



# MOVING WITH THE TRADE WINDS

NORTH CAROLINA'S 2016  
INTERNATIONAL TRADE REPORT

PUBLISHED JULY 2017

Economic Development Partnership  
of North Carolina

[www.edpnc.com](http://www.edpnc.com)  
919.447.7777

15000 Weston Parkway,  
Cary NC 27513

# Contents

3	Introduction Letter
4	Total Exports Summary
14	Country Profiles Introduction
16	Country Profile: Canada
18	Country Profile: Mexico
20	Country Profile: China
22	Country Profile: Saudi Arabia
24	Country Profile: Japan
26	Region Spotlight on European Union
28	Conclusions
29	Data and Methods
30	References

## North Carolina's Exports Steady Despite Trade Uncertainty

*A message from John Loyack, Vice President of Global Business Services at EDPNC*

Over the past two years, North Carolina has experienced the trade effects of political and economic changes across many international markets. Given such context, you'd be right to expect a decline in export activity. However, as you'll see in this report, North Carolina's export activity remains steady compared to other states. North Carolina's leadership status in this area has been cemented by decades of work from organizations across the state which support the business community and enable industry growth. For years, EDPNC has worked to support North Carolina companies looking to sell their products around the world. While it's difficult to predict future trends with any level of certainty, the data currently suggest North Carolina is well-positioned to remain a trade leader.

In 2016, North Carolina export values experienced a nominal decline of -\$87M and real decline of -\$1.2B from 2015. However, it is important to note export trends across short periods of time (like a year) can be misleading. Looking at longer time-frames, we find a generally positive trend—in fact, over the past 10 years, North

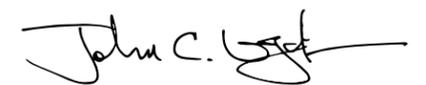
Carolina has seen a 26% increase in real export levels. Additionally, as North Carolina's industry mix has changed, exports of services have rapidly increased but are not measured in this dataset. Overall, we believe North Carolina's long-term growth suggests a strong and persistent export economy.

Looking to the future, growing export activity depends on our ability to navigate numerous obstacles—some of which are outlined in this analysis. Currency fluctuations across most of North Carolina's major trade partners may make sales of United States goods abroad more expensive. Some of our largest export markets are facing structural macroeconomic problems that are unlikely to be resolved soon. For example, our fourth largest export market, Saudi Arabia, struggles with growth when the prices of oil commodities remain low. Despite these challenges, many markets also present great opportunities for exporting businesses. Of note, exports from North Carolina to the United Kingdom have surged. Even in the aftermath of the 'Brexit' decision, pharmaceutical exports to this market increased 322% and topped

\$644M in 2016.

Research on the value of exports to state economies suggests tens of thousands of jobs in our state are supported by exporting industries. Given the current set of trade challenges, it becomes even more important to assist North Carolina businesses and help them connect to global opportunities. In addition to export assistance staff at our Cary headquarters, EDPNC maintains international offices throughout the world in major export markets—Canada, China, Japan, Hong Kong, Korea, Mexico, and the European Union. Having “on the ground” expertise in these key markets allows us to better guide businesses through the often-complex export process.

As we continue into 2017 and beyond, EDPNC's International Trade Division remains committed to helping companies grow their exports and enter new markets. For more information on our services, please contact our team.



### When reading this report, it is important to keep in mind a few things to better understand the data.

1. This report analyzes exports of goods, rather than goods and services. We focus on goods because manufacturing production is usually a value-added process and is often associated with large economic multiplier effects.
2. State-level economic data on exports of services is not available from existing government datasets. There are some data on state service exports from third party organizations, but it is usually modeled and has a significant time lag.
3. Unless otherwise indicated, this report deflates export levels to 2009 (“real”) dollars using the Bureau of Economic Analysis' implicit price deflator for exports of goods. By doing so, we're able to portray an accurate picture of export activity over time, controlling for inflation and other macroeconomic factors. Unadjusted values are referred to as “nominal” exports.

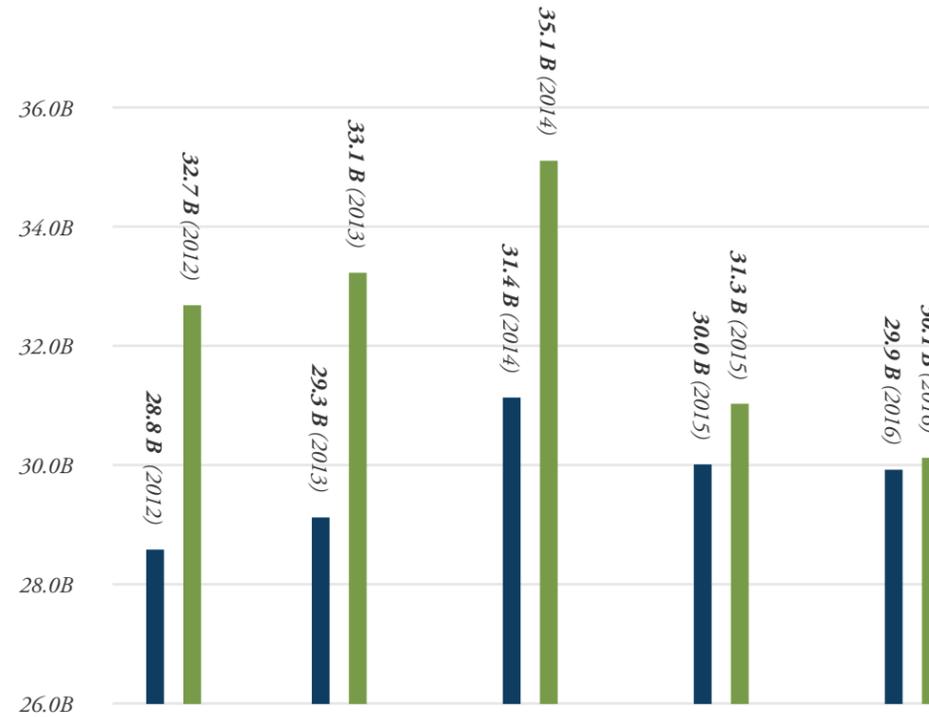
# Inflation-Adjusted Total North Carolina Exports

**+26%**

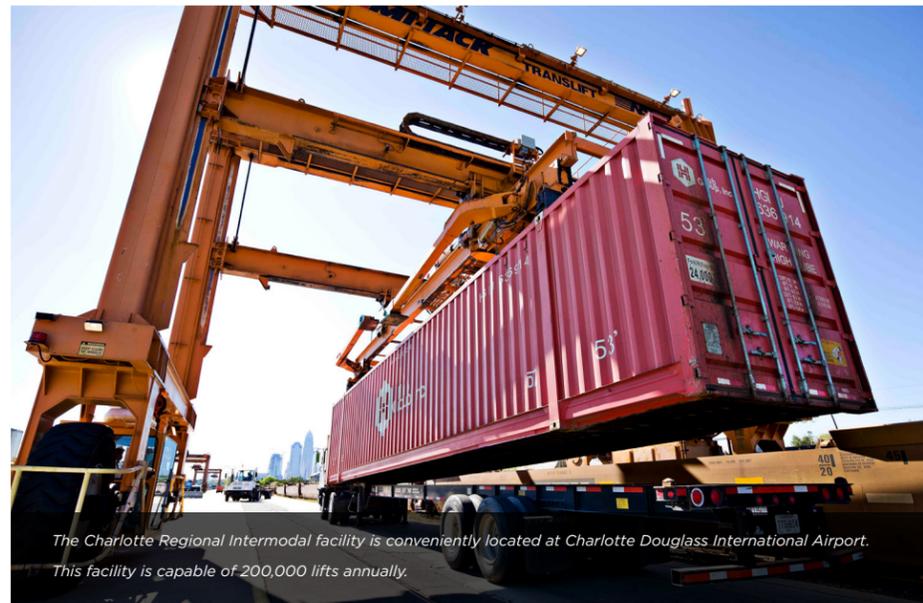
**North Carolina's Exports of Goods Have Increased +26% in the Past 10 Years**

## Inflation-Adjusted Total North Carolina Exports

- Nominal Dollars
- Real Dollars



Throughout 2016, the global environment for trade continued to face serious challenges. But in a year defined by large economic and political shocks across many trade partners, North Carolina's exports remained steady. Total exports of goods totaled \$29.9B in 2016, a slight nominal decline from \$30.0B in 2015. Adjusting for inflation, statewide exports declined by 3.8% from \$31.3B to 30.1B. While short-term challenges have led to lower export volumes, the long-term trend remains healthy. North Carolina's exports of goods have increased +26% in the past 10 years. Long term growth is reinforced by a workforce of over 158,000 people which work in industries that support the state's exports.<sup>1</sup>



The Charlotte Regional Intermodal facility is conveniently located at Charlotte Douglass International Airport. This facility is capable of 200,000 lifts annually.

# Exporting in Severe Global Headwinds

Throughout the past few years, a unique combination of political and economic problems have presented significant challenges for exporters. While none of these issues are unique to North Carolina businesses, we briefly outline them here because they provide context for why exports have declined across the United States.

## Dollar Appreciation

The impacts of currency fluctuations against the United States dollar can have a large impact on trade activity. As foreign currencies devalue against the dollar, it becomes more difficult for foreign businesses and consumers to purchase United States products. Although the rate of decline is slowing, many of North

Carolina's major export markets have seen continuing devaluation against the dollar.

## Trade Agreement Changes

The ratification of trade agreements can lower economic barriers for exporters and provide more regulatory policy certainty for businesses engaging in global trade.<sup>2</sup> North Carolina engages in significant trade with countries that are either members of trade agreements or are negotiating them. In recent years, the role of the United States in the North American Free Trade Agreement (NAFTA) has been under scrutiny, the country withdrew from the Trans-Pacific Partnership (TPP), and participation in the Transatlantic Trade and Investment Partnership

(TTIP) is currently uncertain.

## Political and Economic Shocks

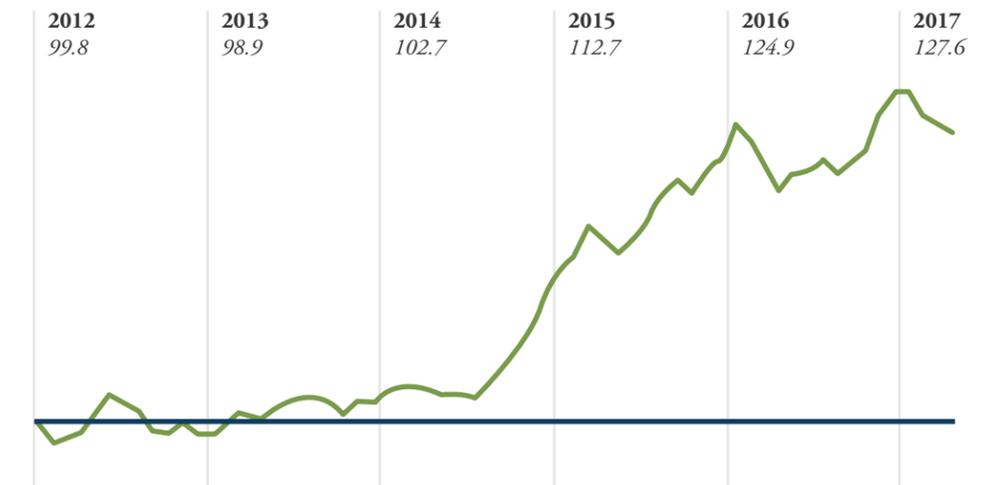
Several of North Carolina's top markets for exports have been subject to notable macroeconomic and political events.<sup>3</sup> Many countries across the European Union are still struggling with economic growth in the wake of the global financial crisis. At the beginning of 2016, Japan's central bank engaged in a extraordinary monetary policy change by adopting a negative interest rate. Later in 2016, the United Kingdom voted to exit the European Union. The cumulative impacts of these shocks to global trade is significant and ongoing.

**+2.2%**

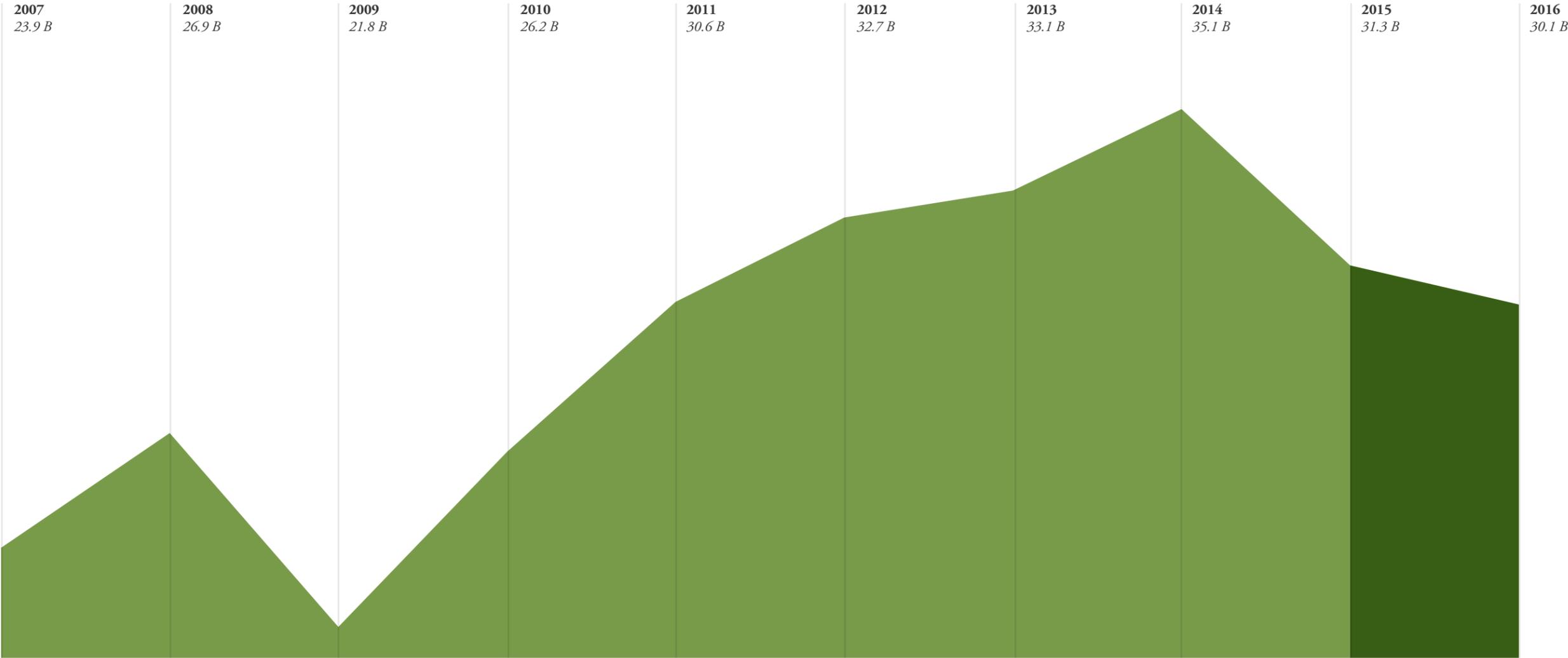
**Increase in Dollar Index Between 2015 and 2016, Signaling the Strength of United States Currency**

## United States Dollar Strength Over Time

- Index (= 100)
- Relative Dollar Value



# 10 Year Trend: Total North Carolina Exports



## North Carolina's Export Economy in State of Transition

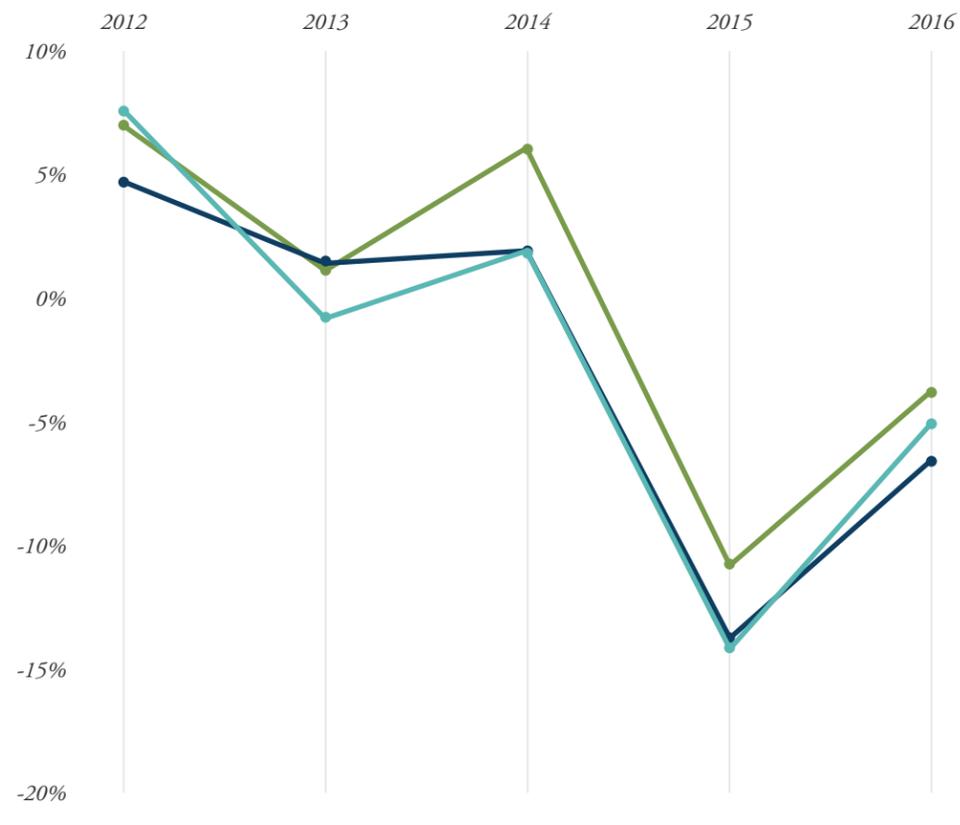
It's impossible to know exactly why export values have declined recently, but two factors may have influenced this trend. In the wake of the Great Recession, North Carolina experienced a surge in export activity. The declines we see today could indicate a return to normal as the economy reaches full recovery after a period of accelerated growth. Additionally, over the past decade the export profile of most states (including North Carolina) has changed dramatically.<sup>4</sup> Some of North Carolina's most prominent industry clusters, such as finance and information technology, are largely exporters of services. Because this report only analyzes exports of goods, growth in exports of services are not captured.<sup>5</sup>

# North Carolina Exports Outperform Regional and National Trends

## Year-Over-Year Percent Change in Exports

- North Carolina
- Southeast
- United States

In the face of persistent international headwinds, North Carolina's exports have shown resiliency. Other state economies are facing much larger declines in export volumes. Only seven states show inflation-adjusted increases for export values between 2012 and 2016. Over the past few years, changes in North Carolina's export economy have exceeded regional and national averages. In periods of trade expansion, the state shows strong growth. For example, state exports increased +6.0% in 2014, far above regional and national averages (both increased by +1.8%). Export levels also remain relatively stable during periods of trade contraction. Adjusted for inflation, North Carolina exports declined -3.8% in 2016, but this was much less than declines occurring at the regional (-5.2%) and national (-6.6%) level. North Carolina remains a state trade leader, ranking 10th in the nation for real export change over the past 5 years.

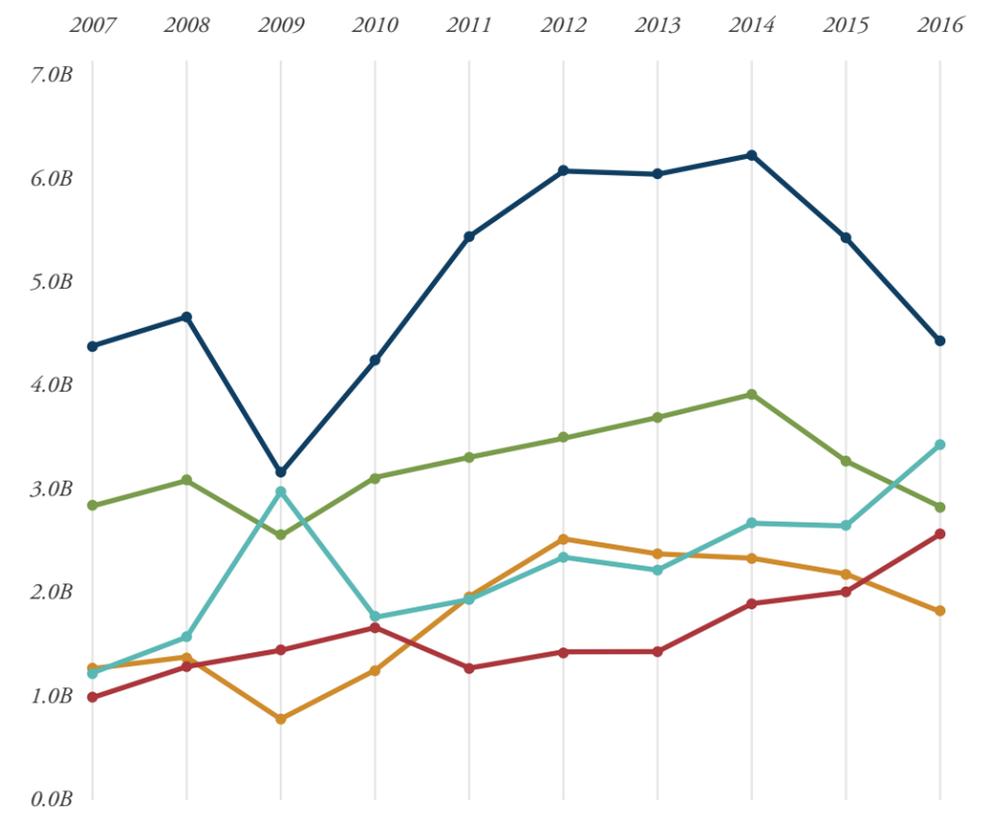


# North Carolina's Top Exports by Commodity

## 10 Year Growth of North Carolina's Top Export Categories

- Industrial Machinery
- Electric Machinery
- Pharmaceuticals
- Vehicles
- Aircraft

A large share of North Carolina's total exports can be sourced to industrial machinery, pharmaceuticals, electric machinery, aircraft, and vehicles. These five categories combined make up 48% of goods exports in 2016, an increase from 42% in 2007. In the past year, growth across the top five categories has been mixed. Exports of pharmaceuticals (+32%) and aircraft (+31%) have surged, which is reflective of a long-term growth trend. Reasons for this trend are impossible to know for certain. However, qualitative evidence suggests the relocation of major companies in North Carolina's pharmaceutical manufacturing and aircraft parts production clusters might be contributing to a large share of export growth. Conversely, exports across other categories have seen declines. Industrial machinery, electric machinery, and vehicle exports have all exhibited a downward trend since 2014.



# Ranking North Carolina's Exports Across The Region And Nation

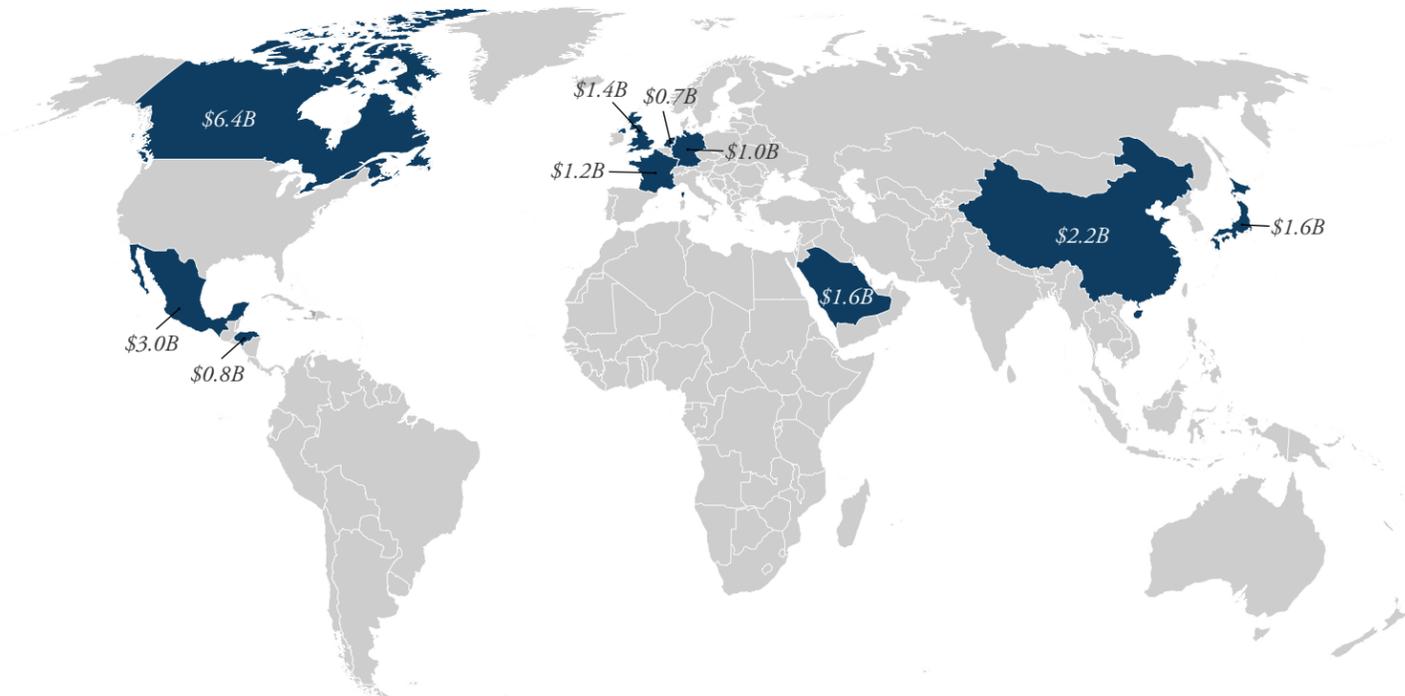
## Comparative State Rankings of North Carolina's Top 10 Export Markets

The table on the next page shows North Carolina's top ten export markets in 2016 by total value of goods exported. The state is then ranked against other states in the southeast region and nationally by (1) total export value and (2) exports per capita (the value of exports divided by the state's population). For example, Canada is North Carolina's largest export market by total value. Across all the states in the southeastern region, North Carolina ranks third for total exports and seventh for exports per capita to Canadian markets. Nationally, North Carolina businesses are ranked #14 for total exports and #25 for exports per capita to Canada.

## Top 10 Export Market Summary

North Carolina's top export markets are spatially diverse, comprised of countries across three continents. Geographic diversity in trade partners is important because it means overall export activity is less likely to be impacted by regional political conflict or economic problems. The data show multiple countries where North Carolina has a distinct trade relationship. For example, the state maintains a clear competitive advantage in Saudi Arabia (first regionally, third nationally by total exports). Exports of defense and security commodities to the Kingdom are up 265% on an inflation-adjusted basis. Also of note is the state's strong relationship with Honduras (first regionally and nationally by total exports), which is mostly due to trade in yarn commodities.

## North Carolinas Top Markets Span the Globe



## Comparative State Rankings of North Carolina's Top 10 Export Markets

Country	Southeast		National	
	Export Value	Per Capita	Export Value	Per Capita
Canada	#3	#7	#14	#25
Mexico	#4	#8	#13	#26
China	#6	#8	#16	#29
Saudi Arabia	#1	#1	#3	#3
Japan	#3	#5	#11	#19
United Kingdom	#4	#5	#14	#18
France	#2	#4	#9	#9
Germany	#6	#9	#17	#32
Honduras	#1	#3	#1	#3
Netherlands	#6	#8	#15	#24

## Top 10 Export Market Summary

Country	2016 Exports	1 Year % Change	5 Year % Change	10 Year % Change	Top 2-Digit HS Code
1 - Canada	\$6.4B	-11%	-20%	9%	Industrial Machinery
2 - Mexico	\$3.0B	-9%	15%	72%	Industrial Machinery
3 - China	\$2.2B	-1%	-25%	20%	Electric Machinery
4 - Saudi Arabia	\$1.6B	9%	96%	458%	Aircraft
5 - Japan	\$1.6B	2%	-23%	-14%	Pharmaceuticals
6 - United Kingdom	\$1.4B	36%	31%	47%	Pharmaceuticals
7 - France	\$1.2B	1%	23%	20%	Aircraft
8 - Germany	\$1.0B	-4%	-15%	7%	Industrial Machinery
9 - Honduras	\$0.8B	-6%	-2%	-6%	Cotton, Yarn, Fabric
10 - Netherlands	\$0.7B	-1%	-4%	37%	Pharmaceuticals

# Market Share by Country for Top Export Categories

Key: Top Export Commodities by Country

- Canada
- Japan
- China
- Hong Kong
- France
- United Kingdom
- Belgium
- Ireland
- Australia
- United Arab Emirates
- Mexico
- Netherlands
- Germany
- Saudi Arabia

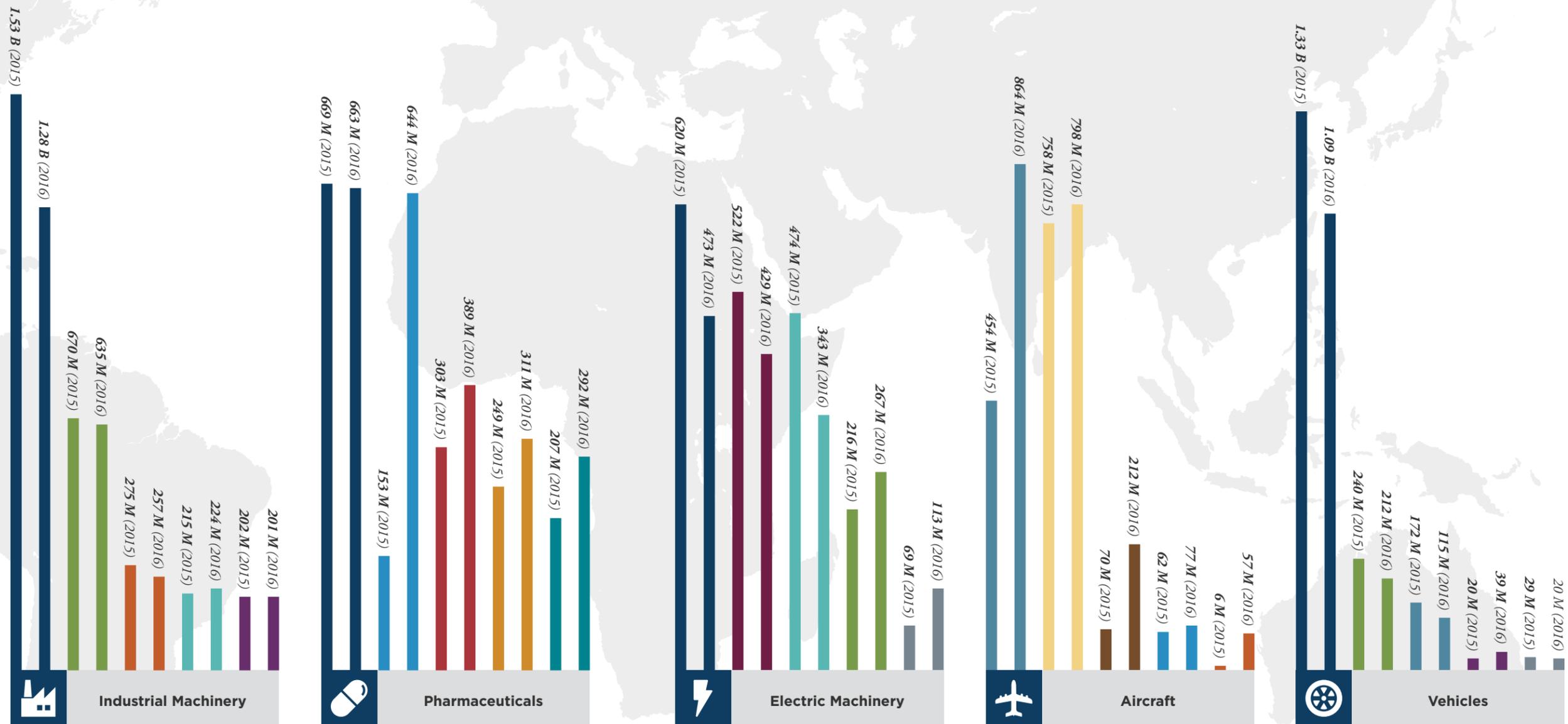
13

Instances of Real Increases in Top Commodity Growth by Country

14

Countries with the Largest Market Share of NC's Top Commodities

The graphs below show market share by country for each of North Carolina's top export categories: industrial machinery, pharmaceuticals, electric machinery, aircraft, and vehicles. You'll note that the state's top overall export markets (Canada, Mexico, China, Saudi Arabia, and Japan) make frequent appearances here, but it's also interesting to see that other countries are receiving North Carolina's most exported commodities.



# Country Profile Introduction

The following section gives a broad overview of North Carolina's top export markets. Each profile includes two main sections. In the trade trends section, we discuss any notable statewide or national export patterns for the market. To the extent information is available, we also highlight any currency or export forecasts. Trade deficits in this section are between the United States and the foreign country; for technical reasons state-level trade deficits cannot be calculated. In the following section, a general economic overview of the country is presented based on forecasts of gross domestic product, unemployment, and any relevant central bank policies. Country profiles are not meant to be comprehensive overviews of trade between the market and North Carolina. However, they do provide key points of information that might help assessments of export market potential. For more information about trade opportunities in any of these countries, please contact EDPNC's trade team.

# Country Profile: Canada

**Top Category:**  
Industrial Machinery

**\$6.4 Billion**  
2016 Total Exports

**+9%**  
10-Year Growth

**21%**  
Export Market Share

## Trade Trends: Short-Term Challenges but Long-Term Potential

Since state-level export data has been available, Canada has remained North Carolina's largest export market by total value. The state's export profile to Canadian markets has been remarkably consistent. The same commodity categories (industrial machinery, vehicles, and pharmaceuticals) have made up the bulk of the state's exports to Canada for many years. At the national level, the United States exported \$267B and imported \$278B from Canadian markets in 2016.<sup>6</sup> The resulting nominal trade deficit for exports of goods was -\$11B, an improvement from -\$15B in 2015. Overall, exports to Canada from all countries are expected to grow 2.2% in 2017. This places Canada rank 30 out of the 36 Organization for Economic Cooperation and Development (OECD) countries for yearly trade growth.<sup>7</sup>

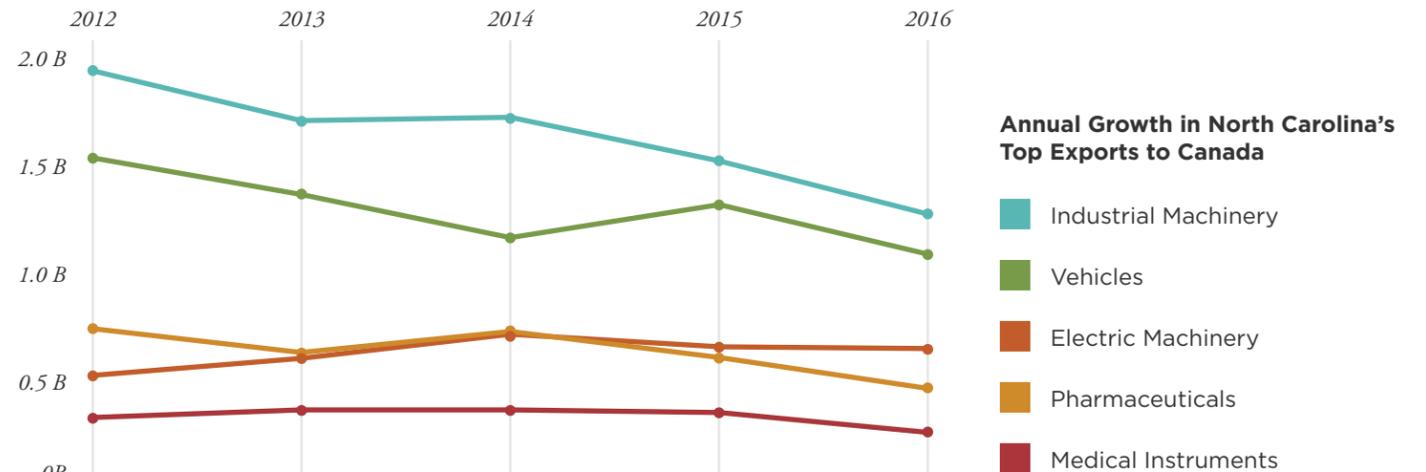
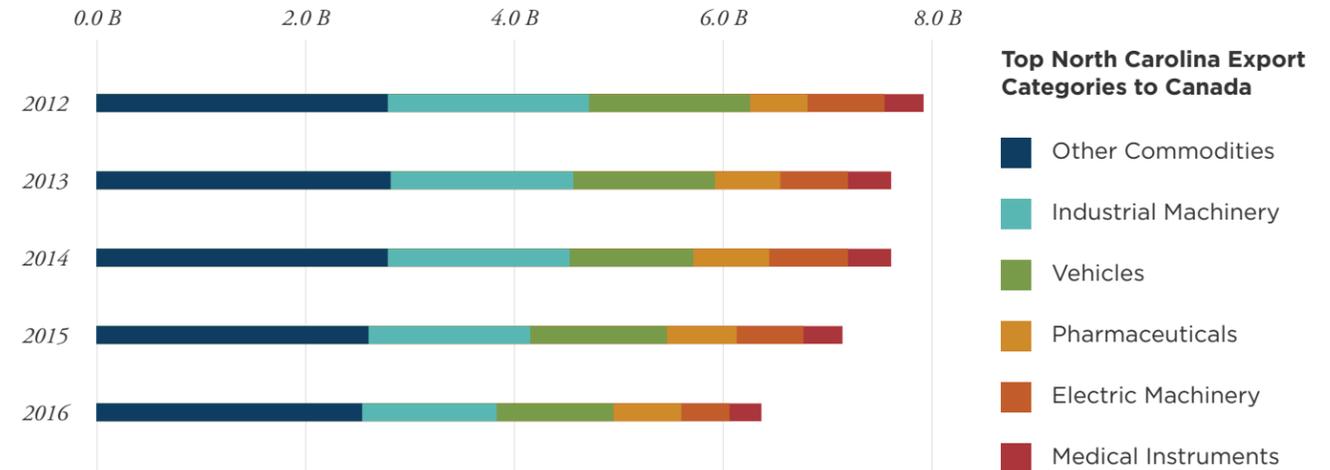
In the first half of 2016, the Canadian dollar depreciated notably against the United States dollar. Since that time, exchange rates have remained steady. Over the next year, growth in exports to Canada may be further



Overall, exports to Canada from all countries are expected to grow 2.2% in 2017.

weakened by the value of the Canadian dollar.<sup>8</sup> Foreign currency forecasts project that the Canadian dollar will continue to devalue against the United States dollar at a moderate rate through 2017.<sup>9</sup> Although some data suggests export growth in this

market will be challenging, long-term forecasts also indicate a strong trade relationship. Export projections place Canada as the top market for United States exporters over the next 15 years.<sup>10</sup>



## Economic Outlook: Incremental Growth Continues Post-Recession

Canada's economic output continues to accelerate in the wake of a recession which ended in 2016. The country's gross domestic product grew 1.3% in the past year, a notable increase from 0.9% between 2014 and 2015.<sup>11</sup> This level of growth matches the International Monetary Fund's average growth rate for developed economies. Surveys of Canadian businesses support this positive economic outlook. Canadian firms generally expect increased domestic demand, which should boost the country's imports, through the next few years.<sup>12</sup> Employment remains high on a relative basis at 6.7%, but has dropped from post-recession highs of over 7.0%.<sup>13</sup> Low interest rates from Canada's central bank, which have remained at 0.5% for some time,<sup>14</sup> should also promote growth.

Canada's gross domestic product grew 1.3% in the past year, a notable increase from 0.9% between 2014 and 2015.

# Country Profile: Mexico

**Top Category:**  
Industrial Machinery

**\$3.0 Billion**  
2016 Total Exports

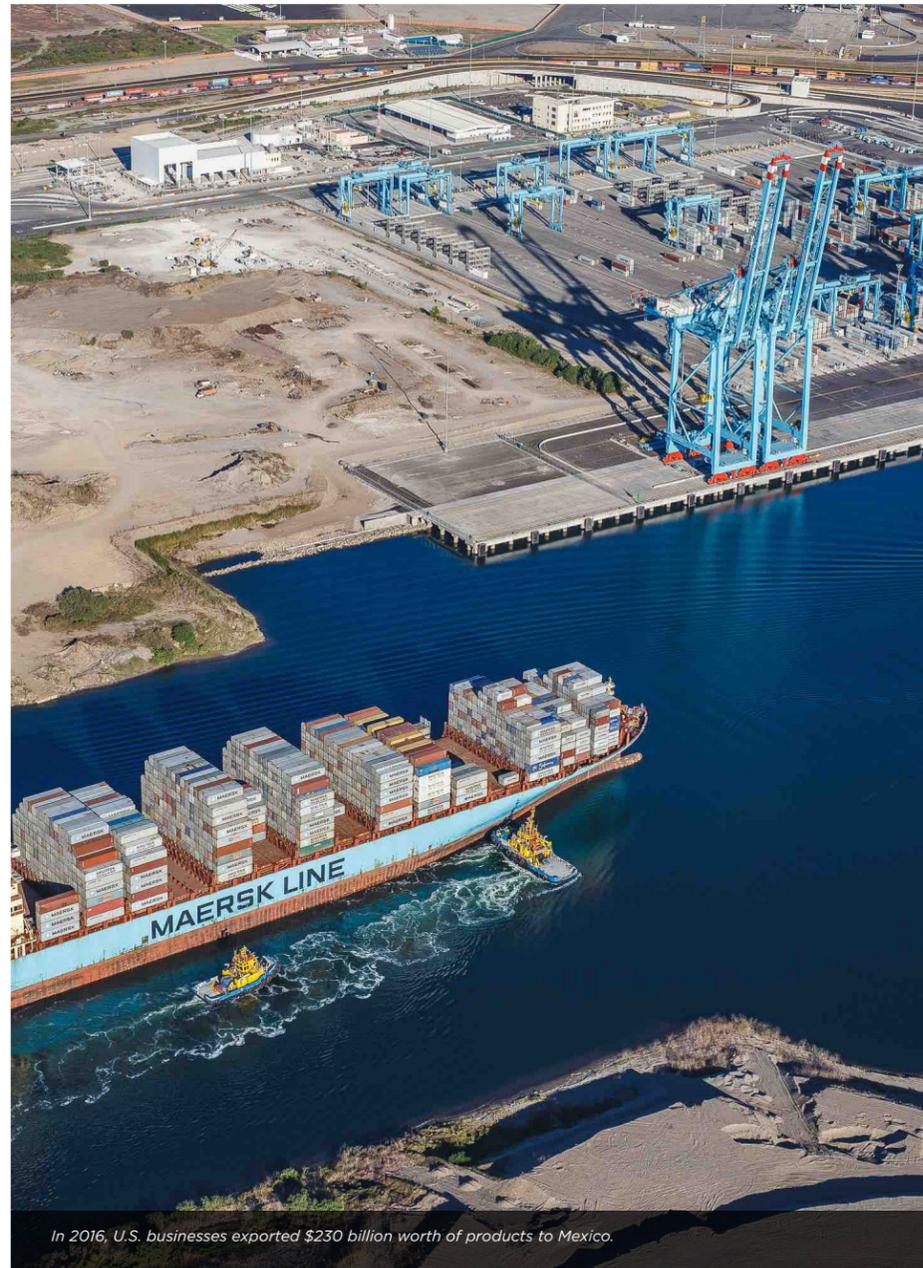
**+72%**  
10-Year Growth

**10%**  
Export Market Share

## Trade Trends: The Peso's Decline Against the Dollar Poses Challenges

Mexico has been a large market for North Carolina for decades, representing either the 2nd or 3rd largest country for exports by total value since 1997. At the national level, businesses in the United States exported \$230B worth of products to Mexico in 2016.<sup>15</sup> About \$294B of Mexican goods were imported by the United States, resulting in an overall nominal trade balance of -\$63B. This is up slightly from a trade balance of -\$61B in 2015. Exports from all markets to Mexico are projected to grow 3.9%, ranking the country 15th out of the 39 OECD member countries.<sup>16</sup>

The value of the Mexican peso against the dollar has declined consistently since 1994, and recent years have seen additional sharp drops. Projections of the peso's future value indicate multiple factors are working both for and against further devaluation.<sup>17</sup> Continued devaluation of the peso could make exports to Mexican markets more challenging for North Carolina businesses. Despite these challenges, long-term export

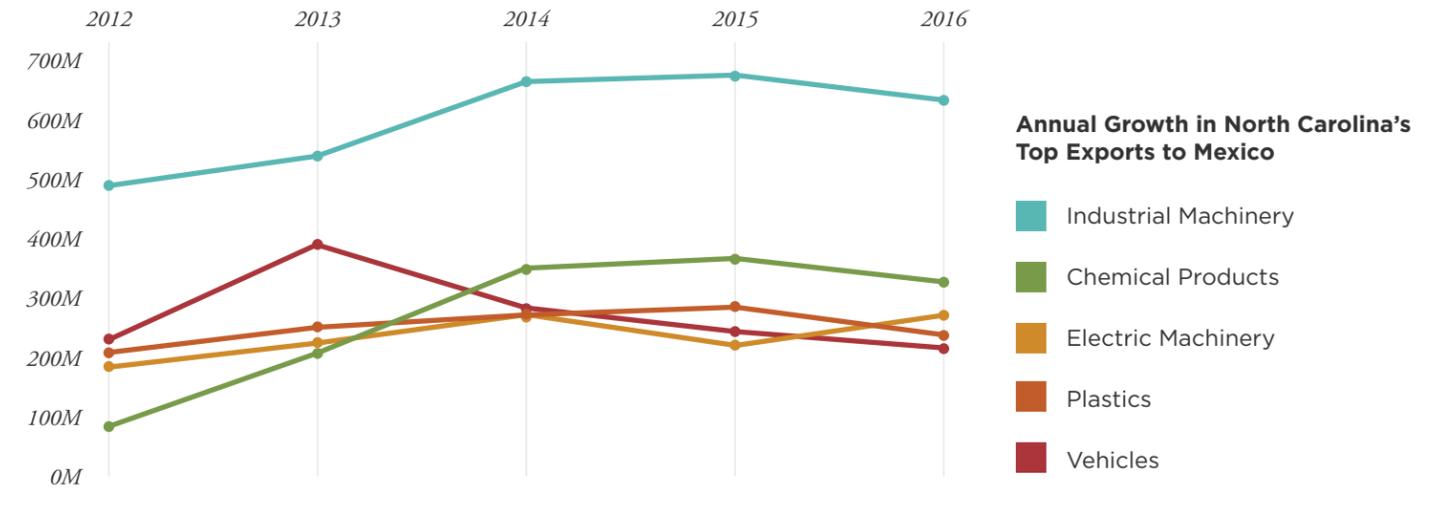
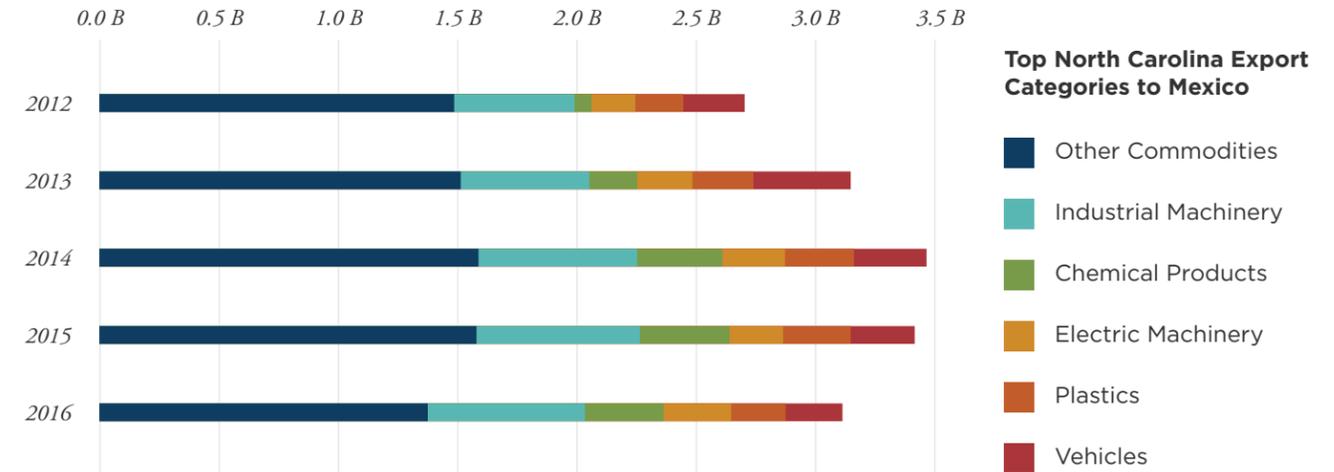


*In 2016, U.S. businesses exported \$230 billion worth of products to Mexico.*

Exports from all markets to Mexico are projected to grow 3.9%, ranking the country 15th out of the 39 OECD member countries.

levels are likely to remain steady due to Mexico's close economic relationship with the United States.

Export projections place Mexico as the second largest export market for U.S. businesses through 2030.<sup>18</sup>



## Economic Outlook: Growth Decelerates but Further Large Declines Unlikely

Mexico's gross domestic product growth has slowed in recent years, from 2.6% in 2015 to an estimated 2.2% in 2016. A projected 1.7% growth rate in 2017 indicates further deceleration, and is much below the International Monetary Fund's 4.5% target growth rate for developing economies. There are varied explanations for this slump, but some data nods to tightening monetary policy by Mexico's central bank.

The country's benchmark overnight interest rate has doubled since 2016, growing from 3.0% to 6.5%.<sup>19</sup> Consistent with macroeconomic conditions, Mexican businesses are also showing declining confidence in the economy.<sup>20</sup> However, while Mexico's economic output is slowing, most development agencies believe there is little cause for concern. Mexican unemployment is 3.7%--far below its 2008 recession high

of 8.4%.<sup>21</sup> OECD analysis indicates Mexico's growth has been resilient in the face of issues like weak oil prices, declining trade growth, and global political concerns.<sup>22</sup>

# Country Profile: China

**Top Category:**  
Electric Machinery

**\$2.2 Billion**  
2016 Total Exports

**+20%**  
10-Year Growth

**7%**  
Export Market Share

## Trade Trends: Demographic Changes Ensure Long-Term Growth

As the Chinese government has embraced economic reforms, exports from North Carolina to the country have flourished. China has grown from the state's 11th largest export market in 2000 to the 2nd or 3rd largest market (depending on the year) since 2007.

The trade balance between the United States and China was -\$347B in 2016, a slight nominal improvement from -\$367B in 2015.<sup>23</sup> Last year businesses across the United States exported \$116B to Chinese markets and imported \$463B from the country. Exports from all markets to China are expected to grow 2.2% in 2017, which ranks #15 out of G20 countries.<sup>24</sup>

In 2015, China's central bank changed how it sets the daily exchange rate for the country's currency (the yuan). This resulted in an effective devaluation of the currency against the dollar,<sup>25</sup> a trend which has continued through the present.<sup>26</sup> Continued currency declines against the dollar represent a challenge for United States exporters.

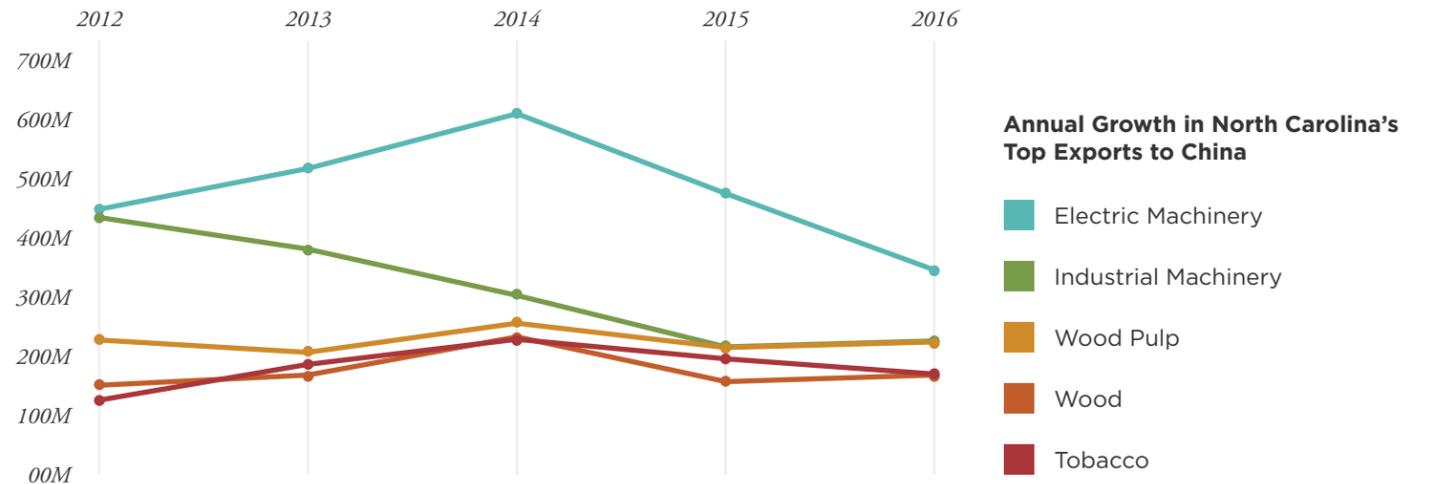
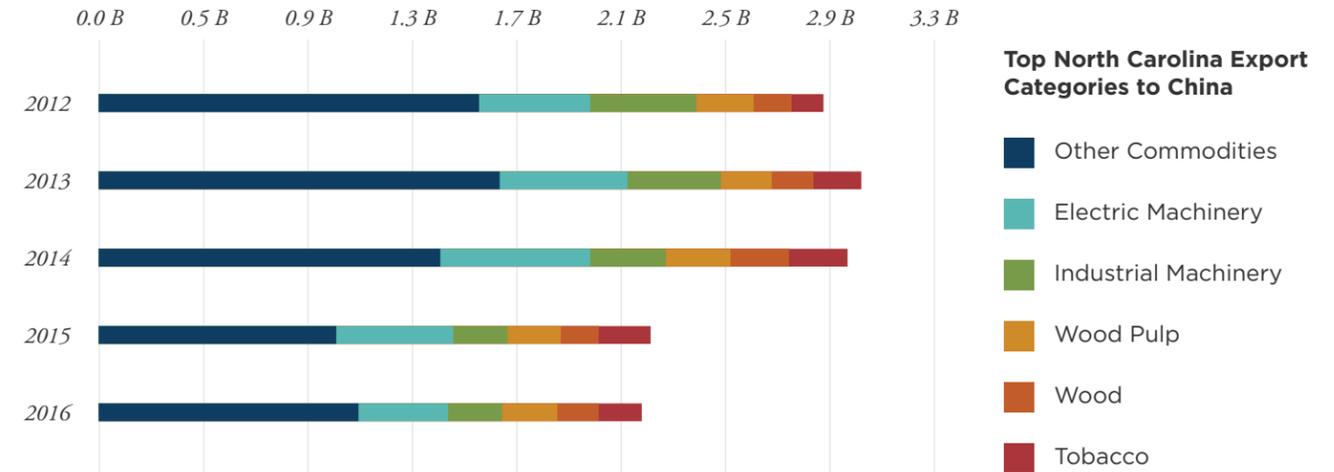


*In 2016, electric machinery was one of the top exports from the U.S. to China. Exports in all markets are expected to grow in 2017.*

## China has grown from the state's 11th largest export market in 2000 to a top 3 market since 2007.

Despite these challenges, long-term growth in exports to China are likely. As China's economy continues to develop, a growing middle class will

increase demand for imported goods.<sup>27</sup> China is projected to remain the third largest export market for the United States through 2030.<sup>28</sup>



## Economic Outlook: A Country in Transition

Due to a variety of geopolitical factors, assessing the economic growth picture in China is challenging.<sup>29</sup> With that caveat in mind, data and analysis by third party development agencies like International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) suggest Chinese growth is slowing. Gross domestic product growth was 6.7% in 2016, a slight

decline from 6.9% in 2015. Forecasts estimate output will slow further to 6.4% in 2017, but this rate of growth is far above the International Monetary Fund's 4.5% benchmark for developing economies.<sup>30</sup>

Modeled data indicate unemployment levels were at 4.6% in 2016. Unemployment has remained steady since 2014, but current unemployment levels are far above

a multi-decade low of 3.7% which occurred in 2007.<sup>31</sup> China's central bank has adopted expansionary monetary policy, reducing interest rates to a multi-year low in 2016.<sup>32</sup> Overall, the OECD has concluded that China's economy is in a state of transition and is likely to experience slower (but persistent) growth in the coming years.<sup>33</sup>

# Country Profile: Saudi Arabia

**Top Category:**  
Aircraft

**\$1.6 Billion**  
2016 Total Exports

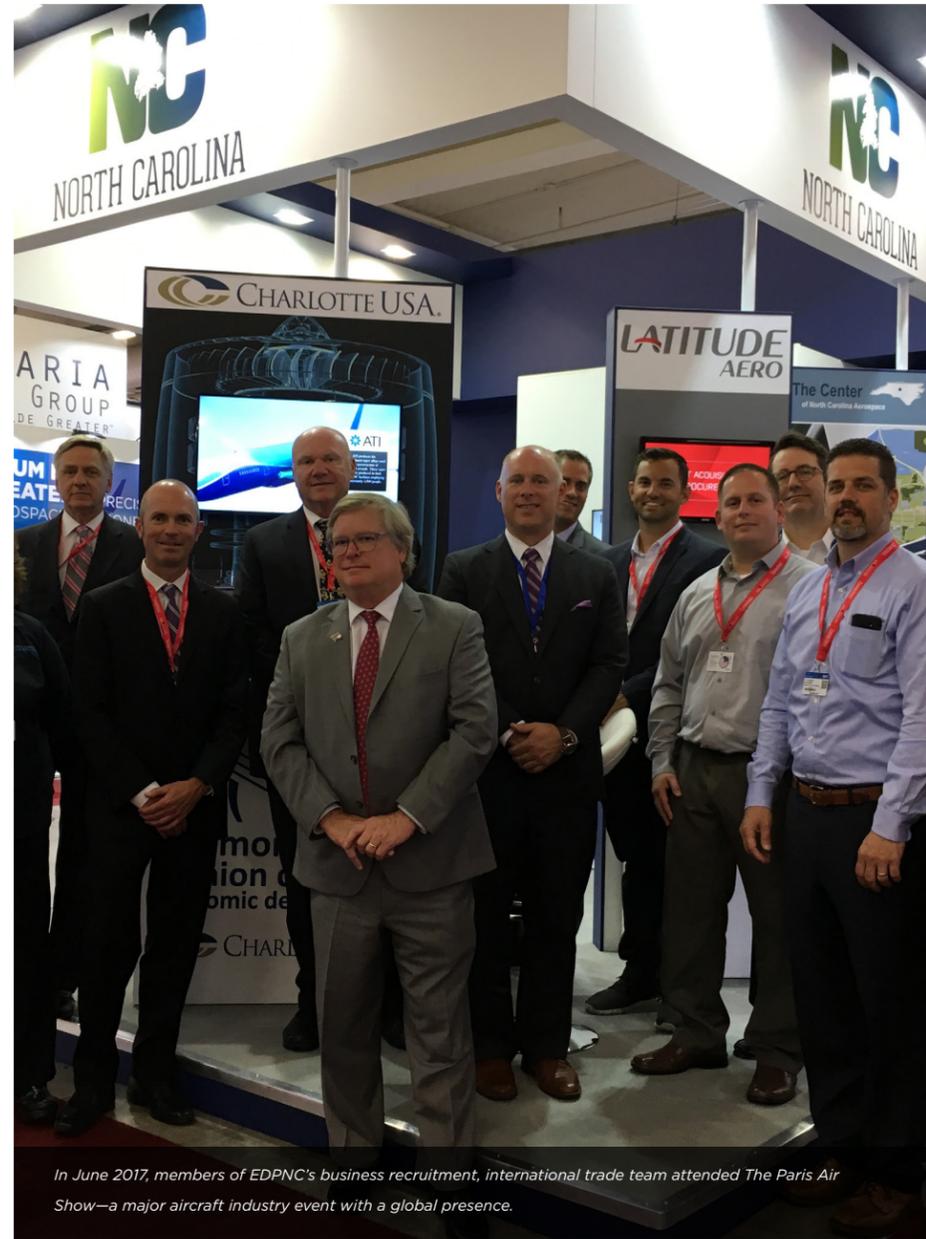
**+458%**  
10-Year Growth

**5%**  
Export Market Share

## Trade Trends: An Overwhelmingly Positive Trade Relationship

In 2016, the Kingdom of Saudi Arabia surpassed Japan and became North Carolina's fourth largest export market for goods. Additionally, among North Carolina's top export markets, the Kingdom is the only country that has a positive trade balance with the United States. Businesses exported \$18B to Saudi Arabia and imported \$17B, resulting in a trade balance of +\$1B.<sup>34</sup> This is both a nominal improvement from a -\$2B trade balance in 2015, and the first instance of a positive trade balance between the United States and Saudi Arabia since 1985.

Saudi Arabia's currency (the riyal) is pegged to the United States dollar. This currency peg means the central bank has limited monetary policy flexibility.<sup>35</sup> Concurrently, a pegged currency ensures exchange rate stability, which is not always present in countries that have floating currency values. Trade forecasts for Saudi Arabia indicate short-term challenges due to the country's reliance on oil. However, in the long-term, the outlook for exports to Saudi Arabia is very

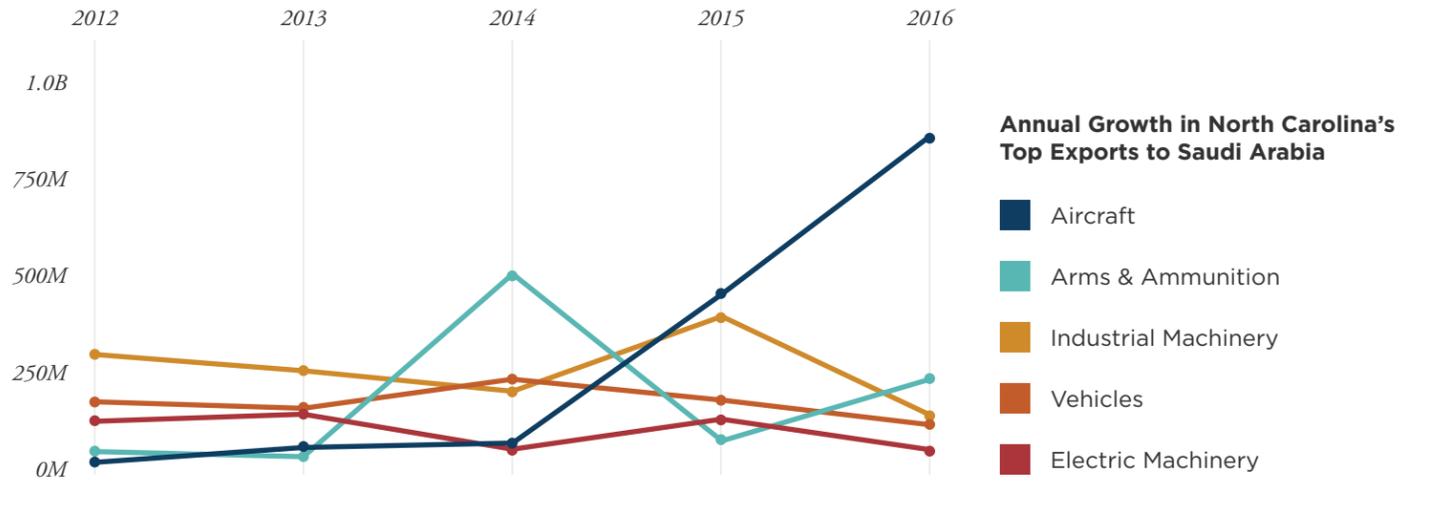
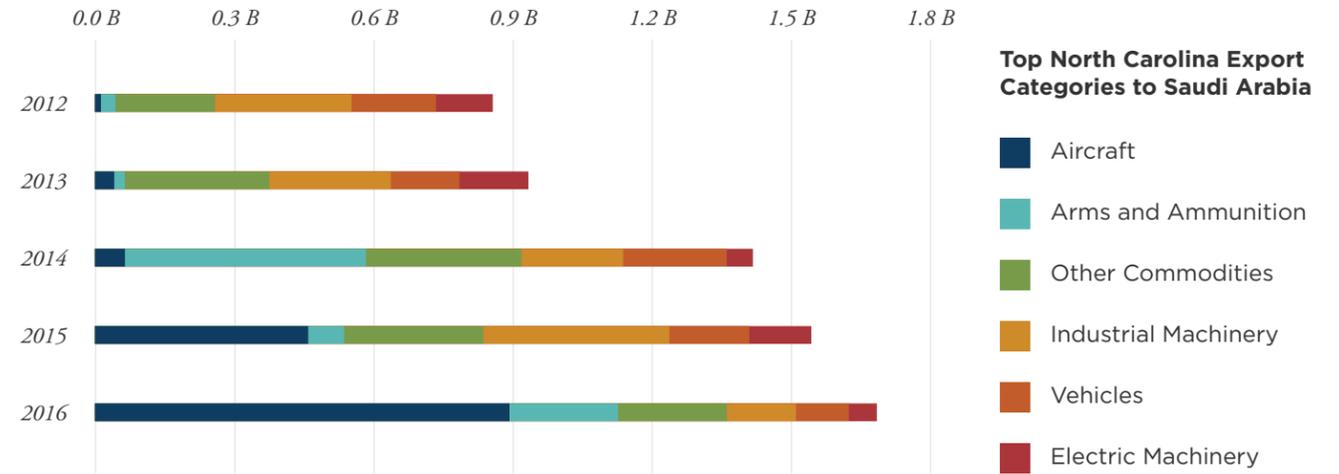


*In June 2017, members of EDPNC's business recruitment, international trade team attended The Paris Air Show—a major aircraft industry event with a global presence.*

## Businesses exported \$18B to Saudi Arabia and imported \$17B... this is the first instance of a positive trade balance... since 1985.

positive. The Kingdom has ambitious plans to diversify its economic base.<sup>36</sup> As the third largest state exporter to the country by both total value and

per capita, North Carolina remains well positioned to expand trade in this market.



## Economic Outlook: Much to do with the Price of Oil

Saudi Arabia's economic outlook is heavily tied to price changes in oil commodities. The effects of low oil prices, which declined sharply in 2015, are beginning to have a notable economic impact on the country. Growth in total economic output for the Kingdom saw a large decline in the past year, from 4.1% in 2015 to 1.4% in 2016.<sup>37</sup> Current growth rates are below other economies in the region and below average

for developing economies. The International Monetary Fund projects only 0.4% growth in 2017, and current forecasts hint at further downward revisions.<sup>38</sup> Unemployment in 2015 was 11.5% and rose to 12.1% through the later part of 2016. In the context of the Saudi Arabian economy, these rates of unemployment are relatively high but not unusual.<sup>39</sup> In general, development agencies are forecasting weak growth for the

Kingdom until commodity prices begin to rise. Given the negative macroeconomic outlook, it may seem unusual that North Carolina's exports to the area continue to increase. However, most of the state's exports to Saudi Arabia are concentrated in defense commodities, which are less likely to be influenced by cyclical economic trends.

# Country Profile: Japan

**Top Category:**  
Pharmaceuticals

**\$1.6 Billion**  
2016 Total Exports

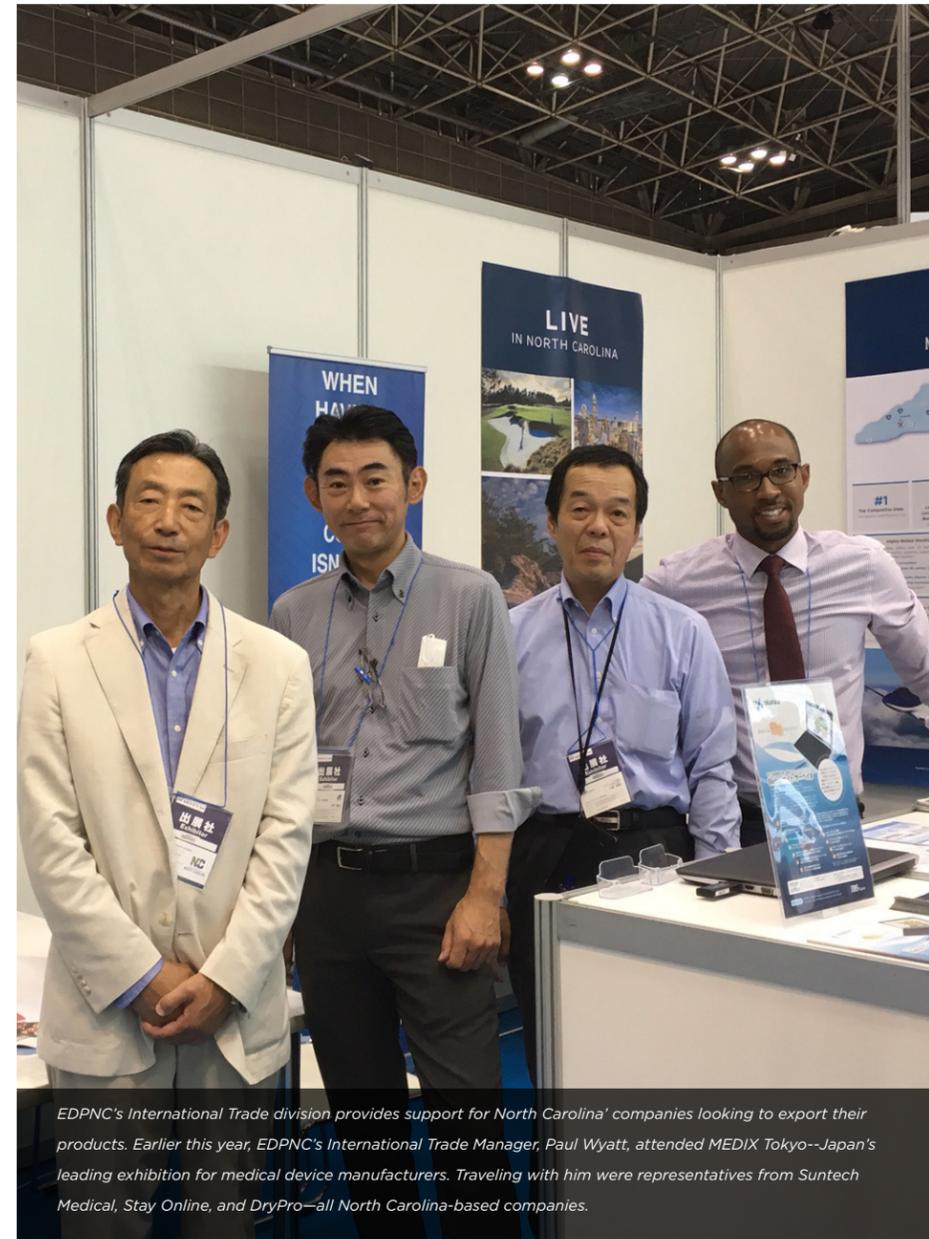
**-14%**  
10-Year Decline

**5%**  
Export Market Share

## Trade Trends: Exports Decline Amid Structural Economic Issue

Japan has maintained its position as a top market for North Carolina exports for decades. However, the value of the state's exports to this market have been declining slowly for many years. Nationally, United States businesses exported \$63B to Japan in 2016.<sup>40</sup> About \$132B of Japanese goods were imported to the United States, resulting in a nominal trade balance of -\$69B. The trade balance had no material change from 2015, when it was also -\$69B. Exports to Japan worldwide are expected to grow 1.0% in 2017, the lowest level of growth among all 38 OECD member countries.<sup>41</sup>

Although the Japanese yen has been depreciating against the United States dollar for the past few years, the trend is volatile.<sup>42</sup> At present, foreign currency forecasts predict the yen will continue to depreciate against the dollar through the end of 2017.<sup>43</sup> While exporters to Japanese markets are likely to face challenges due to the country's structural economic challenges and currency devaluations, Japan will continue to be a major export destination.

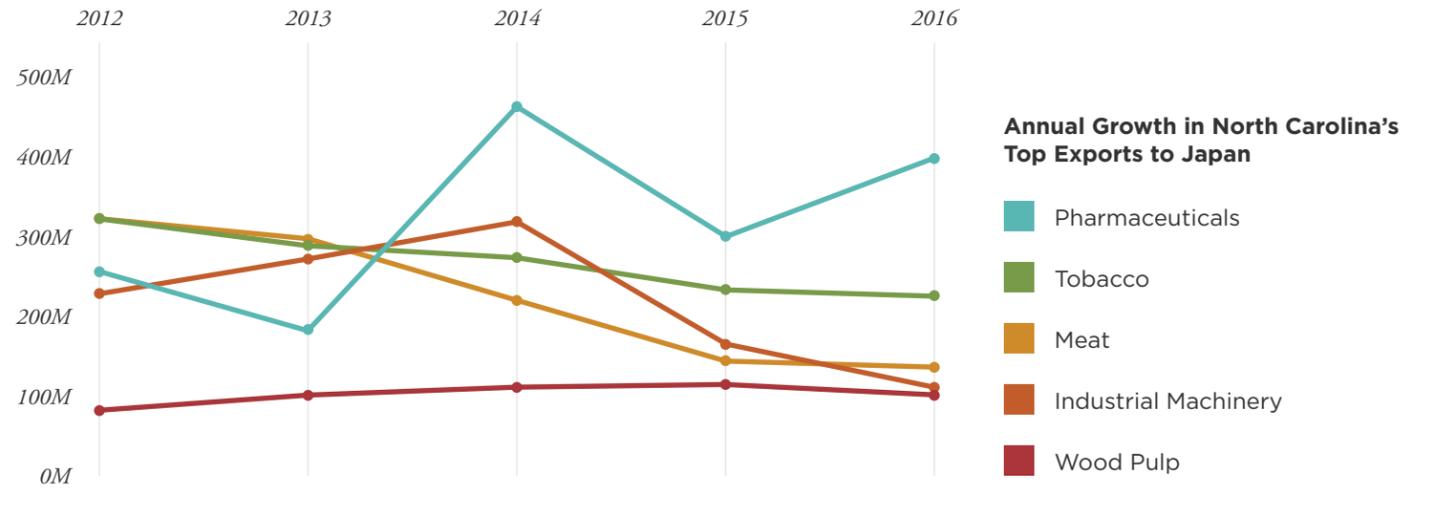
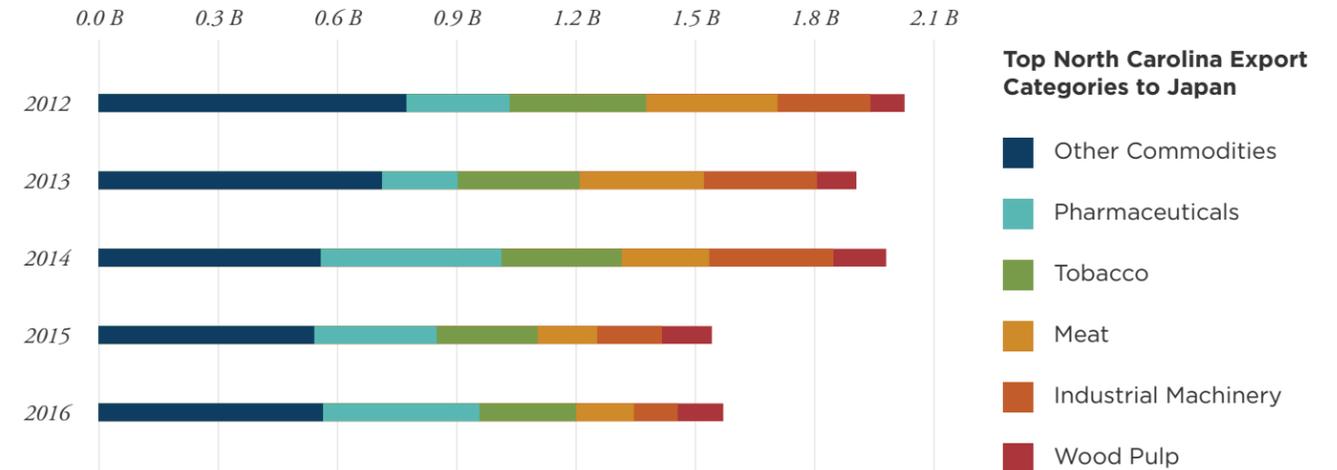


EDPNC's International Trade division provides support for North Carolina's companies looking to export their products. Earlier this year, EDPNC's International Trade Manager, Paul Wyatt, attended MEDIX Tokyo--Japan's leading exhibition for medical device manufacturers. Traveling with him were representatives from Suntech Medical, Stay Online, and DryPro—all North Carolina-based companies.

## While exporters to Japanese markets are likely to face challenges... Japan will continue to be a major export destination.

Through 2030, Japanese markets are projected to remain the fourth largest market for U.S. businesses.<sup>44</sup> Despite current challenges related to declining

trade activity and shifting currency values, this market still represents an opportunity for North Carolina exporters in the long-term.



## Economic Outlook: Growth Rates Forecast to Decline Further

Japan suffered a "lost decade" from 2000 to 2010 when an asset bubble caused serious negative shocks to the economy. In the intervening years, the country has struggled to maintain high levels of economic output. Japan's year-over-year gross domestic product growth declined from 1.2% in 2015 to 0.9% in 2016.<sup>45</sup> The International Monetary Fund forecasts yearly growth will decline further to 0.8%

in 2017, far below the 1.9% growth benchmark for advanced economies. The country's unemployment rate was about 3.2% in 2016 but has improved to 2.8% in 2017.<sup>46</sup> In most cases, low unemployment is a good economic indicator. But Japan's low unemployment can be partially explained by a large demographic shift where there are fewer workers to replace those who leave the labor pool.<sup>47</sup> Further complicating Japan's

growth outlook is the actions of its central bank. The Bank of Japan has relied on extraordinary monetary policy, in the form of negative interest rates, for over a year now. In general, OECD analysis suggests these factors will lead to incremental short-term growth but long-term uncertainty for the Japanese economy.<sup>48</sup>

# Regional Spotlight: European Union

## 4/10

4/10 of NC's Top Export Markets are Members of the European Union.

## +7%

Inflation-adjusted export increases to the trade bloc in the last year.

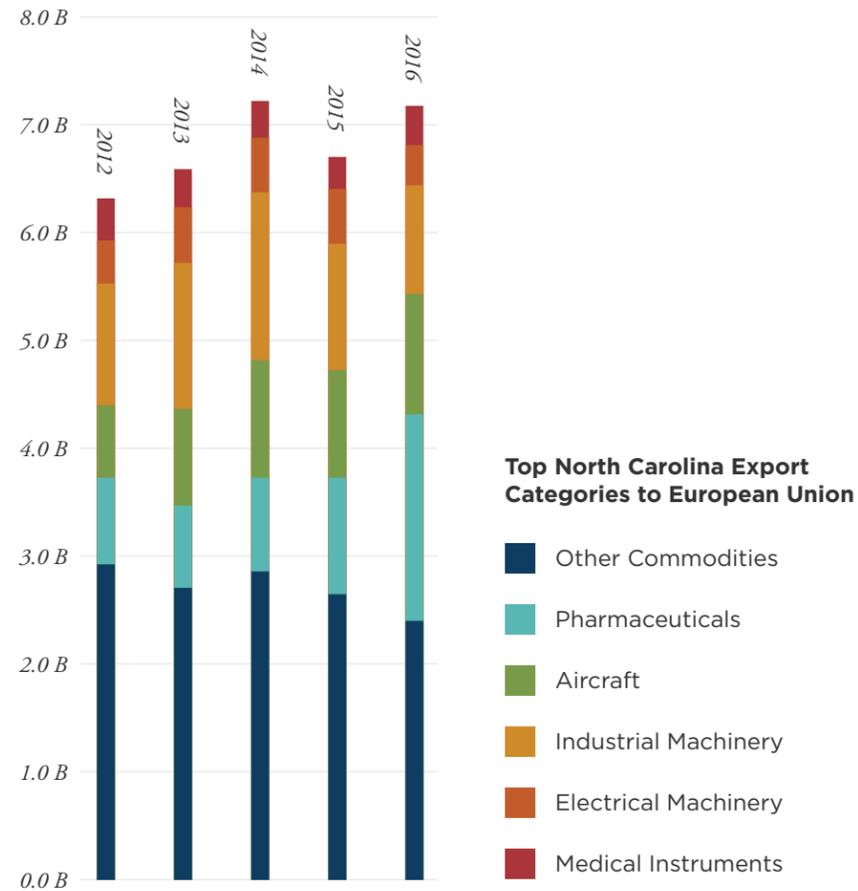
## +75%

Increase in exports of pharmaceutical products in 2016.

## The European Union Captures 23% of North Carolina's Trade

The European Union (EU) remains a significant trade region for North Carolina businesses. Over 23% of the state's exports are sent to the 28-member trade bloc. Four of North Carolina's top 10 export markets are members of the EU: the United Kingdom, France, Germany, and the Netherlands.

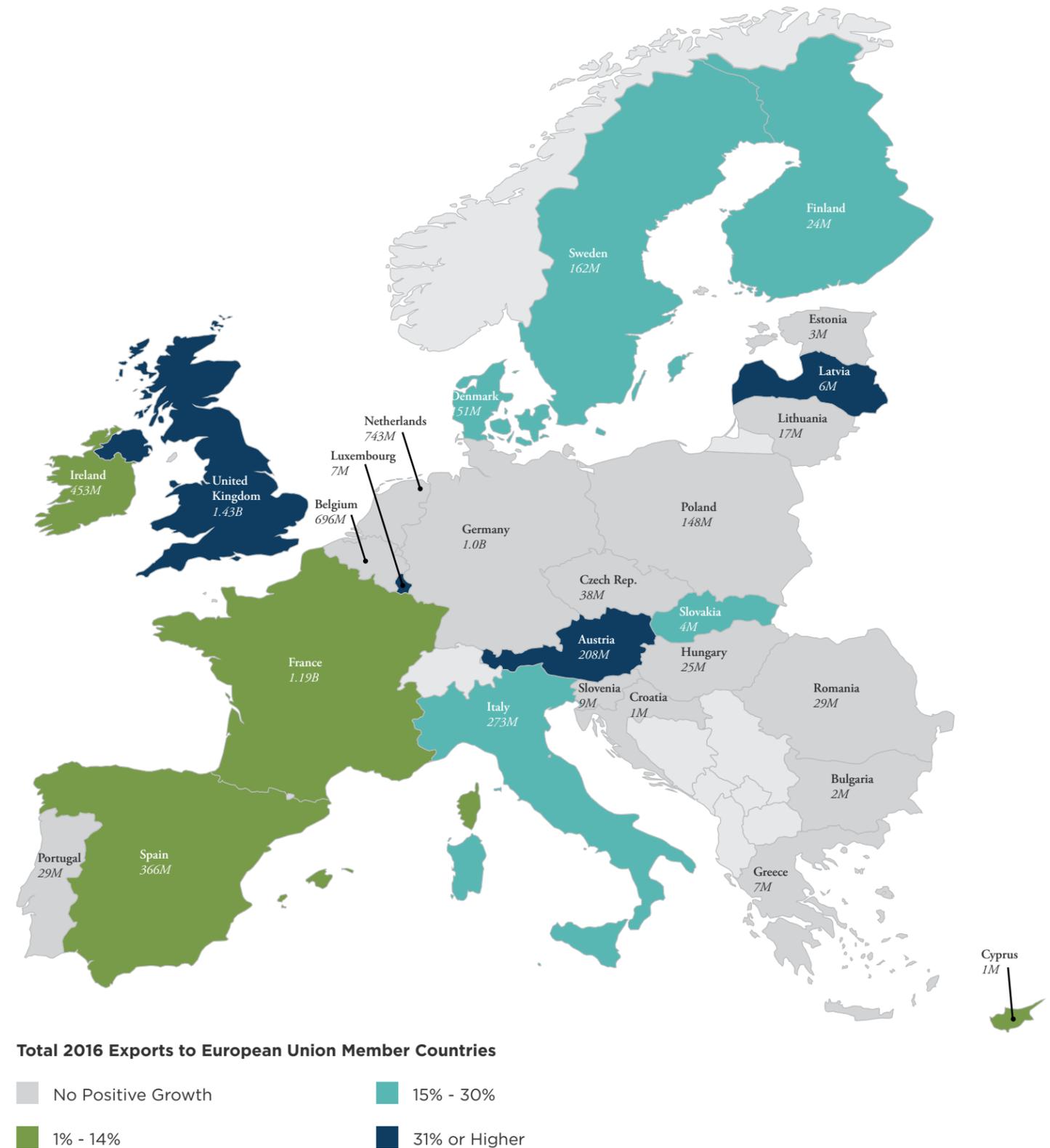
Between 2015 and 2016, inflation-adjusted export values increased +7%, from \$6.6B to \$7.0B. A large portion of this growth is attributable to the United Kingdom. Exports to the UK grew 36% to 1.4B in 2016. Growth across top commodity categories for the region were mixed. Exports of pharmaceutical products surged +75.2%, which was accompanied by growth in the aircraft (+8.0%) and medical instruments (+7.7%) categories. Concurrently, there were notable declines in exports of industrial machinery (-14.2%) and electric machinery (-18.1%).



## The Impact of Britain Leaving the Union is Dependent Upon Brexit Trade Negotiations

In the summer of 2016, the United Kingdom voted to leave the European Union. Although we know that 'Brexit' will have long-lasting effects on exporters to the region, it is too soon to gauge the extent and nature of the impact. Current economic analysis of the situation show a range of possible outcomes.<sup>49</sup> If the United Kingdom obtains European Economic Area status (the same status held by countries like Norway), trade impacts may

be minimized. Without European Economic Area status, trade rules around Brexit would be governed by the World Trade Organization. This may result in additional trade challenges due to tariffs. While the impact of Brexit on trade to the European Union is uncertain, the Brexit process will take years to complete.<sup>50</sup> In the short-term, trade barriers for the region should remain mostly unchanged.



# Conclusions: North Carolina Shows Strong and Persistent Export Leadership

For the past few years, export activity across all 50 states has been depressed amid a confluence of negative global headwinds. Export activity in general has always been highly volatile, and thus any forecast future trade activity is plagued with uncertainty. However, our analysis suggests that North Carolina exporters are likely to see incremental growth in the near future.

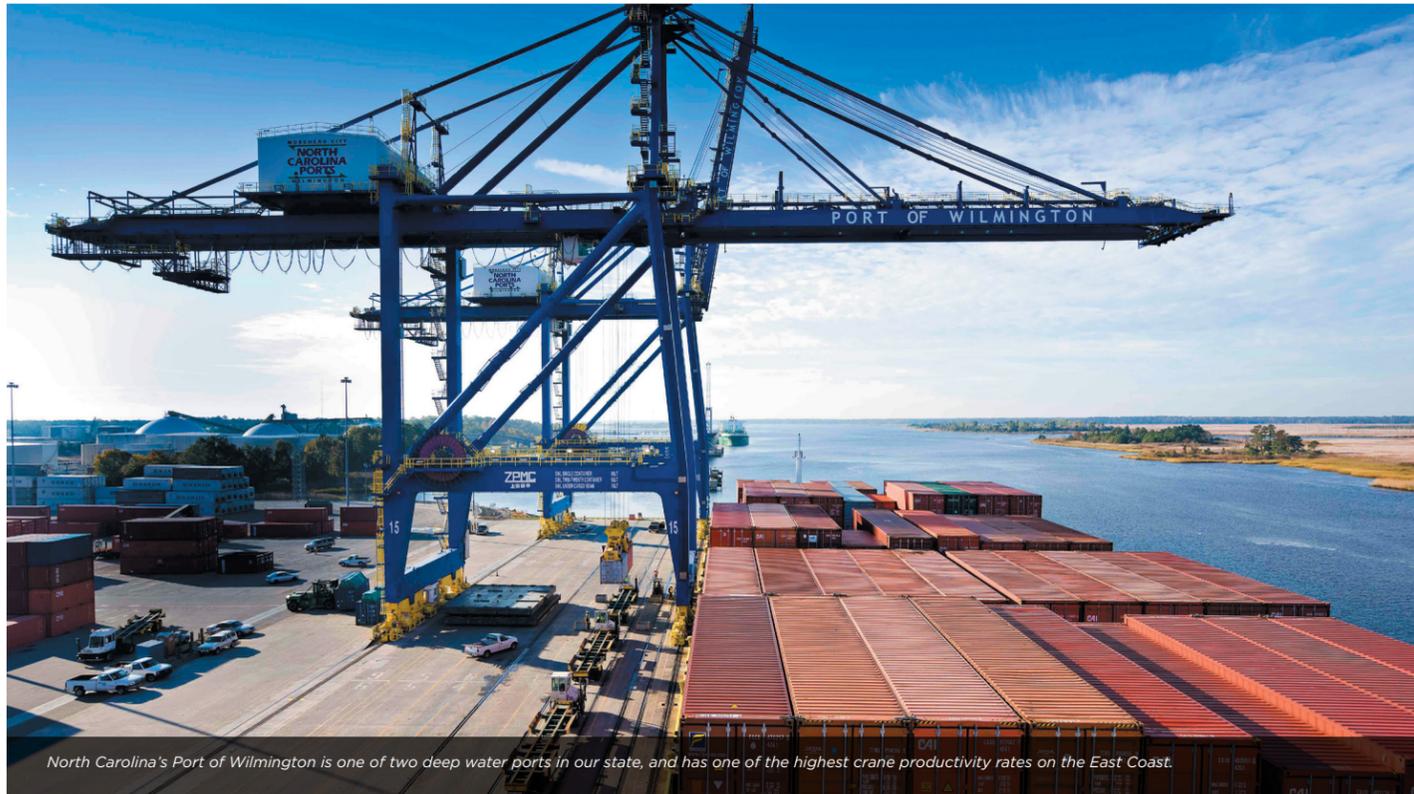
Here's why: North Carolina's top export markets have shown resilient and persistent economic growth, even as many of them have reached full recovery from the global financial

crisis. However, growth has slowed amid growing unease over a variety of political concerns and structural economic issues. The currencies of most major export markets continue to devalue against the dollar. But while the dollar's strength against a basket of world currencies persists, the strengthening trend has slowed since 2016.

Compared to other states, North Carolina exports remain strong. In the southeastern region, North Carolina ranks fifth for real export change in 2016. Though overall export values declined since last year, North Carolina still fared better than most

of the region. Nationally, 33 other states experienced export declines that were larger than North Carolina.

Looking long term, North Carolina's export trends demonstrate resilience in the face of economic uncertainty. In the southeast, North Carolina ranks fourth for real export change since 2012. Across the country, 80% of other states experienced larger declines in inflation-adjusted export values in the past five years. For all these reasons, North Carolina maintains a strong and persistent leadership position in exports of goods.



North Carolina's Port of Wilmington is one of two deep water ports in our state, and has one of the highest crane productivity rates on the East Coast.

# Methodology

## Source

Data for this report is from the Foreign Trade Statistics office of the United States Census Bureau. Specifically, the values have been sourced from the Census Bureau's origin of movement data series for state exports.<sup>51</sup> The data measures exports based on where goods start their journey to the port of export. However, the data do not necessarily reflect the point of manufacturing - only the movement of goods through each state's ports. For example, companies which manufacture goods in North Carolina but ship through ports located in other states are not assigned as a North Carolina export.

Although not without limitations, the origin of movement data series is the most updated and accurate measure available for state-level exports of goods. There are alternative data sources which attempt to improve on the origin of movement series. However, while such sources do assign exports to states by point of manufacture, they use modeled data to arrive at export totals and have significant time lags.<sup>52</sup>

## Data Adjustments

Unless otherwise indicated, all export dollar values have been adjusted to ensure dollar amounts can be compared across time. The data is reported in "2009 dollars," or real dollars. This means that the export numbers for each year are expressed in terms of the equivalent value of those goods in 2009. The adjustment ensures that changes in export values from year to year reflect real value changes in exports.

Starting with the 2016 version of this report and going forward, we use 2009 as the base year to match the base year used by the United States Census and the Bureau of Economic Analysis. This is contrast to previous reports, which used a base year equal to the year of the report (adjusting to 2015 dollars in 2015, etc.). To provide better comparisons across time, all future reports will use 2009 dollars until the base year is moved forward by federal government agencies.

Our use of real dollars contrasts with reporting exports as nominal dollars. Nominal dollars are the dollar

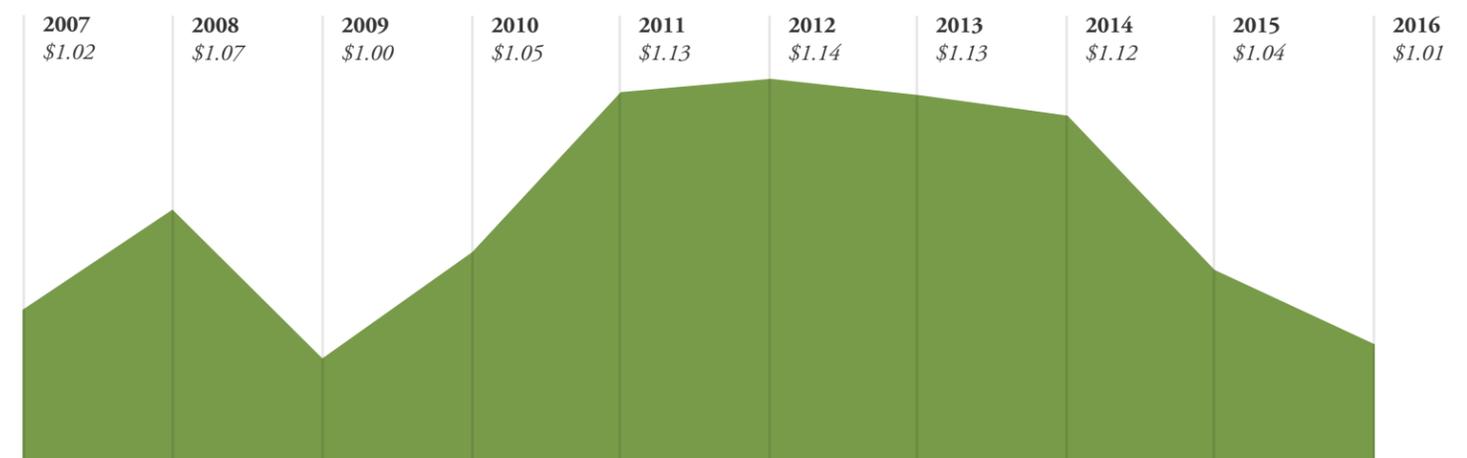
value of exports without adjustment. Nominal export values measure the dollar amount of exports at a single point in time. However, nominal values make it challenging to determine whether export increases are due to substantive trade activity or fluctuations in purchasing power. Thus, we adjust nominal export values to real export values.

To express nominal export values for each year in 2009 real dollars, we adjusted export values using the Bureau of Economic Analysis' exports price deflator.<sup>53</sup> This method allows us to eliminate the change in export dollar amounts caused by forces like inflation, thus making the value of the dollar equivalent across time. The deflator is applied to nominal dollars for each year, and the result is the real 2009 dollar value.

## For more information about this report please contact:

Jamie McCall  
jamie.mccall@edpnc.com  
919.447.7796

Deflating Exports: Value of \$1.00 in 2009 Dollars



# References

<sup>1</sup> International Trade Administration, North Carolina Report on Exports, Jobs, and Foreign Investment, 2015.

<sup>2</sup> Nuno Limao and Giovanni Maggi. Uncertainty and Trade Agreements, NBER Working Paper No. 18703, 2014.

<sup>3</sup> Nariman Behraves, 10 Economic Shocks to Look Out For, World Economic Forum, 2017.

<sup>4</sup> Brookings, Export Monitor: Large Metro Areas Expand Exports Amid National Decline, 2016.

<sup>5</sup> While the Bureau of Economic Analysis compiles data for exports of services, state-level data is not available.

<sup>6</sup> United States Census, Trade in Goods by Country for Canada, 2017.

<sup>7</sup> Organization for Economic Cooperation and Development, Trade in Goods and Services Forecast, Annual Growth Rate in Percentage Terms, 2017.

<sup>8</sup> Scotiabank, Foreign Exchange Global Outlook, 2017.

<sup>9</sup> PNC Bank, Exchange Rate Forecasts: US Fiscal Expansion, Trade and Monetary Policies Set to Make a Dollar Stronger, 2017.

<sup>10</sup> HSBC Bank, United States Trade Report, 2016.

<sup>11</sup> International Monetary Fund, World Economic Outlook: A Shifting Global Economic Landscape, 2017.

<sup>12</sup> Bank of Canada, Business Outlook Survey, 2017.

<sup>13</sup> Statistics Canada, Seasonally Adjusted Labor Force, 2017.

<sup>14</sup> Bank of Canada, Overnight Rate Target Interest Rates, 2017.

<sup>15</sup> United States Census, Trade in Goods by Country for Mexico, 2017.

<sup>16</sup> Organization for Economic Cooperation and Development, Trade in Goods and Services Forecast, Annual Growth Rate in Percentage Terms, 2017.

<sup>17</sup> Entrada Group, For Foreign Manufacturers in Mexico, Peso Devaluation Brings Both Advantages and Challenges, 2017.

<sup>18</sup> HSBC Bank, United States Trade Report, 2016.

<sup>19</sup> Bank of Mexico, Securities Market Interest Rates, 2017.

<sup>20</sup> Organization for Economic Cooperation and Development, Main Economic Indicators, 2017.

<sup>21</sup> Organization for Economic Cooperation and Development, Employment Outlook, 2016.

<sup>22</sup> Organization for Economic Cooperation and Development, Mexico Economic Outlook, 2016.

<sup>23</sup> United States Census, Trade in Goods by Country for China, 2017.

<sup>24</sup> Organization for Economic Cooperation and Development, Quarterly International Trade Statistics: Trends and Indicators, 2017.

<sup>25</sup> US Bank, China's Currency Situation Analysis, 2015.

<sup>26</sup> Board of Governors of the Federal Reserve System, China/United States Foreign Exchange Rate, 2017.

<sup>27</sup> HSBC Bank, China Trade Report, 2016.

<sup>28</sup> HSBC Bank, United States Trade Report, 2016.

<sup>29</sup> United States-China Economic and Security Review Commission, The Reliability of China's Economic Data: An Analysis of National Output, 2013; Shuaizhang Feng, Yingyao Hu, and Robert Millar, Long Run Trends in Unemployment and Labor Force Participation in China, 2017.

<sup>30</sup> Organization for Economic Cooperation and Development, China Economic Outlook, 2016.

<sup>31</sup> World Bank, Unemployment Total (% of Total Labor Force) Modeled ILO Estimate, 2017.

<sup>32</sup> The People's Bank of China, China Monetary Policy Report, 2016.

<sup>33</sup> Organization for Economic Cooperation and Development, China Economic Outlook, 2016.

<sup>34</sup> United States Census, Trade in Goods by Country for Saudi Arabia, 2017.

<sup>35</sup> Abdulrahman Al-Hamidy and Ahmed Banafe, Foreign Exchange Intervention in Saudi Arabia, Bank of International Settlements Papers No 73.

<sup>36</sup> HSBC Bank, Saudi Arabia Trade Report, 2016.

<sup>37</sup> International Monetary Fund, World Economic Outlook: A Shifting Global Economic Landscape, 2017.

<sup>38</sup> However, due to the difficulty of forecasting oil price changes, there is some disagreement across development agencies on how much the country will grow in the near-term. For example, the World Bank projects a more positive outlook, estimating the country's output will grow by 1.6% in 2017.

<sup>39</sup> Jadwa Investment, Saudi Arabia Labor Market Update, 2016.

<sup>40</sup> United States Census, Trade in Goods by Country for Japan, 2017.

<sup>41</sup> Organization for Economic Cooperation and Development, Trade in Goods and Services Forecast, Annual Growth Rate in Percentage Terms, April 2017.

<sup>42</sup> Bank of Japan, Foreign Exchange Rates (Daily), 2017.

<sup>43</sup> PNC Bank, Exchange Rate Forecasts: US Fiscal Expansion, Trade and Monetary Policies Set to Make a Dollar Stronger in 2017-2018, 2017.

<sup>44</sup> HSBC Bank, United States Trade Report, 2016.

<sup>45</sup> International Monetary Fund, World Economic Outlook: A Shifting Global Economic Landscape, 2017.

<sup>46</sup> Ministry of International Affairs and Communications Statistics Bureau, Labor Force Survey, 2017.

<sup>47</sup> Bill Below, OCED Insights: The Case of the Shrinking Country - Japan's Demographic and Policy Challenges in 5 Charts, 2016.

<sup>48</sup> Organization for Economic Cooperation and Development, Japan Economic Outlook, November 2016.

<sup>49</sup> Swati Dhingra, Gianmarco Ottaviano, Thomas Sampson, and John Van Reenan. The Consequences of Brexit for UK Trade and Living Standards. Center for Economic

Performance Paper Brexit02, the London School of Economics and Political Science, 2016.

<sup>50</sup> United Kingdom Parliament, The United Kingdom's Exit from and New Partnership with the European Union, 2016.

<sup>51</sup> United States Census Bureau. Foreign Trade Statistics, State Data Series, 2017.

<sup>52</sup> Brookings, Export Monitor: Large Metro Areas Expand Exports Amid National Decline, 2016.

<sup>53</sup> FRED Economic Data, Exports of Goods (Implicit Price Deflator), 2017.



---

Facebook:  
NCEconomicDevelopment

---

LinkedIn:  
[linkedin.com/company/EDPNC](https://www.linkedin.com/company/EDPNC)

---

Twitter:  
[@edpnc](https://twitter.com/edpnc)

Instagram:  
[@edpnc](https://www.instagram.com/edpnc)

---