

# Trade opportunities for Mexico in the context of tensions between the United States and China since 2017

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**R**ECENTLY THE GLOBAL SOCIOECONOMY has gone through at least two events with drastic implications in the short, medium and long term: the COVID-19 pandemic and the deepening of tensions between the United States and China. Both will significantly affect global performance and that of Mexico's, in addition to global trends that are expected in new forms of transport, communication and in the industrial and trade organization.

These aspects define the general objective of this analysis: to propose in a systematic and coherent manner specific activities of Mexico's trade with the United States that could be promoted by the public and private sectors, resulting from the previous trends mainly because of to the tensions between the United States and China that have emerged since 2017. One of the challenges of the analysis lies in establishing a transparent methodological approach that goes beyond casuistic examples or macroeconomic analysis, from which seemingly *abstract* generalizations or suggestions could be derived that would not have much relevance for decision-makers and the respective firms. Given the current situation, it is essential to recognize that Mexico already has decades of trade experiences with the United States, in an especially dynamic manner since the implementation of the North American Free Trade Agreement (NAFTA) of 1994.

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Based on the objectives set out above, the examination will be divided into three chapters. The first will address a group of global and qualitative elements relevant to understanding the potential challenges facing Mexico's trade with the United States: global socio-economic and productive changes and potential effects of the COVID-19 pandemic and the trade tensions between the United States and China. The second section, and in greater detail, contributes to the analysis from the perspective of US trade demand –or Mexican exports to the United States– with two different approaches. On the one hand, the dynamics of US imports from Mexico during 2010-2019 will be emphasized. On the other hand, the United States' imports from China will be highlighted, which have been affected since 2017 increasing Mexico's trade share with its neighbor. The resulting analysis will present information on the value of trade in the United States –especially with Mexico and China–, as well as on the tariff rate, transportation cost rate, trade by type of good and technological level, and other characteristics of United States' trade up to 2019. Both perspectives –the dynamics of imports from Mexico and the opportunities of Mexican imports in the face of tensions between the United States and China– will allow us to highlight a group of activities in order to promote them in Mexico in the short, medium, and long term. Finally, the third section will return to the main conclusions of the analysis and respond to the challenges of economic policy in Mexico based on the contribution of the review.

Two additional aspects are relevant. Firstly, it must be taken into consideration that there are already initiatives on the proposed general objective, although none with the approach and methodologies described here; that is, the proposals are meant to integrate into existing efforts. Secondly, although the document highlights specific activities to be promoted in Mexico, it would be of great value to give continuity to the results presented, so as to associate the trade activities defined here with potential investments and respective companies. In this document the contribution is concentrated qualitatively and quantitatively only in the field of trade.

## 1. GLOBAL CHALLENGES FOR INDUSTRIAL ORGANIZATION AND TRADE IN THE THIRD DECADE OF THE 21ST CENTURY

The following examines a group of global events with important consequences for the world and Mexico: a) Crucial factors that have affected and will continue to impact global value chains (GVC), b) The COVID-19 pandemic and, c) Trade tensions between the United States and China.

The respective topics will be addressed in a brief manner, highlighting their economic implications and recognizing in each topic analyses and debates that are much more specific. Each issue, as we will see below, is closely related.

### 1.1 Factors for understanding the performance of global value chains

There is no single recipe or analysis for understanding the dynamics of highly heterogeneous global value chains (GVCs), much less the diversity of their segments, processes and products. DUSSEL PETERS (2018), GEREFFI (2020) and GEREFFI and WU (2020) present a wide variety of characteristics and trends (in footwear, electronics, and personal protective equipment) resulting from the COVID-19 pandemic and the tensions between the United States and China. However, the same authors and others (BBVA 2020; KPMG 2018; MCKINSEY 2016; PWC 2018) highlight a group of relevant factors that affect and impact the performance of the GVC; in most cases these trends have already been present for at least five years.

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[ 1 ] Anticipating the analysis of chapter 1.3., WANG (2020/a:3) points out: *“For the US, decoupling would mean recreating somewhere else the production networks that currently take place in China: either in the US itself, or, more likely, in countries it likes better such as Mexico, India, and Vietnam. Many multinationals have already been investing in alternatives to Chinese production, for reasons that include rising labor costs, US tariffs, and geopolitical uncertainties. Even Apple is reducing its dependence on China, for example, by producing more iPhones in India and more AirPods in Vietnam. The process, however, is a slow one, and trade data does not show a collapse in China’s exports. Decades of investment have built it up as the best place to produce many goods, with deep pools of labor, excellent infrastructure, and dense clusters of nearby suppliers.”*

**1. Tensions between off-shoring and re-shoring (or near-shoring).** At least since the second half of the 20th century, a growing trend towards international territorial transfer of GVC segments has been perceived: the growing liberalization of trade and foreign direct investment (FDI) and incentives at the mesoeconomic and microeconomic level –reduction of costs, efficiency and productivity increases, as well as territorial niches with a trained workforce and supplier networks– allowed for a massive out-sourcing (or off-shoring) process (PIORE 1984) from which an important group of countries benefited, including China and Mexico. However, at least during the last decade, various natural events (for example, the tsunami in Japan in 2011), but especially the tensions between the United States and China since 2017 (see section 1.3.), have generated efforts by the leading GVC companies to diversify their supply chain and consider their proximity to customers and suppliers, also because of new aspects of national security and tariffs, among others (re-shoring). These tensions between off-shoring and re-shoring have generated severe uncertainties in global trade flows and FDI, as will be seen in section 1.3, although it is important to note that companies often do not respond to changes in the short term.<sup>1</sup>

**2. Automatization and robotization processes.** Automatization and robotization processes, particularly in GVC such as auto parts, automotive and electronics, but also in other labor-intensive sectors such as yarn-textile-garment and footwear, as well as in the distribution of goods and services. This paper will delve considerably into important foreseeable impacts on productivity and, as a counterpart, labor. Preliminary studies show that in emerging countries, robotization could have already generated a displacement of up to 14% of employment during 2005-2014 (CARBONERO, ERNST and WEBER 2018) and only 0.54% in developed countries. These trends have certainly deepened since then and will continue to do so in the future. In countries like Mexico, automation could put at risk 63% of total employment and 64.5% of manufacturing (MINIÁN y MARTÍNEZ MONROY 2018).

**3. The digital and online economy**<sup>2</sup> the *non-contact economy* (BBVA 2020) in general, but specifically through e-commerce, new points of sale, distribution and forms of sales (ECLAC / OIT 2020: 28; DUSSEL PETERS and PÉREZ SANTILLÁN 2020), have qualitatively changed the buying and selling formats worldwide; in the case of Mexico the changes have been in the short term during 2020 and beyond. Companies in Mexico –under the leadership of corporations such as Mercado Libre, Aliexpress/Alibaba, Amazon, Walmart and Liverpool, among others– seem to still be lagging behind with a significant organizational and technological disadvantage in this regard, unlike other economies like the United States, Japan and China (UNCTAD 2020/a), although recently there has been a significant upward trend: of the 83 million internet users, 80% and 70% made a purchase in the last 12 and 3 months, respectively (AIMX 2019). In 2020, e-commerce could rise to 60% in Mexico (CHÁVEZ 2020).

**4. Telecommunications in general, but specifically their quality, access, speed and cost**, will play a growing socioeconomic and productive role: not only in access for the population, but in the aforementioned aspect of the digital economy, with various forms of payment, and in the productive sector (automation, robotization, etc.), while also generating new GVCs such as autonomous vehicles and artificial intelligence (ai), both with profound effects on transport and forms of consumption, for example (KPMG 2018; PWC 2018). The technological and brand leadership will be critical for the communication and social and productive integration of the *disruptive innovations* (PWC 2020), that is, the conflict between the United States and China –in the specific case of Huawei and ZTE, among others– is not a coincidence and will continue to be a crucial issue globally and between the two countries.

5. Previous trends –including working from home and new work spaces (THE ECONOMIST 2020/a), new modes of transportation and movement of people and goods, as well as significant efforts in the production, distribution and consumption of energy (increasingly

renewable energy is used)<sup>3</sup> (PWC 2020; THE ECONOMIST 2020/b)– will revolutionize existing GVCs, generate new ones and displace others, with important effects on suppliers, clients, distribution and communication channels, impacting investments, production and employment in manufacturing and services.<sup>4</sup>

## 1.2 Economic impact of COVID-19 on the global economy

There are undoubtedly multiple approaches and possibilities for analyzing the COVID-19 pandemic, particularly from a health perspective.<sup>5</sup> In what follows we will only dwell on a group of economic aspects related to the objective of the document.

Three aspects seem particularly important.

[ 2 ] These *disruptive* technologies and innovations (KPMG 2018) led by companies such as Amazon, Alibaba, Airbnb, Netflix and Uber, among others, also generate significant impacts on the business and organization models of the respective GVC; companies and GVC that historically focused on the production process itself will need to integrate more and more information (internet of things and AI) from their respective markets and consumers, today and in the future.

[ 3 ] In 2050, around 50% of electricity could be generated via renewable sources –its share is currently close to 5%– with huge investments in infrastructure and effects on oil and coal production; China currently produces 45%, 69% and 72% of wind turbines, lithium batteries and solar cells, respectively (THE ECONOMIST 2020/b).

[ 4 ] To illustrate the depth of the changes generated in 2020 and their questionable reversibility in the future: as a result of the COVID-19 pandemic in 2020, in countries like the United Kingdom, more than 40% of office employees worked from home 5 days or more a week; around 30% did not work from home (THE ECONOMIST 2020/a).

[ 5 ] NEUT (2020: 1) indicates a *trilemma* in the analysis, monitoring and response to COVID-19 that “has forced different countries to position themselves against three important values: privacy, health and economy”. While several Asian countries measured on the basis of purchasing power, China and South Korea, for example, decided to reduce privacy rights, others like Germany chose to protect privacy and reduced the trilemma to health and economic recovery only.

**a. Expectations about economic growth.** One of the main economic characteristics of the 20th century has been the growing global presence of Asia and particularly of the People's Republic of China. Table 1 not only reflects the differentiated impact of COVID-19 in 2020 and its potential recovery in 2021, but also the growth trajectory of real GDP: the global pandemic, from this perspective, has made it possible to close the gaps between the economies of the United States and China, even before expected.<sup>6</sup>

**b. Depth of the impact on trade and direct foreign investment (FDI).** The interruption of GVC as a result of COVID-19 has generated significant challenges in multiple areas, coupled with widespread uncertainty and restrictions on the trade of goods and services, such as the closure of borders, various quarantines and the prohibition of transport of passengers, interruptions and higher costs in the transport of goods and the temporary closure of non-essential activities and of some companies (WTO 2020/a); these trends resulted in a global trade volume drop of 9.2% in 2020 and a 7.2% recovery in 2021. Regional differences are significant in the trade of goods: in North

America, for example, the recovery in 2021 would be of 10.7% (5.7% for Asia), considering also the depth of the decline in 2020, of -14.7% and -4.5% for North America and Asia (WTO 2020/b:3).<sup>8</sup> FDI flows according to the latest UNCTAD estimates (2020/c) indicate a drop in global FDI in 2020 of between 30% -40%, with important regional differences: in the first quarter of 2020 the performance of FDI compared to the first quarter of 2019 it had been -49%, -75%, -56% and -12% for the world, developed economies, North America (Bermuda, Canada and the United States) and Asia, respectively; in the case of LAC, ECLAC (2020/b:18) estimates a fall in imports and exports of 25% and 23% in 2020.

[ 6 ] The GDP based on parity (PPP) indicates that the Chinese economy is already the largest since 2014 (IMF 2020/b), although in terms of current GDP and GDP per capita, China represented 69.9% and 16% in 2019, respectively (WB 2020).

[ 7 ] As a result of the relatively rapid recovery of the Chinese economy –and after a strict quarantine in specific regions and other measures in the rest of the territory– already in June 2020, Chinese exports had recovered pre-crisis COVID-19 levels (GATLEY 2020; UNCTAD 2020/b).

**TABLE 1**

**Real GDP: Selected Countries (2002-2025) (annual growth)/a**

|                             | 2002-2011<br>(average) | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2025 | 2021<br>(2002 = 100) |
|-----------------------------|------------------------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
| Advanced economies          | 1.7                    | 1.2  | 1.4  | 2.1  | 2.4  | 1.8  | 2.5  | 2.2  | 1.7  | -5.8 | 3.9  | 1.7  | 137.08               |
| United States               | 1.8                    | 2.2  | 1.8  | 2.5  | 3.1  | 1.7  | 2.3  | 3.0  | 2.2  | -4.3 | 3.1  | 1.8  | 144.56               |
| Euro Area                   | 1.1                    | -0.9 | -0.2 | 1.4  | 2.0  | 1.9  | 2.6  | 1.8  | 1.3  | -8.3 | 5.2  | 1.4  | 120.00               |
| China                       | 10.7                   | 7.9  | 7.8  | 7.3  | 6.9  | 6.8  | 6.9  | 6.7  | 6.1  | 1.9  | 8.2  | 5.5  | 581.66               |
| Japan                       | 0.6                    | 1.5  | 2.0  | 0.4  | 1.2  | 0.5  | 2.2  | 0.3  | 0.7  | -5.3 | 2.3  | 0.6  | 112.91               |
| Latin America and Caribbean | 3.6                    | 2.9  | 2.9  | 1.3  | 0.4  | -0.6 | 1.4  | 1.1  | 0.0  | -8.1 | 3.6  | 2.5  | 154.16               |
| Brazil                      | 3.9                    | 1.9  | 3.0  | 0.5  | -3.5 | -3.3 | 1.3  | 1.3  | 1.1  | -5.8 | 2.8  | 2.2  | 150.63               |
| Mexico                      | 1.9                    | 3.6  | 1.4  | 2.8  | 3.3  | 2.6  | 2.1  | 2.2  | -0.3 | -9   | 3.5  | 2.1  | 137.95               |
| /a Estimations since 2020.  |                        |      |      |      |      |      |      |      |      |      |      |      |                      |

Source: own elaboration based on IMF (2020/a).



**c. Polarized recovery.** ECLAC (2020/a) has emphasized in its analysis the heterogeneity of the impact of the global pandemic in Latin America and the Caribbean (LAC): the most affected sectors are those that involve conglomeration of people and physical proximity, such as tourism, entertainment, hotels and restaurants, transport and personal services, while the impact has been less in those that have been considered essential (food, disinfectants, cleaning supplies, medicines and medical supplies and equipment). In the workplace, for example, job destruction was *differentiated between segments* (ECLAC/ILO 2020:11-12), especially affecting self-employment in the informal sector, with significant sectoral differences (there were particularly relevant impacts on household services, restaurants and hotels, and construction, among others).<sup>8</sup> Differences in the economic impact by sector, educational level, and company size –most likely also by gender and territory in some countries, although there are no estimates in this regard– have been significant and will impact an unequal socioeconomic recovery. This uneven performance, in the effects and its expected recovery, has also made the public sector to consider differentiated measures towards the most unprotected socioeconomic segments (households, companies, GVC and territories).

### 1.3 Trade tensions between the United States and China since 2017<sup>9</sup>

The tensions between the United States and China have gone well beyond the *trade war* since 2018. In the United States, it has presented a structural change with respect to China: historically the public sector, but especially its legislature, had been more critical of China, while the private sector and business organizations had been more *constructive*, in order to benefit from trade and investment options, in consideration of the growing relevance of the Chinese domestic market. Since 2018, increasing competition from China in sectors such as artificial intelligence, electronics, telecommunications and infrastructure projects (AMCHAM China 2019) has generated harsh criticism from us business organizations.<sup>10</sup> The share of China's medium and high-tech exports to the United States more than doubled during 1995-2017, while the share of Chinese imports from the us increased only slightly, widening the technology gap vis-à-vis China.

President Trump, wanting to fulfill one of his campaign promises, presented in December 2017 his National Security Strategy (NSS 2017), explicitly noting that “*China and Russia are challenging American power, influence and interests, seeking to erode its security and prosperity*” (NSS 2017:2); here the concept of *great power competition* is also acknowledged for the first time (NSS 2017: 27). Subsequently, tough initiatives and measures were taken against China (PENCE

[ 8 ] For example, according to the latest information available, in the second quarter of 2020 (and with respect to the previous quarter), the GDP in Mexico fell by 18.7% and -78.9% in the manufacturing of footwear; the impact on employment, likewise, was well above the national impact (DUSSEL PETERS and PÉREZ SANTILLÁN 2020).

[ 9 ] For a detailed analysis in this regard, see: OROPEZA GARCÍA (2020) and the contributions of the various authors.

[ 10 ] The argument was made especially clear by Susan Shirk at the 2019 China Development Forum organized by the Development Research Center of the Council of State in Beijing (MARCH 2019), with important coincidences between former Treasury Secretaries Larry Summers and Robert Rubin. AMCHAM (2019:II) –the body representing US firms in China– argues emphatically that “*unfortunately, bilateral dialogues and other mechanisms have not generated the necessary results to sustain healthy, balanced and mutually beneficial economic relations between our two economies*”.

2018) which were increasingly *exclusive* with respect to third countries. The *ruptur* (decoupling) at the end of 2020 is significant (DUSSEL PETERS 2020/b): the closure of Confucius Institutes in the United States, the withdrawal of visas for journalists, growing tensions with respect to Taiwan, a longer list of Chinese companies that require permits to import us products and processes (entity list) –notably the case of Huawei and ZTE–, the demand for the sale of Chinese subsidiaries in the United States (TikTok) and restrictions on Chinese investments. Additional measures in high-tech and financial sectors (such as those taken against sanctioned officials, the ban on investments in Chinese companies, and the listing of Chinese companies that do not conduct audits under us law) could deepen the rupture and escalation of tensions between the two countries in the short term. In the trade sphere –considering the objectives of the document– three aspects are relevant.

**First.** After multiple rounds of complex trade negotiations, the United States and China –and their respective major trading partners through 2018–agreed to a *trade truce* in January 2020, which concluded that neither party would impose new tariffs on its imports but would maintain the existing ones and tariffs during 2018-2019.<sup>11</sup> Likewise, China undertook to increase its imports from the United States by up to 400% in a group of agricultural items in the following two years. Given the COVID-19 crisis and the collapse of international trade, particularly between the United States and China, it is almost impossible that agreements will be reached within the two planned years (BOWN 2020; *Table 2*).

**Second.** *Table 2* is important for understanding the specific implications of tensions on trade between the United States and China, which is within the scope of this document; the following is always stated based on United States trade information.

The real impact that US tariff measures had since 2018 against various countries, China specifically, is worth noting: unlike decades of tariff rate reduction until 2017 (from 1.41% and 2.67% for the total and China), this increased for the first time in 2018 and 2019 (to reach 2.80% and 9.81% in 2019). Consequently, this tariff jump and the existing uncertainty (*see Chapter 1.2.*) had a substantial impact on United States trade: from 2017 (with the maximum Chinese share in United States trade) until 2019, China's share in trade, imports and exports of the United States plummeted to -2.86%, -3.51% and -1.92% (the topic will be relevant for Chapter 2). As a counterpart, Mexico especially benefited, becoming since 2019 the United States' first trading partner: Mexico's share of United States imports increased from 13.36% in 2017 to 14.33% in 2019, that is, an increase of 0.97% (a relevant topic for Chapter 2); in 2019, us imports from Mexico and China represented 357,971 and 451,651 million dollars, respectively.

**Third.** It is essential to refer to a group of existing analysis regarding benefits strictly in the field of trade for third countries, resulting from the tensions discussed above between the United States and China. In general, there is a coincidence that LAC –more specifically Mexico– and Vietnam could be the main beneficiaries. In the case of United States during 2019, imports from Mexico, the sum of the tariff rate and the transportation cost rate represented 1.09% of its imports and 14.28% and 10.62% from China and Vietnam, respectively (*see Figure 1*). The incentives to at least diversify trade and investments towards Mexico, from this perspective, are overwhelming, even more at the disaggregated level for specific activities, as will be seen in *Chapter 2*.

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[ 11 ] Until the end of 2019, the United States had imposed tariffs of 25% on 250 billion dollars (practically half of imports from China) and 15% on another 120 billion dollars, only the latter were reduced from 15% to 7.5% as a result of the *trade truce*. For a timeline of the escalation of the *trade war* since early 2018, see: [https:// www.china-briefing.com/news/the-us-china-trade-war-a-timeline/](https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/).

TABLE 2

## United States: Trade by Selected Countries (1990-2019)

|                       | 1990   | 1993   | 2000   | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Average Annual Growth Rate 2017-2019 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------------------------------------|
| IMPORTS (TOTAL = 100) |        |        |        |        |        |        |        |           |                                      |
| Germany               | 5.74   | 4.92   | 4.80   | 4.31   | 5.02   | 4.96   | 5.11   | 0.08      | 4.2                                  |
| China                 | 3.10   | 5.43   | 8.21   | 19.07  | 21.59  | 21.25  | 18.08  | -3.51     | -5.4                                 |
| Japan                 | 18.25  | 18.47  | 12.03  | 6.30   | 5.83   | 5.61   | 5.75   | -0.08     | 2.6                                  |
| TLCAN                 | 24.74  | 26.03  | 30.11  | 26.52  | 26.15  | 26.12  | 27.12  | 0.98      | 5.2                                  |
| Canada                | 18.60  | 19.15  | 18.95  | 14.51  | 12.78  | 12.55  | 12.79  | 0.01      | 3.3                                  |
| Mexico                | 6.14   | 6.87   | 11.16  | 12.02  | 13.36  | 13.57  | 14.33  | 0.97      | 7.0                                  |
| Vietnam               | 0.00   | 0.00   | 0.07   | 0.78   | 1.99   | 1.94   | 2.67   | 0.68      | 19.7                                 |
| Total                 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 3.3                                  |

|                       |        |        |        |        |        |        |        |       |      |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|-------|------|
| EXPORTS (TOTAL = 100) |        |        |        |        |        |        |        |       |      |
| Germany               | 4.77   | 8.14   | 7.53   | 7.53   | 6.98   | 6.94   | 7.32   | 0.34  | 5.5  |
| China                 | 1.22   | 1.88   | 2.07   | 7.19   | 8.40   | 7.22   | 6.48   | -1.92 | -9.5 |
| Japan                 | 12.36  | 10.30  | 8.30   | 4.73   | 4.37   | 4.51   | 4.53   | 0.16  | 4.9  |
| TLCAN                 | 28.33  | 30.54  | 37.13  | 32.30  | 34.02  | 33.96  | 33.42  | -0.60 | 2.1  |
| Canada                | 21.11  | 21.60  | 22.88  | 19.50  | 18.28  | 17.99  | 17.81  | -0.47 | 1.7  |
| Mexico                | 7.22   | 8.94   | 14.24  | 12.80  | 15.75  | 15.97  | 15.61  | -0.13 | 2.6  |
| Vietnam               | 0.00   | 0.00   | 0.09   | 0.58   | 1.05   | 1.16   | 1.32   | 0.27  | 15.5 |
| Total                 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 0.00  | 3.1  |

|                     |        |        |        |        |        |        |        |       |      |
|---------------------|--------|--------|--------|--------|--------|--------|--------|-------|------|
| TRADE (TOTAL = 100) |        |        |        |        |        |        |        |       |      |
| Germany             | 5.31   | 6.35   | 5.87   | 5.60   | 5.80   | 5.74   | 5.98   | 0.18  | 4.8  |
| China               | 2.27   | 3.85   | 5.81   | 14.31  | 16.34  | 15.69  | 13.48  | -2.86 | -6.3 |
| Japan               | 15.63  | 14.84  | 10.57  | 5.67   | 5.25   | 5.17   | 5.26   | 0.01  | 3.4  |
| TLCAN               | 26.34  | 28.03  | 32.85  | 28.84  | 29.28  | 29.23  | 29.62  | 0.34  | 3.8  |
| Canada              | 19.71  | 20.24  | 20.49  | 16.50  | 14.97  | 14.71  | 14.78  | -0.19 | 2.6  |
| Mexico              | 6.62   | 7.79   | 12.36  | 12.33  | 14.31  | 14.52  | 14.84  | 0.53  | 5.1  |
| Vietnam             | 0.00   | 0.00   | 0.08   | 0.70   | 1.61   | 1.63   | 2.13   | 0.52  | 18.7 |
| Total               | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 0.00  | 3.2  |

|                                       |      |      |      |      |      |      |      |       |    |
|---------------------------------------|------|------|------|------|------|------|------|-------|----|
| TARIFF RATE (PERCENTAGE OVER IMPORTS) |      |      |      |      |      |      |      |       |    |
| Germany                               | 3.51 | 3.59 | 1.77 | 1.52 | 1.47 | 1.58 | 1.53 | 0.07  | -- |
| China                                 | 8.21 | 7.75 | 3.79 | 3.28 | 2.67 | 4.18 | 9.81 | 7.13  | -- |
| Japan                                 | 3.23 | 3.33 | 1.62 | 1.68 | 1.74 | 1.83 | 1.73 | -0.01 | -- |
| TLCAN                                 | 1.27 | 0.80 | 0.11 | 0.06 | 0.09 | 0.31 | 0.22 | 0.13  | -- |
| Canada                                | 0.72 | 0.36 | 0.04 | 0.04 | 0.07 | 0.39 | 0.25 | 0.18  | -- |
| Mexico                                | 2.94 | 2.00 | 0.23 | 0.09 | 0.11 | 0.23 | 0.20 | 0.09  | -- |
| Vietnam                               | --   | --   | 8.64 | 8.95 | 7.15 | 7.90 | 6.56 | -0.58 | -- |
| Total                                 | 3.32 | 3.16 | 1.62 | 1.35 | 1.41 | 1.86 | 2.80 | 1.39  | -- |

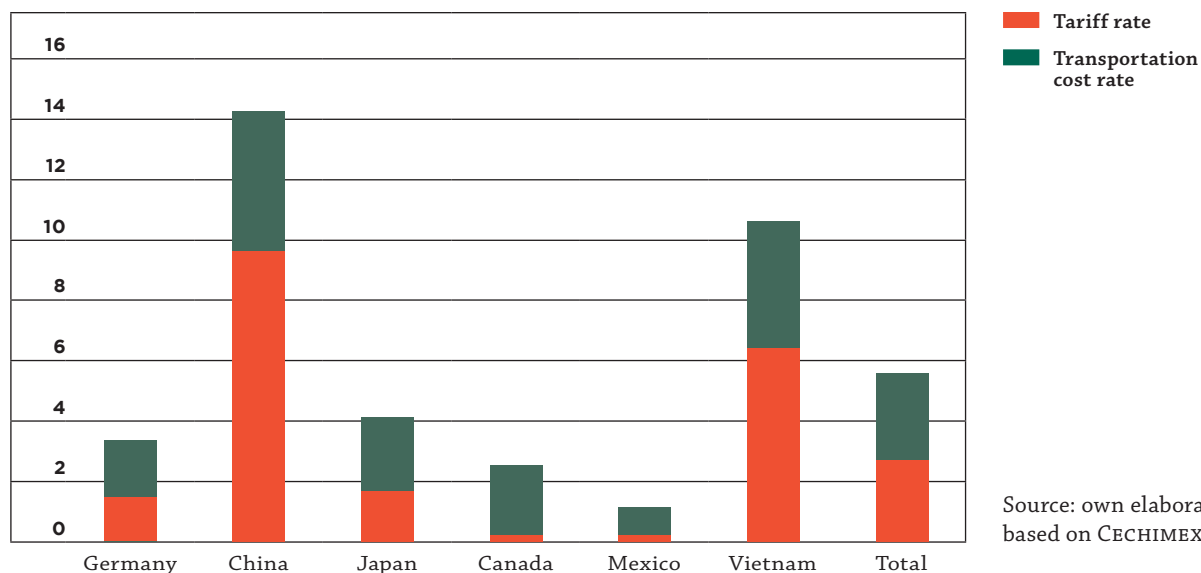


|                                                    | 1990 | 1993 | 2000 | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Average Annual Growth Rate 2017-2019 |
|----------------------------------------------------|------|------|------|------|------|------|------|-----------|--------------------------------------|
| TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS) |      |      |      |      |      |      |      |           |                                      |
| Germany                                            | 3.15 | 3.00 | 2.44 | 2.05 | 2.07 | 1.99 | 1.89 | -0.18     | --                                   |
| China                                              | 7.04 | 6.85 | 7.56 | 4.94 | 4.08 | 4.33 | 4.47 | 0.40      | --                                   |
| Japan                                              | 3.81 | 2.94 | 2.77 | 2.66 | 2.43 | 2.44 | 2.32 | -0.11     | --                                   |
| TLCAN                                              | 1.05 | 0.81 | 0.44 | 1.22 | 1.65 | 1.58 | 1.56 | -0.09     | --                                   |
| Canada                                             | 2.64 | 2.42 | 1.51 | 1.41 | 2.39 | 2.32 | 2.31 | -0.08     | --                                   |
| Mexico                                             | 2.07 | 2.04 | 1.13 | 0.99 | 0.94 | 0.90 | 0.89 | -0.05     | --                                   |
| Vietnam                                            | --   | --   | 7.74 | 6.86 | 4.18 | 4.28 | 4.06 | -0.13     | --                                   |
| Total                                              | 4.41 | 3.95 | 3.39 | 2.90 | 2.84 | 2.82 | 2.80 | -0.04     | --                                   |

Source: own elaboration based on CECHIMEX (2020).

**FIGURE 1**

**United States: Tariff and Transportation Cost Rates for Selected Countries in 2019** (over respective imports, percentage)



Source: own elaboration based on CECHIMEX (2020).

At least three types of arguments stand out in this recent discussion. On the one hand, the analyses that indicate the *potential* for other countries, without any further explanations (HARRIS 2020; JUNG 2020; THE ECONOMIST 2020/c). On the other hand, casuistic descriptions of firms with positive and negative experiences, about which it is not possible to generalize by sectors and/or for the respective countries (KRAUSE 2020; MAGNIER 2020; WHELAN and PÉREZ 2020). Finally, several analyses seek to delve into the complexities in the short term for companies' decision-making, considering medium and long-term investments, higher productivity experienced by transnational companies in China and its relevance as the nucleus of their respective chain (HANEMANN and ROSEN 2020; MUKHERJEE 2020; WANG 2020/b), in part because both China and the United States are domestic markets of the greatest relevance (WANG 2020/a). The detailed analysis of ABIAD *et. al* (2018) based on different scenarios by country and sectors<sup>12</sup> are important, and those of Dezan Shira & Associates are particularly suggestive, noting that from a US perspective Mexico does not mean real diversification due to its massive dependence on Chinese imports (China Briefing 2020),<sup>13</sup> rather, it is a *China + 1* strategy, that is, it maintains its presence in China while looking for a supplementation (VIETNAM BRIEFING 2020).

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[ 12 ] The analysis by ABIAD *et. al* (2018) is perhaps one of the most sophisticated on third-party countries potentially benefiting from trade tensions between the United States and China. Of particular interest is the limited impact of the *trade war*, with China as the most affected country, with estimates varying between -0.65% and -1.25% of its GDP (scenarios 1 and 3) and Vietnam and Mexico as the main beneficiaries, with 2.4% and 0.65% of its GDP; in the case of Mexico the net positive effect would be concentrated in services, electronics, machinery and textiles, clothing and leather.

[ 13 ] In 2019, Mexico's import/export ratio with China –its second trading partner– was 12:1 and 87.35% of imports from China were intermediate and capital goods (see subsequent analysis and *Figure 3*).

## 2. THE UNITED STATES' IMPORT DYNAMICS FROM MEXICO (2010-2019) AND POTENTIAL IN THE FACE OF TRADE TENSIONS BETWEEN THE UNITED STATES AND CHINA (2017-2019)

The chapter will concentrate –considering the objectives of the document– on three themes. The first will conduct an examination of the conditions and challenges of foreign trade in Mexico. The second topic, and in greater detail, will specify the characteristics of the main importing activities in the United States originating in Mexico during 2010-2019, in order to define a group of activities to be promoted in the future. The third section will present a typology of US imports from China and Mexico with the aim of defining the US' importing activities that have gained a special potential given the tensions with China during 2017-2019.

### 2.1 Conditions and challenges for trade in Mexico

At least since the 1980s, Mexico was internationally recognized as one of the most successful cases of export-led growth. Leaving aside the discussions about this development strategy and its profound effects and impacts<sup>14</sup>, in what follows, a group of Mexican trade structures is presented.

There is no doubt that the economy has been successful in its export orientation as a result of the strategy started in 1988: in 2020 Mexico had 12 free trade agreements with 46 countries, in addition to multiple reciprocal promotion and protection agreements in the field of foreign direct investment (FDI); by far the NAFTA (North American Free Trade Agreement) implemented in 1994 and the CPTPP (Progressive Trans-Pacific Partnership Agreement) since 2018 are the most significant for Mexico. In this process of liberalization –or neoliberalism for some– Mexican exports increased dramatically: Mexican exports increased 789% during 1993-2019 and became the main engine of Mexican socioeconomy, turning Mexico into the thirteenth largest global exporter with 1.98% of global exports, starting from levels below 1.1% at the beginning of the 1990s (BANXICO 2020; WB 2020).

Aside from the previous export successes, it is important to point out a group of discussions and debates, as well as structures that emerged from Mexico's export orientation several decades ago. In the first place, it should be mentioned that from a macroeconomic perspective, export dynamics have not been associated with economic growth, that is, the incidence of exports in gdp is low, it has even deepened inequality, heterogeneity and polarization between companies, households and territories in Mexico.<sup>15</sup>

**Second.** Much of the analysis and discussion on the Mexican export orientation focuses on its lack of forward and backward linkages, with differences in specific global value chains. There are multiple analysis on industrial organization (DUSSEL PETERS 2003) and case studies (CONTRERAS, VEGA CÁNOVAS and RUIZ DURÁN 2020) that highlight incentives to import supplies and then re-export them –through programs such as the maquila, PITEX, ALTEX and IMMEX, among others–, which are also reflected in the OECD analysis (2018) based on input-output matrices: according to the latest comparative study of OECD countries, Mexico has been the nation with the highest level of foreign added value in its exports, it even increased: from 32.3% to 36.4% during 2011-2016; by sector, electronics, automotive and auto parts exports stand out for their higher levels, whereas mining, food and agriculture for their lower levels. This industrial organization reflects the complexity and challenges of export-oriented industrialization and its lack of territorial endogeneity, with important impacts on the lack of generation of added value, science and technology, suppliers, as well as quality jobs.

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[ 14 ] For a discussion see the proposal by ASPE ARMELLA (1993) and SALINAS DE GORTARI (2000) and discussions from different perspectives by DUSSEL PETERS (2000) and MORENO-BRID and ROS (2009).

[ 15 ] The issue has been widely analyzed from a macroeconomic perspective in recent decades, see for example: BLECKER and ESQUIVEL (2019); CORDERA and PROVENCIO (2019); several contributions by CARRILLO and GARCÍA and BLECKER and MORENO-BRID in the work of CONTRERAS, VEGA CÁNOVAS and RUIZ DURÁN (2020) are helpful for understanding results and various recent proposals.

Finally, under this topic, it is important to point out a group of structures of Mexico's foreign trade with a view to generating background information for the following sub-chapters.

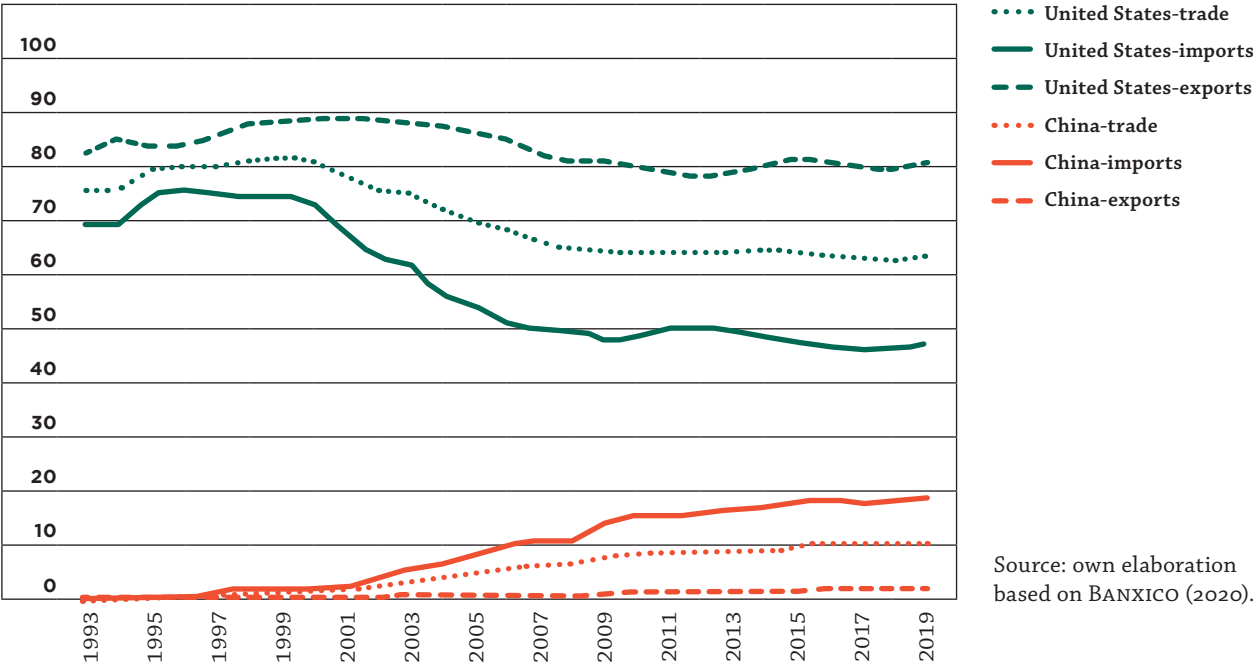
First, understanding the United States' high concentration in Mexican foreign trade. As can be seen from Figure 2, in 2019 the United States continues to be by far Mexico's main trading partner, participating with 62.94%, 45.19% and 80.47% of Mexico's trade, imports and exports. It is at least as important to recognize the important downward trend in the three variables, especially in Mexican imports from the United States, which fell from levels above 75% in the 1990s to their historical minimum in 2019. Its counterpart is found in Asia, particularly in China, whose imports from Mexico increased from levels below 1% in the 90s to 18.24% in 2019 (or 83 billion

dollars), becoming Mexico's second trading partner since 2003. Nevertheless, the United States continues to be fundamental to understanding Mexican export dynamics.

In what follows, a group of basic structures of Mexico's foreign trade and some antecedents are discussed for the analysis in the next section.

The structure of Mexico's imports by type of good is of the greatest relevance in that it reflects changes in the content of the respective imports. Figure 3 shows, on the one hand, a relatively stable structure during 2000-2019: in 2019, for example, 12.65%, 68.68% and 18.67% of Mexican imports were consumer, intermediate and capital goods. However, different trends can be seen for imports from its two main trading partners: in the case of the United States, the increase in inter-

**FIGURE 2**  
**Mexico: Trade with the United States and China (1993-2019)**  
(percentage over respective total)



Source: own elaboration based on BANXICO (2020).

mediate goods is particularly striking –from 69.41% in 2000 to 78.45% (or 161,398 million dollars) in 2019– especially the decrease in the participation of capital goods that came to represent 11.33% in 2019. For the same period, imports of consumer goods from China fell from 32.98% of the total imported from China in 2000 to 14.72% and, as a counterpart, there is a drastic increase in capital goods, from 23.33% in 2000 to 32.80% (or \$ 27.241 million) in 2019. These deep variations reflect changes in the intraregional integration process of North America and the general and trade upgrade of China that has already been analyzed.

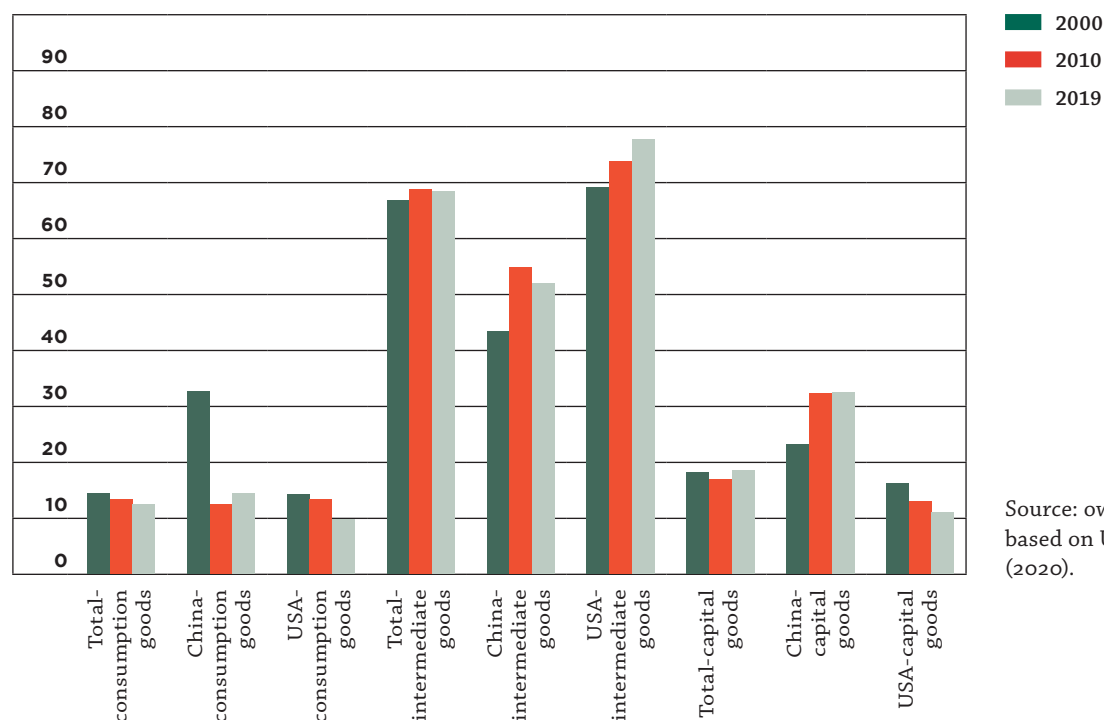
Table 3 deals with the technological composition of US imports<sup>16</sup> and reflects the (perhaps surprising) result of the high technological level of US imports: medium and high-level manufactures accounted for 50.94% of total imports in 1990 and increased to 56.99% in 2019. Even more relevant are the drastic changes in imports from Mexico and China. In less than 30 years, United States imports from Mexico of medium and high composition increased from 52.90% in 1990 to 73.72% in 2019 and for China from 20.42% to 58.30%. These profound changes also partly explain the previously described tensions between the United States and China, a result as well as of the increasing upgrading of China (and Mexico).

[ 16 ] The 6-digit technological intensity clause of the Harmonized System (SA) was obtained directly from ECLAC's Regional Integration Unit, with our own contribution of assigning its technological level to 202 subheadings. The United States trade information was obtained from the United States International Trade Commission (CECHIMEX 2020).

**FIGURE 3**

**Mexico: Imports by Type of Good (2000-2019)**

(as percentage of respective total)



Source: own elaboration based on UN-COMTRADE (2020).



**TABLE 3****United States: Total Imports by Level of Technological Intensity for Selected Countries (1990-2019)***(percentage over respective total)*

|                                      | 1990   | 1993   | 2000   | 2010   | 2017   | 2018   | 2019   |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| <b>TOTAL IMPORTS</b>                 |        |        |        |        |        |        |        |
| Total                                | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Primary Goods                        | 14.10  | 11.53  | 11.43  | 17.96  | 9.87   | 10.18  | 9.17   |
| Manufacturing Based on Raw Materials | 15.39  | 13.23  | 13.51  | 14.53  | 13.14  | 13.71  | 13.42  |
| Manufacturing: Low Tech              | 17.96  | 19.08  | 17.00  | 15.86  | 17.15  | 16.92  | 16.94  |
| Manufacturing Medium Tech            | 34.46  | 34.54  | 32.56  | 26.96  | 33.57  | 33.39  | 34.45  |
| Manufacturing High Tech              | 16.48  | 19.91  | 23.47  | 22.77  | 24.60  | 24.27  | 24.44  |
| Other Transactions                   | 1.62   | 1.70   | 2.02   | 1.92   | 1.67   | 1.53   | 1.59   |

|                                      |        |        |        |        |        |        |        |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| <b>IMPORTS FROM MEXICO</b>           |        |        |        |        |        |        |        |
| Total                                | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Primary Goods                        | 25.63  | 17.43  | 11.81  | 16.79  | 8.48   | 9.18   | 8.77   |
| Manufacturing Based on Raw Materials | 8.63   | 7.30   | 4.91   | 7.63   | 6.92   | 6.76   | 6.77   |
| Manufacturing: Low Tech              | 11.64  | 13.42  | 14.95  | 8.83   | 9.48   | 9.17   | 9.04   |
| Manufacturing Medium Tech            | 36.01  | 41.31  | 41.38  | 38.77  | 51.14  | 51.22  | 52.57  |
| Manufacturing High Tech              | 16.89  | 19.38  | 25.58  | 25.26  | 21.99  | 21.82  | 21.15  |
| Other Transactions                   | 1.20   | 1.16   | 1.37   | 2.71   | 1.99   | 1.85   | 1.71   |

|                                      |        |        |        |        |        |        |        |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| <b>IMPORTS FROM CHINA</b>            |        |        |        |        |        |        |        |
| Total                                | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Primary Goods                        | 8.62   | 2.77   | 1.64   | 1.08   | 0.88   | 0.88   | 0.82   |
| Manufacturing Based on Raw Materials | 2.88   | 2.55   | 4.02   | 4.83   | 5.02   | 5.30   | 4.41   |
| Manufacturing: Low Tech              | 67.71  | 69.77  | 51.13  | 38.34  | 33.52  | 33.53  | 35.58  |
| Manufacturing Medium Tech            | 13.77  | 13.93  | 19.63  | 16.70  | 19.52  | 20.62  | 20.83  |
| Manufacturing High Tech              | 6.65   | 10.71  | 23.11  | 38.45  | 40.48  | 39.05  | 37.47  |
| Other Transactions                   | 0.37   | 0.27   | 0.46   | 0.60   | 0.58   | 0.62   | 0.89   |

Source: own elaboration based on CEPAL (2020).

The technological level of trade in the United States is related to the level of intra-industry trade (CII),<sup>17</sup> that is, the degree of integration of trade between global value chains of the respective countries, in this case the United States. Total trade and trade in the rest of the world –not including Mexico and China– reflect the highest levels, which are increasing, since 2010, with 0.56 and 0.61 in 2019, respectively (*Figure 4*). The CII, however, shows significantly lower levels for China, lower than 0.10 until 1994 and, since then, with a slight upward trend, reaching 0.14 in 2019. Mexico's CII level is significantly higher than that of China's –greater than 0.35 throughout the 1990-2019 period– with a downward trend from 1997-1998, when it reached its maximum level at 0.44 (and fell to 0.37 in 2019). The foregoing reflects a high degree of integration of United States trade with Mexico, and partially explains the high level of technological imports of United States imports, explained by CII and even

intra-company trade, although there is no information about it. The declining CII from 1997-1998 with Mexico also reflects the growing disintegration of the North American region, particularly given the growing presence of Asia and China.<sup>18</sup>

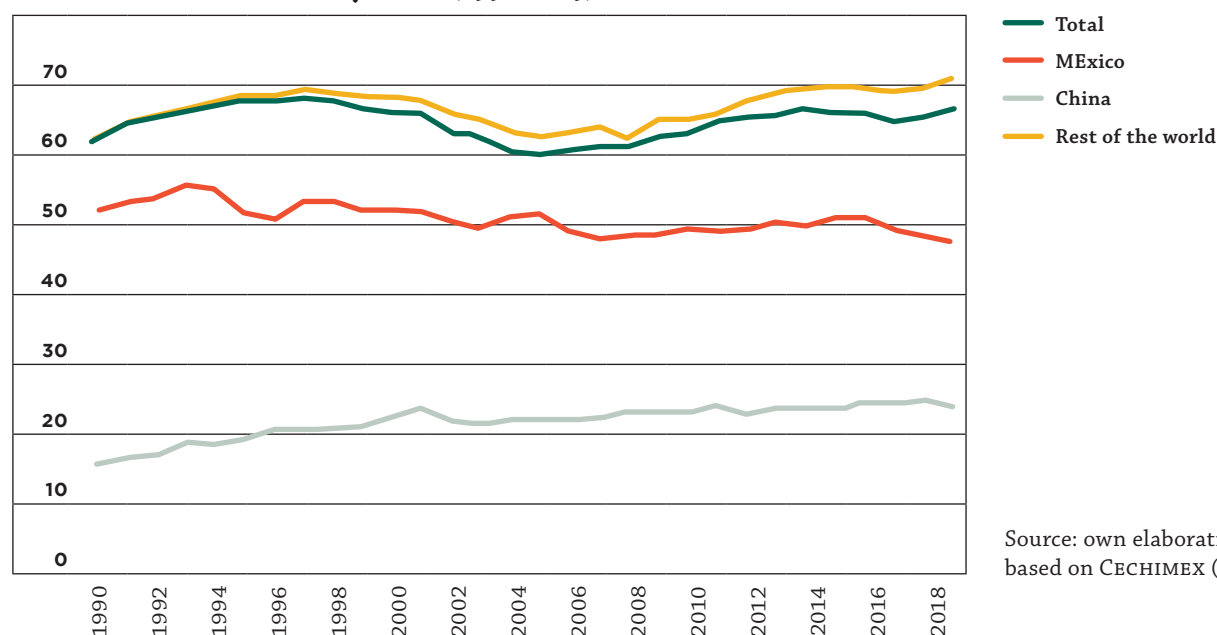
Finally, it is important to link these dynamics with *Table 2*, previously analyzed: there are very significant trade incentives in North America, specifically between the United States and Mexico within the framework

[ 17 ] Intra-industry trade (CII) ranges from 0 to 1, with 0 being a level of trade without CII (or completely inter-industrial) and 1 reflection of a completely intra-industrial. For details on the calculation of Grubel and Lloyd's CII, see: DUSSEL PETERS (2016: 309-316).

[ 18 ] For a detailed analysis in this regard, see: CONTRERAS, VEGA CÁNOVAS and RUIZ DURÁN (2020) and DUSSEL PETERS (2016).

**FIGURE 4**

**United States: Intraindustry Trade (1990-2019)**



Source: own elaboration based on CECHEMEX (2020).

of NAFTA and USMCA since July 2020 and the *trade war* between the United States and China; these incentives and benefits for Mexico are becoming evident by comparing the enormous differences in the cost of transport and the tariffs imposed by the United States, particularly with respect to Asia and China (*Table 2*).

## 2.2. Definition of US imports from Mexico with real potential to be promoted

The section will differentiate in detail a group of activities (or 6- digit subheadings of the Harmonized Tariff System, HTS), based on the various previous antecedents, imported by the United States from Mexico, according to their share in the United States market, as well as others resulting from the *trade war*. Both typologies will be based on imports from the United States –by far the most significant for Mexico, as has already been examined minutely, and to compare with China– and will allow us to propose specific activities to be promoted in Mexico.

### 2.2.1. Mexican activities according to their share in US imports (2010-2019)

The first criterion for selecting activities is the difference in the share of the chapters (2 digits of the HTS) in US imports from Mexico during 2010-2019. Starting from the two-digit selection criterion, the selection process is continued at 6 digits of the HTS (subheadings) and, likewise, we highlight the high-tech subheading as a second selection criterion. With this we would be selecting the most dynamic chapters of US imports from Mexico for the period, which is the core of the recent, high-tech export orientation.

Five main chapters emerge from the selection exercise: 1. Automotive (HTS 87), 2. Auto parts (HTS 84), 3. Edible products (HTS 08), Optical instruments (HTS 90) and 5. Alcoholic drinks and liquids) (HTS 22).<sup>19</sup> *Appendix 1* summarizes the main characteristics of the 5 selected chapters, among which the following stand out:

1. Auto parts-automotive chain (AAC) constitutes the export core from Mexico to the United States. For the proposed period (2010-2019) these two chapters of the HTS were the ones that most increased their share in imports from Mexico and participated with 46.76% (or 167,387 million dollars) of the total in 2019. Both chapters account for almost half of US imports from China in 2019. It is interesting that, while China specializes in the auto parts segment (with 32.07% of US imports in auto parts in 2017 and that fell to 24.75% in 2019, while Mexican auto parts increased from 15.75% to 17.80%), Mexico does so in the automotive segment, with 33.23% of total imports in the US' automotive chapter (and 4.59% from China) in 2019.
2. The higher degree of disaggregation of the analysis –at the chapter level– shows more clearly the relevance of tariff rates and transportation cost rates between Mexico and China: in 2019, for example, both were 0% and 2.10% for beverages, liquids and vinegar (and 7.40% and 6.16% for China) and 0.10% and 0.53% for the automotive chapter (and 17.90% and 6.41% for China). From this perspective, trade incentives are very significant: in the automotive sector they both accounted for almost one-fourth of the amount of US imports from China and 0.63% for Mexico.
3. The five chapters selected under the criteria described above are of the greatest relevance for understanding the technological level of US imports from Mexico and China: in 2019 they represented 48.77% (or 174,583 million dollars) and 56.56% (or 255,454 million dollars), respectively.

Based on the selection of the five chapters described above, in the following, the selection process is deepened at the sub- heading level (or 6 digits of the HTS)

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[ 19 ] It is interesting that electronics (HTS 85) is not part of this group of selected chapters; during 2010-2019, its share of US imports from the United States fell -5.64% and had one of the worst performances at the chapter level.

of the same 5 chapters, including the high technology criterion according to the ECLAC definition (*see footnote 16*). These additional criteria will allow the promotion of activities with the expectation of generating forward and backward linkage processes, as well as technological learning processes in Mexico. As a result of the criteria described above, of the total of the 6,527 activities or subheadings, 568 of the 5 initially selected chapters and 206 activities of high technological level were obtained. The analysis of the 206 activities reveals several characteristics. Of the 206 activities defined, only 121 activities show some share in imports from the United States during 2010-2019; the rest of the activities were discarded, since they only present values in one or two years during the period or show no activity in the last five years or more. As a result, these 121 activities (*Appendix 2*) would be of particular relevance for being encouraged as a result of their dynamics in imports to the United States from Mexico and their high level of technology.

The universe of 121 activities to be promoted under these selection criteria are then a group of subheadings that should be given specialized monitoring for their promotion (*see chapter 3*). Considering these 121 highly exporting and high-tech subheadings in the US market, at least three types of activities are observed (*Appendixes 3-6*).

The first group of activities of the 121 selected subheadings have responded to the fall in Chinese share during 2017-2019, also as a result of high tariff rates, and Mexican exports have rapidly increased their market share in us imports. Such is the case of machines for automatic banknote dispensers, coin-sorting and pencil-sharpening (HTS 847290), with a market in US imports of 968 million dollars in 2019 (*Appendix 3*). The

abrupt imposition of tariffs on China by the United States –from 0% in 2017 and 15.71% in 2019, and 0% for Mexico and the rest of the competitors– as well as a transport cost rate of 0.13% and 5.04 % for Mexico and China respectively, in 2019 allowed Mexico a rapid positioning, whose market share increased from levels below 1% prior to 2017 to 16.51% in 2019, so together with Taiwan it became China's main competitor.<sup>20</sup>

From the group of 121 selected activities, a second group of Mexican subheadings emerges that for various reasons –in addition to trade, tariffs, and transportation costs, among others– have not been significantly affected by the trade war, such as parts and accessories for automatic data processing machines (HTS 847330); it is probably one of the most important Mexican export activities towards the United States, with an import market in 2019 of 18,552 million dollars. In this activity, the United States imposed a tariff rate on China, 7.69% in 2019 and 0% for the rest of the competitors, and China's market share plummeted -38.42% during 2017-2019, but the Mexican share barely increased from 1.43% to 3.83% for the same period. Taiwan and Vietnam, by contrast, increased their market share much more dynamically (*Appendix 5*).

The activity of apparatus based on the use of X-rays for medical, surgical, or veterinary uses (HTS 902214) presents a third group of subheadings –of the 121 selected– of organization in a specific market where neither Mexico nor China are the main competitors (*Appendix 6*). Although, as in other cases, the United States imposed a tariff rate of 16.87% on China in 2019 (and 0% for the rest of its importers), China during 2017-2019 even managed to slightly increase its market share to reach 4.18% in 2019; that of Mexico was 8.81%. However, Taiwan is by far the leader in this activity, and its market share remained practically unchanged during 2017-2019 and was 42.47% in 2019. In other words, under this scenario but not in all the defined activities, Mexico or China are the main competitors in the United States market and not all Chinese imports have been negatively affected, even in the face of the imposition of high and unique tariff rates.

[ 20 ] A similar case is presented under subheading 847050 (cash registers) with a spectacular growth in Mexico's market share, from 0.10% to 28.79% in 2017 and 2019, while it fell for the main competitors such as China, Malaysia and Taiwan (*Appendix 4*). In this case, however, the United States only imposed a 4.88% tariff rate on China in 2019.

The three groups of activities –based on the 121 selected subheadings– can facilitate decision-making for the promotion of Mexican exports under the criterion of their dynamics during 2010-2019 and its high technological level.

### 2.2.2. Trade tensions between the United States and China (2017-2019) and potential for Mexico

In this section the objective is to select a group of activities (sub- headings to six digits of the HTS) of United States imports under two criteria: a) the impact of the so-called *trade war* between the United States and China since 2018 and, b) the same activities in which Mexico would also have increased its presence in the United States.<sup>21</sup>

With these objectives, a typology is established based on imports from the United States (see Table 4). In the first instance, the 99 chapters (2 digits of HTS) are ordered into two groups: a) Those in which the share of the respective chapters of US imports from China fell above the total during 2017-2019 (of -3.51%), as a result of the trade war between the United States and China. In these chapters Mexico and third-party countries had a particular potential for integration in United States imports and, b) These two groups based on a) were subdivided into the chapters where the share in United States imports from Mexico increased above the total during 2017-2019 (0.97%) –resulting in Subgroups I.A. and II.A.– and below 0.97% (resulting in Subgroups I.B. and II.B.). The 10 chapters of Subgroup I.A. (*Rising stars*; Table 4) are of particular interest for the purposes of this study. Additionally –and with a view to defining a group of activities at six digits of HTS– the same criteria a) and b) were applied to the chapters of the established Groups and Subgroups; the 77 activities resulting from this selection process at the subheading level for Subgroup I.A. will be of particular relevance to its promotion.

Appendix 8 presents the main characteristics of the 10 HTS chapters of Subgroup I.A., although, in the future, aspects of the other Subgroups of the suggest-

ed typology could well be deepened. While Subgroup I.A. has increased its participation in US imports from Mexico during 2000-2019 and has reached 19.34% of the total, it is important to recognize an enormous concentration in the chapter of auto parts: auto parts by themselves represented 95.34% of US imports from Mexico of Subgroup I.A. in 2019; in auto parts, both China and Mexico compete significantly in US imports, with a market share of 17.80% and 24.75% in 2019, respectively. Notwithstanding the foregoing, it is of the utmost importance to consider the imports from Mexico of Subgroup IA, that is, although their amounts and shares were lower, in a relatively short period, also as a result of the trade war since 2018, these chapters have managed to position themselves significantly in US imports. Glass, cars, railway material, impregnated fabrics and headgear, for example, have a market share of 18.64%, 15.54%, 12.75% and 11.36% in 2019, respectively; in most cases, the increase in their market share makes them compete directly with China's high market shares (*Appendix 8*).

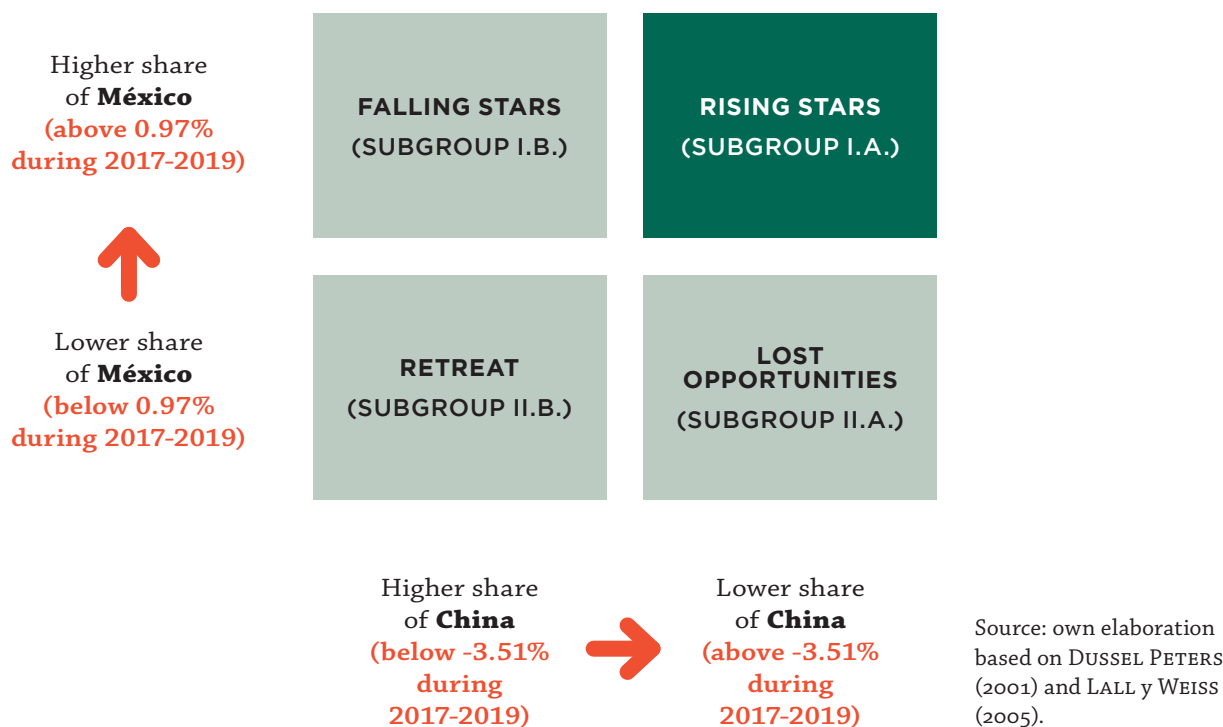
Appendix 7 presents the results of the proposed typology. Unlike the results of chapter 2.2.1., based on the dynamics of US imports from Mexico and their technological level, in this case the results are much more heterogeneous and do not include any of the chapters defined according to the previous criteria, with the exception of auto parts (chapter 84 of the HTS). The 10 selected chapters are linked to the yarn-textile-garment chain, various light manufactures such as headgear, basketry, rhinestones and plaster and glass, as well as auto parts and manufacturers for vehicles and railways.

At least three aspects are significant in this regard. On the one hand, the high degree of integration (measured through the intra-industry trade index) between the

[ 21 ] The second criterion is relevant since the first one is not sufficient for their selection, because otherwise we could select activities without productive / export capacity and without market share from Mexico or even where it would have fallen, without considering the fall of Chinese presence.



TABLE 4

**Matrix of the proposed typology****(based on changes of United States share in imports during 2017-2019)**

United States and Mexico: in auto parts and vehicles and railway material, for example, the index is higher than 0.43 in 2019, while it is 0.17 and 0.12 for US imports from China (*Appendix 8*). On the other hand, the very high degree of technological level of Subgroup I.A. –highly influenced by auto parts and vehicles and railway material– with 95.19% of US imports coming from Mexico in 2019. Third, the significant impact of the differences in the transport cost rate for China and Mexico, particularly in the tariff rate since 2017.

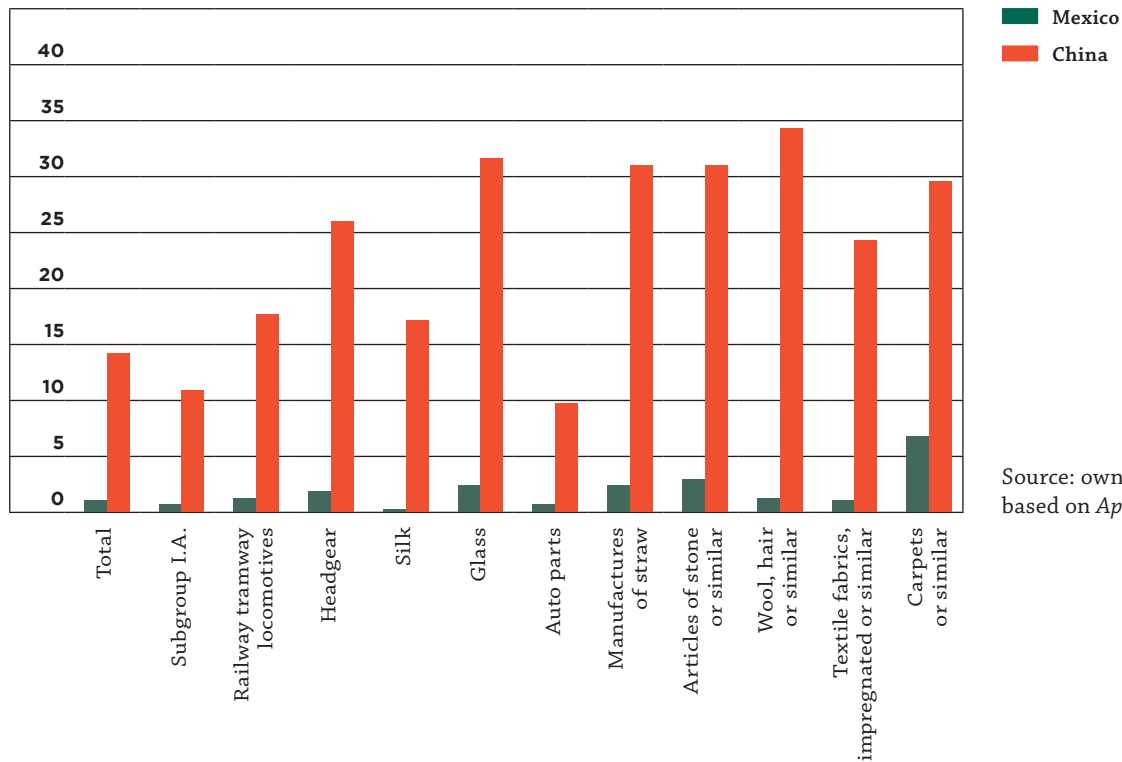
In the case of glass and the manufacture of wickerwork or basketry, for example, Mexico's tariff rate was 0.22% and 0.41% in 2019, while for China –with a significant market share– it increased from 6.11% and 3.57% in 2017 to 20.15% and 21.45% in 2019, respectively. *Figure 5* elucidates the enormous differences between the sum of the tariff rate and the rate

of transportation cost in US imports during 2019 for Mexico and China: it was 13 and 15 times higher for the total and Subgroup I.A., but up to 28 times higher for wool and fine hair.

Starting from the 10 chapters defined in Subgroup I.A., that is, the chapters with the greatest potential in Mexico in the face of the trade war and the drastic increase in the tariff rate imposed by the United States on China, the selection of the activities (at six digits of the HTS) of these same chapters were chosen under the same criteria indicated above: activities in which the share of imports to the United States from China would have fallen above its average (-3.51%) during 2017-2019 and in which those from Mexico would have increased above the average (0.97) for the same period.

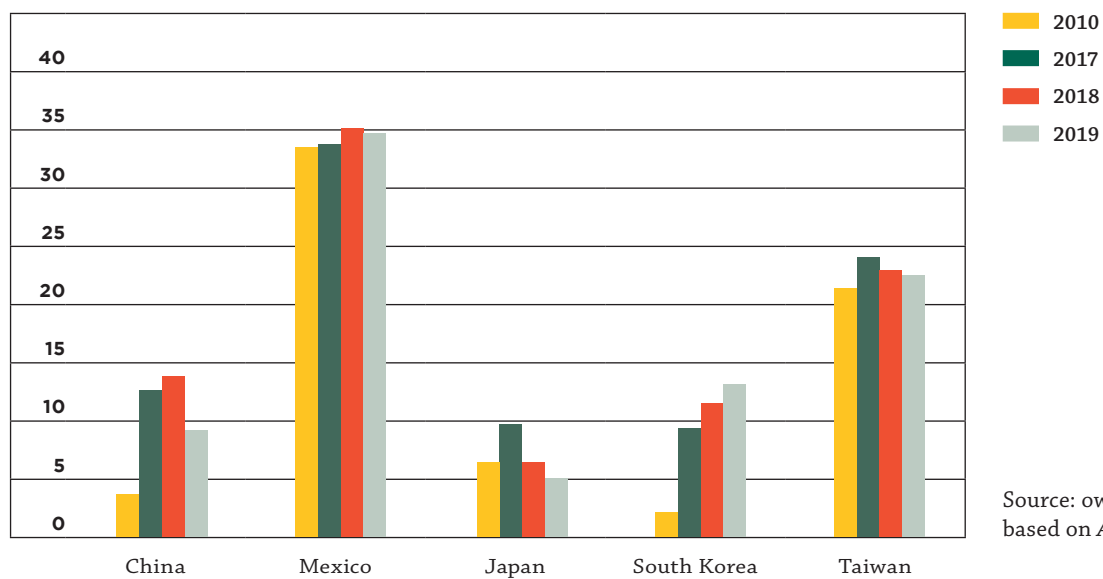
**FIGURE 5**

**United States: Sum of Trade Tariff and Transportation Cost Rate from Mexico and China in 2019 of Chapters of Subgroup I.A.**  
(as a percentage of respective imports)



**FIGURE 6**

**United States: imports of Glass and Rear-View Mirrors for Vehicles (HTS 700910) for Selected Countries (2010-2019)**  
(percentage over total)



The results are of the greatest relevance to the objectives of the analysis. The 10 chapters of Subgroup I.A. consist of 866 subheadings and, applying the above criteria, 77 activities or sub-headings are defined (*Appendix 9*). This is the universe of activities with the greatest potential for Mexico in the face of the trade war between the United States and China since 2018 with an effective export and reaction capacity; as they have shown during the same period; these 77 activities envisage at least three groups of subheadings to be promoted.<sup>22</sup>

On the one hand, a group of activities in which the abrupt increase in the tariff rate on imports from the United States originating in China during 2018-2019 has generated immediate effects in the increase of imports from Mexico. Such is the case, for example, of the laminated safety glass activity for incorporation in vehicles, spacecraft or vessels (HTS 700721), whose market share fell during 2017-2019 from 67.53% to 45.83% for China and increased from 12.37% to 34.41% for Mexico; while for Mexico the tariff rate increased from 0.18% to 0.47% in 2017 and 2019, for China it went from 4.90% to 20.81% (*Appendix 10*).<sup>23</sup> The significant differences in transportation costs –of 0.47% and 20.81% for Mexico and China in 2019– are of the greatest relevance in a market of 423 million dollars in US imports during 2019, where China and Mexico are the predominant importers for the United States.

Another group of activities that are present in this case is that of subheading 847150 (digital processing unit), by far the most significant activity because of

its imported amount among the 77 defined activities (with total imports for United States that amount \$ 31.296 million in 2019) (*Appendix 12*). In this case, Mexico already represented the main importer for the United States in 2017 (with 74.75%) and increased to 80.62% in 2019; in the case of China, the second largest importer, its share fell from 18.76% to 4.14%. The increase in the tariff rate for China (from 0% in 2017 to 16.64% in 2019) played an important role, since it is the only country that pays tariffs, although Mexico's transport cost rate with respect to China and other competitors has also been relevant.

A third group of activities –of the 77 selected– has different characteristics in which third-party competitors –in addition to Mexico and China– play a crucial role, unlike the previous cases. Subheading 700910 (Rear-view mirrors for vehicles) is an example of this (*Appendix 13*). In the case of a market of 313 million dollars in 2019, the case differs from the group of previous activities because, although Mexico and China are important competitors (with a market share of 34.96% and 9.04% in 2019), Taiwan, South Korea and Japan participate with 22.70%, 13.14% and 5.15%. The case is also significant in that although the tariff rate increased from 3.86% to 21.24% for China from 2017 to 2019, in 2019 the tariff rates for South Korea and Mexico were 0.21% and 0.35% (*Figure 6*). In other words, although the competition between China and Mexico is significant in the United States market, it would be misleading not to consider third-party competitors that, in many cases, may even be predominant in the respective import activities of the United States. It is imperative to consider the topic in terms of promoting specific activities.

The three groups of activities –based on the 77 selected subheadings– can facilitate decision-making for the promotion of Mexican exports under the criterion of the fall of China's market share and the increase for Mexico during 2017-2019.

[ 22 ] The information for the respective activities (*Appendices 10-13*) present material for an in-depth analysis, although only aspects considered relevant for the objectives of this study have been examined.

[ 23 ] In other activities such as subheading 460199 (plaiting materials other than vegetable), Mexico's increase in its share is even greater, from 0.30% in 2017 to 62.63%, with a fall from 72.11% to 18.62% for China; these are imports to the United States for a total of 8 million dollars in 2019 (*Appendix 11*) that could be significant for companies and regions in Mexico.

## CONCLUSIONS AND PROPOSALS

The document addresses the proposed objectives based on two chapters. In the first, the examination distinguishes three groups of economic and qualitative aspects that will profoundly affect international and Mexican global value chains (GVC) in the short and medium term; in several cases these aspects are closely linked with each other. In the first group of aspects, trends are analyzed –some of which have been in the making for decades– such as tensions between off-shoring and near-shoring, as well as robotization, new distribution channels and the critical importance of telecommunications for end consumers and in the productive sector, also creating new gvc; although these trends could significantly increase productivity, these *disruptive innovations* also put at risk up to 64.5% of manufacturing employment in Mexico.

The second subchapter emphasizes a group of economic impacts owing to the COVID-19 pandemic which, in several cases, has drastically accelerated some trends indicated in *Chapter 1.1.*, such as working from home, e-commerce and the rapid and impressive presence of telecommunications in practically all socio-economic areas since 2020. The section focuses on the profound and differentiated impact –by countries, regions, company size and GVC, among others– of COVID-19 on growth, trade and FDI, among other variables; only the global FDI could fall between 30%-40% in 2020, with important regional differences. The study is relevant mainly because it highlights that the impact and recovery of these variables will be highly polarized, i.e., it identifies specific activities that have been deeply affected by the economic paralysis (household services, restaurants, tourism and construction), while for others the impact and recovery have been much less pronounced or have even allowed for significant growth (food and beverages and telecommunications). Additionally, the differential impact on GDP between countries will close the gap between the economies of the United States and China in 2020 and in subsequent years sooner than expected.

The third section of the first chapter highlights elements for understanding the *trade war* between the United States and China since 2018; its structural and long-term antecedents can be found in open competition between the two countries in the last decade, more recently for the technological leadership of cutting-edge GVC. The *great power competition* acknowledged by the United States in 2017 will not be temporary and will continue in the future in multiple areas of the bilateral relationship and in third-party countries and regions. Countries like Mexico should prepare promptly for it. In the commercial sphere, for example, it is very likely that in 2021 the tensions between the two powers –even under the presidency of Biden– saw their accusations and aggressiveness reduced, although it is improbable that they will achieve a real *de-escalation* in terms of tariff reduction and the multiple measures taken during 2018-2020. The termination and assessment of the *trade truce* in January 2022, with very little chance of being reached, could well generate serious trade difficulties between both countries and at a global level. This section also contributes to the timely understanding of the profound impact of the *trade war*: China's share in United States trade, imports and exports plummeted during 2017-2019 by -2.86%, -3.51% and -1.92%, allowing Mexico in 2019 to become the United States' first trade partner (even ahead of Canada and China). These profound qualitative changes have given rise to a whole group of analysis and debates regarding which third-party countries, namely Vietnam and Mexico, could benefit in the long term from the *trade war*. While chapter 1.3. offers support to justify this potential, a good part of the arguments in the reviews on the subject only refer to casuistic experiences or to an abstract and macroeconomic potential. The *China + 1* scenario seems particularly relevant to us: many companies will choose to remain close to demand and incentives in China and, at the same time, they will seek to strengthen themselves in other markets such as the United States and Europe; an exclusionary strategy (one market or the other) is not necessarily sensible for the respective companies.

With this background, Chapter 2 focuses on the objective of the document: **to define –with a focus on the demand for imports from the United States– specific commercial activities with export potential from Mexico.** The first subchapter highlights a group of debates and structures on Mexico's foreign trade: substantive advances in Mexico's export orientation recognized since the late eighties of the twentieth century, as well as profound deficiencies, including their limited creation and association with economic growth and the lack of forward and backward linkages: recent OECD analysis on input matrices highlight Mexico as one of the countries with the highest levels of foreign added value in its exportations, even with significant increases reaching 36.4% in 2016. Exports of electronics and the auto parts-automotive value chain (CAA) stand out for their high levels, reflecting a complex industrial organization oriented towards exports but with a reduced impact on supplier companies, territories, households and employment of quality due to its massive imports and incentives for temporary imports to be reexported. It is equally important to recognize the importance of the United States in Mexico's trade (which represents 62.94%, 45.19% and 80.47% of trade, imports and exports in 2019), with a significant downward trend since the beginning of the 21st century; instead, China has established itself as Mexico's second trading partner since 2003, particularly through Mexican imports (with 18.24% or 85,511 million dollars in 2019), it has also highlighted its growing presence in imports of intermediate and capital goods (with 52.48% and 32.80% in 2019, well above the us share of its imports of capital goods in 2019, with 11.33%). Finally, in the field of Mexico's foreign trade structures, it is not only relevant to point out its technological increase in exports to the United States (Mexican imports of medium and high technological level increased from 52.90% in 1990 to 73.72% in 2019), but also its high degree of integration –measured through the intra-industry trade index– with the United States and the high concentration of Mexico's foreign trade in the CAA, which, from this perspective, along with electronics, are the core of the Mexican export-orientation,

highly concentrated and integrated with the United States and increasingly dependent on Asian imports, especially from China.

These structures allow for the definition of a group of activities of Mexican imports (*demand approach*) in the United States, considering both the historical dynamics (2010-2019) between both countries and the *trade war* since 2018, as well as Mexico's export capacity. The analysis in *Chapter 2.2.* based on these two dynamics, results in the definition of 198 activities (at six digits of HTS) with a real potential to be considered in their promotion.

From the first analysis (*Chapter 2.2.1.*) that considers the dynamics of United States imports from Mexico during 2010-2019, as well as its focus in high technology, 121 activities at six digits of HTS are derived, representing 35.971 million dollars or 10.01% of imports from Mexico (*Appendix 2*). The analysis preliminarily presents three groups of relevant activities, all of which are of high technology and dynamic in their exports. On the one hand, in activities where us imports from Mexico have been rapidly affected by the collapse of trade with China (as in the case of machines for classifying, counting or wrap-ping coins, pencil sharpeners, punch holers and staplers, HTS 847290), abrupt tariff increases for China allowed rapid increases in Mexico's market share, from less than 1% in 2017 to 16.51% in 2019. On the other hand, another group of Mexican activities (like automatic machines for data treatment or processing, HTS 847330) in which, despite the collapse of China's market share, Mexico did not increase its share of United States. Finally, in a third group of activities –of the 121 selected in this area– in which neither Mexico nor China are affected by the *trade war* and the substantive tariff increase on Chinese subheadings: in the case of X-rays and devices that use alpha, beta or gamma radiation for medical, surgical or veterinary use (HTS 902214), Taiwan continues to be the main importer for the United States, with a relatively unchanged market share of 42.47% in 2019.



*Chapter 2.2.2.* contributes to the understanding of another argument: the collapse of US imports from China and the responsiveness of Mexican imports to the United States during the same period 2017-2019. The analysis results in 77 activities and subheadings of the HTS. Beyond the characteristics of each of the activities –highly influenced by the presence of auto parts both in their share in Subgroup I.A. and on the technological level and high degree of integration in its trade with the United States (measured via intra-industry trade), at least three types of activities stand out. In a much more heterogeneous group of chapters and subheadings than under the criteria in *Chapter 2.2.1.* –high technology and highly exporting activities– including glass, vehicles and railroad material, impregnated fabrics and headgear, among others, only auto parts (chapter 84 of the HTS) relapses. Of the 77 selected activities, it is possible to define at least three groups of subheadings. First group: activities in which imports to the United States from Mexico achieved an immediate response to the *trade war*: safety glass made of tempered or plywood glass for use in automobiles, aircraft, ships or others (HTS 700721) increased their market share from 12.37% to 34.41% during 2017-2019, also due to the imposition of significant tariff rates and the subsequent drop in China's market share. A second group of subheadings is made up of those in which the impact of the trade war has been less, for example the case of automatic machines for data treatment or processing and their units (HTS 847150), by far the most important activity. Significant for its imported amount of the 77 activities (*Appendix 12*), it reflects that Mexico already had an important market share and that it managed to increase it to 80.62% in 2019. Finally, and of the greatest relevance for the study's objectives, a third group of subheadings in which neither Mexico nor China are the main competitors in defined specific activities: such is the case of glass mirrors, framed or not, mirrors for vehicles (HTS 700910), in which Mexico and China are competitors, but where Taiwan, South Korea and Japan also have relevant market shares; South Korea in 2019 even imposed a tariff rate of 0.21%, lower than that of Mexico's of 0.35%.

The implications and policy proposals of the analysis are multiple, highlighting the contribution of the document from a demand perspective, that is, of imports from the United States. The analysis shows 198 activities or subheadings of the HTS to be considered and promoted in the short, medium and long term, considering that in most cases companies do not have the capacity to react immediately (WANG 2020/a) to medium-and long-term investments, in addition to the relevance of the United States and China as non-exclusive markets. It is equally pertinent to highlight the importance of auto parts (chapter 84 of the HTS) and their subheadings as a result of both approaches (*chapters 2.2.1.* and *2.2.2.*). Mexico, based on the analysis, has enormous potential to promote global value chains –segments, processes and products– to be supported based on the experience of the *trade war* between the United States and China. The contribution of this analysis, unlike other existing ones on the subject, is on the one hand the definition of 198 specific activities with particular interest in Mexican imports under the two criteria developed in *Chapter 2*: according to their exporting characteristics to the United States and their high technological level, and according to their effective insertion potential in the US market in the face of the debacle of Chinese participation in the United States during 2017-2019.

Both *Chapters 2.2.1.* as well as *2.2.2.*, with their respective selection criteria sought to create subheading groups of the 198 activities in order to facilitate their promotion and, preliminarily, three specific groups in Mexican imports to the United States: a group of activities that reacted immediately and significantly to the fall in China's market share quota, a second group of subheadings in which the increase in market share, for various reasons, was low, and a third group of activities in which third-party countries –that is, neither Mexico nor China– are relevant competitors.<sup>24</sup> These groups can be very important for decision-making and the proposals below.

Considering the 198 activities with potential in Mexico –121 highly exporting and high-tech activities during 2010-2019 (*chapter 2.2.1.*) and 77 with a drastic fall in Chinese market share and an increase in Mexican sub-headings–, the following proposals emerge which seek to mediate between macroeconomic deficiencies and the potential of the situation at the level of global value chains, activities and companies.

**First. The promotion of 198 activities with export potential to the United States.** Public institutions –specifically the Ministry of Economy (SE), the Ministry of Finance and Public Credit (SHCP) and the National Council of Science and Technology (CONACYT)– and the private sector in Mexico, especially its business organizations such as the CEO Dialogue, have the possibility of carrying out specific activities and executing mechanisms and instruments to promote these 198 activities based on US imports from Mexico. The advantages and opportunities for

Mexico to join the US demand, specifically in terms of tariff rates and transportation costs, are of the greatest relevance today, although most diagnoses do not include information about it.

**Second.** Public institutions –such as the SE, the SHCP and the Mexican embassies in the United States and China– have the specific responsibility of designing a **Program to Promote Mexico's Foreign Trade 2020-2030** based on the proposed analysis of 198 specific activities. The program, from this perspective, allows specific and joint activities with the private sector –specialized seminars, road shows– as well as a campaign to promote Mexico in specific activities.

**Third.** In the case of trade promotion of activities to and from Mexico –see *Chapters 1.3. and 2–* it is critical not to fall into casuistic or macroeconomic generalizations, but rather invite counterparts –companies and business organizations from the United States, China, the European Union and countries such as Japan, South Korea and Taiwan– **to present information and a specific and precise diagnosis on each of the 198 potential import activities in its trade with the United States:** specific activities and subheadings, its commercial characteristics in Mexico and benefits in tariffs and transportation costs. As a result of this project, all the information used here is presented in digital format, both macroeconomic data and the information on US imports for the 198 selected activities, in order to transparently favor decision-making and future diagnostics.

**Fourth.** In order to implement, follow-up and allow an evaluation process of the proposed **Program to Promote Mexico's Foreign Trade 2020-2030**, it is suggested that a high-level working group be created with the participation of the public sector and the agencies of the aforementioned Mexican Executive, with both business organizations and academics that have expertise on the respective topics and activities. The working group should explicitly consider at least three fundamental aspects, perhaps even subgroups: a) instruments for overcoming the structural defi-

[ 24 ] These 198 activities are the result of the objectives and respective selection processes of chapters 2.2.1. and 2.2.2. and the three groups indicated here are proposed in a preliminary fashion. However, and in order to achieve a good monitoring and execution of the proposals (see below), it would also be possible to resume the chapters of the SA and the respective global value chains from which the selection processes and chapters 2.2.1 and 2.2.2 began.

ciencies of foreign trade (*Chapter 2.1.*) for each of the 198 activities proposed, b) instruments for each of the 121 activities defined with special potential based on their export dynamics to the United States and their high technological level, c) instruments for each of the 77 activities defined as having special potential based on the fall in the Chinese market in the United States and with the capacity to increase the Mexican one. Specific proposals should emerge from the activities of the working group and its potential subgroups to allow a greater degree of integration of Mexican exports that are specific to each of the 198 defined activities: companies in Mexico, the United States, China and other countries should be contacted in order to increase Mexican exports –with investment potential–, promote the “effective export potential” in Mexico in each of these 198 activities and, therefore, promote and organize specific activities in Mexico, the United States, China and other countries by activity: campaigns with detailed information and with the support of existing companies in Mexico.

**Fifth.** The proposals described above do not require a massive budget, since their starting point is the public, private and academic knowledge and from the capacity of the above-mentioned high-level group in order to propose in an agile and executive way a diagnosis for each one of the 198 activities (in terms of global value chains, segments, processes and products, as well as companies in Mexico, the United States and China, among other countries, according to the specific activity). A reserve of academics, civil servants, and business organizations dedicated to the working group will be needed for developing specific instruments for each activity (respective campaigns in the short, medium, and long term). However, it will be essential to have sufficient resources to carry out these activities (diagnoses and individual campaigns by activity).

The results and contribution of this analysis –from the demand side– invite immediate follow-up based on Mexico’s *effective export potential* and commercial and productive conditions, in order to generate an additional effort to attract domestic and foreign direct investments, that are also related to the results based on foreign trade presented here.

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## Appendixes

### Appendix A

#### Appendix B

#### Appendix C

#### Appendix D

#### Appendix E

#### Appendix F

#### Appendix G

#### Appendix H

#### Appendix I

#### Appendix J

#### Appendix K

#### Appendix L

#### Appendix M

#### Appendix N

#### Appendix O

#### Appendix P

#### Appendix Q

#### Appendix R

## SUBTÍTULO

### APPENDIX 1

#### United States: Imports from Mexico and China by Selected Chapters of the HTS (1990-2019)

|                                                          | Share of United States imports from Mexico<br>(total from Mexico = 100)                      |        |        |        |        | Share of the United States imports from China<br>(total from China = 100)                   |        |        |        |        |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------|--------|--------|--------|--------|---------------------------------------------------------------------------------------------|--------|--------|--------|--------|
|                                                          | 2000                                                                                         | 2010   | 2017   | 2018   | 2019   | 2000                                                                                        | 2010   | 2017   | 2018   | 2019   |
| Total                                                    | 100.00                                                                                       | 100.00 | 100.00 | 100.00 | 100.00 | 100.00                                                                                      | 100.00 | 100.00 | 100.00 | 100.00 |
| Automobile                                               | 19.15                                                                                        | 17.49  | 26.71  | 27.01  | 28.32  | 1.96                                                                                        | 1.92   | 2.90   | 3.21   | 3.10   |
| Auto parts                                               | 12.54                                                                                        | 14.62  | 17.19  | 18.34  | 18.44  | 13.40                                                                                       | 22.67  | 21.66  | 21.54  | 20.32  |
| Edible fruits and nuts                                   | 0.53                                                                                         | 1.18   | 2.23   | 2.05   | 2.28   | 0.03                                                                                        | 0.04   | 0.03   | 0.04   | 0.03   |
| Optical instruments and apparatus. parts and accessories | 3.27                                                                                         | 3.82   | 4.44   | 4.36   | 4.49   | 2.81                                                                                        | 1.92   | 2.36   | 2.35   | 2.50   |
| Beverages. spirits and vinegar                           | 0.94                                                                                         | 1.13   | 1.60   | 1.62   | 1.76   | 0.02                                                                                        | 0.01   | 0.01   | 0.02   | 0.02   |
| Rest                                                     | 63.57                                                                                        | 61.77  | 47.83  | 46.61  | 44.71  | 81.79                                                                                       | 73.45  | 73.03  | 72.85  | 74.04  |
|                                                          | Share over imports from the United States imports from Mexico<br>(United States total = 100) |        |        |        |        | Share over imports from the United States imports from China<br>(United States total = 100) |        |        |        |        |
|                                                          | 2000                                                                                         | 2010   | 2017   | 2018   | 2019   | 2000                                                                                        | 2010   | 2017   | 2018   | 2019   |
| Total                                                    | 11.16                                                                                        | 12.02  | 13.36  | 13.57  | 14.33  | 8.21                                                                                        | 19.07  | 21.59  | 21.25  | 18.08  |
| Automobile                                               | 15.90                                                                                        | 22.00  | 28.84  | 30.99  | 33.23  | 1.20                                                                                        | 3.83   | 5.05   | 5.77   | 4.59   |
| Auto parts                                               | 9.43                                                                                         | 13.46  | 15.75  | 16.74  | 17.80  | 7.41                                                                                        | 33.12  | 32.07  | 30.80  | 24.75  |
| Edible fruits and nuts                                   | 18.54                                                                                        | 30.52  | 42.02  | 40.53  | 45.05  | 0.64                                                                                        | 1.59   | 0.92   | 1.09   | 0.77   |
| Optical instruments and apparatus. parts and accessories | 12.14                                                                                        | 14.94  | 16.38  | 16.30  | 16.84  | 7.68                                                                                        | 11.92  | 14.08  | 13.74  | 11.82  |
| Beverages. spirits and vinegar                           | 15.33                                                                                        | 16.44  | 21.20  | 22.28  | 23.84  | 0.19                                                                                        | 0.19   | 0.30   | 0.38   | 0.27   |
| Rest                                                     | 10.48                                                                                        | 10.16  | 9.44   | 9.30   | 9.52   | 9.92                                                                                        | 19.18  | 23.30  | 22.76  | 19.89  |
|                                                          | Mexico: tariff rate<br>(over respective imports)                                             |        |        |        |        | China: tariff rate<br>(over respective imports)                                             |        |        |        |        |
|                                                          | 2000                                                                                         | 2010   | 2017   | 2018   | 2019   | 2000                                                                                        | 2010   | 2017   | 2018   | 2019   |
| Total                                                    | 0.23                                                                                         | 0.09   | 0.11   | 0.23   | 0.20   | 3.79                                                                                        | 3.28   | 2.67   | 4.18   | 9.81   |
| Automobile                                               | 0.11                                                                                         | 0.07   | 0.07   | 0.08   | 0.10   | 5.75                                                                                        | 3.42   | 2.72   | 6.23   | 17.90  |
| Auto parts                                               | 0.08                                                                                         | 0.08   | 0.09   | 0.09   | 0.12   | 0.47                                                                                        | 0.32   | 0.43   | 2.22   | 6.91   |
| Edible fruits and nuts                                   | 0.89                                                                                         | 0.00   | 0.00   | 0.00   | 0.00   | 0.55                                                                                        | 1.07   | 1.43   | 2.87   | 9.25   |
| Optical instruments and apparatus. parts and accessories | 0.09                                                                                         | 0.09   | 0.08   | 0.08   | 0.08   | 1.30                                                                                        | 1.16   | 0.98   | 4.27   | 9.16   |
| Beverages. spirits and vinegar                           | 0.31                                                                                         | 0.00   | 0.00   | 0.00   | 0.00   | 0.64                                                                                        | 0.21   | 0.50   | 1.38   | 7.40   |
| Rest                                                     | 0.30                                                                                         | 0.09   | 0.15   | 0.41   | 0.32   | 4.38                                                                                        | 4.24   | 3.39   | 4.66   | 10.28  |

|                                                                | Mexico: transportation cost rate<br>(over respective imports)               |       |       |       |        | China: transportation cost rate<br>(over respective imports)               |       |       |       |       |
|----------------------------------------------------------------|-----------------------------------------------------------------------------|-------|-------|-------|--------|----------------------------------------------------------------------------|-------|-------|-------|-------|
|                                                                | 2000                                                                        | 2010  | 2017  | 2018  | 2019   | 2000                                                                       | 2010  | 2017  | 2018  | 2019  |
| Total                                                          | 1.13                                                                        | 0.99  | 0.94  | 0.90  | 0.89   | 7.56                                                                       | 4.94  | 4.08  | 4.37  | 4.47  |
| Automobile                                                     | 0.72                                                                        | 0.52  | 0.58  | 0.57  | 0.53   | 10.30                                                                      | 7.81  | 6.24  | 8.09  | 6.41  |
| Auto parts                                                     | 0.58                                                                        | 0.63  | 0.64  | 0.55  | 0.57   | 4.73                                                                       | 2.89  | 2.53  | 2.70  | 2.86  |
| Edible fruits and nuts                                         | 7.75                                                                        | 4.86  | 3.83  | 3.81  | 3.44   | 9.44                                                                       | 3.77  | 4.61  | 4.32  | 3.51  |
| Optical instruments<br>and apparatus. parts<br>and accessories | 0.32                                                                        | 0.40  | 0.28  | 0.29  | 0.74   | 4.06                                                                       | 3.75  | 3.01  | 3.00  | 3.14  |
| Beverages. spirits and<br>vinegar                              | 3.40                                                                        | 3.21  | 2.27  | 2.24  | 2.10   | 22.24                                                                      | 13.61 | 8.12  | 5.92  | 6.16  |
| Rest                                                           | 1.32                                                                        | 1.13  | 1.14  | 1.12  | 1.10   | 8.07                                                                       | 5.53  | 4.48  | 4.74  | 4.88  |
|                                                                | Mexico: intra-industry trade                                                |       |       |       |        | China: intra-industry trade                                                |       |       |       |       |
|                                                                | 2000                                                                        | 2010  | 2017  | 2018  | 2019   | 2000                                                                       | 2010  | 2017  | 2018  | 2019  |
| Total                                                          | 0.42                                                                        | 0.40  | 0.40  | 0.39  | 0.37   | 0.13                                                                       | 0.13  | 0.14  | 0.15  | 0.14  |
| Automobile                                                     | 0.46                                                                        | 0.53  | 0.40  | 0.38  | 0.35   | 0.13                                                                       | 0.14  | 0.30  | 0.33  | 0.28  |
| Auto parts                                                     | 0.63                                                                        | 0.53  | 0.50  | 0.48  | 0.47   | 0.30                                                                       | 0.18  | 0.17  | 0.16  | 0.17  |
| Edible fruits and nuts                                         | 0.20                                                                        | 0.13  | 0.11  | 0.14  | 0.12   | 0.35                                                                       | 0.54  | 0.36  | 0.39  | 0.25  |
| Optical instruments<br>and apparatus. parts<br>and accessories | 0.59                                                                        | 0.54  | 0.59  | 0.60  | 0.60   | 0.29                                                                       | 0.58  | 0.60  | 0.58  | 0.55  |
| Beverages. spirits and<br>vinegar                              | 0.16                                                                        | 0.20  | 0.12  | 0.12  | 0.08   | 0.17                                                                       | 0.24  | 0.23  | 0.27  | 0.38  |
| Rest                                                           | --                                                                          | --    | --    | --    | --     | --                                                                         | --    | --    | --    | --    |
|                                                                | Mexico: medium and<br>high technological level<br>(over respective imports) |       |       |       |        | China: medium and<br>high technological level<br>(over respective imports) |       |       |       |       |
|                                                                | 2000                                                                        | 2010  | 2017  | 2018  | 2019   | 2000                                                                       | 2010  | 2017  | 2018  | 2019  |
| Total                                                          | 66.96                                                                       | 64.04 | 73.13 | 73.04 | 73.72  | 42.42                                                                      | 54.75 | 59.60 | 59.27 | 57.80 |
| Automobile                                                     | 100.00                                                                      | 99.99 | 99.99 | 99.99 | 100.00 | 91.49                                                                      | 96.95 | 98.07 | 98.30 | 97.94 |
| Auto parts                                                     | 99.21                                                                       | 99.09 | 99.37 | 99.37 | 99.32  | 100.00                                                                     | 99.98 | 99.99 | 99.99 | 99.99 |
| Edible fruits and nuts                                         | 0.00                                                                        | 0.00  | 0.00  | 0.00  | 0.00   | 0.00                                                                       | 0.00  | 0.00  | 0.00  | 0.00  |
| Optical instruments<br>and apparatus. parts<br>and accessories | 98.20                                                                       | 93.90 | 93.29 | 92.21 | 93.13  | 98.70                                                                      | 92.49 | 91.62 | 91.93 | 91.75 |
| Beverages. spirits and<br>vinegar                              | 0.00                                                                        | 0.02  | 0.02  | 0.02  | 0.01   | 5.01                                                                       | 0.53  | 0.00  | 0.01  | 0.04  |
| Rest                                                           | 50.60                                                                       | 46.10 | 52.67 | 51.01 | 51.23  | 29.90                                                                      | 38.73 | 45.10 | 44.51 | 43.43 |

Source: own elaboration based on CECHIMEX (2020).

## APPENDIX 2

### United States: Imports from Mexico by Main 5 Chapters of the HTS and Subheadings by High Technological Level

| Subheadings | Description                                        |
|-------------|----------------------------------------------------|
| 900850      | Image and Photo Projectors, Enlargers and Reducers |
| 902990      | Pts For Revolution Counters, Odometer, Etc         |
| 847050      | Cash Registers                                     |
| 901380      | Optical Devices, Appliances And Instruments, Nesoi |
| 902890      | Pt Acces Gas Lqd Elec Supply Mtr Inc Clbrating Mtr |
| 841231      | Pneumatic Power Engines And Motors, Linear Acting  |
| 902730      | Spctmtr Spctrphtmr Etc Using Optical Radiations    |
| 847290      | Ofc Mach For Automatic Banknote Dispensers, Etc    |
| 847150      | Digital Processing Units, N.E.S.O.I.               |
| 903033      | Inst & App For Meas/chk Volt Etc W/o Recrdng Nesoi |
| 901510      | Rangefinders                                       |
| 902710      | Gas Or Smoke Analysis Apparatus                    |
| 902620      | Inst & Apprts, Measuring/checking Pressure         |
| 902519      | Thermometers/pyro Nt Combind W Oth Instrum, Nesoi  |
| 902214      | Appts Base On X-ray, Medical,surgical,vetnry,nesoi |
| 901530      | Levels (surveying)                                 |
| 903039      | Inst Meas Volt Crrnt Etc W-out Rcrdng Dvce, Mltmtr |
| 841290      | Engine And Motor Parts, Nesoi                      |
| 903180      | Meas & Checkng Instrument, Appliances & Mach Nesoi |
| 847170      | Automatic Data Processing Storage Units, N.E.S.O.I |
| 903089      | Inst,measuring/checking Electrical Quantitie,nesoi |
| 903032      | Multimeters With A Recording Device                |
| 903084      | Inst. And Apparatus With A Recording Device, Nesoi |
| 902610      | Inst & Apprts, Measure/checking Flow/level Of Liq  |
| 903120      | Test Benches                                       |
| 901420      | Instruments & Appl F Aerntcl/spc Navig Ex Compass  |
| 901812      | Ultrasonic Scanning Apparatus                      |
| 901819      | Electro-diagnostic Apparatus Nesoi, And Parts Etc. |
| 902690      | Pts, Inst & Apprts Measure/check Variables Liq/gas |
| 844331      | Mach Which Perform 2-plus Of Print, Copy, Fax Etc  |
| 847329      | Parts For Mach,nesoi, Incorp Calculating Device    |
| 901811      | Electrocardiographs, And Parts And Accessories     |
| 900590      | Parts Etc Of Binoculars, Optical Telescopes Etc    |
| 902219      | Apparatus Base On X-ray For Oth Use,ex Medical,etc |
| 847330      | Parts & Accessories For Adp Machines & Units       |
| 902720      | Chromatographs And Electrophoresis Instruments     |
| 902580      | Hydrometers & Sim Fl Inst, Hygrometers, Etc, Nesoi |
| 902790      | Pts Of Inst, Phys/chem Analysis Etc, Nesoi         |
| 903190      | Pts, Of Mach Nesoi In This Chap,& Profile Projectr |
| 901590      | Parts And Accessories For Surveying Etc Nesoi      |
| 901520      | Theodolites And Tachymeters                        |
| 903290      | Pts, Autom Regulating/controlling Inst & Apprts    |
| 900699      | Pts, Photographic Flashlight Exc Nesoi             |

|        |                                                      |
|--------|------------------------------------------------------|
| 847141 | Digital Adp Mach,with Cp Unit,input,output, Nesoi    |
| 901490 | Pts, For Direct Find Compasses, Navigational Inst    |
| 847350 | Pts Suitble Fr Use W Mac Of 2/more Head 8469-8472    |
| 902290 | X-ray/hi Tnsn Genr Cntr Pnl & Dsk Exm/trtmnt Tb Pt   |
| 902480 | Machine&appliance,test Hardness,strength,etc,nesoi   |
| 900890 | Pts, Of Image Projector,enlarger&reducer Exc Cinem   |
| 902300 | Inst, Appts&models,for Demonstrational Use& Parts    |
| 847160 | Adp Input Or Output Units, Storage Or Not, Nesoi     |
| 902780 | Phy Chem Ins/appr;meas Vscsty & Heat Nesoi           |
| 901060 | Projection Screens                                   |
| 902221 | Appts Base On Alpha,beta,etc Radiation,medical,etc   |
| 847321 | Parts Of Electronic Calculating Machines             |
| 902490 | Pts, Machine & Appln, Test Hardness/strength, Etc    |
| 903020 | Cathode-ray Oscilloscopes&cathode-ray Oscillograph   |
| 901720 | Drawng Markng-out Math Calcultng Ins Ex Drft Tble    |
| 844399 | Pts & Acc Of Printers, Copiers And Fax Mach, Nesoi   |
| 901710 | Drafting Table & Machines Whether Or Not Automatic   |
| 844339 | Printers/copiers/fax Machines, Not Combined, Nesoi   |
| 903010 | Inst For Measuring/detecting Ionizing Radiations     |
| 901730 | Micrometers, Calipers And Gauges                     |
| 902212 | Computed Tomography Apparatus                        |
| 902750 | Instruments Etc Using Optical Radiations Nesoi       |
| 902511 | Thermomtrs/pyro N Cmbnd W Ot Inst Liq-flld Drct Rd   |
| 901813 | Magnetic Resonance Imaging Apparatus                 |
| 900791 | Parts And Accessories For Cinema Cameras             |
| 901190 | Pts & Accessories For Compound Optical Microscopes   |
| 900691 | Parts And Accessories For Still Photo Cameras        |
| 903082 | Inst To Check Semiconduct Wafers &such That Record   |
| 847090 | Postage-franking & Similar Mach With Calcltng Dvce   |
| 901540 | Photogrammetrical Surveying Instruments & Applnces   |
| 901600 | Balances, Sensitivity &gt;=5 Cg, W Or W/o Wgt, & Pts |
| 847340 | Parts And Accessories Of Office Machines, Nesoi      |
| 902229 | Appr Use Of Alpha Beta Gamma Rdtn N F Med Surg Etc   |
| 901050 | Equipment For Photo Labs, N.E.S.O.I.; Negatoscopes   |
| 901180 | Compound Optical Microscopes, Nesoi                  |
| 841229 | Hydraulic Power Engines & Motors Ex Linear Acting    |
| 902213 | Appts Base On X-ray For Dental, Uses, Nesoi          |
| 901580 | Surveying Instruments And Appliances, Nesoi Etc.     |
| 841090 | Parts, Inc Regulators, For Hydraulic Turb & Wtr Wh   |
| 903040 | Oth Inst, Specially Designed For Telecommunication   |
| 902410 | Machines And Appliances For Testing Metals           |
| 901090 | Pts & Access Of Apprt & Equip For Photo/cinema Lab   |
| 847310 | Typewriter & Word Process Mach Parts & Accessories   |
| 900659 | Photographic Cameras (still) Nesoi                   |



|        |                                                    |
|--------|----------------------------------------------------|
| 903110 | Machines For Balancing Mechanical Parts            |
| 903281 | Hydraulic/pneumatic Auto Regulating/contr Ins/appr |
| 844332 | Printers/ Copiers/fax Mach, Nt Comb, Connct To Adp |
| 903090 | Pts Of Inst F Meas Elect Quat Alpha Beta Inzng Rdt |
| 901320 | Lasers, Other Than Laser Diodes                    |
| 901780 | Instruments For Measuring Length, Nesoi            |
| 901820 | Ultraviolet Or Infrared Ray Apparatus, & Pts & Acc |
| 901390 | Pts Of Liq Crystal Device, Laser&oth Optical,nesoi |
| 847190 | Adp Mac&unts Thereof;mag/opt Rder,trnscrb,proc Dat |
| 847130 | Port Digtl Automatic Data Process Mach Not &gt; 10 |
| 900580 | Monoculars Telescopes Astronomical Ins And Mountng |
| 903149 | Measuring Or Checking Instruments & Machines,nesoi |
| 841221 | Hydraulic Power Engines And Motors, Linear Acting  |
| 840690 | Parts For Steam And Other Vapor Turbines           |
| 841239 | Pneumatic Power Engines & Motors Ex Linear Acting  |
| 900652 | Photo Cameras For Roll Film Of A Width Less 35 mm  |
| 903300 | Pts, Nesoi For Machines,appln,inst/appts Of Chap90 |
| 847180 | Automatic Data Processing Units, N.E.S.O.I.        |
| 901410 | Direction Finding Compass                          |
| 903210 | Thermostats                                        |
| 847230 | Mail Sorting, Opening, Postage Affixing,etc, Mach  |
| 900630 | Cameras For Underwater, Aerial Survey, Medical Etc |
| 846729 | Tools For Wk In Hand,w/ Self-cont Elec Motor,neso  |
| 901480 | Navigational Instruments And Appliances, Nesoi     |
| 846722 | Saws W/ Self-cont. Electiric Motors, For Wk In Hnd |
| 841280 | Engines And Motors, Nesoi                          |
| 902680 | Inst Measure/checking Variable Of Liq/gases, Nesoi |
| 902230 | X-ray Tubes                                        |
| 903289 | Auto Regulating Ins & Appr Ex Throstat,mnstat, Etc |
| 902590 | Pts, Hydrometers, Therometers, Pyrometers, Etc     |
| 903220 | Manostats                                          |
| 846721 | Drills, W/ Self-cont. Electric Motor, Wk In Hand   |
| 847149 | Digital Adp Mac & Units,entered As Systems, Nesoi  |
| 900653 | Photo Cameras For Roll Film Of A Width Of 35 mm    |

Source: own elaboration based on CECHIMEX (2020).

### APPENDIX 3

#### United States: Imports by Subheading 847290/a from Selected Countries (2010-2019)

(subheadings by technological level: high-technological manufacturing) /b

|                                         | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US<br>millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|-----------------------------------------|--------|--------|--------|--------|-----------|------------------------------------------|--------------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>            |        |        |        |        |           |                                          |                                            |
| China                                   | 49.41  | 48.60  | 43.04  | 27.11  | -21.48    | 263                                      | -15.2                                      |
| Mexico                                  | 0.14   | 0.32   | 1.90   | 16.51  | 16.20     | 160                                      | 719.3                                      |
| Taiwan                                  | 11.08  | 12.56  | 15.72  | 19.87  | 7.31      | 192                                      | 42.7                                       |
| Vietnam                                 | 0.74   | 9.76   | 7.20   | 10.32  | 0.56      | 100                                      | 16.7                                       |
| Malaysia                                | 4.69   | 6.68   | 12.29  | 6.86   | 0.18      | 66                                       | 15.0                                       |
| Total                                   | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 968                                      | 13.5                                       |
| <b>EXPORTS (TOTAL = 100)</b>            |        |        |        |        |           |                                          |                                            |
| China                                   | 2.32   | 0.48   | 1.10   | 0.51   | 0.02      | 1                                        | 5.4                                        |
| Mexico                                  | 10.29  | 13.60  | 23.14  | 7.64   | -5.95     | 13                                       | -22.8                                      |
| Taiwan                                  | 1.04   | 1.71   | 1.68   | 1.63   | -0.07     | 3                                        | 0.8                                        |
| Vietnam                                 | 0.18   | 0.21   | 0.17   | 0.26   | 0.05      | 0                                        | 15.8                                       |
| Malaysia                                | 0.93   | 0.45   | 0.18   | 0.32   | -0.14     | 1                                        | -14.0                                      |
| Total                                   | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 166                                      | 3.0                                        |
| <b>TRADE (TOTAL = 100)</b>              |        |        |        |        |           |                                          |                                            |
| China                                   | 23.73  | 25.55  | 29.75  | 26.92  | 1.37      | 263                                      | -15.2                                      |
| Mexico                                  | 3.94   | 15.08  | 9.01   | 25.65  | 10.57     | 173                                      | 170.1                                      |
| Taiwan                                  | 6.61   | 6.57   | 9.64   | 6.22   | -0.34     | 195                                      | 41.7                                       |
| Vietnam                                 | 0.00   | 3.91   | 2.40   | 5.92   | 2.01      | 100                                      | 16.7                                       |
| Malaysia                                | 9.26   | 10.14  | 8.00   | 4.35   | -5.79     | 67                                       | 14.6                                       |
| Total                                   | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 1.134                                    | 11.7                                       |
| <b>INTRA-INDUSTRY TRADE /b</b>          |        |        |        |        |           |                                          |                                            |
| China                                   | 0.03   | 0.00   | 0.01   | 0.01   | 0.00      | --                                       | --                                         |
| Mexico                                  | 0.10   | 0.20   | 0.54   | 0.15   | -0.05     | --                                       | --                                         |
| Taiwan                                  | 0.05   | 0.06   | 0.05   | 0.03   | -0.03     | --                                       | --                                         |
| Vietnam                                 | 0.12   | 0.01   | 0.01   | 0.01   | -0.00     | --                                       | --                                         |
| Malaysia                                | 0.10   | 0.03   | 0.01   | 0.02   | -0.01     | --                                       | --                                         |
| Total                                   | 0.43   | 0.34   | 0.36   | 0.29   | -0.05     | --                                       | --                                         |
| <b>TARIFF RATE (OVER TOTAL IMPORTS)</b> |        |        |        |        |           |                                          |                                            |
| China                                   | 1.67   | 0.00   | 2.65   | 15.71  | 15.71     | --                                       | --                                         |
| Mexico                                  | 0.15   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Taiwan                                  | 0.09   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Vietnam                                 | 1.73   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Malaysia                                | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Total                                   | 1.16   | 0.00   | 1.14   | 4.26   | 4.26      | --                                       | --                                         |

|                                                                                                                                                         | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION TARIFF RATE (OVER TOTAL IMPORTS)</b>                                                                                                  |      |      |      |      |           |                                       |                                            |
| China                                                                                                                                                   | 5.86 | 4.31 | 4.51 | 5.04 | 0.73      | --                                    | --                                         |
| Mexico                                                                                                                                                  | 0.34 | 1.39 | 0.29 | 0.13 | -1.26     | --                                    | --                                         |
| Taiwan                                                                                                                                                  | 2.64 | 0.82 | 1.06 | 1.07 | 0.26      | --                                    | --                                         |
| Vietnam                                                                                                                                                 | 1.18 | 1.11 | 0.40 | 1.64 | 0.53      | --                                    | --                                         |
| Malaysia                                                                                                                                                | 1.02 | 2.60 | 6.53 | 6.52 | 3.92      | --                                    | --                                         |
| Total                                                                                                                                                   | 3.90 | 2.94 | 3.52 | 2.60 | -0.35     | --                                    | --                                         |
| /a Office machines, others (including automatic banknote dispensers, coin-sorting machines, pencil-sharpening machines).<br>/b See <i>chapter 2.1</i> . |      |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECHEMEX (2020).

#### APPENDIX 4

##### United States: Imports of Subheading 847050/a with Selected Countries (2010-2019)

(subheading of technological level: manufacturing of high-technology) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|---------------------------------------|-----------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 37.22  | 39.67  | 39.45  | 33.95  | -5.72     | 293                                   | 13.9                                    |
| Mexico                                       | 0.08   | 0.10   | 5.72   | 28.79  | 28.70     | 248                                   | 2,034.8                                 |
| Taiwan                                       | 10.25  | 10.38  | 13.14  | 7.93   | -2.46     | 68                                    | 7.6                                     |
| Vietnam                                      | 0.00   | 6.17   | 3.18   | 7.32   | 1.15      | 63                                    | 34.1                                    |
| Malaysia                                     | 14.59  | 15.97  | 10.65  | 5.48   | -10.50    | 47                                    | -27.9                                   |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 863                                   | 23.2                                    |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 1.35   | 1.94   | 3.29   | 1.52   | -0.43     | 4                                     | -26.1                                   |
| Mexico                                       | 10.35  | 40.15  | 18.00  | 14.27  | -25.88    | 34                                    | -50.1                                   |
| Taiwan                                       | 0.58   | 0.19   | 0.10   | 0.06   | -0.13     | 0                                     | -53.3                                   |
| Vietnam                                      | 0.00   | 0.12   | 0.28   | 0.84   | 0.73      | 2                                     | 124.9                                   |
| Malaysia                                     | 0.42   | 0.37   | 0.74   | 0.28   | -0.09     | 1                                     | -26.9                                   |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 238                                   | -16.3                                   |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                       |                                         |
| China                                        | 23.73  | 25.55  | 29.75  | 26.92  | 1.37      | 296                                   | 13.0                                    |
| Mexico                                       | 3.94   | 15.08  | 9.01   | 25.65  | 10.57     | 282                                   | 43.6                                    |
| Taiwan                                       | 6.61   | 6.57   | 9.64   | 6.22   | -0.34     | 69                                    | 7.2                                     |
| Vietnam                                      | 0.00   | 3.91   | 2.40   | 5.92   | 2.01      | 65                                    | 35.5                                    |
| Malaysia                                     | 9.26   | 10.14  | 8.00   | 4.35   | -5.79     | 48                                    | -27.9                                   |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 1,101                                 | 10.1                                    |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                       |                                         |
| China                                        | 0.04   | 0.06   | 0.06   | 0.02   | -0.03     | --                                    | --                                      |
| Mexico                                       | 0.02   | 0.01   | 0.93   | 0.24   | 0.23      | --                                    | --                                      |
| Taiwan                                       | 0.07   | 0.02   | 0.01   | 0.00   | -0.02     | --                                    | --                                      |
| Vietnam                                      | -      | 0.02   | 0.06   | 0.06   | 0.04      | --                                    | --                                      |
| Malaysia                                     | 0.03   | 0.03   | 0.05   | 0.03   | 0.00      | --                                    | --                                      |
| Total                                        | 0.75   | 0.75   | 0.54   | 0.43   | -0.32     | --                                    | --                                      |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                       |                                         |
| China                                        | 0.00   | 0.00   | 0.00   | 4.88   | 4.88      | --                                    | --                                      |
| Mexico                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                    | --                                      |
| Taiwan                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                    | --                                      |
| Vietnam                                      | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                    | --                                      |
| Malaysia                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                    | --                                      |
| Total                                        | 0.00   | 0.00   | 0.00   | 1.66   | 1.66      | --                                    | --                                      |

|                                                           | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|-----------------------------------------------------------|------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b> |      |      |      |      |           |                                       |                                            |
| China                                                     | 2.13 | 1.39 | 1.52 | 1.44 | 0.05      | --                                    | --                                         |
| Mexico                                                    | 1.36 | 1.50 | 0.27 | 0.32 | -1.19     | --                                    | --                                         |
| Taiwan                                                    | 1.55 | 1.57 | 1.50 | 1.49 | -0.08     | --                                    | --                                         |
| Vietnam                                                   | 0.00 | 1.01 | 0.43 | 0.84 | -0.17     | --                                    | --                                         |
| Malaysia                                                  | 2.39 | 1.39 | 0.79 | 1.79 | 0.40      | --                                    | --                                         |
| Total                                                     | 2.12 | 2.06 | 2.20 | 1.36 | -0.70     | --                                    | --                                         |
| /a Cash registers.                                        |      |      |      |      |           |                                       |                                            |
| /b See <i>chapter 2.1</i>                                 |      |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECHEMEX (2020).



## APPENDIX 5

### United States: Imports of Subheading 847330/a with Selected Countries (2010-2019)

(subheading of technological level: manufacturing of high-technology) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US<br>millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|------------------------------------------|--------------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 44.73  | 68.40  | 60.75  | 29.98  | -38.42    | 5,561                                    | -39.2                                      |
| Mexico                                       | 1.51   | 1.22   | 1.43   | 3.86   | 2.64      | 716                                      | 63.7                                       |
| Taiwan                                       | 6.94   | 6.32   | 8.40   | 24.66  | 18.34     | 4,576                                    | 81.5                                       |
| Vietnam                                      | 11.84  | 12.11  | 18.36  | 22.48  | 10.36     | 4,170                                    | 25.2                                       |
| Malaysia                                     | 0.20   | 4.90   | 5.40   | 8.90   | 4.00      | 1,651                                    | 23.8                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 18,552                                   | -8.1                                       |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 7.26   | 3.92   | 3.56   | 3.09   | -0.83     | 500                                      | -9.3                                       |
| Mexico                                       | 37.34  | 67.25  | 65.50  | 68.82  | 1.57      | 11,148                                   | 3.3                                        |
| Taiwan                                       | 1.10   | 1.34   | 1.74   | 1.74   | 0.40      | 281                                      | 16.4                                       |
| Vietnam                                      | 1.07   | 0.50   | 1.94   | 1.68   | 1.18      | 272                                      | 87.2                                       |
| Malaysia                                     | 1.82   | 1.17   | 1.10   | 1.30   | 0.14      | 211                                      | 8.1                                        |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 16,198                                   | 2.1                                        |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                          |                                            |
| China                                        | 30.85  | 41.70  | 38.09  | 17.44  | -24.25    | 6,061                                    | -37.7                                      |
| Mexico                                       | 14.78  | 28.56  | 26.81  | 34.14  | 5.58      | 11,864                                   | 5.3                                        |
| Taiwan                                       | 4.78   | 4.26   | 5.76   | 13.98  | 9.72      | 4,857                                    | 74.4                                       |
| Vietnam                                      | 7.85   | 7.30   | 11.85  | 12.78  | 5.48      | 4,442                                    | 27.4                                       |
| Malaysia                                     | 0.80   | 3.36   | 3.69   | 5.36   | 2.00      | 1,862                                    | 21.7                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 34,751                                   | -3.7                                       |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                          |                                            |
| China                                        | 0.17   | 0.08   | 0.07   | 0.17   | 0.09      | --                                       | --                                         |
| Mexico                                       | 0.13   | 0.05   | 0.06   | 0.12   | 0.07      | --                                       | --                                         |
| Taiwan                                       | 0.17   | 0.26   | 0.24   | 0.12   | -0.14     | --                                       | --                                         |
| Vietnam                                      | 0.10   | 0.06   | 0.13   | 0.12   | 0.07      | --                                       | --                                         |
| Malaysia                                     | 0.31   | 0.29   | 0.24   | 0.23   | -0.06     | --                                       | --                                         |
| Total                                        | 0.74   | 0.83   | 0.79   | 0.93   | 0.10      | --                                       | --                                         |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                          |                                            |
| China                                        | 0.00   | 0.00   | 1.02   | 7.69   | 7.69      | --                                       | --                                         |
| Mexico                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Taiwan                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Vietnam                                      | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Malaysia                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Total                                        | 0.00   | 0.00   | 0.62   | 2.31   | 2.31      | --                                       | --                                         |

|                                                                  | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|------------------------------------------------------------------|------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b>        |      |      |      |      |           |                                       |                                            |
| China                                                            | 2.19 | 1.25 | 1.39 | 2.26 | 1.02      | --                                    | --                                         |
| Mexico                                                           | 0.74 | 0.62 | 0.39 | 0.30 | -0.33     | --                                    | --                                         |
| Taiwan                                                           | 1.81 | 2.22 | 1.69 | 1.43 | -0.79     | --                                    | --                                         |
| Vietnam                                                          | 0.25 | 0.09 | 0.05 | 1.52 | 1.43      | --                                    | --                                         |
| Malaysia                                                         | 1.11 | 0.22 | 0.14 | 3.70 | 3.49      | --                                    | --                                         |
| Total                                                            | 1.39 | 1.11 | 1.09 | 1.89 | 0.78      | --                                    | --                                         |
| /a Parts and accessories for automatic data processing machines. |      |      |      |      |           |                                       |                                            |
| /b See <i>chapter 2.1</i> .                                      |      |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECHIMEX (2020).

## APPENDIX 6

### United States: Imports of Subheading 902214/a with Selected Countries (2010-2019)

(subheading of technological level: manufacturing of high-technology) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US<br>millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|------------------------------------------|--------------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 0.81   | 3.49   | 3.77   | 4.18   | 0.69      | 58                                       | 20.4                                       |
| Mexico                                       | 0.01   | 3.34   | 5.69   | 8.81   | 5.47      | 123                                      | 78.7                                       |
| Taiwan                                       | 41.22  | 47.77  | 41.99  | 42.47  | -5.30     | 591                                      | 3.8                                        |
| Vietnam                                      | 8.93   | 5.98   | 6.38   | 6.82   | 0.84      | 95                                       | 17.5                                       |
| Malaysia                                     | 7.90   | 5.15   | 5.93   | 4.75   | -0.40     | 66                                       | 5.7                                        |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 1,391                                    | 10.0                                       |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 9.75   | 19.28  | 16.26  | 17.49  | -1.80     | 165                                      | 0.6                                        |
| Mexico                                       | 1.78   | 2.43   | 3.51   | 1.72   | -0.71     | 16                                       | -11.1                                      |
| Taiwan                                       | 6.59   | 5.91   | 4.05   | 6.76   | 0.85      | 64                                       | 12.9                                       |
| Vietnam                                      | 2.97   | 4.50   | 4.12   | 4.52   | 0.03      | 43                                       | 5.9                                        |
| Malaysia                                     | 13.66  | 9.96   | 7.48   | 7.49   | -2.47     | 70                                       | -8.4                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 941                                      | 5.6                                        |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                          |                                            |
| China                                        | 4.68   | 10.18  | 8.99   | 9.55   | -0.63     | 223                                      | 4.8                                        |
| Mexico                                       | 0.78   | 2.96   | 4.78   | 5.95   | 2.99      | 139                                      | 53.5                                       |
| Taiwan                                       | 26.23  | 30.04  | 26.13  | 28.06  | -1.98     | 654                                      | 4.6                                        |
| Vietnam                                      | 6.35   | 5.35   | 5.44   | 5.89   | 0.54      | 137                                      | 13.5                                       |
| Malaysia                                     | 10.39  | 7.19   | 6.58   | 5.86   | -1.33     | 137                                      | -2.3                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 2,332                                    | 8.2                                        |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                          |                                            |
| China                                        | 0.20   | 0.40   | 0.49   | 0.52   | 0.13      | --                                       | --                                         |
| Mexico                                       | 0.02   | 0.70   | 0.61   | 0.23   | -0.46     | --                                       | --                                         |
| Taiwan                                       | 0.22   | 0.17   | 0.13   | 0.19   | 0.03      | --                                       | --                                         |
| Vietnam                                      | 0.40   | 0.71   | 0.63   | 0.62   | -0.09     | --                                       | --                                         |
| Malaysia                                     | 0.86   | 0.83   | 0.95   | 0.97   | 0.14      | --                                       | --                                         |
| Total                                        | 0.87   | 0.85   | 0.84   | 0.81   | -0.04     | --                                       | --                                         |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                          |                                            |
| China                                        | 0.00   | 0.00   | 9.00   | 16.87  | 16.87     | --                                       | --                                         |
| Mexico                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Taiwan                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Vietnam                                      | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Malaysia                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Total                                        | 0.00   | 0.00   | 0.34   | 0.71   | 0.71      | --                                       | --                                         |

|                                                                                    | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|------------------------------------------------------------------------------------|------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b>                          |      |      |      |      |           |                                       |                                            |
| China                                                                              | 1.77 | 4.79 | 3.99 | 2.47 | -2.32     | --                                    | --                                         |
| Mexico                                                                             | 3.18 | 0.70 | 0.69 | 0.51 | -0.19     | --                                    | --                                         |
| Taiwan                                                                             | 1.38 | 1.09 | 1.19 | 1.09 | 0.00      | --                                    | --                                         |
| Vietnam                                                                            | 0.60 | 1.97 | 1.28 | 0.98 | -0.99     | --                                    | --                                         |
| Malaysia                                                                           | 0.98 | 3.15 | 2.55 | 1.23 | -1.92     | --                                    | --                                         |
| Total                                                                              | 0.82 | 1.51 | 1.30 | 1.12 | -0.39     | --                                    | --                                         |
| /a Apparatus based on the use of X-rays for medical, surgical, or veterinary uses. |      |      |      |      |           |                                       |                                            |
| /b See <i>chapter 2.1</i> .                                                        |      |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECIMEX (2020).

## APPENDIX 7

### Typology of United States imports

(based on the change of the respective shares of China and Mexico during 2017-2019)

|                |                                                                                                   | China         | MExico       |
|----------------|---------------------------------------------------------------------------------------------------|---------------|--------------|
|                | <b>Total</b>                                                                                      | <b>-3.51</b>  | <b>0.97</b>  |
| <b>Group I</b> |                                                                                                   | <b>-14.30</b> | <b>-5.68</b> |
|                | <b>Subroup I.A.</b>                                                                               | <b>-13.59</b> | <b>-6.31</b> |
| 86             | Railway or tramway locomotives, rolling stock, track fixtures and fittings                        | -4.38         | 7.87         |
| 65             | Headgear and parts thereof                                                                        | -9.69         | 6.12         |
| 50             | Silk                                                                                              | 9.17          | 2.77         |
| 70             | Glass and glassware                                                                               | -3.52         | 2.22         |
| 84             | Nuclear reactors, boilers, machinery and mechanical appliances, parts                             | -7.32         | 2.04         |
| 46             | Manufactures of straw, esparto or others                                                          | -14.91        | 1.92         |
| 68             | Articles of stone, plaster, cement, asbestos, mica or similar materials                           | -11.30        | 1.82         |
| 51             | Wool, fine or coarse animal hair                                                                  | -4.74         | 1.18         |
| 59             | Impregnated, coated, covered or laminated textile fabrics                                         | -4.03         | 1.05         |
| 57             | Carpets and other textile floor covering                                                          | -4.99         | 1.00         |
|                | <b>Subgroup I.B.</b>                                                                              | <b>-6.06</b>  | <b>0.56</b>  |
| 85             | Electrical machinery and equipment and parts thereof                                              | -5.74         | 0.89         |
| 12             | Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruits                           | -4.71         | 0.81         |
| 44             | Wood and articles of wood; wood charcoal                                                          | -3.84         | 0.67         |
| 40             | Rubber and articles thereof                                                                       | -3.86         | 0.65         |
| 60             | Knitted or crocheted fabrics                                                                      | -10.08        | 0.55         |
| 76             | Aluminum and articles thereof                                                                     | -3.89         | 0.42         |
| 58             | Special woven fabrics; tufted textile fabrics; lace, tapestries; trimmings; embroidery            | -5.82         | 0.28         |
| 20             | Preparations of vegetables, fruit, nuts or other parts of plants                                  | -6.31         | 0.27         |
| 54             | Man-made filaments                                                                                | -7.01         | 0.22         |
| 94             | Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings       | -8.59         | 0.21         |
| 16             | Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates          | -6.35         | 0.13         |
| 42             | Articles of leather; saddlery and harness                                                         | -17.45        | 0.04         |
| 91             | Clocks and watches and parts thereof                                                              | -4.06         | 0.02         |
| 64             | Footwear, gaiters and the like; parts of such articles                                            | -5.97         | -0.00        |
| 32             | Tanning or dyeing extracts; dyes, pigments, paints, varnishes, putty and mastics                  | -4.20         | -0.02        |
| 43             | Furskins and artificial fur; manufactures thereof                                                 | -8.51         | -0.11        |
| 53             | Other vegetable textile fibers; paper yarn and woven fabric of paper yarn                         | -4.72         | -0.12        |
| 62             | Articles of apparel and clothing accessories, not knitted or crocheted                            | -4.59         | -0.17        |
| 55             | Man-made staple fibers                                                                            | -9.00         | -0.26        |
| 05             | Products of animal origin, not elsewhere specified or included                                    | -16.28        | -0.86        |
| 56             | Wadding, felt and nonwovens; special yarns, twine, cordage, ropes and cables and articles thereof | -5.37         | -0.97        |
| 52             | Cotton                                                                                            | -7.30         | -1.04        |
| 14             | Vegetable plaiting materials; vegetable products not elsewhere specified or included              | -5.29         | -4.77        |

|                 |                                                                                                               | <b>China</b> | <b>Mexico</b> |
|-----------------|---------------------------------------------------------------------------------------------------------------|--------------|---------------|
| <b>Group II</b> |                                                                                                               | <b>-0.83</b> | <b>0.85</b>   |
|                 | <b>Subgroup II.A.</b>                                                                                         | <b>-0.60</b> | <b>3.92</b>   |
| 89              | Ships, boats and floating structures                                                                          | -0.83        | 6.68          |
| 26              | Ores, slag and ash                                                                                            | -1.03        | 5.05          |
| 87              | Vehicles other than railway or tramway rolling stock, and parts and accessories thereof                       | -0.46        | 4.39          |
| 01              | Live animals                                                                                                  | -0.02        | 3.65          |
| 78              | Lead and articles thereofPlomo y manufacturas de plomo. 0.40 3.26                                             | 0.40         | 3.26          |
| 08              | Edible fruit and nuts; peel of citrus fruit or melons                                                         | -0.15        | 3.03          |
| 79              | Zinc and articles thereof                                                                                     | -0.48        | 2.67          |
| 22              | Beverages, spirits and vinegar                                                                                | -0.03        | 2.64          |
| 72              | Iron and steel                                                                                                | -0.19        | 2.60          |
| 36              | Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations                | -1.59        | 2.21          |
| 02              | Meat and edible meat offal                                                                                    | -0.09        | 2.12          |
| 75              | Nickel and articles thereof                                                                                   | -0.85        | 1.97          |
| 07              | Edible vegetables and certain roots and tubers                                                                | -1.57        | 1.77          |
| 73              | Articles of iron or steel                                                                                     | -2.96        | 1.29          |
| 15              | Animal or vegetable fats and oils and their cleavage products prepared edible fats; animal or vegetable waxes | 0.12         | 1.28          |
| 34              | Soap, organic surface-active agents, washing preparations, lubricating preparations                           | -0.77        | 1.14          |
| 74              | Copper and articles thereof                                                                                   | -0.37        | 1.06          |
| 04              | Dairy produce; birds eggs; natural honey; edible products of animal origin,                                   | -0.13        | 1.04          |
| 25              | Salt; sulfur; earths and stone; plastering materials, lime and cement                                         | -1.87        | 1.01          |
|                 | <b>Subgroup II.B.</b>                                                                                         | <b>-1.09</b> | <b>-0.17</b>  |
| 92              | Musical instruments; parts and accessories of such articles                                                   | -0.91        | 0.85          |
| 27              | Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes          | -0.19        | 0.71          |
| 80              | Tin and articles thereof                                                                                      | 2.58         | 0.67          |
| 97              | Works of art, collectors' pieces and antiques                                                                 | 0.02         | 0.65          |
| 18              | Cocoa and cocoa preparations                                                                                  | 0.01         | 0.64          |
| 31              | Fertilizers                                                                                                   | -2.69        | 0.62          |
| 11              | Products of the milling industry; malt; starches; inulin; wheat gluten                                        | -0.58        | 0.57          |
| 48              | Paper and paperboard; articles of paper pulp, of paper or of paperboard                                       | -3.45        | 0.48          |
| 88              | Aircraft, spacecraft, and parts thereof                                                                       | -0.06        | 0.48          |
| 90              | Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments       | -2.26        | 0.46          |
| 83              | Miscellaneous articles of base metal                                                                          | -1.95        | 0.45          |
| 38              | Miscellaneous chemical products                                                                               | 0.45         | 0.38          |
| 23              | Residues and waste from the food industries; prepared animal feed                                             | -2.61        | 0.31          |
| 93              | Arms and ammunition; parts and accessories thereof                                                            | -0.01        | 0.28          |



|    |                                                                                              | <b>China</b> | <b>Mexico</b> |
|----|----------------------------------------------------------------------------------------------|--------------|---------------|
| 63 | Other made up textile articles; sets; worn clothing and worn textile articles; rags          | 1.40         | 0.25          |
| 13 | Lac; gums, resins and other vegetable saps and extracts                                      | 2.00         | 0.22          |
| 09 | Coffee, tea, mat and spices                                                                  | 0.10         | 0.17          |
| 17 | Sugars and sugar confectionery                                                               | -0.99        | 0.17          |
| 81 | Other base metals; cermets; articles thereof                                                 | -0.52        | 0.16          |
| 29 | Organic chemicals                                                                            | -2.57        | 0.15          |
| 71 | Natural or cultured pearls, precious or semi-precious stones, precious metals                | -0.35        | 0.10          |
| 03 | Fish and crustaceans, molluscs and other aquatic invertebrates                               | -2.97        | 0.05          |
| 67 | Prepared feathers and down and articles made of feathers or of down; artificial flowers      | 4.61         | 0.04          |
| 06 | Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage   | 0.48         | 0.02          |
| 39 | Plastics and articles thereof                                                                | -0.14        | -0.05         |
| 30 | Productos farmacéuticos.                                                                     | -0.29        | -0.07         |
| 10 | Cereals                                                                                      | 0.56         | -0.11         |
| 45 | Cork and articles of cork                                                                    | -3.07        | -0.13         |
| 28 | Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals | -2.72        | -0.13         |
| 47 | Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard | -0.08        | -0.19         |
| 66 | Umbrellas, sun umbrellas, walking sticks, seatsticks, whips, riding-crops and parts thereof  | -0.29        | -0.22         |
| 24 | Tobacco and manufactured tobacco substitutes                                                 | -0.15        | -0.35         |
| 99 | Temporary legislation                                                                        | 1.50         | -0.46         |
| 95 | Toys, games and sports requisites; parts and accessories thereof                             | -3.36        | -0.51         |
| 37 | Photographic or cinematographic goods                                                        | -1.30        | -0.52         |
| 35 | Albuminoidal substances; modified starches; glues; enzymes                                   | -1.76        | -0.63         |
| 33 | Essential oils and resinoids; perfumery, cosmetic or toilet preparations                     | -2.97        | -0.67         |
| 41 | Raw hides and skins (other than furskins) and leather                                        | -1.68        | -0.76         |
| 69 | Ceramic products                                                                             | 0.41         | -0.96         |
| 82 | Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal     | -0.34        | -1.04         |
| 61 | Articles of apparel and clothing accessories, knitted or crocheted                           | -3.05        | -1.13         |
| 49 | Printed books, newspapers, pictures and other products of the printing industry              | 3.01         | -1.18         |
| 19 | Preparations of cereals, flour, starch o milk; bakers' wares                                 | -0.59        | -1.40         |
| 98 | Special classification provisions                                                            | 1.02         | -1.67         |
| 96 | Miscellaneous manufactured articles                                                          | 2.48         | -1.94         |
| 21 | Miscellaneous edible preparations                                                            | -2.15        | -3.94         |

Source: own elaboration based on CECHIMEX (2020).

## APPENDIX 8

### United States: Imports from Mexico and China for Selected Chapters (2000-2019)

|                                                                         | Share over United States imports<br>from Mexico (Mexico's total = 100) |        |        |        |        | Share over United States imports<br>from China (China's total = 100) |        |        |        |        |
|-------------------------------------------------------------------------|------------------------------------------------------------------------|--------|--------|--------|--------|----------------------------------------------------------------------|--------|--------|--------|--------|
|                                                                         | 2000                                                                   | 2010   | 2017   | 2018   | 2019   | 2000                                                                 | 2010   | 2017   | 2018   | 2019   |
| Total                                                                   | 100.00                                                                 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00                                                               | 100.00 | 100.00 | 100.00 | 100.00 |
| Subgroup I.A.                                                           | 13.84                                                                  | 15.43  | 17.97  | 19.14  | 19.34  | 15.28                                                                | 24.02  | 23.33  | 23.32  | 21.87  |
| Railway or tramway locomotives                                          | 0.39                                                                   | 0.05   | 0.04   | 0.06   | 0.09   | 0.05                                                                 | 0.09   | 0.11   | 0.14   | 0.13   |
| Headgear                                                                | 0.04                                                                   | 0.02   | 0.04   | 0.06   | 0.08   | 0.32                                                                 | 0.31   | 0.30   | 0.30   | 0.30   |
| Silk                                                                    | 0.00                                                                   | 0.00   | 0.00   | 0.00   | 0.00   | 0.06                                                                 | 0.01   | 0.00   | 0.00   | 0.00   |
| Glass and glassware                                                     | 0.59                                                                   | 0.46   | 0.39   | 0.38   | 0.39   | 0.39                                                                 | 0.45   | 0.57   | 0.62   | 0.60   |
| Auto parts                                                              | 12.54                                                                  | 14.62  | 17.19  | 18.34  | 18.44  | 13.40                                                                | 22.67  | 21.66  | 21.54  | 20.32  |
| Manufactures of straw, esparto or others                                | 0.00                                                                   | 0.00   | 0.00   | 0.00   | 0.01   | 0.21                                                                 | 0.07   | 0.06   | 0.06   | 0.06   |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 0.20                                                                   | 0.15   | 0.19   | 0.19   | 0.21   | 0.60                                                                 | 0.26   | 0.38   | 0.40   | 0.24   |
| Wool, fine or coarse animal hair                                        | 0.04                                                                   | 0.01   | 0.01   | 0.01   | 0.01   | 0.01                                                                 | 0.01   | 0.00   | 0.00   | 0.00   |
| Impregnated, coated, covered or laminated textile fabrics               | 0.03                                                                   | 0.11   | 0.10   | 0.09   | 0.09   | 0.01                                                                 | 0.06   | 0.10   | 0.12   | 0.10   |
| Carpets and other textile floor covering                                | 0.01                                                                   | 0.00   | 0.01   | 0.01   | 0.02   | 0.22                                                                 | 0.10   | 0.12   | 0.14   | 0.11   |
| Rest                                                                    | 86.16                                                                  | 84.57  | 82.03  | 80.86  | 80.66  | 84.72                                                                | 75.98  | 76.67  | 76.68  | 78.13  |
|                                                                         | Share over United States imports<br>from Mexico (US total = 100)       |        |        |        |        | Share over United States imports<br>from China (US total = 100)      |        |        |        |        |
|                                                                         | 2000                                                                   | 2010   | 2017   | 2018   | 2019   | 2000                                                                 | 2010   | 2017   | 2018   | 2019   |
| Total                                                                   |                                                                        |        |        |        |        |                                                                      |        |        |        |        |
| Subgroup I.A.                                                           | 9.65                                                                   | 13.27  | 15.32  | 16.27  | 17.42  | 7.84                                                                 | 32.79  | 32.14  | 31.05  | 24.85  |
| Railway or tramway locomotives                                          | 29.19                                                                  | 7.90   | 7.67   | 8.93   | 15.54  | 2.76                                                                 | 22.50  | 33.89  | 35.04  | 29.51  |
| Headgear                                                                | 4.27                                                                   | 2.68   | 5.23   | 7.62   | 11.36  | 25.98                                                                | 68.28  | 64.02  | 62.94  | 54.33  |
| Silk                                                                    | 0.00                                                                   | 0.00   | 0.01   | 1.90   | 2.78   | 19.70                                                                | 26.91  | 26.91  | 27.46  | 17.74  |
| Glass and glassware                                                     | 18.21                                                                  | 19.93  | 16.42  | 16.31  | 18.64  | 8.84                                                                 | 30.43  | 39.34  | 41.03  | 35.82  |
| Auto parts                                                              | 9.43                                                                   | 13.46  | 15.75  | 16.74  | 17.80  | 7.41                                                                 | 33.12  | 32.07  | 30.80  | 24.75  |
| Manufactures of straw, esparto or others                                | 0.48                                                                   | 2.53   | 2.68   | 2.73   | 4.60   | 70.68                                                                | 66.48  | 57.90  | 56.98  | 43.00  |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 7.78                                                                   | 7.49   | 7.55   | 7.92   | 9.37   | 17.57                                                                | 20.47  | 24.93  | 26.42  | 13.64  |
| Wool, fine or coarse animal hair                                        | 14.16                                                                  | 9.80   | 9.05   | 10.69  | 10.23  | 2.01                                                                 | 8.92   | 8.10   | 8.88   | 3.36   |
| Impregnated, coated, covered or laminated textile fabrics               | 5.97                                                                   | 12.76  | 11.70  | 10.96  | 12.75  | 1.51                                                                 | 11.35  | 20.34  | 22.66  | 16.32  |
| Carpets and other textile floor covering                                | 0.83                                                                   | 0.61   | 1.33   | 1.51   | 2.34   | 14.88                                                                | 21.06  | 21.98  | 23.83  | 16.98  |
| Rest                                                                    | 11.45                                                                  | 11.81  | 13.00  | 13.05  | 13.75  | 8.28                                                                 | 16.84  | 19.63  | 19.39  | 16.80  |

|                                                                         | Mexico: tariff rate<br>(over respective imports)              |       |      |      |      | China: tariff rate<br>(over respective imports)              |       |       |       |       |
|-------------------------------------------------------------------------|---------------------------------------------------------------|-------|------|------|------|--------------------------------------------------------------|-------|-------|-------|-------|
|                                                                         | 2000                                                          | 2010  | 2017 | 2018 | 2019 | 2000                                                         | 2010  | 2017  | 2018  | 2019  |
| Total                                                                   | 0.23                                                          | 0.09  | 0.11 | 0.23 | 0.20 | 3.79                                                         | 3.28  | 2.67  | 4.18  | 9.81  |
| Subgroup I.A.                                                           | 0.11                                                          | 0.09  | 0.09 | 0.09 | 0.13 | 0.98                                                         | 0.56  | 0.70  | 2.55  | 7.79  |
| Railway or tramway locomotives                                          | 0.00                                                          | 0.04  | 0.07 | 0.04 | 0.04 | 1.22                                                         | 0.63  | 0.80  | 3.77  | 7.76  |
| Headgear                                                                | 0.06                                                          | 0.09  | 1.25 | 1.70 | 1.45 | 6.56                                                         | 6.09  | 5.98  | 8.22  | 21.09 |
| Silk                                                                    | 0.00                                                          | 2.78  | 0.00 | 0.00 | 0.00 | 0.16                                                         | 0.22  | 0.21  | 2.00  | 14.09 |
| Glass and glassware                                                     | 0.90                                                          | 0.11  | 0.09 | 0.11 | 0.22 | 10.40                                                        | 6.60  | 6.11  | 8.34  | 20.15 |
| Auto parts                                                              | 0.08                                                          | 0.08  | 0.09 | 0.09 | 0.12 | 0.47                                                         | 0.32  | 0.43  | 2.22  | 6.91  |
| Manufactures of straw, esparto or others                                | 0.03                                                          | 0.00  | 0.02 | 0.26 | 0.41 | 5.15                                                         | 4.50  | 3.57  | 6.25  | 21.45 |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 0.01                                                          | 0.00  | 0.00 | 0.00 | 0.00 | 0.46                                                         | 1.60  | 1.44  | 3.48  | 20.27 |
| Wool, fine or coarse animal hair                                        | 0.09                                                          | 0.01  | 0.04 | 0.05 | 0.06 | 8.22                                                         | 5.70  | 11.74 | 14.48 | 29.93 |
| Impregnated, coated, covered or laminated textile fabrics               | 0.60                                                          | 0.63  | 0.14 | 0.31 | 0.27 | 3.10                                                         | 2.89  | 2.98  | 5.62  | 18.66 |
| Carpets and other textile floor covering                                | 1.57                                                          | 0.14  | 3.09 | 3.78 | 4.44 | 4.39                                                         | 3.52  | 3.89  | 6.88  | 22.31 |
| Rest                                                                    |                                                               |       |      |      |      |                                                              |       |       |       |       |
|                                                                         | Mexico: transportation cost rate<br>(over respective imports) |       |      |      |      | China: transportation cost rate<br>(over respective imports) |       |       |       |       |
|                                                                         | 2000                                                          | 2010  | 2017 | 2018 | 2019 | 2000                                                         | 2010  | 2017  | 2018  | 2019  |
| Total                                                                   | 1.13                                                          | 0.99  | 0.94 | 0.90 | 0.89 | 7.56                                                         | 4.94  | 4.08  | 4.37  | 4.47  |
| Subgroup I.A.                                                           | 0.70                                                          | 0.69  | 0.71 | 0.62 | 0.63 | 5.76                                                         | 3.36  | 2.98  | 3.18  | 3.31  |
| Railway or tramway locomotives                                          | 0.86                                                          | 3.11  | 1.38 | 1.21 | 0.95 | 13.28                                                        | 18.39 | 10.92 | 11.79 | 9.99  |
| Headgear                                                                | 1.28                                                          | 3.07  | 0.56 | 0.54 | 0.35 | 8.63                                                         | 6.95  | 4.67  | 4.69  | 4.85  |
| Silk                                                                    | 11.54                                                         | 14.59 | 0.40 | 0.06 | 0.06 | 3.72                                                         | 6.04  | 4.59  | 4.01  | 3.25  |
| Glass and glassware                                                     | 2.13                                                          | 1.18  | 2.63 | 2.43 | 2.22 | 14.38                                                        | 13.00 | 11.13 | 11.03 | 11.49 |
| Auto parts                                                              | 0.58                                                          | 0.63  | 0.64 | 0.55 | 0.57 | 4.73                                                         | 2.89  | 2.53  | 2.70  | 2.86  |
| Manufactures of straw, esparto or others                                | 4.77                                                          | 0.97  | 2.83 | 3.12 | 2.07 | 27.11                                                        | 15.75 | 10.13 | 10.04 | 9.68  |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 3.25                                                          | 3.66  | 3.26 | 3.15 | 2.84 | 14.08                                                        | 13.42 | 9.28  | 9.62  | 10.83 |
| Wool, fine or coarse animal hair                                        | 0.97                                                          | 0.96  | 0.99 | 0.83 | 1.17 | 3.06                                                         | 5.06  | 4.59  | 4.94  | 4.51  |
| Impregnated, coated, covered or laminated textile fabrics               | 1.00                                                          | 0.85  | 0.89 | 1.17 | 0.81 | 8.01                                                         | 7.37  | 6.05  | 5.97  | 5.84  |
| Carpets and other textile floor covering                                | 2.73                                                          | 2.24  | 2.90 | 2.65 | 2.26 | 4.58                                                         | 6.80  | 6.46  | 6.59  | 7.33  |
| Rest                                                                    |                                                               |       |      |      |      |                                                              |       |       |       |       |

|                                                                         | Mexico: intra-industry trade                                             |        |        |        |        | China: intra-industry trade                                             |        |        |        |        |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------|--------|--------|--------|--------|-------------------------------------------------------------------------|--------|--------|--------|--------|
|                                                                         | 2000                                                                     | 2010   | 2017   | 2018   | 2019   | 2000                                                                    | 2010   | 2017   | 2018   | 2019   |
| Total                                                                   | 0.42                                                                     | 0.40   | 0.40   | 0.39   | 0.37   | 0.13                                                                    | 0.13   | 0.14   | 0.15   | 0.14   |
| Subgroup I.A.                                                           | 0.61                                                                     | 0.53   | 0.50   | 0.48   | 0.47   | 0.28                                                                    | 0.18   | 0.17   | 0.16   | 0.17   |
| Railway or tramway locomotives                                          | 0.42                                                                     | 0.48   | 0.26   | 0.30   | 0.43   | 0.11                                                                    | 0.33   | 0.09   | 0.08   | 0.12   |
| Headgear                                                                | 0.38                                                                     | 0.55   | 0.42   | 0.28   | 0.21   | 0.00                                                                    | 0.00   | 0.01   | 0.01   | 0.01   |
| Silk                                                                    | 0.00                                                                     | 0.00   | 0.04   | 0.10   | 0.02   | 0.03                                                                    | 0.03   | 0.37   | 0.19   | 0.02   |
| Glass and glassware                                                     | 0.44                                                                     | 0.50   | 0.69   | 0.65   | 0.55   | 0.22                                                                    | 0.23   | 0.20   | 0.18   | 0.18   |
| Auto parts                                                              | 0.63                                                                     | 0.53   | 0.50   | 0.48   | 0.47   | 0.30                                                                    | 0.18   | 0.17   | 0.16   | 0.17   |
| Manufactures of straw, esparto or others                                | 0.23                                                                     | 0.38   | 0.12   | 0.23   | 0.11   | 0.00                                                                    | 0.01   | 0.01   | 0.00   | 0.00   |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 0.49                                                                     | 0.50   | 0.54   | 0.58   | 0.63   | 0.07                                                                    | 0.23   | 0.13   | 0.13   | 0.20   |
| Wool, fine or coarse animal hair                                        | 0.62                                                                     | 0.49   | 0.34   | 0.27   | 0.30   | 0.10                                                                    | 0.16   | 0.13   | 0.10   | 0.14   |
| Impregnated, coated, covered or laminated textile fabrics               | 0.29                                                                     | 0.35   | 0.30   | 0.32   | 0.37   | 0.72                                                                    | 0.47   | 0.34   | 0.31   | 0.37   |
| Carpets and other textile floor covering                                | 0.17                                                                     | 0.21   | 0.47   | 0.54   | 0.79   | 0.03                                                                    | 0.11   | 0.06   | 0.04   | 0.06   |
| Rest                                                                    |                                                                          |        |        |        |        |                                                                         |        |        |        |        |
|                                                                         | Mexico: medium and high technological level<br>(over respective imports) |        |        |        |        | China: medium and high technological level<br>(over respective imports) |        |        |        |        |
|                                                                         | 2000                                                                     | 2010   | 2017   | 2018   | 2019   | 2000                                                                    | 2010   | 2017   | 2018   | 2019   |
| Total                                                                   | 66.96                                                                    | 64.04  | 73.13  | 73.04  | 73.72  | 42.42                                                                   | 54.75  | 59.60  | 59.27  | 57.80  |
| Subgroup I.A.                                                           | 92.72                                                                    | 94.27  | 95.32  | 95.54  | 95.19  | 88.06                                                                   | 94.73  | 93.37  | 92.98  | 93.56  |
| Railway or tramway locomotives                                          | 100.00                                                                   | 100.00 | 100.00 | 100.00 | 100.00 | 100.00                                                                  | 100.00 | 100.00 | 100.00 | 100.00 |
| Headgear                                                                | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Silk                                                                    | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Glass and glassware                                                     | 0.03                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.18                                                                    | 0.22   | 0.27   | 0.17   | 0.15   |
| Auto parts                                                              | 99.21                                                                    | 99.09  | 99.37  | 99.37  | 99.32  | 100.00                                                                  | 99.98  | 99.99  | 99.99  | 99.99  |
| Manufactures of straw, esparto or others                                | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Articles of stone, plaster, cement, asbestos, mica or similar materials | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Wool, fine or coarse animal hair                                        | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Impregnated, coated, covered or laminated textile fabrics               | 9.15                                                                     | 7.57   | 3.17   | 7.21   | 7.33   | 0.09                                                                    | 4.21   | 8.67   | 8.86   | 3.79   |
| Carpets and other textile floor covering                                | 0.00                                                                     | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                                                                    | 0.00   | 0.00   | 0.00   | 0.00   |
| Rest                                                                    |                                                                          |        |        |        |        |                                                                         |        |        |        |        |

Source: own elaboration based on CECHIMEX (2020).

## APPENDIX 9

### Definition of Activities with Highest Import Potential in United States Imports from Mexico Based on Criterion of Chapter 2.2.2.

|    |        |                                                     |
|----|--------|-----------------------------------------------------|
| 1  | 860310 | Hooks & Oth Coupling Devices Buffers & Pts Thereof  |
| 2  | 860791 | Self-propelled Railway Or Tramway Coaches, Electr   |
| 3  | 860729 | Railwy, Tramwy Pass Etc Coaches Not Self-propelld   |
| 4  | 860900 | Truck Axles And Wheels & Pts, Etc For Rail Vehicls  |
| 5  | 650500 | Hats & Headgear, Knit Etc, Lace, Felt Etc In Pc     |
| 6  | 650400 | Hat Shapes,plaited Or Assembl'd Strips Any Material |
| 7  | 650699 | Othr Headgr Othr Matrls Nesoi Whether/not Line/trm  |
| 8  | 500400 | Silk Yarn, Not Spun From Waste, Not Retail Packed   |
| 9  | 700312 | Nonwrd Shts Cast/rld Glass, Colrd,opac,flshd,layrd  |
| 10 | 700721 | Laminated Safety Glass For Vehicles, Aircraft Etc.  |
| 11 | 700991 | Glass Mirrors Unframed Not Vehicle Rearview Mirror  |
| 12 | 701931 | Mats, Nonwoven, Of Glass Fibers                     |
| 13 | 701912 | Glass Fiber Rovings                                 |
| 14 | 701990 | Glass Fibers & Articles Thereof Nesoi               |
| 15 | 701959 | Other Woven Fabrics Of Glass Fibers, Nesoi          |
| 16 | 701090 | Glass Articl. For Conveyance/packing Of Goods,neso  |
| 17 | 701110 | Gls Envlp's Opn A Gls Pts W/o Ftngs F Elctrc Lghtg  |
| 18 | 700910 | Rear-view Mirrors For Vehicles                      |
| 19 | 701020 | Stoppers, Lids And Other Closures, Of Glass         |
| 20 | 847050 | Cash Registers                                      |
| 21 | 840490 | Parts For Aux Plt For Blrs,cond For Stm,vpr Pr Unt  |
| 22 | 845620 | Ultrasonic Machine Tools For Removing Matl          |
| 23 | 847290 | Ofc Mach For Automatic Banknote Dispensers, Etc     |
| 24 | 840590 | Pts,prod Gas,wtr Gas,acetylene Gas,wtr Pro Gas Gen  |
| 25 | 841950 | Heat Exchange Units, Industrial Type                |
| 26 | 841520 | Automotive Air Conditioners                         |
| 27 | 841780 | Ind Or Lab Furnaces & Ovens, Inc Incin,n/ele,nesoi  |
| 28 | 848110 | Pressure-reducing Valves                            |
| 29 | 840220 | Super-heated Water Boilers                          |
| 30 | 841319 | Pumps Fitted With Measuring Device, Nesoi           |
| 31 | 847960 | Evaporative Air Coolers                             |
| 32 | 847150 | Digital Processing Units, N.E.S.O.I.                |
| 33 | 841581 | Air Conditioning Mach Etc Incl Refrig Unit Etc      |
| 34 | 843490 | Parts Of Milking Machines And Dairy Machinery       |
| 35 | 848790 | Machinery Parts, Non-electric, Nesoi                |
| 36 | 843780 | Mach F Milling Or Working Cereals & Veg, Exc Farm   |
| 37 | 841290 | Engine And Motor Parts, Nesoi                       |
| 38 | 840290 | Super-heated Water Boilers & Steam Genrtn Boil Pts  |
| 39 | 841231 | Pneumatic Power Engines And Motors, Linear Acting   |
| 40 | 847149 | Digital Adp Mac & Units,entered As Systems, Nesoi   |
| 41 | 847920 | Mach F Extract Or Prep Of Animal Or Veg Fat Or Oil  |
| 42 | 843229 | Harrows Ex Disc, Scarifiers Cultivators Hoes Etc    |
| 43 | 847330 | Parts & Accessories For Adp Machines & Units        |

|    |        |                                                    |
|----|--------|----------------------------------------------------|
| 44 | 841821 | Refrigerators, Household, Compression Type         |
| 45 | 841891 | Furniture For Refrigeration Or Freezing Equipment  |
| 46 | 842489 | Mechanical Appliance For Projecting Liquids Nesoi  |
| 47 | 841869 | Refrigerating/freezing Equipment, Nesoi            |
| 48 | 842490 | Pts For Mechanical Appliance Project Liquid Etc    |
| 49 | 847190 | Adp Mac&unts Thereof;mag/opt Rder,trnscr,proc Dat  |
| 50 | 841480 | Air/gas Pumps, Compressors And Fans Etc, Nesoi     |
| 51 | 842199 | Filter/purify Machine & Apparatus Parts            |
| 52 | 848010 | Molding Boxes For Metal Foundry                    |
| 53 | 844590 | Mac,prod Tex Yrn & Prep,use On Mac,head 8446,8447  |
| 54 | 845819 | Horizontal Lathes For Removng Met N Numrcal Contrl |
| 55 | 841989 | Machine Etc For Mat'l Treatment By Temp Cont Nesoi |
| 56 | 841391 | Parts Of Pumps For Liquids                         |
| 57 | 844331 | Mach Which Perform 2-plus Of Print, Copy, Fax Etc  |
| 58 | 845140 | Washing, Bleaching Or Dyeing Machines              |
| 59 | 843390 | Parts For Harvester, Grass Mowers, Sorting Egg Etc |
| 60 | 841430 | Compressors Used In Refrigerating Equipment        |
| 61 | 844314 | Letterpress Print Mach, Reel Fed, Exc Flexographic |
| 62 | 460199 | Plait Mat'l Ex Veg, Parallel Strands/woven Sheets  |
| 63 | 460211 | Basketwork, Wickerwork & Other Articles, Of Bamboo |
| 64 | 460121 | Mats, Matting And Screens, Of Bamboo               |
| 65 | 460194 | Plaiting Mat, Plaits & Sim Prod, Of Veg Mat, Nesoi |
| 66 | 680229 | Stone, Nesoi Mon Or Bldg Smply Cut Or Swm          |
| 67 | 681381 | Brake Linings A Pads, Nt Asbestos, Oth Minrls, Cel |
| 68 | 681099 | Othr Arts Nesoi Of Cmmt Etc                        |
| 69 | 680292 | Other Calcareous Stone, Nesoi                      |
| 70 | 680919 | Plster Boards Panels Etc Not Ornamented Nesoi      |
| 71 | 511111 | Wv Fb Crd Wl/fah >=85% Wl/fah Weight <=300g/m2     |
| 72 | 510510 | Wool, Carded                                       |
| 73 | 511119 | Wov Fab Crd Wl/fah >=85% Wl/fah Nesoi              |
| 74 | 590220 | Tire Cord Fabric Of High Tenacity Yarn, Polyesters |
| 75 | 570490 | Textile Carpets, Felt, Not Tufted Etc. Nesoi       |
| 76 | 570320 | Carpets,etc,nylon/othr Polyamides,tuftd,w/n Mde-up |
| 77 | 570330 | Textile Carpets, Tufted, mmf Except Nylon Etc      |

Source: own elaboration based on *Chapter 2.2.2*.



## APPENDIX 10

### United States: Imports of Subheading 700721/a from Selected Countries (2010-2019)

(subheading of technological level: manufacturing based on raw materials) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|---------------------------------------|-----------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 37.78  | 67.53  | 64.08  | 45.83  | -21.70    | 194                                   | -11.4                                   |
| Mexico                                       | 32.43  | 12.37  | 15.11  | 34.41  | 22.04     | 146                                   | 79.4                                    |
| Japan                                        | 1.82   | 5.17   | 6.75   | 7.56   | 2.39      | 32                                    | 30.1                                    |
| Peru                                         | 0.10   | 0.11   | 1.60   | 1.78   | 1.66      | 8                                     | 327.2                                   |
| Turkey                                       | 0.74   | 1.32   | 1.87   | 1.73   | 0.41      | 7                                     | 23.2                                    |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 423                                   | 7.5                                     |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 0.42   | 2.82   | 1.96   | 1.44   | -1.38     | 3                                     | -26.7                                   |
| Mexico                                       | 6.16   | 5.67   | 8.90   | 11.40  | 5.73      | 21                                    | 45.5                                    |
| Japan                                        | 0.79   | 1.20   | 0.93   | 0.72   | -0.49     | 1                                     | -20.8                                   |
| Peru                                         | 0.03   | 0.06   | 0.07   | 0.14   | 0.08      | 0                                     | 55.6                                    |
| Turkey                                       | 0.02   | 0.16   | 0.07   | 0.22   | 0.06      | 0                                     | 22.1                                    |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 182                                   | 2.6                                     |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                       |                                         |
| China                                        | 24.29  | 46.73  | 45.70  | 32.46  | -14.27    | 197                                   | -11.7                                   |
| Mexico                                       | 22.94  | 10.22  | 13.27  | 27.48  | 17.26     | 166                                   | 73.8                                    |
| Japan                                        | 1.45   | 3.89   | 5.03   | 5.50   | 1.61      | 33                                    | 26.0                                    |
| Peru                                         | 0.08   | 0.10   | 1.15   | 1.28   | 1.19      | 8                                     | 288.3                                   |
| Turkey                                       | 0.48   | 0.94   | 1.33   | 1.28   | 0.33      | 8                                     | 23.2                                    |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 605                                   | 6.0                                     |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                       |                                         |
| China                                        | 0.01   | 0.04   | 0.03   | 0.03   | -0.01     | --                                    | --                                      |
| Mexico                                       | 0.19   | 0.36   | 0.40   | 0.25   | -0.11     | --                                    | --                                      |
| Japan                                        | 0.39   | 0.20   | 0.11   | 0.08   | -0.12     | --                                    | --                                      |
| Peru                                         | 0.32   | 0.40   | 0.03   | 0.06   | -0.34     | --                                    | --                                      |
| Turkey                                       | 0.02   | 0.11   | 0.03   | 0.10   | -0.00     | --                                    | --                                      |
| Total                                        | 0.72   | 0.64   | 0.59   | 0.60   | -0.04     | --                                    | --                                      |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                       |                                         |
| China                                        | 4.65   | 4.90   | 7.64   | 20.81  | 15.91     | --                                    | --                                      |
| Mexico                                       | 0.03   | 0.18   | 0.10   | 0.47   | 0.29      | --                                    | --                                      |
| Japan                                        | 4.89   | 4.88   | 4.87   | 4.87   | -0.00     | --                                    | --                                      |
| Peru                                         | 0.00   | 0.49   | 0.08   | 0.18   | -0.32     | --                                    | --                                      |
| Turkey                                       | 0.32   | 0.06   | 0.06   | 2.94   | 2.88      | --                                    | --                                      |
| Total                                        | 2.22   | 3.86   | 5.40   | 10.28  | 6.41      | --                                    | --                                      |

|                                                                                 | 2010  | 2017  | 2018  | 2019  | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|---------------------------------------------------------------------------------|-------|-------|-------|-------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b>                       |       |       |       |       |           |                                       |                                            |
| China                                                                           | 13.65 | 11.63 | 12.46 | 12.46 | 0.82      | --                                    | --                                         |
| Mexico                                                                          | 0.46  | 0.99  | 1.07  | 0.78  | -0.22     | --                                    | --                                         |
| Japan                                                                           | 4.50  | 5.38  | 4.98  | 5.33  | -0.05     | --                                    | --                                         |
| Peru                                                                            | 18.12 | 15.62 | 1.53  | 1.47  | -14.15    | --                                    | --                                         |
| Turkey                                                                          | 11.99 | 11.15 | 12.40 | 12.03 | 0.88      | --                                    | --                                         |
| Total                                                                           | 6.51  | 8.94  | 9.17  | 7.00  | -1.95     | --                                    | --                                         |
| /a Laminated safety glass for incorporation in vehicles, spacecraft or vessels. |       |       |       |       |           |                                       |                                            |
| /b See <i>Chapter 2.1</i> .                                                     |       |       |       |       |           |                                       |                                            |

Source: own elaboration based on CECHIMEX (2020).

## APPENDIX 11

### United States: Imports of Subheading 460199/a from Selected Countries (2010-2019)

(subheading of technological level: manufacturing low technology) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|---------------------------------------|-----------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 82,55  | 72,11  | 54,91  | 18,62  | -53,49    | 1                                     | -18,2                                   |
| Mexico                                       | 1,47   | 0,30   | 18,01  | 62,63  | 62,32     | 5                                     | 2.215,9                                 |
| Japan                                        | 1,85   | 10,29  | 7,57   | 10,53  | 0,24      | 1                                     | 62,9                                    |
| Peru                                         | 5,30   | 4,49   | 4,47   | 3,45   | -1,04     | 0                                     | 41,1                                    |
| Turkey                                       | 0,71   | 2,64   | 2,60   | 0,78   | -1,86     | 0                                     | -12,3                                   |
| Total                                        | 100,00 | 100,00 | 100,00 | 100,00 | 0,00      | 8                                     | 61,0                                    |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 1,36   | 0,00   | 0,45   | 0,49   | 0,49      | 0                                     | --                                      |
| Mexico                                       | 4,27   | 37,29  | 49,59  | 48,21  | 10,92     | 1                                     | 66,87                                   |
| Japan                                        | 0,00   | 0,00   | 2,56   | 0,00   | 0,00      | 0                                     | --                                      |
| Peru                                         | 3,56   | 0,00   | 0,00   | 0,00   | 0,00      | 0                                     | --                                      |
| Turkey                                       | 0,18   | 0,00   | 0,00   | 0,00   | 0,00      | 0                                     | --                                      |
| Total                                        | 100,00 | 100,00 | 100,00 | 100,00 | 0,00      | 2                                     | 46,77                                   |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                       |                                         |
| China                                        | 63,93  | 54,70  | 41,12  | 14,83  | -39,87    | 2                                     | -17,9                                   |
| Mexico                                       | 2,11   | 9,23   | 26,01  | 59,61  | 50,38     | 6                                     | 300,7                                   |
| Japan                                        | 1,42   | 7,81   | 6,30   | 8,33   | 0,52      | 1                                     | 62,9                                    |
| Peru                                         | 4,91   | 3,41   | 3,34   | 2,73   | -0,68     | 0                                     | 41,1                                    |
| Turkey                                       | 0,59   | 2,01   | 1,94   | 0,62   | -1,39     | 0                                     | -12,3                                   |
| Total                                        | 100,00 | 100,00 | 100,00 | 100,00 | 0,00      | 10                                    | 57,7                                    |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                       |                                         |
| China                                        | 0,01   | -      | 0,01   | 0,01   | 0,01      | --                                    | --                                      |
| Mexico                                       | 0,93   | 0,05   | 0,97   | 0,34   | 0,29      | --                                    | --                                      |
| Japan                                        | -      | -      | 0,21   | -      | 0,00      | --                                    | --                                      |
| Peru                                         | 0,33   | -      | -      | -      | 0,00      | --                                    | --                                      |
| Turkey                                       | 0,14   | -      | -      | -      | 0,00      | --                                    | --                                      |
| Total                                        | 0,46   | 0,48   | 0,51   | 0,42   | -0,06     | --                                    | --                                      |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                       |                                         |
| China                                        | 3,02   | 3,21   | 4,86   | 19,26  | 16,05     | --                                    | --                                      |
| Mexico                                       | 0,00   | 0,00   | 3,26   | 1,41   | 1,41      | --                                    | --                                      |
| Japan                                        | 3,30   | 3,30   | 3,30   | 3,30   | -0,00     | --                                    | --                                      |
| Peru                                         | 3,30   | 3,30   | 2,79   | 3,29   | -0,01     | --                                    | --                                      |
| Turkey                                       | 3,30   | 3,09   | 2,98   | 3,01   | -0,08     | --                                    | --                                      |
| Total                                        | 2,96   | 3,04   | 4,08   | 5,02   | 1,97      | --                                    | --                                      |

|                                                           | 2010 | 2017  | 2018  | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|-----------------------------------------------------------|------|-------|-------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b> |      |       |       |      |           |                                       |                                            |
| China                                                     | 8,24 | 7,02  | 7,66  | 8,27 | 1,25      | --                                    | --                                         |
| Mexico                                                    | 0,69 | 0,33  | 0,23  | 0,32 | -0,02     | --                                    | --                                         |
| Japan                                                     | 3,92 | 2,21  | 4,38  | 2,68 | 0,46      | --                                    | --                                         |
| Peru                                                      | 4,29 | 12,07 | 16,29 | 6,92 | -5,15     | --                                    | --                                         |
| Turkey                                                    | 4,14 | 8,34  | 3,27  | 3,06 | -5,28     | --                                    | --                                         |
| Total                                                     | 8,36 | 7,93  | 6,17  | 2,94 | -5,00     | --                                    | --                                         |
| /a Plaiting materials other than vegetable.               |      |       |       |      |           |                                       |                                            |
| /b See <i>chapter 2.1</i> .                               |      |       |       |      |           |                                       |                                            |

Source: own elaboration based on CECHEMEX (2020).

## APPENDIX 12

### United States: Imports of Subheading 847150/a from Selected Countries (2010-2019)

(subheading of technological level: manufacturing high technology) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US<br>millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|------------------------------------------|--------------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 26.67  | 18.76  | 17.26  | 4.14   | -14.62    | 1,295                                    | -45.7                                      |
| Mexico                                       | 65.78  | 74.75  | 76.67  | 80.62  | 5.87      | 25,229                                   | 20.1                                       |
| Japan                                        | 1.17   | 1.93   | 2.33   | 9.53   | 7.60      | 2,983                                    | 157.3                                      |
| Peru                                         | 0.76   | 0.62   | 0.48   | 1.09   | 0.47      | 343                                      | 53.5                                       |
| Turkey                                       | 0.96   | 0.66   | 0.50   | 0.77   | 0.10      | 240                                      | 24.3                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 31,296                                   | 15.7                                       |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                          |                                            |
| China                                        | 4.80   | 5.11   | 4.16   | 3.62   | -1.49     | 269                                      | -9.8                                       |
| Mexico                                       | 8.87   | 9.51   | 10.89  | 8.89   | -0.62     | 659                                      | 3.6                                        |
| Japan                                        | 0.83   | 1.46   | 1.61   | 1.38   | -0.08     | 102                                      | 4.3                                        |
| Peru                                         | 3.13   | 4.71   | 4.14   | 3.45   | -1.26     | 256                                      | -8.3                                       |
| Turkey                                       | 25.81  | 23.50  | 23.51  | 24.89  | 1.39      | 1,845                                    | 10.3                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 7,412                                    | 7.1                                        |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                          |                                            |
| China                                        | 20.57  | 15.81  | 14.82  | 4.04   | -11.77    | 1,564                                    | -42.4                                      |
| Mexico                                       | 49.92  | 60.64  | 64.42  | 66.88  | 6.25      | 25,888                                   | 19.6                                       |
| Japan                                        | 1.07   | 1.82   | 2.20   | 7.97   | 6.15      | 3,085                                    | 138.0                                      |
| Peru                                         | 1.42   | 1.51   | 1.16   | 1.55   | 0.04      | 598                                      | 15.3                                       |
| Turkey                                       | 7.89   | 5.60   | 4.78   | 5.39   | -0.22     | 2,085                                    | 11.6                                       |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 38,708                                   | 13.9                                       |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                          |                                            |
| China                                        | 0.13   | 0.14   | 0.10   | 0.34   | 0.20      | --                                       | --                                         |
| Mexico                                       | 0.10   | 0.07   | 0.06   | 0.05   | -0.02     | --                                       | --                                         |
| Japan                                        | 0.43   | 0.35   | 0.27   | 0.07   | -0.28     | --                                       | --                                         |
| Peru                                         | 0.77   | 0.65   | 0.67   | 0.85   | 0.21      | --                                       | --                                         |
| Turkey                                       | 0.18   | 0.19   | 0.17   | 0.23   | 0.04      | --                                       | --                                         |
| Total                                        | 0.56   | 0.43   | 0.37   | 0.38   | -0.05     | --                                       | --                                         |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                          |                                            |
| China                                        | 0.00   | 0.00   | 1.62   | 16.64  | 16.64     | --                                       | --                                         |
| Mexico                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Japan                                        | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Peru                                         | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Turkey                                       | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | --                                       | --                                         |
| Total                                        | 0.00   | 0.00   | 1.62   | 16.64  | 16.64     | --                                       | --                                         |

|                                                                   | 2010 | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|-------------------------------------------------------------------|------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b>         |      |      |      |      |           |                                       |                                            |
| China                                                             | 1.31 | 1.54 | 1.81 | 1.98 | 0.44      | --                                    | --                                         |
| Mexico                                                            | 0.10 | 0.05 | 0.03 | 0.07 | 0.02      | --                                    | --                                         |
| Japan                                                             | 1.40 | 0.74 | 0.94 | 0.86 | 0.12      | --                                    | --                                         |
| Peru                                                              | 2.03 | 2.06 | 2.14 | 1.80 | -0.26     | --                                    | --                                         |
| Turkey                                                            | 0.88 | 0.70 | 0.77 | 0.53 | -0.17     | --                                    | --                                         |
| Total                                                             | 0.52 | 0.40 | 0.41 | 0.29 | -0.11     | --                                    | --                                         |
| /a Digital processing unit other than those of 847141 and 847149. |      |      |      |      |           |                                       |                                            |
| /b See <i>chapter 2.1</i> .                                       |      |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECHEMEX (2020).



## APPENDIX 13

### United States: Imports of Subheading 700910/a from Selected Countries (2010-2019)

(subheading of technological level: manufacturing based on raw materials) /b

|                                              | 2010   | 2017   | 2018   | 2019   | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual Growth Rate<br>2017-2019 |
|----------------------------------------------|--------|--------|--------|--------|-----------|---------------------------------------|-----------------------------------------|
| <b>IMPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 3.65   | 12.61  | 13.80  | 9.04   | -3.57     | 28                                    | -10.7                                   |
| Mexico                                       | 33.56  | 33.80  | 35.40  | 34.96  | 1.16      | 109                                   | 7.2                                     |
| Japan                                        | 6.31   | 9.91   | 6.22   | 5.15   | -4.75     | 16                                    | -24.0                                   |
| Peru                                         | 2.04   | 9.27   | 11.34  | 13.14  | 3.87      | 41                                    | 25.5                                    |
| Turkey                                       | 21.47  | 24.11  | 22.96  | 22.70  | -1.41     | 71                                    | 2.3                                     |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 313                                   | 5.4                                     |
| <b>EXPORTS (TOTAL = 100)</b>                 |        |        |        |        |           |                                       |                                         |
| China                                        | 1.86   | 6.29   | 7.52   | 7.01   | 0.72      | 107                                   | 5.1                                     |
| Mexico                                       | 7.92   | 10.66  | 11.64  | 9.71   | -0.95     | 149                                   | -5.0                                    |
| Japan                                        | 10.67  | 12.86  | 14.07  | 15.88  | 3.02      | 243                                   | 10.6                                    |
| Peru                                         | 5.41   | 3.56   | 3.23   | 3.82   | 0.26      | 58                                    | 3.2                                     |
| Turkey                                       | 0.00   | 0.03   | 0.02   | 0.04   | 0.01      | 1                                     | 9.3                                     |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 1,530                                 | -0.5                                    |
| <b>TRADE (TOTAL = 100)</b>                   |        |        |        |        |           |                                       |                                         |
| China                                        | 2.27   | 7.26   | 8.53   | 7.35   | 0.09      | 136                                   | 1.1                                     |
| Mexico                                       | 13.81  | 14.23  | 15.46  | 14.00  | -0.23     | 258                                   | -0.3                                    |
| Japan                                        | 9.67   | 12.41  | 12.80  | 14.06  | 1.65      | 259                                   | 7.0                                     |
| Peru                                         | 4.63   | 4.44   | 4.54   | 5.40   | 0.96      | 100                                   | 10.9                                    |
| Turkey                                       | 4.94   | 3.74   | 3.71   | 3.88   | 0.14      | 72                                    | 2.4                                     |
| Total                                        | 100.00 | 100.00 | 100.00 | 100.00 | 0.00      | 1,843                                 | 0.5                                     |
| <b>INTRA-INDUSTRY TRADE /b</b>               |        |        |        |        |           |                                       |                                         |
| China                                        | 0.74   | 0.54   | 0.52   | 0.42   | -0.12     | --                                    | --                                      |
| Mexico                                       | 0.88   | 0.73   | 0.74   | 0.85   | 0.12      | --                                    | --                                      |
| Japan                                        | 0.30   | 0.25   | 0.16   | 0.12   | -0.12     | --                                    | --                                      |
| Peru                                         | 0.20   | 0.64   | 0.80   | 0.83   | 0.18      | --                                    | --                                      |
| Turkey                                       | 0.00   | 0.01   | 0.01   | 0.02   | 0.00      | --                                    | --                                      |
| Total                                        | 0.46   | 0.31   | 0.32   | 0.34   | 0.03      | --                                    | --                                      |
| <b>TARIFF RATE (PERCENTAGE OVER IMPORTS)</b> |        |        |        |        |           |                                       |                                         |
| China                                        | 3.90   | 3.86   | 6.57   | 21.24  | 17.38     | --                                    | --                                      |
| Mexico                                       | 0.09   | 0.15   | 0.59   | 0.35   | 0.19      | --                                    | --                                      |
| Japan                                        | 3.84   | 2.29   | 3.42   | 3.89   | 1.60      | --                                    | --                                      |
| Peru                                         | 3.90   | 1.10   | 0.27   | 0.21   | -0.89     | --                                    | --                                      |
| Turkey                                       | 3.90   | 3.87   | 3.89   | 3.90   | 0.03      | --                                    | --                                      |
| Total                                        | 1.65   | 2.02   | 2.51   | 3.46   | 1.44      | --                                    | --                                      |

|                                                           | 2010  | 2017 | 2018 | 2019 | 2017-2019 | Imports in 2019<br>(in \$US millions) | Average Annual<br>Growth Rate<br>2017-2019 |
|-----------------------------------------------------------|-------|------|------|------|-----------|---------------------------------------|--------------------------------------------|
| <b>TRANSPORTATION COST RATE (PERCENTAGE OVER IMPORTS)</b> |       |      |      |      |           |                                       |                                            |
| China                                                     | 10.55 | 6.08 | 5.03 | 5.55 | -0.53     | --                                    | --                                         |
| Mexico                                                    | 0.87  | 3.48 | 1.86 | 0.54 | -2.94     | --                                    | --                                         |
| Japan                                                     | 3.04  | 3.17 | 2.64 | 2.99 | -0.18     | --                                    | --                                         |
| Peru                                                      | 3.81  | 0.87 | 0.94 | 0.44 | -0.42     | --                                    | --                                         |
| Turkey                                                    | 6.78  | 5.76 | 5.27 | 5.14 | -0.61     | --                                    | --                                         |
| Total                                                     | 3.10  | 4.08 | 3.21 | 2.57 | -1.51     | --                                    | --                                         |
| /a Rear-view mirrors for vehicles.                        |       |      |      |      |           |                                       |                                            |
| /b See <i>Chapter 2.1</i> .                               |       |      |      |      |           |                                       |                                            |

Source: own elaboration based on CECIMEX (2020).