2020 Economic State of British Columbia's Forest Sector

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

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Foreword

The *Economic State of the British Columbia Forest Sector* report is a year in review of the forest sector's role in the provincial economy during 2020. This report provides an overview of forest product markets including softwood lumber, veneer, plywood, shake and shingle as well as logs, pulp, and paper in 2020. It examines and monitors the B.C. forest sector as measured by harvest level, gross domestic product (GDP), manufacturing sales, exports, employment, market supply and demand conditions, main destination markets and main products. As an export-oriented sector, this report also includes an overview of the global forest commodity markets, exchange rates, foreign competition, and trade policy.

The report is an annual cumulation of other information products developed by the Economics and Trade Branch throughout the year. Numbers throughout the report may not add up to totals due to rounding. Some historical data is also subject to revisions.

This report is available online at:

https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/forest-industry-economics

Please note that any comments or errors could be sent to the contact information at the website, by email to ForestEconomics@gov.bc.ca or by mail to the following location:

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This report acknowledges that its development and writing was done with respect on the territorial lands of the lək̓ʷəŋən, Songhees and Esquimalt peoples whose historical relationships with the land continue to this day.

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Overview

The *Economic State of the British Columbia Forest Sector* report reflects market conditions in 2020. The economic impacts of the COVID-19 pandemic, including historic high lumber prices, were driving trends in 2020. The first half of 2020 saw lockdowns and mill curtailments, affecting employment. The federal and provincial governments provided relief funding to support Canadians who could not work during the COVID-19 pandemic lockdowns. Preliminary estimates of forest sector direct employment in 2020 was 42,885 jobs, according to the System of National Accounts[1].

After the initial pandemic-related supply interruption, transportation issues and fibre shortages further constrained supply throughout 2020. The supply shortage was soon met with unexpected surge in lumber and manufactured wood product demand due to increased activities in the repair and remodeling sector, as well as in residential construction. This resulted in historic pricing highs for many forest products in the second half of 2020. Overall, the forest sector contributed $5.6 billion (in 2012 chained dollars) to the provincial GDP and $1.27 billion to the provincial government revenue in 2020. It also accounted for 28% of the provincial manufacturing sales and 29% of B.C.'s total commodity export value[2].

Timber Harvest

Timber harvest in B.C. totalled 51.6 million m³ in 2020. The Interior accounted for 74% of the harvest (38.2 million m³), and the Coast for 26% (13.4 million m³). The volume reported in this section includes all logs, special forest products, species and grades billed in both Crown, federal and private land. It excludes waste, reject and Christmas trees, and is based on the B.C. Harvest Billing System (HBS) data run on June 1, 2021.

Figure 1: B.C. Harvest Volume, Coast, and Interior

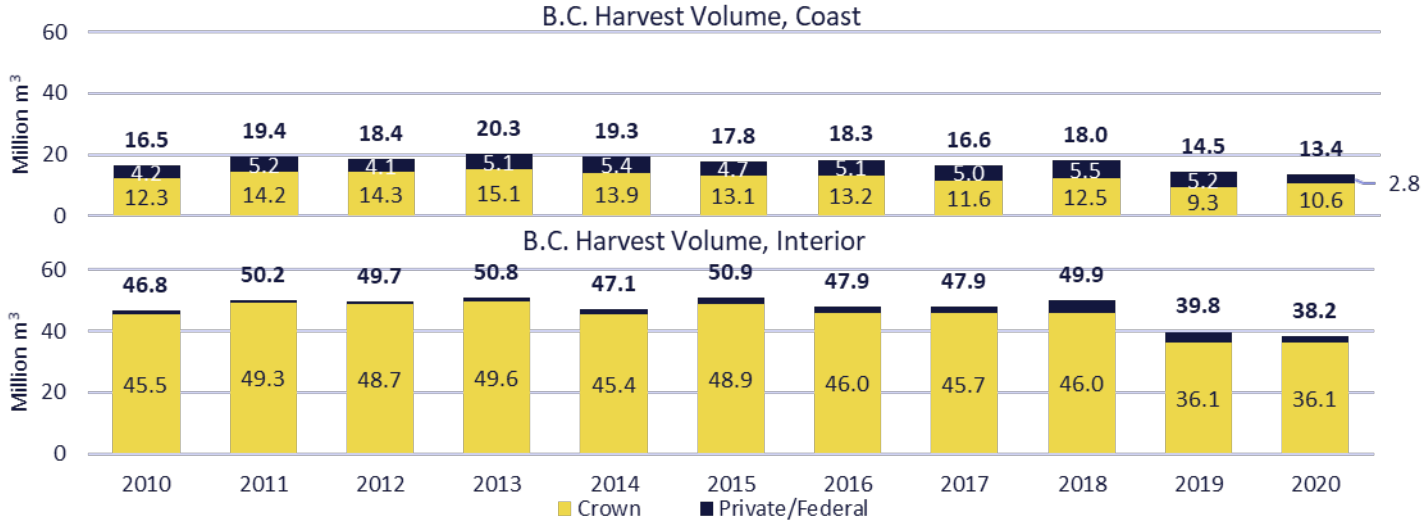
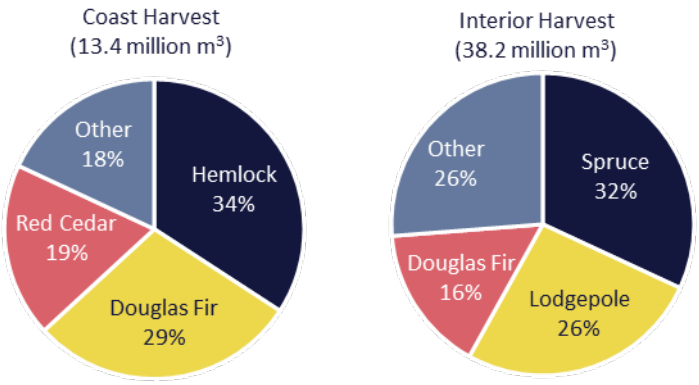


Table 1: B.C. Timber Harvest

million m³	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Coast	16.5	19.4	18.4	20.3	19.3	17.8	18.3	16.6	18.0	14.5	13.4
Interior	46.8	50.2	49.7	50.8	47.1	50.8	47.9	47.9	49.9	39.8	38.2
Total	**63.3**	**69.6**	**68.1**	**71.1**	**66.4**	**68.6**	**66.2**	**64.5**	**67.9**	**54.3**	**51.6**

[1] See Multiple Employment Estimates for more information
[2] Annual B.C. Exports by BC Stats and Statistics Canada

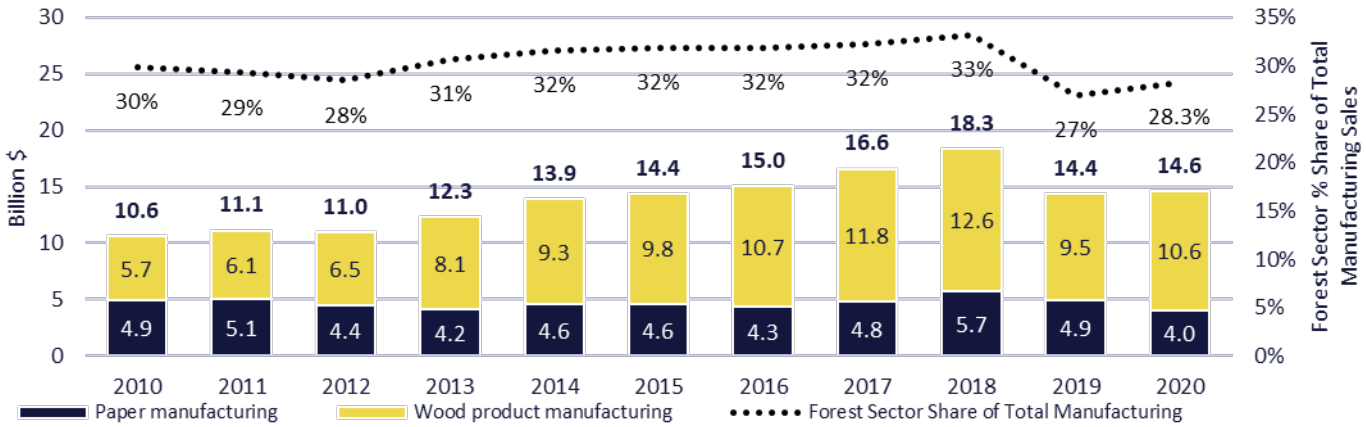
Hemlock and Douglas fir species make up roughly two-thirds of the log harvest on the Coast. In the Interior, with the salvage of mountain pine beetle attacked timber coming to an end, the lodgepole pine was surpassed by spruce in recent years as the dominant species harvested. This is a significant change, as during the height of salvage response to the mountain pine beetle epidemic, lodgepole's share was around 60% of B.C. Interior harvest.



Forest Sector Manufacturing

Harvested timber is processed into forest products. More details on primary use of timber can be found in the Ministry's annual *Major Timber Processing Facilities Survey*. In 2020, B.C.'s total forest sector manufacturing sales were $14.5 billion, of which $10.5 billion came from manufactured wood products and the remaining $4.0 billion from pulp and paper sales.

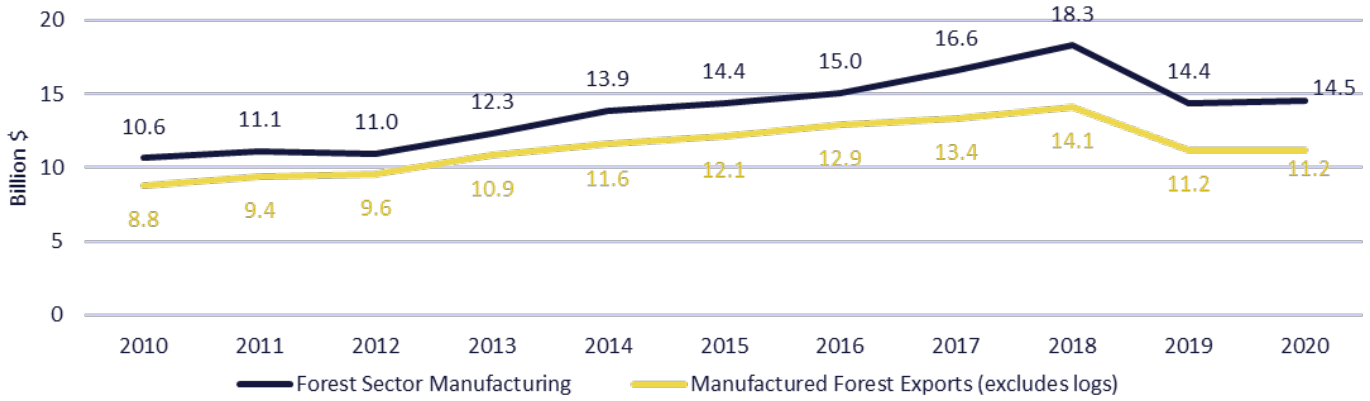
Figure 2: B.C. Forest Sector Manufacturing Sales



Source: Statistics Canada; Table 16-10-0048-01.

B.C.'s forest sector is export oriented, with most of its manufactured forest products being exported. Total exports of manufactured forest products were $11.2 billion in 2020.

Figure 3: B.C. Manufactured Forest Product Sales and Forest Exports

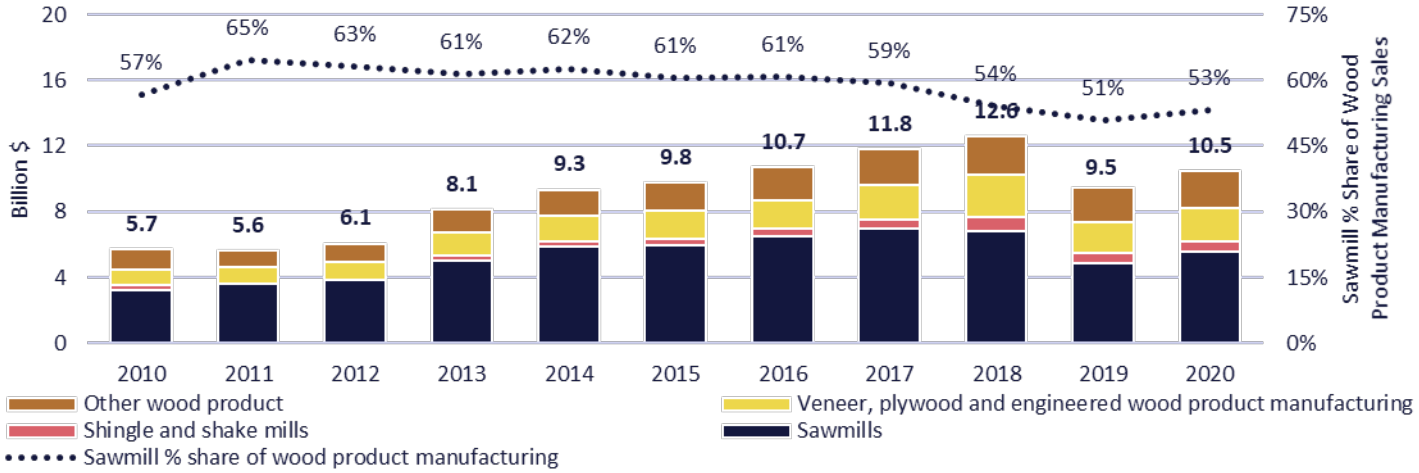


Source: Statistics Canada; Table 16-10-0048-01, *and* B.C. Stats *extract from Statistics Canada data. Also available from Statistics Canada* CIMTD. *Historic data is subject to revisions.*

Manufactured Wood Products

Total B.C. manufactured wood product sales in 2020 was $10.5 billion, up by 10% from 2019. Sawmill sales, which include chip, sawdust, accounted for 53% of the sales (or $5.6 billion). In 2020, sawmill manufacturing saw a 16% increase in sales. The remainder of 2020 sales came from the non-lumber industries, which include shingles and shakes, wood preservation, veneer, plywood and engineered wood products, millwork, container and pallet manufacturing, and other activities. Other activities encompass products from seats and bowls to tool handles and chopsticks. Shingle and shake mills experienced a 5% decline in sales, while the rest experienced growth compared with 2019.

Figure 4: B.C. Wood Product Manufacturing Sales



Source: Statistics Canada; Table 16-10-0048-01.

Table 2: B.C. Wood Product Manufacturing Sales

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sawmills	3.2	3.6	3.8	5.0	5.8	5.9	6.5	7.0	6.8	4.8	5.6
Shingle and shake mills	0.3	0.0	0.0	0.3	0.4	0.4	0.4	0.5	0.9	0.7	0.6
Veneer, plywood & engineered wood product manufacturing	1.0	1.0	1.1	1.4	1.5	1.7	1.8	2.1	2.5	1.9	2.0
Other wood products	1.2	1.0	1.1	1.4	1.6	1.7	2.0	2.1	2.4	2.1	2.3
Total	**5.7**	**5.6**	**6.1**	**8.1**	**9.3**	**9.8**	**10.7**	**11.8**	**12.6**	**9.5**	**10.5**

Source: Statistics Canada; Table 16-10-0048-01.**suppressed to meet the confidentiality requirements of the Statistics Act*

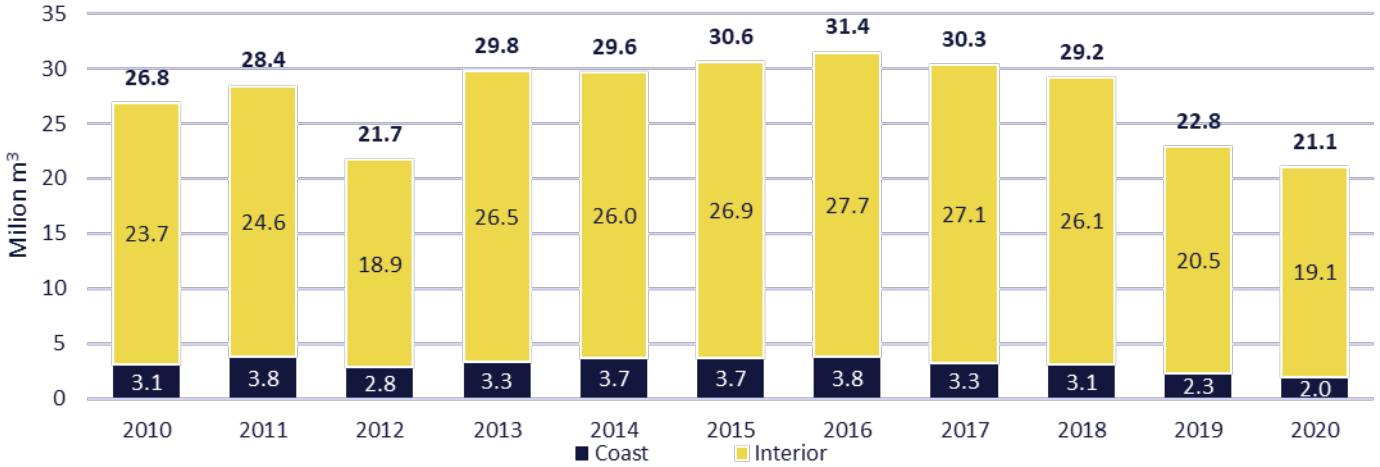
Softwood Lumber

Being the largest lumber producer in Canada, B.C. produced 21.1 million m^3 of lumber (or 8.9 billion board feet) in 2020, accounting for 39% of Canada's total softwood lumber production. Within B.C., most of the lumber production came from the Interior, while the Coast accounted for 9% of the total provincial production[3].

In 2020, 77% of softwood lumber production volume was spruce, pine or fir (SPF), and the remainder was from other species such as cedar, Douglas fir, and hemlock. In comparison, the SPF made up 66% of the total softwood lumber export volume.

[3] The reported interior volumes include production from Yukon, Northwest Territories & Nunavut, though the volume is negligible.

Figure 5: B.C. Softwood Lumber Production



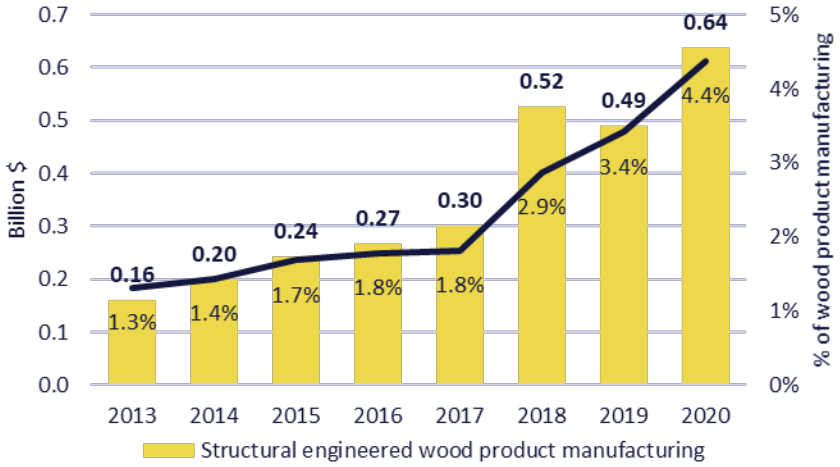
Source: Statistics Canada; 2009-2013 from Table 16-10-0045-01 *and 2014 onwards from* Table 16-10-0017-01.

Non-Lumber

As previously mentioned, the non-lumber industries include shingles and shakes, wood preservation, veneer, plywood and engineered wood products, millwork, container and pallet manufacturing, and other activities. Other activities encompass products from seats and bowls to tool handles and chopsticks. These sectors are also major contributors, accounting for 47% of wood product manufacturing sales and more than 54% of employment[4] in 2020. Comparing export and manufacturing sales suggests most non-lumber goods are consumed domestically, whereas the majority (87% in 2020) of lumber is exported.

Mass timber is an example of a non-lumber forest product allowing taller wood buildings and is considered comparable to steel and concrete in construction. Mass timber are structural engineered wood products formed from dimension lumber or wood fibre that is mechanically fastened or glued together in layers, under high pressure[5]. It is included in the many "structural engineered wood products" reported by Statistics Canada along with glulam, I-joists, trusses, arches, beams, and laminated veneer lumber (LVL) among others[6]. Manufacturing sales of structural engineered wood products was first reported in 2013. At the time, structural engineered wood products made up 1.3% of total wood product manufacturing sales in B.C. and was valued at $161 million. By 2020, its share rose to 4.4% of total wood product manufacturing sales and was valued at $632 million.

Figure 6: B.C. Structural Engineered Wood Product Manufacturing Sales



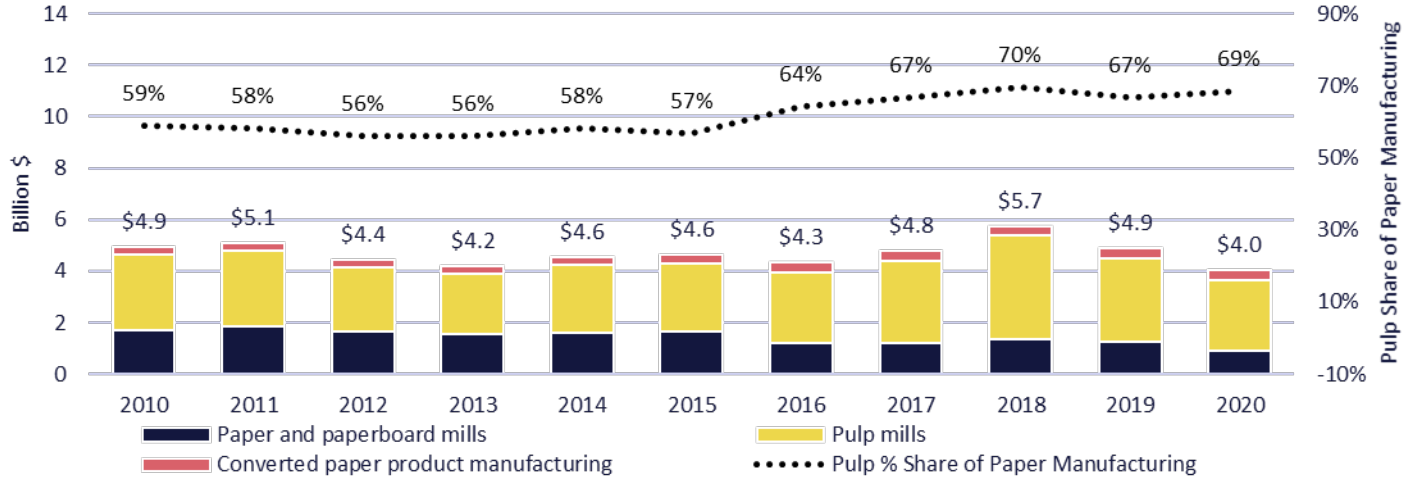
Source: Statistics Canada; Table 16-10-0048-01

[4] Based on System of National Accounts (Table 36-10-0489-01) 2020 preliminary estimates. "More than" is used since shingles and shakes and wood preservation are combined with sawmilling under *sawmills and wood preservation*.
[5] Source: https://www.naturallywood.com/wp-content/uploads/2020/08/mass_timber_factsheet_naturallywood.pdf
[6] Statistics Canada defines structural engineered wood products as "manufacturing structural wood members, other than solid dimension lumber and timber". A list of example products can be found here

Pulp and Paper

Total pulp and paper manufacturing sales in B.C. were $4.0 billion in 2020, of which pulp mills[7] accounted for 69% or $2.8 billion. Overall, the sales were down 17% in 2020, with 15% decline from pulp mills as well as 30% decrease from paper and paperboard. Meanwhile, converted paper manufacturing sales was up 4% in 2020.

Figure 7: B.C. Pulp and Paper Manufacturing Sales



Source: Statistics Canada; Table 16-10-0048-01. Converted paper includes products created from purchased paper and paperboard.

Forest Sector Exports and Destination Markets

B.C.'s forest sector is export-oriented. The province accounted for 24% of the value of Canada's total forest product exports to the US, 67% of exports to China and 78% of exports to Japan in 2020. While the three markets made up 88% of B.C. forest sector exports value, B.C. exported forest products to another 115 countries in 2020. Being in so many markets, even to a limited degree, can strategically place B.C. wood products to capitalize on growth in those markets.

Table 3: Forest Product Exports, by destination, from B.C. and Canada

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
To US											
B.C.	4.1	3.8	4.3	5.0	5.5	6.1	7.1	6.9	6.7	5.4	6.5
Canada	18.0	17.3	17.1	19.4	21.7	24.0	25.9	26.1	27.0	24.4	26.5
B.C. % Share of Canada	*23%*	*22%*	*25%*	*26%*	*26%*	*26%*	*28%*	*26%*	*25%*	*22%*	*24%*
To China											
B.C.	2.2	3.3	3.1	3.7	3.8	3.7	3.4	3.9	4.1	3.4	2.8
Canada	3.1	4.2	4.2	4.7	4.8	5.0	4.9	5.5	6.1	5.2	4.2
B.C. % Share of Canada	*71%*	*77%*	*74%*	*77%*	*78%*	*73%*	*70%*	*70%*	*68%*	*66%*	*67%*
To Japan											
B.C.	1.1	1.2	1.1	1.3	1.3	1.2	1.2	1.3	1.5	1.2	0.8
Canada	1.4	1.4	1.3	1.6	1.5	1.4	1.4	1.5	1.8	1.4	1.1
B.C. % Share of Canada	*82%*	*83%*	*84%*	*85%*	*84%*	*83%*	*85%*	*87%*	*82%*	*83%*	*78%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

[7] Pulp mills is a subcategory of the paper manufacturing code in the North American Industry Classification System (NAICS)

Forestry exports have made up 30-36% of B.C.'s commodity export value since the recession in 2009. The share was 29% in 2020. While service exports have been growing[8], commodities still make up the bulk of exports, making the forest sector an important source of foreign currency.

Exports by Market

B.C. exported a total of $11.5 billion in forest product exports in 2020. The US is the largest market and has improved substantially since 2009. The total value of exports to the US was $6.5 billion in 2020, up 20% from 2019. This was largely driven by softwood lumber exports to the US which saw a 39% increase in value and a 1% increase in volumes. China has grown significantly as a market over the last decade and is now in a strong second place. China's share was around 24% of B.C. forest product export value in 2020, compared to 16% in 2009. Japan's share has decreased compared to the late 1990s with a value share of 7% or $0.8 billion in 2020. Other export markets made up 12% of total forest sector exports in 2020, with notable destinations being United Kingdom (2.6%), South Korea (1.7%) and Indonesia (1.3%). The domestic market is also important to the forest sector. The size of the market is suggested by the difference between manufacturing sales and exports as shown in Figure 3.

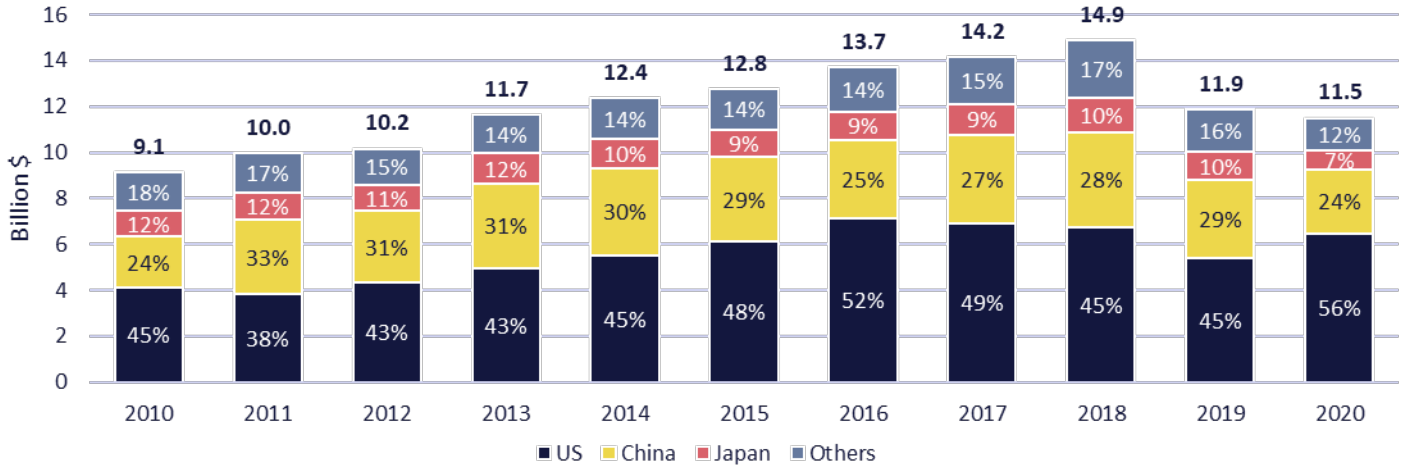
Exports declined sharply at the beginning of the pandemic due to reduced demand and interruption to shipping and production, but recovered in the second half of 2020, resulting in only a slight decrease overall. BC producers also diverted certain lumber shipment from offshore markets to the U.S. market, in response to historically high lumber prices in the U.S. As a result, BC's forest product exports to the U.S. increased by 20% in 2020, while exports to other markets including China declined.

Table 4: B.C. Forest Product Export Value by Market

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
US	4.1	3.8	4.3	5.0	5.5	6.1	7.1	6.9	6.7	5.4	6.5
China	2.2	3.3	3.1	3.7	3.8	3.7	3.4	3.9	4.1	3.4	2.8
Japan	1.1	1.2	1.1	1.3	1.3	1.2	1.2	1.3	1.5	1.2	0.8
Others	1.7	1.7	1.6	1.7	1.8	1.8	1.9	2.1	2.5	1.9	1.4
Total	**9.1**	**10.0**	**10.2**	**11.7**	**12.4**	**12.8**	**13.7**	**14.2**	**14.9**	**11.9**	**11.5**

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Figure 8: B.C. Forest Product Export Value by Market



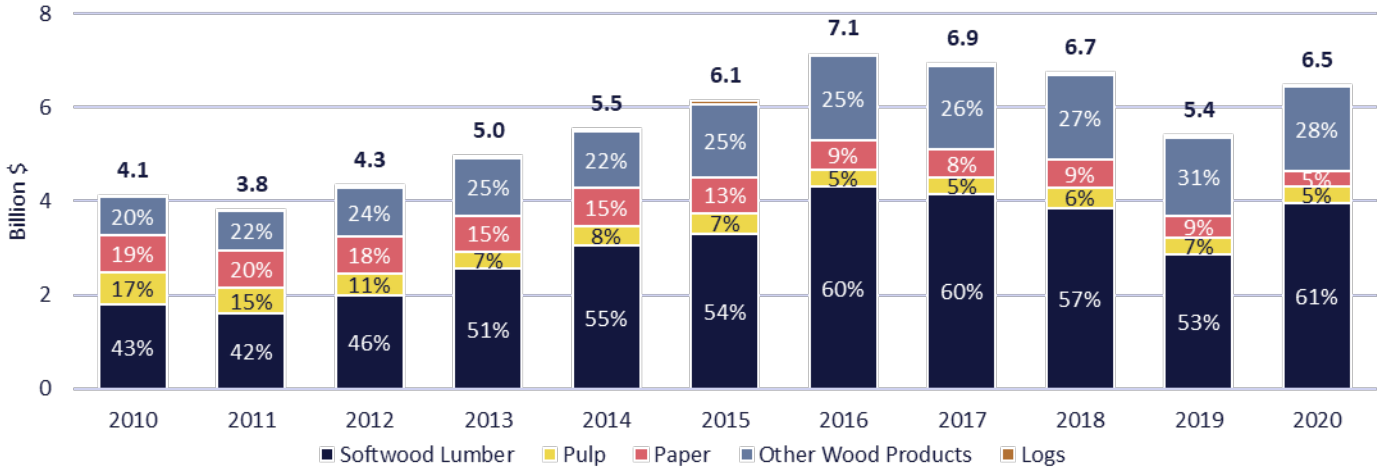
Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

[8] Annual B.C. Exports by BC Stats and Statistics Canada

United States

The US was B.C.'s largest market for forest products in 2020 (56%), with exports totalling $6.5 billion. Lumber, accounted for 61%, the largest share, of export value to the US. Lumber exports to the US was $4 billion in 2020, which grew 39% from 2019. Other wood products (notably OSB, veneer and plywood of Douglas fir, fabricated structural members, shakes, and shingles) accounted for $1.8 billion of B.C.'s exports to the US.

Figure 9: B.C. Forest Product Exports to the US



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 5: B.C. Forest Product Export Value to the US

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Softwood Lumber	1.8	1.6	2.0	2.6	3.0	3.3	4.3	4.2	3.9	2.9	4.0
Pulp	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3
Paper	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.5	0.3
Other Wood Products	0.8	0.9	1.0	1.2	1.2	1.6	1.8	1.8	1.8	1.7	1.8
Logs	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total	**4.1**	**3.8**	**4.3**	**5.0**	**5.5**	**6.1**	**7.1**	**6.9**	**6.7**	**5.4**	**6.5**
US % Share of B.C. Exports	*45%*	*38%*	*43%*	*43%*	*45%*	*48%*	*52%*	*49%*	*45%*	*45%*	*56%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Softwood lumber consumption and housing starts in the US have increased steadily from the low in 2009, but both are still below peak level in 2005. At the height of the housing boom in 2005, the US consumed 64 billion board feet. In comparison, the US lumber consumption was 51 billion board feet in 2020. Single family homes, which consume more wood than multi-family units, made up 72% of US housing starts. Approximately one third of the US softwood lumber consumption relies on lumber imports. Canada provided 26% of total US consumption in 2020.

Table 6: US Housing Starts, Single vs. Multi-Family Units

Thousands of units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Single	471.2	430.6	535.3	617.6	647.9	714.5	781.5	848.9	875.8	887.7	990.5
Multi	115.7	178.2	245.3	307.3	355.4	397.3	392.3	354.1	374.1	402.3	389.1
Total	**587**	**609**	**781**	**925**	**1,003**	**1,112**	**1,174**	**1,203**	**1,250**	**1,290**	**1,380**
% Single-Family	*80%*	*71%*	*69%*	*67%*	*65%*	*64%*	*67%*	*71%*	*70%*	*69%*	*72%*

Source: US Census Bureau.

Table 7: US Softwood Lumber Consumption

Billion Bdft	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
US Lumber Consumption	32.9	34.2	36.5	39.5	42.0	44.4	47.4	47.4	48.3	48.4	51.0
Lumber Imports from B.C.	5.3	4.8	5.3	5.9	6.2	6.7	8.4	6.9	6.6	5.6	5.6

Source: Western Wood Products Association (WWPA)

Table 8: Supplier Share of US Softwood Lumber Consumption

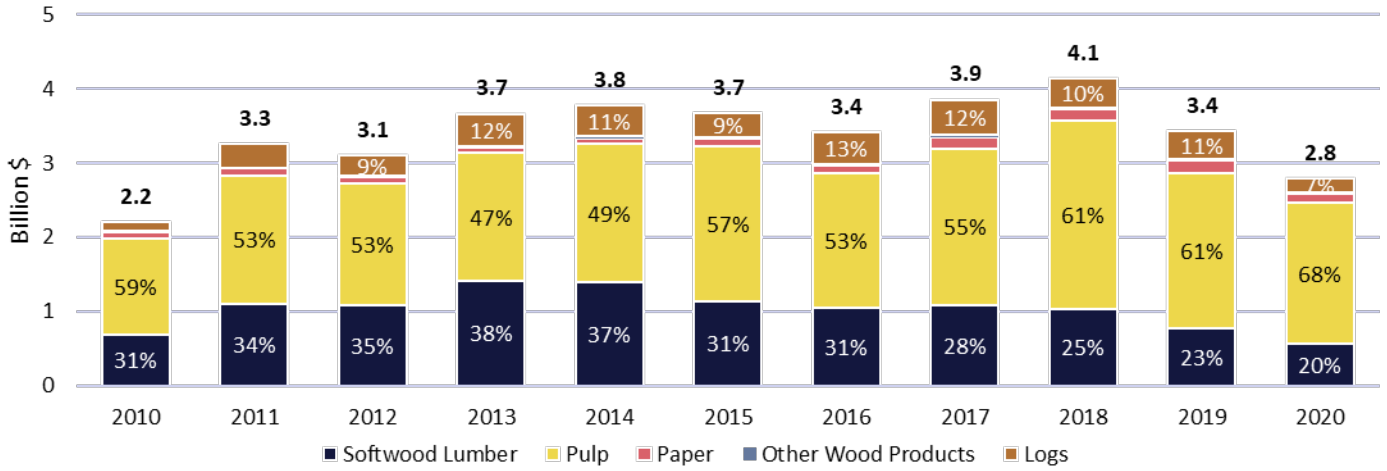
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
B.C.	16%	14%	15%	15%	15%	15%	18%	15%	14%	12%	11%
Rest of Canada	11%	12%	12%	13%	14%	15%	14%	16%	15%	15%	15%
Non-Canadian	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	4%
US	71%	73%	73%	71%	70%	69%	66%	68%	69%	70%	70%

Source: WWPA. The supply share from B.C. in 2016 was altered to match revised Statistics Canada data (may no longer match WWPA data).

China

China accounted for 24% of B.C. forest export value in 2020. Valued at $2.8 billion, exports to China declined 18% from 2019. Pulp remained the dominant product exported to China worth $1.9 billion, followed by lumber and logs.

Figure 10: B.C. Forest Product Exports to China



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

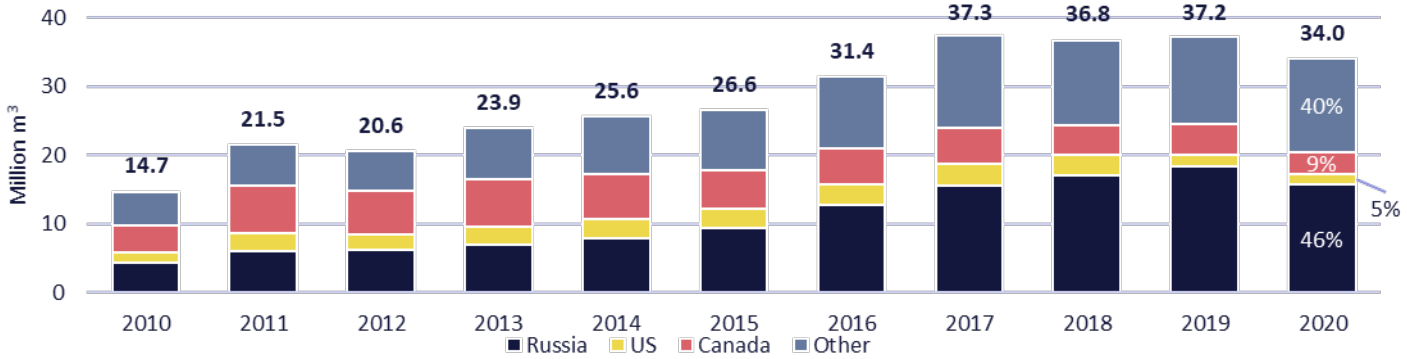
Table 9: B.C. Forest Product Export Value to China

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Softwood Lumber	0.7	1.1	1.1	1.4	1.4	1.1	1.0	1.1	1.0	0.8	0.6
Pulp	1.3	1.7	1.6	1.7	1.9	2.1	1.8	2.1	2.5	2.1	1.9
Paper	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Other Wood Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Logs	0.1	0.3	0.3	0.4	0.4	0.3	0.4	0.5	0.4	0.4	0.2
Total	**2.2**	**3.3**	**3.1**	**3.7**	**3.8**	**3.7**	**3.4**	**3.9**	**4.1**	**3.4**	**2.8**
China % Share of B.C. Exports	*24%*	*33%*	*31%*	*31%*	*30%*	*29%*	*25%*	*27%*	*28%*	*29%*	*24%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

In terms of China's lumber imports, Canada's share was 9% in 2020 compared with 12% in 2019. Russia is China's largest supplier of lumber imports. Its share in 2020 was 46% of China's lumber imports, a decline from 49% in 2019.

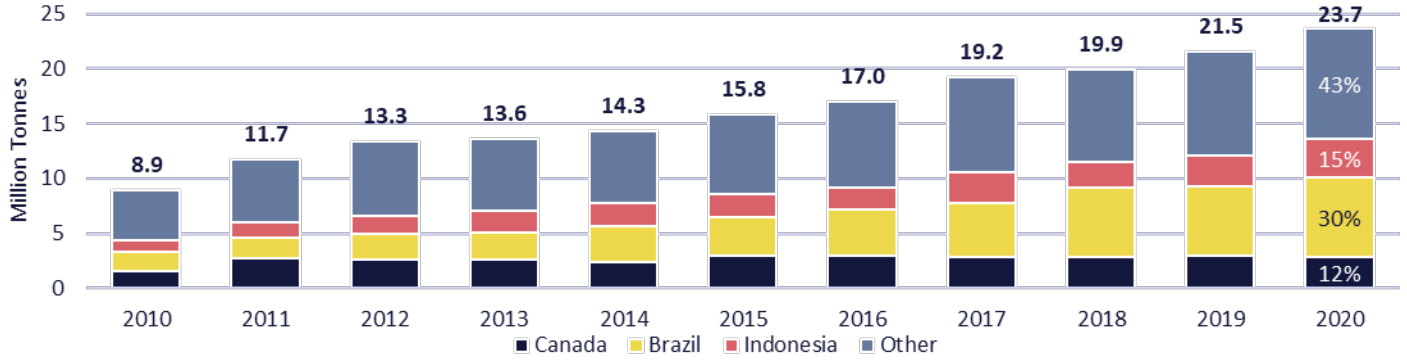
Figure 11: China Lumber Imports by Supply Country



Source: FEA China Bulletin. All species, including hardwoods.

In 2020, Canada (12% share) was the third behind Brazil (30%) and Indonesia (15%) as the leading supplier of China's Kraft market pulp imports followed by the US (7%).

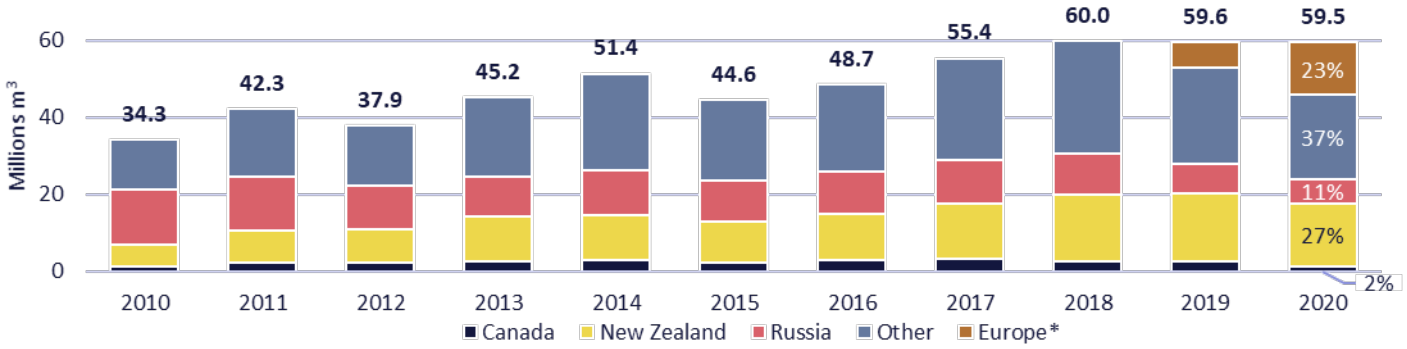
Figure 12: China Sulfate (Kraft) Wood Pulp Imports by Supply Country



Source: FEA China Bulletin. All species, including hardwoods.

In 2020, New Zealand (27%) remained China's largest log supplier of followed by Europe (23%), which is increasing in share due to the European spruce beetle epidemic creating surplus logs in the region. Russia (11%) is the third largest supplier with Canada maintaining a small share (2%) and other countries accounted for the rest (29%). In December 2020, China suspended its import of Australian logs which has continued into 2021, disrupting international fibre markets. Over 90% of Australia's log exports went to China[9] and largely consisted of low grade, small logs that local mills cannot process.

Figure 13: China Log Imports by Supply Country



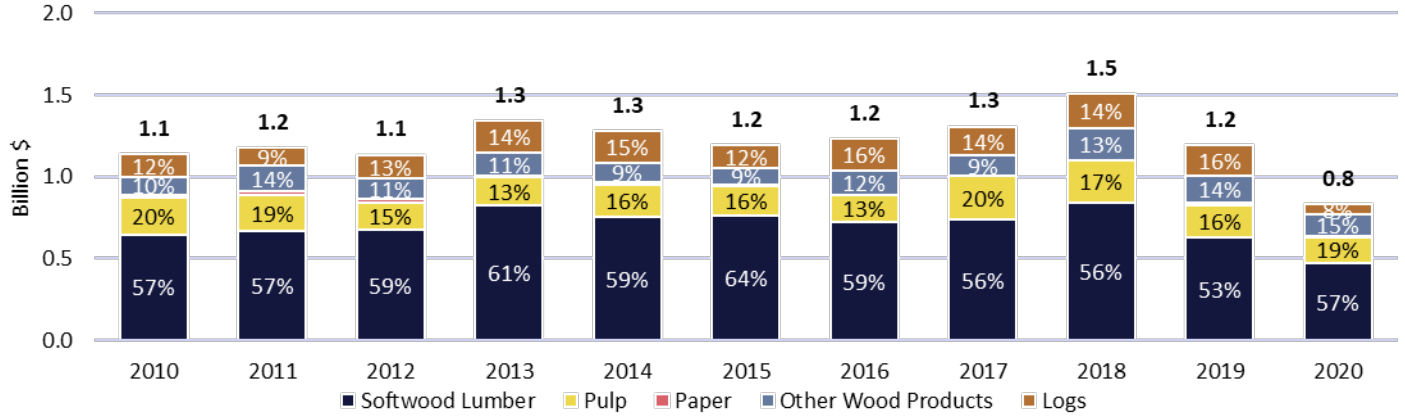
*Source: FEA China Bulletin. All species, including hardwoods. *Europe includes Germany, Czech Republic and Austria only.*

[9]ABARES Australian forest and wood products statistics (AFWPS).

Japan

Exports to Japan have decreased about 75% from peak years in the mid-1990s and was at 7% of total B.C. forest product export value in 2020. Exports were valued at $0.8 billion in 2020, a 31% decline from 2020. Lumber had the highest share of value making up 57% of total export value to Japan in 2020. Softwood lumber exports to Japan totalled $0.47 billion in 2020.

Figure 14: B.C. Forest Product Exports to Japan



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 10: B.C. Forest Product Export Value to Japan

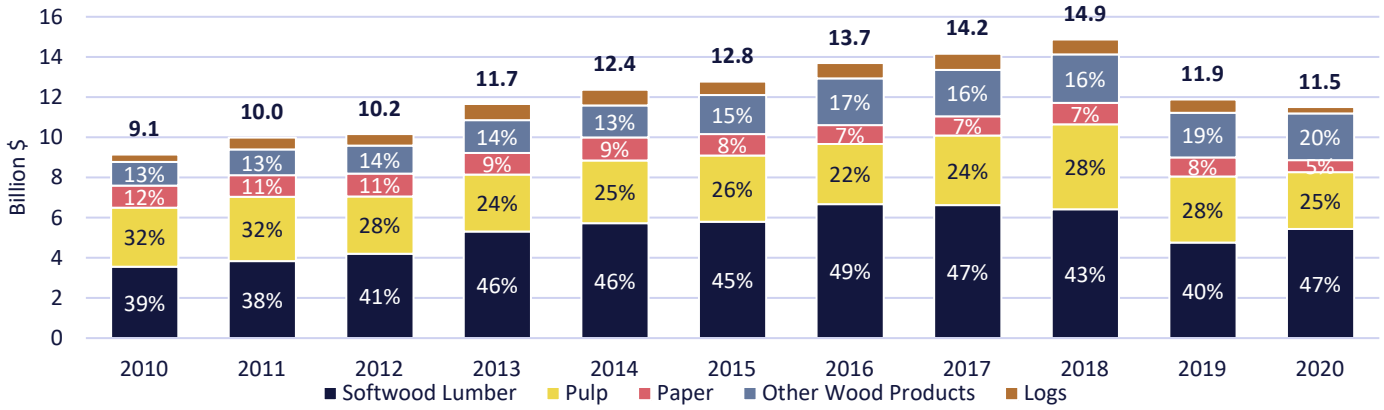
Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Softwood Lumber	0.65	0.67	0.67	0.83	0.75	0.76	0.73	0.74	0.84	0.63	0.47
Pulp	0.23	0.22	0.17	0.17	0.20	0.19	0.16	0.27	0.25	0.19	0.16
Paper	0.02	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.01
Other Wood Products	0.11	0.16	0.12	0.14	0.12	0.10	0.15	0.12	0.20	0.16	0.13
Logs	0.13	0.11	0.15	0.19	0.19	0.14	0.19	0.18	0.21	0.19	0.06
Total	**1.14**	**1.18**	**1.13**	**1.34**	**1.28**	**1.19**	**1.23**	**1.31**	**1.51**	**1.19**	**0.83**
Japan % Share of B.C. Exports	*12%*	*12%*	*11%*	*12%*	*10%*	*9%*	*9%*	*9%*	*10%*	*10%*	*7%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Exports by Product Type

Of the $11.5 billion in forest product exports, softwood lumber remained the most dominant in 2020. Its share grew from 40% to 47% in 2020 valued at $5.4 billion while other wood products increased from 19% to 20% since 2019. B.C. pulp exports had the second largest share of exports (25%), totalling $2.8 billion in 2020.

Figure 15: B.C. Forest Product Export Value by Product Type



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

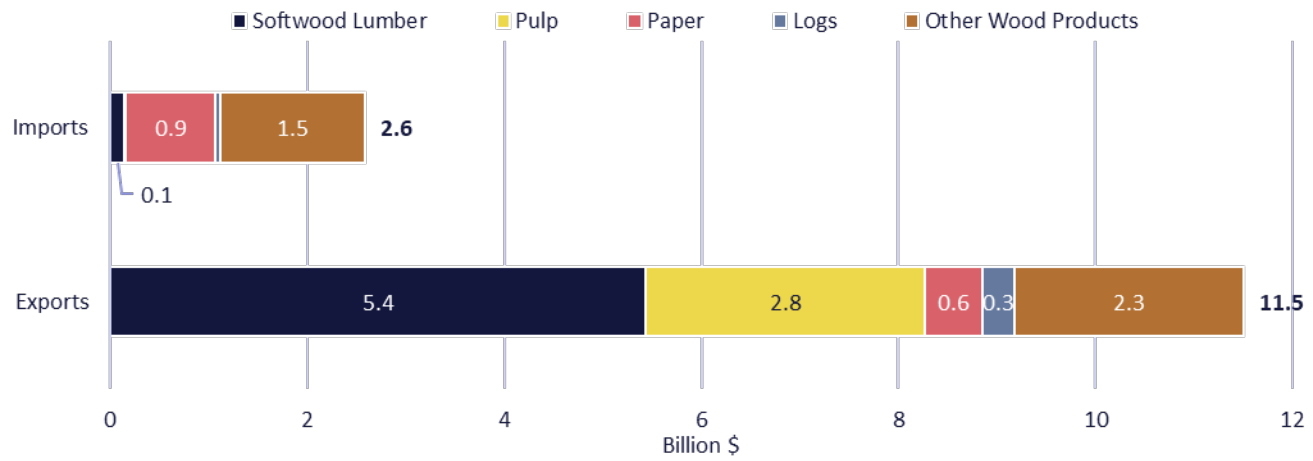
Table 11: B.C. Forest Product Export Value by Product Type

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Softwood Lumber	3.6	3.8	4.2	5.3	5.7	5.8	6.7	6.6	6.4	4.8	5.4
Pulp	2.9	3.2	2.9	2.8	3.1	3.3	3.0	3.5	4.2	3.3	2.8
Paper	1.1	1.1	1.1	1.1	1.1	1.1	0.9	1.0	1.1	0.9	0.6
Other Wood Products	1.2	1.3	1.4	1.6	1.6	1.9	2.3	2.3	2.4	2.2	2.3
Logs	0.4	0.6	0.6	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.3
Total	**9.1**	**10.0**	**10.2**	**11.7**	**12.4**	**12.8**	**13.7**	**14.2**	**14.9**	**11.9**	**11.5**

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Total value of imported forest products grew by 2% in 2020. Note the final destination of these imports may have been other provinces. Pulp and log imports are included in the total, but not given their own line due to the low overall value.

Figure 16: Comparison of BC Forest Product Exports and Imports Values

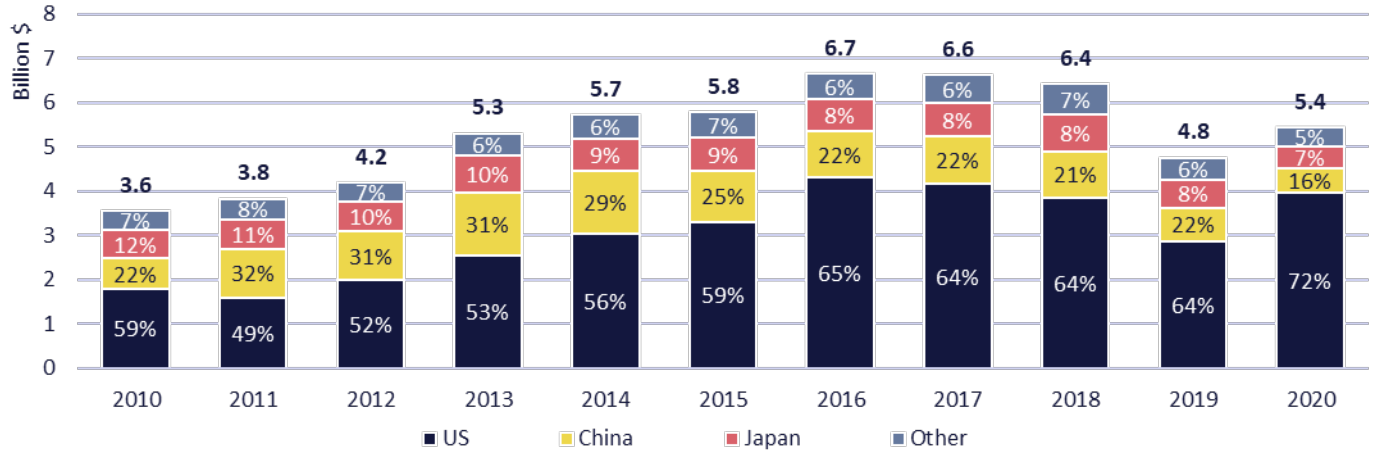


Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Softwood Lumber

B.C. is the largest supplier of Canada's softwood lumber exports. In 2020, B.C. accounted for 54% of Canada's total softwood lumber exports value, and 43% of Canada's lumber export volume to the US.

Figure 17: B.C. Softwood Lumber Export Value by Market



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 12: Softwood Lumber Exports: B.C. and Canada

Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
B.C.	3.6	3.8	4.2	5.3	5.7	5.8	6.7	6.6	6.4	4.8	5.4
Rest of Canada	1.3	1.3	1.5	2.1	2.6	2.7	3.3	3.8	3.8	3.2	4.6
B.C. % Share of Canada	*73%*	*74%*	*73%*	*72%*	*69%*	*68%*	*67%*	*63%*	*63%*	*60%*	*54%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

While the development of other markets, such as China, has greatly reduced B.C.'s reliance on the US, the US remained the top market for B.C.'s lumber exports. China remained the second largest market. However, B.C.'s lumber exports to China have declined steadily since 2014.

Table 13: B.C. Softwood Lumber Export Value and Volume by Market

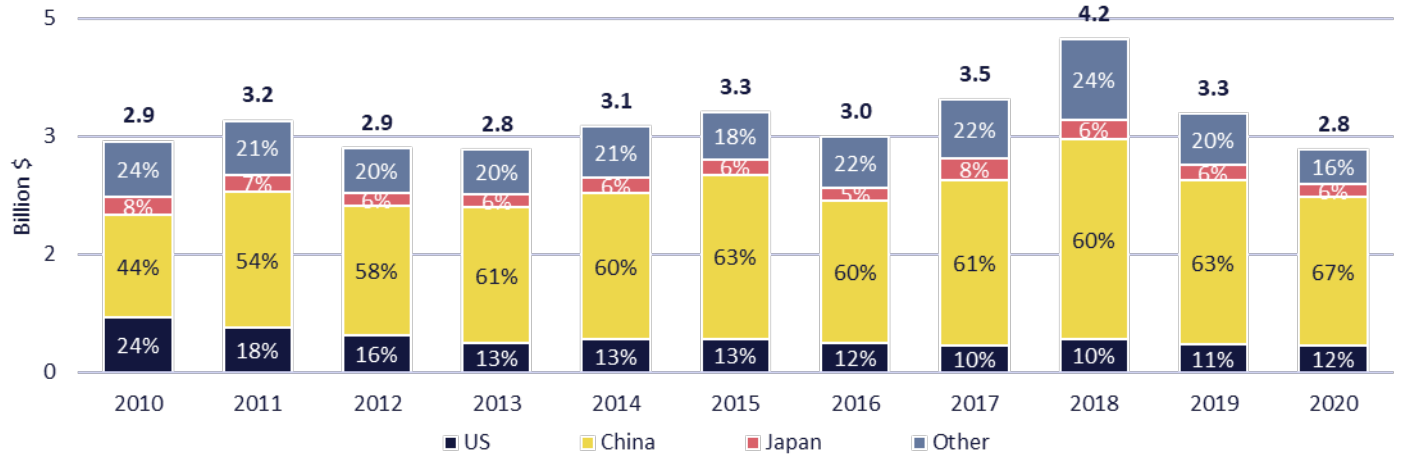
Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value (billion $CA)	**$3.6**	**$3.8**	**$4.2**	**$5.3**	**$5.7**	**$5.8**	**$6.7**	**$6.6**	**$6.4**	**$4.8**	**$5.4**
US	$1.8	$1.6	$2.0	$2.6	$3.0	$3.3	$4.3	$4.2	$3.9	$2.9	$4.0
China	$0.7	$1.1	$1.1	$1.4	$1.4	$1.1	$1.0	$1.1	$1.0	$0.8	$0.6
Japan	$0.6	$0.7	$0.7	$0.8	$0.8	$0.8	$0.7	$0.7	$0.8	$0.6	$0.5
Others	$0.4	$0.5	$0.4	$0.5	$0.5	$0.6	$0.6	$0.6	$0.7	$0.5	$0.4
Volume (million m^3)	**20.8**	**22.8**	**24.2**	**25.9**	**25.8**	**26.2**	**27.7**	**25.3**	**23.9**	**20.1**	**18.3**
US	12.3	11.2	12.5	13.6	14.5	15.5	17.9	16.1	15.4	13.0	13.1
China	4.6	7.3	7.5	8.0	7.6	6.7	6.0	5.5	5.0	4.4	2.9
Japan	2.4	2.5	2.4	2.6	2.2	2.3	2.2	2.1	2.0	1.7	1.3
Others	1.6	1.8	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.2	1.0

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Pulp and Paper

B.C.'s pulp and paper export value totaled $3.4 billion in 2020. Of that, 63% or $2.2 billion were attributed to northern bleached softwood kraft (NBSK) export value sales. China had a dominant 67% share of B.C. pulp export value in 2020, followed by the US (12%) and Japan (6%). Pulp export tonnage declined by 6% in 2020. B.C. accounted for 43% of Canada's total pulp export value in 2020. It is the largest supplier of Canada's pulp exports in terms of value followed by Alberta, and Quebec.

Figure 18: B.C. Pulp Export Value by Market



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 14: B.C. Pulp and Paper Export Value by Product Type

$ Billion	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NBSK	2.3	2.5	2.1	2.1	2.4	2.6	2.4	2.8	3.5	2.6	2.2
BCTMP	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.4
Other Pulp	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Paper	1.1	1.1	1.1	1.1	1.1	1.1	0.9	1.0	1.1	0.9	0.6
Total	**4.0**	**4.3**	**4.0**	**3.9**	**4.3**	**4.4**	**3.9**	**4.4**	**5.3**	**4.2**	**3.4**

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 15: Canada Pulp Export Value - B.C. vs. Canada

$ Billion	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
B.C.	3.0	3.3	2.9	2.9	3.2	3.4	3.1	3.6	4.3	3.3	2.9
Rest of Canada	4.3	4.3	3.8	4.1	4.3	4.7	4.5	4.7	5.4	4.6	3.8
% BC of Canada	*41%*	*43%*	*43%*	*41%*	*42%*	*42%*	*41%*	*43%*	*44%*	*42%*	*43%*

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 16: B.C. Pulp Export Value and Volume by Market

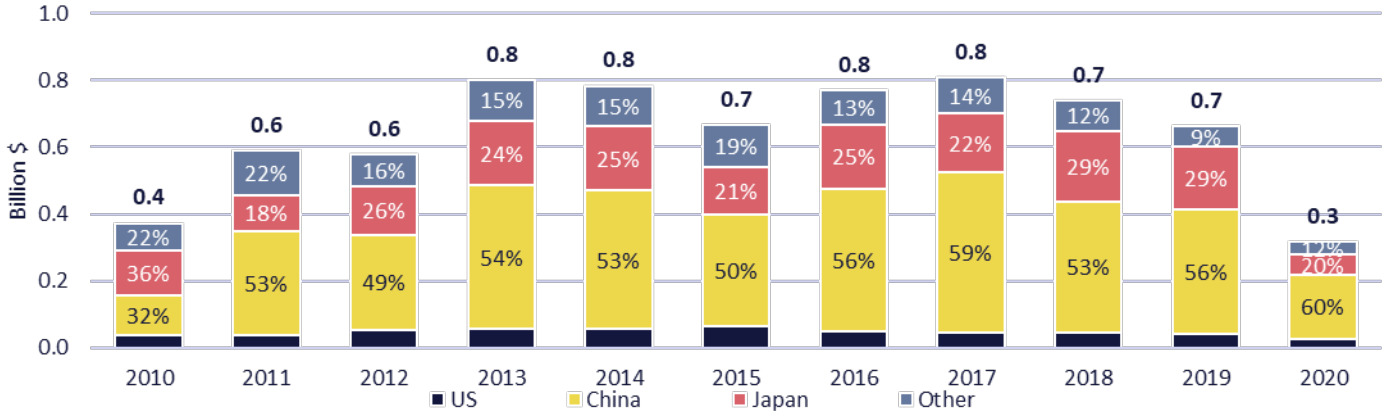
Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value (billion $CA)	**$2.9**	**$3.2**	**$2.9**	**$2.8**	**$3.1**	**$3.3**	**$3.0**	**$3.5**	**$4.2**	**$3.3**	**$2.8**
US	$0.7	$0.6	$0.5	$0.4	$0.4	$0.4	$0.4	$0.3	$0.4	$0.4	$0.3
China	$1.3	$1.7	$1.6	$1.7	$1.9	$2.1	$1.8	$2.1	$2.5	$2.1	$1.9
Japan	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.3	$0.3	$0.2	$0.2
Others	$0.7	$0.7	$0.6	$0.6	$0.6	$0.6	$0.7	$0.7	$1.0	$0.7	$0.4
Volume (million tonnes)	**3.8**	**4.1**	**4.4**	**4.2**	**4.1**	**4.3**	**4.1**	**4.3**	**4.1**	**4.1**	**3.8**
US	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
China	1.7	2.2	2.7	2.7	2.6	2.8	2.6	2.7	2.4	2.7	2.6
Japan	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2
Others	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	0.8	0.6

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Logs

The value of log exports declined significantly by 52% in 2020. China remained the largest destination, whose share was 60% in 2020. US share of log export value grew (8%) while Japan's share (20%) declined in 2020. Other countries made up 12% of B.C.'s 2020 log export value. When measured by volume, B.C.'s log exports decreased by 44% in 2020. China's volume share was 62% in 2020 from 61% in the previous year. The US share went up to 9% while Japan's share dropped to 18%.

Figure 19: B.C. Log Export Value by Market



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Table 17: B.C. Log Export Value and Volume by Market

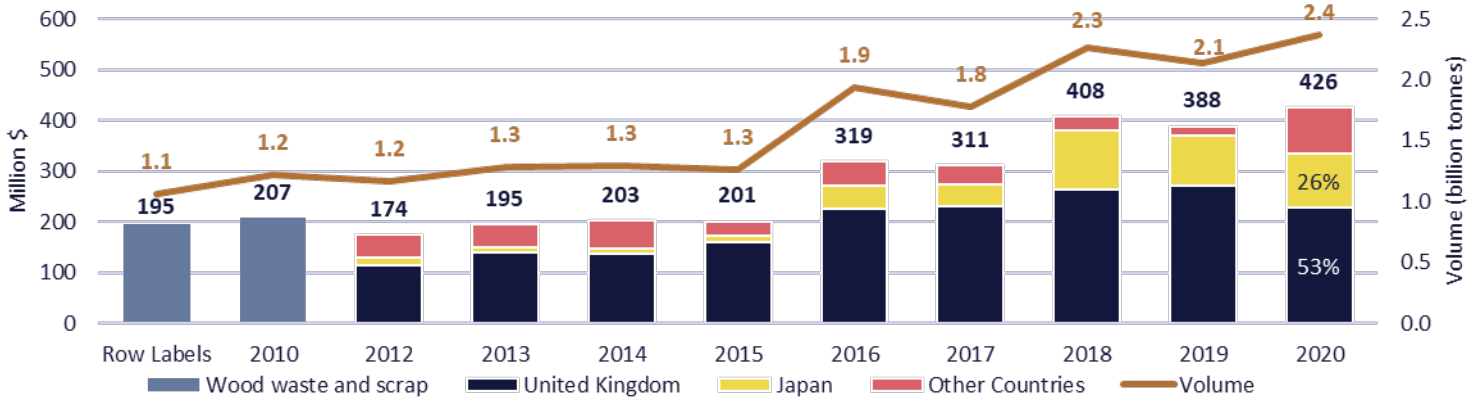
Billion $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value (billion $CA)	**0.37**	**0.59**	**0.58**	**0.80**	**0.78**	**0.67**	**0.77**	**0.81**	**0.74**	**0.66**	**0.32**
US	0.03	0.04	0.05	0.05	0.06	0.06	0.05	0.04	0.04	0.04	0.03
China	0.12	0.31	0.28	0.43	0.41	0.33	0.43	0.48	0.39	0.37	0.19
Japan	0.13	0.11	0.15	0.19	0.19	0.14	0.19	0.18	0.21	0.19	0.06
Others	0.08	0.13	0.09	0.12	0.12	0.13	0.10	0.11	0.09	0.06	0.04
Volume (million m^3)	**3.7**	**5.4**	**5.7**	**6.7**	**6.3**	**5.6**	**6.3**	**6.0**	**5.1**	**4.8**	**2.7**
US	0.5	0.4	0.7	0.6	0.5	0.6	0.4	0.4	0.3	0.4	0.2
China	1.2	2.9	2.9	3.6	3.4	2.9	3.7	3.7	3.0	3.0	1.7
Japan	1.3	1.0	1.3	1.6	1.5	1.1	1.4	1.3	1.3	1.1	0.5
Others	0.8	1.1	0.9	0.9	0.9	1.0	0.7	0.7	0.5	0.4	0.3

Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Pellets, Wood Waste and Scrap

Before 2012, pellets were listed in the same category as wood waste and scrap in the export data. Pellet exports volume grew significantly until 2018 and grew in 2020 totalling 2.4 billion tonnes valued at $426 million. Of that, 53% went to the United Kingdom, 26% to Japan, 16% to the Netherlands and the rest to other countries.

Figure 20: B.C. Export Value of Pellets (and Wood Waste and Scrap before 2012)



Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions. Pellets were included in "wood waste and scrap" prior to 2012.

Sector Indicators

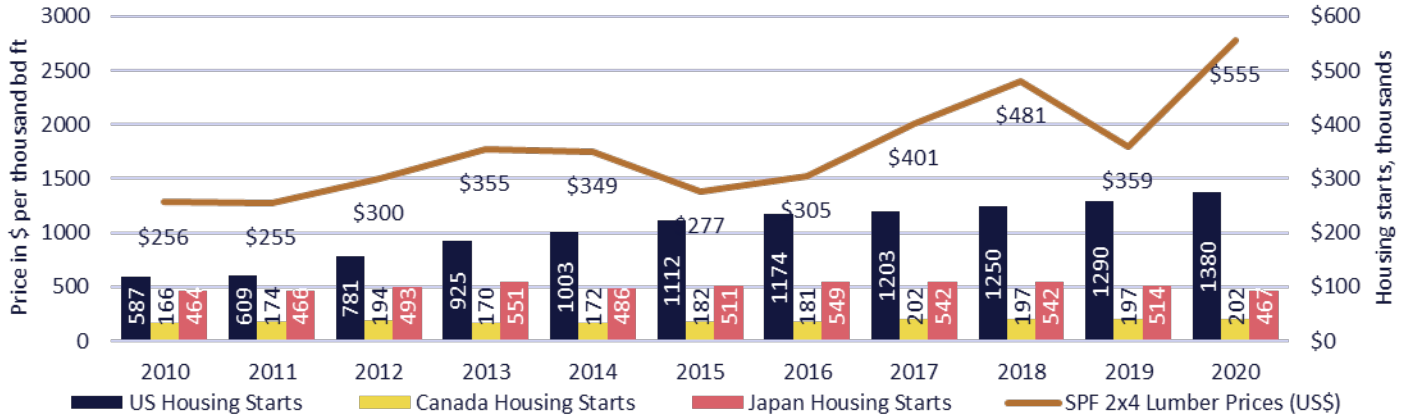
There are several indicators that can be used to measure the economic state of the B.C. forest sector. This section looks at various factors that influence and measure the performance of the B.C. forest sector.

Prices and Costs

The average SPF 2x4 lumber reached historic highs in 2020, averaging US$555 per thousand board feet, 55% higher than the price level in the previous year. This increase in prices resulted from supply and demand imbalance for lumber in North America which started at US$400 per thousand board feet in the first half of 2020. The first half of 2020 saw lockdowns causing mills to be inactive and disrupted lumber supply. By the second half of the year, transportation issues and fibre shortages challenged lumber supply. Meanwhile demand surged in the second half driven by repair and remodeling activities as well as new residential constructions. This resulted in historic pricing highs of about US$950 per thousand board feet of lumber and other forest products in the second half of 2020.

Housing starts in the US reached 1.38 million units demonstrating excess lumber demand in the US. Prices for other wood products also increased with OSB averaging $589 per thousand square feet in 2020 from $262 in 2019. Plywood averaged $564 per thousand square feet in 2020 compared with $428 in 2019. Meanwhile, the housing market in Canada grew by 3%, while Japan saw a 9% decline.

Figure 21: Average SPF 2x4 Lumber Prices and Housing Starts

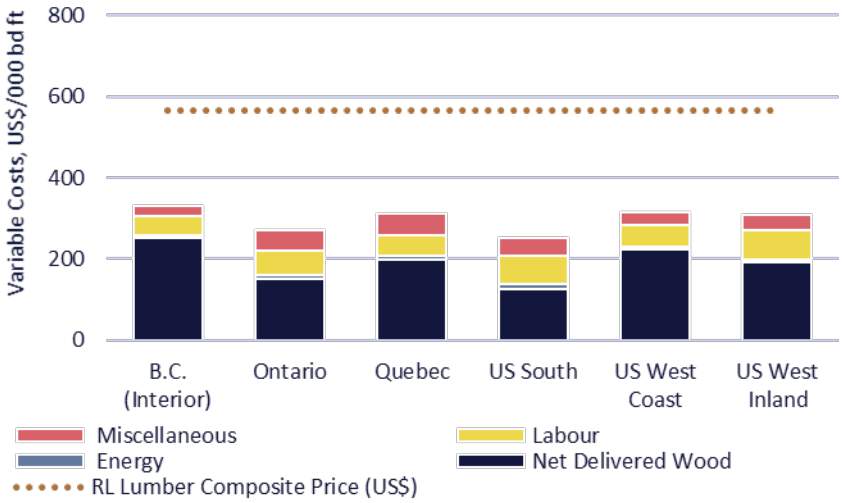


Data sources: Fastmarkets Random Lengths *(SPF),* US Census Bureau, Statistics of Japan *and Statistics Canada;* Table 34-10-0035-01.

The variable costs of softwood lumber mills in North America range from $250 to $330 US per thousand board feet. Compared with the other jurisdictions, B.C. Interior softwood lumber mills had slightly higher variable costs largely due to high net delivered wood costs illustrating the fibre shortage following the mountain pine beetle epidemic. Producers in all regions enjoyed healthy profit margin due to high lumber prices.

The average export price for NBSK pulp declined by 8% between 2019 and 2020 to $758 per tonne, while the price for bleached chemical thermo-mechanical pulp (BCTMP) declined by 7%. The latest available pulp output was from 2019 at 4.8 million tonnes.

Figure 22: Softwood Lumber Mills' Variable Costs (2020)



Data sources: Random Lengths *(SPF),* Forest Economic Advisor *(FEA).*

Table 18: Export Pulp Prices and Pulp Output

Export Price to China, $/tonne	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NBSK	$745	$753	$609	$661	$739	$779	$741	$814	$1,091	$823	$758
BCTMP	$559	$506	$502	$491	$545	$484	$481	$660	$751	$622	$577
BC Pulp Output (million tonnes)	5.5	5.8	5.8	5.5	5.6	5.7	5.2	5.2	5.1	4.8	-

Source: B.C. Stats *extract from Statistics Canada data. Also available from Statistics Canada* CIMTD. *Historic data is subject to revisions. Pulp output from the Ministry's annual* Major Timber Processing Facilities Survey.

Gross Domestic Product (GDP)

The chained dollar GDP estimate declined for each of the three forest sectors between 2019 and 2020. Chained dollar GDP adjusts for changes in prices and quantities, and technically should not be compared across sectors, nor added across sectors.

To compare between sectors, industries, and other sectors, in 2020, see Statistics Canada's GDP series in current dollars[10]. The COVID-19 pandemic caused economic disruptions that impeded data collection. As more data is processed, it is likely that the preliminary estimate of chained dollar GDP for each of the three forest sectors will be revised.

Table 19: B.C. Forest Sector GDP, in 2012 Chained Dollars

Billion 2012$	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Forestry, Logging and Support Activities	**2.03**	**2.39**	**2.42**	**2.56**	**2.56**	**2.58**	**2.40**	**2.46**	**2.59**	**2.22**	**2.18**
Forestry and logging	1.53	1.81	1.86	2.01	1.98	1.97	1.81	1.84	1.94	1.57	1.55
Support activities for forestry	0.50	0.57	0.56	0.55	0.58	0.61	0.59	0.62	0.66	0.65	0.63
Wood Products Manufacturing	**2.28**	**2.41**	**2.58**	**2.78**	**2.83**	**2.89**	**3.01**	**2.96**	**2.92**	**2.56**	**2.41**
Sawmills and wood preservation	1.40	1.49	1.55	1.67	1.61	1.57	1.70	1.57	1.51	1.27	1.14
Veneer, plywood and engineered wood product manufacturing	0.44	0.46	0.49	0.52	0.61	0.66	0.62	0.68	0.73	0.55	0.55
Other wood product manufacturing	0.44	0.46	0.54	0.60	0.61	0.66	0.69	0.72	0.68	0.74	0.73
Paper Manufacturing	**1.38**	**1.43**	**1.30**	**1.21**	**1.40**	**1.46**	**1.36**	**1.25**	**1.32**	**1.12**	**0.97**

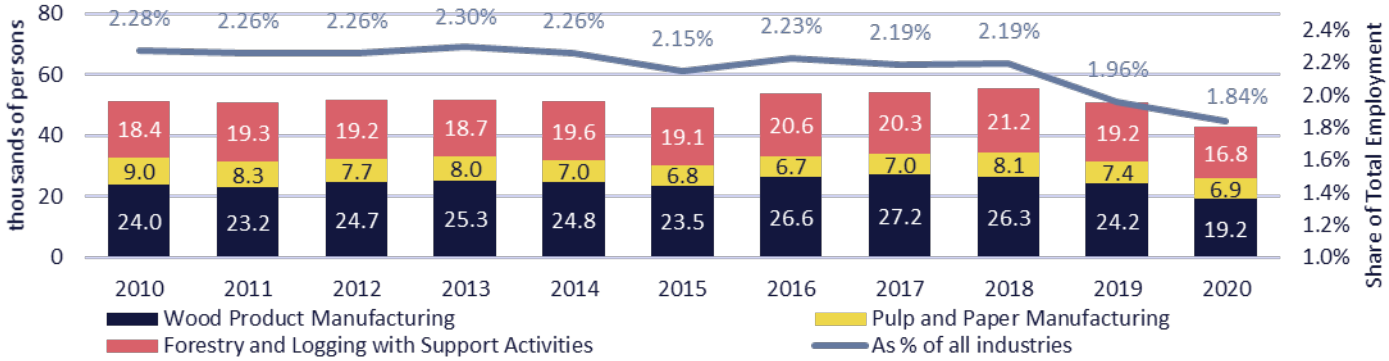
Source: Statistics Canada; Table 36-10-0402-01.

Forest Sector Direct Employment

Based on the System of National Accounts (SNA) preliminary estimate, B.C. forest sector direct employment declined to 42,885 in 2020. We report the SNA preliminary employment estimate, as it is considered the most robust, based on multiple sources, and incorporates cross sector checks. There are other types of employment estimates, including the Labour Force Survey (LFS), which is often quoted in the media and used by other organizations. According to the (LFS) the Coast made up 49% of B.C. forest sector direct employment in 2020 with the Interior making up the rest. For further discussion of employment estimates please see the *Multiple Employment Estimates* document found online at our website.

Employment was down for all three sectors: forestry, logging and support activities declined 12%, wood product was down 21% while pulp and paper employment decreased by 6%. There was also a downward revision to the 2019 employment estimate by about 1,150 persons. Statistics Canada indicated that the 2020 preliminary estimates have yet to undergo three revision cycles and updates will better reflect the unprecedented impacts of the COVID-19 pandemic. For example, the 2020 survey responses were delayed, which impeded the SNA data collection process. Data adjustments were also more complicated since some employees were inactive during the pandemic but remained related to their employers while receiving wage support from the federal government.

Figure 23: B.C. Forest Sector Direct Employment



Source: Statistics Canada System of National Accounts (SNA): Table 36-10-0489-01.
**Note: SNA includes government forest services such as fire fighting in forestry and logging with support activities.*

[10] Statistics Canada; Prior to 2007: Table 36-10-0408-01. 2007 onwards: Table 36-10-0402-01. 2017 is the latest data available.

Table 20: Forest Sector Employment Share by Coast and Interior

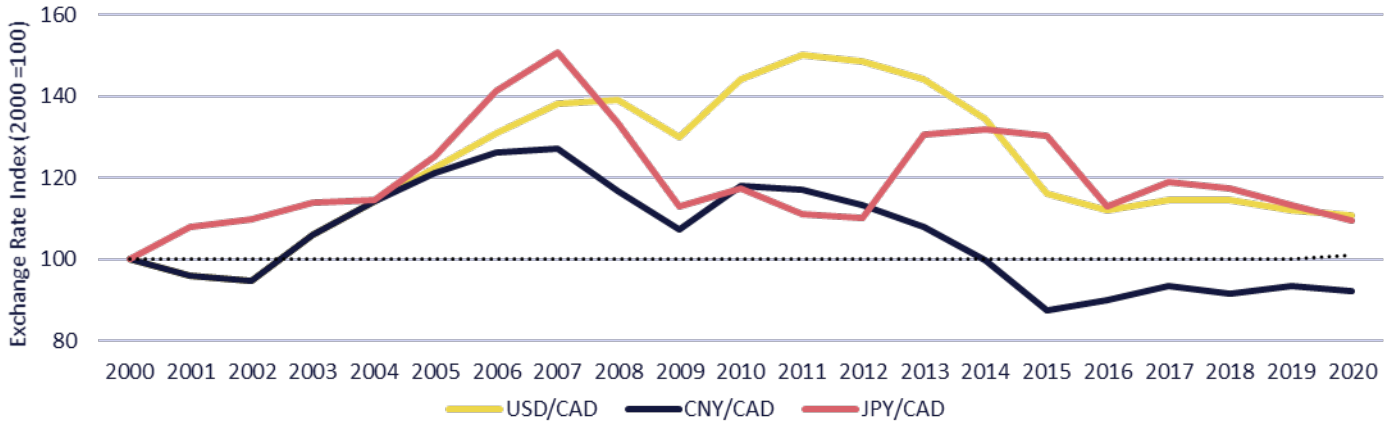
Employment, %	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Interior	51%	50%	55%	52%	53%	50%	51%	51%	56%	56%	49%
Coast	49%	50%	45%	48%	47%	50%	49%	49%	44%	44%	51%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source : Statistics Canada LFS data via B.C. Stats (Employment and Unemployment by Development Region). In this data North Coast is combined with Nechako, and in this chart North Coast-Nechako is included in the Interior.

Exchange Rates

Indexing foreign exchange rates relative to the Canadian dollar shows the percent change in exchange rates compared to 2000. Increases indicate appreciation of the Canadian dollar, making Canadian exports less competitive. In 2020, the Canadian dollar depreciated compared to the US dollar, Chinese Yuan and the Japanese Yen.

Figure 24: Indexed Foreign Exchange Rates Relative to $

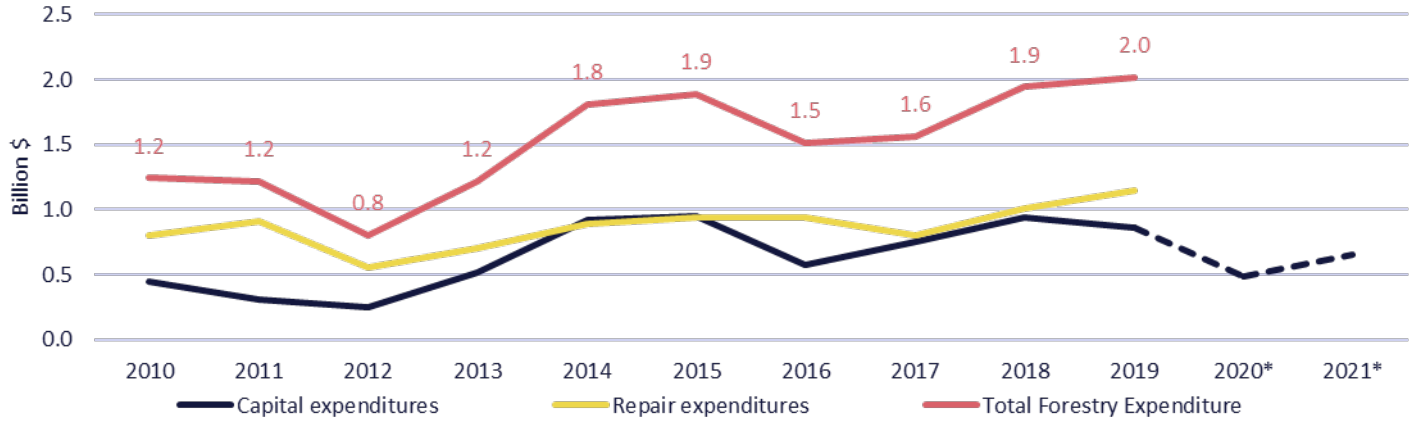


Source: 2000-2006, OANDA. 2007 to current, Bank of Canada.

Investments

B.C. forest sector investment was $2.0 billion in 2019, the latest data available at time of writing. This was an increase of $74 million from the previous year. It included capital expenditure in construction (e.g. buildings and land improvements), machinery and equipment, as well as repair expenditure. The 2020 and 2021 values indicate preliminary intentions of capital and repair expenditures and are subject to changes.

Figure 25: B.C. Forest Sector Capital and Repair Expenditures



Source: Statistics Canada; Table 34-10-0035-01.
Notes: (*) indicates preliminary and intentions, subject to changes. Data quality grade is often "Use with caution".

Capital investment by industry indicates that preliminary intentions of investment in 2020 were estimated at $484 million, a 44% decline from 2019. The decline is largely due to the decrease in intended wood product manufacturing capital expenditure. Meanwhile, the latest data available for repair expenditures by industry was for 2019 which totalled $1.2 billion, a 14% increase compared with 2018.

Table 21: B.C Forest Sector Capital and Repair Expenditures, by Industry

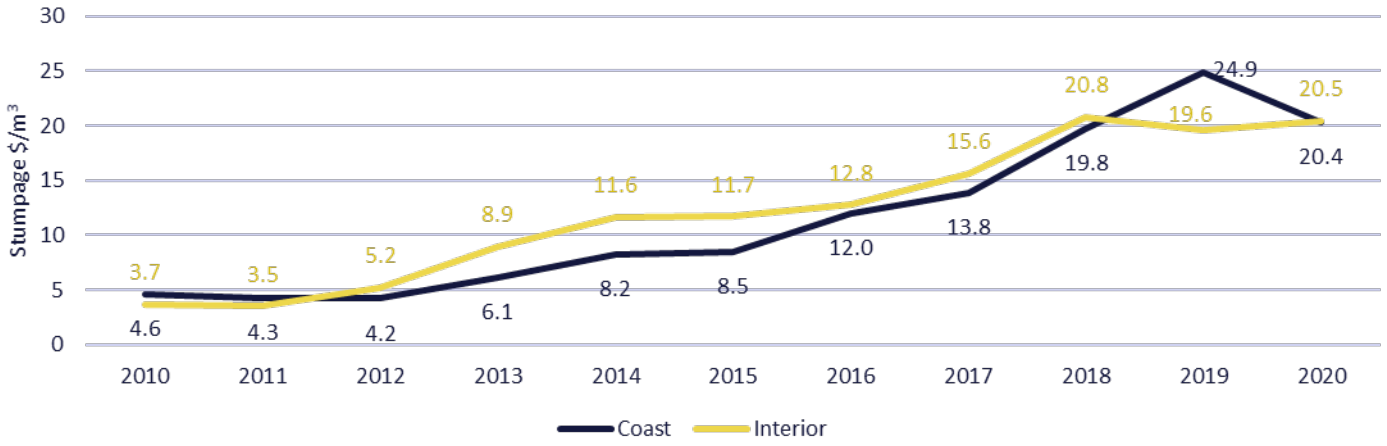
Expenditure, million $	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020*	2021*
Capital expenditures	**442**	**304**	**248**	**517**	**916**	**949**	**577**	**756**	**935**	**865**	**484**	**652**
Forestry and logging	67	91	101	144	212	198	220	232	296	310	182	204
Paper manufacturing	172	181	103	84	186	171	124	241	229	220	115	159
Wood product manufacturing	204	32	44	290	518	580	234	283	411	336	187	289
Repair expenditures	**799**	**914**	**551**	**700**	**895**	**941**	**940**	**802**	**1006**	**1151**		
Forestry and logging	174	87	148	238	302	174	141	0	256	270		
Paper manufacturing	391	419	305	195	315	412	355	357	385	446		
Wood product manufacturing	235	408	97	267	279	355	443	445	365	435		
Total	**1241**	**1218**	**799**	**1217**	**1811**	**1890**	**1517**	**1559**	**1942**	**2016**	**484**	**652**

Source: Statistics Canada; Table 34-10-0035-01.
Notes: (*) indicates preliminary and intentions, subject to changes. Data quality grade is often "Use with caution".

Government Revenues

Stumpage is a fee that businesses or individuals pay when they harvest timber from Crown land in B.C. Stumpage is payment for the use of a public natural resource and is not the same as logging tax. The money raised by stumpage is used to fund vital social services such as education and health care. It is sometimes shared with Indigenous communities under forest consultation and revenue sharing agreements. The interior average stumpage went up slightly by $0.9/m^3 while Coast average stumpage decreased by $4.5/m^3 between 2019 and 2020. These stumpage rates include B.C. Timber Sales (BCTS) and excludes waste and reject.

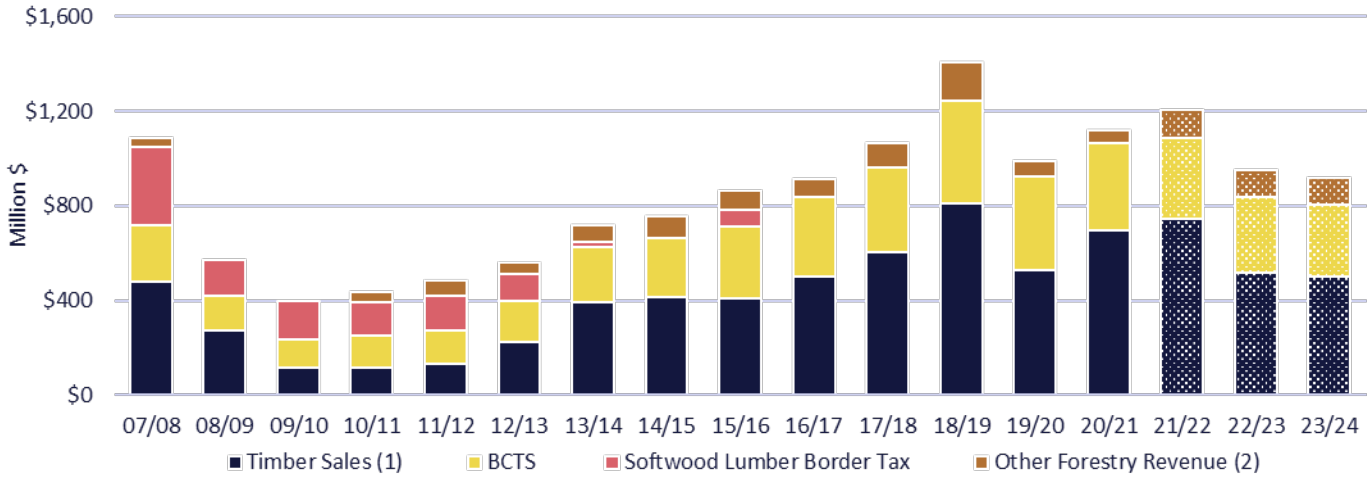
Figure 26: Average Stumpage Rates



Source: B.C. HBS. Includes all logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on June 1, 2021. Includes Crown land harvests only.

Forest revenue was $1.12 billion in fiscal year 2020/21. Revenue is forecasted to remain at similar levels through 2021/22 followed by a reduction thereafter assuming that both harvest levels and lumber prices will decline.

Figure 27: B.C. Government Forest Sector Revenue, by Fiscal Year



Notes:
**Forecasted total revenue*
1) Timber sales excludes BCTS sales.
2) Includes other consolidated reserve fund (CRF) revenue, forest recoveries, and logging tax. Dashed lines denote forecasts.
3) The softwood lumber border tax ended in 2016/17

Source: FLNRORD. Corporate and personal income taxes are not included in these figures. These numbers are consistent with the B.C. Ministry of Finance Budget and Fiscal Plan, Table A5, page 165. Forecasts are from the 2020/21 to 2023/24 Budget and Fiscal Plan updated on April 20, 2021.