


2019 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 2019. 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 2019. 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 Services 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. Events that occurred after 2019, such as the COVID-19 pandemic, will be reflected in the 2020 report.

This report is available online at:

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

Please note that all remaining errors are the responsibility of the Economic Services Branch. Any comments or errors could be sent to the contact information at the website, to ForestEconomics@gov.bc.ca or by mail to the following location:

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Overview

The *Economic State of the British Columbia Forest* Sector report reflects market conditions in 2019. Softened demand in major export countries, a lengthy labour dispute on the Coast, coupled with fibre supply issues caused by the Mountain Pine Beetle epidemic were the main factors behind a difficult 2019. These factors are reflected in the key economic indicators presented in this report. The economic impacts of the COVID-19 pandemic, including historic high lumber prices, will be reflected in the 2020 report.

While 2019 was a challenging year for the industry, B.C.'s forest sector still remained a key contributor to the provincial economy. In 2019, the sector had direct employment of 51,800 jobs, and contributed $5.9 billion (in 2012 chained dollars) to the provincial GDP and $988 million to the provincial government revenue. The sector also accounted for 27% of the provincial manufacturing sales and 27% of B.C.'s export value.

Timber Harvest

Timber harvest in B.C. totalled 53.6 million m³ in 2019. The Interior accounted for 73% of the harvest, and the Coast for 27%. 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 January 15, 2020.

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

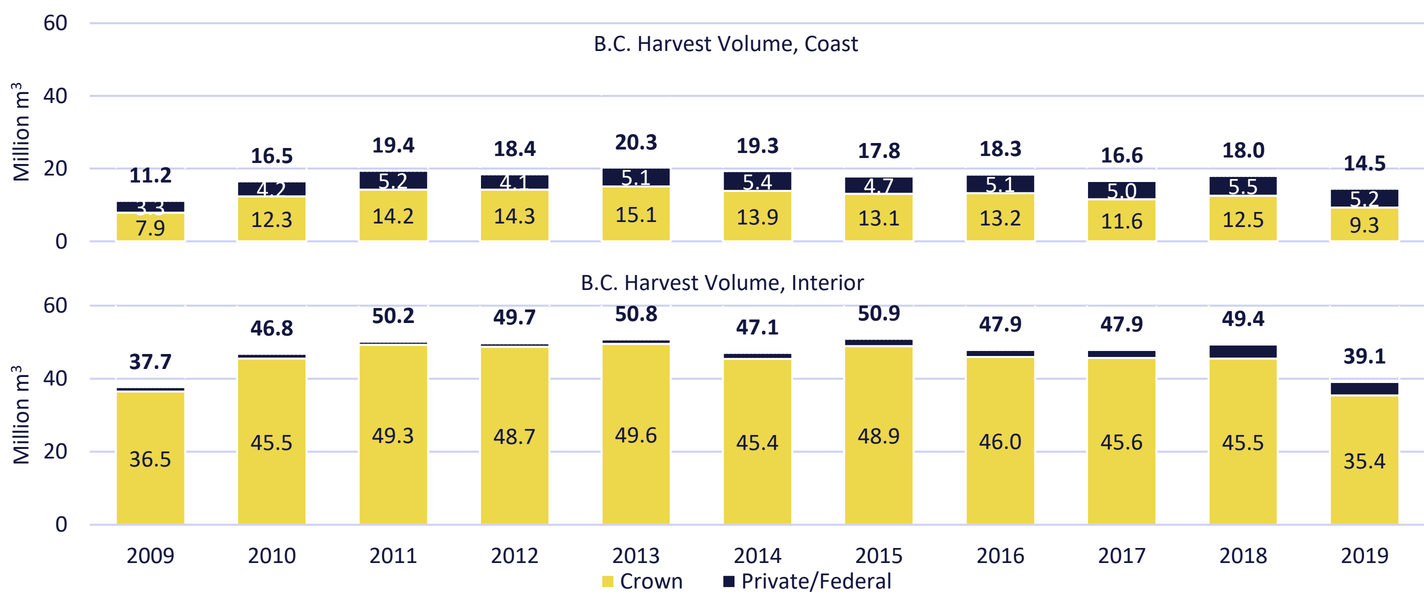
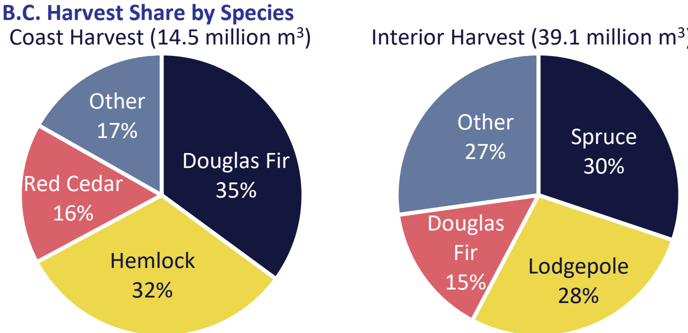


Table 1: B.C. Timber Harvest

Million m³	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Coast	11.2	16.5	19.4	18.4	20.3	19.3	17.8	18.3	16.6	18.0	14.5
Interior	37.7	46.8	50.2	49.7	50.8	47.1	50.8	47.9	47.9	49.4	39.1
Total	**48.9**	**63.3**	**69.6**	**68.1**	**71.1**	**66.4**	**68.6**	**66.3**	**64.5**	**67.4**	**53.6**

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 this year 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.

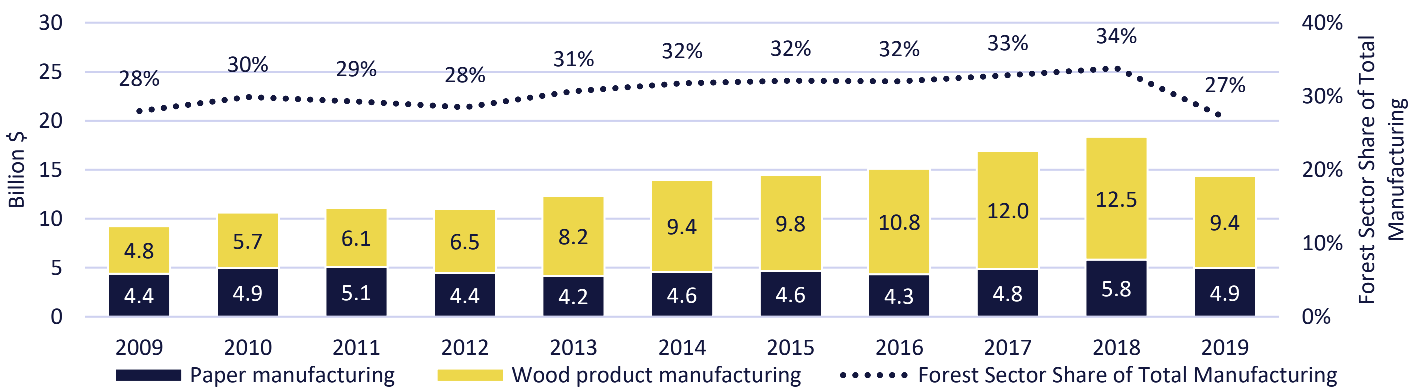
Figure 2: B.C. Harvest Share by Species



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 2019, B.C.'s total forest sector manufacturing sales were $14.3 billion, of which $9.4 billion came from manufactured wood products and the remaining $4.9 billion from pulp and paper sales.

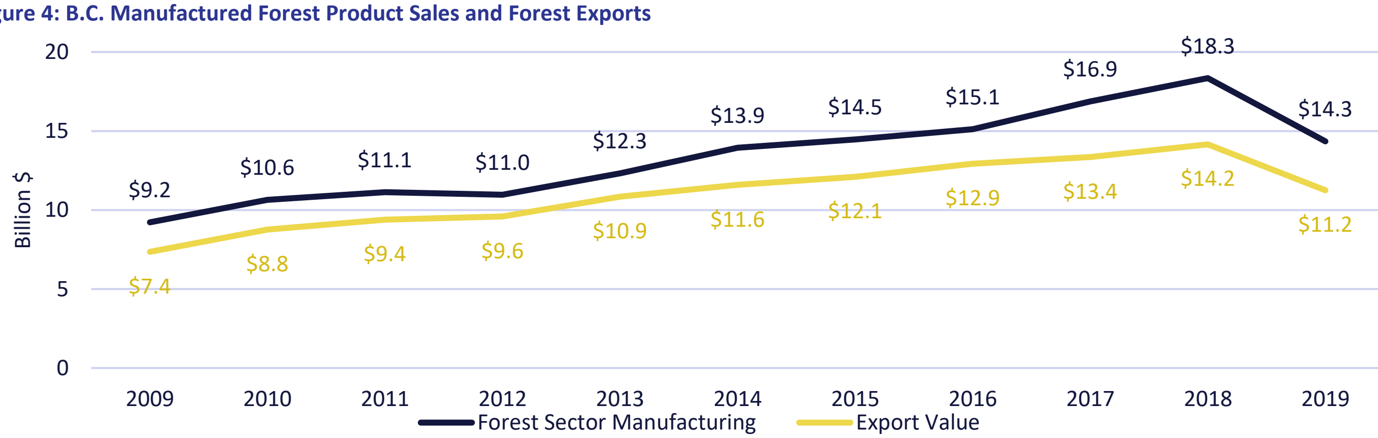
Figure 3: B.C. Forest Sector Manufacturing Sales



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 2019.

Figure 4: B.C. Manufactured Forest Product Sales and Forest Exports

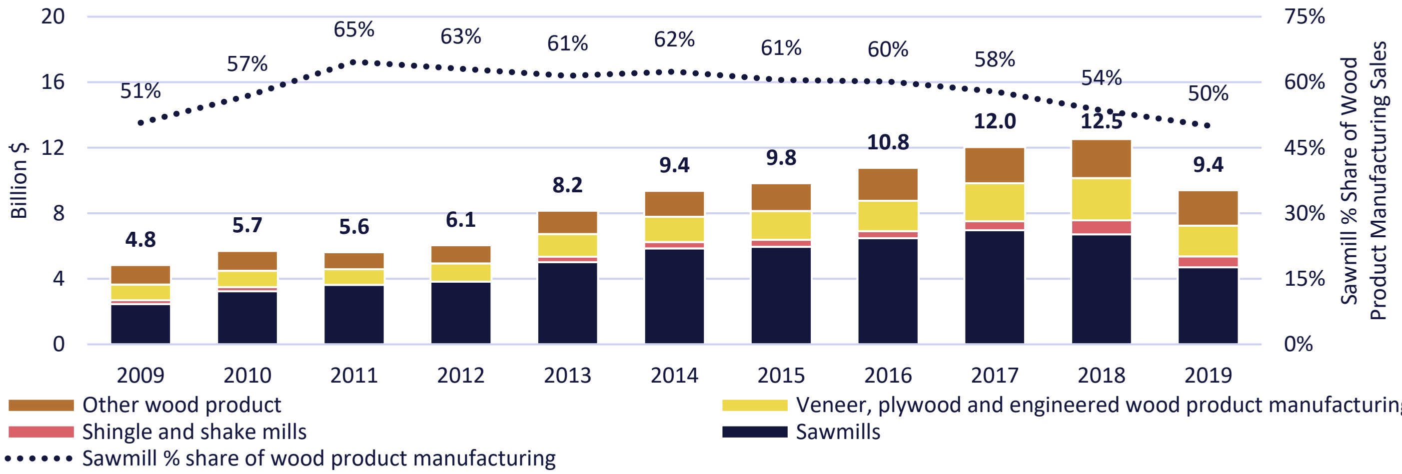


Source: Statistics Canada; Table 16-10-0048-01, and B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Manufactured Wood Products

Total B.C. manufactured wood product sales in 2019 was $9.4 billion, down by 25% from 2018. Sawmill sales, which include chip, sawdust and excludes shake and shingle mill sales, accounted for 50% of the sales (or $4.7 billion). In 2019, sawmill saw a 30% decline in sales. The other half of 2019 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. The non-lumber industries also experienced a decline of 19% in 2019.

Figure 5: B.C. Wood Product Manufacturing Sales



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

Table 2: B.C. Wood Product Manufacturing Sales

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sawmills	2.5	3.2	3.6	3.8	5.0	5.9	6.0	6.5	7.0	6.7	4.7
Shingle and shake mills	0.2	0.3	0.0	0.0	0.3	0.4	0.4	0.4	0.5	0.9	0.7
Veneer, plywood and engineered & product manufacturing	1.0	1.0	1.0	1.1	1.4	1.6	1.8	1.8	2.3	2.6	1.9
Other wood products	1.2	1.2	1.0	1.1	1.4	1.6	1.7	2.0	2.2	2.4	2.2
Total	**4.8**	**5.7**	**5.6**	**6.1**	**8.2**	**9.4**	**9.8**	**10.8**	**12.0**	**12.5**	**9.4**

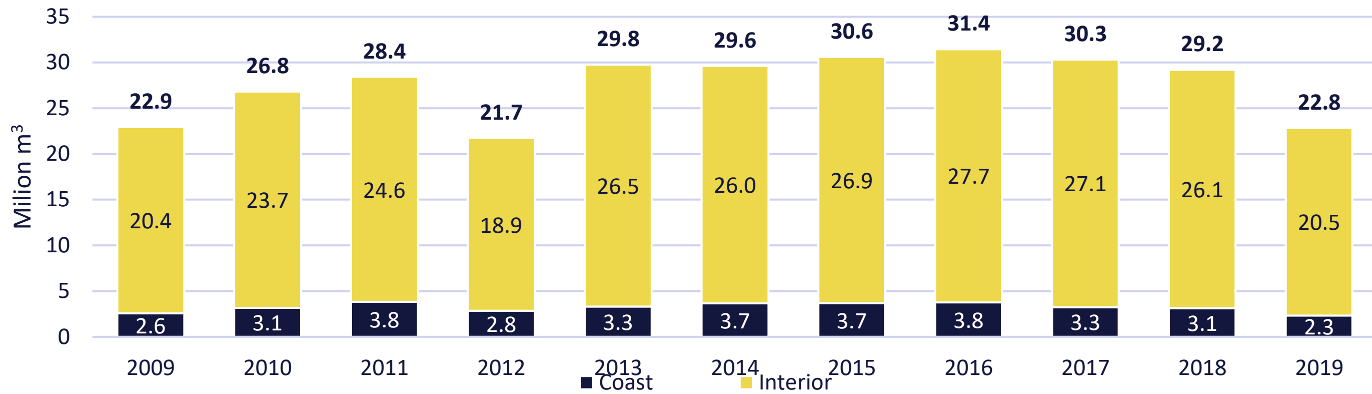
Source: Statistics Canada; Table 16-10-0048-01*. *suppressed to meet the confidentiality requirements of the Statistics Act*

Softwood Lumber

Being the largest lumber producer in Canada, B.C. produced 22.8 million m^3 of lumber (or 9.7 billion board feet) in 2019, accounting for 40% of Canada's total softwood lumber production. Within B.C., most of the lumber production came from B.C. Interior, while the Coast accounted for 10% of B.C. production.[1] In early 2019, a new series was released for lumber production due to significant changes in the survey methodology. Production was then re-estimated for 2014 to 2018 resulting in slightly higher production.

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

Figure 6: 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.

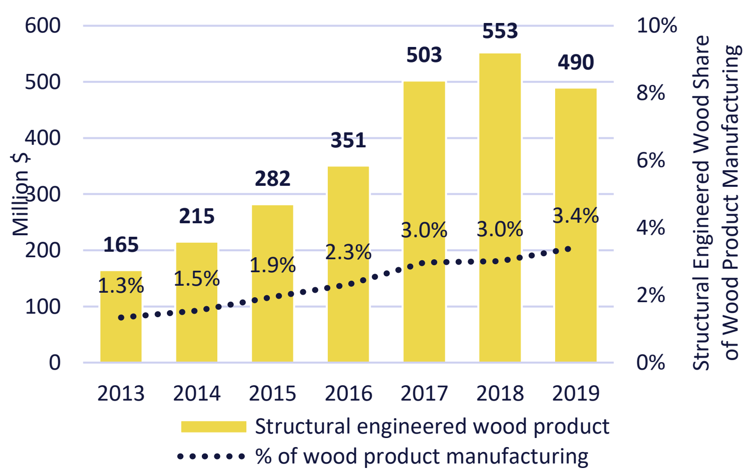
In 2019, 74% of softwood lumber production volume was spruce, pine or fir (SPF), and the remainder was from other species such as cedar, Douglas fir, and hemlock. In comparison, the SPF made up 68% of the total softwood lumber export volume.

Non-Lumber

As mentioned above, 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 50% of wood product manufacturing sales and more than 49% of employment[2] in 2019. Comparing export and manufacturing sales suggests most non-lumber goods are consumed domestically, whereas the majority (89% in 2019) of lumber is exported.

Expansion of the non-lumber sectors is supported by employment growth for veneer, plywood and engineered wood product manufacturing based on SNA data. Manufacturing sales of structural engineered wood products, which includes mass timber, is available as far back as 2013. Statistics Canada defines structural engineered wood products as "manufacturing structural wood members, other than solid dimension lumber and timber" such as pre-engineered or glued-laminated structural timber. In 2013, structural engineered wood products made up 1.3% of total wood product manufacturing sales and was valued at $165 million. By 2019, its share rose to 3.4% of total wood product manufacturing sales valued at $490 million.

Figure 7: B.C. Structural Engineered Wood Product Manufacturing Sales



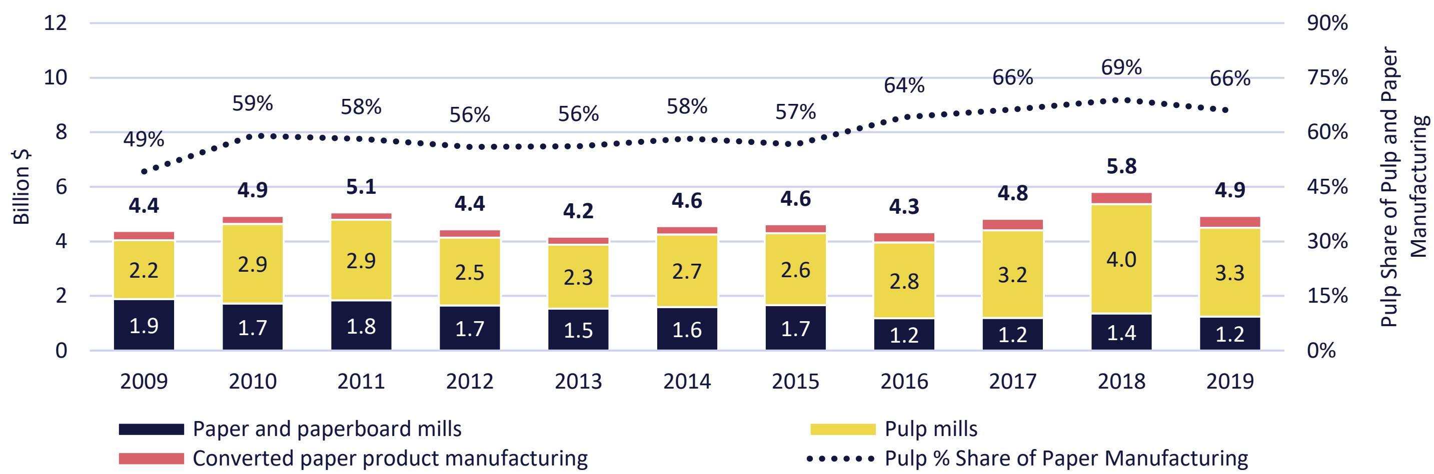
Source: Statistics Canada; Table 16-10-0048-01.

[2] Based on System of National Accounts (Table 36-10-0489-01). "More than 49%" is used since shingles and shakes and wood preservation are combined with sawmilling under *sawmills and wood preservation*.

Pulp and Paper

Total pulp and paper manufacturing sales in B.C. were $4.9 billion in 2019, of which pulp[3] mills accounted for 66% or $3.3 billion. Overall, the sales were down 15% in 2019, with 19% decline from pulp mills, 8.5% from paper and paperboard and 2% from converted paper.

Figure 8: 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. B.C. accounted for 22% of the value of Canada's total forest product exports to the U.S., 66% of exports to China and 83% of exports to Japan in 2019. While the three markets made up 84% of B.C. forest sector exports value, B.C. exported forest products to another 118 countries in 2019. 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 $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
To U.S.											
B.C.	4.0	4.1	3.8	4.3	5.0	5.5	6.1	7.1	6.9	6.8	5.4
Canada	17.9	18.0	17.3	17.1	19.4	21.7	24.0	25.9	26.1	27.1	24.5
B.C. % Share of Canada	*23%*	*23%*	*22%*	*25%*	*26%*	*26%*	*26%*	*28%*	*26%*	*25%*	*22%*
To China											
B.C.	1.3	2.2	3.3	3.1	3.7	3.8	3.7	3.4	3.9	4.1	3.4
Canada	2.0	3.1	4.2	4.2	4.7	4.8	5.0	4.9	5.5	6.1	5.2
B.C. % Share of Canada	*64%*	*71%*	*77%*	*74%*	*77%*	*78%*	*73%*	*70%*	*70%*	*68%*	*66%*
To Japan											
B.C.	0.9	1.1	1.2	1.1	1.3	1.3	1.2	1.2	1.3	1.5	1.2
Canada	1.1	1.4	1.4	1.3	1.6	1.5	1.4	1.4	1.5	1.8	1.4
B.C. % Share of Canada	*83%*	*82%*	*83%*	*84%*	*85%*	*84%*	*83%*	*85%*	*87%*	*82%*	*83%*

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

[3] 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 27% in 2019. While service exports have been growing[4], commodities still make up the bulk of exports, making the forest sector an important source of foreign currency.

Exports by Market

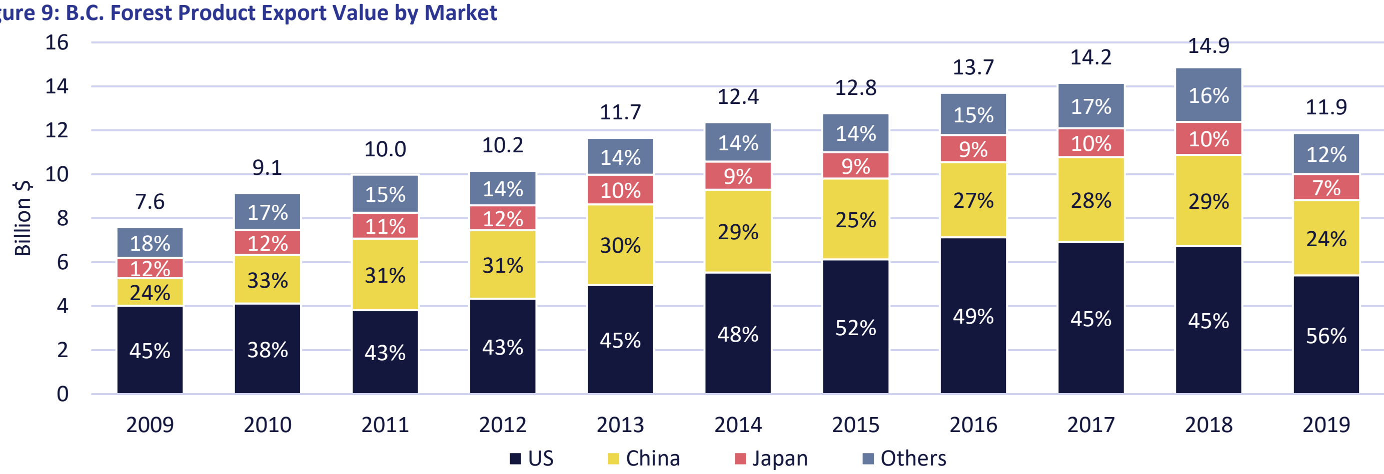
B.C. exported a total of $11.9 billion in forest product exports in 2019. The U.S. is the largest market and has improved substantially since 2009. Value of exports to the U.S. was $5.4 billion in 2019, down 20% from 2018 largely due to lumber exports. China has grown significantly as a market over the last decade and is now in a strong second place. China's share was around 29% of B.C. forest product export value in 2019, compared to 16% in 2009. Japan's share has decreased compared to the late 1990s with a value share of 10% or $1.2 billion in 2019. Other export markets made up 16% of total forest sector exports in 2019, with notable destinations being United Kingdom (2.8%), South Korea (2.3%), Indonesia (1.6%) and India (1.5%). 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 4.

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

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
US	4.0	4.1	3.8	4.3	5.0	5.5	6.1	7.1	6.9	6.8	5.4
China	1.3	2.2	3.3	3.1	3.7	3.8	3.7	3.4	3.9	4.1	3.4
Japan	0.9	1.1	1.2	1.1	1.3	1.3	1.2	1.2	1.3	1.5	1.2
Others	1.4	1.7	1.7	1.6	1.7	1.8	1.8	1.9	2.1	2.5	1.9
Total	**7.6**	**9.1**	**10.0**	**10.2**	**11.7**	**12.4**	**12.8**	**13.7**	**14.2**	**14.9**	**11.9**

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

Figure 9: B.C. Forest Product Export Value by Market



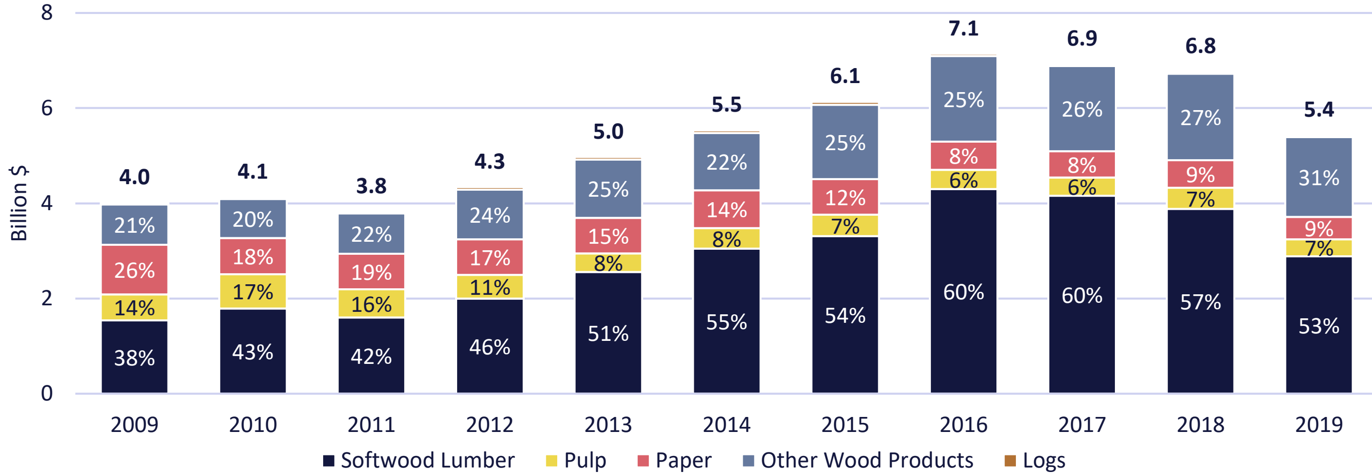
Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

United States

The U.S. was B.C.'s largest market for forest products in 2019 (46%), with exports totalling $5.4 billion. Lumber, accounted for 53%, the largest share, of export value to the U.S. Lumber exports to the U.S. was $2.9 billion in 2019, which declined 26% from 2018. Other wood products (notably OSB, veneer and plywood of Douglas fir, fabricated structural members, shakes, and shingles) accounted for $1.7 billion of B.C.'s exports to the U.S.

[4] Statistics Canada and B.C. Business Council (via Statistics Canada, page 6)

Figure 10: B.C. Forest Product Exports to the U.S.



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 U.S.

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Softwood Lumber	1.5	1.8	1.6	2.0	2.6	3.0	3.3	4.3	4.2	3.9	2.9
Pulp	0.5	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.4
Paper	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.5
Other Wood Products	0.9	0.8	0.9	1.0	1.2	1.2	1.6	1.8	1.8	1.8	1.7
Logs	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total	**4.0**	**4.1**	**3.8**	**4.3**	**5.0**	**5.5**	**6.1**	**7.1**	**6.9**	**6.7**	**5.4**
U.S. % Share of B.C. Exports	*53%*	*45%*	*38%*	*43%*	*43%*	*45%*	*48%*	*52%*	*49%*	*45%*	*45%*

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 U.S. have increased steadily from the low in 2009, but both are still far from the peak level in 2005. At the height of the housing boom in 2005, the U.S. consumed 64 billion board feet. In comparison, the U.S. lumber consumption was 48.6 billion board feet in 2019.

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

Thousands of units	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
U.S. Single-Family Starts	445.1	471.2	430.6	535.3	617.6	647.9	714.5	781.5	848.9	875.8	887.7
U.S. Multi-Family Starts	108.9	115.7	178.2	245.3	307.3	355.4	397.3	392.3	354.1	374.2	402.3
Total	**554**	**587**	**609**	**781**	**925**	**1,003**	**1,112**	**1,174**	**1,203**	**1,250**	**1,290**
% Single-Family	*80%*	*80%*	*71%*	*69%*	*67%*	*65%*	*64%*	*67%*	*71%*	*70%*	*69%*

Source: U.S. Census Bureau.

Table 7: U.S. Softwood Lumber Consumption

Billion Board Feet	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
U.S. Lumber Consumption	31.5	32.8	34.0	36.5	39.5	42.4	44.4	47.4	47.6	48.3	48.6
U.S. Lumber Imports from B.C.	5.0	5.3	4.8	5.3	5.9	6.2	6.7	7.6	6.9	6.6	5.6

Source: Western Wood Products Association *(WWPA)*

Approximately one third of the U.S. softwood lumber consumption relies on lumber imports. Canada provided 26% of total U.S. consumption in 2019.

Table 8: Supplier Share of U.S. Softwood Lumber Consumption

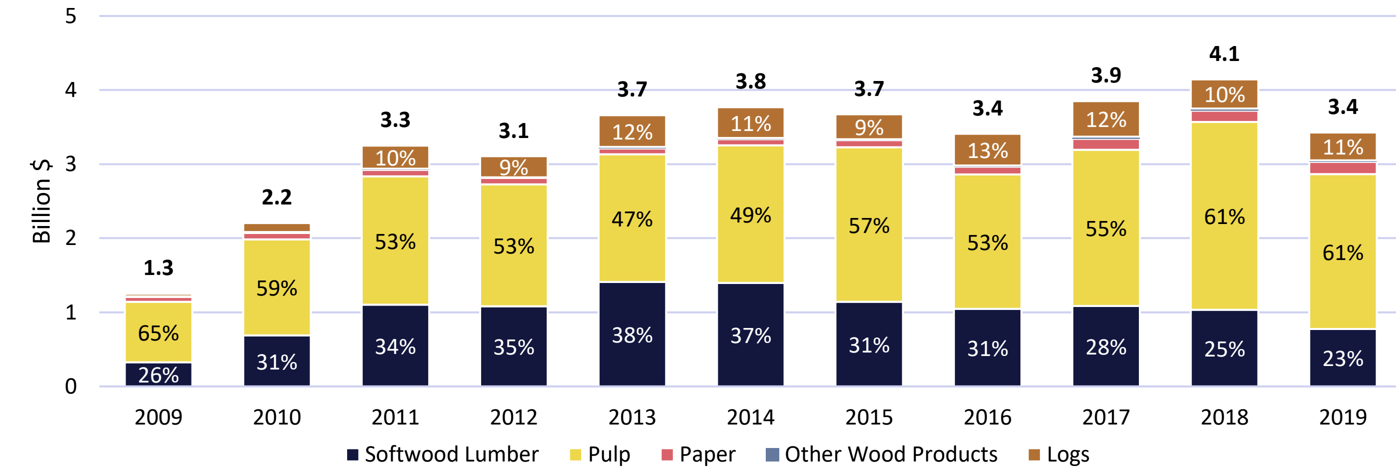
Consumption, %	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
B.C.	16%	16%	14%	15%	15%	15%	15%	16%	15%	14%	11%
Rest of Canada	10%	11%	12%	11%	13%	14%	15%	16%	16%	15%	15%
Non-Canadian	2%	1%	1%	1%	1%	1%	2%	2%	3%	3%	3%
U.S.	72%	71%	73%	73%	71%	70%	69%	66%	67%	69%	70%

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 29% of B.C. forest export value in 2019. Valued at $3.4 billion, exports to China declined 17% from 2018. Pulp remained the dominant product exported to China worth $2.1 billion, followed by lumber and lower value logs.

Figure 11: 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.

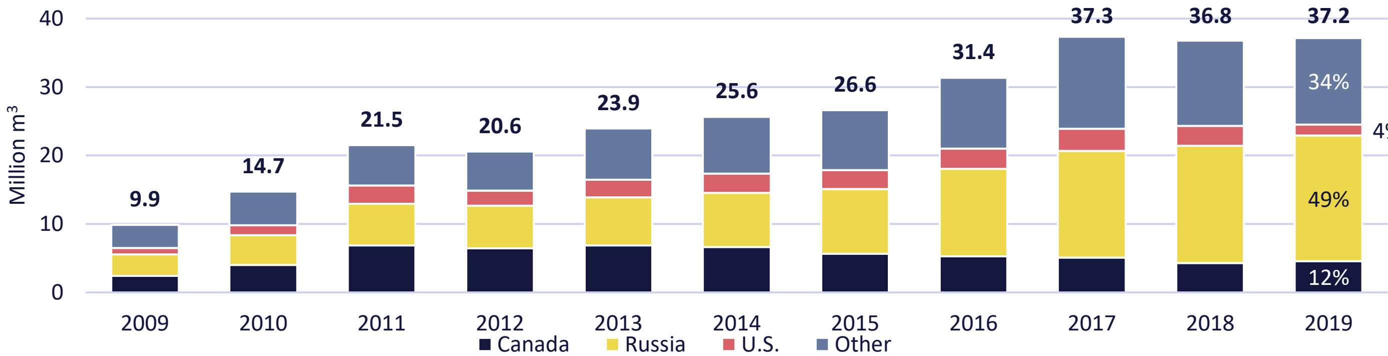
Table 9: B.C. Forest Product Export Value to China

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Softwood Lumber	0.3	0.7	1.1	1.1	1.4	1.4	1.1	1.0	1.1	1.0	0.8
Pulp	0.8	1.3	1.7	1.6	1.7	1.9	2.1	1.8	2.1	2.5	2.1
Paper	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
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	0.0	0.1	0.3	0.3	0.4	0.4	0.3	0.4	0.5	0.4	0.4
Total	**1.3**	**2.2**	**3.3**	**3.1**	**3.7**	**3.8**	**3.7**	**3.4**	**3.9**	**4.1**	**3.4**
China % Share of B.C. Exports	*16%*	*24%*	*33%*	*31%*	*31%*	*30%*	*29%*	*25%*	*27%*	*28%*	*29%*

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, Russia increased its share to 49% in 2019 while Canada's share was 12%.

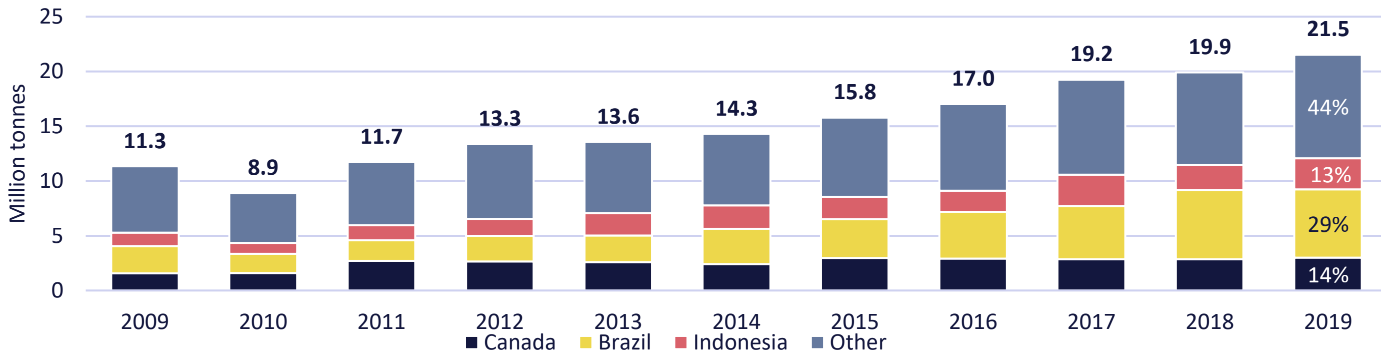
Figure 12: China Lumber Imports by Supply Country



Source: WOOD MARKETS China Bulletin. All species, including hardwoods.

In 2019, Canada (14% share) was second behind Brazil (29%) as the leading supplier of China's Kraft market pulp imports. They were followed by Indonesia (13%), Indonesia (11%), the U.S. (8%), and other countries (25%).

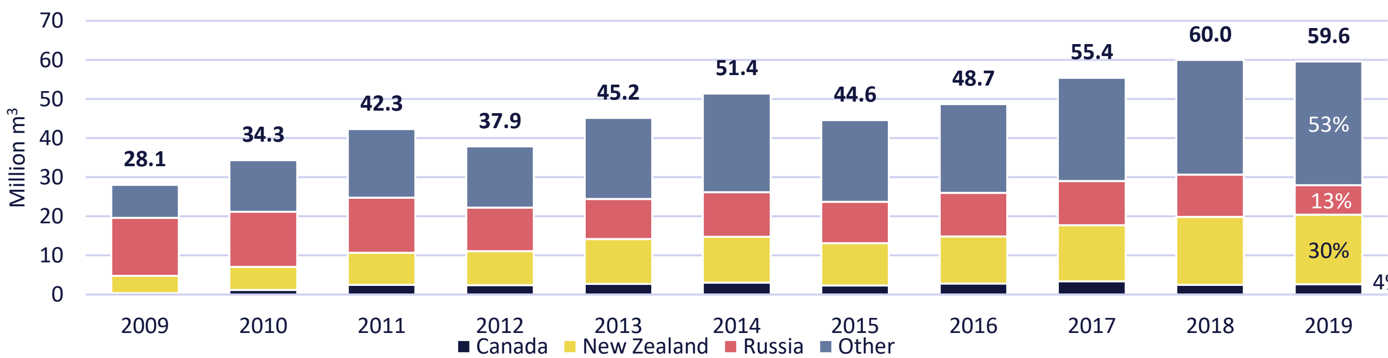
Figure 13: China Sulfate (Kraft) Wood Pulp Imports by Supply Country



Source: WOOD MARKETS China Bulletin. All species, including hardwoods.

In 2019, New Zealand continued as China's largest log supplier (30%). They were followed by Russia (13%), the U.S. (6%), Canada (4%) and other countries (47%).

Figure 14: China Log Imports by Supply Country

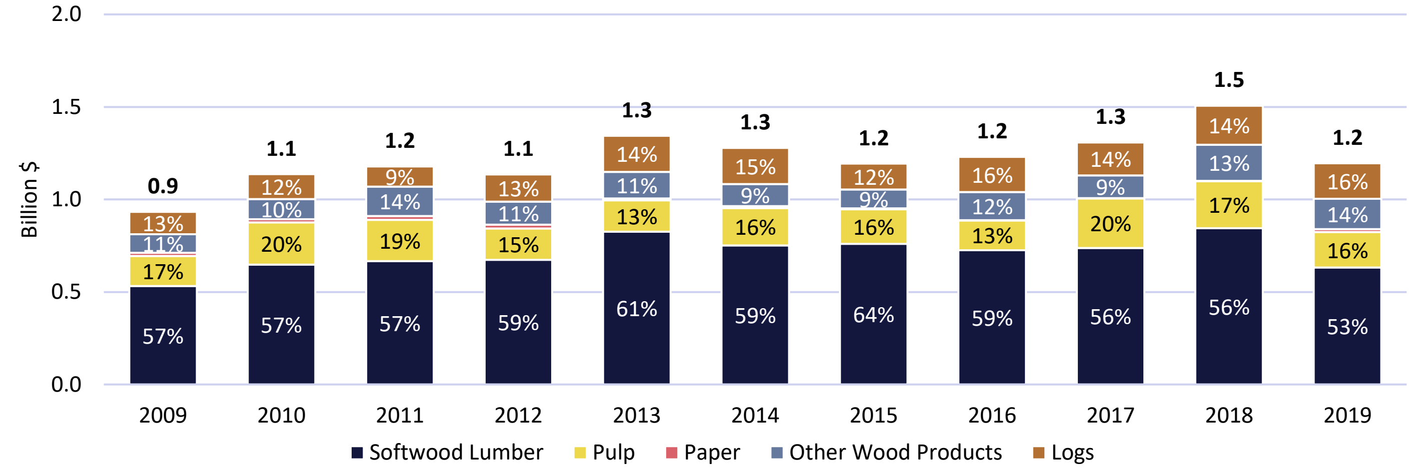


Source: WOOD MARKETS China Bulletin. All species, including hardwoods.

Japan

B.C.'s exports to Japan have decreased about 75% from peak years in the mid-1990s, but exports have been relatively steady in recent years and was at 10% in 2019. Exports were valued at $1.2 billion in 2019, a 21% decline from 2018. Lumber had the highest share of value making up 53% of total export value to Japan in 2019. Softwood lumber exports to Japan totalled $0.63 billion in 2019.

Figure 15: 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

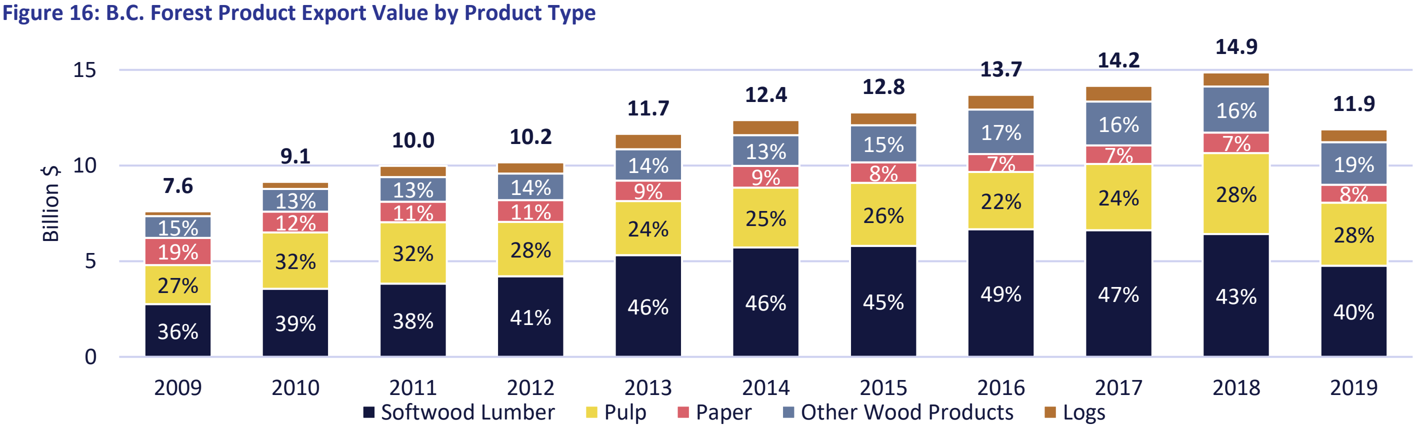
Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Softwood Lumber	0.53	0.65	0.67	0.67	0.83	0.75	0.76	0.73	0.74	0.84	0.63
Pulp	0.16	0.23	0.22	0.17	0.17	0.20	0.19	0.16	0.27	0.25	0.19
Paper	0.02	0.02	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.02
Other Wood Products	0.10	0.11	0.16	0.12	0.14	0.12	0.10	0.15	0.12	0.20	0.16
Logs	0.12	0.13	0.11	0.15	0.19	0.19	0.14	0.19	0.18	0.21	0.19
Total	**0.93**	**1.14**	**1.18**	**1.13**	**1.34**	**1.28**	**1.19**	**1.23**	**1.31**	**1.51**	**1.19**

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 $11.9 billion in forest product exports, softwood lumber remained the most dominant in 2019. However, its share declined from 43% to 40% in 2019 at $4.8 billion while other wood products increased from 16% to 19% since 2018. B.C. pulp exports had the second largest share of exports (28%), totalling $3.3 billion in 2019.

Figure 16: 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.*

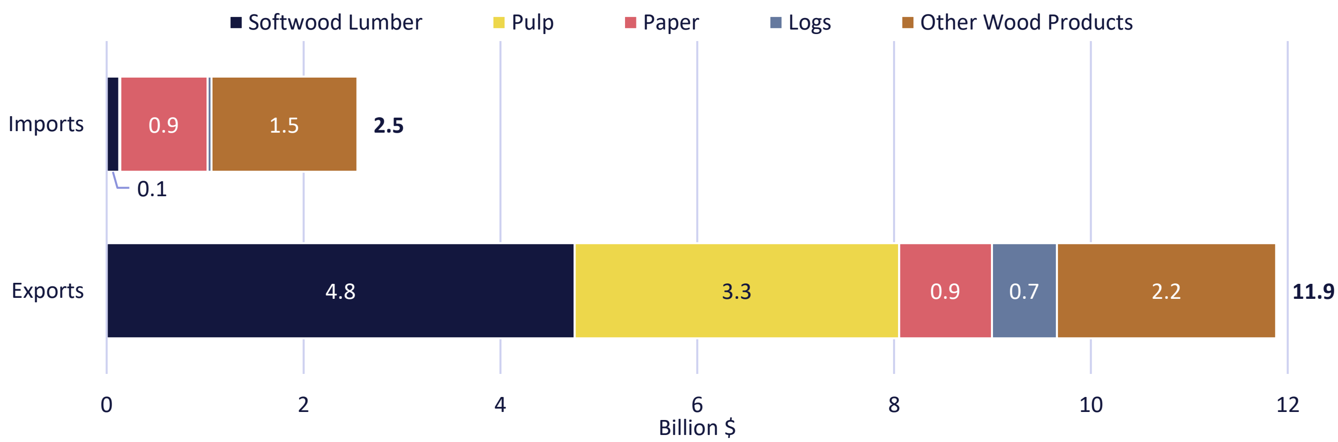
Table 11: B.C. Forest Product Export Value by Product Type

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Softwood Lumber	2.7	3.6	3.8	4.2	5.3	5.7	5.8	6.7	6.6	6.4	4.8
Pulp	2.1	2.9	3.2	2.9	2.8	3.1	3.3	3.0	3.5	4.2	3.3
Paper	1.4	1.1	1.1	1.1	1.1	1.1	1.1	0.9	1.0	1.1	0.9
Other Wood Products	1.1	1.2	1.3	1.4	1.6	1.6	1.9	2.3	2.3	2.4	2.2
Logs	0.2	0.4	0.6	0.6	0.8	0.8	0.7	0.8	0.8	0.7	0.7
Total	**7.6**	**9.1**	**10.0**	**10.2**	**11.7**	**12.4**	**12.8**	**13.7**	**14.2**	**14.9**	**11.9**

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 decreased by 2% in 2019. 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 17: Comparison of BC Forest Product Exports and Imports

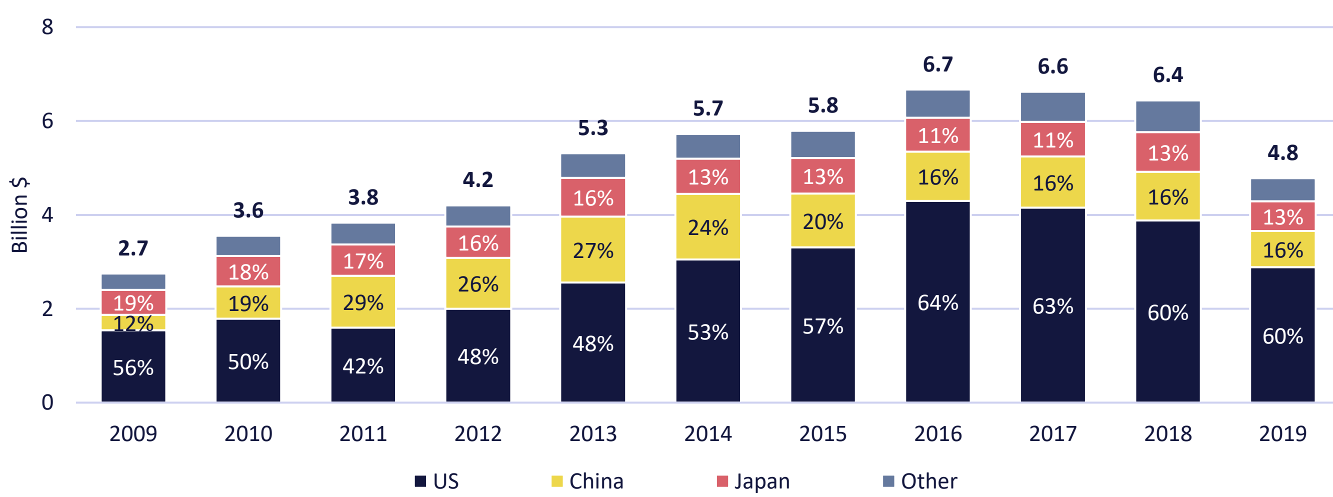


Source: B.C. Stats extract from Statistics Canada data. Also available from Statistics Canada CIMTD. Historic data is subject to revisions.

Softwood Lumber

B.C. is the largest supplier of Canada's softwood lumber exports. Based on the export value, B.C. accounted for 60% of Canada's total softwood lumber exports, and 48% of Canada's lumber exports to the U.S.

Figure 18: 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 $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
B.C.	2.7	3.6	3.8	4.2	5.3	5.7	5.8	6.7	6.6	6.4	4.8
Canada	3.8	4.8	5.2	5.7	7.4	8.3	8.5	10.0	10.4	10.3	8.0
B.C. % Share of Canada	*73%*	*73%*	*74%*	*73%*	*72%*	*69%*	*68%*	*67%*	*63%*	*63%*	*60%*

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 BC's reliance on the U.S., the U.S. remained the top market for B.C.'s lumber exports. China remained the second largest market. However, BC's lumber exports to China have declined steadily since 2014.

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

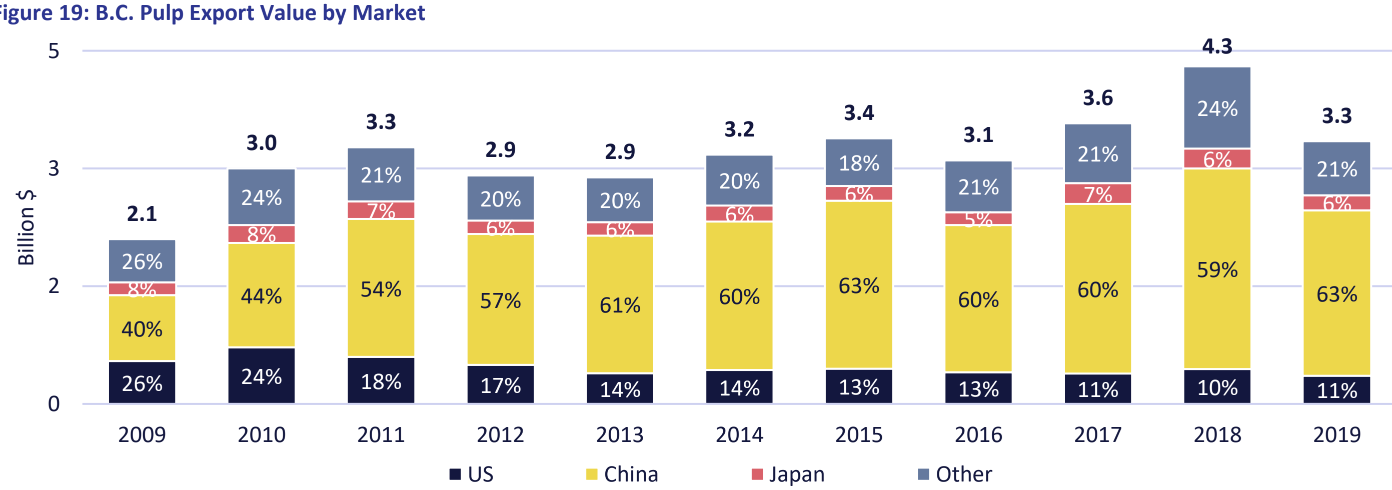
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Value, Billion $	**$2.7**	**$3.6**	**$3.8**	**$4.2**	**$5.3**	**$5.7**	**$5.8**	**$6.7**	**$6.6**	**$6.4**	**$4.8**
US	$1.5	$1.8	$1.6	$2.0	$2.6	$3.0	$3.3	$4.3	$4.2	$3.9	$2.9
China	$0.3	$0.7	$1.1	$1.1	$1.4	$1.4	$1.1	$1.0	$1.1	$1.0	$0.8
Japan	$0.5	$0.6	$0.7	$0.7	$0.8	$0.8	$0.8	$0.7	$0.7	$0.8	$0.6
Others	$0.3	$0.4	$0.5	$0.4	$0.5	$0.5	$0.6	$0.6	$0.6	$0.7	$0.5
Volume, Million m³	**17.8**	**20.8**	**22.8**	**24.2**	**25.9**	**25.8**	**26.2**	**27.7**	**25.3**	**24.0**	**20.3**
US	11.9	12.3	11.2	12.5	13.6	14.5	15.5	17.9	16.1	15.5	13.1
China	2.6	4.6	7.3	7.5	8.0	7.6	6.7	6.0	5.5	5.0	4.4
Japan	2.0	2.4	2.5	2.4	2.6	2.2	2.3	2.2	2.1	2.0	1.7
Others	1.4	1.6	1.8	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.2

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. accounted for 42% of Canada's total pulp export value in 2019. It is the largest supplier of Canada's pulp exports in terms of value followed by Alberta, Quebec. China had a dominant 63% share of B.C. pulp export value in 2019, followed by the U.S. (11%) and Japan (6%). Pulp export tonnage had similar trends in 2019. From 2009 to 2019, pulp export volume to China has nearly doubled, while the value has almost tripled.

Figure 19: 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: Canada Pulp Export Value by Province

Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
B.C.	2.1	3.0	3.3	2.9	2.9	3.2	3.4	3.1	3.6	4.3	3.3
Canada	3.2	4.3	4.3	3.8	4.1	4.3	4.7	4.5	4.7	5.4	4.6
% BC of Canada	*40%*	*41%*	*43%*	*43%*	*41%*	*42%*	*42%*	*41%*	*43%*	*44%*	*42%*

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

Table 15: B.C. Pulp and Paper Export Value and Volume by Market

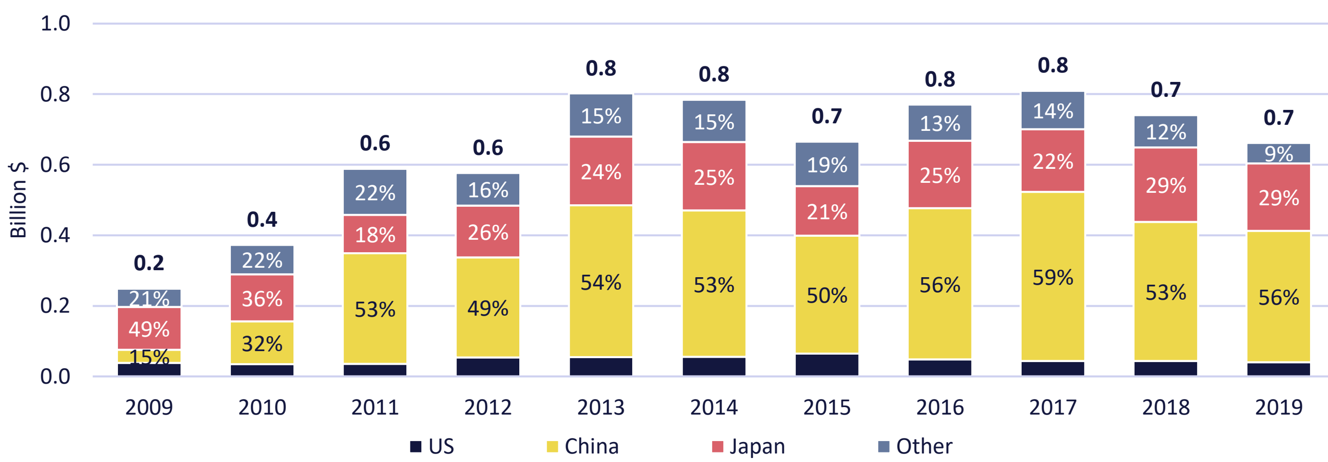
Billion $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Value (billion $CA)	**$2.1**	**$2.9**	**$3.2**	**$2.9**	**$2.8**	**$3.1**	**$3.3**	**$3.0**	**$3.5**	**$4.2**	**$3.3**
US	$0.5	$0.7	$0.6	$0.5	$0.4	$0.4	$0.4	$0.4	$0.3	$0.4	$0.4
China	$0.8	$1.3	$1.7	$1.6	$1.7	$1.9	$2.1	$1.8	$2.1	$2.5	$2.1
Japan	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.3	$0.3	$0.2
Others	$0.5	$0.7	$0.7	$0.6	$0.6	$0.6	$0.6	$0.7	$0.7	$1.0	$0.7
Volume (million tonnes)	**3.3**	**3.8**	**4.1**	**4.4**	**4.2**	**4.1**	**4.3**	**4.1**	**4.3**	**4.1**	**4.1**
US	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4
China	1.4	1.7	2.2	2.7	2.7	2.6	2.8	2.6	2.7	2.4	2.7
Japan	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2
Others	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	0.8

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 by 11% in 2019. China remained the largest destination, whose share was 56% in 2019. U.S. (6%) and Japan (29%) shares remained the same in 2019 while the value share of other countries decreased to 9%. In 2018, we slightly altered the commodities included as log exports, which resulted in a small decrease in past export value, mostly to China. When measured by volume, BC's log exports decreased by 11% in 2019. China's volume share went up to 61% in 2019 from 59% in the previous year. The U.S. share went up to 8% while Japan's share dropped to 24%.

Figure 20: 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 16: B.C. Log Export Value and Volume by Market

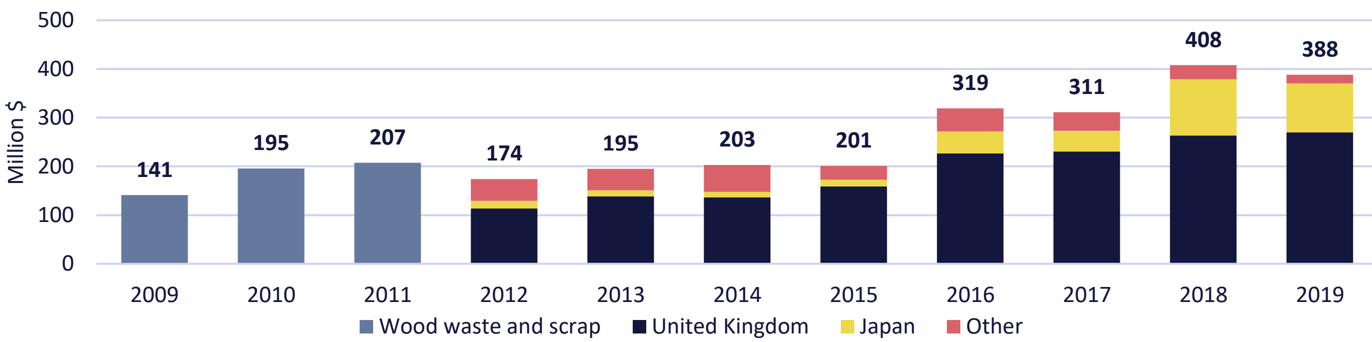
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Value, Billion $	**$0.2**	**$0.4**	**$0.6**	**$0.6**	**$0.8**	**$0.8**	**$0.7**	**$0.8**	**$0.8**	**$0.7**	**$0.7**
US	$0.0	$0.0	$0.0	$0.1	$0.1	$0.1	$0.1	$0.0	$0.0	$0.0	$0.0
China	$0.0	$0.1	$0.3	$0.3	$0.4	$0.4	$0.3	$0.4	$0.5	$0.4	$0.4
Japan	$0.1	$0.1	$0.1	$0.1	$0.2	$0.2	$0.1	$0.2	$0.2	$0.2	$0.2
Others	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1
Volume, Million m^3	**2.5**	**3.7**	**5.4**	**5.7**	**6.7**	**6.3**	**5.6**	**6.3**	**6.0**	**5.1**	**4.8**
US	0.4	0.5	0.4	0.7	0.6	0.5	0.6	0.4	0.4	0.3	0.4
China	0.4	1.2	2.9	2.9	3.6	3.4	2.9	3.7	3.7	3.0	3.0
Japan	1.1	1.3	1.0	1.3	1.6	1.5	1.1	1.4	1.3	1.3	1.1
Others	0.6	0.8	1.1	0.9	0.9	0.9	1.0	0.7	0.7	0.5	0.4

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

Pellets

Exports of wood waste and scrap grew rapidly up to 2011, almost entirely due to growth in pellet exports. Starting in 2012, pellets were listed as a separate category in the export data. Pellet exports were 2.14 million tonnes ($388 million) in 2019. Roughly two thirds went to the United Kingdom, 26% to Japan, and most of the remainder to Belgium.

Figure 21: 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.

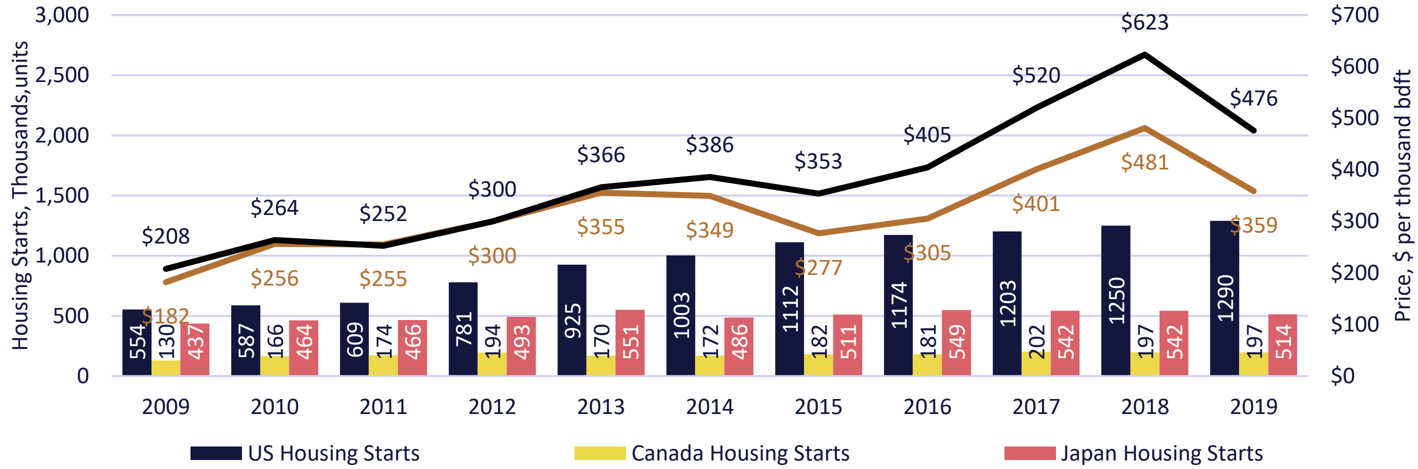
Sector Indicators

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

After reaching historic highs in 2018, the average SPF 2x4 lumber prices dropped to US$359 per thousand board feet, 25% lower than the price level in 2018. This decline in prices resulted from a supply/demand imbalance in the US. While US housing starts remained relatively flat during this period, additional capacity in the US South following the price runup in 2018 and reduced US exports to China during an escalating trade war created excess lumber supply in the US. Other wood products also declined with OSB falling to $198 per thousand square feet (-42%) and plywood to $323 per thousand square feet (-20%) compared with 2018. Meanwhile, the housing market in Canada was mostly flat, while Japan saw a slim decline.

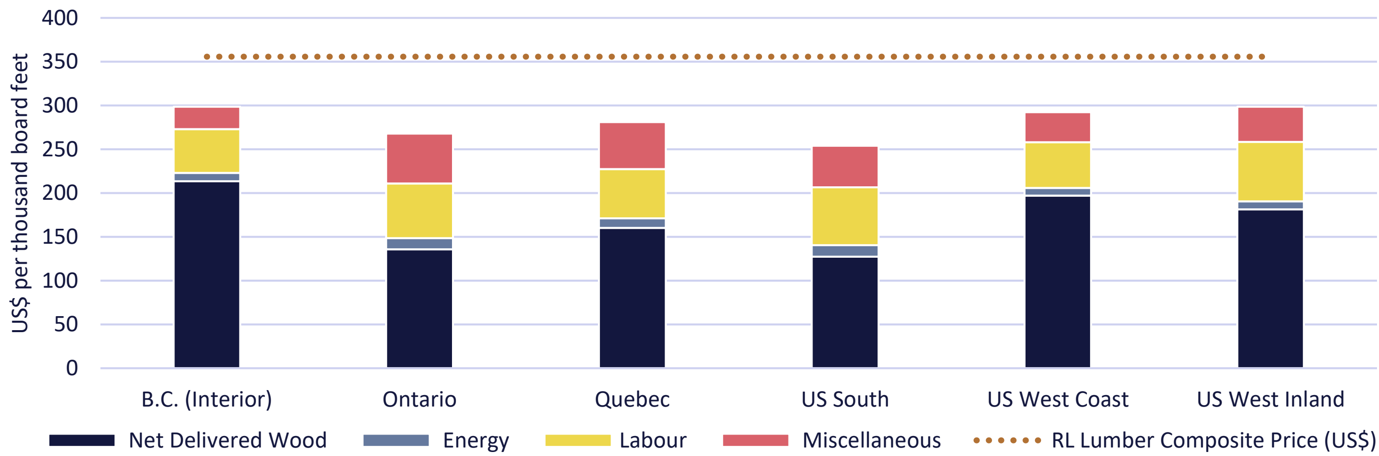
Figure 22: Average SPF 2x4 Lumber Prices and Housing Starts



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

B.C. Interior softwood lumber mills had relatively high variable costs compared to other jurisdictions, with high net delivered wood costs illustrating the fibre shortage following the mountain pine beetle epidemic.

Figure 23: Softwood Lumber Mills' Variable Costs (2019)



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

The average export price for northern bleached softwood kraft (NBSK) pulp also declined by 25% between 2018 and 2019 to $823 per tonne, while the price for bleached chemical thermo-mechanical pulp (BCTMP) declined by 17%. Pulp output was 4.8 million tonnes in 2019, a 4% decline from 2018.

Table 17: Export Pulp Prices and Pulp Output

Export Price to China, $/tonne	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
NBSK	$588	$745	$753	$609	$661	$739	$779	$741	$814	$1,091	$823
BCTMP	$448	$559	$506	$502	$491	$545	$484	$481	$660	$751	$622
BC Pulp Output (million tonnes)	5.3	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 declined for each of the three forest sectors between 2018 and 2019. Chained dollar GDP adjusts for changes in prices and quantities, and should not be compared across sectors, nor added across sectors. To compare between sectors, industries and other sectors, in each year, see Statistics Canada's GDP series in current dollars[5].

Table 18: B.C. Forest Sector GDP, in 2012 Chained Dollars

Billion 2012$	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Forestry and Logging and Support Activities	**1.74**	**2.03**	**2.39**	**2.42**	**2.56**	**2.56**	**2.58**	**2.40**	**2.46**	**2.59**	**2.22**
Forestry and logging	1.25	1.53	1.81	1.86	2.01	1.98	1.97	1.81	1.84	1.94	1.57
Support activities for forestry	0.50	0.50	0.57	0.56	0.55	0.58	0.61	0.59	0.62	0.66	0.65
Wood Products Manufacturing	**2.05**	**2.28**	**2.41**	**2.58**	**2.78**	**2.83**	**2.89**	**3.01**	**2.96**	**2.92**	**2.56**
Sawmills and wood preservation	1.17	1.40	1.49	1.55	1.67	1.61	1.57	1.70	1.57	1.51	1.27
Veneer, plywood and engineered wood product manufacturing	0.42	0.44	0.46	0.49	0.52	0.61	0.66	0.62	0.68	0.73	0.55
Other wood product manufacturing	0.46	0.44	0.46	0.54	0.60	0.61	0.66	0.69	0.72	0.68	0.74
Paper Manufacturing	**1.17**	**1.38**	**1.43**	**1.30**	**1.21**	**1.40**	**1.46**	**1.36**	**1.25**	**1.32**	**1.12**

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

Employment

Forest sector direct employment was 51,800, a 3% decline from 2018. In 2019, employment for forestry and logging with support activities declined 10%, wood product was down 2%, while pulp and paper employment were up 13%.

Table 19: B.C. Forest Sector Direct Employment

Employees, Thousands	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Forestry and Logging with Support Activities*	17.3	18.4	19.3	19.2	18.7	19.6	19.1	20.4	20.2	20.4	18.4
Wood Product Manufacturing	22.6	24.0	23.2	24.7	25.3	24.8	23.5	26.1	27.0	26.1	25.7
Pulp and Paper Manufacturing	9.0	9.0	8.3	7.7	8.0	7.0	6.8	6.7	7.0	6.9	7.8
Total	**49.0**	**51.4**	**50.7**	**51.6**	**52.0**	**51.4**	**49.4**	**53.2**	**54.2**	**53.4**	**51.8**

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.*

We report employment data based on SNA, as it is considered the most robust estimate, 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 is usually around 45% of B.C. forest sector direct employment while the interior is around 55%. For further discussion of employment estimates please see the *Multiple Employment Estimates* document found online at our website.

Table 20: Forest Sector Employment Share by Coast and Interior

Employment, %	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Interior	47%	49%	48%	53%	51%	50%	48%	51%	51%	56%	55%
Coast	53%	51%	52%	47%	49%	50%	52%	49%	49%	44%	45%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

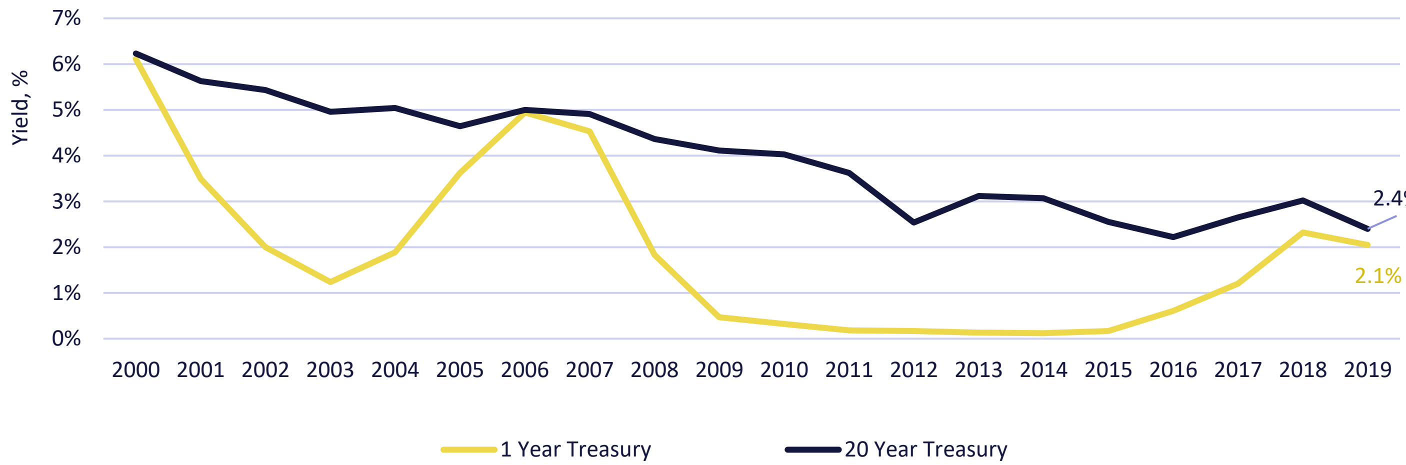
Source : Statistics Canada LFS data via B.C. Stats (Employment and Unemployment by Development Region). In this data North Coast is combined with Nechako, and in this chart North Coast-Nechako is included in the Interior.

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

Macroeconomic Indicators

An indicator of overall economic conditions is the difference in the cost of short-term and long-term borrowing, measured in U.S. treasury bill yields. A smaller spread between the two signals investment uncertainty and potentially unfavourable economic conditions. For 2019, the spread between the one year and 20-year treasury bills was only 0.3 percentage points.

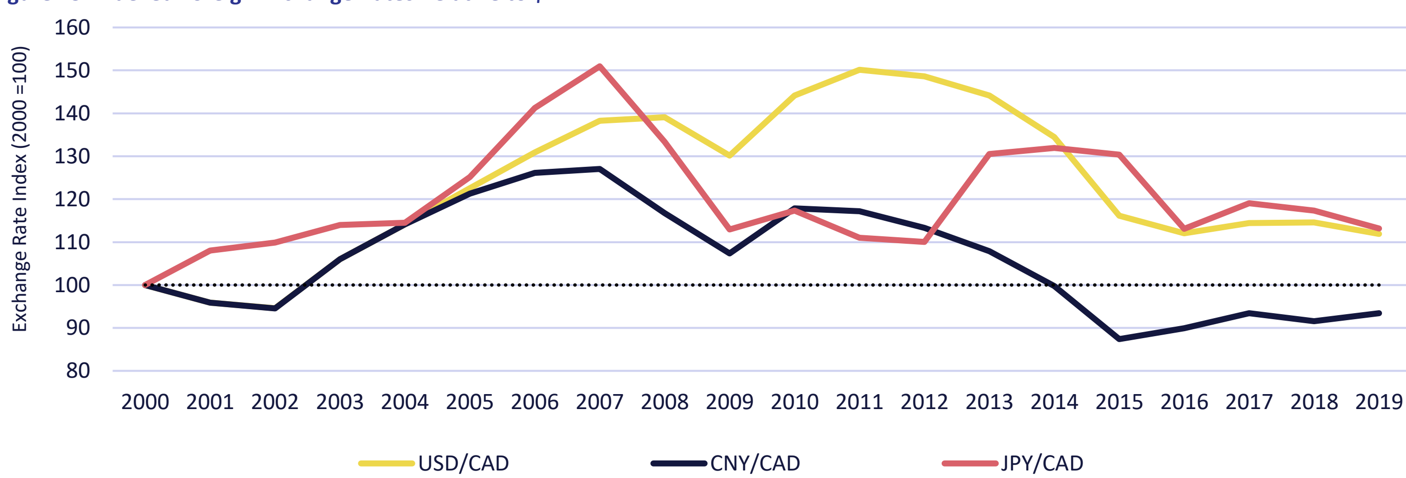
Figure 24: U.S. Treasury Bill Yields



Source: U.S. Department of the Treasury.

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.

Figure 25: Indexed Foreign Exchange Rates Relative to $

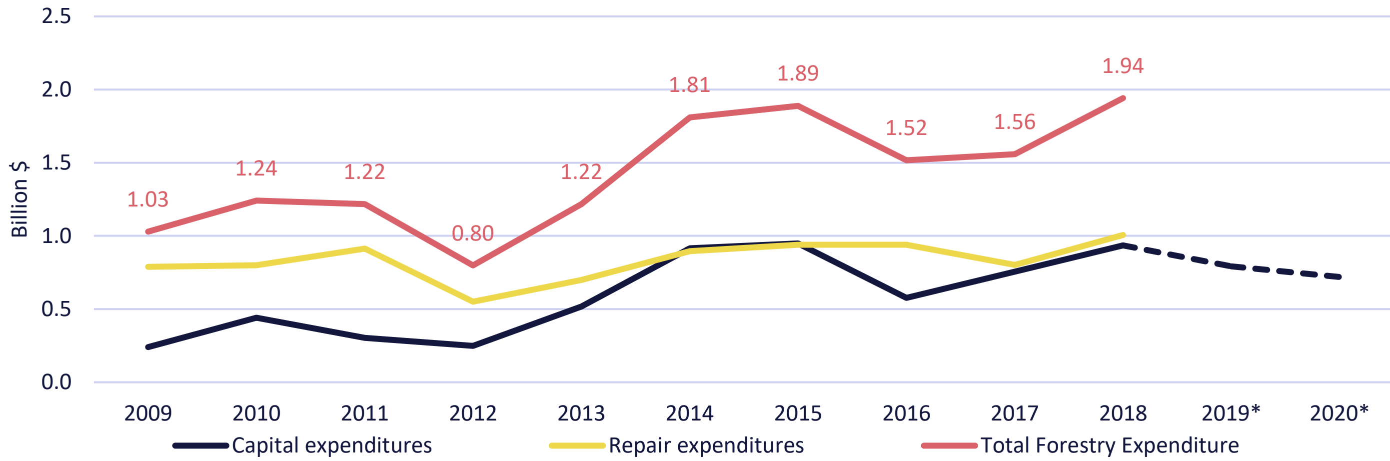


Source: 2000-2006, OANDA*. 2007-2018,* Bank of Canada.

Investments

B.C. forest sector investment was $1.9 billion in 2018, the latest data available at time of writing. This was an increase of $383 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 2019 and 2020 values indicate preliminary intentions of capital and repair expenditures and are subject to changes.

Figure 26: 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 2019 were estimated at $0.8 billion, a 15% decline from 2018. The decline is due to the decrease in intended wood product manufacturing capital expenditure. Meanwhile, the latest data available for repair expenditures by industry was for 2018 which totalled $1 billion, a 25% increase compared with 2017.

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

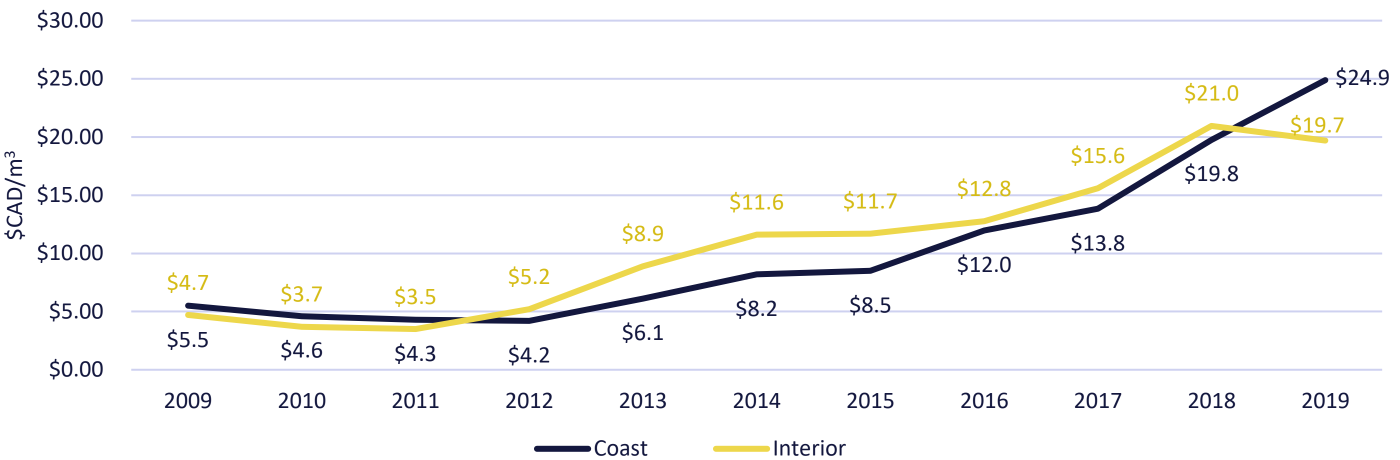
Expenditure, million $	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020*
Capital expenditures	**240**	**442**	**304**	**248**	**517**	**916**	**949**	**577**	**756**	**935**	**792**	**719**
Forestry and logging	36	67	91	101	144	212	198	220	232	296	301	262
Paper manufacturing	57	172	181	103	84	186	171	124	241	229	246	185
Wood product manufacturing	148	204	32	44	290	518	580	234	283	411	245	273
Repair expenditures	**788**	**799**	**914**	**551**	**700**	**895**	**941**	**940**	**802**	**1,006**	**-**	**-**
Forestry and logging	119	174	87	148	238	302	174	141	-	256	-	-
Paper manufacturing	331	391	419	305	195	315	412	355	357	385	-	-
Wood product manufacturing	338	235	408	97	267	279	355	443	445	365	-	-
Total forestry expenditure	**1,029**	**1,241**	**1,218**	**799**	**1,217**	**1,811**	**1,890**	**1,517**	**1,559**	**1,942**	**792**	**719**

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 declined by $1.48/m^3 while Coast average stumpage increased by $2.29/m^3 between 2018 and 2019. These stumpage rates include B.C. Timber Sales (BCTS) and excludes waste and reject.

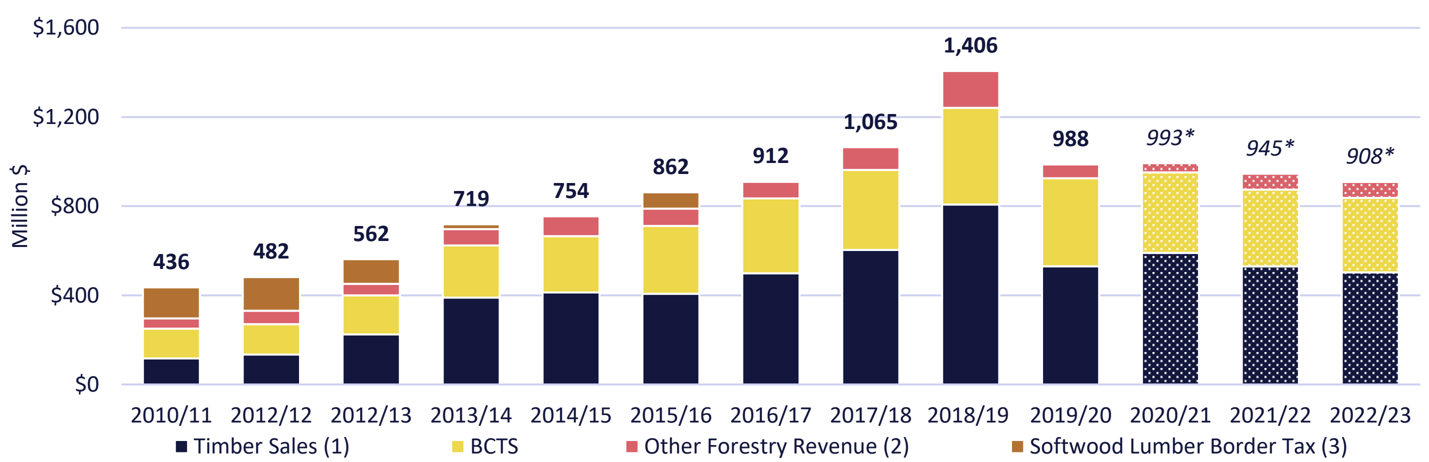
Figure 27: Average Stumpage Rates



Source: B.C. HBS. Includes all logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on January 29, 2020. Includes Crown land harvests only.

Forest revenue was $988 million in fiscal year 2019/20. Revenue is forecast to remain at similar levels through 2022/23.

Figure 28: 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 Fall 2020 Economic and Fiscal Update, Table 1.6, page 19. Forecasts are from the 2019/20 to 2021/22 Budget and Fiscal Plan updated on December 15, 2020.