Review

Integration of Mexico and Japan in the Economic Association Agreement: Its Effects on the Mexican Trade Balance during 2005-2017

Vargas-Hernández and Gutiérrez

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Abstract

This research seeks to analyze the effects of the Mexican trade balance on the basis of the Mexico-Japan Economic Partnership Agreement period 2005-2017. The research question is, What are the effects of the Mexican trade balance during the period 2005-2017 in terms of Mexico-Japan Economic Association Agreement (AAEMJ)? The research method used is empirical-analytical and documentary. It is observed that the AAEMJ has strengthened the economic relationship between both countries; however, it has a trade deficit with Japan of 12 million dollars, and the growth of imports is due to establishment of Japan's foreign direct investment (FDI) in Mexico. Mexican exports need support and development programs.

Keywords: AAEMJ; Mexican trade balance; FDI.

1. INTRODUCTION

April 1, 2017, marked the 12th anniversary of the entry into force of the Mexico-Japan Economic Association Agreement (EPA). During this period, bilateral trade increased to almost 7 million dollars until 2016, compared to the 2005 figure; however, Mexico maintains a trade deficit of almost 13 million dollars with Japan until 2016. The importance of the Mexico-Japan Economic Association Agreement (AAEMJ) is to create a strategic partnership that strengthens bilateral activities, such as trade and investment, through the improvement of business, education, job training, and support for small and medium enterprises (SMEs), which includes rules of origin and customs procedures, sanitary and phytosanitary regulations, investment, services, competition, and bilateral cooperation.

The current investigation consists of the antecedents of the problem, which are first given to delimit it, and then a justification is made. The variables and hypotheses are raised, to later establish the objectives of the investigation. Later, a conceptual and empirical theoretical revision of the literature is made; the context is established with the unit of analysis and the method is developed. Finally, the results are presented with their conclusions.

2. BACKGROUND

The AAEMJ was signed on September 17, 2004, and entered into force as of April 1, 2005. This Agreement links us to the second largest economy in the world, and contributes to increase the production, employment, and competitiveness (CONAPO, 2004, p. 1).

Pro Mexico (2017) mentions that, as a result of the signing of the AAEMJ, a considerable amount of trade has been obtained between both countries, having grown by 73.4%, from 12,758 million dollars in 2004, to the aforementioned 22,129 million dollars in 2015. In recent years, Japan has become the second destination for Mexico of agricultural and food exports. Japanese foreign direct investment has had a great impact in Mexican territory, mainly for Japanese companies with an investment of 20,000 million dollars.

In 2015, foreign direct investment in Mexico was $ 1,329 million, which made Japan the first Asian investment partner and third worldwide with 4.7% of the total (p. 12).

The strategic sectors in Mexico show a great disparity to Japan, since they show the great Japanese development and the weak Mexican economy. Mexico is in charge of providing raw materials for Japan, mainly food and agriculture; Japanese electrical/electronic products participate in an important way in the Mexican market.

3. DELIMITATION OF THE PROBLEM

The present investigation delimits for its application of study the international context Mexico-Japan in the international relation that occurs through the Agreement of Economic Association with the objective of analyzing and identifying its effects in the Mexican trade balance. The country of Mexico, as a result of the elimination of trade barriers to the Japanese country, has resulted in an increase in Japanese foreign direct investment (FDI), causing an increase in imports in Mexico, maintaining rates with ups and downs and a decreasing trend in international trade.

Mexico maintains a deficit trade balance against Japan at an average of close to 13,000 million dollars per year until 2016, due to import requirements in the assembly of manufacturing industries, as well as imports of automobiles. It should be noted that domestic exporters are not taking full advantage of the agreement. The lack of development in infrastructure, transportation costs, and the inaccuracy of information to carry out exports, such as the lack of investment in maritime ports, leads to operational deficiencies that become an export obstacle for Mexican SMEs.

According to the previous approaches, the research tries to answer the following questions:

A. What behavior has the Mexican trade balance had during the period 2005-2017 according to the Agreement of the Mexico-Japan Economic Association?
B. How is Mexico's international competitiveness compared to Japan in the period 2005-2017, depending on the business opportunities, institutional framework, and macroeconomics of the country?
C. What is the economic growth that Mexico has had during the bilateral relationship with Japan period 2005-2017, according to the business opportunities, institutional framework, and macroeconomics of the country?

4. JUSTIFICATION

Currently, international economic and trade relations between countries play a very important role. An influential factor to carry out free trade is globalization through international treaties or agreements. The AAEMJ opens the possibility of increasing the trade of products and services between both countries to complement the advantages and disadvantages of the parties. The bilateral relationship set forth in this agreement shows negative results in macroeconomic terms since 2008.

Therefore, this issue deserves to be addressed in order to seek a definitive solution to the silver problem. The study is focused on carrying out an analysis of the AAEMJ and determining the causes of the results that the Mexican trade balance throws in terms of the international commercial relationship with Japan.

## 5. VARIABLES AND HYPOTHESIS OF WORK

A. General hypothesis: The Mexico-Japan Economic Association Agreement does not have a positive influence on the commercial balance.

B. Specific hypotheses:
Business opportunities impact the balance and imbalance of the country.
The institutional framework influences the international competitiveness of a country.
Macroeconomics in a country determines its economic growth.

Figure 1.   Research Construct.
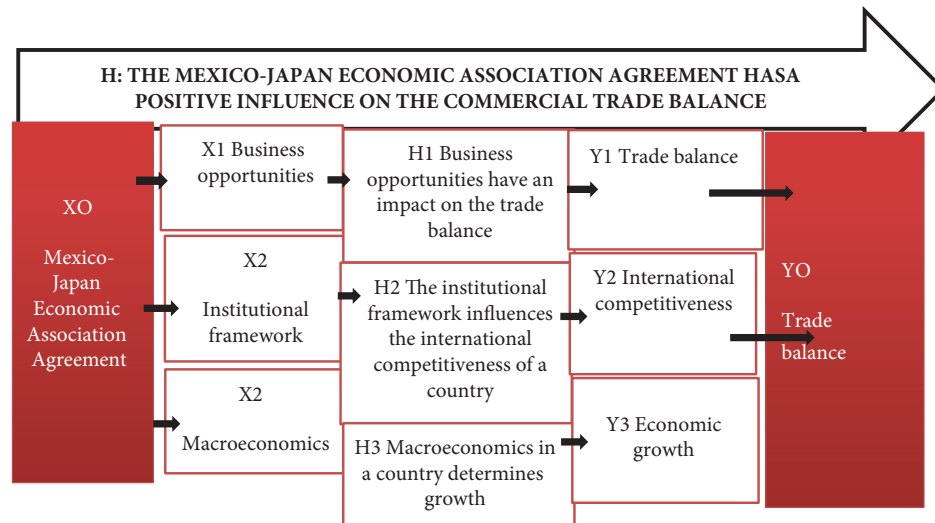
Source: Own elaboration.

The main aspects that are the object of search and analysis through the investigation are graphically represented above:

6.   RESEARCH OBJECTIVES

In the current investigation, the following objectives are explored:

General objective: To analyze the result of the Mexican trade balance during the 2005-2017 period, according to the Mexico-Japan Economic Association Agreement.

Specific objectives:
To determine the result of the balance of payments in Mexico period 2005-2017, according to the business opportunities, institutional framework, and macroeconomics of the country.
To analyze competitiveness in Mexico in the 2005-2017 period, based on business opportunities, institutional framework, and the country's macroeconomics.
To identify economic growth in Mexico period 2005-2017, based on business opportunities, institutional framework, and macroeconomics.

7.   REFERENTIAL FRAMEWORK

To enter the research, it is necessary to expose the basic concepts and main theories of the research variables. In the first place, the concept of the Economic Partnership Agreement Mexico-Japan is explained, ending with the commercial balance.

7.1. Mexico-Japan Economic Association Agreement
The Mexico-Japan Association Agreement aims to improve economic relations between Mexico and Japan through Japanese investment and the increase of Mexican exports. Delgado (2009) details the Mexico-Japan Economic Association Agreement: The Mexico-Japan Economic Association Agreement was signed on September 17, 2004, by Prime Minister Junichiro Koizumi and President Vicente Fox, during the state visit made by the ruler of Japan to Mexico. The document was approved in the Mexican Senate on November 18 of the same year, and entered into force on April 1, 2005 (p. 277).

The AAEMJ contemplates legal aspects that determine practices to promote socioeconomic relations between both countries and thus strengthen the diplomacy between both countries. The EPA contemplates the elements of a free trade agreement, as well as various provisions to intensify bilateral cooperation and promote social and economic rapprochement between both countries (Tapia, 2005, p. 58).

7.2. Trade balance

Next, some authors of the state of the art who parley different concepts and the functions of the commercial Scale are announced: Robinson (1979) delimits that for any country an increase of the trade balance is equivalent to an increase of the investment, which usually leads (given the level of national investment) to an increase in employment. The increase in the trade balance of a country at best does not affect the level of world occupation. The decline in a country's imports means the decline of exports from other countries, and the balance of the trade balance worldwide is always equal to zero (p. 227).

The trade balance is a determinant of the economy of a country, which measures the number of exports and imports that a country makes in the exchange of goods and services, and helps to determine a result whether positive or negative according to the flow of goods from a country. The commercial balance regulates in a general way the movement of trade flows, thus establishing a negative or positive balance depending on the increase in exports and imports made by a country abroad. Robert and Taylor (2011) defines that the balance is the price of the country's trade in terms of the difference between the total value of its exports and the total value of its imports (in general, both goods and services are included) The countries that import more than they export have a trade deficit (3).

The trade deficit is a result of the lack of self-sufficiency on the part of a country, and little development, lack of productivity, inflation, and little support for companies are factors that lead to low export levels. Therefore, a country that does not produce according to the needs of the society that forms a country before a globalized world. It implies that the country requires buying goods and services abroad, for the benefit of countries with a gross domestic product and a high GDP per capita.

Finally, Vázquez and Madrigal (2007) mention that in the commercial balance a trade deficit or surplus may occur depending on foreign trade: It measures the differences between exports and imports of a country. There is a deficit when the balance of the trade balance is negative, that is, it is imported more than what is exported and a surplus when the value of exports exceeds imports (p. 20). The trade balance records the number of exports and imports made in a country during a fixed period. Subsequently, it determines the balance of the trade balance by establishing a trade deficit or surplus of a country. The final result of the Trade Balance affects the economic activity of a country.

8.   REVIEW OF THEORIES

Subsequently, the main theoretical complements of the variables are presented, which were considered by the classical and neoclassical theories.

First, the complementary theories of the variable independent are shown.

The classic theory of the comparative advantages of David Ricardo mentions that each country has different economies, which leads to the specialization of products or services, depending on the technological, industrial, labor capabilities, etc. According to the theory of Heckscher and Ohlin, the intensive technologies of each country determine the level of productivity of each country relative to work, where the price of the factors is impacted in the price of the goods, and a country exports the goods that it produces according to the technological intensity of the country. The new theory of international trade by Paul Krugman mentions that it has two principles that are imperfect competition and intra-industry trade, which involve greater technological progress, monopolies, aggressive policies of protectionism, foreign direct investment, etc. They are factors that impact on the competitiveness of countries, for international trade.

The theories that apply in this investigation are three, those of Krugman, David Ricardo, and Heckscher & Ohlin; they determine and describe exactly the aspects established in the AAEMJ. These theories allow the analysis of the characteristics and results achieved in the AAEMJ.

The following theories were found for the variable (Y). The main theories on the commercial balance are analyzed, and authors like North Douglas (1970) and Krugman and Obstfeld (1953) are mentioned. They

Table 1.   Theories of the Mexico-Japan Economic Association Agreement.

Author	Theory	Principles
David Ricardo (XIX Century)	The classical theory Comparative advantage	Countries have different economies, with different knowledge, different technical capacities, and unequal endowments of productive resources. This leads to specialization, to lower prices of goods exchanged and to diversify the availability of goods. In this way, the countries that trade are mutually beneficial.
Bertil Ohlin Eli Heckscher (1919)	Heckscher-Ohlin theory	Trade responds to differences in the relative productivities of labor, as well as to the endowment of resources that countries eventually highlight in their own economy. The interaction between both aspects provides an explanation to the pattern of international trade, in terms that a country exports the goods that are produced with intensive technologies.
Paul Samuelson and Ronald Jones (1971)	Theory of specific factors	To detect with greater emphasis the impacts of trade on the distribution of income, which are socially differentiated and decisive in the establishment of trade protectionist policies. Trade can influence the structure of production and, therefore, affect the demand for the factors of production, which do not move from one production sector to another immediately and without cost
Paul Krugman (1979)	New theory of international trade	Imperfect competition: shows the nonexistence of perfect competition, monopolies exist and are becoming stronger every day, as a result: High technological advances, aggressive policies Intra-industrial trade: Generates additional gains in trade, even greater than those generated by comparative advantages (Gracia, 2009, pp. 20-21).

Source: Economic Association Agreement (Okabe and Carrillo, 2014), The New Theory of International Trade in the Postmodernization of the Global Economy (Gracia, 2009).

Table 2.   Theories of the Trade Balance.

Author	Theory	Principles
North Douglas (1970)	Theory of the export base	The regions are open and, therefore, subject to changes of exogenous variables. The regions produce certain types of main goods or services that tend to become an exportable good on which their growth depends (Gutiérrez, 2006, p. 199).
Krugman and Obstfeld (1953)	Standard model of trade	Differences in the frontiers of production possibilities, to which the production capacity of a country is limited, give rise to international trade. These productive possibilities give rise to a function of relative supply (between goods that can be produced) of a country. Global demand and relative supply determine the balance of world trade, that is, the terms of trade (terms of trade or relative prices) between goods exported and imported by countries that trade (Okabe and Carrillo, 2014, pp. 50-51).

Source: Own elaboration with data from the book Mexico-Japan Relations in the Context of the Economic Association Agreement (Okabe and Carrillo, 2014).

explain how the growth or development of a country's production impacts on the behavior of the commercial balance. North Douglas (1970) states that the regions of today are economies open to globalization, an era that implies trade opening and determines that each country produces goods and services, and then trade with other countries. Krugman and Obstfeld (1953) explain in their standard model of trade that each country has different capacities to produce, and the level of productivity depends on the economic capacity,

Table 3.   Empirical Review of the Literature.

Authors (Year)	Tittle of the research	Context	Method of research	Results
Rafael González Bravo (2013)	Advantages of the economic association agreement of Mexico and Japan for the manufacturing exports of Mexican companies located in Jalisco Agreement of Mexico-Japan	Mexico-Japan	Exploratory	The commercial balance of Mexico with Japan shows an imbalance. Mexico has not transcended as an exporter of raw materials and supplier of intermediate inputs. Few are the benefits for the Mexican economy. The main advantage for Mexican companies under the AAEMJ is the reduction of tariff rates. The disadvantages for Mexican exporters are the complication in customs procedures, as well as the lack of information on the Japanese market.
(2012)	Mexico Economic Association Japan: Trade creation and diversion analysis 1999-2009	Japan-Mexico	Econometric analysis	The variables of interest confirm that, since its entry into force, the EPA has created trade between Mexico and Japan. The AAEMJ has also encouraged bilateral trade flows between nonmember countries. The size of the economy and the fact that countries share the border encourage bilateral trade, while the distance of the countries affects trade between nations in a negative way. The AAEMJ has created trade, but it cannot be concluded if trade has been diverted for countries that are not members of the AAEMJ. They are considered complementary economies.

Source: Own elaboration.

lack of technology, economic development, and social development of the country, which limits the capacity production of a country. Therefore, the demand and supply of goods and services determine the balance in trade with other countries. It is important to maintain balanced macroeconomic levels to increase or maintain a good international competitiveness that has an impact on the country's socioeconomic stability.

In this research, the two theories are applied since they clearly describe how the economic indicators of a country cause effects in the commercial balance, such as GDP, International Trade, open economies, demand, and supply.

9.   EMPIRICAL REVIEW

10.   CONTEXTUAL FRAMEWORK: MEXICO-JAPAN ASSOCIATION AGREEMENT AND ITS EFFECTS ON THE MEXICAN COMMERCIAL BALANCE FOR THE PERIOD 2005-2017

The Mexico-Japan Economic Partnership Agreement is signed by President Vicente Fox Quesada and Prime Minister Junichiro Kouizumi on September 17, 2004 and enters into force on April 21, 2005. According to Solís and Katada (2007), cited by Okabe and Carrillo (2014), there are two reasons: the most important was to grant free access to the Mexican market to Japanese automobile manufacturers, to electronic products,

and others (p. 41). As a fundamental part of any treaty, important rules and aspects to consider when signing an agreement must be constructed to establish the interests of both countries. Below, the commercial provisions that constitute the AAEMJ are presented.

10.1. Commercial provisions of the EPA

According to CONAPO (2004), it explains the dispositions to markets of goods that the AAEMJ implements within the agro-food and fishing sector, Mexico within this treaty plays a role of main exporter of agro-food products to Japan (s.p). Japan is the third importer of agro-food products in the world, with annual imports of around 50 billion dollars of agro-food and fishery products. In the agro-food sector, Japan imports around 35 billion dollars, which is almost double the total trade of agro food products among the member countries of NAFTA (Canada, the United States, and Mexico) (CONAPO, 2004, p. 4).

In the negotiations of the EPA, real export opportunities were achieved where Mexico has great potential, through tariff and nontariff advantages that allow to increase the participation in the Japanese market, with long-term legal certainty that no other country has to Japan. Mexico gained access to the Japanese market in products with great potential in this sector:

A preferential access was negotiated with quotas for very sensitive products for Japan and of great interest for the Mexican productive sector. Quotas were obtained for the Mexican productive sector in the following products:

Japan is one of the leading importers of fishery products in the world. Mexico negotiated that all products of interest are included in the Agreement, which represent almost 80% of Mexican exports of fishery products to Japan. Among the main products that have immediate tariff-free access are fresh and canned yellow fin tuna, shrimp, some crustaceans and mollusks, and octopus. For sardines and squid, quotas were negotiated.

According to CONAPO (2004) for the automotive sector, of interest to Japan and sensitive to Mexico, the following scheme was negotiated: Japan was granted immediate access for only an amount equivalent to 5% of the domestic automobile market. Under the current regime for the promotion of the Mexican automotive industry, the equivalent of 3% of the national market is already free of duty (p. 10).

The promotion of activities in areas such as support industry; small and medium businesses; promotion to trade and investment. These are provisions that allow the strengthening of economic relations between both countries, in terms of bilateral cooperation. Pro Mexico (2009) mentions the percentage of tariff liberalization with respect to Japan, and shows great immediate access free of duty: Japan immediately released 91% and in the medium term 4% of the tariff currently applied to Mexico for 95% of the tariff fractions. The remaining 5% of the tariff fractions consists of sensitive products. Japan grants immediate tariff-free access to Mexico under quotas: leather footwear and clothing apparel.

Table 4.   Immediate Access to the Entry into Force of the Agreement, for the Following Products.

Green coffee	Asparagus	Tequila	Lemons	Mango	Pectin	Fresh broccoli
Tomato	Avocado	Cabbage		Pumpkins	Eggplant	Legumes
Guava	Papaya	Mezcal	Wines	Tobacco	Egg	Albumin

Source: Own elaboration with data from CONAPO (2004).

Table 5.   Quota Access.

Access with quotas			
Pork meat	Beef	Chicken meat	Orange juice
Honey	Catsup	Pasta	Tomato puree
Sorbitol	Orange	Dextrins	Tomato sauce

Source: Own elaboration with data from CONAPO (2004).

Mexico immediately released 44% of the tariff fractions that currently apply to Japan. Within this 44% of the tariff fractions are included mainly items that are not produced in Mexico and inputs for domestic industry, such as high-tech products (s.p). A list of Japanese products that have immediate access to Mexico is presented in Table 6:

Table 6.   List of Japanese Products with Immediate Access to Mexico.

Capital goods	Electrical manufactures	Electronic equipment
Hydraulic turbines	Air generators	Computers
Certain compressors	Certain power generators	Printers
Mechanical cranes with or without boom	Sources/power amplifiers	Monitors
Forklifts	Illuminated indicators	Equipment to interconnect networks
Mechanical shovels	Audio and video switchboards	Telephone operator servers
Excavators	Audio conference generators	Mini telephones.

Source: Own elaboration.

Table 7.   Mexico-Japan Complementarity.

Japan
Third world economy
Population with an average age of 46 years
Highly trained workforce
Among the developed economies, Japan is the second largest source of foreign direct investment (FDI) globally
Producer and exporter of high technology products
High savings rates
Importer of goods with medium-high technology such as electronics, household appliances, and the automotive sector
Importer of 60% of their food consumption (third place in the world)

Source: Own elaboration with data from Pro Mexico (2017).

Mexico
Fifteenth economy in the world
Population with an average age of 27 years
Abundant young and skilled workforce
Thirteenth place as a pole of attraction for FDI worldwide and the third in Latin American
Importer of high technology products.
Producer and exporter of goods with medium-high technology and agro-food
Need to complement national investment with foreign

Source: Own elaboration with data from Pro Mexico (2017).

Table 8.   Agro-food and Industrial Products with Preferential Tariff-free Access.

Agro-food and industrial sectors	Industrial sector
Products with tariff preference within quota	**Tariff-free products**
Beef, pork, chicken, and processed	Meat and leather products
Juice of concentrated orange and deconcentrated	Leather footwear
Fresh orange	Leather article
Agave syrup	Garments and clothing accessories
Natural honey	Sorbitol
Banana	Dextrins
Tomato juice without added sugar	Citric acid
Catsup	
Pasta and tomato puree	
Other tomato sauces	

Source: Own elaboration with data from Pro Mexico (2009).

Some of the characteristics that differentiate Japan from Mexico

(1)   Japan is the second largest economy in the world (GDP per capita 34,100 USD)
(2)   The population has an average age of 43 years and a highly educated workforce.
(3)   It is the eighth source of foreign direct investment (FDI) worldwide.
(4)   It is one of the countries with the highest savings rates.
(5)   Leading producer and exporter of high technology products.
(6)   It imports 60% of its food consumption (third importer worldwide).
(7)   It is the main market in Asia of Mexican exports.

The characteristics that differentiate Mexico from Japan:

(8)   Abundant young and skilled workforce of average age of 27 years.
(9)   Economy that needs increasing levels of FDI and domestic investment.
(10)   Importer of high technology systems and products.
(11)   Producer and exporter of value-added products and maquila resources.
(12)   Producer and exporter of agricultural products.

As a result of the AAEMJ, some agro-food and industrial products in tariff-free preferential access are shown in Table 8.

11.   RESEARCH METHODS

Type of research. The type of research that is carried out in this study is of an empirical-analytical nature (quantitative) based on the investigation, analysis, and verification of numerical data. This research is also documentary, since it focuses on research and interpretation of documents for the presentation of data and information. The data collection is carried out under a period of time, as far as a longitudinal investigation is concerned.

Design of the investigation. The collection of quantitative information is obtained by means of measuring instruments useful for obtaining numerical data, by means of a sequence of time.

Research instruments. The instrument used in this research is the analysis of documents, because the case study that is addressed requires a process of interpretation and analysis of information. An analytical-synthetic process is carried out, because the information is studied, interpreted, and synthesized to give rise to a new document that is easier to access and disseminate. For the statistical analysis, the Excel program is used, and queries are made in Banxico, the World Bank, and Macro Data where numerical data on the behavior of each of the indicators is determined, to then represent the results by means of graphs and take them to the observation and analysis of the figures.

12. ANALYSIS OF RESULTS

Table 9 presents the results based on the documentary analysis on trade and investment, customs procedures, and rules of origin and infrastructure: consecutively, the quantitative results of the statistical analysis are shown in graphs, on the number of exports and imports, inflation, infrastructure, and gross domestic product.

Analyzing the results, it is determined that the total trade of Mexico has increased 6,974,282 million dollars from 2005 to 2016 showing a growth of exports from Mexico to the Japanese country. However, the trade deficit that Mexico has with this country has been increasing with a value of 2,372,358 million dollars for the period 2005-2016. The Economic Association Agreement between Mexico and Japan has caused changes in foreign trade between both countries. As a result, a growing pattern of deficit bilateral trade for Mexico has been consolidated, and derived from the importation of high-value industrial inputs and the export of agricultural products (García, 2010, s.p.).

Analyzing the results, it is determined that the total trade of Mexico has increased to 6,974,282 million dollars from 2005 to 2016, showing a growth of exports from Mexico to the Japanese country; however, the

Table 9.   Indicator 1: Total Trade and Mexican Trade Balance.
Mexico-Japan

Year	Total trade	Mexican trade balance
2005	14,547,792	−11,607,768
2006	16,889,195	−13,701,119
2007	18,255,616	−14,430,342
2008	18,328,485	−14,236,415
2009	12,997,696	−9,796,514
2010	16,940,239	−13,089,131
2011	18,745,780	−14,241,206
2012	20,265,942	−15,044,458
2013	19,320,159	−14,832,059
2014	20,153,048	−14,936,096
2015	20,385,669	−14,350,667
2016	21,522,074	−13,980,126

Source: Prepared by the authors with data from the World Bank (2016).

**Figure 2.   Direct Foreign Investment in Mexico and Japan.
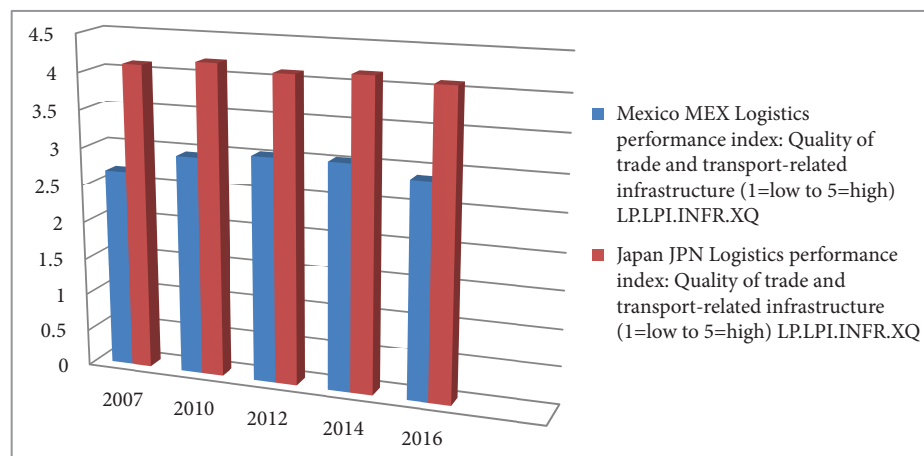Indicator number 2**
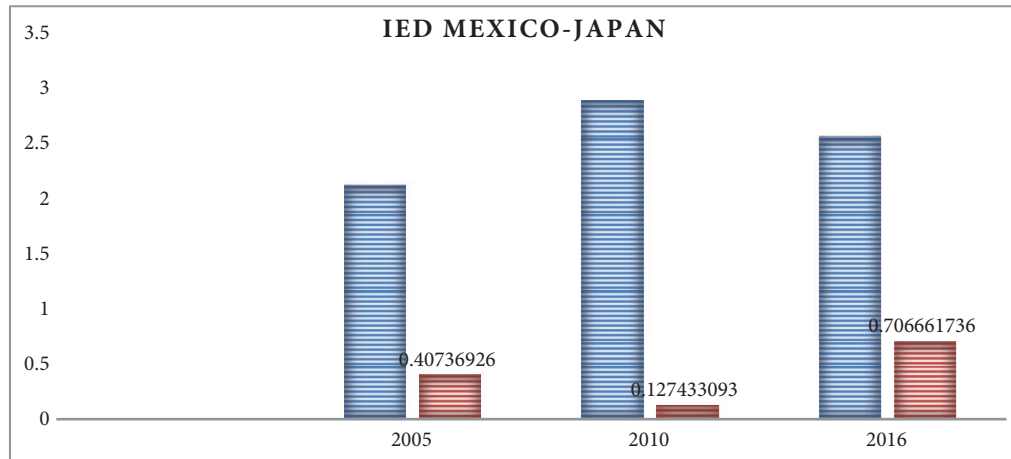
Source: Prepared by the authors with data from the World Bank (2016).

trade deficit that Mexico has with this country has been increasing with a value of 2,372,358 million dollars for the period 2005-2016. Japan is the main beneficiary of the AAEMJ.

The great geographic distance and the so different cultures between both countries become an obstacle for Mexican exports. Figure 2 determines that the investment of manufacturing companies in Mexico has been increasing, putting into practice the interests agreed under the AAEMJ, the meaning of the great comparative difference of investment between both countries, is that Japan is a country with stability, development, and constant economic growth, while Mexico maintains problems in the Mexican economy. Okabe (2004) mentions that FDI in Japan has experienced a positive increase since the 1970s. But it seems that there are difficulties for mutual understanding because of the difference in culture and customs (p. 118).

The increase in direct foreign investment in Mexico results in the increase of imports of electronics, and technological products to project and execute the activities of Japanese manufacturing companies in Mexico. Emphasis has been placed on the establishment of clear and reliable rules for the certainty of the origin of goods as well as clear guidelines to verify compliance with the provisions on origin.

**Figure 3.   Logistics performance index: quality of infrastructure is related
to trade and transport (1 = low to 5 = high).
Indicator number 4**

Source: Prepared by the authors with data from the World Bank (2017).

Table 10.   Indicator Number 3. Customs Procedures and Rules of Origin in the AAEMJ.

|		
1. Sanitary and phytosanitary regulations It preserves the right of each state to adopt sanitary measures to protect human, animal or plant life, or health against risks of diseases, pests, additives, or contaminants.	**5. Investment** They emphasize the principles of national treatment most favored nation, prohibition of the establishment of minimum quantities of production, freedom of transfer prices and mechanisms for solving investor-state disputes.	**9. Bilateral cooperation** In the area of small and medium-sized enterprises, the intention is to intensify the cooperation links in science and technology, education, and job training, and the main objective is to take advantage of Japan's experience to help increase the competitiveness of Mexican companies.
2. Temporary entry of business people Entry and temporary migration of persons for business purposes. Migration authorities should not take more than 30 calendar days to issue the document.	**6. Government purchases** Guarantees that the access of goods and services to Mexican and Japanese suppliers in the matter of government purchases are made in national treatment. Mexico offers national treatment to the United States	**10. Tourism** The tourist flows between both countries are tightened, take advantage of natural resources and cultural diversity and promote training, through cooperation in the tourism sector.
3. Safeguards They have a strictly tariff character and their maximum duration is four years and does not apply to the limited quotas the degree of openness in force in the national legislations.	**7. Economic competition** Arrangements were made regarding nondiscrimination; transparency in the application of laws; treatment of confidential information.	**11. Intellectual property** Agreed to the geographical indication for tequila and mescal. Likewise, cooperation actions were defined: exchange of information on activities to create public awareness, function of protection systems, political measures to apply intellectual property rights.
4. Services The following services stand out: transport, professionals, telecommunications, distribution and tourism, etc. The principles stand out: National treatment, most favored nation and is consolidated.	**8. Standards, technical rules, and evaluation procedures** Provisions that induce technical cooperation between the governments of both countries are contemplated; determination of points of agreement and the creation of a subcommittee that reviews the implementation and resolution of disputes in the agreement.	**12. Environment** Sustainable development is promoted through activities such as the exchange of technology related to the improvement and preservation of the environment and the construction of human and institutional capacities, among others.

Source: Prepared by the authors with data from the AAEMJ: International commercial relations for the 21st century (Tapia, 2005, pp. 58-61).

In terms of bilateral cooperation, provisions have been defined that allow promoting the strengthening of economic relations between Mexico and Japan. In this way, it is intended to promote activities in specific areas of mutual interest such as support industry; small and medium businesses; promotion of trade and investment; science and technology, education and job training; tourism; farming; environment; intellectual property; and improvement of the business environment.

The development of cooperation links in science and technology, education, and job training increases the quality of our workforce and, therefore, increases productivity and competitiveness for the benefit of Mexican companies, promoting at the same time investment opportunities and the increase of bilateral trade.

The close cooperation in the tourism sector under the AAEMJ achieves the increase of tourist flows between Mexico and Japan, making use of natural resources and cultural diversity. This helps strengthen the Mexican tourism sector as a source of income and job creation for the country of Mexico.

**Figure 4.   Inflation in Mexico and Japan (2005-2016).
Indicator number 6**
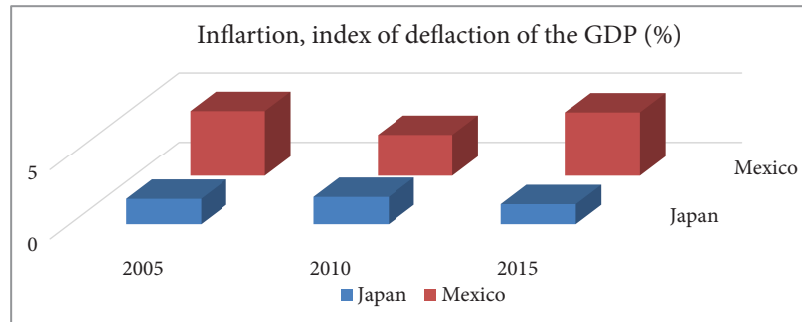
Source: Own elaboration with data from Banco Mundial (2017).

Table 11.   Indicator Number 5, Number of Exports and Imports.

| Trade balance of Mexico with Japan (Values in thousands of dollars)				
Year	Exports	Imports	Total trade	Mexican trade balance
2005	1,470,012	13,077,780	14,547,792	−11,607,768
2006	1,594,038	15,295,157	16,889,195	−13,701,119
2007	1,912,637	16,342,979	18,255,616	−14,430,342
2008	2,046,035	16,282,450	18,328,485	−14,236,415
2009	1,600,591	11,397,105	12,997,696	−9,796,514
2010	1,925,554	15,014,685	16,940,239	−13,089,131
2011	2,252,287	16,493,493	18,745,780	−14,241,206
2012	2,610,742	17,655,200	20,265,942	−15,044,458
2013	2,244,050	17,076,109	19,320,159	−14,832,059
2014	2,608,476	17,544,572	20,153,048	−14,936,096
2015	3,017,501	17,368,168	20,385,669	−14,350,667
2016	3,770,974	17,751,100	21,522,074	−13,980,126

Source: Own elaboration with data from Datosmacro (2017).

Figure 3 clearly shows the level of infrastructure that corresponds to each country, and it is observed that Mexico is below Japan, which means that Japan has greater ease and quality when carrying out merchandise trade. It can be considered that Mexico remains at a medium level until 2016; the increases in investment in infrastructure by the Mexican government as of 2007 have not been large changes. We see a growth of 3 in 2014; however, for 2016, it reduced to 2.7. The lack of infrastructure, which leads to the country's trade deficit, is an obstacle for Mexican exports to grow. On the contrary, industries in Japan are located with the development of applied technology and production of goods with excellent quality indexes.

The following is a statistical analysis of the 2005-2016 period in the context of Mexico-Japan based on bilateral trade.

Table 11 shows that exports have been increasing since the entry into force of the AAEMJ, at the same time as imports made by the Mexican country, where imports (purchases abroad) are greater than exports (sales to external), consequently causing a deficit in the Mexican trade balance that has been increasing.

Figure 5.   GDP per capita in Mexico and Japan, 2005-2016.
Indicator number 7
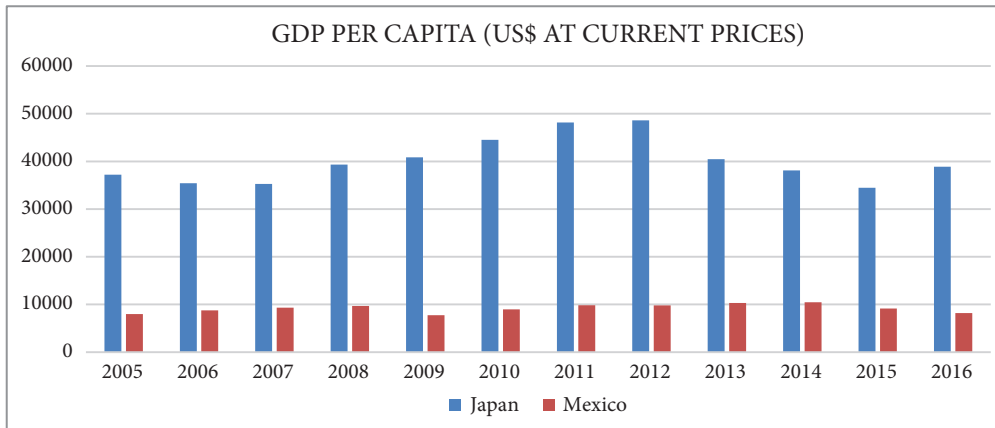
Source: Own elaboration with data from the World Bank.

Figure 6.   Gross Domestic Product of Japan and Mexico, Period 2005-2017.
Indicator number 8
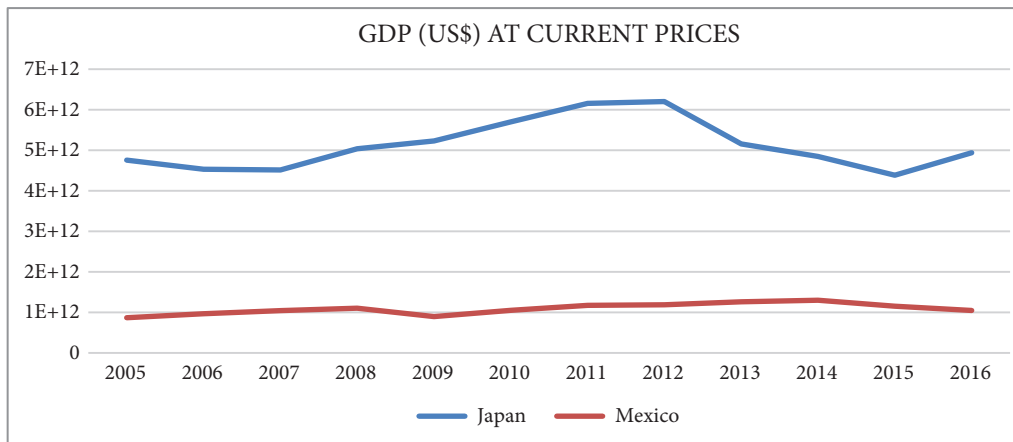
Source: Own elaboration with data from the World Bank (2017).

The Mexican economy is not capable of self-satisfaction, and the balance with respect to what it produces is lower. And this affects the economic activity of the country. The solution to this problem is to encourage Mexican exports through economic support, orientation programs to the customs procedure, and investment in the infrastructure of trade and transport; also get the growth of trade in Mexico. Figure 4 indicates the transition of inflation, during the period 2005-2015, of the countries Mexico and Japan. On the part of the Mexican country, it maintains inflation above 6%, considering a high level, and it is increasing until 2015; otherwise, Japan establishes inflation below Mexico, around 2%. The inflation maintained by Japan is considerable for the development, balance, and economic growth of the Japanese. Mexico's high inflation is detrimental to the country's economy, causing the devaluation of the currency, decreasing the wages of workers, decreasing investments in the productive sector, rising interest rates, and growing unemployment, affecting the level of life of Mexicans.

Figure 5 shows the high growth of GDP per capita in Japan compared to Mexico. It shows that Japan's productivity and economic development is far superior to the economic and social conditions that exist in Mexico. This is because of the lack of employment and low growth in the Mexican economy, harming social welfare. In balance with Japan, this determines a high standard of living for the Japanese.

Figure 6 shows the gross domestic product of Japan and Mexico during the period 2005-2016. Revealing the great difference in the level of productivity of each country, Japan maintains a high GDP, which means an increase in economic activity, unemployment tends to decrease, and per capita income increases. In the opposite case, Mexico in comparison has a very low GDP, and the production of goods and services has not been sufficient. This insufficiency impacts the country's economy.

Limitations of the research method. For the object of study of this investigation it was occupied that the aspects that make up the whole context were investigated, so that the documentary method was restrictive when investigating and collecting data to answer the study. The proposed variables did not result in positive or proportional effects in the Mexican trade balance.

Regarding the criterion of statistical analysis, it was easy to detect statistical data on the effects of the variables, and present them graphically to carry out the direct analysis and determine the result, which consequently makes it difficult to use the longitudinal criterion. through periods the study sample, which makes the study deeper and requires more time

13. DISCUSSION

The hypothesis raised in this research assumes that the Mexico-Japan Economic Association Agreement does not have a positive influence on the commercial balance given that currently under the AAEMJ the Mexican economy has a deficit of 12 million dollars. It is verified with the hypothesis of the investigation that there are some advantages of the Mexico-Japan Economic Association Agreement for the manufacturing exports of Mexican companies located in Jalisco confirming the same results of González Gálvez (2013). A relation between the objectives of the hypotheses stated above in the empirical investigations is determined, and it is agreed that the AAEMJ, as a result, has not had positive effects in the commercial balance, causing the trade deficit due to the imports made by the FDI Japan established in the country of Mexico or a possible trade diversion raised in the research Economic Association Mexico-Japan: creation analysis and trade diversion 1999-2009.

It is concluded that the Mexican Government's strategy is to attract Japanese investments that promote the economic and technological development of the country. The following recommendations are based and are impulsive factors to increase Mexican exports to Japan. In the field of trade, there is potential to increase the participation and presence of Mexican products in the Japanese market. It is necessary that the government and the Mexican private sector diversify Mexican exports to Japan; to achieve an export use of agricultural products, it is required to increase incentives to exporting companies, in addition to improving inspections at customs and improving the infrastructure of roads, airports, etc.

The research on Mexico-Japan relations is really scarce due to the fact that the most attention of studies has been for Mexico-US relations. Therefore, this research focuses on these relationships. Since the entry into force of the EPA to date, foreign trade between Mexico and Japan has been growing favorably. However, it requires reconsideration on the advantages that the AAEMJ can offer as one of the alternatives for the economic development of both countries.

The investigation to the Mexico-Japan Economic Integration: its effects on the Mexican commercial balance, period 2005-2017, takes a focus of economic study and on the commercial relations that occur between countries. The future lines of research for this study are as follows: JEL: F01—Global perspective, JEL: F14—Studies on trade by country and industry, and JEL: F15 Economic integration.

During the period of time used to carry out this investigation, certain limitations were presented; consequently, it was not possible to carry out an in-depth analysis of the object of study of the investigation. These limitations are classified into time, money, access to information, and reliability. Time is an important indicator for the application of a deep study in some investigation; since the time available for this investigation was very short, it created problems that made the search difficult.

14. CONCLUSION AND RECOMMENDATIONS

The expected impact of the Mexico-Japan EPA to increase trade between both nations does not seem clear 12 years after its entry into force. The participation of the commercial exchange maintains rates with ups

and downs and a decreasing tendency. Mexico maintains a deficit trade balance against Japan at an average close to 13,000 million dollars. It should be noted that domestic exporters are not taking full advantage of the agreement; the actions achieved within the framework of the agreement on SMEs do not respond to the needs of this sector in Mexico.

The level of productivity of each country (GDP) impacts the growth and economic and social development of the country. Therefore, it is very important to be a self-sufficient country in the production of goods and services to establish stable economic indicators that do not affect the country's trade balance. Mexico for the benefit of the AAEMJ has increased its exports of food of agricultural and fishing origin. However, the total exported to Japan represents a deficit in the Mexican trade balance. On the other hand, Japan exports to Mexican territory have been products of information technology and transport equipment, including automobiles.

Mexico has attracted Japanese foreign investment, which is the cause of the trade deficit because the manufacturing companies installed in Mexico import intermediate inputs. The lack of development in infrastructure leads to operational deficiencies that become an export obstacle for Mexican SMEs. To increase the participation and presence of Mexican products in the Japanese market, it is necessary that the government and the Mexican private sector work in the development of exportable offer from Mexico to Japan oriented to diversify Mexican exports to Japan, maximize the tariff preferences provided by the AAEMJ, and achieve greater export exploitation.

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