



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.



United States Department of Agriculture

Economic
Research
Service

Economic
Information
Bulletin
Number 130

October 2014

Vietnam's Agri-Food Sector and the Trans-Pacific Partnership

Shawn S. Arita and John Dyck





United States Department of Agriculture

Economic Research Service

www.ers.usda.gov

Access this report online:

www.ers.usda.gov/publications/eib-economic-information-bulletin/eib130

Download the charts contained in this report:

- Go to the report's index page www.ers.usda.gov/publications/eib-economic-information-bulletin/eib130
- Click on the bulleted item "Download eib130.zip"
- Open the chart you want, then save it to your computer

Recommended citation format for this publication:

Shawn S. Arita and John Dyck. *Vietnam's Agri-Food Sector and the Trans-Pacific Partnership*, EIB-130, U.S. Department of Agriculture, Economic Research Service, October 2014.

Cover images: Top two photos by Nathan Childs, USDA/ERS; bottom two photos by John Dyck, USDA/ERS.

Use of commercial and trade names does not imply approval or constitute endorsement by USDA.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.



**Economic
Research
Service**

Economic
Information
Bulletin
Number 130

October 2014

Vietnam's Agri-Food Sector and the Trans-Pacific Partnership

Shawn S. Arita and John Dyck

Abstract

In 1986, Vietnam embarked on a gradualist approach to market reform and steadily pursued trade agreements under a strategy of export-led growth. The country has since emerged as one of Asia's dynamic economies and a growing market for agri-food trade. The proposed Trans-Pacific Partnership (TPP) is Vietnam's next step toward increased economic integration. This report provides an overview of Vietnam's agri-food sector and an analysis of its trade with potential TPP partners. Examination of Vietnam's trade and tariff structure suggests modest agricultural trade growth potential from the proposed TPP agreement. Vietnam's current preferential trade agreements (PTAs) with many of the negotiating TPP countries already provide low or duty-free rates. Major Vietnamese exports, such as coffee and natural rubber, are not expected to gain from an agreement. Nevertheless, even though many of Vietnam's PTAs overlap with potential TPP partners, TPP could provide new opportunities where those agreements did not liberalize market access. Rice and smaller export sectors (cassava starch, pepper, processed foods, honey) could grow. For U.S. agricultural exporters, Vietnam's already low tariff rates on animal feed and commodities for industrial inputs do not provide much growth opportunity for its top products; however trade liberalization could lead to increased U.S. markets for consumer-oriented exports including meats, dairy products, fruits, and other high-value U.S. food products. Additional economic growth generated by an agreement would also increase Vietnam's import demand.

Keywords: Vietnam, trade, Trans-Pacific Partnership, TPP, Pacific Rim, Vietnamese agriculture, Vietnamese agri-food sector, preferential trade agreement, tariffs, trade liberalization, Asia economic development

Acknowledgments

The authors appreciate the reviews by Linda Calvin, Andrew Muhammad, John Wainio, Mary Burfisher, Nathan Childs, and Anh Tran of U.S. Department of Agriculture, Economic Research Service; Mark Dries, Michael Ward, Dwight Wilder, Greg Tyng, and Elmasoueur Ashitey, USDA, Foreign Agricultural Service; Ian Coxhead, University of Wisconsin; and Hyunok Lee, University of California, Davis. We also want to thank David Marquardt of USDA/ERS, who provided the map; and Priscilla Smith and Cynthia A. Ray, USDA/ERS, for editorial and design support.

Contents

Summary	iii
Introduction	1
Economic Overview of Vietnam	2
Reform of Centrally Planned Economy	2
Export-led Growth and Rise of Manufacturing Sector	2
Vietnam Today	3
Agriculture and Food Consumption	6
Vietnamese Agricultural Production	6
Food consumption	11
Vietnam and Agricultural Trade	12
Trade Liberalization and Trade Growth	12
Trade Policy and Barriers	14
Agricultural Trade With Trans-Pacific Partnership Partners	15
Analysis of Trade and Tariff Structure for Vietnam's Top Traded Commodities	18
Export Profile	18
Export Tariff Structure	18
Import Profile	20
Import Tariff Structure	23
Market Potential for U.S. Exports	24
Conclusion	30
References	31
Appendix	33



Find the full report at
[www.ers.usda.gov/
publications/eib-economic-information-
bulletin/eib130](http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib130)

Vietnam's Agri-Food Sector and the Trans-Pacific Partnership

Shawn S. Arita and John Dyck

What Is the Issue?

Vietnam is a fast-growing transitioning economy that has sought economic development through market reform and export-led growth. A critical ingredient of this development strategy has been the signing of trade agreements. Vietnam is currently in negotiations with the United States and 10 other countries to establish the Trans-Pacific Partnership (TPP) agreement. The pact would eliminate or reduce tariffs and other barriers to trade and investment among participating countries. Vietnam hopes that TPP will secure markets abroad and facilitate the flow of foreign investment into the country. Similarly, the United States and other TPP members see Vietnam, with over 90 million people and a growing middle class, as a market with growth potential.

This report provides an overview of Vietnam's economy and agri-food sector and a detailed analysis of Vietnam's trade with the United States, other TPP partners, and the rest of the world. Using a variety of trade sources, Vietnam's trade and tariffs for major agricultural commodities are examined. Insights are provided on the potential implications of the proposed TPP agreement on Vietnamese agricultural trade.

What Did the Study Find?

Following three decades of market reform and trade liberalization, Vietnam has emerged as one of Asia's most dynamic economies. Under its export-led growth strategy, textile and footwear industries expanded greatly, with Vietnam becoming a major importer of cotton, hide, and leather commodities. The country is a leading exporter of coffee, rice, cashew nuts, and pepper, and is a significant exporter of a variety of other commodities to the world market. Despite a recent slowdown in growth, Vietnam is expected to have significant market potential for agri-food products. As a very large consumer of pork and poultry products, Vietnam is heavily dependent upon feed from outside sources and has increasing requirements for foreign meat. With increased urbanization and rising household incomes, Vietnamese are increasingly turning to foreign packaged and processed food for convenience and a desire for variety.

Potential implications of a TPP agreement:

- While Vietnam is expected to be one of the largest beneficiaries of the proposed TPP agreement, trade gains in agriculture may be limited. Vietnam's current preferential trade agreements (PTAs) with many of the negotiating TPP countries already provide low or

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

duty-free rates. However, TPP could provide new opportunities where those agreements did not liberalize market access.

- Even among partners with which it currently lacks a PTA, most of Vietnam's top exported commodities—such as coffee, rubber, cashews, and pepper—are not protected, leaving little room for growth. Vietnam's smaller export sectors (cassava starch, pepper, processed foods, and honey) could gain from further liberalization of tariffs, and Vietnamese rice could gain a share of Japan's indica rice import niche.
- Vietnam's import growth will likely be concentrated in the consumer-oriented sector. Even though commodities used as inputs for agriculture (soy, cotton, wheat) make up the largest share of Vietnam's agricultural imports, these commodities already enter with very low tariffs. Vietnam's consumer-oriented foods on the other hand, face significantly higher rates (15-40 percent ad valorem duties) and thus larger growth potential from a TPP agreement.
- U.S. agricultural exporters may be well suited to expand in meats, dairy products, and fruits. The TPP agreement also could provide new opportunities for exports of other high-valued U.S. consumer food products to the growing Vietnamese market.

How Was the Study Conducted?

Agricultural production and food consumption are reviewed for major commodity sectors. Assessment of the implications of the potential TPP agreement is based upon Vietnam's agricultural trade and tariff structure. Using a variety of trade and tariff sources, Vietnam's top exported and imported commodities with potential TPP countries and the rest of the world are documented. As negotiations are still pending, the full scope of the agreement is not known. Examination of the level of current protection across the top commodities helps identify areas of potential trade expansion that may be served through a TPP agreement.

Vietnam's Agri-Food Sector and the Trans-Pacific Partnership

Introduction

Vietnam has emerged as one of Asia's dynamic economies. Beginning in 1986, the Government of Vietnam embarked on a gradualist approach to market reform and economic development (Tran, 2013; Collins et al., 2009). Centrally planned controls were loosened, land laws reformed, and export-oriented industries fostered. One ingredient of this development strategy included trade agreements. To encourage foreign direct investment (FDI) and trade, Vietnam joined the Association of Southeast Asian Nations (ASEAN) in the mid-1990s; normalized trade with the United States in 2001; and since then has entered into preferential trade agreements (PTAs) with China, Japan, Australia, New Zealand, and other major trading partners and acceded into the World Trade Organization (WTO) in 2007.

Following Vietnam's market reforms, per capita gross domestic product (GDP) growth has averaged more than 5 percent per year and is among the highest in Asia behind China. Today, Vietnam is a country with over 90 million people and has a growing middle class. It is a leading exporter of coffee, rice, and natural rubber and a major importer of agricultural commodities used for inputs in manufactured consumer products such as shoes, leather goods, and garments. With a policy goal of growth, Vietnam continues to maintain its course for further development. In 2014, the country welcomed its first McDonald's, epitomizing almost three decades of growth and market liberalization.

The proposed Trans-Pacific Partnership (TPP) is Vietnam's next step toward increased economic integration. TPP is a trade and investment agreement under negotiation by 12 Pacific Rim countries: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States. If concluded, the pact will strengthen ties among some of the world's major agricultural importers, exporters, and producers by reducing or eliminating tariffs and some nontariff measures among its members.

This report provides an overview of Vietnam's economy and agri-food sector and a detailed analysis of its trade with TPP partners and the rest of the world. Using a variety of trade sources, Vietnam's trade and tariff structure is examined for major agricultural commodities. Insights are provided on the potential implications of the proposed TPP agreement on Vietnamese agricultural trade.

Economic Overview of Vietnam

Reform of Centrally Planned Economy

At times in its history, Vietnam was wealthy relative to other parts of Asia and the rest of the world. However, in the late 19th century, it was a poor colony of France. Wars that engulfed Vietnam throughout much of the second half of the 20th century further impoverished the country. Under centrally planned economic policies, Vietnam continued to suffer economic stagnation after the Vietnam War (1954-1975) and the country experienced food shortages.

In 1986, Vietnam embarked on a new economic agenda known as the *doi moi* reforms or “renovation,” to transition itself into a more market-oriented economy. In contrast to the “shock therapy” approach followed by many eastern European transitioning economies, the strategy was gradualist in nature, employing a selective and slow liberalization process (Tran, 2013; Collins et al., 2009). The country adopted micro-level reforms first, while keeping its state-owned enterprises and political structure largely intact. Farmers were granted long-term leases, which allowed for the exchange, transfer, further leasing, inheritance, and mortgaging of land-use rights. Despite reforms (including most recently the revised Land Law passed by Vietnam’s National Assembly in late 2013), private ownership of land and businesses still is not allowed. Other reforms improved the agricultural economy by allowing the issuance of land-use certificates; foreign investment in land; and changes in land use. Later, the country eased in macro-level changes. Elimination of the state procurement system and price controls increased competition (Tran, 2013). Together, these reforms have been viewed as a significant factor in the increase of farm yields and have led to a rise in rice output.

Export-Led Growth and Rise of Manufacturing Sector

As part of the *doi moi* reforms, Vietnam pursued trade policies promoting exports. This agenda also was gradual. Vietnam applied an export-led growth strategy based on export subsidies and import substitution. Liberalization was selective. State monopolies on trade were removed and tariffs and nontariff measures were reduced. However, the effective rate of protection remained high, and some industries were protected (Chaponniere and Cling, 2009). In 1987, the “law on foreign investment” opened the economy to foreign investors and set a path to more favorable investment conditions needed for developing its manufacturing base (Delaunay and Torrisi, 2012). FDI was promoted alongside Government-supported export processing zones.

In the 1990s, when more than 70 percent of Vietnam’s workers were still in agriculture (McCaig and Pavcnik, 2013), the country sought to expand its cotton spinning and clothing industries. With Government-supported investment in Vietnam, foreign textile firms took advantage of relatively inexpensive and reliable labor, and helped foster a base for export-oriented production. By the 21st century, cotton spinning, using imported raw fiber, grew quickly. Besides being a large net exporter of finished textile goods, Vietnam also became a net exporter of cotton yarn. As in the textile sector, investment by leading Asian, North American, and European firms in Vietnam’s footwear industry expanded production for export. From early 2000 on, Vietnam became embedded in the global textile and footwear value production chain. Vietnam’s development of its manufacturing industries soon followed. Foreign investment in both its light and heavy manufacturing led to a growth in production in those industries.

Figure 1 displays Vietnam's export growth and evolution. In the early 2000s, Vietnam's textile, footwear, and machinery/electrical sectors each exported only \$1 billion to \$2 billion, approximately the same as the country's agricultural sector. A little more than a decade later, textile and footwear exports grew by a factor of five; machinery and electrical exports grew to over \$35 billion, more than three times the amount of agricultural exports.

Manufacturing quickly overtook agriculture as the main engine of growth as productivity gains in agriculture freed up some farm labor for other occupations. The rise in factory wages relative to farm wages contributed to the movement of labor out of agriculture (McCaig and Pavcnik, 2013). The share of agriculture in Vietnam's economy declined steadily until 2006 and has since remained around 20 percent (fig. 2). Land at the fringes of cities has passed from agriculture to industrial or residential use. Nevertheless, similar to its developing Southeast Asian neighbors, Vietnam still remains relatively dependent on agriculture with its agricultural value as a percentage of the economy more than 10 times greater than most TPP countries (fig. 3).

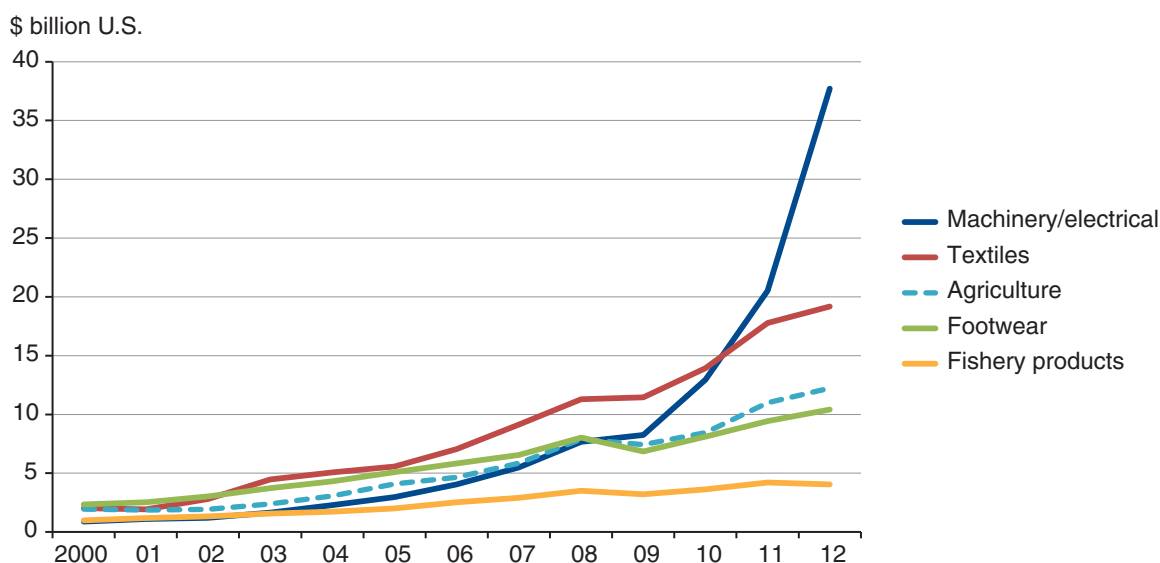
Vietnam Today

Following the structural reforms and partial liberalization of trade and investment, Vietnam experienced economic growth. Figure 4 displays Vietnam's recent economic development. In 1986, Vietnam's GDP per capita was \$269 (2005 U.S. dollars); by 2013, it grew almost fourfold. Today, Vietnam's GDP exceeds \$90 billion (2005 U.S. dollars). The growing industries have required and enabled an expansion of Vietnam's infrastructure for supplying power and transportation.

Vietnam's advantages as a production base for nonagricultural goods include its relatively large urbanized population, which supplies both a consumer market and relatively low-cost but educated labor force. In 2013, Vietnam had a population of 92.5 million people, which is expected to rise to 100 million by 2022 (U.S. Dept. of Commerce, 2013). With its economic development, Vietnam's agricultural sector and workforce are undergoing transformation. Since 1990, when the urban

Figure 1

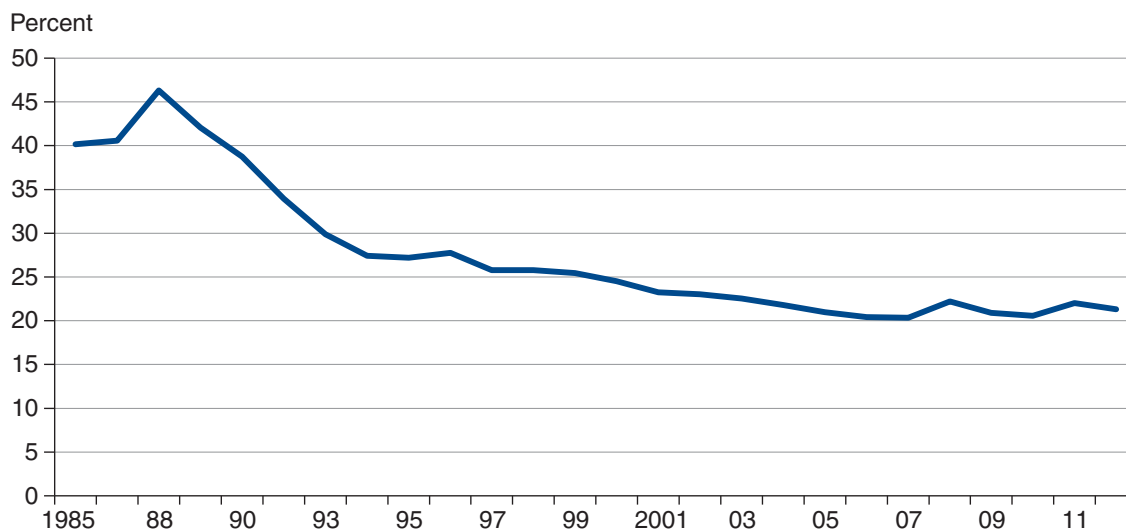
Vietnamese exports to the world, selected sectors, 2000-12



Source: USDA, Economic Research Service using data from United Nations, Comtrade.

Figure 2

Vietnamese agricultural value-added as a share of GDP, 1985-2012

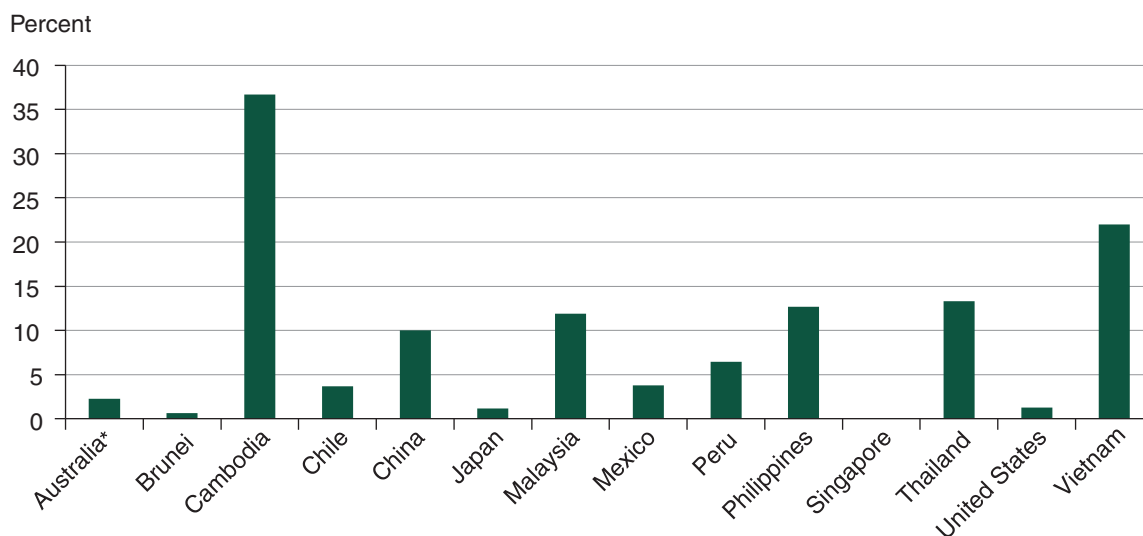


GDP = gross domestic product.

Source: USDA, Economic Research Service using data from World Bank, World Development Indicators, 2014.

Figure 3

Agricultural value-added as a share of GDP for selected countries, 2011



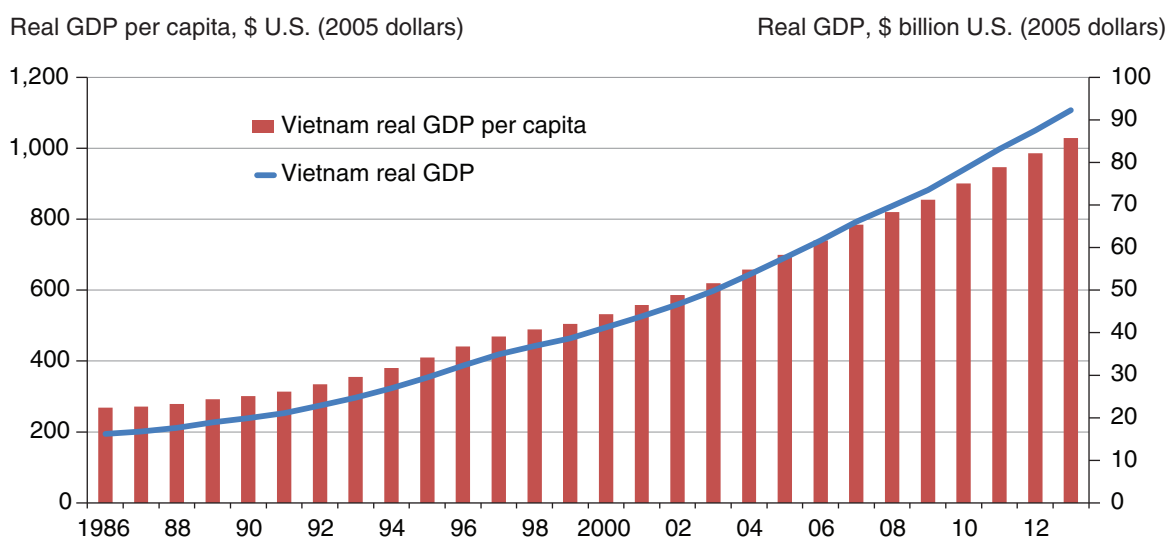
*Australia percentage is an estimate for 2010; Canada and New Zealand data were not available.

GDP = gross domestic product.

Source: USDA, Economic Research Service using data from World Bank, World Development Indicators, 2014.

population was 20 percent of the total, many rural people have left farm villages and moved to urban areas. Young people in particular have migrated to major cities like Hanoi in the north and Ho Chi Minh City (formerly Saigon) in the south. By 2012, 32 percent of the people lived in cities with overall population growth declining to about 1 percent per year (World Bank, 2013). These ongoing migration shifts have affected, and are likely to continue to affect, Vietnam's farming practices, consumption patterns, family size, and marketing.

Figure 4

Vietnam real GDP per capita and real GDP, 1986-2013

GDP = gross domestic product.

Source: USDA, Economic Research Service using data from World Bank, World Development Indicators, 2014.

Although Vietnam's economic development has been successful, several economic challenges remain. The earlier rapid-paced strategy of public investment in infrastructure and capital may be showing signs of diminishing returns. After years of GDP growth above 7 percent, Vietnam's growth rate has slowed following the global financial crisis in 2008, averaging 5 to 6 percent, and in 2012 reached its lowest level since 1990. Vietnam's productivity growth has stalled, with almost the entire growth from 2005 to 2010 attributed to capital investment and labor growth (WTO, 2013). Its current short- and long-term issues include systemic risks in the financial sector, uncertain levels of nonperforming loans, liquidity and foreign reserve concerns, and inefficient state-owned enterprises (WTO, 2013; and Anand et al., 2014). It has been suggested that Vietnam's export-led growth model, which has emphasized outward-oriented output and suppression of imports, has reached its limits and that more reform of state-owned enterprises and encouragement of domestic demand are needed to boost growth (*The Economist*, 2009; and Anand et al., 2014).

Agriculture and Food Consumption

Vietnamese Agricultural Production

Through its course of economic development, Vietnam has shifted from being an economy based on subsistence farming to becoming a major agricultural exporter. Table 1 displays Vietnam's production of major agricultural commodities. At 28 percent of total agricultural production, rice is the most important crop. Following the *doi moi* reforms, rice production rose and Vietnam became a leading exporter. Vietnam is a large consumer of meats, particularly pork and chicken, which make up 28 percent and 5 percent of total agricultural production respectively. Growing demand for meats has outpaced production, leading to increasing requirements for foreign meat. Over recent years, Vietnam has successfully developed specialized commodities for export. The country has emerged as a leading exporter of coffee, cashew nuts, and pepper, as well as an exporter of a variety of other commodities to the world market. Vietnam's fishery sector is an important component of its economy and generates a surplus for export (see box, "Vietnam Fishery Exports").

Rice

Rice-based agriculture has dominated Vietnam's northern Red River Delta for centuries, and since the last century, the rice industry of the southern Mekong Delta has developed so that it now exceeds that of the northern delta. Both deltas receive water from heavy monsoon rainfall and from the seasonal rise of rivers fed by rainfall in the mountains in the north and west of Vietnam (the Red

Table 1
Vietnam production of selected agricultural commodities in 2012

	<i>\$ billion U.S.</i>	<i>Percentage of total agricultural production</i>
Rice, paddy	13.1	28
Pork	13.1	28
Chicken meat	2.2	5
Coffee	2.1	5
Rubber, natural	2	4
Corn	1.5	3
Cashew nuts, with shell	1.2	3
Cassava	1.2	3
Sugar cane	1	2
Pepper	0.9	2
Bananas	0.4	1
Sweet potatoes	0.4	1
Soybeans	0.1	0
Tea	0.1	0

Note: 2012 data are the most recent data available.

Source: United Nations, Food and Agriculture Organization, FAOSTAT.

Vietnam Fishery Exports

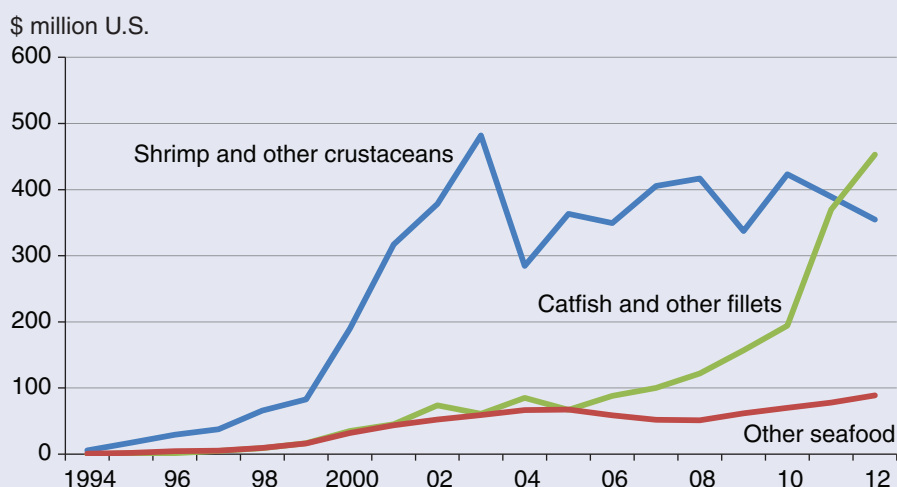
With its long coastline and extensive river systems, Vietnam always has had a large fisheries industry. In the last two decades, aquaculture has become a very large industry, especially in the Mekong Delta and along the coastline. Like other fisheries around the world, Vietnam's wild-catch fish and seafood industry as well as its aquaculture industry are threatened by pollution, diseases, and overfishing.

The figures show Vietnam's fishery-product exports to the United States and the rest of the world from 1994. Vietnam's fishery sector has grown tremendously over the past few years and has a large trade surplus. In 1994, total fishery export value was approximately \$500 million. In 2012, it was over \$4 billion, making Vietnam one of the largest seafood exporters in the world. Most of the growth has been due to aquaculture, which now makes up almost half of all Vietnamese fishery production and a significant portion of overall exports.

Over the last decade, Vietnam has emerged as a major aquaculture producer of shrimp and catfish and has increasingly gained market share in the United States. The United States has taken several measures that have affected Vietnamese shrimp and catfish exports, including the imposing of anti-dumping measures and a requirement to label certain Vietnamese imports as basa and tra, other than catfish (Martin, 2014). Vietnam has raised complaints over the U.S. anti-dumping measures to the World Trade Organization (WTO). In 2011, the WTO sided with Vietnam in its dispute over U.S. anti-dumping measures on shrimp (WTO, 2011).

Box figure 1

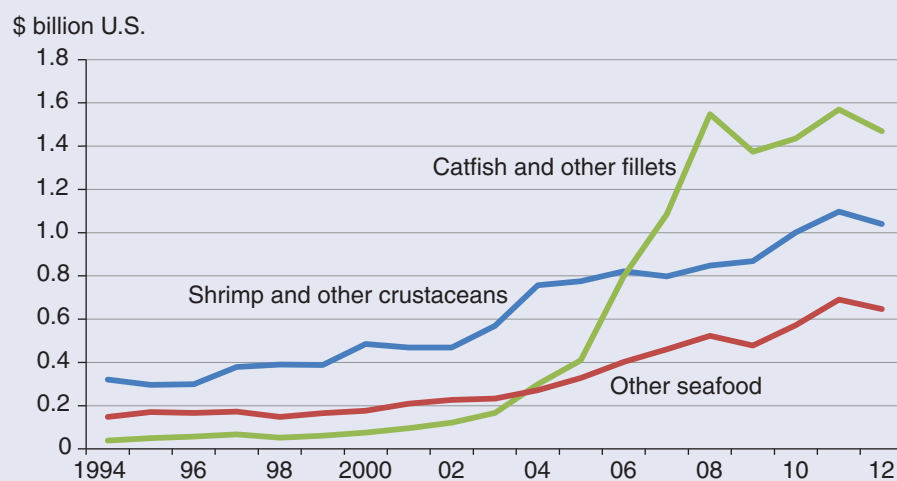
Vietnamese fishery exports to United States, 1994-2012



Source: USDA, Economic Research Service using data from United Nations, Comtrade.

Box figure 2

Vietnamese fishery exports to the rest of the world (excluding the United States), 1994-2012



Source: USDA, Economic Research Service using data from United Nations, Comtrade.

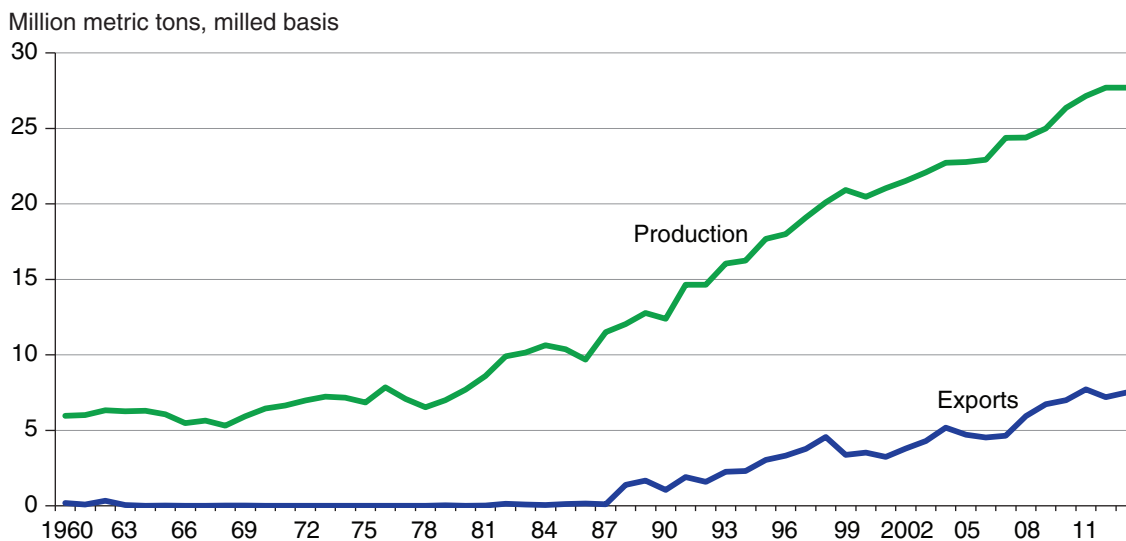
River) and in China (the Mekong). Given Vietnam's tropical location, it is possible to raise multiple crops annually on the same rice paddies.

As Vietnam handed control over much of rice farming to individual households in the 1980s and 1990s, rice area and yield increased. Rice area increased by over a million hectares in the 1990s, largely through the expansion of multiple cropping. Since 2000, most of the increase in production has been due to rising yields, which rose by about 25 percent in the first decade of the 2000s (UN/FAOSTAT, 2013). Farmers applied increasing amounts of fertilizer and pesticide and planted new varieties of high-yielding rice.

Vietnam has always grown chiefly long-grain rice, of the variety often called indica. Because of its low labor costs and favorable climate, Vietnam became competitive in world markets in the 1990s (fig. 5).¹ In 1996, the country overtook the second-largest exporter at the time, the United States, and quickly became the largest exporting country after Thailand. With India, Vietnam dominated world markets for low-priced rice, shipping white rice that was poorly milled and of low quality to poorer consumers in the rest of the world. Within Vietnam, the dominance of relatively low-quality but high-yielding rice suited rice farm households, which increasingly relied on the use of chemicals (such as herbicides) to replace weeding as labor became more costly. However, urban consumers increasingly demanded higher quality rice as incomes grew. Also, Vietnam began to import rice from Cambodia, Thailand, and Laos, including fragrant rice varieties. Nevertheless, imports account for a very small share of Vietnam's consumption (UN/Comtrade, 2013).

The world market for higher quality indica rice has long been dominated by Thailand and the United States. However, with the decision of Thailand's Government over the last decade to support its farmers, often by directly buying rice at high prices, Thai rice became more expensive in world

Figure 5
Vietnamese rice production and exports, 1960-2013



Source: USDA, Economic Research Service using data from USDA, Foreign Agricultural Service, Production, Supply and Distribution Online database.

¹Vietnam was a major rice exporter under French rule until World War II. The country returned to being an exporter for a few years following WWII, but exports ceased in the early 1960s.

markets.² Vietnam is currently increasing production and milling capacity for higher quality rice, such as fragrant varieties, in order to gain share in the global market.

Other field crops

Traditional agriculture in the Vietnamese uplands has grown a variety of grains in addition to rice. But today, the main non-rice grain is corn, grown primarily for feeding animals. Corn production has grown rapidly but not as quickly as feed demand. Competition for land from other crops and forest use makes expansion difficult. Vietnam also produces increasing amounts of cassava, which is used for feed and starch manufacturing. The feed industry's demand for protein meal and consumers' demand for vegetable oils have increased demand for soybeans. However, production remains small, unable to satisfy demand for traditional soy foods like tofu. Peanuts are widely grown for food use. Vietnam, like neighboring Southeast Asian countries, is likely to remain a large soybean importer and a net importer of growing amounts of corn in the long term.

Horticulture

Vietnam produces a wide variety of vegetables and fruits. Bananas and sweet potatoes are the leading horticulture crops, according to the limited data available from the United Nations' FAOSTAT database. Production is mostly small scale and relies on family labor. As urbanization proceeds, labor constraints may affect vegetable and fruit production, leading to higher prices or diminished production. Vietnam's horticultural production is sold fresh in markets. Vietnam exports dragon fruit, watermelon, and coconut meats and imports temperate fruits, such as apples and oranges.

Pork

Like China and the Philippines, Vietnam has a long history of pork consumption, and pork dominates all other meats. Although statistics are deficient, it is estimated that Vietnam has the world's 10th largest hog population, and production is growing to satisfy rising demand for pork (UN/FAOSTAT, 2013). Pork farming is changing from small backyard operations using locally procured feed sources to full-time farms that raise hogs bred for more efficient meat production and use formula feeds produced by feedmills. Since Vietnam needs more feed inputs for its livestock and poultry than it produces, the feedmills increasingly rely on imported ingredients to mix feed. Vietnam's meat consumption is relatively high in comparison to other Asian countries, with per capita pork consumption the highest in the Southeast Asia region (UN/FAOSTAT, 2013).

Other animal products

Vietnamese consumers have long eaten traditional varieties of chicken and are still willing to pay more for such chickens than for modern broilers. However, demand for meat is rising, spurring the growth of a broiler farm sector organized around the feedmills of large (often multinational) companies. Similar to the pork sector, these feedmills use large amounts of imported ingredients. Vietnam has some native cattle and water buffalo, but few cattle from modern meat breeds that efficiently convert grain to meat. The Government is trying to develop a dairy industry using herds developed from imported breeding stock. However, most beef and milk products are imported. Little is known about Vietnam's egg production beyond that it is growing to meet increasing demand.

²The program has varied between a paddy-purchase program and price insurance. The program begun in late 2011 purchased rice from farmers at prices about 50 percent above market levels (USDA/FAS, 2012a).

Plantation crops: sugar and rubber

During the colonial period, the French invested in sugar and rubber for exporting. These crops were established in the southern part of the country, outside the rice-growing region on forest land. Since then, the sugar industry has not grown much even as demand has increased, with Vietnam now importing sugar. Rubber production has expanded quickly, spurred by high prices in the last decade. Vietnam remains a rubber exporter and is ranked fourth in the world (UN/FAOSTAT, 2013).

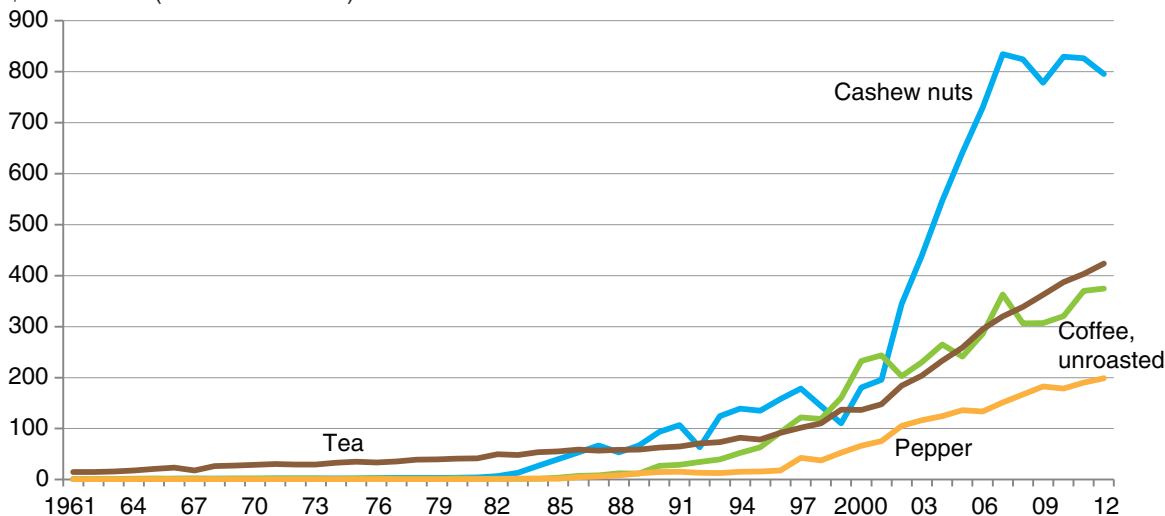
New specialties: coffee, cashews, black tea, and pepper

In 1990, Vietnam did not produce much coffee, cashews, or black pepper. Today, it is the world's largest or second-largest exporter of all three commodities. Tea production for export has also turned into a large industry (UN/FAOSTAT, 2013) (fig. 6). Despite scant domestic demand or familiarity with some of these products, the Government of Vietnam encouraged producers to start farming them primarily for the export market. Vietnam's climate is favorable to producing these crops, and the combination of Government subsidies and other assistance with entrepreneurial farmers led to Vietnam transforming the global markets for these commodities, increasing world supply, and lowering prices. Like the earlier plantation crops, these new crops arose in areas outside the traditional rice areas in the deltas and represent an extension of commercial agriculture to lands that previously were used for primarily subsistence agriculture or forestry. As experience indicated that both farmers and the Government could suffer financial losses in these commodities, the impetus for further expansion has diminished. The unit value for Vietnam's coffee exports is lower than that of other major exporters, reflecting the lower quality of its robusta coffee output (UN/FAOSTAT, 2013). Within Vietnam, a growing taste for coffee has helped support production. Unlike its other specialty crops, Vietnam's cashew production has become an import processing operation whereby over two-thirds of all its raw cashews are imported from African countries, and Vietnam handles shelling and marketing. While this sector had grown during the early 2000s, cashew production has stabilized since its peak in 2007 due to competition from other crops (USDA/FAS, 2013; and UN/Comtrade, 2013).

Figure 6

Vietnam's production of selected export crops, 1961-2012

\$ million U.S. (constant 2004-06)



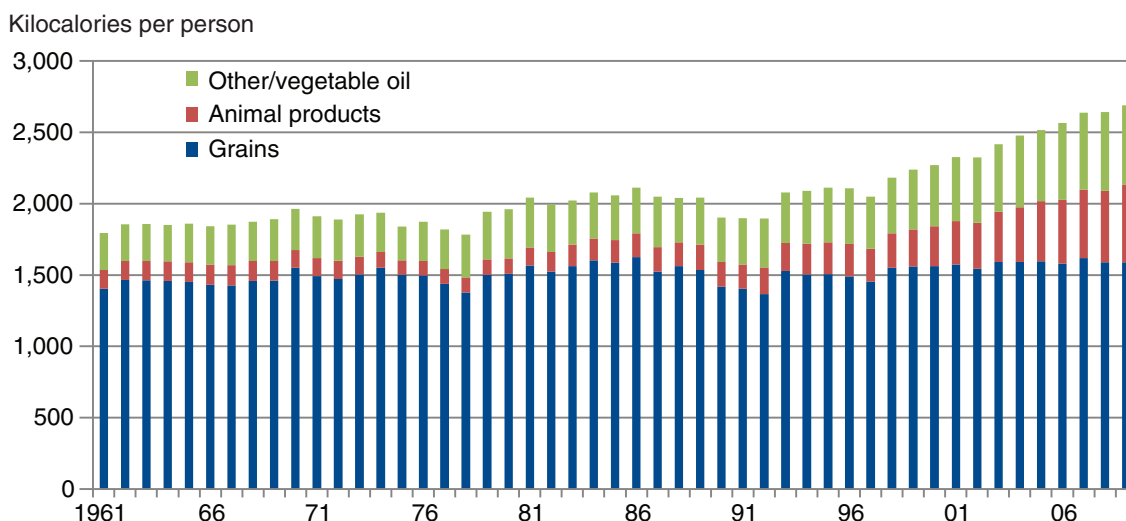
Source: USDA, Economic Research Service, using data from United Nations, Food and Agriculture Organization, FAOSTAT.

Food consumption

Vietnam's food consumption on average has grown in caloric terms and has turned increasingly to animal proteins and vegetable oils in the last two decades (fig. 7). Wheat-based products, such as bread and cakes, have become more popular. Urban lifestyles often require less manual labor than farming and thus less carbohydrate demand supplied by rice. Higher incomes for urban residents and the proximity of grocery stores, restaurants, and bakeries have allowed greater consumption of meat, fish, vegetable oils, and wheat products.³ As poverty declines, consumers are becoming more quality conscious about rice purchases. Asian favorites, such as fragrant rices and glutinous rice (used for pastries), are more appealing than standard rice varieties bred just for high yield and low cost. The rice market appears to be less homogeneous than in the past.

Vietnamese consume relatively large amounts of animal protein. Daily caloric intake from animal-derived foods (meat, eggs, dairy, and marine products) exceeds that of most ASEAN countries and is almost 80 percent that of China. Pork is the leading meat and has enjoyed continued popularity. Consumption on a per capita basis may already exceed that in wealthier countries like Japan and the United States (UN/FAOSTAT, 2013). The second-largest animal protein source is fish, followed by poultry (chicken and duck), and beef (UN/FAOSTAT, 2013). Many modern Vietnamese people appear to favor a diet high in meat consumption. Milk consumption remains low, but demand by urban families and their children is growing. Introduced by the French, bread consumption has remained popular in Vietnam's cities. With increased incomes, households have been able to purchase bread more freely. Wheat-based noodles, biscuits, cakes, and other pastries are also compatible with the needs of urban consumers, who turn increasingly to foods made outside the home for convenience and a desire for variety.

Figure 7
Vietnamese caloric intake per day, 1961-2009



Note: Caloric supply is calculated as food available for direct human consumption after accounting for feed use, waste and loss, exports, and stock changes.

Source: USDA, Economic Research Service, using data from United Nations, Food and Agriculture Organization, FAOSTAT.

³While modern retail markets are growing, the majority of food is still purchased through small traditional markets, with approximately 20 percent of foods bought from modern grocery stores (USDA/FAS, 2013).

Vietnam and Agricultural Trade

Trade Liberalization and Trade Growth

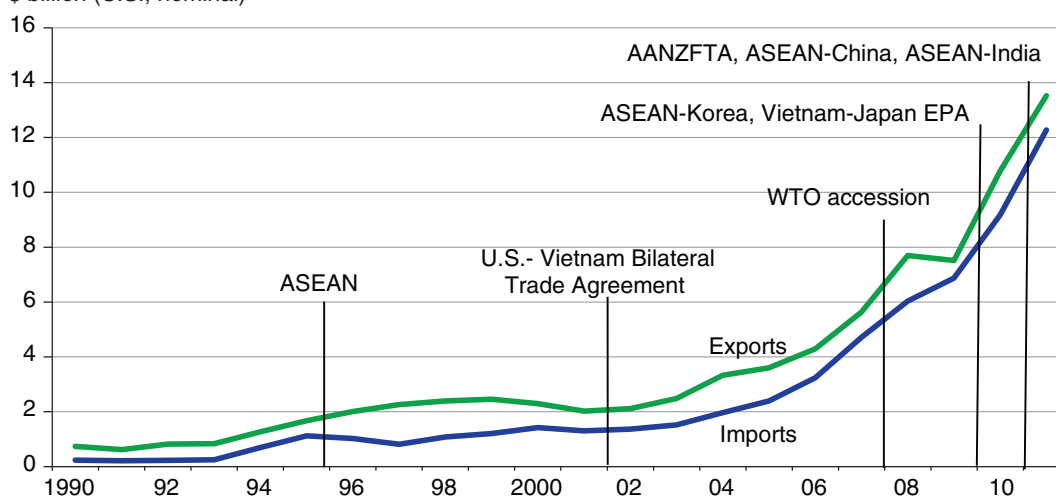
Vietnam's integration with the global economy is encapsulated by trade agreements signed over the past two decades. During this period of economic integration, Vietnam's agricultural trade grew, particularly with its Asian partners, after preferential tariffs began to take effect. Figure 8 displays the value in U.S. dollars (nominal) of total Vietnamese agricultural exports and imports from 1990-2011. In 1995, the country joined ASEAN, becoming the seventh member of the Southeast Asian trade zone, which has since grown to 10 members. At the time of its ASEAN accession, Vietnam's total agricultural trade (imports and exports) was less than \$1 billion. As Vietnam's commitments on tariff reductions with ASEAN were gradual (phasing out of tariffs only reached below 5 percent by 2009), trade growth with ASEAN did not rise much until the mid-2000s. From 2005 to 2010, Vietnam's agricultural trade with ASEAN almost tripled. Vietnamese agricultural trade also benefited from its renormalization of trade with the United States.⁴ Exports to its preferential trading partners grew steadily, and Vietnam produced a trade surplus.

Vietnam's accession into the WTO in 2007 provided a further catalyst for growth and integration. From 2007 to 2011, total Vietnamese agricultural imports grew from approximately \$6 billion to \$10 billion; exports doubled, surpassing \$13 billion. Vietnam entered into trade agreements with

Figure 8

Vietnamese agricultural trade and trade agreements, 1990-2011

\$ billion (U.S., nominal)



AANZFTA = ASEAN-Australia-New Zealand Free Trade Agreement; ASEAN = Association of Southeast Asian Nations; EPA = economic partnership agreement; WTO = World Trade Organization.

Source: USDA, Economic Research Service, using data from United Nations, Food and Agriculture Organization, FAOSTAT.

⁴Following the Vietnam War, the United States had imposed a trade embargo on Vietnam. The U.S.-Vietnam Bilateral Trade Agreement, signed in 2001, resumed trade relations. As Vietnam was also granted most-favored-nation trade status, tariff rates facing Vietnamese products were substantially reduced.

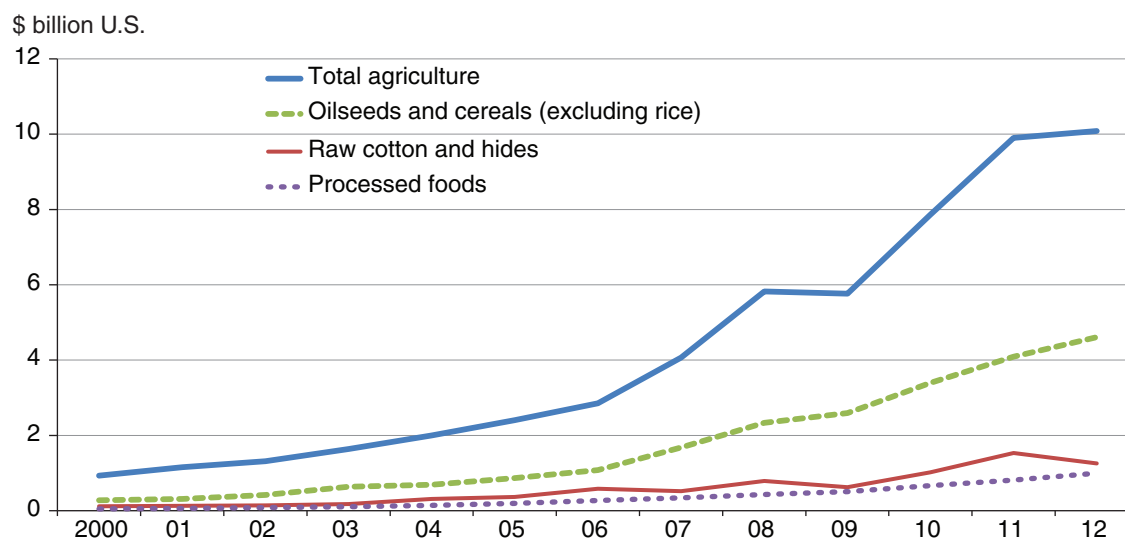
Korea (2009), China (2010), Australia/New Zealand (2010), and India (2010) through ASEAN, and signed bilateral agreements with Japan (2009) and Chile (in effect 2014), which led to tariff reductions that have only recently begun to take effect. Vietnam has concluded bilateral trade agreements with 40 different trading partners and is currently engaged in negotiations for several other major trade agreements.⁵

During Vietnam's economic integration, intermediate inputs for nonagriculture and agricultural production sectors led import growth (fig. 9). Meat and egg consumption outstripped domestic feed production, leading to rising feedstuff imports; vegetable oil demand grew faster than oilseed output, increasing demand for soybeans. As a result, Vietnam's imports of corn and soymeal for feed, and soybeans to crush for oil and meal grew, in addition to expanded imports of wheat, which is not grown in Vietnam. Textile industry demand, largely for clothing exports, outgrew domestic cotton production, making Vietnam a large cotton importer; and footwear production, again largely for export, required large hide and leather imports. However, imports of consumer-ready agricultural products lagged behind the imports of inputs, a result of Vietnam's export-oriented trade strategy and relatively low household income.

While increased market access for textiles and footwear is one of the Vietnamese objectives sought through trade negotiations, the fragmentation of the sector also limits the potential trade gains. Vietnam imports almost all of its cotton. Large quantities of U.S. cotton are imported, spun into yarn, and exported to markets across the world. Similarly, yarn is woven into fabric in other parts of the world and imported into Vietnam where it is made into clothing. Although the spinning of cotton yarn and weaving and knitting of fabric have increased, Vietnam's textile sector continues to also import yarn, fabric, and unfinished textile products to export finished products. Like other

Figure 9

Vietnamese agricultural imports by commodity class



Note: Cereals include wheat, rye, barley, oats, corn, grain sorghum, and other cereals.
Source: USDA, Economic Research Service, using data from United Nations, Comtrade.

⁵In addition to TPP, Vietnam is engaged in negotiations with the European Union, Regional Comprehensive Economic Partnership Agreement (RCEP), European Free Trade Association (EFTA), and the Customs Union of Belarus, Kazakhstan and Russian Federation.

developing economies, Vietnam's textile industry would be affected by so-called "yarn forward" rules that limit preferential trade access in textile-importing countries to those products made from yarn produced in Vietnam (*Inside U.S. Trade*, 2012). Importing countries have expressed concern that without such a rule, even minimal additions to the value of textiles in Vietnam would qualify for favorable tariff treatment.

Trade Policy and Barriers

When Vietnam officially joined the WTO in 2007, the country committed to reducing its bound tariffs on agricultural products from 22.4 percent to 20.9 percent (which is significantly higher than the 13.1 percent for non-agricultural goods). In 2013, its average applied tariffs on agricultural commodities were 17.5 percent. Under the terms of its accession agreement, Vietnam has agreed to further reductions for "sensitive products" (including sugar, wines and spirits, and tobacco) by 2014 and to bind tariff rates for most goods to 11.4 percent by 2019. Vietnam operates tariff-rate quotas for eggs, sugar, salt, and tobacco and has committed to increasing quota limits by 5 percent each year.

Foreign exporters also face some difficulty with several nontariff measures in Vietnam's market. Vietnam bans imports that it considers harmful to human health. For many products, importers are required to provide officials with documents certifying compliance and safety measures. However, the regulatory and food safety regime is still in its infancy, and testing agencies are limited, leading to inconsistent enforcement which adds to uncertainty for foreign producers (USDA/FAS, 2014). Vietnam also imposes reference prices for imports on some commodities (meats, fruits, beverages), which may act as a price floor on imports and are often arbitrarily set, creating further uncertainty for traders (USDA/FAS, 2012b).

Vietnam has committed itself to the WTO's Sanitary and Phytosanitary (SPS) Agreement and thereby to implement regulatory measures based on science and adequate risk assessment. Since joining the WTO, the country has imposed different SPS measures on meats, fresh fruits and vegetables, feed, dairy, processed foods, and other food imports. While Vietnam has agreed to equivalence to foreign food safety measures, including with the United States, the country has not fully adopted standards provided by international organizations such as the World Organization for Animal Health (OIE). For example, Vietnam's protective measures against bovine spongiform encephalopathy (BSE) on beef imports from the United States contain stricter restrictions than the science-guided measures recommended by the OIE.⁶

In 2010, Vietnam banned imports of pork, poultry, and beef offal products in spite of domestically produced offal continuing to be sold. The ban on red offal (heart, kidneys, and liver) was lifted in March 2011; however, the ban on white offal (intestines, tendons, marrow) remains in effect pending the registration of U.S. beef, pork, and poultry facilities to ship white offal.

In the past, Vietnam has had various export subsidy programs in place to assist agricultural exports. Export incentives, subsidized financing, and other measures were used to support the exporting of pork, rice, and coffee (Orden et al., 2007). However, after joining the WTO, Vietnam ended all direct export subsidy programs. Today Vietnam's Government operates trade promotion programs for marketing assistance (WTO, 2013) and offers other forms of support for agricultural exporters. The Vietnam Food

⁶Bovine spongiform encephalopathy (BSE) is a fatal neurological disease affecting adult cattle that may be transmitted to humans through consumption of BSE-infected beef. The OIE has categorized the United States to be a "negligible risk" country.

Association (VFA), a public-private organization, has Government authority to set a minimum purchase price for paddy rice in Vietnam and also sets a minimum export price. The VFA sometimes instructs rice trading companies to purchase and store rice, to temporarily raise producer prices, and regulates exports to maintain the minimum export price (USDA/FAS, 2014b). Coffee farmers receive marketing coordination from a Government-owned enterprise, Vicofe, and the Government at times intervenes to reduce interest costs on loans to coffee farmers made by Vietnamese banks (USDA/FAS, 2014c). Additionally, the Government has offered value-added tax exemptions (5 percent) on coffee and other agricultural products to support exports (Huong and Tien, 2014).

Agricultural Trade With Trans-Pacific Partnership Partners

The proposed TPP agreement is Vietnam's next step toward trade liberalization and expansion. The pact seeks market access reforms to eliminate or reduce tariffs and other barriers to trade and investment. Vietnam hopes that TPP will help secure markets abroad and facilitate the flow of foreign investment. In particular, Vietnam seeks open access for its textile and footwear industry. In turn, exporting countries see Vietnam as a market with growth potential.

Figure 10 shows a map of Vietnamese agricultural trade with TPP countries. In 2012, Vietnam imported over \$10 billion of agricultural products with \$3.5 billion coming from TPP markets. The United States was the largest source of its imports at \$1.3 billion; Australia and Malaysia also provided significant shares of agricultural goods at \$888 million and \$704 million, respectively.

Vietnam exported approximately \$14 billion of agricultural commodities with \$2.9 billion to TPP countries. The United States was its largest TPP market at \$1.2 billion, followed by Malaysia at \$622 million and then Japan at \$409 million. Vietnam had an agricultural trade deficit with the TPP zone and the United States individually, but had a trade surplus with the world as a whole.⁷ Of the non-TPP countries, China, the European Union, Argentina, and Brazil were some of Vietnam's largest sources of imports (see appendix tables 1 and 2).

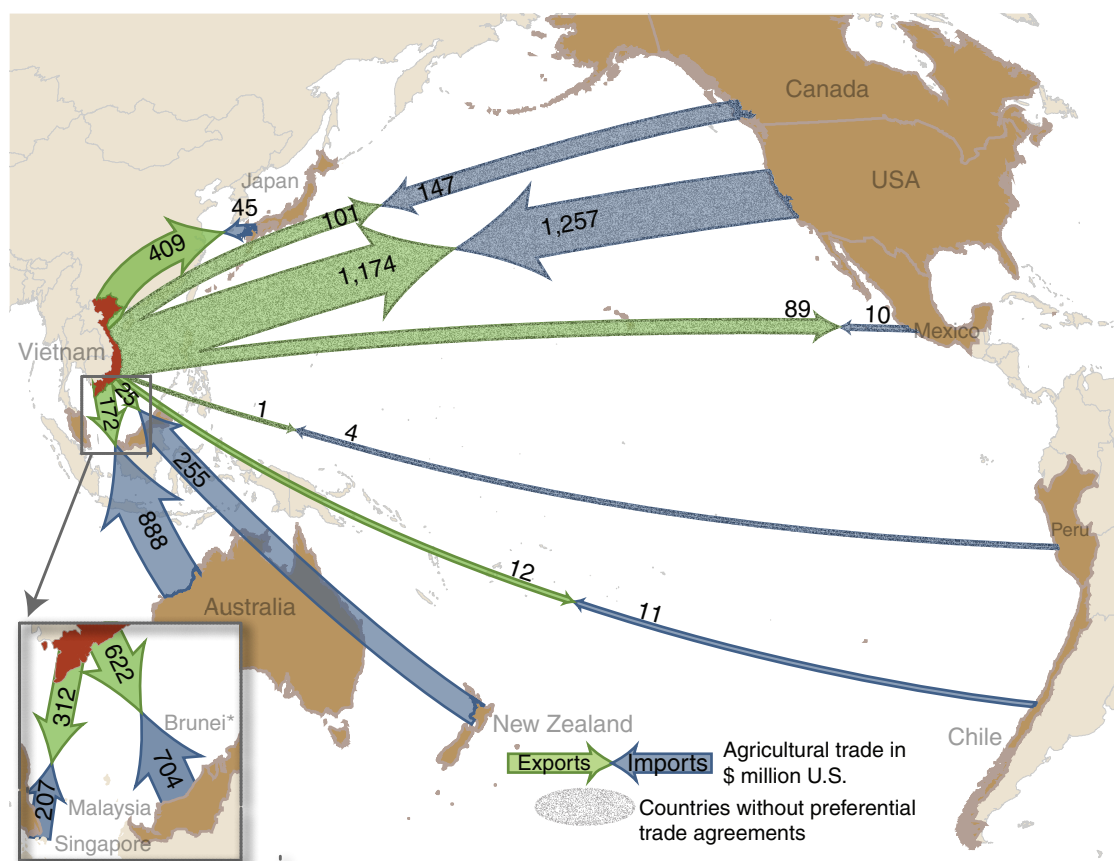
Figure 10 also highlights the flow of Vietnam's trade within the TPP zone that already occurs under a signed PTA. Vietnamese tariffs on imports from its ASEAN partners, Brunei, Malaysia, and Singapore, currently range between 0-5 percent for most agricultural products. Under Vietnam's PTA with Australia and New Zealand (AANZFTA) and with the exception of a few sectors (e.g., tobacco, alcohol, and some meat products), all Vietnamese tariffs are set to be phased out by 2018. Vietnam's PTA with Chile took effect in 2014, with most tariffs set to be phased out by 2024.

The preferential tariff treatment in Vietnam's market is generally substantial for ASEAN, Australia, New Zealand, and Chile, but less extensive in scope for other agreements. Japan's PTA with Vietnam contains duty-free tariffs for approximately 95 percent of all tariff lines; however, several agricultural sectors remain significantly protected. The United States renormalized trade with Vietnam in 2001. But tariff rates were only set to most favored nation (MFN)/generalized system of preferences (GSP) rates as set through the WTO. The proposed TPP agreement could generate significant agricultural trade growth potential for Vietnam. According to the USDA/ERS's computable general equilibrium (CGE) model, Vietnam would see the largest economic gain from TPP tariff elimination (see box, "Quantitative Assessment of the Trans-Pacific Partnership (TPP) on Agriculture").

⁷These export figures exclude trade in fishery products. Vietnam is also a major exporter of fishery products (see box, "Vietnam Fishery Exports"). After including trade in fishery products, Vietnam has an agricultural trade surplus with both TPP and the United States.

Figure 10

Vietnamese agricultural trade with potential TPP partners in 2012



*Imports too small to show on map

*TPP = Trans-Pacific Partnership.

Note: 2012 data are the most recent data available.

Source: USDA, Economic Research Service using data from United Nations, Comtrade.

Quantitative Assessment of the Trans-Pacific Partnership (TPP) on Agriculture

To assess the potential gains of the proposed TPP agreement on agriculture, Burfisher et al. (2014) employed a computable general equilibrium (CGE) model of full elimination of tariffs among the TPP partners (not modeling other possible features of a TPP agreement). The study created a base path through 2025 to allow for an implementation period. In the baseline scenario (without TPP), Vietnam's agricultural output expands by over 25 percent (2025 over 2014) and grows strongly in most sectors with the exception of rice. In addition, consumption of agricultural products grows in the baseline but much less than consumption of nonfoods. Rice consumption falls in value. Consumption of "other foods," which include processed foods, rises the most. Demand for vegetable oils, meat, and dairy products also rises substantially.

Assuming implementation of the proposed TPP agreement, the study found that Vietnam's gross domestic product (GDP) in 2025 would increase by almost 0.1 percent over what it would be without TPP tariff elimination. While this seems small, it is the largest gain among all the TPP partners. This analysis only examined the removal of tariffs and did not account for within-sector productivity improvements that could significantly increase the expected gains of TPP.

Removal of nontariff measures and accounting for within-sector productivity improvements would increase the expected gains of TPP. Petri et al. (2011) estimated much larger gains of TPP. Using a CGE model with heterogeneous firms that simulated a TPP agreement that reduced both tariffs and nontariff measures, they estimated that Vietnam would increase GDP by approximately 14 percent by 2025.

Vietnam's agricultural output is expected to drop slightly as a result of TPP, with cereal (rice, corn, and other grains) output rising 1.3 percent but the value of all other output decreasing. While Vietnam's domestic agricultural production is expected to be affected by imports (which rise by 18.5 percent), exports are estimated to also increase by an additional 6.4 percent due to reduction of tariffs abroad.

Analysis of Trade and Tariff Structure for Vietnam's Top Traded Commodities

To gain insight into the potential impacts of further trade liberalization on Vietnamese agricultural trade, this section examines the country's trade and tariff structure for its top traded commodities. The following tables present Vietnam's top agricultural exports and imports by value at the 4-6 digit harmonized system (HS) commodity level to the world, TPP countries, and the United States. The tables also present Vietnam's tariff structure across TPP countries and the rest of the world. Preferential tariff rates report final commitment rates. As TPP negotiations are still pending, the full scope of the agreement is not known. Nevertheless, examination of the level of current protection across the top commodities helps identify areas of potential trade expansion that may be opened by the proposed TPP agreement.

Export Profile

Tables 2-4 examine Vietnam's export profile. The bulk of Vietnam's exports are concentrated in a few commodities. Coffee and rice exports alone account for more than half of its overall agricultural exports at \$3.3 and \$2.4 billion, respectively, in 2012. The United States was Vietnam's No. 1 destination for coffee, importing \$601 million of the \$887 million exports to TPP. Most of Vietnam's rice is destined for non-TPP Asian countries (Indonesia, Philippines, and China), with approximately \$524 million exported to TPP countries (primarily Malaysia and Singapore), and only \$27 million and \$15 million being sent to the United States and Japan, respectively. Quality keeps much of Vietnam's rice out of the U.S. market. Japan buys mostly japonica rice (medium and short grain), not the indica rice that Vietnam produces.

Natural rubber is the third-most-valuable exported commodity, with non-TPP countries (primarily China) being its most important markets. Vietnam is also a major cashew exporter, supplying the world with over \$3 billion worth of cashews in 2012. The United States was the largest destination for Vietnamese cashews, consuming \$386 million of the \$559 million total that went to TPP markets. The remaining products make up a fairly small share of Vietnamese exports. Pepper is a sizable export to TPP countries, totaling \$165 million in 2012, with the majority going to the United States (\$94 million). Other important commodities exported to TPP countries include wafers, modified starches, other nuts, and animal feed; however, they each fall under \$50 million. For the U.S. market, honey is an economically significant Vietnamese export at \$51 million.

Export Tariff Structure

Tables 2-4 also outline the extent to which Vietnam's active agreements with several of the TPP countries would overlap with the proposed TPP agreement. ASEAN, AANZFTA, and Chile PTAs provide commitments to duty-free access to the majority of Vietnam's export commodities. Japan's economic partnership agreement with Vietnam also provides some preferential tariff rates but is more limited in scope. A trade agreement will primarily affect Vietnamese trade with countries with which it has not yet achieved a comprehensive PTA.

Nevertheless, even among partners with which Vietnam lacks a PTA, most of its top export commodities—such as coffee, rubber, cashews, and pepper—are not protected. Rice, cakes, pastries, biscuits, sugar confections, food preparations, mixed feeds, natural honey, other pasta, and wheat

Table 2

Top Vietnamese agricultural exports and selected preferential tariff rates

HS code	Commodity	Exports		TPP partner-country tariffs facing Vietnam's leading exports to the world ¹					
		2009-11 (average)	2012	SGP/ AUS/NZL/ BRN	Malaysia	Chile	Japan	Canada	United States
		\$ million U.S.		Percent, unless otherwise specified					
0901.11, .12	Coffee, unroasted	2,038	3,299	0	0	0	0	0	0
1006	Rice	1,844	2,356	0	20	0	341 yen/ kg	0	.44 cents/ kg-11.3
4001	Natural rubber	1,161	1,953	0	0	0	0	0	0
0801.32	Cashew nuts	2,019	3,258	0	0	0	0	0	0
0714.10	Cassava	319	576	0	0	0	0-5.5	0	11.3
0904.11, .12	Peppercorns, whole or ground	390	526	0	0	0	0	0	0-2.2
0810.90	Other fruit (fresh)	269	482	0	0-5	0	0	0-3	0
1108.14	Cassava starch	125	275	0	0	0	25-119 yen/kg	0	0
0801.11, .19	Coconut meat	77	113	0	0	0	0	0	0
1905.90	Cakes, pastries, and biscuits	72	93	0	0	0	6.2-34	0-13.11 cents/kg+4	0-4.5
0902.40	Black tea	80	84	0	0	0	0	0	0
1704.90	Sugar confections	60	62	0	0	0	0-25	9.5-10	0-40 cents/kg + 10.4
2106.90	Food preparations, not elsewhere specified	38	55	0	0	6	0-29.8+ 1,155 yen/kg	0-274.5 but not less than \$2.88/ kg	0-\$1.996/ kg
2309.90	Mixed feeds	34	53	0	0	0	0	0-205.5 but not less than \$1.64/ kg	0-80.4 cents/kg + 6.4
0409	Natural honey	51	52	0	0	0	12.8- 25.5	0	1.9 cents/ kg
0203.21	Pork, frozen	32	49	0	0	0	4.3 + GP 4/	0	0
0807.11	Watermelon	31	46	0	5	0	0	0	9-17
1902.30	Other pasta	45	41	0	0	0	21.3- 23.8	0, 4, 6, 11, 4.01cents/ kg +8.5	6.4

Continued—

Table 2

Top Vietnamese agricultural exports and selected preferential tariff rates—continued

HS code	Commodity	Exports		TPP partner-country tariffs facing Vietnam's leading exports to the world ¹					
		2009-11 (average)	2012	SGP/AUS/NZL/BRN	Malaysia	Chile	Japan	Canada	United States
		\$ million U.S.		Percent, unless otherwise specified					
1101	Wheat flour	20	40	0	0	6	90 yen/kg	Within access commitment: \$2.42/mt; over: \$139.83/mt	.7 cents/kg
0709.60	Fresh peppers	19	30	0	0	6	0	3.75 cents/kg but not less than 8.5 percent	4.4-4.7 cents/kg

HS = Harmonized System, a system of numerical codes for traded goods; mt = metric ton. TPP = Trans-Pacific Partnership.

¹Mexico and Peru not reported due to relatively small Vietnamese exports.

SGP/AUS/NZL/BRN = Singapore (SGP); Australia (AUS); New Zealand (NZL); Brunei (BRN).

GP = Gate Price system, a variable levy assessed as the difference between the "gate price" and a lower import unit value.

Sources: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas; and United Nations, Comtrade database (exports); Association of Southeast Asian Nation (ASEAN); ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA); Canada: Government of Canada, Canada Border Services Agency, 2013; Chile: Chile National Customs Service; Japan: Government of Japan, Japan Customs, 2014; and United States: U.S. International Trade Commission (tariffs).

flour are sectors in which Vietnam's exports currently face tariffs that could be reduced under the proposed TPP agreement. For Japan, tariffs for cassava starch are relatively high, and further liberalization could lead to significant gains. In the case of rice, Japan has a strong preference for short-grain japonica rice and, even at zero tariffs, the country is unlikely to import much more of the long-grain indica rice that is grown in Vietnam (Dyck and Arita, 2014). Nevertheless, while Japan's consumption of indica rice is limited and unlikely to grow, indica is still a sizable import market (200,000-300,000 tons annually in recent years), and Vietnamese rice could potentially replace the indica rice imports which are currently dominated by Thai rice. Although not reported in the table, Mexico and Peru also have relatively high tariffs for the top exported commodities (15-30 percent); however, given their distance from Vietnam and relatively smaller market size, little growth would be expected.

Import Profile

Tables 5-7 present Vietnam's top agricultural imports by value at the 4-6 digit Harmonized System commodity level from the world and TPP. The commodities are organized by agri-food inputs, nonagri-food industry inputs, and consumer oriented products.

Inputs for the agricultural industry make up the largest share of Vietnam's agricultural imports. With growing demand for meat products, Vietnam is heavily dependent upon feed from outside sources. Soymeal and soybeans to be crushed for meal and oil are its chief imports, totaling almost \$1.3 billion and \$780 million respectively. Most of the soymeal is imported from non-TPP countries (Argentina, India, and Brazil), with a large amount of soybeans imported from the United States (\$333 million). Wheat, used for both food and feed consumption purposes, is the next largest

Table 3

Top Vietnamese agricultural exports to TPP and selected preferential tariff rates

HS code	Commodity	Exports		Tariffs ¹				
		2009-11 (average)	2012	SGP/ AUS/NZL/ BRN/CHL	Malaysia	United States	Japan	Canada
		\$ million U.S.		Percent, unless otherwise specified				
0901.11, .12	Coffee, unroasted	563	887	0	0	0	0	0
0801.32	Cashews (shelled)	461	559	0	0	0	0	0
4001	Natural rubber	293	616	0	0	0	0	0
1006	Rice	388	524	0	20	11.2; \$0.0044/kg	341 yen/kg	0
0904.11, .12	Peppercorns, whole or ground	110	165	0	0	0-4.5	0-1	0
0409	Natural honey	51	52	0	0	1.9 cents/kg	12.8-25.5	0
1905.90	Cakes, pastries, and biscuits	37	46	0	0	0-4.5	6.2-34	0-13.11cents/ kg+4
0709.60	Fresh peppers	17	27	0-6	0	4.4-4.7 cents/ kg	0	8.5
3505.10	Dextrins and other modified starches	18	27	0	0	0.7 cents/kg	0	0-8
2008.19	Other nuts, pre- pared/preserved	21	25	0	0	0-32.6 cents/kg	0-11.6	0-6
2309.90	Mixed feed	21	23	0	0	0	0 or 23.86 yen/kg	0-80.4 cents/ kg+6.4
0810.90	Other fruit (fresh)	10	17	0	0-5	0	0	0-3
1704.90	Sugar confections	16	16	0	0	0-40 cents/ kg+10.4	0-25	9.5-10
1902.19	Pasta uncooked	9	14	0	0	6.4	0	0-8.5
2106.90	Food preparations, not elsewhere specified	10	12	0-6	0	0-\$1.996/kg	0-29.8+ 1,155 yen/kg	0-274.5 but not less than \$2.88/kg
0902.40	Other black tea (fermented)	10	13	0	0	0	0-10.6	0
2004.90	Other vegetables, prepared	8	13	0	0	0-11.2	3.9-17	0-17
0603.14	Chrysanthemums	9	12	0	0	6.4	0	8
0714.20	Sweet potatoes	7	11	0	0	4.5-6	8.3	0
2008.99	Other fruit, nuts (prepared)	8	11	0	0	0-22.4	0-20.5	0-6

HS = Harmonized System, a system of numerical codes for traded goods.

TPP = Trans-Pacific Partnership.

¹Mexico and Peru not reported due to relatively small Vietnamese exports.

SGP/AUS/NZL/CHL/BRN = Singapore (SGP); Australia (AUS); New Zealand (NZL); Chile (CHL); Brunei (BRN).

Sources: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas; and United Nations, Comtrade database (exports); Association of Southeast Asian Nation (ASEAN); ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA); Canada: Government of Canada, Canada Border Services Agency, 2013; Chile: Chile National Customs Service, Japan: Government of Japan, Japan Customs, 2014; and United States: U.S. International Trade Commission (tariffs).

Table 4

Top Vietnam agricultural exports to the United States

		Exports		Tariffs
		2009-11 (average)	2012	
HS code	Commodity	\$ million U.S.		Percent unless otherwise specified
0901.11,.12	Coffee, (not roasted)	368.2	600.9	0
0801.32	Cashew nuts (shelled)	328.2	385.8	0
0904.11,.12	Peppercorns, whole or ground	78.4	94.4	0
4001	Natural rubber	57.2	62.8	0
0409	Natural honey	49.7	51.0	\$0.019/kg
1006	Rice	12.9	27.0	11.2; \$0.0044/kg
1905.90	Cakes, pastries, and biscuits	15.3	21.1	0-4.5
0901.21, .22	Coffee (roasted)	5.2	11.8	0
2008.19	Other nuts, seeds (prepared)	10.3	10.7	0-22.4
0902.40	Other black tea (fermented)	4.8	7.9	0
0208.90	Other meat and edible offal	0.2	6.3	0-6.4
1902.19	Pasta uncooked	2.9	4.7	0
1901.90	Other food preparations of malt extract, flour, starch, milk, cream	3.6	4.5	0-16
2101.12	Coffee extracts	3.8	4.4	8.5-10
2008.99	Other fruits (processed)	2.6	4.2	0-22.4
0810.90	Other fruit (fresh)	2.0	3.8	0-2.2
1902.3	Pasta	2.9	3.7	6.40
2003.90	Mushrooms	4.3	2.8	6 cents/kg + 8.5
0106.11	Rabbits and hares	3.7	2.6	0
2106.90	Other food preparations	2.2	2.6	0-\$1.99/kg

Source: Global Trade Information Services, Global Trade Atlas (exports) and U.S. International Trade Commission (tariffs).

import at \$756 million from the world. TPP countries, primarily Australia, are the main sources of wheat, totaling \$630 million in 2012. Palm oil is the next highest at \$595 million, with TPP countries accounting for a significant share of imports. This is followed by corn, with total imports of \$463 million being primarily imported from non-TPP countries India and Brazil. Powdered milk, primarily used as an input for processed foods, is also a major import (\$388 million), with the major source being TPP countries.

With its large textile and footwear industry, inputs for nonagricultural purposes make up a major share of Vietnam's overall agricultural imports. Cotton was a chief import, totaling over \$861 million from the world in 2012. TPP countries accounted for a moderate share of these imports, supplying almost \$350 million. For U.S. cotton producers, Vietnam is a large market with \$248 million in imports. Raw hide imports also were substantial, totaling \$67 million and \$63 million from the world and TPP, respectively.

Compared to inputs for agriculture and industry, commodities for direct consumption make up a smaller share of overall imports. Preparations of cereals, flour, starch, or milk make up a large share of imports from TPP totaling over \$155 million. Infant food and other dairy and soy preparations are also important imports from TPP. Other processed foods made up the largest share of consumer-oriented imports from the United States (\$33 million). The United States also reported substantial exports of beef, nut, and frozen poultry exports to Vietnam. However, as a significant portion of this trade is believed to be trans-shipment flows to other countries, they were not included in the tables (see box, “Border Trade/Trans-Shipment Flows”).

Import Tariff Structure

Examination across different import groups indicates a difference in tariff rates between commodities used for inputs and commodities for direct consumption. Vietnam has relatively low tariffs for commodities used as intermediate inputs in nonagricultural and agricultural industries. To help support its textile and footwear industry, cotton and hides enter Vietnam duty-free. To feed its domestic livestock industry and flour mills, wheat, soy-based products, and dried distiller grains

Border Trade/Trans-Shipment Flows

Over the past several years, China has grown to be the largest trading partner for Vietnam, amounting to over \$35 billion in 2013. Even before the signing of the China-Association of Southeast Asian Nations (ASEAN) preferential trade agreement in 2010, trade between China and Vietnam had been fostered through liberalized border-trade regimes. China established free trade zones in Guangxi, a province along the Vietnamese border that allowed border citizens to trade goods under a limited amount (\$166 per product per day). Under the ASEAN-China preferential trade agreement, virtually all of the agricultural goods traded under this border trade were duty-free and value-added-tax-free.

This liberalized border trade route also provided opportunity for Chinese market access from third countries. Several U.S. agriculture commodities face significant Chinese trade barriers, particularly meats. U.S. poultry products faced tariffs ranging from 40 to 80 percent, stemming from anti-dumping duties imposed by China. Due to bovine spongiform encephalopathy concerns, U.S. beef products are currently prohibited in China. While these U.S. products also face tariffs in Vietnam, they may find market access to China via the border-trade route through Vietnam. Much of the global beef exports to Vietnam likely are going to China. In one such example, 40 percent of India’s beef exports are reported to be sent to Vietnam, but the majority of that beef is believed to ultimately end up in China (Food Navigator Asia, 2013).

In addition to meats, a significant percentage of tree nuts exported from the United States to Vietnam may also be trans-shipped to China.

For the trade data used in this report we have relied upon reported information from Vietnam and partner countries. Due to possible undocumented trans-shipments via the Guangxi-Vietnamese border trade, reports of Vietnam’s imports based upon trade partners’ documented information may overestimate the actual level of imports. We have attempted to adjust for potential discrepancies by employing reported information from Vietnamese Government and other sources and by removing trade flows considered to be trans-shipments.

with solubles (DDGS) enter Vietnam under a 0-percent to 5-percent tariff rate. Tariff rates are significantly higher for direct consumption commodities. Other preparations for cereals, flour, starch, or milk face 15 percent to 40 percent ad valorem duties. The dichotomy of rates between commodities for inputs and commodities for direct consumption is consistent with Vietnam's export-oriented development strategy. A natural outcome of this strategy is that it leaves the consumer-oriented sector as the primary area of untapped import growth.

Tables 5 and 6 once again outline the extent to which Vietnam's active agreements with several of the TPP countries would overlap with the proposed agreement. For ASEAN, AANZFTA, Chile, and Japan, PTAs provide commitments to duty-free access to all the major commodities excluding frozen chicken. It is expected that TPP import growth in Vietnam will be largely generated from the United States and to a lesser extent Canada, Mexico, and Peru.

Market Potential for U.S. Exports

The tariff structure of top imported Vietnamese commodities suggests room for modest trade growth in Vietnam's primary import sectors as a result of a TPP agreement. Table 8 presents tariffs, exports and market shares for selected U.S. export commodities.

As outlined earlier, consumer-oriented products are the chief area of potential growth. Meats, pork in particular, are believed to be one area of growth potential. With modest tariff levels and increasing demand, further liberalization could expand imports of these products. While we do not have accurate estimates of poultry and beef imports, these sectors are viewed as areas where the United States could increase its exports' market share. Demand for higher quality meat is currently growing in Vietnam's hotels, restaurants, and higher end markets. Reduction of health regulations and other SPS measures would also help further gains. The recent removal of the white-offal ban is expected to generate further import growth.

Oranges, grapefruits, and strawberries have tariff rates of 40 percent; vegetables have rates of 20 percent. U.S. fruit exporters face competition from other Pacific Rim exporters that enjoy preferential rates (Australia, New Zealand, and China). A reduction in tariffs would help U.S. exporters become more competitive and expand market share. Beyond powdered milk, other dairy products also have growth potential. Yogurt, whey products, and milk fats face high tariff levels. Demand for infant formula is growing. Western foods are perceived to have premium quality and high food safety standards (USDA/FAS, 2011). As American brands are popular in Vietnam, tariff reductions and further marketing efforts could increase market shares for U.S. high-value food exports such as snack foods, juices, canned products, wine, beer, and tobacco.

Table 5

Top Vietnamese agricultural imports and most favored nation (MFN) and preferential tariff rates

HS code	Commodity	Imports		Tariffs		
		2009-11 (average)	2012	MFN ¹	ASEAN	AANZFTA Chile, Japan
		\$ million U.S.		Percent		
Inputs to agricultural and food industry						
2304.00	Soymeal	1,178	1,270	0	0	0
1201	Soybeans	222	780	0-5	0	0
1001.90	Wheat, not durum, not seed	575	756	0-5	0	0
1511	Palm oil	494	595	5-30	0	0
1005.90	Corn	338	463	0-5	0	0
0402	Powdered milk	265	388	10-30	0	0
2309.90	Other preparations of a kind used in animal feed	269	337	5-10	0	0
2301.10	Flours, meals, and pellets, of meat or meat offal	155	204	8	0	0
2303.30	Distillers dried grains with solubles	104	147	5	0	0
1107.10	Malt, unroasted	104	133	5	0	0
0801.31	Cashew nuts, in shell	110	109	5	0	0
0904.11	Peppercorns, neither crushed nor ground	49	108	30	0	0
1701.99	Cane or beet sugar, other ²	114	38	40	5	0
Inputs to nonagricultural industry						
5201	Cotton, raw	694	861	0	0	0
4101	Hides, raw (bovine)	57	67	0	0	0
0505.10	Feathers used for stuffing	40	65	5	0	0
Products for consumption						
1901.10	Preparations for infant use	137	269	15-40	0	0
2106.90	Other processed foods	160	228	30	0	0
1901.90	Infant food and other dairy and soy preparations	112	196	15-40	0	0
0207.14	Chicken cuts and offal, frozen	69	65	20	0-5	0-20
0405.90	Other dairy fats	49	47	5-20	0	0

HS = Harmonized System, a system of numerical codes for traded goods.

TPP = Trans-Pacific Partnership.

¹MFN rates are for TPP partners the United States, Canada, Mexico, and Peru.²In-quota tariff rate. Sugar was excluded in the Japan-Vietnam economic partnership agreement.

Sources: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas; and United Nations, Comtrade database (imports); Government of Vietnam, Ministry of Finance, General Department of Customs (MFN); Association of Southeast Asian Nation (ASEAN); and ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) (tariffs).

Table 6

Top Vietnamese agricultural imports from TPP and preferential tariff rates

HS code	Commodity	Imports		TPP partner-country tariffs	
		2009-11 (average)	2012	MFN ²	ASEAN, AANZFTA, Chile, Japan
		\$ million U.S.		Percent	
Inputs to agricultural and food industry					
1001.90	Wheat	459	630	0-5	0
1511	Palm oil	287	424	5-30	0
1201	Soybeans	109	362	0-5	0
402	Powdered milk	211	252	10-30	0
2303.30	Distillers dried grains with solubles	84	106	5	0
2309.90	Other preparations of a kind used in animal feeding	59	75	5-10	0
1107.10	Malt, unroasted	55	56	5	0
2304	Soymeal	58	45	0	0
1516.20	Vegetable fats	20	33	30	0
0404.10	Whey and modified whey	15	30	20-30	0
Inputs to nonagricultural industry					
5201	Cotton	290	348	0	0
4101	Raw hides (bovine)	67	63	0	0
4103.30	Hides of swine	8	23	0	0
0505.10	Feathers used for stuffing	6	11	5	0
Products for consumption					
1901.90	Infant food and other dairy and soy preparations	38	155	15-40	0
2106.90	Other processed foods	66	81	30	0
1901.10	Preparations for infant use	56	65	15-40	0
0405.90	Other dairy fats	45	46	5-20	0
0806.10	Fresh grapes	27	39	25	0
0808.10	Apples	8	11	20	0

HS = Harmonized System, a system of numerical codes for traded goods.

TPP = Trans-Pacific Partnership.

¹MFN rates are for TPP partners the United States, Canada, Mexico, and Peru.

Sources: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas; and United Nations, Comtrade database (imports); Government of Vietnam, Ministry of Finance, General Department of Customs (MFN); Association of Southeast Asian Nation (ASEAN); and ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) (tariffs).

Table 7

Top Vietnam agricultural imports from the United States

		Imports		Tariffs
		2009-11 (average)	2012	
HS code	Commodity	\$ million U.S.		Percent
Inputs to agricultural and food industry				
1201	Soybeans, yellow	88	333	5
2303.30	Distillers dried grains with solubles	84	105	5
2304	Soymeal	57	44	0
1001.90	Wheat, not durum, not for seed	35	37	5
1702	Other sugar	18	35	0-10
0402.10	Powdered milk, less than 1.5%	18	33	10-30
0404.10	Whey and modified whey	13	28	20-30
2309.90	Other preparations of a kind used in animal feeding	21	27	0-5
1208.10	Flours and meal of soya beans	26	16	30
2303.10	Residues of starch manufacture and similar residues	14	15	0-5
2308	Vegetable residues for use in feed	17	8	10
Inputs to nonagricultural industry				
5201	Cotton	259	248	0
4101	Raw hides (bovine)	65	60	0
0505.10	Feathers used for stuffing	5	11	5
Products for consumption				
2106.90	Other processed foods	18	33	30
0806.10	Grapes, fresh	15	18	25
1901.90	Infant food and other dairy and soy preparations	1	11	15-40
0808.10	Apples	6	8	20
2008.99	Prepared fruits, other	2	6	35-40
0806.20	Raisins	3	5	25

HS = Harmonized System, a system of numerical codes for traded goods.

Sources: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas and United Nations, Comtrade database (imports); Government of Vietnam, Ministry of Finance, General Department of Customs (tariffs).

Table 8

Vietnamese tariff rates on selected U.S. exports

		Tariff	U.S. exports	U.S. market share			Tariff	U.S. exports	U.S. market share
		Percent	2012 (\$1,000)	Percent of Vietnam's import market			Percent	2012 (\$1,000)	Percent of Vietnam's import market
<u>Meats</u>					<u>Oils</u>				
0201	Beef, chilled	20	n/a	n/a	1507	Soyoil	5-30	0	0
0202	Beef, frozen	20	n/a	n/a	1508	Peanut oil	5-30	0	0
0203	Pork	30	3,379	58	1512	Sunflower seeds/ oil	5-30	296	18
0207.14	Chicken meat	20	n/a	n/a	1517	Margarine	20-40	83	0
0206	Offals	15	1,474	16					
1602	Processed meats	40	2,389	16	<u>Food prep.</u>				
					1901.10	Preparations for infant use	15-40	2,924	2
<u>Dairy products</u>					1901.20	Mixes and doughs	35	238	1
0403	Yogurt and buttermilk	30	337	0	1901.90	Infant food and other dairy and soy preparations	15-40	10,784	8
0404	Whey	20-30	28,006	39	1902	Pasta	40	45	1
0405	Butter and milk fats	5-20	3	0	1905	Bread, pastry, cakes, cookies	40	1,713	1
					2004.10	Potato prepara- tions, frozen	35	1,618	41
<u>Vegetables</u>					2009	Fruit juices	35	1,364	13
0701.90	Potatoes	20	821	7	2101.11, 12	Coffee extracts	50	744	0
0704.90	Broccoli	20	0	0	2106.90	Food prepara- tions, n.e.s.	10-30	33,006	21
0710.10	Potatoes, frozen	20	0	0					
					<u>Other</u>				
					2203	Beer	65	699	25
					2401	Tobacco, un- manufactured	30	4,013	3

Continued—

Table 8

Vietnamese tariff rates on selected U.S. exports—continued

		Tariff	U.S. exports	U.S. market share					
		Percent	2012 (\$1,000)	Percent of Vietnam's import market					
<u>Fruits</u>									
0805.10	Oranges	40	1,253	11					
0805.40	Grapefruit	40	0	0					
0805.50	Lemons and limes	40	5	18					
0806.10	Grapes, fresh	25	17,751	38					
0808.10	Apples	20	7,759	33					
0811.10	Strawberries	40	0	0					
0806.20	Raisins	25	4,959	57					
0809.20	Cherries	35	1,724	55					

N.e.s. = not elsewhere specified.

Source: USDA, Economic Research Service, using Global Trade Information Services, Global Trade Atlas and United Nations, Comtrade database (exports); Government of Vietnam, Ministry of Finance, General Department of Customs (tariffs).

Conclusion

Vietnam is a transitioning economy that has adopted a gradual approach of market reform and export-led growth. The country steadily pursued trade agreements to expand trade and investment and has enjoyed a high rate of growth. While growth has recently slowed, Vietnam is expected to have market potential for imported food and agricultural products. Vietnam's participation in the proposed TPP is intended to continue its path toward further economic integration and growth.

Although the nature and extent of a TPP agreement is not yet known, the trade profile outlined in this report highlights several key areas in which the agreement may affect Vietnam's agricultural trade. While Vietnam is expected to be one of the largest overall beneficiaries of the proposed agreement, the gains may be more limited for agriculture. Vietnam's current PTAs with many of the TPP countries already provide low or duty-free rates, leaving trade expansion with the United States and Japan as the largest areas of potential trade growth. Two of Vietnam's top agricultural exports (coffee, natural rubber) have little room for growth. However, Vietnam's smaller export sectors (cassava starch, pepper, processed foods, and honey) could gain from further liberalization of tariffs, and Vietnamese rice could gain a share of Japan's indica rice import niche. For U.S. exporters, low tariff rates on feed and commodities used for industrial inputs leave little room for growth for its top commodities currently supplied to Vietnam, but a reduction in tariffs could expand the potential for more U.S. exports of meats, dairy products, and fruits. The TPP agreement also could provide new opportunities for exports of other high-valued U.S. consumer food products to the growing Vietnamese market.

References

- Anand, R., K. Cheng, S. Rehman, and L. Zhang. 2014. *Potential Growth in Emerging Asia*, International Monetary Fund Working Paper.
- Burfisher, M., J. Dyck, B. Meade, L. Mitchell, J. Wainio, S. Zahniser, S. Arita, and J. Beckman. 2014. *Agriculture in the Trans-Pacific Partnership*, USDA, Economic Research Service, ERR-176. October.
- Chaponnière, J.R., and Jean-P. Cling. 2009. “Vietnam’s export-led growth model and competition with China,” *Économie internationale* (2): 101-30.
- Collins, N.,Y. Zhu, and M. Warner. 2009. *HRM and Asian socialist economies in transition: China, Vietnam and North Korea*. Edward Elgar Publishing.
- Delaunay, C., and R. Torrissi. 2012. “FDI in Vietnam: An Empirical Study of an Economy in Transition,” *Journal of Emerging Knowledge on Emerging Markets* (4).
- Dyck, J, and S. Arita. 2014. *Japan’s Agri-Food Sector and the Trans-Pacific Partnership*, USDA, Economic Research Service, EIB-129. October.
- The Economist*. “The export trap.” March 25, 2009. <http://www.economist.com/node/13356518>
- Food Navigator Asia*. 2013. “China gorges on Indian buffalo via Vietnam,” January 22, 2014. <http://www.foodnavigator-asia.com/Markets/China-gorges-on-Indian-buffalo-via-Vietnam>
- East Asia Forum*. Huong, P. T. and Tien, D. N. 2014. “Bitter taste brewing in Vietnamese coffee.” March 15, 2014. <http://www.eastasiaforum.org/2014/03/15/bitter-taste-brewing-in-vietnamese-coffee/>
- Inside U.S. Trade*. 2012. “U.S., Vietnam Signal Flexibilities in TPP Apparel Rule of Origin Fight,” May 24, 2012. <http://insidetrade.com/Inside-US-Trade/Inside-U.S.-Trade-05/25/2012/us-vietnam-signal-flexibilities-in-tpp-apparel-rule-of-origin-fight/menu-id-710.html>
- Martin, M. F. 2014. *U.S.-Vietnam Economic and Trade Relations: Issues for the 113th Congress*. Congressional Research Service. 7-5700.
- McCaig, B., and N. Pavcnik. 2013. *Moving Out Of Agriculture: Structural Change in Vietnam*, National Bureau of Economic Research. Working Paper 19616. <http://www.nber.org/papers/w19616.pdf>
- Orden, D., F. Cheng, H. Nguyen, U. Grote, M. Thomas, K. Mullen, and D. Sun. 2007. *Agricultural producer support estimates for developing countries: Measurement issues and evidence from India, Indonesia, China, and Vietnam*, Research Report No. 152, International Food Policy Research Institute, Washington, DC.
- Petri, P.A., M G. Plummer, and F. Zhai. 2011. *The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment*, East West Center Working Papers, Honolulu

- Tran, Van Tho. 2013. "Vietnamese economy at the crossroads: New doi moi for sustained growth," *Asian Economic Policy Review* (8)1: 122-43.
- United Nations Commodity Trade Statistics Database. UN/Comtrade. 2014. <http://comtrade.un.org/db>
- United Nations, Food and Agriculture Organization. 2014. FAOSTAT. <http://faostat.fao.org>
- United States Department of Agriculture, Economic Research Service. 2014. International Macroeconomic Data. <http://www.ers.usda.gov/data-products/international-macroeconomic-data-set.aspx>
- United States Department of Agriculture, Foreign Agricultural Service. Various years. Production, Supply and Distribution database. <http://apps.fas.usda.gov/psdonline>
- United States Department of Agriculture, Foreign Agricultural Service. 2011. *Vietnam Exporter Guide*, GAIN Report VM1054. July.
- United States Department of Agriculture, Foreign Agricultural Service. 2012a. *Grain and Feed Annual Report, Thailand*, GAIN Report TH2027.
- United States Department of Agriculture, Foreign Agricultural Service. 2012b. *Vietnam Customs Adjusts Import Reference Prices for U.S. Ag Products*, GAIN Report VN2057.
- United States Department of Agriculture, Foreign Agricultural Service. 2013. *Vietnam Retail Foods Sector*, GAIN Report VM3062. July.
- United States Department of Agriculture, Foreign Agricultural Service. 2014. *MOIT Food Safety Law Implementing Circular Released*, GAIN Report VM4004. January.
- United States Department of Agriculture, Foreign Agricultural Service. 2014b. *Grain and Feed Annual*. GAIN Report VM4017. August.
- United States Department of Agriculture, Foreign Agricultural Service. 2014c. *Vietnam Coffee Annual*, GAIN Report VM4028. May.
- United States Department of Commerce, United States Census Bureau, International Database. Various years. <http://www.census.gov/population/international/data/idb/informationGateway.php>
- United States International Trade Commission. 2014. Harmonized Tariff Schedule. <http://hts.usitc.gov>
- World Bank, World Development Indicators. 2013. <http://data.worldbank.org/products/wdi>
- World Trade Organization. 2011. *United States Anti-dumping Measures on Certain Shrimp from Vietnam*. Dispute DS404.
- World Trade Organization. 2013. *Vietnam Trade Policy Review*, Report WT/TPR/S/287. August 13, 2013.

Appendix

Appendix table 1

Vietnam agricultural imports from Trans-Pacific Partnership and other major markets

	2009-11 (average)	2012
	\$ millions U.S.	
TPP total	2,690	3,527
United States	1,115	1,257
Australia	615	888
Malaysia	525	704
New Zealand	204	255
Singapore	125	207
Canada	44	147
Japan	41	45
Mexico	8	10
Chile	9	11
Peru	2	4
Other countries		
European Union	683	939
Argentina	683	840
Brazil	417	809
China	584	789
Indonesia	417	487
Thailand	503	408
Cambodia	112	264
World	7,844	10,088

TPP = Trans-Pacific Partnership.

Source: USDA, Economic Research Service using United Nations, Comtrade database.

Appendix table 2

Vietnam agricultural exports to Trans-Pacific Partnership and other major markets

	2009-11 (average)	2012
	<i>\$ millions U.S.</i>	
TPP total	2,040	2,927
United States	832	1,174
Malaysia	380	622
Japan	269	409
Singapore	303	312
Australia	135	172
Canada	63	101
Mexico	25	89
New Zealand	19	25
Chile	7	12
Peru	0	1
Other countries		
China	1,357	3,151
European Union	1,517	2,117
Indonesia	559	667
Philippines	886	660
Cambodia	201	458
South Korea	160	327
World	9,902	14,297

TPP = Trans-Pacific Partnership.

Source: USDA, Economic Research Service using United Nations, Comtrade database.