

Analysis of avocado trade competitiveness between Mexico and the European Union from 2001 to 2018

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Abstract

The avocado is a key agricultural product for Mexican exports, the association agreement between Mexico and the European Union has made it possible to enhance trade, that is why the commercial position of Mexico in the European market was determined, which was compared with the commercial position of the EU; variables such as exports, imports and production in the period 2001-2018 were taken into account, with which indices were made to determine competitiveness. The trade indices served to reveal the degree of competitiveness of both competitors; as a result, it was obtained that the avocado, even though the market share decreased, competitiveness has improved, which indicates that the demand of the European market has grown in greater quantity than Mexican exports. It is concluded, through the competitiveness indices, that trade has increased, mainly benefiting Mexican exporters, who have permanent comparative advantages, which makes them highly competitive in the production and trade of avocados.

Keywords: export openness, import penetration, tradability.

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In Mexico, several avocado-producing areas are identified, the central-western region contributes 92.2% of the national total, Michoacán is the largest producer, it participates with 96.3% at the regional level, and with 86.3% at the national level. In the country, the area planted increased 1.9%, going from 231 028 ha in 2018 to 235 317 in 2019. The total area harvested went from 170 971 ha in May 2018 to 181 637 in 2019, an increase of 6.2% (SADER, 2019).

Production is seasonal and involves price fluctuations with respect to availability, which decreases from April to July (Infobae, 2019). In 2014, Mexico ranked as the export leader with 806 367 t, which represented 53% of national production and 66.2% of world trade. The US market is the main destination, absorbing 85.5% of total exports (Franco *et al.*, 2018), this commercial concentration does not favor Mexico, secondary markets must be analyzed as an alternative to reduce dependence.

The European Union (EU) is the largest alternative market for agricultural exports, the trade balance is in deficit for Mexico, trade amounted to 62.1 billion dollars in 2015, with a significant surplus for the EU of 25.3 billion dollars (Delegación de la Unión Europea en México, 2016). It was observed that the EU's share of exports decreased from 6.5% in the years prior to the signing of NAFTA to only 3.7% in 2004 (Málaga and Williams, 2010).

Trade is governed by the association agreement, it was adopted by the European Council on September 28, 2000 (Cámara de diputados, 2000), the agreement made Mexico the Latin American country with the most diversified basket of products exported to the EU with tariff preferences (Herrera, 2018). In April 2020, Mexico and the EU concluded the negotiations on the modernization of the free trade agreement between the EU and Mexico (TLCUEM, for its acronym in Spanish), it was possible to protect sensitive products for Mexico, such as apples, peaches and dairy products (SICE, 2018).

The objective of the research is to identify the advantages in the trade of avocado in the European market and determine if the Mexican avocado is competitive, which will allow knowing the commercial position of the avocado. The hypothesis of the research is that, with the application of competitiveness indices, it will be possible to identify the strengths or weaknesses in terms of competitiveness and the capacity that Mexico must export avocado to the European market.

The Inter-American Development Bank (IDB) links the competitiveness of an economy to the creation of the necessary conditions for business development and the sustainable increase in productivity and per capita income (BID, 2004). Competitiveness is based on the dynamic capacity of an agri-food chain to maintain, expand and continuously and sustainably improve its participation in the market, through the production, distribution and sale of goods and services, seeking the benefit of society as the ultimate goal (Rojas, 1999).

Economic relations between countries differ from economic relations between different parts of a nation, this gave rise to different problems that require different methods for their analysis and justifies the existence of the international economics as a formal branch (Aguilar, 2013). The classical theory of international trade establishes a model of international trade in such a way that, from it, the causes of this commercial exchange between countries and the advantages it has for those countries that benefit from it could be explained (Ruiz, 2017).

A comparative advantage is any characteristic that isolates or distinguishes a nation from competitors. A competitive advantage is sustainable when it remains in time and has developed through the enhancement of the production of goods and services (Ricardo, 1817). As countries specialize, a division of labor occurs in the country, this international division of labor implies that specialization deepens and that productive processes are concentrated in order to exchange them (Leandro, 2017).

Authors such as Porter (2002) call competitive advantage the value that a company is able to create for its customers, in the form of prices lower than those of competitors for equivalent benefits, or by the forecast of differentiated products whose revenues exceed costs. Competitive strategy is what a company is doing to try to disarm rival companies and obtain a competitive advantage. A company's strategy can be basically offensive or defensive, shifting from one position to another depending on market conditions. In the world, companies have tried to follow every conceivable approach to beat their rivals and obtain an advantage in the market (Garza, 2007).

Analyzing the evolution of trade reveals how specialized, competitive and efficient one is, based on exports and imports. To determine the competitiveness of avocado, it is established as an assumption that production is more competitive when, in addition to satisfying domestic demand without the need to resort to imports, a high proportion of it is destined for exports. Employing the methodology presented by Schwartz *et al.* (2007). Where: X= are exports; M= imports; and P= production in the period 2001-2018.

Relative trade balance

This indicator measures the relationship between the trade balance of a product and the total trade of the same product for a country in the world market or in a specific market. It is calculated as $A = (X-M)/(X+M)$, if the index approaches 1, the importance of exports in relation to imports will be greater.

Tradability

If the value obtained is close to -1, they can be important recipients of the products since they are countries totally dependent on imports. Countries with indices close to 0 indicate capacity close to self-sufficiency. When the indicator is greater than zero, the sector is considered an exporter, and is a competitive sector within the country. It is calculated from $T = (X-M)/(P+M-X)$.

Degree of export openness

This indicator shows how good exporters they are, excluding apparent consumption. With an index close to 0, one is less competitive, since a large part of its production is oriented to the domestic market, it establishes the export vocation of the country and its ability to build permanent advantages, it is calculated as: $EO = X/(P + M-X)$.

Degree of import penetration

It shows the ratio of a country's imports to its apparent consumption. The higher the index, the greater the purchasing power, and therefore that country is said to be less competitive, since it is not able to produce enough to supply its domestic market. It is calculated as: $IP= M/(P+M-X)$.

Exports, imports, trade balance and production of Mexico

Figure 1 shows that imports are not significant with respect to exports and therefore the trade surplus is almost equal to exports; on average imports, with respect to exports, only represent 0.2%. Exports in total grew by 1 425%, imports had zero growth.

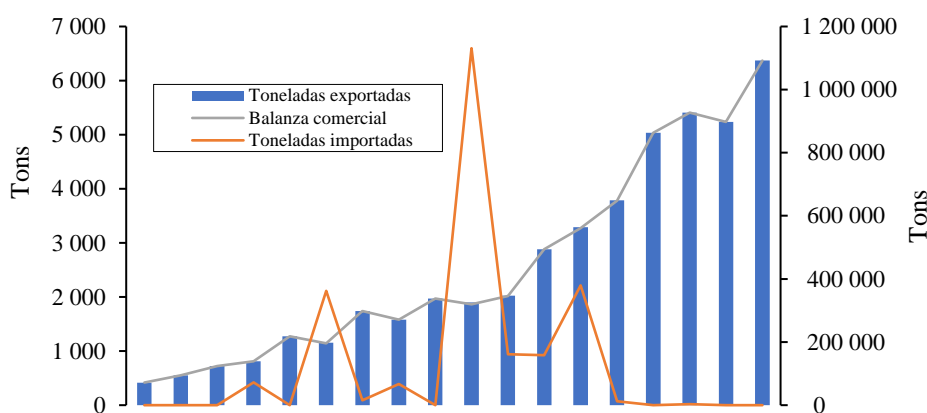


Figure 1. Behavior of exports, imports and trade balance of avocado in Mexico 2001-2018 (t). Prepared with data from TRADEMAP (2021).

Figure 2 shows the production at the national level, which has increased, the production was 940 229 t in 2001 and 1831 538 t in 2018. The increase in production may be due to the creation of new varieties that are more efficient and resistant to pests and diseases, especially Michoacán and Morelos.

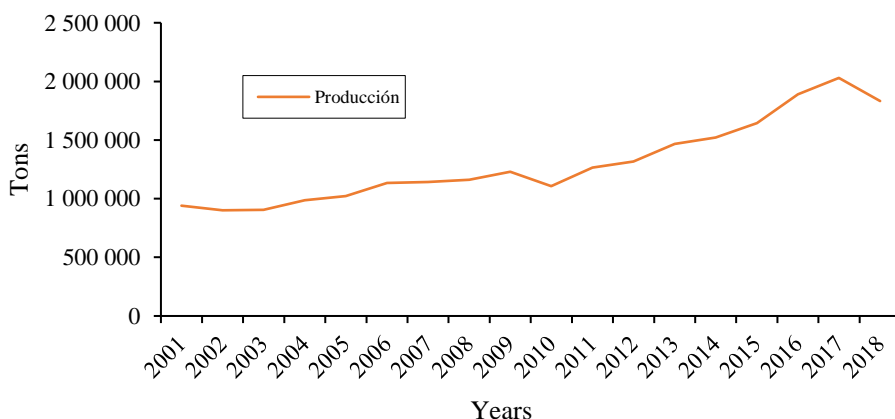


Figure 2. Behavior of avocado production in Mexico from 2001-2018 (t). Prepared with data from SIAP.

Exports, imports, trade balance and production of the EU

Figure 3 shows that net exports are negative, on average imports, with respect to exports, represent 222.7%, only in 2011 imports did not exceed 200% of exports. Exports grew 385%. Imports grew by 405%. The net trade balance deficit increased by 426%.

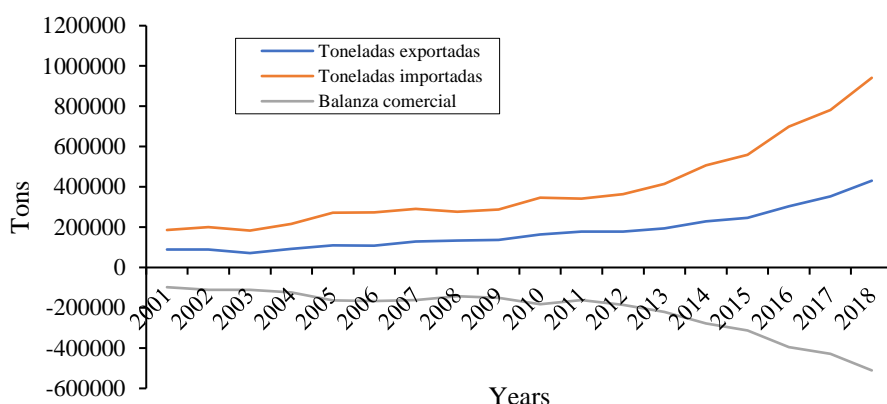


Figure 3. Behavior of exports, imports and trade balance of avocado of the EU 2001-2018 (t). Prepared with data from TRADEMAP (2021).

The production, represented in Figure 4, grew, in 2001 the production was 79 093 t and in 2018 it was 90 929 t. The increase can be explained by the popularization of the product, it is an emerging market that has generated incentives within the EU for the production of products of high local demand even though they are not traditionally grown in the region.

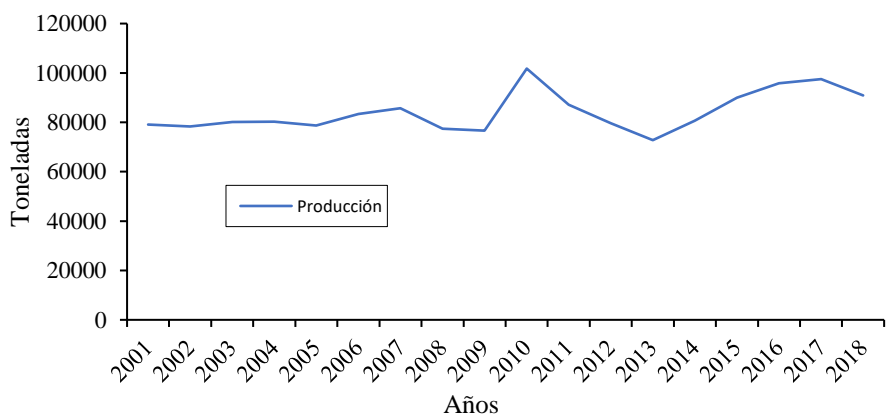


Figure 4. Behavior of avocado production in the EU from 2001-2018 (t). Prepared with data from EUROSTAT.

Proportion of Mexican avocado exports in EU imports

Figure 5 shows the proportion of Mexican exports in EU imports, they represented 6.9% in 2001 and 12.7% in 2003, the year with the highest proportion, in 2004 there was a fall due to the high price, it was 1462.61 dollars per ton, slightly higher than the price registered in the market.

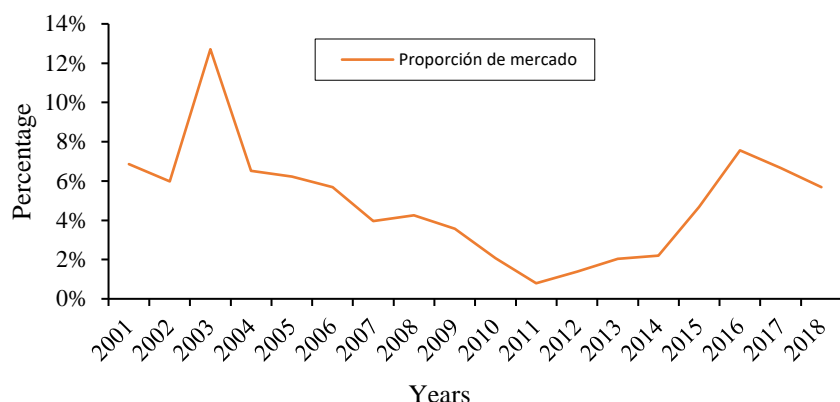


Figure 5. Proportion of Mexican exports in total EU avocado imports from 2001 to 2018. Prepared with data from TRADEMAP.

Relative trade balance index

In Figure 6, the index of the EU is negative, which shows that it is a net importer and demonstrates the potential of the EU to purchase avocado, for Mexico, the indicator shows a competitive advantage because the value is positive. The indicator demonstrates that the EU has no competitive advantage, the average relative trade balance was -0.37.

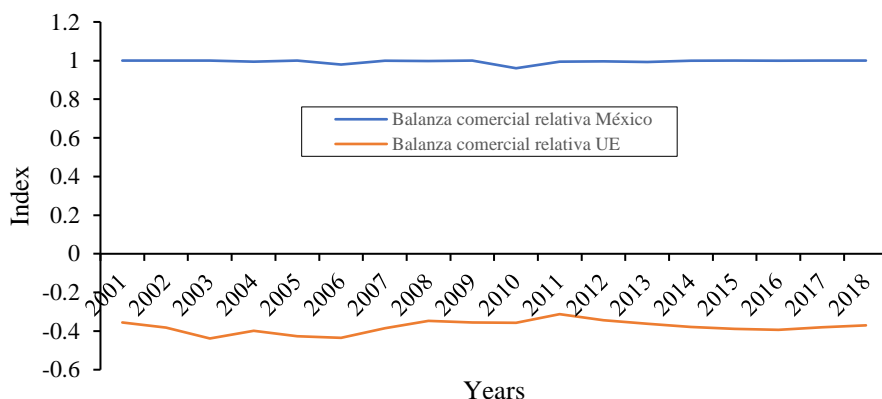


Figure 6. Relative trade balance index of avocado for Mexico and the EU from 2001 to 2018. Prepared with data from TRADEMAP, FAOSTAT and SIAP (2021).

Tradability index

In Figure 7, regarding the EU, an average tradability index of -0.68 was found, the indicator indicates that the region is not self-sufficient and that it requires imports to meet domestic demand. Mexico shows an increasing competitiveness, in the period the average indicator was 0.5, it shows the production and trade of avocado as a competitive activity.

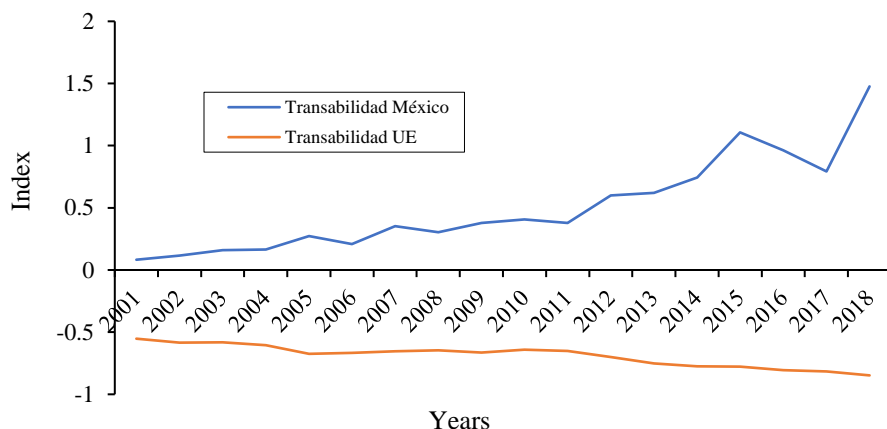


Figure 7. Tradability index of avocado for Mexico and the EU from 2001 to 2018. Prepared with data from TRADEMAP, FAOSTAT and SIAP (2021).

Index of degree of export openness

The index is represented in Figure 8, for the EU, it evidences that the region is successful in the commercial aspect, it also has relative advantages in trade, production does not satisfy the domestic market and they must promote production. For Mexico, it shows that it has relative advantages in production, it should be considered as a strategic product for the development of the sector.



Figure 8. Index of degree of export openness of avocado for Mexico and the EU from 2001 to 2018. Prepared with data from TRADEMAP, FAOSTAT and SIAP (2021).

Index of degree of import penetration

In Figure 9, it is observed that values close to zero were obtained for Mexico, it means that the productive sector is competitive; imports are small with respect to exports, they tend to be 0. For the EU, the values were greater than 1, which means that the sector is not competitive, imports are large with respect to exports.

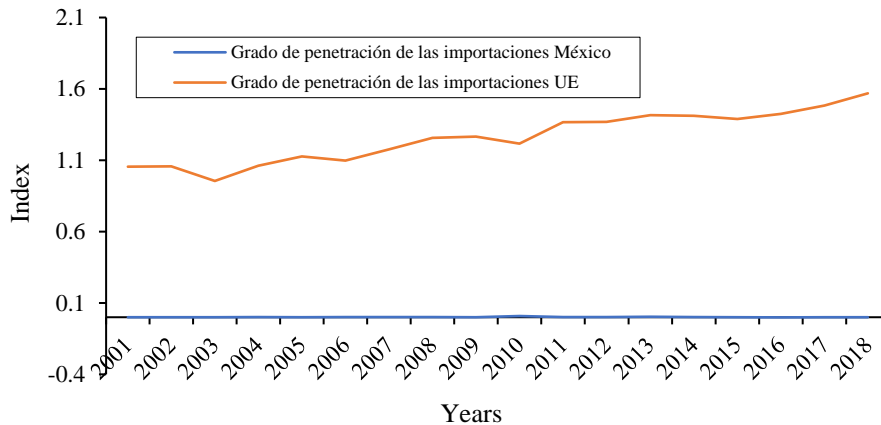


Figure 9. Index of degree of penetration of avocado imports for Mexico and the EU 2001-2018.
Prepared with data from TRADEMAP, FAOSTAT and SIAP (2021).

Conclusions

Mexican exports had an increasing behavior, imports had a slightly higher growth, the trade balance grew, which reflects the competitiveness of the Mexican avocado. Production is growing, the introduction of new technologies and efficient varieties have made it possible to increase the proportion of harvested area with respect to the planted area. In the case of the EU, imports are many with respect to exports and production, imports with respect to exports represent double, avocado exports had an increasing behavior, the trade deficit increased. Production in the EU increased, the sector is not competitive.

The relative trade balance in the case of Mexico shows that it is a competitive exporter. For the EU, imports have the greatest importance, which shows that the region is a net importer and demonstrates the potential for purchase. For Mexico, the tradability index characterizes the country with an export vocation and competitive at the domestic level. In the case of the EU, it determines that the region is an importer, as a producer it is not competitive in the domestic market.

The index of degree of export openness, for Mexico, shows that it has an export vocation and permanent comparative advantages in the production and trade of avocado. In the case of the EU, it determines that it has covered domestic demand, exports are not production surpluses, but the EU is a re-exporter, it is successful in the commercial aspect but not in production. The degree of penetration of imports, in the case of Mexico, values were almost 0, it is concluded that the sector is highly competitive. In the case of the EU, the values obtained were greater than one, it is concluded that the avocado production sector is not competitive.

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