013, declining 0.7 percent from 2012 and ending a three-year period of solid growth. As shown in **Figure 8**, Indiana recovered from the recession more quickly than the Midwest or United States. Since 1999, Indiana's year-to-year export growth has outperformed the Midwest and nation nine times.

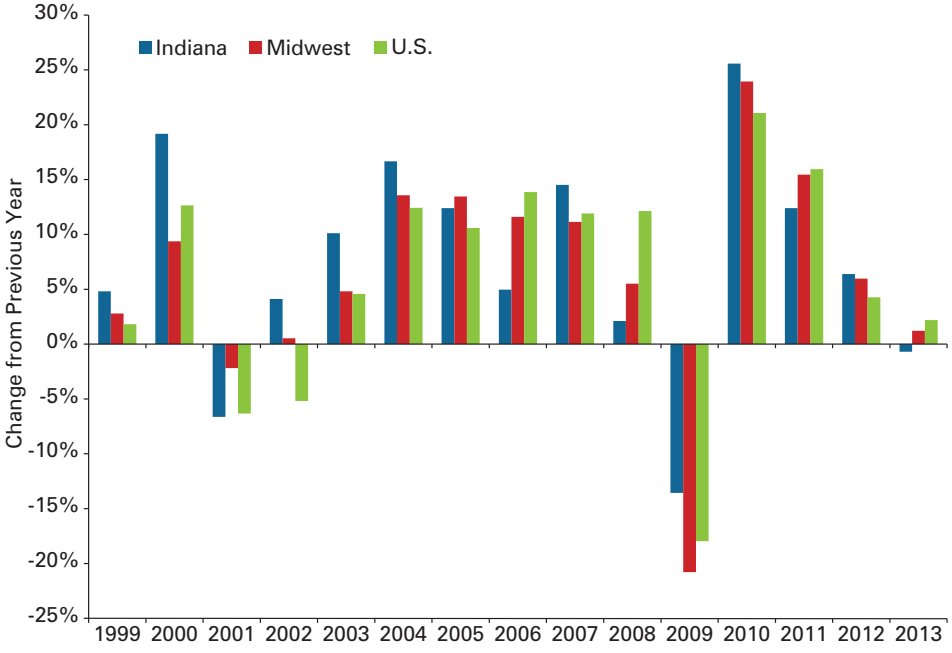
> *Indiana hit a speed bump in 2013, ending a three-year period of solid growth.*

Figure 7: Indiana Exports, 1998 to 2013



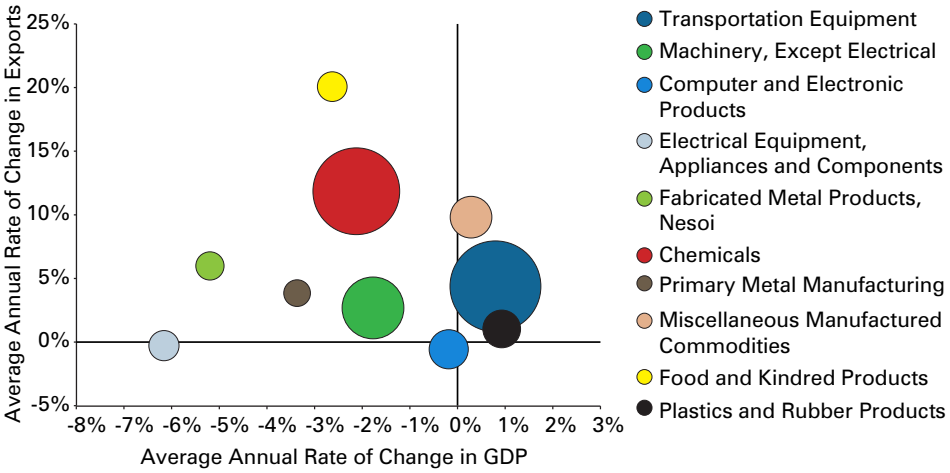
Source: WISER Trade

Figure 8: Change in Exports from Indiana, Midwest and United States, 1999 to 2013



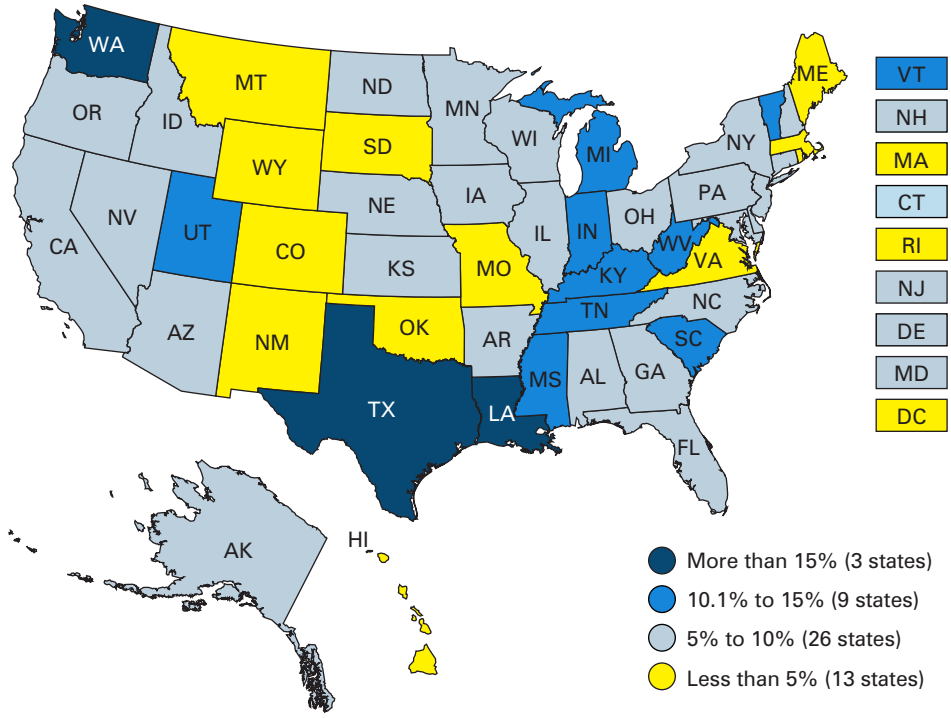
Source: WISER Trade

Figure 9: Comparing Indiana's Growth in Exports and GDP by Industry, 2007 to 2012



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 2012 export value. 2012 data were used for both GDP and export value due to 2013 GDP data suppression by detailed industry.
Source: WISER Trade (exports) and the Bureau of Economic Analysis (gross domestic product)

Figure 10: Comparing State Economies on Export Dependency



Note: Values represent the ratio of state total exports to state GDP.
Source: WISER Trade

Figure 9 shows that, between 2007 and 2012, all of Indiana's top 10 exporting industries except computer and electronic products enjoyed greater average annual rates of growth than their average annual GDP growth. The top two industries in 2012 export volume had differing effects on the state's average annual GDP growth, with chemicals experiencing a decline of 2 percent and transportation equipment marginally increasing by 0.8 percent.

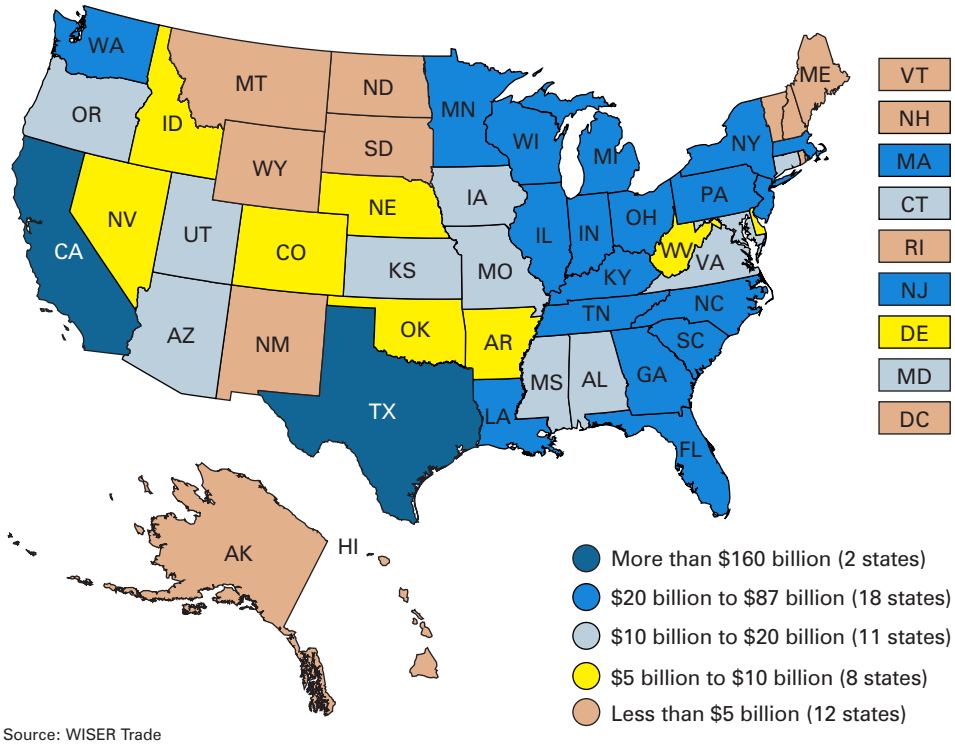
Indiana's economy is dependent on exports to a larger degree than most other states. **Figure 10** compares Indiana's exports-to-GDP ratio with the rest of the country. GDP—the sum of all value-added components, such as wages and profits—and sales (as in the value of exported goods) are not conceptually the same. This is because the sales figure 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.[5] In terms of export dependency, measured by the ratio of exports to GDP, Indiana ranked 12th at 10.8 percent. Three states had ratios greater than 15 percent, with Louisiana having the highest dependency at 25 percent. In the Midwest, Kentucky, Michigan, and Tennessee had the largest shares of export dependency (ranging between 11.2 percent and 13.8 percent).

Figure 11 reflects the dollar value of export sales by state. Texas and California dominate, with exports valued at $279.5 billion and $168 billion, respectively. Indiana held its own at 13th place. Only three Midwestern states exceeded Indiana's exports: Illinois, Michigan and Ohio.

Since 2011, exports among states have been volatile, ranging from a 47.8 percent average annual growth rate (District of Columbia) to a 19.6 percent average annual drop (Hawaii) in exports. Indiana's average annual growth rate from 2011 to 2013 was 2.8 percent, less than the U.S. average of 3.2 percent (see **Figure 12**). In the Midwest, Kentucky, Michigan, Ohio and Tennessee outperformed the U.S. and Indiana.

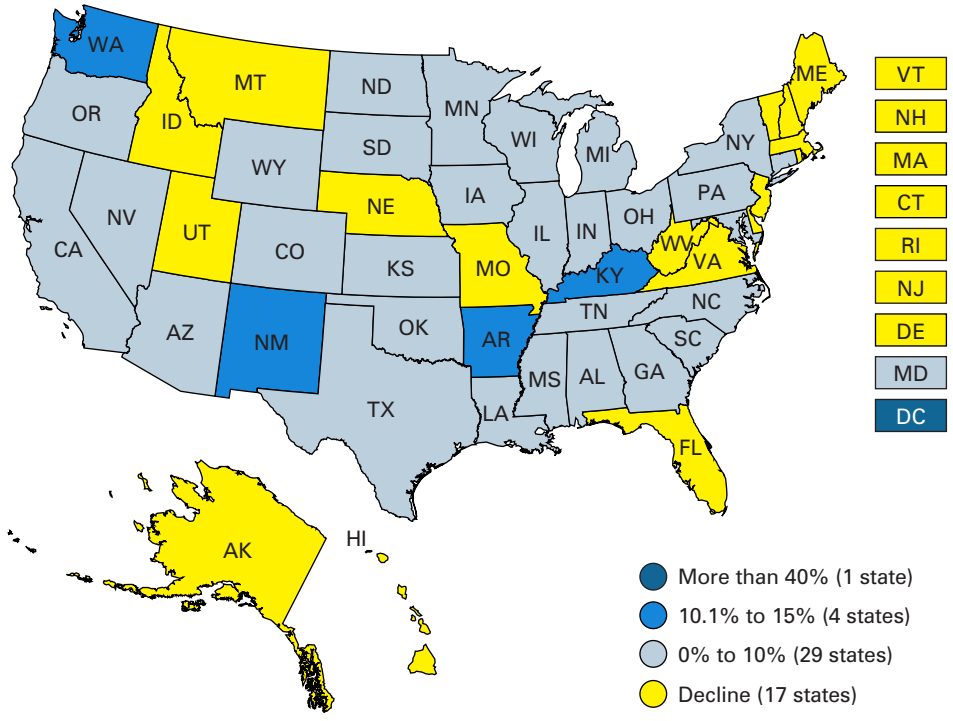
[5] In previous reports, data were available to determine the percentage of manufacturing employment dependent upon exports. The Census Bureau no longer reports these data.

Figure 11: Value of Exports by State in Current Dollars, 2013



Source: WISER Trade

Figure 12: Average Annual Rate of Change in Exports, 2011 to 2013



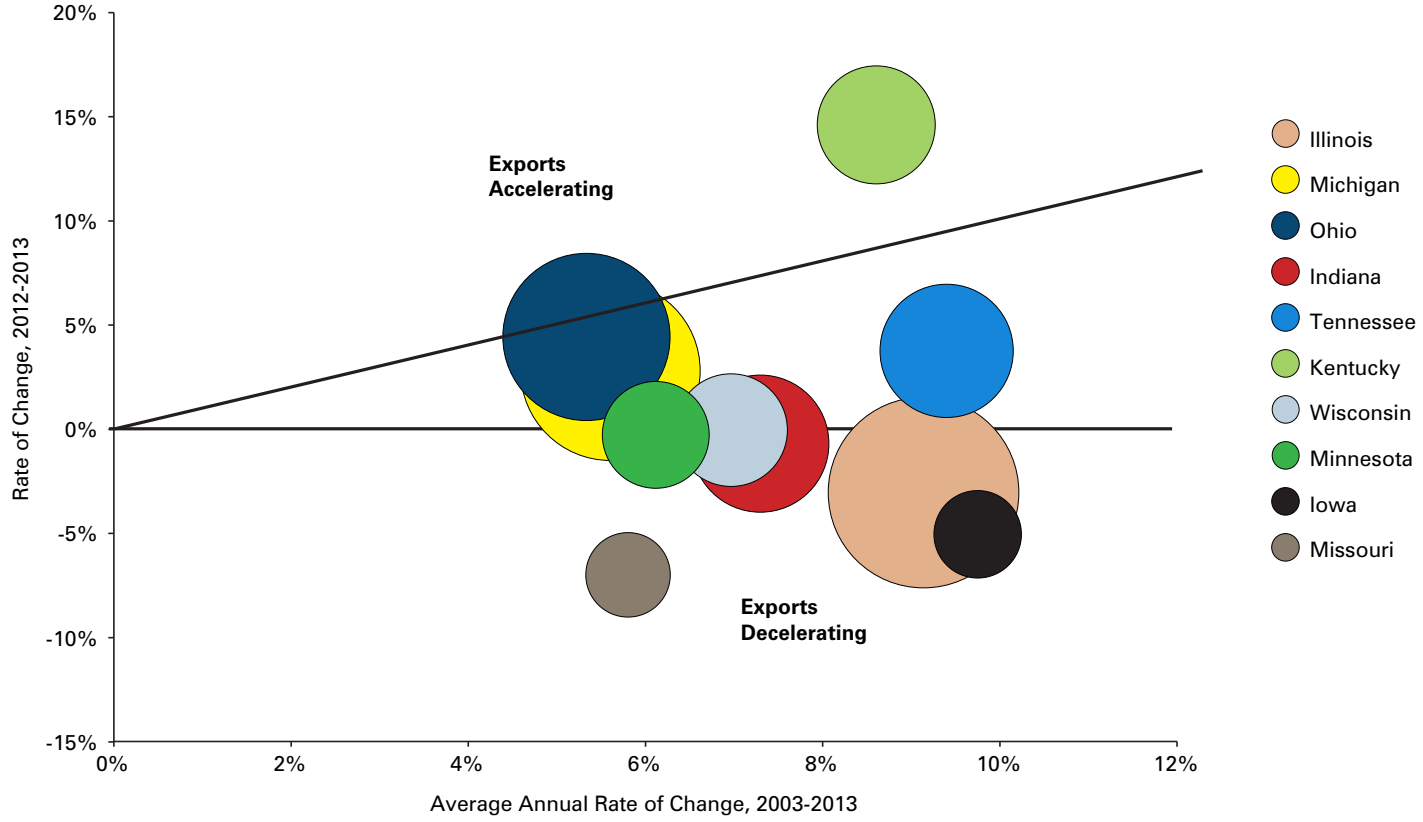
Source: WISER Trade

Indiana held its own at 13th place in dollar value of exports. Only three Midwestern states exceeded Indiana's exports: Illinois, Michigan and Ohio.

Figure 13 compares the rate of export increase to the relative dollar value of exports in the Midwestern states. The horizontal axis shows a decade's average annual growth rate for exports, 2003 to 2013. The vertical axis plots the change in exports from 2012 to 2013. The bubble size reflects the relative value of each state's 2013 exports. A bubble above the diagonal line indicates that the most recent year's growth exceeds the 2003 to 2013 trend. For example, Kentucky's exports accelerated greatly in 2013, unlike most of the remaining Midwestern states for which 2013 was not such a kind year in the export department. Bubbles below the diagonal line indicate that the most recent year's growth is below trend.

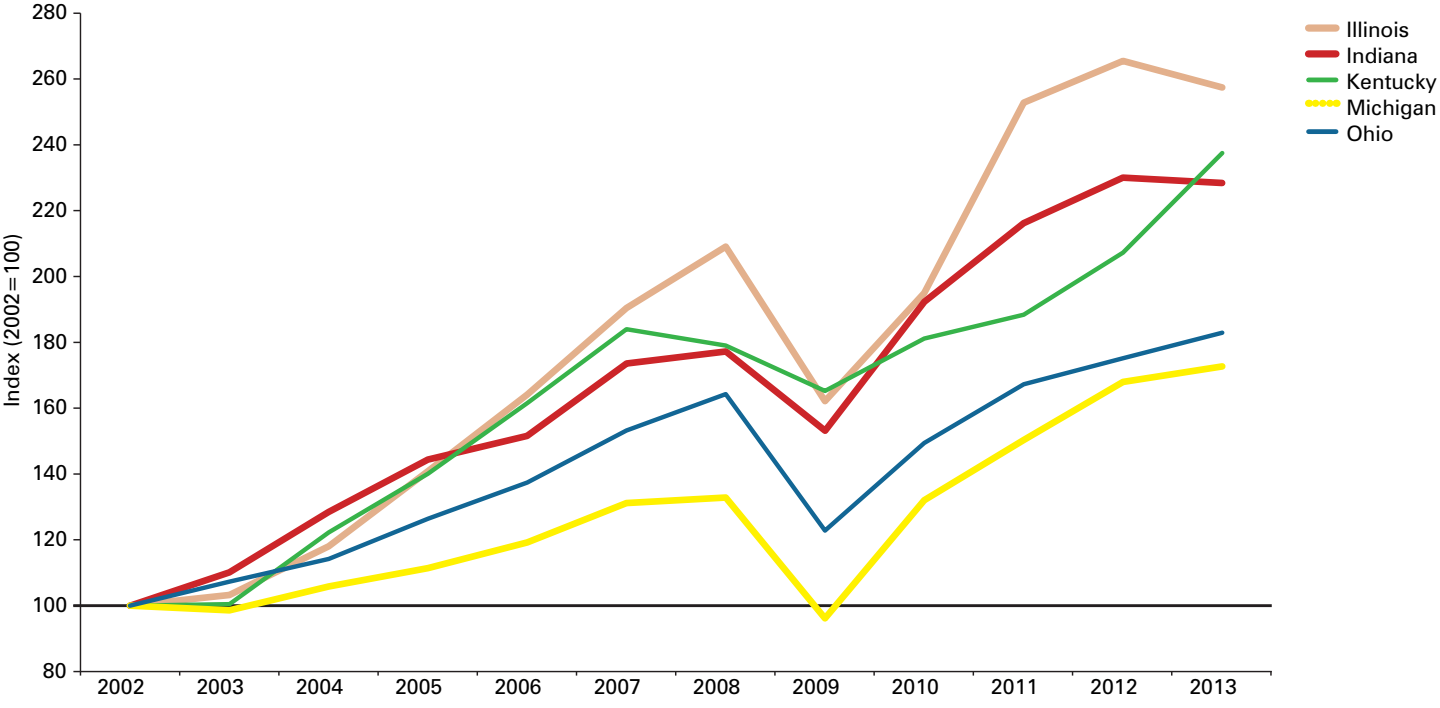
Figure 14 compares Indiana's export growth from 2002 to 2013 to neighboring states. Illinois and Kentucky's performance has rivaled that of Indiana.

Figure 13: Export Trends Compared to Recent Performance in the Midwest, 2003 to 2013



Note: Bubble size indicates the 2013 export value.
Source: WISER Trade

Figure 14: Export Index for Selected Midwestern States, 2002 to 2013



Source: WISER Trade

Indiana Export Destinations

Canada and Mexico are Indiana's top two export markets. In 2013, Canada captured 34.6 percent of the state's exports, whereas Mexico accounted for 11.7 percent of Indiana's exports. Germany emerged as the third top destination for Hoosier goods in 2009 and by 2013 accounted for 5.6 percent of all Indiana exports. **Table 4** summarizes Indiana's exports to the top 10 country destinations in 2013, presenting the current dollar value of exports and the growth in exports over one, five and 10 years.

> *Most of the countries for which Indiana exports have been declining—the United Kingdom, France and Germany, for example—have been experiencing overall lackluster economic performance.*

The top 10 destinations accounted for approximately 77 percent of Indiana's exports in 2013. **Figure 15** graphically depicts how recent export performance compares with export trends from the last decade. The graph also shows how Canada dominates Indiana's export portfolio. With the exception of the Netherlands and Brazil, export growth (or export shrinkage for several countries) has not kept pace with the average over the last 10 years. Most of the countries for which Indiana exports have been declining—the United Kingdom, France and Germany, for example—have been experiencing overall lackluster economic performance. Some have even intimated that Europe has been in a depression. A depressed economy does not typically increase its imports.

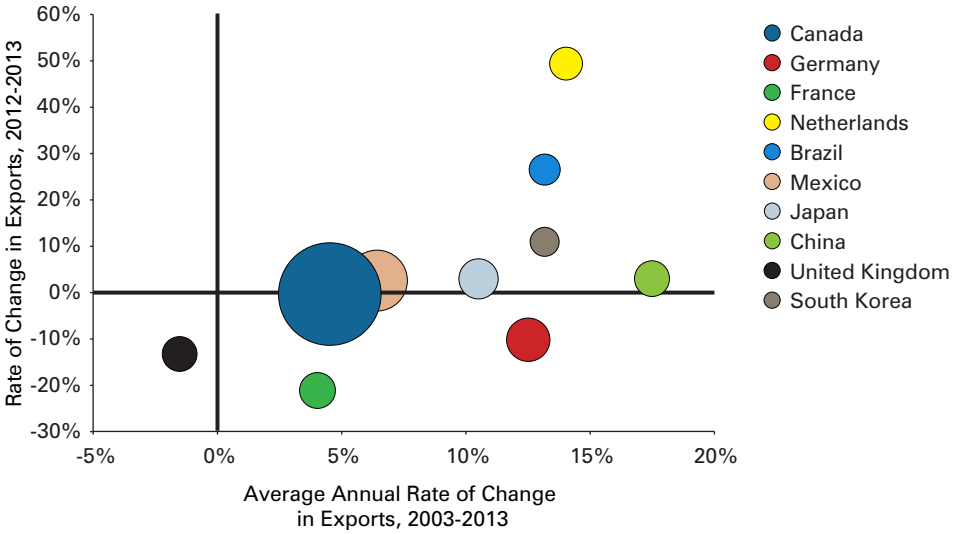
Figure 16 compares the annual change in exports to Indiana's top 10

Table 4: Indiana's Top Export Destinations—Value and Average Annual Rate of Change, 2003 to 2013

Export Destination	Value of Exports (Millions of Current Dollars)			Average Annual Rate of Change		
	2011	2012	2013	2012-2013	2008-2013	2003-2013
World Total	$32,332	$34,399	$34,162	-0.7%	5.1%	7.3%
Canada	$11,808	$11,900	$11,816	-0.7%	2.2%	4.5%
Mexico	$3,288	$3,907	$4,001	2.4%	12.8%	6.4%
Germany	$1,959	$2,156	$1,928	-10.6%	8.3%	12.5%
Japan	$1,293	$1,752	$1,805	3.0%	14.7%	10.5%
France	$1,231	$1,767	$1,387	-21.5%	-0.5%	4.1%
China	$1,173	$1,309	$1,346	2.8%	7.4%	17.5%
Netherlands	$691	$788	$1,175	49.0%	17.9%	14.0%
United Kingdom	$1,096	$1,199	$1,038	-13.4%	-12.9%	-1.5%
Brazil	$865	$818	$1,033	26.3%	9.7%	13.2%
South Korea	$633	$788	$874	11.0%	17.1%	13.2%

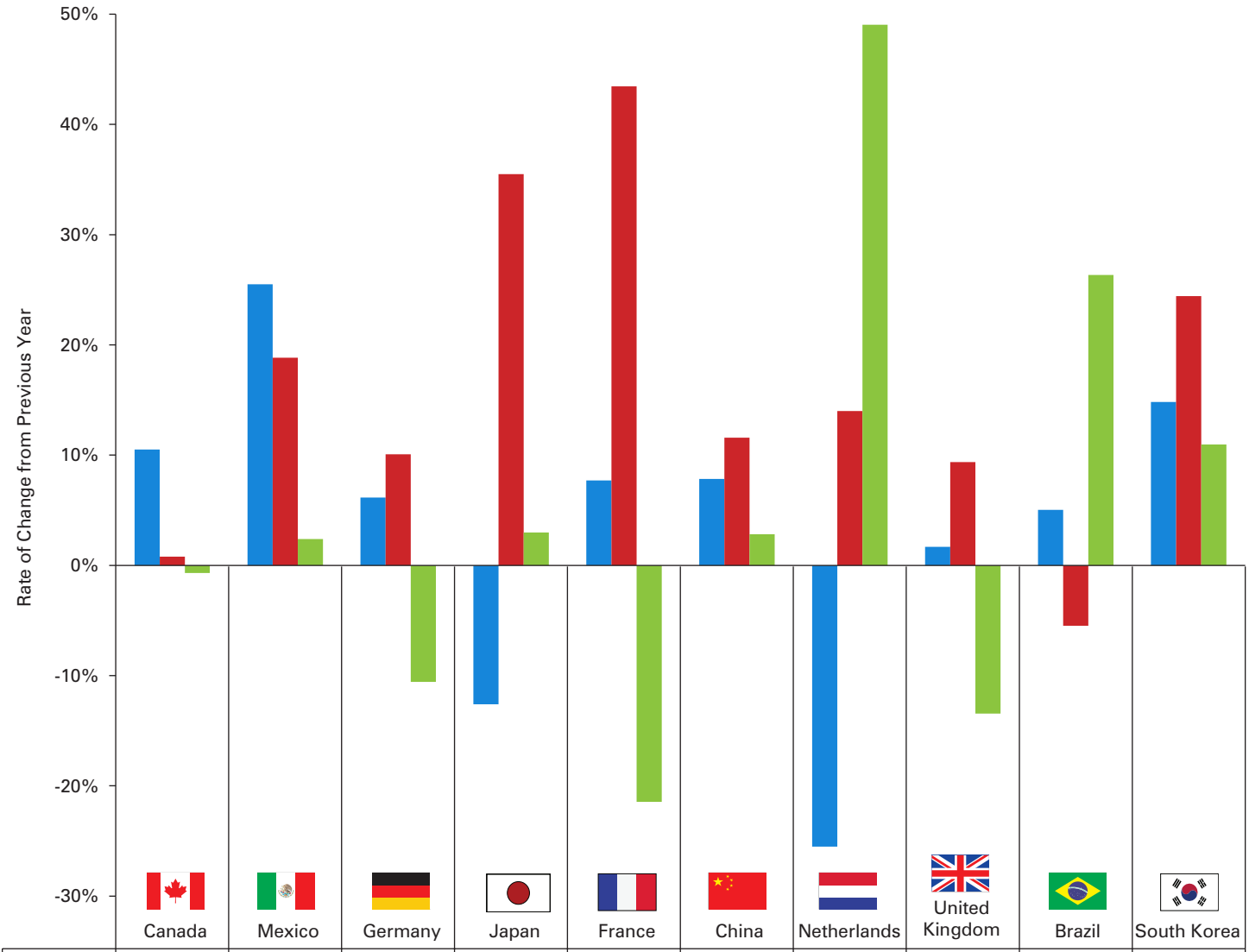
Source: WISER Trade

Figure 15: Export Trends for Indiana's Top 10 Destinations, 2003 to 2013



Source: WISER Trade

Figure 16: Annual Change in Exports for Indiana's Top 10 Export Destinations, 2010 to 2013



	Canada	Mexico	Germany	Japan	France	China	Netherlands	United Kingdom	Brazil	South Korea
2010-2011	10.5%	25.5%	6.2%	-12.6%	7.7%	7.8%	-25.5%	1.7%	5.0%	14.8%
2011-2012	0.8%	18.8%	10.1%	35.5%	43.5%	11.6%	14.0%	9.4%	-5.5%	24.4%
2012-2013	-0.7%	2.4%	-10.6%	3.0%	-21.5%	2.8%	49.0%	-13.4%	26.3%	11.0%

Source: WISER Trade

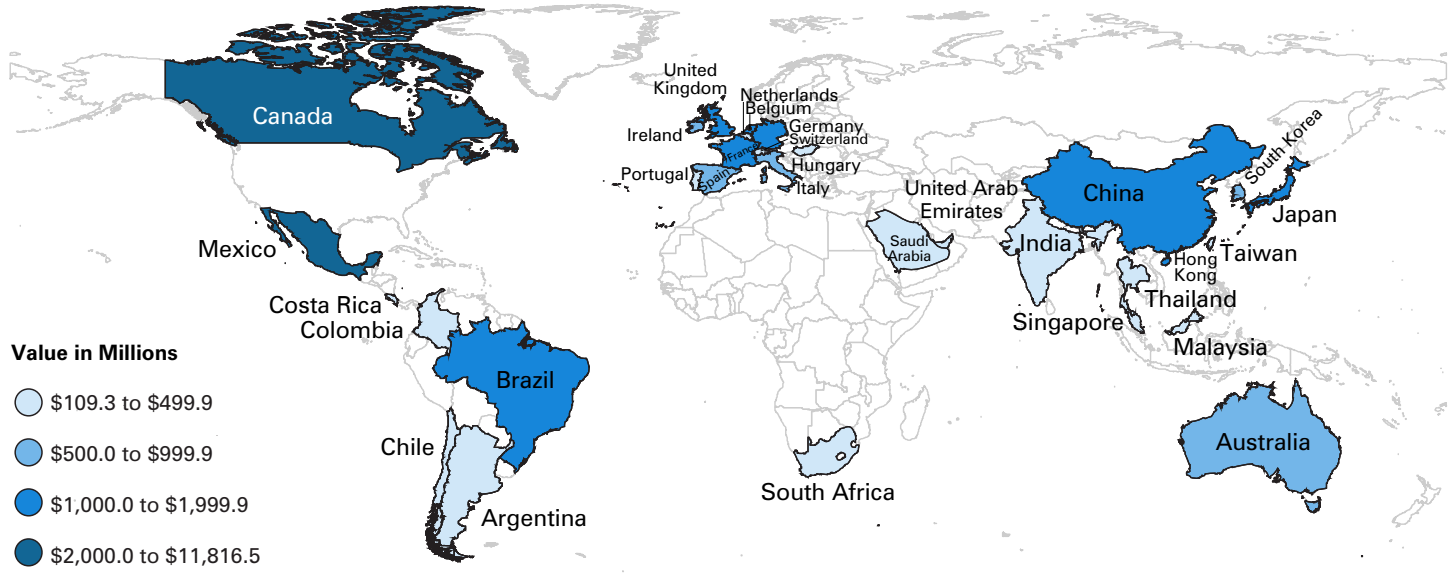
> *Only China, South Korea and Mexico have been consistently growing from year to year.*

export partners for three successive years. There have been some dramatic swings from year to year. From 2010 to 2011, Indiana exports to Japan and the Netherlands shrunk. In the case of Japan, exports surged the next year. In the case of the Netherlands, exports popped in 2013. Only China, South Korea and Mexico have been consistently growing from year to year and even then, not always robustly.

While 115 countries imported Indiana goods in 2013, only 31 had export values greater than $100 million (see **Figure 17**). These 31 countries accounted for 95 percent of all Indiana exports.

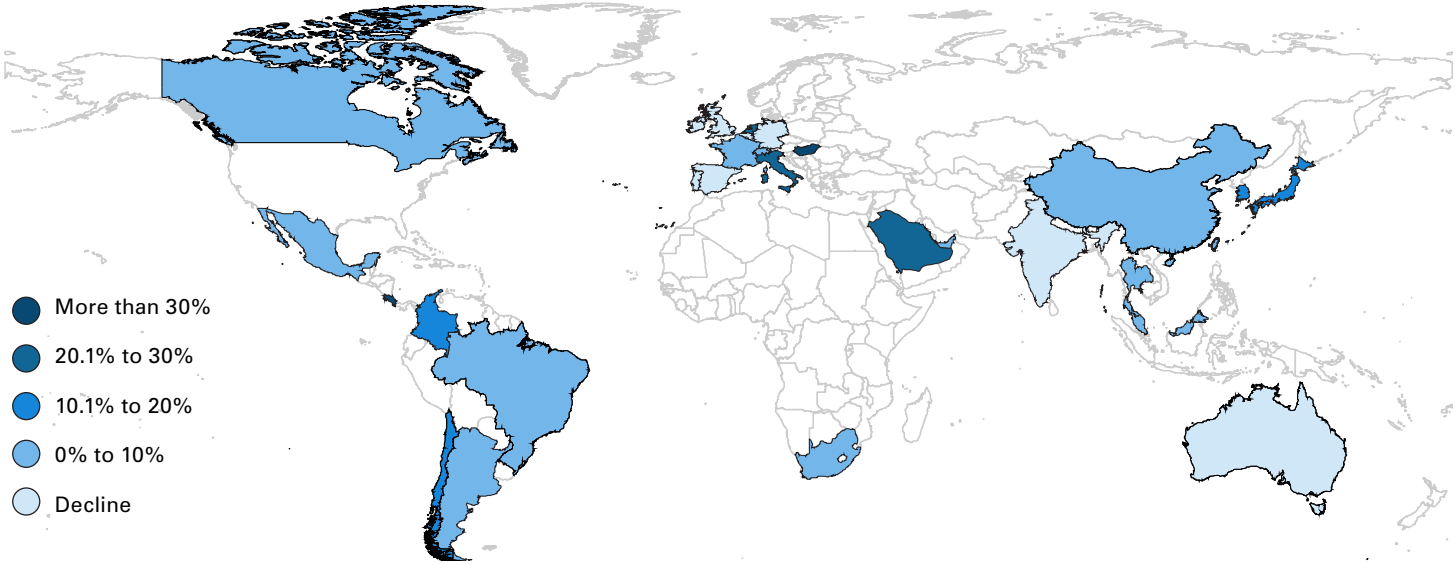
Figure 18 presents growth rates for Indiana exports from 2011 to 2013 for those economies importing over $100 million. The average annual growth rate for these countries from 2011 to 2013 was 4.4 percent—

Figure 17: Destinations of Indiana Exports Exceeding $100 Million, 2013



Source: WISER Trade

Figure 18: Indiana's Average Annual Export Growth by Destination, 2011 to 2013



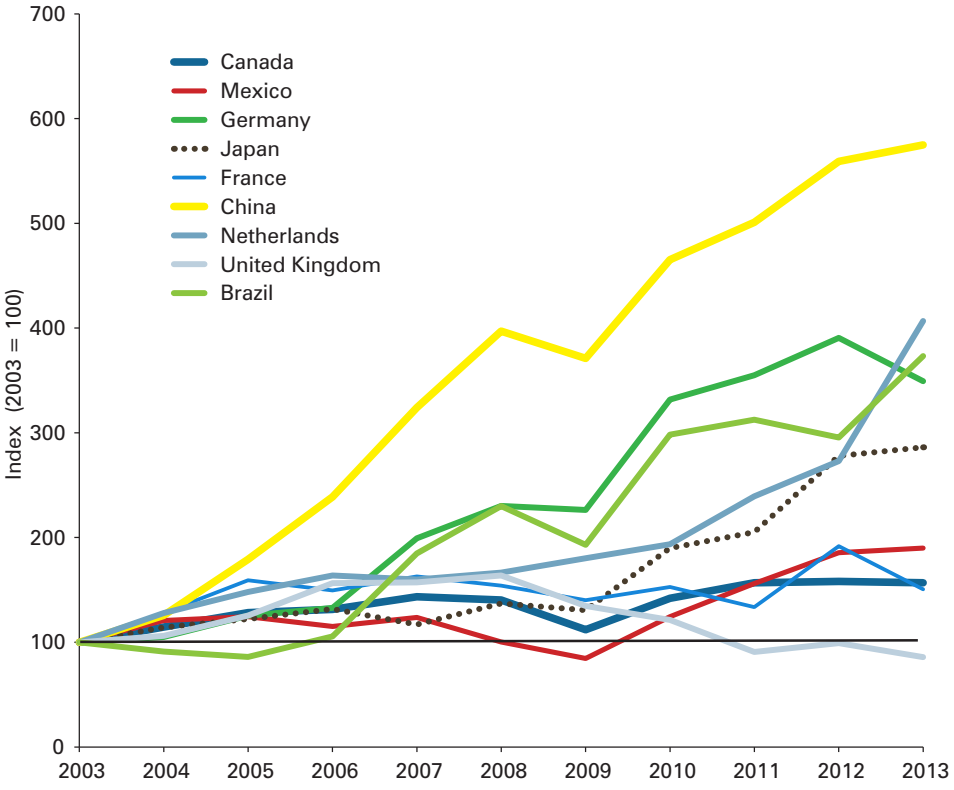
Note: Includes countries importing more than $100 million.
Source: WISER Trade

higher than the 2.8 percent for all of Indiana's export destinations. The growth rates were something of a mixed bag, with the majority experiencing positive growth rates since 2011. That said, import growth levels in the eurozone countries have varied considerably, reflecting the knock-on effects of Europe's general economic stagnation.

Figure 19 presents the nine destinations importing more than $1 billion from Indiana in 2013 and their import trends since 2003. China and Germany had the most dramatic and consistent growth over the past decade. The 2013 export value to China is nearly six times its 2003 value, and the Netherlands has quadrupled its import value in the past decade.

Table 5 identifies the largest changes in export sales for the top five export destinations for each of the

Figure 19: Export Index for Countries Importing More than $1 Billion of Indiana Goods, 2003 to 2013



Source: WISER Trade

Table 5: Change in the Value of Exports by Destination for Five of Indiana's Largest Exporting Industries, 2012 to 2013

Destination	Vehicles and Parts	Pharmaceutical Products	Industrial Machinery	Optical and Medical Instruments	Electric Machinery
World Total	$404.8	$261.4	$-260.8	$-12.7	$32.6
Canada	219.3	-64.2	16.3	-60.9	-40.3
Mexico	39.9	4.0	71.2	28.1	132.2
Germany	-5.1	-322.9	-21.5	121.1	-56.9
Japan	-7.3	170.9	24.3	-71.1	-10.7
France	6.0	-130.1	-24.5	12.3	-3.1
China	24.8	3.7	27.5	-7.7	-13.1
Netherlands	-5.1	362.4	-13.6	66.4	-0.1
United Kingdom	14.4	57.3	-149.3	25.3	-4.9
Brazil	-2.7	72.8	36.4	8.6	2.1
South Korea	-5.1	117.2	-4.4	-12.8	-1.7

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

> *Indiana exports to Canada stagnated, but exports to Mexico increased by $93 million in 2013.*

leading export industries (based on 2013 values). For example, vehicles and parts increased more than $400 million from 2012 to 2013, with Canada contributing over half of the increase.

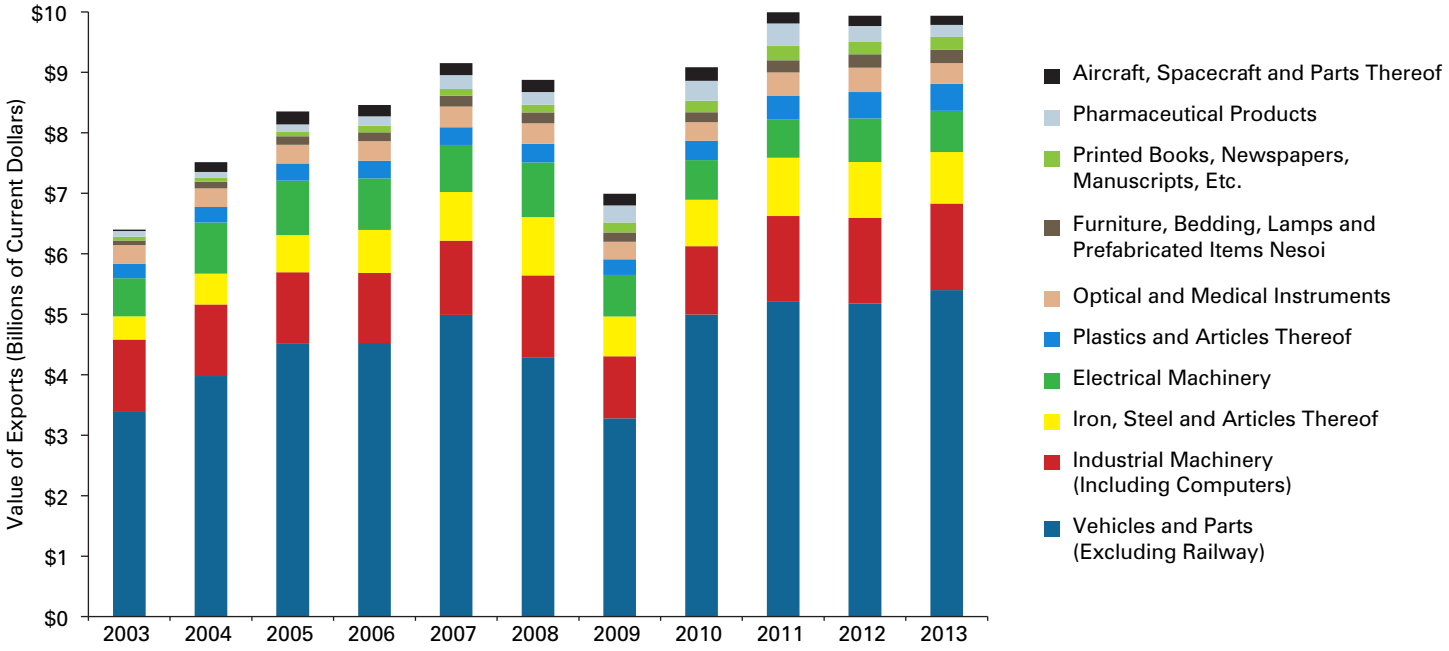
Figure 20 through **Figure 22** detail Indiana's export trade with Canada, Mexico and Germany, respectively. Canada and Mexico trade heavily in vehicles and parts and industrial machinery—the latter industry also includes components to transportation equipment like diesel engines—whereas nearly one-third of Germany's imports were in pharmaceuticals.

In 2013, the top 10 Indiana shipments to Canada stagnated, and overall, exports decreased by $83.7 million, or 0.7 percent.

Indiana exports to Mexico increased by $93 million in 2013, with nearly all of the top 10 exporting industries to Mexico experiencing an increase. The only exceptions were in iron and steel and railway/tramway products. Electric machinery exports to Mexico increased significantly, by about $132 million, from 2012 to 2013.

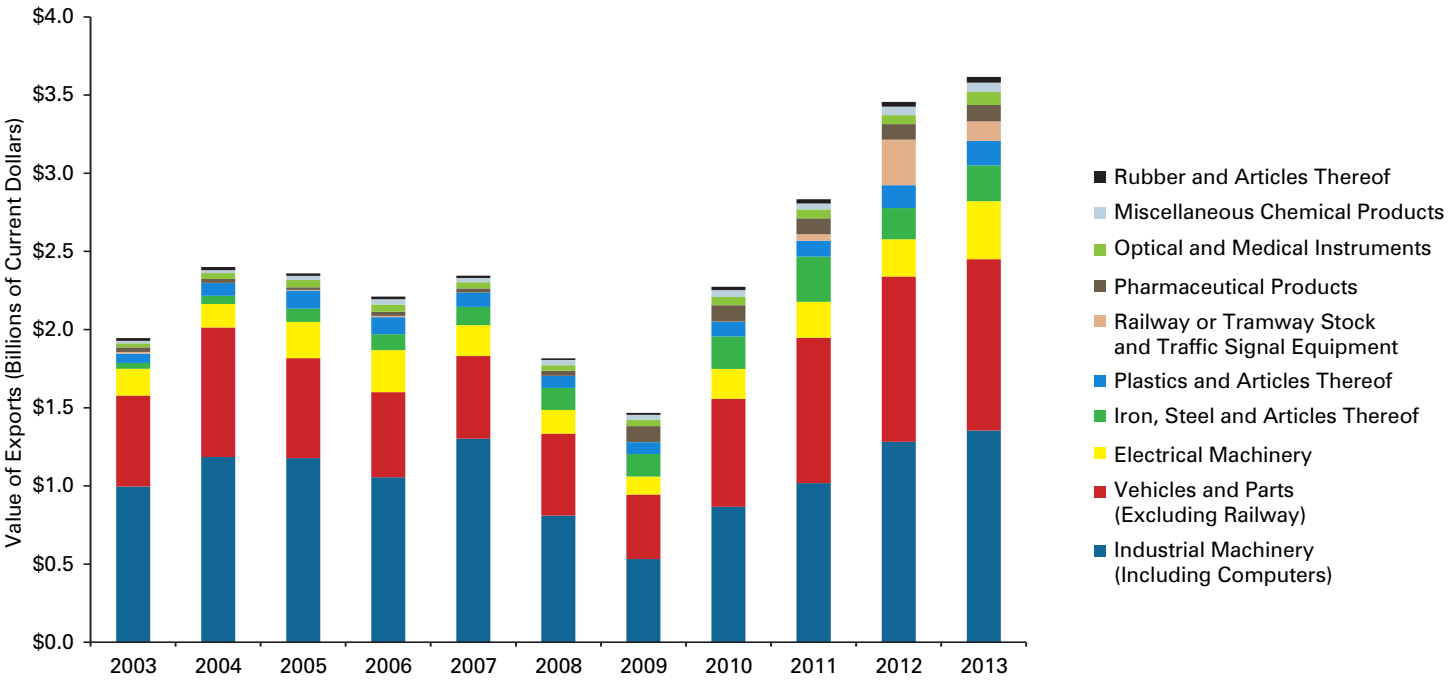
Exports to Germany dropped by $228 million (11.8 percent) from 2012 to 2013. Pharmaceutical product exports contributed mightily to that decline, decreasing about $323 million. Only two industries in the top 10 had major increases—optical and medical products ($121.1 million) and miscellaneous chemical products ($65.5 million).

Figure 20: Indiana Exports to Canada by Industry, 2003 to 2013



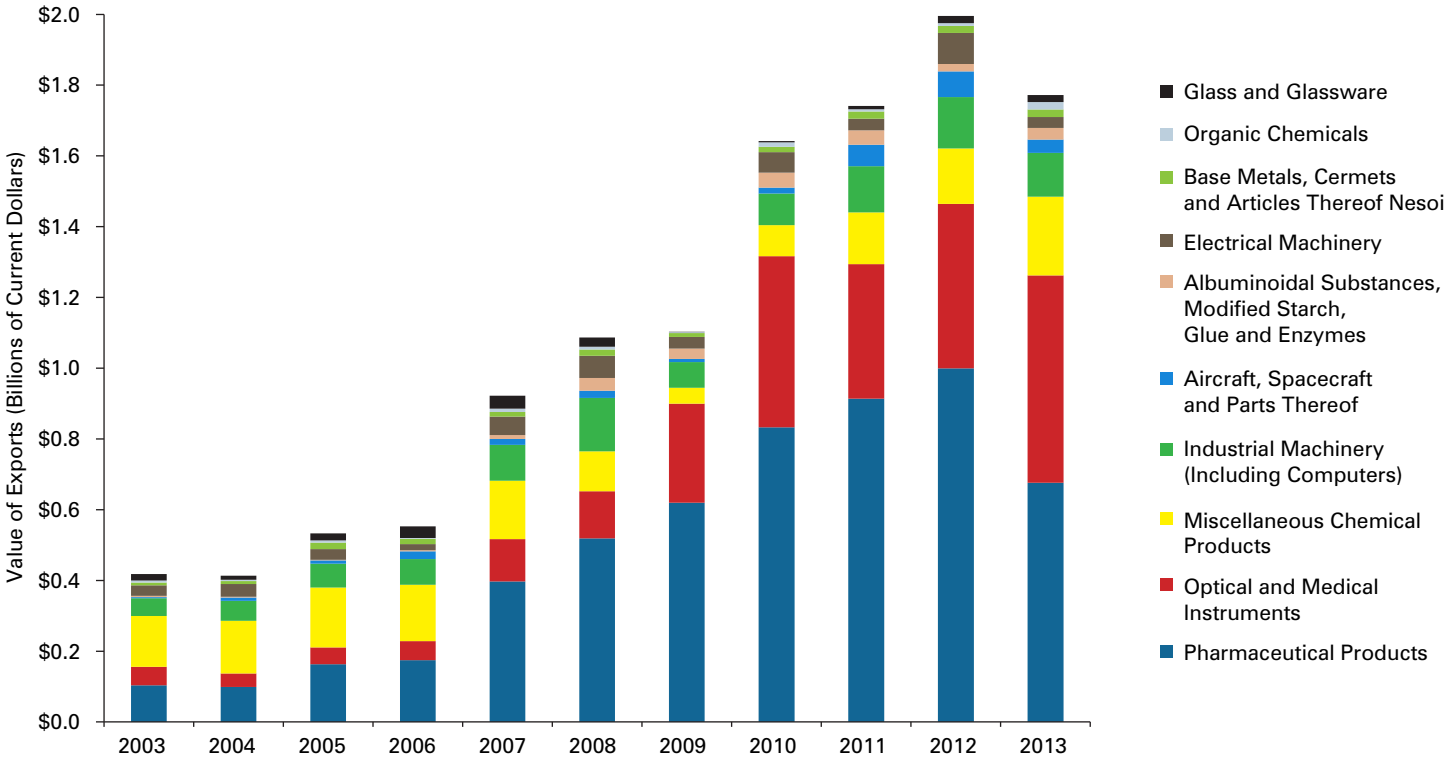
Note: Nesoi stands for "not elsewhere specified or indicated."
Source: WISER Trade

Figure 21: Indiana Exports to Mexico by Industry, 2003 to 2013



Source: WISER Trade

Figure 22: Indiana Exports to Germany by Industry, 2003 to 2013



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

Indiana Export Industries

Table 6 presents the top 10 export categories for Indiana in 2012. These industries constitute 85 percent of all exports out of Indiana.

Vehicles and parts remained Indiana's largest export industry in 2013, with a slight increase in export value this past year. Pharmaceutical products maintained its number two spot ahead of industrial machinery, thanks to its continued strong growth in 2013. If the current trends for the top two industries continue, pharmaceutical products may become the top exported industry in the near future.

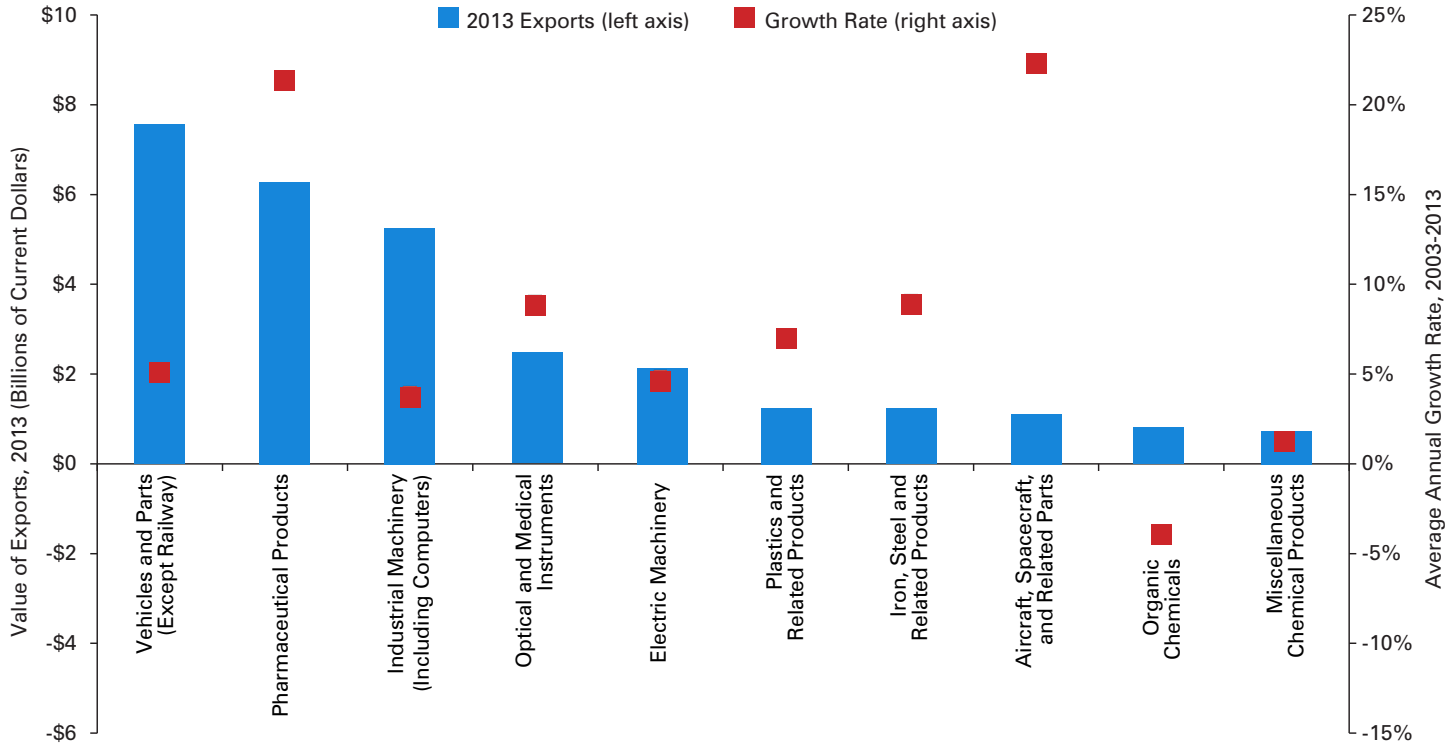
Since 2003, two of the top 10 industries have had double-digit average annual growth: aircraft, spacecraft and related parts (22.3 percent), and pharmaceutical products (21.5 percent), as shown in **Figure 23**.

Table 6: Indiana's Top 10 Export Industries, 2003 to 2013

Industry	Exports (in millions)	Average Annual Growth Rate	
	2013	2012-2013	2003-2013
Vehicles and Parts (Except Railway)	$7,561	5.7%	5.2%
Pharmaceutical Products	$6,303	4.3%	21.5%
Industrial Machinery (Including Computers)	$5,277	-4.7%	3.9%
Optical and Medical Instruments	$2,472	-0.5%	9.0%
Electric Machinery	$2,141	1.5%	4.9%
Plastics and Related Products	$1,269	3.6%	7.1%
Iron, Steel and Related Products	$1,239	-3.9%	9.0%
Aircraft, Spacecraft, and Related Parts	$1,120	-15.0%	22.3%
Organic Chemicals	$815	-26.4%	-3.8%
Miscellaneous Chemical Products	$736	12.1%	1.4%

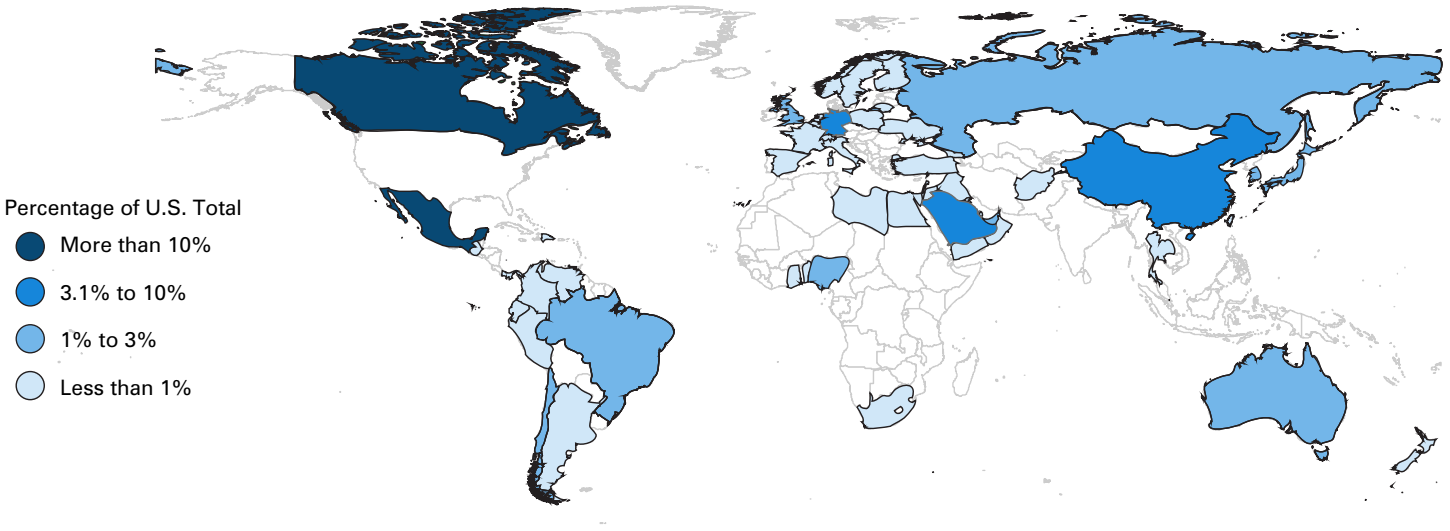
Notes: Industries are defined by the Harmonized System of Commodity Classifications.
Source: WISER Trade

Figure 23: Indiana's Top 10 Export Industries and Their Growth, 2003 to 2013



Source: WISER Trade

Figure 24: Destinations for U.S. Exports of Vehicles and Parts (Excluding Railway), 2013



Note: Includes countries with export purchases greater than $200 million.
Source: WISER Trade

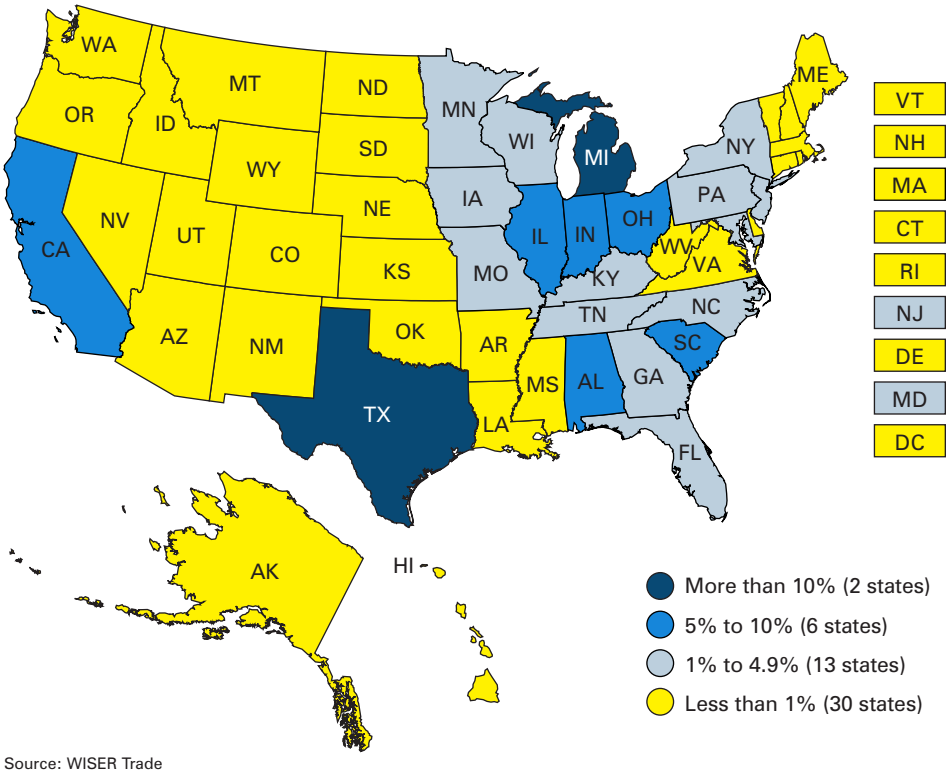
The following section of the report provides detailed information regarding the top 10 export industries in Indiana.

Vehicles

Figure 24 displays the share of 2013 U.S. vehicle and parts exports for destination countries with export purchases greater than $200 million. Canadian purchases of vehicles and parts have slowly rebounded since the downturn in 2009. The share of vehicles and parts earmarked for Canada has slowly dwindled from 58 percent in 1999 to 38.8 percent in 2013. Mexico—America's second-largest trading partner—has seen a slight increase in its share of vehicles and parts, commanding 16.1 percent of U.S. exports in 2013. Of the top 15 countries that imported vehicle and parts products, nine had double-digit average annual growth rates from 2003 to 2013: China, Saudi Arabia, United Arab Emirates, Australia, Russia, Chile, Nigeria, South Korea and Brazil. Individually, these countries import a relatively small share compared to Canada or Mexico, but collectively they imported 22.7 percent—exceeding Mexico's share.

Figure 25 presents the states that serve as sources of U.S. vehicle and parts exports. Michigan is the dominant leader with an 18.6 percent share, followed by Texas at 10.7 percent. Over the past decade, Michigan's share has fluctuated from a high of 22.8 percent in 2003 to a low of 16.1 percent in 2009, with an average annual growth rate of 5.1

Figure 25: Share of U.S. Vehicle Exports (Excluding Railway), 2013



Source: WISER Trade

percent in the past decade. Texas' share has steadily increased, as evidenced by its 9.8 percent average annual growth rate since 2003. In 2013, Indiana ranked sixth with 5.6 percent of the total category. This follows a rise from seventh in 2012, perhaps due to increased Subaru production in the state. The nine states with sales above $5 billion collectively accounted for 68.6 percent of exports in the vehicle and parts category for the U.S.

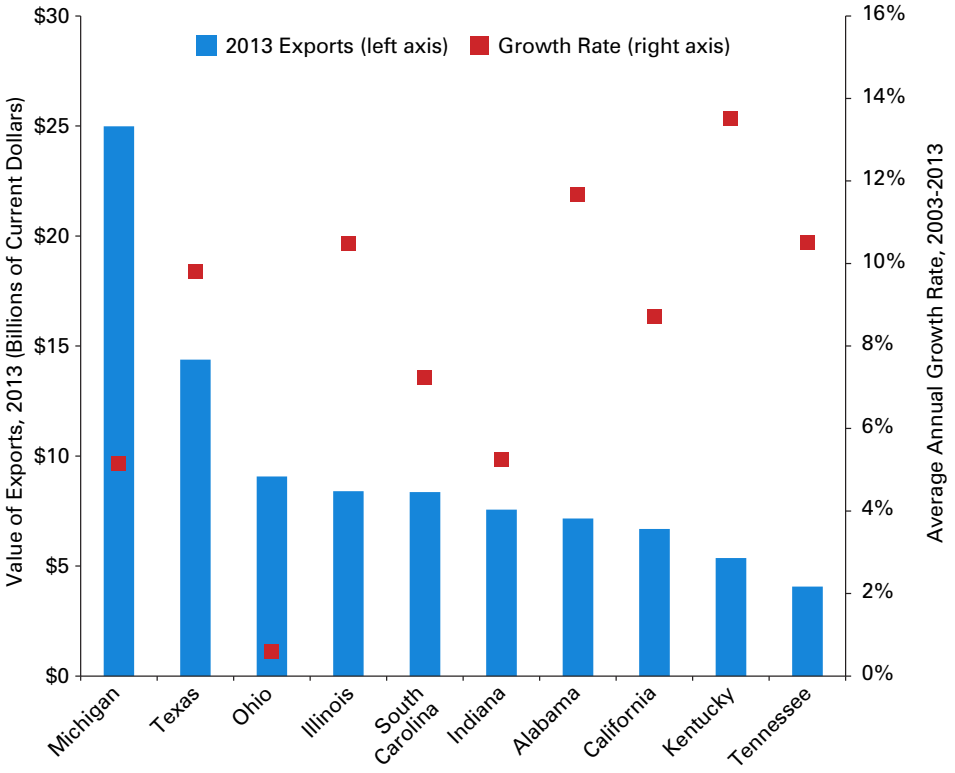
Figure 26 recasts the data for the top 10 vehicle and parts exporting states. All of these states had positive growth rates in the past decade, with Kentucky and Alabama leading the pack at 13.5 percent and 11.7 percent, respectively. Indiana's export value (approximately $7.6 billion) is on par with Ohio, Illinois, South Carolina and Alabama.

Indiana's top exported commodity within the broadly defined vehicles and parts industry was motor vehicle parts and accessories. **Figure 27** shows the top five exporting states for this commodity. Michigan was the leader in terms of sales volume ($11.3 billion) followed by Texas ($7.4 billion). In the past decade, Michigan has posted languid average annual growth rates relative to Texas. Ohio had slightly stronger export values than Indiana, with both posting similar growth rates over the decade. The top three destinations for Indiana's motor vehicle parts and accessories exports were Canada, Mexico and China.

Pharmaceuticals

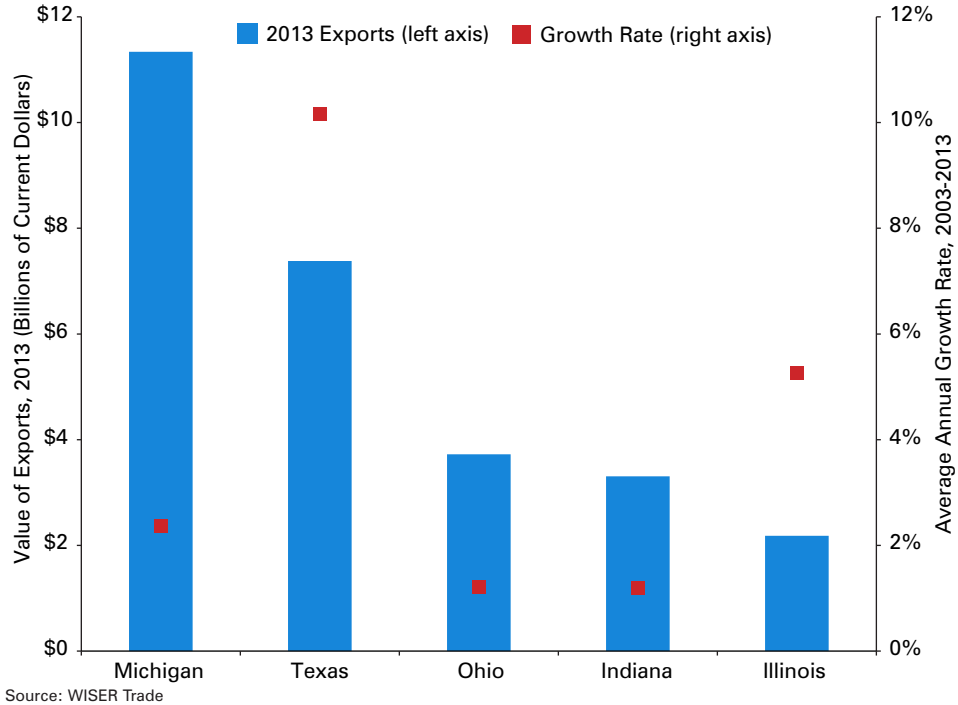
For the country as a whole, pharmaceutical products were the 11th largest exported commodity; however, in Indiana, it's the second-highest-valued exported commodity. Indiana has been the top exporting state in pharmaceuticals since 2009. Indiana and California comprised 15.9 percent and 12 percent of the nation's exports, respectively, and their shares have grown over the

Figure 26: Leading States in the Export of Vehicles and Parts (Excluding Railway), 2003 to 2013



Source: WISER Trade

Figure 27: Top Five Exporting States of Motor Vehicle Parts and Accessories, 2003 to 2013



Source: WISER Trade

> *Indiana's 21.5 percent average annual growth rate in pharmaceuticals surpasses all other top 10 exporting states except Delaware.*

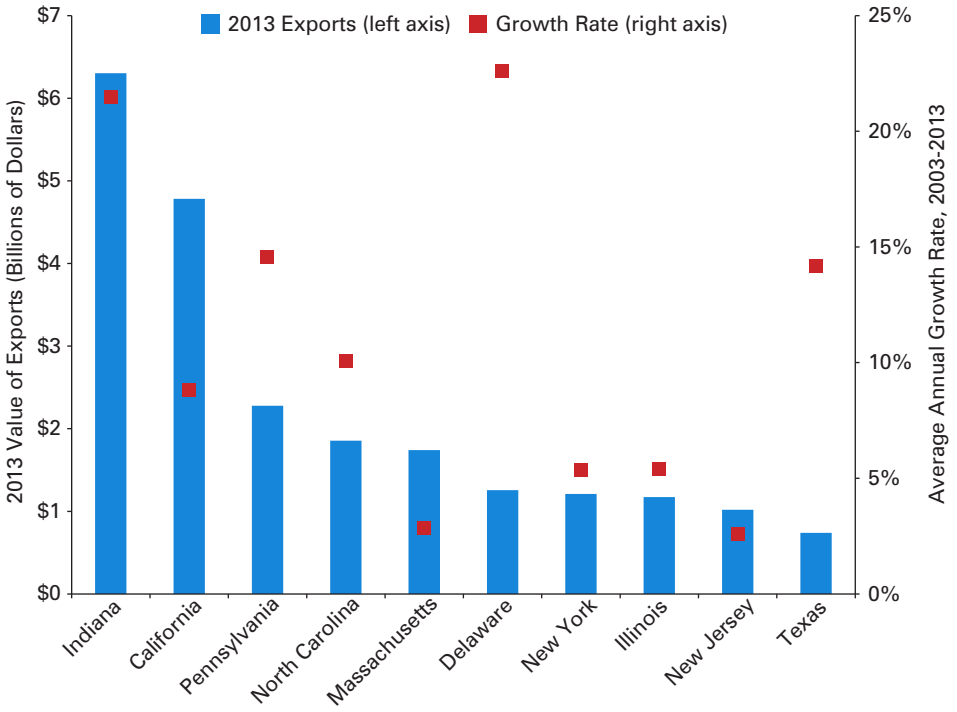
years. (Puerto Rico contributes 22.3 percent of the nation's pharmaceutical exports, but since it's not regarded as a state, its total is excluded from state ranking calculations). **Figure 28** shows Indiana's 21.5 percent average annual growth rate surpassing all other top 10 exporting states except Delaware, explaining its growing share of the nation's exports in this category.

Figure 29 presents the top five export destinations for Indiana's pharmaceuticals in 2013. Japan imported the most from Indiana at the country level, but as may be expected, Europe is a far larger market when taken as a whole.

Industrial Machinery

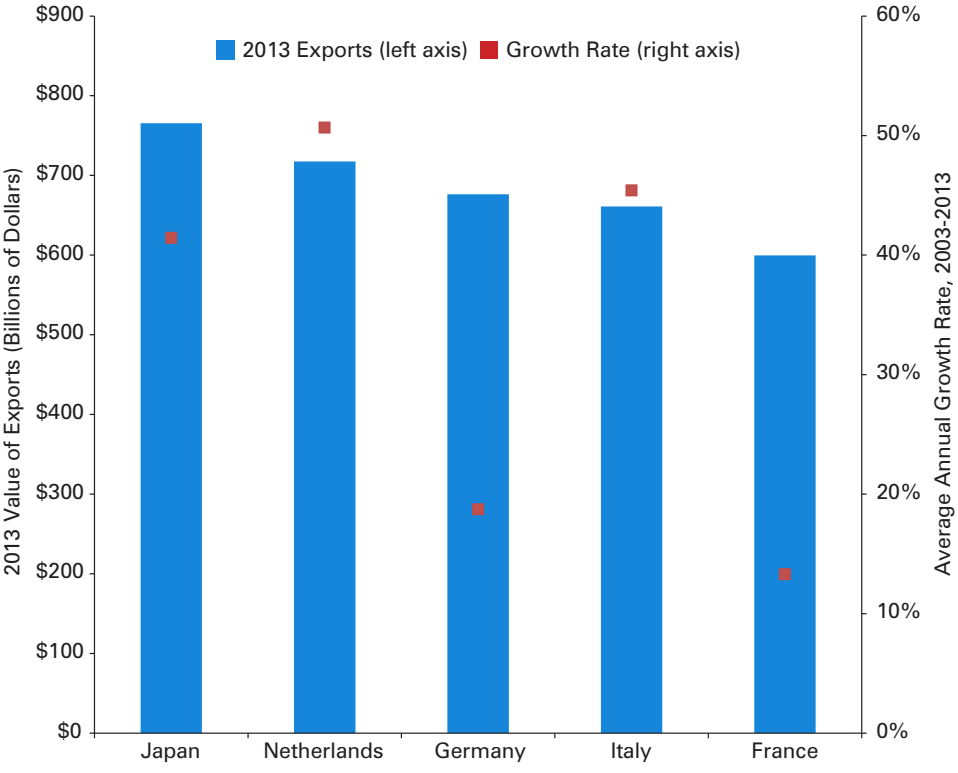
Figure 30 presents export value and growth among the top state exporters of industrial machinery. Among the states, Indiana ranked 13th in 2013, one spot below its rank last year. Texas and California continue to dominate the market. There are many other smaller states, for example, Tennessee and Georgia, that export between $5 billion and $10 billion in industrial machinery and have had vigorous average annual growth rates. In 2013, Indiana's export of industrial machinery was worth $5.3 billion and had experienced a 3.9 percent average annual rate of growth. Meanwhile,

Figure 28: Leading States in the Export of Pharmaceuticals, 2003 to 2013



Source: WISER Trade

Figure 29: Indiana's Top Five Export Destinations for Pharmaceutical Products, 2003 to 2013



Source: WISER Trade

Texas and California continue to dominate the industrial machinery market.

Texas exported $49.5 billion with a 9 percent growth rate.

Figure 31 shows the value of Indiana exports and the average annual rate of change for industrial machinery for Indiana's top five destinations.

Optical and Medical Instruments

Figure 32 profiles the top five foreign markets for Indiana's optical and medical instrument exports. Germany has maintained a strong lead over Canada for the first-place position. Except for 2011, exports to Germany have grown quickly, with an average annual growth rate of 24.3 percent in the past decade. The Netherlands and Belgium both had growth over 25 percent in the past decade.

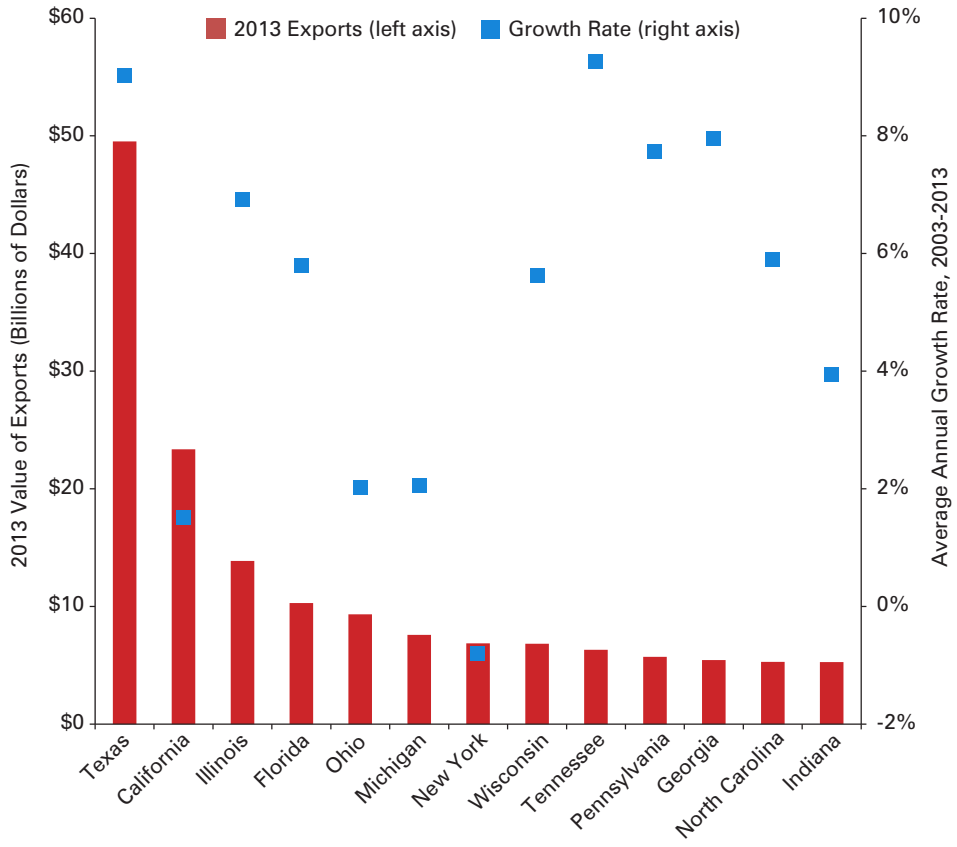
Electrical Machinery

Indiana's electrical machinery industry again saw strong growth in 2013. **Figure 33** shows export sales volume and growth rates for Indiana's top five electrical machinery markets and shows how Canada dominates the Indiana export landscape for this industry.

Plastics and Related Products

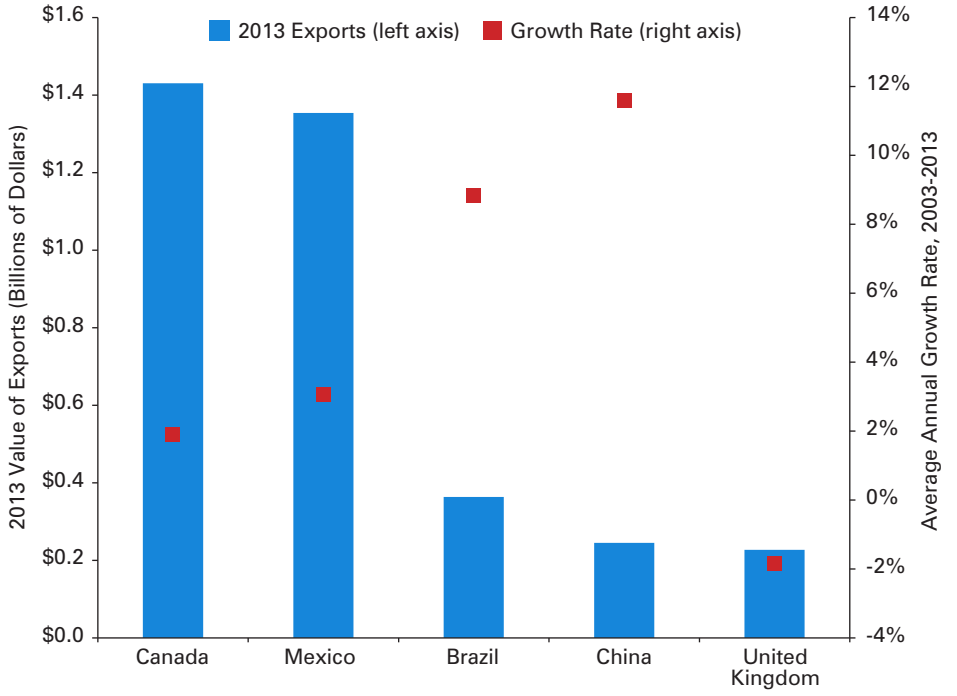
Since 2003, Indiana exports of plastics and related products have expanded steadily, at an average annual rate of 7.1 percent. This growth has been fueled by double-digit annual growth rates by eight of the top 20 destination countries. Again, Canada is by far the leading market,

Figure 30: Leading States in the Export of Industrial Machinery, 2003 to 2013



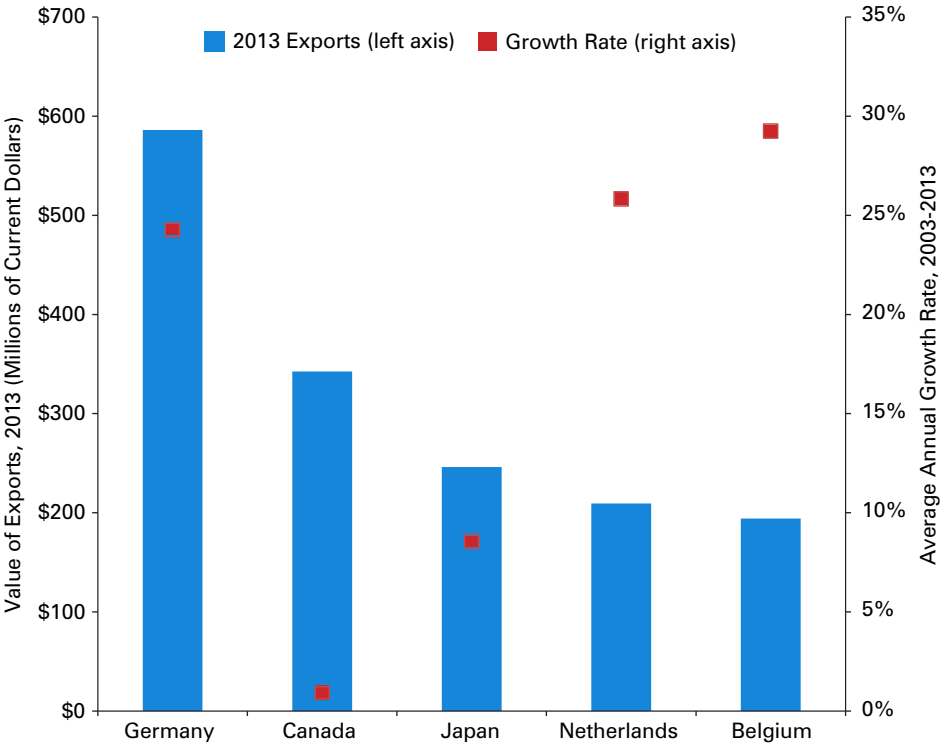
Source: WISER Trade

Figure 31: Indiana's Top Five Export Destinations for Industrial Machinery, 2003 to 2013



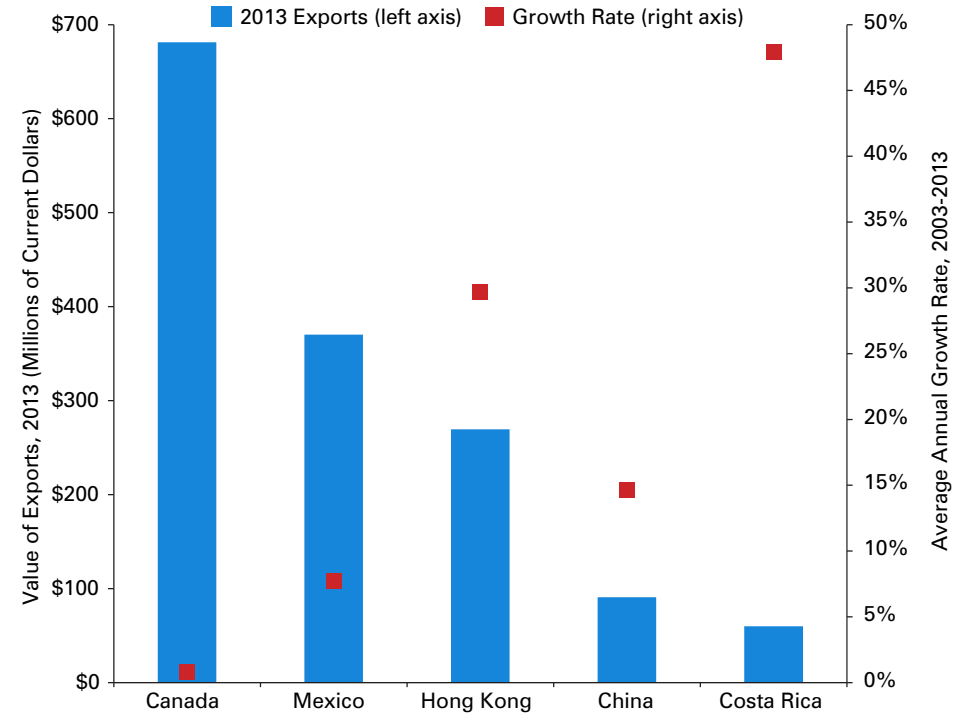
Source: WISER Trade

Figure 32: Indiana's Top Five Export Destinations for Optical and Medical Instruments, 2003 to 2013



Source: WISER Trade

Figure 33: Indiana's Top Five Export Destinations for Electrical Machinery, 2003 to 2013



Source: WISER Trade

capturing 35.3 percent of Indiana's plastic exports. As **Figure 34** also shows, export growth to China has been strong over the past 10 years. This industry continues to dip in and out of the list of the top five exported industries, yet it has consistently served as one of the top 10 export industries.

The Remaining Top 10 Exported Industries

The remaining top 10 exported industries tend to have a dominant destination country—Canada or a European country. An interesting pattern emerges: Canada and Mexico tend to import heavy industry products used in the auto sector, while industries that create products used in the life sciences tend to be shipped to European countries.

Figure 35 shows the top five destinations of each industry category in 2013.

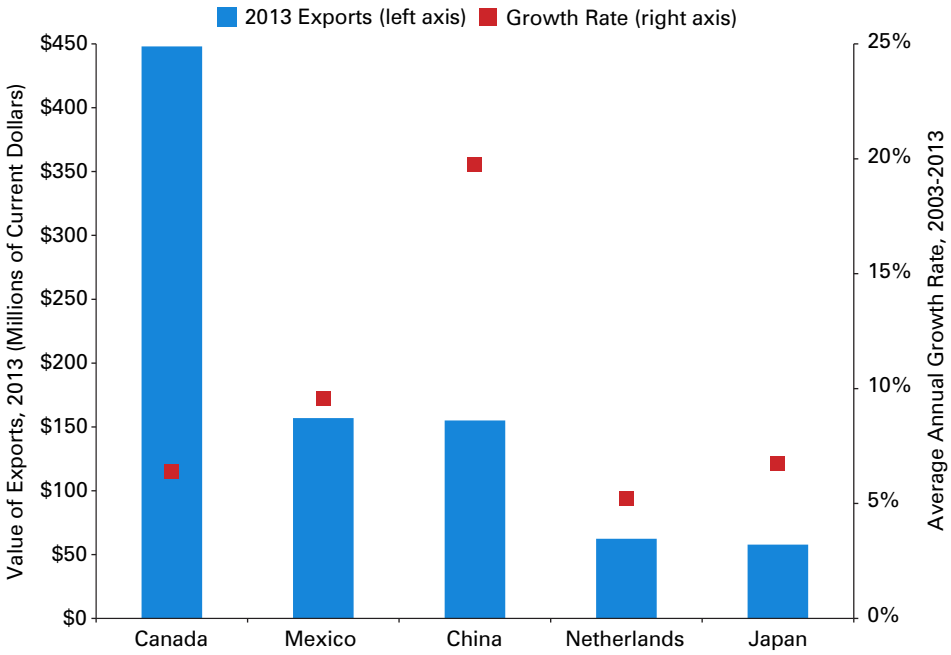
Within the iron, steel and related products industry, Canada and Mexico remained the top two importers, with Canada purchasing 68.7 percent of Indiana's exports and Mexico purchasing 18.5 percent.

Within the aircraft, spacecraft and related parts industry, France was the leading importer with Canada lingering behind. Together these two countries were responsible for nearly half of all imports within the aircraft, spacecraft and related products industry—with France alone responsible for a third of imports.

Growth in the organic chemicals category has declined by 3.8 percent (at an annual average rate) since 2003—and export volumes have dropped every year since 2010. The United Kingdom is Indiana's largest trading customer in this category, purchasing $186.4 million in organic chemicals in 2013. France fell to second place in 2013 while importing $185.5 million, a decrease of $216 million from 2012.

Indiana exports of miscellaneous chemical products are growing slowly

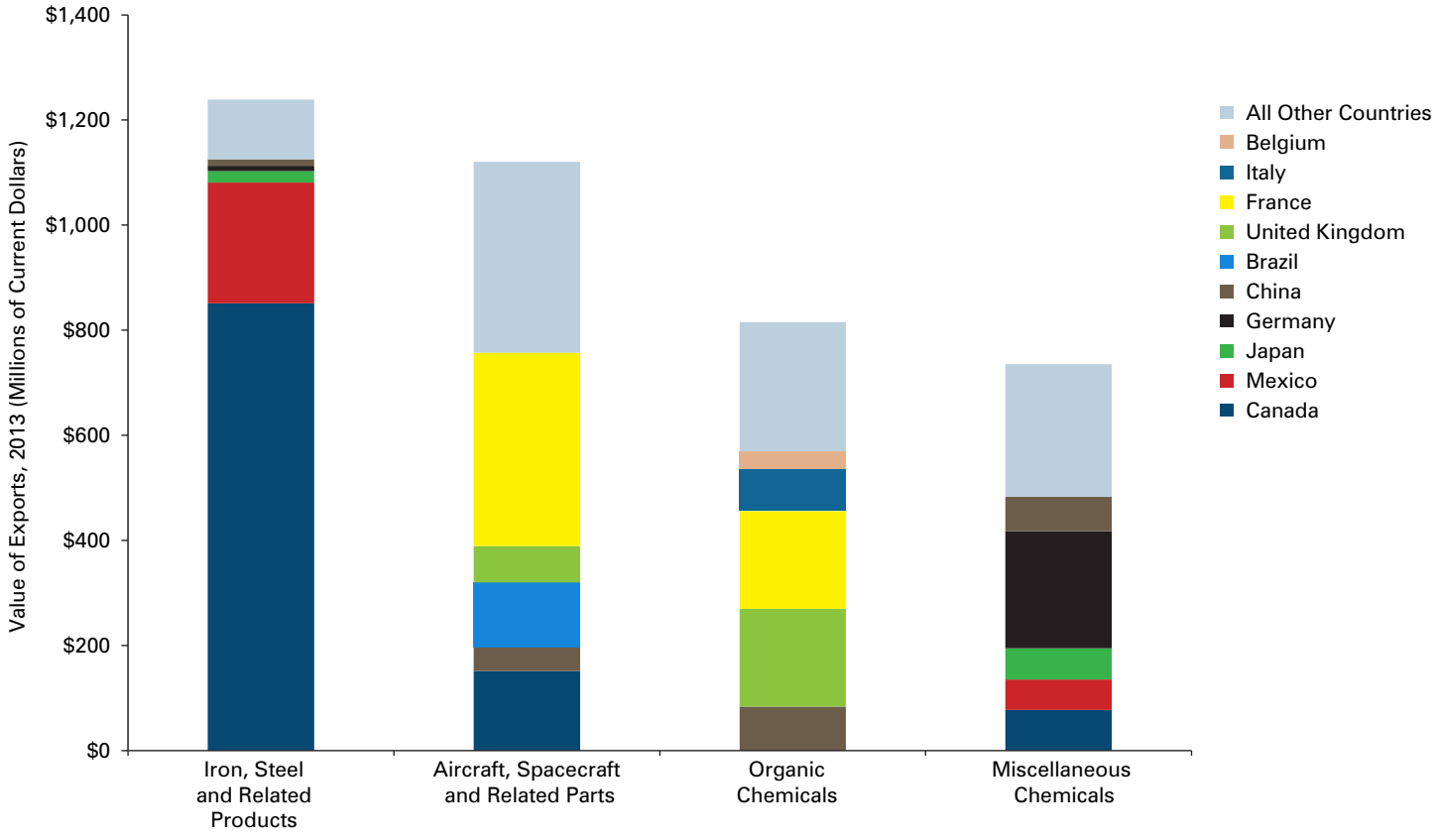
Figure 34: Indiana's Top Five Export Destinations for Plastics and Related Products, 2003 to 2013



Source: WISER Trade

when compared to other top 10 industries, recording a 1.4 percent average annual growth rate since 2003. However, this represents a positive growth compared to the decline in organic chemicals. Germany is the top importer of Indiana's miscellaneous chemical products, accepting $222.3 million worth of shipments in 2013. Canada is a distant second. Since 2003, exports to Canada have decreased by 1.2 percent (at an annual average rate). Mexico's imports of miscellaneous chemicals in 2013 and its 10-year trend indicate that it may overtake Japan in the next year or two. Collectively, the top five countries comprised 65.7 percent of Indiana's miscellaneous chemical exports in 2013.

Figure 35: Top Five Destination Countries of Indiana's Remaining Top 10 Exported Industries, 2013



Source: WISER Trade

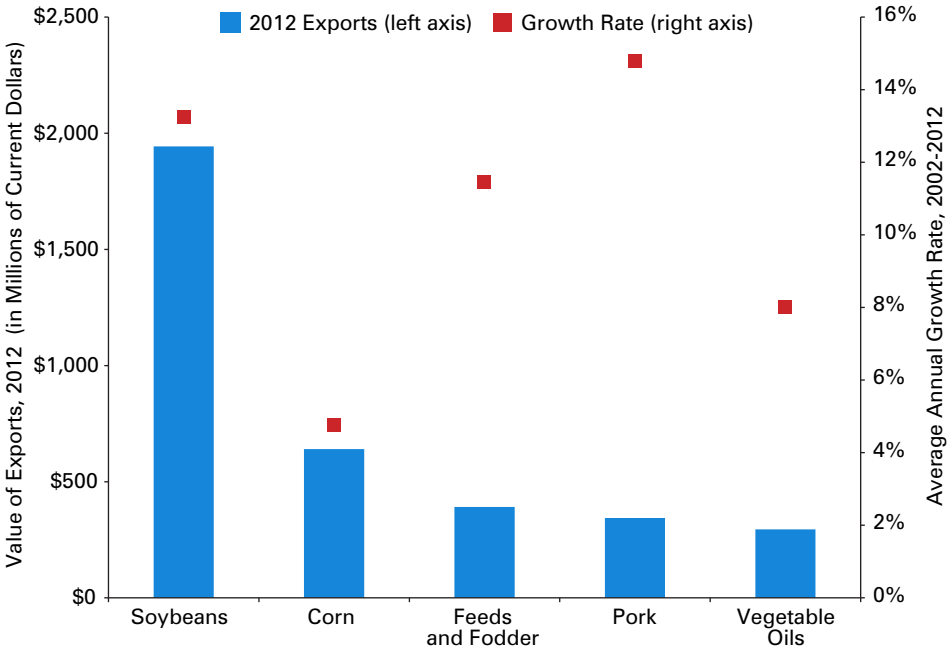
Agriculture

Agricultural products also make a substantial contribution to the state's exports. Unfortunately, unprocessed agricultural commodities cannot be tracked by agricultural agencies as precisely as those reporting on the export of goods and services. Due to the homogeneous nature of agricultural commodities, it's nearly impossible to trace an individual agricultural product to its particular provenance, or, for that matter, determine the commodity's foreign destination. However, the Economic Research Service (ERS) division of the U.S. Department of Agriculture uses U.S. farm cash-receipts data to allocate export shares by state. Due to the ERS methodology changing in 2012, a direct comparison is only applicable for the 2013 and 2014 export reports.

Figure 36 plots Indiana's largest agricultural exports for 2012 (the most recent data available). In 2012, the United States exported $141.3 billion in agricultural products. Of that, $4.8 billion came from Indiana's agricultural products, ranking it eighth among all states. In Indiana, soybeans remained the top agricultural exported commodity at $1.94 billion, followed by corn at $641 million. Together, these two commodities accounted for more than half of the state's agricultural exports. Rounding out the top five were feeds and fodder, pork, and vegetable oils. Since 2002, Indiana's agricultural exports have had an average annual growth rate of 10.1 percent. Of the top five commodities, pork products have had the strongest growth at an average annual rate of 14.8 percent.

Table 7 lists the top states that contribute to soybean and corn exports. Iowa and Illinois were the top two exporters of corn and soybeans in 2012, while Indiana ranked fifth in corn and fourth in soybeans for that year.

Figure 36: Indiana Agricultural Exports, 2002 to 2012



Source: USDA Economic Research Service

Table 7: Share of U.S Corn and Soybean Exports, 2012

	Corn Exports (in millions)	Share of U.S.	Soybean Exports (in millions)	Share of U.S.
Iowa	$1,710.0	18.3%	$3,577.6	14.5%
Illinois	$1,429.1	15.3%	$3,260.3	13.3%
Nebraska	$1,149.6	12.3%	$1,829.4	7.4%
Minnesota	$940.7	10.1%	$2,247.2	9.1%
Indiana	$640.5	6.9%	$1,943.7	7.9%

Source: USDA Economic Research Service

Summary

Indiana exports recovered quickly from the adverse effects of the Great Recession, but the economic turmoil of the eurozone countries and slow recovery worldwide was finally felt by Indiana export industries in 2013. While exports from both the United States and the Midwestern states grew by 2.2 percent and 1.2 percent, respectively, from 2012 to 2013, Indiana's exports decreased by 0.7 percent. Despite the recent decrease, several of Indiana's export industries have had strong average annual growth rates over the past decade, including aircraft, spacecraft and related parts; pharmaceuticals; iron, steel and related products; and optical and medical instruments.

Exports play an important role in the Hoosier economy. Relatively speaking, exports are more important to Indiana than other states. While Indiana's GDP ranks 16th in the country, its dependency on exports ranks 12th.

The lethargic economic growth that is expected in the eurozone over the next couple of years is a potential threat to the continued expansion of Indiana exports. On the other hand, the dominance of the Canadian and Mexican markets, together with the potential for expanding exports to the emerging economies, may serve as a counterbalance to tepid demand for Indiana exports in Europe.

Appendix

Rank	Commodity	Annual Exports (in millions)		Percent Change	Commodity as a Percent of Total	Change (in millions)
		2012	2013	2012-2013	2012	2012-2013
	Total: All Commodities	**$34,399**	**$34,162**	**-0.7%**	**100%**	**-$238**
1	Vehicles and Parts (Except Railway)	$7,156	$7,561	5.7%	22.1%	$405
2	Pharmaceutical Products	$6,042	$6,303	4.3%	18.5%	$261
3	Industrial Machinery (Including Computers)	$5,538	$5,277	-4.7%	15.4%	-$261
4	Optical and Medical Instruments	$2,485	$2,472	-0.5%	7.2%	-$13
5	Electrical Machinery	$2,109	$2,141	1.5%	6.3%	$33
6	Plastics and Articles Thereof	$1,225	$1,269	3.6%	3.7%	$44
7	Aircraft, Spacecraft and Related Parts	$1,318	$1,120	-15.0%	3.3%	-$198
8	Organic Chemicals	$1,108	$815	-26.4%	2.4%	-$292
9	Miscellaneous Chemical Products	$656	$736	12.1%	2.2%	$79
10	Iron and Steel	$785	$688	-12.4%	2.0%	-$97
11	Articles of Iron or Steel	$504	$551	9.3%	1.6%	$47
12	Aluminum and Articles Thereof	$373	$359	-3.7%	1.1%	-$14
13	Furniture, Bedding, Lamps, Prefabricated Beds and Nesoi	$361	$357	-1.0%	1.0%	-$4
14	Art of Stone, Plaster, Cement, Asbestos and Mica Etc.	$287	$322	12.2%	0.9%	$35
15	Meat and Edible Meat Offal	$367	$309	-15.9%	0.9%	-$58
16	Printed Books, Newspapers, Manuscripts and Etc.	$266	$274	3.1%	0.8%	$8
17	Rubber and Articles Thereof	$290	$257	-11.3%	0.8%	-$33
18	Food Industry Residues and Waste and Prep Animal Feed	$168	$191	14.1%	0.6%	$24
19	Copper and Articles Thereof	$188	$185	-1.2%	0.5%	-$2
20	Railway or Tramway Stock and Traffic Signal Equipment	$383	$173	-54.9%	0.5%	-$210
21	Wood, Articles of Wood and Wood Charcoal	$155	$169	9.6%	0.5%	$15
22	Glass and Glassware	$152	$168	10.6%	0.5%	$16
23	Albuminoidal Substances, Modified Starch, Glue and Enzymes	$148	$164	10.8%	0.5%	$16
24	Nickel and Articles Thereof	$166	$161	-3.1%	0.5%	-$5
25	Miscellaneous Articles of Base Metal	$163	$155	-4.5%	0.5%	-$7
26	Tanning and Dye Extract, Paint, Putty, Inks and Etc.	$139	$148	6.6%	0.4%	$9
27	Paper, Paperboard and Related Articles	$139	$125	-9.7%	0.4%	-$13
28	Mineral Fuel, Oil, Bitumin Substances and Mineral Wax	$167	$122	-26.9%	0.4%	-$45
29	Prep Cereal, Flour, Starch, Milk and Bakers Wheat	$154	$118	-23.2%	0.3%	-$36
30	Soap, Waxes, Polish, Candles, Dental Preps and Etc.	$114	$114	-0.2%	0.3%	$0
	Total of Top 30 Commodities	**$33,103**	**$32,806**	**-0.9%**	**96.0%**	**-$297**

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