

ARE THE GLOBAL SUPPLY CHAINS THAT SERVE CANADIAN MARKETS RECONFIGURING?



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ARE THE GLOBAL SUPPLY CHAINS THAT SERVE CANADIAN MARKETS RECONFIGURING?

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EXECUTIVE SUMMARY

There have been significant changes in geopolitical and geoeconomic relations and tensions recently, and current research has revealed a significant shift in American imports away from China towards other low-wage countries from 2017-2022. This study investigates whether comparable reconfigurations are observable in global supply chains that cater to the Canadian and Ontarian markets. Overall, results suggest, as of yet, there is little evidence that global supply chains that serve Canadian and Ontarian markets have been reconfiguring despite reports the global economy is geo-economically fracturing.

Digging into global supply chains for the Canadian market, we show Canada's dependence on Chinese value added has continued to rise recently while dependence on US value added has declined. For data reasons, a similar analysis was not possible for Ontario.

We do not find evidence of a "Great Reallocation" of imports away from China towards other low-wage countries in Canadian and Ontarian imports. In fact, between 2017 and 2022, China's import share in Canada increased by 0.9 percentage points, which was larger than any of Canada's fifteen biggest trading partners. China's imports share in Ontario has also risen over the same period. Disaggregating our analysis at the product level, we find a negative correlation between changes in China's import share and that of Vietnam and Mexico in Canadian imports. This suggests that these low-wage countries are increasingly acting as a substitute for China in more labor-intensive industries, even though there is little evidence that geopolitical tensions have helped drive this. We attribute the resilience of Chinese imports to both Canada's less aggressive trade policy stance vis-à-vis China compared to the US and China's continued economic growth.

We show that the United States has seen the largest drop in import share in the Canadian and Ontarian markets from 2017-2022. Our econometric analysis suggests Canada's major free trade agreements with the European Union (CETA) and Indo-Pacific countries (CPTTP) can partially explain the reconfiguration of Canada's trade with the US. Gains in import share of EU/CPTTP countries have been disproportionately large in industries where US import share growth was lowest. For the EU, the substitution effect was especially large in downstream and capital-intensive industries; for CPTTP (excl. Vietnam & Mexico) this was disproportionately large in upstream and labor-intensive industries.

Continued resilience of global supply chains is an open question. Canadian and Ontarian governments, and many companies, have been working to de-risk global supply chains, and reconfigurations can take years. Evidence-based analysis and fact-based debates are required to monitor emergence of Great Reallocations and analyze repercussions.

1. INTRODUCTION

Canada, as a traditional trading nation, has always emphasized trade as a critical element of its economic strategy. Successive Canadian governments have actively pursued free trade agreements to enhance the country's international commerce, including the 2017 Canada-European Union (EU) Comprehensive Economic and Trade Agreement (CETA), the 2018 Comprehensive and Progressive Partnership for Transpacific Partnership (CPTPP), and the 2020 Canada-United States-Mexico Agreement (CUSMA). They have also been among the world's staunchest advocates for a global rules-based trading system, which is considered critical for the country's economic prosperity. Consequently, the country is currently the only Group of Seven (G7) economy with comprehensive free trade access to the entire G7 and EU. In 2022, Canada's fifteen free trade agreements cover 61 percent of the world's GDP and open markets to 1.5 billion consumers worldwide.¹ Its trade-to-GDP ratio has climbed to 67.2 percent in 2022.

The Covid-19 pandemic and recent geopolitical tensions, however, have cast shadows of concern over the potential downsides that Canada's trade openness, and more specifically its reliance on global supply chains for critical products, poses to its economy. In 2020, when shortages of essential goods like personal protective equipment (PPE) emerged, experts started openly debating whether global supply chains – through which large portions of international trade flows – had become too complex to operate effectively in more turbulent macroeconomic contexts.² This debate prompted new investigations on the vulnerability of Canadian and Ontarian industries to disruptions in both upstream and downstream global supply chains.³ It also fueled a growing demand for Canadian and Ontarian trade policies to make global supply chains more resilient by incentivizing manufacturing and supply networks to diversify and localize.

Recent geopolitical tensions have further intensified these discussions. With global trade being destabilized by rising tensions between China and the United States (U.S.), the repercussions of the Russia-Ukraine war, and the fallout of the Israel-Palestine conflict, pundits have raised the concern that geopolitical rivals might weaponize global supply chains by strategically choking off access to critical components for their own geopolitical advantage.⁴ For example, the Russia-Ukraine war demonstrated how Russia's control of gas supplies to Europe could be used as a geopolitical weapon. China's quasi-monopoly over rare earth minerals, which are critical for clean energy technologies, has led to similar concerns. Popular terms such as *decoupling*, *friendshoring*, *nearshoring*, and *de-risking* have emerged to describe actions that governments should promote to improve Canada's and Ontario's resiliency against weaponized interdependence. In the words of Canada's Deputy Prime Minister Chrystia Freeland, "A better alternative is what U.S. Secretary of

¹ [State of Trade 2022: The Benefits of Free Trade Agreements \(international.gc.ca\)](https://international.gc.ca)

² [Shortages in essential goods: Are global value chains part of the problem or the solution? - Canadian Global Affairs Institute \(cgai.ca\)](https://cgai.ca)

³ [Vulnerability of Canadian industries to disruptions in global supply chains \(international.gc.ca\)](https://international.gc.ca)

⁴ Farrell, H., & Newman, A. L. (2019). Weaponized interdependence: How global economic networks shape state coercion. *International Security*, 44(1), 42-79.

the Treasury Janet Yellen has described as friendshoring – that democracies must make a conscious effort to build our supply chains through each other’s economies.”⁵ Within this context, the Ontario government’s Critical Minerals Strategy 2022-2027 was developed to better position the province’s minerals sector in the supply chains of countries with which Canada shares values, and to support a made-in-Ontario electric vehicle supply chain.⁶

These debates about vulnerabilities related to global supply chains have not only taken place in Canada. In recent years, a growing number of nations around the globe have started implementing trade and industrial policies to strengthen and securitize their global supply chains in critical industries. The U.S. has proactively implemented a series of discriminatory trade policies to de-risk its global supply chains from China. In 2018, it has embarked on an all-out trade war against China that has increased average tariffs between the world’s two largest economies to almost 20 percent.⁷ It has also developed several industrial policies that are specifically geared to diversify supply chains away from China in strategic industries (e.g., the Inflation Reduction Act (IRA), the CHIPS and Science Act, and the Uyghur Forced Labor Prevention Act). The EU has used sanctions and other policies to reduce their dependence on Russia. As a result of these policy actions, several leading pundits have started claiming that we are entering a new phase of globalization where the world economy is fracturing into rival groups led by the US and China. In April of 2023, for example, Christine Lagarde, president of the European Central Bank remarked that “[w]e are witnessing a fragmentation of the global economy into competing blocs, with each bloc trying to pull as much of the rest of the world closer to its respective strategic interests and shared values.”⁸ In December of 2023, Gita Gopinath, deputy managing director of the International Monetary Fund suggested that “fault lines are emerging as geoeconomic fragmentation is increasingly a reality” and warned that “[i]f fragmentation deepens, we could find ourselves in a new Cold War.”⁹

Whereas most discussions about geoeconomic fragmentation have remained speculative, an influential paper by Laura Alfaro (Harvard University) and Davin Chor (Dartmouth University) has provided the first empirical evidence that this fracturing of the global economy has already manifested itself in a reconfiguration of international trade and investment, at least between China and the US.¹⁰ The authors unveil a systematic “Great Reallocation” of US imports away from China, with the Chinese share of US imports falling by around 5 percentage points over the period 2017-2022. In line with the notions of *friendshoring*, *nearshoring*, and *de-risking*, they find that Vietnam and Mexico are the big winners in the “Great Reallocation”, experiencing significant import share increases over the same time period, and especially in those products for which China’s import share drops were the largest (including auto parts, electronics, and semiconductors that are at the

⁵ [Remarks by the Deputy Prime Minister at the Brookings Institution in Washington, D.C. | Deputy Prime Minister of Canada](#)

⁶ [Ontario’s Critical Minerals Strategy 2022–2027: Unlocking potential to drive economic recovery and prosperity | ontario.ca](#)

⁷ [US-China Trade War Tariffs: An Up-to-Date Chart | PIIE](#)

⁸ [Central banks in a fragmenting world \(europa.eu\)](#)

⁹ [Cold War II? Preserving Economic Cooperation Amid Geoeconomic Fragmentation \(imf.org\)](#)

¹⁰ Alfaro, L., & Chor, D. (2023). *Global supply chains: The looming “great reallocation”* (No. w31661). National Bureau of Economic Research.

heart of policy debates). The authors further find that the US has been increasing its own domestic production capabilities, providing some evidence of *reshoring*. Nonetheless, the authors warn that it remains “unclear if these measures will reduce US dependence on supply chains linked to China,” as most firms seem to be simply moving the last steps in their lengthy supply chains from China to other low-wage countries like Vietnam or Mexico while continuing to generate significant value added in the more upstream activities in China.¹¹

The aim of this paper is to analyze whether similar reconfigurations of international trade and investment can be detected for Canada and Ontario in today’s era of geoeconomic fragmentation. Specifically, we use publicly available trade and investment data to study whether we find evidence that the global supply chains that serve Canadian and Ontarian markets have been relocating in the past five years, which is a period when Canada has implemented several major free trade agreements but also has been dealing with rising geopolitical turbulence around the globe. We further discuss potential drivers of the trends we unearth and discuss the policy implications.

To conduct our study, we have purposefully aimed to stay as closely as possible to the data and methods that Alfaro and Chor used in their original analysis. We thank the authors for making the Stata code used in their analysis available to us and for their help during our analysis. In terms of data sources, we extensively use the trade statistics from UN Comtrade between 2002-2022 to investigate trends in Canada’s direct imports, which gives an indication where the last fundamental step abroad took place in global supply chains serving the Canadian market.¹² Furthermore, we rely on Statistics Canada’s Trade Data Online to look at Ontarian import trends. Finally, we make use of the OECD’s TiVA data to obtain more insights where the value added in Canadian final demand originates from, as well as FDI data from Statistics Canada to analyze cross-border capital movements.

We have structured our paper in seven parts. Section 2 provides an overview of key dynamics in Canada’s and Ontario’s aggregate imports. Section 3 and 4 use more disaggregated trade data to delve into the question whether Canada’s trade with China and the US are reconfiguring. Section 5 uses global input-output data to analyze the origin of value added used in Canadian final demand through global supply chains. Section 6 conducts further analysis on Canada’s foreign direct investment. Section 7 provides concluding comments and suggests policy implications.

2. KEY DYNAMICS IN CANADA’S AND ONTARIO’S IMPORTS

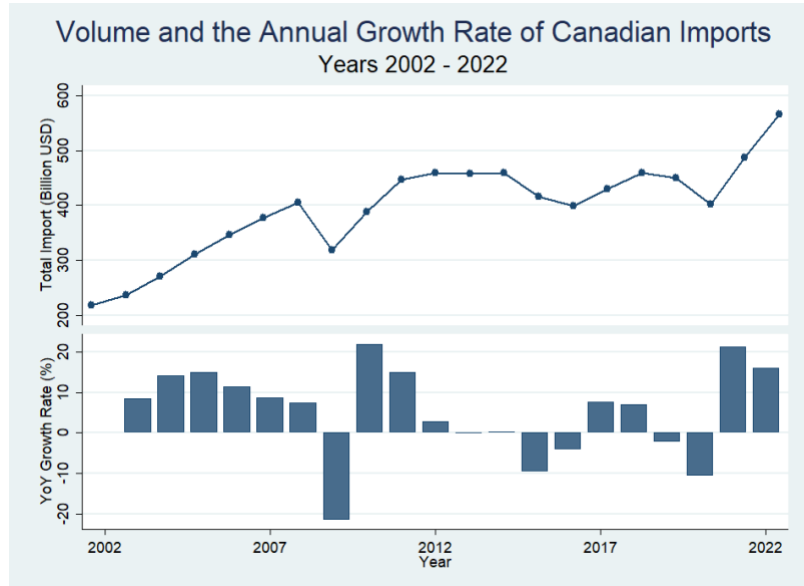
We start our analysis by provide a longer-term perspective of Canadian and Ontarian sourcing patterns in global supply chains. We for this purpose focus on merchandise imports since they are a useful indicator to identify where the last stage of global supply chains takes place prior to entering the Canadian and Ontarian market.

¹¹ [Factories May Be Leaving China, but Trade Ties Are Stronger Than They Seem - The New York Times \(nytimes.com\)](https://www.nytimes.com/2022/05/11/business/economy/factories-china-trade.html)

¹² [UN Comtrade](https://comtrade.un.org/)

We start with an analysis of Canadian imports. In the past two decades, Canada’s imports have largely mirrored the broad global pattern of trade dynamics. It witnessed strong growth up till the Great Recession of 2009, followed by a slowdown that ran until the Covid-19 pandemic (see Figure 1). Economists describe this phenomenon of reduced trade growth between 2010 and 2019 as the “Great Trade Slowdown,” which is often attributed to the maturing of global supply chains.¹³ Like in the rest of the world, Canada’s imports have picked up again since 2021 as the world recovered from the Covid-19 pandemic.

Figure 1: Canada’s imports have picked up speed again after a hiatus between 2009-2020



Data source: UN Comtrade

Table 1 documents how the merchandise import shares of Canada’s top 16 import partners have trended over the past two decades, reflecting some well-known aggregate movements. Some important observations can be made from this figure.

Canada sources most of its merchandise imports from the US, suggesting the importance of regional supply chains, but this share has been declining over the years. In 2002, 63,6% of imports came from the US; in 2022, the US import share had dropped to 49,5%.

China and Mexico have emerged as Canada’s second and third-largest import partners, highlighting their growing role in the global supply chains that serve the Canadian market, even though their respective shares lag far behind that of the US. China’s share of Canadian imports has almost tripled from 4,7% in 2002 to nearly 13,6% in 2022. The Mexican import share has almost doubled from 3,7% in 2002 to 5,5% in 2022.

¹³ [Why the global trade slowdown may matter | CEPR](#)

Table 1: Canadian merchandise imports, share, various countries and regions (2002-2022)

	2002	2007	2012	2017	2018	2019	2020	2021	2022
Imports of goods (Billion USD)	219,00	377,17	458,99	429,94	459,95	450,20	402,28	487,66	565,98
% of imports									
USMCA	67,31	58,99	56,56	58,13	57,29	57,29	54,76	54,55	55,03
USA	63,60	54,73	51,00	51,77	51,12	51,10	49,21	49,01	49,49
Mexico	3,71	4,26	5,56	6,36	6,17	6,19	5,55	5,54	5,54
CETA (EU27)	8,84	9,38	9,16	10,31	10,82	11,44	11,10	11,04	10,84
Germany	2,41	2,85	3,12	3,22	3,20	3,24	3,20	3,10	3,05
Italy	1,29	1,26	1,14	1,46	1,51	1,59	1,67	1,71	1,65
France	1,70	1,26	1,09	1,11	1,21	1,48	1,20	1,16	1,06
Netherlands	0,43	0,44	0,77	0,72	0,76	0,78	0,60	0,64	0,73
CPTPP ex. MEX	6,39	6,63	6,17	5,88	5,47	6,01	6,37	6,36	6,20
Japan	4,49	3,83	3,28	3,14	2,83	2,76	2,51	2,53	2,32
Viet Nam	0,08	0,19	0,35	0,91	0,90	1,17	1,51	1,61	1,75
OTHERS	12,04	17,09	18,16	19,79	19,94	19,95	22,37	22,14	21,84
China	4,66	9,50	11,06	12,71	12,68	12,56	14,20	14,06	13,60
UK	2,83	2,84	1,86	1,60	1,55	1,54	1,45	1,29	1,17
Rep. of Korea	1,42	1,33	1,39	1,54	1,59	1,59	1,78	1,70	1,79
Taiwan	1,23	0,97	1,00	0,98	0,99	1,00	1,04	1,28	1,28
Brazil	0,55	0,83	0,87	0,85	0,92	0,91	1,22	1,22	1,16
Switzerland	0,44	0,57	0,79	0,79	0,77	0,84	1,10	0,93	1,00
India	0,39	0,49	0,62	0,75	0,85	0,88	0,92	0,99	1,13
Thailand	0,52	0,57	0,57	0,59	0,60	0,63	0,66	0,67	0,71

Data source: UN Comtrade

Several high-income countries, in contrast, have lost import market share in the past two decades. Aside from the US, we find that Japan and the United Kingdom have seen their share of Canadian merchandise imports drop. By 2022, Japan and the United Kingdom accounted for only 2,3% of and 1,2% of Canadian imports, respectively.

A final country worth mentioning is Vietnam, in anticipation of our later discussion on the “Great Reallocation”. Canada’s imports from Vietnam have increased steadily in the past two decades, following its normalization of trade relations in 1995 and boosted by both countries’ entry into the Comprehensive and Progressive Agreement for Transpacific Partnership (CPTPP) in 2019. During the period 2002-2022 Vietnam’s share of Canada’s imports increased to about 1,8%. The 27 countries of the European Union have nonetheless seen their share increase to 10,84 percent in 2022.

In summary, Canada has seen a long-term shift in the Canadian direct import sourcing away from high-income countries, such as the US, UK and Japan, toward low-wage countries, especially China, Mexico, and Vietnam.

In Table 2, we conduct a similar analysis for imports into Ontario's market, focusing on the province's top ten import partners in 2022. It illustrates that Ontario has seen a similar shift in direct import sourcing away from the US toward the low-wage countries China, Mexico, and Vietnam during the period 2002-2022.

Table 2: Ontarian merchandise imports, share, various countries and regions (2002-2022)

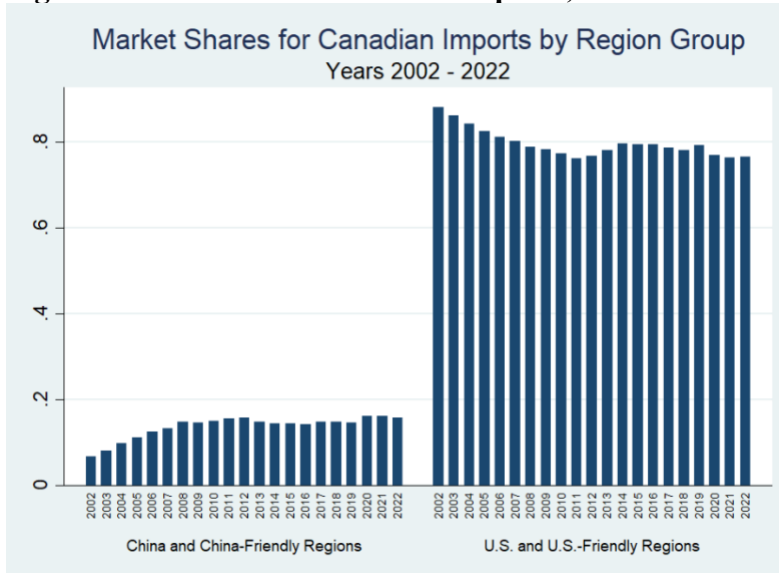
	2002	2007	2012	2017	2022
United States	72,52	63,11	56,33	55,38	52,73
China	3,45	8,46	10,82	12,39	12,62
Mexico	4,74	5,63	7,47	8,23	7,23
Japan	3,1	3,86	3,82	3,76	2,58
Germany	1,7	2,25	2,59	2,53	2,49
Korea, South	0,93	1,23	1,64	1,64	2,06
Vietnam	0,06	0,15	0,29	1,21	1,63
Switzerland	0,46	0,71	1,1	0,98	1,33
Italy (incl. Vatican City State)	1,07	0,97	0,99	0,86	1,32
Taiwan	1,05	0,89	0,95	0,82	1,06
Others	10,92	12,74	14	12,2	14,95
Total All Countries	100	100	100	100	100

Data source: Statistics Canada

A question that has emerged in recent years is whether Canada has been shifting its imports towards geopolitically like-minded countries, in line with the concept of friendshoring. We investigate this in figure 2, where we rely on the classification of Capital Economics to categorize countries into *US allies*, *China allies*, and *unaligned*.¹⁴ The figure shows that there is little evidence of friendshoring in either the long run or shorter run. Canada has consistently reduced the share of its imports from the US and its allies during the period 2002-2022. Over the same time period, the market share of China and China-friendly regions has increased.

¹⁴ [Home Page | Capital Economics](#). **Close US allies:** Australia, Canada, European Union countries, Israel, Japan, Norway, Switzerland, Taiwan, Ukraine, United Kingdom. **Lean US allies:** Colombia, India, Mexico, Madagascar, Morocco, Peru, Philippines, Rep. of Korea, Turkey, Vietnam. **Close Chinese allies:** Bangladesh, Ethiopia, Hong Kong, Iran, Mozambique, Myanmar, Nepal, Pakistan, Russia, Sudan, Uganda, Yemen. **Lean Chinese allies:** Afghanistan, Algeria, Angola, Argentina, Congo, Cuba, Egypt, Ghana, Iraq, Saudi Arabia, South Africa, Tanzania, Uzbekistan. **Unaligned:** the other countries.

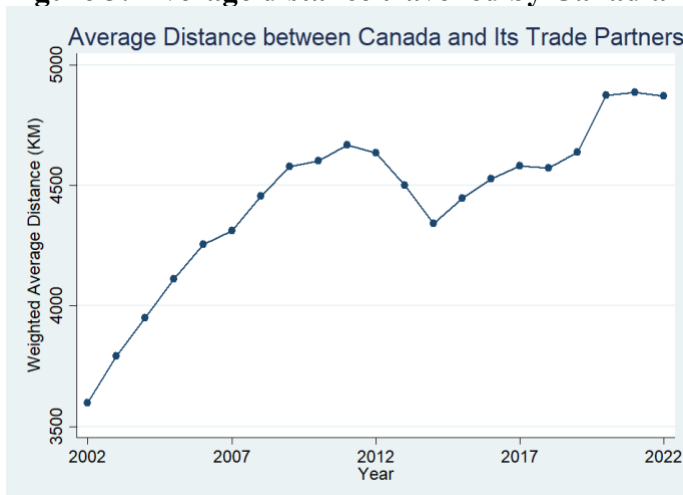
Figure 2: Canada's merchandise imports, shares of US and China allies, 2002-2022



Data Source: UN Comtrade and Capital Economics

We also investigate if there is any indication of nearshoring in Canadian merchandise import data. In Figure 3, we investigate trends in the average distance that Canadian merchandise imports have traveled over the past two decades. With the exception of a couple of years in the wake of the Global Recession of 2008-2009, Canada's imports if anything have traveled longer distances. Specifically, the average distance traveled by Canadian imports has risen from a bit more than 3500 km in 2002 to a bit less than 5000 km in 2022. Again, this is not entirely surprising given the continuous drop in US import share and increase in Chinese import share in the past two decades.

Figure 3: Average distance travelled by Canadian merchandise imports, 2002-2022

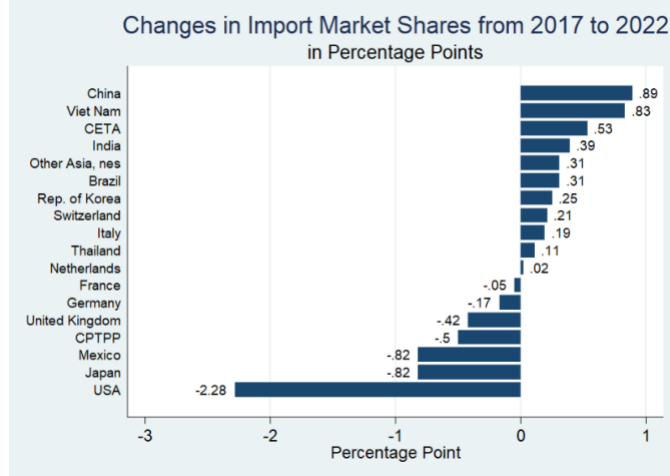


Data source: UN Comtrade and CEPII data of geographical distance between countries

The central question that we address in this paper is whether there has been a significant reconfiguration of Canada's or Ontario's merchandise imports over the last five years (2017-2022), which is a period when several major new trade agreements (e.g., CETA,

CPTPP and CUSMA) were implemented but where also geopolitical tensions with China, Russia and India have been rising. Figure 4 provides preliminary insights into this question by demonstrating the changes in import share in 2017 versus 2022 for Canada's fifteen major import partners. It shows a substantial drop in the import market share of Canada's most important trading partner: the US. Indeed, the US that has seen its import market share in Canada drop by 2,28 percentage points over the past five years. Mexico and Japan have also seen their import market share decrease by 0,82 percentage points. Other high-income European countries, such as the United Kingdom, Germany and France saw their share of Canadian imports fall, even though the EU27 region as a whole saw its import share increase.

Figure 4: Changes in Canada's import market share, 2017-2022

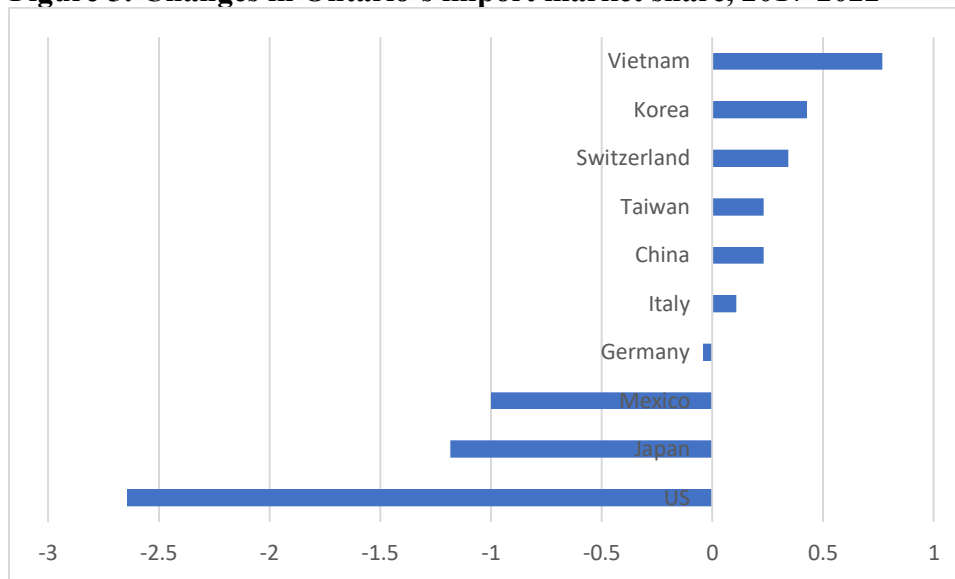


Data source: UN Comtrade

Contrary to Alfaro and Chor's finding for the US market, we find that China's import market share has increased 0,89 percentage points between 2017 and 2022. Vietnam also saw import market share increases of 0,83 percentage points. Higher-income East Asian economies such as Taiwan (i.e., Other Asia, nes) and Korea, and large developing countries such as India and Brazil, registered more modest but still noticeable gains.

Figure 5 illustrates a similar trend for Ontario: the US, Japanese, and Mexican import shares has dropped, whereas low-wage countries such as Vietnam and China have seen their import share increase, among others. In the next sections, we analyze what may explain these changes in trade patterns, focusing on Canadian imports.

Figure 5: Changes in Ontario's import market share, 2017-2022



Data source: Statistics Canada

3. IS CANADA'S TRADE WITH CHINA RECONFIGURING?

China's increase in aggregate import share provides a powerful indication that China's trade with Canada has reconfigured differently than that with the US. In this section, we analyze this in greater detail by investigating the extent to which Canada's trade is reconfiguring at the more disaggregated product level. We first discuss the various factors that may drive firms to reallocate their global supply chains from China to other low-wage countries. Next, we conduct an econometric analysis to validate the importance of these drivers.

3.1. Potential drivers of a Canadian trade reconfiguration with China

A key point that needs to be made upfront is that geopolitical tensions are not the only factor that may drive a reconfiguration of Canada's trade with China. Even in the complete absence of geopolitical factors, it is possible that direct sourcing swings away from China to other low-wage countries if the world's second largest economy naturally starts losing its competitive edge in downstream supply chain activities. We call this phenomenon "growing out of final assembly." Nonetheless, geopolitical tensions can help speed up such de-specialization processes by further weakening the competitiveness of downstream supply chain activities in a country through discriminatory treatment against them relative to its competitors in other countries. In this section, we discuss existing scholarship on China's "growing out of final assembly" and "Canada-China geopolitical tensions" to structure our thinking about the drivers of a potential reconfiguration of Canadian trade with China.

3.1.1 Growing out of final assembly

It has been widely documented that China has already started growing out of final assembly even before geopolitical tensions with the West heated up around 2017.¹⁵ We briefly discuss how, after its opening up in 1978, China rapidly emerged as a final assembly platform for the global supply chains of labor-intensive products that serve North American markets. We next discuss recent evidence that China has started moving upstream in global supply chains, allowing other low-wage countries like Vietnam and Mexico to develop a foothold in final assembly.

From the onset of its economic reforms in the early 1980s, China has made the attraction of labor-intensive assembly activities a key element of its export-led development strategy.¹⁶ Abundant supplies of low-cost labor combined with an undervalued currency provided the country with a strong comparative advantage in such downstream activities, providing them the nickname of “Factory of the World”.¹⁷

After decades of rapid economic growth, however, China has moved beyond its role as the world’s assembler. Rising labour costs have eroded the country’s advantage in low-skilled assembly activities, and China has moved up the value chain by specializing in more sophisticated activities that are more capital- and skill-intensive in nature. One way firms in China have upgraded is by taking on more orchestration responsibilities in global supply chains.¹⁸ Assemblers in China nowadays do more than provide simple assembly services; they select suppliers, coordinate supplier networks, manage inventory, and conduct quality control on the raw materials and supplies they purchase. A second way that firms in China have upgraded is by moving into the production of key components that they used to purchase abroad. The iPhone is a great example of this.¹⁹ In 2009, China exclusively did the assembly of the iPhone 3G, amounting to 3.6 percent (\$6.50 US) of the bill for materials. In 2018, China was also making many of the complex components in the iPhone X including the printed circuit board, battery pack and camera module, raising the country’s share of the bill of materials to 25 percent, or \$104 US. Overall, it has been shown that Chinese exporters have increasingly substituted domestic for imported materials, helping raise China’s domestic content in its total exports from 65 to 70 percent over the period 2000-2007.²⁰

Data on the upstreamness of Canadian imports from China highlight China’s gradual growing out of final assembly. We use an approach developed by Chor et al. (2021) to

¹⁵ [Decoupling from China is hard to do \(irpp.org\)](https://www.irpp.org/2017/05/15/decoupling-from-china-is-hard-to-do/)

¹⁶ Naughton, B. (1996). *Growing Out of the Plan: Chinese Economic Reform, 1978-1993*.

¹⁷ Hanson, G. H. (2012). The rise of middle kingdoms: Emerging economies in global trade. *Journal of economic perspectives*, 26(2), 41-64.

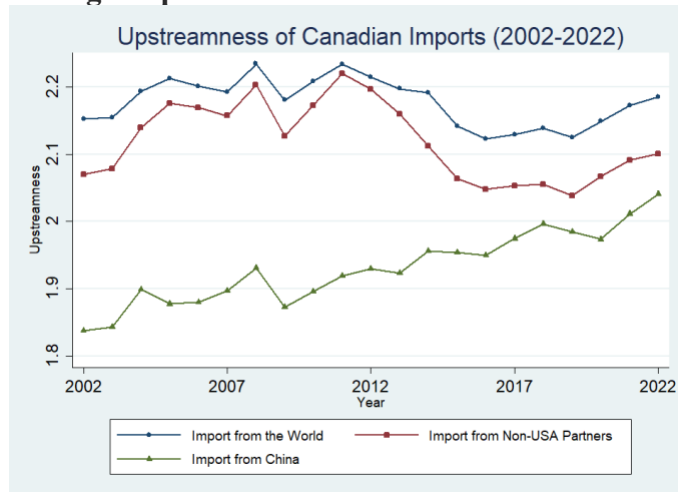
¹⁸ Van Assche, A., & Van Biesebroeck, J. (2018). Functional upgrading in China's export processing sector. *China Economic Review*, 47, 245-262.

¹⁹ <https://voxeu.org/article/how-iphone-widens-us-trade-deficit-china-0>

²⁰ Kee, H. L., & Tang, H. (2016). Domestic value added in exports: Theory and firm evidence from China. *American Economic Review*, 106(6), 1402-1436.

characterize the upstreamness of trade flows with respect to final demand.²¹ The more upstream an export product is at the HS4-digit level, the more steps it is away from final use. For example, a car seat is more upstream than a car because the car seat is used for the final assembly of the car. Figure 6 makes two key points in this regard. First, it demonstrates that Canadian imports from China are significantly more downstream (closer to final assembly) than those from other countries. Second, it shows that Canadian imports from China have become consistently more upstream between 2002 and 2022, in line with the idea that China is moving out of final assembly. Since a significant portion of this period precedes the era of heightened geopolitical tensions with China (2018-2022), it is suggestive that China's changing comparative advantage helps explain this trend. It is notable that the overall upstreamness of Canadian imports has remained relatively stable between 2002 and 2022.

Figure 6: Canadian imports from China have consistently become more upstream during the period 2002-2022



Data Source: combination of UN Comtrade data and data for industry upstreamness provided to us by Davin Chor.

3.1.2. Geopolitical tensions

Geopolitical tensions and associated de-risking policies can also induce trade reconfiguration by reducing the competitiveness of Chinese products on the Canadian market. It is easiest to understand this effect when we consider the impact of a tariff or an anti-dumping measure on Chinese direct imports into Canada. In that case, the trade measure will increase the price of Chinese exports to Canada, thus incentivizing firms to substitute away from China and source the product from another low-wage country. In a recent study, Fajgelbaum et al. (2023) document significant substitution effects during the US-China trade war.²²

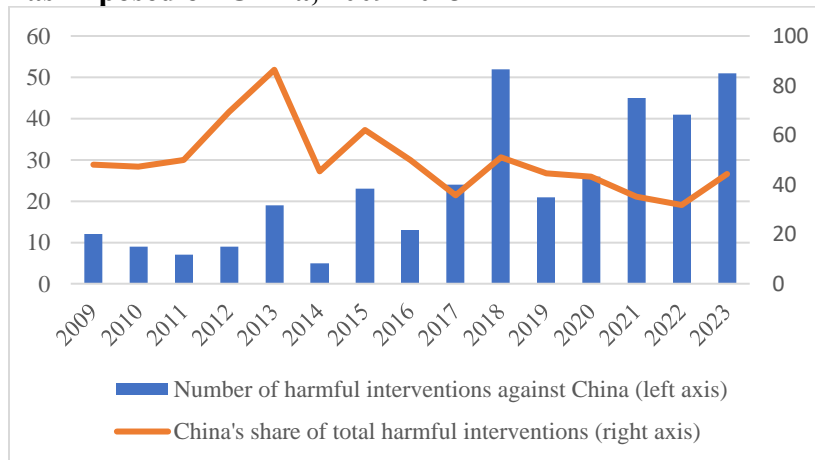
²¹ Chor, D., Manova, K., & Yu, Z. (2021). Growing like China: Firm performance and global production line position. *Journal of International Economics*, 130, 103445.

²² Fajgelbaum, P., Goldberg, P. K., Kennedy, P. J., Khandelwal, A., & Taglioni, D. (2023). *The US-China trade war and global reallocations*. National Bureau of Economic Research.

At least theoretically, one might expect that a rise of geopolitical tensions (without associated trade policies) can have a similar effect. Firms may consider geopolitical conflicts to be a leading indicator of future protectionism, which can increase the costs and risks of trading across borders. In anticipation of these future events, companies may increase their investment in more like-minded low-wage countries today, anticipating a “Great Reallocation”. One can expect, however, that the urgency of reallocating production in reaction to geopolitical tensions is significantly lower than in reaction to concrete de-risking policies.

It is important to highlight the lower-power effect that geopolitical tensions have had in Sino-Canada relations compared to Sino-US relations. Canada has been substantially less proactive than the US in terms of protectionist trade policies. Unlike the US, Canada has not embarked on a bruising trade war with China that has increased the average tariff between both countries to about 20 percent. Furthermore, there is little evidence that Canada has disproportionately imposed discriminatory trade policies against China in recent years. Figure 7 uses data from the Global Trade Alert to show that Canada has increased the number of harmful trade-related interventions against China in recent years, but that the share of harmful trade-related interventions against China has remained relatively stable since 2009.

Figure 7: The number and share of harmful trade interventions that Canada has imposed on China, 2009-2023



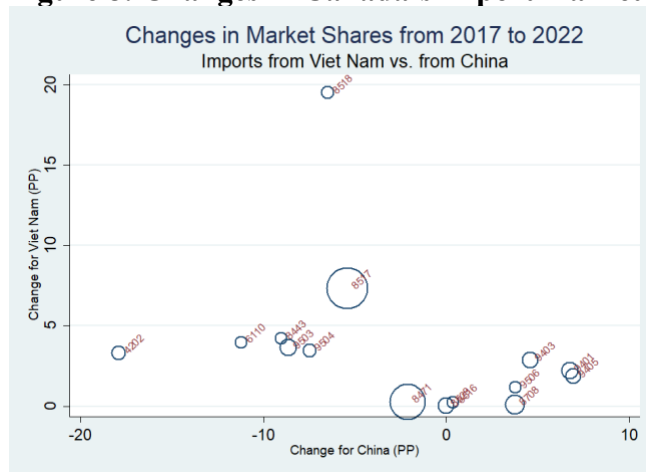
Data Source: Global Trade Alert

In fact, the more moderate policy response of Canada against China compared to the US may have boosted the import share of China in Canada for certain products. To circumvent the tariffs that the US has imposed on China since the beginning of the Sino-US trade war, some Chinese exporters may have started exporting to Canada when trying to serve both the Canadian and American markets.

3.2. Econometric analysis

To study the existence of substitution effects between China and other low-wage countries in Canadian merchandise import data, we disaggregate our analysis to the HS4 product level and investigate if China has been losing import market share in specific products that have been picked up by other countries. In Figure 8, we track the 15 top Canadian import categories from China, which represent 40,81% percent of total Chinese imports. The horizontal axis looks at the percentage point change in China's import share in these categories during the period 2017-2022. It illustrates that China has a significant import market share increase in products such as lamps (HS 9405), seats (HS 9401), other furniture (HS 9403), and outdoor equipment (HS 9506). At the same time, it has seen a significant drop in import market share in suitcases (HS 4202) and jerseys & pullovers (HS 6110), among others. The vertical axis looks at the percentage point change in Vietnam's import market share in these same products, illustrating that Vietnam has seen a significant rise in import market share in two products in which China's share has substantially declined: microphones (HS 8518) and electrical applications for line telephone (HS 8518). Overall, there is a clear negative correlation between the change in Chinese and Vietnamese import market shares for the fifteen most important import categories from China.

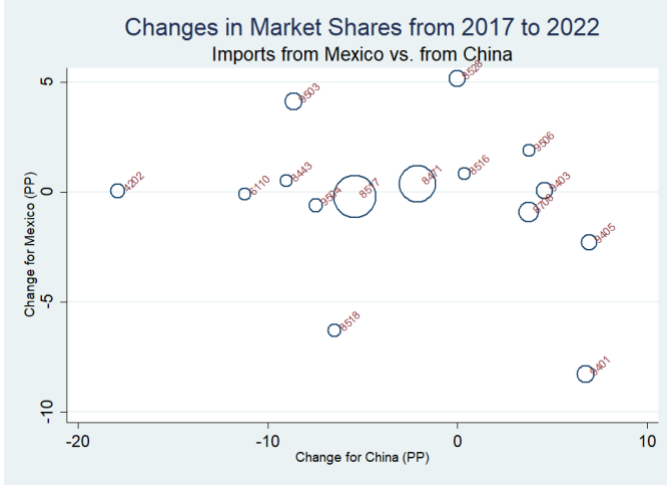
Figure 8: Changes in Canada's import market share, China & Vietnam, 2017-2022



Data Source: UN Comtrade

Figure 9 replaces Mexico on the Y axis. It shows that Mexico has seen a significant rise in import market share in two products in which China's share has substantially declined: monitors and projectors (HS 8528) and parts of electrical generators (HS 8503). Overall, there is a negative correlation between the change in Chinese and Mexican import market shares for the fifteen most important import categories from China.

Figure 9: Changes in Canada's import market share, China & Vietnam, 2017-2022



Data Source: UN Comtrade

To analyze these patterns even further, we use regression analysis on the disaggregated data. Specifically, we examine whether product-level changes in Canada's share of imports from China are correlated with changes in the import shares and other observable dimensions of Canada's imports from other countries, especially from Vietnam and Mexico. For this purpose, we follow Alfaro and Chor (2023) by using the following specification:

$$\Delta Yshare_{p,22-17} = \beta_1 \Delta CHNshare_{p,22-17} + \beta_2 \Delta Yshare_{p,17-12} + \varepsilon_p$$

Where $\Delta Yshare_{p,22-17}$ and $\Delta CHNshare_{p,22-17}$ are the change between 2017-2022 in the share of Canada's imports of HS4 product p that are from country Y and China, respectively. Since the import shares from specific partner countries might exhibit pre-trends in Canada's propensity to source from country Y , we also control for the lagged five-year change (between 2012- 2017) in this outcome variable. The regression further includes HS2 fixed effects to account for non-time-varying differences in product characteristics at this broader level. The estimated coefficient β_1 is intended to capture the degree to which shifts in the propensity to import from China are correlated with shifts in the propensity to import from alternative source locations.

Table 3: Regressions of changes in Canadian import shares at the HS4 product level

	(1) VNM	(2) MEX	(3) USA	(4) AsiaLo	(5) AsiaHi	(6) ROW
Change for CHN	-0.195*** (-4.45)	-0.063*** (-4.21)	-0.335*** (-4.27)	-0.009 (-0.36)	0.019* (1.78)	-0.332*** (-9.00)
Lagged change for VNM	0.473** (2.62)					
Lagged change for MEX		-0.140*** (-2.99)				
Lagged change for USA			-0.077* (-1.98)			
Lagged change for AsiaLo				-0.089** (-2.51)		
Lagged change for AsiaHi					-0.213** (-2.38)	
Lagged change for ROW						-0.156 (-1.36)
Constant	0.016*** (4.81)	-0.002*** (-9.23)	-0.052*** (-27.06)	0.008*** (23.25)	0.000 (1.06)	0.017*** (17.05)
HS2 fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.44	0.16	0.43	0.08	0.17	0.46
Observations	1174	1174	1174	1174	1174	1174

Based on HS4 product-level trade data from UN Comtrade. Estimated is by weighted least squares with HS2 fixed effects, with the 2017 value of Canadian imports from China for the respective HS4 products as weights. The sample is restricted to the top 300 HS4 products by value in 2017 imports from China. Standard errors are clustered by HS2 codes; ***, **, and * denote significance at the 1%, 5% and 10% levels respectively.

Table 3 reports the regression results. We have grouped the alternative import locations as follows in successive columns: (1) Vietnam; (2) Mexico; (3) US; (4) four low-wage Asian economies (India, Indonesia, Malaysia, Thailand); (5) three high-wage Asian locations (Korea, Singapore, Taiwan); and (6) the rest of the world. We use 19 regression weights equal to the initial 2017 value of HS4-digit imports from China, and we report standard errors clustered by HS2-digit codes. The negative and significant β_1 coefficients in Columns 1 and 2 implies that the share of Canadian imports from Vietnam and Mexico rose disproportionately for products that saw lower growth in the share imported from China. This confirms that there is a systematic substitution effect between China and low-wage countries in certain products. In other words, China and low-wage countries act as competitors for direct sourcing that serves the Canadian market.

We also see this pattern of substitution play out with regards to the US (Columns 3). One explanation of this may be the asymmetric policy responses of the US and Canada against China. If companies in China try to circumvent American tariffs by exporting to Canada instead of the US to serve North American markets, this would contemporaneously induce a strong growth in the Canadian import share and a drop in the US import share.

It is interesting to note that β_2 (the coefficient on $\Delta Yshare_{p,17-12}$) is positive for Vietnam but negative for other countries and regions. In line with Fajgelbaum et al. (2023), this may suggest that Vietnam is operating along downward-sloping supplies where they over time

are increasing their production capacities in global supply chains. Other countries, then again may have more mature production systems.

Table 4 further explores the heterogeneity in product-level responses across Vietnam and Mexico, vis-à-vis which countries gained more import share in the Canadian market following decreases in the import share held by China. We do so by augmenting the specification in the regression equation above with interaction terms with several product-level characteristics of interest, specifically: the upstreamness of the product p , the labor share in industry p , and the tariff on Chinese imports of product p imposed during the Sino-US trade war. The results reveal interesting differences when comparing which products in Vietnam and Mexico experienced greater shifts in their market shares in tandem with corresponding decreases in China's import share. For Vietnam, a greater increase in its import share is seen for products that have a lower labor share. This is broadly consistent with the observation that Vietnam has, during these years, shifted more into the final assembly of electrical and electronic parts and components that are relatively less labor-intensive compared to goods such as shoes and textiles that it had previously been exporting. At the same time, we find some evidence that the negative relationship between shifts in import shares from China and Vietnam was especially pronounced in products with high labor shares, which is in line with our discussion that China is growing out of final assembly and that these activities are moved to Vietnam. For Mexico, there is little evidence that upstreamness, labor shares, or trade-war-induced tariffs are related to the substitution with China. We also conducted a similar analysis for the US (not shown), but none of these interaction effects were significant.

Table 4: Regressions of changes in market shares with interaction terms

	(1) VNM	(2) VNM	(3) VNM	(4) VNM	(5) MEX	(6) MEX	(7) MEX	(8) MEX
Change for CHN	-0.281** (-2.55)	-0.102 (-1.50)	-0.313** (-2.47)	-0.160 (-0.60)	-0.174* (-1.87)	-0.050 (-0.53)	-0.048 (-0.71)	-0.183 (-0.84)
Lagged change for VNM	0.469** (2.49)	0.445*** (3.09)	0.451* (1.95)	0.440** (2.51)				
Lagged change for MEX					-0.143*** (-3.84)	-0.192*** (-4.30)	-0.103** (-2.50)	-0.158*** (-5.21)
Upstreamness	0.003 (1.43)			-0.002 (-0.49)	-0.009* (-1.89)			-0.004 (-0.89)
CHN Change x Upstreamness	0.027 (0.39)			0.007 (0.08)	0.054 (1.24)			0.068 (1.26)
Labor share		-0.102*** (-4.10)		-0.104*** (-3.88)		0.065 (1.58)		0.050 (1.17)
CHN Change x Labor share		-0.598** (-2.31)		-0.516 (-1.14)		-0.021 (-0.06)		0.156 (0.33)
U.S. tariff			0.000 (0.08)	0.000 (0.08)			-0.001** (-2.24)	-0.001 (-1.61)
CHN Change x Tariff			0.005	0.001			-0.000	-0.002
Constant	0.010* (1.86)	0.042*** (5.24)	0.015 (1.12)	0.046* (1.99)	0.013 (1.50)	-0.020* (-1.85)	0.010* (1.79)	0.001 (0.06)
HS2 fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Adj. R-square	0.41	0.44	0.41	0.43	0.11	0.11	0.10	0.12
Observations	280	280	280	280	280	280	280	280

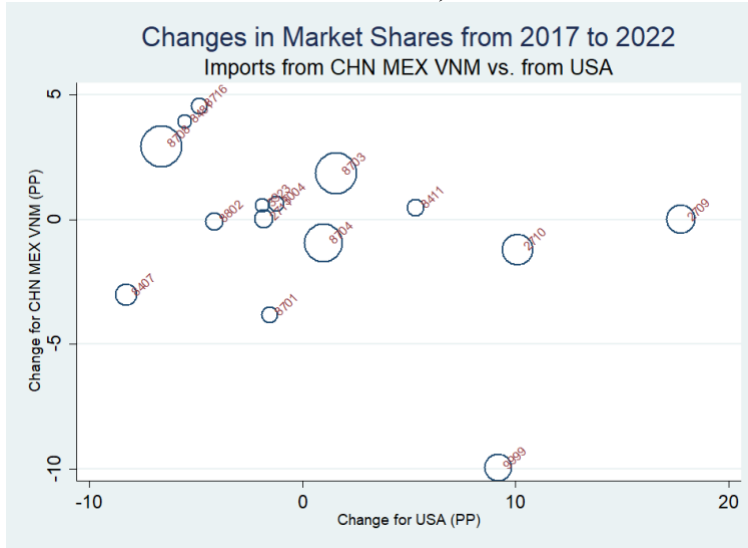
Based on HS4 product-level trade data from UN Comtrade. Estimated is by weighted least squares with HS2 fixed effects, with the 2017 value of Canadian imports from China for the respective HS4 products as weights. The sample is restricted to the top 300 HS4 products by value in 2017 imports from China. Standard errors are clustered by HS2 codes; ***, **, and * denote significance at the 1%, 5% and 10% levels respectively.

In conclusion, our analysis provides statistical evidence that, at the product level, China competes with the low-wage countries of Vietnam and Mexico in terms of direct sourcing to serve the Canadian market. For Vietnam, we find that this competition is especially large in labor-intensive industries, suggesting that China may be growing out of final assembly and labor-intensive activities are being relocated to Vietnam. We do not find any evidence that geopolitics helped drive this trend.

4. IS CANADA’S TRADE WITH THE UNITED STATES RECONFIGURING?

We next study the existence of substitution effects between the US and other countries in Canadian merchandise import data. In Figure 10, we track the 15 top Canadian import categories from the US, which represent 38,13% of total US imports. The horizontal axis looks at the percentage point change in the US import share in these categories during the period 2017-2022. It illustrates that the US has a significant import market share decrease in products such as internal combustion engines (HS 8407), parts and accessories of motor vehicles (HS 8708), taps, cocks & valves (HS 8481), and trailers and semi-trailers (HS 8716). At the same time, it has seen an increase in the import market share of petroleum oils (HS 2709 and 2710). The vertical axis looks at the percentage point change in the combined import market share of Vietnam, Mexico, and China in these same products, illustrating that these low-wage countries have seen a significant rise in import market share in automotive parts (HS 8708, 8716) and taps, cocks & valves (HS 8481). Overall, there is a negative correlation between the change in US and low-wage countries’ import market shares for the fifteen most important import categories from the US.

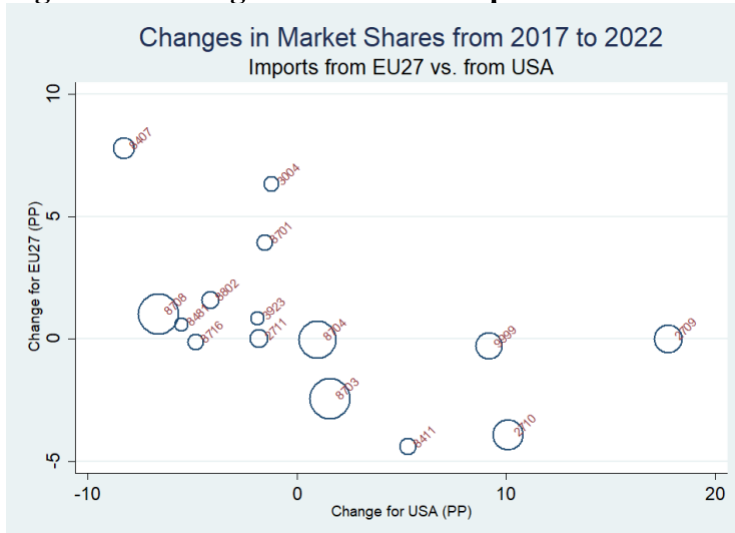
Figure 10: Changes in Canada's import market share, U.S. versus China+Mexico+Vietnam, 2017-2022



Data source: UN Comtrade

Figure 11 replaces China-Mexico-Vietnam with EU27 on the Y axis. It shows that the EU27 has seen a significant rise in import market share in one product in which the US share has substantially declined: internal combustion engines (HS 8407). It also shows substantial growth in the import share of medicaments (HS 3004) and tractors (HS 8701) where the import share of the US has remained stagnant. Here again, there is a negative correlation between the change in US and EU27 import market shares for the fifteen most important import categories from the US.

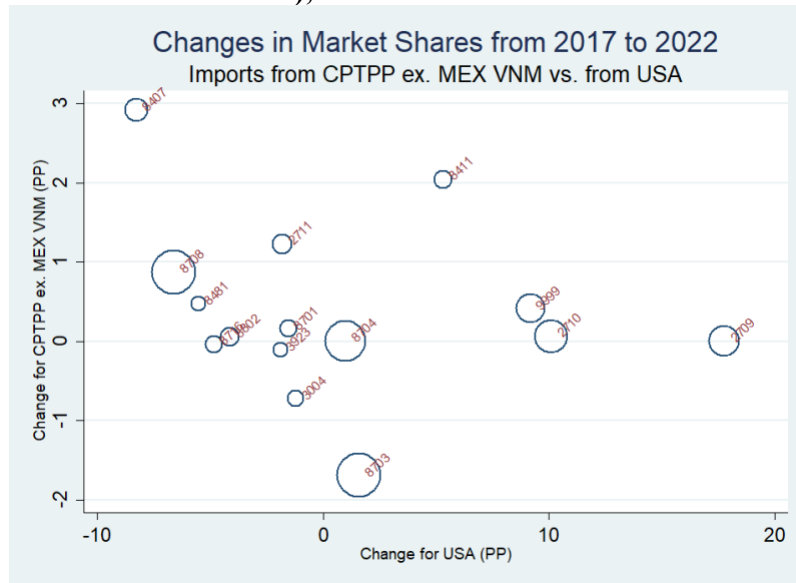
Figure 11: Changes in Canada's import market share, U.S. & EU27, 2017-2022



Data source: UN comtrade

Finally, Figure 12 replaces CPTPP (excl. Mexico and Vietnam) on the Y axis. It shows that CTPP has seen a significant rise in import market share in two products in which the US share has declined: internal combustion engines (HS 8407), parts and accessories of motor vehicles (HS 8708). Here again, there is a negative correlation between the change in US and CPTPP (excl. Vietnam and Mexico) import market shares for the fifteen most important import categories from the US.

Figure 12: Changes in Canada's import market share, U.S. & CPTPP (excl. Mexico and Vietnam), 2017-2022



Data source: UN Comtrade

We conduct econometric analysis to study these patterns even further. Table 5 reports these regression results. We have grouped the alternative import locations as follows in successive columns: (1) EU27; (2) Mexico; (3) CPTPP (excl. Mexico and Vietnam); (4) UK; (5) China; (6) Vietnam; and (7) the rest of the world. Columns 1 and 3 imply that the share of Canadian imports from EU27 and CPTPP (ex. Mexico and Vietnam) indeed rose disproportionately for products that saw lower growth in the share imported from the US, suggesting a potential role of recent free trade agreements. Column (5) suggests a similar substitution effect between the US and China, which could be attributed to the Sino-US trade war.

Table 5: Regressions of changes in Canadian import shares at the HS4 product level

	(1) EU27	(2) MEX	(3) CPTPP ex. MEX VNM	(4) UK	(5) CHN	(6) VNM	(7) ROW
Change for US	-0.133* (-1.91)	-0.017 (-0.45)	-0.133* (-1.84)	0.038 (0.65)	-0.158** (-2.36)	-0.011** (-2.55)	-0.178** (-2.29)
Lagged change for EU27	-0.428*** (-3.17)						
Lagged change for MEX		-0.161** (-2.19)					
Lagged change for CPTPP ex. MEX VNM			-0.216 (-1.28)				
Lagged change for GBR				-0.313* (-1.71)			
Lagged change for CHN					-0.161 (-1.12)		
Lagged change for VNM						0.450* (1.94)	
Lagged change for ROW							0.119 (1.00)
Constant	0.001 (0.30)	-0.000 (-0.32)	-0.008*** (-3.82)	-0.005*** (-2.78)	0.014*** (5.12)	0.002*** (5.58)	0.004 (1.43)
HS2 fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.23	0.13	0.27	0.37	0.23	0.18	0.39
Observations	1219	1219	1219	1219	1219	1219	1219

Based on HS4 product-level trade data from UN Comtrade. Estimated is by weighted least squares with HS2 fixed effects, with the 2017 value of Canadian imports from US for the respective HS4 products as weights. The sample is restricted to the top 300 HS4 products by value in 2017 imports from the US. Standard errors are clustered by HS2 codes; ***, **, and * denote significance at the 1%, 5% and 10% levels respectively.

Table 6 introduces interaction terms to investigate some of the drivers of the substitution effects between US versus EU27 and US versus CPTPP (excl. Mexico and Vietnam). The substitution effect between the import share of US and EU27 is higher in downstream products and in less labor-intensive industries. In contrast, for CPTPP (excl. Mexico and Vietnam), the substitution effect is higher in upstream products and more labor-intensive industries.

Table 6: Regressions of changes in Canadian import shares with interaction terms

	(1) EU27	(2) EU27	(3) EU27	(4) EU27	(5) CPTPP (excl. MEX & VNM)	(6) CPTPP (excl. MEX & VNM)	(7) CPTPP (excl. MEX & VNM)	(8) CPTPP (excl. MEX & VNM)
Change for USA	-0.561*** (-2.77)	-0.254*** (-3.48)	-0.452** (-2.66)	-0.772** (-2.66)	0.144 (1.03)	-0.173 (-1.38)	-0.152 (-0.90)	0.258 (1.57)
Lagged change for EU27	-0.496*** (-3.09)	-0.440** (-2.54)	-0.464** (-2.69)	-0.475*** (-2.77)				
Lagged change for CPTPP					-0.266 (-1.52)	-0.220 (-1.20)	-0.226 (-1.22)	-0.255 (-1.51)
Upstreamness	0.005 (1.22)			0.001 (0.15)	0.001 (0.33)			0.001 (0.24)
USA Change x Upstreamness	0.131* (1.87)			0.144** (2.16)	-0.133* (-1.92)			-0.200** (-2.45)
Labor share		0.009 (0.17)		-0.018 (-0.39)		-0.039 (-1.11)		-0.019 (-0.44)
USA Change x Labor share		0.352 (1.04)		0.802* (1.94)		-0.346 (-0.63)		-0.973* (-1.91)
U.S. tariff			0.002*** (3.80)	0.001* (1.87)			-0.000 (-0.59)	0.000 (0.31)
USA Change x Tariff			0.011 (1.47)	0.003 (0.52)			-0.003 (-0.42)	0.009 (1.07)
Constant	-0.011 (-1.25)	0.000 (0.04)	-0.035*** (-3.64)	-0.023** (-2.62)	-0.010 (-1.42)	-0.005 (-1.20)	-0.001 (-0.04)	-0.013 (-0.93)
HS2 fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.23	0.19	0.23	0.25	0.40	0.34	0.34	0.42
Observations	282	282	282	282	282	282	282	282

Based on HS4 product-level trade data from UN Comtrade. Estimated is by weighted least squares with HS2 fixed effects, with the 2017 value of Canadian imports from US for the respective HS4 products as weights. The sample is restricted to the top 300 HS4 products by value in 2017 imports from the US. Standard errors are clustered by HS2 codes; ***, **, and * denote significance at the 1%, 5% and 10% levels respectively.

Table 7 finally conducts a similar analysis for China and Vietnam. The analysis finds little evidence that upstreamness, labor share, trade war tariffs influenced the substitution effect between the import share of the US and China. It also provides some evidence that the substitution effect between the US and Vietnam is larger in downstream products.

Table 7: Regressions of changes in market shares with interaction terms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CHN	CHN	CHN	CHN	VNM	VNM	VNM	VNM
Change for USA	-0.494** (-2.16)	-0.177 (-1.56)	-0.369 (-1.65)	-0.500 (-1.44)	-0.030 (-1.22)	-0.022 (-1.45)	0.007 (0.24)	-0.041 (-0.89)
Lagged change for CHN	-0.214 (-1.12)	-0.194 (-1.01)	-0.181 (-0.96)	-0.203 (-1.00)				
Lagged change for VNM					0.649*** (3.55)	0.670*** (3.96)	0.648*** (3.68)	0.659*** (3.89)
Upstreamness	0.007* (1.77)			0.007* (1.80)	-0.001 (-1.42)			-0.001 (-0.96)
USA Change x Upstreamness	0.098 (1.42)			0.099 (1.11)	0.006 (0.70)			0.020* (1.74)
Labor share		-0.017 (-0.23)		-0.033 (-0.58)		-0.011 (-1.27)		-0.012 (-1.43)
USA Change x Labor share		-0.398 (-0.61)		-0.053 (-0.08)		0.055 (0.81)		0.122 (1.23)
U.S. tariff			0.001 (1.21)	0.000 (0.05)			-0.000 (-0.70)	-0.000 (-0.67)
USA Change x Tariff			0.006 (0.73)	0.001 (0.05)			-0.001 (-0.64)	-0.002 (-1.37)
Constant	-0.002 (-0.23)	0.016 (1.65)	0.000 (0.03)	0.001 (0.12)	0.005*** (2.89)	0.004*** (3.03)	0.004 (1.39)	0.008* (1.96)
HS2 fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.25	0.23	0.23	0.24	0.16	0.16	0.16	0.16
Observations	282	282	282	282	282	282	282	282

Based on HS4 product-level trade data from UN Comtrade. Estimated is by weighted least squares with HS2 fixed effects, with the 2017 value of Canadian imports from US for the respective HS4 products as weights. The sample is restricted to the top 300 HS4 products by value in 2017 imports from the US. Standard errors are clustered by HS2 codes; ***, **, and * denote significance at the 1%, 5% and 10% levels respectively.

In sum, our analysis shows that, at the product level, the US competes with the EU27 and CPTPP (excl. Vietnam and Mexico) in terms of direct sourcing to serve the Canadian market. For the EU27, we find that this competition is especially large in downstream products and in less labor-intensive industries. In contrast, for CPTPP (excl. Mexico and Vietnam), the substitution effect is higher in upstream products and more labor-intensive industries.

5. IS THE ORIGIN OF VALUE ADDED IN CANADA'S FINAL DEMAND RECONFIGURING?

Besides asking the question if Canada's direct sourcing has been reconfiguring since 2017, it is also instructive to pose the question if Canada has reduced its overall dependence on its two major trading partners through global supply chains. In this section, we rely on the OECD's Trade in Value Added (TiVA) Database to conduct this analysis.²³ The advantage

²³ [OECD Data Explorer • Trade in Value Added \(TiVA\) 2023 edition: Principal Indicators](#)

of this dataset is that it allows us to examine the contribution of different countries and industries to the value added in the final products consumed or used in domestic final demands. For example, we can identify what percentage of the value added in computers that are consumed in Canada were made in China and Vietnam. A downside of this dataset, however, is that it only runs until 2020, thus preventing us to analysis the post-pandemic period.

Table 8 describes which countries have contributed most to the value added that goes into Canadian aggregate final demand, which includes both goods and services. It is important to note that it also considers Canada as a potential contributor to value added for its own final demand. Unsurprisingly, the table shows that Canada is the most important contributor to its own final demand, with 77,0% of the value added that goes into Canadian final demand being generated locally. This share has increased from 74,4 percent in 2002, which suggests a slight localization of global supply chains. The US is the second most important contributor, with 10,2% of value added in Canada's final demand 2020, which is down from 14,5% in 2002. China's share has increased from 0,9% to 3,4% over the same time period, whereas the EU27's share has remained stable at 2,9%.

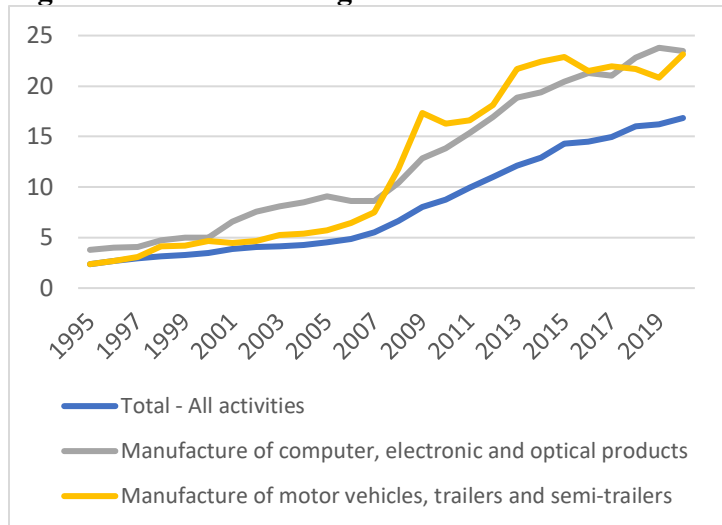
Table 8: origin of value added in Canadian final demand, share, various countries (2002-2020)

	2002	2007	2012	2017	2018	2019	2020
Value Added (bn US\$)	697,35	1375,34	1784,84	1607,73	1678,98	1693,28	1611,85
CUSMA	89,5	88,3	88,0	88,1	87,5	87,8	88,0
Canada	74,4	76,0	76,4	75,5	75,0	75,5	77,0
United States	14,5	11,6	10,8	11,7	11,6	11,4	10,2
Mexico	0,6	0,7	0,8	0,9	0,9	0,9	0,8
CETA (EU27)	2,9	3,0	2,6	3,0	3,3	3,2	2,9
Germany	0,7	0,8	0,8	0,8	0,9	0,8	0,8
Italy	0,5	0,4	0,3	0,4	0,4	0,4	0,4
France	0,6	0,5	0,4	0,4	0,4	0,4	0,3
Netherlands	0,2	0,2	0,2	0,2	0,2	0,2	0,2
CPTPP (excl. Mexico)	1,9	1,8	1,6	1,5	1,5	1,5	1,4
Japan	1,3	1,1	0,9	0,8	0,8	0,8	0,8
Viet Nam	0,0	0,0	0,1	0,1	0,1	0,1	0,2
OTHER	5,7	6,9	7,8	7,4	7,7	7,5	7,7
China	0,9	1,9	2,5	3,0	3,0	3,1	3,4
United Kingdom	1,0	0,8	0,6	0,5	0,6	0,5	0,5
Korea	0,4	0,4	0,4	0,4	0,5	0,4	0,5
India	0,1	0,2	0,3	0,4	0,4	0,4	0,5
Taiwan	0,3	0,3	0,2	0,3	0,2	0,2	0,3
Switzerland	0,2	0,2	0,3	0,3	0,3	0,3	0,3
Brazil	0,2	0,2	0,2	0,2	0,2	0,2	0,2

Data source: OECD Trade in Value Added Dataset

Figure 13 zooms further in by looking at China's share in the foreign value added that goes into Canadian final demand. This figure excludes any value added that is generated within Canada, thus explaining the significantly larger shares for China. The line at the bottom in blue shows that China's foreign value added share in Canadian final demand has increased from about 2 percent in 1995 to almost 17 percent in 2020. The lines in grey and yellow illustrate that the share has increased even more in the electronics and automotive industry, where China now is responsible for almost a quarter of foreign value added in Canadian final demand. There is some evidence that China's foreign value added share may have reached a plateau in the automotive industry, a critical sector for both Canada and Ontario, perhaps partially due to the more stringent rules of origin for automobiles in CUSMA. In electronics, however, China's share has kept on rising.

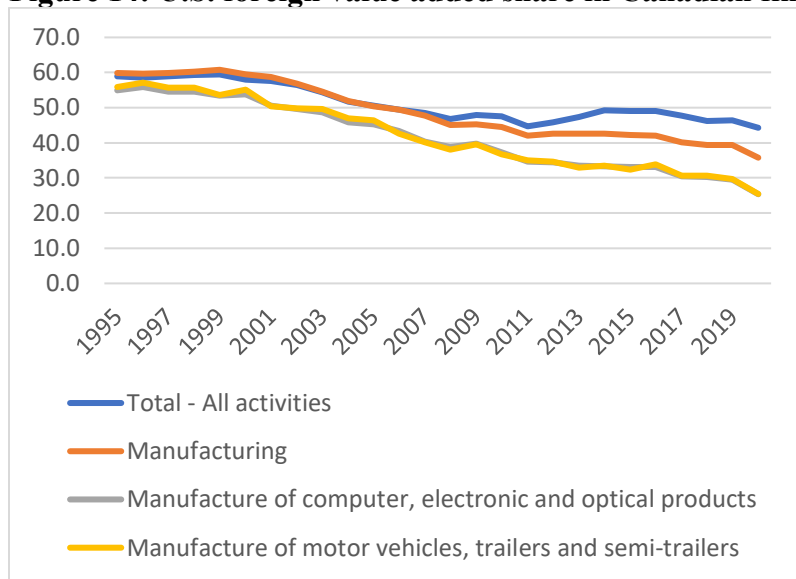
Figure 13: China's foreign value added share in Canadian final demand, 1995-2020



Data source: OECD Trade in Value Added Dataset

Figure 14 shows that the foreign value added share of the US in Canadian final demand has continued to drop between 1995 and 2020. The drop was particularly large in the electronics and automotive industry where the US foreign value added share has dropped to about the same level as that of China.

Figure 14: U.S. foreign value added share in Canadian final demand, 1995-2020



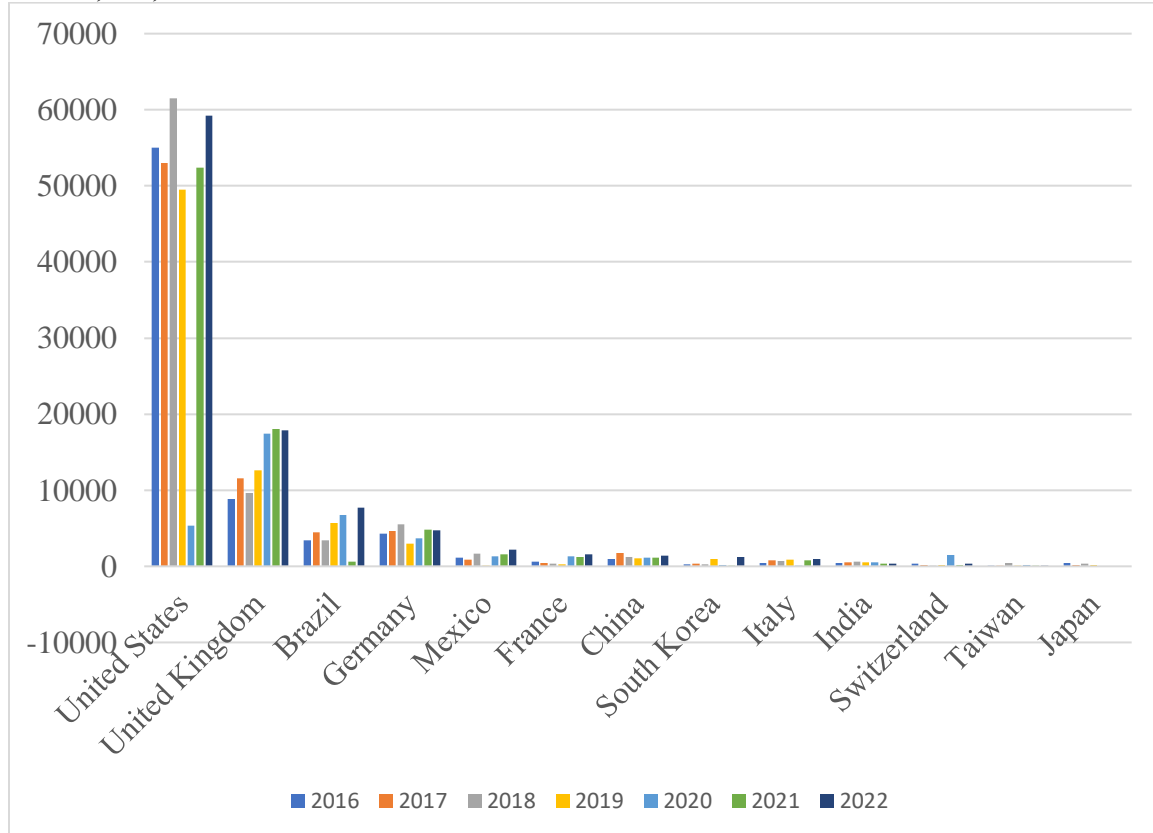
Data source: OECD Trade in Value Added Dataset

6. DOES CANADIAN FOREIGN DIRECT INVESTMENT POINT AT FUTURE RECONFIGURATIONS?

In this section, we finally focus on key developments in the pattern of Canadian foreign direct investment (FDI) during the period 2017-2022 to see if they may provide further insights into the global supply chains that serve the Canadian market. For this purpose, we focus on FDI in the manufacturing sector. Specifically, we investigate recent trends in Canadian outward FDI to see if there is a change in appetite by Canadian manufacturing firms to invest in China relative to other low-wage countries or to invest in the US relative to the EU27 and CPTPP. In addition, we analyze Canadian inward FDI data to see if countries have been increasing their investment in Canada's manufacturing sector.

Figure 15 provides few new insights that might buttress the notion that Canadian outward FDI is supporting a Great Reallocation away from China or the US in the manufacturing sector. Between 2016 and 2022, FDI to the US and China have remained relatively stable. Canadian outward manufacturing FDI has substantially increased to the United Kingdom, despite the country leaving the European Union and the CETA agreement.

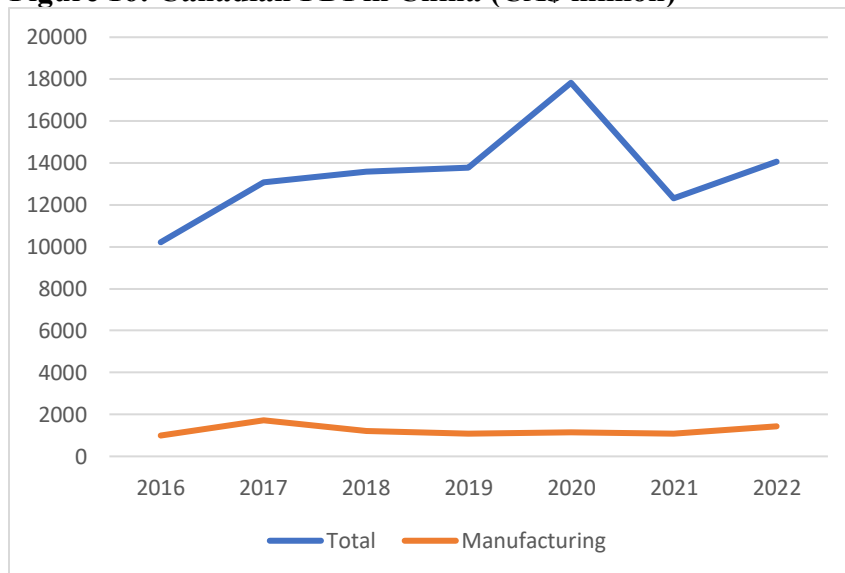
Figure 15: Canadian outward FDI in manufacturing, various countries, 2016-2022, CA\$ 1,000,000



Data source: Statistics Canada

Figure 16 shows that Canada's outward FDI to China shows resilience not only in manufacturing but also in overall FDI.

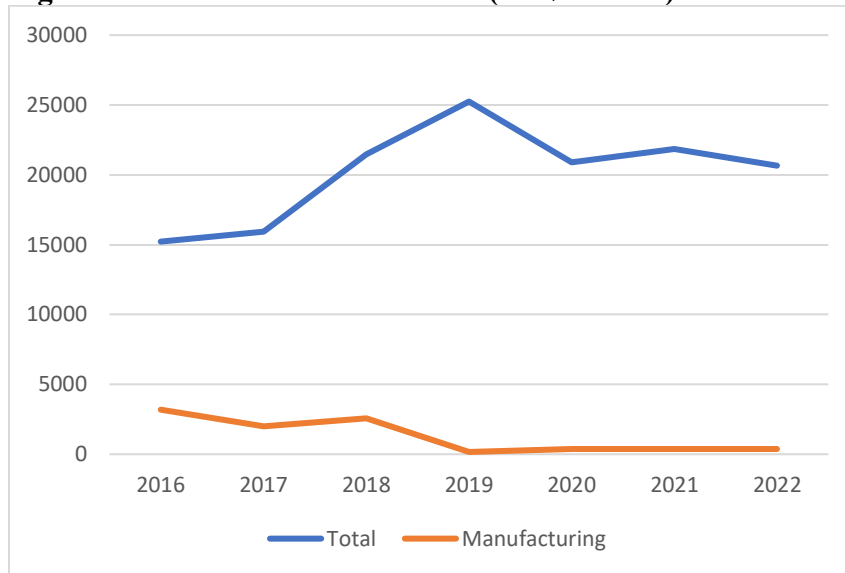
Figure 16: Canadian FDI in China (CA\$ million)



Data source: Statistics Canada

Figure 17 shows that there is little evidence of Canadian inward FDI from China picking up in recent years.

Figure 17: Chinese FDI in Canada (CASH million)



Data source: Statistics Canada

In sum, Canadian inward and outward FDI show little evidence that Canadian outward FDI is significantly being reallocated away from China to other low-wage countries.

7. POLICY IMPLICATIONS

There are a few direct policy implications of our analysis. The first is that the global supply chains that serve Canadian and Ontarian markets have shown great resilience in a world that many consider to be geoeconomically fractured. In contrast to the US, which has seen a “Great Reallocation” in its imports away from China towards the low-wage countries Mexico and Vietnam, we find that China’s share of Canadian and Ontarian imports has if anything increased during the period 2017-2022. We attribute this to Canada’s less aggressive trade policy stance against China compared to our Southern neighbor, which has allowed Canada’s business transactions with its second largest trade partner to continue despite growing geopolitical tensions. This finding serves as a warning against blindly interpreting business trends in the US to automatically apply to Canada. It also implies that we need to avoid loose talk about de-globalization and decoupling from China without a clear-eyed look at the facts.²⁴

The second is that there are clear substitution effects in the configuration of Canada’s direct imports with its major trading partners. We find that the import shares of Vietnam and Mexico have disproportionately grown in labor-intensive industries where China’s import

²⁴ See also the recently published 2024 DHL Global Connectedness Index that makes a similar point: [DHL Global Connectedness Report - Delivered - Global](#)

share growth has been lowest. Our analysis suggests that this is largely the result of China growing out of final assembly; there is little indication that this is driven by geopolitical tensions. Along similar lines, we find that the import shares of the EU27 and CPTPP (excluding Mexico and Vietnam) has disproportionately grown in those industries where US import share growth has been lowest. We attribute this to the impact of the CETA and CPTPP agreements which has increased the competitiveness of these regions compared to the US in the Canadian market. Our result acts as a warning sign that the recent decision of the French senate to reject the ratification of CETA may have important repercussions on the supply chains that serve the Canadian and Ontarian market if it would unravel the EU-Canada trade agreement.

A third result is that Canada's overall dependence on Chinese value added in global supply chains has been increasing between 2002 and 2020, whereas its dependence on US value added has been declining. This highlights the importance that China continues to play for the Canadian and Ontarian markets even as it moves out of final assembly. It also demonstrates the risks and difficulties for Canada of trying to decouple its global supply chains from China.

Fourth, our analysis of Canada's foreign direct investment data provides little indication that Canada is substantially reconfiguring its outward foreign direct investment in light of recent geopolitical tensions. China's investment in Canada has also remained relatively stable despite more arduous screening by the Canadian government.

Overall, these results suggest that, as of yet, there is little evidence that the global supply chains that serve the Canadian and Ontarian markets have been reconfiguring despite reports that the global economy is geo-economically fracturing. This may suggest that today's global supply chains that serve the Canadian and Ontarian market operate in China to access capabilities that are difficult to replicate. They are not simply there for cheap labor.

It remains an open question whether the resilience of these existing global supply chain configurations will continue in the future. The Canadian and Ontarian governments as well as many companies have been working to de-risk global supply chains, and the reconfigurations that result from these efforts may take several years to materialize. Evidence-based analysis and fact-based debates are necessary to monitor the emergence of Great Reallocations and analyze the repercussions.

We also need to carefully consider future regional risks that the current configuration of global supply chains may instigate, especially considering the US Presidential elections this November. A trend that we have hinted to in our analysis is that at least some Chinese firms have reacted to the Sino-US trade war by reallocating their exports to Canada to circumvent tariffs for their sales in North American markets. This combined with America's reduced import market share in Canada could help convince presidential candidate Donald Trump to take a more protectionist stance against Canada in its trade relations, should he win the election.