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Data and indicators of Canada's trade in non-food, non-energy raw material commodities

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Contents

Abstract

The current country report provides a data-based overview of Canada's trade in non-food, non-energy raw materials, with an emphasis on its trade relations with the EU.

Selected trade-related data and indicators are analysed and grouped into five thematic sections: i) Trade in non-food, non-energy raw material commodities; ii) Trade performance indicators; iii) Investments; iv) Trade agreements; and v) Trade measures: export restrictions and import tariffs.

Each section begins by stating the key findings.

Acknowledgements

Author contributions

- **Viorel Nita**: concept and structure; selection/development of indicators and identification of data sources; sections *Introduction* and *Methodological Notes*; methodology, including the new statistical definition of the HS 6-digit NENFRM. In this report, the newly defined HS 6-digit NENFRM is for the first time applied to a country analysis, being the methodological basis for construction of tables and charts for indicators 1.7-1.12.
- **Bianca Bonollo**: data extraction, processing and visualization; contribution to data analysis.
- **Manuela Unguru**: data analysis; executive summary.

Executive Summary

Raw materials are involved in various stages of the value chains. Securing access to raw materials is one of the pillars of the EU strategy. Ensuring their sustainable sourcing implies, among other things, identifying opportunities for supply diversification and building reliable trade relations with global raw materials providers.

Non-food, non-energy raw material commodities (NFNERM) are vital for the economy and key to a green transition. Their characteristics are quite distinctive from agricultural and fuel commodities, thus requiring specific policy tools. However, they are often pooled together in public statistics. Our report overcomes this gap by focusing on NFNERM only.

Canada is a major global supplier of NFNERM and an important trading partner of the EU. This report aims to highlight the main trade patterns relevant for NFNERM, with a focus on the trade relations with the EU.

Canada's trade in non-food, non-energy raw material commodities

The broad picture of Canada foreign trade shows that *Raw materials* and *Intermediate goods* product categories (as defined by UNCTAD) generate a significant trade surplus. However, this surplus is not enough to compensate the negative trade balance in *Capital goods* and *Consumer goods*, which bring to Canada an overall trade deficit of almost 42 billion USD in 2018.

NFNERM have a significantly positive contribution to Canada's trade balance, creating a trade surplus of over 51 billion USD (+3% of GDP) in 2018. This surplus is generated mainly by wood commodities and precious metals/stones.

As far as trade performance is concerned, Canada has comparative advantage in several NFNERM-relevant clusters, i.e., *Wood*, *Minerals* and *Metals,* and a comparative disadvantage in *Chemicals*.

Canada is a leading global supplier of specific NFNERM such as potassium chloride, unwrought aluminium, coniferous wood sawn/chipped and chemical wood pulp. Canada is also a significant exporter of iron, copper, nickel and zinc, unwrought gold and diamonds.

The Canadian imports of NFNERM are dominated by intermediates of aluminium and iron and steel. Rubber imports are also significant, generating a 3.5 billion USD trade deficit in 2018.

EU-Canada trade in NFNERM

The United States of America are Canada's most important trade partner, capturing around half of Canadian NFNERM trade flows. Yet, EU is also an important trading partner – ranking second among sourcing countries (i.e., 8% of Canada's NFNERM imports) and the fourth among destination countries (i.e., 7% of Canada's NFNERM exports).

Exports of NFNERM represent 32% of Canada's total exports to the EU and consist mainly of primary raw materials commodities. Canada's imports from EU, on the other hand, include mainly intermediate goods.

EU is a major destination of Canadian NFNERM such as iron ores, nickel ores and unwrought nickel, and diamonds. In fact, EU is capturing all Canadian exports of nickel ores and concentrates and also a significant share (30%) of unwrought nickel not alloyed.

Most NFNERM imported by Canada from the EU are steel-, wood- and aluminium-based intermediates. EU is by far the major source of Canadian imports of nickel mattes and some iron & steel semi-finished products.

Investments and trade measures

To support the raw materials sector development, Canada has a considerable mining exploration budget, which is almost 6 times higher than that of EU in 2018.

Canada applies a few export-restricting measures on several wood products and imposes higher import tariff rates (up to 15.5%) for rubber and articles thereof (HS chapter 40), as well as for products of stone, plaster, cement, asbestos, mica or similar materials (HS chapter 68). Nevertheless, these tariffs are not applicable to Canada's imports of NFNERM from EU countries after the entry into force of the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada on 21 September 2017.

Introduction

Most of the existing trade-related country profiles include economy-wide indicators on country's trade in goods and services, alongside related economic indicators[1]. Instead, this country profile narrows the focus on country's trade in non-food, non-energy raw material commodities (NFNERM). For this purpose, relevant country-, sectoral- or product-level data and indicators were selected or elaborated.

Based on the structure of the Raw Materials Information System's *Economics and Trade* module[2], the data and indicators included in this report are grouped into five thematic sections: 1) *Trade in non-food, non-energy raw material commodities*; 2) *Trade performance indicators*; 3) *Investments*; 4) *Trade agreements* and 5) *Trade measures: export restrictions and import tariffs*.

As far as the first section, *Trade in non-food, non-energy raw material commodities,* is concerned, the scope of NFNERM is based on a new, refined definition[3], which provides the methodological basis for construction of tables and charts for indicators 1.7-1.12 (and also for selection of NFNERM-relevant HS headings). This new definition is based on an *economic* approach to NFNERM, defining them as the product groups that include i) primary raw materials used as inputs to the manufacturing of intermediate goods and ii) intermediate goods used as inputs to the manufacturing of other intermediate goods or of finished goods.

The methodological novelty lies in the new statistical definition of NFNERM commodities as the set of commodities at HS 6-digit level that satisfies the following criteria simultaneously:

i. They are either primary raw materials, used as inputs to the manufacturing of intermediate goods, or intermediate goods, used as inputs to the further manufacturing of other intermediate goods or finished goods;

ii. They are included in one of the following Harmonized System chapters: 25, 26-28, 31, 40, 44-49 and 68-81;

iii. They belong to one of the two broad commodity groups - *Raw materials* or *Intermediate goods* - as defined in the UNCTAD's product classifications *UNCTAD-SoP1* and *UNCTAD-SoP2* respectively.

For structuring the selected data and indicators in each thematic section, a top-down approach – i.e., from economy-wide data and indicators to product-level ones - was taken wherever possible.

For example, in the first section, *Trade in non-food, non-energy raw material commodities*, we firstly present an overview of the total contribution of NFNERM to country's total trade in goods, for all partner countries and European Union separately (Table 1.1). Secondly, we present data by the broad commodity groups defined by UNCTAD - i.e., *Raw Materials, Intermediate goods, Consumer goods* and *Capital goods*[4]. Thirdly, data on country's trade by Harmonized System (HS) product cluster that include NFNERM commodities - i.e., *Minerals* (HS 25-26), *Chemicals* (HS 28-38), *Wood* (HS 44-49), *Stone and Glass* (HS 68-71) and *Metals* (HS 72-83) – are shown. Then, we present data on country's trade at more and more disaggregated levels, i.e., NFNERM-relevant HS 2-digit chapters, then HS 4-digit headings, and finally HS 6-digit NFNERM.

The indicators included in section 2, *Trade performance indicators*, are organized by taking the same top-down approach, as much as possible.

In the same way, in section 3, *Investments*, we firstly present data on country's total investments, then data on country's total foreign direct investment flows and stocks, then foreign direct investment in mining and quarrying sector and finally data on the annual exploration expenditure in the metals and mining sector.

The last two sections are dedicated to country's trade measures, presenting firstly country's participation in trade agreements (section 4, *Trade agreements*) and then an overview of export restrictions and a sysnopsis of import tariffs relevant to NFNERM (section 5, *Trade measures: export restrictions and import tariffs*).

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[1] For example, World Trade Organisation's *Trade profiles*, https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm . Also, DG Trade's, *Statistics*, https://ec.europa.eu/trade/policy/countries-and-regions/statistics/

[2] https://rmis.jrc.ec.europa.eu/

[3] In elaboration of the previous trade-related country profiles (i.e. of Australia, Chile, Indonesia, New Zealand) a broader product scope of NFNERM was used. For details, please see Nita et al. (2019).

[4] All these four component categories of total trade in goods also include food- and energy-related commodities.

The current country report will be uploaded to the Raw Materials Information System's *Economics and Trade* module[5].

[5] https://rmis.jrc.ec.europa.eu

1 Trade in non-food, non-energy raw material commodities

In 2018, exports of NFNERM make up a relevant share (23%) of total Canadian exports and are 51.4 billion USD higher than NFNERM imports; the resulting trade surplus constitutes 3% of Canada's GDP.

EU is the second largest destination of Canadian exports of NFNERM.

NFNERM exports are key to the Canada-EU trade relationship, making up almost one third of Canada's total exports to the EU.

In 2018, Canada's overall trade balance (i.e., exports minus imports) in goods is negative by 41.6 billion USD. By contrast, NFNERM commodities generate a trade surplus of 51.4 billion USD, which represents 3% of Canada's GDP (Table 1.1). The share of NFNERM commodities in the trade of total goods is 23% for exports, and only 9% for imports.

In the same year, NFNERMs contribute by as much as 32% to Canada's exports to the EU, while accounting for only 7% of the total Canadian imports from EU.

EU is the second largest destination of NFNERM exports after the USA (Figure 1.12), accounting for almost 7% of Canada's NFNERM exports.

1.1 Canada's trade in NFNERM vs. total trade in goods in 2018 (EU and World as trading partners)

Product coverage	Trading partner	**EXPORT (mil. USD)**	**IMPORT (mil. USD)**	**TRADE BALANCE (mil.USD)**
Total goods *	**EU**	19,954	49,759	-29,805
	All countries	414,969	456,577	-41,608
	Share of EU	*5%*	*11%*	
NFNERM **	**EU**	6,380	3,320	3,060
	All countries	94,097	42,698	51,399
	Share of EU	*7%*	*8%*	
Share of NFNERM in total goods	*EU*	*32%*	*7%*	
	All countries	*23%*	*9%*	

Source: World Integrated Trade Solutions (WITS)

Data extracted on: 04/01/2021. EU country aggregate is defined excluding UK.

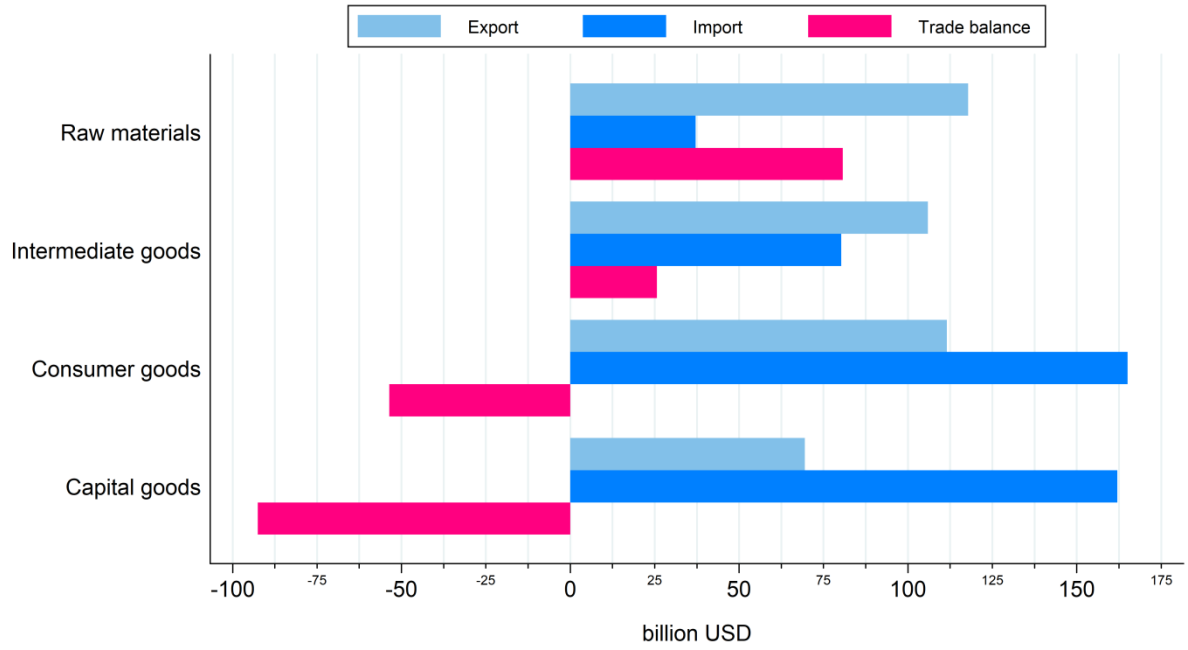
* Downloaded from WITS as total trade of goods

** This figure is obtained summing the trade flows for the NFNERM products of interest at HS 6-digit level

The broad picture shows that Canada is a net exporter of both* Raw materials *and* Intermediate goods*, while it is a net importer of* Capital goods *and* Consumer goods.

In 2018, Canada has a positive trade balance (i.e., exports are higher than imports) in commodities at raw-material and intermediate stage, by almost 81 billion USD and almost 26 billion USD respectively. However, it is a net importer of the other two broad product categories – i.e., *Consumer goods* and *Capital goods*.[6] Since the trade deficit of these latter two categories is not compensated by the trade surplus of *Raw materials* and *Intermediate goods*, Canada has an overall trade deficit for trade in goods.

1.2 Canada's global trade by broad commodity group in 2018 (UNCTAD Stage of Processing classifications) *



Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 05/01/2021

*These four broad commodity groups (SoP1 to SoP4), as defined by UNCTAD, also contain food- and energy-related commodities, which are outside of the scope of this report. See the Methodological Notes for further details.

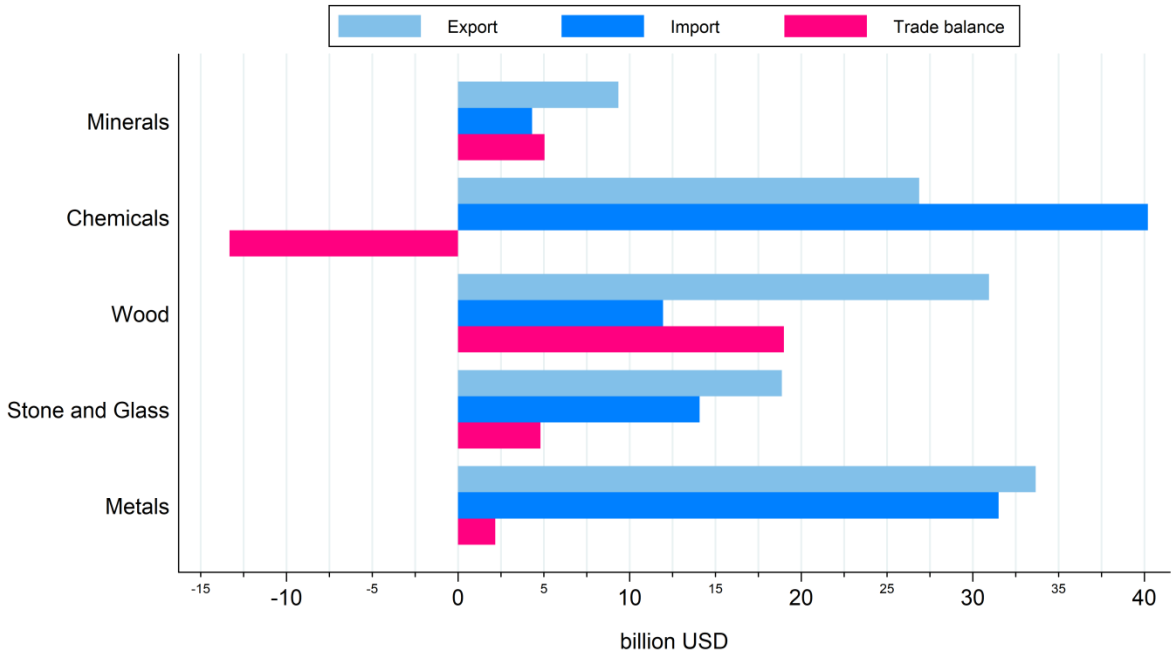
***With the exception of* Chemicals*, Canada is a net exporter of all NFNERM-relevant product clusters, i.e.,* Minerals, Metals, Wood *and* Stone and glass**

Breaking down the total trade in goods by product cluster shows that Canada is a large net exporter of *Wood*, with a highly positive trade balance of around 19 billion USD. In fact, Canada is a major exporter of wood and accounts for around 7.2 of world's total wood exports in 2018[7].

[6] Figure 1.2 breaks down Canada's total trade in goods into four broad commodity groups, according to UNCTAD Stage of Processing (SoP) statistical product classifications - i.e., *Raw Materials*, *Intermediate goods*, *Consumer goods* and *Capital goods*. As defined by UNCTAD, these four broad commodity groups (i.e., SoP1 to SoP4) also contain food- and energy-related commodities (see the Methodological Notes for further details).
[7] Based on additional data from WITS.

Canada is also a net exporter of other three product clusters - *Minerals*, *Metals* and *Stone and glass*, while it is a large net importer of *Chemicals* (Figure 1.3).

1.3 Canada's global trade in 2018, by NFNERM-relevant HS product cluster*



Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 05/01/2021

*These five standard product clusters aggregate several HS chapters as follows: Minerals: HS 25-26; Chemicals: HS 28-38; Wood: HS 44-49; Stone and glass: HS 68-71; Metals: HS 72-83. See the Methodological Notes for a description of the product clusters. All these five product clusters contain not only primary raw materials and intermediate goods but also finished goods.

A further breakdown of trade in goods into NFNERM-relevant Harmonized System chapters shows that Canada has the highest trade surplus in wood products (HS chapter 44) and precious metals/stones (HS chapter 71).

Among the Harmonized System chapters that are relevant to NFNERM, *Wood and articles thereof* (HS 44) has a significant trade surplus, with exports of 14 billion USD and much lower imports, of around 3 billion USD (Table 1.4) in 2018. Canada is the world leading supplier of wood, with a global market share of 10% in 2018[8].

In the same year, Canada also has very high inward and outward trade flows of precious metals/stones (HS 71). This is due to the very high unit value of some HS 6-digit products belonging commodity group (e.g. diamonds and unwrought gold).

The HS chapter *Aluminium and articles thereof* (HS 76) makes up 2.4% of Canada's total exports of goods, and has a positive contribution to the NFNERM trade balance, generating a trade surplus of 5.4 billion USD. Other HS chapters for which Canada has a trade surplus in 2018 are: *Pulp of wood* (7 billion USD), *Ores, slag and ash* (4.7 billion USD), *Fertilizers* (4 billion USD), *Nickel and articles thereof* (2.6 billion USD), *Paper and paperboard* (2.3 billion USD), *Zinc and articles thereof* (1.8 billion USD) and *Copper and articles thereof* (1 billion USD).

[8] Based on additional data from WITS.

1.4 Canada's global trade in 2018, by NFNERM-relevant HS chapter (HS 2-digit)

HS chapter	Description	Exports (mil. USD)	Share in total exports (%)	Imports (mil. USD)	Share in total imports (%)	Trade balance (mil. USD)
	TOTAL	**414,969**	**100**	**456,577**	**100**	**-41,608**
25	Salt; sulphur; earths and stone; plastering materials, lime and cement	1,494	0.4	1,104	0.2	390
26	Ores, slag and ash	7,858	1.9	3,205	0.7	4,652
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	3,434	0.8	4,379	1.0	-944
31	Fertilisers	5,497	1.3	1,372	0.3	4,125
40	Rubber	3,041	0.7	6,421	1.4	-3,380
44	Wood and articles of wood	14,203	3.4	3,046	0.7	11,157
45	Cork and articles of cork	0.3	0.0001	23	0.01	-23
47	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) of paper or paperboard	7,507	1.8	420	0.1	7,087
48	Paper and paperboard; articles of paper pulp, of paper or of paperboard	8,472	2.0	6,213	1.4	2,259
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	1,110	0.3	1,767	0.4	-657
70	Glass and glassware	471	0.1	2,604	0.6	-2,133
71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof	17,226	4.2	8,615	1.9	8,611
72	Iron and steel	7,081	1.7	7,860	1.7	-778
73	Articles of iron or steel	4,893	1.2	10,715	2.3	-5,821
74	Copper and articles thereof	3,511	0.8	2,494	0.5	1,017

75	Nickel and articles thereof	3,111	0.7	469	0.1	2,642
76	Aluminium and articles thereof	9,888	2.4	4,458	1.0	5,430
78	Lead and articles thereof	607	0.1	24	0.01	583
79	Zinc and articles thereof	1,845	0.4	84	0.02	1,761
80	Tin and articles thereof	34	0.01	62	0.01	-28
81	Other base metals; cermets; articles thereof	808	0.2	635	0.1	174

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 05/01/2021

Canada's top ten NFNERM imports mainly consist of intermediate products of iron, steel and aluminium.

Alongside unwrought gold, Canada's top NFNERM exports are wood products and primary aluminium.

The top ten of Canada's imports ranks, by import value, the HS 4-digit headings that are relevant to (i.e., contain) NFNERM commodities (Table 1.5). Ordered in this way, Canada's top ten imports mainly consist of product groups containing iron-, steel- and aluminium intermediates. Unwrought gold ranks first due to its high unit value.

1.5 Canada's top 10 NFNERM-relevant imports from the rest of the world in 2018, by HS heading (HS 4-digit)

Rank	HS heading	Description	Import value (mil. USD)	Quantity (thousand tonnes)
1	7108	Gold (including gold plated with platinum) unwrought or in semi-manufactured forms, or in powder form.	4,827	n/a
2	2818	Artificial corundum, whether or not chemically defined; aluminium oxide; aluminium hydroxide.	2,079	n/a
3	7606	Aluminium plates, sheets and strip, of a thickness exceeding 0.2 mm.	1,706	n/a
4	7112	Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal.	1,308	n/a
5	7326	Other articles of iron or steel.	1,246	n/a
6	7306	Other tubes, pipes and hollow profiles (for	1,165	n/a

		example, open seam or welded, riveted or similarly closed), of iron or steel.		
7	7308	Structures (excl. prefabricated buildings) and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, etc.), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel.	1,134	n/a
8	7210	Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated.	1,102	1,057
9	7304	Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel.	1,041	n/a
10	2608	Zinc ores and concentrates.	904	n/a

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 05/01/2021. See the Methodological Notes for details on the selection of the HS 4-digit headings.

Looking at Canada's exports, the top NFNERM-relevant HS heading is *Gold unwrought or in semi-manufactured forms, or in powder form* (HS 7108), again due to the high unit value of this product group (Table 1.6). Canada's second top export is *Wood sawn or chipped lengthwise, sliced or peeled* (HS 4407), for which Canada is the world's leading exporter, accounting for more than a fifth of total world exports in 2018. Canada is also the leading global exporter of primary aluminium (HS 7601) with a global share of 12%[9]

1.6 Canada's top 10 NFNERM-relevant product groups exported to the rest of the world in 2018, by HS heading (HS 4-digit)

Rank	HS heading	Description	Export value (mil. USD)	Quantity (thousand tonnes)
1	7108	Gold (including gold plated with platinum) unwrought or in semi-manufactured forms, or in powder form.	12,246	0.3
2	4407	Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm.	8,235	n/a
3	7601	Unwrought aluminium.	6,430	2,616
4	4703	Chemical wood pulp, soda or sulphate, other than dissolving grades.	5,364	6,893
5	3104	Mineral or chemical fertilisers, potassic.	4,946	21,936
6	2601	Iron ores and concentrates, including roasted iron pyrites.	4,107	47,705
7	2603	Copper ores and concentrates.	2,827	388
8	7102	Diamonds, whether or not worked, but not	2,393	0.004

[9] Based on additional data from WITS.

		mounted or set.		
9	4410	Particle board, oriented strand board (OSB) and similar board (for example, waferboard) of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances.	1,997	n/a
10	7204	Ferrous waste and scrap; remelting scrap ingots of iron or steel.	1,827	n/a

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 05/01/2021. See the Methodological Notes for details on the selection of the HS 4-digit headings.

Canada's imports of NFNERM

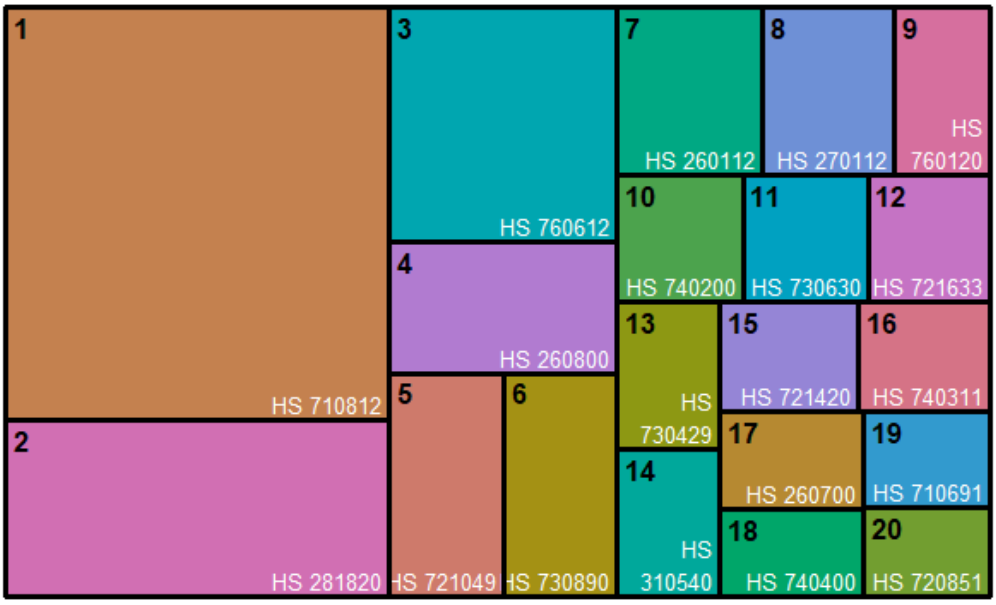
Canada's top NFNERM imports from the rest of the world in 2018 are unwrought gold, aluminium oxide and aluminium plates, sheets and strips.

Most of the top NFNERM imported by Canada from EU are steel-, wood- and aluminium-based intermediates. EU is Canada's major source of nickel mattes and of some iron & steel semi-finished products.

The Unites States of America are by far the leading source of Canada's NFNERM imports, accounting for about half of them. EU ranks second, with a share of almost 8%.

Due to its high unit value, unwrought gold (HS 710812) ranks first in Canada's the NFNERM imported in 2018. The second-ranking NFNERM imported is aluminium oxide (HS 281820). Another aluminium intermediate with high import value, *Plates, sheets & strips* (HS 760612) comes in the third position (Figure 1.7).

1.7 Top 20 NFNERM product groups imported by Canada from the rest of the world in 2018 (HS 6-digit)



Rank	HS code	NFNERM description	Value (mil. USD)
1.	710812	Gold (incl. gold plated with platinum), in unwrought forms (excl. powder)	4,798
2.	281820	Aluminium oxide (excl. artificial corundum)	2,047
3.	760612	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	1,620
4.	260800	Zinc ores & concentrates	904
5.	721049	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), other than corrugated	776
6.	730890	Other structures (excl. prefabricated buildings) and parts of structures (excl. 730810 to 730840) of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel	765
7.	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	747
8.	270112	Bituminous coal, whether/not pulverised but not agglomerated	672
9.	760120	Aluminium alloys, unwrought	486
10.	740200	Unrefined copper; copper anodes for electrolytic refining	482
11.	730630	Tubes, pipes & hollow profiles (excl. of 7306.10 & 7306.20), welded, of circular cross-section, of iron/non-alloy steel	478
12.	721633	Angles, shapes & sections of iron/non-alloy steel, H sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	466
13.	730429	Other casing, tubing, of a kind used in drilling for oil/gas (excl. of 7304.22/23/24), other than of drill pipe of stainless steel	462
14.	310540	Ammonium dihydrogen orthophosphate (monoammonium phosphate) & mixtures thereof with diammonium hydrogen orthophosphate (diammonium phosphate)	458
15.	721420	Bars & rods of iron/non-alloy steel (excl. of 72,13), containing indentations/ribs/grooves/other deformations produced during the rolling process/twisted after rolling	457
16.	740311	Cathodes & sections of cathodes, of refined copper, unwrought	432
17.	260700	Lead ores & concentrates	428
18.	740400	Copper waste & scrap	375
19.	710691	Silver (incl. silver plated with gold/platinum), unwrought	369
20.	720851	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	342

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 04/01/2021. See the Methodological Notes for details on the selection of the HS 6-digit sub-headings.

As for Canada's imports from the EU (Table 1.8), the highest-ranking NFNERM commodities are steel-, wood- and aluminium-based intermediates. EU is by far the major source of Canadian imports of nickel mattes and of some iron & steel semi-finished products.

1.8 Canada's top 20 NFNERM product groups imported from the EU in 2018 (HS 6-digit)

Rank	HS sub-heading	Description	Value of import from EU (mil. USD)	Quantity of import from EU (thousand tonnes)	Share of EU (% overall import value)
1	730890	Other structures (excl. prefabricated buildings) and parts of structures (excl. 730810 to 730840) of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel	109	n/a	14
2	720719	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, n.e.s. in 72.07	104	n/a	97
3	760612	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	100	n/a	6
4	441114	Medium density of fibreboard of wood/other ligneous materials, whether/not bonded with resins/other organic substances, of a thkns >9mm	99	n/a	42
5	750110	Nickel mattes	96	11.7	100
6	730429	Other casing, tubing, of a kind used in drilling for oil/gas (excld. of 7304.22/23/24), other than of drill pipe of stainless steel	94	67.5	20
7	721633	Angles, shapes & sections of iron/non-alloy steel, H sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	62	79.9	13
8	722540	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, not in coils.	61	48.8	35
9	711029	Palladium, in semi-manufactured forms	52	0.002	19
10	722592	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, of othw. plated/coated with zinc.	49	42.0	21
11	701090	Carboys, bottles, flasks, jars, pots, phials & other containters, of glass, of a kind used for the conveyance/packing of goods; preserving jars of glass	46	n/a	14
12	722211	Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded, of circular cross-section	45	n/a	68
13	730810	Bridges & bridge-sections of iron/steel	45	17.4	75
14	481019	Paper and paperboard of a kind used for writing, printing or other graphic purposes, not containing fibres obtained by a mechanical or chemi-mechanical	43	n/a	31

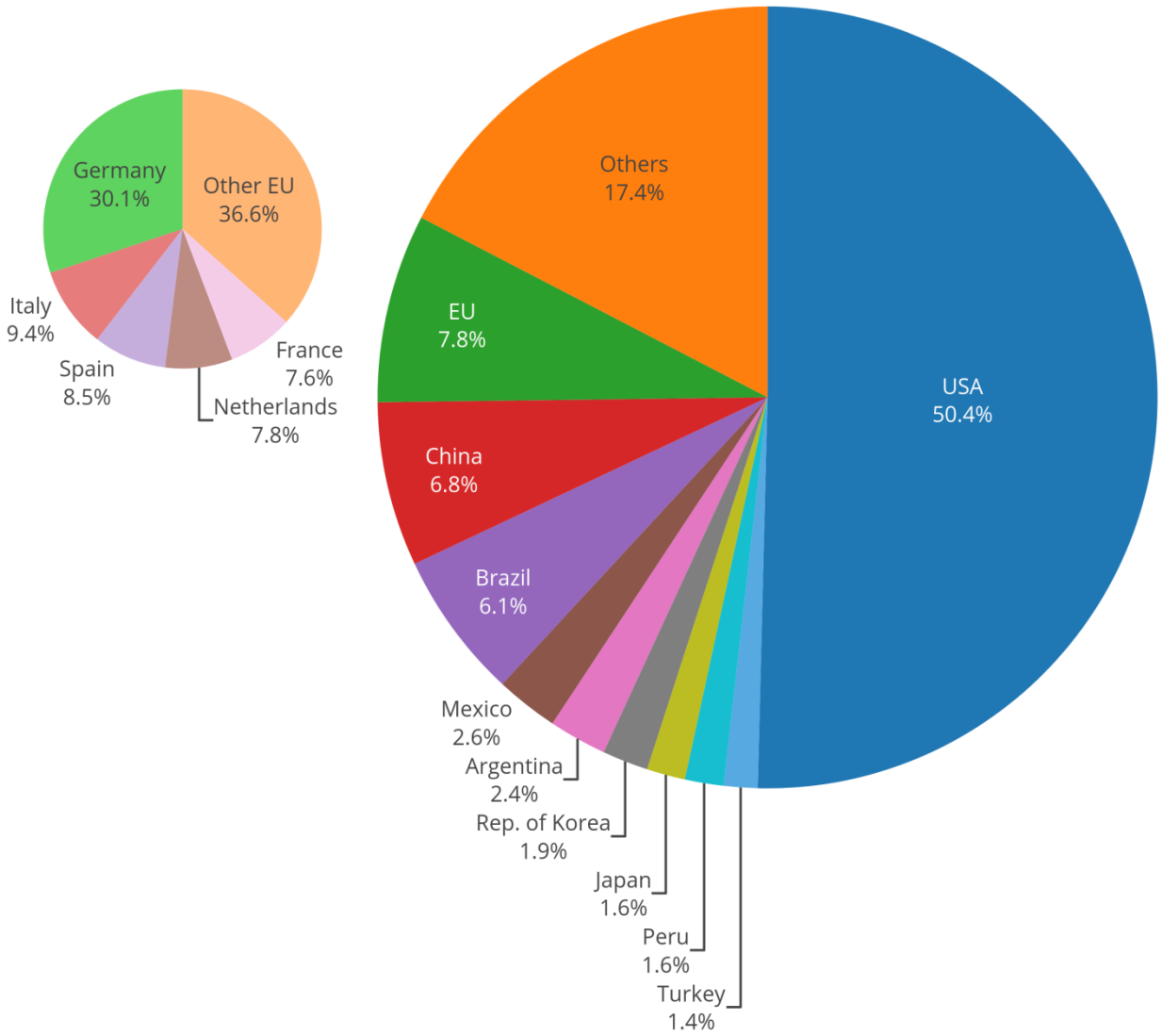
		process or of which not more than 10% by weight of the total fibre content consists of such fibres: other			
15	761090	Aluminium structures (excl. prefabricated buildings) and parts of structures (for example, bridges and bridge-sections, towers, etc.); aluminium plates, rods, profiles, tubes and the like, prepared for use in structures: other than doors and windows	43	n/a	18
16	710691	Silver (incl. silver plated with gold/platinum), unwrought	42	0.1	11
17	721320	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10), of free-cutting steel	42	46.5	65
18	730840	Equipment for scaffolding / shuttering / propping / pit propping of iron/steel	42	11.1	35
19	720851	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	41	47.2	12
20	721632	Angles, shapes & sections of iron/non-alloy steel, in sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	40	59.2	73

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 04/01/2021. EU country aggregate is defined excluding UK. See the Methodological Notes for details on the selection of the HS 6-digit subheadings.

The leading source of Canada's imports of NFNERM is United States of America, accounting for about half of them (Figure 1.9). EU ranks second, with a share of almost 8%, followed by China (7%), Brazil (6%) and Mexico (almost 3%). Among EU countries, Canada's most important partners are: Germany (30% of Canada's imports from EU), Italy and Spain (around 9%), Netherlands and France (around 8%).

1.9 Top 10 source countries of Canada's NFNERM imports in 2018 (EU as a trading block) and top 5 EU sources (HS 6-digit)



Source: DESA/UNSD UN Comtrade database

Data extracted on: 07/01/2021. EU country aggregate is defined excluding UK.

Canada's exports of NFNERM

Canada is a leading global supplier of several NFNERM, such as potassium chloride, unwrought aluminium, coniferous wood sawn/chipped and chemical wood pulp.

The United States of America alone capture about half of Canada's exports of NFNERM.

EU ranks only fourth, with a share of almost 7%. EU is however a major destination of some specific Canadian exports of NFNERM, especially iron and nickel ores, unwrought nickel and diamonds.

Among the highest-ranking NFNERM exported globally by Canada in 2018 are (Figure 1.10):

- unwrought gold (fifth global supplier, with a global market share of 6%);

- coniferous wood sawn/chipped, of a thickness >6mm (leading global suplier, with a global market share of 28%);

- bituminous coal (the seventh world exporter, with a global share of 6%);

- potassium chloride (leading global supplier, with a substantial global market share of 42%);

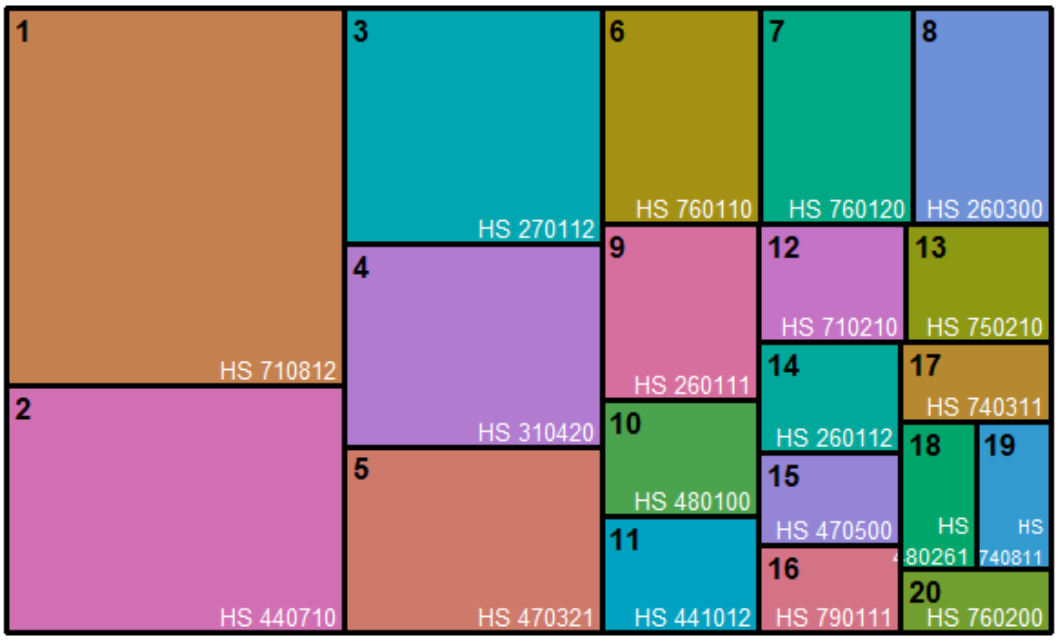
-coniferous chemical wood pulp (leading global supplier, providing a quarter of world's exports);

- unwrought aluminium not alloyed (leading global supplier, with a global share of 14%);

- unwrought aluminium alloyed (third global supplier, with a global export share of 11%)[10].

Canada is also a significant exporter of iron, copper, nickel and zinc, and diamonds.

1.10 Top 20 NFNERM product groups exported by Canada to the rest of the world in 2018



Rank	HS code	NFNERM description	Value (mil.

[10] Based on additional data from WITS, namely the value of world exports for the respective commodities.

			USD)
1.	710812	Gold (incl. gold plated with platinum), in unwrought forms (excl. powder)	12,111
2.	440710	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	7,930
3.	270112	Bituminous coal, whether/not pulverised but not agglomerated	5,778
4.	310420	Potassium chloride	4,927
5.	470321	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, coniferous	4,537
6.	760110	Aluminium, not alloyed, unwrought	3,294
7.	760120	Aluminium alloys, unwrought	3,136
8.	260300	Copper ores & concentrates	2,827
9.	260111	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	2,613
10.	480100	Newsprint, in rolls/sheets	1,746
11.	441012	Oriented strand board (OSB) of wood, whether/not agglomerated with resins/other organic binding substances	1,738
12.	710210	Diamonds, unsorted	1,631
13.	750210	Nickel, not alloyed, unwrought	1,615
14.	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	1,494
15.	470500	Wood pulp obt. by a combination of mechanical & chemical pulping processes	1,253
16.	790111	Zinc, not alloyed, unwrought, containing by weight 99.99%/more of zinc	1,169
17.	740311	Cathodes & sections of cathodes, of refined copper, unwrought	1,134
18.	480261	Paper & paperboard, of which >10 % by weight of the total fibre content consists of fibres obtained by a mechanical/chemi-mechanical process, in rolls	1,054
19.	740811	Copper wire, of refined copper of which the maximum cross-sectional dim. exceeds 6mm	1,049
20.	760200	Aluminium waste & scrap	895

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 04/01/2021. See the Methodological Notes for details on the selection of the HS 6-digit subheadings.

EU is a major destination of Canadian exports of iron ores and concentrates (HS 260111 and HS 260112). EU's share in Canada's total export of these products is as high as 34% and 51%, respectively (Table 1.11).

EU is capturing all Canadian exports of nickel ores and concentrates and also a significant share (30%) of unwrought nickel not alloyed. EU is also an important destination of Canadian diamonds – both non-industrial diamonds and unsorted diamonds - with a share of 87% and 33% respectively in Canada's total exports of these subheadings.

1.11 Canada's top 20 NFNERM product groups exported to the EU in 2018 (HS 6-digit)

Rank	HS sub-heading	Description	Value of export to EU (mil. USD)	Quantity of export to EU (thousand tonnes)	Share of EU (% overall export value)
1	260111	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	901	12,620	34
2	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	767	6,952	51
3	270112	Bituminous coal, whether/not pulverised but not agglomerated	647	3,608	11
4	710210	Diamonds, unsorted	536	5,437	33
5	760110	Aluminium, not alloyed, unwrought	502	246	15
6	750210	Nickel, not alloyed, unwrought	477	35	30
7	260300	Copper ores & concentrates	472	76	17
8	710231	Diamonds, non-industrial, unworked/simply sawn/cleaved/bruted	442	1,860	87
9	262099	Ash & residues (excl. from the manufacture of iron/steel), n.e.s. in Ch.26	165	266	38
10	260400	Nickel ores & concentrates	135	7	100
11	310420	Potassium chloride	96	408	2
12	470500	Wood pulp obt. by a combination of mechanical & chemical pulping processes	94	152	7
13	711230	Ash containing precious metal/precious metal comps.	89	0.02	76
14	470321	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, coniferous	77	82	2

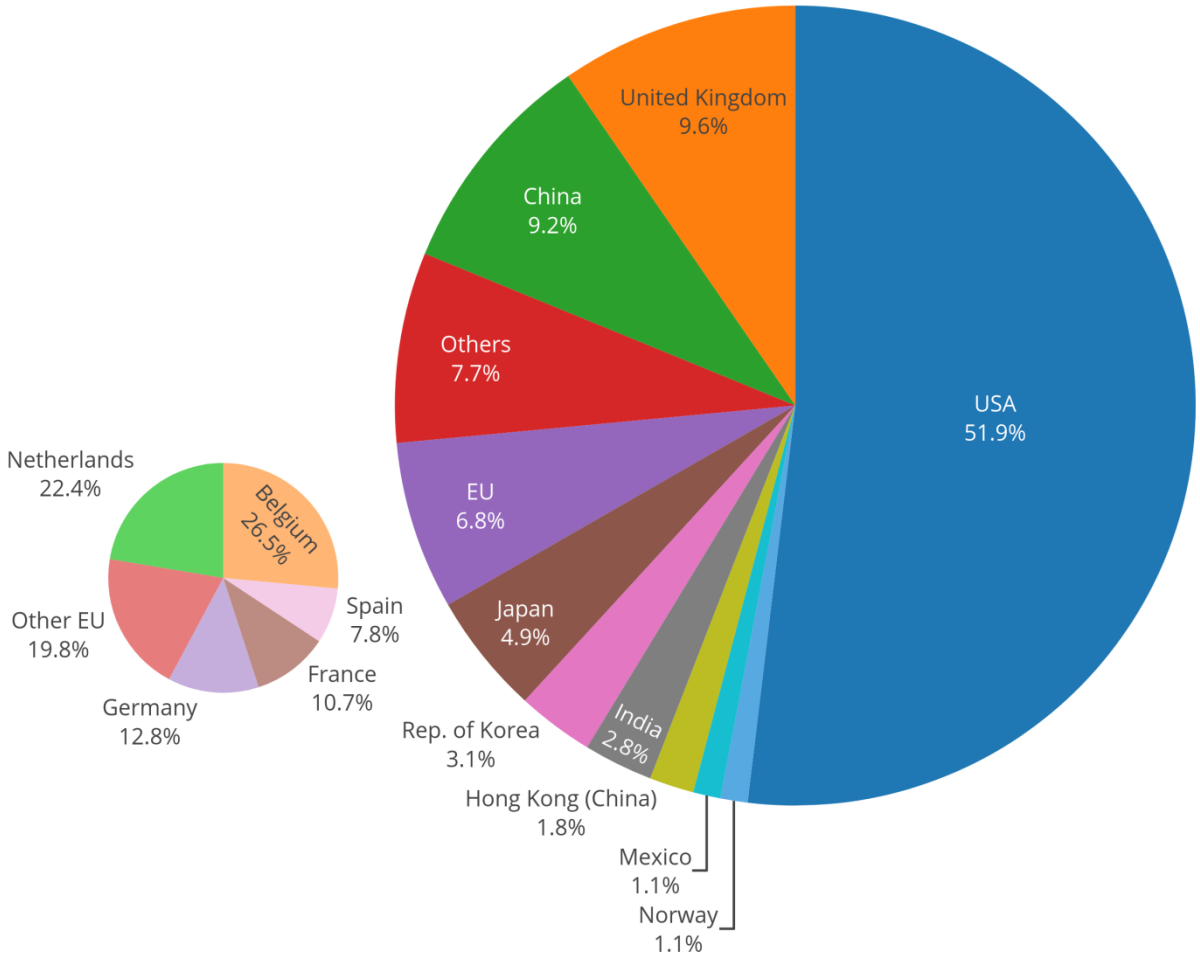
15	440710	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	72		1
16	720293	Ferro-niobium, in granular/powder form	63	3	26
17	261390	Molybdenum ores & concentrates, other than roasted	54	2	45
18	480100	Newsprint, in rolls/sheets	49	84	3
19	261690	Precious metal ores & concentrates (excl. silver ores & concentrates)	48	0.002	38
20	470200	Chemical wood pulp, dissolving grades	37	34	8

Source: UN Comtrade data accessed via World Integrated Trade Solutions (WITS)

Data extracted on: 04/01/2021. EU country aggregate is defined excluding UK. See the Methodological Notes for details on the selection of the HS 6-digit sub-headings.

More than half of Canada's NFNERM exports go to the United States of America (Figure 1.12). With Brexit, EU lost the second position it had in 2017 - as EU28, with a share of 20% - ranking forth in 2018, with a share of only 6.8%. Other relevant partners are UK (almost 10%), China (more than 9%) and Japan (5%). Among EU countries, Belgium and Netherlands capture the highest shares of exports of Canada's exports to the EU (26.5% and 22.4% respectively), followed by Germany (13%), France (11%) and Spain (8%).

1.12 Top 10 destination countries of Canada's NFNERM exports in 2018 (EU as a trading block) and top 5 EU destinations (HS 6-digit)



Source: DESA/UNSD UN Comtrade database

Data extracted on: 07/01/2021. EU country aggregate is defined excluding UK.

2 Trade performance indicators

***Canada has relative comparative advantage in four (out of five) selected NFNERM product clusters:* Minerals, Metals, Stone and glass *and* Wood.**

Canada has a large trade deficit in the chemical sector both in absolute and relative terms.

Canada is a highly open economy, having a trade-to-GDP ratio of almost 66% in 2018 (Table 2.1). Export market penetration is 19, meaning that Canada exports to almost a fifth of the countries that are a potential destination of Canada's exports.

The market concentration index of 0.56 shows a medium-level dispersion of trade value across its trading partners.

Looking at the change of indicators over the last 10 years, one can notice a slight decrease of the trade openness and a higher diversification of Canada's trading partners[11], despite the decrease in number of markets and exported products.

2.1 Canada country-level trade performance indicators

Indicator	2008	2018
Trade openness (%)	67	66
Number of products exported	3,599	3,311†
Number of export markets	162	119†
HHI Market Concentration Index*	0.60	0.56
Export market penetration index	26	19

Source: World Bank Open Data (for Trade openness indicator); WITS Trade Outcomes Indicators (for all other indicators)

Data extracted on: 05/01/2021

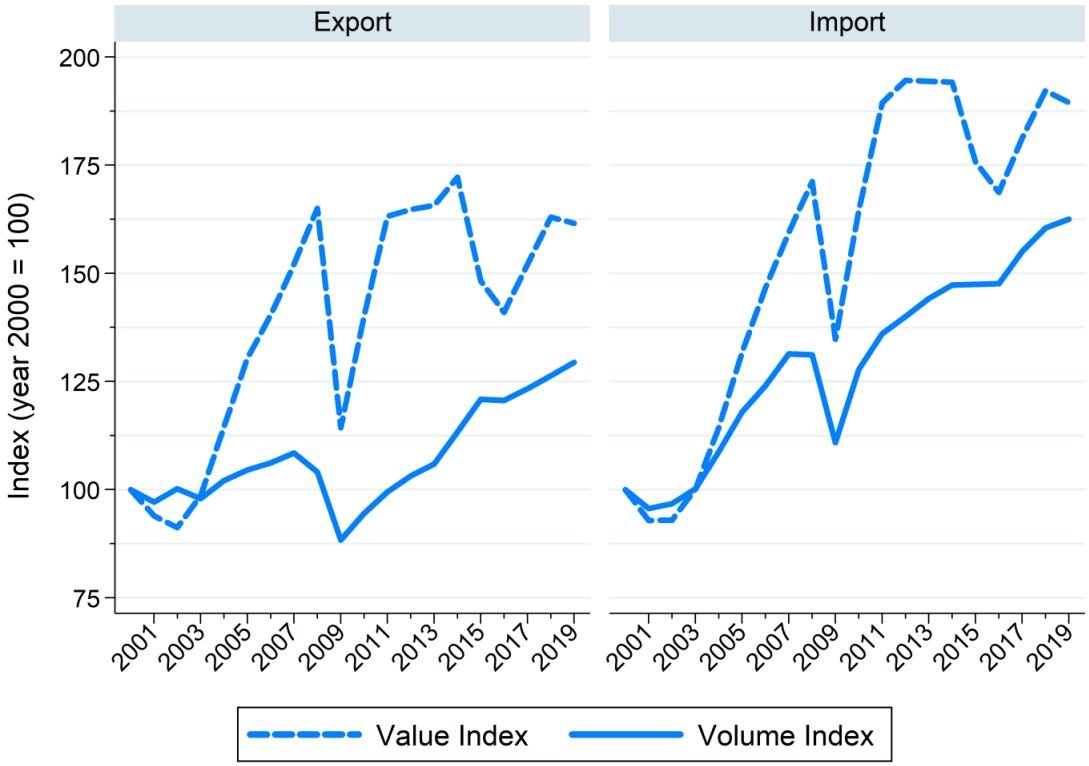
† = 2018 missing. Data are for year 2017

* HHI = Herfindahl-Hirschman Index. See the Methodological Notes for a detailed description of each indicator included in this table

The evolution of volume and value indices of Canada's trade flows are in line with the fluctuations in Canada's economy, including the high impact of the great economic recession, especially on export volume, that in 2009 dropped below the 2000 level (Figure 2.2). Overall, since 2001 both the value and volume indices have increased more for imports than for exports.

[11] The diversification of trade is reflected by the reduction of the Herfindahl-Hirschman Market Concentration Index, which measures the dispersion of trade value across country's trading partners.

2.2 Volume and value indices of Canada's trade flows



Source: UNCTAD, International Trade in Goods and Services: Trade Trends

Data extracted on: 07/01/2021

Minerals is the SITC sector relevant to NFNERM with the highest share in Canada's total exports (19%) and with the greatest value of net exports (43 billion USD) in 2016. Nevertheless, the total export value of the *Minerals* sector was decreasing by an annual average of 13% over the period 2012-2016 (Table 2.3).

The *Wood* sector has the highest relative trade balance. Despite this fact, the nominal trade surplus of *Wood* sector was about 2.4 times smaller than that of *Minerals* in 2016.

Canada is a major supplier of both *Wood* and *Minerals*, these sectors making up relevant shares in the world market: 8% for *Wood* and 4% for *Minerals*. Over the period 2012-2016, these two market shares have increased annually by 1.1% (*Wood* sector) and by 2.1% (*Minerals* sector).

The *Chemicals* sector has the biggest share in Canada's total imports (11%). Even though a good share of Canadian exports consists of *Chemicals* (9%), Canada has a large trade deficit in this sector, both in absolute (-11 billion USD) and relative terms (-12%).

The 'competitiveness effect' change indicator shows the annual average competitiveness gain/loss of each of the four SITC sectors (Table 2.3).

2.3 Canada's trade performance indicators of NFNERM-relevant sectors (SITC Rev. 3) in 2016

Indicator	Wood products	Chemicals	Basic manufactures	Minerals*
Value of exports (mil. USD)	26,628	37,256	28,123	74,686
Share in country's total exports (%)	6	9	7	19
Export value growth, p.a. 2012-2016 (%)	0	-2	-3	-13
Share in country's total imports (%)	2	11	7	7
Relative trade balance (%)**	50	-12	-3	40
Relative unit value (World average = 1)	1.6	1.4	1.6	1.2
Net exports (mil. USD)	17,795	-10,983	-1,839	43,247
World market share (%)	8.1	2.0	2.5	4.0
Relative change of world market share, p.a. 2012-2016 (%)	1.1	-0.3	1.0	2.1
'Competitiveness effect' change, p.a. 2012-2016 (%)	-1.1	0.3	-1.0	2.1

Source: International Trade Center, Trade Competitiveness Map, https://tradecompetitivenessmap.intracen.org/TPIC.aspx

Data extracted on: 07/01/2021

* *Minerals* export sector, as defined by the International Trade Center, includes energy-related minerals (e.g., coal, petroleum and natural gas); see the Methodological Notes for further details.

** Despite the similar names, SITC sectors have a broader coverage than the HS-nomenclature product clusters used in (1.2) and (5.4) and are thus not directly comparable.

See the Methodological Notes for a detailed description of each indicator included in this table.

Another indicator relevant to trade performance of NFNEMR is the Revealed Comparative Advantage (RCA) of NFNERM-relevant product clusters. By definition, a RCA larger than 1 means that the country has a relative comparative advantage for that product cluster.

In 2018, Canada has comparative advantage in four NFNERM-relevant product clusters – *Wood*, *Minerals, Metals* and *Stone and gass*. *Wood* product cluster had the highest RCA value (i.e., 3.0) (Table 2.4).

2.4 Canada's revealed comparative advantage by NFNERM-relevant HS product cluster

Product group	HS chapters coverage	2008	2018
Minerals	HS 25-26	1.83	1.57
Chemicals	HS 28-38	0.71	0.67
Wood	HS 44-49	2.52	3.03
Stone and glass	HS 68-71	0.94	1.01
Metals	HS 72-83	1.09	1.13

Source: The RCAs are pre-calculated in World Integrated Trade Solutions (WITS), Trade Outcomes Indicator

Data extracted on: 19/03/2021

3 Investments

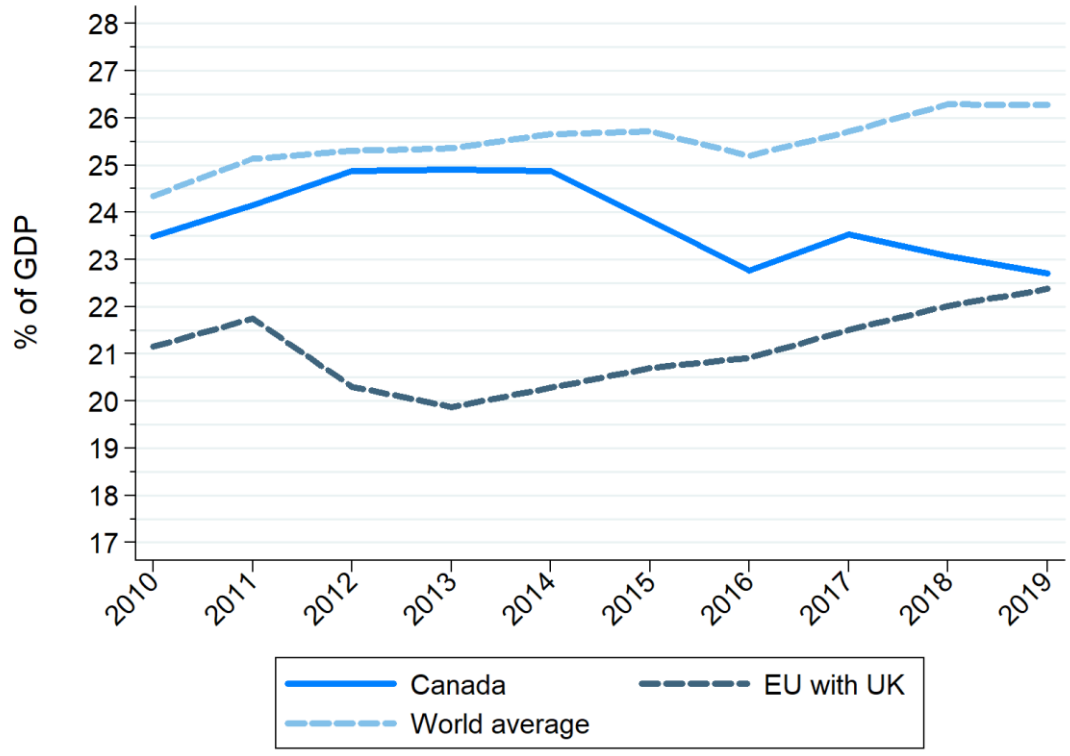
Canada attracts important foreign direct investments, while is becoming even a more important international investor.

Canada's outward FDI flows kept rising over the 2010-2019 period, leading to a 68% increase of outward FDI stocks. Conversely, an overall downtrend of inward FDI flows led to inward FDI stocks remain stagnant.

In particular, Canada has become a significant investor to the EU: its share of the total direct investment flows to the EU and UK has soared in the last couple of years, rising from 3.6% in 2015 to almost 15.7% in 2017.

The total investment in the Canadian economy accounted for 22.7% of Canada's GDP in 2019, continuing its downwards trend since 2014. An opposite trend is experienced by the EU, whose GDP investment share its has risen almost to reach Canada's in 2019. Canada's decreasing investment share in GDP diverges also from the world's trend (Figure 3.1).

3.1 Canada's total investment as a percentage of GDP

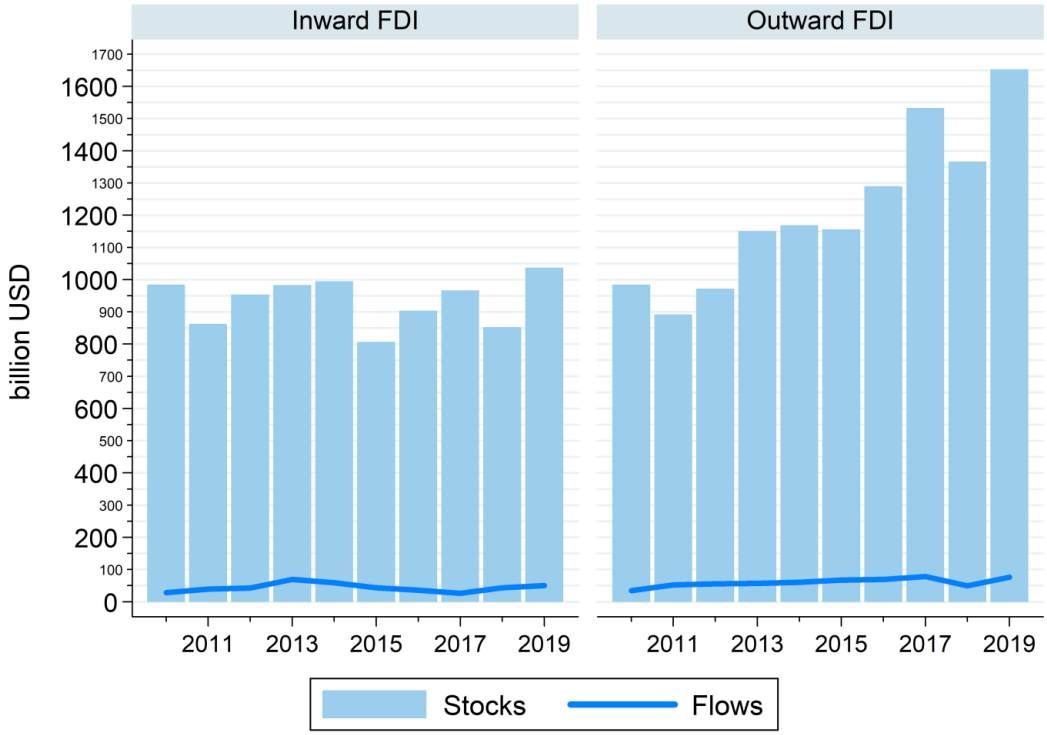


Source: International Monetary Fund, World Economic Outlook Database (October 2020 edition)

Data extracted on: 08/01/2021

Canada's outward foreign direct investments (FDI) are higher than the inward FDI flows. The outward flows kept increasing over the last decade; they doubled in 2019 compared with 2010. Consequently, the stocks of outward FDI increased by 68% over the same period. Due to an overall downtrend of FDI inflows, instead, the inward FDI stocks remain considerably below the value of outward FDI stocks (Figure 3.2).

3.2 Canada's total inward and outward Foreign Direct Investment (FDI)

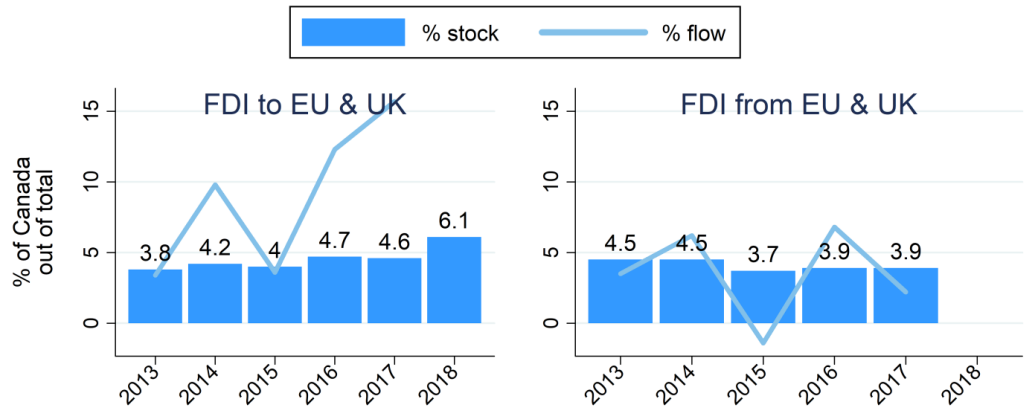


Source: UNCTAD, Statistics Data Center

Data extracted on: 08/01/2021

The share of Canada in the EU's[12] FDI inflows soared in the last couple of years, from 3.6% in 2015 to 15.7% in 2017. Since 2015, Canada has also a higher share in EU's[13] inward FDI stocks than in the outward FDI stocks.

3.3 The share of Canada in the EU's* FDI



Source: Eurostat, EU direct investment positions, flows and income, breakdown by partner countries (BPM6) (bop_fdi6_geo)

Data extracted on: 08/01/2021

*Extracted as Direct Investment in the Reporting Economy (DIRE) and Direct Investment Abroad (DIA) where the reporting economy is "EU28 (2013-2020)" and the total FDI partner is Eurostat's "Extra-EU28 (2013-

[12] EU here includes UK, due the data availability constraints.
[13] idem

2020)" country aggregate. Due to data confidentiality at the source, for the moment it is not possible to disentangle UK's FDI.

At sectoral level, Canada's *Mining and quarrying* sector is the NFNERM-relevant economic sector with the highest inward FDI stocks. Nevertheless, the inward FDI flows for this sector dropped from 24 billion USD in 2014 to 4.5 billion USD in 2018. (Table 3.4).

The inward FDI stocks have increased in *Chemicals and chemical products* sector after 2015, amounting to almost 32 billion in 2018.

There was a considerable decrease of inward FDI stocks in *Manufacture of basic metals* over the period 2014-2016, followed by a modest increase in the next two years.

3.4 Canada's inward and outward FDI flows and stocks by NFNERM-relevant economic sector (ISIC Rev. 4; billion USD)

Sector*	FDI indicator (billion USD)	2014	2015	2016	2017	2018
Manufacture of basic metals	Inward flows	-	-	-	-	-
	Inward stocks	28.0	12.5	8.3	8.8	9.9
	Outward flows	-	-	-	-	-
	Outward stocks	9.7	5.7	9.0	7.7	7.7
Manufacture of chemicals and chemical products	Inward flows	-	-	-	-	-
	Inward stocks	25.4	20.5	27.8	30.7	31.6
	Outward flows	-	-	-	-	-
	Outward stocks	8.6	9.3	10.5	10.4	9.8
Manufacture of rubber and plastics products	Inward flows	-	-	-	-	-
	Inward stocks	4.1	2.7	3.3	4.4	4.4
	Outward flows	-	-	-	-	-
	Outward stocks	0.6	1.4	0.7	1.2	1.0
Manufacture of wood and of products of wood and cork, except furniture…	Inward flows	-	-	-	-	-
	Inward stocks	9.5	7.6	9.3	13.6	12.9
	Outward flows	-	-	-	-	-
	Outward stocks	3.3	2.0	5.1	5.0	6.9
Mining and quarrying	Inward flows	15.3	2.9	8.3	-7.2	4.5
	Inward stocks	150.1	122.0	128.8	138.0	128.7

	Outward flows	8.3	-13.0	11.6	-2.3	7.6
	Outward stocks	149.8	135.9	139.5	146.8	142.8

Source: International Trade Center, Investment Map, https://www.investmentmap.org/

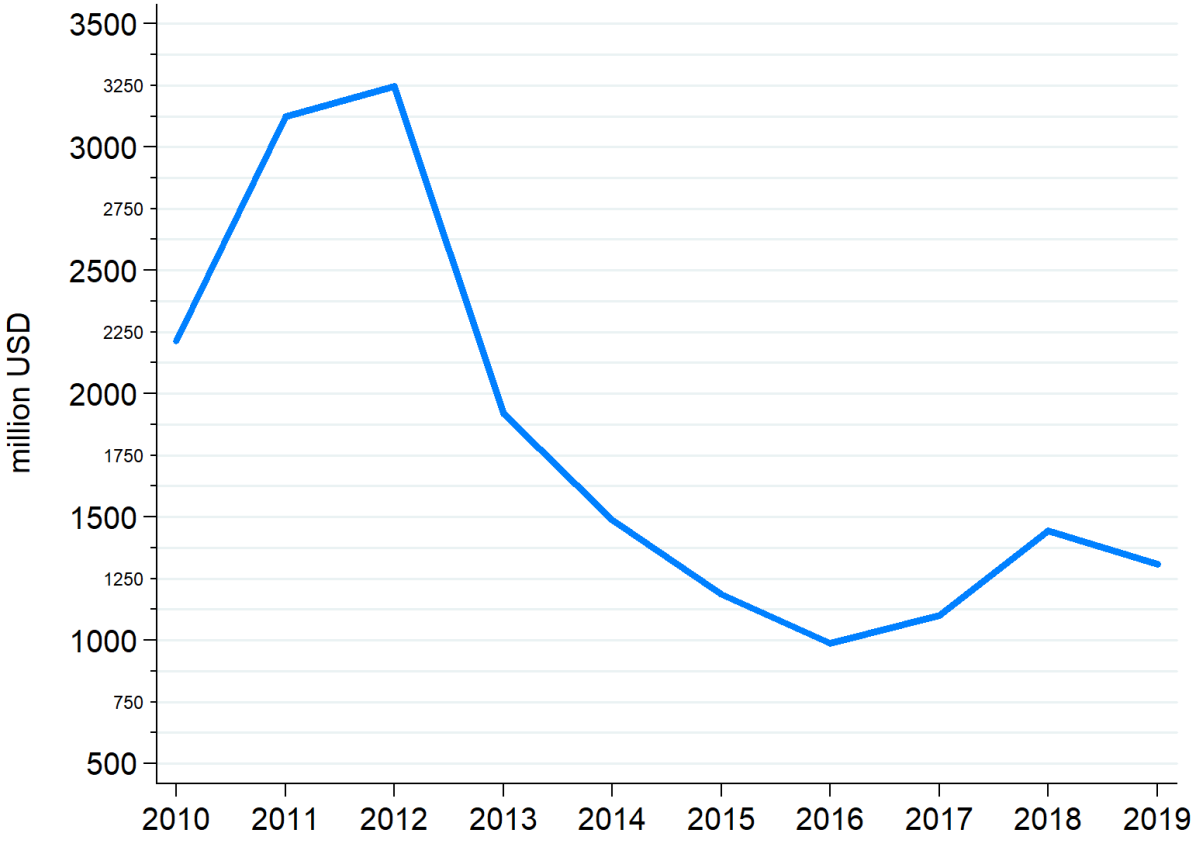
Data extracted on: 08/01/2021

* These sectors are defined by the International Standard Industrial Classification (ISIC) of all Economic Activities, Revision 4.0. According to this classification, for example, the *Mining and quarrying* sector also includes coal mining, production of crude petroleum and natural gas, which are outside the scope of this report.

Canada's total exploration budget decreased by more than half between 2012 and 2016. It then recovered slowly during the following two years only to get to a new (negative) turning point in 2018.

Nevertheless, Canada's exploration budget remains one of the highest in the world (comparable with Australia's). It is also much more considerable than the EU's exploration budget (almost 6 times higher in 2018).

3.5 Canada's exploration budget in the metals and mining sector



Source: S&P Global

Data extracted on: 08/01/2021

4 Trade agreements

This section presents a summary of the regional trade agreements and of the preferential trade arrangements that Canada takes part in.

4.1 Canada's preferential trade agreements in force

Role	Agreement name	Type of agreement	# beneficiary countries
Provider	Commonwealth Caribbean Countries Tariff	Other Preferential Trade Agreements	**18**
	Generalized System of Preferences - Canada	Generalized System of Preferences	**104**
Member of World Trade Organization since 1 January 1995			

Source: World Trade Organization, Database on Preferential Trade Arrangements, http://ptadb.wto.org/default.aspx

Data extracted on: 11/01/2021

4.2 Canada's regional trade agreements in force

Regional trade agreement	Current signatories	Composition/scope	Type*
United Kingdom - Canada	Canada; United Kingdom	Goods	FTA
United States-Mexico-Canada Agreement (USMCA/CUSMA/T-MEC)	Canada; Mexico; United States of America	Goods & Services	FTA & EIA
Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)	Australia; Brunei Darussalam; Canada; Chile; Japan; Malaysia; Mexico; New Zealand; Peru; Singapore; Viet Nam	Goods & Services	FTA & EIA
EU - Canada	Canada; Austria; Belgium; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Romania; Slovak Republic; Slovenia; Spain; Sweden	Goods & Services	FTA & EIA
Canada - Ukraine	Canada; Ukraine	Goods	FTA
Canada - Honduras	Canada; Honduras	Goods & Services	FTA & EIA

Canada – Republic of Korea	Canada; Republic of Korea	Goods & Services	FTA & EIA
Canada - Panama	Canada; Panama	Goods & Services	FTA & EIA
Canada - Jordan	Canada; Jordan	Goods	FTA
Canada - Colombia	Canada; Colombia	Goods & Services	FTA & EIA
EFTA - Canada	Canada; Iceland; Liechtenstein; Norway; Switzerland	Goods	FTA
Canada - Peru	Canada; Peru	Goods & Services	FTA & EIA
Canada - Costa Rica	Canada; Costa Rica	Goods	FTA
Canada - Chile	Canada; Chile	Goods & Services	FTA & EIA
Canada - Israel	Canada; Israel	Goods	FTA

Source: World Trade Organization, Regional Trade Agreements Information System, https://rtais.wto.org/UI/PublicMaintainRTAHome.aspx

Data extracted on: 11/01/2021

* FTA = Free Trade Agreement; EIA = Economic Integration Agreement; PSA = Partial Scope Agreement

4.3 EU-Canada trade agreements

The Comprehensive Economic and Trade Agreement (CETA) is a free-trade agreement between Canada and the European Union. It entered provisionally into force in September 2017. More data and information about CETA can be found on the DG TRADE's dedicated webpage[14].

[14] DG TRADE's webpage dedicated to CETA - https://ec.europa.eu/trade/policy/in-focus/ceta/

5 Trade measures: export restrictions and import tariffs

In 2018, Canada applied a few export-restricting measures on several wood products.

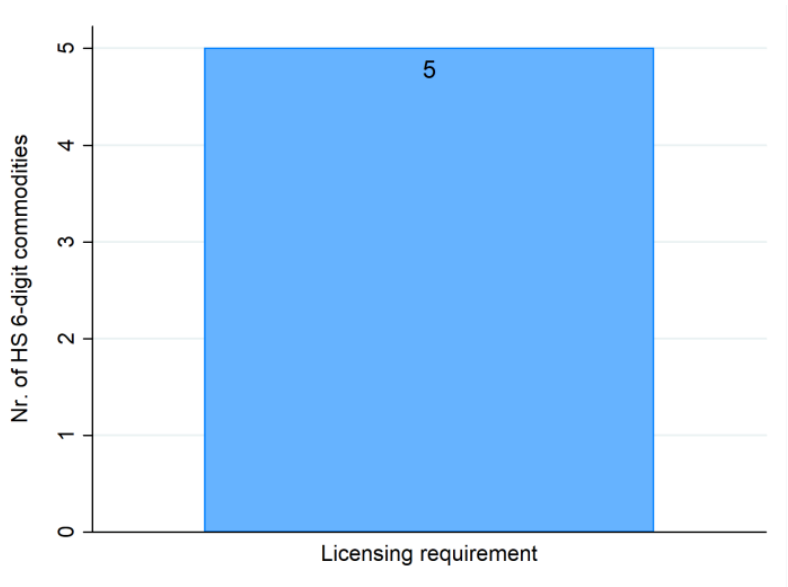
Two product categories have the highest tariff rates potentially applicable to Canadian imports from WTO members - i) rubber and articles thereof and ii) products of rubber stone, plaster, cement, asbestos, mica or similar materials.

However, these tariffs are not applicable to Canada's imports from EU countries due to the Comprehensive Economic and Trade Agreement (CETA), provisionally in force since September 2017.

This section provides a overview of Canada's generally applicable export restrictions on NFNERM and a summary of NFNERM—relevant applicable import tariffs (with no reference to any individual exceptions, i.e., namely the effective tariffs imposed to the countries taking part in the Generalized Scheme of Preferences or to those with which Canada concluded FTAs).

Several licensing requirements were in place in 2018, applicable to five NFNERM, all belonging to the HS heading 4403, *Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared*. More precisely, Canada restricts export of various types of rough wood: coniferous, oak, beech and other (Figure 5.1).

5.1 Number of NFNERM affected by export restrictions imposed by Canada, in place in 2018, by restriction type



Data source: OECD Inventory on Export Restrictions on Industrial Raw Materials, http://qdd.oecd.org/subject.aspx?Subject=ExportRestrictions_IndustrialRawMaterials

Data extracted on: 11/01/2021

The most-favoured-nation (MFN) tariff averages and bound tariffs average rates (i.e., with no reference to individual exceptions coming from free trade agreements or other schemes in force) by HS 2-digit chapter

containing NFNERM commodities, applicable by Canada, are summarized in Table 5.2. The first part of the table shows data on the applicable MFN tariffs, while the second part on the bound tariff rates.

The average MFN tariffs applicable in 2018 range between 0 and 3.04%, the latter being applicable to products from HS chapter 68, Articles of stone, plaster, cement, asbestos, mica or similar materials.

In 2018, no MFN tariffs are applicable to products from 8 out of the 22 NFNERM-related selected HS chapters. The maximum MFN tariff is 15.5%, applicable to products belonging to HS 40, Rubber and articles of rubber, and to the HS 68 mentioned above.

As an effect of the entry into force of the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada on 21 September 2017, the customs duties on the NFNERM coming from the EU were removed. Thus, the tariffs listed in the Table 5.2 are not applicable to the Canada's imports of NFNERM from European Union countries[15].

5.2 Overview of the generally applicable most-favoured-nation tariffs and bound tariff rates in 2018, by NFNERM-relevant HS chapter (HS 2-digit)

Most-favoured-nation applied tariffs									
HS chapter *	**Nomenclature version**	**# sub-headings**	**# tariff lines**	**# tariff lines with ad valorem duties**	**Average of ad valorem duties**	**Minimum ad valorem duties**	**Maximum ad valorem duties**	**% duty free tariff lines**	**# non-ad-valorem duties**
25	2017	68	69	69	0.02	0	2.5	99.3	0
26	2017	37	37	37	0	0	0	100	0
28	2017	174	175	175	0.02	0	6.5	99.7	0
31	2017	24	24	24	0	0	0	100	0
40	2017	80	101	101	1.59	0	15.5	79.3	0
44	2017	103	122	122	1.10	0	9.5	79.0	0
45	2017	7	7	7	0	0	0	100	0
47	2017	21	21	21	0	0	0	100	0
48	2017	101	101	101	0	0	0	100	0
68	2017	49	57	57	3.04	0	15.5	45.2	0
70	2017	64	69	69	0.05	0	6.5	99.2	0
71	2017	53	60	60	1.41	0	8.5	79.2	0
72	2017	167	167	167	0	0	0	100	0
73	2017	124	149	149	1.45	0	8	78.8	0
74	2017	50	69	69	0.28	0	9.5	92	0
75	2017	17	20	20	0.09	0	3	97.1	0
76	2017	35	40	40	1.24	0	6.5	81.0	0

[15] For details about the provisions related to the tariff exemptions, see DG Trade, Access2Markets: https://trade.ec.europa.eu/access-to-markets/en/content/eu-canada-comprehensive-and-economic-trade-agreement

78	2017	8	8	8	0	0	0	100	0
79	2017	9	12	12	0.17	0	3	94.4	0
80	2017	5	8	8	0.15	0	3	95	0
81	2017	48	53	53	0	0	0	100	0
Bound tariff rates									
HS chapter*	**Nomenclature version**	**# sub-headings**	**# tariff lines**	**# tariff lines with ad valorem duties**	**Average of ad valorem duties**	**Minimum ad valorem duties**	**Maximum ad valorem duties**	**% duty free tariff lines**	**Binding status (B/P/U) ** **
25	2012	68	92	90	1.7	0	8.2	65.5	B
26	2012	37	37	37	0.1	0	3.2	94.6	B
28	2012	166	228	228	3.1	0	6.5	42.5	B
31	2012	23	24	24	0.1	0	6.5	97.8	B
40	2012	85	157	157	5.2	0	15.7	36.9	B
44	2012	76	117	117	2.7	0	9.7	50.7	B
45	2012	7	7	7	0	0	0	100	B
47	2012	21	21	21	0	0	0	100	B
48	2012	101	169	169	0	0	0	100	B
68	2012	49	83	83	6.0	0	15.7	3.4	B
70	2012	64	103	103	2.0	0	15.7	81.3	B
71	2012	53	71	71	2.9	0	8.7	58.3	B
72	2012	167	312	304	0.4	0	6.7	88.7	B
73	2012	124	250	250	3.5	0	9.7	48.0	B
74	2012	50	100	100	2.6	0	9.7	11.3	B
75	2012	17	42	42	1.8	0	3	40.2	B
76	2012	35	74	72	5.1	0	8	12.9	B
78	2012	8	15	15	2.4	0	3	18.8	B
79	2012	9	17	17	1.2	0	3	61.1	B
80	2012	5	15	15	1.2	0	3	58.7	B
81	2012	48	88	88	2.5	0	3	15.8	B

Data source: WTO, Tariff Download Facility, http://tariffdata.wto.org/

Data extracted on: 11/01/2021

* All selected HS chapters (HS 2-digit) contain both NFNERM and articles thereof, as well as other product groups that are outside the scope of this report. The tariff data presented here thus also cover non-NFNERM products.

** As defined in the WTO's Tariff Download Facility, "B" means that all subheadings (HS 6-digit) within the chapter (HS 2-digit) are bound; "U" means that all subheadings within the chapter are unbound; "P" means that the subheadings within the chapter are partially bound. In turn, a single subheading is considered *bound* if all tariff lines in it are bound; *unbound* if there are no bound tariff lines in the subheading, and *partially bound* if there are both bound and unbound tariff lines in the subheading.

Note: Both most-favoured-nation tariffs and bound tariffs may differ from the effectively applied tariffs.

Methodological notes

1.1 Canada's trade in NFNERM vs. total trade in goods in 2018 (EU and World as trading partners)

Table 1.1 provides data on country's exports, imports and trade balance. The product coverage of trade data presented is twofold: *total goods* and *NFNERM*. The geographical coverage is *EU* (i.e., EU27 as a trading block, without UK) and *the rest of the world* (*All countries*). The data for total trade (all goods) were downloaded directly from World Integrated Trade Solutions (WITS)[16]; the data for NFNFRM trade are calculated by us, summing the data for all NFNERM at HS 6-digit level.

We also calculated and included in the Table 1.1: i) the shares of NFNERM in country's total trade flows to/from the EU (i.e., EU27 as a trading block, without UK) and to the rest of the world and ii) the shares of EU in country's total/NFNERM trade flows.

1.2 Canada's global trade by broad commodity group in 2018 (UNCTAD' Stage of Processing classifications)

Figure 1.2 breaks down country's total trade in goods into four broad commodity groups, defined according to UNCTAD Stage of Processing (SoP) statistical product classifications - i.e., UNCTAD-SoP1, *Raw Materials*, UNCTAD-SoP2, *Intermediate goods*, UNCTAD-SoP3, *Consumer goods* and UNCTAD-SoP4, *Capital goods*. The four broad commodity groups (SoP1 to SoP4) are statistically defined based on the processing stage of commodities. In addition to the NFNERM, of interest to us in this report, each broad commodity group also contains food- and energy-related commodities.

The complete HS 6-digit composition of the four UNCTAD broad commodity groups is provided in WITS, *Reference data*, https://wits.worldbank.org/referencedata.html. World Integrated Trade Solution (WITS) also provides data for these four broad commodity groups.

1.3 Canada's global trade in 2018, by NFNERM-relevant HS product cluster

The five product clusters selected for Figure 1.3 are WITS-defined HS product clusters including non-food, non-energy raw material commodities, regardless of their processing stage. Each of the selected HS product clusters comprises NFNERM-relevant HS chapters, as follows: *Minerals*: HS 25-26; *Chemicals*: HS 28-38; *Wood*: HS 44-49; *Stone and glass*: HS 68-71; *Metals*: HS 72-83.

World Integrated Trade Solution (WITS) also provides data for all five product clusters included in Figure 1.3.

1.4 Canada's global trade in 2018 by NFNERM-relevant HS chapter (HS 2-digit)

Table 1.4 shows Canada's trade data for selected HS chapters that contain non-food, non-energy raw material commodities. The selected HS 2-digit chapters are: 25, 26, 28, 31, 40, 44-49 and 68-81.

Data at the HS 2-digit chapter level give a broad picture of country's trade that cannot be captured at HS 4-digit or at HS 6-digit level. In addition to the primary raw materials and intermediate goods, the selected HS chapters (excepting 26, 28, 47 and 72) also include also capital goods and consumer goods. For example, HS 250100, *Salt and pure sodium chloride*, covered by HS chapter 25, is a consumer good.

For our purposes, a certain HS chapter is retained if it covers HS 6-digit codes related to non-food, non-energy commodities. One exception is HS27, which was not included in Table 1.4, even if it contains one HS 6-digit code related to NFNERM, namely HS 270112, *Bituminous coal, whether/not pulverised but not agglomerated* (which includes coking coal, used as input in primary steelmaking). However, HS 270112 is retained in our list of HS 6-digit NFNERM commodities (see infra, 1.7-1.12).

1.5 and 1.6 Canada's top 10 NFNERM-relevant product groups imported from / exported to the rest of the world in 2018, by HS heading (HS 4-digit)

The HS 4-digit headings selected in the Tables 1.5 and 1.6 are those that cover HS 6-digit NFNERM commodities (see infra, 1.7-1.12). One exception is the HS 4-digit heading 2701, *Coal; briquettes, ovoids and similar solid fuels manufactured from coal*, which was not retained even if it includes HS 270112, *Bituminous coal, whether/not pulverised but not agglomerated (which in turn includes coking coal among other products*). However, HS 270112 is retained in our list of HS 6-digit NFNERM commodities.

[16] WITS hosts databases developed by the World Bank, in collaboration with the United Nations Conference on Trade and Development (UNCTAD) and in consultation with International Trade Center, United Nations Statistical Division (UNSD) and the World Trade Organization (WTO) - https://wits.worldbank.org/

1.7-1.12 Canada's top 20/10 NFNERM commodities imported from / exported to the rest of the world / EU in 2018 (HS 6-digit)

In the current report, we take an *economic* approach to NFNERM, defining them as the HS 6-digit product groups that incude i) primary raw materials, used as inputs to the manufacturing of intermediate goods, and ii) intermediate goods, futher used as inputs to the manufacturing of other intermediate goods or finished goods.

Selection of NFNERM commodities is based on a new product scope, based on a refined methodology. The methodological novelty is the statistical definition of NFNERM commodities, as the set of commodities at HS 6-digit level that satisfies the following criteria simultaneously:

i. They are either primary raw materials, used as inputs to the manufacturing of intermediate goods, or intermediate goods, used as inputs to the manufacturing of other intermediate goods or finished goods;

ii. They belong to the following HS chapters: 25, 26-28, 31, 40, 44-49 and 68-81;

iii. They are either raw materials or intermediate goods, as defined in a the UNCTAD's broad categories, *Raw materials* (UNCTAD-SoP1) and *Intermediate goods* (UNCTAD-SoP2).

This new definition of the product scope served as a basis for creation of product list of NFNERM. One single HS 6-digit subheading was retained from HS chapter 27 / HS heading 2701, namely HS 270112, *Bituminous coal, whether/not pulverised but not agglomerated*, as it includeds coking coal. On th eother hand, as they are mainly energy-related commodities, two HS 6-digit codes were excluded from HS chapter 26 – i.e., HS 261210, *Uranium ores and concentrates* and HS 261220, *Thorium ores and concentrates*.

Figures/Tables 1.7-1.12 are based on this new product list of NFNERM commodities. In Figures 1.9 and 1.12 we use data from UN Comtrade, while for the other tables and figures we use UN Comtrade data accessed via WITS. In both cases, the data presented refer to net trade flows, i.e. they do not include re-exports/re-imports[17].

2.1 Canada's trade performance indicators

Short definitions of country-level trade performance indicators included in Tables 2.1 and 2.4 are provided in the table below. They are taken from WITS, *Trade Outcomes Indicator**, where further details (complete description, formulas, range of values, etc.) are provided.

Indicator	Description
Trade openness	Trade openness is calculated as the ratio between total trade (i.e., exports + imports) and GDP. It gives an indication of the economy's dependence on trade.
Export: number of products	This indicator simply counts the number of HS 6-digit subheadings exported. In WITS, a specific product is counted in a given year if it is exported to at least one destination, with a value of at least 10,000 USD.
Export: number of markets	This indicator simply counts the reporter's number of markets in a certain year. In WITS, a market is counted if the exporter supplies at least one product to that destination in the given year, with a trade value of at least 10,000 USD.
Herfindahl-Hirschman Market Concentration Index	This indicator measures the dispersion of trade value across a country's export partners. Whereas a high index, close to 1, indicates that country's

[17] In 2005, UNSD made some changes in UN COMTRADE. Now, it reports Gross Exports and Re-Exports. Therefore, one needs to subtract Re-Exports from Gross Exports to obtain Net Exports (called Exports in WITS). For details, WITS, User's Manual.

	exports are concentrated in very few markets, a country trading with all partners will lead to an index close to 0. A reduction of the index over a certain period is an indication of higher diversification in the exporter's trading partners.
Index of Export Market Penetration	This indicator measures the extent to which a country's exports reach the global markets. It is calculated as ratio between the number of countries to which the reporting country exports a particular product and the number of countries that report importing the product that year. A value close to 1 or 100 indicates that the reporter exports to almost all countries that imports a specific product.
Revealed comparative advantage	*Revealed comparative advantage* (RCA) measures a country's relative advantage or disadvantage for a specific product group. An RCA >1 indicates that a product group's share in country's total exports exceeds the global export share of the same product group in total global exports.

* The source of indicator descriptions from this table is WITS, *Trade Outcomes Indicator*, excepting for the *Trade openness* indicator, which uses the indicator description provided by World Bank.

Source: WITS, Trade Outcomes Indicator, https://wits.worldbank.org/trade_outcomes.html

2.2 Volume and value indices of Canada's trade flows

As defined by UNCTAD, Import Value Index and Export Value Index express the dynamic of imports/exports due to changes in prices. For its calculation, value of imports/exports in a certain year is expressed as a percentage of the average of the base period. Thus, an index below 100 indicates an import/export value less than that reported in the base year, while an index above 100 indicates an import/export value greater than that reported in the base year.

Import Volume Index/ Export Volume Index is calculated by UNCTAD as ratio between import value index/ export value index and the corresponding unit value index reported by countries. For a certain country, an index below 100 indicates that the import/export volume is smaller than that reported in the base year, while an index above 100 indicates an import/export volume greater than that reported in the base year.

As calculated by UNCTAD, the export/import value index is the current value of exports (FOB) or imports (CIF) converted to USD and expressed in percentage. The volume index is derived as the percentage ratio of the export or import value index to the corresponding unit value index (value index / unit value index * 100), unless otherwise noted at country level. The base year of both indices is 2000.

Source: UNCTAD, International trade in goods and services, Merchandise: Trade value, volume, unit value, terms of trade indices and purchasing power index of exports, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=16421

2.3 Canada's trade performance indicators of NFNERM-relevant sectors (SITC nomenclature) in 2016

The description of trade performance indicators for the four SITC Rev. 3 commodity sectors selected, as defined by the International Trade Centre, Trade Performance Index, included in the Table 2.3 - i.e., *Wood products*, *Chemicals*, *Basic manufactures* and *Minerals* - are summarized in the table below. For further details (i.e., complete indicator description, formulas, range of values, etc.), see International Trade Centre, Technical notes to the Trade Performance Index[18].

[18] https://tradecompetitivenessmap.intracen.org/TPIC.aspx

Indicator	Description
Value of exports	This indicator shows country's total export value of the sectoral aggregate in a given year.
Share in country's total exports	This indicator shows the share of a sectoral aggregate in country's total exports.
Export growth in value, p.a. (last 5 years; %)	Export growth in value shows the evolution of a sector's export value in the last five years (i.e., 2012-2016). A positive value shows that the exports have increased over that period.
Share in country's total imports	This indicator shows the share of a sectoral aggregate in country's total imports.
Relative trade balance	Relative trade balance is calculated as ratio between the trade balance (exports minus imports) and the total trade (exports plus imports). It shows whether a country is a net exporter or a net importer. It takes values between -100 and +100 per cent; positive values indicate that the country is a net exporter, whereas negative values indicate that the country is a net importer.
Relative unit value (world average = 1)	Relative value unit is calculated as ratio between country export's unit value (value divided by quantity) and the world unit value in a certain sector. This index shows the quality degree of a country's exports of a certain sector. If country's relative value unit is below/above 1, then the country exports' quality is lower/higher than the world's average quality.
Net exports	Net export is another name for the trade balance for a specific sector.
Share in world market (%)	This indicator is calculated as ratio between country's exports and total world exports of a certain sector.
Relative change of world market share p.a (%)	This indicator shows the the percentage change of a country's exports in the world market for a specific product sector over a given period.
Competitiveness effect, p.a. (%); change 2012-2016	Competitiveness effect per annum shows the percentage change in competitiveness of a country's exports in the world market of a certain sector. It is calculated as change in the exporting country's share in the destination markets times the initial share of destination countries' imports in world trade.

Source: International Trade Canter, Technical notes to Trade Performance Index

Despite similar names, SITC sectors have a product broader coverage than the HS standard product clusters defined in WITS and used in the chart 1.3. Thus, they are not comparable. For example, *Minerals* export sector, as defined by the International Trade Centre, includes energy-related minerals (e.g., coal, petroleum and

natural gas). For the precise product coverage of each of the four selected sectors, see the same *Technical notes*, Appendix 2, *Definition of sectors*[19].

3.1 Canada's total investment as a percentage of GDP

The data source for this indicator is the International Monetary Fund (IMF). Total investment (or gross capital formation) is defined as the total value of the gross fixed capital formation and changes in inventories and acquisitions less disposals of valuables (IMF, World Economic Outlook Database, April 2019).

"World" country group is composed of 194 countries; "European Union" is composed of 28 countries, as defined by IMF.

3.2 Canada's total inward and outward Foreign Direct Investment (FDI)

The source of data for foreign direct investments (FDI) stocks and flows is UNCTAD, Statistics Data Centre, Foreign direct investments. As defined by UNCTAD in the Methodological Note accompanying the World Investment Report 2017[20],

- "flows of FDI comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to an FDI enterprise, or capital received from an FDI enterprise by a foreign direct investor";

- "FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprise".

3.3 The share of Canada in the EU's FDI

The source of FDI data is Eurostat, which compiles FDI statistics based on the OECD's *Benchmark Definition of Foreign Direct Investment Fourth Edition (BD4)*, which is consistent with the IMF Balance of Payments Manual, Sixth Edition (BPM6). For details, see the reference metadata
https://ec.europa.eu/eurostat/cache/metadata/en/bop_fdi6_esms.htm

The dataset used for this chart is Eurostat's *EU direct investment positions, flows and income, breakdown by partner countries (BPM6)* (bop_fdi6_geo), which provides data on direct investments flows and positions net totals by partner country.

Data was extracted as Direct Investment in the Reporting Economy (DIRE) and Direct Investment Abroad (DIA) where the reporting economy is "EU28 (2013-2020)" and the total FDI partner is Eurostat's "Extra-EU28 (2013-2020)" country aggregate.

Source of data: Eurostat, EU direct investment positions, flows and income, breakdown by partner countries (BPM6) (bop_fdi6_geo)

3.4 Canada's inward and outward FDI flows and stocks by NFNERM-relevant economic sector (ISIC Rev. 4; billion USD)

The data for the Table 3.4 were extracted from International Trade Centre, Investment Map[21]. The sectoral classification used in Investment Map is the International Standard Industrial Classification of all Economic Activities (ISIC) Revision 4.0. According to this classification, *Mining and quarrying* sector also includes coal mining, production of crude petroleum and natural gas.

3.5. Canada's exploration budget in metals and mining

S&P Global Market Intelligence provides country-level data on annual exploration budget in metals and mining sector (its constructed sector), based on the data reported by companies and its own estimates. The non-ferrous exploration budgets covered by S&P Global Market Intelligence include spending for gold, base metals, platinum group metals, diamonds, U3O8, silver, rare earths, potash/phosphate, and many other hard-rock metals, but exclude exploration budgets for iron ore, coal, aluminium, oil and gas, and many industrial minerals (source: S&P Global Market Intelligence).

4.1 Canada's preferential trade agreements in force/ 4.2 Canada's regional trade agreements in force

While the preferential trade arrangements (PTAs) are nonreciprocal preferential schemes, the regional Trade Agreements (RTAs) are reciprocal preferential trade agreements between two or more parties. The two WTO

[19] https://tradecompetitivenessmap.intracen.org/Documents/TradeCompMap-Trade%20Performance%20Index-Technical%20Notes-EN.pdf
[20] http://unctad.org/en/PublicationChapters/wir2017chMethodNote_en.pdf
[21] https://www.investmentmap.org/

databases used for developing the two country's trade agreement profiles are the Regional Trade Agreements Information System (RTA-IS), which contains information on regional trade agreements force[22], and the Database on Preferential Trade Arrangements[23], which provides information on preferential trade agreements.

5.1 Number of NFNERM affected by export restrictions imposed by the Canada, in place in 2018, by restriction type

Figure 5.1 provide a country overview of the total number of NFNERM (vertical axis) affected by a specific type of export restriction (horizontal axis) in place in 2018. The source of data for is the OECD's dedicated database, *Inventory of Restrictions on Exports of Industrial Raw Materials*[24].

5.2 Overview of the generally applicable most-favoured-nation tariffs and bound tariff rates in 2018, by NFNERM-relevant HS chapter (HS 2-digit)

By definition, a most-favoured-nation tariff is a "normal non-discriminatory tariff charged on imports (excludes preferential tariffs under free trade agreements and other schemes or tariffs charged inside quotas)". Bound tariffs are commitments made by individual WTO members on the maximum level of MFN tariff rate for a given commodity line for imports from another member[25].

Table 5.2 presents an overview of country's applicable Most Favoured Nation (MFN)[26] tariffs and bound tariff rates[27], organized by HS chapter (the same HS chapters as those selected in Table 1.4). The table contains information on minimum, maximum and average of applicable duties[28]. For tariff definition and distinction between different types of tariffs, see WITS, Types of tariffs[29].

[22] http://rtais.wto.org/UI/PublicAllRTAList.aspx
[23] http://ptadb.wto.org/ptaList.aspx
[24] http://qdd.oecd.org/subject.aspx?Subject=ExportRestrictions_IndustrialRawMaterials
[25] WTO Glossary, https://www.wto.org/english/thewto_e/glossary_e/glossary_e.htm; WITS, Types of tariffs, https://wits.worldbank.org/wits/wits/witshelp/Content/Data_Retrieval/P/Intro/C2.Types_of_Tariffs.htm
[26] Most Favoured Nation (MFN) tariffs a normal, non-discriminatory tariff charged on imports from other members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union). MFN rates are the highest tariffs that WTO members charge one another (WITS, Types of Tariffs, https://wits.worldbank.org/wits/wits/witshelp/content/data_retrieval/p/intro/c2.types_of_tariffs.htm).
[27] Bound tariff rates or tariff bindings or commitments not to increase a rate of duty beyond an agreed level. The bound tariff is thus the maximum MFN tariff level for a given commodity line (WITS, Types of Tariffs).
[28] Ad valorem (AV) duties are tariffs rate charged as percentage of the commodity price.
[29] https://wits.worldbank.org/wits/wits/witshelp/Content/Data_Retrieval/P/Intro/C2.Types_of_Tariffs.htm

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- World Trade Organisation, Regional Trade Arrangements database, https://www.wto.org/english/tratop_e/region_e/region_e.htm

- World Trade Organisation, Trade profiles, https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm

- World Trade Organisation, Tariff Download Facility, http://tariffdata.wto.org/

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