

Quantifying Canada-European Union Merchandise Trade Between 2005  
and 2020 - Has Canada Diversified its Export Trade?



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## Abstract

The European Union (EU) is Canada's strategic partner, and they share a strong bilateral trade relationship. This is the result of multiple internal and external factors. Moreover, many political and economic events happened between 2005 and 2020, which influenced the development of this bilateral trade. These include the EU enlargement, the financial crisis of 2007–2008, Brexit, the negotiations, and implementations of the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), as well as the global COVID-19 pandemic. This major research paper aims to document and analyze how Canada-EU merchandise trade has evolved within this broad and dynamic context, with a particular focus on the development of Canada's export diversification in the EU from 2005 to 2020. It also offers a scenario where the United Kingdom's (UK's) data are removed from the EU and observes how the export diversification would change. A concentration index known as the Herfindahl-Hirschman index is used as a metric of the diversification of Canadian exports. Diversification is measured by geographical distribution and by product.

It concludes that while Canada-EU merchandise trade keeps expanding, Canadian exports have remained moderately concentrated. This means they are dominated by a few principal trading partners and products, although exports are more diversified by product than by geography. Furthermore, due to high trade volumes between Canada and the UK, the removal of the UK's trade data in the scenario will decrease the overall trade volumes but increase Canada's export diversification in the EU. The two policy solutions for improving export diversification are to enhance SMEs' support in export markets, particularly those trading with the EU, and fine-tune Canada's trade diversification strategy to the EU market features.

## Chapter 1 – Introduction

Canada and the European Union (EU) have been maintaining a strong trade relationship, and the EU is Canada's second most important trading partner, after the United States (US). This cross-Atlantic trade relationship is influenced and shaped by their shared values and practices, as well as internal and external challenges and context.

From 2005 to 2020, many political, economic, and social events happened, which shaped the environment of Canada-EU bilateral trade. They include the EU enlargement (Bulgaria and Romania in 2017; Croatia in 2013); the financial crisis of 2007-2008; Brexit; the negotiation and the provisional implementation of the third-generation trade deal - Canada-European Union Comprehensive Economic and Trade Agreement (CETA); and the COVID-19 pandemic. The reasons for setting the timeframe from 2005 to 2020 will be explained in the following chapter.

This major research paper investigates the merchandise trade development between the two economies from 2005 to 2020, with a focus on the evolvement of Canada's export diversification in the EU market. To do so, three smaller themes are explored: export geographical diversification, export product diversification, and a scenario about Canada's destination-product diversification with the UK's trade data being removed from the EU. The objective is to provide a descriptive analysis of how Canada's export diversification evolves for the past 15 years, and how it looks like without the UK's trade data. This is because the UK has left the EU market, and it would be interesting to have some projections for the future development of Canada's export diversification in the EU. The theoretical framework provides insights regarding the definition of export diversification, its benefits, as well as the non-linear relationship between export diversification and economic development. The method used to measure diversification level is the Herfindahl–Hirschman Index.

Canadian merchandise exports are the fourth most concentrated when compared to other countries, after Kuwait, Bermuda, and Mexico (Global Affairs Canada, 2021), largely due to its heavy reliance on its southern neighbor for merchandise exports (Martin, 2020). It is Canada's national imperative to diversify its export portfolio.

Export diversification can benefit long-term economic gains and gross domestic product (GDP) growth, and it can hedge against economic shocks in particular regions and products, which is concluded by multiple empirical investigations and analyses (Ali et al., 1991; Hesse, 2009; Cadot et al., 2013; McIntyre et al., 2018). This is essential for countries with high export instability, such as those who rely on one or few trading partners for exports, and those whose export portfolio is dominated by a small number of products. However, it is equally important to note that export diversification and economic development do not always have a positive linear relationship. In fact, some analyses have shown that there is a tendency for countries to reconcentrate export after reaching a certain level of GDP per capita (Klinger & Lederman, 2006; Cadot et al., 2011).

While much academic literature related to export diversification provides insights on how developing countries and emerging markets could diversify their export, some developed economies also face similar dependence issues, such as Hong Kong with its reliance on China or New Zealand which depends on Australia. This major research paper provides a unique perspective on Canada's export diversification and its involvement in the EU.

Stepping out of the North American market and expanding Canada's exports elsewhere, the EU is a good place to start. While emerging and rapidly growing markets offer more potentials and room for export diversification, it is important to assess and maintain the long-lasting stable relationship and trade practice between Canada and the EU, which is deepened by the

implementation of CETA. Moreover, events such as economic downturns, Brexit and the global pandemic still pose challenges to this bilateral trade.

Three steps will be taken to explore whether Canada has diversified its export in the EU – the performance of geographical diversification, product diversification, and how the future of export diversification would be like, given the UK has left the EU market. Based on the data from Statistics Canada's Canadian International Merchandise Trade, the paper adopts the Herfindahl-Hirschman Index to measure the diversification level (or concentration ratio). It concludes that since 2005, Canada's export has been moderately concentrated, meaning that compared to having equal shares of exported merchandise to all the EU member states, both geographical diversification and product diversification having been dominated by some major trading partners (the UK, Germany, the Netherlands, and France), and metal and non-metallic mineral products.

This major research paper takes the comparative analysis approach, and the rest of it is organized as follows. Chapter 2 provides background information about the Canada-EU trade relationship. It is followed by a theoretical framework in Chapter 3 discussing the definition, benefits, and stages of export diversification with empirical evidence from some developed and developing countries. To observe through the lens of data, before analyzing Canada's export diversification in the EU, Chapter 4 presents the data sources and compares the development of Canada's overall international trade, and trade with the EU. Within this context, Chapter 5 talks about the methods used to measure trade diversification and presents export diversification by geography and by product using line charts, with a comparison to import diversification. It also provides a scenario of trade diversification without the UK as a member state of the EU, to have a projection of Brexit on the trade diversification. The paper ends with a discussion of the results, offers some policy solutions, and concludes.

## Chapter 2 – Background

The partnership of Canada and the EU has been getting closer. This is the outcome of their similarity and the external international context.

Canada and the EU share a mutual understanding of their relations. For Canada, the EU is a strategic partner (Government of Canada, 2021a), and for the EU, Canada is one of its closest partners (European External Action Service, 2019). What underpins this recognition are the shared values, the commitment to democratic principles and the rules-based international order, long-lasting close cooperation on diverse policy fronts, as well as strong people-to-people connections.

Their partnership can be traced back to 1959 when Canada and European Atomic Energy Community formed the Agreement for Cooperation in the Peaceful Uses of Atomic Energy, through which they agreed to work together to promote peaceful uses of atomic energy. Before the creation and negotiation of the unprecedented trade deal - CETA, the two partners have signed many other agreements, which laid the foundation for a close and substantial relationship. These include the Bilateral Framework Agreement for Commercial and Economic Cooperation in 1975, Transatlantic Declaration in 1990, Joint Canada-EU Political Declaration and Action Plan in 1996, and Canada-EU Partnership Agenda in 2004 (EU Learning, n.d.).

Focusing on international relations, the strong and sustainable partnership with the EU seems more important than ever. First off, the EU has unique market characteristics from which Canada can benefit. The EU is the world's largest single market and is one of the most outward-oriented economies (European Union, n.d.). With the EU's commitment to an open and fair worldwide trade, their share of merchandise trade in GDP has considerably expanded from 27.9% in 1960 to 72.6% in 2019 (World Bank, n.d.).

Furthermore, the outcome of the G7-summits in Canada in June 2018 demonstrates that multilateral cooperation in the G-format is strongly contested. In Canada's 2018 G7 Presidency, Justin Trudeau's administration proposed five major topics: Investing in growth that works for everyone, preparing for jobs for the future, advancing gender equality and women empowerment, working together on climate change, oceans and clean energy, and building a more peaceful and secure world. The theme of economic cooperation for growth is directly linked to currently politically contested foreign affairs (Stanzel, 2018). The challenging conflicts in international trade and the chaos caused by Donald Trump's presidency give new importance to the "alliance for multilateralism" (Brenner, 2016).

Indeed, international relations among states are getting more intense in recent years. There is a fundamental shift in economic power towards the East. China, India, and other Asian countries are the economic powers on the rise, with China and India becoming major trading powers. While the West is losing its economic hegemon, the four-year Trump administration severely deteriorated the core values of liberal democracy, rule-based international world order, and the relationships among western allies. This also poses challenges to Canada-US relations. The 2007-2008 global financial crisis revealed the US' vulnerability and intensified Canada's need to diversify its economy in other regions.

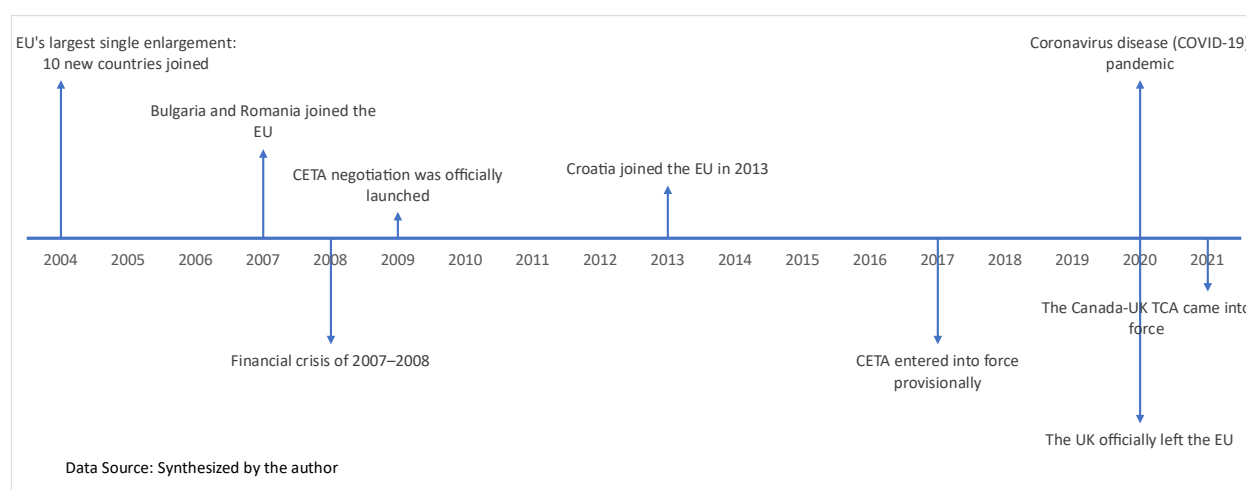
While the North American market has been highly integrated, Canada as a middle-power can still find other avenues to reduce its reliance on neighboring America as an export market. The US is not only the main customer to Canada but also a critical logistical hub for Canadian businesses (Martin, 2020). Merchandise trade with the US accounts for almost 70% of Canada's total international trade in 2018 and 2019. Although dropping a bit, trade with the US still took up 66.8% in 2020. Among them, the percentage of all exports that went to the US averaged 73.4%

for the past three years<sup>1</sup>. This dependency means that any disruption in economic activities in the US could dramatically affect the Canadian economy. Moreover, the rising protectionism does not vanish with the end of Trump’s administration, since Biden is an economic nationalist who promotes the “Buy-American” campaign. American nationalism will be subtle, but still, it will persist (Strain, 2020). It is time to discuss Canadian’s export strategy to reach a greater export diversification while strengthening the trade relationship with the US.

The renewed fears of being too dependent on NAFTA and the active support of the provinces, which have jurisdiction in areas important to the EU such as procurement and domestic regulation, also have encouraged new political players in Ottawa and Brussels to the table (Drache & Trew, 2011). After years of negotiations, CETA creates opportunities for Canada to increase its exports to the other side of the Atlantic, along with other benefits such as generating growth and jobs at home, creating a level playing field in Canada for EU companies, as well as lowering prices and widening choice for consumers on both sides of the Atlantic (European Commission, 2016a).

## Figure 1

*Timeline for major events happened from 2004 to 2021*



<sup>1</sup> Numbers calculated by the author using data from Statistics Canada. [Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly \(x 1,000,000\)](#)

This timeline contains major economic and political events happened to Canada and the EU from 2004 to 2021. It helps to follow these events and position Canada-EU bilateral trade more easily and straightforward.

## 2.1 Canada-EU Trade at a Glance

While the cooperation between Canada and the EU covers a wide range of policy priorities, this major research paper focuses on the economic and trade relationships between the two partners from 2005 to 2020.

The EU is Canada's second-biggest trading partner after the United States. From 2018 to 2019, Canada expanded its exporting goods from \$46.6 billion to \$49.8 billion, with a growth rate of 6.9%. Canada's merchandise import from the EU also increased by 4.1%, from \$63.6 billion to \$66.2 billion<sup>2</sup>. In 2020, Canada was the 10th largest partner for the EU exports of goods (1.7 %) and the 16th largest partner for EU imports of goods (1.2%) (Eurostat, 2021).

There are several reasons why the author chooses 2005 as the beginning of the time frame. Primarily, this is to make sure the annual merchandise trade data are more comparable. On May 1<sup>st</sup>, 2004, the EU has its largest enlargement in terms of territory, the number of states, and population. Ten new countries that joined the EU are Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovakia and Slovenia (European Commission, 2020). Starting the comparison from 2005 can lessen the impact of enlargement on the annual trade statistics. Bulgaria and Romania joined the EU in 2007, and Croatia in 2013, but they have moderate trade relations with Canada (Embassy of Canada to Romania, the Republic of Bulgaria and the Republic of Moldova, 2020). Canada's merchandise trade with Bulgaria, Romania and Croatia trade totaled

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<sup>2</sup> Numbers calculated by the author using data from Statistics Canada. [Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly \(x 1,000,000\)](#)

\$412.4 million, \$694.7 million and \$268.7 million respectively in 2018. Therefore, with these three new EU member states joining in the 2005-2020 timeframe, it will not cause a tremendous shift in the overall Canada-EU merchandise, mainly due to the size of the trade volume between Canada and these three new member states.

Nevertheless, enlargement is not the only variable influencing the trade dynamic of the two entities. Another reason is that the 2005-2020 time frame also covers many social, political and economic events which have significant impacts on Canada and the EU's international trade. Examples are the 2007-2008 financial crisis, the negotiations and the current provisional implementation of CETA, Brexit, as well as the global pandemic since early 2020. The following two sections will unfold more details for CETA and Brexit. The impact of the financial crisis and the COVID-19 pandemic on Canada-EU trade will be analyzed in the data analysis section in Chapter 4.

## **2.2 CETA**

CETA has gained much attention from academia, business communities and policy-making institutions. The objective of CETA is to increase bilateral trade and investment flows and contribute to growth in times of economic uncertainty. This is also in line with the strategies of the two partners to boost growth through external competitiveness and participation in open and fair markets worldwide (European Commission, 2016b).

The initial causes of Canada's decision to negotiate CETA were two external shocks of 2006: the suspension of the Trade and Investment Enhancement Agreement (TIEA) between Canada and the EU, and the failure of the WTO's Doha trade round. On June 4<sup>th</sup>, 2007, at the EU-Canada Summit in Berlin, Canadian Prime Minister Stephen Harper, German Chancellor as well

as then EU president Angela Merkel and European Commission President José Manuel Barroso announced in a joint statement their agreement to study the prospects of a closer Canada-EU economic partnership (Wang, 2017). On October 17<sup>th</sup>, 2008, Canada and the EU published a joint report “Assessing the costs and benefits of a closer EU-Canada economic partnership”. It concludes that a “stronger, ambitious and balanced economic partnership” would create mutual benefits through a maximum degree of liberalization (Global Affairs Canada, 2009).

On June 10<sup>th</sup>, 2009, Canada announced its decision to include provinces in CETA negotiations, towards an agreement in principle (Organization of American States, 2013). Immediately after signing the agreement in principle, Canada began technical negotiations with the EU towards a final text. After speedy negotiations between 2013 and 2014, on August 5<sup>th</sup>, 2014, the final text for CETA was reached (Global Affairs Canada, 2018b). In October 2016, Canada and the EU signed the historic trade agreement during EU-Canada Summit. The European Parliament approved CETA in February 2017 followed by the Canadian bill implementing CETA being granted royal assent in May 2017. CETA entered into force provisionally on September 21<sup>st</sup>, 2017 (Global Affairs Canada, 2018a).

Both Canada and the EU have published reports showcasing the economic benefits brought by CETA. These include the visible increase of bilateral merchandise trade in 2018 and 2019 (Government of Canada, 2018a). In September 2018, the European Commission published an initial analysis of the first year of provisional application of CETA. According to the Commission, overall, EU exports to Canada increased by 7.0% year on year from October 2017 to June 2018. The highest proportional increases in the very first months of CETA application (from October 2017 to June 2018), when exports of machinery and mechanical appliances, pharmaceuticals, furniture, perfumes/cosmetics, footwear and clothing led the growth (European Parliament, 2019).

On Canada's side, in the 21 months since CETA's provisional application, Canadian merchandise exports to the EU have grown by \$6.5 billion (9.1%) to a total value of \$77.6 billion. (Trade Commissioner Service, 2020c).

### **2.3 Brexit and the Trade Continuity Agreement**

During years of negotiations and finalization of CETA, another event that has impacts on the future trajectory of Canada-EU trade is Britain's decision to leave the EU, which is also referred to as Brexit. The UK is an important trade partner to Canada - it was Canada's third-largest destination for merchandise exports worldwide as a single country in 2019 (Government of Canada, 2020b). When it was still a member state of the EU, the UK is the largest destination for Canadian merchandise exports and the second-largest market for Canadian merchandise imports, after Germany. Moreover, merchandise trade between Canada and the UK represented 30.1% of total Canadian trade with the EU between 2017 and 2019<sup>3</sup>.

However, the UK officially left the EU on January 31<sup>st</sup>, 2020, and CETA ceased to apply to Canada-UK trade on January 1<sup>st</sup>, 2021. To avoid a gap in preferential trade access into each other's markets, Canada and the UK negotiated a trade continuity agreement - the TCA - that provides Canadian exporters, services providers, and farmers with continued preferential access to the UK market carried over from CETA. The Canada-UK TCA came into force on April 1<sup>st</sup>, 2021 (GOV.UK, 2020). It replicates CETA on a bilateral basis; therefore, it is meant to maintain the status quo in the Canada-UK trade relationship. While efforts have been made to ensure a transition that is as seamless as possible for Canada-UK trade, it will still shift the dynamic of Canada-EU trade, especially with the focus on Canada's trade diversification in the EU.

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<sup>3</sup> Numbers calculated by the author using data from Statistics Canada. [Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly \(x 1,000,000\)](#)

### **Chapter 3 – Theoretical Framework: Is More Export Diversification Necessarily Better?**

There are many different layers and nuances in discussions of export diversification. This major research paper takes an aggregated approach, where it categorizes export diversification by geography (or destination) and by product, on the national level only. Following the discussion on the definition of export diversification, section 2 explores its benefits. However, export diversification does not always have a positive linear relationship with economic growth, and section 3 talks about this non-monotonic relationship. The following section introduced several empirical cases.

This major research paper chooses the EU and its member states as the destinations for Canada's export diversification. Although many people suggest developed economies diversifying export in emerging markets is more efficient due to their demand, export diversification is also determined by the geographic, economic, and political factors (Amurgo-Pacheco, 2007; Hesse, 2009).

#### **3.1 Different Types of Export Diversification**

Economic theories do not always promote trade diversification. Based on Adam Smith's concept towards the division of labour and specialization for economic growth (Borland & Yang, 1995), countries should specialize in producing and specializing in the goods in which they have a comparative advantage (Deardorff, 2011). However, after the Second World War, the idea altered that economic growth and development may be achieved by export diversification (Beaulieu & Yang, 2015).

Export diversification is a change in a country's export composition in terms of its existing product mix or export destinations (Ali et al., 1991). It is the process of a country offering a wide

range of its products to a wide range of countries (Vahalík, 2015, p.60). This is also referred to as the two dimensions of export diversification: geographical diversification and product diversification. These two types of diversification are the same for imports.

There are other schools of thought regarding export diversification. For example, export diversification can be accessed by margins. According to Felbermayr and Kohlar (2006), extensive margin means opening up new trading relationships between countries, and intensive margin refers to diversifying (increasing or decreasing the level of trade) among a set of goods that are commonly traded over the period. More specifically, export diversification measured at the extensive margin reflects inequality between the shares of active products. In contrast, diversification at the intensive margin during a certain period means convergence in export shares among goods that were exported at the beginning of the period (Carrère et al., 2011, p.255). These two margins also play different roles: the extensive margin dominates the action in terms of diversification, but the intensive margin dominates the action in terms of export growth (Carrère et al., 2011, p.291). Thus, diversification and growth are not equivalent objectives.

Another classification is horizontal and vertical export diversification. The former means exporting to completely new product sectors, and the latter refers to upgrading out of primary into manufactured exports (Herzer & Nowak-Lehmann, 2006, p.1825). Such a process necessarily involves extensive margin diversification (Dennis & Shepherd, 2011, p.103).

On the microeconomic level, export diversification can be expressed through firms' product-destination portfolios. Abreha et al. (2020) suggest that export growth is lower for firms' core products, which indicates a strong necessity for diversification away from the core products on top of geographical diversification (p.1454).

It is important to note the differences between trade volume and trade diversification. Most economies target their exports to higher production concentration rather than diversification with their method of economic evolution (Vahalik, 2015, p.60). Indeed, analyses of Frankel and Romer (1999), Irwin and Terviö (2002), and Wacziarg and Welch (2008) show evidence for statistically significant and positive effects of international trade on income growth. This is especially the case for all developed countries, without exception, the estimated effects are positive (Henzer, 2013, p.194). However, measuring a country's trade openness and trade volume stays at a system-level, and it does not cover the unit-level discrepancies in the components and structure of this country's export to other countries, let alone the benefits of having an open and diversified export portfolio.

### **3.2 Benefits of Export Diversification**

It is not enough to just focus on trade volume but to dive deeper and see what benefits can export diversification bring to a country's economy. Ali et al's (1991) threshold analyses show that trade networks are effective for income growth through better diversification of risk (p.256). Herzer & Nowak-Lehmann (2006) test their hypothesis and conclude that export diversification is linked to economic growth in the long run via positive externalities of learning-by-doing and learning-by-exporting fostered by competition in world markets (p.1825). This echoes with Amin Guitierrez de Piñeres and Ferrantino's (2000) conclusion that export diversification affects long-run growth as suggested by endogenous growth theory, which emphasizes the role of increasing returns to scale and dynamic spillover effects.

Exports instability is another reason for seeking the benefits of export diversification. Commodity products are often subject to volatile market prices making countries dependent on exporting these commodities vulnerable to export instability (Newfarmer et al., 2009, p. 56).

Therefore, by increasing the number of export sectors, horizontal export diversification can reduce the dependence on a limited number of commodities that are subject to extreme price and volume fluctuations. Vertical export diversification upgrading into manufactures could be useful if there is a general trend toward declining terms-of-trade for primary products (Athukorala, 2000, p.90). Export diversity by product is important to hedge against price shocks and sector-specific drops in demand. Product diversity is also important for ensuring that a positive shock in demand or price for a given product does not appreciate the currency to the point it reduces the competitiveness of other industries.

Moreover, export diversification works as a protective function against adverse shocks in the global economy (Vahalik, 2015, p.67). These shocks always exist, such as the development of the demand of the main trade partners, the world price, high volatility and instability in the foreign exchange rates. Other events also have negative economic impacts, such as trade protectionist policies and country-specific economic shocks. The lack of capacity to weather through these economic downturns may discourage investment, thereby reducing economic growth (World Bank, 1987; Ghosh & Ostry, 1994). Commodity and destination dependences are frequently associated with lower growth rates over the long run, and stagnation at relatively low levels of per capita income (Dennis & Shepherd, 2011, p. 101).

However, it is crucial to note that export diversification can only mitigate unsystematic risk, rather than systematic risks. For example, exporting across a wide range of markets will limit an exporting country's risk to specific events in individual markets; it will not help mitigate risks that affect multiple markets at once. For example, in the global economic and financial crisis of 2007–2009, the majority of developed countries saw their economies contract, thus lowering their demand for imports. The same with the COVID-19 pandemic, which severely impacted the global

supply chains and led to shutdowns of plants and businesses. With systematic risks, greater geographic export diversification would likely have been of little help in mitigating vulnerability.

The majority of literature about export diversification and its benefits falls into the field of development studies. They are more targeted at developing countries and emerging markets. Indeed, compared to highly industrialized economies that have established stable and advanced trading relationships and structures decades earlier, emerging and developing markets gain more interest.

### **3.3 Nonlinear Relationship Between Export Diversification and GDP per capita**

There are new findings beyond the relationship between export diversification and economic growth. The work by Imbs and Wacziarg (2003) unveils an unexpected non-monotonic relationship between production diversification and GDP per capita. Their discussion regarding stages of diversification shows that sectoral concentration follows a U-shaped pattern - countries first diversify but there exists, relatively late in the development process, a point at which they start specializing again.

Following their work, several other authors also investigate whether a similar nonlinear pattern holds for trade. Klinger and Lederman (2006), as well as Cadot, Carrère and Strauss-Kahn (2011), analyze the evolution of trade diversification. The former study uses a panel of 73 countries between 1992 and 2003, and the latter focuses on 156 countries representing all regions and all levels of development between 1988 and 2006. The U-shaped pattern shows up again, where the turning points appear at high-income levels (\$22,500 in constant 2000 purchasing power parity (PPP) dollars for Klinger and Lederman, and \$25,000 in constant 2005 PPP dollars for Cadot, Carrère and Strauss-Kahn. Another observation is that as the turning point occurs late, the level of

export concentration of the richest countries in the sample is still much lower than that of the poorest. Using evidence from the EU countries, Parteka's analysis (2012) about trade diversity and stages of development also finds a positive relationship between trade diversification and economic development levels, with a possibility of reconcentration at higher stages of development.

While export diversification has positive impacts on economic growth, trade development has different stages, from a high export concentration level to diversification and a tendency to reconcentrate. This does not mean that diversification is not necessary at all. As discussed above, economic growth and the improvement of GDP per capita are not the only advantages of high export diversification; they can also hedge against regional or product-specific shocks. Moreover, even if a country's export would reconcentrate (mostly the case for rich and highly developed countries), the concentration level is still lower than those of developing countries.

The above analyses stay at an aggregated level. The following section provides some disaggregated examples, using empirical evidence from several countries to see the process of their efforts in export diversification.

### **3.4 Empirical Evidence for Countries Diversifying Export**

Diversifying the export portfolio is not easy, and part of it is due to some essential features of international trade. The gravity model notes the overwhelming evidence that trade tends to fall with distance. Indeed, throughout the world, even open economies are typically concentrated on regional, rather than global trade. In 2012, 69% of European exports went to other European countries. In Asia, 53% of exports were traded within Asia (Carrère et al., 2020). The reality is that trade is predominantly based around regional value chains and supply chains, and the North

American region where countries like Canada, Bermuda and Mexico are naturally heavily dominated by the US.

According to the analysis by Global Affairs Canada (2021), Kuwait has the most concentrated export portfolio, using data based on 2017 export data from 113 reporting economies to 238 destinations, from the UN Comtrade database. As one of the oil-producing countries, not surprisingly, Kuwait is the most narrowly specialized economy in the global market, making it uniquely vulnerable to price shocks. Research shows that successful diversification is broadly associated with lower levels of oil wealth, which is consistent with a Dutch Disease effect (Ross, 2019, p.792). Shehabi argues that trade diversification is a critical policy response to fundamental changes in the global oil market and oil price declines. Countries like Kuwait have a diversified economic base, but this diversity does not contribute much to export diversification, due to the country's structural factors and economic constraints. Subsidy reform yields some efficiency gains, but microeconomic reform (such as competition and labour reform) can be a way to achieve efficiency and drive the diversification effects (namely the growth of non-oil sectors' output and exports) (Shehabi, 2020, p.14).

There are also examples of successful export diversification. Turkey, according to the Global Affairs Canada's report mentioned above, has the most diversified exports. It has been adopting trade liberalization policies since the 1980s. Over the years, Turkey has improved its export diversification in the EU-15 market by increasing the production and exports of new products (expanding the intensive margin), especially in research-intensive sectors (Ekmen & Erlat, 2013).

The third example is that, using an original database of disaggregated exports, Becuwe et al's (2018) analysis documents France's stages of export diversification from 1836 to 1938. France

followed a common trajectory in terms of diversifying exports – it moved from traditional to new manufactures and some nonmanufactured goods (p.430). France's position was confirmed by the authors as an advanced country, which exported manufactured products and imported primary products.

France initially expanded the range of exports and became increasingly diversified. After several decades of growth, this process began to slow and diversification stagnated. Specifically, between the 1830s to the end of the 1850s, France's export concentration remained very high, largely specializing in finished textiles. Due to lower trade costs, the trade liberalization of the 1860s and 1870s, along with broad-based and sustained economic growth, produced a significant decline in the specialization of French exports. However, From the start of the 1880s to World War I, the decrease in specialization lost its momentum. During this time, French governments acted to protect industries in which France had a traditional specialization. This defensive protection strategy can partly explain the stabilization of the specialization structure between 1883-1885 and World War I.

These examples show that different countries have various ways to diversify exports and challenges always remain. Moreover, countries would go through each stage of diversification based on their geographical locations, level of economic development and other economic, political and social factors.

The following chapters will focus on Canada and how its export diversification looks like in the EU market.

## **Chapter 4 – Canada’s Trade Expansion with All Countries and the EU from 2005 to 2020<sup>4</sup>**

### **4.1 Data Sources**

Data used in the paper are sourced from two Statistics Canada survey programs. They are International merchandise trade for all countries and by Principal Trading Partners (monthly), and Merchandise imports and exports, customs-based, by free trade agreement and by commodity (monthly). Both are part of the Canadian International Merchandise Trade Program. The administrative data collected in this program are a census and they are sourced from Statistics Canada, the Canadian Border Services Agency, the U.S. Census Bureau and the Canada Energy Regulator and are further compiled by the Canadian International Merchandise Trade program. Since these are census data, no inferential statistics are required at this stage of the analysis. It is important to note that the data for the EU includes the UK through December 2020 reference month. Beginning January 2021, the UK ceased to be covered by trade agreements negotiated by the EU, and is therefore not included in trade totals for the EU effective reference month January 2021, as stated by Statistics Canada.

Import and export values are expressed in Canadian dollars on a seasonally adjusted basis and foreign currencies are converted using the Bank of Canada monthly average based on the daily end-of-day rates (Statistics Canada, 2021a).

The analysis is limited to Canadian domestic exports aggregated at the HS-02 level (Harmonized Commodity Description and Coding Systems), excluding Chapters 98 and 99 (Special classification provisions), for a total of 96 product categories. The same database is used to calculate the degree of diversification of Canada’s export destination markets and the provinces of origin of Canadian exports (Statistics Canada, 2017a).

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<sup>4</sup> For data presented in this chapter, please refer to Appendix A for more detailed author’s synthesis and calculation.

## **4.2 The Selected Classification Framework for Merchandise**

Generally, the classifications of exports and imports are derived from the Harmonized Commodity Description and Coding System (HS), a mandatory international classification maintained by the World Customs Organization (WCO). However, to standardize the analysis of trade diversification, also considering the data sources of this major research paper (data are mainly from Statistics Canada), the North American Product Classification System (NAPCS Canada 2017) is adopted for the product classification purpose.

NAPCS Canada is a classification of products (including both goods and services) designed primarily for use in statistical programs. This is a comprehensive structured list of mutually exclusive categories, and facilitates the collection, analysis and publication of data in a standardized way. In comparison, the HS is a product-based system and it is a more detailed classification than NAPCS Canada, but its universe is limited to transportable goods. These HS goods are mostly covered by groups 111 to 482 of NAPCS Canada.

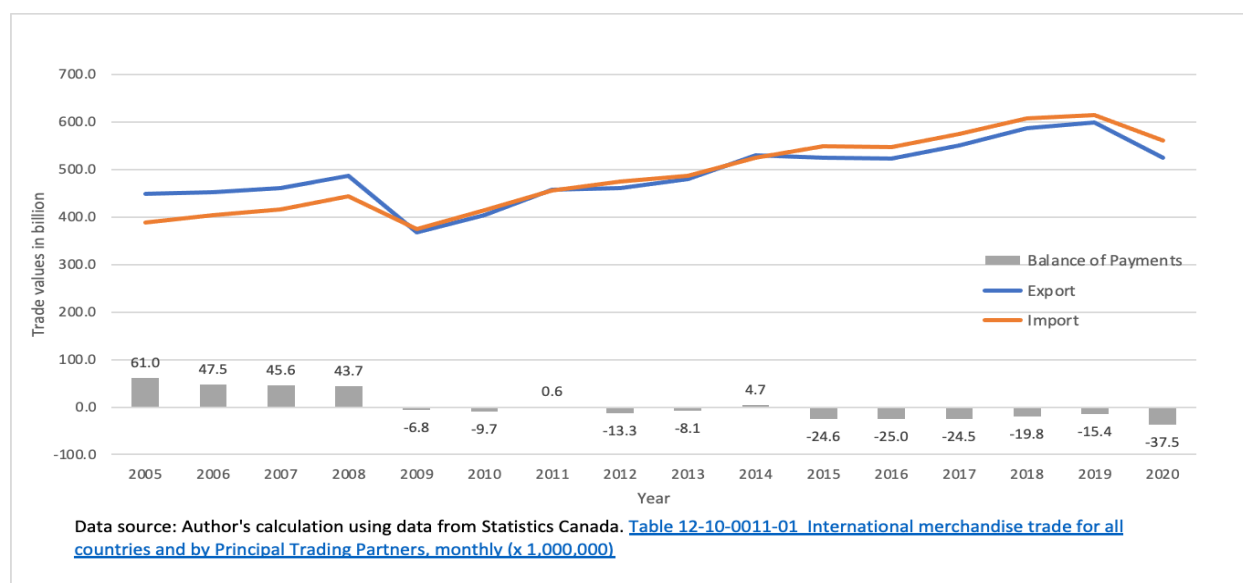
## **4.3 Canada's Trade Expansion with All countries**

For the following sections in this chapter, data are sourced from the two surveys mentioned above, then calculated and presented by the author, using line charts mainly. Note that these surveys only contain monthly data; therefore, annual data, including import, export and balance of payments, are the summation of data from January to December of that year. Year-over-year growth rate and comparison are all based on the calculated annual trade data.

Canada's international trade performance is presented before the analysis of Canada-EU trade and export diversification, in order to provide enough context and better position the latter in Canada's entire international trade landscape.

**Figure 2**

*International Merchandise Trade with All Countries from 2005 to 2020, Annual (in billion)*



From a holistic view, Canada's merchandise import and export with all countries have been following a similar growth trend. Within the 2005 to 2020 timeframe, the year 2009 is a “watershed” in Canadian international trade. Before 2009, Canada had a trade surplus with an annual value of around \$50 billion. However, from 2009 to 2014, the year-over-year import and export followed a similar growth volume and rate, and it was a period of balance of payments stability. Reversing the trend, starting from 2015, there has been a constant trade deficit on the Canadian national level, around \$21.9 billion per year from 2015 to 2019, and further, the trade deficit expanded to \$37.5 billion in 2020.

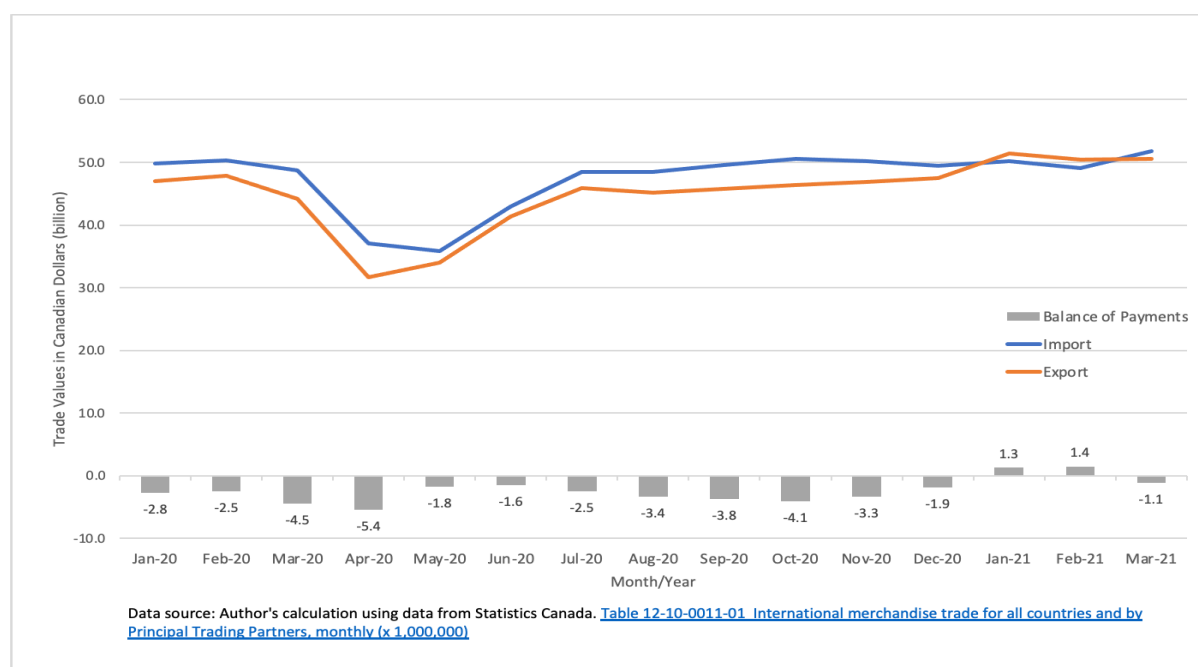
For the year 2020, Canada's trade deficit totaled \$37.5 billion, more than double the deficit observed in 2019 at \$15.4 billion. Total merchandise exports fell 12.4% in 2020, while imports were down 8.5%. By comparison, during the last major economic downturn, in 2009, annual merchandise exports dropped 24.6% and imports fell 15.7%. Although the trade has been recovering since mid-2020, the annual trade values are still lower than the level in 2017.

Leaving 2020 trade aside, Canada's import has expanded 58.3% from \$387.5 billion to \$613.5 billion from 2005 to 2019. Meanwhile, export increased 33.4% to \$598.2 billion in 2019 from \$448.4 billion in 2005.

#### 4.4 Canada's International Trade Performance During the COVID-19

**Figure 3**

*International Merchandise Trade for All Countries from January 2020 to March 2021, Monthly (in billion)*



The COVID-19 pandemic caused huge turbulence in global supply chains and dragged down the further improvement of international trade, although the loss of trade has been keeping recovering. The pandemic hit Canada in mid-March 2020, and Canada's merchandise trade with all countries plummeted in April. Import and export falling sharply by 23.9% and 28.5% respectively, each reaching their lowest point since December 2010 and September 2009.

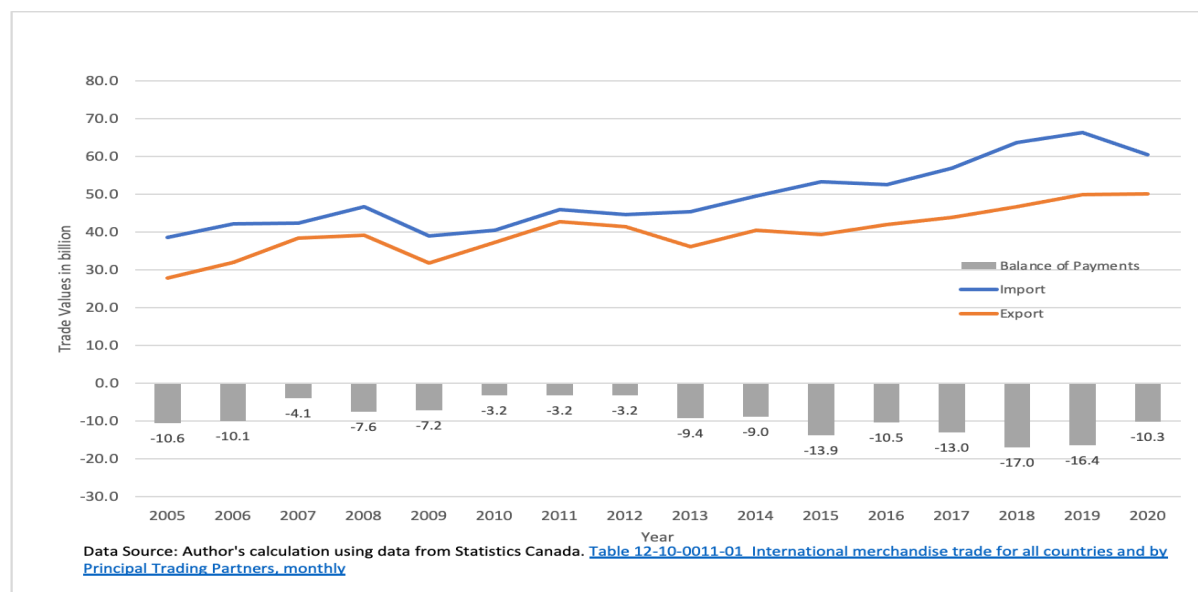
Nonetheless, the recovery has been strong enough to put Canada's international trade back on track promptly. Overall, Canadian exports have been faster to recover than imports on a monthly basis from May 2020 to March 2021, with a respective average monthly growth rate of 4.6% and 3.3%. Exports started to recover in April 2020, whereas imports caught up a bit later in May. While Canadian imports rose and reached 0.5% higher than the pre-pandemic level in February 2020, its recovery slowed down and has not yet got back to the pre-pandemic level. In comparison, also recovering, Canadian exports were not higher than the pre-pandemic level until January 2021. This was a significant jump, 8.3% higher than the export in December 2020 and 7.6% higher than February 2020. January and February 2021 also saw a trade surplus of \$1.3 billion and \$1.4 billion. This was the first time since late 2016 that the trade balance was in a surplus position for two consecutive months (Statistics Canada, 2021).

#### **4.5 Canada's Trade Expansion With the EU**

Canada's trade with the EU demonstrates a constant asymmetry because of the annual trade deficit over the years. Canada's imports from the EU are dominated by machinery and vehicles, chemicals and other manufactured goods, which together accounted for 81% of Canadian imports from the EU. The same categories accounted for almost half of Canada's exports to the EU (45%) (Eurostat, 2019).

**Figure 4**

*International Merchandise Trade with the EU (including the UK) from 2005 to 2020, Annual (in billion)*



#### 4.5.1 From 2005 to 2020

Both Canadian imports and exports see an increasing trend, with imports always outperforming exports, which leads to a constant annual trade deficit. From 2005, Canada-EU trade kept expanding, and although it dropped a bit from 2008 to 2009, it quickly bounced back in 2010, almost to the pre-financial crisis level. While imports from the EU kept rising, exports declined again in 2013, since then the trade deficit had been growing, and it reached a deficit of \$17.0 billion and \$16.4 billion respectively in 2018 and 2019.

Different from the shock to the economy caused by the financial crisis of 2007–2008, when imports and exports plummeted 16.7% and 18.9%, the pandemic-led economic shock in 2020 did result in a declining import in 2020, whereas export saw a mild growth of 0.4%.

#### 4.5.2 After CETA entering into force

The tariff reduction package in CETA is one of the most comprehensive trade benefits that the EU has achieved in the context of an FTA, notably for the elimination of tariffs upon entry into force of the agreement. Overall, the tariffs for 98.6% of all Canadian tariff lines and 98.7% of all EU tariff lines will ultimately be fully eliminated. This happens at entry into force of the agreement for 98.2% of the Canadian tariff lines and 97.7% of the EU tariff lines. All other products identified for liberalization will have their tariffs brought to zero within 3 to 7 years. Overall, the result is balanced and reciprocal and offers new opportunities (European Commission, 2016a).

The impact of CETA and its tariff reduction package is noticeable after the agreement came into force. In 2018, the first full year of its implementation, Canadian merchandise trade with the EU totaled \$99.1 billion, representing an increase of 9.5% in 2017 and 16.8% compared to 2016. Building on this momentum, Canadian merchandise trade with the EU continued growing in the second year after CETA's implementation, advancing by 5.2% over 2018 to reach \$116.0 billion in 2019 (Global Affairs Canada, 2020).

As merchandise trade continued to advance bilaterally under CETA, EU products made inroads into the Canadian market through expanding their market share in Canada's total imports from 9.9% in 2016 to 11.3% in 2019. Similarly, Canada's share in the EU market also improved, up from 1.0% of total EU imports from the world in 2016 to 1.2% in 2020, a noticeable improvement considering the size of the EU's total imports (European Commission, 2020). Canada has steadily increased its importance in EU trade and has become the EU's 10<sup>th</sup> most important trading partner<sup>5</sup>. In the two years since CETA has provisionally come into effect, Canadian merchandise exports to the EU averaged \$48.2 billion in 2018 and 2019, up 14.9%

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<sup>5</sup> Numbers calculated by the author using data from Statistics Canada. [Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly \(x 1,000,000\)](#)

compared to the pre-CETA level of \$42.0 billion in 2016. Over the same period, merchandise imports from the EU rose 23.8% (Statistics Canada, 2021b).

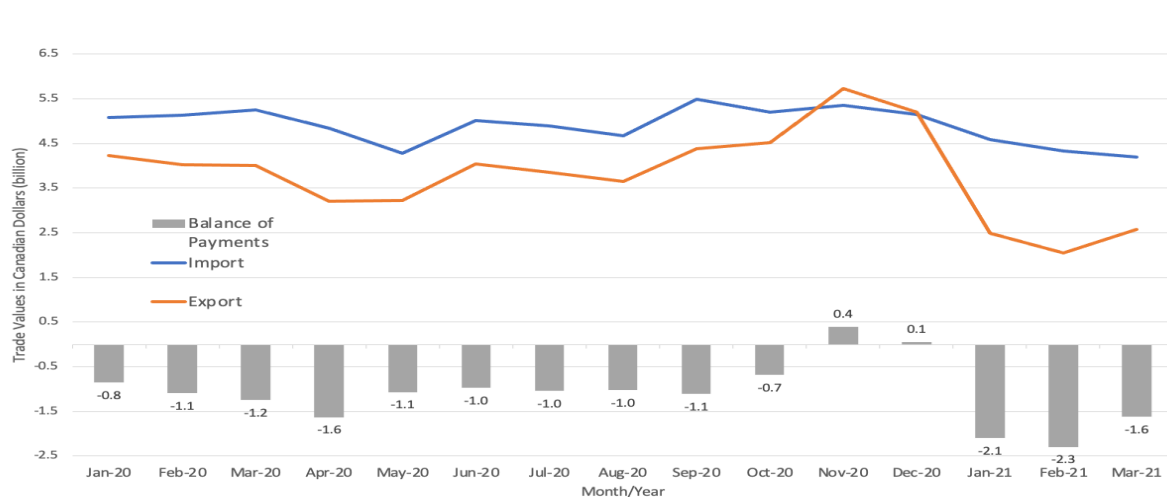
According to the Global Affairs Canada's report (2020), the utilization of CETA preferences showed moderate improvements in the second year of CETA. The utilization rate for Canadian exports to the EU reached 53.1% in 2019, up from 49.9% in 2018. On the import side, the utilization rate for Canadian imports from the EU improved significantly from 37.1% in 2018 to 45.9% in 2019. However, it is not deniable that the utilization rate still has a large room to grow.

### 4.5.3 During the COVID-19

International trade flows were severely disrupted by the global Coronavirus pandemic, and Canadian trade with the EU was not spared. The crisis caused both exports and imports between the EU and Canada to fall in 2020. However, relative to trade with the rest of the world, Canada-EU trade has fared well.

#### Figure 5

*International Merchandise Trade with the EU (including the UK) from January 2020 to March 2021, Monthly (in billion)*



Data source: Author's calculation using data from Statistics Canada. [Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly \(x 1,000,000\)](#)

In the first half of 2020, Canadian merchandise exports to the EU fell by 7.1% compared to the same period in the year prior, while overall Canadian merchandise exports dropped by 16.7%. Moreover, despite COVID-19 related declines in 2020, the value of Canadian exports to the EU remained above the level in the same period in 2017, before CETA came into effect (Government of Canada, 2020b). Therefore, despite the unprecedented challenges brought by COVID-19, CETA continues to work as intended.

Overall, this analysis of post-CETA trade performance should not be considered as a causal effect of CETA. Given the short time series of trade data available since CETA was implemented, the paper does not use advanced econometric techniques to establish causality and to control for macroeconomic fluctuations and other industry- and product-specific factors that also influence post-CETA bilateral trade flows.

## **Chapter 5 - Canada's Trade Diversification in the EU**

In the Canadian context, trade diversification is about securing more opportunities for Canadian exporters and investors to compete and succeed in thriving and fast-growing global markets and sectors (Government of Canada, 2020a).

Trade diversification is a national imperative for the Government of Canada. From the perspective of geographic diversification, Canadian exports are currently considered to be concentrated. As stated in Chapter 3, data show that Canada's exports are the fourth most concentrated by destination out of 113 countries, primarily due to a large share of exports to the United States. While the United States has been and continues to be the most important trading partner, it is advantageous for Canada to expand global partnerships and seize opportunities abroad.

Canada's export diversification strategy aims to invest \$1.1 billion to help Canadian businesses access new markets, and increase Canada's overseas exports by 50% over the six years starting in 2018-2019. Trade agreements are key pillars of Canada's approach to trade diversification. Canada is the only G7 country to have concluded trade agreements with all other G7 countries. These include the forerunner of the next generation of trade agreements –CETA (Government of Canada, 2018b).

### **5.1 The Importance of Canadian Export Diversification**

As discussed in Chapter 3, moving from a concentrated export portfolio to a diversified one can produce the same returns for less risk. An export mix that is diversified across regions and products could result in lower volatility for a given rate of growth, compared with a concentrated export mix. Furthermore, export diversification is a strategy to transform the economy from using a single source to multiple sources of income, and to involve large sections of the population.

Having a high geographic concentration of exports and a single element making up a large share of exports can be problematic. If a country's exports are concentrated in a single destination, a recession in that economy, or a bilateral exchange rate shock, would reduce demand and curtail exports to that country. Exporting to several destinations mitigates the effect of country-specific shocks. It is impossible to diversify away systematic risks, such as a worldwide economic recession, a global pandemic, and a widespread supply chain disruption, but export diversification can temper the effects of country-specific shocks. As Canadian exports are not dependent on any country outside of the United States, it reduces the impact of trade protectionist measures and gives Canada a more favorable bargaining position in trade negotiations (Global Affairs Canada, 2020a).

Using the Herfindahl–Hirschman Index (HHI) as a measure for diversification level, only Kuwait, Bermuda, and Mexico have a higher geographic concentration of exports than Canada in 2018. Canada needs to diversify its export pattern, rather than largely relying on the American market. Georges (2017) discusses the benefits of diversifying Canada's trade geographically and suggests that even if the US remains Canada's major trading partner, there is scope for Canada to explore channels that would permit to enhance trade with key emerging countries (p.16).

## Diversified **5.2 Methodology**

It is not enough to just measure trade dollar values to understand the trade dynamics between Canada and the EU. Another metrics is the degree of export diversification - does Canada have one large customer or multiple customers overseas, and does Canada export one product or multiple products? Analyzing international trade data through this lens provides additional information on the trading dynamics between the two markets.

According to Cadot et al. (2011) and Cadot, Carrere, and Strauss-Kahn (2013), the three most frequently used indices can be applied to measure export diversification. They are Herfindahl, Gini and Theil index, which mainly differ in margins (intensive and extensive margins) of export growth.

Herfindahl–Hirschman Index (HHI) is chosen to measure Canadian export diversification due to its simplicity of implementation, adaptability to calculating both product and geographical diversification, and because it possesses most of the characteristics of a good concentration index. Moreover, it also attributes more weight to products (or markets) with larger shares by squaring shares before adding them up. This is an important characteristic when measuring concentration, as the level of concentration will depend on both the number of products (or the number of markets) as well as the distribution of their shares. The HHI has been used to study Canada’s export diversification by Global Affairs Canada’s Office of the Chief Economist, Statistics Canada, Export Development Canada, the C.D. Howe Institute, and the University of Calgary.

This is the formula the author uses for calculating the HHI:

$$HHI = \sum_{i=1}^N \left( \frac{x_i}{X} \right)^2$$

When calculating geographical export diversification:

- $x_i$  is Canada’s domestic export value to an EU member state  $i$ ;
- $X$  is Canada’s total domestic exports to the EU (all member states included);
- $N$  is the total number of EU member states.

When calculating product export diversification:

- $x_i$  is Canada's domestic export value of product  $i$ ;
- $X$  is Canada's total domestic exports to the EU (all products included);
- $N$  is the total types of Canadian exported products to the EU.

The United Nations Conference on Trade and Development (UNCTAD) measures export diversification using a normalized HHI but does not specify the thresholds to differentiate between concentrated and diversified exports (UNCTAD, 2009). In one report about the industrial similarity, diversification, and the promotion of intra-African trade, it broadly mentions that the diversification index measures the absolute deviation of a country's trade structure from the world pattern. It lies between 0 and 1. The higher values indicate more deviation of a country's export structure from the global pattern (UNCTAD, 2020).

The index has specific bounds with its range varying between a lower bound of  $1/N$  and a maximum of 1. Lower values of HHI indicate a more uniform distribution of exports among a series of products (or diversified markets in case of geographical concentration) whereas higher values reveal a high degree of concentration (of exported products or markets destination) or equivalently, a less diversified export portfolio.

To make the HHI better reflect the extent of trade diversification, this major research paper draws from the Horizontal Merger Guidelines from the U.S. Department of Justice (2010) to differentiate between diversified, moderately concentrated, and highly concentrated exports or markets. A summary of the three categories and thresholds used in this major research paper follows:

- goods exports or markets:  $HHI < 0.15$
- Moderately concentrated goods exports or markets:  $0.15 \leq HHI < 0.25$

- Highly concentrated goods exports or markets:  $HHI \geq 0.25$

One drawback of the HHI is that it is sensitive to the level of aggregation. Because the shares are squared, the more disaggregated the data, the lower will be the level of the index. Concentration levels should be affected by the grouping of commodities into larger classes (or inversely, the splitting of larger classes into sub-groups of commodities). Ideally, if we split a group of commodities into two sub-groups, the level of concentration should decrease, since each group now has a smaller share. However, the intent behind such measures is clear: they are designed to deliberately pick up the extent to which countries rely heavily on a small range of products and destinations for the bulk of their exports.

### **5.3 Canada's Geographical Diversification in the EU<sup>6</sup>**

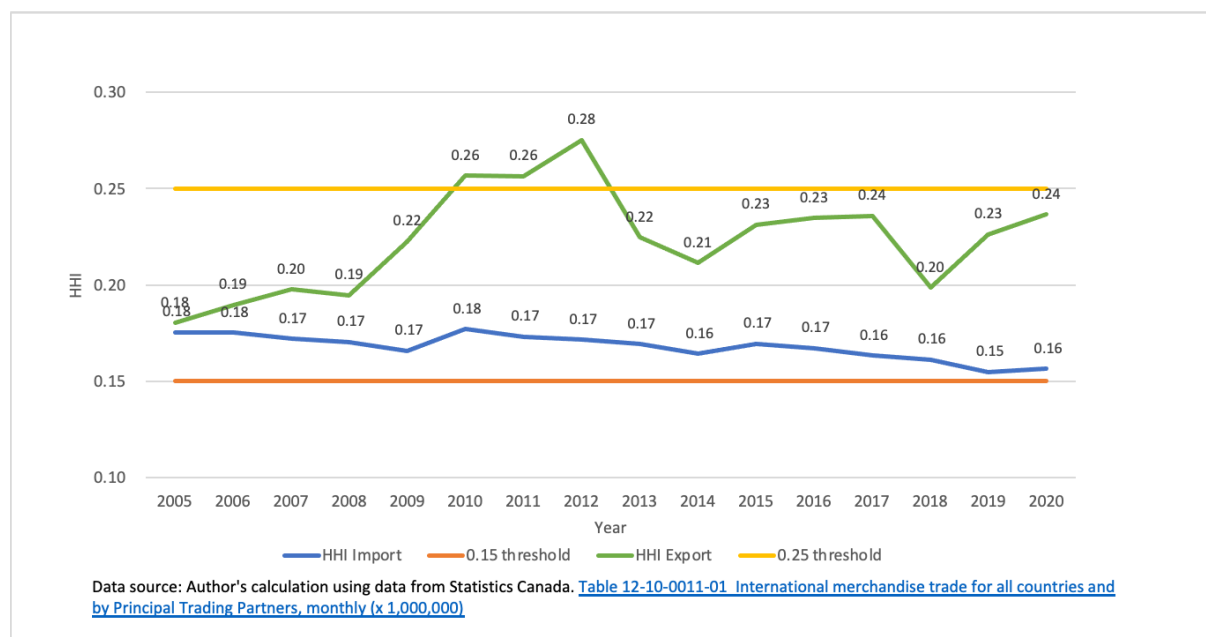
This section focuses on Canada's geographical export diversification in the EU. According to Statistics Canada (2017b), Canada sent its exports to 240 different countries Canada between 1988 and 2016, but had an HHI of 0.63 (highly concentrated). Despite its numerous trading partners, Canada has a concentrated destination market, with the majority of its exports going to its principal trading partner, the US. However, in the EU market, Canada's export diversification demonstrates a different behavior.

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<sup>6</sup> For all the data and graphs presented in Section 5.3 and 5.4, please refer to Appendix B for author's synthesis and calculation.

**Figure 6**

*Canada-EU (including the UK) Geographical Diversification HHI from 2005 to 2020*

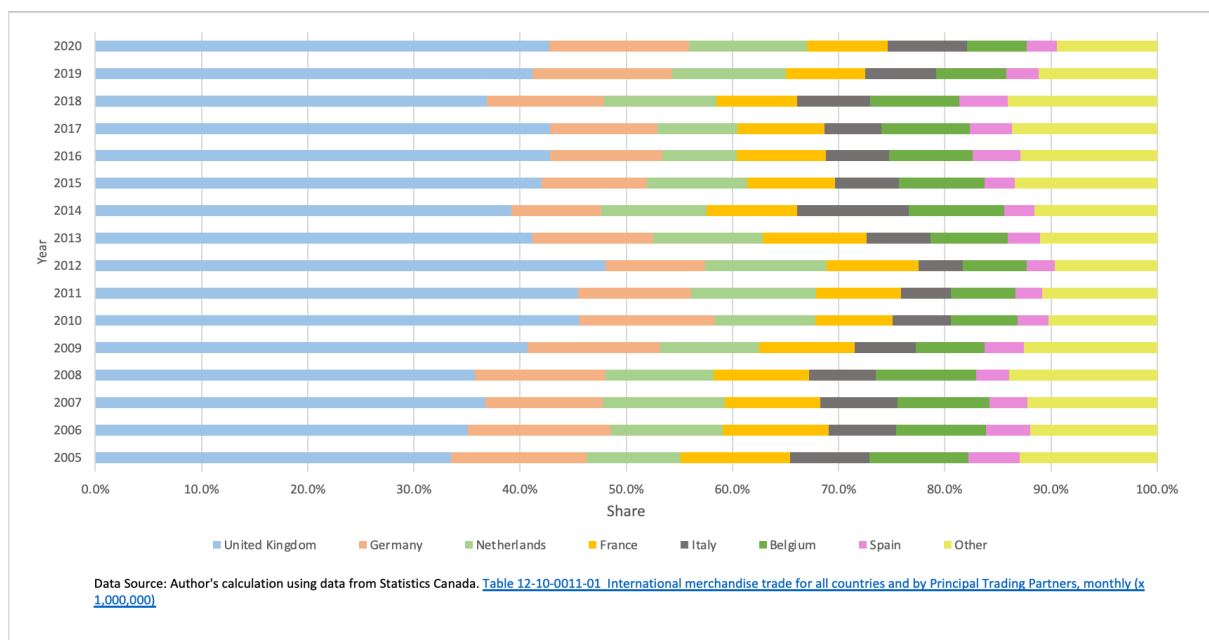


Using 0.15 and 0.25 as thresholds, Canada's export to the EU is moderately concentrated throughout the entire time frame, except for 2010 to 2012 when the HHI was higher than 0.25, which means that the export is highly concentrated. Indeed, Canada's export to the EU showcases more diversification, compared to its trade with the US. However, Canada's import diversification is much better, with the HHI falls in the range of 0.15 to 0.18, and it also shows a tendency of falling.

The share of trade from Canada to the EU member states could offer some explanation for the HHI development over the years.

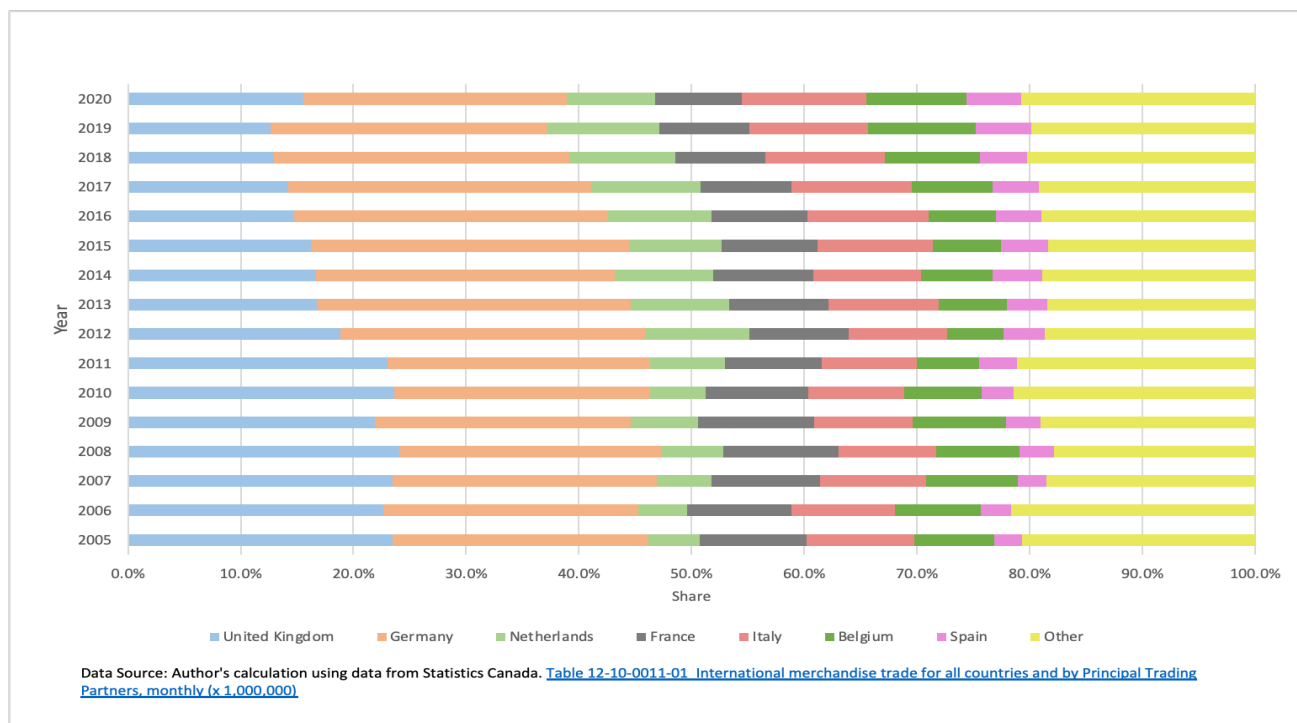
**Figure 7**

*Share of Canadian Exports to the EU (including the UK) from 2005 to 2020*



**Figure 8**

*Share of Canadian Imports from the EU (including the UK) from 2005 to 2020*



Before Brexit, the UK, Germany, the Netherlands, France, Italy, Belgium, and Spain are Canada's principal trading partners in the EU. For Canadian imports from the EU member states, although the trade volume has been increasing, the share of the major trading partners over the years remains very stable.

The HHI for Canadian exports to the EU sees more fluctuation. Between 2005 and 2012, the HHI was on the rise, which translates into Canada becoming more concentrated in terms of destination markets for its exports to the EU. This increased concentration coincided with a rise in the share of Canada's total exports to the UK – Canada's biggest export market in the EU, which went from 33.5% in 2005 to 48.0% by 2012.

Between 2012 and 2014, the export HHI fell from 0.28 to 0.21, reflecting less market concentration as a consequence of the growing shares of markets other than the exports to the UK. All the other six principal trading partners saw increasing shares of Canadian exports during this period.

Beginning in 2015, the Canadian export destination pattern reverted (although dropped a bit in 2018 to an HHI of 0.20), with the UK share in Canadian exports strengthening again in the EU, although the concentration level was not as high as it was in 2012.

With CETA entering into force, Canada's export seems to get more concentration rather than diversification. According to the reports from Global Affairs Canada (2020), the expansion in Canadian merchandise exports to the EU was mainly due to growing exports to the Netherlands, Germany and the UK. The Netherlands, Canada's third-largest export destination in the EU (after the UK and Germany), posted the strongest growth at \$2.1 billion, mainly caused by higher exports of mineral fuels and oils and aluminum. Product-wise, higher exports also come from widespread increases to Germany and precious stones and metals, and energy products exports to the UK.

Other EU members that saw strong Canadian export growth include Latvia (led by aircraft and parts), Ireland (mineral fuels and oils, and cereals), and Italy (pharmaceutical products, and mineral fuels and oils). On the other hand, a decline in exports to Malta, Bulgaria, Denmark, and Luxembourg tempered overall gains.

Echoing the previous discussion about Canada's trade expansion, it is clear that increasing trade volumes do not necessarily lead to higher trade diversification. Whether Canada can keep outreaching and expanding the exports to other member states, other than the major trading partners.

#### **5.4 Canada's Export Diversification by Product**

It is important to measure export diversity not just by geography, but also by product. Canadian merchandise exports to the majority of destination countries are concentrated by product, but are generally diversified for the larger markets.

Export product diversification is defined as a change in the export basket of the country (Ali et al., 1991). The change in the export basket can occur in two ways: the expansion of the existing export basket and the increase in the number of products in the export basket (Can et al., 2020).

Since the NAPCS is used as the classification method for import and export goods, this major research paper calculates the HHI based on the traded values of goods products at the group-level. They include:

C11: Farm, fishing and intermediate food products

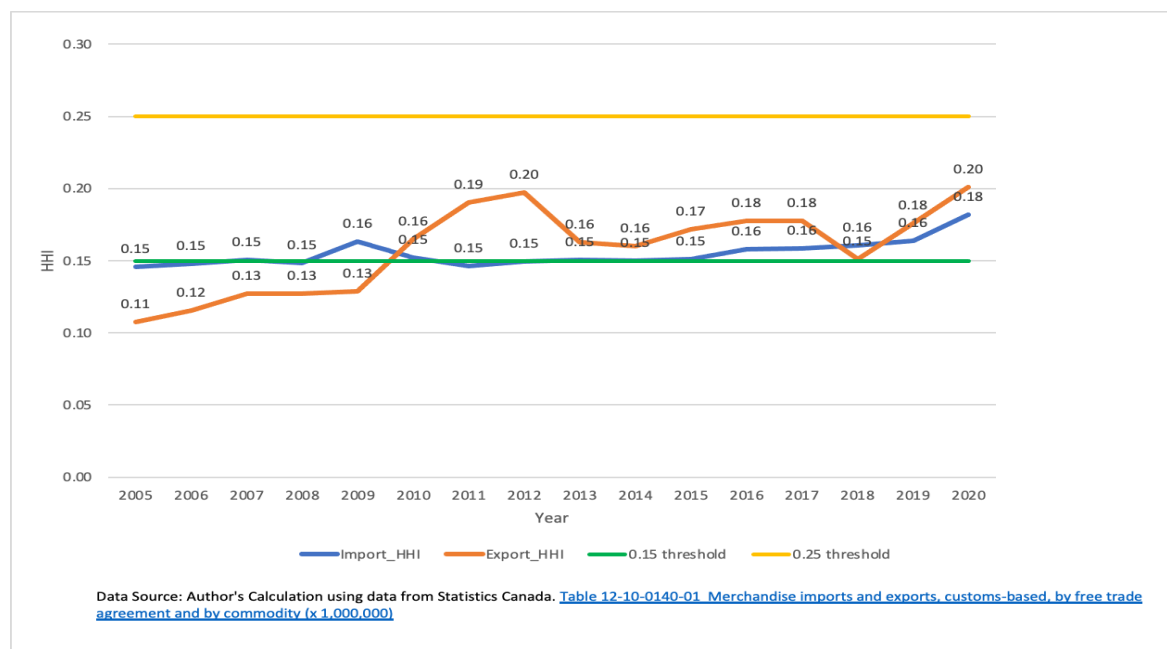
C12: Energy products

C13: Metal ores and non-metallic minerals

- C14: Metal and non-metallic mineral products
- C15: Basic and industrial chemical, plastic and rubber products
- C16: Forestry products and building and packaging materials
- C17: Industrial machinery, equipment and parts
- C18: Electronic and electrical equipment and parts
- C19: Motor vehicles and parts
- C21: Aircraft and other transportation equipment and parts
- C22: Consumer goods
- C23: Special transactions trade

**Figure 9**

*Canada-EU (including the UK) Product Diversification HHI from 2005 to 2020*



Canada's imports from the EU have remained just around the 0.15 HHI threshold. This can be perceived as Canadian imports are diversified. However, starting from 2016, the import HHI

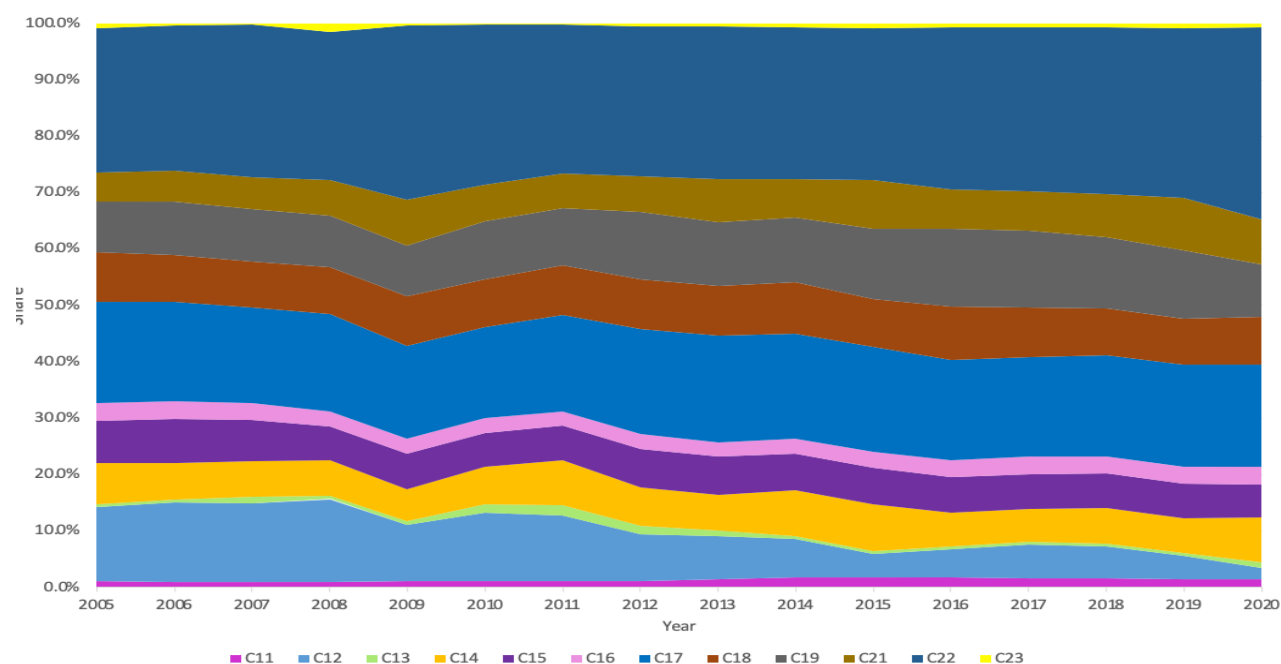
has been increasing from 0.16 to 0.18, which means the imported goods from the EU market are getting more and more concentrated. This remains to be observed.

On the contrary, exported goods from Canada used to be diversified between 2005 and 2009, with the concentration ratio lower than 0.15. During the period of 2009 and 2012, a rising trend is observed, which can be understood as the Canadian exported goods were less diverse in those years. Still remaining in the moderately concentrated bracket and with some fluctuations, the concentration ratio dropped slightly from 0.20 to 0.15 from 2012 to 2018. However, two years later in 2020, the concentration index rose to 0.20 again.

The different concentration index of Canadian exported and imported goods to and from the EU can be partially explained by the changing share of the traded goods.

**Figure 10**

*Share of Canadian Imports from the EU (including the UK) from 2005 to 2020*

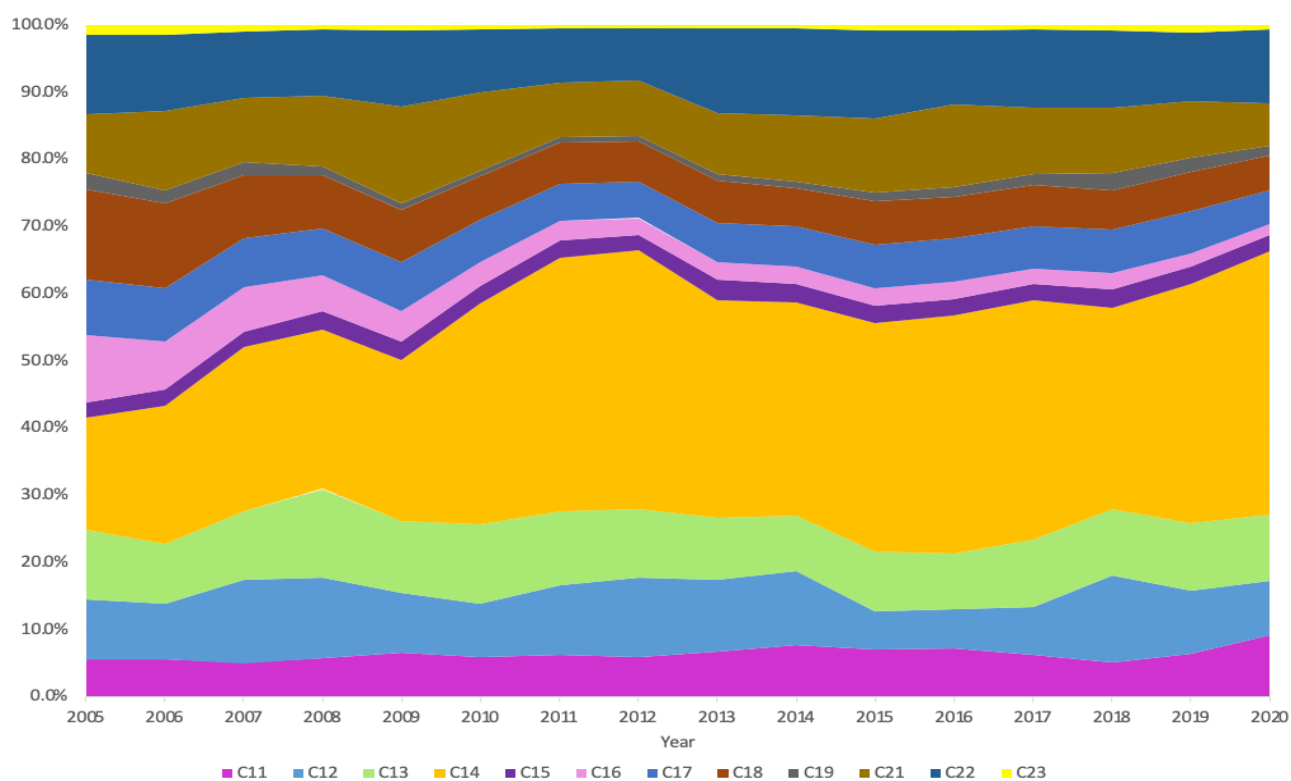


Data Source: Author's Calculation using data from Statistics Canada. [Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity](#)

Consumer goods (C22) and industrial machinery, equipment and parts (C17) are the two main types of goods that Canada imports from the EU, followed by aircraft and other transportation equipment and parts (C21) and motor vehicles and parts (C19). Apart from energy products (C12) being the only type of goods with a declining share, the share and the growth rate of the rest of the products remains relatively stable. This also explains why the import HHI trend line is almost parallel to the 015 HHI threshold.

**Figure 11**

*Share of Canadian Exports to the EU (including the UK) from 2005 to 2020*



Data Source: Author's Calculation using data from Statistics Canada. [Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity](#)

Compared to a more equal share of imports from the EU, Canadian exports exhibit a clear dominance of one single product. Metal and non-metallic mineral products (C14) have a predominant share of Canadian exports to the EU market, expanding from 16.8% to 39.2% in the 2005 to 2020 timeframe. The share of other exports, such as consumer goods (C22), metal ores and non-metallic minerals (C13) and energy products (C12) remain roughly the same, each around 10% each year.

Overall, for both geographical and product diversification, Canadian exports are more concentrated than imports, this is partly due to the large and stable share of exports to the UK, and the growing share of metal and non-metallic mineral product exports.

### **5.5 Trade Diversification without the UK<sup>7</sup>**

Although Canada and the UK have signed and implemented the Trade Continuity Agreement to realize a seamless transition from the CETA, the UK leaving the EU will certainly have some potential impacts on Canada's export diversification in the EU.

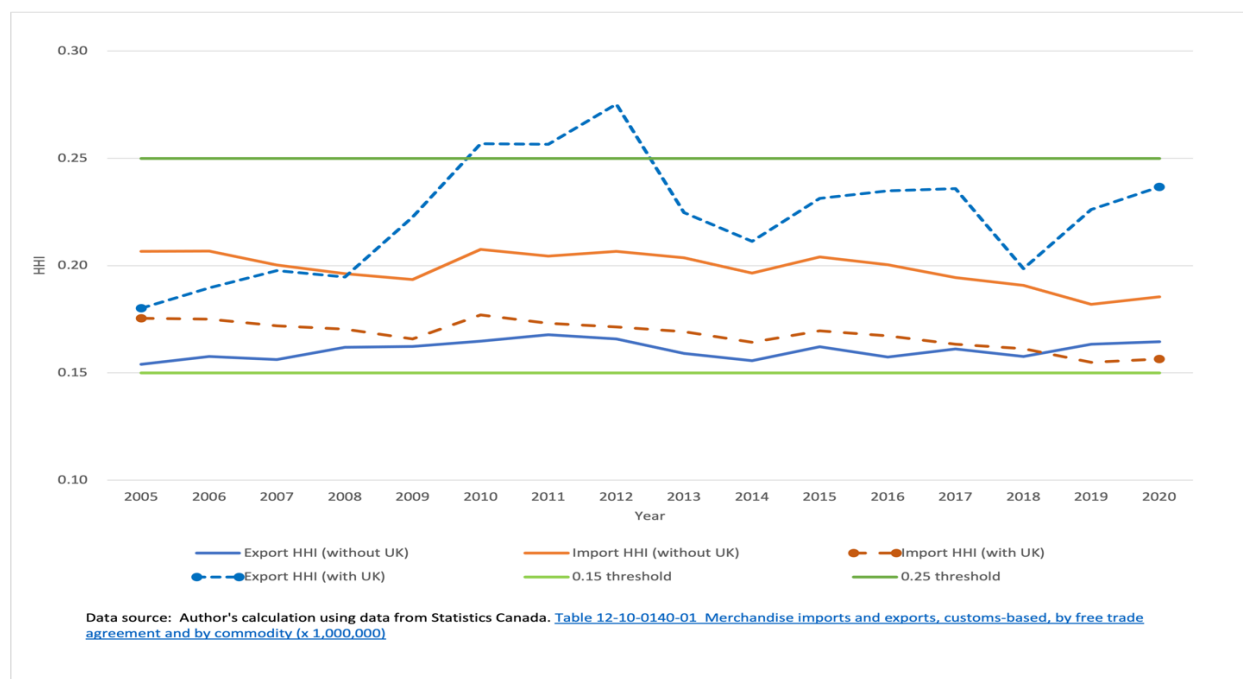
The following scenario showcases Canada's geographical and product diversification in the EU, with the UK data being excluded. The purpose is to have a simple projection of Canada's trade diversification in the EU in the future.

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<sup>7</sup> For data and graphs presented in Section 5.5, please refer to Appendix C for author's synthesis and calculation.

**Figure 12**

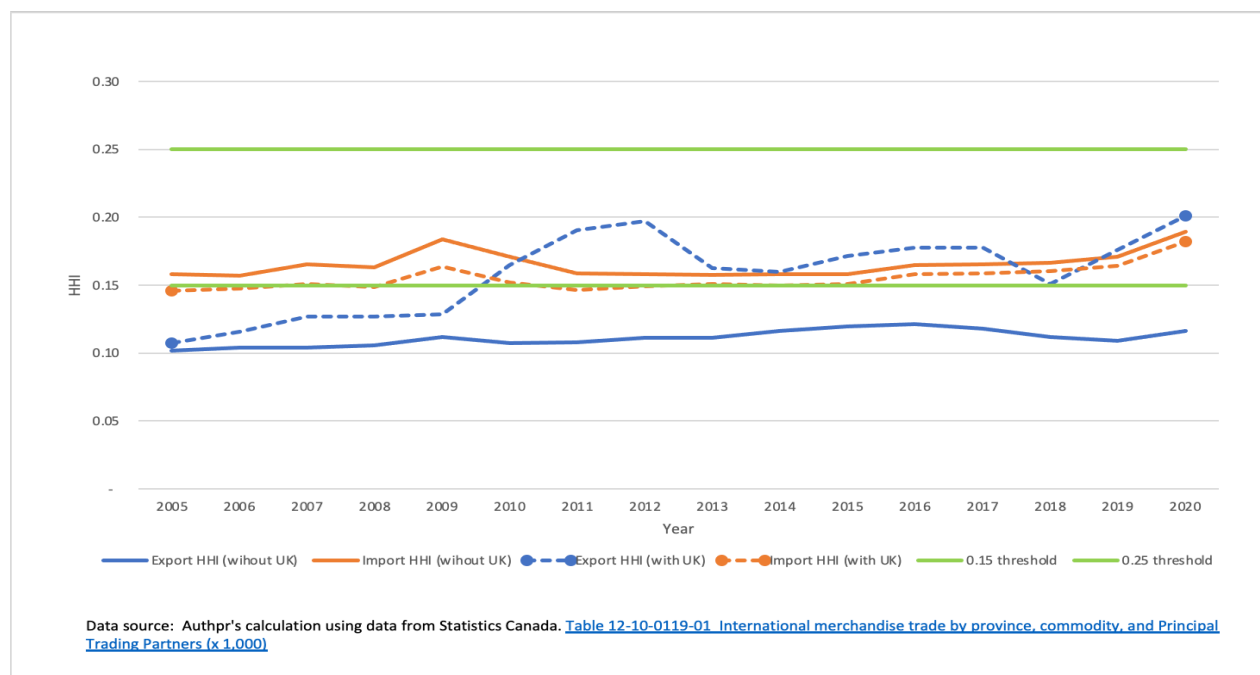
*Canada-EU (excluding the UK) Geographical Diversification HHI from 2005 to 2020*



For geographical diversification, the concentration ratio for imports and exports with the UK data being removed shows different movement. In scenario, Canadian export HHI would drop down significantly, and it slightly fluctuates around 0.15 and 0.17, which can translate into Canadian exports are only moderately concentrated and it is very close to a diverse export portfolio. On the contrary, import concentration index would increase by roughly 0.05 without the imports from the UK.

**Figure 13**

*Canada-EU (excluding the UK) Product Diversification HHI from 2005 to 2020*



Regarding trade diversification by product, imports and exports demonstrate a similar trend without the UK. Exports for the EU 27 plus the UK have been in the moderately concentrated bracket, and yet after the UK data are removed, the product diversification would drop sharply to an HHI around 0.10, which could be seen as highly diversified. Conversely, the HHI for imports would slightly increase in the scenario.

The movement of the import and export HHI trends could explain a few things. First, it is clear how important the UK is to Canada's international trade in the EU, especially to the Canadian export markets. With or without the UK data, the concentration level of Canadian trade can have noticeable shifts. Second, with this major trading partner removed from the EU, the geographical share and the share of different products are closer to a more even distribution, with fewer fluctuations year over year.

Has Canada expanded its trade with the EU from 2005 to 2020? Absolutely, these two close trading partners have always been maintaining a positive trade relationship, and can recover efficiently from economic shocks. Has Canada diversified its trade portfolio with the EU? Not really, either by geographical distribution or by products, Canadian exports are moderately concentrated, and in the years between 2010 and 2013, the concentration ratio even went up to a high concentration level. This is mainly due to the dominant and stable shares of exports to the UK and Germany, as well as the increasing exports of metal and non-metallic mineral products. The fact that the export HHI trends over the years do not fluctuate significantly shows that although not highly diversified, at least the Canada-EU trade remains on a stable level and expands gradually. It is interesting to point out that Canada's trade is more diversified by products, than by countries/regions, a similar pattern to Canada's overall export diversification (excluded the US). Can Canada expect more trade diversification in the EU? This is very possible, as the result of Brexit. After the UK data was removed from the dataset, the export HHI year-curve drops significantly and becomes almost parallel. This again shows that having a dominant and major trading partner in one region could lead to a higher level of export diversification.

## Chapter 6 – Policy Recommendations

### 6.1 Outlook

Canada did not change its major export commodities or its biggest trading partners in the EU much during the period 2005 to 2020. Canada's trade with the EU, although increasing over time, is still imbalanced, with the lasting trade deficit, and resources (mainly precious stones and metals) comprising increasing exports. There is also a matter of the degree of Canada's export heterogeneity across the EU member states.

Moving on, as the world economy gradually recovering from the pandemic-led economic downturn, and both Canada and the EU making progress on finalizing CETA, the two partners will still carry on with strong momentums to keep expanding cross-Atlantic trade (Hammond, 2021). It is important to not only increase the trade volumes but also to diversify the export portfolio, explore new market opportunities, support, and amplify the export capacity of small and medium-sized enterprises (SMEs), discover the export potential of non-leading export products.

By exporter characteristics, CETA indeed facilitates greater trade diversification as it encourages more firms to export to the market of the FTA partners. In 2019, as many as 8,291 Canadian merchandise exporters were active in the EU market, representing an increase of 6.9% (more than 500 firms) compared to 2016. Similarly, around 66,000 EU firms exported to Canada in 2018 compared to 61,000 in 2016; and nearly 49,000 EU firms imported from Canada in 2018, representing an increase of 5.0% compared to 2016 (Government of Canada, 2021b).

However, the root of the problem is clear: Canadian mentality, said Jason Langrish, the executive director of the Canada Europe Roundtable for Business. "Canada talks a lot about diversification, but only a small number of Canadian businesses are truly global operators. By comparison, the Europeans are 'hunters' when it comes to finding new markets. They look for it."

he said. It is fundamental to cultivate a globalized business culture when it comes to expanding and diversifying international trade.

Moreover, CETA preference utilization can be particularly problematic for SMEs. This may prove critical considering the important role that SMEs play in EU-Canada trade. This is clearly reflected in CETA, where a number of specialized provisions bring greater focus to smaller enterprises, thereby reinforcing the potential for further benefits from the agreement as a whole. These include provisions on electronic commerce, investment and the adoption by the CETA Joint Committee of a recommendation on SMEs, to oversee actions aimed at enhancing the profile and awareness of the agreement and its specific rules for SMEs. Data availability remains a constraint when it comes to assessing impacts on SMEs, but anecdotal accounts suggest that CETA has opened up many new opportunities for European SMEs to export to Canada (European Parliament, 2019).

## **6.2 Recommendations**

### **6.2.1: Support SMEs in exporting to the EU**

Few SMEs have the capacity and resources to be the first movers into new international markets; most often, big enterprises lead the way. If Canada is to improve its trade performance, policies need to support SMEs and encourage them to trade, particularly in emerging markets (Kingston, 2018).

Under the new Export Diversification Strategy, the Government will be tripling the size of the Canadian Trade Commissioner Service's CanExport program, helping more Canadian businesses move into new markets. Over the last six years, this program has provided funding for

1,000 export projects by Canadian firms in 82 countries, generating \$100 million in new export sales.

Along with the financial support from the government, SMEs also need more strategic solutions to better equip themselves before exporting overseas. Export Development Canada also helps Canadian companies to navigate, manage and take on risks to support their growth beyond Canada's borders. It offers a unique suite of solutions to help Canadian firms offset the risks of doing business abroad, finance trade deals and access the working capital. Information and resources like these should be made more available and accessible to SMEs.

Individuals and businesses — not governments — determine trade patterns. Instead of trying to orchestrate or change their decisions, the Canadian government should turn its attention to providing and promoting market information not easily accessible to businesses, and addressing barriers to merchandise trade where Canadian businesses of all sizes which are both already significantly engaged and those who want to expand their market to the EU market. (Goldfarb, 2006).

### **6.2.2 Tailor the export diversification strategy to the EU**

The Canadian government takes a holistic approach in terms of diversifying its export. Specifically, Canada's export diversification strategy will invest \$1.1 billion to help Canadian businesses access new markets. This strategy will focus on three key components. They include investing in infrastructure to support trade; providing Canadian businesses with resources to execute their export plans; enhancing trade services for Canadian exporters. However, it is not clear how much of these efforts will benefit the Canada-EU bilateral trade and its export diversification.

It is important to channel these resources according to each trade region's unique features products need and relevant EU legislation affecting businesses' exports to Europe. Canada's Trade Commissioner Service has a tool which offers information on country and sector's information for international business. It provides market overviews, funding programs, industrial sectors analysis, as well as how to conduit e-commerce in each member state in the EU. As a complement, the Trade Commissioner Service also published a "Guide for Canadian business" regarding key insights into the business environment in European markets and EU regulatory requirements. Offering destination and product-oriented resources and services could facilitate more targeted solutions in terms of improving export diversification.

## Chapter 7 – Conclusions

The topic of this major research paper is the development of Canada's export trade diversification with the EU from 2005 to 2020. The author explores this research question in three steps: geographical diversification; product diversification; Canada's export diversification in the EU market without the UK's trade data.

The EU is Canada's second-biggest trading partner, and the CETA has brought the two even closer. The international context is changing rapidly. From 2005 to 2020, multiple political, social, and economic events have happened, which keeps influencing the development of Canada-EU merchandise trade. For the past 15 years, the world has witnessed the gradual shift of power to the East. While countries such as China and India have gained more attractiveness as trade and investment destinations, the West is losing its competitiveness. What's worse, the Trump administration further damaged the rule-based international order, free trade practice and the partnerships of allies.

On the EU side, while its enlargement in the 21st century has expanded its member states to 28, after Croatia joining the EU in July 2013, it became EU27 after the UK, which is one of Canada's principal trading partners, left the EU on February 1st, 2020. The 2007-2008 financial crisis, as well as the COVID-19 pandemic, also poses challenges to Canada-EU merchandise trade.

For Canada, it trades heavily with the US, and yet reducing the reliance and explore more markets to export is essential for decreasing economic vulnerability. It is also Canada's national imperative to deepening trade diversification. As stated in the Fall 2018 Economic Statement, trade enhances domestic competitiveness, improves productivity, increases sales of goods and services, raises real wages, and can be an important stimulant to innovation. Increased trade leads to wealth creation, which leads to more jobs to help strengthen the Canadian middle class. Although research

has shown that there is a tendency for a return to export specialization and reconcentration, the benefits of export diversification on hedging against region and product-specific shocks are still an important advantage. Therefore, Canada needs to diversify its export portfolio, both by geography and by product.

This major research paper takes a comparative analysis approach. It tracks Canada-EU annual merchandise trade within the Canada international trade dynamics and compares their respective annual development over time. Moreover, how the trade was impacted and recovered from economic shocks are analyzed respectively. It also illustrates Canadian export diversification performance by comparing it with import diversification. The metric used to measure diversification (or concentration) level is the Herfindahl-Hirschman Index (HHI).

The trade expansion between Canada and the EU has been keeping making progress. The trade loss in bilateral trade as a result of the 2007-2008 financial crisis and the global pandemic got recovered timely. However, that cannot veil the fact that Canada still has an imbalanced trade relations with the EU, where trade deficits have remain a normality.

While Canadian exports are lower than imports on an annual basis in the EU market, export diversification level is also lower than imports. By geography, export diversification was in the diversified bracket from 2005 to 2008, after which it became more concentrated, whereas import diversification by destination has remained stable and less concentrated. Similarly, by product, exports are more concentrated than imports. Overall, Canadian exports are more diversified by products than by geography.

The moderate concentration in Canadian exports to the EU is largely due to the dominate share of exports to the UK, Canada's top trading partner in the EU before Brexit, as well as energy products being the predominant exports to the EU. In scenario, after the UK data being removed,

export and import diversification dropped noticeably, and exports would be more diversified than imports.

This demonstrates the importance of not heavily relying on one or few major trade partners for exports and diversification needs to be deepened. Canadian products face many competitors in the EU market. With CETA facilitating the bilateral trade, although trade volumes have increased since the implementation, export diversification still has a long way to go. For more diversification in exporting destinations and exported goods, the Canadian government needs to keep supporting SMEs by providing resources and tailored export diversification strategy for exporting to the EU and promoting all information and services. With incentives, Canadian businesses also need to take advantage of the trade deal and benefits, to explore new markets in the EU.

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## Appendices

### Appendix A

These tables below are synthesized by the author from one Statistics Canada's survey: International merchandise trade for all countries and by Principal Trading Partners (monthly). The Annual data for imports, exports and balance of payments are calculated by summing up the data from January to December of that year.

**Table A.1**

*International Merchandise Trade with All Countries from 2005 to 2020, Annual (in billion)*

Year	Export	Import	Balance of Payments	Export Growth Rate	Import Growth Rate
2005	448.4	387.5	61.0		
2006	452.0	404.5	47.5	0.8%	4.4%
2007	461.4	415.8	45.6	2.1%	2.8%
2008	487.3	443.6	43.7	5.6%	6.7%
2009	367.2	374.0	-6.8	-24.6%	-15.7%
2010	404.0	413.7	-9.7	10.0%	10.6%
2011	456.6	456.0	0.6	13.0%	10.2%
2012	461.5	474.8	-13.3	1.1%	4.1%
2013	479.2	487.4	-8.1	3.8%	2.6%
2014	529.3	524.7	4.7	10.5%	7.7%
2015	524.0	548.7	-24.6	-1.0%	4.6%
2016	522.3	547.3	-25.0	-0.3%	-0.2%
2017	550.5	575.0	-24.5	5.4%	5.1%
2018	587.5	607.3	-19.8	6.7%	5.6%
2019	598.2	613.5	-15.4	1.8%	1.0%
2020	523.8	561.4	-37.5	-12.4%	-8.5%

*Note:* Author's calculation using data from Statistics Canada.

Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table A.2***International Merchandise Trade with All Countries from January 2020 to March 2021, Annual**(in billion)*

Month/Year	Export	Import	Balance of Payments	Export Growth Rate	Import Growth Rate
Jan-20	47.0	49.8	-2.8		
Feb-20	47.8	50.3	-2.5	1.6%	1.0%
Mar-20	44.2	48.7	-4.5	-7.5%	-3.2%
Apr-20	31.6	37.1	-5.4	-28.5%	-23.9%
May-20	34.0	35.8	-1.8	7.5%	-3.4%
Jun-20	41.4	43.0	-1.6	21.8%	20.0%
Jul-20	45.9	48.4	-2.5	11.0%	12.8%
Aug-20	45.1	48.5	-3.4	-1.8%	0.2%
Sep-20	45.8	49.6	-3.8	1.6%	2.2%
Oct-20	46.4	50.5	-4.1	1.3%	1.9%
Nov-20	46.9	50.2	-3.3	1.0%	-0.6%
Dec-20	47.5	49.4	-1.9	1.3%	-1.6%
Jan-21	51.4	50.2	1.3	8.3%	1.5%
Feb-21	50.5	49.1	1.4	-1.9%	-2.2%
Mar-21	50.6	51.8	-1.1	0.3%	5.5%

*Note:* Author's calculation using data from Statistics Canada.

Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table A.3***International Merchandise Trade with the EU (including the UK) from 2005 to 2020, Annual (in**billion)*

Year	Export	Import	Balance of Payments	Export Growth Rate	Import Growth Rate
2005	27.8	38.4	-10.6		
2006	31.9	42.0	-10.1	14.8%	9.3%
2007	38.3	42.4	-4.1	20.0%	0.8%
2008	39.1	46.6	-7.6	1.9%	10.0%
2009	31.7	38.8	-7.2	-18.9%	-16.7%
2010	37.2	40.4	-3.2	17.5%	4.1%
2011	42.6	45.9	-3.2	14.6%	13.4%
2012	41.4	44.6	-3.2	-2.9%	-2.7%
2013	36.0	45.4	-9.4	-13.0%	1.7%
2014	40.5	49.5	-9.0	12.4%	9.0%
2015	39.3	53.2	-13.9	-3.1%	7.5%
2016	42.0	52.4	-10.5	6.9%	-1.4%
2017	43.8	56.9	-13.0	4.4%	8.4%
2018	46.6	63.6	-17.0	6.5%	11.9%
2019	49.8	66.2	-16.4	6.7%	4.1%
2020	50.1	60.4	-10.3	0.6%	-8.8%

*Note:* Author's calculation using data from Statistics Canada.

Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table A.4**

*International Merchandise Trade with the EU (including the UK) from January 2020 to March 2021, Monthly (in billion)*

Month/Year	Export	Import	Balance of Payments	Export Growth Rate	Import Growth Rate
Jan-20	4.2	5.1	-0.8		
Feb-20	4.0	5.1	-1.1	-4.9%	0.9%
Mar-20	4.0	5.3	-1.2	-0.4%	2.5%
Apr-20	3.2	4.8	-1.6	-19.8%	-7.7%
May-20	3.2	4.3	-1.1	0.2%	-11.5%
Jun-20	4.0	5.0	-1.0	25.4%	16.8%
Jul-20	3.9	4.9	-1.0	-4.7%	-2.2%
Aug-20	3.7	4.7	-1.0	-5.2%	-4.6%
Sep-20	4.4	5.5	-1.1	20.1%	17.8%
Oct-20	4.5	5.2	-0.7	2.9%	-5.3%
Nov-20	5.7	5.3	0.4	27.0%	2.8%
Dec-20	5.2	5.2	0.1	-9.3%	-3.7%
Jan-21	2.5	4.6	-2.1	-51.9%	-10.8%
Feb-21	2.0	4.3	-2.3	-18.1%	-5.5%
Mar-21	2.6	4.2	-1.6	25.5%	-3.5%

*Note:* Author's calculation using data from Statistics Canada.

Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

## Appendix B

As demonstrated in Chapter 5 regarding the calculation of geographical and product diversification ratio using the HHI, the key step is calculating the “share” - the share of Canada’s export value to an EU member state ( $x_i$ ) among Canada’s export value to all the EU member states ( $X$ ) for export geographical diversification; and the share of Canada’s export value of one product ( $x_i$ ) among Canada’s export value of all the products ( $X$ ) for export product diversification. This method works the same for import diversification.

This is the formula the author uses for calculating the HHI:

$$HHI = \sum_{i=1}^N \left( \frac{x_i}{X} \right)^2$$

Data used to calculate geographical diversification are sourced from one Statistics Canada survey: International merchandise trade for all countries and by Principal Trading Partners (monthly). The Annual data for imports and exports are calculated by summing up the data from January to December of that year. For better data presentation, readability, and simplicity reasons, trade data apart from Canada’s seven Principal Trading Partners in the EU are summed up under “Other”. This is calculated by subtracting the sum of trade data of the seven Principal Trading Partners from the total amount.

Data used to calculate product diversification is from another Statistics Canada survey: Merchandise imports and exports, customs-based, by free trade agreement and by commodity (monthly), which contains Canada’s merchandise imports and exports with the EU by commodity before and after the implementation of CETA. Annual data are the summation of monthly data.

The tables below show Canada's import and export value, the share of each component, and the HHI level from 2005 to 2020 from geography and product dimensions.

**Table B.1**

*Canadian Merchandise Export Value to the EU, Seven Principal Trading Partners in the EU, and Other from 2005 to 2020 (in billion)*

Year	European Union	United Kingdom	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	27.8	9.3	3.6	2.5	2.9	2.1	2.6	1.4	3.6
2006	31.9	11.2	4.3	3.4	3.2	2.0	2.7	1.3	3.8
2007	38.3	14.1	4.2	4.4	3.5	2.8	3.3	1.4	4.7
2008	39.1	14.0	4.8	4.0	3.5	2.4	3.7	1.2	5.4
2009	31.7	12.9	4.0	3.0	2.8	1.8	2.0	1.2	4.0
2010	37.2	17.0	4.7	3.5	2.7	2.0	2.4	1.1	3.8
2011	42.6	19.4	4.5	5.0	3.4	2.0	2.6	1.1	4.6
2012	41.4	19.9	3.9	4.7	3.6	1.7	2.5	1.1	4.0
2013	36.0	14.8	4.1	3.7	3.5	2.2	2.6	1.1	4.0
2014	40.5	15.9	3.4	4.0	3.5	4.3	3.6	1.1	4.7
2015	39.3	16.5	3.9	3.7	3.2	2.4	3.2	1.1	5.3
2016	42.0	18.0	4.4	2.9	3.5	2.5	3.3	1.9	5.4
2017	43.8	18.8	4.4	3.3	3.6	2.4	3.6	1.7	6.0
2018	46.6	17.2	5.2	4.9	3.5	3.2	3.9	2.1	6.6
2019	49.8	20.5	6.5	5.3	3.7	3.3	3.3	1.5	5.6
2020	50.1	21.4	6.6	5.6	3.8	3.8	2.8	1.4	4.7

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table B.2**

*Share of Canadian Merchandise Export Value to the EU, Seven Principal Trading Partners in the EU, and Other from 2005 to 2020*

Year	European Union	United Kingdom	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	100.0%	33.5%	12.8%	8.8%	10.3%	7.5%	9.3%	4.9%	12.9%
2006	100.0%	35.1%	13.5%	10.5%	10.0%	6.4%	8.4%	4.2%	12.0%
2007	100.0%	36.8%	11.0%	11.5%	9.0%	7.3%	8.6%	3.6%	12.2%
2008	100.0%	35.8%	12.3%	10.2%	9.0%	6.3%	9.5%	3.1%	13.9%
2009	100.0%	40.7%	12.5%	9.3%	9.0%	5.8%	6.4%	3.7%	12.6%
2010	100.0%	45.6%	12.7%	9.5%	7.3%	5.5%	6.3%	2.9%	10.2%
2011	100.0%	45.5%	10.6%	11.8%	7.9%	4.7%	6.1%	2.5%	10.9%
2012	100.0%	48.0%	9.4%	11.5%	8.6%	4.2%	6.1%	2.6%	9.6%
2013	100.0%	41.2%	11.3%	10.3%	9.8%	6.0%	7.3%	3.1%	11.0%
2014	100.0%	39.2%	8.4%	9.9%	8.6%	10.5%	9.0%	2.8%	11.6%
2015	100.0%	42.1%	9.9%	9.4%	8.3%	6.0%	8.1%	2.8%	13.4%
2016	100.0%	42.8%	10.6%	7.0%	8.4%	6.0%	7.9%	4.5%	12.9%
2017	100.0%	42.8%	10.1%	7.6%	8.2%	5.4%	8.3%	4.0%	13.7%
2018	100.0%	36.8%	11.1%	10.6%	7.6%	6.9%	8.4%	4.6%	14.1%
2019	100.0%	41.2%	13.1%	10.7%	7.4%	6.7%	6.6%	3.1%	11.2%
2020	100.0%	42.7%	13.1%	11.2%	7.6%	7.5%	5.6%	2.9%	9.5%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table B.3**

*Canadian Merchandise Import Value from the EU, Seven Principal Trading Partners in the EU, and Other from 2005 to 2020 (in billion)*

Year	European Union	United Kingdom	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	38.4	9.0	8.7	1.8	3.6	3.7	2.7	0.9	8.0
2006	42.0	9.5	9.5	1.8	3.9	3.9	3.2	1.1	9.1
2007	42.4	10.0	9.9	2.0	4.1	4.0	3.5	1.1	7.8
2008	46.6	11.2	10.9	2.5	4.8	4.0	3.4	1.4	8.3
2009	38.8	8.5	8.8	2.3	4.0	3.4	3.2	1.2	7.4
2010	40.4	9.6	9.2	2.0	3.7	3.5	2.8	1.2	8.7
2011	45.9	10.6	10.7	3.0	3.9	3.9	2.5	1.5	9.7
2012	44.6	8.4	12.1	4.1	3.9	3.9	2.2	1.6	8.3
2013	45.4	7.6	12.6	4.0	4.0	4.4	2.8	1.6	8.4
2014	49.5	8.3	13.1	4.3	4.4	4.7	3.1	2.2	9.3
2015	53.2	8.6	15.0	4.4	4.6	5.4	3.2	2.2	9.8
2016	52.4	7.7	14.6	4.8	4.4	5.6	3.1	2.1	9.9
2017	56.9	8.1	15.3	5.5	4.6	6.1	4.1	2.3	10.9
2018	63.6	8.2	16.7	6.0	5.1	6.7	5.4	2.7	12.9
2019	66.2	8.4	16.2	6.6	5.3	6.9	6.3	3.3	13.1
2020	60.4	9.4	14.1	4.7	4.7	6.6	5.4	2.9	12.6

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table B.4**

*Share of Canadian Merchandise Import Value from the EU, Seven Principal Trading Partners in the EU, and Other from 2005 to 2020*

Year	European Union	United Kingdom	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	100.0%	23.5%	22.7%	4.6%	9.5%	9.6%	7.1%	2.4%	20.7%
2006	100.0%	22.7%	22.6%	4.3%	9.3%	9.2%	7.6%	2.7%	21.7%
2007	100.0%	23.5%	23.5%	4.8%	9.6%	9.4%	8.2%	2.5%	18.5%
2008	100.0%	24.1%	23.3%	5.4%	10.2%	8.7%	7.4%	3.0%	17.9%
2009	100.0%	21.9%	22.7%	6.0%	10.3%	8.8%	8.2%	3.1%	19.1%
2010	100.0%	23.6%	22.7%	4.9%	9.1%	8.5%	6.9%	2.9%	21.4%
2011	100.0%	23.0%	23.3%	6.6%	8.6%	8.4%	5.5%	3.4%	21.2%
2012	100.0%	18.8%	27.1%	9.2%	8.8%	8.8%	5.0%	3.6%	18.7%
2013	100.0%	16.8%	27.8%	8.7%	8.8%	9.8%	6.1%	3.6%	18.4%
2014	100.0%	16.7%	26.5%	8.7%	8.9%	9.6%	6.4%	4.4%	18.9%
2015	100.0%	16.3%	28.2%	8.2%	8.6%	10.2%	6.0%	4.2%	18.4%
2016	100.0%	14.8%	27.8%	9.2%	8.5%	10.8%	6.0%	4.1%	19.0%
2017	100.0%	14.2%	26.9%	9.7%	8.1%	10.7%	7.2%	4.1%	19.2%
2018	100.0%	12.9%	26.2%	9.4%	8.0%	10.5%	8.5%	4.2%	20.2%
2019	100.0%	12.7%	24.5%	9.9%	8.0%	10.5%	9.6%	4.9%	19.9%
2020	100.0%	15.6%	23.3%	7.9%	7.7%	11.0%	8.9%	4.8%	20.8%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table B.5***Canada-EU (including the UK) Geographical Diversification HHI from 2005 to 2020*

Year	Export HHI	Import HHI	0.15 Threshold	0.25 Threshold
2005	0.18	0.18	0.15	0.25
2006	0.19	0.17	0.15	0.25
2007	0.20	0.17	0.15	0.25
2008	0.19	0.17	0.15	0.25
2009	0.22	0.17	0.15	0.25
2010	0.26	0.18	0.15	0.25
2011	0.26	0.18	0.15	0.25
2012	0.28	0.17	0.15	0.25
2013	0.22	0.17	0.15	0.25
2014	0.21	0.16	0.15	0.25
2015	0.23	0.17	0.15	0.25
2016	0.23	0.17	0.15	0.25
2017	0.24	0.16	0.15	0.25
2018	0.20	0.16	0.15	0.25
2019	0.23	0.15	0.15	0.25
2020	0.24	0.16	0.15	0.25

Note: Calculated by the author using the HHI formula and data from Statistics Canada.

Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table B.6**

*Canadian Merchandise Export Value to the EU by Twelve Commodities from 2005 to 2020 (in billion)*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	1.4	2.2	2.6	4.2	0.6	2.5	2.1	3.4	0.6	2.2	3.0	0.4
2006	1.6	2.4	2.6	6.0	0.7	2.1	2.3	3.7	0.6	3.5	3.3	0.4
2007	1.8	4.3	3.5	8.6	0.8	2.3	2.5	3.3	0.6	3.3	3.5	0.3
2008	2.1	4.4	4.8	8.6	1.0	1.9	2.6	2.9	0.5	3.8	3.6	0.2
2009	1.9	2.6	3.2	7.1	0.8	1.3	2.2	2.3	0.3	4.3	3.3	0.2
2010	2.1	2.7	4.1	11.4	0.9	1.3	2.1	2.3	0.3	4.1	3.2	0.2
2011	2.5	4.1	4.4	15.1	1.0	1.2	2.3	2.4	0.3	3.2	3.3	0.2
2012	2.3	4.6	3.9	15.0	0.9	0.9	2.1	2.3	0.3	3.2	3.0	0.2
2013	2.2	3.6	3.1	10.8	1.0	0.9	1.9	2.1	0.3	3.0	4.2	0.2
2014	3.0	4.2	3.2	12.3	1.1	1.0	2.3	2.2	0.4	3.8	5.0	0.2
2015	2.7	2.2	3.4	12.9	1.0	1.0	2.5	2.5	0.5	4.2	5.0	0.3
2016	2.9	2.3	3.3	14.1	1.0	1.0	2.6	2.5	0.5	4.9	4.4	0.3
2017	2.6	2.9	4.2	14.8	1.0	1.0	2.6	2.5	0.7	4.1	4.8	0.3
2018	2.3	5.8	4.5	13.5	1.2	1.2	2.9	2.6	1.1	4.4	5.1	0.4
2019	3.1	4.5	4.9	17.2	1.3	0.9	3.1	2.8	1.0	4.1	5.0	0.5
2020	4.4	3.9	4.7	18.7	1.2	0.7	2.4	2.4	0.8	3.0	5.3	0.3

Note: Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table B.7**

*Share of Canadian Merchandise Export Value to the EU by Twelve Commodities from 2005 to 2020*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	5.6%	8.9%	10.3%	16.8%	2.3%	10.0%	8.2%	13.5%	2.5%	8.7%	11.8%	1.4%
2006	5.6%	8.2%	8.9%	20.6%	2.5%	7.1%	7.9%	12.6%	2.0%	11.9%	11.3%	1.4%
2007	5.1%	12.4%	10.1%	24.5%	2.3%	6.6%	7.2%	9.5%	1.8%	9.6%	9.9%	0.9%
2008	5.7%	12.0%	13.3%	23.7%	2.8%	5.3%	7.0%	7.9%	1.3%	10.4%	9.9%	0.7%
2009	6.6%	8.9%	10.8%	23.9%	2.8%	4.5%	7.3%	7.9%	0.9%	14.4%	11.2%	0.8%
2010	6.0%	7.9%	11.8%	32.9%	2.5%	3.7%	6.2%	6.6%	0.8%	11.7%	9.3%	0.6%
2011	6.3%	10.3%	11.0%	37.7%	2.6%	2.9%	5.6%	6.1%	0.8%	8.0%	8.1%	0.5%
2012	5.9%	11.9%	10.2%	38.5%	2.3%	2.4%	5.5%	5.9%	0.8%	8.3%	7.8%	0.4%
2013	6.7%	10.7%	9.3%	32.4%	3.1%	2.6%	5.7%	6.3%	1.0%	9.1%	12.7%	0.5%
2014	7.8%	10.9%	8.3%	31.7%	2.8%	2.5%	6.0%	5.7%	1.0%	9.9%	12.9%	0.5%
2015	7.0%	5.7%	8.9%	34.1%	2.6%	2.5%	6.5%	6.5%	1.3%	11.0%	13.2%	0.7%
2016	7.2%	5.8%	8.3%	35.4%	2.5%	2.5%	6.5%	6.2%	1.3%	12.3%	11.1%	0.7%
2017	6.3%	7.0%	10.1%	35.5%	2.4%	2.4%	6.3%	6.1%	1.7%	9.8%	11.6%	0.7%
2018	5.2%	12.9%	10.0%	30.0%	2.6%	2.6%	6.5%	5.8%	2.5%	9.8%	11.4%	0.8%
2019	6.5%	9.3%	10.1%	35.6%	2.7%	1.9%	6.3%	5.8%	2.1%	8.4%	10.3%	1.0%
2020	9.2%	8.1%	9.8%	39.2%	2.5%	1.6%	5.0%	5.1%	1.6%	6.2%	11.1%	0.6%

Note: Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table B.8**

*Canadian Merchandise Import Value from the EU by Twelve Commodities from 2005 to 2020 (in billion)*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	0.5	6.1	0.2	3.3	3.5	1.5	8.2	4.1	4.2	2.4	11.8	0.4
2006	0.5	6.9	0.3	3.2	3.8	1.5	8.6	4.1	4.6	2.7	12.7	0.1
2007	0.5	6.9	0.5	3.2	3.6	1.5	8.4	4.0	4.6	2.8	13.4	0.1
2008	0.5	8.0	0.3	3.4	3.3	1.4	9.4	4.5	4.9	3.5	14.3	0.8
2009	0.5	4.5	0.3	2.5	2.8	1.2	7.4	4.0	4.1	3.6	14.0	0.1
2010	0.5	5.8	0.8	3.2	2.9	1.2	7.8	4.1	4.9	3.2	13.6	0.1
2011	0.6	6.1	0.9	4.2	3.2	1.3	9.0	4.6	5.3	3.2	13.8	0.1
2012	0.6	4.2	0.7	3.4	3.5	1.3	9.4	4.5	6.0	3.2	13.5	0.2
2013	0.8	4.1	0.5	3.4	3.6	1.3	10.1	4.7	6.0	4.1	14.4	0.3
2014	1.0	3.9	0.3	4.7	3.7	1.5	10.7	5.3	6.6	3.9	15.6	0.4
2015	1.1	2.5	0.3	5.1	4.0	1.8	11.4	5.3	7.6	5.4	16.6	0.5
2016	1.1	3.0	0.3	3.6	3.9	1.8	10.8	5.8	8.4	4.2	17.6	0.4
2017	1.1	4.1	0.3	3.9	4.0	2.1	11.7	5.9	9.1	4.7	19.3	0.4
2018	1.2	4.3	0.3	4.7	4.5	2.3	13.2	6.1	9.4	5.6	21.8	0.5
2019	1.2	3.1	0.4	4.8	4.8	2.2	14.1	6.3	9.3	7.2	23.2	0.6
2020	1.0	1.3	0.6	5.4	4.0	2.1	12.2	5.7	6.3	5.4	23.0	0.5

Note: Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table B.9**

*Share of Canadian Merchandise Import Value from the EU by Twelve Commodities from 2005 to 2020*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	1.1%	13.3%	0.5%	7.3%	7.5%	3.2%	17.8%	8.8%	9.1%	5.1%	25.7%	0.8%
2006	1.0%	14.1%	0.5%	6.5%	7.8%	3.2%	17.6%	8.4%	9.4%	5.4%	25.9%	0.3%
2007	1.1%	13.9%	1.1%	6.4%	7.2%	3.0%	17.0%	8.2%	9.3%	5.7%	27.1%	0.2%
2008	1.0%	14.7%	0.6%	6.3%	6.0%	2.7%	17.3%	8.4%	9.0%	6.4%	26.3%	1.4%
2009	1.2%	9.9%	0.8%	5.6%	6.2%	2.7%	16.4%	8.9%	9.0%	8.0%	31.0%	0.3%
2010	1.1%	12.1%	1.6%	6.6%	6.0%	2.6%	16.1%	8.5%	10.2%	6.6%	28.3%	0.2%
2011	1.1%	11.7%	1.8%	8.0%	6.1%	2.5%	17.2%	8.7%	10.2%	6.0%	26.5%	0.2%
2012	1.1%	8.3%	1.5%	6.8%	6.9%	2.6%	18.6%	8.8%	11.9%	6.2%	26.7%	0.4%
2013	1.4%	7.7%	0.9%	6.3%	6.8%	2.5%	18.9%	8.8%	11.3%	7.7%	27.0%	0.6%
2014	1.8%	6.8%	0.5%	8.2%	6.5%	2.7%	18.6%	9.1%	11.5%	6.8%	26.9%	0.7%
2015	1.8%	4.1%	0.5%	8.3%	6.5%	2.8%	18.5%	8.6%	12.3%	8.7%	26.9%	0.8%
2016	1.8%	5.0%	0.5%	6.0%	6.3%	3.0%	17.6%	9.5%	13.8%	6.9%	28.8%	0.7%
2017	1.6%	6.1%	0.4%	5.9%	6.1%	3.2%	17.6%	8.8%	13.6%	7.1%	29.0%	0.7%
2018	1.6%	5.8%	0.4%	6.3%	6.1%	3.1%	17.9%	8.3%	12.7%	7.5%	29.6%	0.7%
2019	1.5%	4.1%	0.5%	6.2%	6.3%	2.9%	18.2%	8.2%	12.0%	9.3%	30.1%	0.8%
2020	1.5%	2.0%	0.9%	8.0%	5.9%	3.2%	18.0%	8.5%	9.3%	8.0%	34.0%	0.8%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table B.10**

*Canada-EU (including the UK) Product Diversification HHI from 2005 to 2020*

Year	Import HHI	Export HHI	0.15 Threshold	0.25 Threshold
2005	0.15	0.11	0.15	0.25
2006	0.15	0.12	0.15	0.25
2007	0.15	0.13	0.15	0.25
2008	0.15	0.13	0.15	0.25
2009	0.16	0.13	0.15	0.25
2010	0.15	0.16	0.15	0.25
2011	0.15	0.19	0.15	0.25
2012	0.15	0.20	0.15	0.25
2013	0.15	0.16	0.15	0.25
2014	0.15	0.16	0.15	0.25
2015	0.15	0.17	0.15	0.25
2016	0.16	0.18	0.15	0.25
2017	0.16	0.18	0.15	0.25
2018	0.16	0.15	0.15	0.25
2019	0.16	0.18	0.15	0.25
2020	0.18	0.20	0.15	0.25

*Note:* Calculated by the author using the HHI formula and data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

## Appendix C

In the scenario where the UK's trade data are removed from 2005 to 2020, Canada-EU merchandise trade value, share of trade, and HHI will also shift. The calculation method and process remain the same, with the UK's data being subtracted from the total amount.

**Table C.1**

*Canadian Merchandise Export Value to the EU, Six Principal Trading Partners in the EU, and Other from 2005 to 2020 (in billion)*

Year	European Union	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	18.5	3.6	2.5	2.9	2.1	2.6	1.4	3.6
2006	20.7	4.3	3.4	3.2	2.0	2.7	1.3	3.8
2007	24.2	4.2	4.4	3.5	2.8	3.3	1.4	4.7
2008	25.1	4.8	4.0	3.5	2.4	3.7	1.2	5.4
2009	18.8	4.0	3.0	2.8	1.8	2.0	1.2	4.0
2010	20.2	4.7	3.5	2.7	2.0	2.4	1.1	3.8
2011	23.3	4.5	5.0	3.4	2.0	2.6	1.1	4.6
2012	21.5	3.9	4.7	3.6	1.7	2.5	1.1	4.0
2013	21.2	4.1	3.7	3.5	2.2	2.6	1.1	4.0
2014	24.6	3.4	4.0	3.5	4.3	3.6	1.1	4.7
2015	22.7	3.9	3.7	3.2	2.4	3.2	1.1	5.3
2016	24.0	4.4	2.9	3.5	2.5	3.3	1.9	5.4
2017	25.1	4.4	3.3	3.6	2.4	3.6	1.7	6.0
2018	29.5	5.2	4.9	3.5	3.2	3.9	2.1	6.6
2019	29.3	6.5	5.3	3.7	3.3	3.3	1.5	5.6
2020	28.7	6.6	5.6	3.8	3.8	2.8	1.4	4.7

*Note* : Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table C.2**

*Share of Canadian Merchandise Export Value to the EU, Six Principal Trading Partners in the EU, and Other from 2005 to 2020*

Year	European Union	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	100.0%	19.3%	13.3%	15.5%	11.2%	14.0%	7.3%	19.4%
2006	100.0%	20.8%	16.2%	15.3%	9.8%	13.0%	6.4%	18.5%
2007	100.0%	17.4%	18.2%	14.2%	11.5%	13.6%	5.6%	19.4%
2008	100.0%	19.1%	15.9%	14.0%	9.7%	14.8%	4.8%	21.7%
2009	100.0%	21.1%	15.7%	15.1%	9.7%	10.8%	6.3%	21.2%
2010	100.0%	23.3%	17.4%	13.5%	10.0%	11.6%	5.3%	18.8%
2011	100.0%	19.5%	21.7%	14.6%	8.7%	11.2%	4.5%	19.9%
2012	100.0%	18.1%	22.0%	16.6%	8.0%	11.6%	5.1%	18.5%
2013	100.0%	19.2%	17.6%	16.6%	10.3%	12.3%	5.2%	18.7%
2014	100.0%	13.9%	16.3%	14.1%	17.3%	14.8%	4.6%	19.0%
2015	100.0%	17.1%	16.3%	14.3%	10.4%	14.0%	4.9%	23.1%
2016	100.0%	18.5%	12.3%	14.7%	10.4%	13.8%	7.9%	22.5%
2017	100.0%	17.7%	13.2%	14.3%	9.5%	14.5%	6.9%	23.9%
2018	100.0%	17.6%	16.7%	12.0%	10.9%	13.3%	7.3%	22.3%
2019	100.0%	22.3%	18.2%	12.7%	11.4%	11.3%	5.2%	19.0%
2020	100.0%	23.0%	19.5%	13.2%	13.1%	9.8%	5.0%	16.5%

*Note* : Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table C.3**

*Canadian Merchandise Import Value from the EU, Six Principal Trading Partners in the EU, and Other from 2005 to 2020 (in billion)*

Year	European Union	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	32.3	9.6	1.9	3.9	4.0	3.0	1.0	8.8
2006	35.1	10.3	1.9	4.2	4.2	3.4	1.2	9.8
2007	35.3	10.9	2.2	4.5	4.3	3.7	1.2	8.4
2008	38.1	11.6	2.7	5.2	4.4	3.8	1.5	8.9
2009	32.7	9.5	2.5	4.3	3.7	3.4	1.2	8.1
2010	33.7	10.0	2.2	3.9	3.8	3.0	1.3	9.5
2011	38.5	11.6	3.5	4.3	4.2	2.7	1.7	10.4
2012	39.3	13.1	4.5	4.2	4.3	2.4	1.8	9.1
2013	41.0	13.7	4.2	4.4	4.8	3.0	1.8	9.1
2014	44.5	14.1	4.6	4.7	5.1	3.4	2.4	10.1
2015	48.3	16.2	4.7	4.9	5.9	3.4	2.4	10.7
2016	48.7	15.8	5.4	4.8	6.1	3.4	2.3	10.8
2017	53.1	16.6	5.9	5.0	6.6	4.5	2.5	11.8
2018	60.3	18.1	6.6	5.5	7.3	5.9	2.9	14.0
2019	62.3	17.6	7.1	5.7	7.5	6.7	3.5	14.2
2020	51.0	14.1	4.7	4.7	6.6	5.4	2.9	12.6

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table C.4**

*Share of Canadian Merchandise Import Value from the EU, Six Principal Trading Partners in the EU, and Other from 2005 to 2020*

Year	European Union	Germany	Netherlands	France	Italy	Belgium	Spain	Other
2005	100.0%	29.8%	6.0%	12.2%	12.3%	9.2%	3.1%	27.3%
2006	100.0%	29.5%	5.6%	12.1%	11.9%	9.7%	3.4%	27.8%
2007	100.0%	30.9%	6.3%	12.7%	12.1%	10.6%	3.4%	23.9%
2008	100.0%	30.5%	7.2%	13.5%	11.4%	9.9%	3.9%	23.5%
2009	100.0%	29.0%	7.6%	13.2%	11.3%	10.4%	3.8%	24.7%
2010	100.0%	29.8%	6.5%	11.6%	11.1%	8.9%	3.9%	28.1%
2011	100.0%	30.3%	9.1%	11.2%	10.8%	7.1%	4.5%	27.1%
2012	100.0%	33.3%	11.5%	10.7%	10.8%	6.0%	4.5%	23.2%
2013	100.0%	33.4%	10.3%	10.8%	11.8%	7.4%	4.3%	22.1%
2014	100.0%	31.8%	10.4%	10.6%	11.5%	7.7%	5.4%	22.6%
2015	100.0%	33.6%	9.8%	10.2%	12.3%	7.1%	5.0%	22.1%
2016	100.0%	32.5%	11.0%	9.9%	12.6%	7.0%	4.7%	22.3%
2017	100.0%	31.3%	11.2%	9.4%	12.5%	8.5%	4.8%	22.3%
2018	100.0%	30.1%	10.9%	9.2%	12.1%	9.8%	4.9%	23.2%
2019	100.0%	28.2%	11.4%	9.1%	12.1%	10.8%	5.7%	22.7%
2020	100.0%	27.6%	9.3%	9.1%	13.0%	10.6%	5.7%	24.6%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table C.5**

*Canada-EU (excluding and including the UK) Geographical Diversification HHI from 2005 to 2020*

Year	Export HHI (without the UK)	Import HHI (without the UK)	Export HHI (with the UK)	Import HHI (with the UK)	0.15 threshold	0.25 threshold
2005	0.15	0.21	0.18	0.18	0.15	0.25
2006	0.16	0.21	0.19	0.18	0.15	0.25
2007	0.16	0.20	0.20	0.17	0.15	0.25
2008	0.16	0.20	0.19	0.17	0.15	0.25
2009	0.16	0.19	0.22	0.17	0.15	0.25
2010	0.16	0.21	0.26	0.18	0.15	0.25
2011	0.17	0.20	0.26	0.17	0.15	0.25
2012	0.17	0.21	0.28	0.17	0.15	0.25
2013	0.16	0.20	0.22	0.17	0.15	0.25
2014	0.16	0.20	0.21	0.16	0.15	0.25
2015	0.16	0.20	0.23	0.17	0.15	0.25
2016	0.16	0.20	0.23	0.17	0.15	0.25
2017	0.16	0.19	0.24	0.16	0.15	0.25
2018	0.16	0.19	0.20	0.16	0.15	0.25
2019	0.16	0.18	0.23	0.15	0.15	0.25
2020	0.16	0.19	0.24	0.16	0.15	0.25

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)

**Table C.6**

*Canadian Merchandise Export Value to the EU (excluding the UK) by Twelve Commodities from 2005 to 2020 (in billion)*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	1.2	1.7	1.7	1.3	0.5	1.9	1.6	2.4	0.5	1.8	2.4	0.3
2006	1.4	1.8	1.9	1.6	0.6	1.6	1.9	2.8	0.5	2.8	2.8	0.3
2007	1.5	2.9	2.7	3.2	0.7	1.7	2.0	2.6	0.6	2.7	2.8	0.2
2008	1.8	3.2	3.3	2.5	0.8	1.5	2.1	2.3	0.4	2.9	3.0	0.2
2009	1.7	1.8	2.0	1.0	0.7	1.0	1.7	1.9	0.2	3.2	2.8	0.2
2010	1.8	1.9	2.4	1.7	0.8	1.0	1.6	1.8	0.2	2.9	2.7	0.1
2011	2.3	2.9	2.9	2.0	0.9	0.9	1.8	2.0	0.3	2.8	2.9	0.1
2012	2.0	3.3	2.8	1.8	0.8	0.8	1.7	1.9	0.3	2.7	2.7	0.1
2013	1.9	2.1	2.5	1.9	0.9	0.7	1.6	1.8	0.3	2.7	3.5	0.1
2014	2.8	3.0	3.1	1.9	0.9	0.7	1.8	1.9	0.4	3.3	4.5	0.1
2015	2.3	1.2	3.2	1.7	0.9	0.7	2.0	2.1	0.4	3.6	4.3	0.2
2016	2.5	1.4	3.1	1.5	0.9	0.7	2.2	2.1	0.5	4.4	4.3	0.2
2017	2.3	2.2	3.9	1.4	0.9	0.7	2.1	2.1	0.6	3.6	4.4	0.2
2018	1.9	3.8	4.2	2.5	1.0	0.9	2.4	2.2	1.0	4.1	4.7	0.3
2019	2.8	3.2	4.6	2.5	1.1	0.7	2.5	2.4	0.9	3.8	4.3	0.4
2020	3.9	3.1	4.2	3.2	1.0	0.5	2.0	2.1	0.7	2.3	5.0	0.2

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table C.7**

*Share of Canadian Merchandise Export Value to the EU (excluding the UK) by Twelve Commodities from 2005 to 2020*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	7.0%	9.8%	9.9%	7.4%	2.7%	11.1%	9.3%	13.9%	3.2%	10.3%	13.7%	1.6%
2006	7.1%	8.9%	9.6%	7.9%	3.1%	8.0%	9.3%	14.0%	2.5%	14.2%	13.8%	1.6%
2007	6.3%	12.3%	11.7%	13.7%	2.8%	7.2%	8.6%	10.9%	2.5%	11.4%	11.8%	0.9%
2008	7.3%	13.3%	13.9%	10.5%	3.5%	6.3%	8.7%	9.7%	1.7%	12.0%	12.3%	0.7%
2009	9.2%	9.7%	11.1%	5.7%	3.9%	5.7%	9.2%	10.4%	1.3%	17.6%	15.0%	1.0%
2010	9.7%	9.9%	12.4%	9.1%	4.0%	5.5%	8.6%	9.4%	1.2%	15.1%	14.4%	0.7%
2011	10.4%	13.4%	13.3%	9.4%	3.9%	4.3%	8.1%	9.2%	1.3%	12.8%	13.3%	0.6%
2012	9.8%	16.0%	13.2%	8.6%	3.7%	3.7%	8.1%	9.1%	1.4%	12.8%	12.9%	0.6%
2013	9.7%	10.3%	12.7%	9.3%	4.6%	3.6%	7.8%	8.9%	1.5%	13.5%	17.4%	0.5%
2014	11.3%	12.5%	12.6%	7.9%	3.9%	3.0%	7.4%	7.6%	1.4%	13.5%	18.5%	0.5%
2015	10.2%	5.5%	14.1%	7.5%	3.9%	3.1%	8.7%	9.1%	1.9%	16.0%	19.1%	0.9%
2016	10.8%	5.9%	13.0%	6.4%	3.6%	3.1%	9.1%	8.8%	1.9%	18.4%	18.0%	1.0%
2017	9.4%	8.9%	15.9%	5.7%	3.5%	3.0%	8.7%	8.6%	2.5%	14.9%	18.0%	0.9%
2018	6.7%	13.3%	14.5%	8.5%	3.5%	3.1%	8.2%	7.6%	3.5%	14.1%	16.0%	1.1%
2019	9.5%	10.9%	15.7%	8.7%	3.7%	2.3%	8.5%	8.2%	3.2%	12.9%	14.8%	1.5%
2020	13.7%	10.9%	14.8%	11.4%	3.6%	1.9%	7.0%	7.4%	2.5%	8.2%	17.7%	0.9%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table C.8**

*Canadian Merchandise Import Value from the EU (excluding the UK) by Twelve Commodities from 2005 to 2020 (in billion)*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	0.5	2.2	0.1	3.0	3.0	1.4	7.0	3.3	3.8	1.1	10.0	0.3
2006	0.5	2.8	0.1	2.8	3.3	1.4	7.3	3.4	4.2	1.4	10.7	0.1
2007	0.5	2.4	0.2	2.8	3.1	1.4	7.1	3.4	4.1	1.4	11.4	0.0
2008	0.5	2.4	0.1	2.9	2.9	1.3	8.1	3.9	4.4	1.8	12.4	0.7
2009	0.5	1.9	0.1	2.1	2.4	1.1	6.3	3.5	3.7	1.9	12.4	0.1
2010	0.5	2.3	0.2	2.4	2.5	1.1	6.7	3.6	4.5	1.8	11.8	0.1
2011	0.5	3.3	0.1	3.5	2.9	1.2	7.7	3.9	4.8	1.7	11.9	0.1
2012	0.5	2.7	0.1	2.9	3.1	1.2	8.1	3.8	5.4	2.1	11.7	0.1
2013	0.7	2.4	0.2	2.9	3.3	1.2	8.9	4.1	5.3	3.0	12.5	0.3
2014	1.0	2.9	0.2	3.1	3.3	1.4	9.4	4.6	5.8	2.8	13.9	0.3
2015	1.1	2.1	0.2	3.2	3.6	1.6	10.0	4.6	6.7	4.0	14.7	0.4
2016	1.1	2.5	0.2	2.9	3.4	1.7	9.6	5.0	7.2	2.8	15.8	0.4
2017	1.0	2.9	0.1	3.4	3.6	2.0	10.5	5.2	7.6	3.4	17.4	0.4
2018	1.1	3.2	0.2	4.2	4.1	2.2	11.8	5.4	8.0	4.1	19.9	0.4
2019	1.1	2.6	0.2	4.3	4.4	2.1	12.7	5.5	7.8	5.5	21.5	0.5
2020	1.0	1.1	0.3	4.5	3.7	2.0	11.1	5.1	5.5	4.2	21.0	0.4

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table C.9**

*Share of Canadian Merchandise Import Value from the EU (excluding the UK) by Twelve Commodities from 2005 to 2020*

Year	C11	C12	C13	C14	C15	C16	C17	C18	C19	C21	C22	C23
2005	1.4%	6.3%	0.3%	8.3%	8.4%	3.9%	19.6%	9.3%	10.7%	3.0%	28.1%	0.8%
2006	1.3%	7.5%	0.4%	7.4%	8.8%	3.7%	19.3%	8.9%	11.0%	3.6%	28.0%	0.2%
2007	1.3%	6.3%	0.4%	7.5%	8.1%	3.6%	18.8%	8.9%	10.9%	3.8%	30.1%	0.1%
2008	1.3%	5.9%	0.3%	7.1%	6.9%	3.2%	19.5%	9.3%	10.6%	4.4%	29.8%	1.8%
2009	1.4%	5.2%	0.3%	5.7%	6.8%	3.1%	17.4%	9.6%	10.3%	5.4%	34.5%	0.2%
2010	1.3%	6.1%	0.5%	6.5%	6.7%	3.0%	17.9%	9.5%	12.0%	4.8%	31.6%	0.2%
2011	1.3%	8.0%	0.3%	8.3%	7.0%	2.8%	18.5%	9.4%	11.6%	4.2%	28.5%	0.1%
2012	1.3%	6.5%	0.3%	7.0%	7.5%	2.8%	19.3%	9.2%	12.9%	5.1%	27.9%	0.3%
2013	1.6%	5.5%	0.5%	6.5%	7.3%	2.7%	19.9%	9.2%	11.9%	6.6%	27.9%	0.6%
2014	2.1%	6.0%	0.3%	6.3%	6.9%	2.9%	19.3%	9.4%	11.9%	5.7%	28.5%	0.6%
2015	2.1%	4.1%	0.3%	6.1%	6.9%	3.1%	19.2%	8.8%	12.8%	7.7%	28.2%	0.7%
2016	2.1%	4.7%	0.3%	5.6%	6.5%	3.3%	18.2%	9.6%	13.7%	5.4%	30.0%	0.7%
2017	1.8%	5.0%	0.2%	5.9%	6.3%	3.5%	18.3%	9.0%	13.3%	5.9%	30.2%	0.6%
2018	1.8%	4.9%	0.3%	6.6%	6.3%	3.4%	18.2%	8.4%	12.4%	6.4%	30.8%	0.6%
2019	1.7%	3.8%	0.3%	6.3%	6.4%	3.0%	18.6%	8.1%	11.4%	8.1%	31.6%	0.8%
2020	1.6%	1.9%	0.5%	7.5%	6.1%	3.4%	18.5%	8.5%	9.2%	7.0%	35.1%	0.7%

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0140-01 Merchandise imports and exports, customs-based, by free trade agreement and by commodity (x 1,000,000)

**Table C.10**

*Canada-EU (excluding the UK) Product Diversification HHI from 2005 to 2020*

Year	Export HHI (without the UK)	Import HHI (without the UK)	Export HHI (with the UK)	Import HHI (with the UK)	0.15 threshold	0.25 threshold
2005	0.15	0.21	0.18	0.18	0.15	0.25
2006	0.16	0.21	0.19	0.18	0.15	0.25
2007	0.16	0.20	0.20	0.17	0.15	0.25
2008	0.16	0.20	0.19	0.17	0.15	0.25
2009	0.16	0.19	0.22	0.17	0.15	0.25
2010	0.16	0.21	0.26	0.18	0.15	0.25
2011	0.17	0.20	0.26	0.17	0.15	0.25
2012	0.17	0.21	0.28	0.17	0.15	0.25
2013	0.16	0.20	0.22	0.17	0.15	0.25
2014	0.16	0.20	0.21	0.16	0.15	0.25
2015	0.16	0.20	0.23	0.17	0.15	0.25
2016	0.16	0.20	0.23	0.17	0.15	0.25
2017	0.16	0.19	0.24	0.16	0.15	0.25
2018	0.16	0.19	0.20	0.16	0.15	0.25
2019	0.16	0.18	0.23	0.15	0.15	0.25
2020	0.16	0.19	0.24	0.16	0.15	0.25

*Note:* Author's calculation using data from Statistics Canada. Table 12-10-0011-01 International merchandise trade for all countries and by Principal Trading Partners, monthly (x 1,000,000)