Erasmus University Rotterdam

MSc in Maritime Economics and Logistics

2016/2017

Impact of Donald Trump's Decisions as President to embrace protectionism on the Mexican Automotive Industry

by

Juan Carlos Martinez Chiunti

Acknowledgments

The author expresses sincere appreciation to family members, friends and colleagues for their support. They have contributed both indirectly and directly into seeing that this study is complete.

In a special way, I would like to offer gratitude to my professor, Ted Welten, whose input has been immeasurably valuable and has gone to great length to ensure I grasp the concept and put them down methodically. Sincere thanks.

Abstract

Donald Trump has been passionate about reclaiming the greatness of the United States and his first days in office have marked radical policies and the fear of more. For instance, he has proposed that he will impose a 35% tariff on all vehicles that are exported from Mexico. Mexico, on the other hand, depends much on the automotive industry because it provides employment, sustains the GDP and runs the maritime sector in Mexico. Many firms operating in Mexico have an origin in U.S.A. Most exports are also destined to the same country from Mexico. With the introduction of cross border tariff, many firms will be affected and many jobs will be lost. This research was aimed at measuring the impact of the Presidency of Trump on the bilateral trade between the United States and Mexico. Through the use of CES model, this study showed that employment, maritime sector and economic welfare of Mexico will be adversely affected by moderate to the adverse decision that Donald Trump will make on a bilateral trade. The results showed that there is projected a loss of jobs, reduced trade balance, and decrease in economic welfare. Employment would decline by -0.77 under moderate scenario whereas, under the worst scenario, the rate of the employment will be -3.72 which a decrease from -0.02 to -0.77. The effects mean that there will be fewer people employed in the automotive sector. Maritime and economic welfare will also decline in the same manner.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

CEOs: Chief Executive Officers

USA: United States of America

NAFTA: North American Free Trade Agreement

GM: General Motors

CES: Constant Elasticity Substitution

FDI: Foreign Direct Investment

GDP: Gross Domestic Product

1. Introduction

1.1 General Context

Donald Trump has been passionate about reclaiming the greatness of the United States and his first days in office have marked radical policies and the fear of more. The president has also expressed a firm position against the importation of cars from Mexico to the United States and indicated that the production of the cars is transferred to the United States or the manufacturers face heavy import duties. Ford announced the cancellation of its planned $ 1.6 billion plants in Mexico following Trump's announcement of the possible tax imposition (Agren, 2017) and the Mexican Ambassador to China termed the move to threaten Toyota operations in Mexico as wrecking of Mexico's economy (Thielman, 2017). The automotive industry is one of the major contributors to Mexico's economy, accounting for more than 27 percent of the nation's export (Thielman, 2017). A significant percentage of the export from the industry heads to the United States and restricting vehicle export to the United States reduces Mexico's exports by a significant percentage that could reach 20 percent. The automotive industry also employs hundreds of thousands of Mexicans and banning export to the largest market threatens employment of many Mexicans (ProMexico, 2017). Mexico, in particular, have provided labor. At least half a million Mexicans, according to Steers and Nardon (2014) are employed in different capacities in the nation's automotive industry. The maritime sector is likely to be affected significantly if automotive export to the United States is halted. Automotive export to the United States accounts for seventy percent of all the automotive export from Mexico and could explain the congestion at the Mexican ports (Iliff, 2016). The significance of the automotive industry to Mexico's export (Thielman, 2017) can be inferred to the maritime sector in which jobs are likely to be lost (Iliff, 2016).

Donald Trump was on most of his campaign pledges promised many Americans that he will try to keep jobs in the United States. On several occasions, he has been heard discouraging many manufacturing companies from having production plants overseas. Some of the largest manufacturing companies that he has sternly criticized as always through his tweets included Boeing and Lockheed Martin which he has seen as executing expensive defense contracts. To make his ambition even more alive, he took GM chief executive officer Mary Barra as his economic policy strategist and economic adviser among other CEOs. One of Trump's favorite economic policies that he plans to implement once elected has always been the infamous cross border taxation. This together with the infamous Mexican wall that he plans to construct using the money obtained from cross border taxation (not to mention the deportation he plans for Mexican immigrants) makes him a less darling to the people of Mexico. However, the automobile industry has had long cooperation history with American firms. According to Phelan (2017), automotive firms between Mexico, U.S, and Canada have been closely integrated for many decades. There have been many histories shared between the firms dealing in the automotive industry for many years. For instance, in 2016 alone, Mexico was responsible for 11.07% of all total cars and tracks that were sold in the United States amounting to about 1,913, 419 cars as well as tracks (Phelan 2017). With the United States as the major market, Trump's policy against exports to the United

States is likely to affect production in Mexico's automotive industry and activities in Mexico's maritime sector that ships the cars to the United States.

Because the stakes in the elections have been always high in the United States, the manufacturing industries and especially American manufacturing industries that are having manufacturing plants overseas have been fodder for U.S politicians. Donald Trump was quick to accuse the automotive firms which he claimed have taken jobs away from the U.S. Riding on this pledge have made him popular with the electorates. However, to the economists and manufacturers in both Mexico and the U.S seem dumbfounded by his agitation to impose cross border taxes with the aim of bringing back American jobs to the U.S.

Looking at the way many companies have worked in collaboration over the years, there has been specialization and theories of economics have been fully in force. Trade agreements have been formed between various countries and firms that have made it easier for both firms to strategically produce goods that are relatively cheaper. The supply chain has also been efficient thanks to fewer tax barriers which have seen many firms as posited by Phelan (2017), move raw materials as well as automobile components across borders of Mexico, U.S and Canada.

There is no doubt that automotive industry is a key economic driver in the economy of Mexico. Many sectors such as transport both maritime, land and air benefits from the automobile trade between Mexico and the United States. Employment and social welfare are also crucial factors that are supported by the automobile trade. It is important to appreciate the fact that automotive industry has played a central role in the economy and trade in Mexico. The employment statistics in from ports handling automotive and parts for both import and export, in production and assembly plants as well as in maritime sectors cannot be overlooked.

The move by Donald Trump to propose a 35% tariff on cars that will be imported from Mexico could have many implications. The first direct impact may be cast on the production of small cars that are finding their way to the United States. The proposed 35% tariff on automobiles produced in Mexico has two main implications. To begin with, who will accept to take the cost of that tariff? On one hand, consumers may not be willing to pay more for the small cars that they have been purchasing at a relatively lower price. The cars that have been imported to the United States have been affordable to many average income earners. Hiking the price to take in 35% more will not be attainable and thus there will be a reduction in sales. On the other hand, manufacturing firms will also face difficult times in trying to pay for the tariff themselves. The tariff that is aimed at car manufacturers in Mexico will mean that the cost of production will increase as well as the price of the finished car. A 35% tariff is a very high figure when added to another cost of production. This will make many firms producing the cars to either cut on their profit or close the Mexico plants altogether. If this is the case then, what will be the impact of the change in American trade policy under the presidency of Donald Trump have on the economy, employment, flow of trade and maritime sector? It is important to, therefore, to study the effect that decision of imposing a cross border tariff on automotive imports from Mexico by President

Donald Trump will have on maritime sector, employment, economy and general welfare of the Mexican society.

Through using the macroeconomic theories, there will need to take into consideration how the parameters such as employment, firms output, the flow of trade and overall welfare of Mexico. The flow of trade will be an indicator of the performance of the maritime sector, which is tasked with import and export of the finished automotive and parts to the United States. The employment will indicate the number of jobs that are either lost or gained as a result of either the closure of manufacturing plants in Mexico or the reduction in output of the automotive manufacturing firms in Mexico.

It is important to investigate how the changes in the bilateral trade policies between the United States and Mexico following the election of Trump will affect these parameters by applying appropriate macroeconomic theories as well as an econometric model to understand how maritime sector, economy, employment and welfare of the Mexican society will be affected. The challenges that the changes in Trump's trade policy pose to Mexico is an issue that concerns all players including the foreign automobile manufacturing companies who manufacture or assembly overseas. It will also concern the Mexican government as well as citizens.

1.2 Research Questions and Objectives

This research is aimed at measuring the impact of the Presidency of Trump on the bilateral trade between the United States and Mexico. In coming to term with the presidency of Trump in the United States, many things will have to change and even before the election they seemed to have already beginning to change. This study will have to look at the implications that his controversial economic and political policies will have on certain aspects of Mexican trade. It is clear that the United States is a big trading partner with of Mexico and any slight change in economic policy might have a devastating effect on trade balance as well as the welfare of the citizens of Mexico. The immediate areas that according to his campaign promises have shown to be likely affected by his presidency include maritime sector and automobile manufacturing firms. These firms produce automobiles and automobile spare parts that are shipped into the United States. Any change in economic policies, therefore, is also bound to affect other players such as the employees and the welfare of the country at large.

Through using macroeconomic models such as Armington and CES econometric models, it will be the purpose of this research to look at various indicators such as employment, firm status, gravity of trade flow as well as welfare of Mexico country through choosing one of the best model among the two and applying it to the parameters that results from the policy changes that are expected to come with the Trump presidency.

1.2.1 Questions

Therefore, the main question that this research will be trying to answer is this: "**What is the impact of Donald Trump's decisions as President of the United States to embrace protectionism on the Mexican automotive industry in terms of trade flow, employment, automotive firm survival and welfare of the Mexican society?"**

This research is mainly thinking about what the impact of the economic and political decisions will have on automotive and maritime industries in Mexico. When Trump will have to implement some of the propositions that he has been campaigning on, therefore, there will be an expectation that bilateral trade between the two countries will not be the same therefore, there is need to look at some of the impacts that these decisions might have on trade between the United States and Mexico.

For this research to objectively answer the main question sufficiently, there is need to have some sub-research questions that will pave way for an in-depth examination. Therefore, the **sub-research questions** will be:

- What will be the effect of President Trump's protectionism on the maritime sector as well as on other logistics services that are operating between Mexico and the United States?
- What effect will President Trump's protectionism have on Mexican workers in the automotive industry?
- What effect will President Trump's protectionism have on the economy of Mexico?
- What will be the direction and extent of the effects that protectionism as Trump's position as the president of the United States have on the economy of Mexico?

The following objectives will help this study follow up on these questions:

1.2.2 Objectives

- To determine possible effects of Trump's protectionism on the Maritime Sector and other logistics services between Mexico and the United States.
- To establish possible effects of protectionism on Mexican workers in automotive industry.
- To establish possible effects of President Trump's protectionism on Mexico's economy.
- To determine the direction and extent of effects of protectionism on Mexico's economy.

1.3 Relevance

With the level of uncertainty that President Trump has brought to the NAFTA member partners has been alarming since he began his campaign. This is because there were some of the radical campaign messages that he was delivering touching on international trade and specifically on imposing cross border tariffs with the aim of 'bringing back United States' manufacturing jobs to the United States'. Mexico, in particular, was a victim because it exports more than 80% in automobiles and auto parts that are shipped to U.S by those American companies that are located in Mexico. Upon clinching the Presidential victory, Trump suggested that he would slam up to 35% tax on the automobiles and spare parts manufactured in Mexico. This trade earns Mexico about half a trillion every year.

Most exported cars from Mexico to the United States are transported, majorly, through sea shipping. The maritime sectors from the two nations, therefore, are involved in the transportation, and a ban will change roles of some stakeholders or render the stakeholders redundant. Understanding the changes to the maritime logistics, due to the position, and the association between maritime logistics and economic aspects of Mexico establishes relevance to the topic. Maritime logistics, that the ban is likely to affect, is part of Mexico's economy and understanding the relationship between that sector and the economic aspects of Mexico we will truly appreciate more the role of this sector for our nation.

Through his campaign speeches, President Trump seemed determined in carrying out radical economic policies that care less for set institutions as well as bilateral treaties between the two countries. The effect of the statements that he was issuing during his campaign periods was alarming and already had some impact on the Mexican peso, which had risen and fallen as a result of these statements. On the maritime, even though it will be difficult for the United States to control this sector, as it is the second largest exporter and at the same time the largest importer. According to Sahiner (2016), with a weak control on shipping industry as a result of only owning about 7% of the merchant ships, it will not be easy for the U.S to employ any other control measures apart from hiking harbour fees as well as other logistic charges that will see increase in the prices of commodities imported as well as exported to the U.S.

This study is relevant because many manufacturing companies have gained entry into the Mexican market through paying the entry cost through absorbing a large number of domestic workers. When there are high tariffs, most firms will have to move their production activities elsewhere or back to the United States. This has the effect of hurting the trade as well as employment of the people employed by these firms. Knowing in advance what the fate of both the maritime sector, automobile manufacturing firms, consumers and general welfare of Mexican public would be like is important because not only will help the country to wake up from depending on the United States economically but also show direction on which new strategies are available in making trade policies. This study will point out the possible outcome of the trade policies that Trump will impose on Mexico on employment, automobile manufacturing firms, output and maritime sector so that all stakeholders should lay down some plans on how to take advantage of existing trade treaties, bilateral realignment, tariff manipulation for certain products and border tax adjustment to counter the effect that Presidency of Donald Trump will have on Mexico manufacturing, logistic and employment sectors which in turn will be directly linked to the Gross Domestic Product of the country.

The relevance of the study is also enhanced by fact that the connection between trade, productivity and a country's prosperity depends on the Ricardian model of exchange which presumes that free trade amplifies material prosperity of a country. Ricardo's law of comparative advantage guarantees commonly useful trade among nations. It accepts a total specialization in the particular item with a comparative advantage regarding work hours utilized per unit of yield (Dairabayeva, 2012). Heckscher-Ohlin (HO) who included factor endowments has extended this model.

The endogenous development models assume non-diminishing returns to reproducible (man-made factors of production or learning-by-doing and different types of endogenous innovative change (Dairabayeva, 2012). The assumption is that lower trade confinements supports growth in the realm of economy in general.

In general, it was not easy to give a methodical persuading proof that trade liberalization, in particular trade transparency or trade development, prompts more economic performance.

While trade is for the most part useful, the advantages increase with more flexibility. Nations with more liberated trade practices experience more economic development than nations with restricted trade practices. An examination done by the World Bank analyzed trade policy and economic performance for 41 developing nations between the mid-1960s and late 1980s, and compared the financial performance of nations practicing free trade and those that restrict trade (Abboushi, 2010). The examination found that nations practicing free trade exhibited better economic performance than those restricting trade.

1.4 Thesis Structure

Chapter 1 of this study gave out the general context of the situation with the recent election of President Donald Trump as the President of the United States. He came up with various cross border tariffs that affected Mexico automotive firms. This chapter will inform the study of the events that should be looked at when dealing with an automotive industry in Mexico. Chapter 2 will provide a framework about the history of the Mexican automotive industry, economy and the car brands that are sold in Mexico. The chapter also will provide a table that highlights the brands of car sold. It will also show a number of trucks as well as cars by company dealers in Mexico. The total sales for various brands in Mexico will also be highlighted in this chapter. Different brands that have been sold from 2006 to 2013 will also be highlighted in a table in this chapter. It will also provide an overview of car and truck sales data from the year 2005 through to 2014. The data will also include the employment in the automotive industry, imports, exports as well as some specific ports that handle these imports and exports. Chapter 3 will look at the methodology that will be employed in this study where it will also discuss previous studies that have employed CES and Armington models. This chapter will also give an introduction of CES model, its description in detail and analysis. The chapter will go ahead and provide data gathering, input, and processing methods. The use of General Algebraic Modelling System (GAMS) software in data processing will also be highlighted in this chapter.

Chapter 4 will provide results and analysis where CES model will be used to describe the changes of that Trump's policy will have on employment, maritime activities and economic welfare of Mexico. The chapter will also show the share of GDP that manufacturing industry in Mexico has brought. It will also highlight the employment structure by the manufacturing industry. The chapter will also highlight on the potential demand as projected by the changes in policy by Trump's Presidency giving two cases: moderate policy scenario and worst policy scenario and their implication changes. This chapter will also highlight on some insightful data that support the results in terms of

employment and economy by showing the GDP contribution of the industry under investigation.

Chapter 5 will give a discussion about the results that were obtained about how Trumps policy change will affect the variables selected and what they mean to the automotive industry in Mexico. This chapter will describe how the policy change will have an effect on employment, maritime activities as well as the overall welfare of the economy in Mexico. In discussing the result, this chapter will clearly show what the researcher thinks will be the interpretation of the figures that were obtained in chapter 4. It will also elaborate on the methodology that was applied as well as their shortfall. This chapter will also propose opportunities for future research in this field or related one which will then conclude the study.

2. Literature review

The 2008 record of Economic Freedom distributed by the Heritage Foundation positions the USA as the fifth freest economy on the planet. A measurement in the list is the degree to which global exchange is free of government impedance. In such manner, while not top positioning, the USA is a world pioneer and champion of facilitated commerce, and this has been so for a considerable length of time, particularly after Second World War when the US Government made organized commerce part of its outside approach to advance political collaboration and steadiness.

US Government sense of duty regarding organized commerce, be that as it may, has not been without incidental but rather rehashed examples of protectionism that meddle with unhindered commerce and cause negative results locally and globally. All the more as of late, protectionist feelings in the USA appear to be surging again as showed by the many bills previously the Congress that plan to abridge unhindered commerce in various ventures and with various nations. Congress has likewise been slowing down on level headed discussion and approval of organized commerce understandings (FTAs) that the organization had arduously consulted with enter exchange accomplices in Latin America and Asia.

2.1 Theoretical Framework

Every President has a policy they plan to implement once in office. President Trump's policies have been discussed world-wide as some of them have elicited fear and concern among World leaders, trading partners of the US, American Immigrants, and Mexico. Mexico is on the spotlight as most of President Trump's policies target her. The policies will certainly influence the trade relationship between the US and Mexico as they are unfavourable to free trade. Therefore, since this study is focused on the effects of Trump's presidency on Mexico's economy, the elements under independent variable in figure 1 below are the policies, which will affect economic activities in Mexico, with specific focus on the automotive industry. Mexico's economy is dependent on the elements under the dependent variable in figure 1 below. If there will be any effect of Trump's policies on Mexico's economy then the dependent variable must be affected. Therefore, these are the elements whose relationship should be studied in this study (See figure 1 below).

Figure 1: Theoretical framework

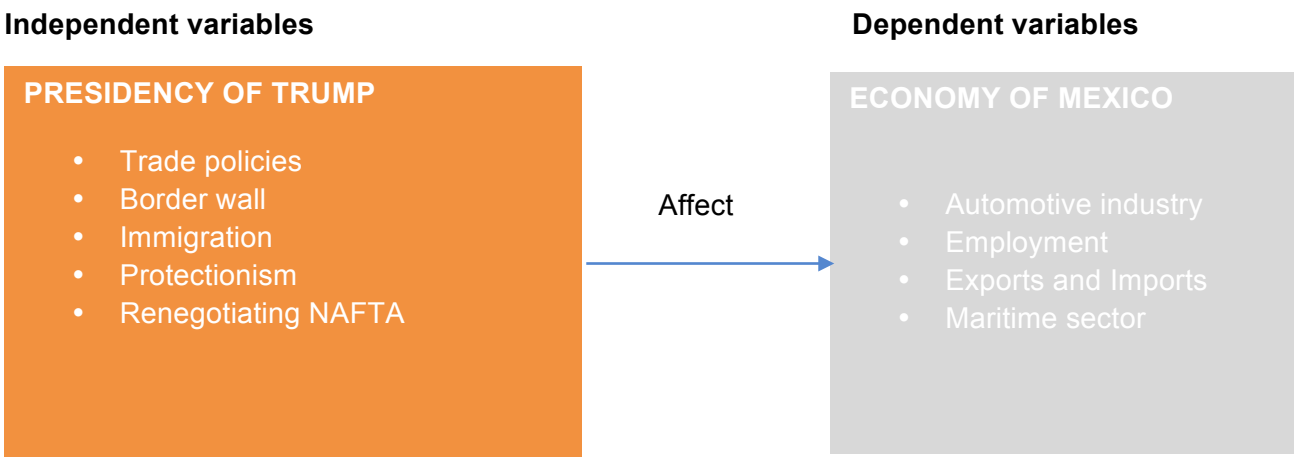


Figure one above presents the major concepts of independent variable (Presidency of Trump) and dependent variable (Economy of Mexico) discussed in this chapter. It also shows the independent variable is bound to influence the dependent variable. The concepts are broadly discussed in the following sub chapters.

2.2 Trump's Presidency

President Trump vow to construct an outskirt divider, and he has addressed Mexico's refusal to pay for it with dangers of a 20% assessment on Mexican imports. He says he'll renegotiate NAFTA, and Mexicans fear he'll endeavor to constrain interest in their nation's assembling and car divisions to resuscitate those ventures in the U.S. So, by what method will Mexico react? It could answer Trump by choosing a populist torch of its own—a President of the left who promises to punch back (Bremmer, 2017). Mexico's present President, Enrique Peña Nieto, had a lot of issues long before Trump went into the White House. Defilement embarrassments and his inability to put an end to Mexico's bleeding drug wars have driven his survey numbers down in later a long time. His endorsement remained at 12% as 2017 started, as indicated by a study distributed by the daily paper reform, in the midst of expansion, cash instability and a dormant economy (Bremmer, 2017). Open anger achieved a breaking point in January when diminishing state incomes constrained Peña Nieto to slice government fuel appropriations, unexpectedly climbing gas costs on customers by up to 20%. Challenges and plundering took after.

2.3 Trump's policies

2.3.1 35% tariff on imports of automobile and their parts to US from Mexico

A tariff alludes to a tax on goods imported into a country from a foreign country. The tariff may extend from a couple of percentages of the cost of the commodity to well more than 100% of the cost of the good. This duty is eventually passed on to buyers, bringing about higher costs. From economic point of view, the extra tariff, or levy, on imported merchandise can dishearten outside nations or organizations from attempting to offer items in the local market (Beghin, & Beladi, 2013). The extra duties make the imported product either excessively costly or not so focused as it would be if the levy didn't exist. This can prompt fewer selections of merchandise and a lower quality for shoppers.

Local makers advantage by at last confronting decreased rivalry in their home market, which prompts a decrease in supply levels and higher costs for customers. At the point when a buyer purchases a higher-evaluated imported product with a levy forced on it, the purchaser now has less cash to spend on different things (Beghin, & Beladi, 2013). This forces customers to either purchase less of the foreign goods or less of some other goods, at last bringing down the buying capacity of shoppers. It is essential to recollect that in spite of the fact that purchasers may pay higher costs due to taxes and have constrained choices, the potential advantage is that household offers of products can increase, at last prompting a rise in domestic sales and more jobs created domestically.

Tariffs are imposed by government for the following reasons:

- To offer shield for small and middle size domestic companies from stiff competition from outside.
- To offer shield for established but nonperforming local ventures from outside rivalry.
- To offer shield for local manufacturers from dumping by international organizations or governments. Dumping happens when an outside organization charges a cost in the domestic market that is "too low". In many cases "too low" is for the most part comprehended to be a value, which is lower in a foreign market than the cost in the local market (Beghin, & Beladi, 2013). In different occurrences "too low" means a value that is lower than the cost, therefore, the manufacturer is making loses.

Trump's proposition springs from a justifiable concern - that the U.S. automobile production base has debilitated drastically in the previous couple of decades, as organizations have moved operations to nations where the cost of production is low. The notion behind forcing tariff is to make American organizations more aggressive with their outside partners. As those organizations thrive, the reasoning goes, they can procure more labourers and pay their representatives better. Those labourers, thusly, would have more cash to spend, and that helps spread those dollars around the economy all the more extensively.

2.3.1.1 Risks of imposing tariff

- Increase in prices which are partly borne by the US consumers
- Increase in the cost of production - A ton of materials that are utilized to make items sold in the United States could see their costs increase too, contingent upon the material being referred to and where it originates.
- A fall in the stock market and rise in the rate of interest.
- Trade wars – If tariffs are imposed, the trading partners of the US may retaliate. In this case, Mexico. It may be unfavourable for Mexico to endure the increase in tariffs without reacting.

2.3.2 Building wall along US-Mexico border

The president intends to build a wall a long US-Mexico border. According to him, Mexico should bear the cost of construction if she wishes to secure their foreign remittances. Mexican President, on the other hand stands firm against the proposal. According to BBC News (2017), the length of the border is 1,900 miles (3,100 km). Trumps said that the estimated budget for construction is between $ 10 and $ 12 billion. The plan is to make Mexico pay in the following ways:

- By increasing tariffs on goods from Mexico (20%). This may lead to trade wars as Mexico may decide to remove the tax benefits for US companies in Mexico.
- By stopping foreign remittances. This will prevent Mexicans working in the US from sending money to their family members back home. The annual remittances are estimated at $ 25 billion (BBC News, 2017).

2.3.3 Immigration

Concisely, when Obama was in power, immigrants spotted crossing US-Mexico border without documents were granted access and the immigration officers would process their request for asylum, a process that can last for long. This system made it possible for illegal immigrants to stay in the US for as long as it will take their request to be processed. Trump's administration seeks to reverse the system as it will be deporting all immigrants without legal documents, with some exceptions to children crossing alone (Kulish, Yee, Dickerson, Robbins, Santos, and Medina, 2017). The system will benefit the US as it may help fight the looming crimes and drug trafficking. However, it will negatively affect Mexico by increasing joblessness reducing the country's GDP.

2.3.4 Protectionism

The previous couple of decades have seen an extraordinary pattern towards the liberalization of trade and capital streams. All things considered, there are numerous cases of governments seeking after dynamic trade policies. Trade policy is a gathering of financial political measures of a nation attempted to separate beyond-border trade of products (Bilas, & Franc, 2010). There can be: victimization import (protectionism): tariffs, quotas and anti-dumping, export duties, discriminating foreign employees: visas and capability choice, segregation in favour of exports: export appropriations and discrimination in support of import: overvalued currency.

Protectionism alludes to a circumstance when a nation takes measures to confine trade with a specific nation, locale, or particular items with the expectation of elevating local ventures. Nations progressively utilize their approach to target ventures regarded to be of particular significance (Bilas, & Franc, 2010). Focusing on implies coordinating endeavours towards exchanging portion of interests for ventures where the private sector contributes inadequately. There is an expansive agreement among financial specialists that protectionism does not improve welfare of society.

The decision of a proper trade policy instrument more often than not comes down to duty and non-tariff restrictions: trade charges and endowments, import quotas, export limitations, commissions and taxes on import products, control of merchandise, administrative methods, custom clearance fees, principles of the nation of inception, among others (Bilas, & Franc, 2010). Writing regarding the matter typically talks about the accompanying contentions for bringing insurance into an economy: patriotism, assurance against shoddy foreign labour, import and household cost levelling, increment in the state budgetary wage, redistribution of pay, change in national welfare, enhancing terms of trade, national employment and lessening in joblessness, improving of the trade balance, national security and defence, disappointment of the local market, protection of start-up ventures, diminish in joblessness in a particular industry, remuneration of dumping costs (antidumping), tariffs that support rare production factor, cultural and social values.

Today there are unmistakable political weights demanding protection from import rivalry to protect employment. With economies around the globe still powerless, credit tight and worldwide exchange contracting, the possibility of protectionism spreading in a

wide range of structures alerts exchange subordinate countries in Asia and somewhere else (Bilas, & Franc, 2010). One of the issues of the managing today emergency is that despite the fact that issues and difficulties are more worldwide than any other time in recent memory, governmental issues stay as nearby as ever. In the midst of drooping national and worldwide request, nations discover the approaches to seek after homeless person thy-neighbour measures that will make their items more focused than those of outside adversaries.

It is viewed, as that financial crisis did not contribute such a great amount to the decay of the world trade, however certainly it added to the expanded uncertainty. Trade finance alludes to working capital that backs trading exercises between two parties. Because of financial crisis, a few unsettling influences happened (Bilas, & Franc, 2010). Withdrawal of liquidity caused sharp increments in premiums, financial institutions experienced more tightly interior credit and hazard limits, commercial banks quit loaning on account of crumbled asset reports and dread of instalment defaults from exchange operations, and so on.

Korea and other Asian nations are particularly helpless, since they heavily depend on export. Other crisis may be unique in relation to the one in Asia in 1997. In 1997 nations under crisis recuperated through expanded export activities to developed nations. Be that as it may, today we can ask ourselves can trade be the answer for any emergency if the demand diminished in developed nations (Bilas, & Franc, 2010). This is thought to be one reason why it is basic to keep the world market open and stop protectionism. The protectionist measures can impact in additionally decrease of the volume of the universal exchange.

Countries of the world have been exchanging products and enterprises with each other since the beginning of history. In present day times, and particularly since the foundation of General Agreement on Tariffs and Trade (GATT), multilateral exchange has thrived and delivered financial success and political security among trading accomplices (Abboushi, 2010). The products of exchange have initiated each nation to need to join the group of exchanging countries and to request of for enrolment in worldwide trade associations knowing extremely well that they would bargain their national sway and wind up noticeably responsible to exchange directions drafted by agents of outside governments. On occasion, trade has not been without tricky results, lacking collaboration concerning certain ensured businesses, and agonizing financial disengagements inside residential economies (Abboushi, 2010). However, and regardless of the weaknesses, trade has progressed relentlessly and now and again quickly, and made a great result where the development of world exchange outpaced the development of world economy.

The development of genuine trade, instead of dollar value trade, surpassed monetary yield by more than 4 rate focuses in the vicinity of 1996 and 2006. In North America, genuine stock fares developed by 8.5 percent in 2006 and GDP by 3.4 percent. In Asia, sends out developed by 13.5 percent and GDP by 4.4 percent. Development in trade and financial yield multiplied to creating nations whose economies really became quicker than the created nations (Abboushi, 2010). This hearty monetary success fortified speculator certainty; hoisted securities trade value to notable levels, and

brought down the spread in premium edges between developing business sector bonds and those of created nations. Outside direct venture capital streams came to $1.23 trillion of every 2006, the second most elevated ever, and worldwide liquidity expanded remote trade holds and empowered governments to speed up open obligation re-payments. Late information demonstrates that the circumstance in the USA is similarly appealing. In 2007, US sends out achieved a record $1.6 trillion, up 12.6 percent from 2006 and the 2008 numbers are similarly noteworthy with 33% of agribusiness yield and 20 percent of fabricates traded universally (Abboushi, 2010).

2.3.4.1 Reasons for protectionism

National defence - Protection of procedures in businesses, for example, weapon fabricating is considered judicious to ensure the nation's readiness for times of misfortune. This contention has wide energetic interest, yet it likewise has shortcomings. To begin with, securities given to purported fundamental ventures are expensive to citizens and appear to have turned out to be standard and matter of actuality (Abboushi, 2010). Second, various enterprises meet all requirements to be essential for national security including plastics, chemicals, metals, and PCs. Should every one of these businesses appreciate assurance from universal rivalry? Third, in the present business condition of worldwide systems administration, it is unfathomable to distinguish a delicate industry that is without systems of remote accomplices and even co-proprietors.

In the barrier business, Boeing, Raytheon and DRS Technologies all have many vital associations with worldwide providers, accomplices, customers, and remote governments also. Besides, these organizations do contend globally. Could such organizations go up against remote makers abroad, as Raytheon as of late rivalled the British firm BT Group PLC in the UK, and after that appreciate security from similar rivals in the home market? At long last, some of these national resistance organizations are not by any stretch of the imagination national - they are getting to be noticeably outside claimed (Abboushi, 2010). Just to represent the point, Finmeccanica SpA, an Italian guard temporary worker, has as of late gained the US-based DRS Technologies for $5.3 billion. US security audit regardless, this protection organization is currently responsible to a remote proprietor.

Balance of Payments - Promoters of protectionism are frightened at the deficiency in the balance of payment current account. At the point when trade shortfall endures and develops, legislators start to employ protectionism to fight the apparent bad form in the nation's exchange relations (Abboushi, 2010). This contention, while famous, dismisses key issues. To begin with, many studies in the financial aspects of trade keep on demonstrating that exchange shortfall essentially is not destructive to the economy. Second, focusing just on the balance of trade is however an incomplete and constrained perspective of a nation's balance of payment. A positive balance in another account, for example, the capital account, which measures capital inflows and outflows, goes with a deficit in the balance of trade (Abboushi, 2010). That is the situation with the US balance of payment and it is a reality once in a while specified by contentions for protectionism. Third, protections that diminish imports perpetually decrease trades and don't change the deficit circumstance. Utilizing import extra charge to decrease trade

deficit is a strategy that can mutilate asset assignments and fail to reduce the deficit. Recent studies conclude that constraining imports is not prescribed for that will do harm to a country's GDP.

Employment - An industry that has not been getting ready for rivalry, worldwide or residential, loses piece of the pie and occupations are lost. Labourers and their delegates and bosses campaign the administration emphatically to acquire insurances, and they frequently do. Insurances decrease imports and protect a few occupations, yet the ensuing lessening in trades diminishes work in send out enterprises (Abboushi, 2010). Business picks up from diminished imports and misfortunes from decreased fares adjust each other out with a network impact almost zero! A moment issue is the cost per work spared. As will be appeared in another segment of this paper, the cost to general society can achieve countless dollars per a solitary occupation spared. Third, while work in the supported business is saved, it compounds in ventures that rely upon imports, as mechanical clients of imported products, retailers, exchange related administration enterprises, et cetera (Abboushi, 2010). Furthermore, the ascent in the cost of secured products builds the cost of working together in these ventures and makes them less focused. Some end up moving or closing down, as has been the situation in organizations subject to ensured sugar, steel, timber, and so forth.

Infant industry - This is another famous contention in creating and created nations too. A recently settled industry may not appreciate the cost and generation efficiencies delighted in by contenders who have been doing business sufficiently long to create creation efficiencies and inventive advancements (Abboushi, 2010). Accordingly, the recently settled industry applies weight on its legislature to shield it from global rivalry by methods for forcing exchange confinements even with imports for various years until the point that the local business apparently sets up its near preference. Sadly, the secured business keeps on depending on its political power and partners to broaden the length of its "outset" and oppose lifting the insurances. Such new ventures appreciate the advantage of assurance and regularly develop in size and start to look like an oligopoly with critical political energy to safeguard and even raise levels and sorts of protection (Abboushi, 2010).

2.3.4.2 How committed Trump is to protectionism

"Donald Trump has chosen a long-time advocate of greater protectionism as his US trade representatives in another signal that his administration is poised to take into government the aggressive policies he advocated during the campaign" (Donnan, 2017).

"Robert Lighthizer , who has been leading the Trump transition team's meetings on trade with the Obama administration, served as deputy US trade representative in the administration of Ronald Reagan at a time when the office was renowned for its battles with Japan. He has long represented the US steel industry in cases as a partner at law firm Skadden Arps and in recent years has been a vocal advocate for a protectionist shift in the Republican Party" (Donnan, 2017).

“A US trade representative, Mr Lighthizer would play a key role in delivering on Mr Trump’s campaign promises to crack down on unfair trading practices by China and to renegotiate the North American Free Trade Agreement with Canada and Mexico” (Donnan, 2017).
“He will do an amazing job helping turn around the failed trade policies which have robbed so many Americans of prosperity," Mr Trump said in a statement announcing his choice” (Donnan, 2017).
“I am fully committed to President-elect Trump's mission to level the playing field for American workers and forge better trade policies which will benefit all Americans," Mr Lighthizer said” (Donnan, 2017).
“The appointment, which must be confirmed by Congress, is the latest signal of what is likely to be a major shift in US trade policy when Mr Trump takes office on January 20” (Donnan, 2017).
“The incoming Republican president has vowed to pull the US out of the Trans-Pacific Partnership, a vast Asia-Pacific trade deal negotiated by President Barack Obama. He also has threatened to impose punitive tariffs on China in what some fear could become the trigger for a trade war between the world's two largest economies” (Donnan, 2017).
“Mr Lighthizer's nomination drew a lukewarm response from at least one senior pro-trade Republican. "I look forward to a vigorous discussion of Bob's trade philosophy and priorities," said senator Orrin Hatch, head of the powerful finance committee that will hold the new USTR's confirmation hearings” (Donnan, 2017).
“It drew a warmer welcome from Democrats and even antitrade campaigners” (Donnan, 2017).
"Bob Lighthizer understands the harmful impact of unfairly traded imports on US workers and businesses," said Sandy Levin, a Michigan Democrat who has long called for the US to implement tougher trade rules. "His challenge will be to bridge very disparate opinions in a Trump administration and create responsible trade policy that moves beyond the Trump campaign slogans" (Donnan, 2017).
“Mr Lighthizer, who served as treasurer of Bob Dole's ill-fated 1996 run for president, would be the latest prominent trade hawk to join the Trump administration” (Donnan, 2017)
“The president-elect before Christmas named Peter Navarro, an economist and author of the book Death by China/, to lead a new National Trade Council within the White House. He also has nominated billionaire investor Wilbur Ross to serve as commerce secretary, a role from which he is expected to guide the administration's trade policy” (Donnan, 2017).
“Some analysts have raised questions over whether the creation of the trade council and Mr Ross's expected leadership on trade will result in a diminished role for the US traderepresentative, a role that in the past has served as presidents' trade tsar. But Sean Spicer, Mr Trump's spokesman, said in recent days that the USTR would continue to be the US's lead trade negotiator and would only be guided by Mr Ross and the trade council” (Donnan, 2017).
“Dan DiMicco, the former chief executive of steelmakerNucorand head of the Trump transition team's trade unit, said Mr Lighthizer would be "a strong USTR and I strongly recommended him for the job" (Donnan, 2017).
"We have fought the trade battles together for years," he said” (Donnan, 2017).
“In recent years Mr Lighthizer has been a leading advocate for a more muscular approach to trade among ideological conservatives, arguing that the pro-trade

Republican Party should embrace the sort of protectionism advocated by MrTrump" (Donnan, 2017).
"Modern free-traders . . . embrace their ideal with a passion that makes Robespierre seem prudent," Mr Lighthizer wrote in a 2008 New York Times op-ed" (Donnan, 2017).
"They embrace unbridled free trade, even as it helps China become a superpower. They see only bright lines, even when it means bowing to the whims of anti-American bureaucrats at the World Trade Organisation . . . They see nothing but dogma -- no matter how many jobs are lost, how high the trade deficit rises or how low the dollar falls" (Donnan, 2017).
"Although he has in recent years outsourced production of Trump-branded products overseas, the incoming president has, in books and other forums, long been an advocate for a tougher US trade policy. That drew the notice and backing of Mr Lighthizer years ago" (Donnan, 2017).
"In a 2011 column written years before Mr Trump's run for president, Mr Lighthizer likened the reality television star's approach to trade to that of Alexander Hamilton and Ronald Reagan, and said it was an example Republicans should follow" (Donnan, 2017).
"The recent blind faith some Republicans have shown toward free trade actually represents more of an aberration than a hallmark of true American conservatism," Mr Lighthizer wrote then. "It's an anomaly that may well demand re-examination" (Donnan, 2017).

2.3.4.3 Advice against protectionism

Staying away from trade and investment protectionism is unquestionably one of the key difficulties that the worldwide economy is confronting today. Developed nations ought to at first oppose protectionism in every one of its structures and advance a positive motivation both universally and locally with the expectation of free trade and venture. One of the main reasons why most nations have not rehashed the Great Depression encounter is their preparation to depend on the expansionary financial and monetary arrangement. Likewise, globalization has affected the circumstance of most economies and their states of mind towards protectionism (Bilas, & Franc, 2010). Keeping up an open trade system is in the interest organizations that are a part of worldwide supply chains; along these lines governments advocate free commerce as a wellspring of improved competitiveness.

Formally, all governments recognize the significance of free trade and capital movements. This has been seen in the G20, the International Monetary Fund, the World Bank, International Financial Institutions, and in practically every official event, and global understandings have been come to on keeping up free trade and investment (Bilas, & Franc, 2010). Trade protection is a worldwide issue, however protectionist measures taken by large-scale trading nations mean more. Large-scale traders should assume greater liability in organizing trade policies, in wilful trade liberalization and in monitoring each other's activities.

Given that protectionist measures obstruct economic recuperation, advance inefficient spending, and may really bring about employment misfortune, protectionist measures

ought to be avoided (Bilas, & Franc, 2010). Governments ought to promote free and open trade and foreign venture and oppose protectionism.

2.3.5 NAFTA

The North American Free Trade Agreement (NAFTA) is recognized as the treaty creating a trilateral trade bloc in North America, involving the countries of Canada, Mexico and the US (Hufbauer, 2005). Since 1994, the NAFTA has been effective until date, facilitating the international business operations by eliminating tariff barriers (Inc, 2017). Currently, the three countries involved in NAFTA could be recognized to be able to contribute $20 trillion gross domestic product (GDP) (Amadeo, 2017a).

The withdrawal from NAFTA or renegotiating is expected to re-establish trade barriers that might adversely influence the US economy and prove to be detrimental to the employment in the country (Melitz, 2017). NAFTA could be analyzed to have acted beneficially for the US auto industry by increasing the employment in the industry by 5 times higher than the growth in the overall manufacturing jobs (Annex Business Media, 2017). On the contrary, Kay (2005) argued that with the enactment of NAFTA, huge employment scopes have been identified to be shifted to Mexico from the US, causing job loss for the US citizens. The decision of Trump to renegotiate NAFTA is aimed at addressing this employment issue of jobs shifting from the US to Mexico. However, the changes in NAFTA could be analyzed to be risky to cause the loss of around 2 million positions at the car plants in the three-member countries of the treaty. Loss of around 30,000 jobs is predicted in association with the cancellation of the NAFTA (CBC News, 2017). These figures and predictions pose doubts about the success of renegotiating NAFTA terms to improve employment issues of the US.

2.3.5.1 Possible impacts of renegotiating NAFTA

The NAFTA renegotiation process would have its own particular elements and the impacts are hard to foresee. As indicated by Trump's announcements, the U.S. might want to develop employments by halfway securing its own market. Thus, Canada and Mexico presumably will unequivocally safeguard access to the U.S. showcase. This difference could make understanding harder to accomplish and delay the transactions (PISM, 2017). For this situation, there would be included vulnerability concerning the last principles and interest in the NAFTA nations could be restricted as organizations hold up to perceive how to respond to the progressions.

That can adversely influence the nations' financial development and positive notion from universal markets. The presentation of U.S. levies and charges on imports from Mexico most likely would slant the last to build exchange obstructions, thus influencing U.S. exports (around 6 million employments in the United States rely upon exchange with Mexico) (PISM, 2017). Forcing charges additionally could bring about higher costs for some merchandise in the U.S., perhaps prompting expansion and giving an extra contention for the Federal Reserve to build loan fees. Higher yields on U.S. bonds suggests an inflow of cash to the nation, primarily far from rising markets (including Poland), and consequently increment the estimation of the U.S. dollar, thus making American exporters less focused in connection to European organizations, for instance.

In the event that the arranging positions stay unbendable on trade as well as on different parts of relations between the accomplices, (for example, migration), a disappointment of the discussions can't be rejected. The U.S. presumably would pull back from NAFTA all things considered, and U.S.- Canada exchange relations would come back to the bilateral trade assentation from 1989. U.S. exchange with Mexico would likely rely on WTO rules (Canada and Mexico could keep up the NAFTA arrangements for each other) (PISM, 2017). Thusly, as indicated by the most-favoured-country run, the normal U.S. tariff on merchandise from Mexico ought to be the same with respect to different states, which is 3.5% by and large (correct tariff contingent upon the area). Tariff surpassing this lead could be questioned by Mexico in the WTO.

It is hard to figure out what affect new trade obstructions could have on re-establishing employments in the U.S. It is conceivable that U.S. organizations would keep on outsourcing creation to nations with bring down work costs, (for example, to South Asia) to hold worldwide aggressiveness (PISM, 2017). Be that as it may, weight from the Trump organization on some U.S. organizations, including Ford and General Motors, has driven them to report an end on new interest in Mexico and the advancement of manufacturing plants in the U.S. In any case, in the long haul, a weakening in trade and venture relations with the U.S. likely would negatively influence Mexico's economy (around 80% of Mexican exports go to the U.S.) (PISM, 2017). Settle for what is most convenient option in Mexico could expand movement weight on the United States, making it more troublesome for the U.S. organization to control its fringes.

2.4 The Economy of Mexico

2.4.1. Economy

The Mexican economy is the thirteenth biggest in the world in nominal terms and the eleventh largest by purchasing power parity (PPP). The country is rapidly becoming a prominent market heavyweight. The economic production of the nation, as measured by gross domestic product (GDP) has been estimated at $2.2 trillion in 2015. However, the value has been much lower in comparison to its primary trading partner, the US, who has $17.9 trillion but more than its other NAFTA (North American Free Trade Agreement) partner, Canada who has $1.6 trillion (The World Bank, 2017). It can be further discussed that the GDP growth rate of Mexico in 2015 has been reported at 2.3%, which increased, from 2.1% in 2014 and 1.4% in 2013.

Moreover, the standard of living of the country as determined by GDP per capita has been estimated at $18500 (Amadeo, 2017b). On the other hand, it has been identified that Mexico is the twelfth biggest exporter across the globe. In the year 2015, the country made eighty percent of its exports to the US and over ninety percent of trade of Mexico is under 12 free trade agreements (FTA) with more than forty nations. Further, it can be mentioned that the largest trade partners of Mexico are Japan (4.4%), China (16.6%) and the US (48%) and other trade partners are the European Union, El Salvador, Guatemala and Honduras (Mexico, 2017). Therefore, the success of Mexico is significantly dependent on these trade agreements.

Mexico currently has 44 FTA, which means that any firms which manufacturers in the country, has duty-free access to sixty percent of the global GDP. On the other hand, it can be pointed out that the international trade equals sixty-six percent of the nation's GDP. This is much higher in comparison to China (42%) and Brazil (26%). It has been identified that the country had grown from the 9th to the 7th biggest automakers in the world between 2010 and 2015 (Piacitelli, 2016). The automobile sector plays an imperative role in the economy and trade of Mexico. The industry produces nearly four percent of GDP of Mexico and close to twenty percent of the manufacturing GDP. With the growth of the new investments, the nation has progressively become a prominent market for the automobile sector. For example, Toyota of Japan, Ford of America, Audi of Germany and Kia of South Korea already have declared the construction of new plants in the nation with a total investment of US $4 billion. The economy of the country has an unprecedented macroeconomic stability, which has helped in reducing the rate of inflation and interest rates. This, in turn, has contributed to increasing the per capita income. In that context, it can be further mentioned that the rise in per capita income has supported the consumers to make an investment in the car industry. As a result, the economy of Mexico has been well supported to attain positive heights.

2.4.2 Automobile Industry

The automobile industry of Mexico dates back to 1925 when Ford in the nation established assembly lines. After ten years, in 1935, General Motors entered into the Mexican automobile industry. During the period of the 1950s and 1960s, organizations from across the globe showed interest to open automobile plants in Mexico. It has been identified that in 1964, Nissan has opened its initial manufacturing center in Mexico while Chrysler, Volkswagen, and Ford also made an investment in the production facilities in the nation during that period (Franco & Morán, 2017). On the other hand, numbers of Japanese, American and European companies constructed sites in Mexico by the end of the 1960s, but some organizations left the industry because of onerous regulations and taxes.

It has further been observed that during the period from 1961 till 1993, the automobile industry of Mexico faced major fall in the production and performance due to Mexican economic downturn. The number of car manufacturers that have been functioning in the country is already by 161; when there has been the first decline of the Mexican economy arrived (Mesa, 2017). Car organizations have been forced by the Government regulations in the early 1960s to assemble vehicles in the country by accessing both local and imported components. The notion behind this was to build a national automobile sector in the economy along with promoting employment and technological advances. On the other hand, some firms such as Fiat, Volvo, Mercedes Benz, Citroen, and Peugeot left the nation as they did not comply with such regulations (Franco & Morán, 2017). After 1994, the Mexican automotive industry has been able to stabilize the sector due to growth in the economy that positively impacted the sales of the car in Mexico. Moreover, the majority of the retired car makers emphasized on re-establishing themselves in the nation in order to capitulate benefit on the growth of the industry. During the last years of the 20th century, the car manufacturers like Porsche and Honda arrived for the first time and simultaneously other carmakers re-established

themselves in the country. This, in turn, has supported the automobile industry to grow and attract more foreign investments.

In 2005, Mexico witnessed the annual passenger vehicle sales of more than one million. The rising sales data motivated the car manufacturers to provide vehicles with alternative fuels such as the Volkswagen Jetta TDI and the Honda Civic Hybrid. However, due to severe Government emissions regulation, some carmakers majorly focused on releasing only their diesel-powered vehicles in the Mexican marker (Mesa, 2017). Currently, the Mexican automobile industry is growing at an increasing rate and has been able to enhance its sales.

It has been identified that at present more than forty-two car manufacturers are operating their businesses in Mexico with approximately four hundred different models. This, in turn, makes the nation one of the most diverse automobile markets in the international field. In 2011, nearly 2.4 million vehicles have been produced in Mexico and most of them have been exported for sale to other nations (Contreras, Carrillo, & Alonso, 2012). On the other hand, it can also be discussed that the automotive sector of the country accounts for 17.6 percent of the manufacturing sector. Moreover, after the United States and Brazil, Mexico has been successful in becoming the third biggest automotive manufacturing country in the Western Hemisphere and in 2013; it produced 3.1 million vehicles (Franco & Morán, 2017). It can be further illustrated that this particular sector is significantly involved in producing technologically complex components and in research and development, in order to meet the requirements of the customers. It is also evident that more than $10 billion had been invested in the first few months of the year, 2014. This further contributed to the growth of the industry, attracting more investors from across the world.

Currently, the automotive sector in the Mexican economy has become one of the most essential and effective value chains. Although it has witnessed significant setback due to the worldwide economic crisis, since 2010, the industry has recovered well and attained remarkable results. On the other hand, it can also be mentioned that Mexico has become a primary focus of the universal auto sector as organizations globally are constantly seeking opportunities to invest in the nation (Sturgeon & Van Biesebroeck, 2011). At present, Mexico is the seventh largest producer of cars in the world and fourth biggest exporter for the automotive sector after Germany, Japan, and South Korea. On the other hand, it has been ascertained that there is a high probability that Mexico can cross Japan to become the number two suppliers of automobiles to the US automotive market. In the year 2014, four out of each hundred vehicles in the world are manufactured in Mexico.

It is expected that the domestic automobile production would increase to 5000000 vehicles every year by 2020. On the other hand, it has been identified that in the year 2015, the nation has witnessed a historic record in terms of foreign direct investment (FDI) in the automobile and auto parts industry, which has been recorded to 6 billion dollars (Mexico, 2017). Based on the current situation of the Mexican automotive industry, it can be illustrated that the sector is growing and has become a major competition for the automobile sector of other countries. However, it can be mentioned that the automotive industry in Mexico would flourish in future and will make a positive

contribution to the growth of the economy. On the other hand, it can be further discussed that the automotive industry at present has turned out to be one of the markets with the highest competition globally, provided a number of car brands which function in Mexico, serve well apart from the huge offer of products given by these brands.

2.4.3 Imports and exports

Mexico could be seen to possess a highly active automobile industry, which is the largest one in North America. The presence of the manufacturing units of several leading automobile brands in Mexico facilitates the export and import of automotive products in the country. Ford, Volkswagen, Nissan, and Chrysler are some of the famous brands, operating their manufacturing units in the country (Nag, 2016). In 2014, the vehicle parts constituted 6% of the total imports in Mexico (Traub-Merz, 2017). Around 70% of the vehicle exports from Mexico could be identified to be going to the US in the Q1 of 2015, making Mexico the 2nd largest vehicle supplier to the US after Canada replacing Japan (Biondi, 2017). Considering the export aspect, US could be recognized as the biggest market for exported goods from Mexico. Cars are seen to account for the creation of $33 billion value of exports. At the same time, the vehicle parts created $23 billion value in exports and $22.7 billion in imports (Nag, 2016).

Over 80% of the vehicles produced in Mexico are seen to be involved in export activities. It positions the country as the 4th largest automobile exporter preceded by Germany, Japan, and South Korea (Biondi, 2017).

2.4.3.1 Import and Export Decade Comparison

Mexico over the last decade has performed tremendously well in the production of automotive and parts. There has been much production of small cars, which have found acceptance in the U.S residents and citizens. In 2007, Mexico was having the capacity to produce about 2.4 million cars. However, the actual production was just about 2 million. The production capacity has been increasing even though the country has not been able yet to produce at a full capacity for the entire decade. In the year 2017, it is projected that the car production to be 4.2 million whereas the country has the capacity to produce over 4.6 million cars. It is evident that it utilizes about 87% of production capacity. However, Mexico represents about 24% of North American capacity projected for the year 2018, which is an increase from 12% in the year 2007.

Coming to export, Mexico makes about 32% of its export from the automotive industry. This is the largest export that is outside oil export in the country. It is important to note that most of the firms that are present in automotive production sector in Mexico come from the United States. About 85% of all the firms dealing in automotive manufacturing in Mexico are firms that have an origin in the United States.

Exports of automobiles from Mexico between the year 2005 and 2014 was showing an almost double figure where in 2005 Mexico exported about 1.2 million vehicles while in 2014, it exported close to 2.6 million vehicles. There has also been an increase in the share of vehicles produced were in 2005, the share of produced vehicles rose from

74% to 82% in 2014. The opposite is true for the domestic sales of vehicles in Mexico where there was a decrease from 26% to 18% in the same period.

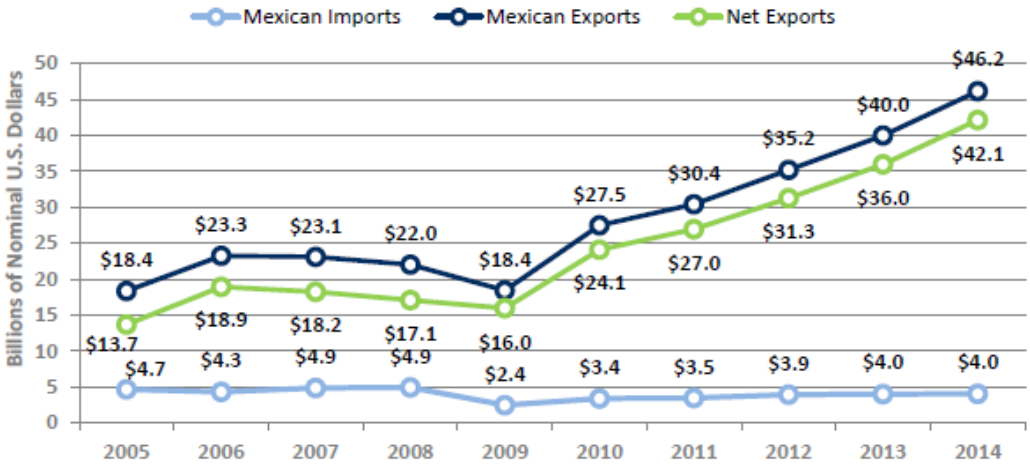
Mexico's export to other parts of North America such as the United States and Canada have shown a tremendous increase from about 940,000 vehicles in 2005 to about 1.9 million vehicles exported in 2014. It is important to note that even though this figure is high, the region of North America accounted for the decrease in the share of the exports that Mexico experienced between 2005 and 2014. The decrease was represented by high percentage from 90% to about 66%. This figure does not include those exports that were destined for other unknown destinations. However, the North American share reverted back towards the end of 2014 as a result of increased port services.

The exports to North America have been decreasing mainly as a result of various factors. There has been widened trade balance between the United States and Mexico as a result of trade differences over the past one decade. However, there was an increase in the exportation of vehicles from Mexico to the United States. For instance, in 2005, additional 701,000 vehicles were exported from Mexico to the United States. Looking at the trade balance between the United States and Mexico, there has been more export from Mexico to the United States compared to the export that comes from the United States to Mexico. For instance, Mexico exported about 879,000 to the United States where as only 178,000 vehicles accounted for all the exports that came from the United States to Mexico. In the year 2014, the surplus between the two countries increased to 1.5 million vehicles, which were the difference between 1.7 million vehicles exported from Mexico to the United States and 157,000 vehicles exported from the United States to Mexico.

Mexico has principally increased its export share from exporting to South America. Comparing the year 2005 to 2012, there has been an increase of export share to the South America from 3% to 16% in respectively. The number of vehicles that this figure represent is about 31,000 vehicles exported to South America from Mexico in 2005 and about 368,000 vehicles that were exported from Mexico to the United States. However, after the increase, there was a sharp decline from 16% to only 10% in 2014 representing an export of about 250,000 vehicles exported from Mexico to South America. Mexico has also looked towards Asia where there has been an increase in export share. For instance, there was an increase from about 0.1% in 2005 to about 2.9% in 2014 the number of vehicles that were exported from Mexico to China. This represents a figure of about 761 cars being exported from Mexico to China and about 6,000 vehicles being exported from Mexico to China in 2014.

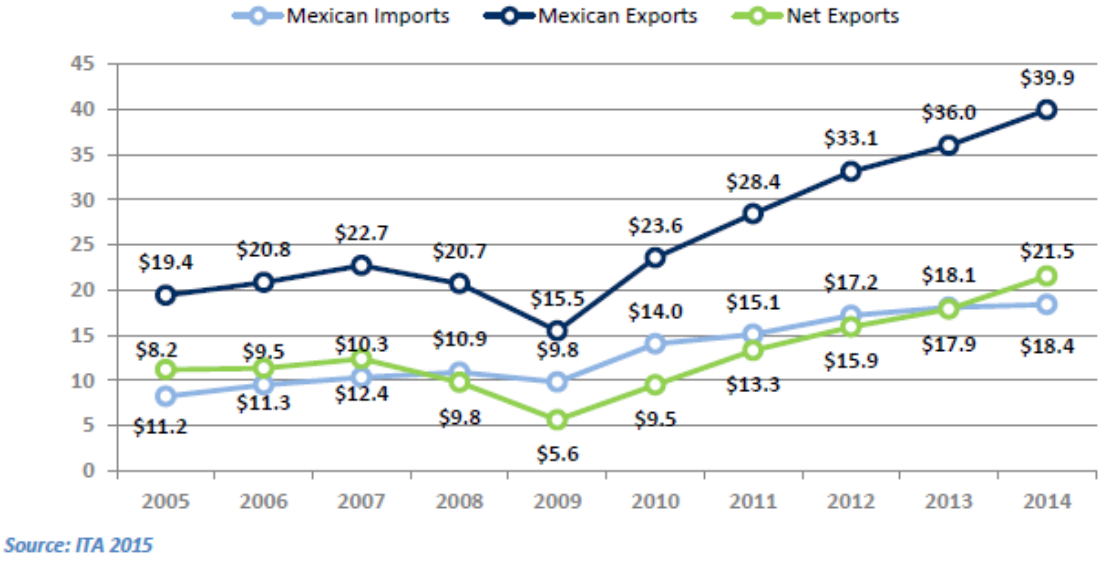
Earnings from export have also increased over a period of ten years. For instance, the net earnings from exports from Mexico were the US $ 18.4 billion in 2005 while in 2014; it was the US $ 46.2 billion. From 2007 to 2009, there was a gradual decrease in earnings from export. For instance, in 2007 there was a decline from US $ 23.3 billion the previous year to US $ 23.1 billion. In the following year, which was 2008, the earnings further declined to US$ 22.0 billion. The lowest point in earning was in 2009 where the earnings were lowest at US$ 18.4 billion.

Figure 2: Motor vehicle exported to the United States



Source: (ITA 2015)

Figure 3: Automotive vehicle parts Import and Export to the U.S



Source: (ITA 2015)

The number of vehicles produced according to ITA (2015), there were different patterns being displayed concerning exports by major car manufacturers. According to this data, Renault-Nissan retains much of its vehicle in Mexico's domestic market. The carmaker that exports most of their vehicles to Canada and the United States include Ford and FCA. Volkswagen cars are mainly exported from Mexico to Europe, South Asia, Korea, Japan as well as Middle East region. Mexico mainly exports VW, GM and FCA vehicles to China.

Looking at these figures, there is a clear indication that Mexico is a world major player in automobile manufacturing industry and therefore any policy that could curtail its production capacity will not only affect the country but will have an equally devastating effect on the global automobile market.

2.4.4 Overview of automobile parts market in Mexico

Since 2009, Mexico's auto parts import from the USA have more than doubled from 12.1 billion to over 26.5 billion in 2013, over 29 billion in 2014 and over $30 billion by 2015. The second largest market for the USA is Canada, with a growth from $19.6 billion in 2009 to $31.8 billion in 2012, but exports to Canada have been decreasing to $29.4 billion in 2015. As a joint, our North American Free Trade Agreement (NAFTA) members make up to 75% of all USA parts export (Biondi, 2017). "Trade between the USA, Canada, and Mexico is bound by the terms of NAFTA. As a result, there are no duties on Canadian and Mexican imports of automotive parts that meet the NAFTA rule of origin", the ITA report said.

According to the National Auto Parts Industry (INA), Mexico was awarded as the sixth largest auto part producer in the world. Producing $41.2 billion in 2009 to over $76.8 billion in 2013 with a continuous production achieving $85 billion in 2015. If vehicle production keeps growing it will lead to an increase in demand for the auto parts industry and for a larger range of products for the company's assembling. In addition to this, if the number of vehicles sold continues to grow, the domestic demand will increase for the aftermarket parts (Biondi, 2017). Notice that, more than 80% of the Mexican vehicle production is exported abroad.

The Mexican automobile market supports the US automobile manufacturers, as well as the aftermarket parts, build by the manufacturers. The sale of automobiles has indicated a consistent growth from 820,406 units in 2010 and over 1.3 million units in 2015 (LeBeau, 2017). Based on the study, it is evident that Mexico has manufactured around 3.4 million vehicles in 2015 (LeBeau, 2017). As per the study carried out by the Mexican Association of the Automotive Industry, Mexico is expected to surpass the automobile sector of Korea by 2020.Therefore, it is believed that the growth of vehicle production is expected to lead to a rise in demand for the auto parts industry and manufacture a large number of products for the assembly company's production lines. There is a number of end users of the auto-parts in Mexico, which capture around 2/3rd of the total market (LeBeau, 2017). The demand for the auto parts is likely to pick up with the anticipated growth in Mexico. The studies have revealed that Mexico has manufactured around 2.9 million light vehicles in 2012 (LeBeau, 2017). Nonetheless, there are certain challenges faced by the automobile sector in Mexico.

The Mexican automobile market supports the US automobile manufacturers, as well as the aftermarket parts, build by the manufacturers. The sale of automobiles has indicated a consistent growth from 820,406 units in 2010 and over 1.3 million units in 2015 (LeBeau, 2017). Based on the study, it is evident that Mexico has manufactured around 3.4 million vehicles in 2015 (LeBeau, 2017). As per the study carried out by the Mexican Association of the Automotive Industry, Mexico is expected to surpass the automobile sector of Korea by 2020.Therefore, it is believed that the growth of vehicle

production is expected to lead to a rise in demand for the auto parts industry and manufacture a large number of products for the assembly company's production lines. There is a number of end users of the auto-parts in Mexico, which capture around 2/3rd of the total market (LeBeau, 2017). The demand for the auto parts is likely to pick up with the anticipated growth in Mexico. The studies have revealed that Mexico has manufactured around 2.9 million light vehicles in 2012 (LeBeau, 2017). Nonetheless, there are certain challenges faced by the automobile sector in Mexico.

The global automakers have an interest towards the Mexican automobile sector and so they have chosen the FDI mode of entry. Around 407 billion dollars were earned by Mexico over the years from 1999 to 2014 and 189 billion dollars were invested in manufacturing the vehicles (Traub-Merz, 2017). Around 36.8 billion were absorbed by the Mexican automotive industry, which was distributed in different sectors of the economy. 32% of its products were imported to the US and to other countries, and only 14% of the products were exported from other countries.

The development of the automotive sector has sustained on the basis of the exports to the US, where the automakers have an interest towards using the products that are manufactured in Mexico (Contreras, Carrillo, & Alonso, 2012). The vehicular parts are imported from the US to Mexico and hence it acts as the first largest importer. Moreover, China is the second most important provider of the car components that are to be used in Mexico (Klier & Rubenstein, 2010). There are two comparative advantages of the vehicle exports from Mexico to the US. One is that Mexico's NAFTA membership saves other members countries from paying the high tariff and provides easy access to the market.

The foreign producers are allowed to manufacture the vehicles in Mexico at low wage levels and generate cost advantages while exporting to the US market. The wage gap between the US and the Mexico is wide and has increased further as the ratio was 5.7 times in 1998, but it has increased by around 6.8 times in 2013 (Traub-Merz, 2017). The studies have revealed that Mexico has earned high revenue from the production of light vehicles, as there are around 18 production complexes in 11 Mexican states. The country's production and export of the passenger cars are assumed to rise in the near future and the domestic sales grew by around 50.8% (Traub-Merz, 2017).

2.4.5 Barriers and challenges facing the automobile export in Mexico

Mexico's quest to look for free trade agreements with many countries across Asia, Europe, North and South America has managed to become an extremely competitive market for manufacturing. Recently, Mexico joined the Trans Pacific Partnership. These Free Trade Agreements with low labour rates and next to the USA should open the market for the USA aftermarket companies to establish cost effective production facilities within Mexico and then exporting the finished goods to the USA, Latin America, and worldwide markets. For instance, according to INA, a 10% of savings in auto parts manufacturing is offered by Mexico when compared to USA costs.

Mexico is recognized as the sixth largest auto part producer in the world, the market is already very competitive. 198 auto part plants are located in the northeast region of Mexico, 71 plants in the northwest region, 141 plants in the west and 102 plants in the

central region. So far, Mexico has approximately 2,600 auto parts companies, 65% of those companies are foreign. So far, Tier 1 and tier 2 supplier companies that are currently supplying OEMs in Mexico will most probably be attracted or pressured to make new investments to keep up with their customers in order to secure their supply contracts. The USA has 20% of the auto parts companies established in Mexico, Japan has 17%, followed by Germany with 13%. Some suppliers that currently operate in Mexico are Delphi, Michelin, Denso, TWO Automotive, Bosch, Magna, Automotive Systems and Hitachi, among other suppliers.

The USA is the number one place when it comes to exporting auto parts to Mexico with a 55%, followed by China with a 7%, and Germany, Canada and Korea with a 4% each. Moreover, the USA in 2015 exported over $30 billion in auto parts to Mexico; it also imported over $50 billion auto parts from Mexico. This amount is barely triple ($18 billion) of the exports that Canada deals with the USA, the second largest source for the USA.

The automotive industry in Mexico is very sensitive to the changes that take place in the economic environment. The financial amendments recently undertaken affected the automobile sector. Furthermore, all the vehicular parts are to be brought together in Mexico while assembling and before distributing the vehicles in the market.

2.4.6 Employment in the Mexican automobile industry

The automotive industry of Mexico has significantly contributed to the growth of the economy. The importance of this industry is considerably reflected in employment statistics. It has been identified that 875382 people have been directly recruited in the automobile industry as of December 2015. Moreover, 10% of them have been employed in the manufacture of trucks and cars and ninety percent in the auto parts industry (Biondi, 2017). On the other hand, it can also be mentioned that automotive production, in terms of total manufacturing, has represented 18.3% of overall manufacturing output and 14.4% of overall manufacturing employment. The vast majority of the automotive jobs in the country have been devoted to building car parts, which are provided to both national and international markets. Moreover, about 63000 of the 766000 automobile sector jobs in Mexico are dedicated to assembling passenger trucks and cars (Isidore, 2017). People are employed by the car manufacturing companies in different departments, which help the economy in cutting down the unemployment rates. Mexico has been successful in decreasing the rate of unemployment to 6.5%, which has been achieved due to combined contribution, made by the automobile industry and other sectors in the country (Biondi, 2017).

2.5 Maritime sector

RORO in logistics is a term that is used to mean, “roll on, roll off” which is a method that is used to load vehicles and machinery on shipping vessels. RORO is taken to be a cheaper method of exporting and importing vehicles internationally compared to other forms. This is because the charges for loading and offloading vehicles in ROR vessels are cheaper than loading and offloading a container. They have the advantage of being able to ship vehicles that are larger to fit into containers.

RORO is designed in such a way that they can easily ship wheeled cargo. RORO vessels are vessels with built-in ramps that provides for efficient loading and offloading of automobiles in the ports.

When using RORO, a client transporting a vehicle requires leaving the key in the ignition of the vehicles because the dock workers are supposed to line up the vehicles at the docks and then drive them into the ship and strap them down while awaiting sailing. The strapping is applied to all types of vehicles including tractors, trailers, bulldozers, cars, and trucks among others. Roll on, roll off is not to be confused with lift-on, lift-off vessels also are known as LOLO, which basically applies the services of cranes to load and offload cargo. The striking difference between LOLO and RORO is that RORO is built with ramps, which facilitate movement and rolling of vehicles to and from the ships.

This technology has been useful because it has reduced amount of damage that many cars and other vehicles were subjected to by the faulty or malfunctioning cranes during loading and offloading. The use of crane also requires special caution, as well as training and this, meant the extra cost to the shipping companies as well as delays in the terminals and ports.

2.5.1 SIEM Car Carriers

This is an ROR and car carrier Company that forms a subsidiary of the mother company known as SIEM Shipping Inc. This RORO and Car carrier company provides maritime services for manufacturers, importers, and exporters of automotive. They also deal with other shipping lines and logistics. The company is located in Norway but provides RORO services as well as car transportation internationally through the use of agents in various ports. Before becoming Siem Car Carrier in 2015, the company was known as Partner Shipping (AS). The parent company has also another subsidiary known as STAR Reefers (SIEMS 2016). The company is listed on the Oslo Stock Exchange as ‘SSI’. The STAR refers are the owner of the largest vessels in the world that are used in transporting products that must be kept under refrigeration.

Siem Car Carriers are specialized car transporters, which own liner vessels that are involved in global liner services. They also have specialized RORO service vessels that are highly specialized in transportation of cars. Apart from RORO, the company also deals with high, wide and heavy transportation services as well as break-bulk services. The Company is involved with various global shipping routes that involve moving vehicles and all manner of automotive between North America (Mexico included), Asia and Europe. They pride in offering services that are highly reliable, personalized and professional. They have various routes that are scheduled allowing manufacturing firms to transport vehicles internationally.

The company has two major routes that include: Pacific and Southeast Asia route as well as Atlantic route as shown in the figures below. The Pacific and Southeast Asia route take on from United States, Mexico, Japan, China, Thailand, Philippines and South Korea. Atlantic route connects United States, Mexico, and Northern Europe.

Figure 4: Pacific and Southeast Asia route

Figure 11: Atlantic Route

Source: (Siems 2016).

The agents of Siem Car Carriers RORO in Mexico are Representaciones Maritimas, SA de CV who are located in Lazaro Cardenas port.

2.5.2 Nippon Yusen Kabushiki Kaisha RORO

Another key RORO service company is Nippon Yusen Kabushiki Kaisha (NYK). NYK Transportation Company is one of the major transport service providers in the world with headquarters. According to NYK (2017), by 2016, NYK group operated about 821 ocean vessels. The shipping fleets of the Company include 119 Car Carriers 377 bulk carriers and 99 containers among others. The company has been performing well and according to the financial statement that was released in 2015, the revenue of the company hit $ 22 billion. The number of employees that the company has employed throughout the world is 34,276.

The NYK RORO is the largest ocean carrier in the world that has a capacity of carrying about 668,000 cars, which represent about 16% of the car transported in the globe. The Company has mainly dealt in finished cars. The Company also offers value-added services in all their 120 vessels having advanced transport technologies. The company has been giving in to the global trend of supporting overseas car production as man car assemblage activities have been done overseas and the demand of trilateral system that will take care of the transportation of cars globally have been rising. In this light, the company has endeavored to come up with a system that encourages the establishment of the transport network to ensure that Europe, China, and many other regions in the world are connected. This has enabled the company to operate and dedicate various terminals in the ports so as to ensure that finished automobiles are transported between various ports globally.

Table 1: Global Car Transport Fleet Ranking

Car Transport

Global Car Transport Fleet Ranking

(As of January 1, 2016)

Ranking	Operator	Vessels	Share (%)	Capacity (Cars)	Share (%)
1	**NYK**	**112**	**15.4%**	**668,000**	**16.3%**
2	Mitsui O.S.K. Lines	98	13.5%	573,000	14.0%
3	"K" LINE	84	11.6%	471,000	11.5%
4	EUKOR	76	10.5%	504,000	12.3%
5	GRIM	58	8.0%	247,000	6.0%
6	GLOVIS	57	7.8%	337,000	8.2%
7	WWL	52	7.2%	345,000	8.4%
8	HAL	41	5.6%	264,000	6.5%
9	ECL	10	1.4%	38,000	0.9%
10	NEPTUN	9	1.2%	32,000	0.8%
10	UECC	9	1.2%	37,000	0.9%
12	NMCC	8	1.1%	43,000	1.1%
12	SALLAUM	8	1.1%	35,000	0.9%
12	Toyofuji Shipping Co., Ltd.	8	1.1%	43,000	1.1%
15	SCC	6	0.8%	35,000	0.9%
—	Others	67	9.2%	310,000	7.6%
Total		703		3,982,000	

Source: Hesnes Shipping AS, *The Car Carrier Market 2015*

The company has is also specialized in transportation of used cars from overseas where they provide value-addition services such as pre-distribution inspection which is meant to give the clients confidence on the state of the cars before they are delivered to overseas merchants. Another value-added service that the company offers is conducting some repair to vehicles that are already assembled at the terminals before clearance. Besides cars, the company also deals in the transportation of automobile and heavy machinery parts to various ports and terminals. Therefore, shipping of automotive products and parts from Mexico to the United States involves

various shipping firms and ports authorities. This means that with the changes proposed by Donald Trump, even the maritime systems will be affected in a bigger way.

2.5.3 Primary Ports of Automotive Imports and Exports in Mexico

Mexico has a coastline that stretches about 10, 000 kilometers even though there are no navigable rivers or natural harbors. The country according to the Country data (2015) has a total of 97 ports that are owned either by private firms or by the government of Mexico. As a result of commercial cargo growth over the last two decades, there has been an upgrade of many ports in Mexico to handle the ever-growing number of cargo that is either leaving the country or raw materials that are entering the Country. For instance, according to Country Data (2015), the commercial cargo levels that were handled by the ports in 2014 alone reached as measured in 20-foot equivalent units (TEUs), reached about 5.1 million. This has seen the government putting in more efforts in trying to come up with new programs that are aimed at uplifting the ports. This is seen in the government effort in trying to invest about 5 billion U.S dollars in port projects and systems. Currently, according to the details revealed by the Country data (2015), the government is currently involved in about 25 new projects, which also include the expansion measure taken in elevating systems in the already existing port terminals.

It is important to note however that, even though the ports are increasingly becoming modernized, there is not enough much investment on the ports given the coastline advantage that the Country has in the region. Again, Mexico is becoming an important partner to Canada and the United States in the NAFTA region and therefore should invest huge sums of money in maritime and port development top facilitate smooth trade between the countries. It is clear from the studies conducted by Centre for Automotive research (2016), there has been laxity in the development of ports as a result of the poor port management system by the government. In this plan, the government decided to divide the ports into two groups. Pacific coast and the Gulf coast where both groups were made of isolated units that allowed competition between them. Nevertheless, these efforts by government have been not sufficient to handle huge volumes of trade that have been experienced over the last two decades especially, in the automotive industry where many importers and exporters have complained of many bottlenecks still existing in the ports as well as their capacity constraints given the ever-expanding automotive manufacturing industry in Mexico.

Figure 5: Major Ports in Mexico

Source: Searates.com

Looking at the first two important ports in Mexico as gauged by the volume of the cargo and specifically automotive imports and exports that pass through them, the port of Veracruz in the Gulf of Mexico and port of Lazaro Cardenas are the most two primary ports that handle automotive and other manufacturing products as well as raw materials to and from Mexico. Even though the port of Lazaro Cardenas is the busiest port in terms of the amount of tonnes it handles every day, port of Veracruz is the most significant port in terms of the automotive imports and exports particularly to the United States.

2.5.4 Port of Veracruz

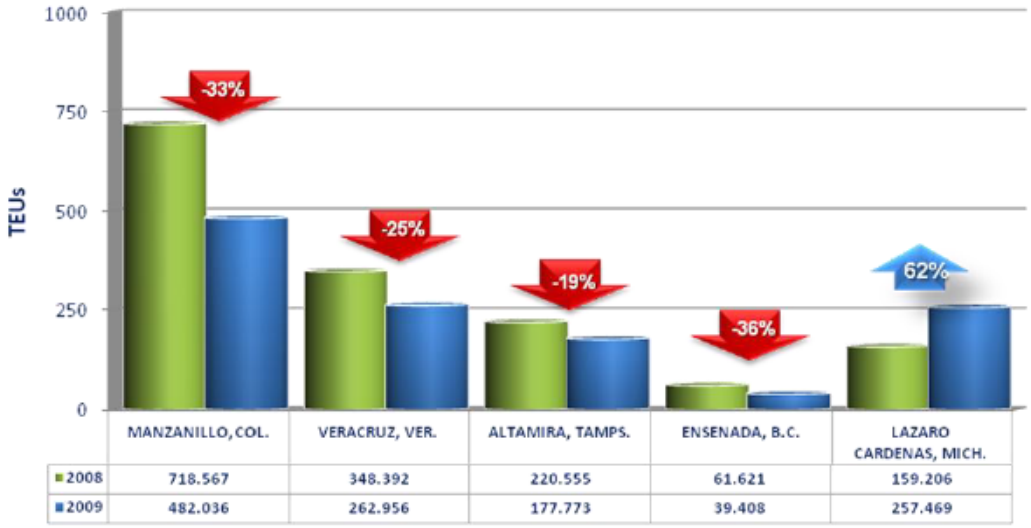
This port situated in Veracruz on the Gulf of Mexico in the south-central Mexico. The ports lie in approximately 300 kilometers east-southeast of Mexico City in Mexico. In the east coast, it is the main seaport and forms an important communication center to the Veracruz State. In ports connection, the port of Veracruz is located some 240 kilometers southeast to the port of Tuxpan and it is about 400 kilometers southeast to the port of Tampico. Port of Veracruz forms the most important port in the import and export of automotive in Mexico. According to Country data (2017), the port of Veracruz handles about 80% of the vehicles exported to other countries.

Apart from being an important maritime port, the Port of Veracruz is also endowed with good fishing sites where many residents and foreigners enjoy sport fishing and water sports given its hot and low beach profile with a height of about 15 meters above the sea level.

2.5.5 Lazaro Cardenas Port

This is also another important port in Mexico in terms of cargo transportation. According to Mexico Country Data (2015), Port of Lazaro Cardenas emerged the biggest shareholder in terms of total cargo that was cleared through its terminals. The Port handled a share of about 14.8% of all the cargo in Mexico cargo in 2009 (Mexico Country Data 2015). This was an increase of about 9% as was experienced in the Annual Operative Program estimates of 2009. The commercial cargo was also well represented in this port where there was about 10% increase on all commercial cargos that were cleared in this port.

Figure 6: Total Export Units per Port



Source: (Port News 2009)

In container traffic, Port of Lazaro Cardenas has shown a promising improvement ahead of other ports nationally. According to the figures released by Port News (2009), Port of Lazaro Cardenas in 2009 handled about 257, 469 TEU which was a 62% increase compared to other ports in the 2nd quarter of that year. There was also boost that was witnessed as a result of the arrival of three shipping lines in the year 2008 (Port News 2009).

However, due to the economic downturn that was experienced in 2008, the port also suffered to some extent in container handling and especially in automotive sector, which experienced a decrease of about 74% in the motor vehicle sector, handling that was recorded (Port News 2009). However, according to Port News (2009), it is forecasted that the port after the global economic slump experience, the port will have a steady increase that will see it in three years' time handling about 22% of the total national cargo.

2.6 Existing research on the influence of policy change on trade with other countries

2.6.1 Brexit

The UK announced its plan to leave the European Union. Official trade measurements demonstrate that the European Union is the target market for about portion of every single British export. The trade partnership is greater in the event that we incorporate the nations that the United Kingdom trade unreservedly with in light of the fact that they have an unhindered commerce concurrence with the European Union (Woodford, 2017). These agreements imply that 63% of Britain's exports are connected to its European Union participation.

It is profoundly plausible that an ideal trade assentation would be come to after Brexit as there are focal points for the two sides in proceeding with a close business arrangement. Be that as it may, the direst outcome imaginable, in which Britain confronts taxes under 'most-favoured country' rules, is unquestionably no debacle. Exporters would confront some extra costs, for example, consenting to the European Union's tenets of inception, in the event that they were not within the single market (Woodford, 2017). Be that as it may, these elements would be a burden instead of a noteworthy obstruction to trade.

A few examinations demonstrate negative effects of shifting degrees. The Centre for Economic Performance at the London School of Economics appraises that if the United Kingdom ceases to be a member of the European Union and joining the European Free Trade Association, it will lessen British total national output (GDP) by no less than 2.2% in its idealistic situation, and in the vicinity of 6.3% and 9.5% in its negative one (Woodford, 2017). Upon Brexit, In the medium term, net movement from European Union nations would probably fall if Britain was outside the single market, lessening the development rate of the British work constrain (however the degree of the fall would clearly rely upon the new courses of action set up) (Woodford, 2017). This may prompt an increase in wages and inflation, and some employees may benefit at the expense of others.

As a matter of fact, on the off chance that the European Union all in all is evaluated, the 18% of its exports to the United Kingdom is lower contrasted with 50% of Britain's export to other nations within the European Union. Be that as it may, the picture changes in the event that we take a gander at the biggest individual nations inside the European Union and Ireland (given its specific significance for Britain) (Woodford, 2017). Except for Germany, Britain is a more vital market for major European Union economies than they are for the UK.

In spite of the fact that there are no tariffs on financial services, exiting the European Union could make Britain lose its "passporting rights". These enable British-based organizations to offer products in the European Union without necessarily setting up a structural office (Woodford, 2017). So also, banks in, say, the United States can move into the United Kingdom and offer products and services to the European Union without setting up there.

There is significant vagueness over how vital this issue is. Losing these rights could imply that financial institutions would simply need to set up a subsidiary, in structural form, in the European Union for continuity of business basically still done in London (Woodford, 2017). However, it is additionally conceivable that if that happens, the UK will lose significant portion of market shares to the European Union.

One approach to conceivably gauge the estimation of these passporting rights is to think about the European Union's consumption rate of financial services from UK with that of different nations. While Britain's exports of money related administrations to other nations in the European Union record for 0.2% of the EU's output, the share tumbles to only 0.1% of the United States imports, 0.08% to Japan and 0.06% to Canada. A lot of this topographical example is not dependent on the European Union enrolment but, rather, can be clarified by time zones – that is, it is considerably less demanding to sell wholesale money related services into business sectors with similar time zones (Woodford, 2017). By and by, with the absence of passporting rights, it is possible that exports of money related services to the European Union could fall significantly by about £10bn.

To prevent this, the United Kingdom could protect access to its single market and passporting rights on the off chance that it stayed in the European Economic Area. In any case, the City could still face significant challenges, as Britain would need to embrace all European Union money related guidelines and numerous different regulations, however, would lose its capacity to impact and/or obstruct any harmful ones (Woodford, 2017). The European Union could even purposely undermine the City with a specific end goal to create business for Paris and Frankfurt.

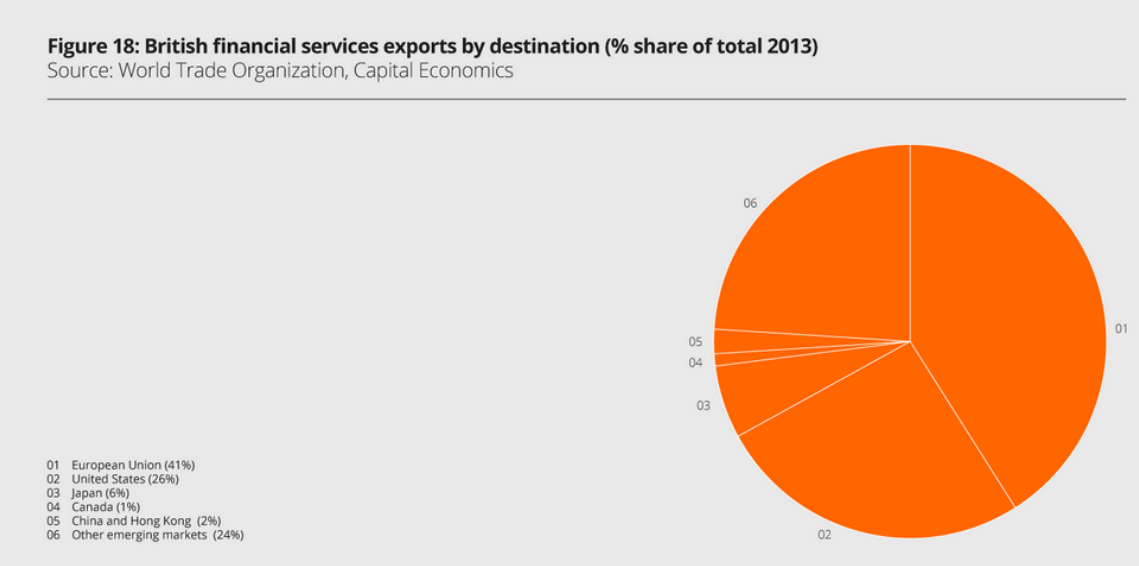
Nevertheless, there is a better than average shot that the City would in any case thrive if the United Kingdom ceased to be a member of the European Union. London's prominent position as a worldwide financial hub originates before the single market (Woodford, 2017). The City has characteristic preferences, including Britain's legal framework, the English dialect, a helpful time zone splendidly put between the working hours of Asia and New York, receptiveness to settlers, a substantial pool of talented work and a minimum amount of ability in support services, for example, bookkeeping and law.

What's more, regardless of the possibility that exports to Europe suffered, these misfortunes could be counterbalanced over the long haul by the more noteworthy chances to help trade with non-European Union nations (Woodford, 2017). Brexit would free the United Kingdom from the standards of the European Union's Common Commercial Policy, which keeps it from arranging bilateral trade agreements with different nations.

This potential for development in trade with non-European nations applies to all exports however is maybe more applicable for money related services. Specifically, there is by all accounts impressive degree for Britain to increase the export of money related services to China and Hong Kong. They as of now add up to only 2% of the United Kingdom's aggregate financial service exports, despite the fact that China is the world's second biggest economy (however, as noted above, the time zone contrasts may go about as a hindrance) (Woodford, 2017). In fact, Switzerland facilitated a trade

agreement with China in 2014 that has lessened non-tariff hindrances to its financial institutions. See the figure below

Figure 7: British financial services exports by destination (% share of total 2013)



Source: (Woodford, 2017)

2.7 Literature overview of similar policy questions

The macroeconomic studies of trade between two or more countries usually concentrate on the elasticity of substitution. For instance, a study conducted by McDaniel and Balistreri (2013), used aggregate as well as disaggregate in estimating demand on international prices between two countries which are basically elasticity of substitution. Armington elasticity, which was produced in 1969 by Paul Armington, has been the key parameter that has been employed in international economics (Armington, 1969). This model has been useful in evaluating policy shifts and their effects on factors such as the economic welfare of a country, employment, trade flow and output as well as other important economic variables. According to the studies conducted by Dawkins, Srinivasan & Whalley (2001), this model can be used to estimate how trade policy has affected effective prices of traded commodities in the domestic market. This is important particularly in helping policy maker when they make policy consideration because their actions will have an effect on the effective prices of commodities as well as other factors.

The traditional theory of economics has some assumptions that are worth considering when taking into consideration the effect of effective price, marginal cost of production and demand which are controlled by supply and demand. To begin with, it is assumed that market in every country is perfectly competitive. This means that the price of any given product will be equal to its marginal cost. Another assumption is that when the price of a given product depends on the marginal cost of the least cost producer together with the cost of the second cheapest producer then, there is Bertrand

competition. Another assumption that has been supported by the study conducted by Bergin (2003), posits that production is monopolistic and competitive which makes any firm not to be mindful of any immediate competitor but will be still affected by the overall level of the competition.

Armington model posits that each country produces different sets of goods and that each consumer will strive to consume at least one of the goods that are being produced in another country. This case is seen by the exhibition in the automotive industry in Mexico where some of the cars produced in Mexico would be consumed in the United States. However, this is an ad hoc assumption that does not take into consideration classical trading forces that define varying specialization of each player according to comparative advantage.

When policy makers, for instance, make changes to tariffs in general and in import tariff in particular, the Armington model will estimate the effect of such actions on parameters such as employment, the level of income and other trade opportunities. This model posits that the size of the impact that a given change in policy will have depended on the magnitude presented in the elasticity. Trade policy can be therefore analyzed using this model, which can also produce a general or partial equilibrium with both qualitative and quantitative parameters that are important for policy analysis.

In a study conducted by Gallaway, McDaniel & Rivera (2000), on the United States imports showed that Armington model provided a standard and more transparent estimate to the effects of changes in policy on effective prices of domestic goods as well as other economic parameters. However, many other studies have been skeptical about the usefulness of the model. As they have pointed out to many statistical biases. For instance, a study that was conducted by Feenestra, Obstfeld, and Russ (2014), showed that in using this parameter, there is a downward bias that arises between the output, labor and price variables. This study posits that even though the model has found a useful application in international economics, it exhibits a much smaller elasticity between home and import goods in 'macro' sense compared to the larger 'micro' effects it exhibits in elasticity in sources of imports.

Another important factor to consider in automobile production is labor as well as iceberg trade costs which are abbreviated as $\{\tau_{ij}\}i, j \epsilon S$. In this iceberg cost, there is some of the fraction cost τ_{ij} that melts away on moving one unit of goods from destination *I* to *j.* If this iceberg cost is bigger or equal to 1, therefore, trading with oneself does not result in any cost.

2.8 Conclusion and theoretical relationship between Trump's Presidency and Mexican Economy

As has been discussed, the trade in the automotive industry between the US and Mexico is one that generates billions of dollars. The levels of import and export of automobiles and their parts are a clear indication of the significance of the trade partnership as the two countries' economic performance heavily depends on the partnership. Relevant theories have been looked and a significant number of them assert that free trade plays a significant part in a country's economic growth. Free trade

is affected by policies formulated by various governments. Free trade can be hampered by policies such increase in import and export taxes.

When a country changes trade policy, other countries in trade partnership with her react in a similar way. This not only leads to trade wars but, also diversification of trade partnership. In the process, some countries may lose significant sources of revenue.

Trump's policy on immigration is set to depot all individuals in America without requisite documentation (undocumented immigrants). The policy will affect the US economy and those of the countries from where the immigrants came. For Mexico, if part of the immigrants were actively sending money back home, the level of foreign remittance will decline, thus, negatively affecting the GDP.

It has been proven how committed Trump is to increase the aggressiveness of protectionism. As describe earlier, protectionism will limit trade between the US and partners, specifically, Mexico. Having more or less similar effects as tariff increase, protectionism will lead to a decline in the economic performance of both the US and Mexico as the level of import and export between the countries will decline.

If Trump imposes the tariff, forces Mexico to build the border wall and renegotiate NAFTA (assuming the new agreement will be unfavourable for Mexico) as he threatens, it will mean he intends to protect domestic companies, small, medium and large. Protecting domestic companies imply that consumers will be financially induced to purchase locally made automobile and parts. The level of sales of imported automobile from Mexico will decline. Eventually, Mexico may decide to diversify its markets to, say, Asian or Europe. In short-term, the tariff would certainly hurt the performance of automobile industry and the economy of Mexico. As they will pay more on their imports.

It is also important to note that the tariff cost will be transferred to American consumers. Producers may decide to increase automotive prices to compensate for the increased import cost. If so, since consumers are price sensitive, they will consider other affordable automobiles. In this case, Mexico will lose the market share to its competitors, which is a sign of a negative impact of Trump's policies on Mexico's automotive industry and economy at large. Therefore, it can be hypothesized, based on the theories that, Trump's presidency will lead to a decline in the financial performance of automotive industry and the Economy of Mexico as well. However, the relation will be tested in the subsequent chapters

In conclusion, theories suggest that Trump's presidency will be characterized with protectionism (through the increase in trade tariff), introduction of unfavourable trade terms during NAFTA renegotiation, and will lead to a decline in the performance of automotive industry (reduced imports and export), send undocumented immigrants back to their home country (negatively affecting GDP of home country as it will cause unemployment), and reduce the activities at the major ports in Mexico, thereby reducing its economic performance (less goods to export to the US, less imports from the US). Aggregately, the Trump's policies will be unfavourable for US major trading partners (Mexico and Canada), thus, trading activities are more than likely to decline. Consequently, Trump's policies will definitely affect Mexico's economy. However, the extent of effect is dependent on the severity of the policies (They may be moderate or

severe). Thus, to help the researcher conduct the proceeding chapters, a framework that will map Trump's protectionist policies taken in moderate and worse case scenarios on Mexico's economy, welfare, employment and maritime sector to the GDP outcome presented in terms of production and utility is devised as shown in figure 8 below. In other words, the study will conduct a sensitivity analysis (how dependent variables will be affected by moderate Trump's policies – moderate case scenario, and how they will be affected by severe trump's policies – worst case scenario).

3. Methodological Approach

3.1 Choosing the Constant Elasticity of Substitution (CES) Model

In looking at the automotive industry in Mexico and the border tariffs that have been imposed by President Donald Trump, it is important to look at how different factors come into play in the whole trading set up. This involves factors that will be affected by free trade. They include production functions in the automotive sector as well as utility functions. This study chooses to work with Constant Elasticity of Substitution (CES) Model instead of using Armington's Model. Why did this study settle for CES Model?

3.2 This Model is Homothetic

This model has inter-temporal homothetic preferences where consumers who are earning different incomes but are facing similar prices are able to demand products in the similar proportion when the products are having the same prices. Further, this is where both low and high-income earners in a country can equally make the decision to the preference when their consumption fluctuates. This means that this model is supportive of the consumer theory where utility function is homogenous of a degree that is equal to 1. This means that when there are two automotive goods for example *x,* and *y,* utility function *u* can be used to represent homothetic preference with the property that: for every ***a>0: u (a. x, a. y) = a. u (x, y).*** Mathematically, the homothetic function is a homogeneous function that is having a monotonic transformation. Given these properties, this model allows modeling of consumer's utility function in relation to the constraint budget.

3.3 Compatibility with Various Special Demand Systems

Demand curves are used for determining price and supply of a given commodity. There are several special demand systems that are compatible with the CES model. They include income consumption curves and income elasticity, cost of living (COLA) adjustment curve, Marshallian demand curve as well as a Cobb-Douglass curve. Therefore, this model is ideal and finds application with various demand systems. In addition, this model is extremely tractable and analytically convenient.

3.4 CES Model

The CES model was introduced in 1980 by Krugman, which led him to earn Nobel Prize. The model puts much emphasis on increasing the return to scale. This is a situation where the average cost of production is lower; the more units will be produced. When all other factors are constant, there will be more gains in trade because there will be a comparative advantage coming from the demand that is posted from multiple countries which result in a reduction of average costs. In order to model any returns to scale, fixed entry cost must be incurred in order for any production to occur. This fixed entry cost is denoted by f_i^e

The fixed cost of entry just in a similar way as marginal cost is paid to the workers within the country. Therefore f_i^e denotes the number of those employees employed

when a firm is going through an entry sector. In other words, these workers represent those workers who build up the firm.

The setup of this model is important for this study because it allows for modeling of systems that are not in perfect competition. Where there is no perfect competition there is a monopolistic competition where the goods produced are of a variety and that one firm is producing goods that are not being produced by another firm. In terms of Mexico, the automotive industry is highly specialized because they import some parts while making specific automobile parts. The number of firms that are in Mexico is balanced using this model in equilibrium because the system allows firms to enter into producing automotive and automotive parts after incurring the fixed cost of entry that has been mentioned above by using the domestic labor.

The model is represented by four main factors that will form part of this study as shown below. These factors are those factors that will be modeled while trying to look at the effect of policy changes that Presidency of Donald Trump has brought to the automotive trade in Mexico and in particular by the introduction of cross border tariffs. The first factor is the effects on the consumers. This model posits that consumers have preferences over varieties. The second factor is the effect on firms that are concerned with producing these automotive. All the firms that are in Mexico are producing automotive using the fraction of the domestic labor. The third factor that will be modeled by this study and by this model is gravity. Because the United States and Mexico may not be having direct competition because they may not be producing similar products, there will bilateral trade flow between the countries and if the trade cost increase in distance, the value of this bilateral trade flow will decrease. Lastly, the welfare of the country in relation on the trade between U.S.A and Mexico will include Gross Domestic Product (GDP) ratio and the model, which include profits, wages, and welfare.

3.4.1 CES Model Introduction

CES model is a production function that shows constant elasticity. Taking for instance, that a consumer in a country *j* in looking at a set of varieties denoted Ω, derives a utility denoted by U_j , then the consumptions of goods derived from these countries will be given by:

$$U_j = \left(\sum_{\omega \in \Omega} a_{ij}(\omega)^{\frac{1}{\sigma}} q_{ij}(\omega)^{\frac{\sigma-1}{\sigma}} \right)^{\frac{\sigma}{\sigma-1}},$$

…….. (1)

Where, σ≥0, is the elasticity of substitution and $a_{ij}\ (\omega)$ becomes the exogenous preference. Looking at this equation, $q_{ij}\ (\omega)$ represents goods that are shipped from country *i* and have been received in country *j.* Secondly, it is safe to imagine that representative consumer is not so important in this equation as the workers who are building this firms are also noted as the first consumers of these products. Also, in this equation, U_j can be taken as the welfare of the country *j*.

3.4.2 CES Model Analysis

In this model, representative consumer utility can be reflected by a formula that can be denoted by the following. Assuming that a country denoted by *j,* spends X_j and a net of trading cost which is usually taken to mean the price a good (such as the price of Fiesta which is manufactured in Mexico), from a country *i* in country *j* be P_{ij}.

$$\max_{\{q_{ij}(\omega)\}_{\omega\in\Omega}} \left(\sum_{i\in\Omega} a_{ij}(\omega)^{\frac{1}{\sigma}} q_{ij}(\omega)^{\frac{\sigma-1}{\sigma}} \right)^{\frac{\sigma}{\sigma-1}} \text{ s.t. } \sum_{\omega\in\Omega} q_{ij}(\omega)\, p_{ij}(\omega) \leq X_j, \quad \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Ignoring the constraint $q_{ij}(\omega)$, then we have the following Lagrangian:

$$\mathcal{L}: \left(\sum_{\omega\in\Omega} a_{ij}(\omega)^{\frac{1}{\sigma}} q_{ij}(\omega)^{\frac{\sigma-1}{\sigma}} \right)^{\frac{\sigma}{\sigma-1}} - \lambda \left(\sum_{\omega\in\Omega} q_{ij}(\omega)\, p_{ij}(\omega) - X_j \right) \quad \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Following the First Order Conditions, we have the following implications:

$$\frac{\partial \mathcal{L}}{\partial q_{ij}(\omega)} = 0 \iff \left(\sum_{\omega\in\Omega} a_{ij}(\omega)^{\frac{1}{\sigma}} q_{ij}(\omega)^{\frac{\sigma-1}{\sigma}} \right)^{\frac{1}{\sigma-1}} a_{ij}(\omega)^{\frac{1}{\sigma}} q_{ij}(\omega)^{-\frac{1}{\sigma}} = \lambda p_{ij}(\omega)$$

$$\frac{\partial \mathcal{L}}{\partial \lambda} = 0 \iff X_j = \sum_{\omega\in\Omega} q_{ij}(\omega)\, p_{ij}(\omega)$$

$\ldots\ldots\ldots\ldots$ (4)

Applying this equation to two different goods such as spare parts ω and ω', we have:

$$\frac{a_{ij}(\omega)}{a_{ij}(\omega')} = \frac{p_{ij}^{\sigma}(\omega)}{p_{ij}^{\sigma}(\omega')} \frac{q_{ij}(\omega)}{q_{ij}(\omega')}$$

$\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$ (5)

When we rearrange and multiply both sides by a $p_{ij}(\omega)$, we arrive at the following:

$$q_{ij}(\omega')\, p_{ij}(\omega') = \frac{1}{a_{ij}(\omega)} q_{ij}(\omega)\, p_{ij}(\omega)^{\sigma}(\omega)\, a_{ij}(\omega')\, p_{ij}^{1-\sigma}(\omega')$$

……. (6)

Summing all the yields $\omega' \epsilon \Omega$:

$$\sum_{\omega' \in \Omega} q_{ij}(\omega')\, p_{ij}(\omega') = \frac{1}{a_{ij}(\omega)} q_{ij}(\omega)\, p_{ij}(\omega)^{\sigma} \sum_{\omega' \in \Omega} a_{ij}(\omega')\, p_{ij}(\omega')^{1-\sigma} \iff$$

$$X_j = \frac{1}{a_{ij}(\omega)} q_{ij}(\omega)\, p_{ij}(\omega)^{\sigma} P_j^{1-\sigma}$$

….. (7)

The last line represents Dixit-Stiglitz price index, which used second First Order Conditions, and p_j which is given by:

$$\left(\sum_{\omega' \in \Omega} a_{ij}(\omega')\, p_{ij}(\omega')^{1-\sigma}\right)^{\frac{1}{1-\sigma}} \quad \text{…….. (8)}$$

By dividing the income by the price index of a country *j,* we end up with total welfare of that country.

Also, it is easy to show that by rearranging the last line yields; we end up with CES Demand Function, which is given by:

$$q_{ij}(\omega) = a_{ij}(\omega)\, p_{ij}^{-\sigma}(\omega)\, X_j P_j^{\sigma-1},$$

…… (9)

The equation (9) is a clear indication of the quantity of goods that are consumed in country *j, which is,* introduced from a country *i.*

3.5 Data

CES model being econometric model could be applied too much available software. This model could be modeled by General Algebraic Modelling System (GAMS) software. The data preparation has been conducted out critically where employment, the supply of automobiles and demand in Mexico have been inputted representing output, a factor of production and share parameter input.

3.5.1 Raw Data Gathering

In data processing, the following processes were undertaken:

- Kronecker product- this is where there was the computation of Kronecker product in Gams software.
- Data was loaded from Gams to Excel with GDX where the researcher loaded rounded numbers.
- The macro was entered over multiple lines to give a compact representation.
- All elements of parameter were then exported from GAMS to Excel.

3.5.2 Data Input

The data inputs that were required for this model included:

- Import and export vehicles data from 2007 to 2017
- Car career from two companies from 2007 to 2017
- Tariff data from baseline forecast.
- Bilateral trade data between U.S.A and Mexico.
- Time series data.

4. Results and Analysis

In this chapter, the researcher will present the results that are derived from the application of CES model as well as the results that stem from the data from various previous sources. The maritime sector will be shown to be represented by the results of trade flow as well as employment. The welfare of the economy will be shown by the cost and increase of production of automobiles. This will be the

4.1 Cost Function CES

Cost function in the manufacturing of the automobile as indicated by the import and export data from 2014 to 2020 have derived capital, cost and output from the CES model for six years shown below. The data results have to be taken from pre-Trump era into the period that is hoped he will be in control of the bilateral policy of the United States.

Moderate Trump Scenario

Table 2: Moderate Potential Impact on Employment

Employment			
Year	**Baseline**	**Moderate Trump**	**Change**
2014	**89.2**	**89.0**	**-0.05**
2015	**90.4**	**89.9**	**-0.44**
2016	**97.0**	**96.3**	**-0.67**
2017	**100.5**	**99.6**	**-0.96**
2018	**103.2**	**102.3**	**-0.94**
2019	**106.2**	**105.4**	**-0.82**
2020	**107.4**	**108.6**	**-0.92**

Source: LMC Automotive

From the results, baseline scenario is predicted to be 107.4 by the year 2020. This represents the employment index when there is a moderate change in trade policy by Trump. The change that will be experienced will be -0.92. Comparing this to the employment rate in Mexico and the GDP, this shows that there will be a slowdown in growth as well as employment in the automotive sector will slow down. This may be attributed to the closing down of the manufacturing plants in Mexico or relocation to the

United States. It may also mean that many firms are cutting down the cost of production by employing less labor. According to the data released by Association of Mexico Automotive manufacturers, automotive plays an important role in employment.

Table 5: Moderate Potential Impact on Maritime Sector

Maritime Sector			
Year	**Baseline**	**Moderate Trump**	**Change**
2014	**74.3**	**74.3**	**-0.03**
2015	**76.9**	**76.6**	**-0.24**
2016	**79.5**	**79.1**	**-0.45**
2017	**83.0**	**82.5**	**-0.56**
2018	**85.6**	**85.0**	**-0.55**
2019	**88.5**	**88.5**	**-0.68**
2020	**89.9**	**89.8**	**-0.56**

Source: LMC Automotive

Table 4: Moderate Potential Impact on Economic welfare

Economic Welfare			
Year	**Baseline**	**Moderate Trump**	**Change**
2014	**17.35**	**17.34**	**-0.02**
2015	**17.45**	**17.42**	**-0.20**
2016	**17.45**	**17.21**	**-0.21**
2017	**17.47**	**17.12**	**-0.26**
2018	**17.50**	**17.26**	**-0.38**
2019	**17.59**	**17.48**	**-0.33**
2020	**17.72**	**17.52**	**-0.24**

Source: LMC Automotive

Looking at the above results of the moderate case scenario, the baseline data of potential impact of Trumps policy change in demand for employment was 89.2 and when influenced by moderate Trump policy of 89.0 the change in employment is -0.05. This, when compared to the baseline of 107.4 projected by 2020 under the moderate influence of Trump policy of 108.6, the change in employment, will be -0.92. This shows a tremendous change that predicts a negative effect of the Trumps policy on employment.

This is similar to the maritime sector and the economic welfare. The results show that there is a negative impact on both parameters even under a moderate Trump policy change.

Worst Trump Scenario

Table 5: Worst Potential Impact on Employment

Employment			
Year	**Baseline**	**Adverse Trump**	**Change**
2014	**89.2**	**89.0**	**-0.02**
2015	**93.1**	**93.4**	**-0.06**
2016	**94.0**	**95.0**	**-0.92**
2017	**97.0**	**97.6**	**-1.95**
2018	**100.5**	**99.4**	**-2.91**
2019	**103.2**	**102.3**	**-3.77**
2020	**106.2**	**105.2**	**-3.88**

Source: LMC Automotive

Table 6: Worst Potential Impact on Maritime Sector

Maritime Sector			
Year	**Baseline**	**Adverse Trump**	**Change**
2014	**17.45**	**17.43**	**-0.01**
2015	**17.45**	**17.04**	**-0.32**
2016	**17.49**	**17.02**	**-0.41**
2017	**17.50**	**16.68**	**-0.79**
2018	**17.59**	**16.40**	**-1.10**
2019	**17.76**	**16.26**	**-1.33**
2020	**17.72**	**16.51**	**-1.21**

Source: LMC Automotive

Table 7: Worst Potential Impact on Economic Welfare

Economic Welfare			
Year	**Baseline**	**Adverse Trump**	**Change**
2014	**74.5**	**74.3**	**-0.02**
2015	**75.6**	**75.6**	**-0.05**
2016	**76.9**	**76.4**	**-0.51**
2017	**83.0**	**78.4**	**-1.16**
2018	**85.6**	**81.2**	**-1.82**
2019	**88.5**	**83.2**	**-2.43**
2020	**89.6**	**85.8**	**-2.66**

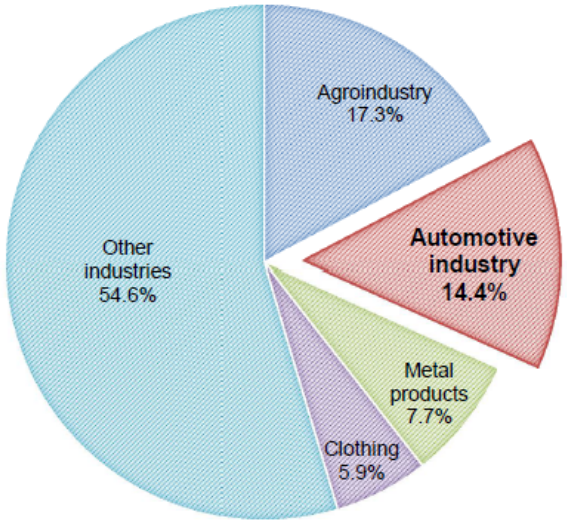
Source: LMC Automotive

Looking at the worst-case scenario of the Trump Policy change and its potential impact on demand, employment in 2014 with a baseline of 89.2 and influence of 89.0 had a change of -0.02 and the projected baseline in 2020 of 106.2 and an influence of 105.2 had resulted in a change of -3.88. All the other cases show a more likely similar trend. These figures indicate a negative impact on an increasingly high change values when we compare the moderate case scenario to the worst-case scenario. It is important to look at the figures of employment in the manufacturing sector as well as GDP to understand the potential impact in figures.

4.2 Manufacturing Sector Employment

The manufacturing sector has been a key player in employment following only after Agroindustry.

Figure 8: Manufacturing Sector Employment

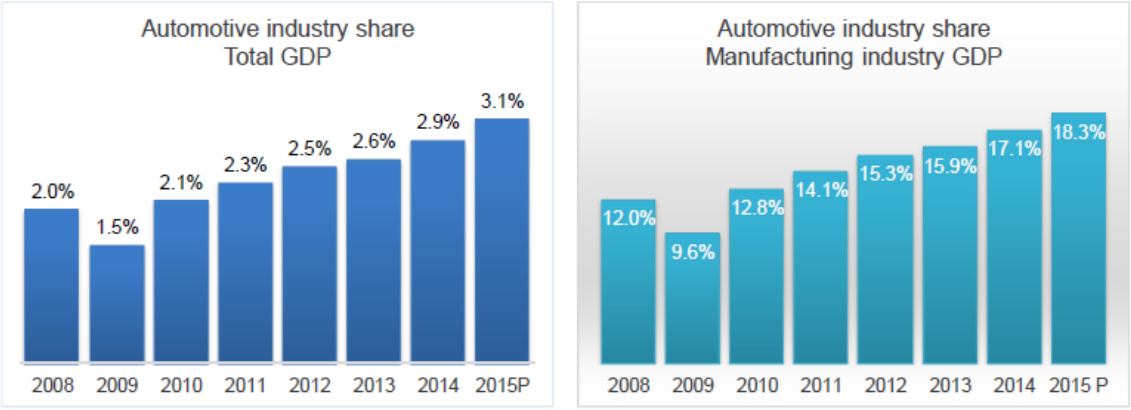


Source: INEGI – Censos Económicos 2014.

As shown in by the graph above, manufacturing industry and especially automotive industry represents about 14.4% of the total manufacturing sector by employing citizens directly in manufacturing plants or in the service industry. This trend has risen in the past few years before the declaration by Trump that he will impose a tariff on vehicles imported from Mexico.

4.3 Contribution of Automotive Industry to GDP

Figure 9: Manufacturing Industry GDP Share



Source: (Biondi 2017)

According to the above figures, it is clear that the GDP of Mexico from 2008 to 2015 has been a consolidation of a very crucial part of the economy in Mexico. The total GDP share contributed by the automotive industry has increased by about 58%. The manufacturing sector has also witnessed an increase in its share to the total GDP by about 53%. These are significant figures to the economy and therefore combining the projected change in baseline of employment, economic welfare and maritime sector under moderate and worst-case scenario of Trump presidency and policy change could have devastating effects on all players in the automobile industry and economy.

Table 8: Automobile Manufacturing Sector in Mexico

Share manufacturing industry GDP	1993	2000	2005	2014	2015
Percentages	100.0	100.0	100.0	100.0	100.0
Agroindustry	24.1	20.2	22.7	23.6	22.6
Automotive industry	**11.2**	**13.5**	**12.1**	**16.9**	**18.3**
Chemistry industry	9.4	11.1	12.6	11.6	9.0
Basic metal industry	3.3	4.5	6.4	5.8	5.4
Beverages and tobacco industries	4.5	4.7	5.5	5.1	5.2
Other industries	47.5	46.0	40.7	37.0	39.6

Source: (Biondi, 2017)

According to the above figures, it is clear that automotive industry has increased in share increase to the manufacturing GDP. This shows that it comes second after agro-industry. This shows that before the presidency of Trump that is from 1993 to 2015, there has been a dramatic increase in manufacturing share contribution to the GDP of the country.

In conclusion, in moderate Trump protectionist policies, trade flow will be negatively affected as shown by the results depicting negative change in maritime sector, employment and economic welfare. It also shows that automotive sector is the second single largest GDP contributor after agroindustry. The sector is depicted in these results as having a steady growth prior to Trump's presidency. It offers employment and thus contributing to the welfare of Mexican society. With the Trump's worse policy scenario, employment will be affected most followed by economic welfare and then flow of trade as shown.

5. Conclusion

Following the results and discussions, the answer to the main research question is that, the impact of Donald Trump's decisions as president of the United States to embrace protectionism on the Mexican automotive industry through introduction of tariffs, immigration bans and NAFTA renegotiation deals will reduce trade flows between Mexico and the United States which will; slow down the economy, lead to employment cuts, threaten the welfare of Mexican society as well as automotive firm survival.

5.1 Implications

The implications of these impacts could directly be used to answer sub research questions of the study as follows:

RQ1: What will be the effect of President Trump's protectionism on the maritime sector as well as on other logistics services that are operating between Mexico and the United States?

Maritime sector will be affected, as Trump's introduction of tariffs will cause price increase of Mexican goods in the United States, which will lead to low sales. Reduction in sales will mean fewer exports to United States from Mexico and reduced trade flow. Number of vehicles and parts transported by road and water will decrease thus cutting on revenue for maritime and logistics sector operating between Mexico and the United States.

RQ 2: What effect will President Trump's protectionism have on Mexican workers in the automotive industry?

As there will be reduced volumes of exports, revenue gained from automotive industry will be lost making automotive firms to seek survival through cutting on their operation costs. One of the operation costs is wages and salaries paid to employees. This means that they will cut amount expenditure on paying wages thus employ less people. Also, these few people will be paid less. Workers in automobile industry in Mexico are destined to lose jobs as well as to earn less for the same job they used to do before Trump's presidency. Seeking well-paying job in United States will not be possible due to immigration embargo.

RQ 3: What effect will President Trump's protectionism have on the economy of Mexico?

As the results show, people's purchasing power will decrease, as GDP will be reduced. GDP will be adversely affected by reduced flow of trade between Mexico and the United States. This will result in economic slowdown.

RQ 4: What will be the direction and extent of the effects that protectionism as Trump's position as the president of the United States have on the economy of Mexico?

The direction and extent of the protectionists will be either moderate or worse depending on the response that Mexican government will take. Mexico may seek to

retaliate, which will further strain trade flow between Mexico and U.S.A. Mexico will seek to increase trade with other regional partners thus causing bilateral trade imbalance between the two countries.

Mexico has experienced growth of her GDP thanks to the automotive industry. For the last 20 years, there has been an improvement in manufacturing, maritime and trade between Mexico and the world. Many brands that are coming from the automotive production find a ready market in the United States. There are also many firms that have relocated their production plants to Mexico because of factors such as cheap labor and favorable government influence. Donald Trump has threatened these firms that he will impose on them a 35% tariff on all automotive and especially small cars that are coming into the United States from Mexico. This has various implications for the maritime sector, employment sector in Mexico as well as welfare of the economy.

Also, the study is in agreement to the one conducted by CITE, which shows that the slowdown in exports and FDI will have a devastating effect on the Mexico's balance of trade. Because President Trump's policy is a protectionist policy, this will deter investment by the American firms in Mexico. Therefore, if Mexico relies much on its trade with the United States, there will be negative effects. To begin with, this study has shown that automotive industry in Mexico makes up about 32% of the exports. Again, there are about 85% of the firms in the automotive industry in Mexico come from the United States. Thirdly, this study has also shown that there has been a year-on-year decline in automotive exports of about 2.93%. Lastly, United States represents a huge share of about 35.7% of Mexico's FDI.

With the above results, there are many implications that can be drawn from this study. To begin with, exports will mainly be influenced by other factors and not possibly directly by President Trump policy change. For instance, the decrease in oil prices will make the prices of small automobile affordable to many U.S citizens thus increase export from Mexico to the United States. Secondly, if Mexico depends majorly on the imports to the United States, then, there will be increased volatility of the finances in Mexico that are available for production. Thirdly, when the exports continue to decline, there will be a resultant deficit in the Mexico balance of trade. Lastly, when there will be a continued decline in FDI from the United States to Mexico, the latter will suffer from continued damaged balance trade.

Another observation is that those firms, which may wish to remain in Mexico, may do so only by looking at the option of downsizing their investment in production in Mexico. This will come as a result of preferential treatment as a result of President Trump's tariffs policy. The effect on Mexico will be negative because most of the firms that are coming from the United States will seek other places to invest in rather than in Mexico. This will have a devastating effect on FDI, employment and in maritime activities. Many potential investors will shy off until they understand the tariff policy proposed by President Trump and this will mean that there will be few new investors willing to invest in the automobile industry in Mexico and this will hurt the growth and GDP of Mexico.

Generally, this study focused on the impact of Donald Trump's decisions as President to the Mexican Automotive Industry. Specifically, this study focussed on Trump's decision of imposing 35% tariff on the automobiles being imported from the Mexico to

the United States. It looked at the impact that this change in policy will have on the employment, maritime sector and the general welfare of the economy of Mexico. In proposing to impose the 35% tariff on small automotive products that come from Mexico have various implication as shown by the results of the study. Before we concentrate on the implications of the results, it is important to note the following:

To begin with, the aim of Trump is to discourage the United States manufacturers from moving their manufacturing plants to Mexico because it will be less profitable in the face of that tariff. This has an obvious effect on the economy of Mexico, which is; the slowdown of FDI meant for automotive manufacturing in Mexico. Another aim of Trump to raise a 35% tariff on automotive coming from Mexico is to manipulate import cost so as it is very costly. This will discourage importers and therefore will reduce the investment in automotive projects in Mexico. Lastly, this policy will require that United States renegotiate on terms with NAFTA or withdraw altogether from the deal. This has an effect of reducing the brand competitiveness of automotive products that are coming from Mexico.

The best method that was appropriate for this study was the CES. This is because it was able to show the gravity, employment, and welfare parameters. The model also settled on the baseline that was defined from 2014 which was the year before any threat of Trump to the peak period of 2020. Both scenarios are discussed under the moderate influence as well as worst-case scenario of Trump policy change. The measures were taken against the GDP and employment data.

5.2 Research results

The simulation of CES shows that policy of Trump will be having devastating impacts on all the parameters measured. The results show that if President Trump will have a moderate policy change towards imposing 35% tariffs, there will be a lesser impact on employment will continue to decline given that the government and automotive sector does nothing in counteracting these effects as shown in the baseline. Employment could be declining by -0.77. This could be devastating given the level at which automotive sector employs the local citizens of Mexico. Under the worst scenario, where Trump policies will be executed and tariff of 35% will be imposed on the automobile imports from Mexico, the rate of the employment will be -3.72, which a decrease from -0.02 to -0.77 is. The effects mean that there will be fewer people employed in the automotive sector. Comparing the impact under the two-case scenario, it is obvious that Mexico will suffer from the Trump's policy changes.

When interpreting these results, it is important to note that CES has been used to show the effect on manufacturing sector by demonstrating that output and cost of production are affected by Trump's policies. The model is useful in explaining the price projection as well as the cost of production. Through these projections, firms will have the option of either moving their production plant from Mexico to the United States or staying put but increasing their production cost, which will mean low returns. With the view of this, it important to note that the projected cost of production will either drive the automotive firms away or will make Mexico seeks out alternatives to sustain its economy. Given the

role of the automotive sector on the GDP share, any adverse policy aimed at curtailing the production of automotive will interfere with the GDP of the country.

Again, it is interesting to observe that the drop-in employment, welfare, and maritime activities moved drastically with the win of President Trump. In the case of employment, many jobs will not be moving to the United States but they will be declining due to decline in production. Firms may not be moving to the United States but may have many options for other opportunities in other countries or stick in Mexico under different terms.

5.3 Limitations

This study took 2014 as the base year from which analysis of the results was based. The study was limited in this case because it did not take into consideration various economic factors that might have impact on production as well as utility. This means that CES model that was used did not factor in all factors of production, which could have had effect on automotive manufacturing sector in Mexico. This study did not look at how all these factors of production and utility vary with time giving generalized view of factors of production.

5.4 Future Research

This study employed CES model in understanding the impact that decisions of Trump will have on the automotive industry in Mexico. CES model is applicable as a production function because of the mathematical relationship that exists between input and output of production. While the classical theory supports four factors of production which include: labor, capital, land, and organization, the modern theory takes about two factors which are: labor and capital. It is true that in short run some factors are fixed which in this case if we assume that capital is fixed, then increase in labor will lead to falling marginal product of labor. On the other hand, if all factors of production are variable, then returns to scale concept could be the best analysis that could point out to the future impact of changes in one variable. The variable that is likely to change in the production of automotive in Mexico is capital. Therefore, the returns to scale in this case may be increasing or decreasing but not constant.

In order to clearly state with certainty, the economic effect of Trump's presidential trade policy in Mexico, it is important to consider that automotive manufacturing just like other production activities, is an activity whose aim is utility creation through the exchange. Outputs and inputs must be combined in such a way that there is the maximum possible result. There is need to come up with a study that will not only look at long run or short run effect but that which compares both to give out the trend that changes in policy could have on production. Again, CES model should also be combined with other models in order to have a measurement in other variables that may be linked to the policy change directly.

References

Abboushi, S. (2010). Trade protectionism: Reasons and outcomes. *Competitiveness Review, 20*(5), 384-394. doi:http://dx.doi.org/10.1108/10595421011080760

Agren, D. (2017). 'Just the beginning': Trump may disrupt 20-year boom for Mexico auto industry. The Guardian. Retrieved from: https://www.theguardian.com/business/2017/jan/07/mexico-auto-industry-jobs-donald-trump-manufacturing-cars.

Amadeo K (2017b). 'Mexico's economy: facts, opportunities, challenges'. [online] Available at: <https://www.thebalance.com/mexico-s-economy-facts-opportunites-challenges-3306351> [Accessed 4 August 2017].

Amadeo, K (2017a). 'NAFTA Definition: North American Free Trade Agreement'. [online] The Balance. Available at: <https://www.thebalance.com/nafta-definition-north-american-free-trade-agreement-3306147> [Accessed 5 August 2017].

Annex Business Media (2017). 'North American auto industry needs NAFTA, says Scotiabank.' [online] Econofact. Available at: <http://www.canadianmanufacturing.com/supply-chain/north-american-auto-industry-needs-nafta-says-scotiabank-190775/> [Accessed 5 August 2017].

Armington, P. S., (1969). A theory of demand for products distinguished by place of production. *IMF Staff Papers, 16*(1), 159-178.

Balistreri, E. J. & Thomas F. R. (2013). Computing general equilibrium theory or monopolistic competition and heterogenous firms. *Handbook of Computable General Equilibrium Modeling, 1*, 1513-1570.

BBC News. (2017). *Donald Trump's Mexico wall: Who is going to pay for it?* [online] Available at: <http://www.bbc.com/news/world-us-canada-37243269> [Accessed 18 August 2017].

Beghin, J. C., & Beladi, H. (2013). *Nontariff measures with market imperfections: Trade and welfare implications*. Bingley, U.K: Emerald.

Bergin, P. R. (2003). Putting the New Open Economy Macroeconomics to a test. *Journal of International Economics 60*, 3-34.

Biondi, F (2017). 'The Mexican automotive industry and Trump's USA'. [online] Available at: <http://bruegel.org/2017/02/the-mexican-automotive-industry-and-trumps-usa/> [Accessed 4 August 2017].

Bilas, V., & Franc, S. (2010). The risks of rising protectionism. Paper presented at the 30-40,2,5.

Bremmer, I. (2017). Trump's hard line on Mexico gives left-wing populist an opening. *Time*, *189*(5), 12.

CBC News. (2017). 'NAFTA's demise would cost U.S. auto industry 30,000 jobs, think-tank says'. [online] Available at:

<http://www.cbc.ca/news/business/manufacturing-jobs-trump-mexico-1.3932234> [Accessed 5 August 2017].

Chicago Tribune. (2016). 'What Trump's election could mean to auto industry'. [online] Available at: <http://www.chicagotribune.com/classified/automotive/ct-trumps-win-republican-congress-auto-industry-20161111-story.html> [Accessed 5 August 2017].

Contreras, OF Carrillo, J and Alonso, J (2012). 'Local entrepreneurship within global value chains: a case study in the Mexican automotive industry.' World Development, vol. 40, No. 5, pp 1013-1023.

Dairabayeva, K. (2012). *How did targeted government trade policies impact the productivity of manufacturing firms in eastern Europe and central Asia between 1995 and 2009?* (Order No. 3508598). Available from ABI/INFORM Collection. (1018426675). Retrieved from https://search.proquest.com/docview/1018426675?accountid=45049

Dawkins, C. Srinivasan, T. N. & Whalley, J. (2001). Calibration in J.J. Heckman & Leamer, E. E. (eds). *Handbook of economics*. Vol. 5. New York: Elsevier.

Dijk, M Orsato, RJ and Kemp (2013). The emergence of an electric mobility trajectory. *Energy Policy, 52*,135-145.

Donnan, S. (2017). Trump chooses protectionist-leaning trade representative. *FT.Com,* [online] Available at: <https://search.proquest.com/docview/1864019286?accountid=45049>.[Accessed 19 August 2017].

Feenestra, R. C., Obstfeld, M. & Russ, K.N (2014). *In search of the Armington Elasticity*. [online] Available at: <https://eml.berkeley.edu/~obstfeld/FLOR_4-16-2014.pdf> [Accessed 12 August 2017].

Flannery, N. (2015). *What are the most successful car companies in Mexico?* [online] Available at: <https://www.forbes.com/sites/nathanielparishflannery/2015/11/09/what-are-the-most-successful-car-companies-in-mexico/#5d6be5d57876> [Accessed 4 August 2017].

Franco, A., & Morán, A. (2017). *The Mexican automotive industry: current situation, challenges and opportunities*. [pdf] Available at: <http://www.promexico.mx/documentos/biblioteca/the-mexican-automotive-industry.pdf> [Accessed 4 August 2017].

Gallaway, M. P., McDaniel, C. A. & Rivera, S. A (2000). Short-run and long-run industry-level estimates of U.S Armington elasticities. *Economics and Finance, 14*, 49-68.

Hufbauer, G. C. (2005). *NAFTA revisited: Achievements and challenges*. Washington: Peterson Institute.

Iliff, L. (2016). *Mexico's boom strains suppliers: Strains on labor markets, infrastructure*. The Automotive News. [online] Available at: http://www.autonews.com/article/20160905/OEM10/309059954/mexicos-boom-strains-suppliers> [Accessed 6 August 2017].

Isidore, C. (2017). *On Mexico auto jobs, Trump misses the point. Most workers make parts, not cars*. [online] Available at: <http://money.cnn.com/2017/01/26/news/companies/trump-mexican-auto-jobs/index.html> [Accessed 4 August 2017].

Kay, T. (2005). Labor transnationalism and global governance: the impact of NAFTA on transnational labor relationships in North America. *American Journal of Sociology, 111*(3), 715-756.

Klier, T. H. & Rubenstein, J. M. (2010). The changing geography of North American motor vehicle production. *Cambridge Journal of Regions, Economy and Society, 3*(3), 335-347.

Kulish, N., Yee, V., Dickerson, C., Robbins, L., Santos, F., & Medina, J. (2017). *Trump's immigration policies explained*. [online] Available at:< https://www.nytimes.com/2017/02/21/us/trump-immigration-policies-deportation.html> [Accessed 19 August 2017].

LeBeau, P. (2017). *Auto imports from Mexico keep climbing despite Trump's threats*. [online] Available at: <https://www.cnbc.com/2017/07/10/auto-imports-from-mexico-keep-climbing-despite-trumps-threats.html> [Accessed 5 August 2017].

Los Angeles Times. (2017). *Trump's threats to booming Mexico auto industry have executives' heads spinning*. [online] Available at: <http://www.latimes.com/business/la-fi-mexico-car-trump-20170201-story.html> [Accessed 5 August 2017].

Melitz, M. (2017). *Driving Home the Importance of NAFTA*. [online] Econofact. Available at: <http://econofact.org/driving-home-the-importance-of-nafta> [Accessed 5 August 2017].

Mesa, F. (2017). *Mexican automotive industry outlook towards 2020*. [pdf] Available at: <http://www.ldfonline.org/Fausto%20Cuevas-%20AMIA.pdf> [Accessed 4 August 2017].

Mexico Country Data. (2015) retrieved August 13, 2017, from: http://www.country-data.com/cgi-bin/query/r-8753.html

Nag, O. S. (2016). *Mexico: Exports and Imports*. [online] worldatlas. Available at: <http://www.worldatlas.com/articles/mexico-exports-and-imports.html> [Accessed 5 August 2017].

NYK (2017).[online] Available at: http://www.nykroro.com/about-nyk/who-is-nyk.html>[Accessed 13 August 2013]

Phelan, M. (2017). *There's even a risk the tax could reduce sales so much that the U.S. loses manufacturing jobs*.[online] Available at: http://www.freep.com/story/money/cars/mark-phelan/2017/03/04/import-tax-car-prices/98593038/> [Accessed 13 August 2017].

Piacitelli, M. (2016). *Mexico as a new capital of the automotive industries*. [online] Available at: <https://tax.thomsonreuters.com/blog/onesource/mexico-as-a-new-capital-of-the-automotive-industries/> [Accessed 4 August 2017].

PISM. (2017). *The potential effects of renegotiation of NAFTA*. [online] Available at: <https://www.pism.pl/files/?id_plik=22910> [Accessed August 18 2017].

Port news. (2009). *Lazaro Cardenas Port: number One in cargo Traffic*. *Issue (April-June 2009)* Vol 2. [online] Available at: <http://www.puertolazarocardenas.com.mx/Docs%20pdf/Notas/BOLETIN%20APRIL%20-%20JUNE.pdf> [Accessed 13 August 2013].

ProMexico. (2017). Negocios Promexico marzo-abril: Mexico's automotive industry: Speeding in the fast lane. ProMéxico.

ProMexico. (2017). *15 Key facts about the automotive industry in Mexico*. [online] Available at: <http://www.mexico.mx/en/articles/15-key-facts-about-the-automotive-industry-in-mexico> [Accessed 4 August 2017].

Pwc Mexico (2014). *Doing business in Mexico automotive industry*. [pdf] Available at: <https://www.pwc.de/de/internationale-maerkte/assets/doing-business-mexico-automotive.pdf> [Accessed 4 August 2017].

Sahiner, O. (2016). *How the Trump Presidency will affect shipping and logistics*. [online] Available at: <http://www.morethanshipping.com/trump-presidency-will-affect-shipping-logistics/> [Accessed 13 August 2013].

Siem Car Carriers (2017). [online] Available at: http://www.siemcarcarriers.com/our-services/car-carriers/> [Accessed 13 August 2013].

Steers, R. & Nardon, L. (2014). *Managing in the global economy*. New York, NY: Routledge.

Sturgeon, T. J. & Van Biesebroeck, J. (2011). Global value chains in the automotive industry: an enhanced role for developing countries? *International Journal of Technological Learning, Innovation and Development, 4*(1-3), 181-205.

The Guardian (2017). *Just the beginning: Trump may disrupt 20-year boom for Mexico auto industry*. [online] Available at: <https://www.theguardian.com/business/2017/jan/07/mexico-auto-industry-jobs-donald-trump-manufacturing-cars> [Accessed 5 August 2017].

The Washington Post. (2017). *Why Ford says Donald Trump may be good for the auto industry*. [online] Available at: <https://www.washingtonpost.com/news/innovations/wp/2017/01/10/why-ford-

says-donald-trump-may-be-good-for-the-auto-industry/?utm_term=.a0d11b637a92> [Accessed 5 August 2017].

The World Bank. (2017). *Mexico Overview*. [online] Available at: <http://www.worldbank.org/en/country/mexico/overview> [Accessed 4 August 2017].

Thielman, S. (2017). *Toyota will face 'big border tax' if Mexico plant makes US cars, Trump says*. The Guardian. [online] Available at: <https://www.theguardian.com/business/2017/jan/05/toyota-trump-border-tax-mexico-corolla>[Accessed 4 August 2017]

Traub-Merz, R. (2017). *The automotive sector in emerging economies: Industrial policies, market dynamics and Trade Unions*. [online] Available at: <http://library.fes.de/pdf-files/iez/13154.pdf> [Accessed 5 August 2017].

Woodford. (2017). *The economic impact of Brexit*. [online] Available at: <https://woodfordfunds.com/economic-impact-brexit-report/> [Accessed 18 August 2017].

Appendices

Appendix 1: Production Capacities

	Mexican Production and Forecast	Mexican Production Capacity	Mexican Capacity Utilization	North American Production Forecast	North American Capacity	North American Capacity Utilization	Mexican Capacity as a Percentage of North American Capacity
2007	2,022,241	2,433,307	83%	15,426,345	20,230,028	76%	12%
2008	2,102,801	2,515,089	84%	12,922,468	20,805,115	62%	12%
2009	1,507,527	2,665,000	57%	8,761,823	17,911,800	49%	15%
2010	2,260,809	2,915,000	78%	12,157,040	17,610,800	69%	17%
2011	2,557,550	3,140,000	82%	13,478,426	17,764,000	76%	18%
2012	2,884,869	2,892,500	100%	15,800,943	17,401,300	91%	17%
2013	2,933,465	3,005,000	98%	16,500,815	17,421,300	95%	17%
2014	3,219,786	3,403,000	94%	17,422,866	18,176,800	96%	19%
2015	3,477,620	3,934,000	88%	17,461,846	19,018,800	92%	21%
2016	3,639,042	4,341,500	84%	17,854,461	19,764,000	90%	22%
2017	4,201,307	4,629,000	91%	18,221,137	20,076,600	91%	23%
2018	4,375,702	5,024,000	87%	18,589,524	20,591,600	90%	24%

Source: LMC Automotive