

Nearshoring in Hermosillo: Analysis of Economic Growth Opportunities

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Executive Summary

This is one of four Growth Lab reports that aim to identify promising growth opportunities for Hermosillo.¹ The focus of this report is nearshoring. Nearshoring is not a new phenomenon in Mexico, but recent changes in U.S. policy aimed to incentivize nearshoring of critical industries. This report first explores current realities of nearshoring and friendshoring in recent years, based on global trade and the distance which U.S. imports are traveling, and Mexico's dynamics in global trade and investment in comparison to other countries. The report then evaluates the economic growth opportunities that nearshoring could incentivize in Hermosillo. We analyze the nearshoring opportunity set for Hermosillo across products and industries and if they are based on the city's productive capabilities.

This report confirms that nearshoring and friendshoring have been taking place in global trade and investment in response to U.S. policy between 2017 and 2023. Mexico has made gains in its exports to the U.S. market in recent years as exports from China have lost ground, but it is not the only country doing so. A few countries like Vietnam benefited even more, despite being geographically far from the U.S. market. Mexico is seeing growth in products it has traditionally exported, but it is not seeing much diversification into products that the U.S. has deemed critical. Nor is Mexico seeing promising investment trends that would signal an acceleration of growth in these opportunities. Given Hermosillo's position as a large city that is near the U.S. market, and to a growing market in Arizona in particular, the process of nearshoring represents a potentially transformational chance to jumpstart growth in attractive industries to better position the local economy for the future.

This report provides analysis to begin to identify the most promising nearshoring opportunities for Hermosillo, but local action is needed to build on these initial observations. We identify products and industries that are attractive opportunities for nearshoring in Hermosillo and we evaluate which industries are most consistent with Hermosillo's existing industry structure and underlying productive capabilities. Promising opportunities stand out in industries related to medical equipment, electronics, machinery, and plastics and the latter sections of this report explore these opportunities in some detail, both quantitatively and more qualitatively. Local strategies to capitalize on these opportunities will vary in design and local actors should weigh the criteria provided and other considerations when deciding which industries are the highest priority for targeted investment promotion and other action steps. One exception, however, is in the value chain for semiconductors, where the emerging opportunity to supply and complement the value chain that is forming in Arizona is too large to pass up. Semiconductors represent

¹ Sebastián Bustos led the initial scoping phase on nearshoring and provided key figures (Figure 4) and analyses. I appreciate Tim O'Brien's help in editing this report. I also appreciate Enrique Ruiz's contribution to our research process during our project in Hermosillo, which was especially relevant for this report.

an essential area that policymakers and the business community in Hermosillo should embrace, along with a set of additional promising nearshoring opportunities.

Introduction

At the time of writing, much is being made about nearshoring and friendshoring in the context of U.S. policy and geopolitical factors, but nearshoring is not a new phenomenon for Mexico. Nearshoring is the relocation of global supply chains closer to a region to sell products or buy inputs within the region. For Mexico, this is an economic phenomenon that started at least with the maquilas program in the mid-1960s. For example, if U.S. manufacturing exporters decide to locate plants on the Mexican border to take advantage of low labor costs and government incentives in Mexico, such as the IMMEX program, this is a case of nearshoring in action. The same would apply to Costa Rica or any location that is closer to the United States. A Japanese company establishing a plant to manufacture vehicle parts in Mexico and then exporting them to Asia is not a case of nearshoring, but if part of the calculation of the business is to reach the U.S. market, then it would be.

Although nearshoring has long shaped Mexico's economic trajectory, recent geopolitical events bring new economic opportunities. There is a recent growing body of literature on the impact of nearshoring in Mexico. Utar et al., (2024) show that import restrictions on Chinese goods in the U.S. positively affect Mexican firms' trade with the U.S., with this boost solely attributable to firms involved in global value chains (GVCs), particularly in skill-intensive manufacturing sectors. Chiquiar & Tobal (2024) estimate that nearshoring has already had an effect of 1% on Mexico's GDP between 2019 and 2024 and could potentially increase GDP by 0.8% soon. This would be a massive effect, comparable to the order of magnitude of the economic effects of the North American Free Trade Agreement (NAFTA) (Ibidem.). In turn, the Inter-American Development Bank (IDB) estimated in 2022 that nearshoring could bring "annual \$78 billion in additional exports of goods and services in Latin America and the Caribbean in the near and medium term" with over 55% of those additional exports originating in Mexico.²

A radically new U.S. trade policy started in 2018 and has created strong incentives for friendshoring. Former President Trump's trade policy on China, which started in 2017, began what evolved into a trade war with China. Tariffs were imposed on 1102 Chinese products, such as aerospace, information and communication technology, robotics, and industrial machinery, and, in response, China set a 25% tariff on U.S.

² See here <https://www.iadb.org/en/news/nearshoring-can-add-annual-78-bln-exports-latin-america-and-caribbean#:~:text=LOS%20ANGELES%20%E2%80%93%20Nearshoring%20could%20add,to%20estimates%20by%20the%20Inter.>

products (Javorcik et al., 2024). To give a sense of the magnitude of this shift in global trade policy, Fajgelbaum & Khandelwal (2021) calculate that U.S. tariffs in 2017 applied to about 2.6% of GDP, tariffs on U.S. exports by non-allies applied to 1% of GDP, and China's GDP was affected in about 5.5% by the trade war. This trend continued with the Biden administration, introducing new export controls and U.S. investment bans for Chinese companies. In the words of Janet Yellen, the former U.S. Treasury Secretary, "(...) rather than being highly reliant on countries where we have geopolitical tensions and can't count on ongoing, reliable supplies, we need to really diversify our group of suppliers. And yes, friend-shoring means—and you've seen this in action—that we have a group of countries that have strong adherence to a set of norms and values about how to operate in the global economy and about how to run the global economic system, and we need to deepen our ties with those partners and to work together to make sure that we can supply our needs of critical materials."³ Countries that are deemed "friendly" to the U.S. may be near or far, but Mexico certainly qualifies. In fact, the United States-Mexico-Canada Agreement (USMCA), which was signed in 2018-19 (under Trump) and entered into force in 2020 (under Biden) solidified free trade status following NAFTA.

Within the last few years, the U.S. has also initiated new industrial policies that should benefit Mexican production. The Inflation Reduction Act (IRA), enacted in 2022, created strong incentives for manufacturing in supply chains that seemed critical in the U.S. and for friendshoring. The act included major subsidies to renewable energy generation and distribution as well as on the supply-side of manufacturing. It also implemented tax credits for electric vehicles to reduce carbon emissions and incentivize demand. Several IRA policies also apply to Mexico and countries that have trade agreements with the United States. For example, electric vehicles (EVs) and batteries produced in North America (including Mexico and Canada) qualify for significant tax breaks for buyers. The CHIPS and Science Act (2022) is another legislation that can significantly impact friendshoring. It is designed to reduce reliance on foreign suppliers of semiconductors by offering subsidies and tax breaks for semiconductor companies that build plants in the U.S. and ally countries like Mexico. In March of 2024, the U.S. State Department announced a partnership with the Government of Mexico to explore opportunities to grow and diversify the global semiconductor ecosystem under the International Technology Security and Innovation (ITSI) Fund within the CHIPS Act.⁴ The ITSI fund is a significant public investment that will be executed over five years starting from 2023 "to promote the development and adoption of secure and trustworthy telecommunications networks and ensure semiconductor supply chain security and

³ See Special address by US Treasury Secretary Janet L. at the Atlantic Council on April 13, 2022. <https://www.atlanticcouncil.org/news/transcripts/transcript-us-treasury-secretary-janet-yellen-on-the-next-steps-for-russia-sanctions-and-friend-shoring-supply-chains/>

⁴ For more information see here: <https://www.state.gov/new-partnership-with-mexico-to-explore-semiconductor-supply-chain-opportunities/>.

diversification through new programs and initiatives with our allies and partners.” (Ibidem.). The partnership with Mexico is currently undergoing an initial phase focused on a comprehensive assessment of Mexico’s productive capabilities in the semiconductor value chain, its regulatory frameworks, and workforce and infrastructure availability.

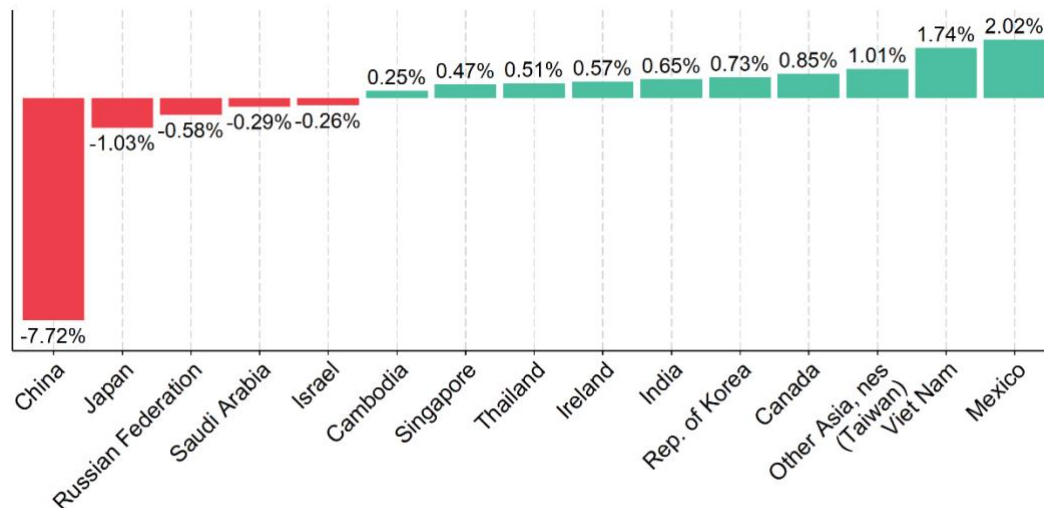
The current U.S. administration under Trump introduces uncertainty about whether nearshoring remains a viable opportunity for Mexico. The looming threat of U.S. tariffs on imports from Mexico would deter companies from relocating production to Mexico for goods destined for the U.S. market as long as it stays a possibility. However, it was during Trump’s first administration that foundational nearshoring policies, such as the CHIPS for America Act, were initiated. Policies aimed at fostering green supply chains or boosting demand for electric vehicles (EVs) face greater risks under this administration. Still, as market forces increasingly drive the shift toward decarbonization, government actions to counter this trend may have limited impact in the long term. Despite the uncertainty, nearshoring continues to represent a significant economic opportunity for Mexico in the long term, especially if the U.S.-China trade conflict escalates.

Mexico in the Context of Nearshoring and Friendshoring

Is Mexico already experiencing a nearshoring trend? In 2023, Mexico replaced China as the largest importer in the U.S. but faced intense competition from other Asian countries. As Figure 1 shows, China lost almost 8% of its market share in the U.S. during the U.S.-China trade war between 2017 and 2023. At first sight, Mexico may seem to be the leading beneficiary in that war, as its market share in U.S. imports rose by 2%, and total exports to the U.S. grew by over 30%. But Mexico is followed by other countries such as Vietnam (2%), Taiwan (1%), Canada (0.85%), Korea (0.73%), and India (0.65%). Mexico’s increase in market share could be labeled as both nearshoring, while the other countries experienced a friendshoring trend. The composition of countries with increased market share suggests that there is more friendshoring than nearshoring in relative terms, given that many of them are in Asia. Furthermore, Aguilar et al. (2024) show that the change in the US import share is much more significant for countries like Vietnam, Singapore, Thailand, and India when considering their previous export growth trends.⁵ The case of Vietnam is especially noteworthy, as its exports to the U.S. grew by almost 100% between 2016 and 2022, though starting from a lower base.

⁵ The authors calculate the change in U.S. imports as a share of a counterfactual: the difference between the growth of US imports and counterfactual assuming constant import share between December 2017 and March 2024 (Aguilar et al., 2024).

Figure 1: Change in Market Share of U.S. Imports (2017-2023)



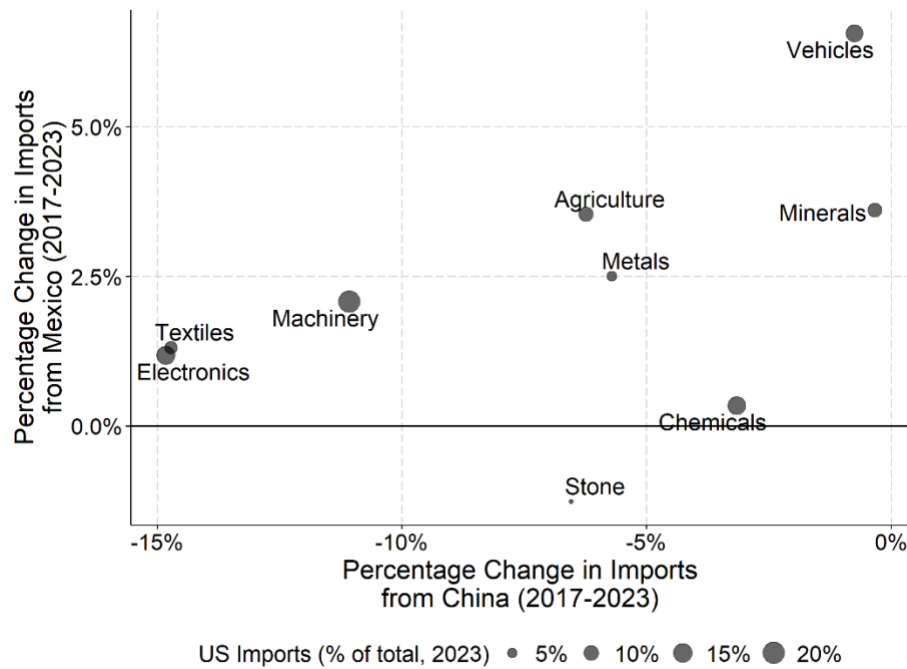
Source: Own calculations using COMTRADE

When decomposing Mexico's nearshoring trend by sector versus competitors like Vietnam, we observe that most of Mexico's wins have been in already established industries like vehicles. Figure 2 shows the change in the market share of U.S. imports for Mexico by sector on the vertical axis against the change in China's market share change in U.S. imports on the horizontal axis between 2017 and 2023. Mexico's gain in market share in the U.S. market for vehicles was 6%, which, given the size of this industry, accounts for most of the change in Mexico's total market share gains. Other sizeable sectors in Mexico also experienced an increase in market share. Machinery, agriculture, and metal products had an almost or higher than 3% increase in their U.S. market share. In all these sectors, Mexico experienced more considerable gains than Vietnam. During this time, however, Vietnam experienced higher diversification than Mexico, especially in sectors where China lost market share. Electronics and textiles were Vietnam's fastest growing exports to the United States, followed by minerals and machinery. Samsung's production of cellphones and related exports has played an important role in electronics.⁶ Figure 3 additionally shows that Vietnam's market share change relied on new products whereas Mexico's change due to new products was the low compared to Vietnam and Canada.⁷

⁶ For more information about Vietnam's success in attracting Samsung's investments, see [here](#).

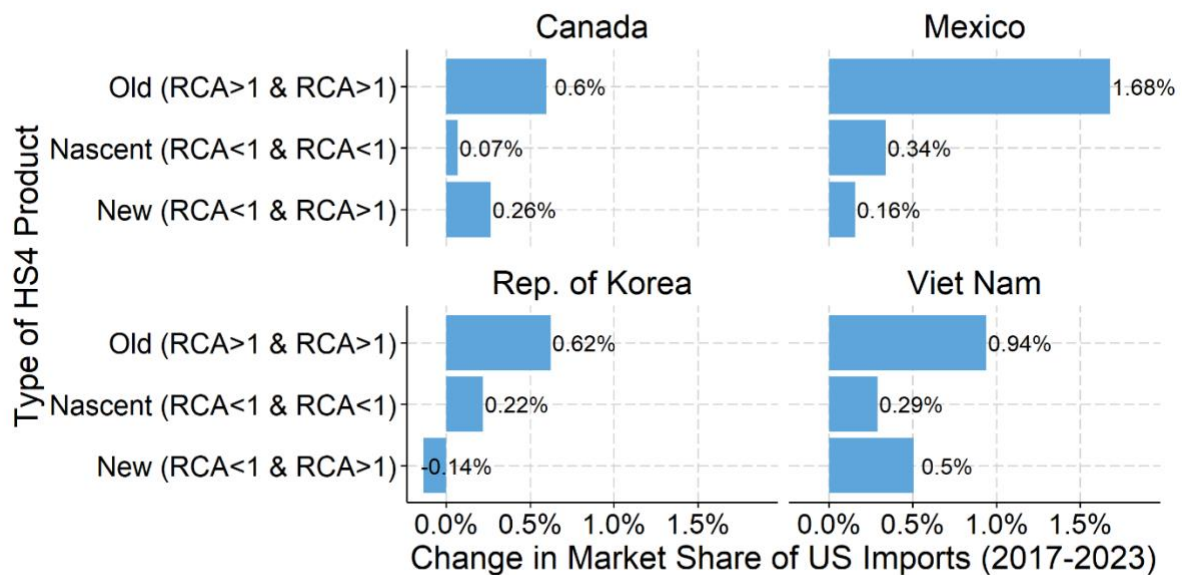
⁷ We define competitive products as those for which a country has a Revealed Comparative Advantage (RCA) larger than 1. New products, on the other hand, are those that went from having RCA < 1 to RCA > 1. For more information, see Fortunato et al., 2024, or <https://atlas.hks.harvard.edu/glossary>.

Figure 2: Change in Market Share of U.S. Imports, Mexico vs. China (2017-2023)



Source: Own calculations using COMTRADE

Figure 3: Decomposing Change in Market Share by Mexico and Vietnam



Source: Own calculations using COMTRADE

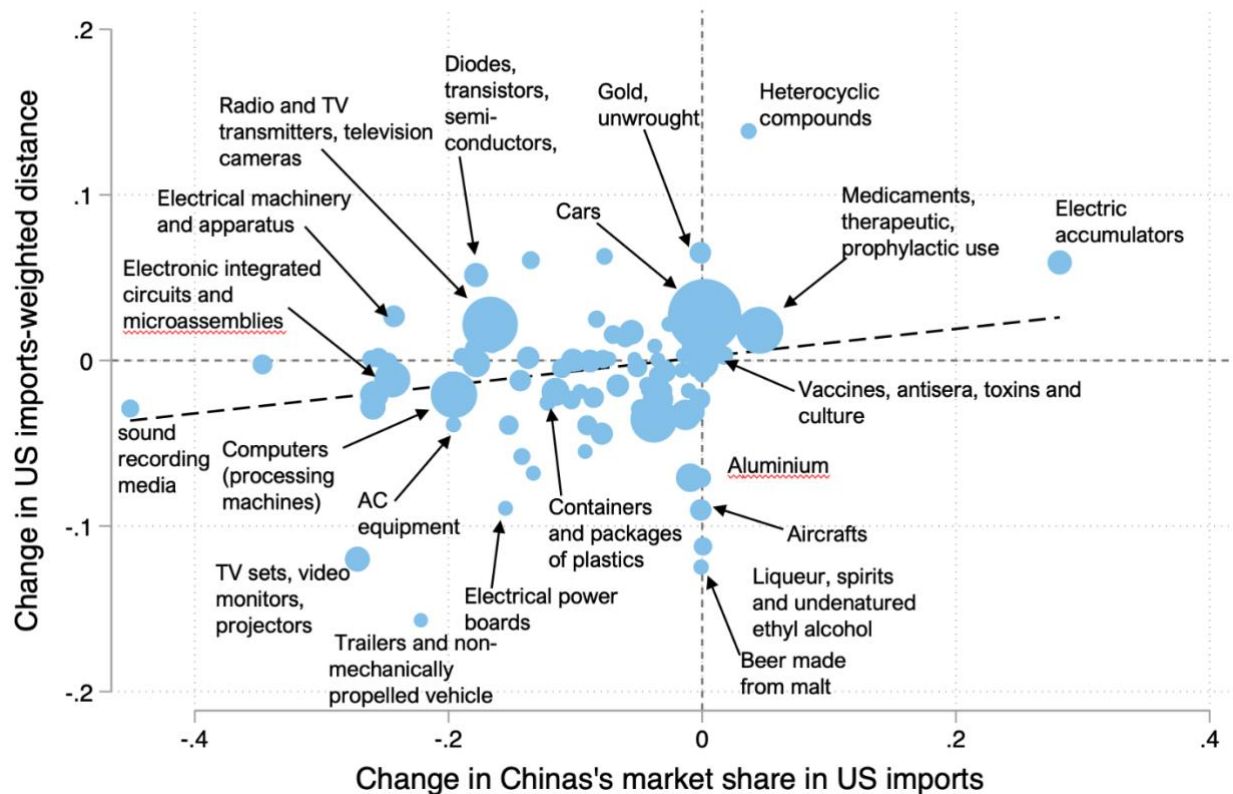
Another way of looking at nearshoring and friendshoring trends is through the changes in the distance traveled by U.S. imports. To summarize this change in a simple statistic, one can calculate the average distance from which any country imports its products. This measure will indicate whether, over time, a country has brought its imports closer or if they have become more distant on the whole. We calculate this measure as follows:

$$Imports\ weighted\ distance_c = \sum_o \frac{x_{c,o} \times Distance_{c,o}}{\sum_o x_{c,o}}$$

Here, c represents the importing countries, o stands for the origin countries, x is the trade value, and the distance refers to the population-weighted distance between the importing countries and the product origins.

A closer look at the distance traveled by U.S. products for which Chinese imports declined in 2017-2023 shows some evidence of nearshoring but large heterogeneity across products. Figure 4 shows the change in the distance traveled by U.S. imports against the change in China's market share in the U.S. On average, the products in which China experienced a decline in its market share started coming from shorter distances, which implies some nearshoring effect. However, there is significant variation across products. Some products representing a large share of U.S. imports, like radio and television equipment, experienced a considerable reduction in Chinese imports but started traveling longer distances. These products may have been subject to friendshoring effects but not nearshoring in practice. Notably, Chinese imports of semiconductors declined but started traveling longer distances. However, other critical electronic products like electronic integrated circuits, computers, and electrical power boards started coming from closer countries.

Figure 4: Change in Distance U.S. Imports vs. Change in China's Market Share



Source: Own calculations using COMTRADE

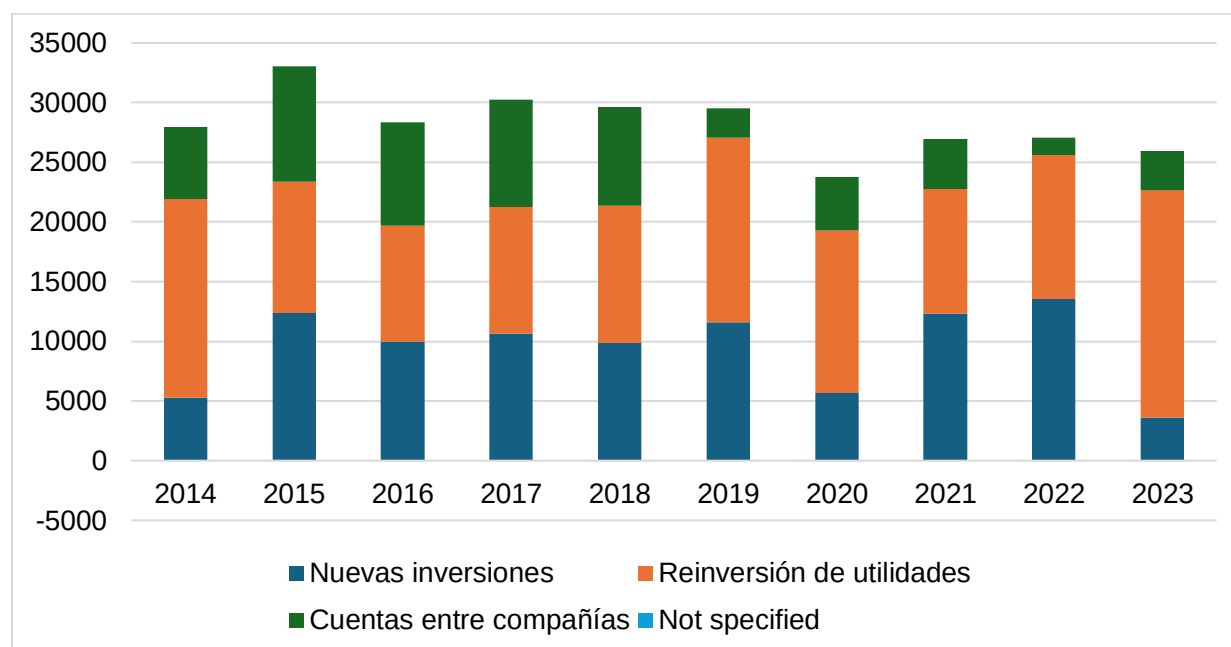
Foreign direct investment (FDI) trends can signal nearshoring and friendshoring that is yet to come, and FDI has underperformed in Mexico. Mexico's national FDI inflows have been weaker than other countries like Costa Rica, the Dominican Republic, and Vietnam (Aguilar et al., 2024). Between 2014 and 2023, total FDI in constant USD in Mexico remained largely stable, peaking in 2015 (Figure 5). More recently, there has been a shift in the composition of FDI in 2023, where the share of value from new investments has declined. The Grupo Bursátil de México (GBM) tracked FDI announcements and their executions between October 2022 and July 2024 and found, problematically, that only 11% of FDI announcements had materialized by the end of the period.⁸ One explanation for this lag in investment execution is that investors might be waiting for the new Presidential Administration to begin to avoid political uncertainty with their investments. The case of the Constellation Brands project in Mexicali sets a significant precedent in that sense.⁹ FDI has underperformed even more in Sonora than in other states of Mexico, especially over the last few years. Only one of the investment announcements tracked by

⁸ https://gbmenlinea.gbm.com.mx/Documentosanalisis/NearshoringBarometer_August24.pdf

⁹ <https://www.infobae.com/america/mexico/2022/04/22/tras-reubicacion-en-veracruz-amlo-celebro-que-la-cerveceria-constellation-brands-generara-dos-mil-empleos-en-la-region/>

GBM in 2022-2024, which totaled US\$123 billion, was in Sonora: Mexico Pacific's LNG plant. Previously, during the 2000s, Sonora had average levels of FDI as a share of GDP, the state started to underperform after 2010 — a trend that continued until 2022. As explained in Fortunato et al. (2024), this continued in 2023 and 2024.

Figure 5: Foreign Direct Investment in Mexico, Decomposed by Type



Source: Secretaría de Economía

Recent surveys provide insightful information about factors preventing Mexico from taking full advantage of nearshoring. In 2023, The BBVA Research Division and the Mexican Association of Private Industrial Parks (AMPIP) surveyed industrial real estate developers across Mexico (members of AMPIP) about their perspective on nearshoring (López, Serrano y Vázquez, 2023). When asked about the drawbacks foreign investment projects face, AMPIP members responded that 91% of them experienced problems with energy, 74% with procedures and regulations, and 63% with access to water. The relevance of these problems seems to vary across states. The energy problem appears more pressing in Guanajuato, Coahuila, Querétaro, and Nuevo León. The water problem seems to affect more firms in Nuevo León, Estado de México, Coahuila, and Baja California.

In summary, there is mixed evidence of nearshoring happening in North America so far, but nearshoring should have more potential to boost economic growth and diversification in Mexico, especially in Northern cities like Hermosillo. In terms of recent trade patterns, nearshoring is not as strong some enthusiasts may proclaim, but there are clear changes underway. U.S. trade and industrial policies create incentives for

nearshoring, but Mexico is not alone in the battle to take advantage of them. Other manufacturing locations in Asia are gaining ground relative to Mexico. Based on empirical evidence, derisking from China brings opportunities for U.S. partners that are not necessarily close by (friendshoring) and U.S. partners that are nearby (nearshoring). FDI patterns today suggest that Mexico, Sonora, and Hermosillo are not capitalizing on potential that business leaders expect for the future. The *Programa de Entrevistas a Directivos Empresariales*, a perception survey of enterprise leadership conducted by Banco de Mexico in 2023, found that over 66% of companies expected to see most of the nearshoring in the future, starting from 2024. Although multiple factors might affect Mexico's capacity to attract nearshoring investments, and these vary across geographies, Mexico is positioned like no other country in the world to cater to the US demand for manufacturing inputs and goods and contribute to the goal of strengthening the resiliency of critical supply chains.

Identification of Attractive Nearshoring Opportunities for Mexico

The list of products and industries that the U.S. has identified as part of critical supply chains is a good starting point for identifying nearshoring opportunities for Hermosillo and across Mexico. The new framework for U.S. industrial policy established by the Biden administration, embodied in the IRA and CHIPS, targeted a diverse set of industries and products to strengthen the resiliency of U.S. value chains. The “Executive Order on America’s Supply Chains” (February 24, 2021) identified these industries and products. Relevant themes include public health and biological preparedness, information and communications technology (ICT), energy, and critical minerals.¹⁰ Figure 6 shows a summary of the main themes in the list and the relevant supply chains. For example, within the energy theme, the supply chains targeted in the list are wind, solar, large-capacity batteries, and neodymium magnets, among others. The products included in the list are also classified according to the stage in the supply chain (not shown in this high-level table). For example, the only product in the final stage of the neodymium magnets supply chain is “permanent magnets and articles intended to become permanent magnets after magnetization, of metal.” The same supply chain includes capital goods such as casting machines and inputs such as nickel or copper.

¹⁰ See <https://www.trade.gov/data-visualization/draft-list-critical-supply-chains> for the full list.

Figure 6: U.S. Critical Value Chains: Themes and Targeted Supply Chains

USTA Critical Value Chains	
Critical Minerals and Materials	Critical Minerals such as Lithium, Copper, Graphite, Barium, Cobalt, Aluminum, etc.
Energy	Carbon Capture
	Electric Grid
	Fuel Cells
	Hydropower
	Large Capacity Batteries
	Neodymium Magnets
	Nuclear Power
	Platinum Group Metals
	Solar
	Wind
ICT	Audiovisual Equipment
	Computer Equipment
	Other Electronic Components
	Semiconductors
	Semiconductors/Electronic components
	Telecom/Network Equipment
Public Health	Personal Protective Equipment and Durable Medical Equipment
	Pharmaceuticals & API
	Pharmaceuticals & API; Personal Protective Equipment and Durable Medical Equipment
	Pharmaceuticals & API; Testing and Diagnostics
	Testing and Diagnostics
	Testing and Diagnostics

Source: U.S. Department of Commerce, International Trade Administration

The next step is to evaluate the attractiveness of critical industries and products for Mexico in the context of nearshoring. We first assess the attractiveness of international trade products within critical supply chains based on several key dimensions as described below.¹¹ Figure 10 shows the top 10 products, at the 4-digit level in the HS classification, for each of these attractiveness factors individually. These lists are limited to products that are in the U.S. critical supply chains.

- **Product Complexity Index (PCI).** PCI measures the relative sophistication of the know-how required to export a product. All things equal, higher PCI tends to

¹¹ All factors are shown as indices from 0 to 1. Products are reported at 4-digits (approx. 1200 products).

correlate with higher-wage industries that are competitive in places with higher income per capita. Many complex products are in the electronics, chemicals, and machinery sectors, while agricultural products and minerals tend to be less complex.

- **U.S. Market Size.** We utilize U.S. import values for each product as a share of total U.S. imports (2023). This factor rewards products with big markets while penalizing those with small market sizes. Although industries with smaller market sizes could still be opportunities for Hermosillo, we decided to assign a higher opportunity value to those for which demand in the U.S. is higher.
- **U.S. Market Growth.** Another factor that makes products attractive is whether they are growing in demand from the U.S. or, at least, stable and not in decline. Our attractiveness analysis includes the growth of U.S. imports by product between 2017 and 2023.
- **Change in China's Market Share of U.S. Imports.** The U.S.-China trade war has been a key driver behind nearshoring trends. To assess the nearshoring potential of various products and industries, we analyze changes in U.S. imports from China by product between 2017 and 2023. Products that have already experienced a decline in U.S. imports from China are interpreted as having nearshoring potential, as these declines likely reflect the impact of targeted U.S. trade policies

A second step is to target opportunities that are relevant when considering factors that are especially relevant for Hermosillo and Sonora more broadly. The previous step is key for targeting products that are attractive for Mexico as a country, but we want to look into those that are especially important for Hermosillo. The most strategic market within the U.S. for Sonora's nearshoring aspirations is Arizona. Sonora shares a border, cultural ties, history and has an already established commercial relationship with Arizona. Additionally, Arizona has experienced outstanding economic growth in the past six years. We assess the nearshoring attractiveness of products in relation to Arizona using the following dimensions:

- **Arizona's Market Size:** To promote the relocation of manufacturing to Hermosillo, we focus on products that are in high demand in Arizona. To identify these products, we calculate the market size of Arizona's imported goods relative to other U.S. states in 2023. Using a method akin to Revealed Comparative Advantage (RCA), we divide a product's share of Arizona's total imports by the product's share of total U.S. imports. An index value greater than 1 indicates that Arizona imports more of the product, on average, than its "fair share" or the share of imports in the rest of the U.S. states. That means that Arizona's market for those imports is bigger on average than in other states. In other words, Arizona is more reliant on those

imports than other places. Products with the highest market size in Arizona, according to this measure, are diverse but include agricultural products (reflecting Arizona's desert climate) and metal products (highlighting the importance of Arizona's manufacturing sector).

- **Growth in Arizona's imports.** In addition to market size, we also want to know whether the market has been growing or not. To do so, we take into account the total growth of imports in Arizona by product between 2003 and the average for the period 2013-2017. Using a five-year average instead of a single year (e.g., 2017) helps account for potential variability in state-level trade data, which tends to be less stable than national-level trends. This approach provides a more reliable measure of long-term growth in Arizona's import market.

Finally, we combine the first four factors into an attractiveness index, which we then evaluate in relation to Arizona's market dynamics. We combine PCI, US market size, US market growth, and China's change in market share in a composite index through Principal Component Analysis (PCA). PCA is commonly used to combine multiple variables into a single index to help reduce the dimensionality of data while retaining as much variance (information) as possible. PCA helps eliminate redundancy (correlation between variables) by synthesizing information across variables. Figure 7 shows this top 10 products by attractiveness factor in order to get a sense of how they will affect the overall index. We then take these products, rank them by the composite index and show the top 20 most attractive products including the industries that produce them, the supply chains in which they are involved, and the four attractiveness factors (Figure 8).

Figure 7: Top Products by Attractiveness Factor (Among All Products)

Sorted by Complexity							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
2841	Salts of oxometallic acids	3.171078	0.01%	14.74%	-4.09%	112.06%	9%
2843	Compounds of precious metals	2.698497	0.00%	96.96%	1.98%		
3705	Photographic film, developed	2.394406	0.01%	-23.25%	0.21%	176.22%	-59%
8486	Machines and apparatus semiconductors, electronics	2.205177	0.35%	40.30%	-3.88%	1559.71%	176%
2920	Esters of other inorganic acids of nonmetals	2.045539	0.01%	31.49%	-7.12%	2.75%	-94%
2931	Other organo-inorganic compounds	1.781497	0.04%	16.44%	2.42%	17.48%	590%
7505	Nickel bars, wire etc.	1.763406	0.02%	67.21%	-0.74%	6.96%	-63%
8458	Lathes for removing metal	1.75875	0.04%	32.94%	-4.06%	2.99%	-59%
8113	Cermets	1.75231	0.00%	32.31%	-3.96%	8.46%	-38%
3910	Silicones in primary forms	1.748945	0.02%	27.18%	-3.78%	67.62%	163%
Sorted by Market Size							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
8517	Telephones and ther communication apparatus	0.991595	3.74%	4.50%	-17.52%	49.30%	31%
8471	Computers and other processing units	1.293012	3.29%	22.78%	-22.15%	60.54%	295%
8708	Parts of motor vehicles	0.982343	2.77%	32.46%	-3.68%	39.73%	24%
3004	Medicaments, packaged	0.639532	2.76%	34.38%	4.50%	1.28%	1527%
3002	Blood	1.390543	2.59%	210.76%	0.10%	1.50%	207%
2710	Petroleum oils, refined	-0.67049	2.18%	43.51%	-0.85%	1.76%	501%
9018	Medical instruments and appliances	0.938932	1.20%	65.44%	-1.32%	150.02%	161%
8542	Electronic integrated circuits	1.576938	1.14%	7.79%	-3.11%	503.42%	127%
8473	Parts and accessories for office machines	1.479962	1.02%	41.09%	-47.37%	34.64%	91%
8544	Insulated electrical wire	-0.22977	0.96%	52.13%	-11.48%	412.90%	86%
Sorted by Market Growth							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
7115	Other articles of precious metals	0.288436	0.45%	1820.08%	-0.43%	37.52%	21584%
2937	Hormones	1.324534	0.35%	1230.84%	-9.53%	0.16%	353%
7104	Synthetic precious stones	0.506528	0.04%	622.64%	-10.95%	5.86%	-18%
7614	Aluminum wire, not insulated	-0.84962	0.02%	575.46%	-12.98%	40.70%	876%
8507	Batteries	1.183763	0.94%	326.63%	28.34%	331.07%	1430%
8104	Magnesium	0.84442	0.02%	280.83%	-7.13%	21.92%	4682%
2807	Sulfuric acid, oleum	-0.06193	0.01%	235.01%	-0.02%	1827.50%	268%
2932	Heterocyclic compounds with oxygen hetero-atom(s) onl	1.263961	0.14%	231.90%	-17.17%	77.14%	-39%
3824	Prepared binders	1.106062	0.26%	230.87%	-12.16%	27.29%	92%
3002	Blood	1.390543	2.59%	210.76%	0.10%	1.50%	207%
Sorted by Change in China's Market Share							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
7501	Nickel mattes	-1.67917	0.00%	1.00%	-61.50%		
8473	Parts and accessories for office machines	1.479962	1.02%	41.09%	-47.37%	34.64%	91%
8523	Sound storage media	1.43046	0.38%	6.20%	-38.89%	52.56%	197%
8110	Antimony	-0.96933	0.00%	41.72%	-38.80%	3.32%	-76%
2511	Natural barium sulfate	-1.28728	0.01%	18.95%	-37.05%		
8106	Bismuth	-0.2882	0.00%	-37.93%	-34.96%	26.47%	-7%
8525	Transmission apparatus for radio, telephone and TV	0.966921	0.37%	-1.64%	-31.53%	138.64%	375%
6505	Hats, knit	-1.10107	0.07%	28.84%	-30.69%	43.16%	192%
2809	Phosphoric acid etc.	-0.26447	0.01%	187.51%	-28.46%	0.35%	-96%
7007	Safety glass	0.6101	0.04%	16.80%	-26.32%	47.63%	-52%
Sorted by Arizona's Market Size							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
2613	Molybdenum ore	-0.64691	0.03%	98.09%	-0.76%	3902.97%	2075%
2617	Other ores	-2.49292	0.00%	-87.60%	1.13%	2031.61%	206%
2807	Sulfuric acid, oleum	-0.06193	0.01%	235.01%	-0.02%	1827.50%	268%
8486	Machines and apparatus semiconductors, electronics	2.205177	0.35%	40.30%	-3.88%	1559.71%	176%
2907	Phenols, phenol-alcohols	1.370857	0.01%	-12.87%	3.17%	1411.63%	4810%
9028	Gas, liquid or electricity meters	0.43915	0.06%	66.31%	-5.55%	838.18%	1309%
2847	Hydrogen peroxide	0.227567	0.00%	-6.09%	0.29%	724.62%	-41%
8534	Electronic printed circuits	0.670347	0.08%	17.55%	-14.90%	678.35%	146%
2522	Quicklime	-0.67453	0.00%	19.93%	-0.02%	562.23%	3119%
3818	Chemical elements for electronics	1.643252	0.05%	1.80%	5.11%	526.09%	57%
Sorted by Arizona's Market Growth							
HS Code	HS Product Description	PCI	Market Size (% of total US Imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Arizona's Market Size, 2023	Arizona's Market Growth (2017-2023)
2207	Ethyl alcohol > 80%	-0.86412	0.01%	-41.79%	0.00%	169.83%	25561%
7115	Other articles of precious metals	0.288436	0.45%	1820.08%	-0.43%	37.52%	21584%
3825	Residual products of the chemical or allied industrie	0.602046	0.00%	97.26%	-15.21%	329.13%	18406%
2906	Cyclic alcohols	0.52486	0.01%	22.86%	-8.99%	12.91%	10211%
2905	Acyclic alcohols	-0.38606	0.06%	-23.45%	2.33%	24.95%	7011%
7613	Aluminum containers for compressed or liquefied gas	0.790886	0.00%	58.14%	-7.17%	192.84%	6705%
2907	Phenols, phenol-alcohols	1.370857	0.01%	-12.87%	3.17%	1411.63%	4810%
8104	Magnesium	0.84442	0.02%	280.83%	-7.13%	21.92%	4682%
2504	Natural graphite	-1.53547	0.01%	165.38%	22.49%	89.67%	3555%
2901	Acyclic hydrocarbons	0.559453	0.05%	22.00%	-3.16%	63.97%	3487%

Sources: Own calculations COMTRADE; Atlas of Economic Complexity

Figure 8: Top 20 Products by Attractiveness Index within Critical Supply Chains

NAICS Description	HS Code	HS Product Name	PCI	Market Size (% of total US imports), 2023	US Imports Growth (2017-2023)	Change in China's Share of US Imports (2017-2023)	Attractiveness Index	Critical Supply Chain
Other Electrical Equipment and Component Manufacturing	3801	Artificial graphite	0.676	0.018%	206.5%	26.5%	1.00	Energy
Basic Chemical Manufacturing	2852	Mercury compounds	0.783	0.000%	-54.8%	17.2%	0.97	Public Health
Nonferrous Metal (except Aluminum) Production and Processing	8103	Tantalum	1.103	0.007%	-12.6%	11.6%	0.92	Critical Minerals and Materials, ICT
Other Electrical Equipment and Component Manufacturing	8507	Batteries	1.184	0.940%	326.6%	28.3%	0.92	Energy
Medical Equipment and Supplies Manufacturing	8713	Wheelchairs	0.928	0.012%	20.1%	11.1%	0.90	Public Health
Basic Chemical Manufacturing	2805	Rare-earth metals	-1.616	0.003%	35.2%	24.8%	0.90	Critical Minerals and Materials, Energy
Basic Chemical Manufacturing	2843	Compounds of precious metals	2.698	0.005%	97.0%	2.0%	0.89	Public Health
Other Chemical Product and Preparation Manufacturing	3705	Photographic film, developed	2.394	0.006%	-23.2%	0.2%	0.88	ICT
Semiconductor and Other Electronic Component Manufacturing	3818	Chemical elements for electronics	1.643	0.049%	1.8%	5.1%	0.88	Critical Minerals and Materials, Energy, ICT
Nonferrous Metal (except Aluminum) Production and Processing	8111	Manganese	-0.314	0.005%	133.1%	18.1%	0.88	Critical Minerals and Materials, Energy
Semiconductor and Other Electronic Component Manufacturing	8532	Electrical capacitors	0.841	0.074%	66.7%	10.7%	0.88	Energy, ICT, Public Health
Basic Chemical Manufacturing	2841	Salts of oxometallic acids	3.171	0.007%	14.7%	-4.1%	0.87	Critical Minerals and Materials, Energy, ICT, Public Health
Basic Chemical Manufacturing	2925	Carboxyimide-function compounds	1.638	0.008%	14.3%	4.0%	0.87	Public Health
Boiler, Tank, and Shipping Container Manufacturing	8404	Auxiliary parts for use with boilers	1.179	0.004%	-17.3%	5.8%	0.87	Energy
Other Chemical Product and Preparation Manufacturing	3606	Ferrocenium and other pyrophoric alloys	0.274	0.001%	-4.7%	10.5%	0.86	Critical Minerals and Materials
Pharmaceutical and Medicine Manufacturing	2939	Vegetable alkaloids	0.127	0.014%	8.0%	11.7%	0.86	Public Health
Basic Chemical Manufacturing	2931	Other organo-inorganic compounds	1.781	0.037%	16.4%	2.4%	0.86	Public Health
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	9033	Other parts for machines and appliances	0.973	0.008%	124.0%	8.8%	0.86	ICT
Basic Chemical Manufacturing	2930	Organo-sulfur compounds	1.139	0.027%	-1.0%	5.2%	0.86	Public Health
Basic Chemical Manufacturing	2846	Compounds of rare-earth metals	0.619	0.006%	29.7%	8.5%	0.86	Critical Minerals and Materials, Energy, Public Health

Sources: Own construction

Attractive opportunities can also be organized according to industry rather than product. Some attractive products shown in Figure 8, like wheelchairs, might seem surprising, and others might sound familiar, like batteries. This list of products is in many ways less approachable for developing strategy than looking at industries. Products can be too specific, while industries are easier to target as economic opportunities. At the same time, employment and other firm-level data only exist at the industry level and we need that data to assess the feasibility of these economic opportunities for Hermosillo. We, therefore, map products to the industries that produce them using the North American Industry Classification System (NAICS) and the Mexican version of NAICS (SCIAN). Figure 9 shows a summary of the most attractive nearshoring opportunities at the industry level, ordered by the average attractiveness index across products in that industry. The list includes only industries whose products, on average, have an Arizonan market size index greater than 1 and have shown positive growth in Arizona. These industries are both significant and expanding in Arizona's market.

Figure 9: Industries by Attractiveness Index within Critical Supply Chains in demand in Arizona

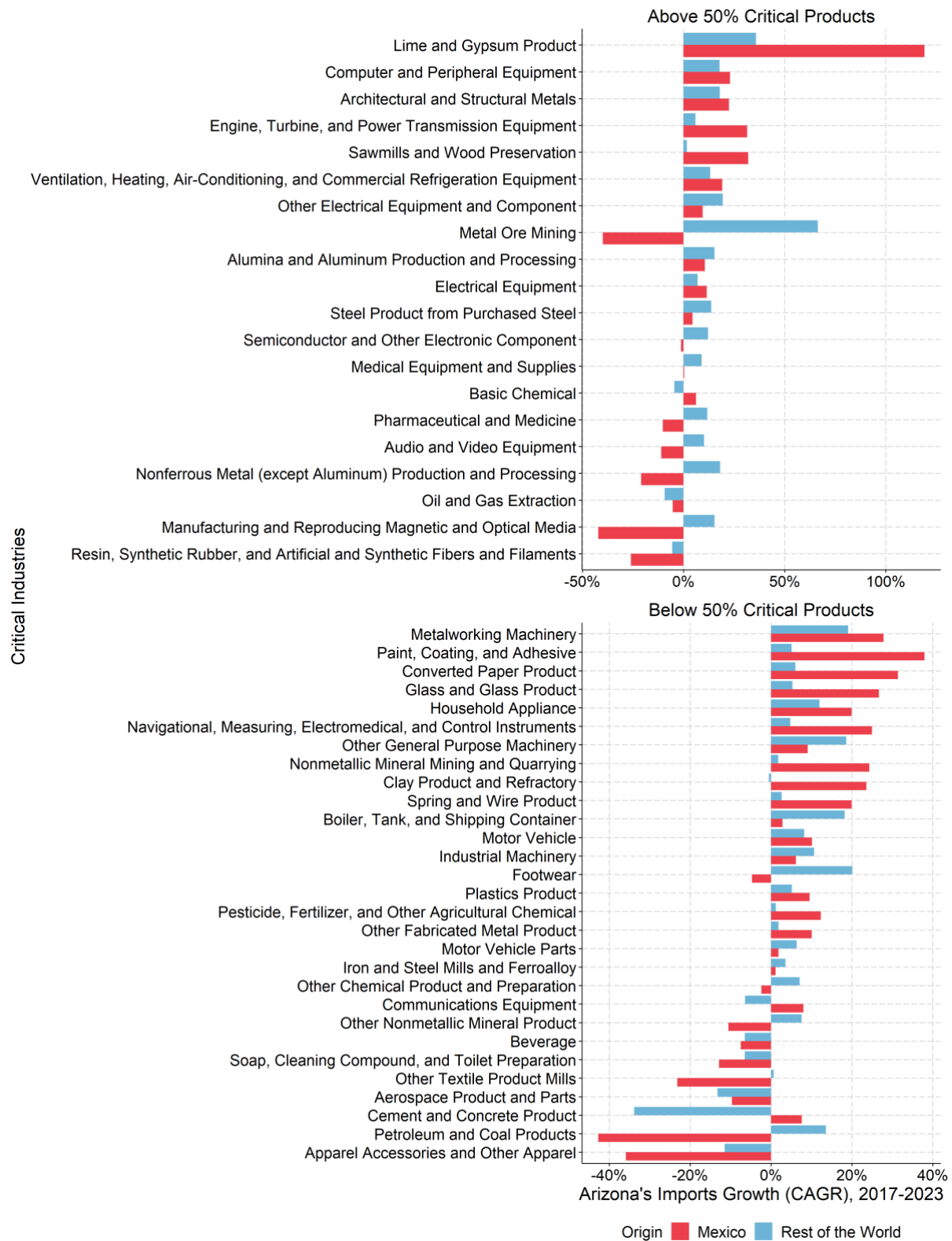
NAICS Description	Index
Alumina and Aluminum Production and Processing	0.753
Architectural and Structural Metals	0.529
Audio and Video Equipment	0.584
Basic Chemical	0.742
Boiler, Tank, and Shipping Container	0.703
Communications Equipment	0.442
Converted Paper Product	0.690
Electrical Equipment	0.592
Glass and Glass Product	0.700
Household Appliance	0.632
Industrial Machinery	0.700
Lime and Gypsum Product	0.702
Medical Equipment and Supplies	0.706
Metal Ore Mining	0.656
Motor Vehicle	0.726
Navigational, Measuring, Electromedical, and Control Instruments	0.722
Nonferrous Metal (except Aluminum) Production and Processing	0.654
Nonmetallic Mineral Mining and Quarrying	0.533
Other Chemical Product and Preparation	0.865
Other Electrical Equipment and Component	0.711
Other Fabricated Metal Product	0.702
Other General Purpose Machinery	0.705
Paint, Coating, and Adhesive	0.759
Pesticide, Fertilizer, and Other Agricultural Chemical	0.662
Sawmills and Wood Preservation	0.678
Semiconductor and Other Electronic Component	0.668
Spring and Wire Product	0.574

Source: Own construction

Capturing the growth of imports in Arizona is of special interest given that Hermosillo will be much more likely to participate in U.S. supply chains that involve the region. The appendix of this report provides additional background on Arizona's recent import patterns. Figure 10 shows the growth of imports from Mexico and rest of the world (excluding Mexico) in Arizona between 2017 (previous five-year average) and 2023. The industries are divided according to how many of the products that produce were designated as critical by the U.S. Trade Administration. Most of the critical industries experienced a growth in imports in Arizona from Mexico between 2017 and 2023, often above the global norm. Some have been booming, like sawmills, power transmission equipment, or lime and gypsum products. A few have been shrinking, like non-ferrous metal processing or optical media equipment. For several critical industries of relevance, like semiconductors or medical equipment, Arizona is growing its imports from elsewhere faster than from Mexico.

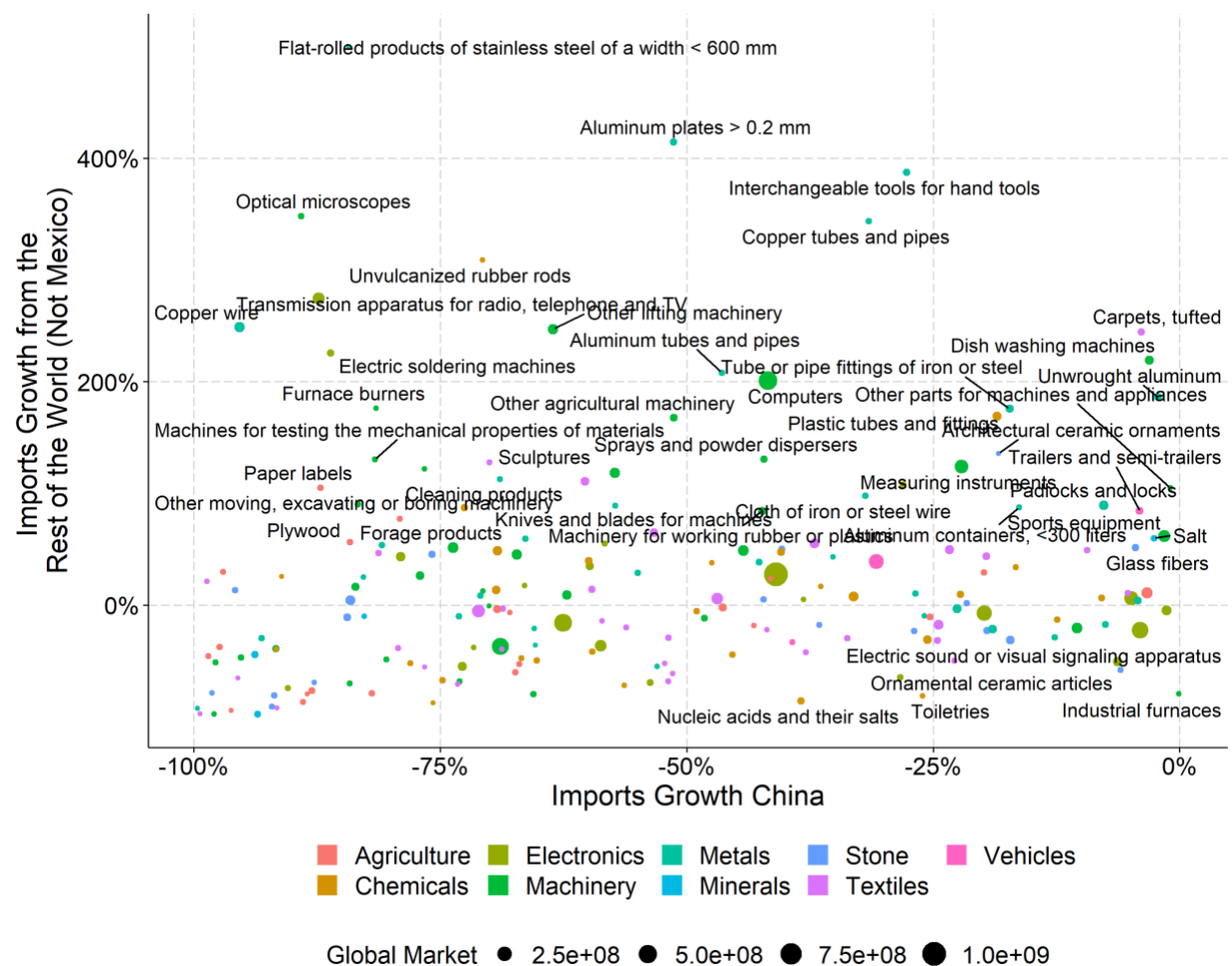
A closer look at the import dynamics of Arizona by product provides insights about the opportunities identified in Figure 9. Figure 11 shows the change of imports in Arizona that come from China (X axis) versus the change of imports in Arizona that come from the world excluding Mexico between 2017 and 2023. We excluded three positive outliers in terms of growth of imports from the rest of the world that present relevant opportunities for Hermosillo: Packaged medicaments, polyamides, and tubes of iron or steel (the three of them with an over 1000% growth rate). We only included products for which imports coming from China decreased in that period. The products for which Arizona is shifting away from China represent valuable opportunities for Hermosillo as the city is well positioned to compete with other manufacturing locations to cater that growing demand. Some of the products in Figure 11 are especially noteworthy, like Copper wire. Arizona's imports of Chinese Copper wire decreased by over 85%, while its imports from the world excluding Mexico increased by over 200%. This product is especially strategic in a context where the City of Phoenix is aiming to become 100% renewable by 2050.

Figure 10: Arizona's Import Growth by Industry & Origin (2017-2023)



Source: U.S. Department of Commerce, International Trade Administration

Figure 11: Change in Imports from China Vs. Imports Growth from the Rest of the World excluding Mexico in Arizona (2017-2023)



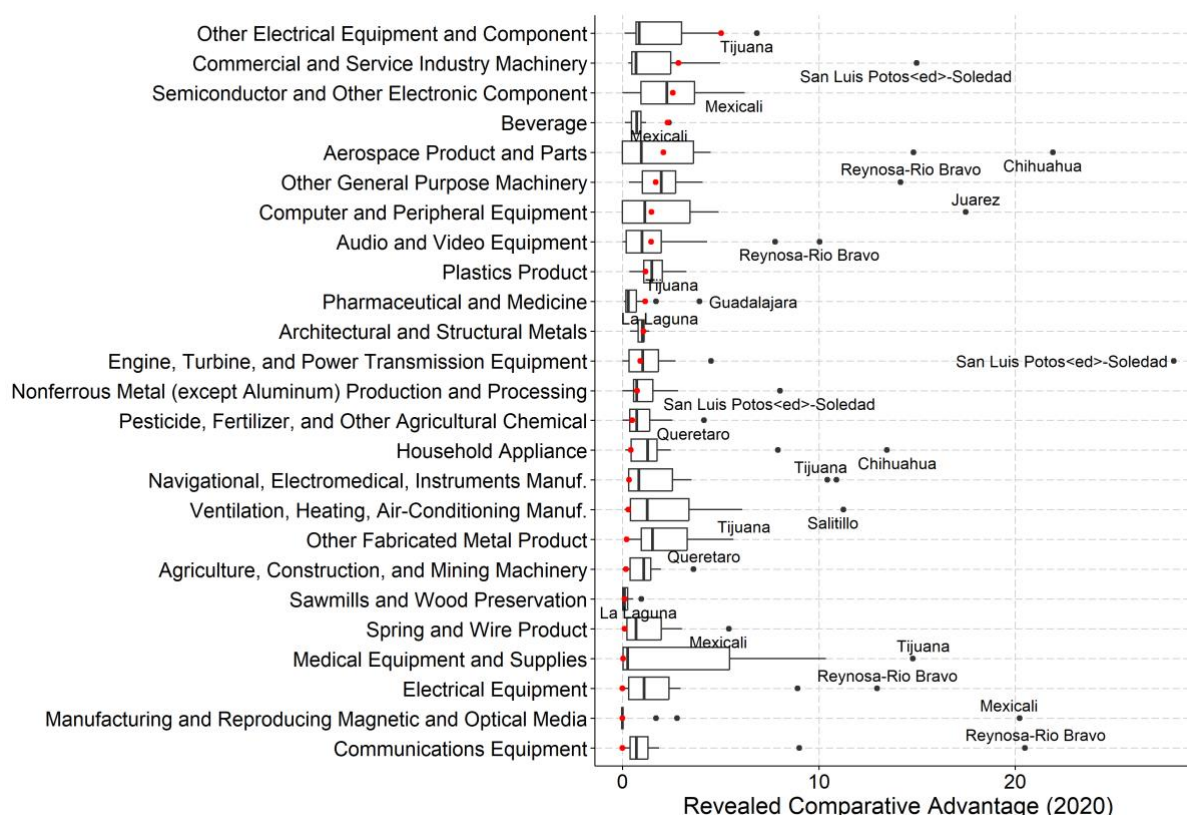
Source: U.S. Department of Commerce, International Trade Administration

What are Feasible Nearshoring Opportunities for Hermosillo?

Within Mexico, Hermosillo competes with well-positioned manufacturing cities in the quest to nearshore attractive industries. Figure 12 shows a boxplot with the distribution of revealed comparative advantage (RCA) of the most attractive critical industries for Hermosillo and peer cities. The industries are ordered by Hermosillo's RCA in each industry, which is colored in red. The figure includes the city's name with the highest RCA in each industry. Hermosillo has a high RCA in electronics sector industries, with companies such as American Precision Assemblers, Amphenol, and TE Connectivity. The industries where Hermosillo already has an RCA > 1 or an RCA higher

than the mean of the peer group are “intensive margin” industries where the city can grow by expanding current capacity or diversifying into new products within the industry. For example, the USTA list contains a diverse range of industries and products within the ICT theme that belongs to the electronics sector and might be closely related to the type of product that takes place in electronic companies in Hermosillo. For several industries on the top of Figure 12, Hermosillo not only has an RCA above one but also appears more competitive than most of its peer cities.

Figure 12: RCAs of Top 25 Industries for Hermosillo and Peer Cities

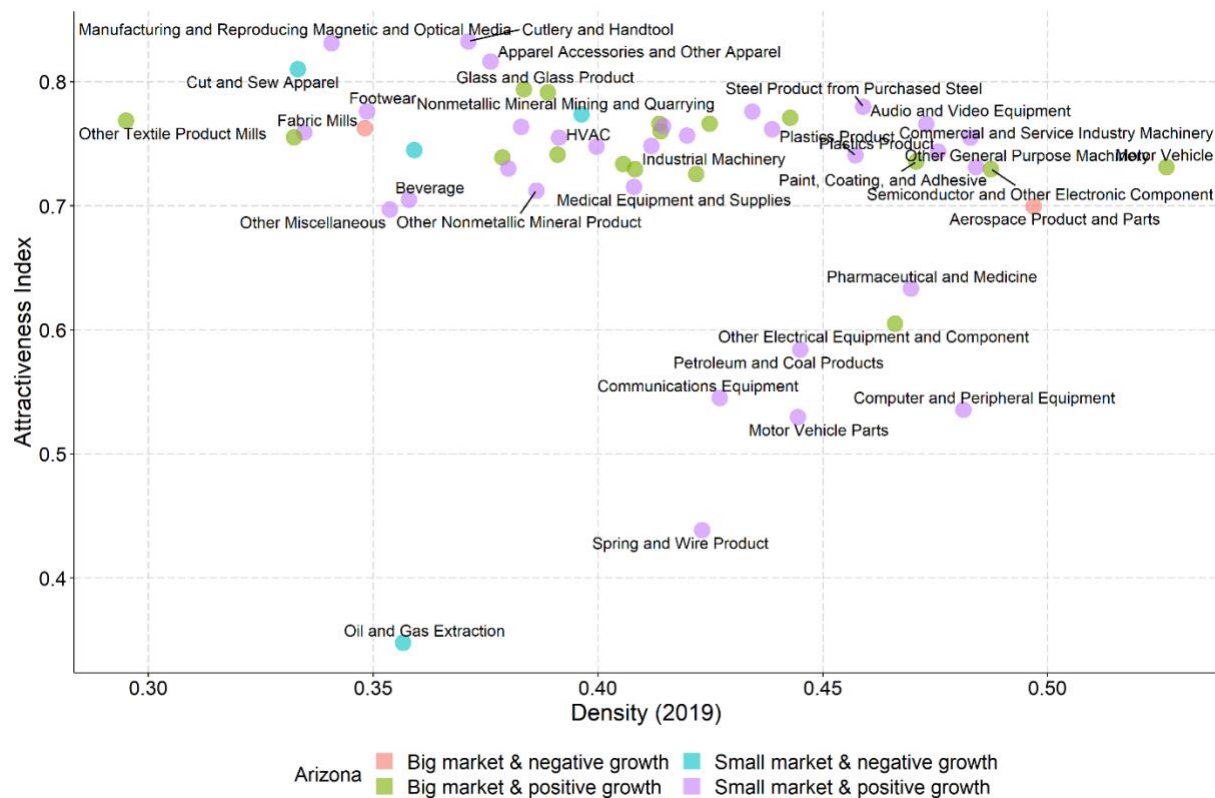


Source: *Economic Census*

Hermosillo’s comparative advantage is lower in many other industries where the city might face tougher competition. In terms of a diversification strategy, these might be longer shots. They are industries in which Hermosillo has either no or few companies. That does not mean they are impossible to develop, but they require a more active approach to investment attraction and resolving coordination problems. Still, these industries might be more or less feasible to develop, given the city’s productive capabilities. The measure of “density” captures the relatedness of any industry to those industries in which Hermosillo already has an RCA above one. The theory of economic complexity indicates that higher industry density reflects a city’s ability to develop that industry, as already present industries create a supportive environment for related sectors

to emerge and thrive. Figure 13 shows the density of industries in Hermosillo versus their attractiveness and classifies them according to the market size and market growth of those industries in Arizona, using the abovementioned calculations.

Figure 13: Density Vs. Attractiveness of Nearshoring Opportunities



Source: Economic Census and own construction

Figure 13 provides a useful summary for informing strategy in Hermosillo based on these two key dimensions of attractiveness and feasibility. It is worth noting that nearly all industries with density higher than 0.40 are industries in which Hermosillo is most competitive ($RCA > 1$), indicating a durable fit of these industries with the city's overall productive capabilities. Industries in the upper-right of the figure are among the clearest and most attractive opportunities for nearshoring. Motor vehicles, Semiconductors, plastics, and medical equipment are all high on the attractiveness index. Agriculture, construction, and mining machinery is in a similar position; though the industry is not as competitive, Hermosillo has highly related capabilities. Products that are lower in their attractiveness index for a given distance, like pharmaceuticals or computer and peripheral equipment could also be strategic for investment promotion to take advantage of nearshoring.

Any strategies for attracting and growing nearshoring opportunities in Hermosillo can use this analysis as a starting point but should consider additional factors. For example, as shown in Figure 10 and 11, the additional information of Arizona's imports is also informative. Arizona's current import growth from Mexico is strongest for computer and peripheral equipment, metal products and different types of machinery, which may make growth easier in these areas, whereas the reasons behind import declines in Arizona from Mexico for pharmaceuticals and aerospace be worth understanding if Hermosillo were to target these industries. Policymakers and other stakeholders that seek to position the city to benefit more from nearshoring can gather widespread additional information through qualitative means to understand how to act on possible opportunities. We provide three brief examples from different positions on Figure 13 below, followed by a longer discussion on semiconductors as a special area of focus.

- **Industrial Machinery:** This is broad category that captures machinery, often heavy machinery, for different end uses. Since the machines are similar in production, companies often produce products for all these end uses. There are reasons to anticipate that demand for heavy machinery is poised to grow in construction and mining in the U.S. given new infrastructure investment and new mining opportunities. For example, power transmission systems are critical for maintaining and upgrading electrical grids to support renewable energy integration. In addition, mining machinery is fundamental to extractive industries, which are seeing increased demand due to the rising need for minerals and metals used in renewable energy technologies, electric vehicles (EVs), and electronics. Meanwhile, demand for machinery in agriculture may be changing due to new technologies for precision agriculture and sustainable agriculture, but demand growth in the U.S. is less clear. The State of Sonora has its own demand, which may expand in these three areas, and companies may be attracted to the region to jointly serve local demand and U.S. demand. Based on Figure 13, the growth in U.S. demand may not come from Arizona, however.
- **Plastics:** Plastic products have a broad spectrum of applications across critical industries, sectors, and stages of production, such as packaging, consumer goods, automotive, healthcare, and construction, offering lightweight, durable, and cost-effective solutions. As a key supplier for multiple sectors, the plastics industry benefits significantly from nearshoring trends as businesses seek to stabilize and diversify their supply chains. For instance, the healthcare industry relies heavily on plastic products for packaging medical instruments, containers, and disposable medical supplies. Similarly, the automotive and construction industries demand plastic components for vehicle manufacturing and building materials, further reinforcing the importance of Hermosillo's capabilities in plastics production. Although its attractiveness is lower than that of other industries, it might be a more

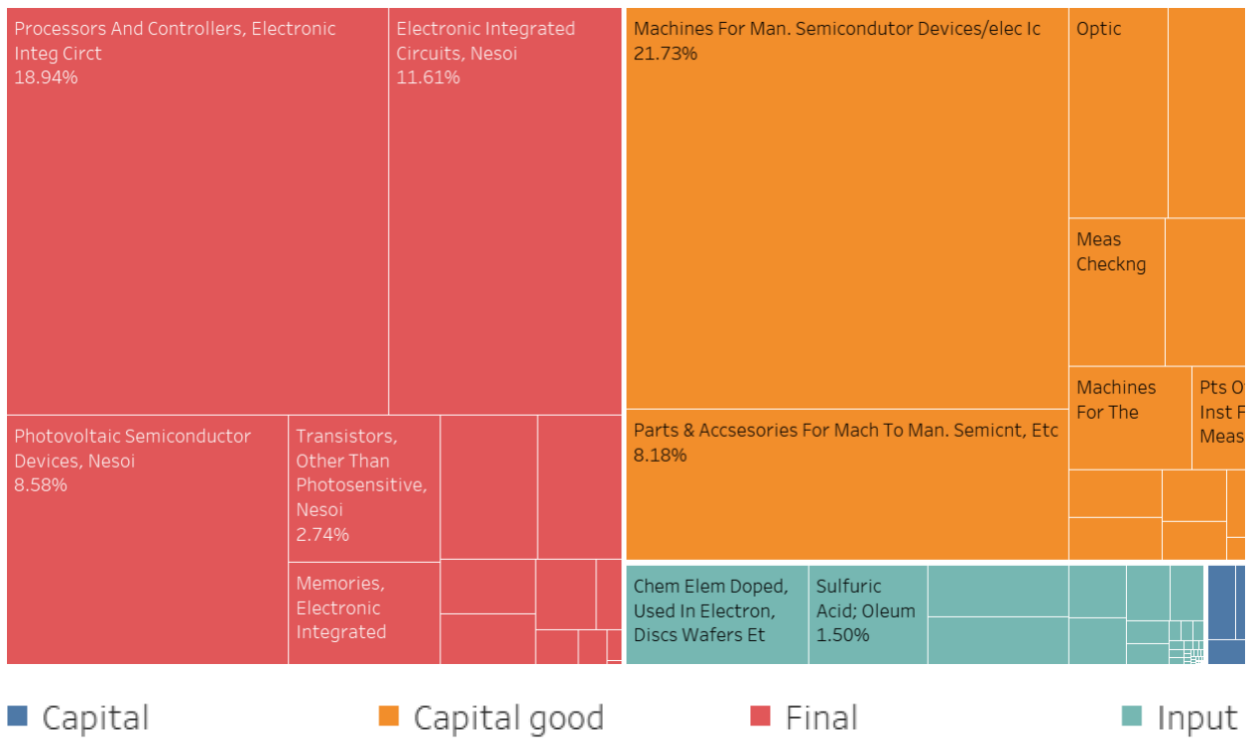
feasible sector to continue expanding given that Hermosillo currently has a relatively more robust plastics sector. Figure 13 shows that imports of plastic products are growing into Arizona, but it does not appear to be a special hub of demand within the United States.

- **Heating, Ventilation, and Air Conditioning (HVAC) equipment:** This is an example of an industry with a medium level of density and relatively high attractiveness for that density. Additional factors suggest that it may be a strong opportunity. There is a growing global focus on reducing energy consumption and carbon emissions, especially in buildings, which account for a significant portion of energy use. HVAC systems are major contributors to energy consumption, and advancements in energy-efficient technologies are in high demand. Governments are implementing stricter regulations and energy efficiency standards, driving growth in the HVAC industry as manufacturers innovate to meet these requirements. As cities grow, the demand for advanced heating, ventilation, and air conditioning solutions increases significantly to ensure comfort and air quality in densely populated areas. In addition, the rising frequency of extreme weather conditions, such as heatwaves and cold spells, is increasing the need for reliable HVAC systems to maintain comfortable indoor environments. In hotter regions, the demand for air conditioning is surging, while in colder areas, efficient heating systems are becoming more critical. As captured in Figure 13, Arizona has been seeing rapid import growth from this industry, particularly from Mexican suppliers.

Although semiconductors and electronic components appear less attractive than other industry opportunities in Figure 13, the value chain is worth special discussion, given significant new developments in Arizona. Semiconductors are at the heart of nearly all modern electronic devices, including computers, smartphones, automobiles, and medical devices. These technologies require advanced processing capabilities, making semiconductors essential in nearly all future innovations. Continued demand expansion will create a continued need for growth in the production of semiconductor components. Due to their importance in defense, national security, and economic competitiveness, semiconductors and electronics have been identified as critical supply chains. Arizona is now established as a leading hub for new investment in the advanced manufacturing of semiconductors, especially centered on major investments in factory production by the Taiwanese company TSMC. Widespread reporting has shown challenges in meeting initial production targets in Arizona, but the U.S. Government and TSMC appear committed to success over the medium term. This development of semiconductor production is large enough to impact the entire region. Semiconductors are not only in great demand, but semiconductor production is an industry that is highly concentrated in just a few places globally.

Hermosillo can compete to host assembly, packaging, and testing in particular, but there may also be other opportunities to cater to the growing demand from Arizona's semiconductor value chain. The semiconductor value chain, at a high level, comprises three stages: design (backend); wafer fabrication; assembly, packaging, and testing (ATP, frontend). There is consensus on the opportunity for Mexico to participate in this value chain by developing ATP plants (Filippo et al., 2022), given that other stages require technology, know-how, and skills that are much scarcer in Mexico. The ATP stage requires a skill level that is in line with many other manufacturing industries currently present in Mexico and Hermosillo. Figure 14 shows the composition of HS products imported in Arizona at the 6-digit level, which are part of the semiconductor supply chain defined by USTA. This treemap captures only very recent imports over the period of 2023 and 2024 up through the month of August. Arizona is importing mostly final goods and capital goods, but as production expands, it may import less in final goods and more inputs. If investment and re-investment continue, this creates an opportunity in capital goods, especially machinery and machinery parts from Hermosillo and Sonora. Companies like Modern Industries are already supplying parts of capital goods essential for the semiconductor supply chain and related electronics.

Figure 14: Arizona’s Semiconductor Value Chain Imports (2023 & 2024)



Source: U.S. Department of Commerce, International Trade Administration. Note: Imports in 2024 include the months from January until August.

Conclusion

This report confirms that nearshoring and friendshoring are taking place in global trade and investment in response to U.S. policy and that Hermosillo and Mexico are not taking full advantage of potential opportunities. Mexico has made gains in its exports to the U.S. market in recent years, but it is not the only country doing so. A few countries like Vietnam are benefiting even more despite being geographically far from the U.S. market. Mexico is seeing growth in products that it has traditionally exported to the U.S., but it is not seeing much diversification into products that the U.S. is working to nearshore and/or friendshore. Nor is Mexico seeing promising investment trends that would signal an acceleration of growth in these opportunities. Given Hermosillo's position as a large city that is near the U.S. market and to a growing market in Arizona in particular, the process of nearshoring represents a potentially transformational chance to jumpstart growth in attractive industries to better position the local economy for the future. However, it is clear that *status quo* strategies around investment promotion and other local industrial policies in Hermosillo and Sonora are not sufficient to capitalize on promising opportunities.

This report provides analysis to begin to identify the most promising nearshoring opportunities for Hermosillo, but local action is needed to build on these initial observations. We identify products and industries that are attractive opportunities for nearshoring in Hermosillo and we evaluate which industries are most consistent with Hermosillo's existing industry structure and underlying productive capabilities. Promising opportunities stand out in industries related to medical equipment, electronics, machinery, and plastics and the latter sections of this report explore these opportunities in some detail, both quantitatively and more qualitatively. Local strategies to capitalize on these opportunities will vary in design and local actors should weigh the criteria provided and other considerations when deciding which industries are the highest priority for targeted investment promotion and other action steps. One exception, however, is in the value chain for semiconductors, where the emerging opportunity to supply and complement the value chain that is forming in Arizona is too large to pass up. Semiconductors represent an essential area that policymakers and the business community in Hermosillo should embrace, along with a set of additional promising nearshoring opportunities.

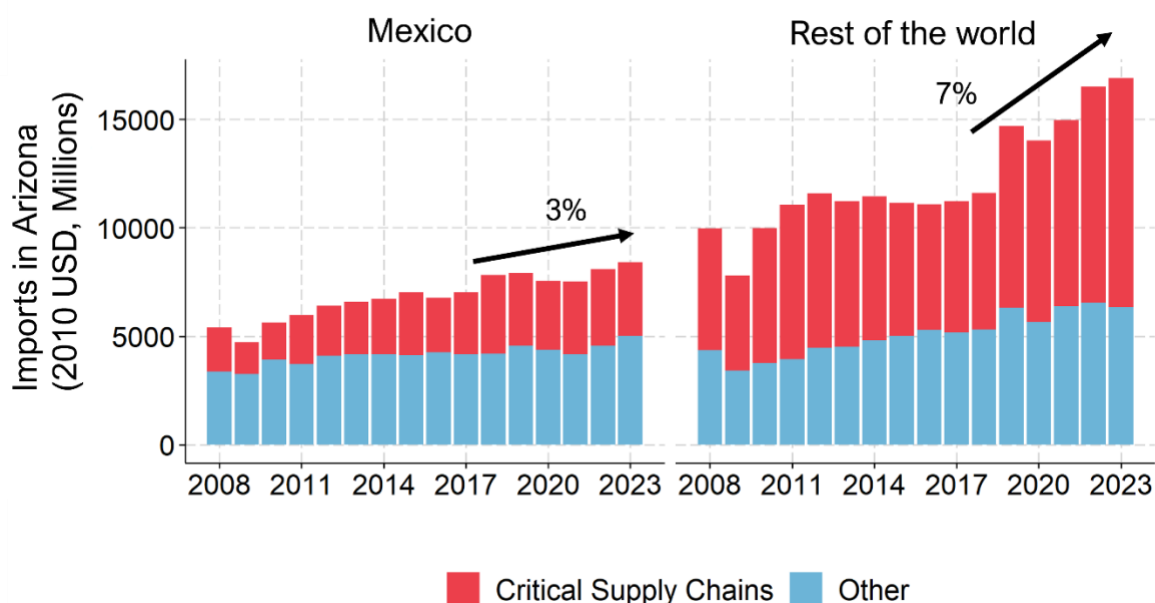
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Appendix: Arizona's Imports from Mexico

Arizona experienced a significant economic expansion between 2017 and 2023, which translated into imports into the state. Figure 15 below shows the value of imports in Arizona coming from Mexico (left) and the rest of the World (right). Arizona saw a rapid rise in demand starting in 2017. Although imports from Mexico increased after 2017, Arizona demanded much more from the rest of the world. Its imports from countries other than Mexico increased by over 7% each year, which is more than double what Arizona demanded from Mexico. This is in part positively affected by U.S. industrial policies that spurred investment in Arizona's manufacturing sector since 2017. This import data also shows that critical supply chain imports were growing long before 2021.

Figure 15: Arizona's Imports from Mexico and the rest of the world (2008-2023)

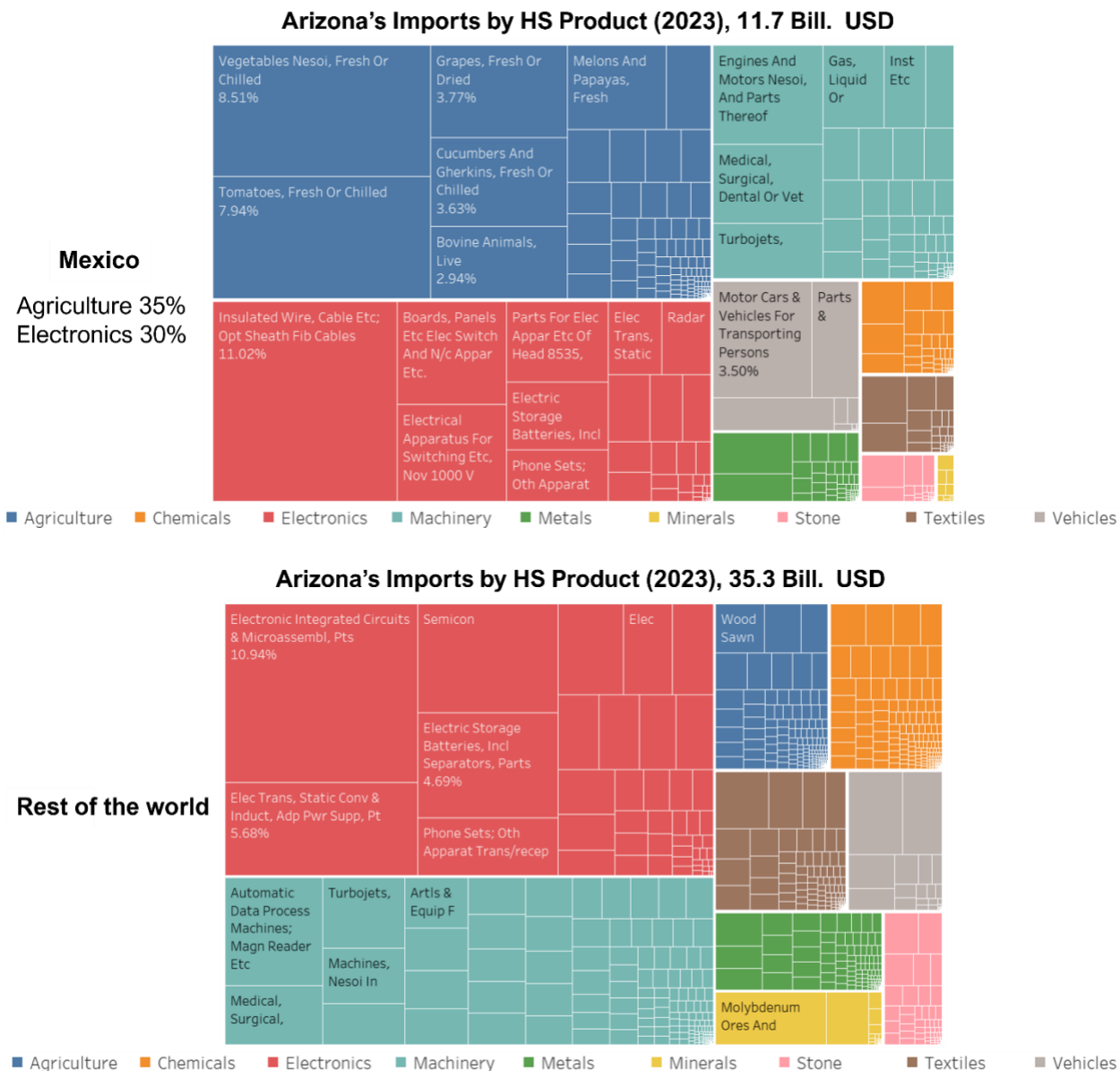


Source: U.S. Department of Commerce, International Trade Administration

For the most part, Arizona imports agricultural products and some electronics from Mexico. Although agriculture is a central part of Hermosillo's economy, and demand from Arizona may continue to increase as the population grows (assuming that population growth does not crowd out agricultural production), agriculture is smaller than other markets when compared to the rest of Arizonan imports. The next figure shows a decomposition of imports from Mexico and the world at the 4-digit product level. Electronics and machinery comprise most of Arizonan imports. They explain most of the growth in imports between 2017 and 2023. It shows the diversity of inputs that come into Arizona for multiple manufacturing plants (batteries, medical devices, electronics, etc.). Although Mexico exports a significant amount of electronics, Arizona imports much more from other parts of the world. Thus, there is an opportunity to produce machinery

inputs for Arizona, as they represent a large market that Mexico is currently not taking advantage of.

Figure 16: Arizona's Imports by HS product (2023)



Source: U.S. Department of Commerce, International Trade Administration