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Sino-Mexican Trade Relations
Challenges and Opportunities

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Preface

This book undertakes two tasks. First, it provides an overview of Sino–Mexican trade and economic relations since the normalization of Sino–Mexican diplomatic relations in the 1980s. Second, it presents a reevaluation of Mexico's trade policies on China, from the import substitution industrialization (ISI) period in the early 1990s to the strengthening of economic and trade relations in recent years, especially after Xi Jinping (Dr. of Law), President of the People's Republic of China, visited Mexico in January 2014. Both tasks are addressed within a unified framework, by documenting historical events and conducting empirical analyses throughout Mexico's economic development that has been characterized by growth as well as stagnation. We analyze the Sino–Mexican trade conflicts and cooperation by investigating cases of antidumping (AD) and examining flows of Foreign Direct Investment (FDI), and address the current obstacles. The lessons from this book should provide guidance for policymakers in maintaining and improving future Sino–Mexican economic relations. It also provides useful information for researchers and students in the fields of trade protection and damage remedy.

AD filings have been playing an important role in Mexico's trade liberalization. Even after China's accession into the World Trade Organization (WTO) in 2001, Mexico's AD filings against the country did not decrease. However, the ending of the "phasing-out period" in 2007 started Mexico's trade liberalization toward China as well as the reduction of trade protection measures. Moreover, some of the effects of Mexico's AD filings are offset by the depreciation of the Renminbi (RMB) that occurred in the early 1990s.

In this analysis, by separating our observations into three sets of goods, namely, capital, intermediate, and consumer goods, we find a negative relationship between the AD filings on consumer goods and their import tariffs; however, we find a positive relationship between AD filings on intermediate and capital goods and their respective import tariffs. In fact, Mexico's import tariffs on Chinese intermediate and capital goods have been declining since 2001. Clearly, the Mexican import-competing sectors are discriminating against Chinese finished consumer products, and especially so when cyclical business factors are present, such as the imbalance of payments (IB), the decrease of aggregate manufacturing output and

consumption growth. Our studies confirm that the jumping of tariff lines is caused by the consumption surge of Chinese imports during Mexico's trade liberalization.

In addition, this book examines the macroeconomic causes of Mexico's AD on China by: (1) reviewing the Sino–Mexican trade relations through not only empirical methods, but also historical events; (2) not only analyzing the determinants of antidumping in Mexico, but also the causes of antidumping and its theories in general; (3) assessing the law, system, and administrative procedures of Mexico's AD in particular; (4) explaining why and how AD is becoming a smaller obstacle in Sino–Mexican trade; and (5) most importantly, observing challenges and opportunities for future Sino–Mexican trade and cooperation, with special focuses on China's current economic reforms and growth slowdown (the so-called "xin chang tai" or "new normal"), as well as on the strategies in Mexico's Special Economic Zones (SEZs).

Jiangxi, China — Yi Liu
Kobe, Japan — Laixun Zhao

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Chapter 1
Introduction

Abstract This chapter first describes the aim and scope of the book. First, Sino-Mexican trade relations and China's impacts; second, antidumping (AD). Later, it illustrates the contributions and objectives of the book. Different from other studies that focus on Sino-Mexican diplomatic relations, we intensively examine Sino-Mexican bilateral trade relations through historical and empirical methods. An important innovation of our book is the use of tariff lines under AD, as a key to explain the development of Sino-Mexican reciprocal trade relations.

Keywords Sino-Mexican · Trade relations · Aim · Scope · Contributions

1.1 Introduction: Aim and Scope of This Book

From 1990 to 2007, the average economic growth rate in China was staggering, at about 15% per year. Moreover, the size of the Chinese economy in 2010 was 20 times larger than that of the 1990s. In 2009, it became the second largest economy and largest exporter in the world, and five years later, the world's largest manufacturer. However, the surge of the Chinese economy and its impacts on its trading partners have led to deep concern and even to calls for trade protection.

When Mexico had an imbalance of payment (IB) and peso overvaluation in the beginning of the 1990s, bilateral trade conflicts between China and Mexico quickly surged. More recently, Latin American countries begin to view China as their grand competitor in the world market, as China's competitiveness in the manufacturing sectors has grown significantly since China became a member of the WTO in 2001. Undoubtedly, trade conflict is the biggest challenge in Sino-Mexican trade relations. Therefore, the economic challenge that China presents to Mexico can be uncovered through Mexico's trade policy toward China. As such, this is the focus of our book, in which we examine the causes of an important Mexican trade protection measure—AD—on Chinese imports in different periods.

Mexico has achieved impressive improvement in its trade opening and liberalization, considering that it had what was predominantly a closed economy prior to

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1986. Before trade liberalization, licenses, extensive import quotas, and high tariffs, protected domestic high-cost and inefficient local industries. Domestic manufacturers were effectively shielded from foreign competition by trade barriers. However, import restrictions have been greatly reduced after joining the General Agreement on Tariffs and Trade (GATT) in 1986. As an example, the proportion of domestic output protected by import licenses was reduced from 92 to 47% from 1985 to 1992, and in the same period, the maximum tariffs decreased from 100 to 20% (Liu and Zhang 2015).

Nevertheless, the surge of imports under freer trade liberalization also prompted the operation of AD regulations. Mexico allowed all nations "most favored nation" (MFN) treatment including China, even before China became a member of the WTO in 2001. However, since local industries had been sheltered for decades, it was hard for them to adjust to competition with cheaply manufactured goods from China. Relief is needed for domestic makers to release the stress of overseas opponents; thus, AD became a regular superior for national industries because of its unparalleled advantages among all administered protective policies.

This book relates to two areas of study: (1) Sino-Mexican trade relations and China's impacts, (2) AD. The first area can be broken down into three categories as follows: The first category focuses on the impacts of China's economic challenges on Mexico's manufacturing sectors. Jenkins and Dussel Peters (2014) depict that China is displacing the yarn-garment-textile and PC sectors in Maquiladora, where Mexico has been concentrated in manufacturing labor-intensive products. Moreover, the trajectory is expected to spread to more capital and technology-intensive industries such as automobiles and car parts. In contrast, South American countries, such as Brazil, Chile and Peru, have hardly been negatively affected by China because China has disadvantages in the resource-oriented sectors such as bio-energy, mineral, and agriculture (Jenkins et al. 2008). Iacovone et al. (2013) argue that the competition from Chinese exports caused shock effects; such an impact is highly heterogeneous between smaller and larger plants. Facing this shock, smaller plants are more likely to cease production, while larger plants are relatively impervious.

Second, another important category is the impact of China's competition in the biggest foreign market of Mexico, specifically speaking, the U.S. market; most scholars view this impact as negative (Liang and Lauderdale 2006). The countries that have been most negatively affected are those in Central America and the Caribbean, since they are neither sufficient to compete with South America in the resource-oriented sectors, nor as efficient as China in labor-intensive sectors (Nogueira 2007). Moreover, Nogueira (2007), Dussel Peters (2005) and Rodríguez et al. (2006) emphasize the negative impacts of China's rising and its threat on Mexico's exports to the U.S. market because China and Mexico are in similar stages of industrial development. For example, Hoekman et al. (2005) argue that China and Mexico have a lot in common in their industrial structures. Further, Dussel Peters (2005) claims that China is taking over Mexico's U.S. market because China and Mexico are both export-oriented economies. Similarly, when China was accepted into the WTO in 2001, the U.S. unilaterally reduced all tariffs

on Chinese goods. As such, the expansion of China's export variety has caused adverse effects on Mexico's exports (Feenstra and Kee 2007). However, Yue (2008) finds that the displacement was caused by certain domestic problems in Mexico, and she concludes that Mexico and China have absolute advantages in difference sectors; for instance, Mexico is strong in the labor-capital and resource-intensive industries. But the data was unavailable after 2006 in her research. As a matter of fact, the phasing out period took five years, ending in 2006 (see Chap. 3). Prior to this, China's export effects in the U.S. market were not apparent. Thus, her conclusions seem premature.

Other researchers have also studied the degree of China's export threat and the causes of Mexico's stagnation. Jia (2005) analyzes the empirical evidence of China's impact on Mexico and finds that, despite China's ad hoc effects, there are many complementary sectors between the two countries. China has competitiveness in the labor-intensive industries as well as the capital and/or technology-intensive industries, while Mexico is competitive in the labor and resource-intensive industries. The labor-intensive industries happen to be strong in both countries. Iranzo and Ma (2002) reach similar conclusions by calculating the revealed comparative advantage between Mexico and China; however, they use old data from 1980 to 2000, and find that the two countries have advantages in different areas of the manufacturing sectors. It is worth noting that China expanded its world exports significantly after 2001. From 2001 to 2004, China's trade surplus with the world fluctuated between 30 and 40 billion USD. Further, from 2004 to 2005, China increased its trade surplus with Mexico by 300%, to 102 billion USD. As a result, the impacts of China's exports on Mexico should be very low before these periods.

The second area of study that this book focuses on is AD, the related literature of which is reviewed in this section. Knetter and Prusa (2003) investigate the aggregate AD actions of Australia, Canada, the U.S., and the European Union on the developing countries as a whole. Moreover, Aggarwal (2004) researches the macroeconomic determinants of AD in 99 countries, including both developing and developed. Further, the political economy drives of AD in the developing countries are different from those in the developed countries (Niels and Kate 2006).

1.2 Contributions and Objectives

This book may have the following contributions to the existing literature. First, the existing studies of Sino-Latin America economic relations have always focused on the direct or indirect impacts of China's exports on other economies. We intensively examine Sino-Mexico bilateral trade relations through historical and empirical methods. Second, an important innovation of our book is that we use tariff lines under AD as a key to explain the development of Sino-Mexican reciprocal trade relations.

A majority of earlier works regarding trade conflicts concentrate on developed countries aiming for some other countries. There is not much research centering on

the macroeconomic factors that cause AD from one developing country (Mexico) on another developing country (China). However, the developing countries being targeted may differ with unique features, including, WTO or non-WTO membership, exchange rates, certain economic and trade relations, as well as bilateral agreements. Therefore, it can be overly simplified to catch the macroeconomic factors behind AD that affect all of the nations being targeted. To be able to observe all of the associated economic elements that have impacts on AD, we need to examine the bilateral trade relations of these two countries via historical details, such as economic and political factors, completely independent from those of other nations, which this book is meant to achieve.

Second, we use up-to-date data. Since AD is an essential weather vane of bilateral trade relations, the current data may be obtained via the Temporary Trade Barriers Database, that ensures the timeliness of this book.

Third, the data collecting technique of this study differs from those of previous studies, which largely uses the number of AD instances passed (or initiated) in a year or half year as the dependent variable. In contrast, the present study uses the number of tariff lines in every AD circumstance, enabling the isolation of AD between intermediates and consumption goods. Due to this unique feature, we are able to take into account the effects of the two types of goods on AD independently, and the number of observations for each dependent variable will be enlarged tremendously.

Fourth, the intention of this study is to distinguish the effects of import increase on AD in various sectors and intervals (pre- and post-WTO membership for China, and pre- and post-phasing-out for Mexico), by including intermediate and capital products as well as consumer goods. The Mexican federal government shows distinct attitudes toward trade liberalization for the two kinds of goods.

1.3 Overview

Chapter 2 reviews Sino-Mexican trade and economic relations after the opening up of Sino-Mexican commerce in the mid-16th century. Moreover, the development of their trade relations can be divided into four stages (Kim 2016). The first stage is before the normalization of diplomatic relations between the United States of Mexico (Mexico) and the People's Republic of China (PRC), while the second stage ends prior to China joining the WTO. The third stage is from the beginning of China's WTO membership to the world financial crisis in (2008), while the last stage is from then on. In addition, this chapter considers the challenges of China's exports to Mexico in the biggest Mexican foreign market—the U.S. We present some potential challenges in the economic cooperation between China and Mexico.

Chapter 3 reviews the development of Mexican and Chinese economic policies in order to give the readers a background understanding of the potential challenges and opportunities between them. Near the end of the ISI policy, at the beginning of the 1990s, Mexico started its trade liberalization; we compare this period with

China when it first started its "reform and opening up policy" in 1978. This is preceded by a review of the characteristics of the Mexican economy on the eve of the currency crisis in 1994, as well as its disruptive effects on policy. This chapter then focuses on the constraints of economic development and trade liberalization resulting from the economic instability and foreign competition in Mexico.

Chapter 4 looks at the origins and theories of dumping and AD. It reviews the causes of AD investigations in general, such as the macroeconomic determinants as well as political and institutional factors. Moreover, it categorizes the results of AD investigation and measures of Mexico. Later it describes the evolution of the institutional and legislative system of Mexico's AD. Mexico is the most frequent AD user in the world, and statistics show that AD is an important administrative policy among other trade protection measures.

In Chap. 5, we test empirically the macroeconomic factors that may impact Mexico's AD on China using count data models. While previous research uses AD filings as the independent variable, we use an alternative—tariff lines under AD—as the new independent variable. In addition, we test empirically and provide reasonable explanation why Mexico's AD measure is discriminating between intermediates and consumer goods. Basically, cheap imports of intermediate inputs from China facilitate Mexico's export expansion and competitiveness strengthening in both the foreign and home markets.

In Chap. 6, we summarize the main findings of the book and the opportunities for Sino-Mexican economic cooperation, in different economic regions and during different time intervals including the World Financial Crisis and China's economic "cooling down", etc. We also present challenges facing the two countries and provide some policy suggestions based on our research.

References

Aggarwal, A. (2004). Macroeconomic determinants of AD: A comparative analysis of developed and developing countries. *World Development, 32*(6), 1043–1057.

Dussel Peters, E. (2005). *Economic opportunities and challenges posed by China for Mexico and Central America*. Bonn: German Development Institute.

Feenstra, R. C., & Kee, H. L. (2007). Trade liberalisation and export variety: A comparison of Mexico and China. *The World Economy, 30*(1), 5–21.

Hoekman, B. M., Maskus, K. E., & Saggi, K. (2005). Transfer of technology to developing countries: Unilateral and multilateral policy options. *World Development, 33*(10), 1587–1602.

Iacovone, L., Rauch, F., & Winters, L. A. (2013). Trade as an engine of creative destruction: Mexican experience with Chinese competition. *Journal of International Economics, 89*(2), 379–392.

Iranzo, S., & Ma, A. C. (2002). The effect of China on Mexico-U.S. trade: Undoing NAFTA? *Journal of Physical Chemistry, 70*(8), 22–25.

Jenkins, R. O., & Dussel Peters, E. (2014). China and Latin America: Economic relations in the twenty-first century. *Journal of the American Association of Variable Star Observers, 42*(2), 177.

Jenkins, R., Peters, E. D., & Moreira, M. M. (2008). The impact of China on Latin America and the Caribbean. *World Development, 36*(2), 235–253.

Jia, L. (2005). Empirical studies on the trade complementariness between China and the main Latin America countries. *World Economic Studies, 11,* 85–89.

Kim, Y. C. (2016). Chinese global production networks in ASEAN. *Understanding China*.

Knetter, M. M., & Prusa, T. J. (2003). Macroeconomic factors and antidumping filings: Evidence from four countries. *Journal of International Economics, 61*(1), 1–17.

Liang, B., & Lauderdale, P. (2006). China and globalization economic and legal changes in the world system. *Journal of Developing Societies, 22*(2), 197–219.

Liu, Y., & Zhang, N. (2015). Sustainability of trade liberalization and antidumping: Evidence from Mexico's trade liberalization toward China. *Sustainability, 7*(9), 11484–11503.

Niels, G., & Kate, A. T. (2006). Antidumping policy in developing countries: Safety valve or obstacle to free trade? *European Journal of Political Economy, 22*(3), 618–638.

Nogueira, U. (2007). *China-Latin America relation in the XXI century: Partners or rivals?* Comparative Regional Integration Studies (CRIS) Working paper. http://www.caei.com.ar/sites/default/files/41_0.pdf. Accessed 26 October 2016.

Rodríguez, J., Blázquez, J., & Santiso, J. (2006). Angel or devil: China's trade impact on Latin American emerging markets. *Cepal Review, 90*(1), 167–168.

WTO. (2008). *Trade policy review (Mexico): Secretary report*. www.wto.org. Accessed 26 October 2016.

Yue, Y. (2008). Economic and trading competitiveness: A comparison of china and Mexico. *Journal of Latin American Studies* 3.

Chapter 2
Sino-Mexican Economic and Trade Relations

Abstract Firstly, this chapter reviews Sino-Mexican trade and economic relations since the mid-16th century, that can be divided into four stages. The first stage is before the normalization of diplomatic relations between Mexico and the PRC, the second stage ends before China becomes a member of the WTO, the third stage is from the start of China's WTO entry to the world financial crisis in 2008, and finally, the last stage is from then on to the present. We also consider the challenges China brings to Mexico in the biggest Mexican foreign market—the U.S. market. Secondly, we present some potential challenges in the economic cooperation between China and Mexico. We illustrate the internal obstacles in China, including concerns on the quality of Chinese made products, responsibility of Chinese companies in protecting the environment, Chinese investment in sensitive sectors and worries about China's recent economic down turn, etc., which may hinder China's investment in Mexico. Finally, we summarize the contributions of the book and provide some policy suggestions.

Keywords Sino-Mexican · Trade relations · Challenges · Cooperation · Internal and external factors

2.1 Four Stages of Development

The development of Sino-Mexican trade relations can be divided into four stages. The first stage is before 1973. Commerce between China and Mexico was opened up by the Spanish in the mid-16th century. The Spanish merchant's conveyance (Manila Galleons) reached the Philippines in the east. Over there, they exchanged gemstone and silver that they exploited from Mexico and South America with Chinese silk and porcelain; then, they shipped the goods back to Acapulco, Mexico (Duiker and Spielvogel 2009). Chinese immigrants first arrived in 1875 as contract workers, constructing the railway connecting Mexico City and El Paso. Some of them stayed in Mexico after finishing their work. The first trade agreement between China and Mexico was signed on December 14, 1899, by the ambassador of the

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Qing government in the U.S., Mr. Wu Tingfang, and the Ambassador of Mexico in the U.S., Mr. Asbilos, signing the *Treaty of Amity and Commerce* (Zhang 1992). According to the *Archivo General de la Administración*, in 1904, there were only 8000 Chinese inhabitants living in Mexico; in the 1930s, it increased to 40,000.

After the founding of the PRC in 1949, the Republic of China (Taiwan) maintained its foreign relations with Mexico until the beginning of the 1970s. Then, Luis Echeverría, President of Mexico (1970–1976), shifted foreign policy by enhancing relations with "third world" countries. On February 14, 1972, China and Mexico established diplomatic relations. The first Mexican Ambassador to China, Eugenio Anguiano Roch, presented the credentials on Aug. 5th, 1972, to the PRC's Chairman, Mao Zedong, and officially established foreign relations.[1] In 1973, Mexico officially abrogated its foreign relations with Taiwan; since then, it has recognized that there is only one China, namely, the PRC. There are several reasons for the normalization of relations between China and Mexico. First, China was near the end of the "Cultural Revolution;" as such, all neglected matters had yet to be dealt with. Second, China had been politically and economically restrained by the U.S. and its allies due to the Korean war; it needed to get rid of diplomatic and economic isolation by improving its foreign relations with other countries. Third, and most importantly, the leaders of both countries sensed the importance of improving bilateral ties. Last, but not the least, the U.S. and China saw opportunities to improve their relations after the worsening of relations between China and the Union of Soviet Socialist Republics (USSR), further allowing Mexico and China with an opportunity to improve their relations.

After the establishment of foreign relations, the trade relations between the two countries advanced rapidly. The trade volume increased from 13 million U.S. dollars in 1972 to 2350 million in 1991. Moreover, Mexico's deficit with China increased rapidly. According to the WTO (2008), every dollar Mexico earned from China is equivalent to $16.97 earned from the U.S. in 2008. Further, the structures of the export products between China and Mexico are quite different. Mexico's exports are mainly concentrated in metallic ores at primary processing stages (36.78%), boilers, and machinery, while China's exports are much more diversified in intermediate and final consumer goods.

2.2 Transitional Agreement on Trade Regimes

The rise in Chinese exports threatened the domestic-import-competing sectors in Mexico, hardened by the combined impact of the peso overvaluation and Mexico's trade liberalization after the ISI policy. Between 1993 and 1994, Mexico initiated

[1]From the interview of Professor Eugenio Anguiano Roch in *Centro Investigación y Docencia Economía* (CIDE), who is the former ambassador of Mexico to China during the periods of 1973–1978 and 1985–1990.

AD investigation on a wide range of Chinese products covering almost 3000 items and every tariff heading, such as footwear, textiles, garments, hand tools, and toys.

Such measures had two effects: the decreased imports from China helped to lighten the trade imbalance, so as to mitigate the macroeconomic imbalance and protect the domestic manufacturing industries. At the time, China had neither GATT membership nor market-economy status, which made the initiation of AD investigation on China easier. Some Chinese imports were charged with AD duties as high as 1.105% (such as on shirts). There were several causes for such a phenomenon. First, Chinese manufacturers seldom responded to callings for AD investigations from Mexico. Second, as China was not yet a member of the WTO, the "best information available" provided by Mexican manufacturers was used to calculate the dumping margin, which encouraged the use of AD as an administrative trade remedy measure.

Mexico was the last country to accept China's WTO accession; Annex 7 of China's Protocol of Accession in 2001 requires that all measures incompatible with WTO principles be "eliminated gradually or treated in accordance with the conditions and terms mutually agreed." After six years following China's accession, such measures should be eliminated by Mexico. As a result, Mexico's WTO representative announced that Mexico would initiate a review on the measures that conflicted with WTO obligations, as China's WTO status was fully justified. However, domestic manufacturers opposed such an action.

During the following six years, Mexican manufacturers failed to adjust for the competition from Chinese imports. The Mexican government sought to renegotiate with Chinese counterparts for an extension of adjustment, and signed the *Transitional Agreement on Trade Remedies* on December 11, 2008, which allowed AD protection to remain on 204 designated sensitive goods for another four years. In exchange, Mexico offered to eliminate over half of its measures, accounting for 953 tariff lines.

In 2006, the trade volume between China and Mexico reached 9.29 billion U.S. dollars; by then, China had become Mexico's second largest trade partner. Moreover, Mexico turned out to be the largest export destination of China in Central and South America. Mexican exports to China were centralized into three categories: (1) ores, slag, and ash, such as copper, lead, and zinc; (2) refined copper and alloys, unwrought; and (3) parts of nuclear reactors, boilers, and machinery. The above mentioned categories account for almost 40% of Mexico's exports to China.

The cumulative Chinese FDI in Mexico amounted for 73 billion U.S. dollars from 1999 to 2008, according to the Mexican Ministry of Economy (or 0.4% of the total FDI Mexico received), which is seven times as much as Mexico's investment in China. In addition, Chinese investment in Mexico concentrated in the manufacturing sectors, such as automobile parts and electronics chains; conversely, Mexico's FDI in China mainly focused on food production.

2.3 Role of the U.S. in Sino-Mexican Trade Relations

The U.S. is Mexico's major export destination; Mexican exports to the U.S. reached nearly 90% of its total exports in several years, including 1999, 2000, 2003, and 2004. As such, China can be neglected when comparing its exports to the U.S. Among all of Mexico's exports to the world, China accounts for no more than 1%. Nevertheless, Mexican exports to China, as a share of its total exports, are growing. In fact, from 1996 to 2010, Mexico's exports to China grew nearly 7 times larger.

Relatively speaking, Mexico's imports are more diversified than its exports. And Mexico is decreasing its import share from the U.S., while its import share from other countries is increasing. Among these countries, China's participation has increased considerably, from 0.85% in 1996 to 15.13% in 2010. Meanwhile, the U.S.'s share dropped from 75.67% in 1996 to 48.25% in 2010.

Mexico has had trade deficits vís-a-vís the world. Since 1997, China has been a major contributor to its trade deficit. The Sino-Mexican trade imbalance represents 59.3% of Mexico's total trade deficit during 1996–2010. By 2010, its trade deficit with China was even higher than the total Mexican trade deficit with the rest of the world, calculated in nominal dollar terms. To put it into another way, Mexico's total trade deficit increased by 1.6 times from 1997 to 2010, when its trade deficit with China grew by 37 times. Further, by 2010, the volume of Mexico's trade imbalance with China was 1.3 times as much as its trade imbalance with the rest of the world. Such imbalance was partly compensated by the constant trade surplus that Mexico had vis-à-vis the U.S.

For China, the U.S. is much more important as a trade partner than Mexico. China's export share to the U.S. fluctuated between 17 and 22% of its total exports from 1998 to 2006. Chinese exports to Mexico as a percentage of its total exports is small, though it increased from 0.15% of the total exports in 1996 to 1.13% in 2010.

After 2004, the Chinese trade surplus increased rapidly; from 1996 to 2004, it fluctuated between 20 and 30 billion U.S. dollars, and the volume in 2008 tripled that of 2004. Since 1996, the Chinese annual trade surplus with both the U.S. and Mexico has continued to increase, but the trend was ended by the financial crisis in 2008. This indicates that the financial crisis had both huge consequences on China's economic growth.

The share of U.S. exports to Mexico is much larger than that to China. In 1996, the volume of U.S.'s exports to Mexico was five times as much as its exports to China, which indicates that Mexico is a more important market for the U.S., despite China's economic size being much larger. In 2010, its export share to Mexico almost doubled that to China. Nevertheless, the former share started to decline after 2004, while the latter share has been increasing. From 1996 to 2010, U.S. exports to China increased from 1.92 to 7.19% of its total sales to the world. Its export share to Mexico increased from 9.11% in 1996 to 14.07% in 2002, and started to decline after that.

The U.S. share of imports from China was lower than that from Mexico before 2002. However, it increased greatly during the last 15 years. In 2010, 19.47% of U.S. imports were from China, which tripled that in 1996 (6.65%). The share of U.S. imports from Mexico fluctuated between 9 and 12% during the same period. Since 2001, the growth rate of Chinese exports to the U.S. surpassed that of Mexico; Chinese annual average growth rate increased to 23%, as opposed to 8.7% for Mexico. Further, in the middle of 2003, China replaced Mexico as the biggest supplier to the U.S. market.

The U.S. has huge trade deficits with both China and Mexico, but the former was almost three to four times larger than the latter. Due to the financial crisis in 2008, the U.S. trade deficit with the world dropped by almost 37% from 2008 to 2010, however, its trade deficit with China and Mexico only declined by 17 and 26% respectively.

An important phenomenon is that large volumes of Chinese exports to Mexico are re-exported to the U.S., after some simple repackaging or assembling. Table 2.1 illustrates the value added China exports to the U.S. via Mexico, due to NAFTA and also the global production chain. This is an important issue, which is closely related to one of our main research results—Mexico's AD on intermediate imports is lower than on consumption goods from China, which will be examined in detail in Chap. 5.

Table 2.1 Chinese exports to the U.S. via Mexico (millions of USD)

Year	Value added from China embodied in Mexico's exports to the world	Value added from China embodied in Mexico's exports to the U.S.	Mexico's EX (U.S./total) (%)
2000	585.516	516.172	88.16
2001	227.176	195.6033	86.10
2002	272.541	233.906	85.82
2003	707.779	621.039	87.74
2004	1493.642	1323.228	88.59
2005	1895.812	1521.740	80.27
2006	2626.970	2120.773	80.73
2007	3089.948	2651.866	85.82
2008	3533.071	2998.380	84.87
2009	3307.439	2718.116	82.18
2010	4966.722	3976.955	80.07
2011	5886.498	4629.305	78.64

Note The data is calculated according to the value-added tracing method developed by Wang et al. (2014)

2.4 Challenges and Policy Suggestions for Sino-Mexican Relations

2.4.1 Challenges on the Mexican Side

Trade protection is still a major challenge in Sino-Mexican economic relations. Given that all countries are on a global value chain (GVC), protectionism is harmful for the AD target countries, as well as the manufacturing sectors of the initiating countries. In order to strengthen Sino-Mexican trade relations in the future, it is important to understand how this challenge is created and look for the potential opportunities to tackle this challenge.

AD is the most frequently used administered protection measure in Mexico, although Mexico granted all countries, including China, voluntary MFN treatment, regardless of WTO membership. To the general public, AD gives a sense of justice, making it easy to implement. AD may also avoid placing the blame on domestic firms for a lack of competitiveness. Compared to safeguard (SG), AD is subject to fewer stringent conditions, and the threshold of implementing AD is much lower than that of SG. Further, it is not necessary to compensate for the affected export country after implementation, since the targets of AD practices are companies, while the targets of SG practices are countries.

There are still difficulties in deepening Sino-Mexico economic relations: first, Mexico has close ties with the U.S. and Canada via the NAFTA, and there is a high level of opposition through curious bureaucratic and industrial interests; second, unfavorable images are introduced on television and by politicians, in addition to a wide distrust amongst people in Mexico against China. However, things are improving. According to the Latin American Public Opinions Project, 47% of Mexican participants in a survey considered China's rise a threat in 2006. This dropped to 32% in 2008, probably due to the impacts of the Beijing Olympic Games. Third, physical distance, language barriers and cultural unfamiliarity pose big problems. Thus, lowering transaction costs and increasing language and cultural familiarity will improve trust and encourage both FDI and trade.

In addition, due to the connectedness of the global value chain, the two countries can further advance their cooperation. First, expanding the imports of intermediate and capital goods from China will increase the competitiveness of Mexico's manufactured products in both the domestic and foreign markets, since Chinese exports of manufacturing inputs are an important element in the international supply chain. Our research results show that AD initiations on intermediate and capital goods will inevitably increase the production costs of Mexico's domestic manufacturers. Second, Mexico has the advantage of geographical nearness to the U.S. market and advantage of low wages. Thus, it is wise for Mexico to take advantage of the rising labor costs in China, and to receive those investments that are pursuing alternative destinations for assembly, whose final products are bounded for the U.S., especially in the labor-intensive sectors such as automobiles and clothing. We suggest that Mexico cut the red tape further and strengthen reforms

that foster competition, improving the business environment and building infrastructure. Third, it is time for Mexico to abandon its single-market strategy and diversify its export destinations; this surely will be helpful, particularly under economic crises and slowdowns in the U.S.

2.4.2 Challenges on the Chinese Side

On the Chinese side, the main challenges are, but not limited to, the cooling down of China's economic growth, the product quality of Chinese consumer goods, the responsibility of Chinese companies in protecting the environment, and Chinese investment in sensitive sectors, etc.

Economic "Cooling Down" China's GDP growth rate was 6.9% in 2015. The Chinese government acknowledged the slow growth of the economy which could be attributed to its attempt to shift the economic system away from reliance on investment and exports. China's economic downturn might affect Mexico through a decrease in demand, via primarily a decrease in the price of essential export goods. Mexico's trade deficit with China is already very high; moreover, China and Mexico are competing directly and intensively in some sectors, such as automobile parts and computers. The two countries are at almost the same stages of development with similar industrial structures. Further, Chinese businessmen are usually unfamiliar with Mexican business styles, and unfamiliar with Latin American culture. Due to the surge of Chinese exports to Latin America since 2000, there are insufficient Portuguese and Spanish speakers in China. At the present, the trade volume between China and Mexico is roughly 50 billion USD per year, or about the same level of that between China and France.

Product Quality There seems to be common concern about the poor quality of Chinese made food, clothes and shoes, and piracy or counterfeiting is also an issue. In particular, the enforcement of food safety standards in China is a big concern, like the case of expired meat being supplied to fast food chains across the country. Given China's new role as an exporter of food products, there is increased global attention on cases of food safety scandals such as the case of melamine milk scandal in 2008. Building credibility in the minds of the consumers is probably the most daunting task that the government in China and Chinese businesses have to face both domestically and overseas.

Investment Trust There have been cases of suspicions over projects and investments, especially those related to infrastructure between China and its Latin American counterparts. These suspicions have led to the cancellation of some major agreements; a recent case being the annulment of the China Railway Construction Corporation agreement by the Mexican government, for construction of the high speed rail between Queretaro and Mexico City. According to a publication in the newspaper *Jornada*, the fall-through of this huge project has led many top executives to believe that the Chinese government intends to rethink its strategies on all its investments activities in Mexico. Various reasons contributed to the cancellation

of the project including questions on the purpose of China's investments, negative views towards China's responsibility on the local environment, especially from resource industries such as mining and agriculture, worries about China's presence in the consumer goods markets and expanding influence in the region in general, etc. The in-pouring of Chinese goods makes locals feel a sort of "take over" of Mexico's toy, textile, shoes, office supplies and other consumer goods industry (Hearn 2012: 125–126, 132). The management style of Chinese firms also gives locals a sense of secrecy, given that most of Chinese FDI in Mexico is done by SOEs.

Sustainable investment Chinese companies generally comply with Mexican environmental laws, though they display varied environmental performance and labor conditions. Various Chinese industries have started drawing their own environmental and social rules; especially in sensitive sectors of the economy like transportation, construction, water resources and so on. For instance, the Environmental Impact Assessment (EIA) regulation that took effect in 2003, helped to tackle key issues of the social and environmental impacts of economic activities.

China's state-controlled enterprises form the main drivers of Chinese investments abroad. Chinese regulatory body has created guidelines to help investment projects facilitate sustainable development in the host countries, in terms of their social and environmental impacts and foster healthy collaborations. The authorized structural settings for social safeguards and environmental protection in the financial sector are enhanced essentially through the Green Credit Guidelines released by the China Banking Regulatory Commission in 2012. These demand that Chinese banking institutions ensure that their international projects adhere to international standards, provide assistance to a low-carbon and recycling ecological system, prevent ecological and social dangers in environmental protection, human resettlement, safety, energy consumption, air pollution, land, overall health, and climate change.

Cooperation in currency swap Our research later in Chap. 5 shows that the peak of AD actions from Mexico is related to economic cyclicals, when the exchange rates fluctuate often. It might be a good option for both countries to establish a currency swap system when facing fluctuations of other currencies, especially the U.S. dollar, through which further confrontation in trade can be avoided.

Language and culture exchange Realizing the significance of culture familiarity and language, Mexico developed a plan to finance master and doctoral students for internships in China, studying the Chinese language and researching technology transfer, as well as bilateral trade opportunities. In 2007, the Autonomous National University of Mexico announced an identical plan, as did the Tecnologico of Monterrey with state-level financing. In Tijuana and Mexicali, Baja California state government operates via regional Chinese associations to reduce language and culture barriers as well as to encourage trade. The Chinese side also sets up Confucius Institutes to teach Chinese language and culture.

Sino-Mexican bilateral institutions In the near future, both countries can join forces in setting up bilateral institutions, along the lines of the board of the executive office proposed by Peters (2009). The goal is for it to function as a medium of

information exchange, conduct analysis as well as write proposals for the government. Trade and financial subjects would be the focus, along with others such as international politics, culture, science, R&D cooperation, sports, tourism, labor and migration issues, sectoral and even "inter-sectoral" issues.

References

Duiker, W. J., & Spielvogel, J. J. (2009). *The essential world history: Since 1500* volume 2. Cengage Learning.

Hearn, A. H. (2012). Harnessing the dragon: Overseas Chinese entrepreneurs in Mexico and Cuba. *China Quarterly, 209*(209), 111–133.

Peters, Enrique Dussel. (2009). The Mexican case. In Enrique Dussel (Ed.), *China and Latin America economic relations in the twenty-first century, Jenkins, Rhy and Peters*. Center for Chinese-Mexican Studies: German Development Institute.

Wang, Z., Koopman, R., & Wei, Shang-jin. (2014). Tracing value-added and double counting in gross exports. *American Economic Review, 104*(2), 459–494.

WTO (2008). *Trade policy review (Mexico)*: *Secretary report*. www.wto.org

Zhang, L. P. (1992). *Wu Tingfang (1842–1992) reform and modernization in modern Chinese history*. Hong Kong: Hong Kong University Press.

Chapter 3
Economic Policies in China and Mexico

Abstract This Chapter reviews the history of Mexican and Chinese economic policies during the 1980s and 1990s, in order to give readers a background of the potential challenges and opportunities between these two countries. In the first part, the constraints of economic development and results of the ISI policy are reviewed. This is followed by a review of the Mexican economy on the eve of its debt and currency crisis in 1994, providing an analysis of its disruptive effects on the overall economy. Moreover, this chapter also introduces the Chinese economic policies during the same period, when its "Reform and Opening up Policy" first started in 1978. Since then, China has gradually adopted ownership reform, trade liberalization, industrial reform, etc. Contrary to the "dual economic structure" (the unbalanced development of agricultural and industrial sectors) and the population boom in Mexico, China has promoted a more harmonized improvement of its economy. Further, China suffered a boom of population during the "Great Revolution" due to Mao's orders that "it is easier to get the job done with more people," subsequently resulting in the population being strictly controlled after Mao's death, by the "One-Child Policy" for more than 30 years.

Keywords Antidumping · Economic policy · Economic development · Historical evidence

3.1 Mexico's Economic Policies and Development

From the 1940s to 1980s the economicdevelopment of Mexico was more impressive than that of China. After the Great Depression in the U.S., Mexico had to implement ISI. During the "war boom" from 1941 to 1945 the shares of the manufacturing and textile industries in GDP expanded significantly by 40% and 20% respectively (Bown 2008). This "war boom" created the momentum for entrepreneurship in Mexico. Moreover public investment in irrigation transportation and communication increased sharply. In addition refugees from Europe provided capital as well as professional skills which contributed to Mexico's development (Moreno-Brid and Ros 2010).

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3.1.1 ISI Policy: Development with Constraints

Because of ISI policies, the postwar period from 1945 to 1970 was the golden age of Mexico's economic development. During the 1950s, the Mexican government imposed import licenses to stimulate its infant industries. Protection was escalated, from the sectors of nondurable consumption goods in the 1960s, to the sectors of more durable products in the 1970s, and the share of imports subject to licenses increased from 17.7% in 1956 to 68.3% in the 1970 (Carlos and Brid 1996).

In 1962, the Mexican government established the Fund for the Exports of Manufacturing Products (*Fondo para las Exportaciones de Productos Manufacturados*) to promote domestic manufacturing and exports. Due to the overall highly restrictive trade protection policies, Mexico needed low tariff permits in certain areas to assist in its industrialization. In 1965, the Maquiladora industrialization program was launched at the border of Mexico and the U.S.

Simultaneously, the Mexican government adopted a "dual economic structure", which intensified its support for industrialization, while decreasing funding and investment in agriculture from 1955 to 1970. However, during the same period, the Mexican population rapidly increased, leading agricultural output to slowly increase after 1970. In addition, trade policies discriminated against agriculture. These caused the prices of agricultural products to fall significantly relative to manufacturing goods from 1960 on. In 1971 alone, the prices of corn, beans, and wheat fell 21.4%, 22%, and 41.4%, respectively. The unbalanced development between agriculture and industrialization triggered the student movements in 1968 and guerrillas at the end of the 1960s, which urged the government to reemphasize equity in economic development (Moreno-Brid and Ros 2010).

The administration of Echeverria (1970–1976) continued ISI policies, but emphasized the importance of "desarrollo compartido" or "shared development." Therefore, public investment in agriculture increased. In 1972, a series of polices was announced to promote the development of agriculture and industry, such as the *Programa Integral de Desarrollo Rural*, *Programa Coordinado de Inversiones Públicas en el Medio Rural*, and *Certificados de Devolución de Impuestos* (CEDIS) in 1971, as well as the creation of *Fondo de Equipamiento Industrial* in 1972. The government officially guaranteed the prices of basic products, and provided credits for agricultural expansion. The average share of public investment in agriculture as the percentage of the total GDP increased from 11% in the Díaz Ordaz administration (1965–1970) to 15.6% in that of Echeverria (1971–1976).

It can be summarized that ISI policies and the "shared development" strategy indeed helped to decrease the Gini coefficient from 0.54 to 0.49 during 1970–1976; meanwhile, real wages increased by more than 40%, but decreased after the currency devaluation in 1977.

ISI policies were adopted for a lengthy forty years pre-1980s, which unfortunately hindered the competitiveness of domestic industries. The oil and debt crises alerted Mexican officials to the shortcomings of these policies, forcing them to end ISI in the beginning of 1982.

Since then, Mexico has changed its pattern of economic growth through trade liberalization. After 1993, it started to simultaneously emphasize multiple trade negotiations and regional trade cooperation, and formed Free Trade Agreements (FTA) with many countries, such as the U.S. and Canada. However, trade liberalization comes with challenges. Similar to tariffs, AD plays an important role in dampening the pressure from foreign competition.

3.1.2 Agricultural Inequality, Petroleum and Debt Crisis

The Mexican debt crisis occurred in 1982, and to better understand it, we start with its three main causes: the dual structure in the agricultural sector, the over investment in the oil industry and a public-investment-oriented economic development model (Del Toro 1997).

First, public investment in agriculture was maintained at a high level, so that the agricultural sector could provide enough food for urbanization and produce enough raw materials for industrialization. The government carried out a series of investment projects in expanding the irrigation areas. As a result, by the mid-1960s, Mexico had become the biggest exporter of cotton in the world. Further, the federal government implemented protective trade policies by restricting imports of corn and beans until 1990s.

However, all farmers were not equally subsidized. After the 1970s, large private farms and *ejidos* (cooperative farms) benefited from the above mentioned policies–these classes increased their production volume by upgrading their machinery. However, a majority of the farmers, *Minifundistas*, *i.e.,* private plots of less than 5 hectares, were only able to remain autarkic. As a result, only the upper rural class benefited. Moreover, credits were offered to large agriculture producers only, by financing their irrigation systems. The inequitable development among farmers became the time bomb for the contingency of ISI policies, which was the essential cause of the debt crisis in 1982.

In 1972 and 1973, the GDP growth rate was bigger than 8% annually, and the size of public enterprises expanded rapidly; however, government revenue stalled, unable to sustain the promotions in both the agricultural and manufacturing sectors. In order to balance the fiscal deficit, the central government intended to reform the tax system, but failed because of strong opposition from the private and central banks as well as pressure from the federal governments. Thus, Mexico was unable to maintain the balance of payment (BOP).

Second, the high-rate growth was not sustainable after the 1973 oil shock, as well as agricultural supply shocks; Mexico experienced 20% inflation from 1973 to 1974. This led to a negative real interest rate and depreciation of the peso, which further discouraged the competitiveness of the export industry. As such, exports in manufacturing dropped by 15% from 1974 to 1975. The effectiveness of ISI policies turned into a negative factor for economic development. The government increased spending in order to stimulate the economy. By 1975, economic

development was largely driven by public spending. In order to sustain public investment, the government continued to borrow capital, which eventually consumed the foreign reserves. When bankers foresaw the coming tax reform policies, capital flight became a regular behavior during 1976; as a result, the government had to devaluate the peso by 52.8%.

Third, another key cause of the debt crisis was over investment in the oil industry. Mexico invested heavily for research and development (R&D) in the petroleum industry during the 1960s. Then, it found huge petroleum reserves in the coastal areas, which helped paying back external debt. After that, Mexico was able to borrow credit at a very low interest rate to ease its BOP crisis from 1978 to 1981; consequently, its public spending significantly increased. However, the oil boom ceased because of sharply falling oil prices and soaring interest rates in 1982. This caused a devastating debt crisis, after which López Portillo announced the nationalization of the private banking system, and Mexico adopted full exchange control on capital flows in 1982.

The debt crisis lasted until 1988. During this period, GDP per capita had decreased by 30% since 1981. It took another seven years for the GDP per capita to recover to the 1981 level. The government had no alternative but to lower its public investment. Expenditure on education and health declined by 30.7% and 23.9%, respectively. Further, the wealth of the middle class was eroded, and the number of poor households increased by 10% during the 1980s.

3.1.3 The Washington Consensus

The main themes of Mexico's economic development from 1982 to 1990 are economic adjustment and reform, following the Washington Consensus, such as privatization as well as economic and trade liberalization. Authorities in Central America and the Caribbean, including Mexico, signed agreements with the International Monetary Fund (IMF) in order to get funding for recovery and modification of their economic policies. Policies from the Washington Consensus were widely accepted by Latin American countries, such as: (1) Fiscal deficit reduction through redirecting the public spending and subsidies toward medical reforms and infrastructure; (2) "Universalization of education;" (3) Enlargement of government revenue by broadening the tax base; (4) Marketization of the interest rate; (5) Strengthening the competitiveness of the exchange rate; (6) Import liberalization, government license elimination on quantity control, and tariff reduction; (7) Free assessment of FDI; (8) State owned enterprises privatization; (9) Abolishment in competition and market entry restrictions; and 10. Property rights protection.

During José López Portillo's presidency (from 1976 to 1982), Mexico adjusted for the debt crisis using policies including adopting import and exchange control, nationalizing private banking, rapidly cutting the fiscal deficit, restoring prices and BOP stability. However, the results, like those of other countries in crisis, were not very helpful. For example, trade and the current account could not be stabilized.

In late 1982, the incoming administration of de la Madrid faced many challenges. The official reserve was almost completely consumed, public sector debt was 18% of GDP in 1982, and total public spending amounted to 47% of GDP (Moreno-Brid and Ros 2010).

In December 1982, the de la Madrid government suspended payments on foreign debt and pushed *Plan Inmediato de Reorganización Económica* (PIRE) as its first stabilization package. It was initiated as an economic policy similar to "shock therapy." In 1983, the government tried to restore the macroeconomic balance of price and stability of finance, by sharply decreasing public spending and devaluating the peso. Moreover, the government closely adhered to the goals of the 1982 agreements with the IMF. In addition, in May 1984, the government and the industrial sector forged the National Program for Foreign Trade and Development; since then, import licensing has been progressively replaced by tariff control in supervising imports.

Further, in 1985, import licensing was reduced from 3600 tariff lines to only 908 and, in 1987, the government announced the Economic Solidarity Pact (Pacto) and agreed to maintain restrictive fiscal and monetary policies as well as wage restriction. In 1987, a debt rescheduling plan was made between the U.S. Secretary of State James A. Baker and Mexican authorities. Moreover, the U.S. delay of external debt helped Mexico to earn sufficient time to carry out economic reform.

The results of the stabilization inevitably have pros and cons. On the one hand, economic policies reduced imports and eliminated fiscal and trade deficit, and inflation fell from 159% in 1987 to 52% in 1988. The standard of living recovered and economic growth was restored. These developments improved the confidence of both domestic and international investors. On the other hand, several economic sectors entered into recession.

Privatization was started in 1985. The state-owned enterprises (SOEs) in Mexico were problematic and either needed privatization or to be separated from the government sectors. Industrial reform is meant to strengthen the competitiveness of domestic industries, carried out by eliminating credits, subsidies, tax incentives, and by liberalizing trade as well as removing requirements on export percentages.

In December 1988, President Salinas took office. He pursued a consolidated, open and market-oriented economy. A new version of PSE, the Pact for Economic Stability and Growth (*Pacto para la Establidad y el Credimiento Economico*), was implemented from 1989 to 1992, and was meant to end Mexico's net capital outflow. In order to secure enough funds for this reform, in 1989, Mexico reached an agreement with U.S. Secretary of Treasury Nicholas F. Brady, rescheduling its $52.7 billion loan. As a result, the domestic interest rate was reduced and FDI increased. Salinas' government succeeded in broadening the tax base by reducing the marginal tax rates and maximum corporate and personal tax rates. Further, the number of taxpayers increased by 45%, and the Value Added Tax (VAT) on fuel, electricity, etc. increased by 10–15%, while the public deficit decreased from 9% of the GDP in 1988 to 2% in 1992 (Moreno-Brid and Ros 2010). Thanks to FDI, the central bank of Mexico accumulated 25 billion dollars in 1993.

3.1.4 Currency Crisis and the "Lost Decade"

Before and after entering into the North American Free Trade Agreement (NAFTA) in 1994, Mexico went through many reforms, such as loosening restrictions on FDI, eliminating tariff and non-tariff trade barriers, gradually phasing out trade restrictions on products of about 7% of the import value (namely on corn, oil refineries, and transport equipment). These boosted trade and FDI in Mexico, sustained economic growth, productivity, employment, living standards, and locked the country in the process of reform. The Mexican economy was strengthened by liberalizing trade and finance. NAFTA dramatically accelerated privatization in Mexico, increasing economic efficiency. However, on the negative side, after the privatization of key sectors such as banking (18 banks), telecommunications (Telmex), and public transportation, a larger role was given to the private sector in the allocation of resources. As a result, Mexico became entirely exposed to market forces, shocks, and international competition.

The Mexican peso was overvalued after a long period of debt crisis. In order to make Mexico more competitive against other NAFTA members, namely the U.S. and Canada, the peso was devaluated by 15% on December 19, 1994. Unexpectedly, foreign financial investors (accounting for 70% of the investment) dumped the peso in exchange for the U.S. dollar to avoid investment losses; as a result, the peso collapsed. During the following two days, the exchange rate of the peso was devaluated by 43%. Mexico's financial crisis continued until the arrival of aid from the IMF in 1995 (Ferídun 2007).

The government of Ernesto Zedillo (1994–2000) launched a series of programs in order to balance BOP and public debt, promote exports, and protect the domestic market. For instance, the *Alianza para la Recuperaci Economica* was established to fix the increasing rates of the wage and price; it effectively reduced public spending by 5%. As a result, the deficit decreased and government revenue increased from negative 1.7 billion U.S. dollars to zero, and then increased to 815 million in surplus in 1995 (Moreno-Brid and Ros 2010). Further, the Program for Industrial Policy and Foreign Trade was launched in May 1996.

Contrary to the former governments, Zedillo's administration adopted trade protection policies since it found that industrial and trade liberalization delinked the manufacturing chain. In order to improve the competitiveness of Mexican high value added sectors, the government gradually adopted stimulating policies. Financial and tax preferential policies were created to promote exports and investment in sectors such as textiles, footwear, automobiles, electronics, appliances, steel, petrochemical, canned food, machine tools, plastic products, and electronic components (Moreno-Brid et al. 2005); these policies include: *Programa de Importación Temporal para Producir Articulos de Exportación*, *Empresas Altamente Exportadoras*, and *Sistema Mexicano de Promoción Externa*. President Vicente Fox (2000–2006) adopted a national plan for development, so as to implement sector-specific policies, stimulate investment, generate value added, and boost

competitiveness. However, these policies were completed in only four sectors—electronics, software, leather shoes, and textiles.

Further, in 2007, the U.S. financial crisis disturbed the advancement of the world economy. Since Mexico relied on trading with the U.S., the financial crisis had a profound effect on the Mexican export industry.

3.2 China's Economic Policy and Development

3.2.1 China's Reform and Opening up

We cannot compare the economic policy between China and Mexico before 1980 because China was in total chaos during the "Great Leap Forward" and "Cultural Revolution" under the leadership of the great dictator Chairman Mao. However, the two economies showed a lot in common after 1980, both experiencing similar economic reform and transition periods such as industrialization, privatization, and trade liberalization. And since then, the economy of China has been gradually catching up with that of Mexico.

Specifically, since the "Reform and Opening up Policy" in 1978, China has gradually adopted reforms. Contrary to the "dual economic structure" and population boom in Mexico, China has promoted a more harmonious process for the agricultural and industrial sectors. Further, it had to control the population boom with the "one-child policy," although this has received much criticism from human rights activists.

Mr. Deng Xiaoping, followed and agreed to the suggestions of three other reform-minded leaders—Hu Yaobang, Zhao Ziyang and Wan Li, who proposed the co-existence of different types of ownerships, such as state-, private-, and foreign-owned. Deng's famous slogan is: "It doesn't matter if a cat is black or white, so long as it catches mice."

3.2.2 Reforms in the Agriculture Sector

Ownership reform was started by both land reform and the reform in the agricultural production system. The "commune," a byproduct of Chairman Mao's "cultural revolution," was terminated in 1981, and was replaced by the household responsibility system. Collectively owned land was assigned to a household for up to 15 years. Moreover, the government largely increased the price of procurement grains. Peasants are allowed to sell products above their quotas at the market price. Since then, profits and production decisions have been transferred from the communes to households. Further, there is a close link between agricultural reform and industrialization in China. Before 1978, agricultural performance was disappointing,

since the previous mobilization and commune ignored the incentives of the individual peasant. The agricultural reform benefited both agriculture and industrialization in several ways: (1) The price of agricultural products increased, which led to higher rural savings and investment in the agricultural sector; (2) Production was specialized, and productivities increased; (3) The surplus labor in the countryside provided a sufficient workforce, the migrant workers, for the manufacturing sector; (4) The household responsibility system alone contributed half of the growth in agricultural output from 1978 to 1989; and (5) The increased rural income provided an important market for industrial products.

3.2.3 *Socialist Market Economy with Chinese Characteristics*

The reform spurred various economic activities. FDI was massively injected into coastal areas. Moreover, price liberalization and the investment boom triggered monetary expansion, causing inflation to increase. For example, in Table 3.1, the Consumer Price Index (CPI) increased by 50% during 1987–1989. Inflation and decreasing living standards were the most significant inducements of the urban social movement in June 1989 (Wang and Karl 2004), which forced Deng Xiaoping to sacrifice his reform-minded allies. Fortunately, it did not create significant barriers to the Chinese economic reform, and the inflation rate decreased after the tightening of monetary policies. Deng Xiaoping's Southern Tour in 1992 was meant to deepen and alleviate the opposition to the "Reform and Opening up Policy" (Mcdaniels et al. 1997). But from 1994 to 1995, the CPI inflation rate accelerated again, reaching 25% (see Fig. 3.1).

Table 3.1 Net inward FDI as % of GDP for world average, Mexico (MEX) and China (CHN) (World Bank 2016)

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981–1990 (AVG.)
Avg.	1.03	1.09	1.47	0.88	1.08	1.57	0.84	1.10	1.25	0.97	1.13
CHN	0.68	0.86	0.76	0.60	0.83	0.59	0.49	0.86	0.81	0.73	0.72
MEX	1.23	0.55	0.47	0.52	0.49	0.62	0.84	0.92	1.08	1.01	0.77
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1991–2000 (AVG.)
Avg.	1.51	1.21	1.09	2.60	3.32	2.76	3.20	3.02	2.88	3.11	2.47
CHN	1.10	1.14	0.98	1.77	1.72	2.37	3.20	3.56	4.78	3.85	2.45
MEX	0.75	0.73	0.95	0.98	1.16	1.31	1.61	2.41	3.92	5.03	1.88
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001–2010 (AVG.)
Avg.	4.80	3.66	2.32	3.26	2.84	2.11	2.87	2.40	1.74	1.81	2.78
CHN	3.61	3.15	2.29	3.07	2.80	2.33	3.00	3.07	2.01	2.31	2.76
MEX	2.78	2.25	1.75	1.84	2.64	3.20	4.18	3.09	2.29	2.08	2.61

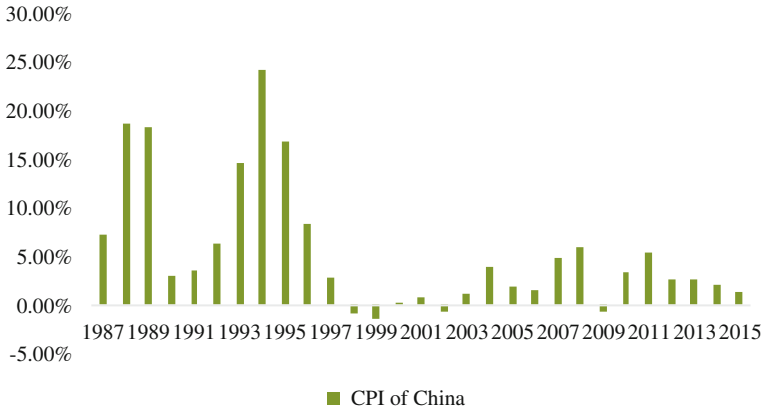

Fig. 3.1 Chinese consumer price index (World Bank 2016)

Further, in 1990, market-oriented forces were strengthened by privatization. Before then, all sectors of the economy, from textiles to cotton spinning, were controlled by the government. In the mid-1980s, SOEs slowed growth due to the burden on the "iron bowl" (which lets all of the officially SOE employed workers enjoy permanent job security and social welfare). Because of decreasing government subsidies, tight budgets, and intensive competition, SOEs gradually lost their competitiveness against the collectively and privately owned companies.

China reformed SOEs in the following ways. (1) SOEs had to be merged, leased, corporatized or bankrupted; the central government focused on reforming and revitalizing 1000 SOEs in core economic and public sectors, which was referred to as "*zhua da fang xiao*," meaning to grab the big and release the small. (2) Firm autonomy was increased in the 1980s in order to contain the budget deficit to and decrease government debt. Therefore, management decisions were decentralized to the SOEs. At the end of 1980, spending- and capital-related authoritative power was decentralized to the factory directors in SOEs. Since then, SOEs gradually increased their share of profits for wage increases and new investment. (3) A dual price system allows SOEs to sell their above-quota output at the market price.

It takes over 10 years for the state to peel off the inefficient and non-profitable sectors. In 1980, the output of SOEs accounted for 75.90% of the GDP, while collectively owned and private enterprises accounted for 23.54% and 0.49%, respectively. However, by 1998, the output of SOEs decreased to only 28.24% of the total GDP, while that of private firms increased to 40%.

3.2.4 Trade Liberalization and Gradualism

Trade liberalization has been ongoing since China's opening up in 1978, and has been carried out in the following ways. The trade system was reformed by allowing

more firms to participate in foreign trade, rather than relying on a few trading companies. Procurement was gradually reduced during 1979–1985, and was finally replaced by import licensing. Regulations in FDI were gradually relaxed, and special incentives were offered for fiscal, infrastructural, and financial support, which promoted the incoming of foreign investors.

Various types of economic zones were established in order to facilitate this opening up and assist FDI for China's reform. The strategy is to take the coastal cities as the hub of reallocating capital, technology, manpower and information. These cities are much more advanced in industrialization, education, transportation, and technology levels than are the inner cities in China; most importantly, they have rich experience in international business. The inner provinces generated a huge amount of skilled workers to the light industries in the coastal areas. In addition, foreign investors were encouraged by preferential policies. They brought in capital, technology, and advanced management skills to the coastal areas. It greatly helped China to establish a complete light industrial system in the end of 1980s, which was further upgraded to heavy industries at the end of the 1990s. According to the Ministry of Commerce, up until October 2011, there were 131 Economic and Technological Development Zones (ETDZs) and 14 Frontier Economic Cooperation Zones (FECZs) in China (Ministry of Commerce of China, 205). Foreign companies helped to upgrade services by bringing advanced technology. Moreover, economic zones had higher economic growth than did the rest of China, which helped to stimulate trade and enlarge demands from other towns and provinces.

Part of the "Reform and Opening up Policy," such as agricultural reform, trade liberalization, privatization, and opening up, have benefitted China in many ways. During the early 1980s, China mainly exported raw materials and oil, which accounted for half of its total export volume. However, since the end of the 1990s, massive FDI entered into the garment and textile industry, stimulating their export. As Table 3.1 shows, China's WTO entry in 2001 caused a further inward FDI boom.

Nevertheless, trade liberalization was a "double-edged sword." China and Mexico both suffered losses in the agricultural sectors in the last few decades, including increasing inequity and disparity between urban and suburban areas. Before China joined the WTO, it was self-sufficient in soybean production. However, since then, Chinese farmers have not been able to compete with the imported trans-gene soybean at low prices, mainly from the U.S. and E.U. At present, only 5% of the food oil market is supplied by Heilongjiang Province. A similar phenomenon occurred in Mexico after the initiation of NAFTA. Mexico lost the majority of its domestic corn market to competition with U.S. companies that were highly subsidized.

Widening inequality is a big problem in China, partly because the government is too reliant on the market to solve this social problem. Because of strong competition from private- and foreign-owned enterprises, the income of SOEs has been gradually decreasing. Further, the government's low revenue could not cover its spending in public investment. Thus, direct government financing and investment were decreasing, replaced by government-directed bank credits and extra budgetary

spending; banks discriminated against unfavorable financial projects including those related to health, education, pension, and infrastructure. This strategy undermined the equality of public goods and services. In 1981, the abolishment of the rural collective disabled its ability for health expenditure and services, such as education and health care in rural areas, greatly reduced the access to public health care since more than half of the population is from the rural areas in China. The access to government health facilities decreased from 71% in 1981 to 21% in 1993 (Mcdaniels et al. 1997), and the situation did not improve much until the urban and rural medical system reform after 2010.

The Chinese GDP per capita performance gradually caught up with and surpassed that of Mexico after 1980. The annual growth rate of GDP per capita from 1960 to 1980 in Mexico and China was 7.3% and 2.6% respectively; however, from 1980 to 2000, the growth rate changed to 5.6% and 8.6% respectively. Further, during the last 10 years, China has outdistanced Mexico; the GDP per capita growth rates were 17% and 5% for China and Mexico respectively. Yet, Mexico's GDP per capita is still two times that of China in 2000 and a typical Mexican is much richer than a typical Chinese.

China's WTO membership reshaped the global economy, and its manufacturing sector has been advancing at a high speed. As such, in late 2011, it became the biggest manufacturing country in the world.

As Tables 3.2 and 3.3 show, the industrial production growth has been stable in China, with an average growth rate from 1999 to 2010 at 15.5%. The industrial production boomed two years after China became a member of WTO in 2003. The growth rate maintained at above 25% from 2003 to 2006. It started to decrease after 2006, because of the RMB's appreciation and increasing labor cost in the coastal

Table 3.2 Growth rate of GDP per capita for China (CHN) and Mexico (MEX) (%) (World Bank 2016)

GDP per capita (current U.S.$)	Year		1971	1981	1991	2001	2010
	CHN	76	117	195	330	1042	4428
	MEX	357	734	3556	3660	6139	9123
GDP per capita growth rate (%)	Period		1971–1980	1981–1990	1991–2000	2001–2010	2011–2015
	CHN	2.56%	6.13%	5.33%	11.98%	16.84%	7.34%
	MEX	7.30%	16.13%	3.42%	7.70%	5.07%	1.43%

Table 3.3 Industrial production growth rate for China and Mexico (%) (World Bank 2016)

Industrial production growth rate (%) of China and Mexico												
Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	8.8	10	11	12.6	30.4	17.1	29.5	22.9	13.4	9.3	9.9	11
Mexico	4	7.5	−3.4	4.9	−0.7	3.8	1.9	3.6	1.4	−0.7	−7.3	6

areas. There is a negative relationship on this index between China and Mexico. The average industrial production growth rate of Mexico during the same period, is 1.5%, and it dropped quickly especially after 2001 and during the World Financial Crisis in 2009.

References

Bown, C. P. (2008). The WTO and antidumping in developing countries. *Economics and Politics, 20*(2), 255–288.

Carlos, J., & Brid, M. (1996). Mexico's auto industry after NAFTA: A successful experience in restructuring? Notre Dame: The Helen Kellogg Institute for International Studies.

Del Toro, G. E. (1997). Foreign direct investment in Mexico and the 1994 crisis; A legal perspective. *Houston Journal of International Law, 20*, 1.

Ferídun, M. (2007). An econometric analysis of the Mexican peso crisis of 1994–1995. *Dogus University Journal, 8*(1), 417–435.

Mcdaniels, I.K., Sylvester, K., Weeks, A.M., Stevenson-Yang, A., & Al., E. (1997). China 2020: Development challenges in the new century. *China Development Challenges in the New Century*.

Moreno-Brid, J.C., Ros, B.J. (2010). *Development and growth in the Mexican economy: A historical perspective*. Cambridge University Press.

Moreno-Brid, J. C., Santamaría, J., & Valdivia, J. C. R. (2005). Industrialization and economic growth in Mexico after NAFTA: The road travelled. *Development & Change, 36*(6), 1095–1119.

Wang, H., & Karl, R. E. (2004). The year 1989 and the historical roots of neoliberalism in china. *Positions East Asia Cultures Critique, 12*(1), 7–70.

World Bank (2016). *World Bank Database*. http://data.worldbank.org.cn. Accessed 26 October 2016.

Chapter 4
AD Uses in Mexico

Abstract This chapter reviews the literature of AD determinants and the effects of AD implementation. We intensively analyze Mexico's AD use, as it is the most frequent AD user in the world. We describe the evolution of the institutional and legislative system of the Mexican AD law, specifically, the Mexican legal and administrative background in AD policies. We also analyze the different patterns of Mexico's AD implementation against China and other major targeted countries.

Keywords Antidumping · Institutional and legislative system · Causes and impacts

4.1 Introduction of AD

4.1.1 Brief Review of AD Research

AD gradually shifted its fundamental function from protecting unfair foreign trade practice to becoming a strategic administrative trade policy. It serves to protect the interest of the domestic industries and manufacturers under trade liberalization, particularly during market fluctuations. Foreign sales could be judged as unfair practice, even though the export price is higher than the domestic price. Moreover, the agreements and legislation of international trade institutions facilitated such changes. The Kennedy Round Code requires that the dumped imports be the "demonstrably principal cause of material injury" before duties can be imposed. In response to pressure from a number of developed countries, the Tokyo Round Code made an amendment, making the previous mandate unnecessary. Soon after the Tokyo Round, the first preliminary AD duty was imposed in 1979 (from the EU on China); it was soon proliferated and started to have a great impact on trade.

Frequency of AD Some early studies of AD focus on measuring its frequency. According to the number of AD filings, the U.S., E.U., Australia, Canada, South Africa, and New Zealand are the six major users of AD. If an alternative measure is used, that is, counting by the number of cases per dollar of imports, almost all

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developing countries use AD more intensely than the U.S. and E.U. do (Blonigen and Prusa 2008).

Causes of AD Other studies focus on the causes of AD filings. As the economic condition changes, domestic firms under pressure of import competition could complain to the government about foreign unfair practice. Political forces under pressure would commit to the use of AD as a tool of protection.

The approaches can be placed into two categories: macroeconomic and political-economic. Macroeconomic aspects focus on the overall economic determinants of AD filings, such as the exchange rate, economic growth, and unemployment. The political-economic approach is devoted to determining how AD decisions vary in their response to the needs of different industries, through private and government interactions. For example, the change in the political strength of an industry tends to influence the government's priority in changing trade protection and AD policies (Grossman and Helpman 1997).

In the macroeconomic approach, many studies find that the influence of the exchange rate is an important determinant of AD filings, though there are ongoing debates over the effects of such a variable. Most researchers take the exchange rate of the importing country as the subject of study, focusing on its relationship with AD filings. Niels and Francois (2006) find that every 10% appreciation in the U.S. dollar is likely to increase the possibility of affirmative determination of AD by the U.S. International Trade Commission (U.S. ITC) for 2–7%. Knetter and Prusa (2003), Bergsten and Williamson (1983), and Irwin (2005) also find that there is a close connection between AD filings and the appreciation of the home currency, in the E.U., Australia, and Canada.

In contrast, Tharakan (1995) suggests AD as an administered protective policy used to protect domestic manufacturers from international competition, which is triggered by the emergence of economic problems or the changing of market conditions. The protection provided by the government has nothing to do with the unfair trade practice of foreign firms; instead, it depends on the abilities of domestic industries in demonstrating their injury.

4.1.2 AD Research Methods

The empirical literature can be categorized by the methodologies of using AD data. Some articles use aggregate AD filings data, while some others use the number of filings against an individual country, and the rest uses a combination of the two types of data filings. For example, Knetter and Prusa (2003) study the aggregate AD filings of Australia, Canada, the U.S., and E.U. on the developing countries as a whole, and the bilateral filing data of each country against other countries.

The data can be characterized into long-time-series, and short-time-series data. Early research focuses on whether a causal relationship between economic factors and AD exists, for example, Staiger et al. (1994) use short-term data from 1980 to 1985. More recent research focuses on the credibility of the results, because

short-time-series data has limitation and fragility. In some cases, if the range of the sample is enlarged, the results can be reversed. For instance, Knetter and Prusa (2003) reversed the finding in Feinberg (1989) that the exchange rate is important on AD filings, using data from 1980 to 2000. As such, most recent research has paid more attention to using longer time series data, e.g., Aggarwal (2004) uses data from 1980 to 2000, and Niels and Francois (2006) use data from 1987 to 2000.

As to econometric methodology, the count data model is most often used in AD research, and it can be categorized into Poisson regression model (Bown 2008), Negative binomial regression (Aggarwal 2004; Feinberg 2005; Irwin 2005; Staiger et al. 1994), Tobit (Feinberg 1989) and Probit models (Bown 2008), etc.

4.1.3 Discriminatory Antidumping

Types of Imported Products In high-income countries, low skill and income sectors that are labor intensive, are more likely to receive trade protection. Such sectors tend to have a higher import penetration ratio and are usually the manufacturing sectors. Industries with less competitiveness are more likely to be protected in the world market (Baldwin 1984), and are more likely to be lacking expertise with high production costs. For political reasons, the government tends to favor the domestic industry through AD, even if it is at the cost of the general welfare of the whole society. Also, Francois and Niels (2004) find that companies that produce final consumption goods tend to have strong lobbing powers, which may harm consumers in the long run. Consumers' interests can be sacrificed since final consumers are far from as organized and concentrated as those import-competing firms.

Country-Specific Prejudice The government may give the domestic petitioner a favorable investigation outcome if the accused exporter is from a specific country. For example, a U.S. firm is likely to support AD petition when the imports are from Japan or a non-market-status economies, and more likely to revolt against the petition if the import is from Western Europe (Moore 1992). Niels and Francois (2006) find that it is more likely to have the positive outcome if the AD investigation is against non-market and centrally planned economies. For non-WTO members, AD is more likely to be concluded with an affirmative finding and with higher AD duties (Francois and Niels 2004).

4.2 Institutional and Legislative Systems of AD in Mexico

AD is plausibly linked to legal and administrative changes. A subtle change in the institutional and legislative requirements of AD may have a significant impact on its complaints. For example, the U.S. AD law experienced several subtle changes in AD relief in 1974, 1980, and 1984. The cumulating requirements of U.S. legal

changes appear to have had an impact on the number of cases moving to the injury stage. (Feinberg 2005; Irwin 2005). "Cumulating" means that if the filing is on multiple AD petitions against numerous countries, the import shares from all countries named in AD petitions for the same product at the same time could be combined. In this way, it allows the petitioner to obtain a significant cumulative import market share, thus increasing the likelihood of an injury finding.

Mexico in particular, set up a legal defense system against dumped and subsidized imports. In January 1986, the government promulgated the Law Regulating Article 11 of the Mexican Constitution on Matters of Foreign Trade. In September of the same year, it issued the Regulations against Unfair Trade Practice in International Trade, which was the first Mexican law concerning AD.

The Ruling Law was replaced by the Foreign Trade Act (*Ley de Comercio Exterior* (*LCE*)) in 1993; such a law, for the first time, standardized the administrative procedure for AD investigation practice and margin and countervailing duties. A major change in the law of 1993 was that it was possible for the International Trade Practices Unit (UPCI)[1] to use cumulating investigation for injury determination (Niels and Kate 2004). A similar permission was passed by the Trade and Tariff Act of 1984 in the U.S. Mexico's current trade defense regime is comprised of the LCE and the GATT's AD Agreement and WTO Agreement on Subsidies and Countervailing. Under the Mexican Constitution, international treaties automatically become Mexican law without further legislation. Since the AD Agreement was enacted after LCE, it prevails over LCE in case of inconsistency.

The Ministry of Economy (SE) The administrations responsible for trade-related issues in Mexico include the Ministry of Economy (SE) and the Ministry of Finance and Foreign Trade Commission. The SE[2] is responsible for conducting AD, countervailing duty (CVD), and safeguard (SG) investigations. Moreover, the investigation of dumping and material injury investigations are both made by one body—the UPCI. It was founded as a permanent part of the SE to accompany the trade liberalization after the publication of the Ruling Law and Regulations against Unfair International Trade Practice in 1986. It is specialized in investigating unfair international trade practice and assisting Mexico's trade liberalization when joining the GATT. Its rule was substantively strengthened by the publication of the Foreign Commerce Law in 1993, and the Foreign Commerce Law Regulations.

AD Authority (UPCI) and its functions The determinations of dumping are reviewed by the Foreign Commerce Committee before its publication in *Diario Oficial*. The (UPCI) is the authority for investigating the existence of dumping or subsidies, and is also responsible for investigating injury or threat to domestic industries; deciding the causal relationship between dumping and injury; defending Mexico's export interests abroad; and providing technical and legal support to the

[1]The original name is *Unidad de Prácticas Comerciales Internacionales* in Spanish.

[2]SE was formerly called the Ministry of Commerce and Industrial Development (SECOFI) prior to December 1, 2000.

Fig. 4.1 Structure of UPCI

SE and other Mexican government offices. Moreover, it is responsible for direct advice to exporters supporting Mexican companies subject to trade remedy investigations in foreign markets, and it provides analysis of foreign countries' trade defense legislation and practices, free of charge.

In addition, the UPCI is organized by its headquarters, with five main general management offices, which are responsible for the different areas involved throughout the process of unfair trade practice investigation. There are more than 100 employees involved, including lawyers, economists, accountants, engineers, and statisticians. It is the first AD institution that received ISO 9000 in the world (see Fig. 4.1 for the structure of the UPCI).

In 2000, the UPCI provided assistance to 79 companies and associations with respect to 32 AD cases against imports from the U.S., Argentina, Australia, Brazil, Ecuador, India, Israel, Panama, Peru, and the E.U. The UPCI also supported 19 companies or organizations involved in four investigations conducted by the U.S., and 77 firms and associations in 17 SG procedures, initiated by Brazil, Chile, El Salvador, India, Panama, Russia, the U.S., and Venezuela.

4.3 Mexico's AD Statistics

In order to take a closer look, we summarize Mexico's AD according to its date and industrial sectors. To compare the characteristics of Mexico's AD on China, we also include the statistics from other countries being targeted by Mexico.

4.3.1 Mexico's AD by Year

Figure 4.2 shows the AD petitions of Mexican companies against the world and China. Mexico is an active user of AD and the number of its AD investigation initiations reached its peak from 1991 to 1993, the reason perhaps is that due to market opening, reform, overvaluation of the peso, and trade liberalization, Mexico needs a "pressure valve" to dampen the impact of imported products on its domestic economy.

In 1993, Mexico filed 13 AD petitions on China, six of which were started *ex officio* by the authority UPCI. Foreign commerce law and its practice allow the UPCI to initiate an AD investigation; however, such an action is uncommon in other AD laws (Niels and Kate 2004).

Figure 4.3 shows the number of AD investigations initiated each year in Mexico, the first of which being in 1991, on China, unsurprisingly. Moreover, from 1991 to 2011, Mexico initiated 53 cases on China; 37 resulted in the imposition of AD duties, and 16 cases had negative outcomes. The rate of affirmative findings was almost 80%, which is much higher than the average of other countries in the world (56%). The success rate has varied over time. From 1995 to 2004, the affirmative rate is 85%, and since 2005, it has decreased to 50%. The negative AD findings were concentrated in eight years—1992, 1993, 1999, 2005, 2006, 2007, 2010, and

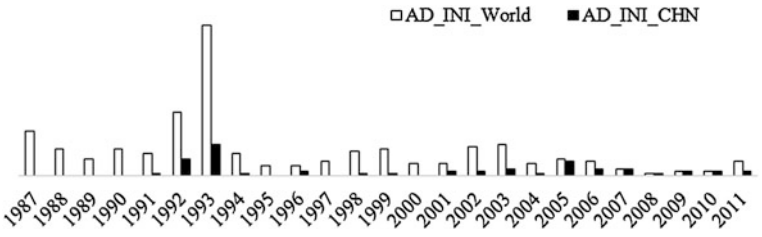

Fig. 4.2 Mexico's AD Initiation on China and the World, AD_INI_World: Mexico's AD against the world; AD_INI_CHN: Mexico's AD against China, *Source* Global AD Database, World Bank

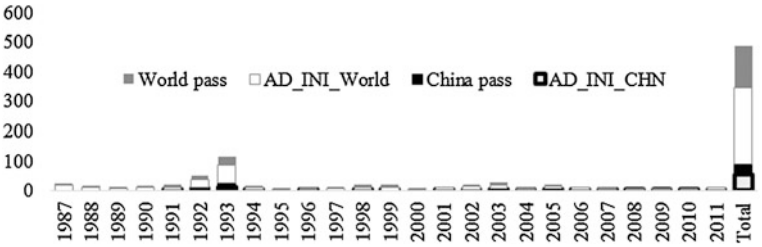

Fig. 4.3 AD initiation by Mexico on China and the world, World pass: Mexico's passed AD on the world; AD_INI_World: Mexico's AD against the world; China pass: Mexico's passed AD on China AD_INI_CHN: Mexico's AD against China. *Source* Global AD Database, World Bank

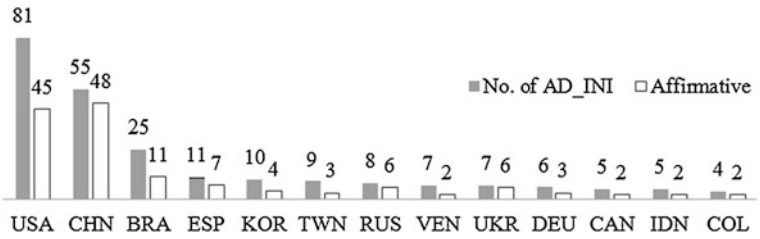

Fig. 4.4 Mexico's AD investigation by country, No. of AD_INI: Number of AD investigation initiation; Affirmative: number of AD investigation initiation (World Bank 2015)

2011. Further, Mexico did not initiate AD on China in 1995, 1997, and 2000. Among the negative AD findings, no injury was found in three cases and, in seven cases, no affirmative result in either dumping or injury was found.

4.3.2 Mexico's AD by Country

Figure 4.4 shows the overview of the countries under Mexico's AD investigations from 1987 to 2011. The U.S., China, and Brazil are the most frequently targeted countries, accounting for 56% of Mexico's AD investigations. The success rate on China is the highest (87%), followed by Ukraine (86%), Russia (75%), and Spain (64%). As it is mentioned by Niels and Kate (2004), there are a number of possible reasons for this. First, China and formal USSR members are closely competing with Mexico's manufacturing sectors; Second, neither of these countries were members of the WTO in earlier years, nor market economy countries (Ukraine, Russia and China). Third, under the NAFTA, Mexico could no longer protect its market from the U.S. and Canada.

Even though the U.S. is the traditional target of Mexico, when compared with China, the rate of success on AD investigation is much lower (56%). If counting by the number of AD investigation initiations, the U.S. is the top targeted country, with China being the second. However, if counting by the number of cases successfully charging AD duties, China has three more cases than the U.S. Obviously, China is the most affected country by Mexico's AD investigation. This is confirmed by the findings in Francois and Niels (2003), Niels and Kate (2004).

4.4 Mexico's AD by Sector

Figures 4.5 and 4.6 show the overview of Mexico's AD in different sectors. Basic metal products is the major targeted sector under complaints (77 cases or 27% of the total cases), followed by chemicals and plastic (68 cases or 24%), other manufactured products (55 cases or 20%), and textiles and clothing (25 cases or 9%).

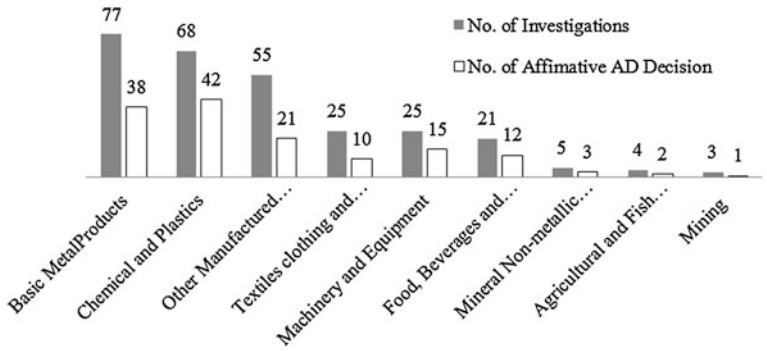

Fig. 4.5 Investigation and affirmative rate by sector (World Bank 2015)

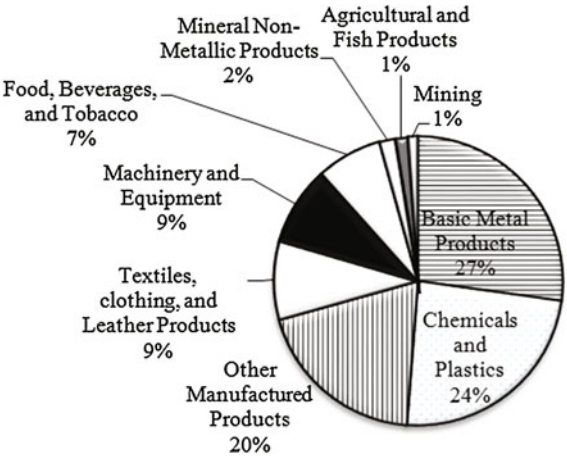

Fig. 4.6 Number of investigations (World Bank 2015)

Surprisingly, Francois and Niels (2004) find that Mexico's AD on capital intensive products, such as chemicals, plastic, machinery and equipment, is more likely to end with affirmative findings, rather than the more labor-intensive products, such as textiles and clothing and other manufactured products. Their result is calculated by using Mexican AD filings against the world. Also, there is a significant statistical relationship between the successful rate of AD initiation and a number of political variables. Such relations are country- and sector-specific.

Without considering the successful rate of AD investigation filings, the U.S. is the primary target of Mexico; China is in second place, followed by Brazil. Mexico's AD actions on China are different from that on the rest of the world. The latter concentrated on basic metal products, as well as chemicals and plastic, while the former concentrated on textiles, clothing, leather, machinery, and other consumer-oriented manufactured products. For the U.S., basic metal, chemical, and

other manufacturing products account for 75% of the total; and the basic metal products from Brazil are the major AD targets of Mexico.

The rate of success of Mexican AD petition varies by industry; the rate for China is higher than that for any other country in the world; and the average rate for Mexico's trade remedies measure, among all its investigations on China, is 64%, higher than that on the U.S. and Brazil, as well as the average rate throughout the world (excluding China), for 8, 19, and 18%, respectively. It indicates China is the country most affected by Mexico's AD in the world. Many of these cases targeted on China have a vast array of products; for example, all clothes and linen, all organic chemicals, all tools and cutlery, and all toys were covered in the investigation, especially from 1991 to 1993 (see Table 4.3). According to Niels and Kate (2004), 44% of total Chinese exports to Mexico were under investigation when the peak of Mexico's investigation wave arrived in 1992 (by value), and roughly 11% of Chinese total exports to Mexico were subject to AD duties in 1995.

4.4.1 Mexico's AD by Product Type

Table 4.1 shows the share of the types of goods among Mexican AD investigations against those in the world, excluding China, and against those in China. We can identify that there is a big difference. For the former, intermediate goods are the major target, as confirmed also by Francois and Niels (2004). It seems that besides China, consumer goods from other countries are not a serious problem for Mexico. This may indicate that Mexico has a comparative advantage in consumer goods production against most countries in the World.

However, the industrial structure of China is very different from that of most countries around the world, because a lot of inward FDI in China functions as an export platform. It is reasonable for Mexico to take China's final products as a bigger threat than intermediate goods, since Mexico inevitably has to import intermediate goods from China. Intermediates are the majority type of goods in international trade. They are used for the production of the consumer goods and an important part of the global value chain. A consumption good, also called final good, is purchased by individuals or households for daily consumption, such as jewelry, automobiles, TVs, clothing, food. A capital good is used for producing goods or services, such as instruments, machinery and patent right.

Table 4.1 Share of investigation by type (World Bank 2015)

Type of good	World (excluding China) (%)	China (%)
Intermediate goods	72	33
Consumer goods	21	49
Capital goods	7	18
Total	100	100

Table 4.2 Success rate of Mexico's AD (World Bank 2015)

Type of good	Against the World (excluding China) (%)	Against China (%)
Intermediate goods	51	72
Consumer goods	47	52
Capital goods	56	60
Average	50	60

In Table 4.2, the rate of success of Mexico's AD on China is higher, or more likely to have affirmative determination, in all of the above three types of products, namely, intermediate, consumer, and capital goods, as well as their average. If Mexico initiates one investigation on intermediate goods, the possibility for Mexico to successfully take the trade remedy measures against China is 21% higher than the world average. The rate of success on capital goods is close to the world average, only 4% higher.

4.5 Procedures of AD Investigation in Mexico

Filing Any interested party may file an AD petition to the SE. The SE may initiate an investigation under the following conditions. First, the evidence of dumping must be sufficient. Second, there must be a certain causal link between injury and AD. Namely, the authority may decide whether to initiate the investigation according to the veracity of the claims. It depends upon the filing company's market share and material injury (according to the AD Law of Mexico, the market share of the petitioner should be no more than 10%).

Collection of information The UPCI sends questionnaires to all parties involved to collect information such as company, business, and financial data. All information is classified into two categories: confidential and non-confidential. Only the non-confidential file will be distributed among all parties involved. All exporters may participate in the AD investigation of Mexico, including those who are not subject to investigation. If not, Mexico will charge the highest AD duties to those who do not accept or cooperate, subject to investigation. The response deadline is 30 days; in some cases, it can be prolonged for another 15 days.

Initiation of AD investigation After the filing, the UPCI shall decide whether to initiate the investigation based upon the information and data collected within the 30 days (under certain conditions, the information collection period is prolonged to 70 days, at most, after receiving the petition). If the UPCI determined *ex officio* to initiate the investigation, it should publish a notice in the *Diario Oficial de la Federación*. In the meantime, the UPCI informs the involved importer, exporter, and manufacturer, as well as the embassy or representative of the exporter. The representative of the SE in the foreign country is responsible for informing the involved exporters.

The above chart compares the number of AD initiations of Mexico on different sectors against the world total (excluding China, the U.S., and Brazil). Moreover, the U.S. is the biggest target of Mexico's AD investigations, most frequently targeting basic metal products, chemicals and plastic, and food. In addition, Mexico is heavily investigating Chinese textiles, machinery, and other manufactured products. Further, basic metal products are most frequently checked by the UPCI.

Determination After the initiation of AD investigation, the SE shall make two determinations: first, to calculate the price and see whether foreign products are imported at a price lower than the normal value and, second, to decide whether imports are causing or threatening to cause material injury to the domestic industries. Even though dumping is affirmative, it does not mean that it has a causal relationship with injury; therefore, the SE shall evaluate the magnitude of the margin of dumping, based on actual and potential declines in sales, profit, output, market share, productivity, return on investment, cash flow, inventories, employment, wages, and growth in the domestic industry.

Calculating price-dumping determination In order to determine whether the prices of foreign products are below normal value, the SE calculates the dumping margin as the difference between a weighted average normal value and weighted average export price to Mexico, within a period of at least six months prior to the initiation of the investigation. Three methods are being used in determining the normal value for the price under investigation as follows (Zeng 2010).

In the first step, referring to sales price in the exporting country's home market. If Step 1 is not applicable, two alternative methods can be used: the "constructed normal value" or prices of sales from the exporting country to a selected third country. The former equals the cost of production plus reasonable general costs and profits; if the price of the transaction is below the cost of production and general cost, it will be excluded. Third, for the products from a country with non-market economy status, the SE can use either the sales price or "constructed" price of any selected market economy.

Material injury According to the AD Agreement of the WTO, the following referencing data can be considered as the proof of material injury: actual and potential decline in sales, profits, market share, output, productivity, return on investment, or utilization of capacity, and actual or expected negative effects on cash flow, inventories, employment, wage, growth, ability to raise capital or investment.

The AD authorities in Mexico consult numerous industry data in deciding the magnitude of the margin of dumping, including the examination of the volume of goods imported at a normal value; contraction in demand or changes within the pattern of consumption; impact of trade liberalization or trade restrictive practices; competition between the foreign and domestic manufacturers; and developments in technology. Material injury is an important evidential requirement for affirmative AD findings (WTO 1998). Further, there is no regulated method to examine the causal link between dumping and injury.

Preliminary determination The UPCI makes preliminary determination within 90 days after the first day of filing determinations, including dumping, injury, and the causal link between the two. It is published in the *Diario Oficial de la Federación*. Within five days after the publication, the SE may hold a technical information meeting upon request to explain the investigation methods. The affirmative determination is followed by the imposition of provisional AD measures. The duties are no more than the margin of dumping, and are collected by the Ministry of Finance and Public Credit.

There are two cases when the ad valorem duty (AVD) is not imposed, as follows. The first is price undertaking (PU), which is when an exporter raises the export price on the product to avoid the possibility of an AD duty. If an exporter promises to revise its prices and stop exporting at "dumped" prices in an undertaking agreement, the Ministry may suspend or terminate the AD investigation without imposing AD duties. If the exporters fails to uphold the undertaking agreement, the Ministry may immediately impose an AD duty based on the "best information available," and continue the investigation.

In reality, this situation seldom happens between Mexico and China. According to the Global AD Database, since Mexico's first AD investigation on China in 1991, there have only been three initiated AD investigations resulting in exception for new trade protection because of bilateral price agreement or Price Undertaking (PU) between Mexico and China. In 2007, a case on locks was terminated after an agreement was reached between the two governments to terminate AD measures on Chinese products (WTO MEX-AD-270). Moreover, according to the Global AD Database of 2012, there were three price agreements, including carbon steel connections for welding in 2003, price agreement on truck tires in 2006, and PU on leather goods in 2005.

The second condition for not taking AD duty is that the UPCI consider the dumping and material injury true; however, the AD duty was not decided, or the injury to the industry not enlarged. Mexico is a member of the GATT; therefore, it is in accordance with the GATT for the provision of micro scale dumping margin, that is, if the dumping margin is lower than 2%, the dumping investigation is terminated. Nevertheless, in practice, the UPCI always continues its investigation, and makes the final decision according to the old evidences.

Public hearing and final determination After the preliminary determination and prior to the final determination, the Ministry may convene a public hearing to allow interested parties to present their opinions and discuss the issues arising during the investigation. Before the final determination, the Ministry submits its report to the Foreign Trade Commission/*Comisión Federal de Competencia* (CFC) for its opinion. The CFC may report to the SE the expected breaching competition regulation, if one exists. The CFC is composed of the Ministry of Foreign Affairs, Ministry of Finance, Ministry of Social Development, Ministry of Agricultural, Ministry of Health, Central Bank, and Federal Competition Commission.

Imposing final AD duties Within 210 days from the initiation of the investigation, the SE must publish its final determination in the *Diario Oficial de la Federación*, deciding whether to charge AD duties. It may amend the preliminary decision and AD duties. The AD duty's margins are decided differently, based upon the data and information of individual manufacturers and exporters.

Appeal Under this law, only importers have the right of appealing to the SE for reversal or modification of the authority's decision, with respect to final determinations and other rulings. Exporters, consumers and competitors do not have the right to appeal.

An appeal concerning the actual levying of AD duty can be filed with the Ministry of Finance and Public Credit, and must be handled and resolved in accordance with the provisions of the Federal Tax Code. In special circumstances, it can be referred to as the Federal Tax and Administrative Court. If the appealing results in a different resolution, the Ministry may initiate a summary proceeding, upon request or on its own initiative, to determine whether the final resolution is relevant to the other interested parties.

In the period from 1987 to 2011, the UPCI and its precursors undertook 109 investigations, not including those on China with 38 investigations. Note that we follow Niels and Francois' (2006) method in counting AD investigations, that is, we only count cases where an official investigation has actually been opened, and a final decision is published. It excludes those that have been rejected (for not fulfilling certain requirements) before a preliminary decision was reached. According to Niels and Francois (2006), the success rate for Mexico's AD on China is 82%, almost 20% higher than that on the rest of the world (see Table 4.3).

Sunset clause Normally, the duration of AD duty charging lasts for five years. Article 11 of the WTO AD Agreement introduced the five-year "sunset review" (sunset clause), which is a mandatory investigation procedure for each imposed measure. The literature shows that there is little impact on the removal of the already imposed measures (Moore 2006). The SE may initiate a review on the AD duty each year, after the request of interested parties, before the anniversary of the final determination, or on its own initiative at any time (Bown 2008). Within

Table 4.3 Outcome of AD investigations in Mexico (World Bank 2015)

Outcome	China	Proportion (%)	Number in World (excluding China)	Proportion (%)
Duty	31	82	70	64
Undertaking	2	0	3	3
Negative	7	18	36	33
(Of which) no Injury	2	5	1	1
(Of which) no dumping margin	0	0	1	1
(Of which) neither injury nor dumping	5	13	34	31

220 days following the initiation of the review, the SE must issue a final determination. If it is not concluded in continuation or recurrence of dumping and injury, the AD duties would be extended for another five years (*ex officio*). However, if it is determined that there is no evidence of dumping, the SE is to annul the previous definitive AD duty and review the matter each year, for the following three years, in the same month.

4.6 Latent Rules of Mexico's AD Filings

4.6.1 Discretion in AD Authorities

The literature shows that AD authorities in developed countries, such as the U.S. and E.U. (Blonigen and Prusa 2008), as well as some developing countries, such as Mexico (Niels and Kate 2004), are taking advantage of such discretion in making AD into an effective tool for trade protection. This greatly increases the possibility of affirmative dumping and injury finding.

4.6.2 Discretion Rules in Developed Countries

All AD laws are in line with WTO/GATT rules; they leave considerable room for discretion to AD authorities. Moreover, the U.S. and E.U. are the most and earliest countries studied on this topic. A constructed price is automatically used if the named countries have non-market economies. For example, among 400 U.S. AD cases, only three negative findings were made during the entire 1900s. The average duties averaged between 30% and 60%, with variations of 100% (Blonigen and Prusa 2008; Niels and Francois 2006).

4.6.3 Discretion in Developing Countries

Such discretion is applicable to developing countries as well. The U.S. ITC found that developing countries are more likely to result in high AD margins. For example, China has been using AD methods exactly the same as was done in the developed countries since 1997, even though these methods have been criticized elsewhere (e.g., the constructed value method, use of facts available, use of comparisons of averages for the normal value to individual transaction prices, and accumulation of imports to determine injury). Among the first 9 AD cases, 8 resulted in affirmative findings with average duties up to 75% (Messerlin 2004).

4.6.4 Against Non-WTO Members

Discretionary activities exist in all AD authorities; however, they are even more prevalent against non-market economies. While almost all national AD laws seem in line with WTO/GATT rules, considerable room is left to AD authorities for discretion, in the determination of dumping by using constructed values if the named countries are non-market economies. The possibility of discretion comes from pricing, which is calculated with respect to the foreign exchange rate based on the "best information available" or "facts available," if there is no response from the targeted countries at the information collection stage during the investigation (details of discretion in pricing are explained in the latter part of this chapter).

Another discretion is the use of the accumulation of imports to determine injury. According to Carlos Arce Macías, Vice Minister of the Mexican Ministry of Economy, Standards, Foreign Investment, and International Trade, Mexico has not strictly followed the rules of the WTO over the past 15 years against Chinese imports. That is to say, Mexico did not investigate all 5000 products, item by item; Instead, they decided to sanction all items in the textile sector according to the investigation on a few items of a shirt.

4.6.4.1 Against Non-market Economies

When deciding the pricing of the AD margin, three methods are used to calculate the normal value: 1. the sales price in the exporting country's home market, 2. price of the same product in a third country, or 3. if it is not able to obtain such information, the AD authority may use the price of an identical or similar product in a third country with a market economy.

If the country of origin is a centrally managed economy, the normal value will automatically be determined by the constructed value. Similar to the E.U. and the U.S., Mexico did not recognize the status of China as a market economy. A market economy is defined as an economy in which scarce resources are all (or nearly all) allocated by the interplay of supply and demand in free markets, largely unhampered by government rationing, price-fixing or other coercive interference.

Specifically, the Mexican Foreign Commerce Law Regulations in 1994 defined a market economy as a centrally planned economy if certain economic activities are controlled by the government; these activities include production, pricing, investment and employment. In December 2000, more requirements were added in the Foreign Commerce Law Regulations: an economy is a market economy if the wages are determined through free negotiation between employers and employees, the government does not interfere in major commercial decisions, and the cost and financial situations are not distorted by asset depreciation, and bad debt, barter trade, or debt compensation payment exist (Niels and Kate 2004).

Chinese authorities have tried to obtain market economy status (MES) since joining the WTO, arguing that considerable progress has been made in the overall

process of transition. Though over 60 economies recognized China's MES at the end of 2006, the major economies like the E.U. and the U.S. still do not. As such, China can hardly be treated as a market economy (please refer to Rinaldi-Larribe et al. (2013) for a unified argument on whether China deserves MES).

China is not recognized as MES by Mexico for three reasons, though the last one plays a bigger role. First, China was not granted MES when joining the WTO, and agreed to be qualified as an "Economy in Transition" for a period of 15 years. China's Accession Protocol qualification indicates that the country be considered a non-market economy until 2016. Second, SOEs still play a dominant role in the Chinese economy, occupying all important sectors such as banking, oil, transportation, and even manufacturing. Third, the MES framework may be manipulated by China's trade partners as a tool to gain the unfair benefit of protecting domestic industries. If China were recognized as an MES, the price of suspected dumping products would have to be compared with China's domestic price.

Thus, Mexico can use the price of any market economy where identical or similar goods are produced. As a result, Mexico has taken the U.S., Germany, Brazil, South Korea, Indonesia, India, and Mexico as substitutions for normal prices of Chinese products. Since most of these countries are developed, their firms tend to have higher costs of production, and their prices are inevitably higher than those in China.

For example, in 1996, Mexico initiated AD investigation on furazone, a Chinese made chemical. The petitioner against furazone against China was the only producer in Mexico. It successfully suggested that the sales price in Mexico be the normal price, and rejected other referencing prices from Spain, Israel, Japan, Brazil, Italy, the Netherlands, and India for various reasons, such as other countries not manufacturing the product in the same period and the product only being sold in the domestic market. The authority of Mexico accepted the price of the domestic firm as the "constructed price", even though the actual price in Mexico was much lower (the actual profit is 45% lower than that of the forecast). Such success is due to that there was no other party in Mexico argued for such reasoning in the complaint, the Chinese firms exporting furazone were charged with 177% AD (Niels and Kate 2004).

References

Aggarwal, A. (2004). Macroeconomic determinants of antidumping: A comparative analysis of developed and developing countries. *World Development, 32*(6), 1043–1057.

Baldwin, R. E. (1984). Trade policy, income, and employment. *NBER Working Paper*.

Bergsten, C. F., & Williamson, J. (1983). Exchange rates and trade policy. In W. R. Cline (Ed.), *Trade policy in the 1980s*. Washington, DC: Institute for International Economics.

Blonigen, B. A., Prusa, T. J. (2008). *Antidumping*. *Handbook of international trade*. Blackwell Publishing Ltd.

Bown, C. P. (2008). The WTO and antidumping in developing countries. *Economics and Politics, 20*(2), 255–288.

Feinberg, R. M. (1989). Exchange rates and "unfair trade". *Review of Economics and Statistics, 71* (4), 704–707.

Feinberg, R. M. (2005). U.S. antidumping enforcement and macroeconomic indicators revisited: Do petitioners learn? *Review of World Economics, 141*(4), 612–622.

Francois, J. F., Niels, G. (2003). Business cycles, the current account and administered protection in Mexico. *CEPR Discussion Paper*.

Francois, J. F., Niels, G. (2004). Political influence in a new anti-dumping Regime: Evidence from Mexico. Netherlands: Tinbergen Institute.

Grossman, G. M., & Helpman, E. (1997). *Trade wars and trade talks. Trade and tax policy, inflation and exchange rates*. Berlin, Heidelberg: Springer.

Irwin, D. A. (2005). The rise of us anti-dumping activity in historical perspective. *World Economy, 5*(31), 651–668.

Knetter, M. M., & Prusa, T. J. (2003). Macroeconomic factors and antidumping filings: Evidence from four countries. *Journal of International Economics, 61*(1), 1–17.

Messerlin, P. A. (2004). China in the world trade organization: Antidumping and safeguards. *World Bank Economic Review, 18*(1), 105–130.

Moore, M. O. (1992). Rules or politics? An empirical analysis of ITC anti-dumping decisions. *Economic Inquiry, 30*(3), 449–466.

Moore, M. O. (2006). U.S. facts-available AD decisions: An empirical analysis. *European Journal of Political Economy, 22*(3), 639–652.

Niels, G., & Francois, J. (2006). Business cycles, the exchange rate, and demand for antidumping protection in Mexico. *Review of Development Economics, 10*(3), 388–399.

Niels, G., & Kate, A. T. (2004). Anti-dumping protection in a liberalising country: Mexico's anti-dumping policy and practice. *World Economy, 27*(7), 967–983. doi:10.1111/j.1467-9701.2004.00637.x.

Rinaldi-Larribe, M., Lightfoot, W. S., & Zhao, Z. (2013). Does china deserve the market economy status? *Journal of Chinese Economic & Foreign Trade Studies, 2*(2), 110–120.

Staiger, R. W., Wolak, F. A., Litan, R. E., Katz, M. L., & Waverman, L. (1994). Measuring industry specific protection: Antidumping in the United States. *Brookings Papers on Economic Activity Microeconomics, 26*(1), 51–118.

Tharakan, P. K. M. (1995). Political economy and contingent protection. *Economic Journal, 105* (433), 1550–1564.

World Bank. (2015). Global Antidumping Database. http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTTRADERESEARCH/0,,contentMDK:22571408~pagePK:64168182~piPK:64168060~theSitePK:544849,00.html. Accessed 26 October 2016.

WTO. (1998). Trade policy review Mexico: Report by the secretariat, World Trade Organization.

Zeng, K. (2010). Multilateral versus bilateral and regional trade liberalization: Explaining china's pursuit of free trade agreements (FTAS). *Journal of Contemporary China, 19*(66), 635–652.

Chapter 5
Mexico's AD on China and Empirical Evidence

Abstract This chapter tests empirically the macroeconomic factors that impact Mexico's AD on China using count data models. While previous research uses AD cases as the independent variable, we use an alternative variable—tariff lines under AD—as the new independent variable. In addition, we provide reasonable explanation for why Mexico's AD measure is discriminating against intermediates and consumer goods. The results indicate that China is an important intermediates supplier for Mexico under the global value chain. Chinese cheap intermediates help to improve the competitiveness of Mexican manufacturing sectors in the domestic and global markets.

Keywords Antidumping · Tariff lines · Count data model · Intermediates and consumer goods · Global value chain · Manufacturing · Market competitiveness

5.1 Mexico's AD on China and Data

5.1.1 Dependent Variables

As mentioned earlier, two types of dependent variables are usually used in the literature: the number of initiations of AD investigations in a year (Aggarwal 2004; Bergsten and Williamson 1983; Bown 2010; Irwin and Douglas 2005; Knetter and Prusa 2003; Olson 1983) and those in a quarter (Feinberg 1989).[1] We improve on

[1]This follows the advice of Professor Kim Seng-Nyun on an alternative dependent variable. First, on the macroeconomic causes on AD, no similar method exists in the existing literature (please refer to Appendix C for an intensive review of the literature). Second, we tried to use the value of products imported under tariff lines; however, the amount of each product (under eight digits) cannot be located, even in each year. The value of imports under each tariff line is neither available by quarter, nor by year in the public database provided by the available resources, such as the World Bank, OECD, and WTO.

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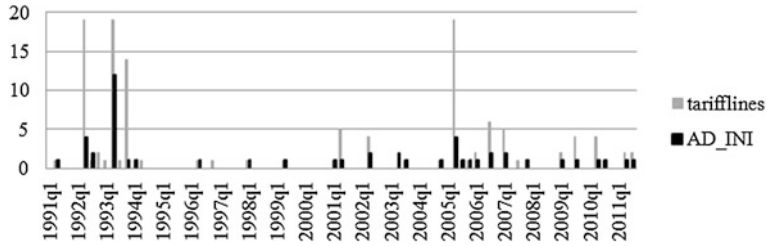

Fig. 5.1 Tariff lines and AD initiation by quarter (World Bank 2015)

the previous studies by using the number of tariff lines in every quarter as our dependent variable.[2] There are three advantages to this method as follows.

First, by using quarterly tariff lines under AD, the number of observations is enlarged four times, so the regression results become more reliable. Mexico started AD filing on China in 1991 (although data for three of those years is not available). So we have a matrix of 20 sets of time-series data, including other independent variables, with a matric of $20 \times 4 = 80$ sets of observations, since each dependent (tariff lines under AD of each year) and independent variable (exchange and unemployment rates of each year) are divided into four quarters (according to the time-series data provided by the OECD).

Second, tariff lines may better reflect the real level of AD than AD itself. In each year, and even in each quarter, the tariff lines under AD are different. In some quarters, even though there are a few AD filing cases, the item under AD is much bigger. For example, in the fourth quarter of 1993 and the first quarter of 1994, there is one AD filing each. However, with the former, 14 tariff lines are covered, while with the latter, only one tariff line is covered (see Fig. 5.1). As a result, the tariff lines of each quarter indicate the real coverage of items under AD, thus better reflecting the real frequencies of AD in each period. As shown in the frequency distribution of the dependent variables, the density of tariff lines is greater than that of AD (see Figs. 5.2 and 5.3). Nevertheless, both tariff lines and AD will be tested as competing dependent variables in the regression model, each of which has the same length of observation time: one quarter.

Third, tariff lines describe the coverage of AD in different product sectors. We can also see the difference of commodity similarities by comparing the tariff lines among Mexico's different targets, which helps us to pin down which product sectors are the most likely targets. While with AD itself as in the literature, very little information can be uncovered. Our method uses more observations, allowing for the comparison of AD among the capital, intermediate, and consumer goods sectors.

[2]"Products can be subdivided, the level of detail reflected in the number of digits in the Harmonized System (HS) code used to identify the product." Quoted from [http://www.wto.org]. Retrieved on January 11, 2014.

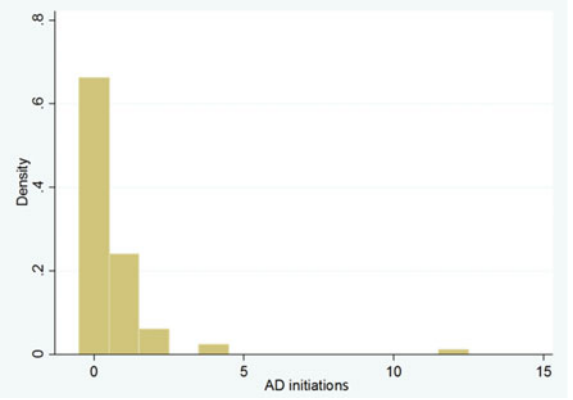

Fig. 5.2 Frequency distribution of Mexico's AD initiations (World Bank 2015)

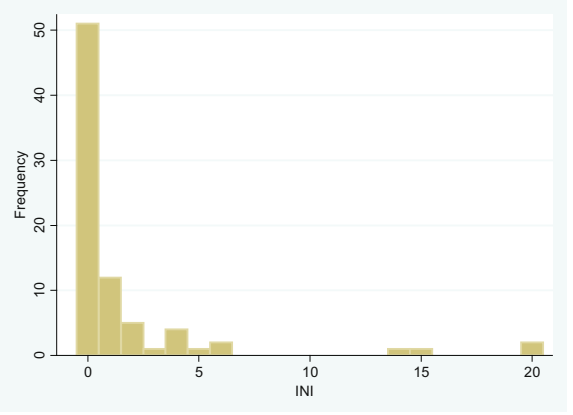

Fig. 5.3 Frequency distribution of tariff lines under AD initiations by quarter INI indicates tariff lines (World Bank 2015)

The reason that other scholars have paid so much attention to the number of AD investigations instead of tariff lines is the availability of data. The WTO offers incomplete annual data for AD. A comprehensive global AD database was only made available to the public in the World Bank, by Bown (2010).

Using tariff lines, we uncover something special about Mexico's AD on China. So far, there has been no need for separating annual AD investigations by quarter. But China has experienced the most surprising AD investigations in the history of world trade. In the second quarter of 1993, 1079 tariff-line items, among 13 AD cases, were investigated, eight of which were filed automatically by the Mexican government. The Chinese case is the only one in which the government is both the sole petitioner and the AD investigation initiator in Mexican history. By separating AD into tariff lines, we uncover the timing and reasoning behind Mexico's abnormal AD investigations.

In the 56 total Mexican AD filings on China, there were 1181 tariff lines under investigation. Notice that tariff lines in the second quarter of 1993 were 1079, which

is much higher than the sum of tariff lines in the rest of the periods. To deal with this problem, we use the second largest tariff line value—20 in 1992—to replace 1079, based on the normal practice method. This change is simply caused by the nature of tariff lines, as indicated by Hilbe (2011). In the second quarter of 1993, 1087 tariff-line items were filed under petition, while 1079 items were initiated officially by the AD authority of Mexico, the UPCI.

The appreciation of the peso increased the competitiveness of foreign-made products, and the resulted macroeconomic imbalance pushed the government to take action, such as contingent protection, in order to discourage imports. In fact, the Mexican government initiated eight AD investigations in the third quarter of 1993, covering 1068 tariff lines. In the same year, only nine tariff lines under AD investigation were initiated by private companies. This is supported by the WTO secretary reports on Mexico (WTO 2008), along with the empirical research of Francois and Niels (2004), Leidy (1997) and Knetter and Prusa (2003).

5.1.2 Independent Variables

Imbalance of payments Mexico's AD is significantly affected by the current account imbalance, exchange rate, and unemployment. Mexico experienced several economic crises; an important cause of which was its low foreign currency reserves and high dependence on foreign capital. For example, the 1994 currency crisis was the second largest currency crisis in Mexican history. The real exchange rate of the peso appreciated consecutively from 1988 to 1993, lowering the relative price of foreign products as well as the competitiveness of domestic products, causing the mushrooming of the current account deficit. In 1993, the current account deficit accounted for 5.8% of GDP, and continued to increase to 7% in 1994 (WTO 1998).

The peaking of Mexico's AD on China from 1992 to 1994 may be a great help to easing the pressure from the imbalance of payments. AD decreases imports, thereby cutting the outflow of foreign currency and easing the macroeconomic imbalance. We thus assume the peaking of Mexico's AD on China is associated with its macroeconomic imbalance. This means that the more trade imbalance Mexico has, the more likely it is to file AD. In the literature, two variables related to the imbalance of payments have been used: the total value of the imbalance of payments and the ratio of the current account imbalance to GDP. In order to test our hypothesis, we use the log value of the IB from stats.oecd.org. Further, we assume that the increases of IB tend to positively affect the tariff lines of Mexico's AD on China.

Import penetration ratio As the literature indicates, AD petition is likely to have a positive correlation with import penetration (Hansen and Prusa 1996; Moore 1992); similarly, in the U.S., an industry with low international competitiveness is more likely to succeed in petition (Baldwin and Steagall 1993).

From the macroeconomic perspective, a country that produces manufactured goods with stronger international competitiveness will see increasing exports and

decreasing imports. Then the export ratio will rise and the import penetration ratio (IP) will fall. The IP is an independent variable widely accepted as a cause of AD, and signifies the international competitiveness of a country. A country is likely to increase its IP if home made products become less competitive.

We adopt the IP as an independent variable, assuming Mexico is likely to increase AD on China when its IP increases, and vice versa:

$$IP = \frac{import}{GDP - (export - import)} \times 100 \tag{5.1}$$

Mexico highly emphasizes the development of the labor-intensive sectors for economic development, as well as maintaining employment in these sectors. As such, Mexico heavily investigates AD on China with regard to clothing, textile, and shoes. Probably due to the pressure from foreign imports, Mexico's textile and clothing industries keeps shrinking; Between the 1980s and 1990s, the average output decreased 1.8% annually.

Real exchange rate The real exchange rate of the peso appreciated consecutively from 1988 to 1993, which may have decreased the market competitiveness of Mexican made products. AD duties increase the price of foreign-made products, decreasing their demand, thus helping to increase the relative competitiveness of domestic made products. It is assumed Mexico is likely to increase its AD when the peso appreciates, and to decrease AD when it depreciates. We adopt the real exchange rate as an independent variable, despite the theoretical ambiguity of its effects.[3] In order to examine the fluctuations, we will also include the real exchange rate of RMB against the peso, since Mexico and China's exchange rates fluctuate according to the price of the U.S. dollar.

We assume that the higher the overvaluation of the peso, the more inflated its purchasing power. This will encourage the buying of foreign-made products. Therefore, more AD will be initiated to counteract the import surge.[4]

Unemployment and GDP growth The government may faces high pressure for trade protection from the private sector when the employment rate is low (Leidy 1997). Therefore, we include the unemployment rate (Unemployment) and GDP growth rate (GDP growth) as our independent variables.

The economic growth of Mexico was weak and the employment growth was frustrating after the world financial crisis in 2007. Real minimum wages throughout

[3]There are debates on whether the appreciation of a currency will increase the possibility of winning the petition in an injury investigation. In the U.S., AD and injury investigation are carried out by different government agencies, the USITC, and the U.S. Department of Commerce, and the methods of calculation (on domestic or foreign currency) differ by agency. This leads to controversial judgments because of the choice of currencies. In our case, as judgments of dumping and injury investigation in Mexico are both made by the UPCI, its methods of calculation are the same; and hence we do not have the problem that occurred in the U.S. case.

[4]The co-existence of USD/RMB and USD/MXN was tested; however, only USD/RMB has statistical significance with tariff lines/AD. USD/MXN does not have any statistical impact. Thus, we do not include it in our models.

2007 represented 30% of its 1980 level. In addition, most of the new jobs are non-permanent.

We thus follow Niels and Francois' (2006) approach and use the total manufacturing of Mexico as the competing variable in our model. We also replace GDP with GDP growth, which does not change the regression results substantially.

Administrative dummy 1 Administrative dummy indicates the impact from changes in administrative procedures or governmental structure. A subtle change in institution and legislative requirements for AD relief may have a significant impact on changes in AD complaints; obtaining new relief may increase the number of AD complaints. Such subtle change in institution and legislative requirements is captured by a dummy variable, marked as "0" before adoption and "1" after implementation.

Mexico's AD investigation against countries outside of GATT/WTO is more likely to have affirmative results, such as duties and undertaking, since non-WTO members are more vulnerable to the discretionary use of AD rules. The success rate of AD targeting non-WTO members, such as China, UKR, Brazil, and Russia, is much higher than those targeting WTO members (Niels and Kate 2004).

Such activities are less likely to be used by member countries, since the political cost against GATT/WTO members will inevitably increase, when compared with cases against non-members (Niels and Kate 2006). In other words, WTO membership is likely to discourage the use of discretionary AD, while non-WTO membership is likely to encourage its use.

Before 2001, Mexico had no WTO obligations with China, which left considerable room to the AD authorities for the discretion of trade protection; firms were encouraged to file more AD on China. After China's WTO entry in 2001, AD filing becomes more costly, since Mexico's AD laws must be in line with WTO/GATT rules.

There is some literature concerning the impact of WTO membership on the success rate of AD filing. However, we do not know if obtaining WTO membership will help an AD targeted country to decrease the AD filings or not, as no literature exists. In the following section, we will touch upon this issue by using the case of Mexico's AD on China before and after 2001.

If a country is not regarded as a market economy, the constructed price is automatically used. The chance of an affirmative dumping finding is increased, and this policy will not be changed by the U.S. and E.U., at least until 2016. We will only focus on the impact of China's WTO accession on Mexico's AD success rate.

Administrative dummy 2 In 1993, in order to prevent the threat of Chinese imports on domestic manufacturing industries, the Mexican government initiated 17 investigations against all items in five chapters, including textiles, yarn, and garments; footwear; toys; bicycles; hand tools; electronics; and chemicals. A number of cases were unjustified, by superficial injury examinations based on the "best information available," and without the participation of Chinese firms. At the time, Mexico had no WTO obligations with China who was not a member of the WTO.

Mexico was the last member to accept China's WTO accession and, according to China's WTO Accession Protocol, Mexico's condition of accepting China as a

member is that China must allow Mexico to remove all of its WTO-inconsistent AD measures by 2007 (Vázquez et al. 2008). We call this as the phasing period. We assume that such an agreement has an impact on Mexico's AD investigations on China, i.e., the end of the phasing period should discourage Mexico's AD on China. Therefore, we mark the observations after 2007 as "1" and the previous ones as "0." This is a novel contribution of our model that does not exist in the literature.

Tariff The import tariff implies the level of trade liberalization, and is very likely to have an impact on the magnitude of Mexico's AD on China. On the one hand, if the import tariff level is very high, the cost of buying Chinese products will increase, thus decreasing the competitiveness of products imported from China. Then, Mexico will decrease its AD on China, since the tariff protection itself would be sufficient to protect domestic manufacturers.

Table 5.1 Summary of variables (OECD 2015; World Bank 2015)

Variable	Mean	Middle	Standard deviation	Min	Max	Definition and source
Tarifflines	14.202	0.000	118.511	0.000	1079.000	Tariff lines under AD[a]
AD	0.573	0.000	1.517	0.000	12.000	AD initiated[a]
IP	1.021	1.017	0.040	0.934	1.147	Import penetration[b]
CA/GDP	−1.824	−1.490	1.531	−5.610	−0.220	Current account as percent of GDP[b]
USD/MXN	8.867	9.561	3.260	2.913	14.455	Nominal exchange rate of peso[b]
USD/RMB	7.567	8.277	1.036	5.222	8.702	Nominal exchange rate of RMB[b]
RMB/MXN	1.211	1.158	0.484	0.356	2.171	Nominal exchange rate of RMB[b]
GDPgwth	0.804	0.800	0.704	−0.300	1.800	GDP growth rate[b]
Unempl	3.780	3.600	1.108	2.200	7.000	Unemployment rate[b]
Tariff_IC	9.76	10.9	3.642	2.33	13.54	Import tariff of intermediate and capital goods
Tariff_C	18.12	18.44	4.350	9.59	23.99	Import tariff of consumer goods

The numbers of all observations are 84, expect GDP growth rate is 83. The outlier of the variables GDPg and CA/GDP is rounded off at $P > 90\%$, $P < 10\%$. IP is calculated based on the OECD database

a: the World Bank; b: OECD

On the other hand, the lowering of the import tariff on China due to its WTO accession, may encourage AD investigation initiation, as the substitution hypothesis implies that more openness causes more demand for AD laws (Hartigan 2015). Therefore, we take the tariff as a control variable. The import tariffs for different sectors are different. For the purpose of our research, we use the average of the tariffs for intermediate and capital goods. Table 5.1 is a summary of the variables, including their mean, middle value, standard deviation, minimum and maximum, and number of observations.

5.2 Econometric Model

Notice that the distribution of tariff lines under Mexico's AD per quarter is a count variable model.[5] Count variables are non-negative trials. Each trial (tariff line) is identical and independent of each other. Since the number of Mexico's accepted tariff lines under AD cases against China is very low and discrete, it does not follow the rules of ordinary least squares (OLS). In OLS, variables and residuals should have a bell-shaped distribution. The frequency distribution chart above shows our dependent variables violate the basic assumption of OLS. The count variables are highly skewed. In most years, the AD and tariff lines have zero counts; and in only a few years, they are very high (Statistical Consulting Group 2007). As a result, we can estimate the occurrence of a given count of tariff lines (y_t) within each AD case filed. So we introduce the Poisson distribution instead, as follows:

$$P(AD_t = y_t) = \exp(-\lambda_t)\frac{\lambda_t^{y_t}}{y_t!}, \quad \mathrm{y_t} = 0, 1, 2, 3\ldots \text{(Poisson distribution)} \tag{5.2}$$

According to the property of Poisson distribution, the mean value of dependent variable Y and variances of Y are identical, and equal to "$\boldsymbol{\lambda_t}$." This is interpreted as the average tariff lines under Mexico's AD on China in a quarter (tariff line filings), and can be written as:

$$E(Y|X) = Var(Y) = \lambda_t \tag{5.3}$$

If we set Y as conditional on a set of X values, i.e., let $X_t = (\mathrm{x}_1, \mathrm{x}_2, \mathrm{x}_3\ldots)$ be the explanatory variables, as we mentioned in the previous chapter, then our goal is to analyze the relationship between the average tariff line fillings $\boldsymbol{\lambda_t}$ and the explanatory variables X_t:

[5]"Count response models are a subset of discrete response regression models. Discrete models uncover the non-negative integer response. All count models aim to explain the number of occurrences or counts. The counts are intrinsically heteroskedastic, right skewed, and have a variance that increases as the mean of the distribution" (Hilbe 2011, p. 30).

$$(Y|X) = \lambda_t \sim P\{\exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \ldots)\} = P\{\exp(\beta X_t)\} \quad (5.4)$$

The distribution of y is conditional on a set of variable X_t.
Replacing λ_t with P{exp(βX$_t$)} in Eq. (5.1), we obtain:

$$P(AD_t = y_t) = \exp(-\exp(\beta X_t)\frac{\exp(y_t \beta X_t)}{y_t!}, \quad \mathrm{y_t} = 0, 1, 2, 3 \ldots \quad (5.5)$$

The relationships between independent and dependent variables are normally expressed as log Y in the Poisson model:

$$\log^{Y_t} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \ldots. \quad (5.6)$$

However, in our case, the dependent variable does not follow the Poisson distribution exactly, since the variance of tariff lines (52.33) is much larger than its mean (14.20). In this case, there is an over-dispersion in the error term. Therefore, we use the Negative Binomial model (NB) as our regression model instead. The difference of NB and Poisson models is that NB helps us to observe the over-dispersion of Y variables (Hilbe 2011):

$$E(Y|X) = var(Y|X) + \mu = \lambda_t + \mu = \exp(a + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \ldots) + \mu \quad (5.7)$$

When the hypothesized variables are substituted by the NB formula, we get:

$$var(Y|X) = \exp(a + \beta_1 CApGDP + \beta_2 Unempl + \beta_3 GDPg + \beta_4 IP + \beta_5 USD/RMB + \beta_6 USD/MXP) + \mu \quad (5.8)$$

Hypotheses We use Stata as our software for econometric regression. In addition to the existing literature, we add the following four new hypotheses:

- Hypothesis 1 Mexico's WTO-inconsistent AD measures on China before 2007 impacted Mexico's AD initiation.[6]
- Hypothesis 2 Mexico's AD peak on China from 1992 to 1995 was closely related to its macroeconomic imbalance. The Mexican tariff lines on China were impacted by the level of peso overvaluation, and by the IB, considering China is a major deficit contributor of Mexican IB.
- Hypothesis 3 The appreciation of RMB against the USD is another impact on the tariff lines of Mexico's AD; as RMB appreciates, the tariff lines may decrease due to the fact that Chinese made products become more expensive.

[6]According to the *Protocol of China's WTO Accession*, Mexico was the last country to accept China's membership, under the condition that Mexico could maintain its WTO-inconsistent AD measures against China until 2007. Since, if the previous AD measures were not removed, it will not be necessary for Mexico to initiate new AD investigation on the same product. We assume the *Protocol* impacts Mexico's AD initiation on China. Such an impact will be marked as dummy variable 1 for the years since 2008.

– Hypothesis 4 China's accession into the WTO will increase the political cost of Mexico's discretionary use of AD law, therefore, discouraging AD initiation on China. We assume that the ending of the phasing period of Mexico's WTO-inconsistent AD will also discourage Mexico's AD on China.

5.2.1 Model Selection

In this section, we test two different count data models, namely, the Negative binomial model and the Poisson model, with two different dependent variables, tariff lines and AD.

5.2.1.1 Choosing Between Tariff Lines and AD

As the Table 5.2 shows, the goodness of fit in the first two models is much better than that the last two models. We assume that tariff lines are affected by Mexico's commitment to opening its market to China, namely, to eliminating its WTO-inconsistent AD measures on China. In the meantime, the elimination of AD measures demonstrates to Mexican firms that WTO-inconsistent AD is no longer an effective competition strategy, and Mexico can no longer discriminate imports from China. In order to test this hypothesis, we introduce a dummy variable to control such administrative effects; we mark every AD before 2007 as "0," as it can randomly file AD investigation petitions against China, and mark "1" when Mexico starts to be cautious about China's ability in turning over petitions.

A strong relationship exists between the dummy variable and AD: both AD and tariff lines under AD are used as dependent variables. There are two possible explanations. First, after the world financial crisis in 2007, Mexico started to increase exports to China, as a substitute for the sluggish markets in the U.S. and E. U. In order to export to China, Mexico had to somehow decrease its AD on Chinese imports. Second, the Chinese currency, RMB, continues to appreciate. In addition, economic development has increased the wage and other production costs of many manufacturing firms in China, enabling Mexican firms to gain competitiveness over Chinese firms in the Mexican market.

As shown in Table 5.2, C1 comes from the traditional literature. The dependent variable is the initiation of Mexico's AD on China, and the goodness of fit is 0.076. In C2, we use tariff lines under AD as the new dependent variable (tariff lines is winsorized). Here the goodness of fit increases by 0.085 − 0.076 = 0.09 over C1. In the second two columns, we add another new independent variable, dummy2007. The goodness of fit increases significantly in C3 and C4 on top of C1 by 0.099 − 0.076 = 0.023 and 0.102-0.076 = 0.026, respectively. From C1 to C4, the

Table 5.2 Choosing between AD and tariff lines (OECD 2015)

	(1)	(2)	(3)	(4)	(5)
	AD_INI	INI_AIC	AD_INI	INI_AIC	INI_AIC
Main					
IP_real	−3.673*	−5.483**	−5.489**	−6.904***	−7.442***
	(−1.68)	(−2.17)	(−2.32)	(−2.73)	(−2.72)
Unempl	−0.588*	−0.989***	−0.362	−0.638*	−0.157
	(−1.73)	(−2.69)	(−1.01)	(−1.67)	(−0.40)
CApGDP	0.093	0.498	−0.091	0.217	−0.561**
	(0.36)	(1.54)	(−0.34)	(0.65)	(−2.53)
GDPg	−4.511	49.444*	−2.738	56.098*	67.806**
	(−0.30)	(1.72)	(−0.19)	(1.95)	(2.13)
MXNtUSD	−0.185	−0.360*	−0.015	−0.123	
	(−1.09)	(−1.70)	(−0.08)	(−0.53)	
RMBtUSD	−0.363	−0.606*	−0.676**	−0.943***	
	(−1.48)	(−1.90)	(−2.40)	(−2.84)	
dummy2007			−2.053**	−2.247**	−1.543
			(−2.02)	(−2.14)	(−1.48)
MXNtRMB					−0.205
					(−0.15)
_cons	14.210**	24.152***	18.182***	26.149***	15.657***
	(2.15)	(3.22)	(2.64)	(3.53)	(2.58)
Lnalpha					
_cons	0.320	1.053***	0.089	0.881***	1.277***
	(0.74)	(3.51)	(0.19)	(2.74)	(4.67)
N	83	83	83	83	83
Pseudo R2	0.076	0.085	0.099	0.102	0.0596

t statistics in parentheses, *$p < 0.1$, ***$p < 0.05$, and ***$p < 0.01$

nominal exchange rate is used. Further, in C5, the real exchange rate of the peso (MXN) against RMB is used as an alternative variable. As shown in C5, the real exchange rate of MXN does not have any impact on Mexico's AD.

5.2.1.2 Cyclical Impacts and Sectorial Discrimination

Next, we explain why Mexico's AD on China is discriminating between the intermediate and consumer goods. Considering that cheap imports from China help facilitate Mexico's export expansion and competitive strengthening in the foreign and home markets, some policy advice is given on the future development of Sino-Mexican economic cooperation.

Final consumer goods are much more likely to conclude higher AD duties or undertakings than are intermediate or capital goods, which suggests that the domestic manufacturers who need imported intermediate or capital goods as inputs for production have greater scope to oppose AD measures against import-competing interest groups. Therefore, we will check how macroeconomic situations impact different sectors, namely capital, intermediate, and consumer goods. In order to check the industrial-level data on AD, we use a new set of dependent variables. They are all tariff lines from Mexico's AD, covering capital, intermediate, and consumer goods (INI_AIC); tariff lines of intermediate and capital sectors (INI_IC); and tariff lines of consumer goods (INI_C) (Fig. 5.4).

The independent variables include exchange rates, the level of the peso's nominal exchange rate over-valuation, manufacturing production, IB, consumption growth rate (Consump_AIC, Consump_IC, and Consump_C), and import tariff rate (tariff_AIC, tariff_IC, and tariff_C) of different sectors, such as capital, intermediate, and final consumer goods. The administrative variables include dummy2001 and dummy2007, which respectively measures China's WTO accession and the ending of the phasing period for Mexico to eliminate its WTO-inconsistent AD measures on China. Table 5.3 summarizes these variables.

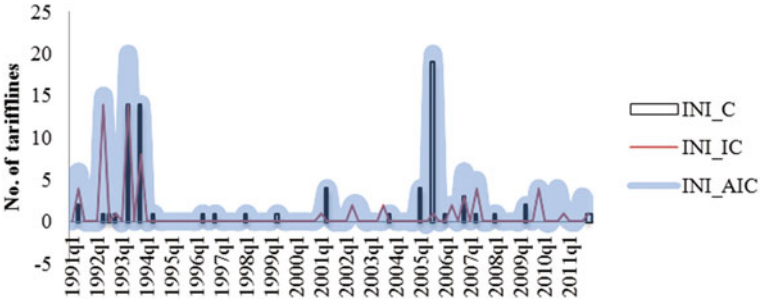

Fig. 5.4 Tariff lines of different sectors (World Bank 2015)

Table 5.3 New independent variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
log_IB	84	19.271	3.426	14.835	26.494
tariff_AIC	84	12.54	3.766	4.750	17.000
tariff_IC	84	9.765	3.641	2.330	13.540
tariff_C	84	18.118	4.350	9.590	23.990
ConsumpG_avg	84	3.982	1.608	−1.026	6.348
ConsumpG_i∼l	84	5.223	2.078	1.605	7.599
ConsumpG_p∼e	84	6.001	2.361	1.903	8.7529

Table 5.4 Macroeconomic impacts on tariff lines in all sectors

	(1)	(2)	(3)	(4)	(5)	(6)
	INI_AIC	INI_AIC	INI_AIC	INI_AIC	INI_AIC	INI_AIC
IP_real	−15.082***	−7.996**	−5.758***	−3.053	−14.348***	−13.321***
	(−3.51)	(−2.34)	(−2.84)	(−1.05)	(−3.01)	(−2.77)
RMBtUSD	−1.408***		−0.962***	−1.093***		
	(−4.24)		(−3.96)	(−4.21)		
ConsumpG_avg	2.087***	1.130*			1.666***	1.324**
	(3.72)	(1.95)			(2.77)	(2.31)
log_IB	−1.549***				−0.948*	−0.676
	(−3.93)				(−1.76)	(−1.29)
log_GDP		−18.832**			−14.549*	−13.641
		(−2.52)			(−1.81)	(−1.61)
dummy2007			−2.728***	−2.480***		
			(−2.90)	(−2.60)		
dummy2001				1.215		
				(1.32)		
winproduc					−0.445*	
					(−1.83)	
tariff_AIC					−0.182	−0.039
					(−0.92)	(−0.20)
_cons	64.981***	276.227**	20.511***	14.796**	248.962**	228.119**
	(4.04)	(2.55)	(3.64)	(2.08)	(2.28)	(2.00)
lnalpha						
_cons	0.944***	1.497***	1.198***	1.165***	1.330***	1.429***
	(3.12)	(5.73)	(4.13)	(4.04)	(4.90)	(5.39)
N	84	84	84	84	84	84
r2_p	0.106	0.030	0.065	0.073	0.053	0.040

t statistics are in parentheses, *$p < 0.1$, **$p < 0.05$, and ***$p < 0.01$

5.3 AD Impacts on Overall Industries

First, we focus on all sectors. INI_AIC[7] stands for the total number of tariff lines, including capital, intermediate, and consumer goods. New variables are added to Table 5.4, namely, the average import tariff of intermediate, capital, and consumer products (tariff_AIC), as well as the average increasing speed of consumption in private, public, and government sectors (Consump_gro_avg).

USD/RMB has a consistent impact on tariff lines; for every point increase in the RMB exchange rate (USD/RMB), Mexico is expected to increase its tariff lines on China by exp(0.949–1.357) = 2.58–3.88 points.

[7]Note that the total tariff lines (INI_AIC), i.e., those of capital, intermediate, and consumer goods, have been winsorized.

The robustness of the administrative variable, dummy2007, is fairly good, which indicates that tariff lines after 2007 is exp(2.728–2.48) = 11.94–15.3 lower than before 2007. This proves our hypothesis that the ending of the phasing period discourages Mexico's AD on China, implying Mexico was unable to use discretionary AD measures on China after 2007.

Another administrative variable 2001 stands for the change on tariff lines after China became a member of the WTO in 2001. We do not find robust statistical evidence for its impact, which indicates the phasing period played an important role–Mexico only significantly decreases its AD investigation initiation on China after the ending of the phasing period. This finding adds new insight to the existing research on how AD changes when a country acquires WTO membership, such as Francois and Niels (2004), Niels and Francois (2006), since they find that members outside of WTO are more likely to be targeted by Mexico. We complement their findings by identifying the effects of the phasing period.

Considering that China contributes 70% of IB to Mexico, we can say with confidence that for every point increase in the imbalance of trade in Mexico, tariff lines on China will increase by exp(0.948–1.549) = 2.58–4.7 points. As Mexico's consumption share in GDP increases, it is likely to increase tariff lines on China by exp(1.13–2.87) = 3.1–17.64 points. This influential variable confirms the fact that Mexico initiates AD investigation on China when its domestic consumption surges.

Production in the manufacturing sectors negatively influences the tariff lines, and is statistically significant. For every point decrease in manufacturing, Mexico is expected to increase tariff lines on China by exp(0.445) = 1.56 points.

5.3.1 AD Impacts on Intermediates and Capital Goods

In Table 5.5, we use the tariff lines of intermediate and capital goods under AD as the independent variable, instead of those of all sectors.

$$var(Y|X) = \exp(a + \beta_1 tariff\_IC + \beta_3 IP + + \beta_3 USD/RMB + \beta_4 dummy2007) + \mu) \tag{5.9}$$

We separate the tariff lines under Mexico's AD by sectors: intermediate, capital, and consumer goods, and we combine intermediate and capital goods into a single independent variable. There are two reasons for this. First, as Table 5.5 shows, the capital products are under AD in only four periods, in 1993 q2, 2006 q3, 2007 q1, and 2009 q3. It would be inappropriate if we only used these four observations to create a regression model. Second, intermediate and capital goods are similar in nature. AD initiations on final consumer goods are more likely to be targeted during economic downturn, because those on intermediate and capital goods will increase the cost of production, and are always opposed by the domestic non-competing

Table 5.5 Macroeconomic impacts on intermediate and capital goods

	C1	C2	C3	C4	C5	C6	C7
	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC
USD/RMB	−3.382***	−3.373***	−4.285***	−3.339***	−3.795***	−3.726***	−2.95***
	−3.52	(−4.22)	(−3.51)	(−5.41)	(−3.48)	(−3.58)	(−5.48)
IP_real	−30.4***	−28.692***	−28.420***	−35.471***	−30.877***	−30.448***	−29.214***
	−3.56	(−3.34)	(−3.46)	(−3.54)	(−3.40)	(−3.60)	(−3.47)
tariff_IC	1.331***	1.461***	1.541***	1.137***	1.369***	1.399***	1.135***
	−2.02	−2.67	−3.44	−3.22	−3.24	−3.22	−3.15
dummy2007	−3.121***	−3.423**	−4.035**	−3.338*	−3.315**	−3.351**	−3.000**
	−2.02	(−2.04)	(−2.12)	(−1.93)	(−2.06)	(−2.12)	(−1.96)
USD/MXN	0.179						
	0.48						
log_IB		0.431					
		−0.65					
log_GDP			15.316				
			−1.23				
unempl				−1.394			
				(−1.22)			
dummy2001					2.511		
					−0.92		
Consump_private						0.47	
						−0.84	
produc							−0.365
							(−0.89)

(continued)

Table 5.5 (continued)

	C1	C2	C3	C4	C5	C6	C7
	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC	INI_IC
_cons	76.48779***	64.576***	−135.751	95.547***	79.960***	77.124***	74.317***
	4.1	−2.66	(−0.79)	−3.66	−3.83	−4.13	−4.01
lnalpha							
_cons	1.835***	1.830***	1.783***	1.759***	1.821***	1.821***	1.833***
	−5.16	−5.66	−5.53	−5.35	−5.65	−5.64	−5.65
N	84	84	84	84	84	84	84
Pseudo R2	0.1996	0.2007	0.2087	0.2067	0.2039	0.2025	0.1986
AIC	169.8545	169.6239	168.0751	168.4594	169.0156	169.2884	170.0483
BIC	186.8703	186.6396	185.0908	185.4751	186.0313	186.3042	187.064

Note t statistics are in parentheses, *$p < 0.1$, **$p < 0.05$, and ***$p < 0.01$

manufacturers. And it is argued that manufacturers are more organized and have more lobbying power than consumers.

The variables show slightly different impacts on intermediate and capital goods. Tariff_IC stands for the average Mexican tariff on Chinese intermediate and capital goods. The regression model shows that it is statistically correlated with the tariff lines of intermediate and capital goods. For every point increase of the tariff, tariff lines under AD is expected to increase by exp(1.1137–1.541) = 3.117–4.664 points.

In the new model, the impact of dummy2007 is exp(2.983–4.035) = 19.74–56.54, which is much higher than that of the previous model (0.19–0.07), which indicates that the ending of the phasing period has a significant impact on intermediate and capital goods. Tariff lines under Mexico's AD on such items tend to decrease 19–56 after 2007. Economic cyclical factors, such as manufacturing production, IB, unemployment, and private consumption growth, all have no impact on tariff lines. The fact that the increased AD in Mexico is attributed to the surge in spending is confirmed, particularly in the economic crisis during and after 1993.

5.3.2 AD Impacts on Consumer Goods

In Table 5.6, tariff lines under Mexico's AD on consumer goods are used, instead of intermediate and capital products, as the dependent variable. This new approach shows distinguished differences.

The individual consumption share in GDP shows statistical significance with the tariff lines, further confirming the previous hypothesis that individual consumption growth is the major contributor of increasing tariff lines. For every point increase in individual consumption, tariff lines is expected to increase by exp(1.924–2.151) = (6.849–8.593).

IB has a statistically significant impact on the tariff lines of consumer goods. For every point increase in Mexico's IB, tariff lines is expected to increase by exp (2.101–2.223) = 8.174–9.235 points. Moreover, the RMB exchange rate has an impact on tariff lines: For every increase in the RMB exchange rate, tariff lines is expected to decrease by exp(1.241–1.983) = 3.459–7.265 points.

The production of consumer goods has a negative impact on tariff lines. For every point decrease, tariff lines on consumer goods under AD is expected to increase by exp(0.663) = 0.5 point. The function for consumer goods can be summarized as:

$$var(Y|X) = \exp\left(a + \beta_1 tariff_C + \beta_2 IP + + \frac{\beta_3 USD}{RMB} + \beta_4 dummy2007 + \beta_5 log\_IB + \beta_6 Consump\_indiv\right) + \mu. \tag{5.10}$$

Table 5.6 Macroeconomic impacts on consumer goods

	(1)	(2)	(3)	(4)	(5)
	INI_C	INI_C	INI_C	INI_C	INI_C
INI_C					
USD/RMB	−1.983***	−1.946***	−1.827***	−1.342***	−1.631**
	(−3.99)	(−3.76)	(−3.02)	(−3.18)	(−2.57)
dummy2007	−3.152*	−3.047*	−3.155*	−4.122**	−2.989*
	(−1.95)	(−1.82)	(−1.95)	(−2.53)	(−1.82)
tariff_C	−0.297	−0.3138	−0.323	−0.048	−0.395*
	(−1.46)	(−1.46)	(−1.54)	(−0.33)	(−1.79)
log_IB	−2.223**	−2.210**	−2.136**	0.635	−2.101*
	(−2.12)	(−2.09)	(−2.01)	−1.62	(−1.94)
Consump_individual	2.151**	2.064*	2.035*		1.924*
	−1.99	(1.81)	−1.83		−1.7
IP_real	−17.564***	−16.702**	−16.707**		
	(−2.67)	(−2.21)	(−2.45)		
dummy2001		0.460			
		(0.25)			
produc			−0.143		−0.127
			(−0.46)		(−0.42)
RMBtMXN				−3.218	
				(−1.18)	
unempl					−0.463
					(−0.91)
_cons	90.701***	88.760***	87.126***	3.175	88.917***
	−2.87	2.7	−2.68	−0.49	−2.68
lnalpha					
_cons	1.577***	1.581***	1.560***	1.864***	1.530***
	−4.74	−4.74	−4.63	−6.28	−4.52
N	84	84	84	84	84
Pseudo R2	0.1406	0.1409	0.1416	0.111	0.1458
AIC	184.729	186.667	186.516	188.53	187.70
BIC	204.175	208.544	208.393	205.54	212.008

t statistics are in parentheses, *$p < 0.1$, **$p < 0.05$, and ***$p < 0.01$

5.4 Summary of Macroeconomic Impacts on AD

Let us make a brief summary of this chapter. We have found that consumer goods are more likely to be targeted as dumping, under macroeconomic instability such as currency overvaluation, trade imbalance and decreasing domestic production. We also find evidence that AD initiations on intermediate or capital goods are more likely to be opposed by domestic manufacturers who need imported intermediate or

capital goods as inputs for their production. They are in a different group, who have greater scope to oppose AD measures against import-competing interest groups, as AD on intermediate goods is likely to increase the potential cost of the domestic non-import-competing sectors. Second, since firms that produce final consumption goods are more concentrated and tend to have higher lobbying power than consumers, the interest groups of the manufacturers outweigh those of the consumers.

In Table 5.7, the exponentiated coefficients (iteration rate ratio) and P-value of the dependent variables are compared by sector. Their characteristics can be stated as follows. The appreciation of the RMB is helpful in lowering trade tension between China and Mexico. Moreover, the impact of RMB appreciation in decreasing the AD initiations in consumer goods is 10 times as much as that in intermediate and capital products. This implies that Mexico is gaining competitiveness more rapidly in import-competing manufacturing sectors that produce consumer products than in non-import-competing sectors that produce intermediate and capital products.

Table 5.7 Summary of macroeconomic impacts on different sectors

		USD/RMB	IB	Consumption growth	Tariff
INI_AIC	exp_coef. (irr)	2.58–3.88***	2.58–4.7***	3.1–17.64***	0.834
	P > |z|	(−3.96 to 4.24)	(−1.29 to 3.93)	(−1.95–3.72)	(−0.92)
INI_IC	exp_coef. (irr)	0.0138–0.0502***	1.539	1.6	3.117–4.664***
	P > |z|	(−4.285)	(−0.65)	(0.84)	(2.67–3.44)
INI_C	exp_coef. (irr)	0.289–1.983***	0.108–0.122***	6.84–8.59***	0.673***
	P > |z|	(−3.99 to −1.241)	(−1.94 to −2.12)	(1.924–2.151)	(−1.04 to −1.79)
		dummy2007	manufac produc	IP	
INI_AIC	exp_coef. (irr)	11.94–15.3***	0.64*	0.005–2.81***	
	P > |z|	(−2.6 to −2.9)	(−1.83)	(−1.05 to −3.18)	
INI_IC	exp_coef. (irr)	0.017–0.056***	1.44	3.937–4.543***	
	P > |z|	(−1.96 to −2.12)	(−0.89)	(−3.6 to −3.34)	
INI_C	exp_coef. (irr)	0.016–0.05***	0.515**	2.355–5.55***	
	P > |z|	(−1.82 to −2.53)	(−1.89)	(2.42–2.67)	

Economic cyclical factors, such as IB and consumption growth, do not have any clear impact on intermediate and capital goods; however, they have significant impacts on consumer goods. Furthermore, total manufacturing production is statistically significant with only tariff lines on consumer goods, rather than on intermediate and capital goods, indicating that the market share decline in domestic consumer goods is more likely to cause AD.

The results confirm that Mexico's AD policies on China are targeted at import surges of consumption goods, in order to reverse the imbalance of payment.

References

Aggarwal, A. (2004). Macroeconomic determinants of antidumping: A comparative analysis of developed and developing countries. *World Development, 32*(6), 1043–1057.

Baldwin, R. E., & Steagall, J. W. (1993). *An analysis of factors influencing ITC decisions in antidumping, countervailing duty and safeguard cases*. *NBER Working Paper*.

Bergsten, C. F., & Williamson, J. (1983). Exchange rates and trade policy. In W. R. Cline (Ed.), *Trade policy in the 1980s*. Washington, DC: Institute for International Economics.

Bown, C. P. (2010). China's WTO entry: Antidumping, safeguards, and dispute settlement (pp. 281–337). National Bureau of Economic Research, Inc.

Feinberg, R. M. (1989). Exchange rates and "unfair trade". *Review of Economics and Statistics, 71*(4), 704–707.

Francois, J. F., & Niels, G. (2004). Political influence in a new anti-dumping regime: Evidence from Mexico. Netherlands: Tinbergen Institute.

Hansen, W. L., & Prusa, T. J. (1996). The economics and politics of trade policy: An empirical analysis of ITC decision making. *Review of International Economics, 5*(2), 230–245.

Hartigan, J. C. (2015). What explains the proliferation of antidumping laws? *Global Economy Journal, 23*(1), 94–138.

Hilbe, J. M. (2011). *Negative binomial regression*, 2nd ed. Cambridge University Press, Cambridge.

Irwin, D. A., & Douglas, A. (2005). The rise of us anti-dumping activity in historical perspective. *World Economy, 5*(31), 651–668.

Knetter, M. M., & Prusa, T. J. (2003). Macroeconomic factors and antidumping filings: Evidence from four countries. *Journal of International Economics, 61*(1), 1–17.

Leidy, M. P. (1997). Macroeconomic conditions and pressures for protection under antidumping and countervailing duty laws: Empirical evidence from the United States. *IMF Staff Papers, 44*(1), 132–144.

Moore, M. O. (1992). Rules or politics? An empirical analysis of ITC anti-dumping decisions. *Economic Inquiry, 30*(3), 449–466.

Niels, G., & Francois, J. (2006). Business cycles, the exchange rate, and demand for antidumping protection in Mexico. *Review of Development Economics, 10*(3), 388–399.

Niels, G., & Kate, A. T. (2004). Anti-dumping protection in a liberalizing country: Mexico's anti-dumping policy and practice. *World Economy, 27*(7), 967–983. doi:10.1111/j.1467-9701.2004.00637.x.

Niels, G., & Kate, A. T. (2006). Antidumping policy in developing countries: Safety valve or obstacle to free trade? *European Journal of Political Economy, 22*(3), 618–638.

OECD. (2015). StatExtracts. http://stats.oecd.org. Accessed October 2016.

Olson, M. (1983). The political economy of comparative growth rates. In D. C. Mueller (Ed.), *The political economy of growth*. New Haven: Yale University Press.

Statistical Consulting Group. (2007). Regression Models with Count Data. UCLA Academic Technology. http://www.ats.ucla.edu/stat/stata/seminars/count_presentation/count.htm. Accessed 20 May 2015.

Vázquez, A. B., López-Portillo, H., Bravo, V. V. (2008). Anti-dumping duty agreement marks new dawn for trade with China. International Law Office Newsletter. Global Business Publishing Ltd. http://www.internationallawoffice.com/Newsletters/International-Trade/Mexico/Vzquez-Tercero-y-Asociados/Anti-dumping-duty-agreement-marks-new-dawn-for-trade-with-China

WTO. (1998). Trade policy review Mexico: Report by the secretariat, World Trade Organization.

WTO. (2008). Trade policy review Mexico: Report by the secretariat, World Trade Organization.

World Bank. (2015). Global Antidumping Database. http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTTRADERESEARCH/0,,contentMDK:22571408~pagePK:64168182~piPK:64168060~theSitePK:544849,00.html. Accessed 26 October 2016.

Chapter 6
Opportunities for Future Economic Cooperation

Abstract In this chapter, we try to present potential opportunities for economic cooperation between China and the LACs, and Mexico in particular. We first illustrate the conditions for economic cooperation. Such conditions include but not limited to the recent enhancing of mutual trust between the Chinese and Mexican governments, the different positions of the manufacturing sectors on the global value chain, and China's economic structure reform in recent years. Later, we present the opportunities for cooperation in each sector, such as transportation, telecommunications, petroleum, construction of infrastructure and cooperation in intermediates sectors.

Keywords Opportunities · Economic cooperation · Sino-Mexican

6.1 Conditions for Cooperation

6.1.1 Strengthening Mutual Understanding

President Xi Jinping visited Mexico in April 2013. Since then, the diplomatic relations of the two countries have been promoted from a bilateral strategic partnership to a comprehensive strategic partnership. The strategic partnership was established between China and Mexico in 2003 and, during the last 10 years, the bilateral political mutual trust has been strengthened (see Table 6.1 and Fig. 6.1).

According to the data from the Department of Foreign Affairs of China, presidential visits from both countries have become more and more frequent, especially during the last 10 years. As Fig. 6.1 shows, the presidential visits from both countries have been intensive since the end of the 20th century.

Xi Jinping's visit to LAC countries, including Argentina, Brazil, Cuba, and Venezuela in the summer of 2014, led to fifty-six agreements between China and Brazil in infrastructure construction projects and in transportation and energy such as railway and electricity transmission. A massive transportation project was issued to create a railway all the way through Brazilian Atlantic coast and Peruvian Pacific

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Table 6.1 Presidential and premier visits between China and Mexico

Year	Presidential and Premier visits	Directions
1973	President Luis Echeverría Álvarez	from Mexico to China
1978	President José López Portillo	from Mexico to China
1981	Premier Zhao Ziyang	from China to Mexico
1986	President Miguel de la Madrid Hurtado	from Mexico to China
1990	President Yang Shangkun	from China to Mexico
1993	President Carlos Salinas de Gortari	from Mexico to China
1996	President Ernesto Zedillo	from Mexico to China
1997	President Jiang Zemin	from China to Mexico
2001	President Vicente Fox	from Mexico to China
2002	President Jiang Zemin	from China to Mexico
2003	Premier Wen Jiabao	from China to Mexico
2005	President Hu Jintao	from China to Mexico
2008	President Felipe Calderón	from Mexico to China
2012	President Hu Jintao	from China to Mexico
2013	President Xi Jinping	from China to Mexico
2013	President Enrique Peña Nieto	from Mexico to China
2014	President Enrique Peña Nieto	from Mexico to China

Source Collected by authors from various websites

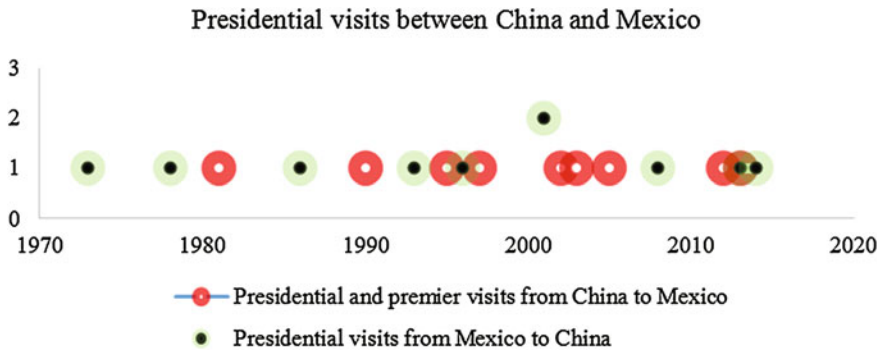

Fig. 6.1 Presidential visits between China and Mexico. *Source* Collected by authors from various websites

coast involving Peru, Venezuela, Brazil and Argentina. Such projects will greatly increase the transportation capability of the Brazilian Atlantic coast and Peruvian Pacific coast and strengthening the economic integration of LACs.

Due to the negative impacts from the 2008 financial crisis, Mexico decreased its exports to the U.S. and the E.U., both of its major foreign markets. Moreover, Mexico's economic development has been slow during the last five years. During Xi's visit, President Enrique Peña Nieto repeatedly proposed that the government

needs to vigorously develop its infrastructure and to develop the overall economy, in order to create more employment opportunities. According to reports, the government intends to introduce Chinese funds into the construction of infrastructure and carry out bilateral technical cooperation. As a matter of fact, there are many other sectors in which China and Mexico can cooperate, such as oil refinery, agriculture and tourism.

6.1.2 Different Rules in Global Value Chain

Mexico along with other Central American countries is specialized in the sectors of Yarn, textile and garments (YTG) value-chain and is lacking in manufacturing and design abilities within these sectors, which are supplied by imports from China and the Philippines. Large volumes of imports indicate the weak points of Central American countries and Mexico's garments industry when compared with its rivals in Asia. The competition in the Central America region and Mexico may be enhanced by the signing of The Central American Free Trade Agreement (CAFTA).

In order to export to the U.S., a group of companies from China have set up businesses mostly in the maquiladoras area in Mexico. It signals the strengthening of the bilateral partnership between China and Mexico, and also will help strengthen the engagement of Mexico, in particular within the YTG value chain.

By March of 2005, Chinese FDI in Mexico reached up to 74 million dollars with investments from 339 companies. Additionally, 52.7% of China's FDI was positioned in manufacturing sector from 1999–2005. Among all Chinese FDI, investment in the garments industry is the primary area with the share of 23.2%. 76 firms are specialized in manufacturing; 21 companies are professional in garment making and the rest are trading companies with expertise. This trend enables new activities with Chinese companies in Mexico. Several dozens of Chinese firms were employing around 4000 workers (Hynds et al. 2005).

The above facts match our research results in the previous Chapter, which statistically shows that there is a decreasing trend in Mexico's AD initiations on China during RMB appreciation. China is shifting from being a competitor to relative cooperation with Mexico.

6.1.2.1 China's Economic Reform: Potential Opportunity for Mexico

Mexico is the biggest country in Latin America, and is an important emerging market among developing countries. China is a permanent member of the United Nations Security Council, and in addition, it is the largest developing country. Mexico and China are both members of important international organizations and mechanisms, such as the Asia-Pacific Economic Cooperation and the Group of Twenty. This section will analyze the impact of China on Mexico, especially when the cost of production is increasing rapidly in China.

China is conducting a new type of economic reform, changing from extensive development into quality upgrading, or intensive development. Before 2010, extensive development has caused the depletion of natural resources, mostly energy and minerals, resulting in the deterioration of the environment, which poses serious threats to sustainable economic development. The new reform focuses on the supply side, which aims to clean up zombie enterprises and eliminate production overcapacity. The national strategy is to lock innovation and create new economic growth.

Furthermore, China is losing its competitiveness in the labor-intensive sectors, due to an aging population, increasing living standards, worsening environment, and over-production and capacity. In addition, because of its One-Child Policy throughout the past 35 years, China has come to the end of the so-called "demographic dividends."

As a result, China is under pressure of giving up its position as the "world factory," particularly in the labor-intensive sectors, and MNCs are searching for alternative locations for production. Moreover, it is simultaneously facing several challenges. The challenges, such as pollution and over-production, have been pushing China to give up its previous economic development style and to adopt intensive economic reform.

China's attractiveness as the destination of labor-intensive FDI is decreasing. Evidence shows that since 2006, textiles, shoes, and leather manufacturers have been leaving China. In 2013, Adidas revoked all of its factories in China besides one plant in Fujian province. Labor-intensive sectors are losing competitiveness for a couple of reasons. The first is stricter air pollution governance and increased worker protection regulations in China; the country is dealing with air pollution because of the over-capacity of production in many environmentally unfriendly sectors, such as those involving chemicals and steel. The second is the increasing production costs due to the exhaustion of the demographic dividend and increasing wages. China's annual average labor costs surpassed that of Mexico in 2014. However, China is still competitive in many manufacturing sectors, especially in infrastructures such as land transportation and harbor. In addition, China enjoys the advantages of industry clusters and production networks in Asia. The RMB has been appreciating against the USD from 2004 to 2015; meanwhile, the Mexican peso has been depreciating against the USD. Currency appreciation decreases the competitiveness of Chinese made products and decreases China's exports.

In addition, Chinese imports from Mexico are increasing very fast. According to Chinese customs statistics, Mexico's exports to China amounted to $21.91 billion U.S. dollars in 2011 compared with 8.535 billion 10 years ago. Meanwhile, Mexico's import from China increased only 34.6%. The increasing speed of exports surpassed that of imports for the first time in 40 years.

Finally, increasing production costs in China triggered multinationals to relocate elsewhere, including Latin America. In particular, Mexico has the advantages of geographical nearness to the U.S. market and low in labor costs. Thus, it is a major FDI destination and has the strongest manufacturing sectors in Latin America.

6.2 Opportunities for Cooperation in Different Sectors

6.2.1 Trade in Intermediates

China's exports to Mexico are mainly intermediate and capital products, among which electronic products tend to be essential, particularly telecommunications products and its components. In 2010, China exported 12.8 billion mechanical and electrical products to Mexico, accounting for 71.6% of the total exports. China also exported 1.79 billion USD in light industrial products and 1.32 billion USD in textiles and clothing to Mexico, accounting for 10 and 7.4% of the total exports, respectively. Although Mexico has a large deficit in bilateral trade relations with China, it imports a lot of mechanical and electronic products, computers and television parts, automobile parts, and electronic instruments from China, which are assembled in Mexico and exported to the U.S. market. Thus, Chinese imports are not pure competition for Mexico, rather they create a win-win partnership, as they improve the production and processing ability, expanding exports to the U.S. and other countries. As such, Mexico's trade deficit with China mainly comes from intermediate goods, which Mexico uses to gain trade surplus from the U.S. on the global production chain.

At present, Mexico's exports to China are mainly food and beverages, textiles, and small amounts of minerals. However, many other products have strong competitiveness internationally, for example, Mexico's precision instruments, laboratory equipment, and related accessories, can be exported to the Chinese market. In addition, Mexico has an advanced level of agricultural biotechnology, especially high-protein food crops and biotechnological industrial raw materials, such as corn and pharmaceutical raw materials, which can expand exports to China. Mexico is a major oil producer and exporter in Latin America, and its main oil export market is the U.S., which can be extended to the Chinese market.

6.2.2 Sectoral Cooperation

There are opportunities for cooperation in different sectors, including agriculture, petroleum, infrastructure, telecom and so on. Mexico has a lack of funding for developing its infrastructures. For example, the metro was built in 1969 and is in dire need for renovation.

Agricultural sector Mexico is rich in agricultural resources, while the Chinese market demand for agricultural products is very large. China is the largest food consumer and grain importer in the world. An important method to solve the trade imbalance problem is to increase agricultural imports from Mexico. For example, China consumes a great deal of seafood such as tuna fish, most of which China imports from the U.S. But in fact, U.S. companies import them from Mexico at very

cheap prices, then re-export them to China. In Mexico where they are labeled, local fishermen earn little profit, and such exports are not recorded Mexican.

Mexico could also attract more Chinese investment in agriculture, such as meat processing, since China is the largest pork consumer in the world. In addition, Mexico exports most of its swine to the U.S. for processing and re-exports pork back to Mexico. If Chinese pork processing companies can locate in Mexico, both countries will gain tremendously.

Petroleum As one of the three largest oil exporters in the world among non-OPEC countries, Mexico's oil export capacity is still inadequate. It exports a significant amount of crude oil due to a lack of refinery processing capability. As such, the petroleum industry has not been able to play a significant role in Sino-Mexican foreign trade relations. Therefore, an effective means to reduce the Sino-Mexican trade deficit is to strengthen cooperation in petroleum processing.

Mexico's oil drilling is monopolized by the government. However, its production is completely open to foreign companies, including both oil-refining and petrochemicals. Thus, Chinese firms can conduct oil refining and petrochemical investment cooperation in Mexico, especially after Pena Nieto's government says it would allow greater national and international investment in its oil sector. Pemex (*Petróleos Mexicanos*) signed its first contract with China, approving to deliver 30,000 barrels of oil every day to Sinopec, a Chinese SOE. China imports 75% of its oil consumption. Securing the supply of oil and other resources is essential to sustain development.

Transportation Although Mexico is the eleventh most densely populated nation and the fourteenth biggest market on the planet, Mexico presents an underdeveloped transportation system with regards to expansion, quality and efficiency. In 2014, the World Economic Forum rated Mexico 69th in the quality of transportation infrastructure, though it is ahead of the other big countries in Latin America. Although road is the primary transportation mode in Mexico, accounting for over 55% of shipment and 96% of passenger mobility in 2014, only 40% of the country's road network was paved by the end of 2014. Railway and maritime transportation are mostly used for domestic transportation, and the relatively expensive air transport accounts for less than 2% of overall transportation. These transport and infrastructure inadequacies are significant obstacles towards the industrial progress and its competitiveness.

Building a more balanced combination of the transportation system, out of the current system that is highly skewed in the direction of road transportation, will be the finest chance for Mexico to boost its competitiveness and assist overall economic development. The National Development Plan (*Plan Nacional de Desarrollo*) suggests investments of MXN 7750 billion over the period 2014–2018, of which MXN 1320 billion is going to be invested in transportation and communications infrastructure, aiming to deal with major structural challenges of this sector—the saturation of airports, the shortage of ports and the obsolescence associated with the railway system which has not been noticeably expanded during the past six decades.

Construction of infrastructure Although Mexico is an oil producing country, its oil-refining capacity is insufficient. Over the last 25 years, the government's investment in oil refining has stagnated. Mexico not only needs to build new oil refineries, but also transform and update existing oil refineries with new equipment, to make the production more modern and control environmental pollution.

According to the 2016 budget, the Mexican Public Construction Bank will invest 3.12 billion pesos in the construction of infrastructure related to special economic zones (SEZs), including upgraded highways and railways, as well as the construction of ports. Different from Chinese SEZs, Mexico's strategy is to improve the underdeveloped regions with SEZs. In this year's Government Work Report, Mexico's President Pena points out that an important problem is its unbalanced development. There is a big gap in income levels, the growth index, and social livelihood of the people between the northern, central, and southern states. SEZs are very effective for such development in many countries, and such a policy gives a great opportunity for the southern states.

To establish an SEZ, infrastructure upgrades must be the first step. Mexico's plans for SEZs in less developed areas, involving the states of Oaxaca, Chiapas, Veracruz, Michoacán, and Guerrero. During the last 14 years, the foreign investment attracted by these regions accounts for only 0.5% of the whole country. Although these coastal ports have advantages in geographical position, their infrastructure is weak, leaving the capability of harbors unused. The building of SEZs can speed up the modernization of infrastructure, releasing the potential capability of ports for regional logistics, and more importantly, attracting FDI and creating jobs.

China's SEZs were established along the eastern coastal regions in the 1980s, and played an important role in attracting domestic and foreign investment. They provided a number of incentives, such as in increasing exports, creating jobs and promoting economic growth. Such a development model needs the support of the geographical location factor. These ports promoted logistics integration to form business hubs in the SEZs, gradually connecting surrounding areas, and over time, reaching the inland regions.

Mexico's SEZs will encourage and facilitate these regions to attract more investment, and will have a positive impact on the diversification of economic growth in these areas. China can help Mexico in building infrastructure for several reasons: it has experience and skills in working on large-scale projects; it is bothered by over-capacity in the production of construction materials, such as steel and cement; it also has about 4 trillion USD foreign reserve by 2015, which enables it to provide long-term loans for infrastructure development.

Finally, the Mexican government is about to reform the telecommunications industry, in order to break down monopoly and strengthen competition. China's telecommunications industry has advanced technology and produces a range of products. Cooperation in this area should be a win-win strategy.

6.3 Summary of the Book

This book provides a new perspective to reviewing the trade deficit between China and Mexico. A main finding of our research is that there exist different attitudes by Mexican producers in dealing with Chinese imported products. Non-importing competing producers tend to block AD initiations on China, in order to decrease their cost of inputs, and to gain competitiveness in both domestic and foreign markets, while the domestic consumer goods producers are more likely to use AD as a "safety valve" against Chinese import, in order to maintain their "competitiveness".

The discrimination against consumer goods is even more visible when facing economic slowdown. The impacts of all economic cyclical variables (IB, total manufacturing production, consumption growth, and peso over-evaluation) are only applicable to consumption goods, but not intermediate and capital goods, which indicates that Mexico is more likely to increase its tariff lines under AD on Chinese consumption goods when the domestic economy is unstable. Also, the number of AD initiations in Mexico has a positive relationship with the appreciation of the peso and worsening of the current account. Moreover, our research confirms and explains empirically the historical fact that when there a macroeconomic downturn in Mexico, AD filings tend to increase, which is in line with previous findings in Aggarwal (2004), Feinberg (2005), Leidy (1997), and Miranda et al. (1998).

Our second important finding concerns the exchange rate of the RMB. On the one hand, China's exchange rate appreciation may decrease its competitiveness; on the other hand, it helps to decrease the tariff lines under Mexico's AD initiations on China. Most existing research takes the exchange rate of the importing country as the subject of study, analyzing the relationship between the exchange rate and AD filings. In contrast, we find that Mexico's AD is affected greatly by the exchange rate of its exporting partner (China), rather than that of the importing country (Mexico). For every unit in RMB appreciation, the tariff lines under Mexico's AD on China are expected to decrease by 2–3 units.

This research is markedly different from the previous literature in the following aspects. First, we empirically tested the impacts of China's WTO accession in 2001 on Mexico's AD initiations. To the best of our knowledge, this is the first paper that has used such a variable to test the impact of WTO entry on bilateral AD relations, to see how AD has changed before and after China's WTO accession. There are some studies that compare how AD differs in countries with and without WTO membership; and it was found that AD against countries without WTO membership, such as the UKR, Brazil, and Russia, has a higher likelihood of success (Niels and Kate 2004). In other words, the incentives encourage WTO members to use AD against non-members. In our research, China's WTO membership does not seem to decrease AD; however, we find roughly a $100 \times (\exp(-0.25)-1) = 28\%$ decrease after 2007, six years after China's WTO accession, when the phasing period of Mexico's WTO-inconsistent AD measures ended.

Second, we have used tariff lines under AD instead of AD filings as the dependent variable. By doing this, we obtain better goodness of fit in the regression result and more significant causal relationship between the dependent and independent variables. Tariff lines have several advantages that surpass that of AD filings. The number of observations is much bigger, so the regression results are more reliable than those of AD filings; the observations in most existing research are based on annual data that are short-term, while our research uses tariff lines that better reflect the real significance of AD filings; our research also uncovers the information in different product sectors.

Third, in the literature, Francois and Niels (2004) find that Mexico's AD on capital-intensive products, such as chemicals and plastic, machinery, and equipment, is more likely to end with affirmative findings, rather than the labor-intensive products such as textiles and clothing. However, their results are obtained using the number of AD filings. In contrast, we use tariff lines in each AD case, which is much more accurate, and we find that Mexican firms are more likely to file AD investigations on Chinese made consumption goods, rather than on intermediate and capital goods imports. Tariff reduction has a positive relationship with the AD initiation of intermediate and capital products, and a negative relationship with consumer products, which indicates that Chinese consumer goods exports are discriminated against.

References

Aggarwal, A. (2004). Macroeconomic determinants of antidumping: A comparative analysis of developed and developing countries. *World Development, 32*(6), 1043–1057.

Feinberg, R. M. (2005). U.S. antidumping enforcement and macroeconomic indicators revisited: do petitioners learn? *Review of World Economics, 141*(4), 612–622.

Francois, J. F., & Niels, G. (2004). Political influence in a new anti-dumping regime: Evidence from Mexico. Tinbergen Institute.

Hynds, P., Leffert, M., Wessely, J. G. (2005). Chinese companies open Mexico maquiladora plants in Mexico. Trade, integration and international relations. the free library. https://www.thefreelibrary.com/CHINESE+COMPANIES+OPEN+MAQUILADORA+PLANTS+IN+MEXICO.-a0135478110. Accessed 26 October 2016.

Leidy, M. P. (1997). Macroeconomic conditions and pressures for protection under antidumping and countervailing duty laws: empirical evidence from the United States. *IMF Staff Papers, 44*(1), 132–144.

Miranda, J., Torres, R. A., & Ruiz, M. (1998). The international use of antidumping: 1987–1997. *Journal of World Trade, 32*(5), 5–71.

Niels, G., & Kate, A. T. (2004). Anti-dumping protection in a liberalising country: Mexico's anti-dumping policy and practice. *World Economy, 27*(7), 967–983. doi:10.1111/j.1467-9701.2004.00637.x.

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