

# TRADE BETWEEN THE UNITED STATES AND MÉXICO, WITH A FOCUS ON THE BORDER AREA

## VOLUME IV IN THE UNITED STATES-MÉXICO SERIES OF BACKGROUND REPORTS

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## INTRODUCTION

As part of Arizona State University's United States-México Initiative, the L. William Seidman Research Institute, in conjunction with ASU's McCain Institute for International Leadership Policy Analysis, has undertaken a project to analyze potential bi-national, national and regional policies in order to facilitate decision making. A web-based decision-making tool — the United States-México Policy Analysis Tool (USMexPAT) — is under development to quantify the impacts of potential policies. This tool also will be designed to operate at Arizona State University's Decision Theaters in Tempe, Arizona and Washington, D.C. For more information on this project, see the website USMexPAT.com.

A five-volume series of reports provides background information on the demography and economy of the United States and México, with a focus on the border area — the portion of each country near their international border. A summary of the five volumes also is available.

### Background Reports

While numbered sequentially, the reports need not be read in order. However, most users will want to refer to the first part of Volume I in order to understand the geography of the border area. In order to fully understand Volume V, Volumes II through IV may need to be consulted.

A short description of each of the five volumes follows:

#### **Volume I: The Geography and History of the United States and México, With a Focus on the Border Area**

This introductory report presents two definitions of the U.S.-México border area — border states and border region — and also identifies urban areas along the international border. A brief history of the two nations and the border area is included.

#### **Volume II: Demographic and Socioeconomic Profile of the United States and México, With a Focus on the Border Area**

Most of this report presents the demographic and socioeconomic data collected from the 2010 decennial census of each country and from the American Community Survey. The historical and projected population of the two nations and of the geographies of the border area also are examined in this report.

#### **Volume III: Economic Profile of the United States and México, Including an Economic Base Study of the Border Area**

Economic data from a variety of sources other than the 2010 decennial census of each country and the American Community Survey are presented in this report. Economic base studies for the border states and the border region counties and municipios are reviewed in this report.

#### **Volume IV: Trade Between the United States and México, With a Focus on the Border Area**

U.S. international trade, trade between the United States and México, and the traffic crossing the international border between the two countries are examined in this report. Information is presented for various geographies: national, state, metropolitan area, customs district, and port.

#### **Volume V: A Description of Each State, County and Municipio in the United States-México Border Area**

Information from each of the prior volumes is incorporated in this report, which is organized by geographic area rather than by topic as in the other volumes. A summary of the geography, history, population, trade, and economy of each state, county and municipio in the border area is presented.

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## DESCRIPTION OF TRADE DATA

As of April 2014, most of the data described below were available for the 2013 calendar year.

### U.S. Census Bureau

The Census Bureau of the U.S. Department of Commerce collects trade data for the United States. It presents information on imports and exports for the nation and by state, customs district, and port at <http://www.census.gov/foreign-trade/index.html>.

The electronic filing of export information by U.S. companies or their agents is required by federal law. Each shipment of merchandise from one exporter to one importer by carrier must be reported. Information on imports are primarily compiled from similar automated data, supplemented by other sources, such as foreign trade zone documents.

### National Trade Data

Total U.S. imports and exports are reported monthly, divided into two broad categories: goods and services. An annual time series is available since 1960. Detail on the trade of services is limited to seven broad categories at the national level. In contrast, considerable information is available on the trade of goods (merchandise), with detail available on the type of product and on the country to which or from which the shipment is made. A time series of data of total imports and exports by trading partner (country) is available back to 1985 for some countries (including México) and to 1987 for all countries.

Four types of product detail are available for goods, each by nation to which or from which the shipment is made:

- One-, two- and three-digit Standard International Trade Classification (SITC), back to 1996.
- Three- and six-digit North American Industry Classification System (NAICS), back to 2000.
- End use, back to 2003.
- Advanced technology products, back to 2002.

The end-use and advanced-technology classifications are summarized in this paper. These data are available from the Census Bureau website at no charge. The other data are available on a subscription basis.

### Trade Data by State

Trade data by state are limited to goods. The value assigned to imports generally is the price actually paid for the goods, not including import duties, freight, insurance, and other charges. Exports are valued on a “free alongside ship” basis, which reflects the transaction price plus inland freight, insurance, and other charges. Product detail for imports and exports is based on a six-digit commodity classification. Imports are classified based on the Harmonized Tariff Schedule published by the U.S. International Trade Commission. Exports are classified using Schedule B published by the Census Bureau. Both are based on the Harmonized Commodity Description and Coding System.

In the mid-1980s, a requirement was added to the electronic filing of export data to report the state where the export journey begins. In 2004, the zip code corresponding to the origin also

began to be reported. The Census Bureau does not provide data by zip code but does tally state totals based on zip codes as a separate dataset. While the Census Bureau believes that the accuracy of the reported zip codes has improved, some filings do not include the zip code (U.S. exports are 9 percent lower based on the tally by zip code compared to the tally from the state code) and the zip code is inaccurately reported in other cases (the magnitude of the difference between the zip code tally and the state code tally vary widely by state).

While the export data by state are conceptually based on origin of movement, in reality the export data do not always represent the origin of movement. When shipments are consolidated, the state in which the consolidation occurs is reported as the origin. Such consolidations are most common for agricultural products from states in the middle of the country, which often are consolidated in New Orleans. More generally, the origin of nonmanufactured goods may not be accurately reported, as such goods are frequently stored in a central location before being exported.

While import data by state of destination began to be compiled in the mid-1980s, these data were not published due to quality concerns. A time series begins in 2008, but the import data by state remain problematic. If the contents of a shipment are destined to more than one state, all of the shipment value is assigned to the state with the greatest aggregate value. If the primary destination is unknown, then the shipment may be assigned to the state of the final consignee or the state in which the shipment entered the United States. In some cases, shipments are sent to a storage or distribution point, which may be recorded as the import state. Because of the limitations in the export and import data, the Census Bureau does not report trade balances by state and cautions users not to make such a calculation.

Export data by state begin in 1995. Three categories are reported: manufactured goods, nonmanufactured goods (such as agricultural products and ores), and re-exports: exports of foreign-origin goods that have not undergone any change in form in the United States. The re-export data begin in 1996. The import time series is divided into manufactured goods and nonmanufactured goods. State data on imports and exports for the top 25 trading partners and the top 25 commodities also are available online at no charge, though only for the last four years. Again, more detailed data are available on a subscription basis.

### **Trade Data by Customs District and Port**

Trade data by customs district and port are limited to goods. The data are subdivided by mode of transportation, though the only modes for which data are available without subscribing are vessels (ships) and air transportation. Nine customs districts are present in the four border states; data go back to 2004. Ninety-nine ports are present in the four border states, but data by port by mode of transportation are available only since 2011.

### **U.S. Bureau of Transportation Statistics**

The Bureau of Transportation Statistics (BTS) is a unit of the Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation. It provides a variety of data at [http://www.rita.dot.gov/bts/data\\_and\\_statistics/databases](http://www.rita.dot.gov/bts/data_and_statistics/databases). Two databases are described in this report: border crossing/entry data and North American transborder freight data.

**Border Crossing/Entry Data**

In addition to eight rail crossings, there are 47 international crossings between the United States and México for motor vehicles and/or pedestrians, with some of the major population centers along the border having multiple crossings.<sup>1</sup> The numbers of crossings are summarized by state in Table 1 and the rail crossings are listed from west to east in Table 2.

Some of the 47 nonrail crossings (listed in Table 3 from west to east) are restricted in some way: many are not open to trucks, two in El Paso/Juárez are only available for northbound traffic, two (Nogales-Morley and Boquillas) are open only to pedestrians, and one (Los Ebanos/Díaz Ordaz) consists of a hand-pulled ferry.

On the American side, the crossings are administered by 25 U.S. ports (see Map 1). Some ports consist of a single border crossing, while others include several crossings. Statistics on the

**TABLE 1  
NUMBER OF BORDER CROSSINGS  
BETWEEN THE UNITED STATES AND MÉXICO BY STATE**

	<b>Vehicles &amp; Pedestrians</b>	<b>Rail</b>		<b>Vehicles &amp; Pedestrians</b>	<b>Rail</b>
California	6	2	Baja California	6	2
Arizona	9	1	Sonora	9	1
New Mexico	3	0	Chihuahua	10	2
Texas	29	5	Coahuila	5	1
			Nuevo León	1	0
			Tamaulipas	16	2

**TABLE 2  
RAIL CROSSINGS BETWEEN THE UNITED STATES AND MÉXICO**

<b>U.S. Place</b>	<b>U.S. State</b>	<b>Mexican Place</b>	<b>Mexican State</b>
San Ysidro (San Diego)	California	Tijuana	Baja California
Calexico	California	Mexicali	Baja California
Nogales	Arizona	Nogales	Sonora
El Paso	Texas	Juárez	Chihuahua
Presidio	Texas	Ojinaga	Chihuahua
Eagle Pass	Texas	Piedras Negras	Coahuila
Laredo	Texas	Nuevo Laredo	Tamaulipas
Brownsville	Texas	Matamoros	Tamaulipas

**Notes:**

The crossings are listed from west to east.

The Presidio-Ojinaga crossing is currently closed due to a fire on the bridge that crosses the Rio Grande River.

Sources (Tables 1 and 2): U.S. Customs and Border Protection and Wikipedia.

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<sup>1</sup> Some sources cite an additional border crossing, with the commercial crossing at Otay Mesa (San Diego County and Tijuana Municipio) distinguished from the pedestrian and passenger vehicle crossing.

**TABLE 3  
BORDER CROSSINGS AND PORTS OF ENTRY BETWEEN THE UNITED STATES AND MÉXICO**

Crossing	United States		Crossing	México		Lanes*		
	County	Port of Entry		Municipio	CV	PV	P	
<b>CALIFORNIA</b>			<b>BAJA CALIFORNIA</b>					
San Ysidro	San Diego	San Ysidro	El Chaparral	Tijuana	-	24	15	
Otay Mesa	San Diego	Otay Mesa	Mesa de Otay	Tijuana	10	13	6	
Tecate	San Diego	Tecate	Tecate	Tecate	2	2	2	
Calexico West	Imperial	Calexico	Mexicali	Mexicali	-	10	6	
Calexico East	Imperial	Calexico East	Mexicali	Mexicali	3	8	4	
Andrade	Imperial	Andrade	Los Algodones	Mexicali	1	3	4	
<b>ARIZONA</b>			<b>SONORA</b>					
San Luis	Yuma	San Luis	San Luis Río Colorado	San Luis Río Colorado	-	9	7	
San Luis II	Yuma	San Luis	San Luis Río Colorado 2	San Luis Río Colorado	3	-	-	
Lukeville	Pima	Lukeville	Sonoyta	General Plutarco Elías Calles	1	5	-	
Sasabe	Pima	Sasabe	Sásabe	Sáric	1 <sup>^</sup>	-	-	
Nogales-Mariposa	Santa Cruz	Nogales	Mariposa	Nogales	7	-	-	
Nogales-Deconcini	Santa Cruz	Nogales	Nogales	Nogales	-	8	6	
Nogales-Morley Gate	Santa Cruz	Nogales	Nogales	Nogales	-	-	4	
Naco	Cochise	Naco	Naco	Naco	1	2	-	
Douglas	Cochise	Douglas	Agua Prieta	Agua Prieta	2	7	-	
<b>NEW MEXICO</b>			<b>CHIHUAHUA</b>					
Antelope Wells	Hidalgo	Columbus	El Berrendo	Janos	-	1	-	
Columbus	Luna	Columbus	Palomas	Ascensión	1	2	-	
Santa Teresa	Doña Ana	Santa Teresa	San Jerónimo	Juárez	3	4	2	
<b>TEXAS</b>								
El Paso-Paseo del Norte	El Paso	El Paso	Santa Fe	Juárez	-	12	14	
El Paso-Stanton	El Paso	El Paso	Lerdo	Juárez	-	3	2	
El Paso-Bridge of the Americas	El Paso	El Paso	Cordova	Juárez	6	14	4	
El Paso-Ysleta	El Paso	El Paso	Zaragoza	Juárez	8	12	3	
Fabens	El Paso	Fabens	Caseta	Guadalupe	-	2	-	
Fort Hancock	Hudspeth	Fabens	El Porvenir	Práxedes G. Guerrero	-	2	-	
Presidio	Presidio	Presidio	Ojinaga	Ojinaga	2	3	-	

(continued)



**TABLE 3 (continued)**  
**BORDER CROSSINGS AND PORTS OF ENTRY BETWEEN THE UNITED STATES AND MÉXICO**

Crossing	United States		Crossing	México		Lanes*		
	County	Port of Entry		Municipio	CV	PV	P	
TEXAS (continued)			COAHUILA					
Boquillas-Big Bend National Park	Brewster	Presidio	Boquillas del Carmen	Ocampo	-	-	**	
Amistad Dam	Val Verde	Del Rio	La Amistad	Acuña	-	1	-	
Del Rio	Val Verde	Del Rio	Acuña	Acuña	2	6	-	
Eagle Pass-Bridge I	Maverick	Eagle Pass	Piedras Negras	Piedras Negras	-	5	-	
Eagle Pass-Bridge II	Maverick	Eagle Pass	Piedras Negras 2	Piedras Negras	2	6	-	
			NUEVO LEÓN					
Laredo-Columbia Solidarity	Webb	Laredo	Columbia	Anáhuac	8	4	-	
			TAMAULIPAS					
Laredo-World Trade Bridge	Webb	Laredo	Nuevo Laredo	Nuevo Laredo	16	-	-	
Laredo-Bridge I	Webb	Laredo	Nuevo Laredo	Nuevo Laredo	-	4	9	
Laredo-Bridge II	Webb	Laredo	Nuevo Laredo	Nuevo Laredo	-	15	-	
Falcon Dam	Starr	Roma	Guerrero	Guerrero	-	1	-	
Roma	Starr	Roma	Miguel Alemán	Miguel Alemán	1	4	-	
Río Grande City	Starr	Rio Grande City	Camargo	Camargo	2	3	-	
Los Ebanos	Hidalgo	Hidalgo/Pharr	Díaz Ordaz	Gustavo Díaz Ordaz	-	***	-	
Anzulduas International Bridge	Hidalgo	Hidalgo/Pharr	Anzulduas	Reynosa	-	4	-	
Hidalgo	Hidalgo	Hidalgo/Pharr	Reynosa	Reynosa	-	12	5	
Pharr	Hidalgo	Hidalgo/Pharr	Reynosa	Reynosa	6	6	-	
Donna International Bridge	Hidalgo	Progreso	Río Bravo	Río Bravo	-	4	4	
Progreso International Bridge	Hidalgo	Progreso	Nuevo Progreso	Río Bravo	1	5	7	
Las Indios	Cameron	Brownsville	Lucio Blanco	Matamoros	4	4	-	
Brownsville-B&M	Cameron	Brownsville	Matamoros	Matamoros	-	4	-	
Brownsville-Gateway	Cameron	Brownsville	Matamoros	Matamoros	-	5	5	
Brownsville-Veterans	Cameron	Brownsville	Matamoros	Matamoros	4	4	-	

Note: the crossings are listed from west to east.

\* Maximum number of lanes: CV: commercial vehicles; PV: passenger vehicles; P: pedestrian.

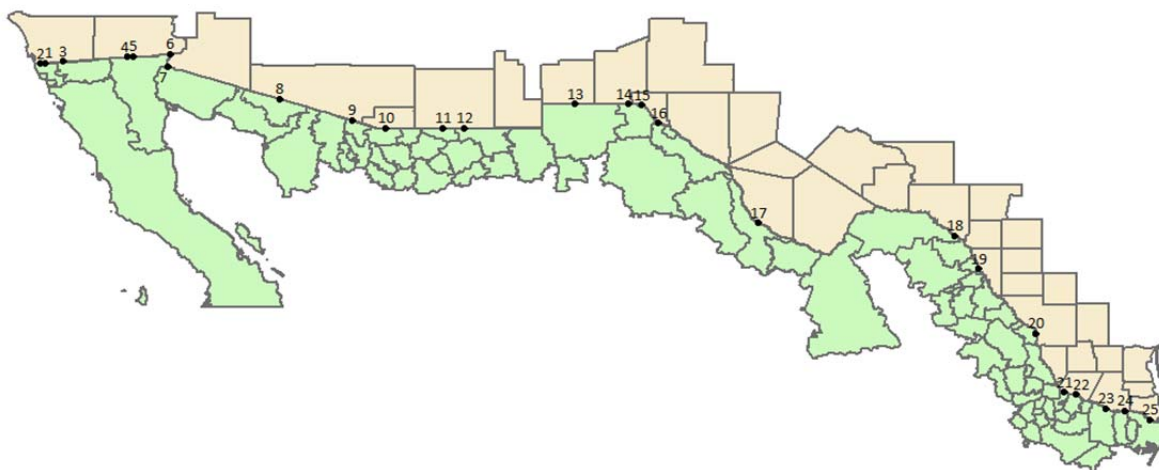
^ Single lane shared with passenger vehicles.

\*\* Re-opened in April 2013, limited to individuals crossing the river by foot, burro or rowboat; the crossing is unstaffed, with a video kiosk on the U.S. side and no services on the Mexican side.

\*\*\* Consists of a hand-drawn ferry.

Sources: U.S. Customs and Border Protection and Wikipedia.

**MAP 1**  
**UNITED STATES PORTS ALONG THE U.S.-MÉXICO BORDER**



- |                 |                 |                    |
|-----------------|-----------------|--------------------|
| 1 Otay Mesa     | 10 Nogales      | 18 Del Rio         |
| 2 San Ysidro    | 11 Naco         | 19 Eagle Pass      |
| 3 Tecate        | 12 Douglas      | 20 Laredo          |
| 4 Calexico      | 13 Columbus     | 21 Roma            |
| 5 Calexico East | 14 Santa Teresa | 22 Rio Grande City |
| 6 Andrade       | 15 El Paso      | 23 Hidalgo/Pharr   |
| 7 San Luis      | 16 Fabens       | 24 Progreso        |
| 8 Lukeville     | 17 Presidio     | 25 Brownsville     |
| 9 Sasabe        |                 |                    |

volume of traffic crossing the border (and the value of goods imported and exported) are available for these ports but not for the individual crossings.

The ports do not correspond to counties. Some counties have multiple ports. Three ports have border crossings in more than one county. In each of these three cases, the crossing in one of the two counties appears to be lightly used, so that the crossing data are allocated to the more active county in this report. Of the 37 U.S. counties in the border region, 22 share the international border. However, only 19 have one or more border crossings. Thus, crossing data are available for 16 sets of counties.

Similarly, there are six instances of neighboring municipios whose crossings are combined into one set of data. Of the 78 Mexican municipios in the border region, 37 share the international border, but only 27 have a border crossing. Thus, crossing data are available for 21 sets of municipios.

Annual data on the volume of traffic by port are available for 1995 through 2012, but the data are not complete until 1997.<sup>2</sup> Data are provided for a number of categories: trucks, loaded truck containers, empty truck containers, trains, loaded rail containers, empty rail containers, train passengers, buses, bus passengers, personal vehicles, personal vehicle passengers, and pedestrians. The counts are limited to those crossing into the United States from México.

#### **North American Transborder Freight Data**

The basis of the BTS transborder freight data is the same as the Census Bureau data, but the BTS provides more data online at no charge. Thus, the limitations of the BTS data are the same as those of the Census Bureau data. Data by state, particularly for imports, are known to be inaccurate.

The BTS provides data by port, but in some customs districts, some or all of the ports are aggregated rather than displayed individually. Each of the ports in the four customs districts located along the land border between the United States and México are shown, but data are not provided for many of the other ports within California and Texas (see Table 4).

Goods are categorized into one of nearly 100 commodity classifications. Commodity data are provided by either state of origin/destination or by port of entry/exit, but are not provided for a cross-tabulation of state and port because of confidentiality restrictions.

The mode of transportation is divided into eight categories: trucks, rail, air, vessel, pipeline, foreign trade zone (imports only), mail, and other. While the BTS provides trade data back to 1994, complete data are available only back to 2004. For example, data on freight transported by air or vessel are not available prior to 2004.

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<sup>2</sup> Typically, monthly data are released six months later. However, in April 2014, the latest data on border crossings were for April 2013.

**TABLE 4**  
**CUSTOMS DISTRICTS AND PORTS WITHIN THE FOUR BORDER STATES**  
**FOR WHICH IMPORT AND EXPORT DATA ARE REPORTED**  
**BY THE BUREAU OF TRANSPORTATION STATISTICS**

Code	<b>BORDER REGION</b>	Code	<b>BORDER REGION</b>
25	SAN DIEGO, CA	24	EL PASO, TX-NM
2501	San Diego	2402	El Paso*
2502	Andrade*	2403	Presidio*
2503	Calexico*	2404	Fabens*
2504	San Ysidro*	2406	Columbus*
2505	Tecate*	2407	Albuquerque
2506	Otay Mesa*	2408	Santa Teresa*
2507	Calexico East*	23	LAREDO, TX
26	NOGALES, AZ	2301	Brownsville*
2601	Douglas*	2302	Del Rio*
2602	Lukeville*	2303	Eagle Pass*
2603	Naco*	2304	Laredo*
2604	Nogales*	2305	Hidalgo, Pharr*
2605	Phoenix	2307	Rio Grande City*
2606	Sasabe*	2309	Progreso*
2608	San Luis*	2310	Roma*
2609	Tucson		
	<b>BALANCE OF BORDER STATES</b>		<b>BALANCE OF BORDER STATES</b>
27	LOS ANGELES, CA-NV	21	PORT ARTHUR, TX
2704	Los Angeles	53	HOUSTON-GALVESTON, TX
2720	Los Angeles International Airport	5301	Houston
27xx	Balance of Los Angeles District	53xx	Balance of Houston-Galveston District
28	SAN FRANCISCO, CA-NV	55	DALLAS/FORT WORTH, TX-OK
2801	San Francisco International Airport	5501	Dallas/Fort Worth Airport
28xx	Balance of San Francisco District	55xx	Balance of Dallas/Fort Worth District

\* Ports physically located at the international land border

Note: the customs districts have two-digit identification codes and are capitalized; ports have four-digit codes.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

### **Brookings Institution**

In November 2013, Brookings released the report “Metro North America: Cities and Metros as Hubs of Advanced Industries and Integrated Goods Trade” (<http://www.brookings.edu/research/interactives/2013/metro-north-america#>). The report is based on a database of estimated trade flows between each U.S. metro area and each metro area in Canada and México in 2010.

The Brookings database is conceptually different from the Census Bureau and BTS data. The Brookings methodology “attempts to estimate where goods are produced and where they are consumed.” The Brookings database of metro area trade consists of allocations of national trade data — which include information on origins, destinations, and border crossings — based on

production and consumption levels in metro areas and the distance of each metro area from the U.S. port of entry or exit. Conceptually, the estimates from Brookings avoid the limitations of the official data in assigning the state of origin and destination. However, the reasonableness of the estimates made by Brookings is unknown. Brookings states that “caution should be used in interpreting these estimates.”

In addition to questions regarding the accuracy of the metro estimates, the Brookings database is subject to other limitations. While the Brookings analysis included 43 two-digit categories within the Standard Classification of Transported Goods (SCTG), only 12 groupings of categories are reported by Brookings (see Table 5): nine for manufactured products, one for agricultural products, one for stones and ores, and one for energy products. Similarly, while 369 U.S. metro areas as well as the nonmetropolitan portion of each state were included in the analysis, Brookings has released estimates only for the top 100 U.S. metros, each of which had more than 500,000 residents in 2010.<sup>3</sup> Estimates are provided for just four of the 10 U.S. metro areas in the border region: El Paso, McAllen, San Diego, and Tucson. In the balance of the U.S. border states, estimates are available for 16 of 52 metros.

The Brookings analysis is substantially limited by using the 59 officially defined metro areas in México, which are designed more for administrative purposes than statistical purposes.<sup>4</sup> Sixteen of the metro areas had a population of less than 300,000 in 2010, while 12 municipios with a population of more than 300,000 are not among the defined metro areas. Several heavily populated municipios in the border states are not defined as a metro area, including Ensenada, Baja California (population of 466,814); Hermosillo, Sonora (784,342); Cajeme (Ciudad Obregon), Sonora (409,310); and Victoria, Tamaulipas (321,953). In particular, trade with Sonora is underrepresented in the Brookings database, since Guaymas (203,430) is the only

#### **TABLE 5 COMMODITY GROUPS REPORTED BY BROOKINGS**

Agricultural Products  
Stones and Ores  
Energy Products  
Chemicals and Plastics  
Wood Products  
Textiles and Furniture  
Metals  
Machinery and Tools  
Electronics  
Motor Vehicles and Parts  
Other Transportation Equipment including Aircraft  
Precision Instruments

Source: Brookings Institution, “Metro North America: Cities and Metros as Hubs of Advanced Industries and Integrated Goods Trade.”

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<sup>3</sup> Brookings used the metropolitan area definitions from 2009; a new set of definitions was created by the federal government in 2013 using 2010 census data.

<sup>4</sup> The criteria used to define metro areas in each country is described in Volume I of this series.

defined metro area in the state. Seven of the 59 metro areas in México are in the border region; another seven metro areas are located in the balance of the six border states (see Table 6).

### Secretaría de Economía

The Secretaría de Economía, Subsecretaría de Comercio Exterior, using data from the Banco de México, produces a time series at the national level on imports to, and exports from, México, available at <http://www.economia.gob.mx/comunidad-negocios/comercio-exterior/informacion-estadistica-y-arancelaria>. Data are available by trading partner (country) monthly since 1993. In addition, the top 50 products imported and the top 50 exported are listed for each country. The products are defined at a very detailed level using the Harmonized Schedule. The product data are reported annually, with history back only to 2008.

A longer time series, back to 1980, is available for total Mexican imports and exports (but not by trading partner) from the Instituto Nacional de Estadística y Geografía (INEGI). The figures from INEGI match those from the Secretaría de Economía. Trade data at a subnational level are not available for México.

**TABLE 6**  
**METROPOLITAN AREAS IN THE BORDER STATES**  
**INCLUDED IN THE BROOKINGS DATABASE**

U.S. Metros		Mexican Metros	
<b>Border Region</b>		<b>Border Region</b>	
San Diego	CA	Tijuana	BC
Tucson	AZ	Mexicali	BC
El Paso	TX	Juárez	CH
McAllen	TX	Piedras Negras	CO
<b>Balance of Border States</b>		Nuevo Laredo	TA
San Francisco-Oakland-Fremont	CA	Reynosa-Río Bravo	TA
San Jose-Sunnyvale-Santa Clara	CA	Matamoros	TA
Sacramento--Arden-Arcade--Roseville	CA	<b>Balance of Border States</b>	
Stockton	CA	Guaymas	SO
Modesto	CA	Chihuahua	CH
Fresno	CA	La Laguna (Torreón-Gomez Palacio)	CO-DU
Bakersfield	CA	Monclova-Frontera	CO
Oxnard-Thousand Oaks-Ventura	CA	Saltillo	CO
Los Angeles-Long Beach-Santa Ana	CA	Monterrey	NL
Riverside-San Bernardino-Ontario	CA	Tampico	TA-VE
Phoenix-Mesa-Scottsdale	AZ		
Albuquerque	NM		
San Antonio	TX		
Austin-Round Rock	TX		
Dallas-Fort Worth-Arlington	TX		
Houston-Baytown-Sugar Land	TX		

Note: the metropolitan areas are listed from west to east.

Source: Brookings Institution, "Metro North America: Cities and Metros as Hubs of Advanced Industries and Integrated Goods Trade."

## **BORDER CROSSING/ENTRY DATA**

The traffic crossing the U.S.-México land border, as reported by the U.S. Bureau of Transportation Statistics, is discussed in this section. The succeeding sections concentrate on commercial trade as measured by value of the goods transported.

For this analysis, pedestrians and passengers, regardless of mode of travel, are combined into one number. These individuals may be either Mexicans crossing the border for a number of reasons, such as employment or shopping, or returning Americans. The truck and rail traffic is an indicator of the commercial shipment of goods from México to the United States.

In 2012 (the latest year for which data are available), 5.1 million commercial trucks crossed into the United States from México through the 25 ports, carrying 3.5 million loaded containers and 1.6 million empty containers. Between 1997 (the first year of complete data) and 2012, the number of trucks crossing the border increased an average of 2.2 percent per year. However, the rate of increase has slowed, from 3.9 percent per year between 1997 and 2001 to 2.1 percent between 2001 and 2007 to 0.9 percent between 2007 and 2012.<sup>5</sup>

Nearly 9,000 trains entered the United from México in 2012, carrying 400,000 loaded rail containers and 428,000 empty containers. The number of trains crossing from México into the United States increased 1.0 percent per year between 1997 and 2012, though the rate of change was erratic, increasing between 2001 and 2007 but falling in the preceding and succeeding periods. The number of loaded rail containers crossing from México into the United States increased 6.5 percent per year between 1997 and 2012, though the rate of increase slowed considerably over time, to 1.8 percent per year between 2007 and 2012.

The number of individuals crossing the border into the United States was 159.1 million in 2012. Passenger and pedestrian traffic from México into the United States rose marginally between 1997 and 2001 but has since dropped at an increasing rate, by 3.2 percent per year between 2001 and 2007 and 6.1 percent per year between 2007 and 2012.

### **By Port**

Traffic counts for 2012 for each of the 25 U.S. ports of entry along the U.S.-México border are shown in Table 7. Eight ports accounted for a very high proportion of the commercial traffic crossing the border in 2012, including all of the rail traffic and 93 percent of the trucks; more than 100,000 trucks crossed at each of these eight ports. In addition, each of these eight ports ranked among the top 11 on the number of individuals crossing the border:

- **Laredo** had, by a wide margin, the highest volume in 2012 of both truck and rail crossings, measured by the number of trucks and trains and by the number of truck and train containers, both loaded and empty. More than one-third of the trucks that crossed the border did so in Laredo. Laredo ranked third on the number of individuals crossing the border. The Laredo port includes four nonrail border crossings, two of which are open to trucks. The percent changes in the number of crossings were close to the figures for the total border region. The increase in train traffic was above average, as was the gain in truck traffic between 2007 and 2012.

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<sup>5</sup> The years 2001 and 2007 were used to subdivide the time series because economic cycles peaked in those years.

**TABLE 7  
TRAFFIC AT UNITED STATES PORTS OF ENTRY ALONG THE MEXICAN BORDER, 2012**

<b>Port</b>	<b>Urban Area</b>	<b>Individuals</b>	<b>Number of Trucks</b>	<b>Loaded Truck Containers</b>	<b>Empty Truck Containers</b>	<b>Number of Trains</b>	<b>Loaded Rail Containers</b>	<b>Empty Rail Containers</b>
San Ysidro	San Diego	28,662,981	0	0	0	0	0	0
Otay Mesa	San Diego	12,667,495	778,929	544,173	237,162	215	0	3,913
Tecate	San Diego	2,217,293	43,245	24,671	18,614	0	0	0
Calexico	Calexico	11,867,269	0	0	0	0	0	0
Calexico East	Calexico	5,941,904	322,424	165,111	171,917	252	676	5,933
Andrade	Calexico	1,721,851	279	259	0	0	0	0
San Luis	Yuma	7,072,711	34,891	21,863	13,351	0	0	0
Lukeville	Tucson	623,066	22	0	0	0	0	0
Sasabe	Tucson	26,642	0	201	303	0	0	0
Nogales	Tucson	9,130,785	307,626	245,637	64,064	657	37,931	23,464
Naco	Douglas	566,648	3,728	1,622	2,542	0	0	0
Douglas	Douglas	3,829,000	31,636	17,419	11,836	0	0	0
Columbus	-	827,074	10,931	9,577	1,082	0	0	0
Santa Teresa	El Paso	1,008,121	80,744	45,567	23,146	0	0	0
El Paso	El Paso	22,434,805	724,964	399,393	335,625	1,392	33,310	60,779
Fabens	El Paso	679,888	0	0	0	0	0	0
Presidio	-	1,250,719	11,373	5,871	5,415	0	0	0
Del Rio	Del Rio	2,651,199	65,477	45,327	12,745	0	0	0
Eagle Pass	Eagle Pass	5,377,784	117,375	76,429	41,976	2,349	86,235	121,660
Laredo	Laredo	12,963,516	1,789,546	1,327,518	432,523	3,492	236,049	163,790
Roma	McAllen	1,554,077	7,139	4,522	2,560	0	0	0
Rio Grande City	McAllen	719,530	29,277	29,654	3,654	0	0	0
Hidalgo	McAllen	11,860,609	481,620	345,377	129,941	0	0	0
Progreso	McAllen	2,977,384	44,510	29,238	15,009	0	0	0
Brownsville	Brownsville	10,428,830	218,187	120,163	100,069	600	5,612	48,411
<b>TOTAL</b>		<b>159,061,181</b>	<b>5,103,923</b>	<b>3,459,592</b>	<b>1,623,534</b>	<b>8,957</b>	<b>399,813</b>	<b>427,950</b>

Note: The ports are listed from west to east.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the U.S. Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations.



- **Otay Mesa** (San Diego area) had the second-highest volume of truck and loaded truck container crossings, accounting for 15 percent of the trucks crossing the border from México in 2012. Of the seven ports with an active rail crossing, Otay Mesa had the least rail traffic. It ranked fourth on the number of individuals crossing the border. Its percent increase in truck traffic between 1997 and 2012 matched the figure for the entire border, but Otay Mesa experienced a decline in the number of train crossings. Though the number of individuals crossing the U.S.-México border decreased, the number using the Otay Mesa crossing increased, even in the 2007-to-2012 period. It was the only port with an increase during that period.
- **El Paso** had the third-highest volume of both truck and rail crossings in 2012, measured by the number of trucks and trains and by the number of loaded truck containers. El Paso ranked second on the number of individuals crossing the border. The El Paso port includes four nonrail border crossings, two open to trucks. The number of individuals crossing in El Paso decreased more than the figure for the entire border throughout the 1997-to-2012 period, but the gain in train crossings was above average. El Paso experienced a decline in the number of truck crossings between 2007 and 2012.
- **Hidalgo/Pharr** (McAllen area) had the fourth-highest volume of truck and loaded truck container crossings and ranked sixth on total passenger and pedestrian crossings in 2012. The Hidalgo/Pharr port consists of four nonrail border crossings, but one is a hand-drawn ferry and only one is open to trucks. It does not have a rail crossing. Following large increases in the number of truck crossings between 1997 and 2007, the number decreased slightly between 2007 and 2012. The decline in individual crossings was larger than average.
- **Calexico East** ranked fifth on the number of trucks (sixth on loaded containers and fourth on empty containers) and sixth on rail traffic in 2012. It had the 10th-highest number of passenger and pedestrian crossings. Following large increases in the number of truck crossings between 1997 and 2007, the number decreased slightly between 2007 and 2012. The number of train crossings increased at an average rate between 1997 and 2012. The number of individuals crossing the border did not drop as much as the border total.
- **Nogales** ranked sixth on the number of trucks (fifth on loaded containers and seventh on empty containers) and fourth on the number of trains (third on loaded containers and fifth on empty containers) in 2012. It had the eighth-highest number of passenger and pedestrian crossings. The Nogales port includes three nonrail border crossings, one open to trucks and one restricted to pedestrians. The percent change in commercial traffic from 1997 through 2012 was near the border average. After experiencing an increase in the number of individuals crossing the border between 1997 and 2007, a large decrease occurred between 2007 and 2012.
- **Brownsville** ranked seventh on truck traffic, fifth on rail traffic, and seventh on the number of individuals crossing the border in 2012. The Brownsville port includes four nonrail border crossings, two open to trucks. Between 1997 and 2012, a decreasing number of trucks crossed in Brownsville, with no change in the number of trains. The decrease in individuals crossing the border was larger than average.
- **Eagle Pass** ranked eighth on truck traffic, second on rail traffic, and 11th on passengers and pedestrians crossing the border in 2012. The Eagle Pass port includes two nonrail border crossings, one open to trucks. Between 1997 and 2012, Eagle Pass experienced

above-average increases in truck and train traffic. The decline in individuals crossing the border was near average.

Santa Teresa, in New Mexico near El Paso, ranked ninth on truck traffic in 2012. It experienced a very large increase in truck traffic after 2001, particularly after 2007. It only ranked 19th on the number individuals crossing the border in 2012 despite having the largest increase between 1997 and 2007. Del Rio ranked 10th on truck traffic in 2012. Two ports not open to commercial traffic were among the ports most heavily used by individuals: San Ysidro in San Diego County was the busiest and Calexico ranked fifth. Border traffic at most of the other ports was substantially lower.

### **By County**

The 25 ports can be aggregated into 16 sets of counties.<sup>6</sup> Webb County, Texas (Laredo) had the largest number of truck and train crossings in 2012. It ranked fifth on the number of individuals crossing the border. Its ranks were nearly as high on a per capita basis, including first on the number of truck crossings. On a per capita basis, Webb County was below average on the 1997-to-2012 percent increase in the number of crossings of trucks and individuals, and average for trains.

San Diego County, California had the second-highest number of trucks and the largest number of individuals crossing the border, but had the lowest volume of train traffic of the seven active rail lines in 2012. However, it ranked much lower on a per capita basis at 14th for both trucks and individuals. On a per capita basis, San Diego County had the lowest percent change in trains between 1997 and 2012. It ranked in the middle for trucks, and above-average for individuals.

El Paso and Hudspeth counties in Texas ranked third on the number of trucks and trains, and second on individuals, crossing the border in 2012. The ranks were lower on a per capita basis: seventh for trucks, fourth for trains, and 10th for individuals. On a per capita basis, the 1997-to-2012 percent change in trucks and individuals was below average, but the figure was above average for trains.

Hidalgo County, Texas (McAllen area) ranked fourth on the number of trucks and individuals crossing the border in 2012. However, it ranked lower on a per capita basis at eighth for trucks and 13th for individuals. On a per capita basis, Hidalgo County had an above average percent change in trucks, but a below-average figure for individuals between 1997 and 2012.

Imperial County, Texas (Calexico) ranked fifth on the number of trucks, sixth on the number of trains, and third on the number of individuals crossing the border in 2012. Its ranks were similar on a per capita basis. On a per capita basis, Imperial County was close to average on the percent change in trucks, trains, and individuals crossing the border between 1997 and 2012.

Santa Cruz County, Arizona (Nogales) ranked sixth on the number of trucks, fourth on the number of trains, and seventh on the number of individuals crossing the border in 2012. Its ranks were much higher on a per capita basis, at first on individuals and second on trucks and trains.

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<sup>6</sup> Though most ports have border crossings in only one county, two have crossings in two counties. In these cases, the populations of the two counties were combined to calculate the per capita figures.

On a per capita basis, Santa Cruz County was close to average on the percent change in trains and individuals, but below average in trucks, crossing the border between 1997 and 2012.

The counties along the border in New Mexico — Doña Ana and the combined area of Hidalgo and Luna counties — experienced large gains in the number of trucks crossing the border and also ranked high on individuals. However, the number crossing was still relatively few in 2012, though Doña Ana ranked ninth on trucks.

### By Urban Area

Twenty-three of the 25 ports are located in one of the 11 transnational urban areas along the border. The other two ports are Presidio, Texas (which includes the Boquillas crossing that opened in 2013) and Columbus, New Mexico (which includes the Antelope Wells crossing). As seen in Table 8, Laredo-Nuevo Laredo had the greatest number of truck crossings and rail crossings in 2012, while San Diego-Tijuana ranked first on the number of passenger and pedestrian crossings and second on trucks. The El Paso-Juárez, McAllen-Reynosa, and Calexico-Mexicali urban areas also ranked in the top five for both trucks and individuals.

Considering the population size of each area (including the residents of both sides of the border), the rail rankings did not change but the rankings for trucks and individuals changed considerably

**TABLE 8  
RANKING OF CROSS-BORDER TRAFFIC ENTERING THE UNITED STATES  
FROM MÉXICO BY URBAN AREA, 2012**

	Trucks	Number		Number Per 1,000 Residents <sup>^</sup>		
		Rail*	People**	Trucks	Rail*	People**
Laredo-Nuevo Laredo	1	1	5	1	1	3
San Diego-Tijuana	2	-	1	10	-	12
El Paso-Juárez	3	4	2	5	4	11
McAllen-Reynosa	4	-	4	3	-	9
Calexico-Mexicali	5	6	3	7	6	6
Tucson-Nogales	6	3	7	8	3	13
Brownsville-Matamoros	7	5	6	9	5	8
Eagle Pass-Piedras Negras	8	2	9	2	2	2
Del Río-Acuña	9	-	11	4	-	7
Douglas-Agua Prieta	10	-	10	11	-	4
Yuma-San Luis Río Colorado	11	-	8	13	-	5

<sup>^</sup> Combined United States and México population

\* As measured by loaded rail containers

\*\* Total number of passengers and pedestrians

Note: The areas are listed by the number of truck crossings.

Source: Traffic volumes from U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the U.S. Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations. Population from Instituto Nacional de Estadística y Geografía and U.S. Department of Commerce, Census Bureau (2010 decennial censuses).

in most of the areas. On a per capita basis, Laredo-Nuevo Laredo stayed at the top on truck traffic but each of the other highly populous areas, especially San Diego-Tijuana, fell considerably in the rankings, while the less populous areas, particularly Eagle Pass-Piedras Negras, rose. On a per capita basis urban areas in Texas occupied the top five positions for trucks, four of the top five for rail, and the top two for individuals.

## UNITED STATES INTERNATIONAL TRADE

This section uses Census Bureau data to examine trade flows at the national, state, customs district, and port levels of the United States. Nationally, the value of trade is available for services and for goods. For the other geographies, the data are limited to goods, with some detail available on the type of good traded. Trade with México is examined when available.

### Nation

Since 1960 (the beginning of an annual time series of imports and exports available from the Census Bureau), substantial increases have occurred in the value of U.S. trade, even after adjusting for inflation and population growth. The real per capita value of imports and exports rise in most years; declines commonly occur during economic recessions and rarely at other times. Percentage increases in real per capita imports and exports were especially large during the 1960s and 1970s.

From 1960 through 1970, exports exceeded imports in each year; the United States had a trade surplus. Imports have exceeded exports in each year since 1976, with the magnitude of the trade deficit increasing over time. The trade deficit rises during economic expansions and temporarily falls, sometimes substantially, during recessions as the value of imports drops more than the value of exports during recessions.

In 2013, total exports were \$2.27 trillion, or \$7,188 per person. Total imports were \$2.74 trillion, or \$8,680 per person. The result was a trade deficit of \$472 billion, or \$1,492 per capita.

### Services

In 2013, services accounted for 30 percent of the value of total exports, or \$682 billion (\$2,157 per capita). Since 1991, the services share of exports has been between 27-and-32 percent, not substantially higher than the 24-to-27 percent shares in the 1960-to-1972 period, but considerably higher than the 18-to-23 percent shares from 1973 through 1982. In contrast, services accounted for only 16 percent of total imports in 2013, or \$450 billion (\$1,425 per person). The services share of imports has not changed much since the mid-1970s, after dropping by half between 1961 and 1974.

The balance of trade in services was negative from 1960 through 1970, but has been positive since then. The magnitude of the surplus of real per capita trade in services has increased over time, setting a record value of \$733 per U.S. resident in 2013 (a total surplus of \$232 billion).

Services are divided into seven categories by the Census Bureau: travel, passenger fares, other transportation, royalties and license fees, other private services, defense related<sup>7</sup>, and U.S. government miscellaneous services. The other private services category accounts for about 45 percent of both imports and exports. The trade surplus is disproportionately large in the royalties and license fees category; a trade deficit occurs in the other transportation, defense related, and U.S. government miscellaneous services categories.

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<sup>7</sup> For imports, the category is titled "direct defense expenditures." For exports, the category is "transfers under U.S. military sales contracts."

## **Goods**

Merchandise imports to the United States were valued at \$2.29 trillion in 2013 (\$7,255 per person). With the value of exports just \$1.59 trillion (\$5,031 per capita), the merchandise trade deficit was \$703 billion (\$2,224 per person).

Contrary to the trade of services, the U.S. trade balance for goods was positive from 1960 through 1970, but has been negative in each year since 1976. The trade balance fluctuates with the economic cycle. On a real per capita basis expressed in 2013 dollars, the trade deficit in goods increased sharply to \$1,171 in 1987, then fell considerably to \$469 in 1991. It again increased sharply to \$2,062 in 2000 and did not diminish much in the 2001 recession. Another surge pushed the deficit to \$3,160 in 2006. The 2009 deficit was much lower at \$1,774, reflecting the severity of the last recession. The magnitude increased in 2010 and 2011, but fell a little in 2012 and 2013.

The end-use classification of traded products uses a different classification scheme for imports than for exports; there are 142 import categories and 140 export categories. Thus, it is not possible to calculate the trade balance for all products.

Crude oil was by far the highest-valued import to the United States in 2013 at \$272 billion, accounting for 12.0 percent of all imports. In 2003, its share had been only 7.9 percent. Imports of all petroleum products totaled \$369 billion, 16.4 percent of all imports, up from a share of 10.6 percent in 2003. In 2013, passenger vehicles ranked second and passenger vehicle parts ranked third among the import categories. Combining all of the automotive categories, imports totaled \$309 billion, 13.6 percent of total imports, but this share was down 3.1 percentage points from 2003.

The highest-valued export in 2013 was civilian aircraft, with its \$106 billion value accounting for 6.7 percent of the total export value. The next two-largest export categories were fuel oil and miscellaneous petroleum products, followed by two automotive categories. Combining the petroleum categories, exports totaled \$137 billion (8.7 percent of the total, compared to just 1.8 percent in 2003). The trade deficit in petroleum products was \$232 billion. Combining the automotive categories, exports totaled \$152 billion (9.6 percent of the total, a decrease from 2003). The trade deficit in automotive products was \$157 billion. In contrast, civilian aircraft accounted for a surplus of \$59 billion.

The advanced technology products classification includes about 500 of the 22,000 commodities. Though including only 2.3 percent of the commodities, the advanced technology classification accounted for 17.7 percent of the total import value, and 20.2 percent of the total export value, in 2013. The import share was slightly higher than the share that prevailed from 2002 (the first year of data) through 2008, while the export share was down 4-to-5 percentage points from the 2002-to-2007 period.

The advanced technology classification is divided into 10 categories. One of these, information and communications, accounted for 56 percent of the classification's total imports in 2013. Aerospace was a distant second at 11 percent of the imports. As a share of the total exports of

advanced technology products, aerospace led with 36 percent in 2013, followed by information and communications at 29 percent and electronics with 13 percent.

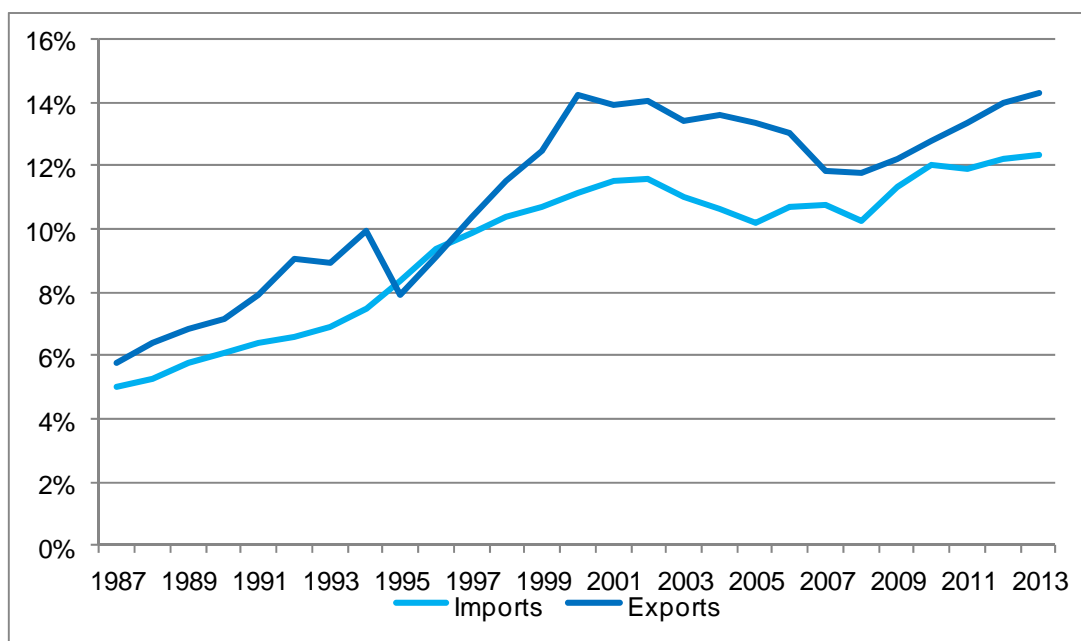
The overall advanced technology trade deficit was \$81 billion in 2013; the magnitude of the deficit increased substantially from 2006 through 2011 but narrowed in 2012 and 2013. The deficit in the information and communications category was \$131 billion; deficits were \$18 billion in the opto-electronics category and \$11 billion in life sciences. In contrast, aerospace had a trade surplus of \$71 billion (larger than in previous years) and electronics had a surplus of \$5 billion, but the latter figure was the lowest of the 12-year period.

### U.S. Merchandise Trade With México

In 2013, the value of goods imported from México was \$280.5 billion. U.S. exports to México totaled \$226.2 billion, leaving a trade deficit of \$54.3 billion.

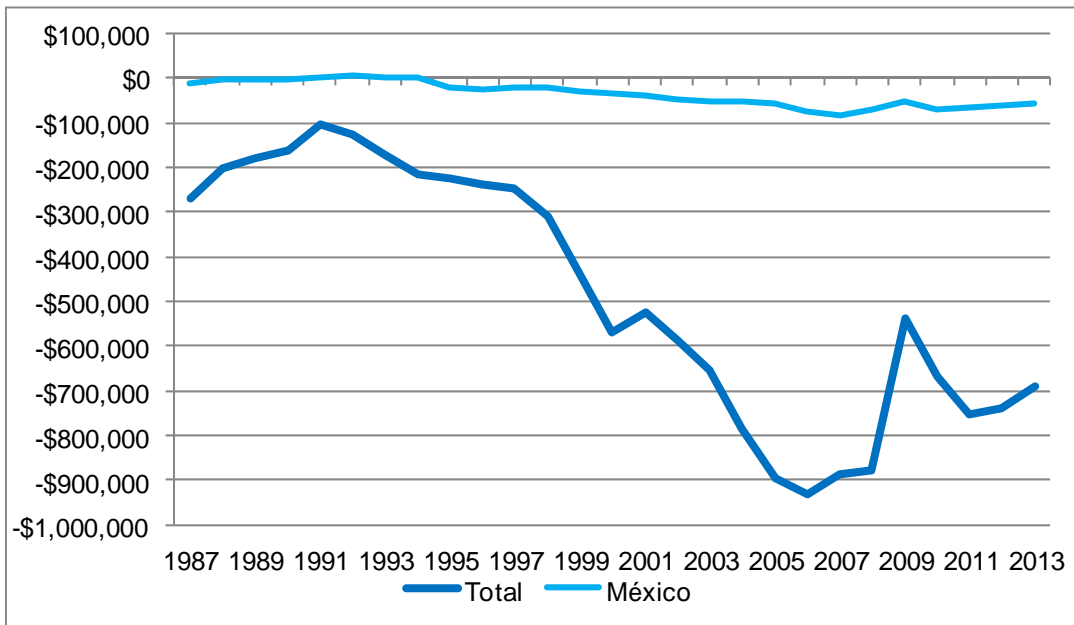
México has accounted for an increasing share of the international trade of the United States. The increase in share began years before the implementation of NAFTA at the beginning of 1994. In 1987, only 5.0 percent of U.S. merchandise imports came from México. The share steadily increased to 11.6 percent in 2002. After dropping back a bit in the mid-2000s, the share again began to increase; it reached 12.4 percent in 2013. A similar pattern is seen in exports from the United States to México (see Chart 1). México accounted for 14.3 percent of U.S. exports of goods in 2013. The trade balance with México has been negative except during the early 1990s (see Chart 2). However, the deficit in 2013 accounted for only 8 percent of the total U.S. deficit with all nations.

**CHART 1**  
**MEXICO'S SHARE OF UNITED STATES IMPORTS AND EXPORTS OF GOODS, 1987 TO 2013**



Source: U.S. Department of Commerce, Census Bureau.

**CHART 2**  
**UNITED STATES MERCHANDISE TRADE BALANCE, 1987 TO 2013**  
**Value in Millions of 2013 Dollars**



Source: U.S. Department of Commerce, Census Bureau.

In 2013, México ranked third in the value of goods imported by the United States — behind the \$440 billion imported from China and \$332 billion from Canada. These three countries accounted for 46 percent of U.S. imports. Japan ranked fourth at \$139 billion.

México ranked second on the value of goods exported from the United States, only behind Canada’s \$300 billion. China ranked third at \$122 billion, followed by Japan at \$65 billion.

Looking at products by end use, passenger vehicles parts was the highest-valued import from México in 2013, accounting for 12 percent of all imports from México. Two other categories relating to passenger vehicles along with crude oil ranked in the top four. The leading exports from the United States to México were varied, as shown in Table 9, with the largest category accounting for less than 9 percent of the total.

Table 10 lists the end products for which trade with México makes up a large share of the total U.S. trade. Some of the shares changed considerably between 2003 and 2013. México accounted for sharply increasing shares of total U.S. imports in the end products of cane and beet sugar; fruits and preparations; nonmonetary gold; other precious metals; copper; passenger vehicles assembled; passenger vehicle engines; TV receivers and other video equipment; records, tapes and disks; textile machines; and passenger and cargo vessels. The only category with a comparably large decline in share is photographic and optical equipment.

México accounted for sharply increasing shares of total U.S. exports in the end products of bakery products; railway equipment; passenger vehicle engines; passenger vehicle parts; computer accessories; audio and video tapes; hair and waste materials; and copper.



**TABLE 9**  
**UNITED STATES-MEXICO INTERNATIONAL TRADE IN 2013,**  
**LEADING PRODUCTS BY END-USE CLASSIFICATION**  
**Value in Billions**

<b>Imports From México</b>		<b>Exports to México</b>	
TOTAL	\$280.5	TOTAL	\$226.2
Passenger Vehicle Parts	34.7	Passenger Vehicle Parts	19.0
Crude Oil	31.8	Other Petroleum Products	14.8
Passenger Vehicles, Assembled	21.6	Electric Apparatus	13.5
Passenger Vehicles, New & Used	19.8	Computer Accessories	13.4
TV Receivers & Other Video	13.5	Plastic Materials	7.9
Computers	12.6	Other Industrial Supplies	7.3
Electric Apparatus	11.1	Semiconductors	6.8
Telecommunications Equipment	10.9	Minimum Value Shipments	6.6
Passenger Vehicle Bodies	8.9	Telecommunications Equipment	6.5
Other Scientific & Medical Equipment	5.8	Other Industrial Machinery	6.3
Other Household Goods	5.7	Passenger Vehicle Engines	6.2
Other Industrial Machinery	5.7	Fuel Oil	6.2
Household & Kitchen Appliances	5.7	Finished Metal Shapes	6.1
Vegetables & Preparations	5.3	Organic Chemicals	5.0
Re-imports	5.1	Chemicals, Other	3.9

Source: U.S. Department of Commerce, Census Bureau.

**TABLE 10**  
**UNITED STATES-MEXICO INTERNATIONAL TRADE IN 2013,**  
**END-USE CLASSIFICATIONS IN WHICH MÉXICO**  
**IS A HIGH PROPORTION OF THE U.S. TOTAL**

<b>Imports From México</b>		<b>Exports to México</b>	
TOTAL	12%	TOTAL	14%
Passenger Vehicles, Assembled	85	Sorghum, Barley, Oats	44
Cane & Beet Sugar	69	Computer Accessories	43
Vegetables & Preparations	50	TVs, VCRs	39
TV Receivers & Other Video	47	Finished Textile Supplies	38
Passenger Vehicle Parts	38	Passenger Vehicle Engines	38
Passenger Vehicle Engines	34	Natural Gas	36
Records, Tapes, Disks	33	Vehicle Parts & Accessories	35
Fruits & Preparations	30	Electric Apparatus	34
Other Precious Metals	25	Iron & Steel Mill Products	32
Household & Kitchen Appliances	24	Automotive Tires	31
Electric Apparatus	24	Finished Metal Shapes	30
Nonmonetary Gold	24	Other Industrial Supplies	30
Generators & Transformers	23	Tapes, Audio & Visual	29
Other Materials	23	Copper	27
Passenger & Cargo Vessels	21	Alumina	27

Source: U.S. Department of Commerce, Census Bureau.

Trade in 2013 between México and the United States in advanced technology products is shown in Table 11. The United States experienced an advanced technology trade deficit with México, with much of the deficit in the opto-electronics category. A large deficit also was present in the information and communication category, which dominated the trade flows in both directions. In contrast, the United States had a trade surplus in the electronics and aerospace categories.

The advanced technology classification in 2013 accounted for 17 percent of the U.S. imports from México, slightly less than the classification's share of all U.S. imports. However, the advanced technology share of imports from México increased 5 percentage points between 2002 and 2013, while its share of total U.S. imports hardly increased.

Only 16 percent of U.S. exports to México in 2013 were in the advanced technology classification, compared to 20 percent of all U.S. exports. However, the advanced technology share of exports to México was higher than its 13 percent share in 2002, while its share of all U.S. exports was down from 26 percent in 2002.

In 2013, México accounted for 11.9 percent of total U.S. imports of advanced technology products, up from 8.3 percent in 2002 but down from 13.8 percent in 2010. México was responsible for 49 percent of total U.S. imports of opto-electronics. México received 11.1 percent of all U.S. exports of advanced technology products in 2013, up from 7 percent in 2002. Of U.S. exports of information and communication products, 24 percent went to México.

## States

### Imports

Nationally, 81 percent of the merchandise imported into the United States in 2013 consisted of manufactured products. Across the four border states, this share ranged from 68 percent in Texas to 87 percent in California. Imports to the four border states in 2013 are summarized in Table 12.

**TABLE 11**  
**UNITED STATES-MEXICO INTERNATIONAL TRADE IN 2013,**  
**ADVANCED TECHNOLOGY PRODUCTS**  
**Value in Millions**

	Imports From México	Exports to México	Net
TOTAL	\$47,815	\$35,612	\$-12,203
Information & Communication	29,226	21,858	-7,638
Electronics	1,121	6,827	5,706
Aerospace	1,524	3,487	1,963
Life Sciences	3,533	1,092	-2,441
Flexible Manufacturing	670	1,007	337
Opto-Electronics	11,269	561	-10,708
Biotech	47	470	423
Advanced Materials	349	223	-126
Nuclear Technology	0	77	77
Weapons	77	10	-67

Source: U.S. Department of Commerce, Census Bureau.

**TABLE 12**  
**UNITED STATES MERCHANDISE IMPORTS IN 2013 BY BORDER STATE**

	Value in Billions			Per Capita Value		
	Total	Manu- factured	Not Manu- factured	Total	Manu- factured	Not Manu- factured
United States	\$2,253.4	\$1,829.2	\$424.2	\$7,128	\$5,786	\$1,342
Arizona	19.0	14.8	4.2	2,866	2,231	635
California	380.9	329.9	51.0	9,937	8,607	1,330
New Mexico	2.1	1.8	0.3	968	843	126
Texas	311.6	212.1	99.5	11,782	8,019	3,764
Four Border States	713.5	558.5	155.0	9,709	7,600	2,109
Balance of Nation	1,539.9	1,270.7	269.2	6,346	5,237	1,109

Source: U.S. Department of Commerce, Census Bureau.

The per capita values were far higher in California and Texas than in Arizona and New Mexico. The very wide range in the per capita values suggests that much of the differential is due to the shortcomings of the import data discussed earlier, which should result in populous states being disproportionately designated as the destination for imports.

The time series for imports by state runs only from 2008 to 2013. Nationally and in each of the border states, the real per capita value of imports fell significantly in 2009 but rebounded in 2010. A further gain occurred nationally in 2011 followed by little change in 2012 and a small decrease in 2013, but the changes in these years were variable in the border states. Between 2008 and 2013, the real per capita value of imports dropped 3 percent nationally, as an increase in manufactured goods was offset by a substantial decline in nonmanufactured goods. The value increased 11 percent in Arizona but fell in each of the other border states, including a 21 percent drop in New Mexico.

### Exports

Nationally, 76 percent of the merchandise exported from the United States in 2013 consisted of manufactured products. The nonmanufactured share was 10 percent and re-exports accounted for 13 percent. In Arizona and California, the manufactured shares were 65 percent or less, with higher than national shares in nonmanufactured goods and especially in re-exports. In contrast, manufactured shares in New Mexico and Texas were a little higher than the national figure, with lower figures in nonmanufactured goods.

Exports from the four border states in 2013 are summarized in Table 13. In addition to controlling for size differences using population, the export values can be adjusted by employment levels — by manufacturing employment for the manufactured goods and re-exports categories, by the sum of agricultural and mining employment for the nonmanufacturing category, and by the sum of agriculture, mining, and manufacturing for the total.

**Exports Per Capita.** Per capita exports from Texas were more than twice as high as the national average and the figure in each of the other border states in 2013. The differential was particularly large in the manufactured goods and re-exports categories. It is unclear how much of the differential results from data shortcomings.

**TABLE 13**  
**UNITED STATES MERCHANDISE EXPORTS BY BORDER STATE**

	Total	Manu- factured	Not Manu- factured	Re-exports
<b>Value in Billions in 2013</b>				
United States	\$1,550.8	\$1,182.6	\$161.5	\$206.8
Arizona	19.4	11.7	3.5	4.2
California	168.1	109.2	21.6	37.3
New Mexico	2.7	2.2	0.1	0.4
Texas	279.7	216.7	18.0	45.0
Four Border States	469.9	339.8	43.3	86.8
Balance of Nation	1,080.9	842.7	118.2	120.0
<b>Per Capita Value in 2013</b>				
United States	4,906	3,741	511	654
Arizona	2,927	1,768	531	628
California	4,386	2,850	564	972
New Mexico	1,304	1,035	65	203
Texas	10,575	8,194	681	1,701
Four Border States	6,394	4,624	589	1,182
Balance of Nation	4,455	3,473	487	494
<b>Per Employee Value in 2012, Expressed in 2013 Dollars</b>				
United States	88,579	93,723	34,319	15,573
Arizona	81,538	69,950	49,582	23,293
California	89,019	78,967	40,858	28,041
New Mexico	30,285	69,331	1,939	11,560
Texas	160,973	230,098	18,649	44,885
Four Border States	118,358	134,958	27,374	33,805
Balance of Nation	80,134	83,641	37,089	11,115

Source: U.S. Department of Commerce, Census Bureau.

Nationally and in each of the border states, the real per capita value of exports fell significantly in 2009 but rebounded in 2010. A further gain occurred nationally in 2011 followed by little change in 2012 and 2013. The annual percent changes in the border states as a whole were similar to those in the balance of the nation. By state, the decline during 2009 was very large in Arizona and New Mexico. Large gains followed in New Mexico but not in Arizona. Between 2008 and 2013, the real per capita value of exports rose 7 percent nationally, as a large increase in re-exports was offset by a substantial decline in nonmanufactured goods. Over the five years, total exports rose 25 percent in Texas, changed little in California, and fell 18 percent in Arizona and 12 percent in New Mexico.

The exports by state data go back to 1995, except for the re-imports category that begins in 1996. The real per capita change in U.S. exports between 2004 and 2013 — similar points in two economic cycles — was 47 percent. The increase was greatest in the re-exports category at 79 percent. The gain was 48 percent in the nonmanufactured goods category and 42 percent for manufactured products. The four border states as a whole had a somewhat smaller increase than the balance of the nation overall, with lesser gains for manufactured goods and re-exports.

Very large differences in real per capita growth rates occurred across the four border states during the 2004-to-2013 period. Real per capita export values increased 69 percent in Texas, 19

percent in California, 3 percent in Arizona, and 2 percent in New Mexico. Texas had the largest gain among the four states in manufactured goods and re-exports, and ranked second to Arizona among nonmanufactured goods. Exports of manufactured goods from Arizona and New Mexico dropped.

**Exports Per Employee.** Total employment figures are not yet available for 2013. In 2012, per employee exports from Texas were considerably higher than the national average and the figure in each of the other border states. The differential was wide in the manufactured goods and re-exports categories.

The real per employee change in U.S. exports between 2003 and 2012 (again, comparable years in the economic cycle) was 93 percent. The increase was greatest in the re-exports category at 163 percent. The gain was 67 percent in the nonmanufactured goods category and 98 percent for manufactured products. The four border states as a whole had a smaller increase than the balance of the nation overall and in the manufactured goods and re-exports categories, but had a larger increase in the nonmanufactured goods category.

Very large differences in real per employee growth rates occurred across the four border states during the 2003-to-2012 period. Real per employee export values increased 98 percent in Texas and 66 percent in California. The gain was only 18 percent in Arizona; New Mexico had a loss of 6 percent. Texas had the largest gain among the four states in manufactured goods, but ranked third in the two other categories. The weak overall growth in Arizona and New Mexico occurred despite the largest increase among the border states in nonmanufactured goods in Arizona and the largest gain in re-exports in New Mexico. Exports of manufactured goods from Arizona dropped and rose only modestly from New Mexico.

### **Top 25 Trading Partners**

In 2013, México was responsible for the highest value of imports to Arizona (accounting for 37 percent of the state's total) and to Texas (30 percent) of any country. In New Mexico, México ranked second to China and was responsible for 21 percent of all imports. In California, México ranked third behind China and Japan and accounted for only 10 percent of the total.

Summing the imports of the four border states, China was the largest source, with 25 percent of the total. México ranked second with 19 percent. The volume was considerably lower from each of the other countries; Japan ranked third at 7 percent and Canada ranked fourth at 6 percent. Other nations in the top 10 were Saudi Arabia, South Korea, Germany, Venezuela, Malaysia, and Taiwan.

In terms of exports from the border states in 2013, México was the largest trading partner for each of the border states. Its share was between 30-and-37 percent except in California (14 percent).

Summing the exports of the four border states, México was by far the major destination, with 29 percent of the total. Canada ranked second with 10 percent. Other leading countries were China, Japan, South Korea, the Netherlands, Brazil, Taiwan, and Singapore.

## **Top 25 Products**

The leading products imported and exported in 2013 varied considerably across the four border states. Only a few products were among the top 25 in each of the four states. By far, the top import by the four border states taken as a whole was crude oil, accounting for 17 percent of total import value in 2013. Passenger motor vehicles with an engine size of 1,500 to 3,000 cubic centimeters ranked second, accounting for 5 percent of the total. Other leading imports were telephones for wireless networks, fuel oil, portable digital automated data processing machines, machines for transmission of voice and data, and passenger motor vehicles with an engine size of more than 3,000 cubic centimeters.

Fuel oil was the leading export from the four border states, accounting for 8.7 percent of the total. Light petroleum oils ranked second with 5 percent of the total. Other leading exports included civilian aircraft, automated data processing machine parts, machines for transmission of voice and data, and processors and controllers for electronic integrated circuits.

## **Customs Districts**

Nine customs districts are located in the four border states, four of which cover the border region: San Diego, Nogales, El Paso, and Laredo. The value of imports and exports in 2013 through these customs districts by mode of transportation are displayed in Table 14.

Thirty-nine percent of the value of goods imported to the United States in 2013 passed through a customs district in the four border states. The Los Angeles district alone was responsible for 17 percent of the national total. Eleven percent of the nation's imports passed through the four customs districts located along the México border. In terms of exports, the value passing through Los Angeles was much lower; it ranked second to Houston-Galveston among the districts in the border states. Thus, the border states share of the nation's exports was lower at 34 percent. However, 12 percent of the exports passed through the four districts in the border region.

Nationally, 51 percent of the import value arrived via vessel, 22 percent by air, and 27 percent by other means. The mode of transportation for exports was more balanced, with 38 percent by vessel, 28 percent by air, and 35 percent by other means.

The nine districts in the border states accounted for 46 percent of the national imports transported by vessel, 22 percent by air, and 40 percent by other means. The export shares of the nine districts were 40 percent by vessel, 24 percent by air, and 34 percent by other means.

The predominant mode of transportation varied widely by customs district. Vessel traffic was predominant in Houston-Galveston, while means other than ship or air was dominant in the four districts in the border region.

Between 2004 and 2013, the national value of imports rose 26 percent after adjusting for inflation. The increase in the border states (32 percent) exceeded that of the balance of the nation (22 percent) and the gain in the border region (47 percent) was greater than in the balance of the border states (26 percent). By customs district, the real value of imports rose 75 percent in Dallas-Fort Worth but only 1 percent in San Francisco. Los Angeles and San Diego also had relatively small increases.

**TABLE 14**  
**UNITED STATES MERCHANDISE IMPORTS AND EXPORTS IN 2013**  
**BY CUSTOMS DISTRICT IN THE BORDER STATES**  
**Value in Billions, Listed From West to East**

	Total	Mode of Transportation		
		Vessel	Air	Other
<b>IMPORTS</b>				
United States	\$2,267.6	\$1,148.3	\$509.4	\$609.8
San Francisco	70.6	47.3	23.2	0.1
Los Angeles	376.1	328.3	46.2	1.6
San Diego*	39.2	6.9	0.2	32.1
Nogales*	20.7	0.0	0.5	20.1
El Paso*	48.8	0.0	0.4	48.4
Laredo*	138.6	0.4	0.1	138.2
Dallas-Fort Worth	37.1	0.0	32.7	4.5
Houston-Galveston	118.0	110.2	7.6	0.2
Port Arthur	36.5	36.5	0.0	0.0
<b>EXPORTS</b>				
United States	1,578.9	597.7	430.9	550.2
San Francisco	54.2	25.0	29.1	0.1
Los Angeles	127.0	81.4	42.4	3.1
San Diego*	20.6	0.1	0.8	19.7
Nogales*	13.9	0.0	1.1	12.8
El Paso*	39.7	0.0	0.1	39.6
Laredo*	112.4	0.2	0.6	111.7
Dallas-Fort Worth	18.8	0.0	18.3	0.5
Houston-Galveston	129.1	119.5	9.5	0.1
Port Arthur	14.6	14.6	0.0	0.0

\* Located in the border region

Source: U.S. Department of Commerce, Census Bureau.

Nationally, the value of imports arriving by vessel increased an inflation-adjusted 29 percent from 2004 to 2013. The value arriving by air rose 26 percent while the value arriving by other means was up 20 percent. Among districts in the border states with more than a modest volume of traffic, Port Arthur had the largest percentage gain among vessels and Houston-Galveston had the greatest increase in air traffic. The increase by other means was greatest in Dallas-Fort Worth.

The national value of exports rose 57 percent between 2004 and 2013 after adjusting for inflation. The increase in the border states was 65 percent, higher than in the balance of the nation (54 percent). The gain in the border region (59 percent) was a little less than in the balance of the border states (68 percent). By customs district, the real value of exports soared by more than 165 percent in Port Arthur and Houston-Galveston but fell slightly in Dallas-Fort Worth. Nogales ranked third, with an increase of 90 percent.

The value of exports leaving the United States by vessel soared 108 percent from 2004 to 2013, after adjusting for inflation. The gains were 30 percent by air and 43 percent by other means. Among districts in the border states with more than a modest volume of traffic, Port Arthur had

the largest percentage gain among vessels at 486 percent, followed by Houston-Galveston. The latter had the largest gain in value by air at 75 percent. The increase by other means was greatest in Nogales at 86 percent.

### **Ports**

Ninety-nine ports are designated within the four border states, but many of these had little or no import and/or export activity in 2013. The top 25 on combined value of imports and exports are listed in Table 15. In all of the leading ports, one mode of transportation dominates, but the mode varies from port to port.

The Los Angeles area (including the ports of Los Angeles, Los Angeles International Airport, Long Beach, and El Segundo) was by far the major import area in the four border states in 2013 and also ranked first on exports. Laredo ranked second on imports and third on exports. The Houston area (Houston and Houston Intercontinental Airport) ranked second on exports and third on imports. The San Francisco area (including the ports of San Francisco, San Francisco International Airport, Oakland, and Richmond) ranked fourth on both imports and exports.

The import and export value of all ports in the border region are shown in Table 16. Laredo was the dominant port along the U.S.-México border, accounting for 39 percent of the import value, and 45 percent of the export value, of the border region in 2013. El Paso had the second-greatest value, with border region shares of 15 percent for imports and 16 percent for exports. Otay Mesa ranked third, accounting for 10 percent of imports and 7 percent of exports. The ports of Nogales and Hidalgo each accounted for about 7 percent of imports and between 5-and-6 percent of exports.

Ports in the border region of Texas accounted for 71 percent of the import value of the entire border region; the export share was 77 percent. In contrast, on a statewide basis, Texas ranked second to California on import value; it was first on export value.

Within the border region, 97 percent of the imports and 99 percent of the exports traveled by “other” modes of transportation. In the four border states as a whole, the “other” modes ranked behind vessels, accounting for 27 percent of the imports and 35 percent of the exports.



**TABLE 15**  
**UNITED STATES MERCHANDISE IMPORTS AND EXPORTS IN 2013:**  
**TOP 25 PORTS IN THE BORDER STATES**  
**Value in Millions, Ranked by Total Value of Imports and Exports**

	Total	Port of Unlading			Total	Port of Export		
		Vessel	Air	Other		Vessel	Air	Other
Los Angeles, CA	\$245,165	\$244,509	\$ 35	\$ 621	\$40,946	\$40,933	\$ 0	\$ 13
Laredo, TX*	97,070	0	52	97,018	83,035	0	281	82,753
Houston, TX	74,365	74,288	6	72	94,077	94,0580	0	26
Long Beach, CA	69,756	69,750	3	3	39,562	39,553	0	9
Los Angeles International Airport, CA	46,667	0	45,788	879	44,958	0	41,801	3,157
El Paso, TX*	37,640	0	372	37,268	30,597	0	83	30,514
Dallas-Fort Worth, TX	33,788	0	32,591	1,197	17,566	0	17,409	157
San Francisco International Airport, CA	23,026	0	22,966	60	28,141	0	28,068	73
Oakland, CA	27,472	27,461	11	0	20,169	19,911	253	5
Port Arthur, TX	28,997	28,997	0	0	8,190	8,190	0	0
Otay Mesa, CA*	23,934	0	2	23,932	13,129	0	30	13,099
Hidalgo, TX*	17,621	0	1	17,621	10,820	0	15	10,804
Nogales, AZ*	17,818	0	0	17,818	10,290	0	2	10,288
Corpus Christi, TX	14,648	14,628	0	19	10,501	10,501	0	0
Eagle Pass, TX*	14,409	0	0	14,409	7,108	0	0	7,108
Texas City, TX	10,060	10,059	0	0	9,701	9,700	1	0
Santa Teresa, NM*	11,001	0	0	11,001	8,672	0	0	8,672
Houston Intercontinental Airport, TX	7,632	0	7,608	25	9,608	0	9,525	84
Brownsville, TX*	6,589	400	0	6,168	9,237	197	268	8,773
Beaumont, TX	7,476	7,476	0	0	6,366	6,365	1	0
Calexico East, CA*	7,747	0	0	7,747	5,746	0	0	5,746
Richmond, CA	8,415	8,415	0	0	1,529	1,529	0	0
Port Hueneme, CA	7,524	7,524	0	0	808	806	0	2
San Diego, CA*	7,101	6,905	192	4	892	115	775	1
Galveston, TX	4,926	4,926	0	0	2,816	2,816	0	0

\* Located in the border region

Source: U.S. Department of Commerce, Census Bureau.

**TABLE 16**  
**UNITED STATES MERCHANDISE IMPORTS AND EXPORTS IN 2013:**  
**PORTS IN THE BORDER REGION**  
**Value in Millions, Listed From West to East**

	Total	Port of Unlading			Total	Port of Export		
		Vessel	Air	Other		Vessel	Air	Other
San Diego, CA	\$ 7,101	\$ 6,905	\$ 192	\$ 4	\$ 892	\$ 115	\$ 77	\$ 1
Otay Mesa, CA	23,934	0	2	23,932	13,129	0	30	13,099
Tecate, CA	374	0	0	374	325	0	0	325
Calexico, CA	0	0	0	0	319	0	6	313
Calexico East, CA	7,747	0	0	7,747	5,746	0	0	5,746
Andrade, CA	0	0	0	0	0	0	0	0
San Luis, AZ	0	0	0	0	653	0	0	653
Lukeville, AZ	0	0	0	0	4	0	0	4
Sasabe, AZ	902	0	0	902	2	0	0	2
Tucson, AZ	377	0	198	179	391	0	135	256
Nogales, AZ	17,818	0	0	17,818	10,290	0	2	10,288
Naco, AZ	28	0	0	28	121	0	2	119
Douglas, AZ	1,020	0	0	1,020	1,378	0	0	1,377
Columbus, NM	58	0	0	58	29	0	1	28
Santa Teresa, NM	11,001	0	0	11,001	8,672	0	0	8,672
Santa Teresa Airport, NM	0	0	0	0	1	0	1	0
El Paso, TX	37,640	0	372	37,268	30,597	0	83	30,514
Fabens, TX	0	0	0	0	37	0	0	37
Presidio, TX	99	0	0	99	352	0	0	352
Del Rio, TX	2,621	0	0	2,621	1,869	0	0	1,869
Eagle Pass, TX	14,409	0	0	14,409	7,108	0	0	7,108
Laredo, TX	97,070	0	52	97,018	83,035	0	281	82,753
Roma, TX	4	0	0	4	69	0	0	69
Rio Grande City, TX	198	0	0	198	58	0	0	58
Hidalgo, TX	17,621	0	1	17,621	10,820	0	15	10,804
Edinburg Airport, TX	0	0	0	0	0	0	0	0
Progreso, TX	173	0	0	173	220	0	0	220
Valley International Airport Harlingen, TX	0	0	0	0	1	0	1	0
Brownsville, TX	6,589	400	0	6,188	9,237	197	268	8,773

Source: U.S. Department of Commerce, Census Bureau.

## TRADE BETWEEN THE UNITED STATES AND MÉXICO

This section uses Bureau of Transportation Statistics data to more closely examine merchandise trade flows between the United States and México at the national, state, customs district, and port levels of the United States and by Mexican state. Analyses of trade flows by commodity and by mode of transportation are included.

### Total

In 2013, total merchandise trade between the two countries was \$506.6 billion. Imports to the United States from México were valued at \$280.5 billion and exports from the U.S. to México totaled \$226.2 billion. The United States had a trade deficit of \$54.3 billion with México.

Trucks were the primary mode of transporting the traded goods between the two countries, accounting for between 66-and-67 percent of the value of both imports and exports. Rail was the second-most common mode, accounting for 12 percent of exports and 15 percent of imports. Vessels (ships) were nearly as significant as rail, responsible for 12 percent of the value of exports and 14 percent of imports. Other modes of transportation are shown in Table 17.

Only four commodity classifications accounted for nearly 70 percent of the imports and 53 percent of the exports: electrical machinery and equipment, other machinery and mechanical appliances, vehicles (other than railways), and fuels.

The value of both imports and exports passing through the Laredo customs district was by far the highest. The El Paso district ranked second, followed by San Diego, Nogales, and Houston. By individual port, Laredo alone accounted for roughly one-third of the imports and exports. The El Paso port was second, followed by Otay Mesa, Nogales, and Hidalgo (McAllen area).

The ratio of U.S. exports to imports with México was 0.81 overall; the ratio ranged widely by mode of transportation, commodity, and district or port. The variation in the export-to-import ratio was especially large by commodity. Though the United States had an overall trade deficit with México, the export-to-import ratio exceeded 1 in 58 of the 98 commodities. The overall trade deficit of the United States with México was due to large deficits in the most-heavily traded commodities. Among the top four commodities combined, the export-to-import ratio was 0.62; among all other commodities, it was 1.23. Among the first six commodities listed in Table 17, the ratio varied from 0.22 in furniture and prefabricated buildings to 0.92 in machinery and mechanical appliances. In contrast, the ratio exceeded 1, generally by a very wide margin, in 14 of the other 18 commodities listed in Table 17.

Among the eight districts shown in Table 17, the export-to-import ratio was only 0.25 in Mobile and 0.36 in Port Arthur. Otherwise, the ratios were between 0.64 (in San Diego and Nogales) and 0.90 (in New Orleans and Houston); the ratio in the sizable Laredo district was 0.85. Among the 10 ports shown in the table, the ratio was 1.47 in Brownsville and slightly above the national average in Laredo, El Paso, and Santa Teresa. The ratio in the other leading ports was between 0.50 and 0.78. By mode of transportation, the ratio was 0.66 by rail, 0.67 for vessels, and 0.81 by truck, but was very high in the less utilized modes of pipelines and “other.”

**TABLE 17**  
**MERCHANDISE TRADE BETWEEN THE UNITED STATES**  
**AND MÉXICO IN 2013, AS A SHARE OF TOTAL U.S. IMPORTS AND EXPORTS**

	Imports	Exports		Imports	Exports
<b>MODE OF TRANSPORTATION</b>			<b>LEADING COMMODITIES*</b>		
Truck	66.0%	66.6%	Vehicles, other than railway	21.2%	9.6%
Rail	15.0	12.3	Electrical machinery & equipment	20.5	16.3
Vessel	14.3	12.0	Machinery & mechanical appliances	15.2	17.3
Air	2.6	3.4	Mineral fuels, oils & waxes	12.4	10.2
Foreign Trade Zone	1.4	0.0	Instruments	3.8	2.6
Pipeline	0.1	1.6	Furniture & prefabricated buildings	3.0	0.8
Other	0.7	4.2	Precious stones and metals	2.5	0.4
<b>LEADING CUSTOMS DISTRICTS*</b>			<b>Special classifications</b>		
Laredo	46.7	49.4	Vegetables	1.8	0.1
El Paso	16.6	17.5	Plastics	1.5	6.8
San Diego	11.0	8.7	Articles of iron or steel	1.3	2.2
Nogales	6.9	5.5	Fruits & nuts	1.3	0.4
Houston	5.3	5.9	Beverages	1.1	0.3
Port Arthur	3.3	1.5	Organic chemicals	0.2	3.0
New Orleans	3.0	3.4	Iron & steel	0.7	1.8
Mobile	1.5	0.5	Paper	0.3	1.7
<b>LEADING PORTS*</b>			<b>Aluminum</b>		
Laredo	32.7	36.7	Cereals	0.0	1.5
El Paso	12.9	13.5	Rubber	0.7	1.4
Otay Mesa	8.2	5.8	Meat	0.2	1.4
Nogales	6.2	4.6	Miscellaneous chemical products	0.2	1.2
Hidalgo	5.9	4.8	Aircraft	0.3	1.1
Eagle Pass	5.1	3.1	Copper	0.4	1.0
Houston	4.8	3.6	Oil seeds	0.0	1.0
Santa Teresa	3.7	3.8	<b>BORDER STATES</b>		
Calexico East	2.6	2.5	Texas	33.8	44.7
Brownsville	2.1	3.9	California	12.9	10.6
			Arizona	2.5	3.1
			New Mexico	0.1	0.4
			Total of Four Border States	49.3	58.7
			California	12.9	10.6

\* Those with a share of at least 1 percent of either imports or exports

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

Between 2004, the first year of complete import and export data, and 2013, trade between the United States and México increased significantly. After adjusting for inflation (using the U.S. gross domestic product's implicit price deflator), the value of trade between the two countries rose 59 percent, with the value of goods transported from México to the United States rising 51 percent and the value of goods sent from the United States to México going up by 71 percent. Though the ratio of U.S. exports to imports rose, the real value of the trade deficit was about the same in 2013 as in 2004.

The annual percent change in the value of trade between the two countries has been erratic. A large recession-induced decrease occurred in 2009, but this was more than offset by large increases in 2010 and 2011. The advance in 2012 was more typical, followed by little change in 2013. The U.S. trade deficit was largest in 2007 and smallest in 2009.

Between 2004 and 2013, U.S. exports by vessel soared, reducing the U.S. deficit of merchandise trade shipped by vessel. By truck and by rail, U.S. exports rose similarly to imports, though the U.S. trade deficit increased in each of these modes. In contrast, exports by air hardly rose while imports to the United States by air jumped, causing a U.S. trade surplus to disappear.

The percent change over the nine years in the values of imports and exports varied widely among the major ports. The value passing through Santa Teresa skyrocketed in both directions. A very large gain in imports was experienced through Eagle Pass. The values rose substantially in the Houston port, especially in exports from the United States. Nogales also had above-average gains in both directions. In contrast, the percentage increases in trade through Otay Mesa, Calexico East, El Paso, and Brownsville were lower than average, with real imports through Brownsville declining. Exports from the United States rose the least through Calexico East and Otay Mesa. Increases in trade through the major port of Laredo were close to the national figure.

Among the major commodities, total trade increased substantially in fruits and nuts, and vegetables. Exports of fuels to México soared. Relatively small increases in trade occurred among electrical machinery, and instruments.

### **U.S. States**

Shortcomings in the specified U.S. destination of imports and also of the designated origin of exports are clearly seen when looking at the trade data in detail. For example, 87 percent of the fruits and nuts, and 87 percent of the vegetables, entering the United States from México in 2013 were designated as destined for one of the four border states, with Arizona and California accounting for especially disproportionate shares. In reality, while fresh produce from México largely enters the United States by truck, disproportionately through the Nogales port, the produce is distributed throughout the United States, not disproportionately consumed in the border states.

Thus, the following discussion of trade data by U.S. state needs to be interpreted cautiously. Similarly, caution should be applied to the discussion in the next subsection of the destination of U.S. exports by Mexican state.

The shares of U.S. trade with México in 2013 for the border states are shown in Table 17. In Texas, the shares of imports (34 percent) and exports (45 percent) were much higher than the state's share of the U.S. population (8 percent). The share of U.S. trade with México in 2013 was somewhat disproportionate in Arizona and slightly disproportionate in California. However, the trade share was less than the population share in New Mexico. Taken together, the four border states made up 23 percent of the U.S. population, but were designated as the destination of 49 percent of the U.S. imports from México and were indicated as being the origin of 59 percent of U.S. exports to México.

The ratio of exports to imports in 2013 was above the national average in three of the four border states: New Mexico (2.22), Texas (1.07), and Arizona (1.00). The ratio was 0.66 in California.

A disproportionately large share of the goods traded with México in each of the four border states in 2013 was transported by truck, particularly imports to California, Arizona, and New Mexico and exports from California. Texas had disproportionately large shares moved by vessel and by pipeline. A relatively large share of California's exports were sent by air.

A high correlation is seen between the port and the designated origin or destination state of the traded goods, as expected. For example, a high proportion of the goods passing through Otay Mesa to México originated in California and a high proportion entering the United States through Otay Mesa were headed to a California destination. However, the increased use of the Santa Teresa port does not result from an increase in trade in New Mexico. Instead, a very high proportion of the imports and exports passing through Santa Teresa were designated as heading to or from nearby Texas.

Compared to most of the other ports, a high share of the goods passing through Laredo in 2013 came from or were headed to locations in the United States outside of the border states. This high share correlates with the disproportionately large amount of goods passing through the Laredo port and verifies its importance as the center of trade between the United States and México. A high proportion of the imports entering through Eagle Pass and Nogales also were destined for a location outside of the border states.

A disproportionate share of the food-related commodities imported from México are designated as being destined for one of the four border states. Of the commodity classifications with the greatest U.S.-México trade values, the share of imports specified as destined for the border states was highest in fruits and nuts, and fuels. The share of exports reported as coming from the border states was highest in organic chemicals, fuels, and electrical machinery and equipment.

### **Mexican States**

The BTS provides exports from the United States to México by the designated Mexican state of destination, but the accuracy of the data as representing the final destination of the goods is unknown. It is likely that the difficulties with determining the final destination of imports to the United States also apply to determining the final destination in México. In 2013, the six Mexican border states were the designated destination of 44.2 percent of the exports, even though the border states account for only 17.9 percent of the Mexican population. While it is likely that the border states do receive a disproportionate share of the exports due to the heavy presence of maquiladoras in the border states, a per capita figure in the border states that is 3.65 times as high as in the balance of the country seems extreme.

Each of the border states are indicated to receive a disproportionate share of the U.S. exports. The figure is most disproportionate in Chihuahua, which was indicated to be the destination of 14.8 percent of U.S. exports, compared to its population share of 3.1 percent.

Goods reported as destined for each of the six Mexican border states were disproportionately transported by truck in 2013. Rail transportation was disproportionately used for goods destined to Coahuila, Nuevo León, and Sonora.

Among six of the 10 major commodities exported to México — machinery and mechanical appliances, electrical machinery and equipment, plastics, instruments, iron and steel, and articles of iron and steel — more than half of the value was specified as destined for one of the six border states. Vehicles also were disproportionately destined for the border states. In contrast, less than 10 percent of the value of the other three top commodities — fuels, organic chemicals, and special classifications — was specified as going to the border states.

The primary destination states for the primary commodities exported to México follow:

- Machinery and mechanical appliances: Coahuila and Chihuahua
- Electrical machinery: Chihuahua and Tamaulipas; also Baja California and Sonora
- Motor vehicles: Coahuila
- Plastics: Baja California, Sonora, and Nuevo León
- Instruments: Baja California and Chihuahua; also Tamaulipas
- Iron and steel: Coahuila and Nuevo León
- Articles of iron and steel: Baja California and Tamaulipas; also Coahuila and Nuevo León

More than 80 percent of the U.S. goods shipped through the El Paso and San Diego districts were specified as destined for the Mexican border states; the share was 63 percent through Nogales and 38 percent through Laredo. In contrast, almost none of the shipments through the Houston, New Orleans, and Port Arthur districts were destined for the border states.

More than 80 percent of the shipments through the San Diego district were marked as destined for the bordering state of Baja California. Similarly, 79 percent of the shipments through El Paso were destined for neighboring Chihuahua, and 58 percent of the goods shipped through Nogales were marked as destined for the neighboring state of Sonora. In contrast, 62 percent of the goods shipped through the Laredo district were designated as going to a destination outside the border states, while Coahuila, Nuevo León, and Tamaulipas each were the destination of between 10- and-15 percent.

Of the 10 ports with the greatest value of exports to México, almost none of the shipments from Houston and New Orleans were destined for one of the border states. Otherwise, the share destined for the border states ranged from 31 percent in the port of Laredo to 99 percent in Santa Teresa. The share was about 80 percent in the ports of Otay Mesa and El Paso. In most of the ports along the land border between the two countries, the bordering Mexican state was marked as the destination for a high percentage of the shipments.

### **U.S. Ports**

Unlike the data by state, imports and exports by district and port are accurately reported. The land border between the United States and México is divided into 25 U.S. ports. Elsewhere in the four U.S. border states, import and export data are reported by the BTS for 14 ports or combinations of ports within a district. Goods also are imported and exported between the

United States and México through a number of ports in the balance of the United States, but the value of the goods passing through these ports is low.

The dollar value of imports and exports in 2013 for the 39 “ports” (individual ports or aggregations of ports) in the border states are displayed in Table 18. The 25 ports located along the land border accounted for 81 percent of the value of goods being shipped in each direction between México and the United States in 2013. The values varied widely by port; 91 percent of the exports from ports in the border states passed through just 10 of the 39 ports in 2013; the import share of these 10 ports was 93 percent. Listed in order of the combined value of imports and exports, these 10 ports are Laredo, El Paso, Otay Mesa, Nogales, Hidalgo, Houston, Eagle Pass, Santa Teresa, Brownsville, and Calexico East.

Tables 19 and 20 provide the shares of the total value of goods imported and exported through each port in the border states by mode of transportation. In most ports, most of the goods are transported by one mode, but this primary mode varies by port.

In Table 21, the shares of the total trade for the leading commodities that are traded between the United States and México are shown for each of the 39 ports. Wide variations exist in the composition of the imports and exports from port to port.

The remainder of this subsection provides a summary of the trade between the United States and México in 2013 for each of the 39 ports in the border states. The ports are listed from west to east; the port number is shown in parentheses after the port name.

**San Francisco International Airport (2801).** Less than 0.1 percent of the trade between the two countries was conducted through this port. Virtually all of the trade through this port was by air. Ninety-three percent of the exports and 69 percent of the imports consisted of either machinery and mechanical appliances (commodity code 84) or electrical machinery and equipment (commodity code 85).

**Balance of San Francisco District (28xx).** This aggregation consists of 26 ports, ranging from far northern to central California, and including Reno, Nevada. The value of exports ranked 15th among the 39 ports in the border states, but accounted for only 0.5 percent of the U.S. total. The value of imports was only 0.1 percent of the total. Vessels were the primary mode of transportation, accounting for 92 percent of the export value and 83 percent of the import value. Eleven percent of the imports came through free trade zones. Ninety percent of the exports were fuels (commodity code 27). Imports were more varied, with above-average shares in coffee, tea and spices (commodity code 9), sugars (code 17), beverages, spirits and vinegar (code 22), and inorganic chemicals (code 28).

**Los Angeles (2704).** The value of imports ranked 16th among the 39 ports, but only accounted for 0.3 percent of the U.S. total. The value of exports was less than 0.1 percent of the total. Ninety-eight percent of the exports and 88 percent of the imports were moved by ship. More than half of the exports and imports were fuels. Iron and steel (commodity code 72) accounted for 18 percent of the imports.



**TABLE 18**  
**MERCHANDISE IMPORTS AND EXPORTS BETWEEN THE UNITED STATES**  
**AND MÉXICO IN 2013, BY PORT OF ENTRY/EXIT**

Port	Value in Millions			Export-to-Import Ratio
	Exports	Imports	Net	
TOTAL TRADE	\$226,152.9	\$280,455.5	\$-54,302.6	0.81
THRU PORTS IN BORDER STATES	203,744.6	254,338.7	-50,594.0	0.80
San Francisco International Airport	189.1	86.3	102.8	2.19
Balance of San Francisco District	1,197.6	226.0	971.5	5.30
Los Angeles	79.1	700.1	-621.0	0.11
Los Angeles International Airport	904.9	271.2	633.7	3.34
Balance of Los Angeles District	555.1	50.2	504.9	11.06
San Diego	8.9	4.0	5.0	2.26
San Ysidro*	201.3	0.0	201.3	-
Otay Mesa*	13,119.6	22,948.7	-9,829.2	0.57
Tecate*	325.3	371.5	-46.2	0.88
Calexico*	294.3	0.0	294.3	-
Calexico East*	5,745.8	7,409.8	-1,663.9	0.78
Andrade*	0.0	0.0	0.0	-
San Luis*	652.6	891.0	-238.4	0.73
Lukeville*	4.0	0.3	3.7	14.68
Sasabe*	1.5	0.0	1.5	-
Nogales*	10,282.2	17,406.1	-7,123.8	0.59
Tucson	10.6	0.2	10.4	44.87
Phoenix	18.3	26.1	-7.7	0.70
Naco*	119.1	25.3	93.8	4.71
Douglas*	1,377.2	998.0	379.3	1.38
Albuquerque	0.0	1.3	-1.3	0.01
Columbus*	28.3	58.0	-29.7	0.49
Santa Teresa*	8,671.0	10,237.7	-1,556.7	0.85
El Paso*	30,547.7	36,107.1	-5,559.4	0.85
Fabens*	36.6	0	36.6	-
Presidio*	351.8	99.0	252.8	3.55
Del Rio*	1,868.9	2,584.5	-715.5	0.72
Eagle Pass*	7,106.9	14,327.6	-7,220.3	0.50
Laredo*	82,975.3	91,654.6	-8,679.2	0.91
Roma*	68.7	3.5	65.2	19.67
Rio Grande City*	57.6	195.0	-137.4	0.30
Hidalgo*	10,814.2	16,620.0	-5,805.8	0.65
Progreso*	219.9	172.8	47.1	1.27
Brownsville*	8,696.7	5,928.3	2,768.5	1.47
Dallas-Fort Worth Airport	91.8	662.5	-570.7	0.14
Balance of Dallas-Ft Worth District	399.9	50.1	349.8	7.98
Houston	8,228.3	13,527.7	-5,299.4	0.61
Balance of Houston-Galveston District	5,192.6	1,408.2	3,784.4	3.69
Port Arthur District	3,301.6	9,286.4	-5,984.8	0.36

\* Located on international border

Note: the ports are listed from west to east.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

**TABLE 19**  
**MERCHANDISE IMPORTS FROM MÉXICO TO THE UNITED STATES IN 2013,**  
**BY PORT OF ENTRY: MODE OF TRANSPORTATION**

Port	Imports: Share of Total Value					
	Truck	Rail	Vessel	Air	Pipeline	Other
TOTAL TRADE	66.0%	15.0%	14.3%	2.6%	0.1%	2.0%
THRU PORTS IN BORDER STATES	72.3	16.5	9.8	0.3	0.1	1.0
San Francisco International Airport	1.9			98.1		
Balance of San Francisco District	1.0		82.5	6.0		10.5
Los Angeles	3.3		87.9	0.2		8.7
Los Angeles International Airport	5.1			86.6		8.4
Balance of Los Angeles District	19.5		8.1	57.4		14.2
San Diego	37.0		15.8	36.9		10.3
San Ysidro*		100.0				
Otay Mesa*	99.9					0.1
Tecate*	100.0					
Calexico*			100.0			
Calexico East*	99.6	0.4				
Andrade* (no imports)						
San Luis*	98.7				1.3	
Lukeville*	100.0					
Sasabe* (no imports)						
Nogales*	55.9	44.0				0.1
Tucson	0.0		4.4	95.6		
Phoenix	16.5			83.2		0.3
Naco*	100.0					
Douglas*	100.0					
Albuquerque	0.5			99.3		0.2
Columbus*	100.0					
Santa Teresa*	100.0					
El Paso*	78.9	15.1		0.7		5.3
Fabens* (no imports)						
Presidio*	100.0					
Del Rio*	100.0					
Eagle Pass*	26.7	73.3				
Laredo*	80.4	19.5				
Roma*	100.0					
Rio Grande City*	100.0					
Hidalgo*	98.6				1.4	
Progreso*	100.0					
Brownsville*	92.5	7.4				
Dallas-Fort Worth Airport	23.2		0.9	15.7		60.2
Balance of Dallas-Ft Worth District	0.9		1.5	25.7		71.9
Houston			99.9			
Balance of Houston-Galveston District			98.3	1.5		0.1
Port Arthur District			100.0			

\* Located on international border

Notes: a blank indicates a value of zero; the ports are listed from west to east.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

**TABLE 20**  
**MERCHANDISE EXPORTS FROM THE UNITED STATES TO MÉXICO IN 2013,**  
**BY PORT OF EXIT: MODE OF TRANSPORTATION**

Port	Exports: Share of Total Value					
	Truck	Rail	Vessel	Air	Pipeline	Other
TOTAL TRADE	66.6%	12.3%	12.0%	3.4%	1.6%	4.2%
THRU PORTS IN BORDER STATES	73.9	13.6	9.1	1.0	1.8	0.6
San Francisco International Airport				99.9		0.1
Balance of San Francisco District			92.3	7.7		
Los Angeles			98.3			1.7
Los Angeles International Airport				97.0		3.0
Balance of Los Angeles District			94.5	4.1		1.3
San Diego			5.8	93.3		0.9
San Ysidro*		99.5		0.5		
Otay Mesa*	99.7			0.1	1.8	0.4
Tecate*	92.9					7.1
Calexico*	80.9	18.2		0.6		0.2
Calexico East*	95.1	2.5				2.3
Andrade*	92.6					7.4
San Luis*	99.7					0.3
Lukeville*	78.3					21.7
Sasabe*	100.0					
Nogales*	64.9	35.0				0.1
Tucson				99.3		0.7
Phoenix				97.7		2.3
Naco*	99.5					0.5
Douglas*	84.7				15.1	0.2
Albuquerque				100.0		
Columbus*	98.1	0.9				1.0
Santa Teresa*	96.2					3.8
El Paso*	88.0	8.8		0.1	2.8	0.3
Fabens*	76.6	23.2				0.2
Presidio*	97.6	0.9				1.5
Del Rio*	100.0					
Eagle Pass*	42.2	57.8				
Laredo*	79.4	19.4		0.3	0.6	0.3
Roma*	94.6					5.4
Rio Grande City*	100.0					
Hidalgo*	91.6			0.1	7.3	1.1
Progreso*	99.7					0.3
Brownsville*	74.8	10.0	1.3	0.3	12.9	0.7
Dallas-Fort Worth Airport				85.7		14.3
Balance of Dallas-Ft Worth District				96.0		4.0
Houston			100.0			
Balance of Houston-Galveston District			98.5	1.2		0.3
Port Arthur District			100.0			

\* Located on international border

Notes: a blank indicates a value of zero; the ports are listed from west to east.

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

**TABLE 21**  
**MERCHANDISE IMPORTS AND EXPORTS BETWEEN THE UNITED STATES**  
**AND MÉXICO IN 2013, BY PORT OF ENTRY/EXIT AND LEADING COMMODITY**

Port	Exports: Share of Total Value					Imports: Share of Total Value			
	27	39	84	85	87	27	84	85	87
TOTAL TRADE	10.2%	6.8%	17.3%	16.3%	9.6%	12.4%	15.2%	20.5%	21.2%
TOTAL, PORTS IN BORDER STATES	9.5	7.4	18.4	17.0	10.5	9.8	16.4	21.5	22.2
San Francisco International Airport	0.0	0.1	41.4	51.8	0.0	0.0	17.5	51.1	0.0
Balance of San Francisco District	90.4	0.0	1.5	4.3	0.0	13.2	8.8	8.1	0.2
Los Angeles	56.5	0.5	4.1	1.8	0.1	56.0	0.2	0.6	0.1
Los Angeles International Airport	0.0	0.3	28.3	32.5	0.1	0.0	26.4	18.5	0.2
Balance of Los Angeles District	90.4	0.0	0.9	2.8	0.0	0.0	7.1	43.7	0.1
San Diego	0.0	0.1	2.5	23.8	0.0	0.0	4.6	38.3	0.0
San Ysidro*	63.9	9.1	0.2	1.0	0.0	0.0	0.0	0.0	0.0
Otay Mesa*	2.4	10.9	12.7	23.6	7.1	0.0	4.5	46.8	11.2
Tecate*	0.2	9.5	7.3	17.4	9.2	0.0	3.0	30.8	1.1
Calexico*	2.3	4.0	17.7	4.3	0.3	0.0	100.0	0.0	0.0
Calexico East*	1.6	7.3	16.6	27.9	10.0	0.0	13.7	36.9	4.3
Andrade* (no imports)	0.0	66.4	10.2	0.0	7.4				
San Luis*	0.0	11.2	4.3	40.7	9.4	1.3	3.2	52.8	0.8
Lukeville*	3.1	0.4	39.4	18.7	10.1	0.0	0.0	0.0	0.0
Sasabe* (no imports)	0.0	3.3	1.9	7.9	0.5				
Nogales*	0.5	6.8	9.6	21.2	14.2	0.0	6.1	14.7	40.6
Tucson	0.0	0.0	12.6	12.5	0.1	0.0	3.6	6.3	0.0
Phoenix	0.0	2.0	12.4	33.9	0.1	0.0	50.2	6.7	0.1
Naco*	1.4	2.1	45.3	11.3	17.4	0.0	67.3	19.4	0.5
Douglas*	15.5	4.8	15.5	11.3	11.5	0.0	1.0	12.5	15.4

(continued)

**TABLE 21 (continued)**  
**MERCHANDISE IMPORTS AND EXPORTS BETWEEN THE UNITED STATES**  
**AND MÉXICO IN 2013, BY PORT OF ENTRY/EXIT AND LEADING COMMODITY**

Port	Exports: Share of Total Value					Imports: Share of Total Value			
	27	39	84	85	87	27	84	85	87
Albuquerque	0.0%	0.0%	59.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Columbus*	0.0	22.2	24.1	14.7	4.1	0.0	0.2	0.0	0.3
Santa Teresa*	0.0	0.9	86.9	6.0	4.3	0.0	83.7	0.7	0.1
El Paso*	3.7	7.7	20.7	30.5	4.7	0.0	21.0	38.1	15.5
Fabens* (no imports)	0.0	10.5	37.4	9.6	4.3				
Presidio*	0.2	3.4	28.5	4.7	28.1	0.0	10.4	0.0	10.5
Del Rio*	0.0	13.5	29.5	17.6	4.8	0.0	22.1	19.2	16.7
Eagle Pass*	2.3	10.6	4.1	5.7	18.4	0.0	3.5	4.9	61.3
Laredo*	2.0	9.0	18.4	13.9	16.8	0.0	19.5	16.4	32.4
Roma*	0.0	3.2	29.7	7.6	14.5	0.0	7.8	43.8	7.7
Rio Grande City*	0.0	11.4	4.3	2.3	4.6	0.0	1.2	0.4	0.4
Hidalgo*	11.8	6.5	18.6	26.0	4.0	4.7	15.1	36.8	5.3
Progreso*	0.0	1.1	0.5	0.1	0.8	0.0	0.3	0.0	0.0
Brownsville*	18.0	8.3	7.9	19.4	5.9	2.5	9.7	24.5	16.5
Dallas-Fort Worth Airport	0.0	0.2	15.0	16.4	0.1	0.0	16.7	25.9	0.1
Balance of Dallas-Ft Worth District	0.0	1.2	15.4	46.7	0.5	0.0	2.3	6.5	0.0
Houston	64.0	0.2	2.9	0.2	0.1	94.9	0.1	0.1	0.0
Balance of Houston-Galveston District	67.0	0.0	1.0	0.4	0.0	97.5	0.3	0.1	0.0
Port Arthur District	68.6	0.0	0.1	0.0	0.0	100.0	0.0	0.0	0.0

\* Located on international border

Commodity Codes:

27: Mineral fuels, bituminous substances

39: Plastics

84: Machinery & mechanical appliances

85: Electrical machinery & equipment

87: Vehicles, other than railway

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics.

**Los Angeles International Airport (2720).** The value of exports ranked 16th among the 39 ports, but accounted for only 0.4 percent of the U.S. total. The value of imports was only 0.1 percent of the total. Ninety-seven percent of exports and 87 percent of imports were transported by air. Machinery and mechanical appliances, electrical machinery and equipment, and instruments (commodity code 90) accounted for 71 percent of the exports and 54 percent of the imports.

**Balance of Los Angeles District (27xx).** This aggregation consists of 19 ports, mostly in the Los Angeles area, but extending north to Morro Bay and east to Las Vegas, Nevada. The value of exports ranked 17th among the 39 ports, but accounted for only 0.3 percent of the U.S. total. The value of imports was less than 0.1 percent of the total. Ninety-five percent of the exports were sent by ship. Only 18 percent of the imports came by ship; 57 percent were transported by air. Ninety percent of the exports, but none of the imports, were fuels. Electrical machinery and equipment accounted for 44 percent of the imports.

**San Diego (2501).** Very little of the trade with México passed through this port. Imports arrived via various modes while exports were predominantly by air. Seventy percent of the exports were electrical machinery and equipment and instruments, while 53 percent of the imports were in the special classifications category (commodity code 98).

**San Ysidro (2504).** Hardly any imports entered the United States through this port and the value of exports was only 0.1 percent of the U.S. total. Virtually all of the trade was conducted by rail. Fuels accounted for 64 percent of the exports; all of the imports were in the special classifications category.

**Otay Mesa (2506).** This is a major port, ranking third on the value of both imports (8.2 percent of the U.S. total) and exports (5.8 percent of the total) with México. Nearly all of the exports and imports were transported by truck. The exports consisted of many kinds of commodities, while 58 percent of the imports were electrical machinery and equipment, or instruments.

**Tecate (2505).** The value of both imports and exports was 0.1 percent of the U.S. total. All of the imports arrived by truck and nearly all of the exports were transported by truck. The exports consisted of many kinds of commodities, while half of the imports were electrical machinery and equipment, or knitted apparel (commodity code 61).

**Calexico (2503).** Hardly any imports entered the United States through this port and the value of exports was only 0.1 percent of the U.S. total. The exports were shipped via truck (81 percent) or rail (19 percent). The exports were varied, with a disproportionately high share consisting of food. All of the imports were machinery and mechanical appliances.

**Calexico East (2507).** This port had a moderately high level of trade, ranking 10th with about 2.6 percent of the U.S. total of the value of both imports and exports with México. More than 95 percent of the goods were moved by truck. Electrical machinery and equipment made up a disproportionately large share of both imports and exports.

**Andrade** (2502). No imports and hardly any exports passed through this port. Ninety-three percent of the exports were shipped by truck, with plastics (commodity code 39) accounting for 66 percent of the value.

**San Luis** (2608). The values of both imports and exports accounted for 0.3 percent of the U.S. total, with exports ranking 15th and imports ranking 17th. Nearly all of the goods were moved by truck. Electrical machinery and equipment made up a disproportionately large share of both imports and exports. A relatively high share of the imports consisted of foods, especially vegetables (commodity code 7).

**Lukeville** (2602). Hardly any imports entered the United States through this port and the value of exports also was extremely low. All of the imports and 78 percent of the exports were moved by truck. Machinery and mechanical appliances accounted for a disproportionate share of the exports. All of the imports were food products.

**Sasabe** (2606). No imports entered the United States through this port and the value of exports was extremely low. All of the exports were moved by truck. A disproportionate share of the exports consisted of miscellaneous chemical products (commodity code 38) or oil seeds (code 12).

**Nogales** (2604). This is a major port, ranking fifth on the value of exports and fourth on the value of imports with México. The import share was 6.2 percent of the U.S. total; the export share was 4.6 percent. Fifty-six of the imports arrived by truck and 65 percent of the exports were transported by truck. Rail accounted for nearly all of the balance. The exports consisted of many kinds of commodities, with a disproportionately high share of ores (commodity code 26). Vehicles (commodity code 87), vegetables, and fruits and nuts (code 8) were relatively high shares of the imports.

**Phoenix** (2605). Import and export values were extremely low. More than 80 percent of the value was shipped by air. Electrical machinery and equipment, and aircraft and spacecraft (commodity code 88) accounted for 58 percent of the export value; machinery and mechanical appliances made up 50 percent of the import value.

**Tucson** (2609). The import and export values were extremely low. More than 95 percent of the shipments were by air. Aircraft and spacecraft accounted for 73 percent of the export value; instruments and works of art (commodity code 97) were responsible for 79 percent of the import value.

**Naco** (2603). The import value was extremely low, with the value of exports accounting for 0.05 percent of the U.S. total. Nearly all of the goods were transported by truck. Vehicles and machinery and mechanical appliances accounted for 63 percent of the export value; 87 percent of the import value was machinery and mechanical appliances or electrical machinery and equipment.

**Douglas** (2601). The values of imports (0.4 percent of the U.S. total) and exports (0.6 percent of the total) each ranked 14th among the 39 ports. All of the imports arrived by truck; pipelines

accounted for 15 percent, and trucks 85 percent, of the exports. Exports were varied, with a disproportionately large share consisting of fuels and ores. Imports also were varied, with relatively high shares in the precious metals and stones category (commodity code 71) and copper (code 74).

**Columbus** (2406). The value of both imports and exports was extremely low. Virtually all of the trade was by truck. Disproportionate shares of the exports were dyes (commodity code 32) or plastics, while the imports were mostly food-related goods: 49 percent were vegetables, 25 percent were live animals (commodity code 1), and 15 percent were coffee, tea and spices.

**Albuquerque** (2407). Hardly any imports or exports moved through this port, with nearly all of the movement by air. Exports consisted entirely of machinery and mechanical appliances or instruments; 98 percent of the imports were instruments.

**Santa Teresa** (2408). This has become a significant port, ranking seventh on export value (3.8 percent of the U.S. total) and eighth on import value (3.7 percent of the total). Nearly all of the goods were moved by truck. Machinery and mechanical appliances dominated the trade, accounting for 87 percent of the exports and 84 percent of the imports.

**El Paso** (2402). This was the second-busiest port for both imports (12.9 percent of the U.S. total) and exports (13.5 percent of the total). While a variety of modes of transport were used, trucks accounted for 88 percent of exports and 79 percent of imports. The shares by rail were 9 percent for exports and 15 percent for imports. Imports and exports consisted of many kinds of commodities, with a disproportionately high share of each consisting of electrical machinery and equipment.

**Fabens** (2404). No imports entered the United States through this port and the value of exports was extremely low. Nearly one-fourth of the exports were indicated to have been sent by rail, with the remainder by truck. Machinery and mechanical appliances, and iron and steel made up disproportionate shares of the exports.

**Presidio** (2403). The export value was 0.2 percent, and the import value was less than 0.1 percent, of the U.S. total. Nearly all of the goods were transported by truck. Exports were varied, with above-average shares of machinery and mechanical appliances, and motor vehicles. Live animals and fruits accounted for disproportionate shares of the imports.

**Del Rio** (2302). The export value ranked 13th (0.8 percent of the U.S. total) and the import value ranked 12th (0.9 percent of the total). All of the goods were transported by truck. The range of commodities was broad, with above-average export shares of machinery and mechanical appliances and plastics, and an above-average import share of furniture and prefabricated buildings (commodity code 94).

**Eagle Pass** (2303). Eagle Pass is a significant port, ranking ninth on exports (3.1 percent of the U.S. total) and sixth on imports (5.1 percent of the total). This is the only port in which rail was the most common means of transportation (58 percent of exports and 73 percent of imports).



Trucks moved the balance of goods. The range of commodities was broad, but vehicles accounted for 61 percent of the imports and 18 percent of the exports.

**Laredo** (2304). Laredo was by far the most important port, with more than 2.5 times the import and export values of second-ranked El Paso. Thirty-seven percent of all exports to México passed through Laredo; the import share was 33 percent. About 80 percent of the goods were transported by truck and 20 percent by rail. The composition of imports and exports was similar to the overall total, though the share of vehicles was above average in both directions.

**Roma** (2310). Hardly any imports passed through Roma and the value of exports was extremely low. All of the imports and 95 percent of the exports were transported by truck. Machinery and mechanical appliances accounted for an above-average share of exports while electrical machinery and equipment was an above-average share of imports.

**Rio Grande City** (2307). The value of both exports and imports was less than 0.1 percent. All of the imports and exports were transported by truck. Wood pulp and paperboard (commodity code 47) accounted for 53 percent of exports. Vegetables accounted for 43 percent of imports.

**Hidalgo** (2305). Hidalgo is a major port, ranking fourth on the value of imports (5.9 percent of the U.S. total) and fifth on exports (4.8 percent of the total). Trucking dominated the transportation of imports and exports; pipelines accounted for 7 percent of exports. Imports and exports consisted of many kinds of commodities, with an above-average share of electrical machinery and equipment.

**Progreso** (2309). The value of imports and exports each was about 0.1 percent of the U.S. total. Virtually all of the imports and exports were transported by truck. Food products accounted for disproportionately large shares of both imports and exports, with cereals, milled products and oil seeds (commodity codes 10 through 12) accounting for 90 percent of exports; vegetables and fruits and nuts made up 85 percent of imports.

**Brownsville** (2301). Brownsville is a significant port, ranking sixth on exports (3.9 percent of the U.S. total) and 11th on imports (2.1 percent of the total). The export-to-import value was by far the highest of the active ports. Trucks moved 75 percent of exports and 93 percent of imports; rail accounted for 10 percent of exports and 7 percent of imports; and pipelines accounted for 13 percent of the exports. The range of commodities was broad and not substantially different from the overall distribution, except that fuels were responsible for 18 percent of the exports.

**Dallas-Fort Worth Airport** (5501). The value of exports was less than 0.1 percent of the U.S. total but the value of imports was 0.2 percent, ranking 17th. The mode of transportation was quite different for imports and exports, with 86 percent of the exports but only 16 percent of the imports shipped by air. Free trade zones accounted for 60 percent of the imports. Aircraft accounted for an above-average share of exports, while 55 percent of the imports were toys, games and sporting equipment (commodity code 95).

**Balance of Dallas-Fort Worth District** (55xx). This aggregation includes nine ports located across much of Texas and Oklahoma. The value of imports was extremely low but the value of

exports was 0.2 percent of the U.S. total. Ninety-six percent of exports were shipped by air, but 72 percent of imports arrive by “other” means. Electrical machinery and equipment accounted for 47 percent of exports; 70 percent of imports were in the special classifications category.

**Houston** (5301). Houston is a major port, ranking eighth on exports (3.6 percent of the U.S. total) and seventh on imports (4.8 percent of the total). Virtually all of the transportation was by ship. Fuels dominated the trade, accounting for 95 percent of the imports and 64 percent of the exports. Organic chemicals (commodity code 29) accounted for 26 percent of the exports.

**Balance of Houston-Galveston District** (53xx). Seven ports in southeast Texas are aggregated. The value of exports ranked 11th (2.3 percent of the U.S. total); the value of imports ranked 13th (0.5 percent of the total). Nearly 99 percent of the imports and exports were transported by ship. Fuels dominated the trade, accounting for 98 percent of the imports and 67 percent of the exports. Organic chemicals accounted for 27 percent of the exports.

**Port Arthur District** (21xx). Four ports in extreme southeastern Texas are aggregated. The value of imports ranked ninth (3.3 percent of the U.S. total), but the value of exports was only 1.5 percent of the total, ranking 12th. All of the imports and exports were transported by ship. Fuels dominated the trade, accounting for 100 percent of the imports and 69 percent of the exports. Organic chemicals accounted for 30 percent of the exports.

### **Border Region**

This subsection examines trade values between the United States and México in 2013 and the inflation-adjusted change in values between 2004 and 2013 for the 25 ports located directly on the U.S.-México border. The ports are aggregated into counties and urban areas, with per capita figures calculated based on the annual population estimates for the U.S. side of the border.

The value of exports passing through the 25 ports totaled \$183.5 billion in 2012. The import value was \$228.0 billion, leaving a trade deficit of \$44.5 billion. Between 2004 and 2013, the inflation-adjusted value of exports rose 64 percent; the gain in imports was 53 percent.

### **Ports**

Goods passing through the Port of Laredo by far had the highest value of any port in 2013, with exports accounting for 45 percent, and imports for 40 percent, of the aggregate value of the 25 ports. The real percent change in exports between 2004 and 2013 was above the aggregate value, with the increase in imports near average.

El Paso ranked second, and Otay Mesa third, on the value of both imports and exports in 2013. However, in each port, the 2004-to-2013 percent change was below average for both imports and exports.

Nogales had the fourth-highest value of imports, and fifth-highest value of exports, in 2013. Its percent changes between 2004 and 2013 were well above average. Hidalgo/Pharr ranked fourth on exports and fifth on imports. Its percent change was near average for imports but below average for exports.

Four ports — Calexico East, Santa Teresa, Eagle Pass, and Brownsville — ranked between sixth and ninth on both import and export value in 2013. Santa Teresa had a huge increase in inflation-adjusted value between 2004 and 2013, with exports 17 times higher, and imports 11 times higher, in 2013. Eagle Pass had above-average gains, especially in imports. In contrast, Brownsville and Calexico had percent changes far below average, with Brownsville experiencing a real decline in imports.

### **Counties**

Of the 16 sets of counties, Webb County by far had the highest values of imports and exports in 2013. On a per capita basis, the county ranked first on exports and second on imports. The real per capita percent change in value between 2004 and 2013 was a bit above average for exports but below average for imports. The per capita figures are shown in Table 22.

Santa Cruz County ranked fifth on exports and fourth on imports, but its per capita rank was three spots higher on each measure. Maverick County ranked eighth on exports and sixth on imports, but the per capita rank on each measure was third. The 2004-to-2013 percent increase was considerably above average for both imports and exports for both counties.

Other counties and county groups with substantial flows of goods across the border in 2013 included San Diego, Doña Ana, El Paso and Hudspeth, Hidalgo, and Cameron. Except for Doña Ana, the ranks for each were lower on a per capita basis. Similarly, the per capita percent change was far above average in Doña Ana but below average in each of the other counties.

### **Urban Areas**

Of the 11 urban areas, Laredo ranked first on both imports and exports in 2013, both on an unadjusted and per capita basis. Yuma ranked last across all measures. Brownsville's ranks also were the same on an unadjusted and per capita basis at sixth on exports and eighth on imports. El Paso, San Diego, McAllen, and Tucson ranked second through fifth on an unadjusted basis, but their ranks were lower on a per capita basis. Considering the population size raised the ranks for Eagle Pass, Calexico, Del Rio, and Douglas.

The per capita percent change between 2004 and 2013 was above the border region total in Douglas, Tucson, and Eagle Pass, on both imports and exports. Yuma had an above-average change on exports, but imports declined on a real basis. The per capita percent changes were below average in San Diego, Calexico, McAllen, and Brownsville for both imports and exports.

**TABLE 22**  
**PER CAPITA TRADE VALUES BY BORDER COUNTY AND URBAN AREA**

	Value in 2013		Real Percent Change, 2004 to 2013	
	Exports	Imports	Exports	Imports
<b>Border Region Total</b>	\$24,452	\$30,384	46%	36%
<b>County</b>				
San Diego, CA	4,252	7,263	9	29
Imperial, CA	34,206	41,962	1	-5
Yuma, AZ	3,244	4,428	63	-3
Pima, AZ	16	1	-75	-99
Santa Cruz, AZ	219,856	372,179	80	66
Cochise, AZ	11,557	7,903	268	55
Hidalgo & Luna, NM	964	1,978	-25	37
Doña Ana, NM	40,621	47,961	1,411	900
El Paso & Hudspeth, TX	36,803	43,448	21	7
Presidio, TX	48,856	13,750	39	-54
Val Verde, TX	38,437	58,153	19	36
Maverick, TX	127,063	256,162	58	201
Webb, TX	316,103	349,167	49	25
Starr, TX	930	3,147	-51	18
Hidalgo, TX	13,522	20,580	9	22
Cameron, TX	20,842	14,207	14	-16
<b>Urban Area</b>				
San Diego, CA	4,252	7,263	9	29
Calexico, CA	34,206	41,962	1	-5
Yuma, AZ	3,244	4,428	63	-3
Tucson-Nogales, AZ	9,871	16,684	81	67
Douglas, AZ	11,557	7,903	268	55
El Paso, TX – Las Cruces NM	37,583	44,370	51	33
Del Rio, TX	38,437	58,153	19	36
Eagle Pass, TX	127,063	256,162	58	201
Laredo, TX	316,103	349,167	49	25
McAllen, TX	12,634	19,349	9	23
Brownsville, TX	19,801	13,498	4	3

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics. The inflation adjustment was made using the GDP implicit price deflator of the U.S. Department of Commerce, Bureau of Economic Analysis. The population adjustment used the annual population estimates produced by the U.S. Department of Commerce, Census Bureau.

## TRADE ESTIMATES BY METROPOLITAN AREA

Merchandise trade estimates for 2010 made by the Brookings Institution are discussed in this section, with a focus on the metro areas in the border region and those in the balance of the border states. On their website, Brookings provides a summary of total trade (imports plus exports) for each of the 100 largest U.S. metro areas and for each metro area in Canada and México. The information provided is somewhat different for metro areas in the United States than those in México.

For each of the 100 largest U.S. metro areas, Brookings provides a set of estimates for total trade (imports plus exports) *with North America* (Canada and México), but provides limited information specific to imports or exports:

- Value of total trade with North America, with Canada, and with México.
- The value per ton of total North American trade.
- The North American share of the metro area's value of total international trade.
- The share of the value of total North American trade in "advanced industries," which Brookings defines as aerospace, automotive, electronics, machinery, pharmaceuticals, and precision instruments.
- The top 10 trading partners (metro areas) in Canada and in México, as defined by total trade value.
- The top five commodity groups, as defined by total trade value, traded with Canada and the top five groups traded with México. The values of imports and exports also are provided for each of the five groups.

For each of the 59 officially defined metro areas in México, Brookings provides a set of estimates for total trade *with the United States*:

- Value of total trade with the United States. The total value of imports from the United States and of exports to the United States also are provided.
- The value per ton of total trade with the United States.
- The share of the value of total trade with the United States in advanced industries.
- The top 10 trading partners (metro areas) in the United States, as defined by total trade value.
- The top five commodity groups, as defined by total trade value, traded with the United States. The values of imports and exports also are provided for each of the five groups.

The presentation of summary data by Brookings leaves significant gaps in the trade flows. In particular, total imports and total exports are not reported for U.S. metros. The listing of trade flows for only the top five commodities provides an incomplete picture of trade by commodity. Though import and export estimates for the top five commodities are shown, one cannot assume that these are the top five on either imports or exports. Similarly, only the top 10 trading partners are shown, with only total trade provided.

Because of these limitations, an inquiry was made to Brookings for additional data. Brookings provided an Excel file that resolves most of these limitations. The Excel file provides import and export values and weights for each of the 12 commodity groups for trade between each of the 100 largest U.S. metro areas and each of the 59 Mexican metro areas. However, for U.S. metros, the total value of imports from México and of exports to México was not included. The basic

limitations noted in the “Description of Trade Data” section — the presentation of data for only the 100 largest U.S. metros and for only 12 groupings of commodities — remain.

Since the trade values are highly correlated to metro area population size, much of the analysis has been done on a per capita basis, with the Brookings estimates of the value of trade divided by the 2010 decennial census count.

### **Totals**

The value of total merchandise trade between México and the United States in 2010 is shown in Table 23 for the metro areas in the border states. Most of the trade consisted of manufactured goods. Per capita values were much higher in México than in the United States. Per capita exports from México were much higher than those from the United States primarily for two reasons:

- Manufacturing is a significant part of the Mexican economy, while manufacturing accounts for a much lesser share of the United States economy.
- The market for manufactured goods is much larger in the United States than México, due to the larger population and much higher incomes in the United States.

Per capita imports by México also were higher than those by the United States. Many of the products manufactured in México include components imported from the United States. The maquiladora program contributes significantly to trade flows in both directions.

Per capita values of total merchandise trade between the United States and México varied widely across the metro areas in 2010. In the United States, the per capita values of the 20 metro areas in the border states were spread fairly evenly among the 100 largest metro areas. Four metros — San Jose, Houston, San Francisco, and Austin — were among the top 10, but Riverside and McAllen were among the bottom 10. San Jose had a per capita value 2.7 times as high as the next-highest metro. San Diego, the highest of the four metros in the border region, ranked 26th.

In México, each of the 14 metros in the border states was at or above the middle of the 59 metro areas on the per capita values of total trade in 2010. Five metro areas in the border states — Reynosa-Río Bravo, Juárez, Saltillo, Chihuahua, and Monterrey — had the five highest total per capita trade values in the nation. Guaymas and Tijuana also ranked among the top 10.

Aggregating the seven border region metros, the per capita total trade value was \$8,692. The value was \$8,397 in the other seven metros in the border states and only \$3,256 in the other 45 metros. The figure for the aggregation of all 59 metros was \$4,425. Thus, trade with the United States was disproportionately important in metro areas in the border states of México, but trade with México was not of particular significance to metro areas in the U.S. border states.

The per capita value of exports from México to the United States was correlated with distance from the international border. Aggregating the seven border region metros, the per capita export value was \$6,013. The value was \$5,134 in the other seven metros in the border states and only \$1,659 in the other 45 metros. Six of the nation’s top 10 metros for per capita export value to the United States were in the border states, led by Reynosa-Río Bravo (\$9,837) and Juárez (\$8,632). The per capita export value of the aggregation of all 59 metros was \$2,510.

**TABLE 23**  
**TOTAL UNITED STATES-MÉXICO MERCHANDISE TRADE (EXPORTS PLUS IMPORTS) OF METROPOLITAN AREAS IN THE BORDER STATES, 2010**

<b>U.S. Metropolitan Areas</b>	<b>Value in Millions</b>	<b>Per Capita Value</b>	<b>Mexican Metropolitan Areas</b>	<b>Value in Millions</b>	<b>Per Capita Value</b>
<b>Border Region</b>			<b>Border Region</b>		
San Diego	\$4,320	\$1,396	Tijuana	\$12,946	\$7,392
Tucson	638	651	Mexicali	6,328	6,755
El Paso	823	1,028	Juárez	15,694	11,781
McAllen	232	299	Piedras Negras	864	4,781
<b>Balance of Border States</b>			<b>Balance of Border States</b>		
San Francisco	11,081	2,556	Nuevo Laredo	1,518	3,953
San Jose	14,619	7,958	Reynosa-Río Bravo	10,260	14,110
Sacramento	1,929	898	Matamoros	2,819	5,763
Stockton	418	610	<b>Balance of Border States</b>		
Modesto	391	760	Guaymas	1,513	7,437
Fresno	867	932	Chihuahua	9,403	11,029
Bakersfield	927	1,104	La Laguna	5,341	4,393
Oxnard	1,154	1,402	Monclova-Frontera	2,119	6,678
Los Angeles	14,913	1,162	Saltillo	9,169	11,139
Riverside	2,524	597	Monterrey	40,551	9,876
Phoenix	4,168	994	Tampico	2,255	2,624
Albuquerque	890	1,003			
San Antonio	1,505	702			
Austin	3,702	2,157			
Dallas	8,947	1,404			
Houston	16,801	2,825			

Source: Brookings Institution (value in millions). Per capita values calculated using 2010 census counts from the U.S. Department of Commerce, Census Bureau, and Instituto Nacional de Estadística y Geografía.

The per capita value of merchandise imports to México from the United States did not vary as widely across the metro areas as for exports, and the relationship between distance from the international border and the per capita value was not as strong. The per capita value was \$2,680 in the seven border region metros, \$3,264 in the other seven metros in the border states, and \$1,597 in the other 45 metros. Seven of the nation's top 10 metros for per capita value of imports were in the border states, with Chihuahua ranked second (\$4,408) and Reynosa-Río Bravo (\$4,273) ranked third. The figure for all 59 metros was \$1,914.

The net value (exports less imports) of merchandise trade with the United States was positive in all seven of the metro areas in the border region of México and in six of the seven metros in the balance of the border states (see Table 24). A strong relationship existed between distance from the international border and the net per capita value. The net per capita value was \$3,333 in the seven border region metros, \$1,870 in the other seven metros in the border states, and only \$62 in the other 45 metros. Outside of the border states, 26 of the 45 metros had a net trade deficit, due in part to manufacturing being a lesser share of the Mexican economy outside of the border states. Seven of the nation's top 10 metros for net trade value with the United States were in the

**TABLE 24**  
**PER CAPITA VALUES OF MERCHANDISE TRADE WITH THE UNITED STATES,**  
**METROPOLITAN AREAS IN THE MEXICAN BORDER STATES, 2010**

<b>Border Region</b>	<b>Total</b>	<b>Imports</b>	<b>Exports</b>	<b>Exports vs. Imports Net</b>	<b>Ratio</b>
Tijuana	\$7,392	\$2,208	\$5,184	\$2,976	2.35
Mexicali	6,755	2,566	4,189	1,623	1.63
Juárez	11,781	3,149	8,632	5,483	2.74
Piedras Negras	4,781	1,511	3,270	1,759	2.16
Nuevo Laredo	3,953	1,526	2,427	901	1.59
Reynosa-Río Bravo	14,110	4,273	9,837	5,564	2.30
Matamoros	5,763	2,277	3,485	1,208	1.53
<b>Balance of Border States</b>					
Guaymas	7,437	2,959	4,478	1,519	1.51
Chihuahua	11,029	4,408	6,621	2,213	1.51
La Laguna	4,393	2,018	2,375	356	1.18
Monclova-Frontera	6,678	2,915	3,763	848	1.29
Saltillo	11,139	3,167	7,972	4,805	2.52
Monterrey	9,876	3,707	6,174	2,472	1.67
Tampico	2,624	2,092	532	-1,560	0.25

Source: Brookings Institution. Per capita values calculated using 2010 census counts from the Instituto Nacional de Estadística y Geografía.

border states, led by Reynosa-Río Bravo (\$5,564) and Juárez (\$5,483). In contrast, Tampico had one of the largest negative values (-\$1,560). The average of all 59 metros was \$596.

Another way of looking at the relationship between imports and exports is to compute the ratio of exports to imports. In México, the ratio for trade with the United States was 1.31 nationally, and varied from 2.24 in the border region metros to 1.57 in the metros in the balance of the border states to only 1.04 in the other 45 metros. Five metros in the border states, including four in the border region, ranked among the nation's top 10, with Juárez ranking second at 2.74.

The values presented in Table 23 are for trade with all of the United States. Trade with the 100 largest U.S. metro areas — the estimates in the Excel file provided by Brookings — accounted for approximately two-thirds of the national total. Across the seven Mexican metros in the border region, trade with the 100 largest U.S. metro areas accounted for between 60-and-67 percent of the imports, from 64-to-70 percent of the exports, and from 66-to-74 percent of net exports.

For the four metro areas in the U.S. border region, the 59 metro areas in México accounted for between 67-and-80 percent of the total trade with México.

### **Advanced Industries**

Brookings estimates that 56 percent of the total trade (imports plus exports) between México and the United States in 2010 consisted of products of advanced industries. The advanced industries' share was higher at 63 percent for the 59 metro areas in México. In México, the share was correlated to distance from the international border. Advanced industries accounted for 79



percent of the trade in the seven Mexican metro areas in the border region, 67 percent of the total in the seven metro areas in the balance of the border states, and 57 percent of the total in the other 45 metro areas. Five of the border region metros ranked among the top 10 in the nation, led by the 84 percent share in Juárez and the 80 percent shares in Nuevo Laredo and Piedras Negras. Shares were also 80 percent in Chihuahua and Saltillo.

Advanced industries accounted for 47 percent of the U.S. trade with North America; the figure was 49 percent for the 100 largest metro areas. The share was not correlated to distance from the Mexican border. The share varied widely among the metro areas in the border region — 71 percent in San Diego, 50 percent in Tucson, 39 percent in McAllen, and 26 percent in El Paso. The range was even wider in metro areas in the balance of the border states, from 92 percent in San Jose and 79 percent in Austin to 17 percent in Bakersfield and less than 30 percent in Houston, Modesto, and Stockton.

### **Value Per Ton**

As with the advanced industries share, the 2010 value per ton of total trade between México and the United States varied with distance from the international border in México. The figure for the seven border region metros was \$3,605, compared to \$2,619 in the seven other metros in the border states and \$2,069 in the nation's other 45 metro areas. Four border region metros, led by Juárez and Tijuana, and three other metros in the border states were among the nation's top 10 on value per ton of total trade. The figure for all 59 metros was \$2,374.

The value per ton of total trade with North America was only \$1,326 for the 100 largest U.S. metro areas. The value per ton was not correlated to distance from the Mexican border. Again, the figures varied widely across the metro areas in the border region and border states. San Jose and Austin ranked in the top three, while Bakersfield, El Paso, Houston, San Francisco, and Tucson ranked among the bottom 10.

### **Share of U.S. International Trade That Was With México**

For metro areas in the United States, the share of total international trade that was with México in 2010 can be calculated. The share varied with distance from the international border. The share for the four border region metros was 16 percent, compared to 15 percent for the 16 other metros in the border states and 11 percent in the nation's other 80 largest metro areas. The share was highest at 20 percent in El Paso and Bakersfield; it was 19 percent in San Jose and 18 percent in Austin.

### **Trading Partners**

The list of the top 10 trading partners in 2010 presented by Brookings in their summary for each metro area does not vary substantially from one metro area to another since the value is closely correlated to the population size of the trading partner; it also varies with distance. Using the supplemental Excel file provided by Brookings, it is possible to determine the major trading partners on a per capita basis. This analysis focuses on the trading partners of the 11 U.S. and Mexican metro areas in the border region.

Considerable consistency existed across the seven Mexican border region metros in their major U.S. trading partners in 2010 after adjusting for the population of the trading partners. Per capita

imports were highest from San Jose in each of the seven metro areas. San Jose ranked first or second in per capita exports, and was in the top 10 in per capita net exports, in each of the metros. However, the ratio of exports to imports with San Jose was below the metro area's average in each of the seven border metros.

Austin also ranked among the top 10 in per capita value of imports and exports in each of the seven Mexican border region metros. It did not rank as high on net exports. Houston was in the top 10 in each of the border region metros on per capita import value, but did not rank as high on per capita exports. Other metro areas in the U.S. border states that were major trading partners on a per capita basis include San Francisco and San Diego.

A number of U.S. metro areas outside of the border states were major trading partners with most of the seven Mexican border region metros. The large trade volumes were highly related to the major commodities produced in each metro area. The Mexican border region metros generally had a high per capita trade surplus (exports greater than imports) with Jackson, MS; Kansas City, MO-KS; Louisville, KY; Nashville, TN; and Denver, CO. In contrast, the trade surplus was small, or a trade deficit existed, with Portland, OR; Baton Rouge, LA; Boise, ID; New Orleans, LA; Greenville, SC; and Palm Bay-Melbourne-Titusville, FL.

Major trading partners on a per capita basis also were relatively consistent across the four metro areas in the U.S. border region. Most of the major trading partners were metro areas in the border states of México. Per capita imports and exports were particularly high with Reynosa-Río Bravo, Monterrey, Saltillo, Chihuahua, Guaymas, Juárez, Tijuana, and Mexicali.

The four U.S. border region metros had a negative trade balance with each of the metro areas in the border states of México except Tampico. The trade deficit was substantial with each of the seven metro areas in the border region of México as well as with Monterrey and Saltillo. The trade balance with Mexican metro areas outside of the border states ranged from positive to negative, but were substantially negative in only two metros.

### **Commodity Groups**

Based on the commodity information available online, which is limited to the top five commodity groups based on total trade value in each of the 100 largest metro areas in the United States and in each of the 59 Mexican metros, the machinery and tools group was among the top five in each metro in 2010. Electronics was among the top five in nearly all of the metros and motor vehicles was among the top five in nearly all U.S. metros, but only about one-half of the Mexican metros. Chemicals and plastics were among the top five in nearly 90 percent of Mexican metros, but only 60 percent of U.S. metros. Agricultural products were among the top five in half of the U.S. metros and more than half of the Mexican metros. In contrast, the other transportation equipment, wood products, and stones and ores groups were among the top five in hardly any of the metro areas.

Based on the incomplete data available online, the value of trade varied widely across the 12 commodity groups. The value in the electronics group was considerably higher than that of any other group. Other groups with high values included machinery and tools, motor vehicles, and chemicals and plastics.

In most of the commodity groups, the balance of trade was positive in the Mexican metro areas. The magnitude of the trade surplus was largest in electronics and motor vehicles, while the ratio of exports to imports was quite high in motor vehicles and precision instruments. In contrast, a trade deficit was present in the Mexican metro areas in chemicals and plastics.

The estimates in the Excel file provided by Brookings — which provides a complete accounting of imports and exports for each of the 12 commodity groups for trade between each of the 100 U.S. metros and 59 Mexican metros, but which does not provides total imports or exports to the other country — were used for the following discussion, which is limited to the 11 metro areas within the border region.

The overall per capita value of trade with other metro areas varied widely across the border region metros in 2010, as seen in Table 25. The per capita values also ranged widely by commodity group. However, commodity group shares did not vary as widely across the border region metros, especially for imports. In terms of imports to the four U.S. border region metro areas, electronics accounted for the largest share in each, at between 32-and-38 percent. The machinery and tools group and the motor vehicles group ranked second or third in each metro, each with shares in the mid-teens except in San Diego, which had a much higher share for machinery and a lesser share for motor vehicles. Other variations from the norm included higher import shares in El Paso for energy products and metals, and higher shares in McAllen for agricultural products and textiles and furniture.

Export shares from the four U.S. border region metros identify specializations in each of the metro areas. Electronics accounted for nearly half of the exports from San Diego and Tucson, but only 9-to-15 percent in El Paso and McAllen. Precision instruments accounted for 7-to-9 percent of the exports from San Diego and Tucson, compared to less than 1 percent in El Paso and

**TABLE 25**  
**PER CAPITA VALUES OF TRADE OF METROPOLITAN AREAS IN THE BORDER REGION, LIMITED TO TRADE WITH OTHER METROPOLITAN AREAS, 2010**

	Imports	Exports	Exports vs. Imports Net	Ratio
<b>Trade With 59 Mexican Metro Areas</b>				
El Paso	\$388	\$300	-\$87	0.77
McAllen	184	47	-137	0.25
San Diego	715	402	-313	0.56
Tucson	357	160	-197	0.45
<b>Trade With 100 Largest U.S. Metro Areas</b>				
Tijuana	1,478	3,643	2,165	2.46
Mexicali	1,679	2,878	1,200	1.71
Juárez	2,063	5,913	3,850	2.87
Piedras Negras	913	2,077	1,165	2.28
Nuevo Laredo	959	1,633	674	1.70
Reynosa-Río Bravo	2,810	6,662	3,852	2.37
Matamoros	1,443	2,327	884	1.61

Source: Brookings Institution. Per capita values calculated using 2010 census counts from the U.S. Department of Commerce, Census Bureau, and Instituto Nacional de Estadística y Geografía.

McAllen. San Diego had a much higher share of exports of machinery and tools than the other three metros. Tucson had a relatively high share of stones and ores; El Paso had relatively high shares of energy products, metals, and chemicals and plastics; and in McAllen, agricultural products and wood products had relatively high shares.

While the overall trade balance was negative in each of the four U.S. border metros, each had a positive trade balance in some commodity groups. El Paso had the largest trade surpluses, in the energy products, chemicals and plastics, and metals groups. El Paso had small surpluses in wood products and other transportation equipment. Other than a moderate surplus in Tucson in stones and ores, the other surpluses were small.

Electronics accounted for the largest share of imports to each of the seven Mexican border region metro areas, at between 31-and-49 percent. Shares in the machinery and tools group ranged from 9 percent in Juárez to 20 percent in Matamoros. Other variations from the norm included a higher import share in Mexicali for other transportation equipment, higher shares in Nuevo Laredo for energy products and motor vehicles, a higher share in Piedras Negras in motor vehicles, and a higher share in Reynosa-Río Bravo in precision instruments.

Export shares did not vary as much across the seven Mexican border region metros as across the four U.S. border region metros. Electronics accounted for between 45 and 56 percent of the exports except for a much lower share from Piedras Negras. Considerable variation in share existed in motor vehicles, from 51 percent in Piedras Negras and 31 percent in Nuevo Laredo to less than 5 percent in Reynosa-Río Bravo and Tijuana. The machinery and tools share was mostly near 10 percent, but was 25 percent in Reynosa-Río Bravo.

While the overall trade balance was positive in each of the seven Mexican border metros, this largely resulted from large trade surpluses in the electronics, machinery and tools, and motor vehicles groups (see Table 26). Most of the border region metros also had surpluses in precision instruments and textiles and furniture, but had deficits in each of the other categories. Juárez and Tijuana had moderately large surpluses in precision instruments and Reynosa-Río Bravo had a large surplus in energy products.

**TABLE 26**  
**NET TRADE BALANCE PER CAPITA OF METROPOLITAN AREAS IN THE**  
**BORDER REGION, LIMITED TO TRADE WITH OTHER METROPOLITAN AREAS,**  
**2010**

<b>Trade With 59 Mexican Metro Areas</b>	<b>San Diego</b>	<b>Tucson</b>	<b>El Paso</b>	<b>McAllen</b>			
Agricultural Products	\$-12	\$-12	\$-5	\$3			
Stones and Ores	0	14	0	0			
Energy Products	-9	-4	34	-1			
Chemicals & Plastics	2	2	27	-3			
Wood Products	1	-1	6	3			
Textiles & Furniture	-27	-21	-4	-18			
Metals	-6	-3	23	-3			
Machinery & Tools	-110	-42	-24	-24			
Electronics	-60	-63	-76	-55			
Motor Vehicles & Parts	-72	-56	-53	-36			
Other Transportation Equipment	3	2	2	3			
Precision Instruments	-22	-12	-18	-9			
<b>Trade With 100 Largest U.S. Metro Areas</b>	<b>Tijuana</b>	<b>Mexicali</b>	<b>Juárez</b>	<b>Piedras Negras</b>	<b>Nuevo Laredo</b>	<b>Reynosa - Río Bravo</b>	<b>Matamoros</b>
Agricultural Products	\$-6	\$57	\$-17	\$51	\$-26	\$-1	\$26
Stones and Ores	-2	0	-3	-3	-1	-4	-2
Energy Products	-115	-141	-126	-82	-123	685	-75
Chemicals & Plastics	-86	-152	-228	-102	-107	-221	-92
Wood Products	-24	-24	-31	-16	-18	-39	-20
Textiles & Furniture	120	10	76	0	3	60	5
Metals	-37	-47	-41	-19	-31	-68	-43
Machinery & Tools	287	23	391	76	-57	1,366	54
Electronics	1,327	898	2,172	326	454	1,894	667
Motor Vehicles & Parts	106	326	951	936	393	171	365
Other Transportation Equipment	-18	-106	-2	0	0	-6	0
Precision Instruments	616	356	708	-2	186	18	0

Source: Brookings Institution. Per capita values calculated using 2010 census counts from the U.S. Department of Commerce, Census Bureau, and Instituto Nacional de Estadística y Geografía.

## MÉXICO INTERNATIONAL TRADE

The trade data reported by the federal government of México are expressed in dollars. The values of trade between the United States and México reported by the Secretaría de Economía do not match the figures produced by the U.S. federal government, as reported by the BTS. Between 2004 and 2013, the value of goods shipped from México to the United States was consistently higher in each year as reported by the Secretaría de Economía than by the BTS; with the differences ranging between 4-and-7 percent. The estimates of the value of goods shipped from the United States to México made by the Secretaría de Economía were quite close to those from the BTS for 2004 through 2008, but since then, the figures from the Secretaría de Economía have been lower than the BTS figures; the differential reached was 21 percent in 2013. Thus, differences in the trade balance estimated by the two organizations have increased over time; in 2013, the Secretaría de Economía reported a positive figure for México of \$112 billion while the figure from the BTS was \$54 billion.

The dollar values of Mexico's international trade were deflated using the U.S. GDP implicit price deflator in order to examine the time series. Totals for 1980 through 2013 are displayed in Chart 3. The real values of Mexican imports and exports have increased substantially since 1990, beginning to rise before the implementation of the NAFTA at the beginning of 1994. The trade balance has remained near zero as the pace of growth of imports has been similar to exports.

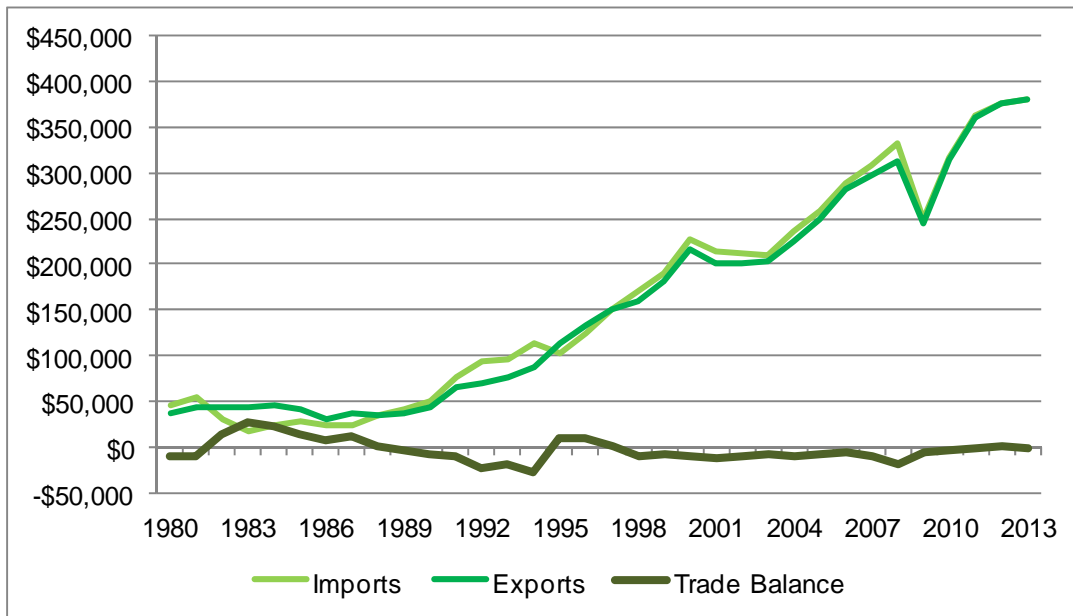
In Chart 4, the trade values for México since 1993 are divided between the United States and the balance of the world. The annual average real increase in imports was 8.1 percent between 1993 and 2003 and 6.2 percent between 2003 and 2013. The real gain in exports was even larger, at 10.2 percent from 1993 through 2003 and 6.5 percent from 2003 through 2013. The real values of both imports and exports slipped in the recession of the early 2000s and fell sharply during the deep recession in 2009, but quickly recovered and resumed their expansion.

In the mid-1990s, about three-fourths of the imports to México came from the United States. The share dropped steadily to 48 percent in 2009; in 2013, the U.S. share was 49 percent. In each year from 1997 through 2009, the percentage change in imports from the United States was less than the figure from the rest of the world, with a substantial difference in each year from 2000 through 2007.

The United States is an even more dominant trading partner in terms of exports from México. The U.S. share rose from 83 percent in 1993 to 89 percent in 2000, then dropped back to 78 percent in 2012; the 2013 figure was 79 percent. Exports to the United States increased at a faster pace than to the rest of the world in each year from 1996 through 2000, but rose at a slower pace in each year since 2001 other than 2009 and 2013.

The trade balance for México is displayed in Chart 5. Overall, México had a small trade deficit in every year from 1998 through 2013. In 1993 and 1994, the trade balance was slightly negative with both the United States and the balance of the world. Since then, a sizable positive trade balance has developed with the United States. In contrast, a large trade deficit has developed with the rest of the world, though the magnitude of the deficit has not deepened much since 2008.

**CHART 3**  
**MÉXICO IMPORTS, EXPORTS, AND TRADE BALANCE 1980 TO 2013**  
**Values in Millions of 2013 Dollars**



Source: Instituto Nacional de Estadística y Geografía. Values deflated by U.S. gross domestic product implicit price deflator, from U.S. Department of Commerce, Bureau of Economic Analysis.

### Products

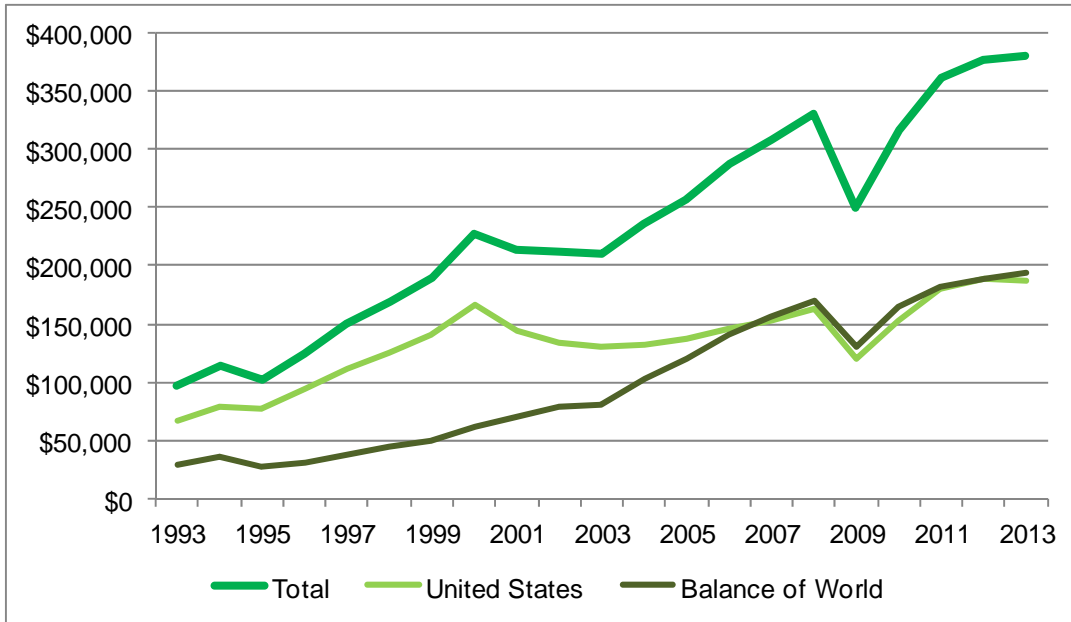
México provides data on the top 50 products imported and exported, but does not provide tallies by two-digit product classifications. In 2013, the top 50 products accounted for 52 percent of all exports and 32 percent of all imports. Thirty-seven of the top 50 exports, including eight of the top 10, and 35 of the top 50 imports, including all of the top 10, were in only four of the nearly 100 two-digit product classifications: mineral fuels and oils, machinery and mechanical equipment, electrical machinery and equipment, and vehicles. The list of the leading exports to the world is quite similar to the list of leading exports to the United States, but the two lists for imports are not so highly correlated.

The major product exported from México was crude petroleum, with its 2013 value of \$42.8 billion accounting for 11.3 percent of total exports. The United States was the destination of 72 percent of the crude oil exported. In addition to crude oil, pure mineral oil shipped by tanker, and combustible fuel oil were among the top 50 exports; the value of these three categories was \$47.4 billion. In contrast, Mexico imported a substantial volume of gasoline and other fuels. The import value of five categories totaled \$27.3 billion, with more than 80 percent coming from the United States. Gasoline ranked first, and diesel fuel, fifth among the imports to México.

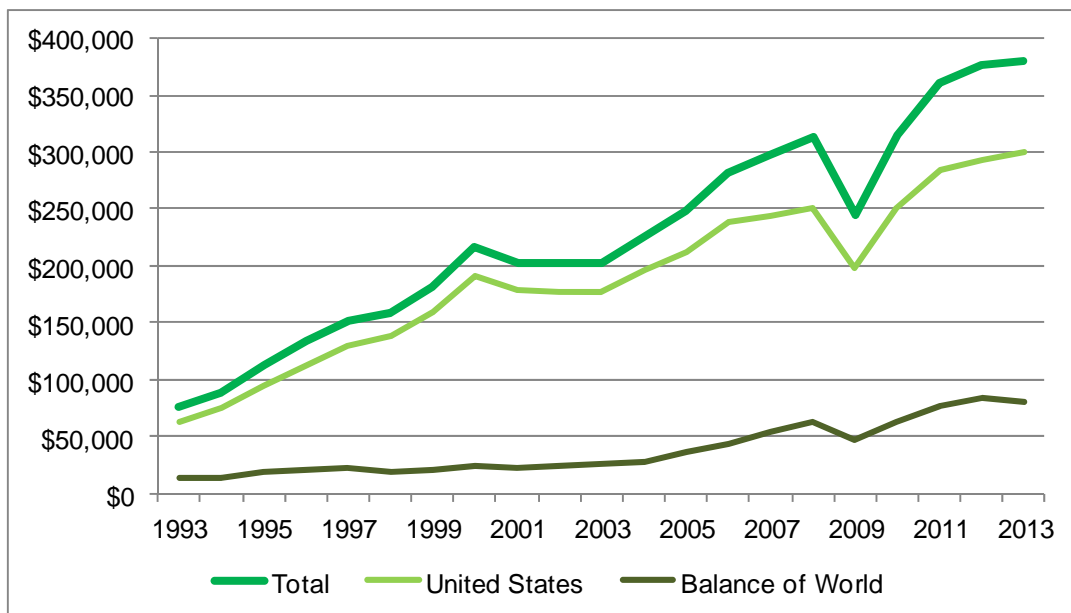
Twelve products within the vehicle classification were among the top 50 exports from México, with three among the top 10, consisting of passenger vehicles, trucks, road tractors, and parts. The export value of these 12 vehicle products was \$57.1 billion, with 80 percent shipped to the United States. Seven motor vehicle products, consisting of passenger vehicles and parts, were

**CHART 4**  
**MÉXICO IMPORTS AND EXPORTS, 1993 TO 2013**  
 Values in Millions of 2013 Dollars

**IMPORTS**



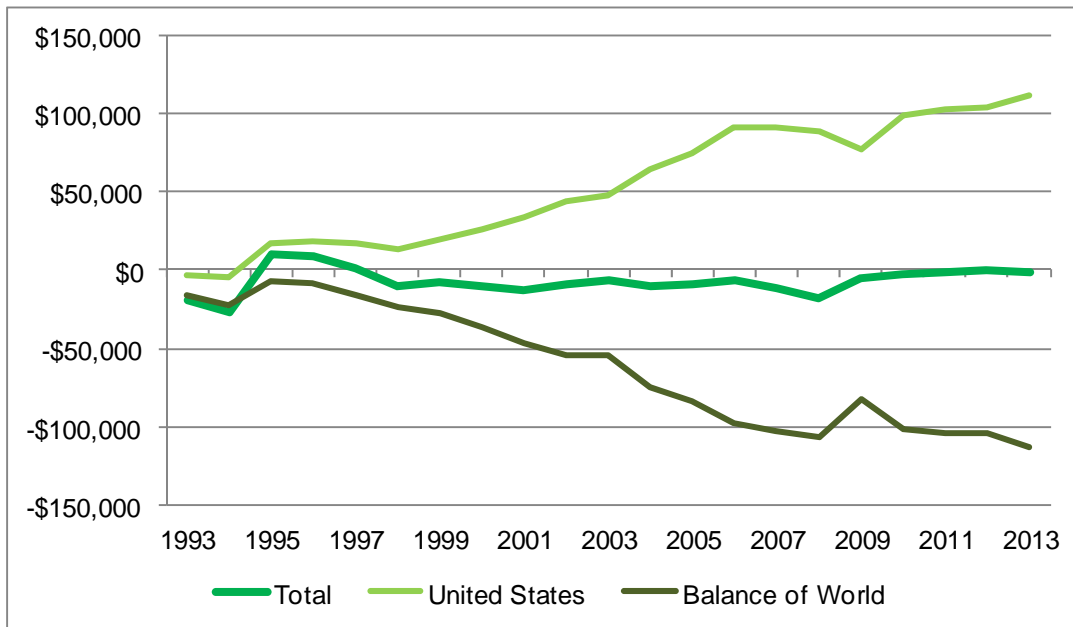
**EXPORTS**



Source: Secretaría de Economía, Subsecretaría de Comercio Exterior, using data from the Banco de México. Values deflated by U.S. gross domestic product implicit price deflator, from U.S. Department of Commerce, Bureau of Economic Analysis.



**CHART 5**  
**MÉXICO TRADE BALANCE, 1993 TO 2013**  
 Values in Millions of 2013 Dollars



Source: Secretaría de Economía, Subsecretaría de Comercio Exterior, using data from the Banco de México. Values deflated by U.S. gross domestic product implicit price deflator, from U.S. Department of Commerce, Bureau of Economic Analysis.

among the top 50 imports, but the value of these seven products only totaled \$14.7 billion. The U.S. share was only 55 percent.

In the electrical machinery and equipment classification, 23 products appeared on the top 50 list of imports and/or exports. Seven were related to telephones, three to television reception, four to electronic integrated circuits, etc. Twelve products were among the top 50 exports, including two in the top 10; the value of these 12 products was \$40.1 billion. More than 80 percent of these exports were shipped to the United States. Sixteen electrical machinery and equipment products were among the top 50 imports, including four in the top 10. The United States was the source of low-to-moderate shares of these imports.

In the machinery and mechanical appliances classification, 14 products appeared on one or both of the top 50 lists of imports and exports. Half of these, including all ranking in the top 10, were in the automatic data processing machine category; four were engine-related. Ten products were among the top 50 exports, including two in the top 10. The total value of these 10 was \$26.8 billion. The U.S. share was 90 percent. Seven machinery and mechanical appliances products were among the top 50 imports, including three in the top 10. Their total value was \$17.3 billion. The United States accounted for a high proportion of two of these products, both diesel engines, but the U.S. share was quite low in the others.

Outside of these four primary two-digit classifications, three others had moderate values of exports. Two precious metals — unwrought silver and unwrought gold — were among the top

50 exports, with the gold product among the top 10. The United States received 92 percent of the silver and 60 percent of the gold. One furniture product (parts for seats) was among the top 10. Three products in the instruments classification were among the top 50: two in the medical category and one regulating and controlling instrument.