


THE PROMISE AND PITFALLS OF NEARSHORING IN MEXICO

GARY GEREFFI 
Duke University, United States
ggereffi@duke.edu

ABSTRACT: Mexico has had an exceptionally close relationship with the United States (US) for many decades. Recent calls in the US for a new wave of “nearshoring” to help the American economy rebuild its fragmented and vulnerable supply chains following a series of disruptions and geopolitical shifts linked to the COVID-19 global pandemic, the rise of economic nationalism, China’s emergence as a global technological superpower, and growing regional conflicts raise both opportunities and challenges for Mexico. This article reviews Mexico’s bilateral economic ties with the US economy in the postwar period to highlight patterns and lessons that can be learned to deal with the current conjuncture. The global value chains (GVC) approach is utilized to show how recent US industrial and trade policies focus on a series of strategic industries such as semiconductors, automobiles, pharmaceuticals, and critical minerals in which Mexico has much to offer. However, international competition and US political dynamics require a more active and comprehensive development strategy in Mexico to achieve both development and innovation benefits.

Keywords: nearshoring; global value chains; industrial policy; US trade policy; strategic industries; semiconductors; automobiles; pharmaceuticals; critical minerals; NAFTA; USMCA; China.

Received: August, 2024.

Accepted: March, 2025.

Published online: May 26, 2025

1. INTRODUCTION

The international system is in a period of major transformation and dangerous turmoil. The COVID-19 global pandemic brought unprecedented disruptions to virtually all regions and global industries since its outbreak in 2020. Prior to COVID-19, economic nationalism and populism have been on the rise since the United Kingdom's surprising withdrawal from the European Union in 2016 (Brexit). The Russian invasion of Ukraine in 2022 and the brutal attack by Hamas on Israel on October 7, 2023, have led to continuing conflicts and massive casualties that threaten to further destabilize the geopolitical order. Within the North American setting, the United States (US) and Mexico have launched ambitious new development agendas in recent administrations with significant implications at national, regional, and global levels.

This paper will look at US-Mexican relations from a specific vantage point: the concept of “nearshoring.” As a contemporary process, nearshoring has a specific and relatively narrow meaning: a sequence of initial offshoring to distant destinations followed by subsequent relocation closer to the final market. Thus, as a neighboring economy, Mexico is a logical choice for US nearshoring policies. However, Mexico's multiple and diverse ties with the US economy in recent decades constitutes an important legacy of bilateral economic integration that is valuable for understanding the particular opportunities and challenges Mexico faces in the current context of nearshoring.

For policymakers and academics, the disruptions caused by the COVID-19 pandemic and other recent events affect the geographic configuration of global supply chains¹ in various ways, such as:

- *Offshoring*—relocating factories that produce goods and services from more costly to lower cost regions and countries.

¹ Gereffi, Lim & Lee 2021.

- *Reshoring* – relocating factories previously offshored by a multinational enterprise (MNE) back to the domestic territory of the parent company.
- *Nearshoring* – moving manufacturing operations geographically closer to the country where the goods or services will ultimately be sold.
- *Friendshoring* – shifting production and sourcing operations to countries considered to be geopolitical allies of the home countries or main markets of MNEs.
- *Security-shoring* – the recently articulated US policy since 2022-2023 of redefining competition with China in terms of US national security objectives, applicable to third parties with whom the US has economic, political, and diplomatic ties.²

Nearshoring is particularly relevant to Mexico because recent US policy initiatives prioritize efforts to strengthen American supply chains by making them more “resilient,” which includes reshoring, nearshoring, and friendshoring options.³ Given the recent economic disruptions and geopolitical tensions that characterize the contemporary global economy, it is useful to revisit the evolving institutional and policy context that permitted Mexico to make significant gains in its economic relations with the US to assess what nearshoring offers today.

To explore the implications of new US industrial policies and nearshoring for Mexico, this paper is organized as follows. Section 2 reviews Mexico’s previous bilateral economic ties with the US economy in the postwar era, and Section 3 links these patterns of regional economic integration to the burgeoning academic and policy focus on global value chains (GVCs) as a development paradigm.⁴ Section 4 taps the extensive GVC research on Mexican industrial development to discuss four cases of US-Mexico economic integration.⁵

² Dussel Peters 2024.

³ Gereffi 2023a. Gereffi 2023b.

⁴ Gereffi 2018a Gereffi 2019.

⁵ This historical analysis of US-Mexico economic integration from a GVC perspective was initially developed in an ECLAC report. See Gereffi 2025.

(a) Mexico's import-substituting industrialization (ISI) policies in the steroid hormone industry (1950s-1970s); (b) the impact of the North American Free Trade Agreement (NAFTA) on industrial deepening in Mexico (1990s); (c) export competition between Mexico and China for the US market (2000-2014); and (d) the US-China trade war (2016-2020). Section 5 explores lessons that can be distilled from Mexico's multiple roles as a partner in bilateral economic integration with the US. Section 6 reviews the emergence of US industrial and trade policies in the Trump and Biden administrations and their implications for nearshoring in Mexico.

2. POSTWAR US-MEXICO ECONOMIC INTEGRATION IN THE NORTH AMERICAN CONTEXT

The US and Mexico have been closely intertwined for the past two centuries. In the post-World War II era, several programs have linked the two economies with varying kinds of ties, including migrant workers, trade agreements, and foreign direct investment (FDI).

The *maquiladora* program was initiated in 1965 as the Border Industrialization Program, which permitted Mexican plants to assemble and export goods and services using duty-free inputs from the foreign markets where those goods are consumed (predominantly the US). Over time, the scale and scope of maquila activities expanded dramatically, with the primary industries shifting from "old" *maquiladora* plants for labor-intensive light consumer goods like textiles and apparel, footwear, and consumer electronics located close to the US-Mexico border to "new" *maquiladoras* for more capital- and technology-intensive goods such as automotive, computers, medical supplies, and advanced electronics products that were spread throughout the Mexican economy.⁶

⁶ Gereffi 1996, Carrillo & Lara 2004.

The North American Free Trade Agreement in 1994 increased the transnational integration between the US and Mexican economies by facilitating cross-border FDI as well as trade, and it allowed the duty-free access of US and Canadian inputs to industrial plants established anywhere within Mexico. NAFTA's impact on the Mexican economy was enhanced by advances made across a wide range of industries during the country's pursuit of an ISI development strategy in the 1950s through the 1970s.⁷ Mexico's relatively successful adoption of ISI policies had numerous economic benefits, including extensive FDI from the US, Canada, Europe, and Japan that helped to build local industries, increased local content and technology transfer, as well as the promotion of domestic joint ventures.

Mexico's industrial progress via ISI policies was not sustained in the 1980s and 1990s, due to the onset of the Latin American debt crisis in the early 1980s,⁸ prompting a "lost decade" in Latin American development. As a result, Mexico and most countries in Latin America turned away from state-centered approaches like ISI to a market-oriented development paradigm dubbed the "Washington Consensus".⁹ This new model was premised on lowering the trade barriers and FDI restrictions associated with ISI, adopting widespread privatization and liberalization reforms, and returning to an export-led growth path across both manufacturing and resource-based sectors. This also led Mexico to engage in head-to-head competition with China after 2000 for access to the rapidly growing and profitable US market.¹⁰

In broad terms, Mexico has been a "nearshoring" partner for the US economy on a regular basis in recent decades.

⁷ Gereffi & Wyman 1990.

⁸ After August 1982, when Mexico's Finance Minister, Jesus Silva Herzog, declared that Mexico would no longer be able to service its debt, most commercial banks significantly reduced or halted new lending to Latin America.

⁹ Babb 2013. Gereffi 2014.

¹⁰ Gereffi 2018c.

However, the nature and degree of Mexico's economic integration within North America, as well as its ability to create and capture value and innovation rents in its core domestic industries, have varied over time. A report that traces 60 years of US production shifting to Mexico highlights multiple factors favoring Mexico's suitability as a production hub, including: its proximity to the US; a well-skilled, abundant, and low-cost labor force; a modern transportation and communication infrastructure linking both countries; the initiation of a regional free-trade agreement (NAFTA) in 1994; and Mexican legislation promoting FDI from the US and other nations.¹¹ Indeed, after Mexico acceded to the General Agreement on Tariffs and Trade (GATT) in 1986, many Korean, Taiwanese, and Japanese electronics companies began investing in Mexico partly for the convenience of shorter and relatively low-cost supply chains, but also because they wanted to avoid US trade restrictions on products such as color televisions, which had been in force since the late 1970s. This East Asian FDI into Mexico is one of the earliest examples of "nearshoring", as the term is used today.

However, the growth of trade and FDI associated with the rise of US production sharing with Mexico soon was disrupted by extensive offshoring to China after this country became a World Trade Organization (WTO) member in 2001. Lower Chinese labor costs and production efficiencies linked to massive scale, often with the addition of government subsidies, more than compensated for the shipping costs and duties of Chinese goods exported to the US and other advanced economies. As Chinese production cost advantages began to decline substantially in the early 2010s, with rising manufacturing wages, energy and other costs in China, some of the early offshoring to China began to be replaced with increased nearshoring to Mexico.¹² But these trends have been tempered by increased uncertainty in both Mexico and the US due to the

¹¹ Gantz 2024.

¹² Gantz 2024, 11-12.

policies of recent administrations that will be viewed in greater detail below.

To better understand these trade-offs, and to assess what Mexico's policy options are *vis-à-vis* "nearshoring", we will examine Mexico's development from a GVC perspective. While the GVC approach has been widely used by development scholars and international organizations to highlight the links between the strategies of MNEs that lead global industries and the policy options for economic, social, and environmental upgrading confronting national policymakers,¹³ the framework has taken on greater significance in the wake of recent economic and political disruptions that led to product shortages caused by the fragmentation and vulnerabilities linked to global supply chains.¹⁴ Although Mexico is in the lead among Latin American and Caribbean countries in terms of its nearshoring potential and readiness as measured by MNE intermediate and finished goods trade to the US market, the analysis of trade-in-value-added data reveals that only limited upgrading in Mexican production appears to be occurring.¹⁵ This article will explore Mexico's options for enhancing its role in the current nearshoring scenario.

3. SUPPLY CHAINS AS A DEVELOPMENT PARADIGM

Traditionally, the economics discipline has distinguished two main levels of analysis: *macroeconomics*—top-down studies of broad systems, like trade and investment regimes, and the behavior of statistical aggregates, such as gross domestic product (GDP), national income, and the like; and *microeconomics*—bottom-up studies of individual agents, such as firms, consumers, workers, and investors. However, the space between the two has largely been neglected. This oversight is now being

¹³ Gereffi 2018a. Mayer & Gereffi 2019.

¹⁴ Gereffi 2020. White House 2021.

¹⁵ Pietrobelli & Seri 2023, 62.

redressed by the growing attention given to the structure and dynamics of industrial supply chains, which fall between the macro-micro divide. Some economists refer to this new field as “*mesoeconomics*”.¹⁶

Actually, the study of industrial supply chains has received a lot of attention outside of economics for decades. Since the mid-1990s and early 2000s, extensive literatures have emerged in development studies, economic sociology, economic geography, and international business using the related concepts of global commodity chains (GCCs), global production networks (GPNs), and GVCs.¹⁷ These studies share the conviction that the production structures and supply chains that link countries to the global economy have a deep and lasting impact on national and regional development.

To document their claims, supply-chain scholars utilize distinctive methodologies such as case studies of industrial clusters and “value chain mapping”.¹⁸ Their empirical findings offer detailed analyses of inter-firm networks in industrial clusters, such as Italian industrial districts or modern tech centers like the US’s Silicon Valley,¹⁹ or transnational networks that highlight flows of goods or services across geographic boundaries.²⁰ GVC studies involve interview-based field research with grounded concepts, including: (1) the “governance structures” by which lead firms in global and local industries exercise power in supply chains; and (2) the trajectories of economic, social, and environmental “upgrading” (or downgrading) that shape the winners and losers and spillover effects of the development process at diverse geographic scales.²¹ Quantitatively oriented GVC research uses novel datasets from public or government sources or prima-

¹⁶ Janeway 2024. Tett 2024a.

¹⁷ Gereffi & Korzeniewicz 1994. Bair 2005. Bair 2009. Coe & Yeung 2015. Dicken 2015. Gereffi 2018b. Ponte, Gereffi & Raj-Reichert 2019.

¹⁸ Gereffi & Fernandez-Stark 2016. Frederick 2019.

¹⁹ Gereffi & Lee 2016. De Marchi, Di Maria & Gereffi 2018.

²⁰ Gereffi, Lim & Lee 2021.

²¹ Gereffi 2018a. Ponte, Gereffi & Raj-Reichert 2019.

ry research by the author to analyze the impact of corporate decision-making and public policies on the configuration and economic outcomes of GVCs.²²

The GCC approach, for example, established that global industries could be “producer-driven” or “buyer-driven” (the latter being a brand-new concept), and that export-oriented industrialization in East Asian as well as Latin American economies from the 1970s through the 2000s was primarily due to the success of “buyer-driven” chains orchestrated by giant retailers and global brands.²³ GPN studies highlighted the role of the state and other local institutions in the development process,²⁴ while the vast (and still growing) GVC literature has given greater attention to efforts to create and capture different kinds of “value” (e.g., skills, jobs, exports, profits, R&D) along global supply chains.²⁵

The policy relevance of the GVC perspective was greatly enhanced by its adoption by the World Trade Organization (WTO) and the World Bank as a development paradigm following the global recession of 2008-2009, which precipitated the world’s greatest trade collapse since the Great Depression of the 1930s.²⁶ For the WTO, the economic crisis of 2008 was an existential threat. Since WTO’s creation in 1995, developing nations had critiqued the organization for supporting free trade as an engine of development. As global trade slowed dramatically during the global recession, the WTO was concerned that many countries might adopt protectionist measures that would undo years of progress towards freer global trade.²⁷

Pascal Lamy, Director-General of the WTO from 2005 to 2013, believed the WTO needed a different narrative to demonstrate the importance of maintaining open markets. Lamy quickly became a champion of the GVC concept, which

²² Canello, Buciuni & Gereffi 2022. Turkina, Van Assche & Kali 2016.

²³ Gereffi 1994. Gereffi 1999.

²⁴ Coe & Yeung 2015. Dicken 2015.

²⁵ Ponte, Gereffi & Raj-Reichert 2019. De Marchi *et al.* 2020.

²⁶ Baldwin 2009.

²⁷ Mayer & Gereffi 2019.

bridged the “old” world of 20th century trade when production was largely national and the “new” world of 21st century trade that was organized in global supply chains where production was spread across up to 10-12 countries, and the volume of trade in intermediate products often surpassed trade in finished goods.²⁸ The WTO’s embrace of GVC analysis under Lamy’s leadership was showcased in its “Aid for Trade” initiative with the Organization for Economic Cooperation and Development (OECD) that was intended to foster trade among developing and especially least-developed countries.²⁹

The World Bank’s uptake of the GVC approach parallels that of the WTO and the OECD, since the World Bank largely ignored GVCs prior to the onset of the 2008-2009 global financial crisis. But the World Bank story is more bottom-up than top-down, since it begins with “policy entrepreneurs” who worked in the World Bank’s Poverty Reduction and Economic Management (PREM) division that provided policy advice and technical assistance to developing countries. When the 2008 financial crisis hit, the first reaction of economists in PREM’s International Trade Unit mimicked those at WTO and OECD: fear of rising protectionism.³⁰ However, the financial crisis created an opening for a non-traditional way of thinking because the pressures for protectionism were a great deal less than expected. To explain why this was the case, the World Bank publicly adopted the GVC approach in a new book, *Global Value Chains in a Postcrisis World: A Development Perspective*.³¹ It highlighted the resilience of a global economy organized around GVCs due in part to the growing importance of supply chains linking producers and markets in South-South trade as well as more traditional North-South trade and investment.

While the GVC approach has flourished in both academic circles and numerous international organizations, like the

²⁸ Lamy 2018.

²⁹ Gereffi 2018d.

³⁰ Gereffi 2019, 199-201.

³¹ Cattaneo, Gereffi & Staritz 2010.

WTO, the World Bank, the International Labor Organization (ILO), the United Nations Industrial Development Organization (UNIDO), and the United Nations Conference on Trade and Development (UNCTAD),³² it also has a big impact at the country level. Particularly influential were GVC studies carried out by the Duke Center on Global Value Chains,³³ which focused on pathways taken by countries to become internationally competitive across a wide range of industries.³⁴

Mexico is a particularly rich repository of GVC and related supply-chain approaches, especially given that one of the originators of the GCC and GVC approaches, Gary Gereffi, has worked extensively on Mexico since carrying out his doctoral dissertation research on the Mexican pharmaceutical industry in the late 1970s.³⁵ Section 4 will highlight four cases of industrial development in Mexico that relied on the interplay of government policies and firm-level analysis as a baseline for exploring how the nearshoring agenda today compares in its challenges and opportunities to those in Mexico's recent past.

³² Gereffi 2019 Mayer & Gereffi 2019.

³³ See the extensive portfolio of GVC studies carried out for a wide range of clients including countries, international organizations, and non-governmental organizations (NGOs) by the GVC Center at Duke University, Durham, NC, <https://www.globalvaluechains.org/> For overviews of the Center's work, see Gereffi & Fernandez-Stark 2016. Gereffi 2019, 202. And the discussion of US-based supply chains in Gary Gereffi's written testimony presented at the U.S. Senate hearings on "Implementing Supply Chain Resiliency". Gereffi 2021.

³⁴ Illustrative studies include "Chile's offshore services value chain". Fernandez-Stark, Bamber & Gereffi 2010. "Costa Rica in global value chains: Medical devices, electronics, aerospace and offshore services". Gereffi *et al.* 2013. And the Philippines across a wide range of GVCs, including shipbuilding, rubber, cocoa-chocolate, coffee, mangos, paper, chemicals, electronics and electrical, automotive, and aerospace. Global Value Chains Initiative n.d.

³⁵ Gereffi 1983. Gereffi 2022.

4. PRECURSORS OF NEARSHORING – FOUR HISTORICAL CASES OF US-MEXICO ECONOMIC INTEGRATION FROM A GVC PERSPECTIVE

In this section, four recent case studies of US-Mexico economic integration are analyzed from a GVC perspective to highlight the evolution of bilateral economic relations, which has key implications for Mexico's ability to benefit from current nearshoring dynamics. Each case is briefly summarized in terms of the relevant industries and products, time periods, the role of firm strategies and interfirm networks, the main Mexican and US policies employed, and the most significant development outcomes and takeaways for Mexico. These GVC cases use the firm-oriented, supply-chain, mesoeconomic frameworks discussed in Section 3 to analyze the impact of Mexican development strategies at the national, local, and transnational levels. We will then assess Mexico's ability to take advantage of recent US industrial and trade policies in the early 2020s, to be discussed in Sections 5 and 6.

4.1 Pharmaceuticals and the ISI Regime in Mexico *Industry/product; time period – Pharmaceuticals / steroid hormones; 1950s-1970s*

Significance of the case – In the 1950s, Mexico emerged as the leading global producer of a new category of “wonder drugs” called steroid hormones, which included cortisone (an anti-inflammatory drug that dramatically relieved the symptoms of rheumatoid arthritis) as well as the active ingredient in the first generation of oral contraceptives. By the end of the 1950s, Mexico controlled 80-90% of the world production of steroid hormones. By 1975, steroids accounted for over 60% of all pharmaceutical exports from Mexico.³⁶

³⁶ Gereffi 1978. Gereffi 1983.

Key firms: Syntex – A Mexican firm formed in the mid-1940s that used Mexican raw materials (a plant called *barbasco*) to dominate the production of bulk intermediates (mainly diosgenin) used to make cortisone and its derivatives. An oligopoly of six European and American MNEs that controlled the R&D and marketing of steroid hormones to the US and European markets. A Mexican state-owned enterprise (Proquivemex) created in 1975 to control the supply of *barbasco* to the European and American MNEs.

Main policies – President Luis Echeverría (1970-1976) was the architect of Mexico's most ambitious phase of ISI policy-making. The goal of the ISI strategy was to induce MNEs to invest in Mexico to build local industries, and in return, the state guaranteed MNEs privileged access to the Mexican market. In the steroid hormone case, Echeverría hoped to use Proquivemex to "renegotiate Mexico's dependency" on MNEs by imposing three new conditions on their access to *barbasco*: (1) MNEs would pay a much high price for processed *barbasco* from Proquivemex; (2) MNEs would devote a certain percentage of their installed capacity to make finished steroid hormones for Proquivemex (to be used either as exports or for sale to the internal market); and (3) the government desired the Mexicanization (majority local control) of the six MNE subsidiaries in the industry, all of which were 100% foreign-owned.³⁷

Economic outcomes – For various reasons, the plans proposed by the Mexican state to reduce Mexico's dependency on MNEs in the steroid hormone industry backfired. In 1955, Syntex shifted its headquarters from Mexico to Palo Alto, CA, in the US.³⁸ In addition to this key defection, the US government intervened at the behest of American MNEs and forced the Mexican state to stop protecting domestic producers of steroid intermediates, or the US would block the sale of Mexico's steroid exports to the US market.

³⁷ Gereffi 1978, 275-276.

³⁸ Gereffi 1983, 109-114.

Lessons from the case – The use of a state-owned enterprise like Proquivemex to promote industrial development in Mexico's steroid hormone industry was ill advised for several reasons: (1) Mexico was still technologically dependent on MNEs for the vast majority of active ingredients used in steroid hormones and other pharmaceutical products consumed nationally; (2) Mexico was economically dependent on the US as a mass market for its pharmaceutical exports; and (3) Proquivemex was politically dependent on continued support from the government to carry out its reforms. Both bureaucratic conflicts during the Echeverría administration and the sexennial change to a new president (José Lopez Portillo, 1976-1982) diminished Proquivemex's domestic political support.

4.2 NAFTA's Impact on Deepening Industrialization in Mexico Industry/product; time period – Textiles and apparel / blue jeans; 1990s

Significance of the case – Mexico became a world-class player among global textile and apparel exporters during the second half of the 1990s. In 1991, Mexico was the 7th largest exporter of apparel to the US. By the end of the decade, Mexico surpassed China to gain the top spot in the US market. The value of Mexican apparel exports increased more than seven-fold from \$1.2 billion in 1990 to \$8.8 billion in 1999.³⁹ Blue jeans were the leading item in Mexico's garment export repertoire, accounting for 34% of Mexico's apparel exports to the US in 1999, and the northern Mexican city of Torreon surpassed El Paso, Texas as the leading blue jeans export cluster in the world.

Key firms – The main development story in this case is the shift in the structure of Mexico's apparel industry from a reliance on in-bond assembly plants in the *maquila* sector that flourished along the border throughout the 1980s and

³⁹ Bair & Gereffi 2001, 1889.

early 1990s to the rise of “full-package” apparel suppliers that emerged after the passage of NAFTA in 1994 (see Figure 1). In 1993, the major US customers for the denim blue jeans made in Torreon were four large manufacturers: Levi Strauss, Wrangler, Farah, and Sun Apparel. By 2000, these companies were joined by top US retail chains (JC Penney, Sears, Kmart, Wal-Mart, and Target), the two leading specialty apparel retailers (Gap and Limited), and marketers selling a wide range of fashionable brands (e.g., Liz Claiborne, Donna Karan, Tommy Hilfiger, Calvin Klein, and Polo/Ralph Lauren).⁴⁰

Main policies – ISI policies in Mexico were largely abandoned after the 1970s with the onset of the debt crisis in the early 1980s and the promotion of the neoliberal Washington Consensus development model. The passage of the NAFTA trade agreement in 1994 ushered in Mexico’s new export-oriented strategy, with exports more than tripling from \$52 billion in 1993 to \$166 billion in 2000.⁴¹ Because of NAFTA, the Torreon blue jeans cluster experienced a qualitative change in the type of networks connecting local firms to export markets. In GCC terms, NAFTA enabled the shift from a low-value-added assembly industry to a highly dynamic buyer-driven chain that fostered various types of local upgrading.

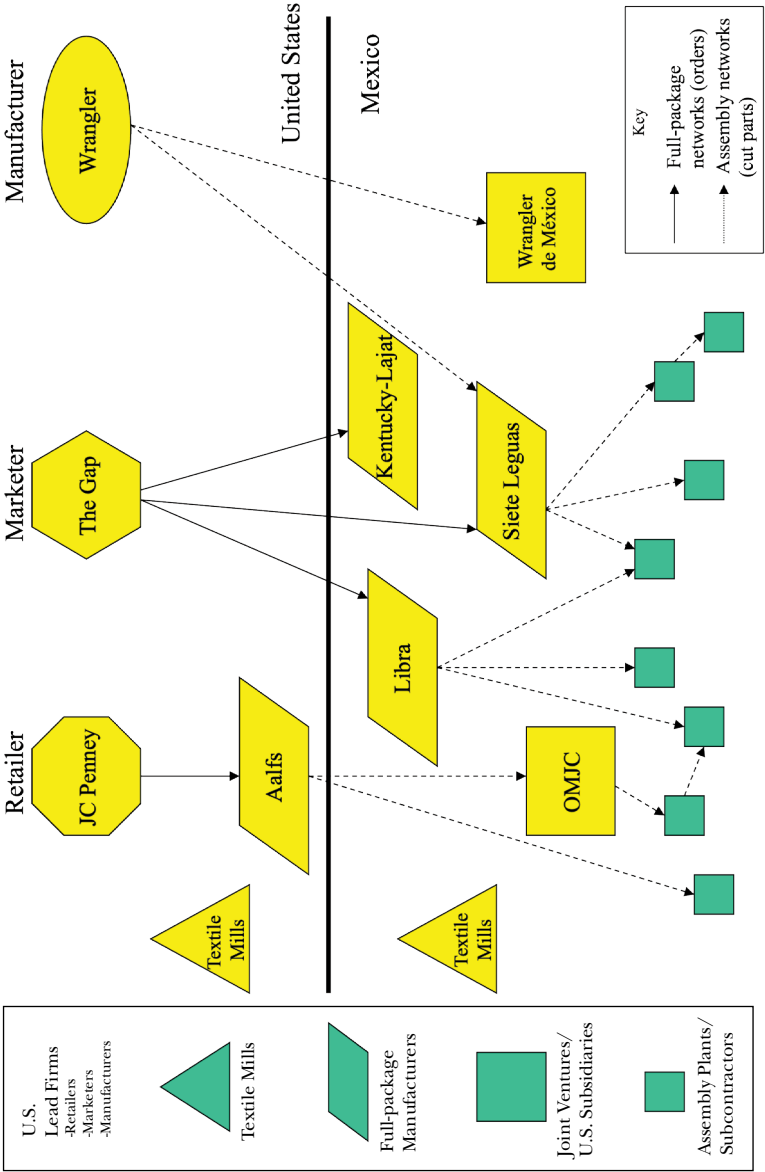
Economic outcomes – NAFTA created dramatic growth in Torreon’s blue jeans cluster. Between 1993 (the year prior to NAFTA’s adoption) and 2000, Torreon’s output of blue jeans grew from 500,000 to 6 million garments per week, employment rose from 12,000 to 75,000 workers, and the percentage of Mexican denim used in Torreon’s export production increased from 1-2% to 15% since NAFTA allowed duty-free use of Mexican inputs.⁴² Growth in Mexico’s *maquila* sector was accelerated by the devaluation of the Mexican peso in December 1994 by 13-15%, which made Mexican labor even cheaper for US firms.

⁴⁰ Bair & Gereffi 2001, 1892.

⁴¹ Bair & Gereffi 2001, 1885.

⁴² Bair & Gereffi 2001, 1889.

FIGURE 1
Post-NAFTA Full-Package Networks in Torreón



Source: Bair & Gereffi 2001, 1893.

Lessons from the case – The new set of foreign buyers that began to source directly from Mexico after NAFTA set up “full-package” (versus pure assembly) networks that promoted local upgrading at different levels. At the industry level, NAFTA encouraged more activities in the apparel commodity chain to be carried out in Mexico (e.g., textile production, cutting, laundry, and distribution), although the highest value-added activities (e.g., design and marketing) remained in the US. At the firm level, the first-tier manufacturers in Torreon developed the capabilities and capital needed to coordinate full-package networks and there was some upgrading of local skills, but small, lower-tier subcontractors generally had worse working conditions and lower wages.⁴³

4.3 Mexico vs. China as Key Competitors for the US Market
Industry/product; time period – Manufactured exports (apparel & footwear; furniture; motor vehicles and auto parts; electrical machinery; telecom equipment; computers); 2000-2014

Significance of the case – Following NAFTA, Mexico diversified its export structure to encompass a wide range of manufactured goods, from relatively low-tech items like apparel, footwear, and furniture, to mid-tech industries like automotive and electrical machinery, to relatively high-tech electronics including telecom equipment, computers, and flat-screen televisions. In 2000, Mexico was the leading exporter to the US market in most of these product categories. By 2014, however, China displaced Mexico as the top exporter to the US in virtually every industry. This case explores how and why this happened.

Key firms – As in Torreon’s blue jeans cluster, the role of buyer-driven GCCs was instrumental in China’s ability to conquer global export markets across a broad range of consumer goods. Giant retailers like Wal-Mart were favored partners of China, and they facilitated China’s success as an export leader

⁴³ Bair & Gereffi 2001, 1894-1898.

in multiple consumer goods products that were all sourced by a core set of global retailers and popular brands such as Nike and Adidas.⁴⁴ Unlike its East Asian export rivals South Korea and Japan, China welcomed foreign investors in its economy to promote “fast learning” in new industries, with the potential of also accessing China’s vast domestic market. Thus, leading MNEs in producer-driven chains, such as Apple in personal computers and smartphones, also favored China as an export platform for their high-tech products.⁴⁵

Main policies – China’s surge as a dominant global exporter is often attributed to its abundant supply of cheap labor and the role of scale economies in allowing China to become a lower-cost producer; but institutional factors are equally if not more important. China’s admission to the WTO in 2001 was very significant for Chinese exporters; it gave China most-favored-nation treatment, which improved access to foreign markets, and it signaled Chinese reforms to reduce market restrictions and overhaul its state-owned enterprise sector. Perhaps China’s central advantage was the active role of the Chinese state in formulating and implementing a coherent and multidimensional upgrading strategy to diversify and add high-value activities to its export sector.⁴⁶

Economic outcomes – In its head-to-head export competition with Mexico, China’s dominance was established rapidly and decisively. In apparel and clothing, China’s US market share for exports grew from 13.2% in 2000 to 33.4% in 2007 and 37.9% in 2014. In furniture, a similar pattern: 23.6% US market share in 2000, 47.7% in 2007, and 46.3% in 2014. In electrical machinery, China’s US export share rose from 11.9% in 2000 to 33.2% in 2014; telecom equipment, from 10.3% in 2000 to 58% in 2014; and automatic data processing machines, China’s share of the US market soared from 11.3% in 2000 to 49.3% in 2007, and 65.7% in 2014. In every industry

⁴⁴ Gereffi & Christian 2009.

⁴⁵ Duhigg & Bradsher 2012. Barboza 2016. McGee 2023.

⁴⁶ Gereffi, Bamber & Fernandez-Stark 2022.

except furniture, Mexico's US market share was higher than China's in 2000. But by 2007 China already surpassed Mexico by a large margin, and its lead grew further by 2014. Only in the auto parts industry did Mexico enjoy a continuous US market share lead over China, rising from 16.3% of the US market in 2000 to 30.4% in 2014 (see Table 1).

Lessons from the case – Since China became the world's unquestioned leader in manufacturing exports over the past two decades, it is instructive to understand the sources of China's success. Whereas the Washington Consensus model encouraged developing economies to restrict the role of the state in its economic development, China (like its East Asian brethren, Japan, South Korea, Taiwan, and Singapore) has moved in the opposite direction and embraced a strong developmental state with an export-oriented strategy that engages with FDI and seeks not just cost but also technological leadership. However, China's export success and technological ambitions has led to strong pushback from the advanced capitalist economies, including the US, EU, and Japan.

4.4 The US Trade War with China and Regional Value Chains Industry/product; time period – US imports from China, Canada, Mexico, and the European Union (steel; semiconductors; diverse manufactures; agricultural products); 2016-2020

Significance of the case – Given China's spectacular rise as a global exporter in the 21st century and its rapidly growing market share in numerous US industries, a strong US protectionist response was predictable. Indeed, President Donald Trump won the US presidential election in 2016 on an "America First" agenda, and in early 2018, the Trump administration levied a series of import tariffs with a specific focus on China, the country seen as the biggest threat to US jobs and industries. On March 8, 2018 President Trump imposed a 25% tariff on steel imports and a 10% tariff on aluminum imports, with exemptions for Mexico and Canada. In early April, Trump

TABLE 1
Mexico's and China's Competing Exports to the US Market, 2000-2014

SITC Category	Product	2000			2007			2014			Change in Market Share 2000-2007	Change in Market Share 2000-2007
		Value (billions)	Share of US market		Value (billions)	Share of US market		Value (billions)	Share of US market			
752	Automatic Data Processing Machines	6.4	11.5		5.6	9.6		13.6	16.6		-1.9	7.0
	China	6.3	11.3		28.6	49.3		53.3	65.7		38.0	16.4
	US Total	55.9			57.9			81.1				
764	Telecom Equipment	9.1	20.6		10.8	13.6		12.1	10.2		-7.0	-3.4
	China	4.6	10.3		29.6	37.3		68.7	58.0		26.9	20.8
	US Total	44.3			79.5			118.4				
778	Electrical Machinery	3.1	18.3		5.0	21.8		7.2	21.4		3.5	-0.4
	China	2.0	11.9		6.1	26.6		11.2	33.2		14.7	6.6
	US Total	17.1			23.1			33.7				
784	Auto Parts	4.6	16.3		10.2	22.2		19.1	30.4		5.8	8.2
	China	0.4	1.5		3.6	7.8		8.3	13.2		6.2	5.4
	US Total	28.4			46.2			62.9				
821	Furniture	3.2	16.9		4.6	13.6		7.6	18.3		-3.3	4.7
	China	4.5	23.6		16.2	47.7		19.2	46.3		24.1	-1.4
	US Total	18.9			33.9			41.5				
84	Apparel and Clothing	8.7	13.6		4.7	5.8		4.0	4.4		-7.8	-1.4
	China	8.5	13.2		27.1	33.4		34.2	37.9		20.2	4.5
	US Total	64.3			81.2			90.2				

Source: Gereffi 2018c, 215.

ratcheted up the trade war with China, listing more than 1,300 imported goods worth about \$50 billion that would face a 25% US tariff, including flat-screen televisions, medical devices, and aircraft parts.⁴⁷ China immediately struck back with its own tariffs, also worth \$50 billion, on 106 types of American goods with a heavy focus on agricultural products, including soybeans, corn, cotton, tobacco, and whiskey.⁴⁸ A US-China trade war was underway.

Key firms – Protectionist policies can affect a wide range of industries and many different types of suppliers. To understand the systematic impact of these policies, we need an analytical framework that looks at the dynamic interaction and co-evolution between GVC-oriented trade policies, firm strategies, and GVC configurations (geographic and organizational) over time. Such a framework is applied in a recent study of three major GVCs (apparel, automotive, and electronics) over the past 50 years, with an emphasis on two types of firm strategies that mediate between government trade policies (either restrictions or trade agreements) and the organization of global industries (called GVC configurations).⁴⁹

First, there are “switching strategies,” whereby firms can engage in: (a) *production switching*—move production to other countries not affected by the restrictions (e.g., from China to Vietnam), or move production to countries that benefit from trade agreements (e.g., from China to Mexico to take advantage of NAFTA or successor agreements)—; (b) *market switching*—selling products in markets not affected by restrictions (e.g., Chinese firms can shift from export markets to their domestic market)—; and (c) *supplier switching*—firms can change their sourcing partners to circumvent a restriction, like the US ban against Huawei and its suppliers. Second, there are diverse “upgrading strategies”, whereby firms attempt to circumvent restrictions by capturing more value via *product* or *process*

⁴⁷ U.S. Department of Commerce 2018.

⁴⁸ Bradsher & Myers 2018.

⁴⁹ Gereffi, Lim & Lee 2021, 515-517.

upgrading, or by moving into higher-value-added segments of a GVC (*functional upgrading*).

Main policies – US policymakers have dealt with trade imbalances via several protectionist measures. During the early 1980s, Japan's large trade surplus with the US was handled through voluntary export restraints (VERs), which placed a quantitative limit on Japanese auto imports into the US (e.g., 1.7 million cars in 1981). VERs remained in place until the mid-1990s. However, in a supply-chain world, nationalist trade restrictions often have “unintended consequences”. In the case of VERs, the policy had the effect of inducing many Japanese automakers (and later European and South Korean auto companies) to build plants in the US to bypass US-imposed export restrictions.⁵⁰ More generally, multiple types of trade restrictions in the apparel, automotive, and electronics GVCs from the 1970s to the early 2020s were relatively ineffective in curbing imports from targeted companies. Mainly they accelerated switching and upgrading strategies of the exporting firms, leading to the geographic reconfiguration of GVCs.⁵¹

Economic outcomes – President Trump's use of high tariffs to restrict imports not only from China, but also from other top US trade partners such as Mexico, Canada, and the EU, created contradictory outcomes. For example, in the regionally integrated North American automotive industry under NAFTA, a large share of US auto parts exports returns to the US as imports of finished vehicles or subassemblies. Thus, US automotive imports from Mexico contain about 40% US content, and imports from Canada are 25% US content by value. By contrast, imports from China contain only about 4% US value. Thus, all imports are not created equal in terms of their potential effect on US producers, workers, and consumers, and US suppliers are far more likely to be hurt by a protectionist response to NAFTA partners than to China.⁵²

⁵⁰ Gereffi, Lim & Lee 2021, 510-511.

⁵¹ Gereffi, Lim & Lee 2021.

⁵² Gereffi 2018d, 436.

Lessons from the case—Given the intertwined nature of North American and global supply chains, protectionist policies like import tariffs or quotas do not necessarily help US companies, workers, or national security. Many of the medium- and high-tech US manufacturing firms in industries like automobiles, medical devices, pharmaceuticals, electronics, and aircraft utilize regional and global supply chains to make finished products with imported parts. In none of these industries is it feasible to buy all the needed parts from domestic sources. This suggests that the current trade disputes between the US and China, the world's two largest and most dynamic economies, are the harbinger of a much deeper “strategic competition” about the technologies of the future (e.g., advanced manufacturing, clean energy, artificial intelligence, and quantum computing) and their contrasting development strategies to bolster each country's national, regional, and global interests.⁵³

Taken together, these four cases of Mexican industrial development highlight not only the significance of shifting trade policies over time (in Mexico as well as the US and China), but also the need to specify both the industry and global supply chain contexts to understand the gains and limitations in each situation. Mexico's economic outcomes were profoundly shaped by its degree and type of integration with the US in the North American setting, as well as by major global competitors such as China. In a real sense, “nearshoring” is intrinsic to the Mexican economy since Mexico's fortunes cannot be delinked from the US.

5. RELEVANCE OF RECENT EPISODES OF US-MEXICO ECONOMIC INTEGRATION FOR CONTEMPORARY NEARSHORING

If we look at the trajectory of these four cases of US-Mexican economic integration, there are some obvious differences but

⁵³ Gereffi 2018d.

also key lessons that apply to the current nearshoring conjuncture for Mexico. The industries involved are varied, including both producer-driven chains (like the pharmaceutical and automotive industries) and buyer-driven chains (like apparel and furniture). The timing of the four cases is sequential and covers more than seven decades of Mexico's development – from the growth of Mexico's steroid hormone industry in the 1950s to 1970s until the disruptions caused by the COVID-19 pandemic in the early 2020s. Furthermore, Mexican state policies show striking contrasts, from the ISI development strategy of the Echeverría era (1970-1976) to the launching of NAFTA in 1994, and more recently Mexican and Chinese competition to gain and expand US market shares in the 2000s and 2010s, and reactions to new US trade restrictions post-2016.

From Mexico's perspective, the nature of bilateral economic integration and its relevance to "nearshoring" has evolved over time. In the ISI period, economic integration was a byproduct of Mexico's proximity to the US market, which was the main source of both technological innovations and booming demand for the new generation of "wonder drugs" that revolutionized the pharmaceutical field. The main mechanism of Mexico's transnational economic integration in the ISI regime was US and European FDI, and their bulk exports of a key intermediate product (diosgenin) used to make finished cortisone and oral contraceptives in the US and Europe. NAFTA's impact in the mid-1990s was different. Nearshoring was tied to Mexico's participation in a regional trade agreement. Trade policy was the key driver, and FDI soon followed. In Torreon's blue jeans industry, US FDI in textiles, laundry, finishing, and distribution led to functional upgrading and industrial deepening in Mexico (see Figure 1), which increased the country's economic value-added. NAFTA promoted industrial diversification in Mexico as well as export gains across a wide range of industries by 2000 (see Table 1).

China's success in capturing a dominant share of the US market by the late 2000s triggered a trade war with the US. High US tariffs and other import restrictions showed the

Janus-faced nature of trade policy's impact on development, as supply-chain integration created numerous "unintended consequences" of trade restrictions.⁵⁴ Nearshoring via NAFTA eased the tariff restrictions on Mexico and Canada, but it didn't allow them to prevail over China's superior scale, lower costs, and more coherent export-oriented development strategy.

Notwithstanding these differences, key lessons can be learned from the evolution of Mexico's distinct forms of economic integration with the US and its challenge from China. In the steroid hormone case, Mexico enjoyed considerable success in attracting US and European FDI that brought new technology and capital and transformed a Mexican raw material, the plant *barbasco*, into an essential intermediate input for finished pharmaceuticals made in the US. Mexico's use of a state-owned firm, Proquivemex, to monopolize the collection and sale of *barbasco* to MNEs was shortsighted because Mexico had lost its technological edge when Syntex moved to the US in 1955, and Mexico's dependence on the US market for sales of diosgenin made it vulnerable to US government pressure to reverse the Mexican government's mandate that gave Proquivemex control over the domestic supply of *barbasco*.

However, Mexico's ISI strategy in the 1970s was more successful in sectors relying on diversified supply chains and sales to the domestic market, such as the automotive industry. Like Brazil in Latin America, and South Korea and Taiwan in East Asia, Mexico's pursuit of state-led industrialization since the 1950s created a "developmental state" with substantial bureaucratic capabilities to design and implement policies related to both import-substituting and export-oriented development strategies.⁵⁵ For Mexico, this involved strengthening key ministries responsible for registering and regulating FDI that was relied upon during ISI to establish many new industries in the country (e.g., automobiles, electrical and non-electrical machinery, petrochemicals, and pharmaceuticals). When Mexico

⁵⁴ Gereffi, Lim & Lee 2021.

⁵⁵ Gereffi & Wyman 1990.

dismantled its ISI strategy in the 1980s, it scrapped many of the information-gathering and policy tools it used to manage the economy, which by contrast remain strong in East Asian economies like Japan, South Korea, Taiwan, Singapore, and China.⁵⁶

The Torreon case illustrates how Mexico was able to create a world-class export cluster in the blue jeans GVC in the late 1990s by using NAFTA policies to transition from the assembly-oriented *maquila* model to more vertically integrated full-package production. In 2000, there were 350 apparel factories operating in Torreon making about six million pairs of jeans a week. In the following decade Mexico was surpassed by China, which became the undisputed leader in the global exports of light consumer goods such as apparel. The subsequent collapse of the blue jeans export boom in Torreon does not diminish Mexico's significant economic upgrading accomplishments in textiles and apparel under NAFTA, which allowed Mexican firms to develop a broad range of full-package capabilities that put them well ahead of their assembly-oriented Central American and Caribbean competitors that also shipped apparel to the US market, but with fewer backward and forward linkages.⁵⁷

China's ability to pull far ahead of Mexico in most US-oriented export industries in the 2000-2014 period (see Table 1) is a tale of contrasting national development strategies. China's development model after its accession to the WTO in 2001 relied on a unique combination of factors: abundant low-cost labor; the aggressive attraction of FDI; opening its large domestic market to the outside world; lessening bureaucratic red tape; increasing the quality of its workforce through education and training; upgrading its logistical capabilities; and rapidly moving up the technology value chain.⁵⁸ It also targeted specific industries that set up export hubs in giant,

⁵⁶ Wade 2018. Gereffi, Bamber & Fernandez-Stark 2022.

⁵⁷ Bair & Gereffi 2003. Gereffi, Spener & Bair 2002.

⁵⁸ Gereffi 2018c.

vertically integrated firm factories located in China's "supply-chain cities", which created full supply-chain ecosystems to facilitate economies of scale for a wide range of products, from simple apparel items like socks, neckties, and underwear⁵⁹ to complex products such as iPhones.⁶⁰

Mexico's development strategy in the 1980s shifted from the state-centric ISI model to the more market-oriented or neoliberal "Washington Consensus" approach. Whereas initial reforms following the debt crisis included stabilization programs to lower state expenditures, widespread privatization, lowering of trade barriers, and the liberalization of regulations governing FDI, Mexico's adoption of NAFTA in the mid-1990s moved Mexico into a more explicit partnership with the US, and created higher levels of regional interdependence in terms of both trade and FDI. While NAFTA seemed like a safe bet for Mexico in its early decades, the rise of economic nationalism heralded by Brexit in 2016 was a forerunner of broader protectionist sentiments associated with the "America First" campaign of the Trump administration.

Presaging his skepticism of mega-regional trade agreements, President Trump's initial executive order on January 23, 2017 was to withdraw from the Trans-Pacific Partnership (TPP) negotiations, a sweeping 12-nation trade deal accounting for 40% of global GDP that Trump claimed was a US job killer. Shortly thereafter, Trump threatened to withdraw from NAFTA as well, and ultimately agreed to a revamped version of NAFTA: the US-Mexico-Canada Agreement (USMCA), signed on November 30, 2018.⁶¹ Among the main changes in the USMCA are tighter rules of origin for selected industries (e.g., 75% of each vehicle produced in the automotive sector must originate in member countries), better enforcement of environmental protections, and additional labor provisions to drive higher wages by requiring that 40-45% of auto content

⁵⁹ Barboza 2004.

⁶⁰ Duhigg & Bradsher 2012. Barboza 2016.

⁶¹ Gereffi 2018d.

be made by workers earning at least US \$16 per hour. Trump's more nationalist approach to trade sparked the US-China trade war, which used high and escalating tariffs to reduce US imports from China.

The new administrations that have come to power in both the US and Mexico since the US-China trade war of 2016-2020 and the onset of the COVID-19 global pandemic will build on the legacy of US-Mexico economic relations from previous decades, as reviewed above. Section 6 will sketch some of the main US policy initiatives in the post-2020 period that enable a direct dialogue between historical lessons and current challenges. The implications for Mexico are necessarily provisional, but the GVC framework provides continuity in terms of analyzing the nearshoring options for strategic industries with an emphasis on the interplay between MNE strategies and the policy tradeoffs that define US-Mexico economic relations.

6. THE RECENT US POLICY CONTEXT AND NEARSHORING WITH MEXICO

In the aftermath of the COVID-19 global pandemic that wracked the world economy in 2020-2022, both industrial policy and national security in the US were linked to the increased resilience of global supply chains.⁶² This included a strong emphasis on nearshoring US supply chains to friendly and capable neighboring economies such as Mexico.⁶³ While a critical opportunity for Mexico, it also comes with major challenges in terms of Mexico's preparedness and ability to exploit this policy window in a hyper-competitive global setting.⁶⁴

The COVID-19 pandemic highlighted the vulnerabilities of supply chains based entirely on minimizing costs.⁶⁵

⁶² Gereffi 2020. Gereffi 2023a. Gereffi 2023b. Gereffi, Pananond & Pedersen 2022. Janeway 2024.

⁶³ Garrido 2022.

⁶⁴ Lilly 2024. McNeese 2023. Kiy & Zapata 2023.

⁶⁵ Gereffi 2020.

Sourcing networks were too rigid and dependent on a small number of offshore locations, most notably China. Making strategic supply chains more resilient was a core theme in the Biden administration's 100-day supply-chain review that focused on semiconductors, batteries for electric vehicles (EVs), active ingredients for essential medicines, and critical minerals.⁶⁶ GVC research shows that "resilience" has diverse meanings at different levels: *individual firms* (operational efficiency); *global industries* (managing company participation in geographically shifting and organizationally complex supply chains); and *countries* (national security).⁶⁷

From a GVC perspective, countries and firms can increase resilience in global supply chains in four ways:⁶⁸

- Make them more *domestic* (e.g., reshoring, stockpiles).
- Make them *shorter* (e.g., reducing the physical distances traversed by supply chains through regionalized production, such as Mexico and Central America for the US).
- Make them *more diversified* (e.g., reduce dependence on one or a few countries).
- Make them more *digital* (e.g., digital versions of real products and using digital technology to track the supply chain better).

In this context, the nearshoring option has received much attention in US and Mexican policy circles. This can be illustrated in several industries viewed as strategic for the US and Mexico.

The Biden administration targeted a handful of key industries.⁶⁹ One of these is semiconductors, which received significant funding from the CHIPS Act. The world's five leading chipmakers –American firms Intel and Micron, Taiwan Semiconductor Manufacturing Company (TSMC), and South

⁶⁶ White House 2021.

⁶⁷ Gereffi, Pananond & Pedersen 2022.

⁶⁸ Gereffi 2023a.

⁶⁹ White House 2021.

Korean companies Samsung and SK Hynix— have all committed to build major new chip facilities in the US, using about \$30 billion of the \$39 billion pot of investment incentives from the CHIPS Act.⁷⁰ These semiconductor plants are highly capital-intensive (costing a minimum of \$20–\$25 billion each) and they use cutting-edge technology to make the most sophisticated chips (e.g., three nanometer process nodes) used in artificial intelligence, digital platforms, and defense industry applications.

To participate in US semiconductor plans on a nearshoring basis, Mexico is being urged to boost its chip production over the next two years in the assembly and testing of more mature “legacy” chips (larger than 14–16 nanometers) used in other manufacturing sectors such as automotive products, home appliances and consumer electronics that can be made in factories in northern and western Mexico (e.g., Baja California and Jalisco).⁷¹ The trade-off for Mexico is occupying a relatively low-value rung in a high-tech and strategic GCV.

No industry is more strategic to Mexico’s economic development than the automotive sector (assembly and auto parts). While the automotive sector began strongly in the 1980s along the northern border as auto parts *maquiladoras*, after NAFTA the sector expanded significantly with the establishment of assembly plants in central Mexico. Unlike the apparel industry, the entry of China did not affect this growth trend, and auto parts was the only major manufacturing industry where China did not overtake Mexico in the US export market in 2000–2014 (see Table 1). The Mexican automotive industry grew exponentially after the 2008 financial crisis, with 11 new assembly plants and an increase of nearly 600,000 workers in this sector (mainly in auto parts).⁷²

The automotive industry now contributes 4.8% of the country’s GDP, and its exports have surpassed oil as the main

⁷⁰ Swanson & Ngo 2024.

⁷¹ Averbuch 2024.

⁷² Klier & Rubenstein 2017.

source of foreign currency income. The automotive sector generates 1 million direct jobs and 3.5 million indirect jobs. However, China has now positioned itself as the main car supplier in Mexico, with exports reaching \$4.6 billion in 2023, while 20% of light vehicles sold last year in Mexico were imported from China.⁷³ The position of China is particularly strong in the EV.

Electrical vehicles and EV batteries are strategic products for current US industrial policy, and major incentives to expand the EV supply chain in the US are available through the Inflation Reduction Act. However, China is the dominant producer of EVs and EV batteries in the world today, including the two largest makers of electric car batteries, CATL and BYD.⁷⁴ Chinese EV manufacturers have been investing in Mexico in recent years to take advantage of the country's skilled labor force, existing automotive infrastructure, and the potential to use the USMCA to avoid US tariffs and sell low-priced EVs in the US market. However, the US government is exerting pressure for Mexico to halt its incentives to Chinese EV firms.⁷⁵ While USMCA, like NAFTA, are intended to enhance Mexico's exports and industrial deepening, US officials made clear they don't want Chinese automakers to use USMCA as a "back door" to seek US market access from Mexico without paying steep US tariffs for Chinese products, now at 27.5%.

Newly elected to a second presidential term beginning on January 20, 2025, US President Donald Trump has pivoted from the new industrial policy focus of his predecessor, President Joe Biden, and has returned to the mercantilist mindset of his first administration, which sees trade policy as a means to exert power over economic partners and rivals alike.⁷⁶ Recent statements suggest that a new era of "supply chain warfare" has already begun. After announcing during his first

⁷³ Lagos 2024.

⁷⁴ Bradsher 2024.

⁷⁵ Oré 2024.

⁷⁶ Tett 2024b.

week in office 25% tariffs on Mexico and Canada and 10% tariffs on China, whose combined imports account for more than a third of all products brought into the US and more than \$1 trillion in goods a year, Trump reached a last-minute deal with President of Mexico Claudia Sheinbaum and Canada's Prime Minister Justin Trudeau, to pause the tariffs for 30 days after winning concessions from both countries to stem the flow of drugs and migrants into the US, postponing, at least temporarily, a potentially destabilizing trade war.⁷⁷ China swiftly countered Trump's tariffs with a flurry of trade restrictions of its own, and seemed prepared to advance its own playbook for "supply chain warfare" to curb the aggressive moves by the US President.⁷⁸

The reality of the 21st century global economy is that national self-sufficiency is an unachievable goal, even for large and technologically advanced economies like the US. As global supply chains continue to shift and fragment, regions matter more than ever, even though regionalization conditions remain unequal.⁷⁹ For Mexico to take advantage of recent US industrial policies that emphasize supply chain resilience and nearshoring options, it needs its own industrial policy that builds its bureaucratic, private-sector, technological, and human capital capabilities to advance domestic objectives in effective international and public-private supply-chain partnerships. Although bilateral politics remain unsettled, the stakes are high.

⁷⁷ Rappeport 2025.

⁷⁸ Swanson & Buckley 2025. Stevenson & Mozur 2024.

⁷⁹ Farrell & Newman 2020. O'Neil 2022.

REFERENCES

- AVERBUCH, Maya. 2024. "Mexico Urged by US to Boost Chip Production Within Two Years." *Bloomberg*, July 22, 2024. <https://www.bloomberg.com/news/articles/2024-07-22/mexico-urged-by-us-to-boost-chip-production-within-two-years>
- BABB, Sarah. 2013. "The Washington Consensus as Transnational Policy Paradigm: Its Origins, Trajectory and Likely Successor." *Review of International Political Economy* 20 (2): 268-297. <https://doi.org/10.1080/09692290.2011.640435>
- BAIR, Jennifer. 2005. "Global Capitalism and Commodity Chains: Looking Back, Going Forward." *Competition & Change* 9 (2): 153-180.
- BAIR, Jennifer (ed.) 2009. *Frontiers of Commodity Chain Research*. Stanford, CA: Stanford University Press.
- BAIR, Jennifer & Gary GEREFFI. 2001. "Local Clusters in Global Chains: The Causes and Consequences of Export Dynamism in Torreon's Blue Jeans Industry." *World Development* 29 (11): 1885-1903. [https://doi.org/10.1016/S0305-750X\(01\)00075-4](https://doi.org/10.1016/S0305-750X(01)00075-4)
- BAIR, Jennifer & Gary GEREFFI. 2003. "Upgrading, Uneven Development, and Jobs in the North American Apparel Industry." *Global Networks* 3 (2): 143-169. <https://doi.org/10.1111/1471-0374.00054>
- BALDWIN, Richard. 2009. "The Great Trade Collapse: What Caused it and What Does it Mean?" November 27, 2009. <https://voxeu.org/article/great-trade-collapse-what-caused-it-and-what-does-it-mean>
- BARBOZA, David. 2004. "In Roaring China, Sweaters are West of Sock City." *New York Times*, December 24, 2004. <https://www.nytimes.com/2004/12/24/business/worldbusiness/in-roaring-china-sweaters-are-west-of-socks-city.html>
- BARBOZA, David. 2016. "How China Built 'iPhone City' with Billions in Perks for Apple's Partner." *New York Times*, December 29, 2016. <https://www.nytimes.com/2016/12/29/technology/apple-iphone-china-foxconn.html>
- BRADSHER, Keith. 2024. "How China Built Tech Prowess: Chemistry Classes and Research Labs." *New York Times*, August 9, 2024.

- <https://www.nytimes.com/2024/08/09/business/china-ev-battery-tech.html>
- BRADSHER, Keith, & Steven Lee MYERS. 2018. "China Strikes Back at the US With Plans for its Own Tariffs." *New York Times*, April 4, 2018. <https://www.nytimes.com/2018/04/04/business/china-us-tariffs.html>
- CANELLO, Jacopo, Giulio BUCIUNI & Gary GEREFFI. 2022. "Reshoring by Small Firms: Dual Sourcing Strategies and Local Subcontracting in Value Chain." *Cambridge Journal of Regions, Economy and Society*, 15 (2): 237-259. <https://doi.org/10.1093/cjres/rsac015>
- CARRILLO, Jorge, & Arturo LARA. 2004. "Nuevas capacidades de coordinación centralizada. ¿Maquiladoras de cuarta generación?." *Estudios Sociológicos* 22 (66): 647-667.
- CATTANEO, Olivier, Gary GEREFFI & Cornelia STARITZ (eds.). 2010. *Global Value Chains in a Post-Crisis World: A Development Perspective*. Washington, DC: World Bank.
- COE, Neil M. & Henry YEUNG. 2015. *Global Production Networks: Theorizing Economic Development in an Interconnected World*. Oxford, UK: Oxford University Press.
- DE MARCHI, Valentina, Eleonora DI MARIA & Gary GEREFFI (eds.). 2018. *Local Clusters in Global Value Chains: Linking Actors and Territories Through Manufacturing and Innovation*. London: Routledge.
- DE MARCHI, Valentina, Eleonora DI MARIA, Ruggero GOLINI & Alessandra PERRI. 2020. "'Nurturing International Business Research Through Global Value Chains Literature: A Review and Discussion of Future Research Opportunities.'" *International Business Review* 29 (5): 1-16. <https://doi.org/10.1016/j.ibusrev.2020.101708>
- DICKEN, Peter. 2015: *Global Shift: Mapping the Changing Contours of the World Economy*, 7th Edition. New York: Guilford Publications.
- DUHIGG, Charles & Keith BRADSHER. 2012. "How the U.S. Lost Out on iPhone Work." *New York Times*, January 22, 2012.
- DUSSEL PETERS, Enrique. 2024. "Security-shoring y la nueva relación económica triangular China-Estados Unidos-México." *Revista de Economía Mexicana*, Anuario UNAM, 9, 157-180.

- FARRELL, Henry, & Abraham NEWMAN. 2020. "The Folly of Decoupling from China: It isn't Just Perilous—it's Impossible." *Foreign Affairs*, June 3, 2020.
- FERNANDEZ-STARK, Karina, Penny BAMBER & Gary GEREFFI. 2010. "Chile's Offshore Services Value Chain." Report commissioned by the Chilean Agency for Economic Development (CORFO), and prepared by the Center on Globalization, Governance & Competitiveness, Duke University, Durham, NC, March 1, 2010. <https://www.globalvaluechains.org/cggclisting/chiles-offshore-services-value-chain/>
- FREDERICK, Stacey. 2019. "Global Value Chain Mapping." In *Handbook on Global Value Chains*, Chapter 35: 29-53. Edited by S. Ponte, G. Gereffi & G. Raj-REICHERT. Cheltenham, UK: Edward Elgar Publishing.
- GANTZ, David A. 2024. "60 Years of Nearshoring: A Historical Exploration of US Production Shifting to Mexico." Baker Institute, Rice University, March 27, 2024. <https://www.bakerinstitute.org/research/60-years-nearshoring-historical-exploration-us-production-shifting-mexico>
- GARRIDO, Celso. 2022. "México en la fábrica de América del Norte y el *nearshoring*." Mexico: Comisión Económica para América Latina y el Caribe (CEPAL), August, 2022. <https://www.cepal.org/es/publicaciones/48056-mexico-la-fabrica-america-norte-nearshoring>
- GEREFFI, Gary. 1978. "Drug Firms and Dependency in Mexico: The Case of the Steroid Hormone Industry." *International Organization*, 32 (1): 237-286. <http://www.jstor.org/stable/2706200>
- GEREFFI, Gary. 1983. *The Pharmaceutical Industry and Dependency in the Third World*. Princeton, NJ: Princeton University Press.
- GEREFFI, Gary. 1994. "The Organization of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks." In *Commodity chains and global capitalism*: 95-122. Edited by G. Gereffi & M. Korzeniewicz. Westport, CT: Praeger.
- GEREFFI, Gary. 1996. "Mexico's 'Old' and 'New' Maquiladora Industries: Contrasting Approaches to North American Integration." In *Neoliberalism Revisited: Economic Restructuring and*

Mexico's Political Future. Edited by Gerardo Otero: 85-105. Boulder, CO: Westview Press.

- GEREFFI, Gary. 1999. "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics* 48 (1): 37-70. [https://doi.org/10.1016/S0022-1996\(98\)00075-0](https://doi.org/10.1016/S0022-1996(98)00075-0)
- GEREFFI, Gary. 2014. "Global Value Chains in a Post-Washington Consensus World." *Review of International Political Economy* 21 (1): 9-37. <https://doi.org/10.1080/09692290.2012.756414>
- GEREFFI, Gary. 2018a. *Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism*. Cambridge, UK: Cambridge University Press.
- GEREFFI, Gary. 2018b. "The Emergence of Global Value Chains: Ideas, Institutions, and Research Communities." In *Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism*: 1-39. Cambridge, UK: Cambridge University Press.
- GEREFFI, Gary. 2018c. "Development Models and Industrial Upgrading in China and Mexico." In *Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism*: 205-227. Cambridge, UK: Cambridge University Press.
- GEREFFI, Gary. 2018d. "Protectionism and Global Value Chains." In *Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism*: 429-452. Cambridge, UK: Cambridge University Press.
- GEREFFI, Gary. 2019. "Global Value Chains and International Development Policy: Bringing Firms, Networks and Policy-Engaged Scholarship Back In." *Journal of International Business Policy* 2 (3): 195-210. <https://doi.org/10.1057/s42214-019-00028-7>
- GEREFFI, Gary. 2020. "What Does the COVID-19 Pandemic Teach us About Global Value Chains? The Case of Medical Supplies." *Journal of International Business Policy* 3 (3): 287-301. <https://doi.org/10.1057/s42214-020-00062-w>
- GEREFFI, Gary. 2021. "Implementing supply chain resiliency. Written testimony by Gary Gereffi, submitted to the U.S. Senate, Committee on Commerce, Science and Transportation."

- Washington, DC, July 15, 2021. <https://www.commerce.senate.gov/2021/7/implementing-supply-chain-resiliency>
- GEREFFI, Gary. 2022. "On the Road to Global Value Chains: How Industry Dynamics Reshaped Development Theory." In *Oxford Handbook of Industry Dynamics*. Edited by M. Kipping, T. Kurosawa & D.E. Westney. <https://academic.oup.com/edited-volume/38852>
- GEREFFI, Gary. 2023a. "How to Make Global Supply Chains More Resilient." *Columbia FDI Perspective* 348, January 9, 2023. <https://hdl.handle.net/10161/26445>
- GEREFFI, Gary. 2023b. "Navigating 21st Century Industrial Policy." *Columbia FDI Perspectives* 366, September 18, 2023.
- GEREFFI, Gary. 2025. "Nearshoring in Mexico: Diverse Options for Industrial Upgrading" (LC/MEX/TS.2025/1). Ciudad de México: Economic Commission for Latin America and the Caribbean (ECLAC).
- GEREFFI, Gary, Penny BAMBER & Karina FERNANDEZ-STARK (eds.). 2022. *China's New Development Strategies: Upgrading from Above and from Below in Global Value Chains*. Singapore: Palgrave-Macmillan.
- GEREFFI, Gary, Penny BAMBER, Stacey FREDERICK & Karina FERNANDEZ-STARK. 2013. "Costa Rica in Global Value Chains: Medical Devices, Electronics, Aerospace and Offshore Services." Report commissioned by Costa Rica's Ministry of Foreign Trade (COMEX), and prepared by the Center on Globalization, Governance & Competitiveness, Duke University, Durham, NC, August 20, 2013. <https://www.globalvaluechains.org/cggcproject/comex-costa-rica/>
- GEREFFI, Gary & Michelle CHRISTIAN. 2009. "The Impacts of Wal-Mart: The Rise and Consequences of the World's Dominant Retailer." *Annual Review of Sociology* 35: 573-591. <https://doi.org/10.1146/annurev-soc-070308-115947>
- GEREFFI, Gary & Karina FERNANDEZ-STARK. 2016. "Global Value Chain Analysis: A Primer", 2nd ed. Durham, NC: Duke Global Value Chain Center. <https://dukespace.lib.duke.edu/items/e8010f4b-90c9-4835-bc54-16422bb7efb6>

- GEREFFI, Gary & Miguel Korzeniewicz (eds.). 1994. *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.
- GEREFFI, Gary & Joonkoo LEE. 2016. “.” *Journal of Business Ethics* 133 (1): 25-38. <https://doi.org/10.1007/s10551-014-2373-7>
- GEREFFI, Gary, Hyun-Chin LIM & Joonkoo LEE. 2021. “Trade Policies, Firm Strategies, and Adaptive Reconfigurations of Global Value Chains.” *Journal of International Business Policy* 4 (4): 506-522. <https://doi.org/10.1057/s42214-021-00102-z>
- GEREFFI, Gary, Pavida PANANOND & Torben PEDERSEN. 2022. “Resilience Decoded: The Role of Firms, Global Value Chains, and the State in COVID-19 Medical Supplies.” *California Management Review* 64 (2): 46-70. <https://doi.org/10.1177/00081256211069420>
- GEREFFI, Gary, David SPENER & Jennifer BAIR, eds. 2002. *Free Trade and Uneven Development: The North American Apparel Industry after NAFTA*. Philadelphia, PA: Temple University Press.
- GEREFFI, Gary & Donald L. WYMAN, eds. 1990. *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*. Princeton, NJ: Princeton University Press.
- Global Value Chains Initiative. n.d. Philippines. Global Value Chains Initiative. https://www.globalvaluechains.org/search-our-work/?fwpc_ggc_search=the%20Philippines
- JANEWAY, William H. 2024 “The Rise of Meso-economics.” *Project Syndicate*, May 17, 2024. <https://www.project-syndicate.org/onpoint/meso-economics-study-of-networks-supply-chains-key-to-successful-industrial-policies-by-william-h-janeway-2024-05>
- KIY, Richard & Ana ZAPATA. 2023. “U.S. Industrial Policy: Impacts on the Geography of EV/Semiconductors Re-shoring and its Influence on Sub-national Investment and Job Growth.” North American Competitiveness Working Group, UCSD Center for US-Mexico Studies, August 9, 2023. https://iamericas.org/wp-content/uploads/2023/11/U.S.-INDUSTRIAL-POLICY-Kiy-Zapata_compressed.pdf
- KLIER, Thomas H. & James M. RUBENSTEIN. 2017. “Mexico’s Growing Role in the Auto Industry Under NAFTA: Who Makes What and What Goes Where.” *Economic Perspectives* 6, Federal

- Reserve Bank of Chicago. <https://www.chicagofed.org/publications/economic-perspectives/2017/6>
- LAGOS, Anna. 2024. "China Conquers Mexico's Automotive Market, and the U.S. is Worried." *Wired*, August 27, 2024. <https://www.wired.com/story/china-conquers-mexican-automotive-market-and-the-us-is-worried/>
- LAMY, Pascal. 2018. "Foreward." In *Global Value Chains and Development: Redefining the Contours of 21st Century Capitalism*: xvii-xviii. Cambridge, UK: Cambridge University Press.
- LILLY, Meredith B. 2024. "Harnessing New Investments in Industrial Policy to Advance North American Competitiveness." Report of the North American Competitiveness Working Group, UCSD Center for US-Mexico Studies, May 16, 2024. <https://iamericas.org/investments-in-industrial-policy-to-advance-north-american-competitiveness/>
- MAYER, Frederick & Gary GEREFFI. 2019. "International Development Organizations and Global Value Chains." In *Handbook on Global Value Chains*. Edited by S. Ponte, G. Gereffi y G. Raj-Reichert: 570-584. Cheltenham, R.U.: Edward Elgar Publishing.
- MCGEE, Patrick. 2023. "How Apple Tied its Fortunes to China." *Financial Times*, January 17, 2023. <https://www.ft.com/content/d5a80891-b27d-4110-90c9-561b7836f11b>
- McNEECE, John. 2023. "President Biden's Industrial Policy and Prospects for North American Regionalization." North American Competitiveness Working Group, UCSD Center for US-Mexico Studies, September, 2023. https://usmex.ucsd.edu/_files/230918_WhitePaper_JohnMcNeece_NorthAmericanCompetitivenessWorkingGroup_PresidentBidens-Industrial-Policy-and-Prospects-for-North-American-Regionalization.pdf
- O'NEIL, Shannon K. 2022. *The Globalization Myth: Why Regions Matter*. New Haven, CT: Yale University Press.
- ORÉ, Diego. 2024. "Mexico, Facing U.S. Pressure, Will Halt Incentives to Chinese EV Makers." Reuters. <https://www.reuters.com/business/autos-transportation/mexico-facing-us-pressure-will-halt-incentives-chinese-ev-makers-2024-04-18/>

- PIETROBELLI, Carlo & Cecilia SERI. 2023. "Reshoring, Nearshoring and Development. Readiness and Implications for Latin America and the Caribbean." *Transnational Corporations* 30 (2): 37-70. <https://ssrn.com/abstract=4565802>
- PONTE, Stefano, Gary GEREFFI & Gail RAJ-REICHERT (eds.). 2019. *Handbook on Global Value Chains*. Cheltenham, UK: Edward Elgar Publishing.
- RAPPEPORT, Alan. 2025. "Mexico and Canada Reach Last-Minute Deal with Trump to Avert Trade War." *New York Times*, February 3, 2025. <https://www.nytimes.com/2025/02/03/business/canada-mexico-tariffs-trump.html>
- STEVENSON, Alexandra & Paul MOZUR. 2025. "China Has a New Playbook to Counter Trump: 'Supply Chain Warfare'." *New York Times*, November 27, 2025. <https://www.nytimes.com/2024/11/27/business/china-retaliation-skydio.html>
- SWANSON, Ana & Chris BUCKLEY. 2025. "China Swiftly Counters Trump's Tariffs with a Flurry of Trade Curbs." *New York Times*, February 4, 2025. <https://www.hawaiitribune-herald.com/2025/02/05/nation-world-news/china-swiftly-counters-trumps-tariffs-with-a-flurry-of-trade-curbs/>
- SWANSON, Ana & Madeleine NGO. 2024. "World's Five Leading Chipmakers Have Now Promised U.S. Investment." *New York Times*, August 6, 2024. <https://www.nytimes.com/2024/08/06/business/economy/chipmakers-promise-investment.html>
- TETT, Gillian. 2024a. "Forget Macro and Micro, it's Mesoeconomics that Matters." *Financial Times*, May 24, 2024. <https://www.ft.com/content/79cf81af-5073-4c73-938b-93e8ac08c74d?segmentId=b0d7e653-3467-12ab-c0f0-77e4424cdb4c>
- TETT, Gillian. 2024b. "Markets Will Have to be Used to Trump's Mercantilist Mindset." *Financial Times*, November 30, 2024. <https://www.ft.com/content/6c95004a-a569-4633-9eab-88479bcb086>
- TURKINA, Ekaterina, Ari VAN ASSCHE & Raja KALI. 2016. "Structure and Evolution of Global Cluster Networks: Evidence from the Aerospace Industry." *Journal of Economic Geography* 16 (6): 1211-1234. <https://doi.org/10.1093/jeg/lbw020>

- U.S. Department of Commerce. 2018. "U.S. Department of Commerce Announces Steel and Aluminum Tariff Exclusion Process." March 18, 2018. www.commerce.gov/news/press-releases/2018/03/us-department-commerce-announces-steel-and-aluminum-tariff-exclusion
- WADE, Robert H. 2018. "The Developmental State: Dead or Alive?." *Development and Change* 49 (2): 518-546. <https://doi.org/10.1111/dech.12381>
- White House, U.S. Government. 2021. "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017." June, 2021. <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf> Accessed 10 June 2023

