



Economic Impact Analysis of Fresh Mangoes Imported by the United States

CNAS Report: 2024-03

December 6, 2024

Luis A. Ribera, Landyn Young and Dan Hanselka¹

Introduction

The United States imported 554.2 thousand metric tons (TMT) of fresh mangoes valued at \$571.4 million in 2023 (Figure 1). The top five suppliers of those fresh mangoes accounted for 96.9 percent of total imports in the same year. Mexico is the largest supplier with 372.5 TMT followed by Peru, 77.2 TMT, Brazil, 48.3 TMT, Ecuador, 21.3 TMT and Guatemala, 17.1 TMT.

The following study assesses the economic impact of fresh mangoes imported by the United States. Selected economic impact indicators were estimated using IMPLAN in combination with publicly available trade and market data. IMPLAN is a model that estimates the economic impact of events or policy changes. It uses input-output modeling to track how economic sectors and relationships influence each other. IMPLAN collects data from multiple federal and state sources, including the Bureau of Economic Analysis, Bureau of Labor Statistics, and U.S. Census Bureau. Economists classify the effects of economic activity as having **direct**, **indirect**, and **induced effects**. The total economic impact of fresh mango imports to the United States will be the sum of the direct, indirect, and induced effects that it generates from the moment the product reaches the different U.S. ports of entry all the way to the final retailers. The **direct effect** represents the creation of gross sales, net wealth, and jobs of taking the imported fresh mangoes through the supply chain i.e. transportation, wholesale, and retail. The purchases of other products or services in the local economy, including packaging, equipment, tools, and countless services from financial, real estate, and input supply businesses that generate upstream business activity and employment in the region, these impacts are termed **indirect effects**. Lastly, the wage earners, stockholders, and rent recipients associated with the industry and its upstream suppliers will spend some of their industry-generated income as consumers in the local economy, which generates business activity and stimulates employment in sectors like real estate, recreation, and the service industry. The latter economic impacts are classified as **induced effects**. Therefore, economic multipliers for each sector of the economy were used to estimate how fresh mango imports to the U.S. impact business activity, income, and employment along the supply chain from U.S. ports of entry all the way to the final retailers.

¹ Authors are, respectively, Professor and Extension Economist and Director, Center for North American Studies; Program Manager, Center for North American Studies; and Extension Program Specialist I. All are with Texas A&M AgriLife Extension Service.

Economic Impact of Imported Fresh Mangoes

U.S. imports of fresh mangoes has increased over the last six years from 476.8 TMT in 2018 to 554.2 TMT in 2023 with an annual value ranging between \$429.4 and \$588.5 million. The reported value of fresh mangoes imported into the U.S. in 2023 (i.e., \$571.4 million) was used to estimate its subsequent value at the retail level. Particularly, the U.S. retail value of fresh mangoes was calculated using Nielsen Answers on Demand average U.S. retail price of \$1.23 per pound for 2023 times the volume imported as reported by USDA FAS GATS. For 2023, the retail value of imported fresh mangoes was estimated at \$1.5 billion. Using this retail value, the marketing of fresh imported mangoes generated an estimated \$931.6 million, which is the difference between the retail value and the imported value, in direct economic output on the U.S. economy in 2023 (Table 1). At the retail level, output represents the retail margin (gross sales adjusted for retail margin). This impact accounts for supply chain-related expenditures, including transportation, wholesale, and retail services associated with the sale of fresh fruits. When adding in the indirect and induced effects generated from the movement and marketing of fresh mangoes imported in 2023, total economic output is estimated at \$2.4 billion (Table 1). The indirect and induced effects include business to business-related spending and household expenditures (employees in supporting sectors spending their wages). In addition, a total of 16,159 full- and part-time jobs are supported in the United States through the economic activities around the import and marketing of fresh mangoes. These jobs are an industry-specific mix of full-time, part-time, and seasonal employment throughout the supply chain using data from multiple federal and state sources.

Of the estimated value generated in the United States by imported fresh mangoes, the direct impact includes \$454.4 million for the retail industry, \$356.1 million for the wholesale sector, and \$108.5 million for transportation (Table 1). An additional \$613.6 million is generated by all the supporting activities through the supply chain of these mangoes. Lastly, \$852.1 million in induced effects in the U.S. economy is associated with household spending derived from the import and marketing of fresh mangoes. A summary of the economic activity by the top five fresh mango suppliers are shown in Table 2.

The four industries most impacted (directly) by the imports of fresh mangoes are retail (\$454.4 million), wholesale (\$356.1 million), and transportation (\$108.5 million) (Figure 3). It is estimated that fresh mango imports require 9,445 full- and part-time jobs directly with an additional 6,714 full- and part-time jobs through indirect (supporting industries) and induced effects (household spending). The industries that account for the majority of these jobs, directly, are retail (4,607 jobs) wholesale (3,611 jobs), and transportation (1,100 jobs) (Figure 4). The remainder of the jobs are spread among numerous sectors including warehousing, management, restaurants, and hospitals.

Summary

A total of \$571.4 million worth of fresh mangoes were imported in 2023, with an estimated retail value of \$1.5 billion. The total economic impact associated with the import and sale of fresh mangoes was estimated at \$2.4 billion, which is comprised of \$931.6 million in direct effects and \$1.5 billion in indirect and induced effects. In addition to the economic activity generated, fresh mango imports supported 16,159 full- and part-time jobs across the United States in various supporting and related industries.

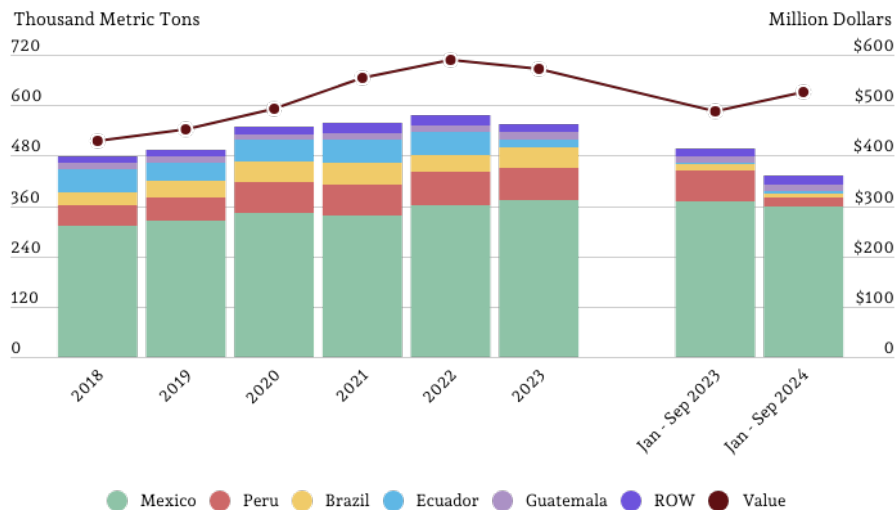
References

2024 Data, IMPLAN System (data and software), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078 www.IMPLAN.com

USDA ERS. 2023. Food Availability (Per Capita) Data System.

USDA Foreign Agricultural Service (FAS). Global Agricultural Trade System (GATS). <https://gats.fas.usda.gov/>. Online public database accessed October-November 2024.

Figure 1: U.S. Imports of Fresh Mangoes



Source: GATS, USDA/FAS

Figure 2: Economic Impact of Mango Imports

Total Economic Impact: \$2,397,247,028



Source: IMPLAN Model Estimation

Table 1: Summary of Economic Activity of Mangoes Imported to the United States

	Economic Output (Millions)	Employment
Total Direct	\$ 931.6	9,445
<i>Retail</i>	\$ 454.4	4,607
<i>Wholesale</i>	\$ 356.1	3,611
<i>Transportation</i>	\$ 108.5	1,100
<i>Other Direct</i>	\$ 12.6	127
Total Indirect	\$ 613.6	2,680
Total Induced	\$ 852.1	4,034
Total Output	\$ 2,397.3	16,159

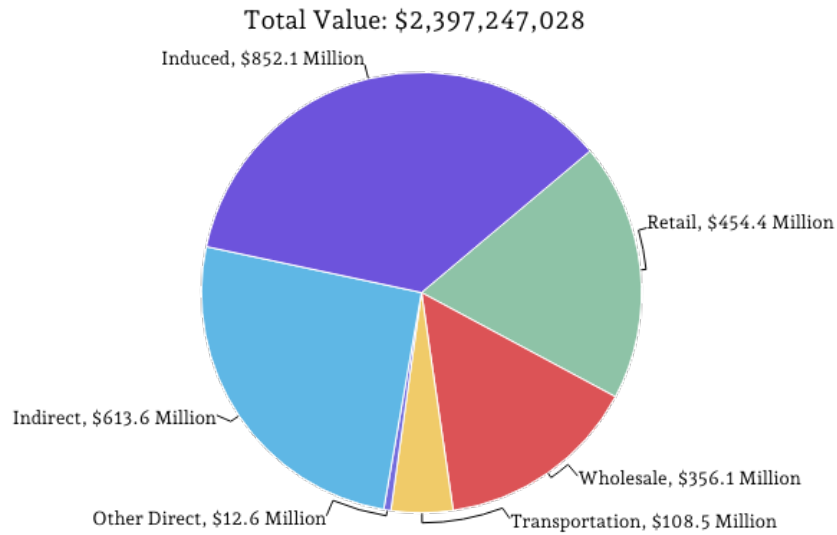
Source: IMPLAN Model Estimation

Table 2: Summary of Economic Activity of Mangoes Imported to the U.S. by Country

	Direct	Indirect	Induced	Total	Employment
	(Millions)				
Mexico	\$ 572.8	\$ 377.3	\$ 524.0	\$ 1,474.0	9,936
Peru	\$ 145.8	\$ 96.0	\$ 133.3	\$ 375.1	2,529
Brazil	\$ 100.9	\$ 66.4	\$ 92.3	\$ 259.6	1,750
Ecuador	\$ 42.7	\$ 28.1	\$ 39.0	\$ 109.8	740
Guatemala	\$ 20.2	\$ 13.3	\$ 18.5	\$ 52.0	351
ROW	\$ 49.3	\$ 32.4	\$ 45.0	\$ 126.7	854
Total	\$ 931.6	\$ 613.6	\$ 852.1	\$ 2,397.3	16,159

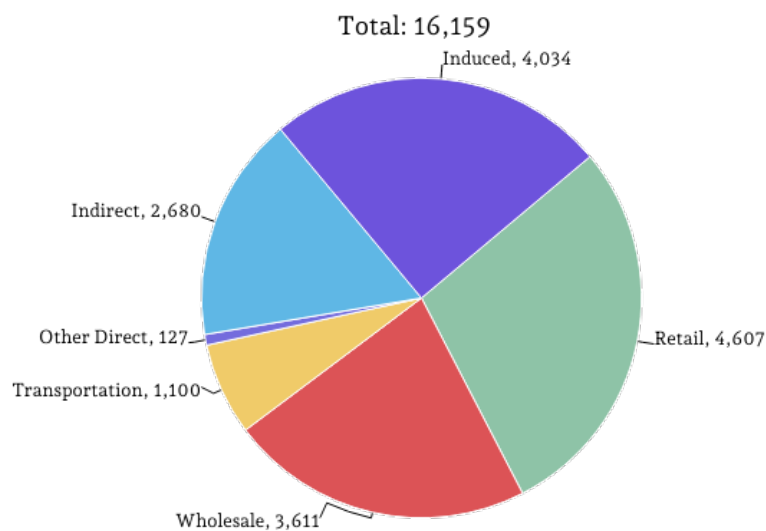
Source: IMPLAN Model Estimation

Figure 3: U.S. Industry Impact of Imported Mangoes



Source: IMPLAN Model Estimation

Figure 4: Jobs Sustained by Imported Mangoes



Source: IMPLAN Model Estimation

For further information, please contact Luis Ribera, lribera@tamu.edu or call 979-845-3070.
<http://cnas.tamu.edu>