



## Economic Report

Office of Regulatory Policy

Agricultural and Economic Policy Team

September 29, 2015

### Summary

China was the number one destination for U.S. agricultural products for the fifth year in a row in fiscal 2015, with an estimated value of \$22.5 billion, or 16 percent of the total. This marks a major shift since fiscal 1990 when China was the 8<sup>th</sup> largest U.S. market with just over 2 percent of the trade. Canada is a close second with just under 16 percent of U.S. exports, and Mexico is third with about 13 percent. Mexico's rise in importance is largely tied to the reduction in trade barriers as a result of the 1994 North American Free Trade Agreement. Another notable change has been the declining importance of Russia, which was once the 4<sup>th</sup> largest market (as part of the Soviet Union), but hasn't made it into the top 15 since fiscal 2012. Tensions between the U.S. and Russia over Ukraine led to an import embargo on U.S. agricultural products beginning in August 2014. Country concentration risk (share of exports in a single or small group of countries) had been on the decline from 1990 to 2008, but has been on the rise since. U.S. agricultural export prospects for 2015 and 2016 are diminished due to the economic slowdown in some key countries and the strong appreciation of the dollar.

#### Author:

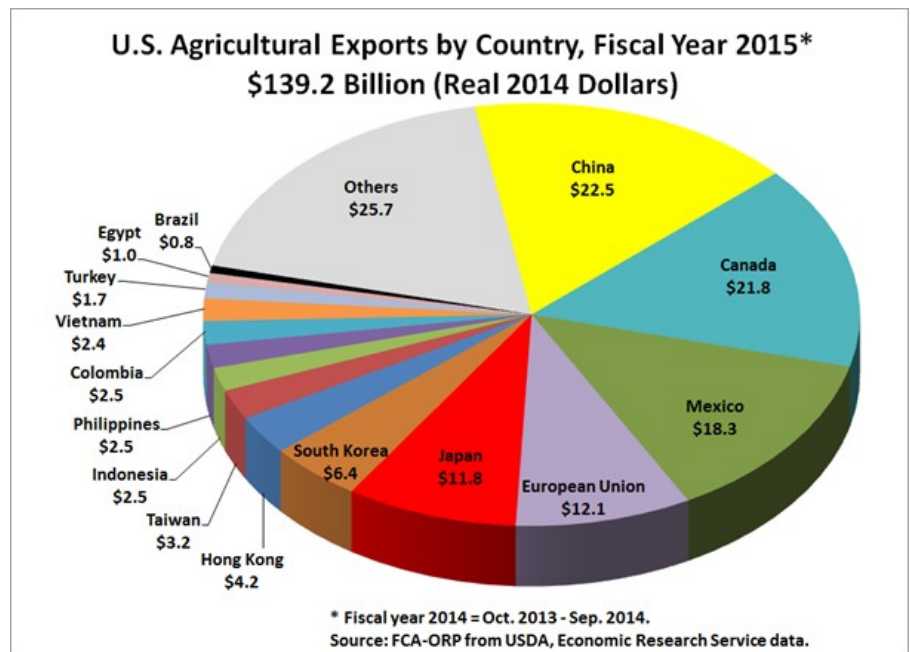
Walt Gardiner, Senior Economist  
703-883-4056

# U.S. Agricultural Exports: Key Destinations and Country Concentration Risk <sup>1</sup>

This is the fifth in a series of articles on the strong dollar and its implication for U.S. agriculture and the Farm Credit System. In this report we look at the key destinations for U.S. agricultural exports and how the list of countries has changed over time. We then look at the extent to which U.S. agricultural exports are concentrated in certain countries or groups of countries as a measure of concentration risk. Finally the economic outlook of our key trading partners is discussed as it relates to the future performance of U.S. agricultural trade.

### Key Destinations for Agricultural Exports Shift, China in Top Spot

The following pie chart illustrates the top destinations for U.S. agricultural exports for fiscal year 2015 (Oct. 2014 – Sep. 2015). For the fifth year in a row, China is the number one destination for U.S. agricultural products, with an estimated value of \$22.5 billion out of a total of \$139.2 billion (real 2014 dollars).



Canada is the second largest market for U.S. agricultural products with \$21.8 billion, followed by Mexico in third place with \$18.3 billion for Mexico. Other important overseas markets include the European Union and Japan, each with around \$12 billion worth of U.S. agricultural products. Of the remaining 10 key markets, six are in Asia, two in South America, and two in the Middle East.

The following table displays the top 15 export destinations for U.S. agricultural products for two time periods: fiscal 1990 and fiscal 2015.

<sup>1</sup>This report was prepared by ORP Senior Economist Walt Gardiner. The author wishes to thank Chief Economist Stephen Gabriel for reviews and helpful suggestions.

Countries are ranked from high to low based on the value of U.S. agricultural products shipped there. Each country's market share of U.S. agricultural exports is also provided.

The top destinations for U.S. agricultural exports have undergone some significant changes over the past 25 years. The most dramatic change has been the rise of China, moving from the eighth largest destination in fiscal 1990, with just over 2 percent of the trade, to the top spot today with around 16 percent of the total. In fiscal year 2011, China became the leading U.S. agricultural export destination, replacing Canada, which held that position since fiscal 2002, which, in turn, took over the top spot from Japan, which held that position since fiscal 1973. Other significant changes have been the somewhat diminished role of Japan and the European Union, which were the number one and number two markets for U.S. agricultural products, respectively, in fiscal 1990 but have since dropped to fifth and fourth place, respectively.

Mexico has also moved up appreciably over the past 25 years from sixth place with 6.6 percent of U.S. agricultural exports to third place with 13.1 percent of the total. Trade agreements, particularly the North American Free Trade Agreement (NAFTA), have been a major reason for Mexico's rise in importance as a key U.S. trade partner through the lowering of trade barriers.

Another notable change has been the declining importance of Russia (part of the Former Soviet Union until dissolution in Dec. 1991), which was the fourth largest market for U.S. agricultural products in fiscal 1990.

Since then, Russia had been the 10th most important market for U.S. agricultural products as early as fiscal 2008 and the seventh largest market back in fiscal 1993. Russia has not made it into the top 15 since fiscal 2012 and is currently on pace to be a minor destination this year after its August 7, 2014 embargo on U.S. and European agricultural products in retaliation for the U.S. and European Union's economic sanctions on Russia for destabilizing eastern Ukraine. For the first 10 months of fiscal 2015 (Oct. 2014-July 2015), U.S. agricultural exports to Russia have plummeted by two-thirds to \$372 million from \$1.08 billion for the same period in fiscal 2014. The biggest hits have been to our exports of poultry (-\$213 million or -100 percent), soybeans (-\$165 million or -60 percent), pork (\$108 million or -99 percent), and tree nuts (-\$100 million or -90 percent). The outlook is for the trade embargo to continue for the foreseeable future, given the ongoing tension between the two countries over Ukraine and the more recent disagreements over Syria. USDA's August 27th forecast has U.S. agricultural exports to Russia for all of fiscal 2015 totaling around \$400 million, down 66 percent from \$1.165 billion in fiscal 2014. Russia is filling its trade deficit with imports from other major agricultural exporting countries like Brazil and Argentina.

The number of Middle Eastern countries that were once major outlets for U.S. agricultural products has dropped significantly over the past 25 years, from five in fiscal 1990 to just 2 today -- Turkey and Egypt. These two countries were the 13th and 14th largest markets for U.S. agricultural products in fiscal 2015. Egypt has long been a top

**Top U.S. Agricultural Export Destinations, Fiscal Years 1990 and 2015, Billion 2014 Dollars\***

Rank	Country	FY 1990	Share	Rank	Country	FY 2015	Share
1	Japan	\$15.02	20.3%	1	China	\$22.5	16.1%
2	European Union	\$13.64	18.4%	2	Canada	\$21.8	15.6%
3	Canada	\$6.85	9.3%	3	Mexico	\$18.3	13.1%
4	Former Soviet Union	\$5.48	7.4%	4	European Union	\$12.1	8.7%
5	South Korea	\$4.97	6.7%	5	Japan	\$11.8	8.5%
6	Mexico	\$4.90	6.6%	6	South Korea	\$6.4	4.6%
7	Taiwan	\$3.34	4.5%	7	Hong Kong	\$4.2	3.0%
8	China	\$1.67	2.3%	8	Taiwan	\$3.2	2.3%
9	Egypt	\$1.40	1.9%	9	Indonesia	\$2.5	1.8%
10	Hong Kong	\$1.26	1.7%	10	Philippines	\$2.5	1.8%
11	Saudi Arabia	\$0.92	1.2%	11	Colombia	\$2.5	1.8%
12	Iraq	\$0.91	1.2%	12	Vietnam	\$2.4	1.7%
13	Algeria	\$0.89	1.2%	13	Turkey	\$1.7	1.2%
14	Pakistan	\$0.72	1.0%	14	Egypt	\$1.0	0.7%
15	Philippines	\$0.65	0.9%	15	Brazil	\$0.8	0.6%
	Others	\$11.38	15.4%		Others	\$25.7	18.5%
	<b>World total</b>	<b>\$74.00</b>	<b>100.0%</b>		<b>World Total</b>	<b>\$139.2</b>	<b>100.0%</b>

\* Values adjusted for inflation and expressed in 2014 dollars. FY 2015 values based on USDA-ERS forecast as of August 27, 2015.

Source: FCA-ORP from USDA, Economic Research Service from U.S. Census data.

destination for U.S. agricultural trade, generally ranking somewhere between the eighth and 10th position until around 2011, when countries like the Philippines, Colombia, Vietnam and Turkey moved ahead.

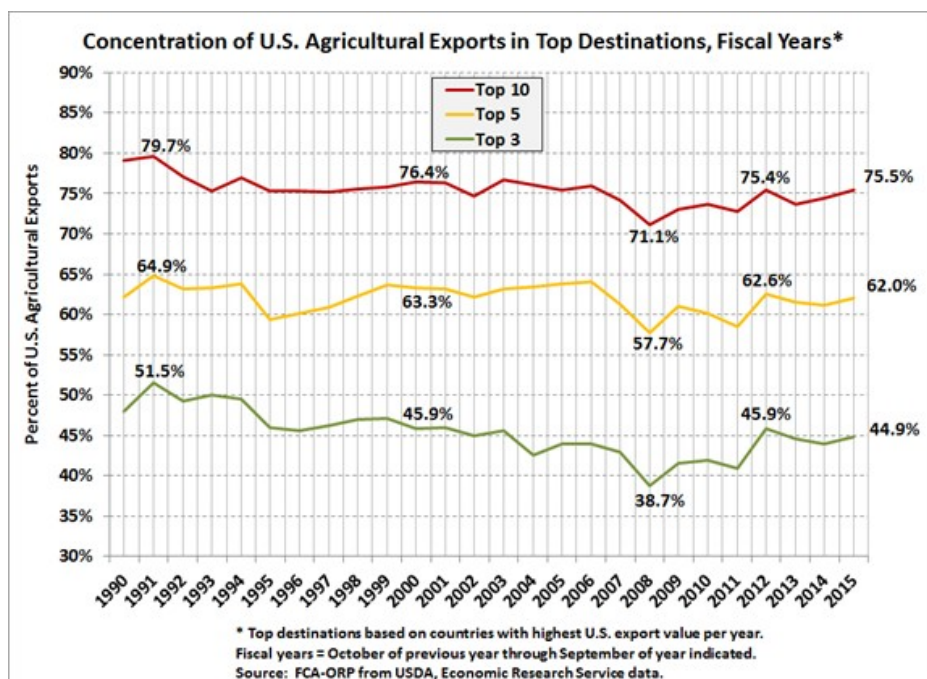
### Country Concentration of U.S. Agricultural Exports Shifting with Time

One way of evaluating the riskiness of the U.S. agricultural export market is to look at the degree to which exports are concentrated in an individual country or groups of countries. Similar to having too much of one's savings concentrated in a particular asset class, having too much of the nation's exports concentrated in a particular country can result in lost sales should the country undergo a recession or slowdown in economic activity or a sudden currency devaluation as we have recently seen with China.<sup>2</sup> A sudden policy change like Russia's import embargo on U.S. farm products over the dispute with Ukraine, or the recent import bans on U.S. poultry products by some countries can have significant negative impacts on U.S. export sales as well.

In the previous section, we reviewed a list of the top 15 U.S. trade partners and how that has changed over time with certain countries moving up in importance while others countries have moved down. In fiscal year 1990, about one-fifth of the total value of U.S. exports were concentrated in just one country – Japan. Today, the top destination for U.S. agricultural exports, China, has a slightly smaller share of the total with 16.1 percent, so the concentration risk in a single country has been reduced but it is a different country than in 1990. Japan is a highly industrialized, high income country (GDP per capita \$36,194 for 2014, World Bank), with a parliamentary government that is a close political ally of the U.S. China, in turn, is classified as an upper-middle-income economy (GDP per capita \$7,594) with a Communist government, which is viewed as a political adversary. Due to the central decision-making that still goes on in many facets of the Chinese economy today, China can change its trading arrangements on short notice to the detriment of U.S. exporters, which poses special risks in dealing with that market.

### After Years of Decline, Country Concentration Risk is on the Rise Again

Another way of viewing country concentration risk is looking at the share of trade that is concentrated in various country groupings. The following chart shows the degree of export concentration for the top 3, 5 and 10 export markets. The pattern since fiscal 1990 has been a moderate downward trend in the degree of concentration for each of the three groups, from peak concentrations in fiscal 1991 with all bottoming out in 2008. The degree of concentration in the Top 3 country group (green line) fell the most, from a peak of 51.5 percent in 1991 to a low of 38.7 percent, a drop of nearly 25 percent. The degree of



<sup>2</sup> See the recent report by Dennis Shields for a detailed discussion of recent changes in China and implications for the U.S. and the Farm Credit System.



concentration in both the Top 5 group (yellow line) and the Top 10 country group (red line) also declined but at less than half that pace -- both declining around 11 percent between fiscal 1991 and 2008. All three country groups reversed the downward trend starting in 2009 and continued to show greater concentrations of exports until peaking in 2012, but remained below the concentrations levels of the early 1990s.

The next two years, fiscal 2013 and 2014, saw a lessening of concentrations for the Top 3 and Top 5 groups, with a slight uptick expected in fiscal 2015. The Top 10 group showed a slight decline in export concentration for one year, in 2013, and then saw the share of exports increase to an estimated 75.5 percent in fiscal 2015, the highest level since 2006 when it reached 76 percent.

The country composition in these top-tier groups has changed over time, most notably in the Top 3 destinations. In fiscal 1990, the Top 3 group included Japan, the European Union and Canada, which are all classified by the World Bank as high-income economies, and are highly industrialized and generally politically stable areas of the world. Today's Top 3 group is comprised of China, Canada and Mexico. Two of these countries, China and Mexico, are classified by the World Bank as upper-middle-income economies (\$4,126 to \$12,735) and are much farther down the economic ladder than the high income industrialized countries such as Japan and Canada, as well as the countries that make up the European Union.

### Economic Outlook for Key Trading Partners

A 2008 report from USDA's Economic Research Service found that a country's income and exchange rate were key determinants of U.S. agricultural exports (Shane and others). The research found that for the period 1970–2006, a one percent annual increase in a trade partner's income was found to increase total agricultural exports by about 0.75 percent, while a one percent appreciation of the dollar relative to the trade partner's trade-weighted currencies decreases total agricultural exports by about 0.5 percent. Thus, the income effect is slightly stronger than the exchange rate effect on exports.

The following table summarizes recent GDP growth rates for the 15 top destinations for U.S. agricultural exports, along with changes in the country's exchange rate versus the U.S. dollar for the one year period September 22, 2014 to September 22, 2015. Eight of the top 15 destinations are projected to show a slowdown in their economic growth in 2015 compared to 2014, with a greater than one percentage point slowdown for four of these countries (Taiwan, Brazil, Canada and Colombia).

Gross Domestic Product and Exchange Rate Changes: Top 15 U.S. Agricultural Export Markets\*

Rank	Country/Region	U.S. Agricultural Exports Share FY2015	GDP 2014	GDP 2015f	GDP 2016f	GDP Change 2014-15	GDP Change 2015-16	Exchange Rate Change 2014-15
		%	%	%	%	%	%	%
1	China	16.1	7.3	6.8	6.6	-0.5	-0.2	3.8
2	Canada	15.6	2.4	1.1	2.0	-1.3	0.9	20.2
3	Mexico	13.1	2.1	2.4	3.0	0.3	0.6	27.2
4	European Union	8.7	1.4	1.9	2.0	0.5	0.1	15.5
5	Japan	8.5	-0.1	0.7	1.5	0.8	0.8	10.4
6	South Korea	4.6	3.3	2.5	3.2	-0.8	0.7	13.3
7	Hong Kong	3.0	2.5	2.3	2.5	-0.2	0.2	0.0
8	Taiwan	2.3	3.8	2.1	3.0	-1.7	0.9	8.6
9	Colombia	1.8	4.6	3.5	3.9	-1.1	0.4	54.0
10	Indonesia	1.8	5.0	4.7	5.5	-0.3	0.8	21.5
11	Philippines	1.8	6.1	6.5	6.5	0.4	0.0	4.5
12	Vietnam	1.7	6.0	6.0	6.2	0.0	0.2	6.0
13	Turkey	1.2	2.9	3.0	3.9	0.1	0.9	35.0
14	Egypt	0.7	2.2	4.2	4.5	2.0	0.3	9.5
15	Brazil	0.6	0.1	-1.3	1.1	-1.4	2.4	68.9
	United States		2.4	2.5	2.7	0.1	0.2	15.7
	World		2.6	2.8	3.3	0.2	0.5	

\* Note: Rank based on U.S. agricultural exports share for fiscal 2015. GDP = real annual % change. Exchange rate change = % change in currency units per U.S. dollar from Sep. 22, 2014 to Sep. 22, 2015. A positive value indicated the U.S. dollar has strengthened against that country's currency. The rate for the U.S. is the weighted average of 15 countries using the FY 2015 agricultural export shares as weights. Source: Bloomberg L.P. for exchange rates; Consensus Economics (Sep. 2015) for GDP for top 8 countries (China to Taiwan) and the United States; the World Bank, Global Economic Prospects (June 2015) for countries 9 to 15 and the World.

---

The global economy continues to struggle with the slowdown in China's economy and the devaluation of its currency beginning on August 11, 2015. A number of factors are converging to slow China's growth in recent years that could reduce its imports from the U.S., including debt overhang from its credit-fueled stimulus program, industrial overcapacity, inefficient allocation of capital by state-owned banks, and the slow recovery of China's trading partners (CIA). The outlook for China, the top destination for U.S. agricultural exports, is for a slowing of the economy from 7.3 percent annual growth in 2014 to an estimated 6.8 for 2015, a half a percentage point drop (Consensus). A further slowing of the Chinese economy is expected in 2016 to an estimated 6.6 percent annual rate.

As for the currencies of the U.S.'s key trading partners, the U.S. dollar has appreciated against all of the currencies except Hong Kong (no change) over the past year (ending September 22, 2015), ranging from a low of 3.8 percent for China to a high of nearly 69 percent in the case of Brazil. A trade weighted average of these currency changes indicates that the U.S. dollar had an average appreciation of nearly 16 percent over the past year. The dollar is expected to continue to strengthen against most currencies in the near term and could get an even stronger boost if the Federal Reserve raises the Federal Funds rate later this fall. The slower economic growth for many key destinations combined with the strong dollar will negatively impact U.S. agricultural exports in 2015 with further declines expected in 2016.<sup>3</sup>

Given the strong link between agricultural exports and farm cash receipts, as discussed in the third report in this series,<sup>4</sup> declining agricultural exports will lead to a buildup of commodity inventories, leading to downward pressure on farm gate prices. Lower prices translate into lower income prospects for farmers, particularly grain and soybean producers, who are already facing some of the lowest prices and per acre returns in years.

### **What's Next?**

The next report in this series on the effects of the strong dollar on agricultural trade will look at the commodity composition of U.S. agricultural exports, the extent to which certain commodities are dependent on foreign sales for a significant share of their production, and Farm Credit System institutions that have significant loan concentrations in these export-oriented commodities.

### **References**

Bloomberg L.P. Markets: Currencies.

Central Intelligence Agency (CIA). The World Factbook.

Gardiner, Walter. "The Importance of Agriculture Exports to U.S. Trade and the Farm Economy," FCA Economic Briefing, ORP-AEPT, Sept. 9, 2015.

Gardiner, Walter. "U.S. Agricultural Trade: Recent Developments and Outlook," FCA Economic Briefing, ORP-AEPT, Sept. 25, 2015.

Shane, Mathew, Terry Roe, and Agapi Somwaru. "Exchange Rates, Foreign Income, and U.S. Agricultural Exports," Agricultural and Resource Economics Review, Vol. 37, No. 2, Oct. 2008, pp. 160–175.

Shields, Dennis. "Farm Credit System Exposure to China," FCA Economic Briefing, ORP-AEPT, Sept. 15, 2015.

---

<sup>3</sup> U.S. agricultural exports are projected to decline \$13.3 billion, or 8.7 percent, in fiscal 2015 to \$139.2 billion from the record high of \$152.5 billion in fiscal 2014. An additional decline of 2.5 percent is projected for fiscal 2016. See Gardiner, "U.S. Agricultural Trade: Recent Developments and Outlook," Sept. 25, 2015.

<sup>4</sup> See Gardiner, "The Importance of Agriculture Exports to U.S. Trade and the Farm Economy," Sept. 9, 2015.

---

U.S. Dept. of Agriculture, Economic Research Service (ERS). Outlook for U.S. Agricultural Trade, August 27, 2015.

World Bank. Global Economic Prospects: Forecast Table, The Global Outlook in Summary, Real GDP. June 2015.

World Bank. Data: GDP per capita. Link and Country and Lending Groups.