

A banner at the top of the slide featuring the British Columbia flag (a red cross on a white field with blue and red stripes) and a landscape with mountains and a body of water under a sunset sky.

2018 Economic State of the B.C. Forest Sector

September 2019

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Economic Services Branch



Outline

- ❖ **Overview**
- ❖ **Products**
- ❖ **Markets**
- ❖ **Sector Indicators**
- ❖ **Conclusions and Outlook**
- ❖ **Appendix** *(additional slides for all topics)*

Ministry Economic Reports

- ❖ Weekly Prices: Tracks weekly prices relevant to the B.C. forest sector.
- ❖ Monthly Exports: Export values by major market and product groups, including some quantity information.
- ❖ Annual Mill Report and Quarterly Mills Status Reports: Summary outlining B.C.'s harvest and timber processing activity during the year and of quarterly openings, closings, and investment.
- ❖ Log Exports: Summary of permit information (Permit Report on right side).
- ❖ Economic State of the BC Forest Sector: Year in review for the B.C. forest sector.

A decorative banner at the top of the slide features the British Columbia flag waving over a scenic landscape of mountains and a body of water under a sunset sky.

Overview of B.C. Forest Sector

- ❖ **Includes** forest management, harvesting, reforestation, wood product manufacturing, and pulp and paper product manufacturing.
- ❖ **Plays a key role in the provincial economy** with a significant presence in the Lower Mainland, and as an essential contributor to communities outside the Lower Mainland.
- ❖ **Is export-oriented**, depending heavily on global markets and exchange rates, foreign competition, and trade policy.
- ❖ **Is cyclical**, affected by the global forest commodity markets and general performance of the world economy.

Overview of 2018

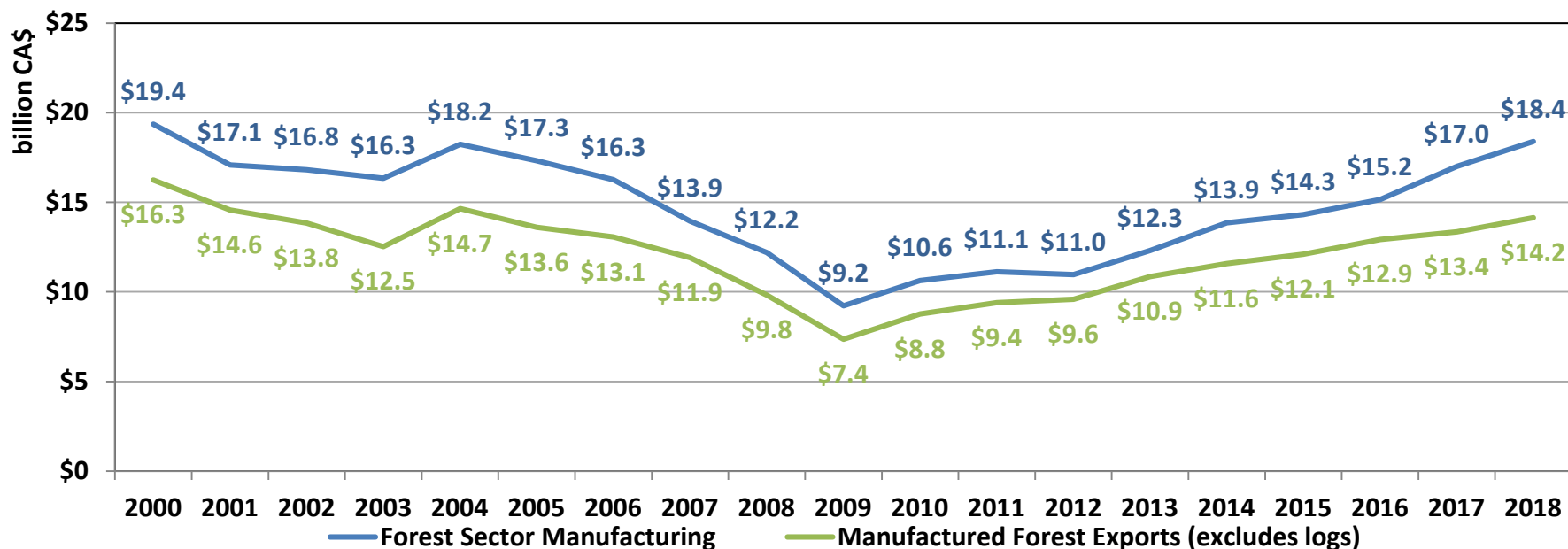
- ❖ **In sales terms, 2018 was an improvement over 2017**, with wood products (+3.3%) and paper products (+20%) both doing well.
- ❖ **B.C.'s forest sector export value increased** in 2018 (+5.2%). Export growth was primarily from pulp products (+22%).
- ❖ **Exports to the U.S.** declined slightly (-2.4%) due to a weak Q1 and Q4 compared to 2017.
- ❖ **China¹** continued as the second largest export market for B.C.'s forest sector. Exports to China increased 7.6% thanks to strong pulp exports.
- ❖ **Prices** for many products climbed to near or surpassed historic highs in the first half of 2018, but then began steep declines in the second half of the year.
- ❖ **Employment increased** by 1% (+485) in 2018 according to the System of National Accounts (SNA)².
- ❖ **In 2018** 2,117 fires consumed 1.35 million hectares of land, which surpassed the previous record of over 1.22 million hectares burned in 2017. The cost of fire suppression was estimated at \$615 million in 2018.

1. All references to China in this report include Hong Kong.

2. According to the Survey of Employment, Payrolls and Hours employment increased (+450), and the Labour Force Survey showed a decrease (-6,600). See Appendix starting on slide 52 for more information.

Note: Numbers may not add properly to totals, or always be the exact same on each slide due to rounding.

B.C. Manufactured Forest Product Sales and Forest Exports

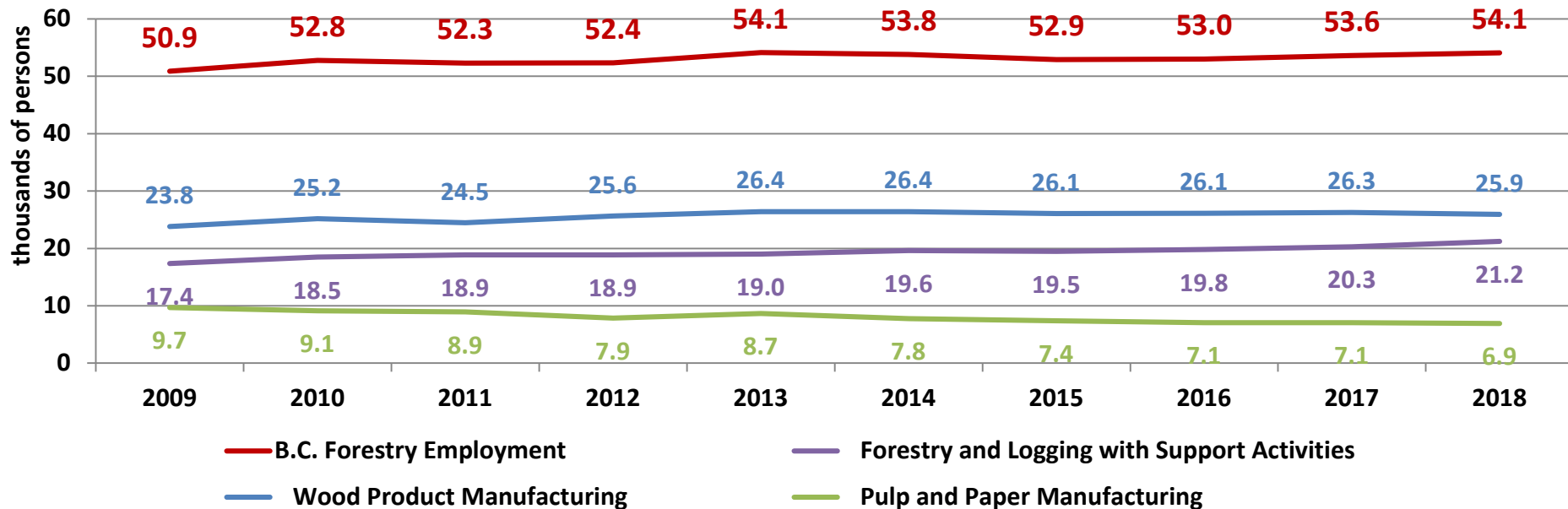


Data source: Statistics Canada; [Table 16-10-0048-01](#), and [Canadian International Merchandise Trade Database \(CIMTD\)](#) or via [BC Stats](#). Note historic data is subject to revisions.

Overview Indicator 1 – B.C. forest sector manufacturing sales in 2018 were up 8.1% from 2017 and exports, excluding logs, were up 6.0% from 2017. This made 2018 the first year since the 2009 recession to surpass sales from the height of the housing boom (2004).

The gap between manufacturing sales and exports increased again suggesting growth of the domestic market, including remanufacturing. This possibility is supported by some remanufacturing industries having higher employment from 2017 to 2018, according to the System of National Accounts.

B.C. Forest Sector Direct Employment



Data source: Statistics Canada System of National Accounts (SNA): [Table 36-10-0489-01](#).

Overview Indicator 2 – B.C. forest sector direct employment was 54,100 in 2018, up 0.9% from 2017. The increase was driven by Forestry and Logging with Support Activities (4.6%). Pulp and Paper employment was down (-1.9%) and so was Wood Products (-1.2%).

The data released in 2018 had a downward revision of forest sector employment in previous years (-3,610 in 2017). It primarily impacted Wood Product employment.

We report this series since it is part of the National Accounts and is therefore used in our analysis, but the Labour Force Survey (LFS) is often quoted in the media and used by other organizations. For further discussion of employment estimates please see slide 52 in the appendix.

Products Overview

- ❖ **Wood Products, especially Lumber:** In 2018, B.C. produced 29.2 million m³ of lumber, or 45% of Canada's total softwood lumber production. B.C. Wood Product sales were CA\$12.6 billion in 2018. Sawmill* sales were CA\$6.8 billion, or 54% of total Wood Product Manufacturing sales in B.C.
- ❖ **Pulp and Paper Products, especially Market Pulp:** B.C. Paper Manufacturing sales were CA\$5.4 billion in 2018. Pulp mills** had sales of CA\$3.6 billion, or 61% of total Paper Manufacturing sales in B.C.
- ❖ **Logs:** In 2018, 67.4 million m³ of logs were harvested. Exports of 5.1 million m³ (7.6% of harvest), mostly from coastal areas, were worth CA\$740 million.
- ❖ **Wood Products-Pellets:** B.C. exported 2.27 million tonnes of wood pellets worth CA\$408 million. The UK was the primary destination by weight (66%), followed by Japan (27%) and other countries (7%).

*Excludes shake and shingle mill sales. Sawmills are a subcategory of Wood Product Manufacturing.

**Pulp is a subcategory of the Paper Manufacturing code in the North American Industry Classification System (NAICS).

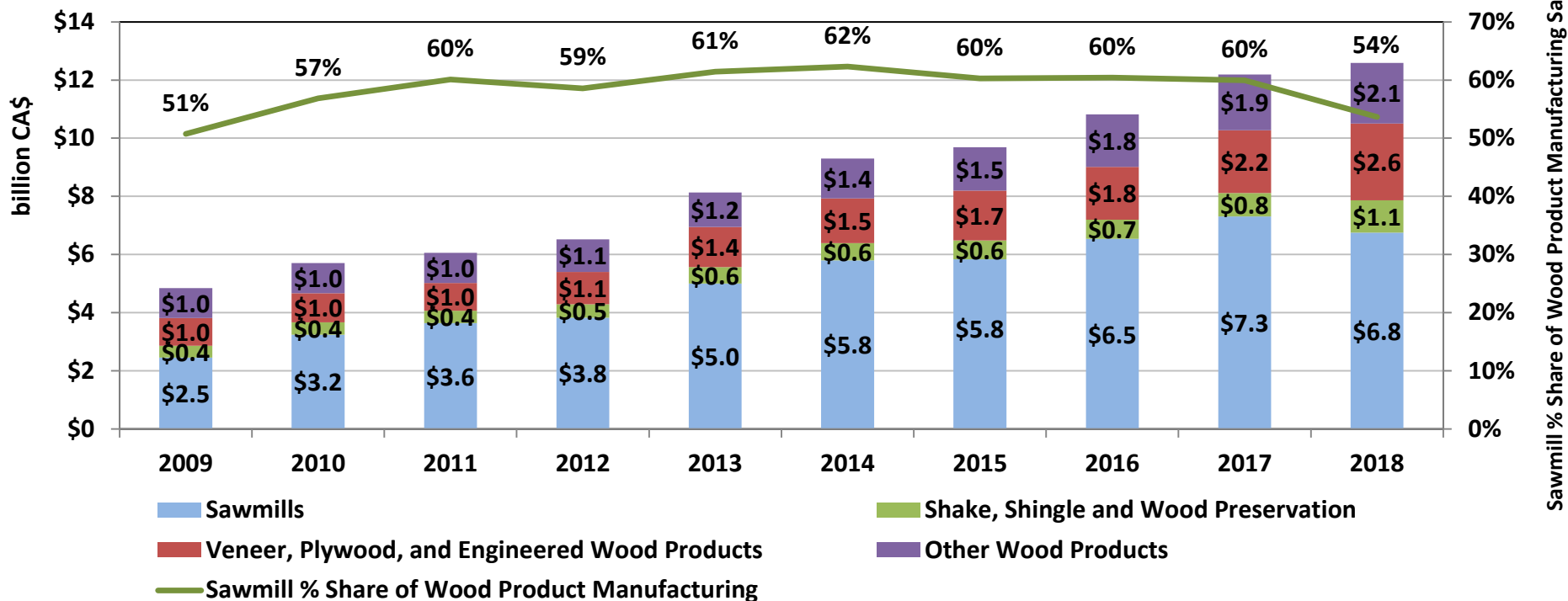
Solid Wood Products - Non-Lumber

- ❖ **The non-lumber industries** include shingles and shakes, wood preservation, veneer, plywood and engineered wood products, millwork, container and pallet manufacturing, and other activities (encompassing products from seats and bowls to tool handles and chopsticks).
- ❖ **The non-lumber sector is a major contributor**, accounting for 46% of Wood Product manufacturing sales and more than 47% of employment¹ in 2018, so by these measures it is nearly the same size as the lumber sector. Comparing export and manufacturing sales suggests the majority of non-lumber goods are consumed domestically, whereas the majority (82% in 2018) of lumber is exported.
- ❖ **Growth Industry:** In terms of manufacturing sales, the non-lumber sector has been growing steadily since the recession, including in 2018 when the lumber sector had lower sales. Expansion of Other Wood Product Manufacturing² is supported by employment growth post 2014 in the SNA data. The Survey of Employee Payrolls and Hours shows growth in both Other Wood Product Manufacturing and in Veneer, Plywood and Engineered Wood products.

1. Based on System of National Accounts ([Table 36-10-0489-01](#)). “More than 47%” is used since shingles and shakes and wood preservation are combined with Sawmilling under Sawmills and Wood Preservation.

2. Includes millwork, container and pallets, and other activities.

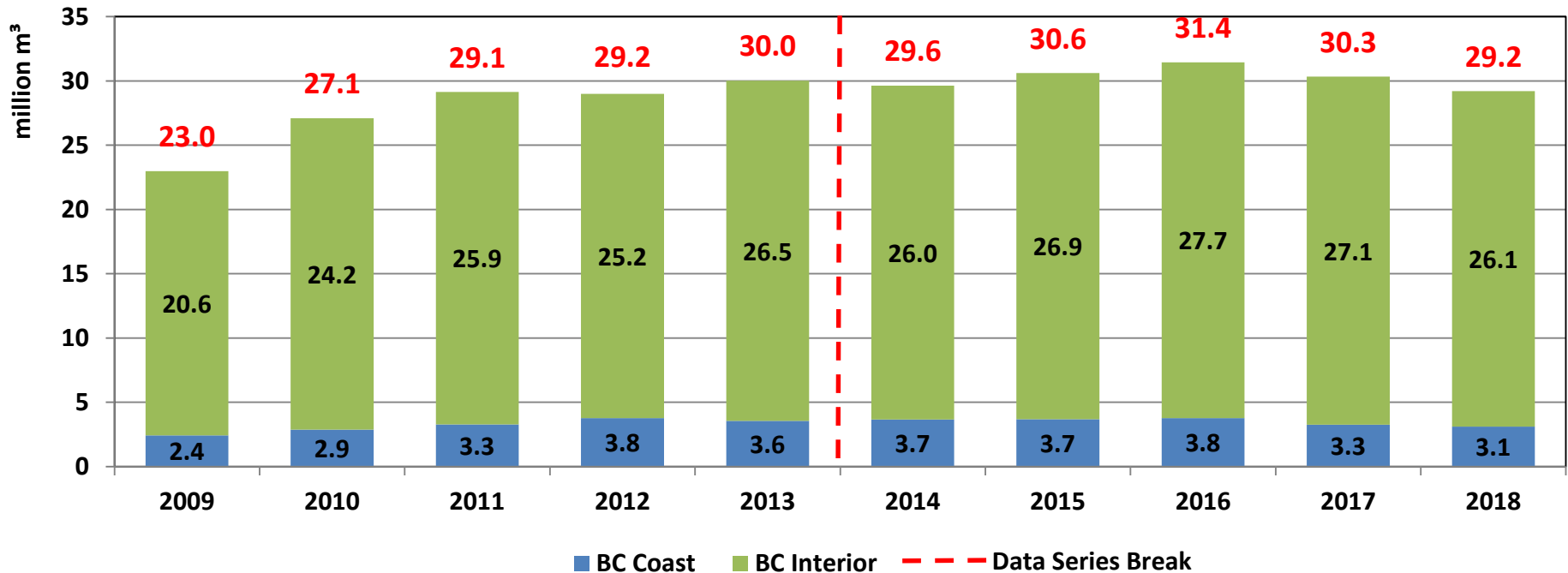
B.C. Wood Product Manufacturing Sales



Data source: Statistics Canada; [Table 16-10-0048-01](#). Sawmill sales are primarily lumber, and include chip and sawdust sales. Other wood products include wood pellets, and most other products of wood such as cabinets, bowls, tool handles, fencing, etc.

Products – Wood Products – Wood Product Manufacturing sales totaled CA\$12.6 billion in 2018. Sawmill sales accounted for 54% of Wood Product Manufacturing sales. From 2017 to 2018, Sawmill sales declined -7.5%, and the three remaining industry groupings increased a combined 20%.

B.C. Softwood Lumber Production



In all years the Interior includes production from Yukon, Northwest Territories, and Nunavut, though the volume is negligible

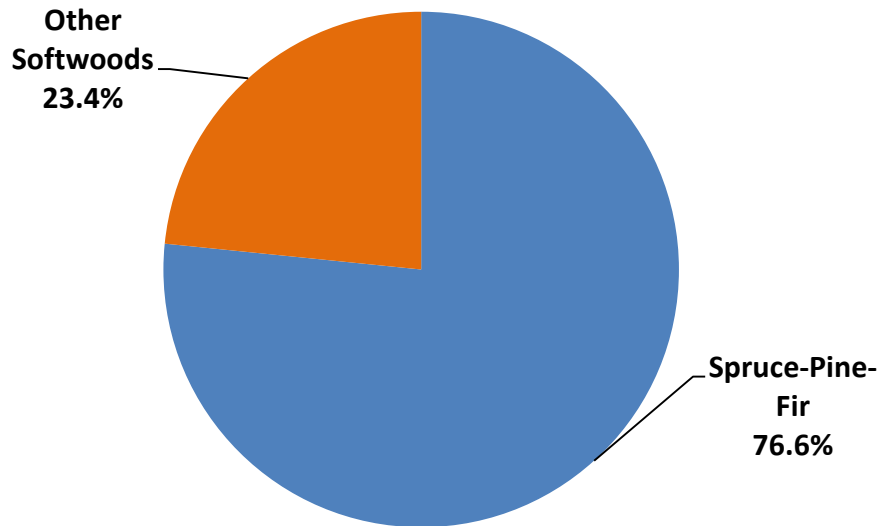
Data source: Statistics Canada; 2009-2013 from [Table 16-10-0045-01](#) and 2014 onwards from [Table 16-10-0017-01](#).

Products – Softwood Lumber – Softwood lumber production volume declined 3.7% in 2018. The Coast accounted for 11% of B.C. production. Total production has declined for two years now.

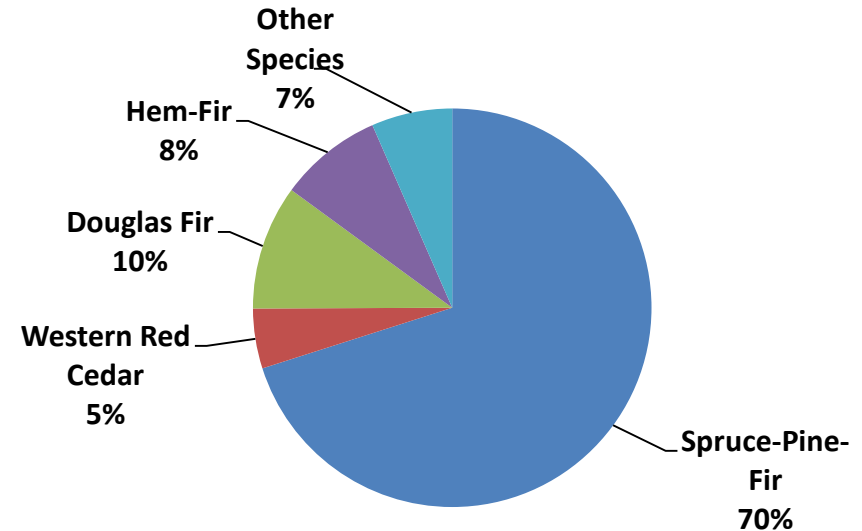
In early 2019, a new series was released for lumber production due to significant changes in the survey methodology. Production was then re-estimated for 2014 to 2018 resulting in slightly higher production. In this chart, the production for 2009 to 2013 is still from the older series.

B.C. Softwood Lumber Production and Export Volume Share by Species, 2018

B.C. Softwood Lumber Production
(29.2 million m³) Share by Species



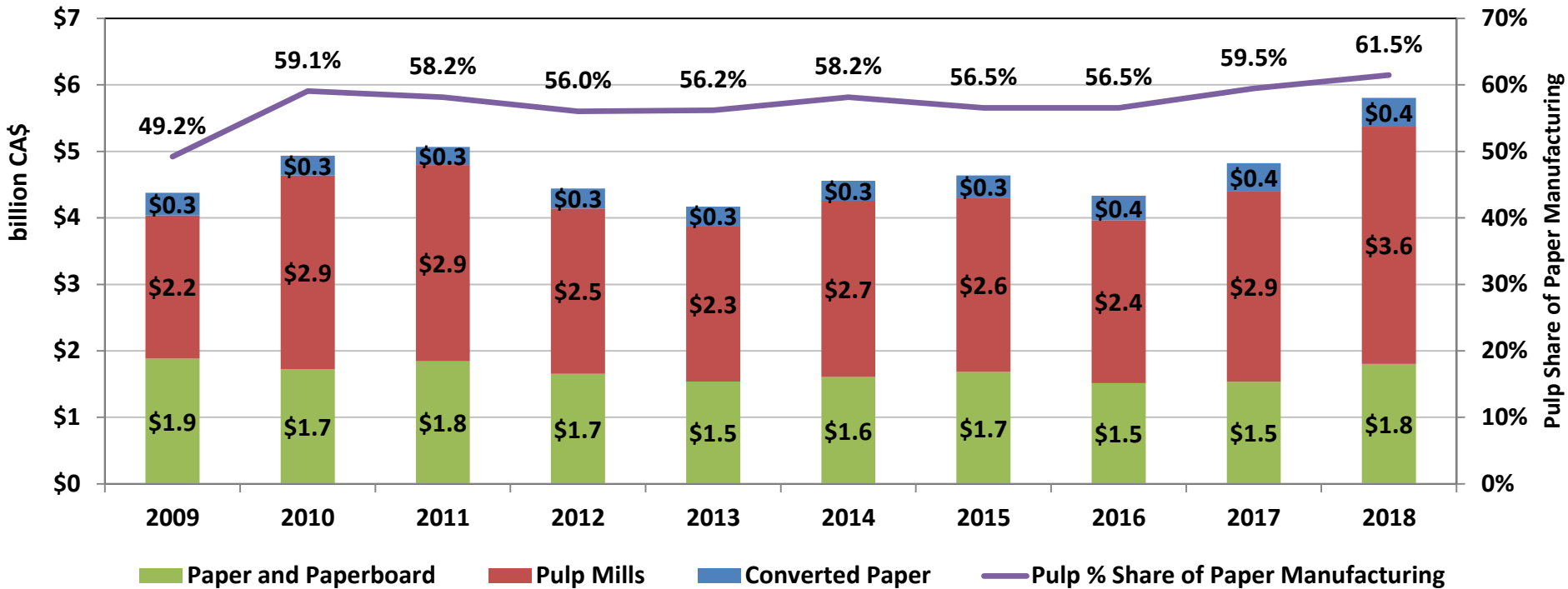
B.C. Softwood Lumber Export Volume
(24.0 million m³) Share by Species



Data source: Statistics Canada; [Table 16-10-0017-01](#) and [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Based on volume in m³. Historic data is subject to revisions.

Products – Softwood Lumber – In 2018, 76.6% of softwood lumber production volume was spruce, pine or fir (SPF), and 23.4% was from other species such as cedar, Douglas fir, and hemlock. For comparison, in terms of export volume SPF was 70% of the total, while other species made up 30%.

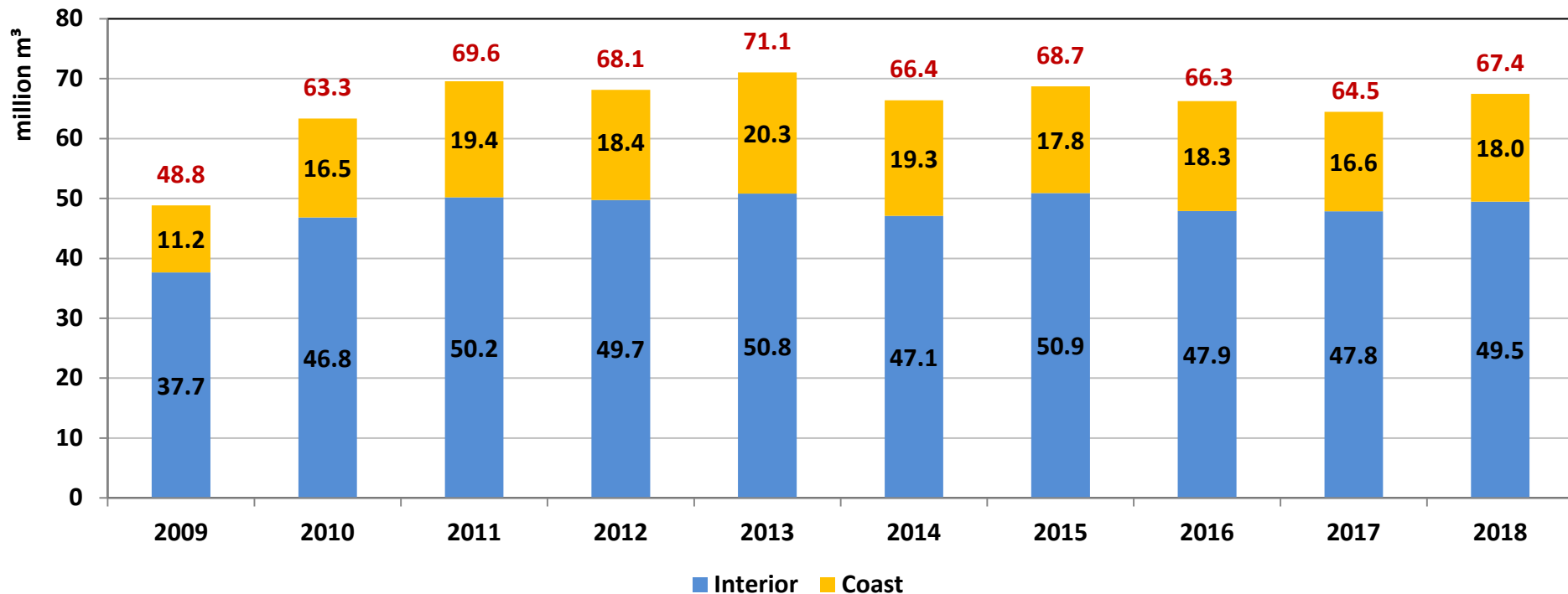
B.C. Pulp and Paper Manufacturing Sales



Data source: Statistics Canada; [Table 16-10-0048-01](#). Converted paper includes products created from purchased paper and paperboard.

Products – Pulp and Paper – Total Pulp and Paper Manufacturing sales in B.C. rose 20% in 2018 to CA\$5.8 billion. The increase is primarily due to higher pulp prices. Pulp Mill sales increased 24% from 2017 to 2018, and accounted for 61.5% of total sales. Paper and Paperboard sales were up 17%, and Converted Paper was up 3.5%.

B.C. Timber Harvest Volume

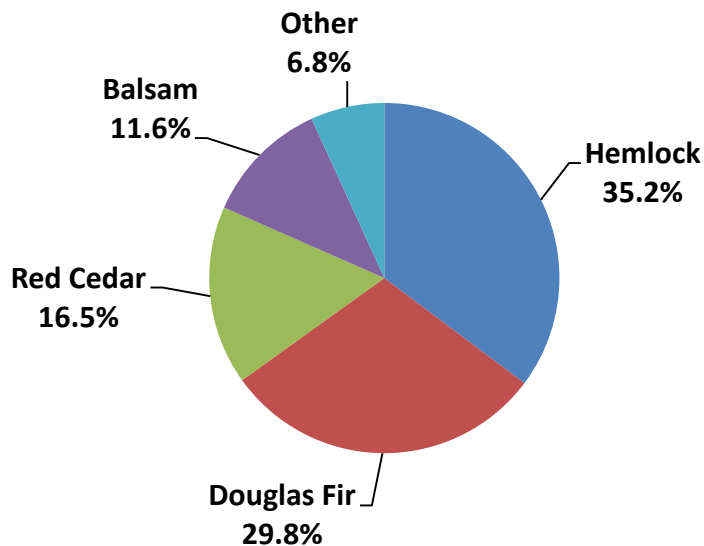


Data source: B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on May 1, 2019. Includes both Crown and private lands.

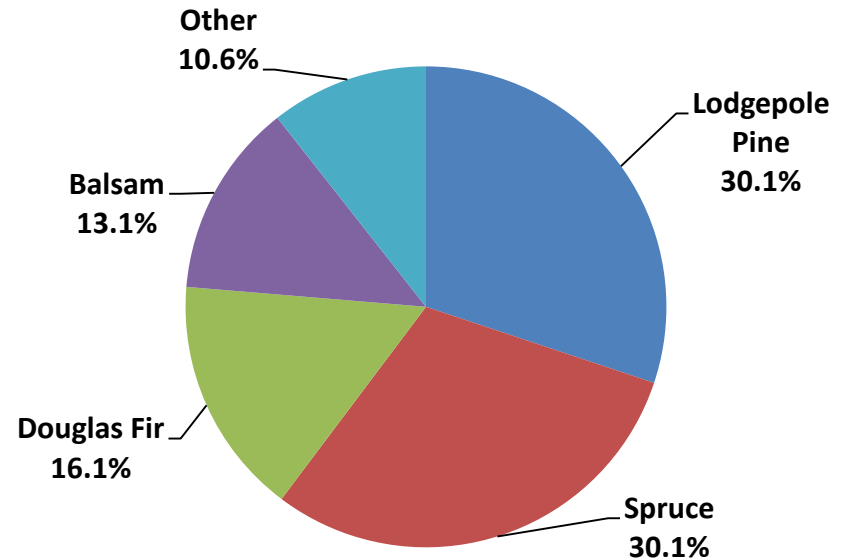
Products – Logs – Total harvest volume (67.4 million m³) was up 4.6% from 2017. The Interior accounted for 73% of the harvest, and the Coast for 27%. The last few years of interior harvest are close to 14 pre-beetle harvest uplift, and pre-housing boom levels.



Species Mix for 2018 B.C. **Coast** Harvest (18.0 mil. m³)



Species Mix for 2018 B.C. **Interior** Harvest (49.5 mil. m³)



Data source: B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on May 1, 2019. Includes both Crown and Private lands.

Products – Logs – Hemlock and Douglas fir make up roughly 2/3 of the harvest on the Coast. In the Interior the lodgepole pine continued as the dominant species by a narrow margin. 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.

Markets Overview

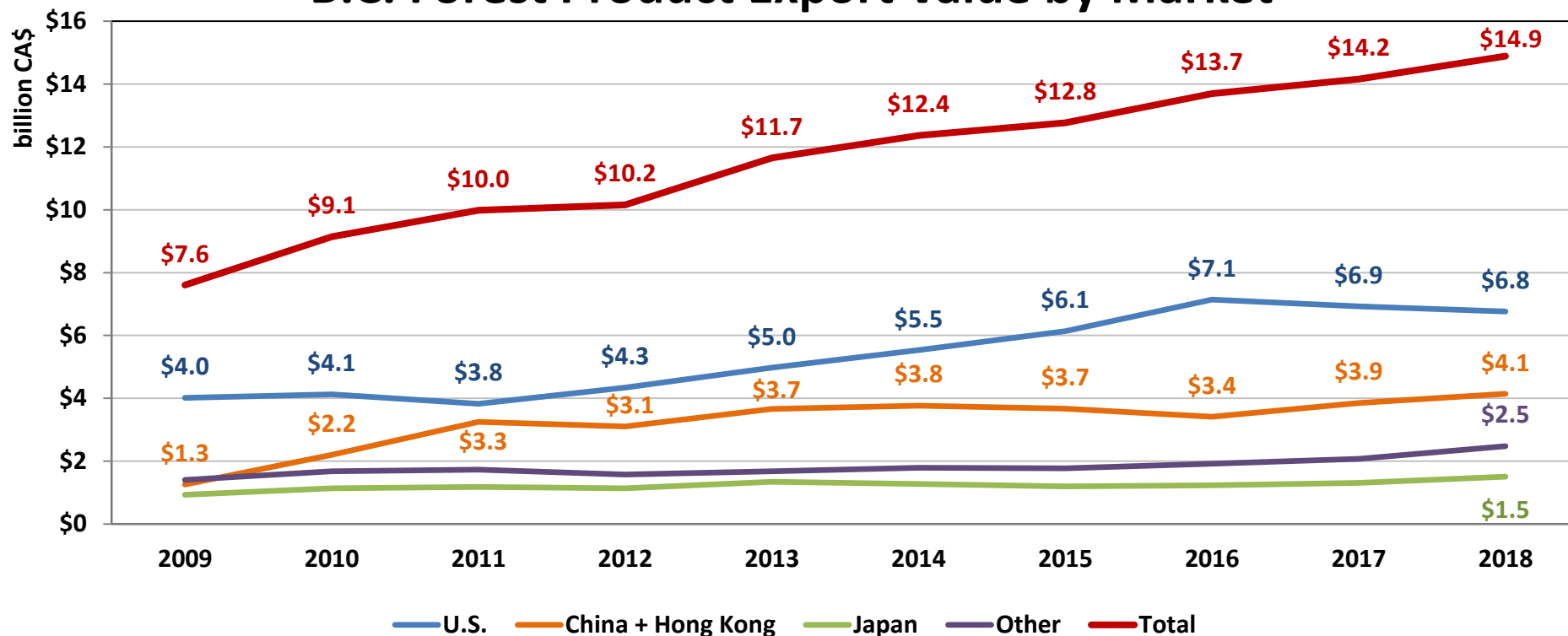
- ❖ **The U.S., China, and Japan** are the top three export markets for the B.C. forest sector.
- ❖ **The U.S. is the largest market** and has improved substantially since 2009. It still has significantly less share of B.C. forest exports compared to pre-2009. Value of exports to the U.S. declined in 2018 (-\$164 million) due to lower lumber exports. Export value of Other Wood products actually increased.
- ❖ **China has increased** substantially as a market over the last decade and is now in a strong second place. China's share was around 28% of B.C. forest product export value in 2018, increasing 13%, primarily due to higher pulp prices.
- ❖ **Japan has decreased** compared to the late 1990s, but 2018 was the highest value since 2006. In terms of value share (10%), Japan is in third. Value was up \$200 million in 2018.
- ❖ **Other export markets** made up 17% of total forest sector exports in 2018, with notable destinations being Indonesia (2.5%), South Korea (2.3%), the U.K. (2.2%), Taiwan (1.5%), 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 on slide 6.

Contribution of Forestry Exports

- ❖ **Major Export Contributor:** Forestry exports have made up 30-36% of B.C.'s commodity export value since the recession in 2009, and in 2018 was 32%. While service exports have been growing¹, commodities still make up the bulk of exports, and thus makes the forest sector an important source of foreign currency.
- ❖ **Global Market:** The United States, China, and Japan made up 83% of B.C. forest product exports value, but B.C. exported forest products to another 115 countries in 2018. Being in so many markets, even to a limited degree, can strategically place B.C. wood products to capitalize on growth in those markets.

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

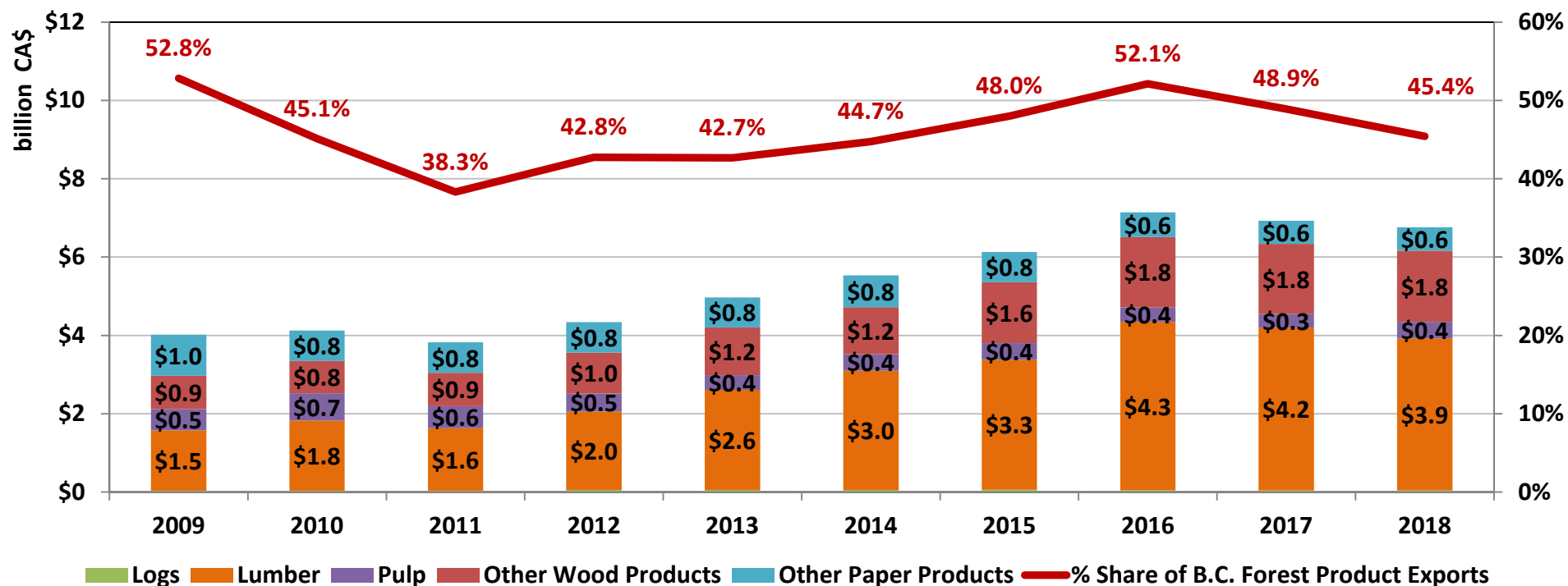
B.C. Forest Product Export Value by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions

Markets – The U.S. was the #1 export market by value, and was increasing steadily until 2017. China became the #2 market in 2009 and has been a key driver of the forest sector’s recovery since then. Japan was #2 for many years, until 2009, and is now #3.

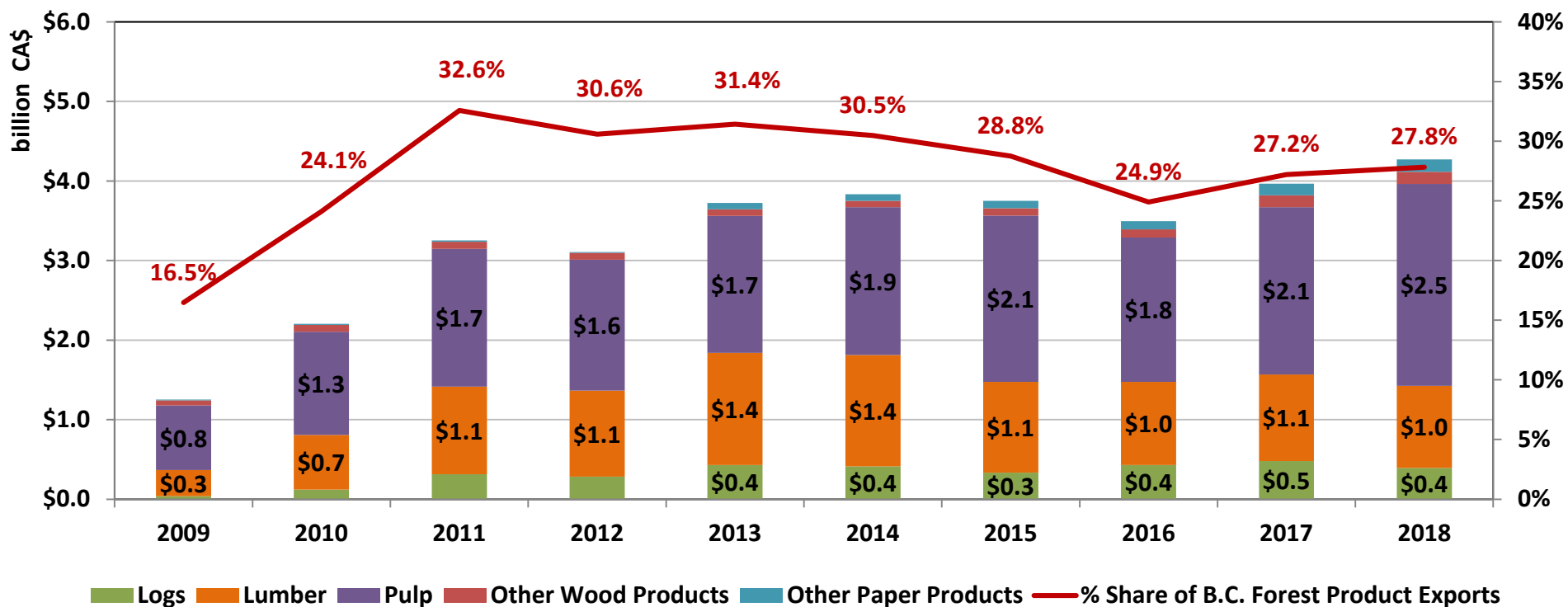
B.C. Forest Product Export Value to the United States



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – U.S. – The U.S. was B.C.’s largest market for forest products in 2018, with exports totalling CA\$6.8 billion. Lumber continues to account for the largest share of export value to the US. Other Wood Products (notably OSB, Veneer and Plywood (Douglas fir), Fabricated Structural Members, Shakes, and Shingles) accounted for CA\$1.8 billion of B.C.’s exports to the U.S.

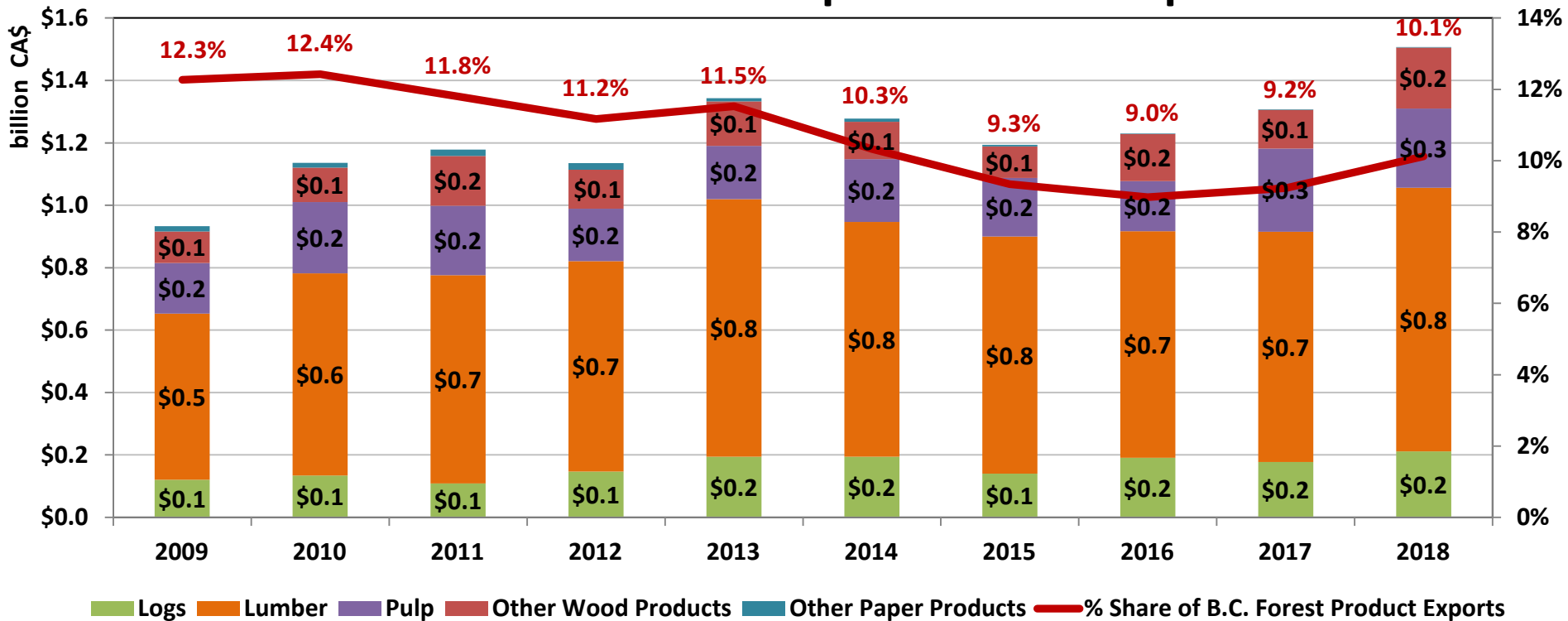
B.C. Forest Product Export Value to China



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – China – B.C. forest product exports to China as a share of total B.C. forest exports increased to 28% of B.C.’s forest exports. The value in 2018 was CA\$4.1 billion, an increase of 8% from 2017. Pulp is the dominant product exported to China (61%). Exports were dominated by lower value logs and lumber, and pulp, with little value from other wood and paper products.

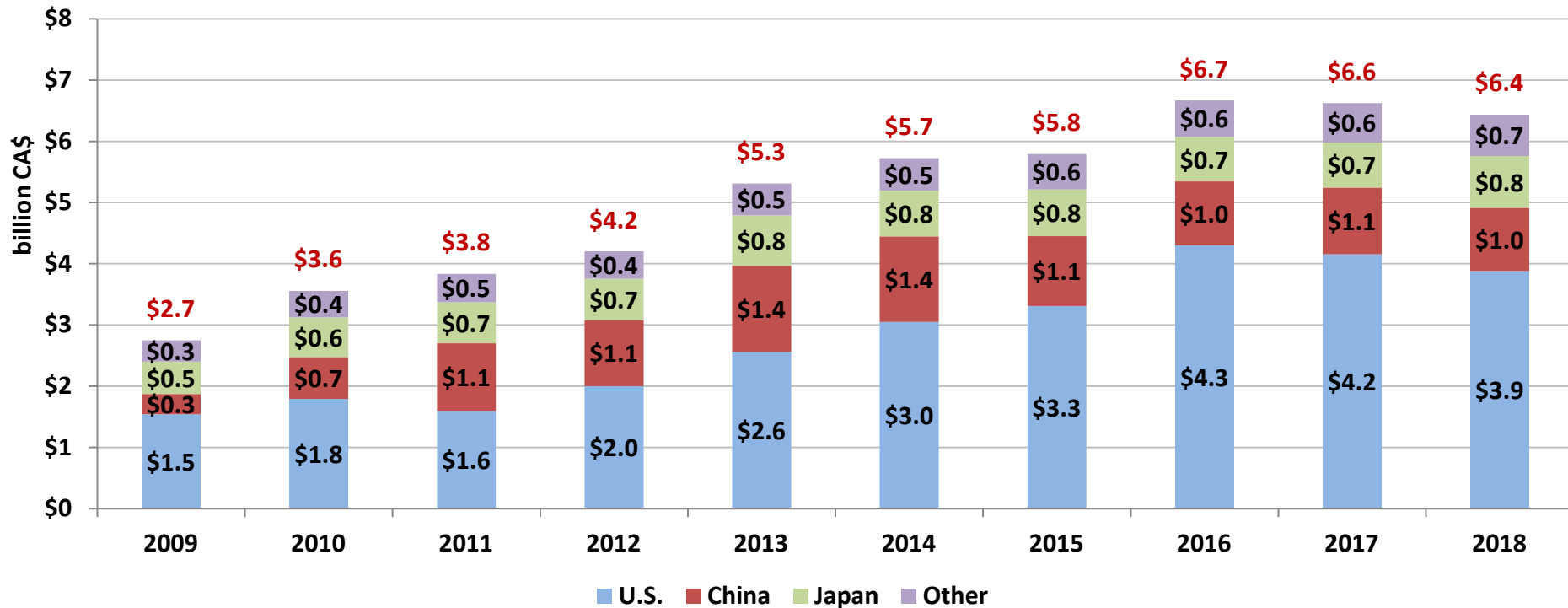
B.C. Forest Product Export Value to Japan



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – 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. Exports were valued at CA\$1.5 billion in 2018, an increase of 15% from 2017. Lumber had the highest share of value with 56% in 2018.

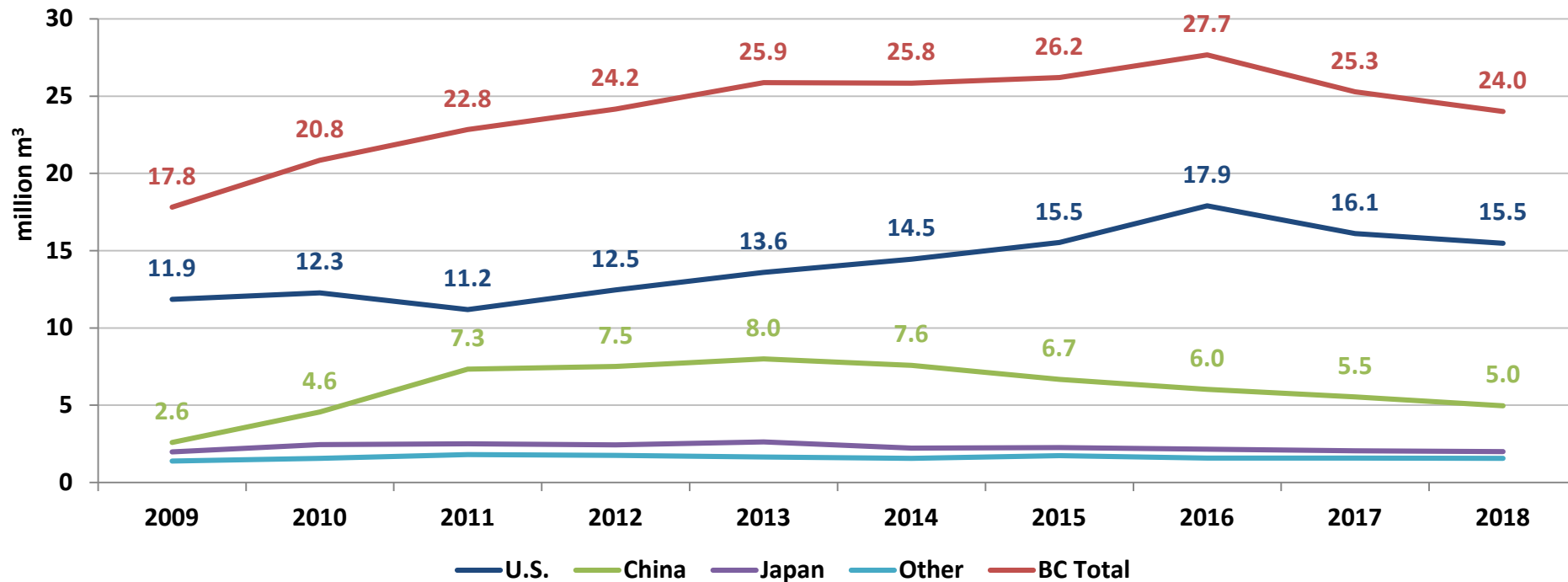
B.C. Softwood Lumber Export Value by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – Softwood Lumber – Prior to the U.S. housing crash B.C.’s lumber export market was heavily reliant on the U.S. Now other destinations, primarily China, have reduced the share of the U.S., though the U.S. still makes up the majority of B.C.’s lumber export value.

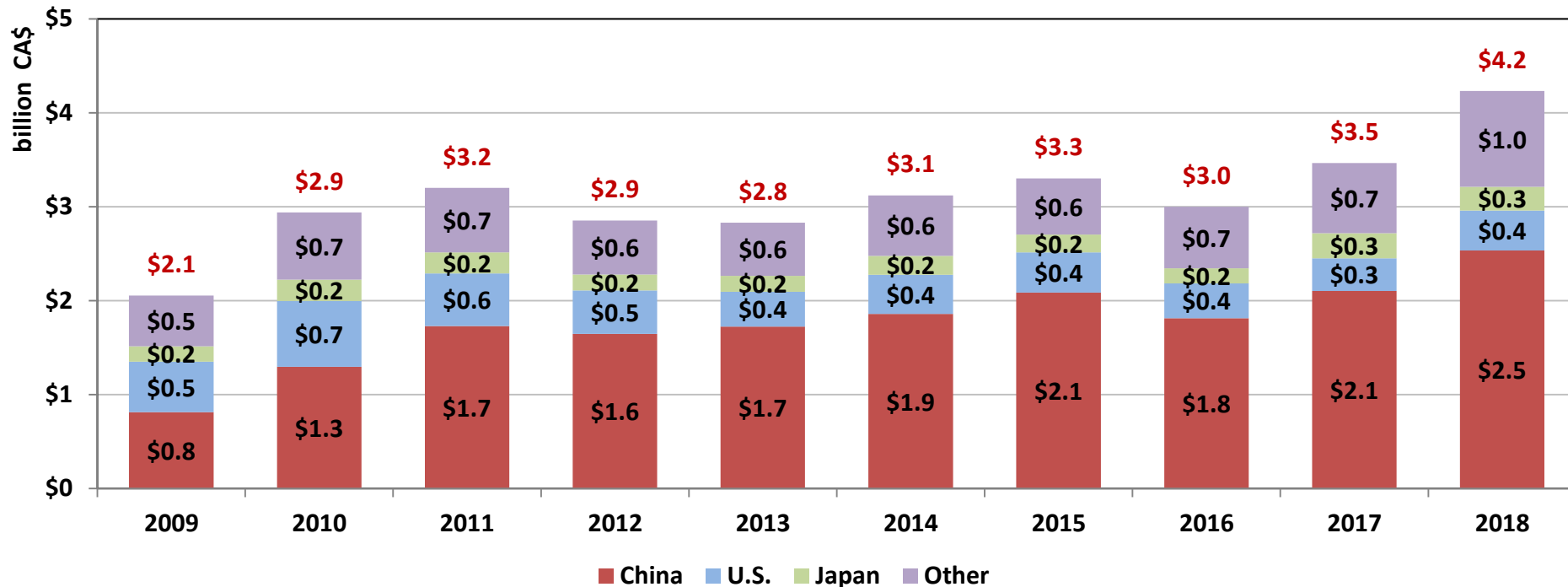
B.C. Softwood Lumber Export Volume by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – Softwood Lumber – Prior to the U.S. housing crash, B.C.’s lumber export market was heavily reliant on the U.S. Now other destinations, primarily China, have reduced the share of the U.S., though the volumes to China have been declining after 2013.

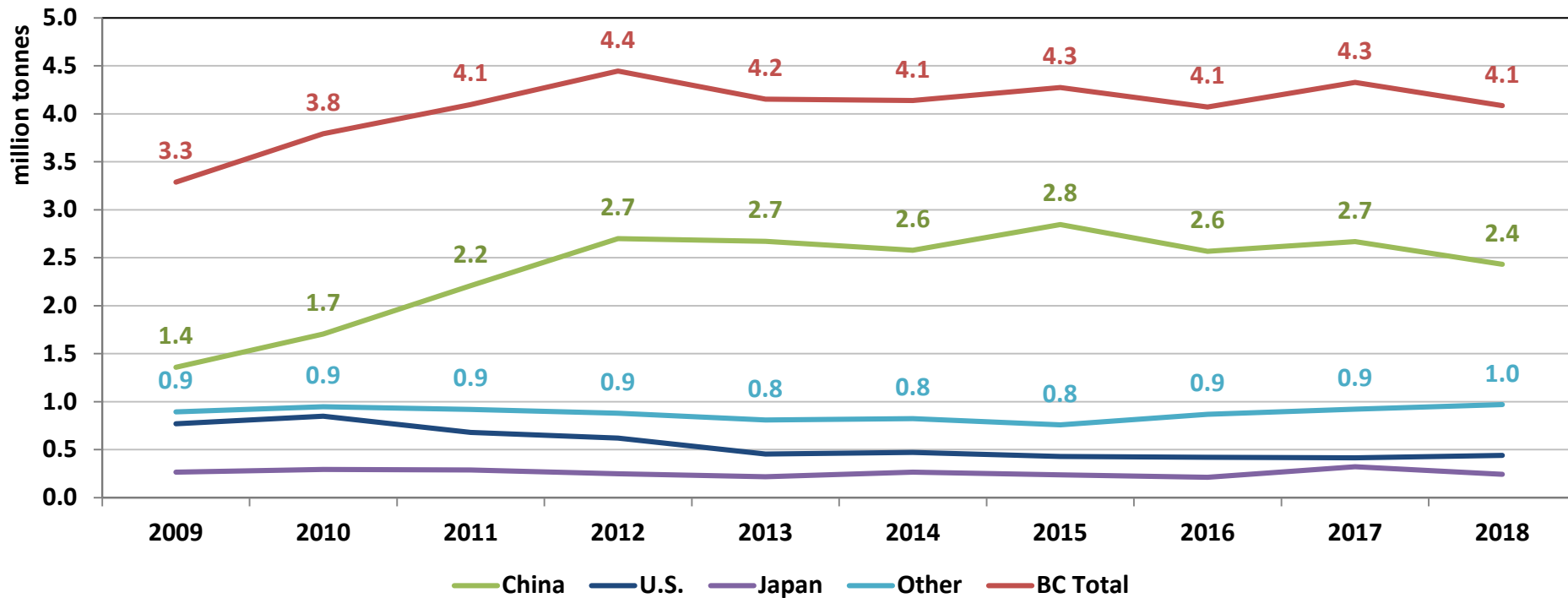
B.C. Pulp Export Value by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – Pulp – China had a dominant 60% share of B.C. pulp export value in 2018, followed by the U.S. (10%), Japan (6%), and other destinations (24%).

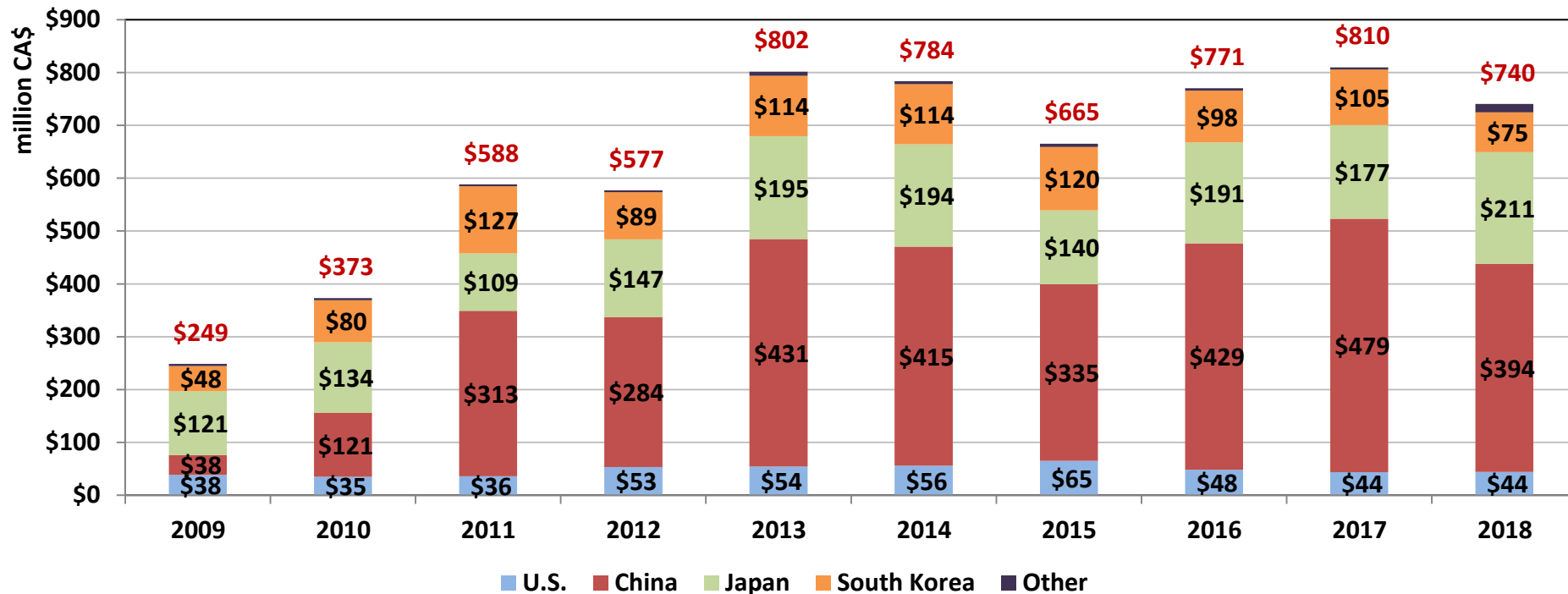
B.C. Pulp Export Tonnage by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – Pulp – China had a dominant share of B.C. pulp export tonnage in 2018. Over the past decade exports to China have more than doubled.

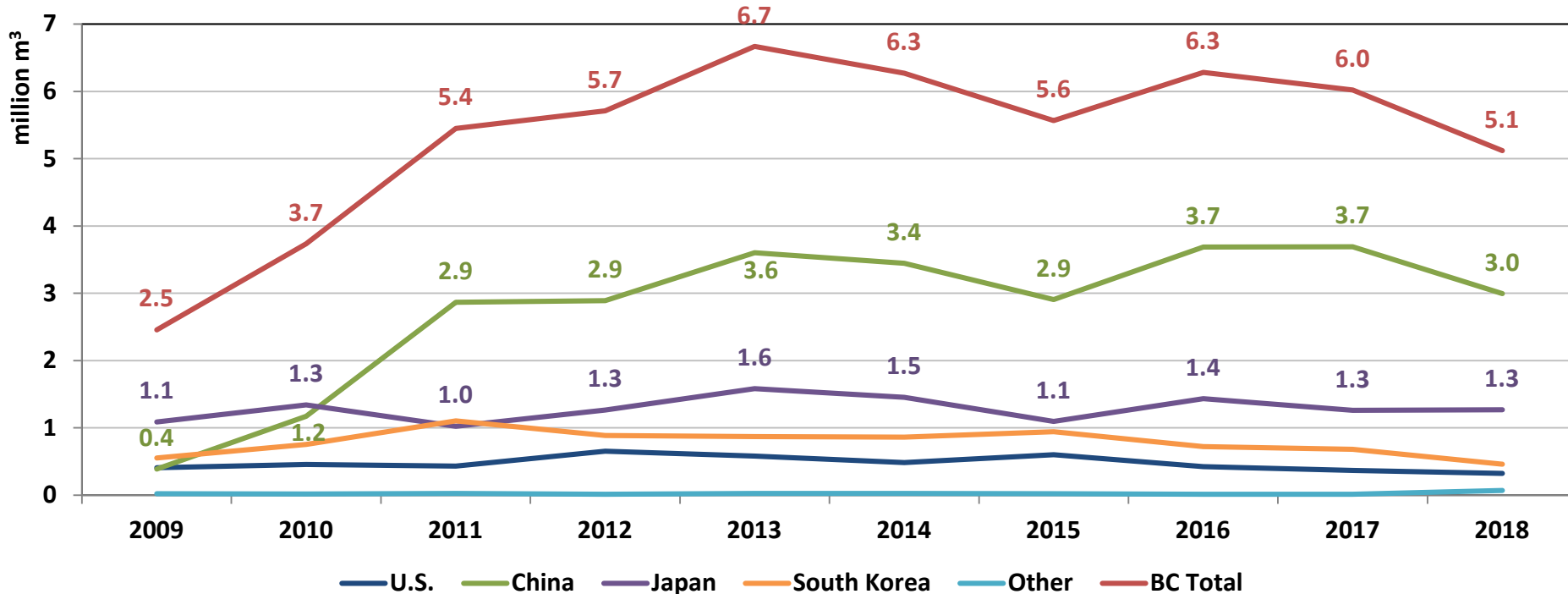
B.C. Log Export Value by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – Logs – The value of log exports decreased by 8.6% in 2018. China (53%) remained the largest destination. South Korea (10%) and the U.S. (6%) decreased. Japan (29% share) increased in 2018. We slightly altered the commodities included as log exports, which resulted in a small decrease in past export value, mostly to China.

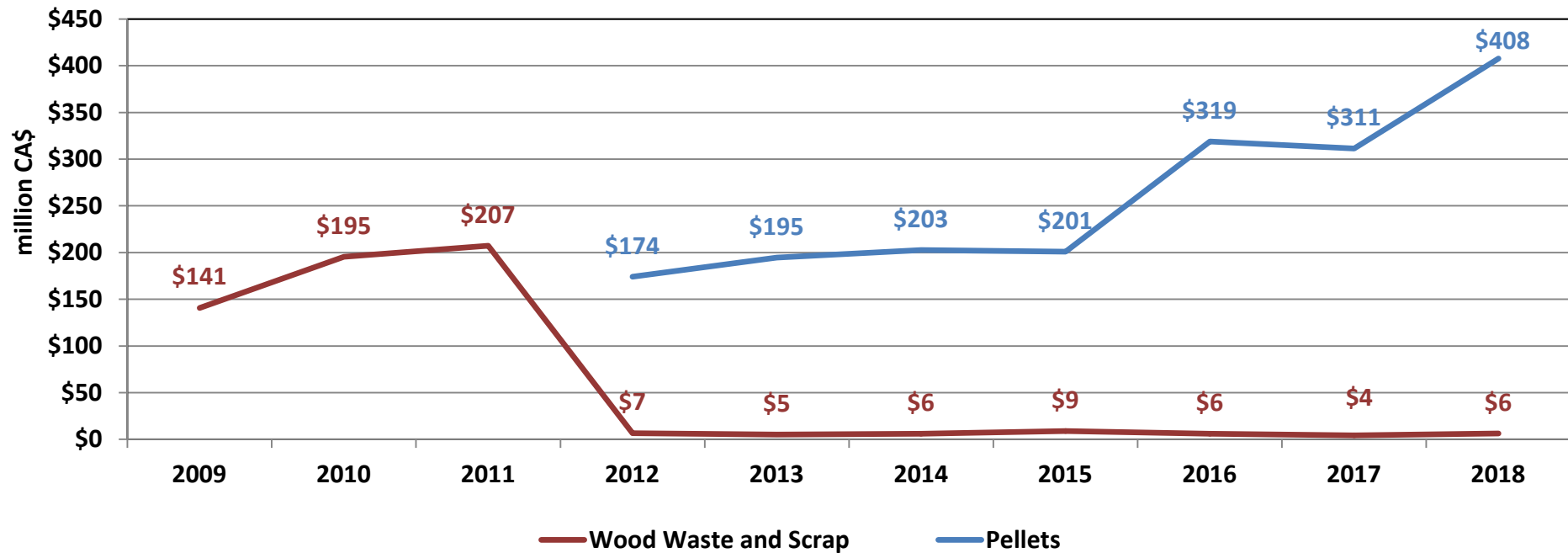
B.C. Log Export Volume by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – Logs – The volume of log exports decreased in 2018. Volume to China (59% share) and South Korea (9%) declined. The U.S. (6%) and Japan (25%) were relatively unchanged.

B.C. Export Value of Pellets and Wood Waste and Scrap



*Pellets were included in Wood Waste and Scrap until 2012. Now pellets are separate.

Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

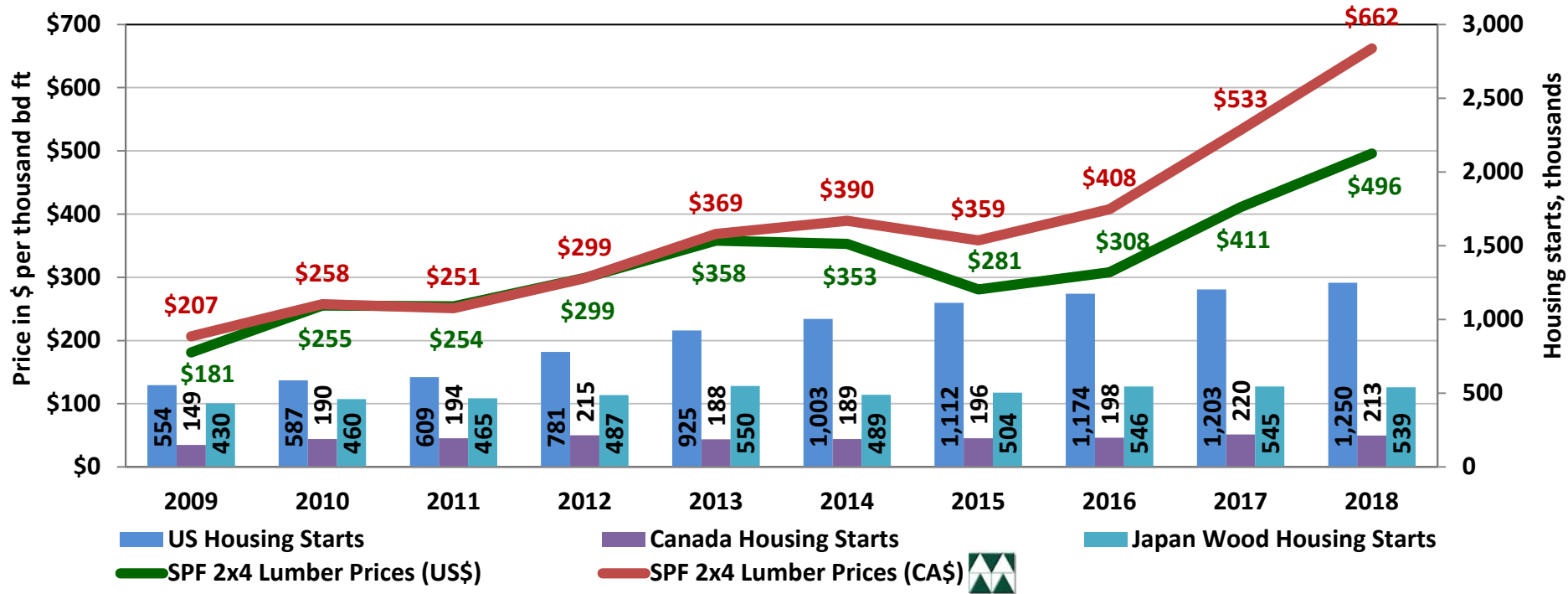
Products – Exports – Pellets – Exports of Wood Waste and Scrap grew rapidly up to 2011, almost entirely due to growth in Pellet exports. Pellet export value grew another nearly \$100 million from 2017 to 2018, due primarily to an increase in export tonnage (1.8 million tonnes to 2.3 million). Roughly two thirds goes to the U.K., 27% to Japan, and most the remainder to Belgium.

The first year pellets were given their own product category in the export data was 2012.

Overview of Sector Indicators

- ❖ **Prices:** 2018 was a mixed year for forest products. The first half of the year had skyrocketing prices for lumber, wood panels, and pulp; pulp and lumber reached historic highs. The second half of the year had plummeting lumber and panel prices, and by the end of December average monthly W-SPF #2&Btr price had declined -47%, OSB -48%, and plywood -28%. These prices were well below where they started in 2018, and prices continued to decline until June 2019. Pulp prices also declined in 2019.
- ❖ **U.S. Housing Market:** U.S. housing starts were 1.25 million in 2018, the 8th year of gains since the 0.55 million low in 2009. The share of multi-family starts is high (30%), which reduces wood consumption compared to similar levels of starts in the past.
- ❖ **Forest Sector Investment** has been fairly strong since 2013 (above CA\$500 million), and preliminary data for 2018 is at CA\$858 million.
- ❖ **Government Revenues:** Direct forestry revenues to government increased 32% in fiscal year 2018/19 (\$1,406 million) compared to 2017/18 (\$1,065 million). This was the highest level since the 1990's and reflects the strong market conditions experience in the first half of 2018.

Average SPF 2x4 Lumber Prices and Housing Starts

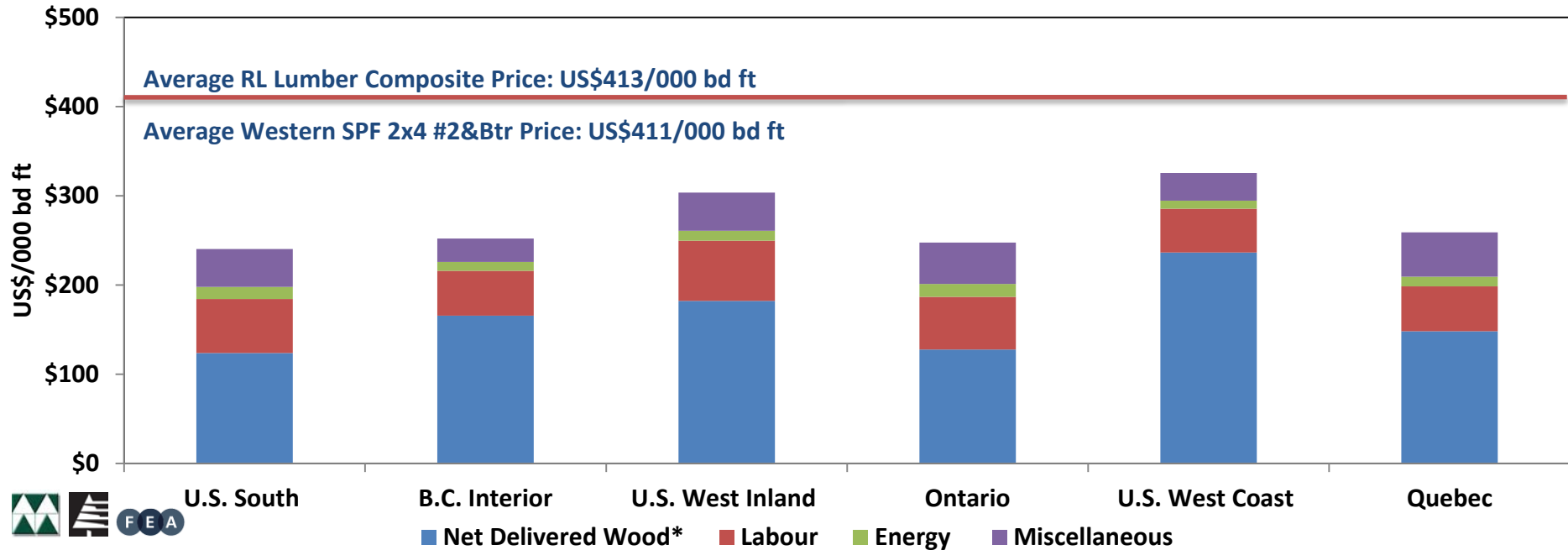


Data sources: [Madison's Lumber Reporter](#) (SPF), [U.S. Census Bureau](#), [YCharts](#) and [Statistics Canada](#).

Prices and Costs – North American housing markets improved in 2018, but housing starts were still low compared to the early/mid 2000's. Average SPF 2x4 lumber prices rose significantly in 2018, peaking in July and then declining steadily the second half of the year. The W-SPF #2&Btr price started 2018 at US\$470/mbf, peaked at US\$658/mbf in June, and ended the year at US\$328/mbf.



Softwood Lumber Mills' Variable Costs (2017)

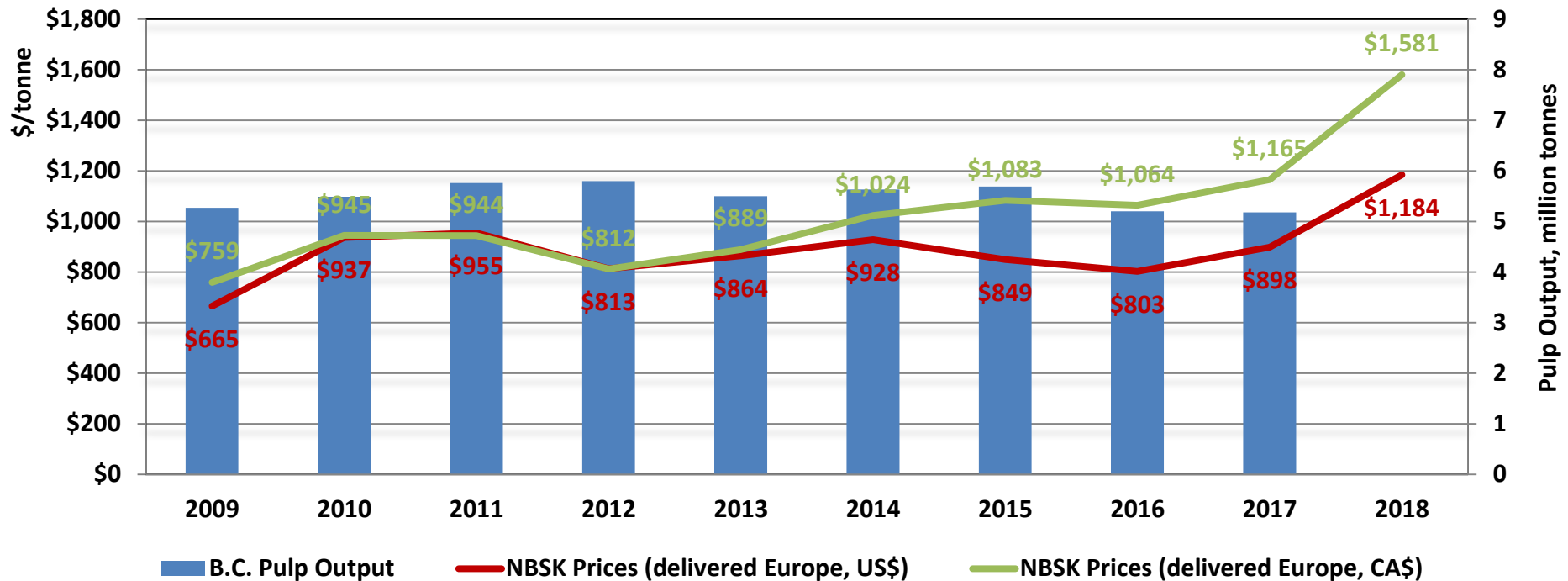


* = Delivered Wood - Residual Income

Data source: Costs are from [Forest Economic Advisors \(FEA\)](#), composite from [Random Lengths](#), and SPF 2x4 from [Madison's Lumber Reporter](#).

Prices and Costs – In 2017, B.C. Interior softwood lumber mills had variable costs slightly above the U.S. South. The U.S. South was the lowest cost producer.

Market Pulp Prices and Pulp Output



Data source: Prices from [Equity Research Associates \(ERA\)](#). Pulp output from [Major Primary Timber Processing Facilities](#) report.

Prices and Costs – Pulp prices increased in 2018. Pulp output was unchanged. The latest production data available from the B.C. Mill Report is for 2017. Prices have been declining in 2019.



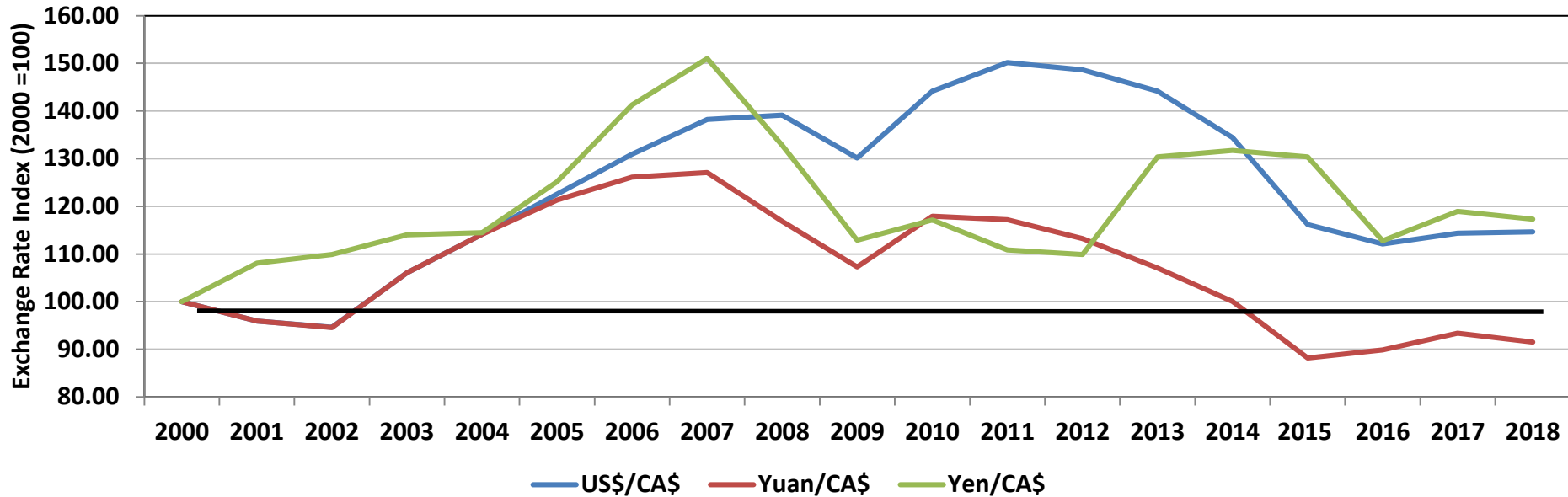
2000 Exchange Rates

0.67 US\$/CA\$
5.58 Yuan/CA\$
72.62 Yen/CA\$

2018 Exchange Rates

0.77 US\$/CA\$
5.10 Yuan/CA\$
85.18 Yen/CA\$

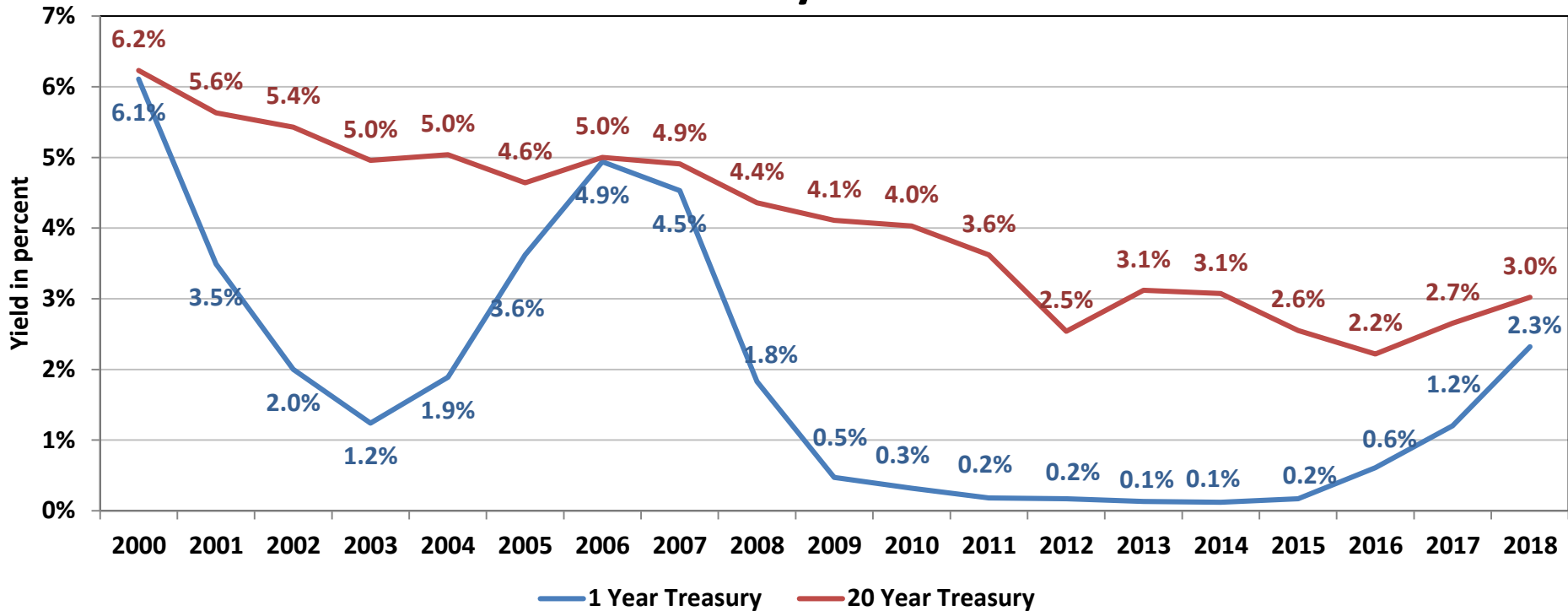
Indexed Foreign Exchange Rates Relative to CA\$



Data source: 2000-2006, [OANDA](#). 2007-2018, [Bank of Canada](#).

Prices and Costs – This shows the percent change in CA\$ exchange rates compared to 2000. Increases indicate appreciation of the CA\$ and make Canadian exports less competitive. By the end of 2018 the CA\$ appreciated against the US\$, and depreciated against the Yen and Yuan.

U.S. Treasury Bill Yields

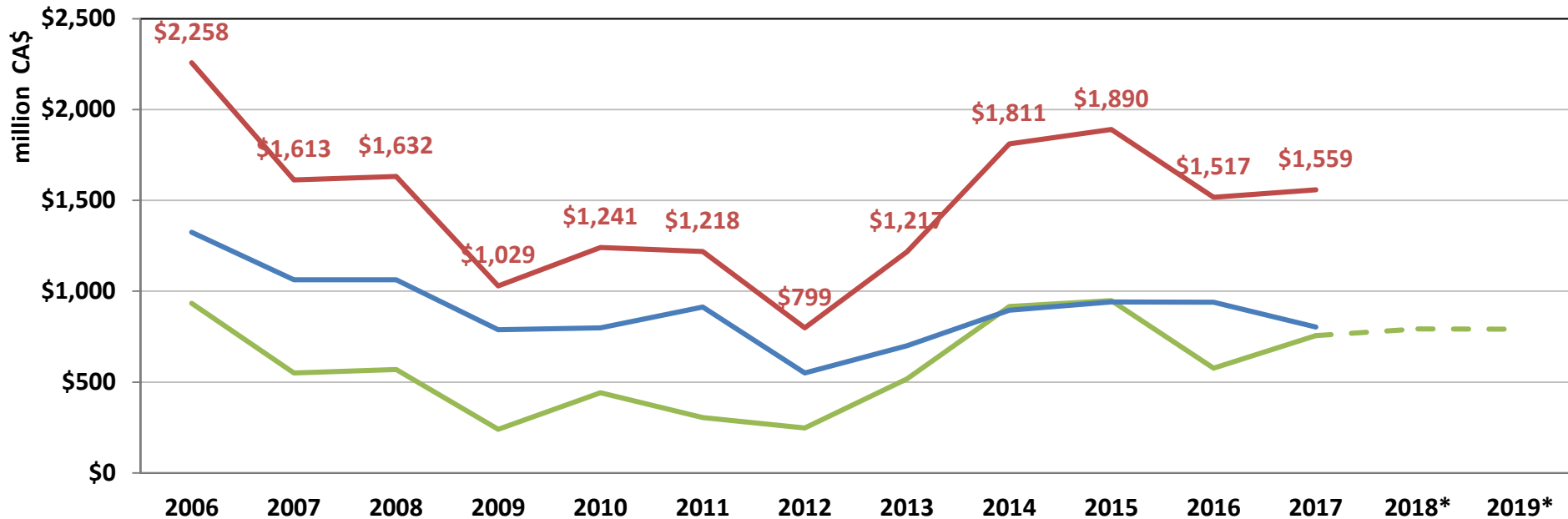


Data source: [U.S. Department of the Treasury](#).

Prices and Costs – The cost of short-term and long-term borrowing increased again in 2018. The spread between the one year and 20 year treasury bills was only 0.7 percentage points.



B.C. Forest Sector Capital and Repair Expenditures



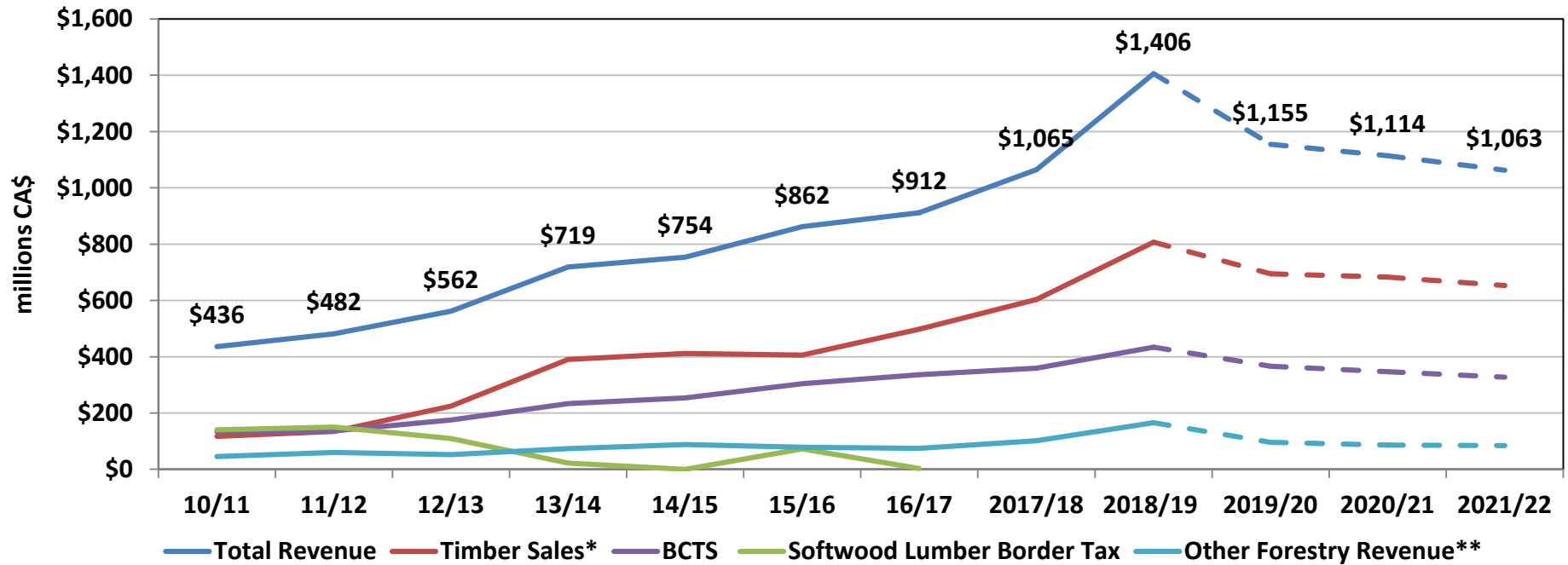
Data quality grade is often "Use with caution".
*Preliminary and intentions, subject to change.

— Capital Expenditure — Repair Expenditure — Total Forestry Expenditure

Data source: Statistics Canada; [Table 34-10-0035-01](#).

Investment – B.C. forest sector investment (CA\$1,559 million) increased at least \$42 million in 2017. Expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2016 is the latest year for repair expenditure, and 2017 excludes repair expenditure in forestry and logging (suppressed due to data quality), so the total should be higher.

B.C. Government Forest Sector Revenue, by Fiscal Year

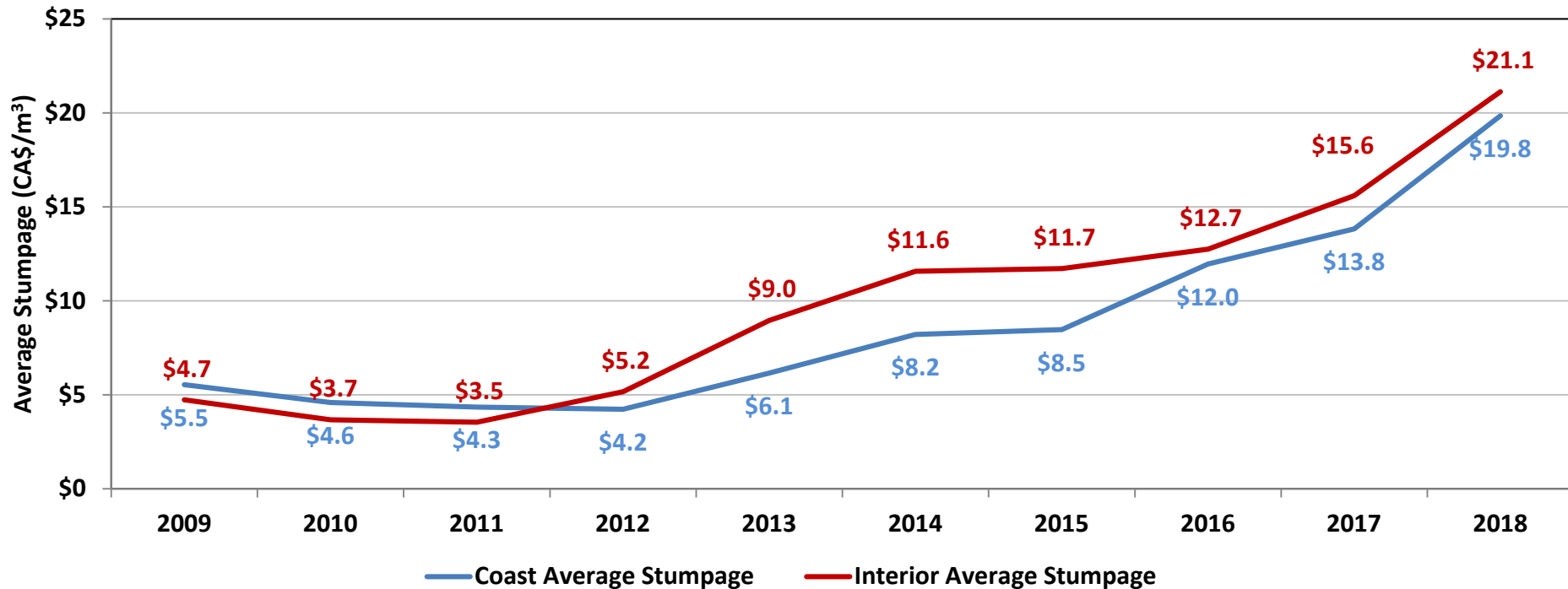


*Timber Sales excludes BCTS sales. **Includes Other CRF Revenue, Forest Recoveries, and Logging Tax. Dashed lines denote forecasts.

Data source: B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. 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 121. Forecasts are from the 2019/20 to 2021/22 Budget and Fiscal Plan dated February 19, 2019.

Government Revenues – The current version of the Budget and Fiscal plan shows forest revenue of CA\$1,406 million in 2018/19. Revenue is forecast to decline over the next few years until it’s similar to 2017/18. The softwood lumber border tax ended in 2016/17.

Average Stumpage Rates (CA\$/m³)



Data source: [FLNR HBS](#). Data run on May 1, 2019. Includes BCTS. Excludes waste and reject.

Government Revenues – In 2018, Interior average stumpage increased CA\$5.5/m³ (36%) and Coast average stumpage increased CA\$6.0/m³ (44%).

Conclusions

- ❖ 2018 looked like a great year as both manufacturing sales and exports increased, but this was due almost entirely to high pulp prices. Pulp was the only clear winner in 2018, though several products in the Other Wood category improved as well.
- ❖ Looking more closely at the lumber sector, the average lumber price was well above the 2017 price, yet sawmill sales, exports, and lumber production all declined in 2018. The decline in sales was likely due to horrendous transportation during the winter (the same time as the price run-up), followed by the price crash starting in late June.
- ❖ Chinese demand for logs, lumber, and especially pulp continued to be a key market for the B.C. forest sector. Pulp export value increased 22% while tonnage declined -6%.
- ❖ Other Wood Product manufacturing sales have been expanding the last several years, driven by veneer, panels and engineered wood products, millwork (doors, windows, etc.), shakes and shingles, and pallets. Non-lumber products accounted for 46% of Wood Product sales in 2018. These products help diversify the Forest Sector, but the Sector is still dominated by lumber and pulp.
- ❖ Compared to pre-recession, B.C.'s forest sector has better diversity in export destinations. China has a major share, and the U.S. and Japan continue as major markets. The B.C. forest sector is trying to further this diversification by promoting sales to India, and expanding into 38 new products such as engineered lumber and wood pellets.

The British Columbia flag, featuring a red cross on a white field with blue and red stripes, and a gold crown at the top, set against a background of a sunset over a body of water with mountains in the distance.

Outlook

- ❖ The B.C. Government announced the [Coast Forest Sector Revitalization](#) in January 2019. Its aim is to “create and support good jobs on the coast, increase the processing of B.C. logs within the province, and reduce residual waste fibre left in the woods by redirecting it to B.C.’s pulp and paper mills.” A similar review is underway for the [Interior](#).
- ❖ Housing forecasts still show growth, and housing repairs and remodels is a growing source of demand for wood products.
- ❖ Foreign demand for wood pellets has jumped dramatically again. B.C. export tonnage increased roughly 27%. The U.K. is the number one destination, and Japan is also taking large quantities.
- ❖ Declining B.C. timber supply now appears at the point where poor commodity markets can still have high log costs due to log scarcity, and this is contributing to both temporary and permanent shift reductions and mill closures, especially in 2019.
- ❖ U.S. trade policy is adding to uncertainty. Continued tariffs on Canadian lumber products is the clearest example, but the escalating U.S. trade war with China is also a factor. The trade war makes Canadian products more attractive, but also seems to be disrupting the U.S. and China markets in negative ways (higher supply in the U.S., lower demand in China).

Outlook - Continued

- ❖ Weather events have impacted the sector dramatically, and may continue to do so.
 - ❖ 2018 May to 2019 April was the wettest 12 month period on record in the U.S., hampering building in many key housing markets.
 - ❖ Late in 2017 a storm blew down a tremendous volume of trees across Central Europe which was followed by a beetle infestation. This volume is now causing a glut of available wood, appearing to support higher European lumber exports to the U.S.
 - ❖ Wildfires in B.C. were unprecedented in 2017 and 2018. It is possible this will be a recurring problem in future summers.
- ❖ Research, development, and innovation continue to progress for innovative wood products, including advanced biomaterials and engineered wood products. Innovations and investments in high-value bioproducts, technologies, and markets will make the forest sector more competitive.
 - ❖ Buildings using mass timber can now be up to 7-12 storeys.
 - ❖ There are two mass timber manufacturing facilities in B.C.

Outlook - Continued

- ❖ Research, development, and innovation - continued
 - ❖ The Ministry has completed a proof of concept all-timber bridge using fibre reinforced Glulam on the McGillivray FSR leading to Sun Peaks. The Engineering Branch continues to focus on the development of technologies and methods for all-timber and hybrid bridges, which present significant opportunity's for wood products in provincial infrastructure.
 - ❖ The “Growing the forest bioeconomy: biomaterials for high-tech applications” [symposium](#) co-located with the 2019 BC Tech Summit in March brought experts and collaborators from across Canada and northern Europe to Vancouver.
 - ❖ Biomaterials (lignin and cellulose based products) are being created for applications in areas such as thermoplastics, cement and concrete, advanced packaging, and 3D printing filaments. These high-value biomaterials have the potential to effectively utilize post-harvest residual fibres that are uncompetitive for other high-volume applications.

Appendix

❖ Overview

- ❖ Manufacturing sales, exports, GDP, Employment

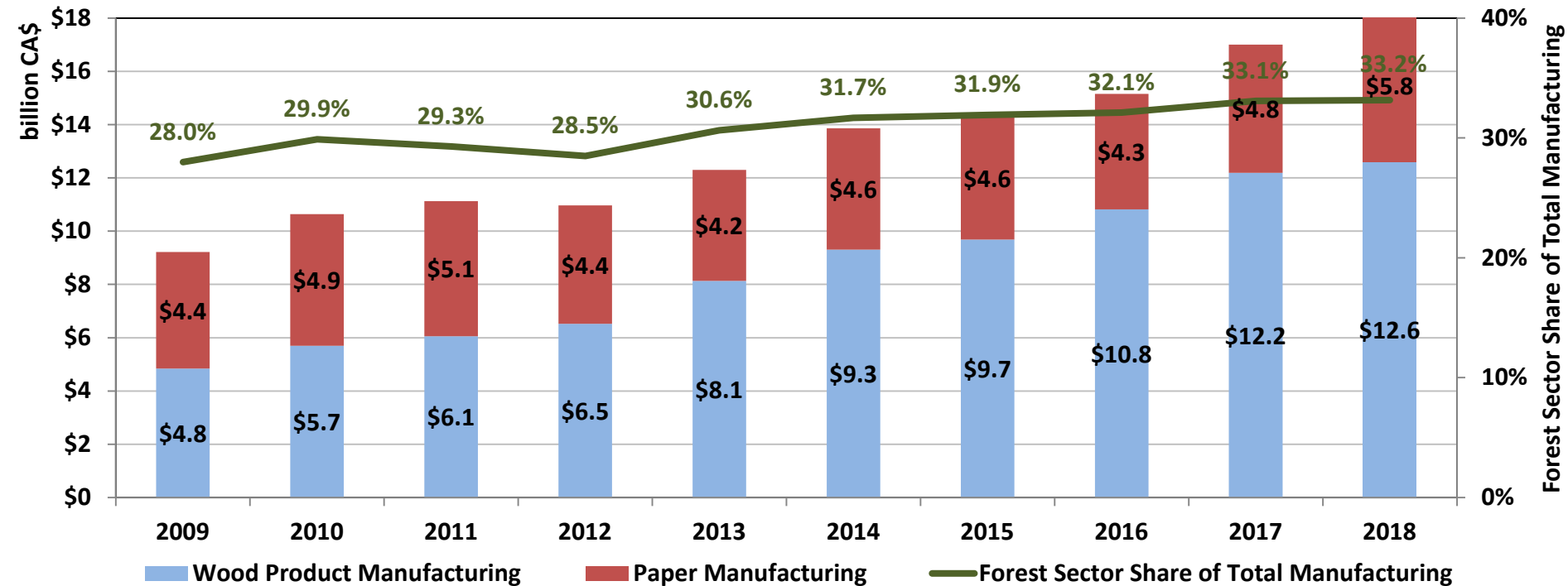
❖ Products

❖ Markets

❖ Economic Multipliers

❖ Additional Sources

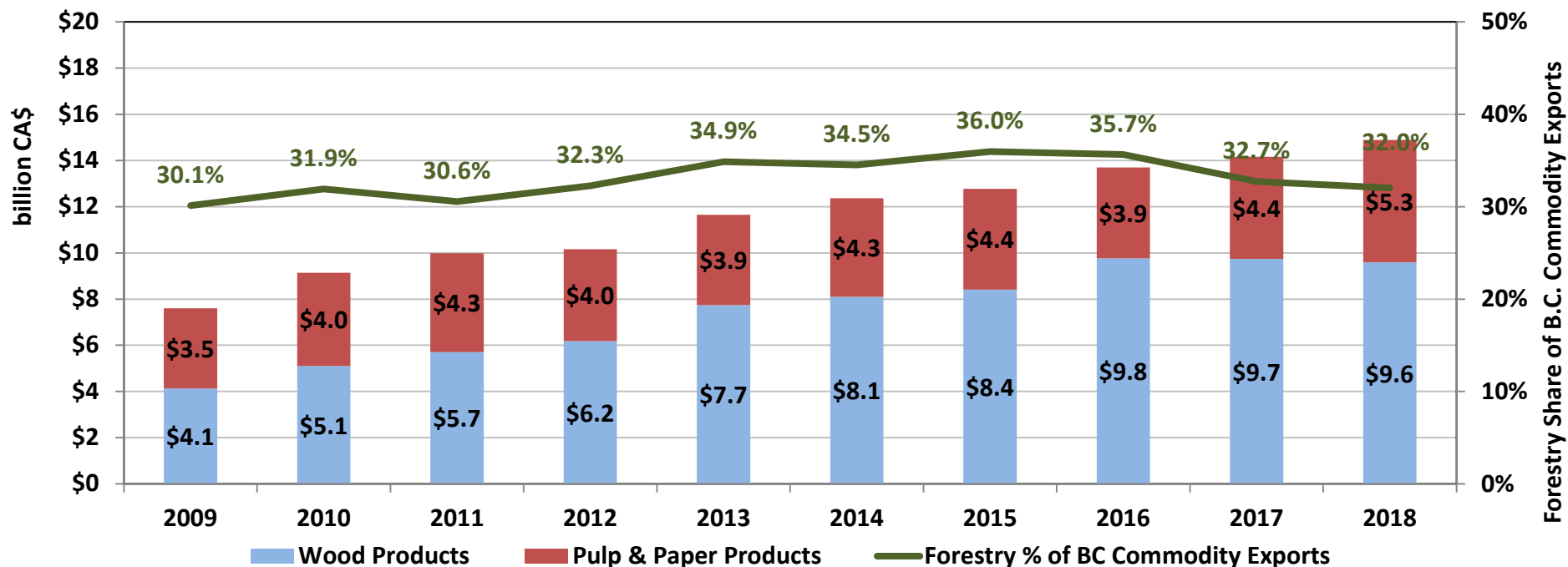
B.C. Forest Sector Manufacturing Sales



Data source: Statistics Canada; [Table 16-10-0048-01](#).

Overview Indicator 1a – B.C. forest sector manufacturing sales (CA\$18.4 billion) increased 8% from 2017. Most of this increase was due to higher pulp prices. The forest sector accounted for 33% of B.C. manufacturing sales.

B.C. Forest Sector Exports

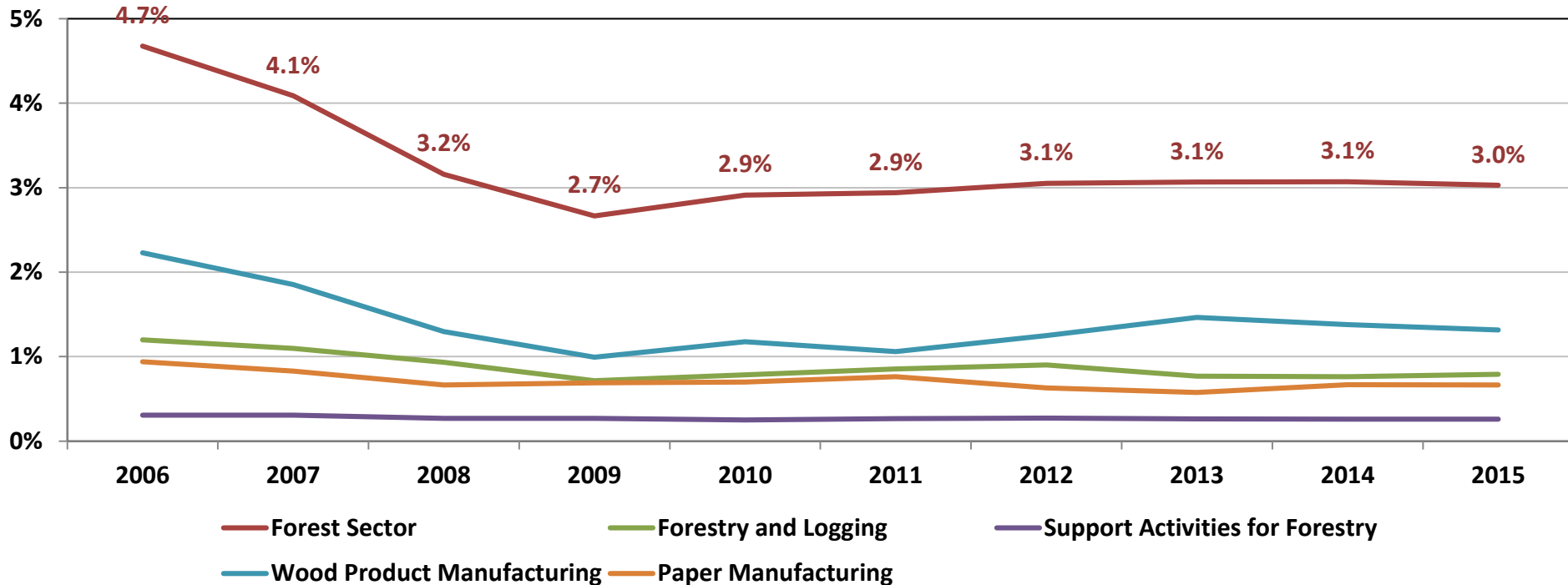


Data source: [B.C. Stats](#) extract from Statistics Canada data. Does not include products shipped to other regions of Canada. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Overview Indicator 1b – B.C. forest product exports (CA\$14.9 billion) increased 5.2% in 2018. The forest sector’s share of total B.C. export value declined slightly from 2017 to 2018.



Forest Sector's Share of B.C. GDP, in Current Dollars

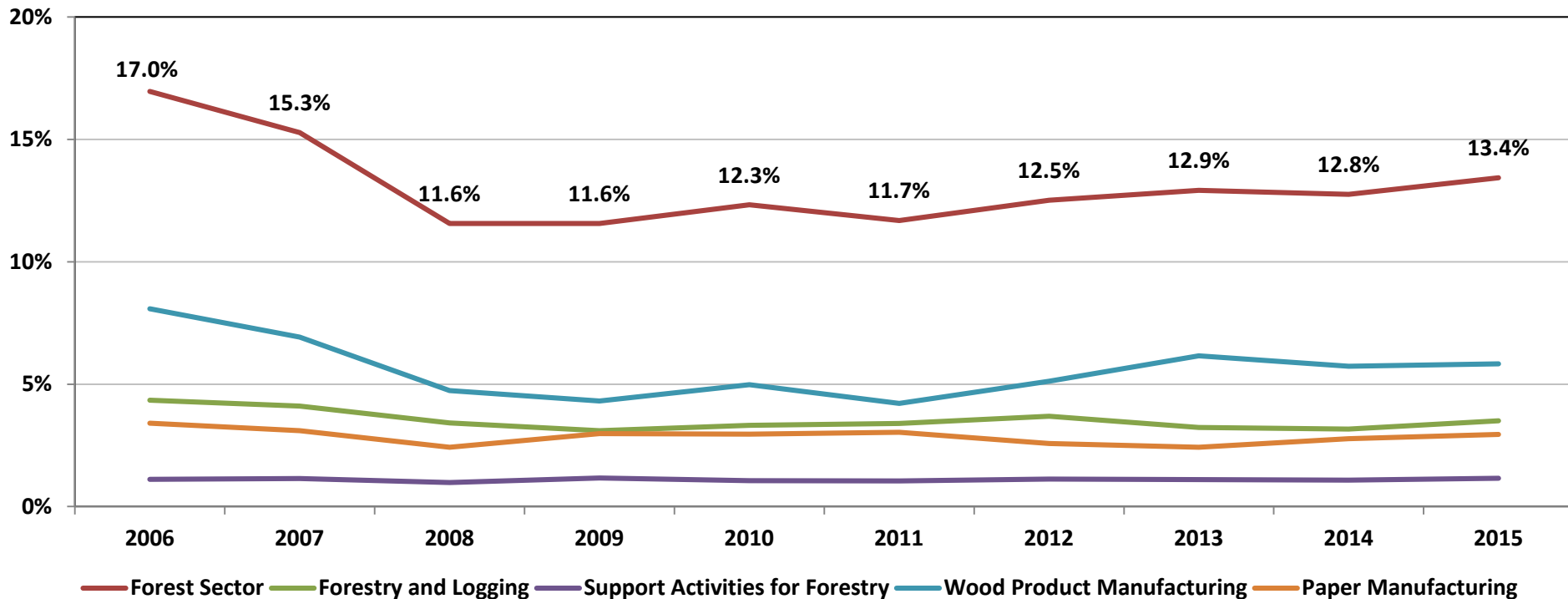


Data source: Statistics Canada. Source prior to 2007: [Table 36-10-0408-01](#). For 2007 onwards: [Table 36-10-0402-01](#). Based on current dollar data with 2015 being the latest available data.

Overview Indicator 2a – GDP in current dollars allows comparisons between sectors, industries (subsectors) and the provincial economy as a whole in a given year. It does not adjust for inflation. The decline in forestry's share over time is largely due to GDP growth of the B.C. economy as a whole (notably the service industry and real estate). Since 2009 the share has been fairly stable.



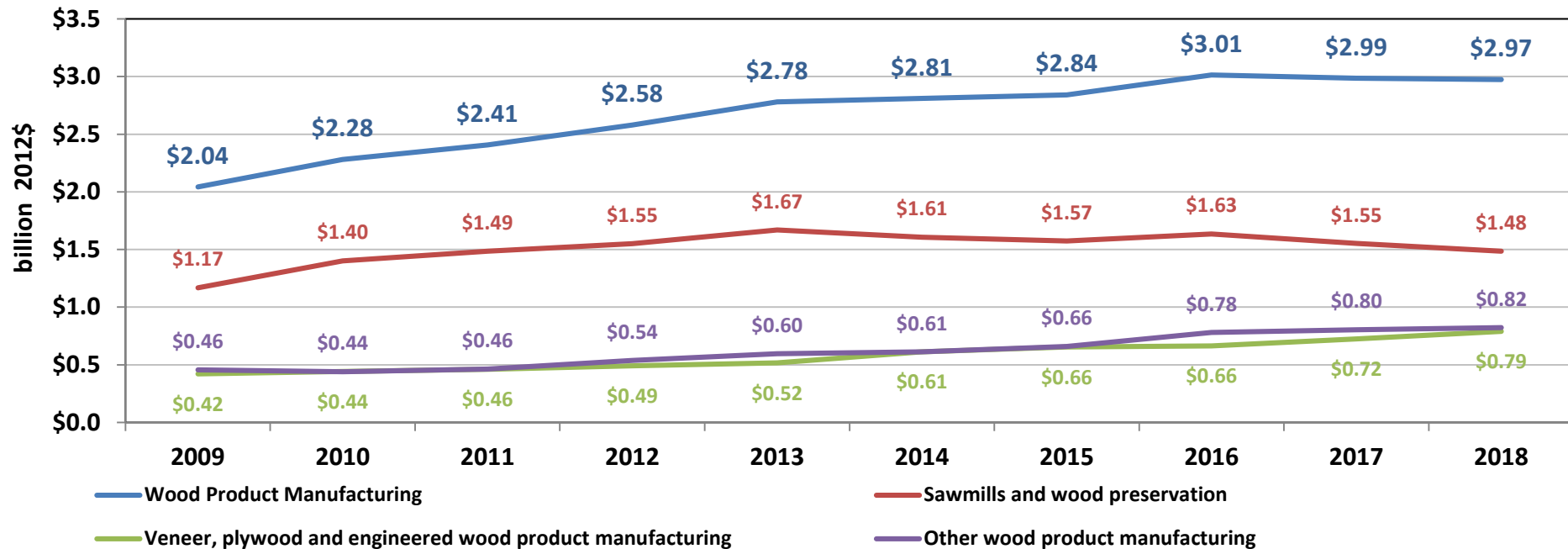
Forest Sector's Share of B.C. Goods Manufacturing GDP, in Current Dollars



Data source: Statistics Canada. Source prior to 2007: [Table 36-10-0408-01](#). For 2007 onwards: [Table 36-10-0402-01](#). Based on current dollar data with 2015 being the latest available data.

Overview Indicator 2b – GDP in current dollars allows comparisons between sectors, industries (subsectors) and other sectors, such as the Goods Manufacturing sector, in a given year. It does not adjust for inflation. Since 2008 the Forest Sector has made up roughly 12-13% of B.C.'s Goods Manufacturing GDP. 46

B.C. Wood Products Manufacturing GDP, in Chained Dollars

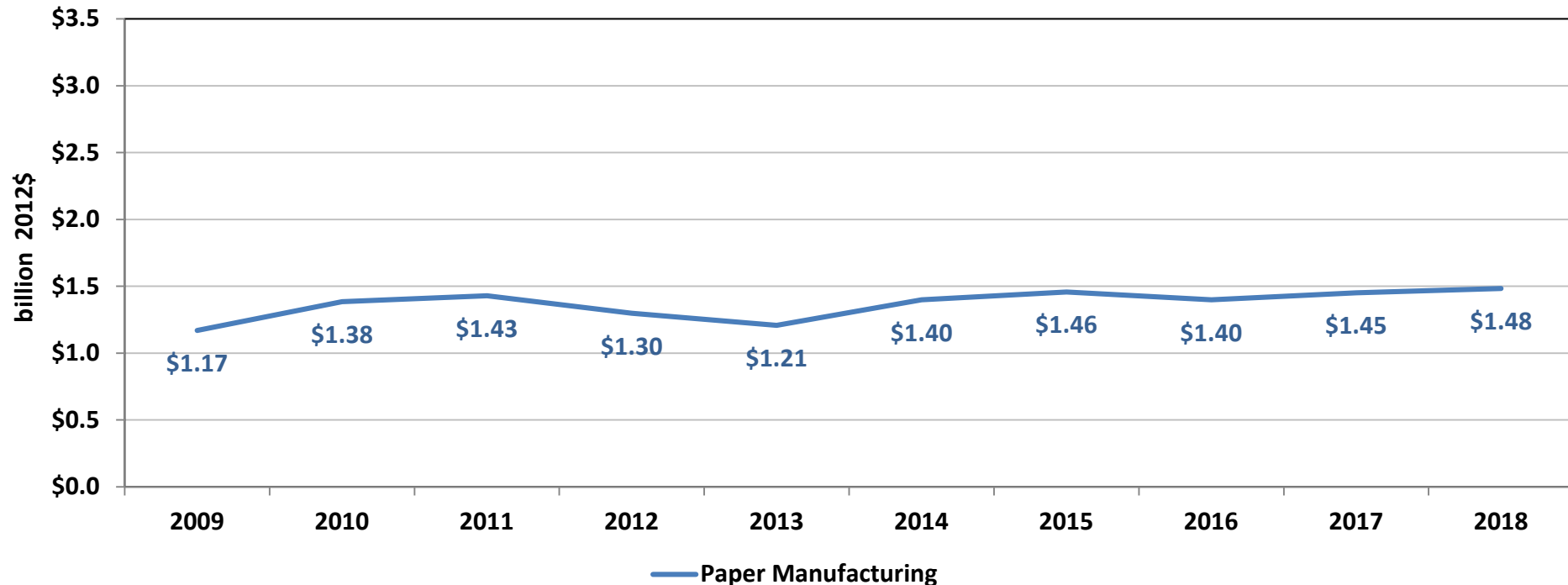


Data source: Statistics Canada; [Table 36-10-0402-01](#).

Overview Indicator 2c – Wood Product Manufacturing GDP was climbing steadily since the low of 2009, but has been relatively constant the past few years. Higher GDP for veneer, plywood and engineered wood product and other wood products has been helping offset lower sawmill and wood preservation GDP.

Chained dollar GDP adjusts for changes in prices and quantities, and should not be compared across sectors, nor added across sectors. The measure changed from 2007\$ to 2012\$ this year.

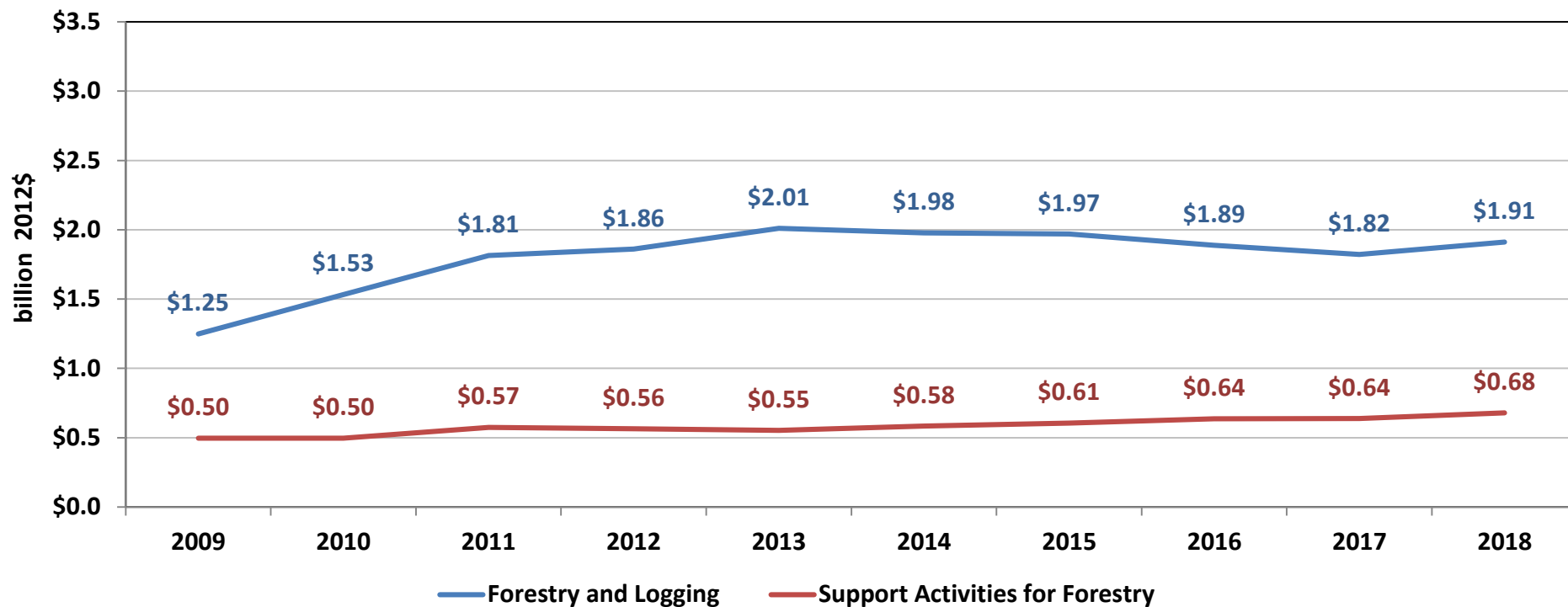
B.C. Paper Manufacturing GDP, in Chained Dollars



Data source: Statistics Canada; [Table 36-10-0402-01](#). Paper Manufacturing includes the Pulp industry.

Overview Indicator 2d – This chart shows the GDP of the Paper Manufacturing industry has been relatively stable the last few years. Chained dollar GDP adjusts for changes in prices and quantities, and should not be compared across sectors, nor added across sectors. The measure changed from 2007\$ to 2012\$ this year.

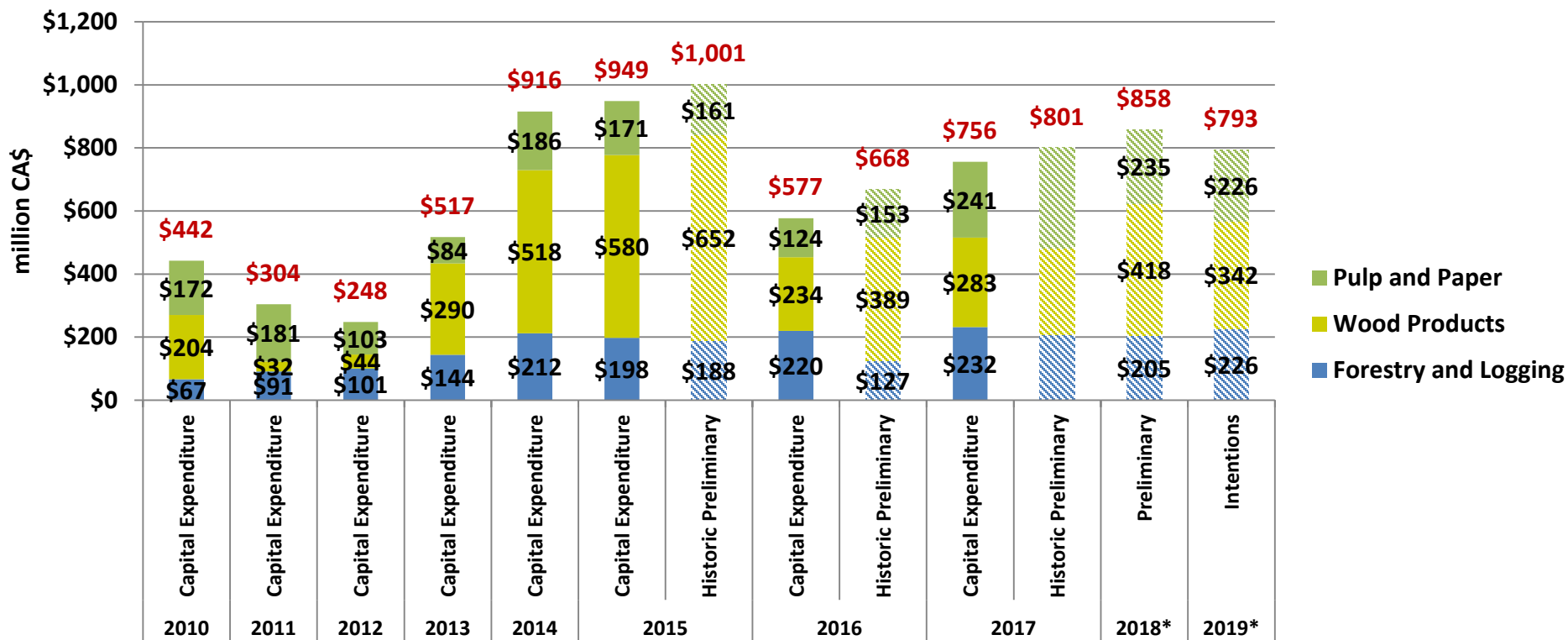
B.C. Forestry and Logging and Support Activities GDP, in Chained Dollars



Data source: Statistics Canada; [Table 36-10-0402-01](#). [Examples of Support Activities](#) are cruising timber, hauling, pest control, firefighting, and reforestation.

Overview Indicator 2e – GDP from Forestry and Logging and from Support Activities increased this year. Chained dollar GDP adjusts for changes in prices and quantities, and should not be compared across sectors, nor added across sectors. The measure changed from 2007\$ to 2012\$ this year. 49

B.C. Forest Sector Capital Expenditure

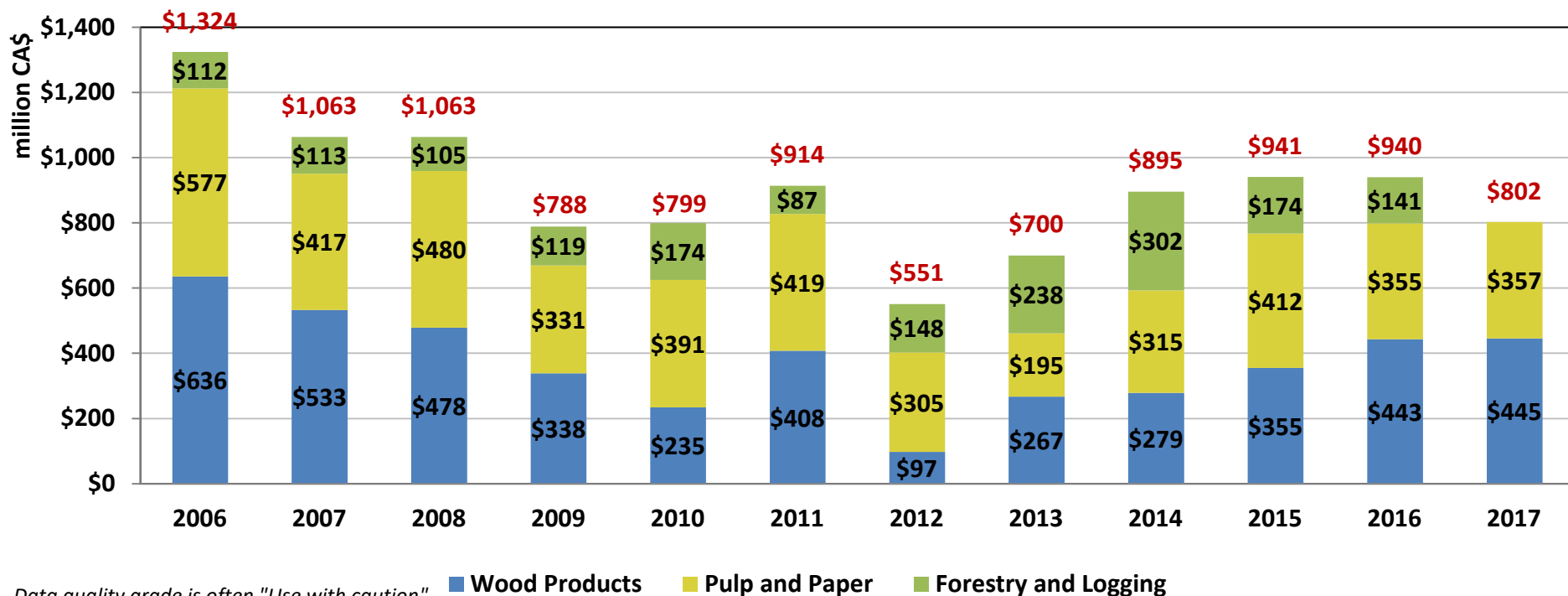


Data source: Statistics Canada; [Table 34-10-0035-01](#). *Preliminary and intentions, subject to change. Data quality grade is often "Use with caution".

Investment – From 2016 to 2017 capital expenditure increased 31%, and 2018 preliminary results indicate a 13% increase from 2017 to 2018.

Historic preliminary data has been included to demonstrate the difference when moving from preliminaries to actuals. Capital expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment.

B.C. Forest Sector Repair Expenditure



Data quality grade is often "Use with caution".

Data source: Statistics Canada; [Table 34-10-0035-01](#).

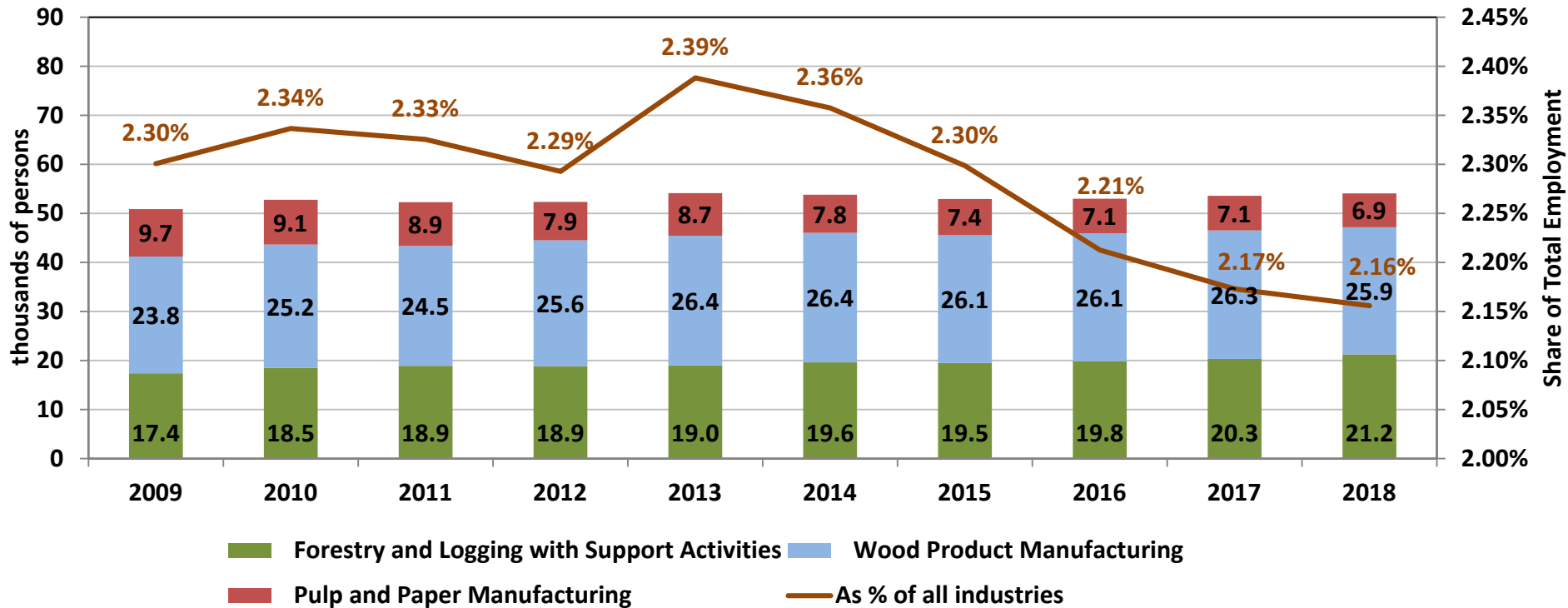
Investment – 2017's results indicate B.C. forest sector repair expenditures for Wood Products and Pulp and paper were relatively unchanged from 2016. Repair expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2016 is the latest year for repair expenditure, and 2017 excludes repair expenditure in forestry and logging (suppressed due to data quality).

Multiple Employment Estimates

- ❖ **System of National Accounts (SNA):** Estimates based on multiple employment sources, including the LFS and SEPH. Part of the Canadian System of Macroeconomic Accounts (CSMA). Estimates are annual and released in the following year (2016 in 2017) making them the least timely source.
 - ❖ “Because these accounts [CSMA] all use a common set of definitions, concepts and classifications, and are explicitly related to each other, they form an integrated system. As a result, the economic stories assembled from the CSMA statistics are coherent and credible. The latter reflects the enhanced quality inherent in an integrated system” ([Source](#)).
 - ❖ This is the data source that forms the foundation of Input-Output Models, including [BC’s model](#).
- ❖ **Survey of Employment Payrolls and Hours (SEPH):** A monthly survey. Not as timely as LFS, SEPH is delayed roughly two months in comparison.
 - ❖ “The payroll survey (SEPH) provides a highly reliable gauge of monthly change in non-farm payroll employment”. “This survey does not have sampling error since it includes all payroll employees” ([Source](#)).
 - ❖ Excludes self-employed and agriculture. Potentially a major setback for forestry and logging estimates, but probably less of an issue for most forest product manufacturing. SEPH is usually the lowest employment estimate.
- ❖ **Labour Force Survey (LFS):** A monthly survey of roughly 6,500 B.C. households out of nearly 2 million (0.3%). It is released near the start of each month.
 - ❖ “The household survey (LFS) provides a broader picture of employment, including employment in agriculture and the number of self employed” ([Source](#)). It also measures unemployment.
 - ❖ Since it is the most timely release on employment it tends to be most widely quoted. This timeliness also makes it a useful leading indicator.
 - ❖ The LFS offers employment by Development Region and industry, but the more detailed the estimates become by Development Region and industry, the less reliable they become.
 - ❖ LFS tends to be the upper estimate of the three employment estimates as it reflects all employment.



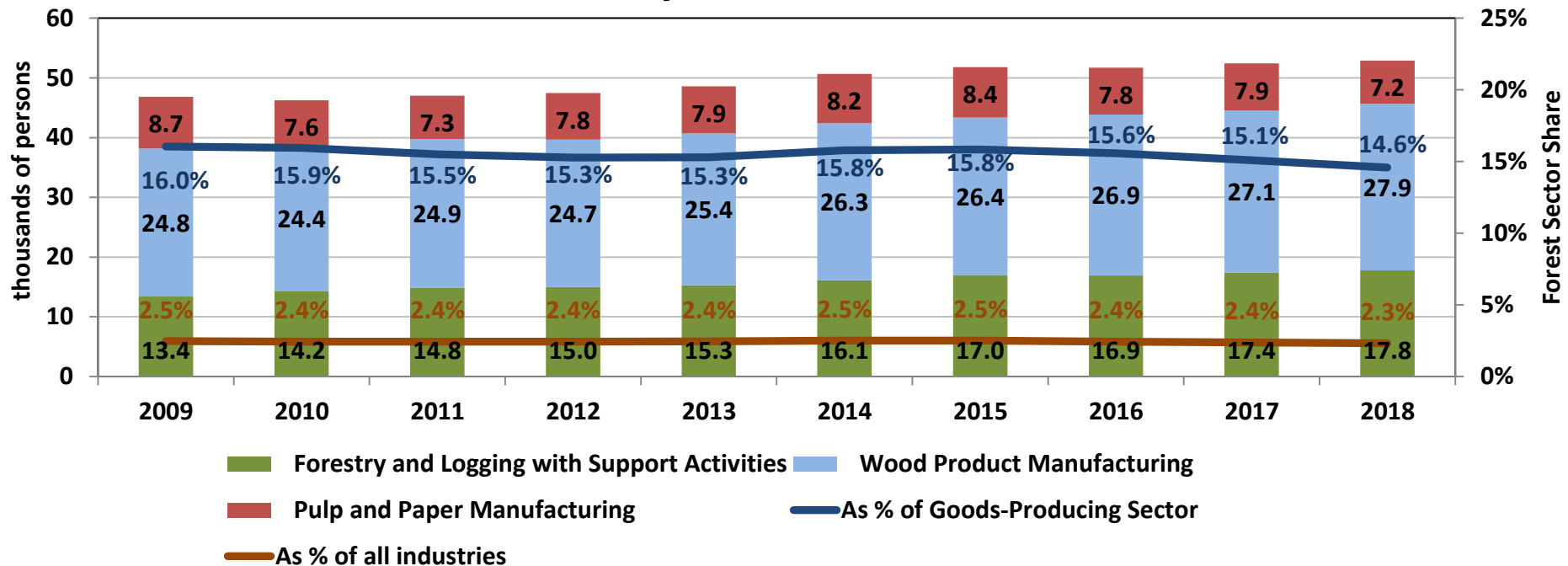
B.C. Forest Sector Direct Employment: System of National Accounts



Data source: Statistics Canada System of National Accounts (SNA): [Table 14-10-0202-01](#).

Overview Indicator 3a – The System of National Accounts (SNA) that B.C. forest sector employment increased to 54,085 in 2018. The employment in the System of National Accounts combines data from numerous sources. In the 2018 data release there was a downward revision to historic data (roughly -3,500 for 2017).

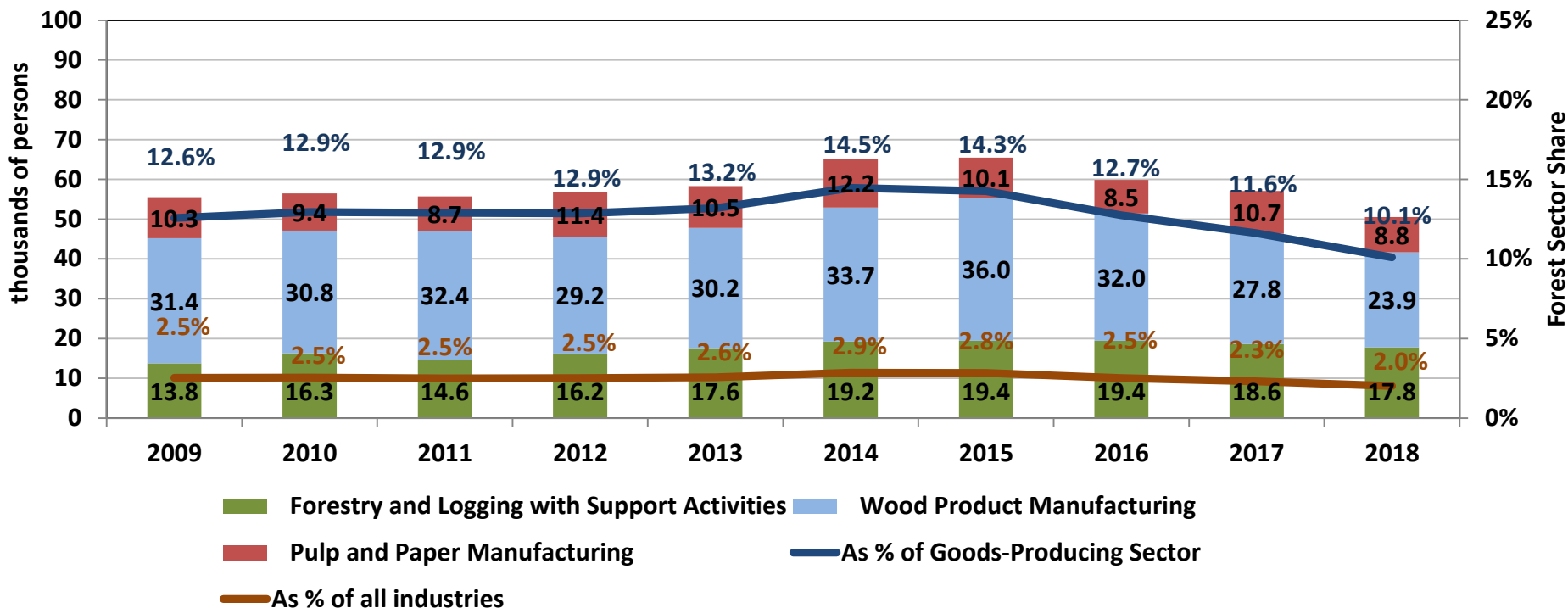
B.C. Forest Sector Direct Employment: Survey of Employment, Payrolls and Hours



Data source: Statistics Canada Survey of Employment, Payrolls and Hours (SEPH): [Table 36-10-0489-01](#).

Overview Indicator 3b –According to the Survey of Employment, Payrolls and Hours (SEPH) B.C. forest sector direct employment increased to 52,885 in 2018. The SEPH survey only covers employees on payrolls, and so omits self-employed people.

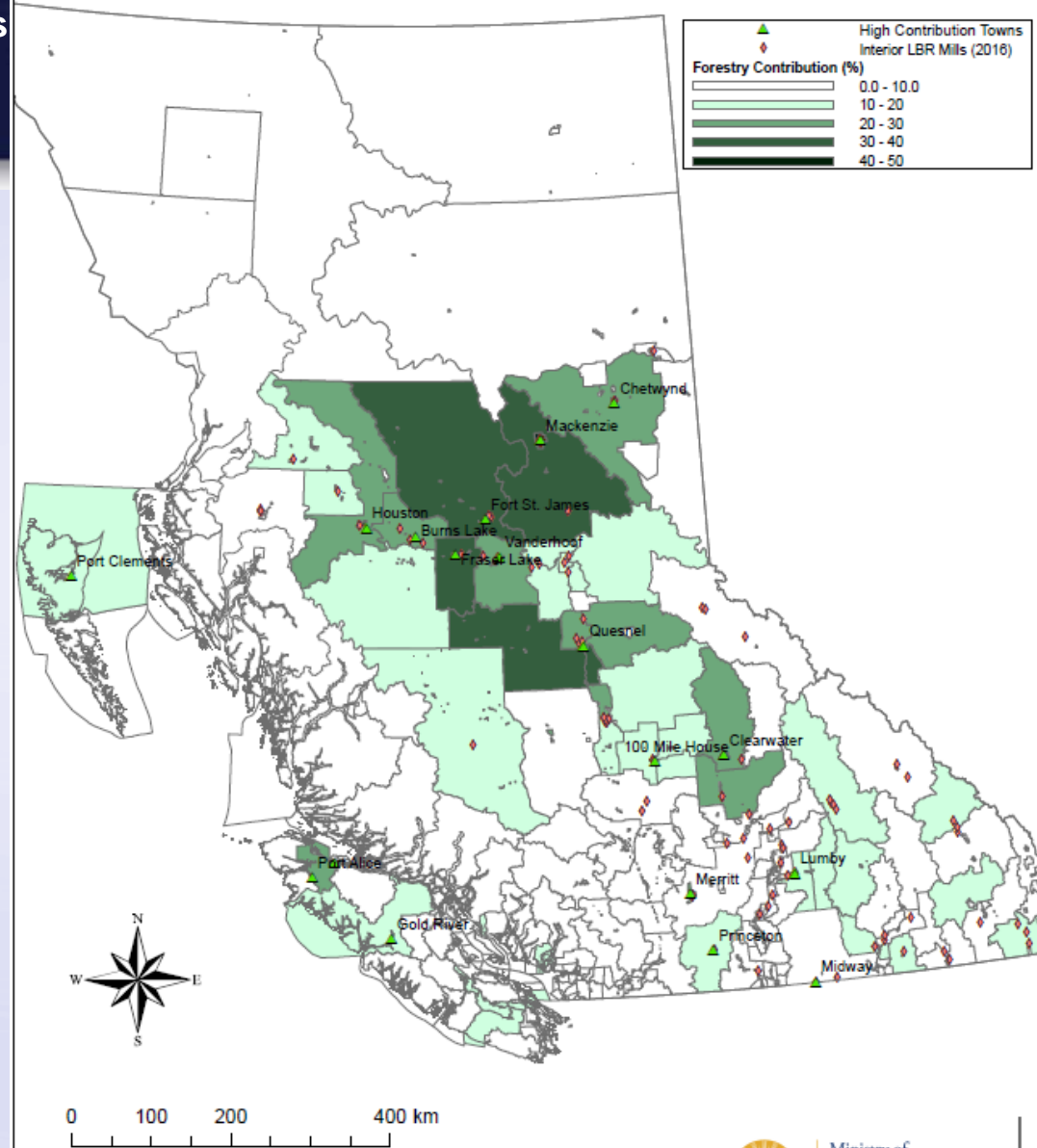
B.C. Forest Sector Direct Employment: Labour Force Survey



Data source: Statistics Canada Labour Force Survey (LFS) data via [B.C. Stats](#) (British Columbia Employment by Detailed NAICS Industry). The LFS samples 6,500 of B.C.'s roughly 2 million households (0.3% of households).

Overview Indicator 3c – In contrast to both the SNA and SEPH employment estimates, which show that forest employment was similar in 2018 to 2017 levels, the Labour Force Survey (LFS) reports a significant decline in forest employment in 2018. Slide 52 discusses the differences between the SNA, SEPH, and LFS data collection methods and explains that SNA is considered the most robust estimate since it is based on multiple sources and incorporates cross sector checks.

Forestry Contribution to Regional Income



Forestry Dependent Communities

Overview Indicator 3d – This map shows forest industry contribution to income in census subdivisions (CSD) throughout B.C. The darker the shading, the greater the forest sector’s contribution to employment income in a given CSD. There can be many smaller villages and towns within a CSD. Forestry’s highest contribution is in the Omineca Natural Resource Region in Northern B.C. (around Prince George). Some CSDs on the Coast and in the Southern Areas also have high forestry contribution.

High contribution is defined as a forest sector share of regional income above 20%. Major population centres are only shown if the CSD they are in meets the 20% threshold. 18 CSD’s meet or exceed this threshold.

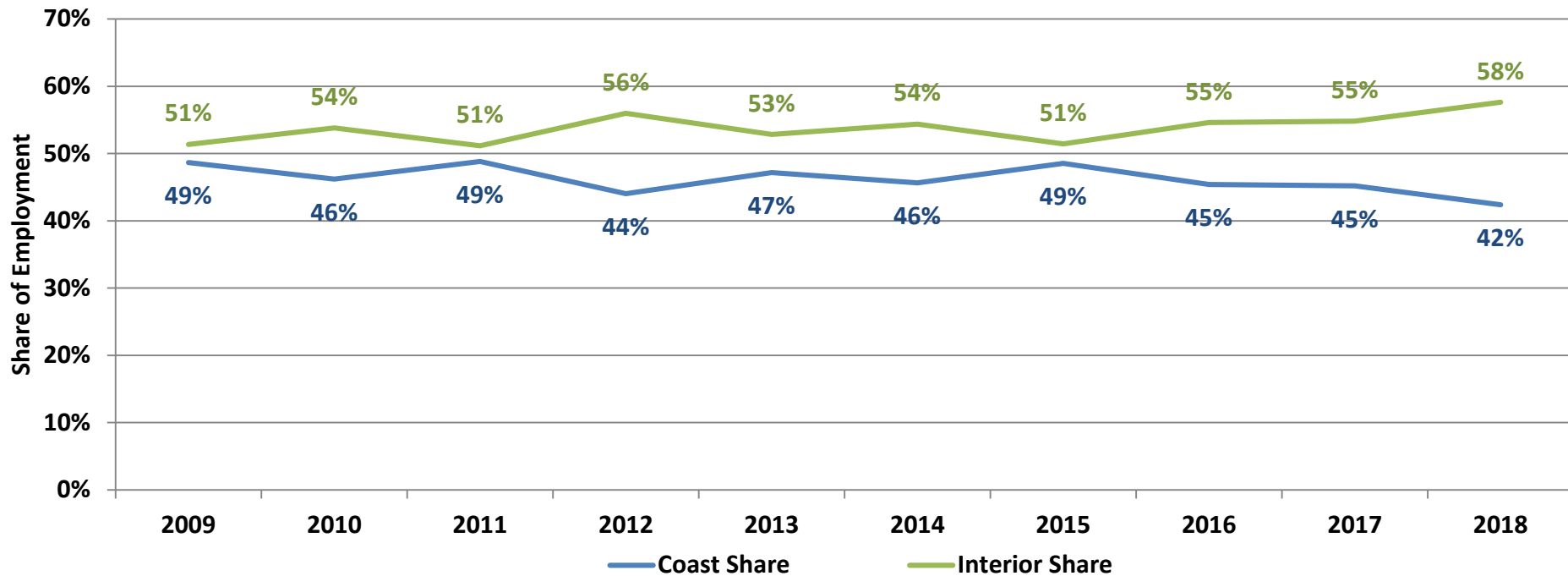
Data source: Ministry of Forests, Lands, Natural Resources Operations, and Rural Development. Compensation and Business Analysis Branch.

Developed using Statistics Canada, Census of Population 2016.

Census subdivision (CSD) is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes.



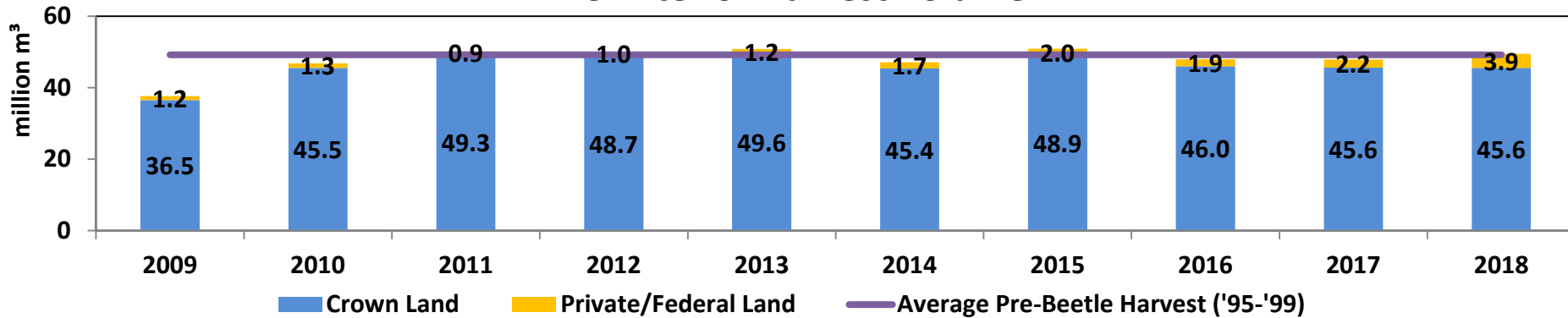
Forest Sector Employment Share by Coast and Interior



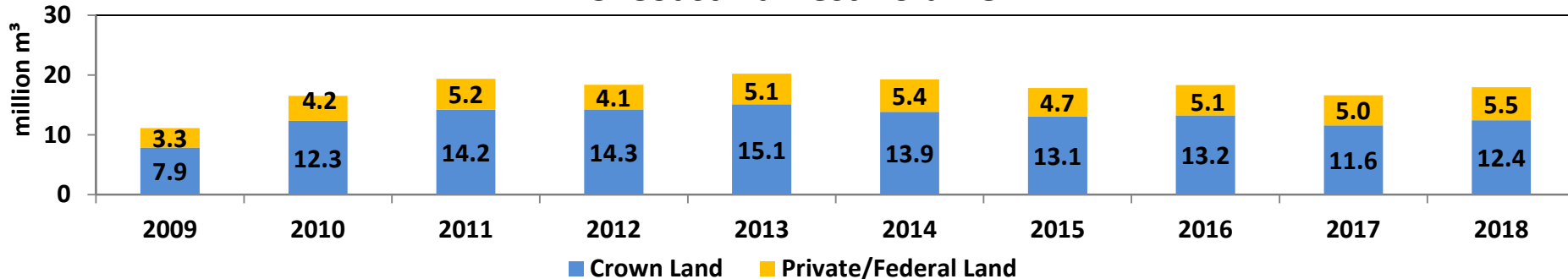
Data source: Statistics Canada Labour Force Survey (LFS) data via [B.C. Stats](#) (Employment and Unemployment by [Development Region](#)). In this data North Coast is combined with Nechako, and in this chart North Coast-Nechako is included in the Interior.

Overview Indicator 3e – According to the Labour Force Survey (LFS) the coast is usually around 45% of B.C. forest sector direct employment while the interior is around 55%. 2018 LFS data indicates a further shift toward higher Interior employment relative to the Coast as compared to earlier years.

B.C. Interior Harvest Volume



B.C. Coast Harvest Volume



Data source: [B.C. FLNR Harvest Billing System](#). All logs, special forest products, species and grades billed, excluding waste, reject and Christmas trees. Data extracted May 1, 2019. Volumes may not add to total harvest (slide 13) due to rounding.

Products – Logs – Total harvest volume (67.4 million m³) was up 4.6% in 2018. The Interior accounted for 73% of the harvest. Most of the harvest from private and federal lands comes from the Coast. Recent interior harvest is near pre-beetle, pre-housing boom levels (49.2 million m³, '95-'99).



Figure 1: Estimated British Columbia Primary Log Use - 2017

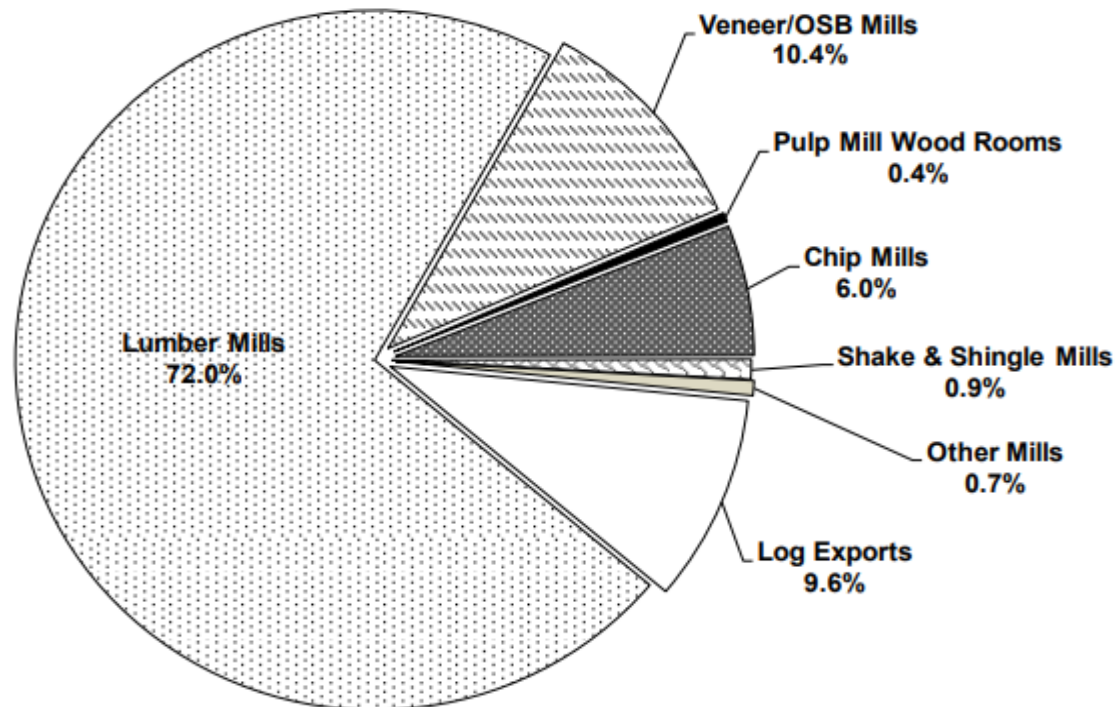
	Coast			Interior			Province		
	Number of Mills	Est. Volume Used (000 m ³)	Per Cent	Number of Mills	Est. Volume Used (000 m ³)	Per Cent	Number of Mills	Est. Volume Used (000 m ³)	Per Cent
Primary Log Use									
Lumber Mills	45	7,113	43.0%	81	40,065	82.4%	126	47,178	72.0%
Veneer/OSB Mills	5	2,174	13.1%	12	4,625	9.5%	17	6,799	10.4%
Pulp Mill Wood Rooms	1	141	0.9%	2	139	0.3%	3	280	0.4%
Chip Mills	10	1,598	9.7%	11	2,355	4.8%	21	3,953	6.0%
Shake & Shingle Mills	31	562	3.4%	5	36	0.1%	36	598	0.9%
Other Mills	11	87	0.5%	35	363	0.7%	46	450	0.7%
Log Exports		4,864	29.4%		1,014	2.1%		6,257	9.6%
TOTAL	103	16,539	100%	146	48,597	100%	249	65,515	100%
Log Availability									
Total Harvest		16,607			47,571			64,178	
Log Imports								28	
TOTAL		16,607			47,571			64,206	
Difference		68	0.4%		-1,026	-2.2%		-1,310	-2%

*Total harvest includes all logs, special forest products, species and grades billed to crown, private and federal land. Waste, reject and Xmas trees were excluded.

Data source: [B.C. Mill Report](#). 2017 is the latest year available. See page 9 of the Report for additional breakdown.

Products – Log use by Mill Type – This table shows estimated log use by mill type based on results from the B.C. Mill Survey. The vast majority of logs initially wind up at lumber mills (72%), then roughly 56% of that fibre goes to pulp and pellet mills as chips and sawdust. Note, the B.C. Mill Report’s estimated log use was 2% higher than harvest, which can be explained by inventory changes between years or measurement error.

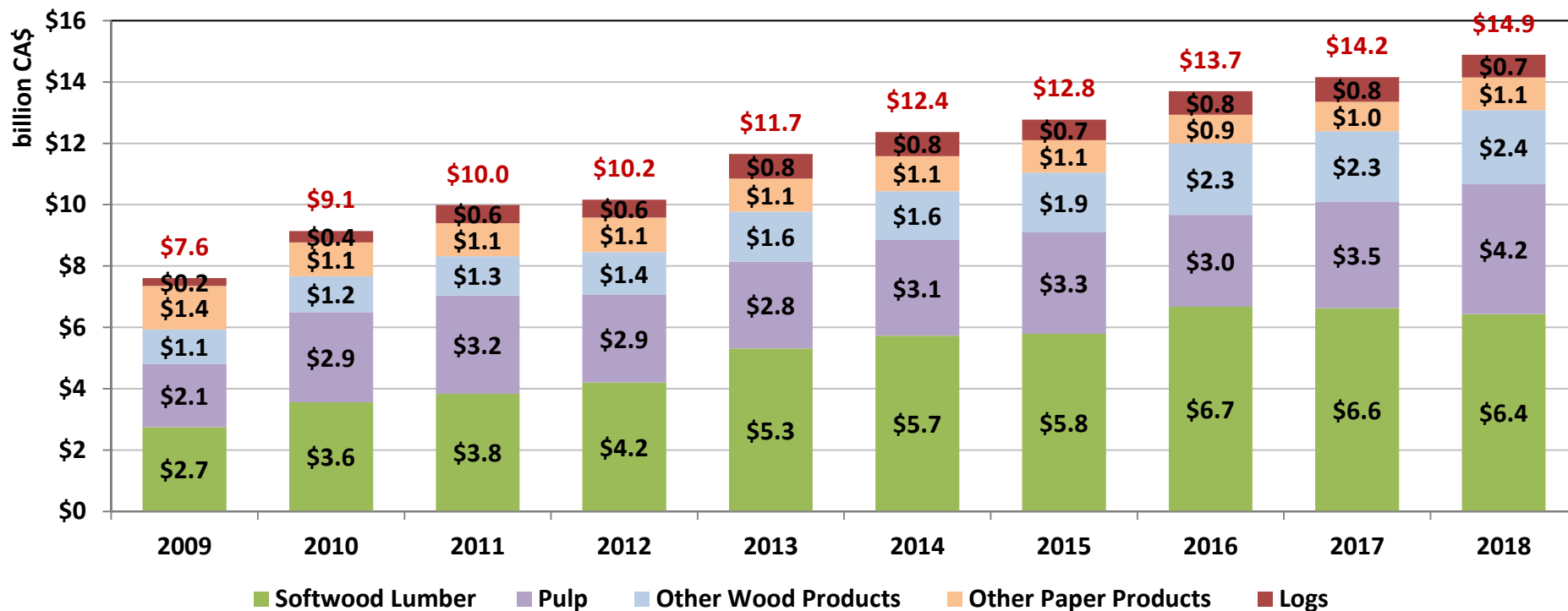
Total Primary Log Use 2017 - 65.515 million m³



Data source: [B.C. Mill Report](#). 2017 is the latest year available. See page 9 of the Report for additional breakdown.

Products – Log use by Mill Type – This is a summary of some of the data on the previous page.

B.C. Forest Product Export Value by Main Product

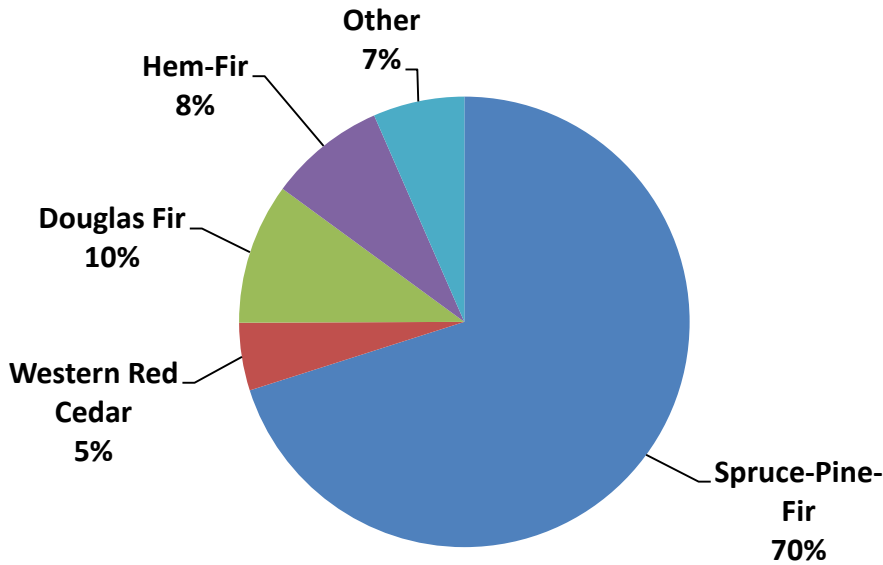


Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

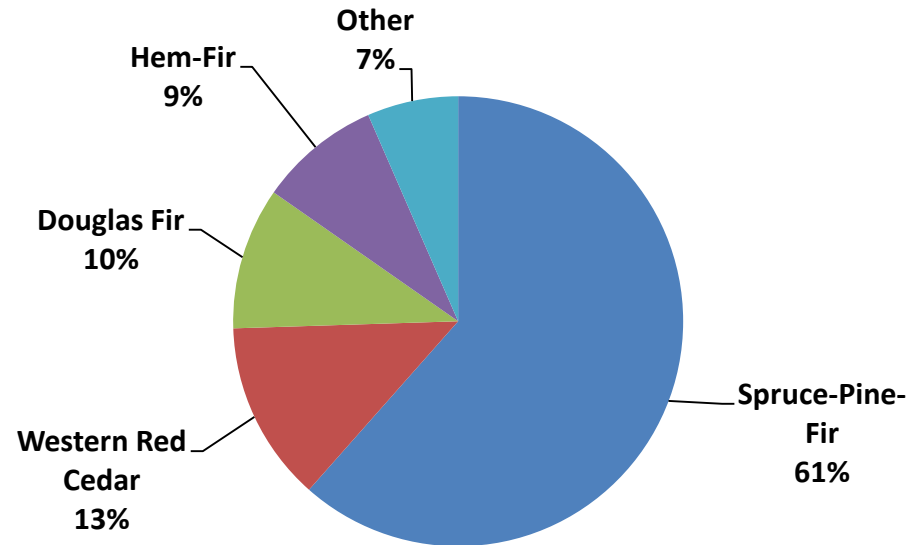
Products – Exports – Share of B.C. forest product export value by main product in 2018: Logs (5.0%), Softwood Lumber (43.2%), Other Wood Products (16.2%), Pulp (28.4%), and Other Paper Products (7.2%).



B.C. Softwood Lumber **Export Volume**
(24.0 million m³) Share by Species,
2018



B.C. Softwood Lumber **Export Value**
(CA\$6.4 billion) Share by Species,
2018

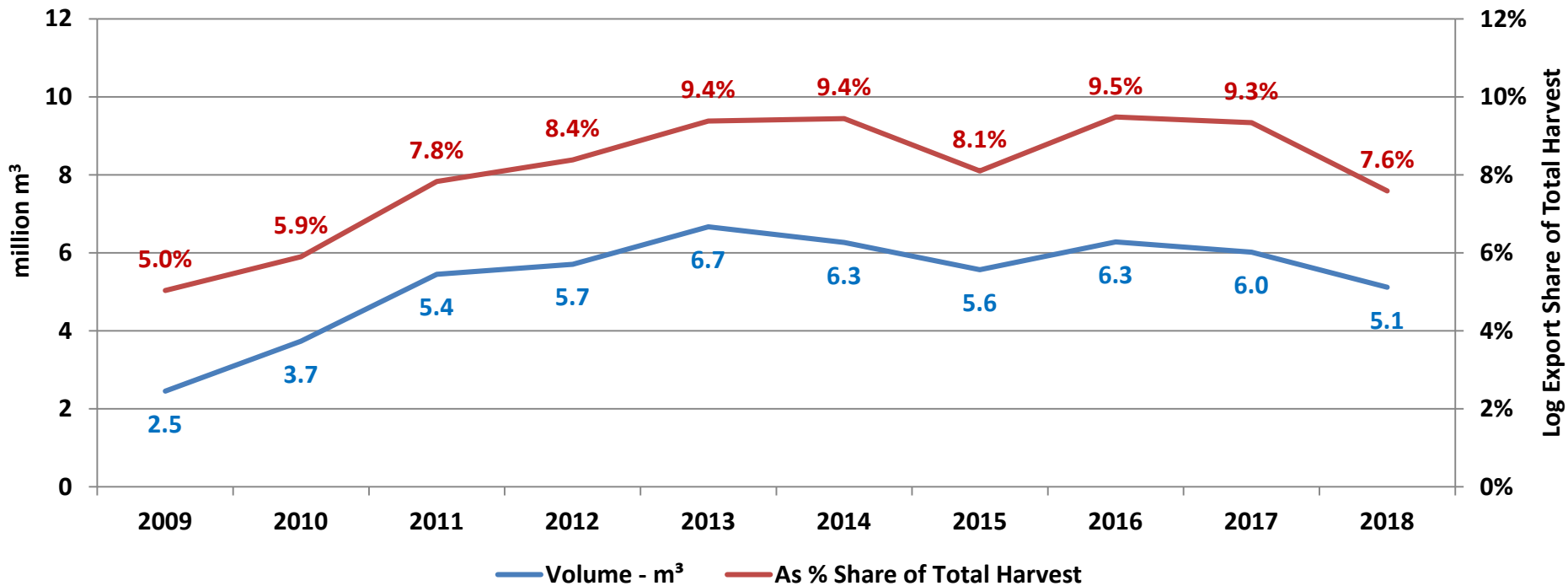


Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Products – Exports – Softwood Lumber – Spruce-Pine-Fir (SPF) lumber is by far the highest-volume lumber product exported from B.C., followed by Douglas Fir, hemlock-fir (balsam), and Western Red Cedar. Non-SPF species tend to have higher lumber prices than SPF, as seen by their export value share being higher than their volume share.



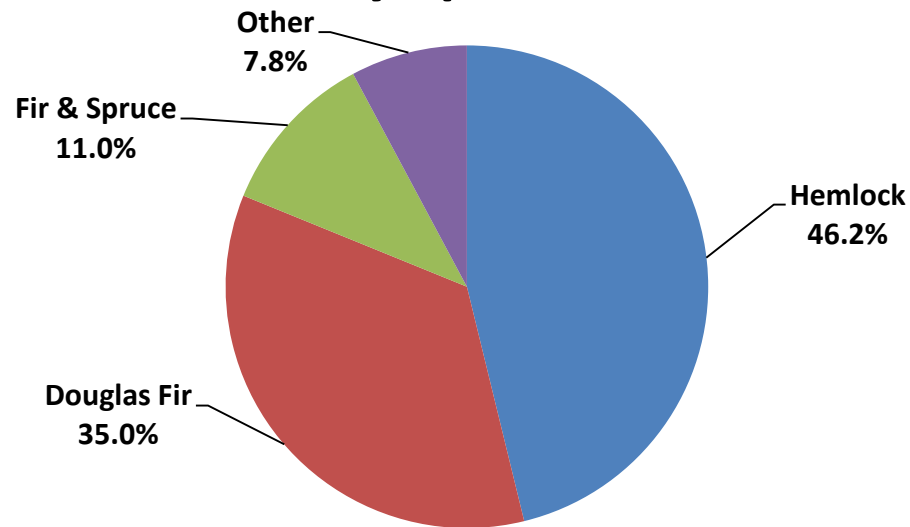
B.C. Log Export Volume and Share of Harvest



Data source: B.C. FLNRO Harvest Billing System, and [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Products – Exports – Logs – Log export volume declined by 15% in 2018. The vast majority of log exports came from the Coast, rather than the Interior.

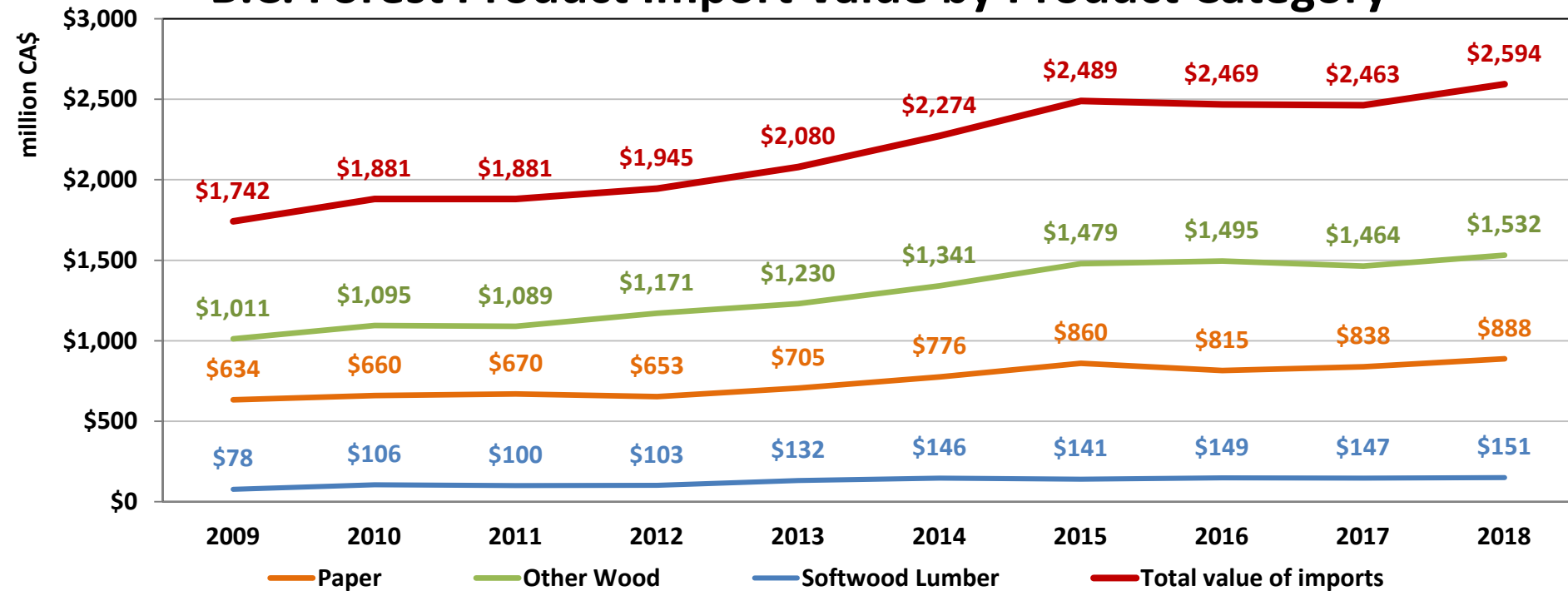
B.C. Log Export Volume (5.1 million m³) Share by Species, 2018



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Other includes pulp logs of all species, plus saw logs of other softwoods and hardwoods. Historic data is subject to revisions.

Products – Exports – Logs – Hemlock sawlogs accounted for around 46% of log exports in 2018, followed by Douglas Fir with 35%. Most of the hemlock went to China which is one of the few markets where the species is in strong demand.

B.C. Forest Product Import Value by Product Category



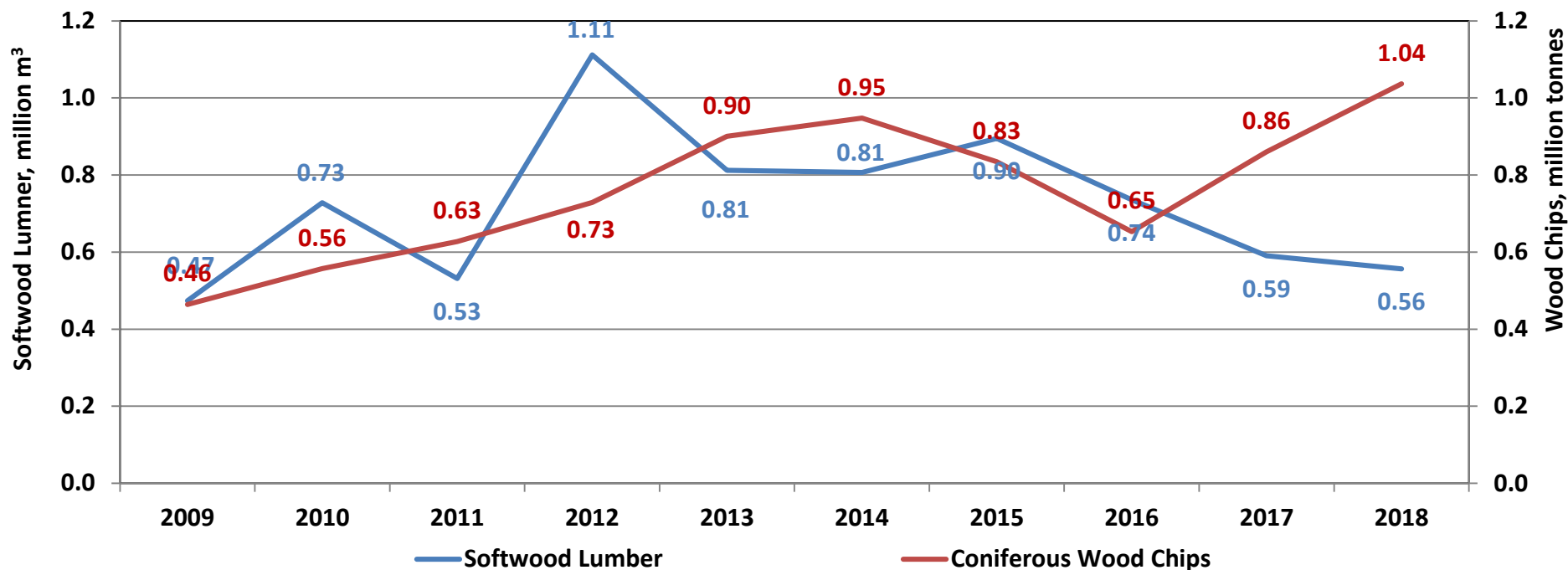
*Pulp and Log import value is minimal, so they don't have their own series, but are included in the total.

Data source: Special run of Statistics Canada data via BC Stats. Similar data can be viewed on [NRCAN's website](#). Historic data is subject to revisions.

Products – Imports – Value – Total value of imported forest products increased in 2018. 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. Top imports of Other Wood products include furniture (especially chairs) and coniferous wood chips. Top imports of Other Paper products include corrugated packaging, paper towels and toilet paper.



Select B.C. Forest Product Imports by Quantity



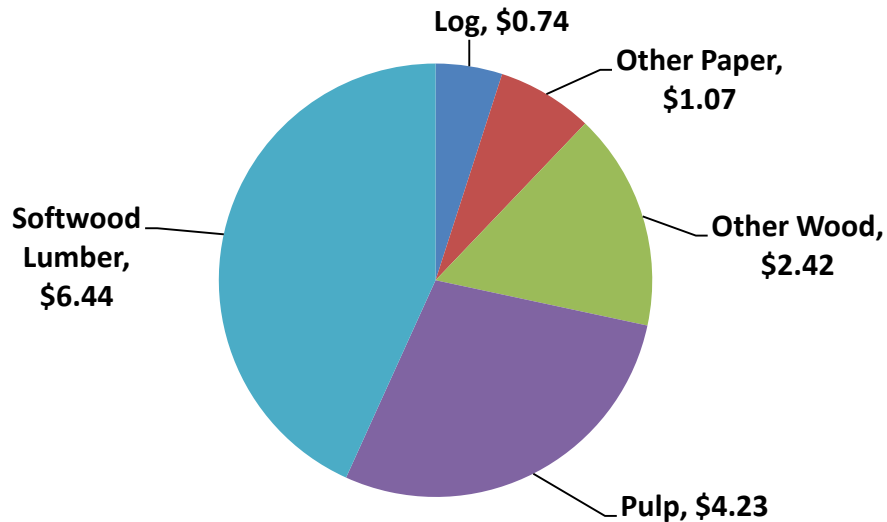
Data source: Special run of Statistics Canada data via BC Stats. Similar data can be viewed on [NRCAN's website](#). Historic data is subject to revisions.

Products – Imports – Quantity – Imports of softwood lumber declined from 2017 to 2018. Comparing import volume to B.C. production it is only about 1.9%. Coniferous wood chip imports increased in 2018. Note the final destination of these imports may have been somewhere else in Canada.

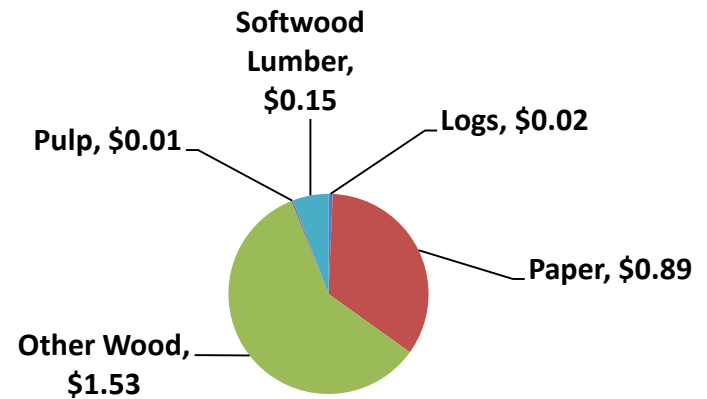


Comparison of BC Forest Product Exports and Imports

2018 Forest Product **Exports** - CA\$14.9 billion



2018 Forest Product **Imports** - CA\$2.6 billion

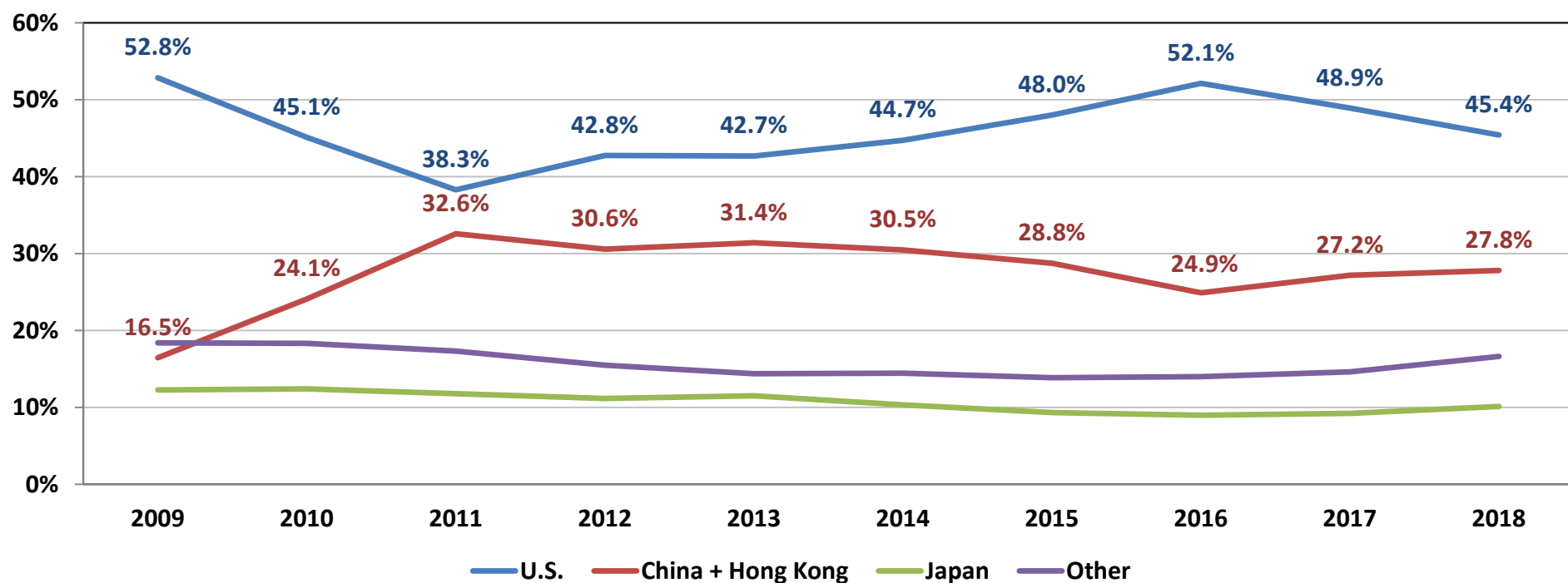


Data source: Special run of Statistics Canada data via BC Stats. Similar data can be viewed on [NRCAN's website](#). Historic data is subject to revisions.

Products – Import vs. Export Value – Other wood and paper are the largest imports to B.C. Import value is about 17% the size of export value. Note the final destination of these imports may have been elsewhere in Canada, and that products imported to other provinces may have been used in B.C.



B.C. Forest Product Export Value Share by Market

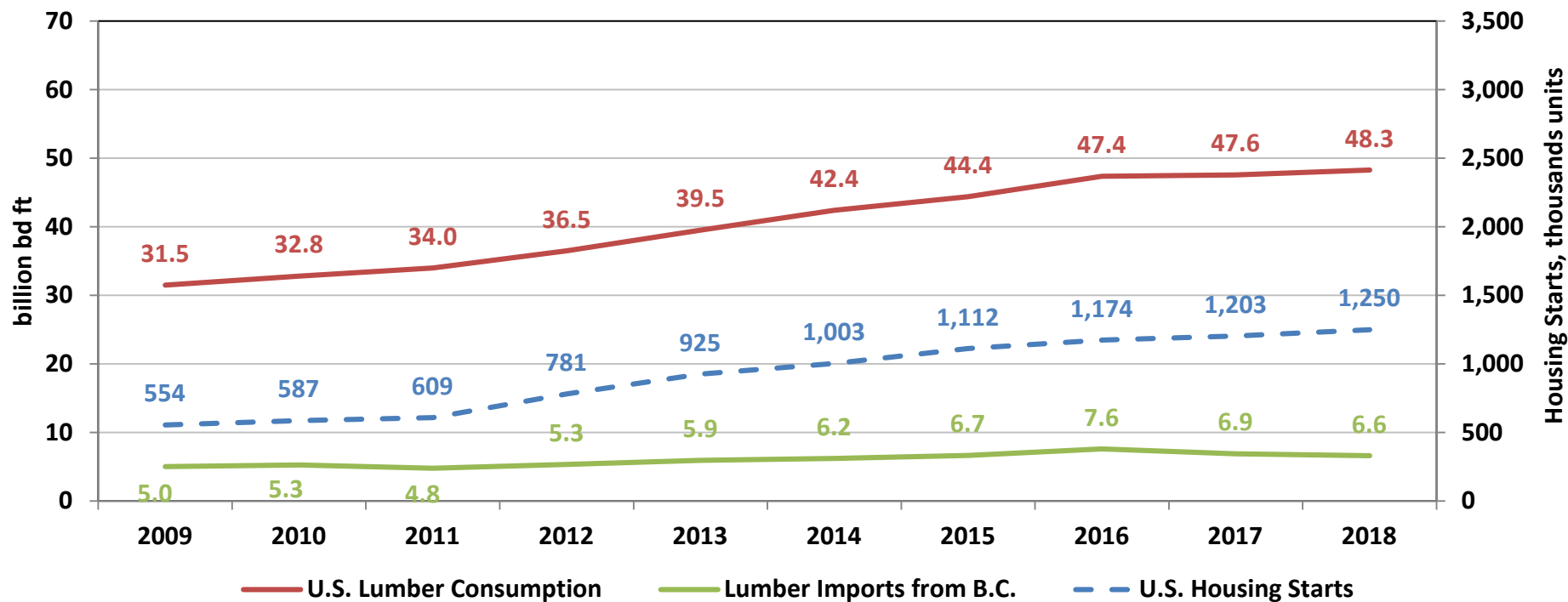


Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

Markets – Total – Starting in 2005, the U.S. share of export value fell dramatically and China’s share grew rapidly. This trend ended in 2012 and their shares slowly diverged after that. In 2017 the U.S. share declined again.



U.S. Softwood Lumber Consumption vs. Housing Starts

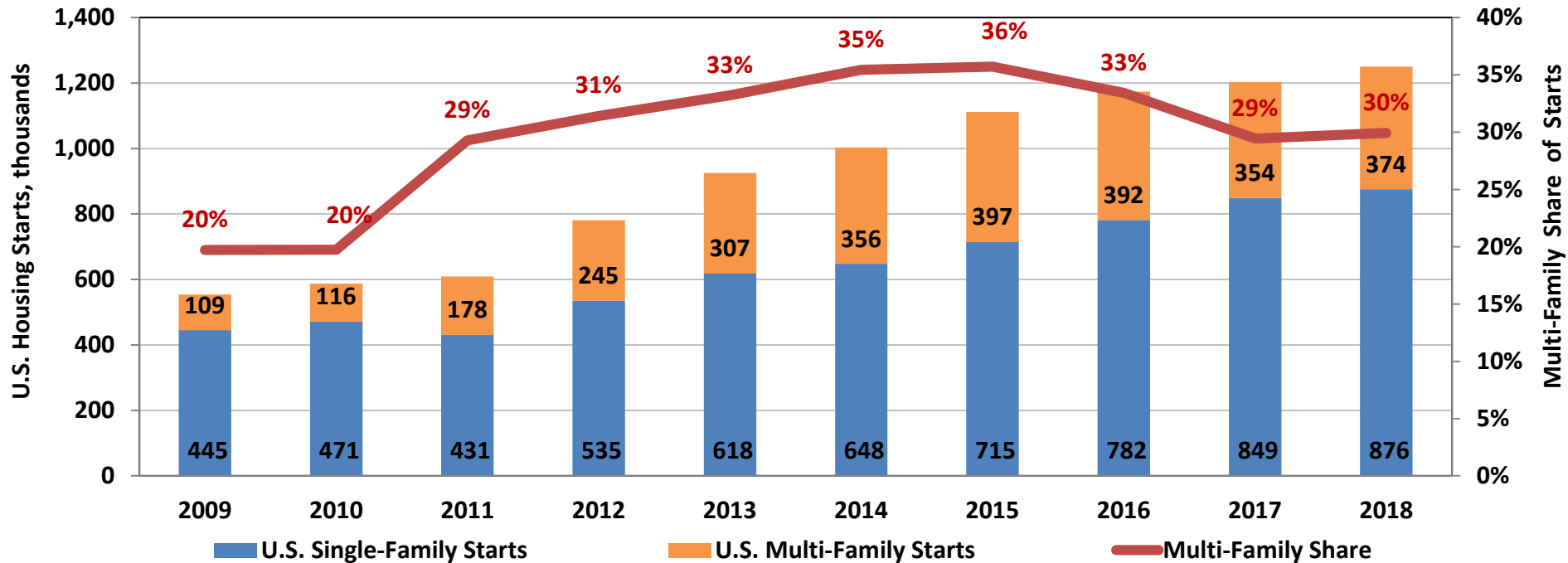


Data source: [Western Wood Products Association](#) and [U.S. Census Bureau](#).

Markets – U.S. – 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 US consumed 64 billion board feet.



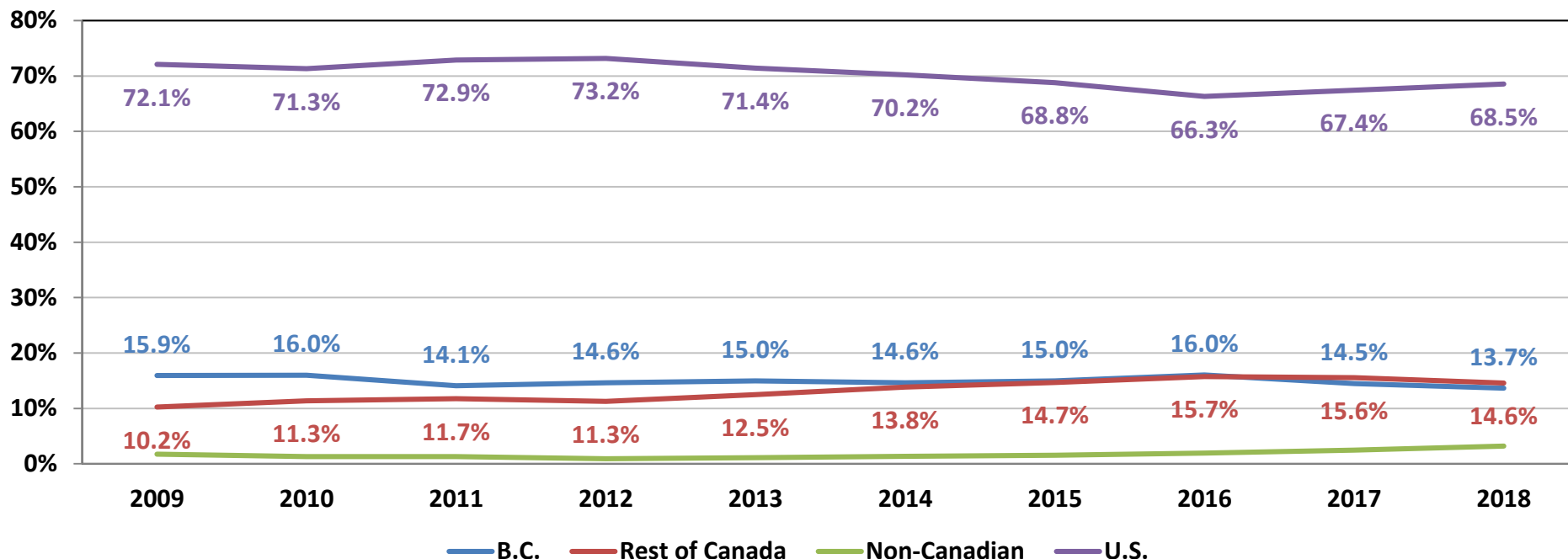
U.S. Housing Starts: Single vs. Multi-Family Units



Data sources: [U.S. Census Bureau](#).

Prices and Costs – The share of multi-family starts increased slightly in 2018. Multi-family units use roughly 66-75% of the wood that a single family unit does.

Supplier Share of U.S. Softwood Lumber Consumption

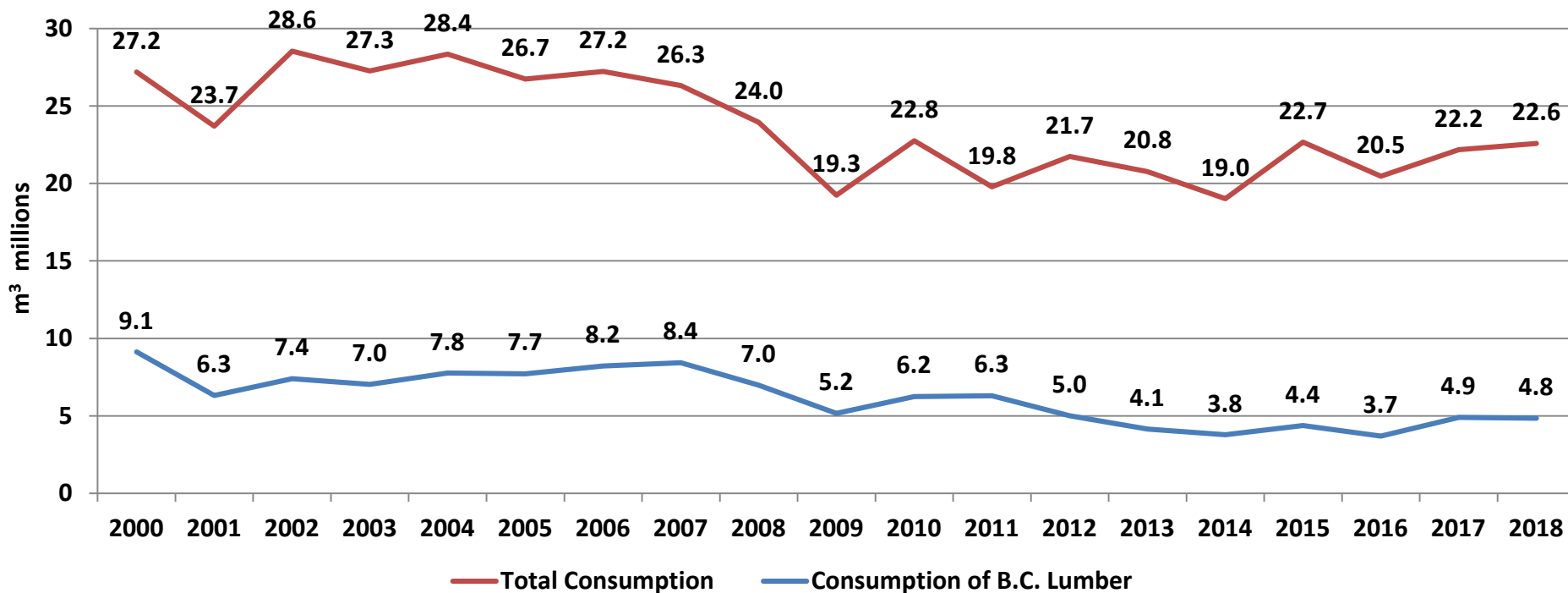


Data source: [Western Wood Products Association](#). The supply share from B.C. in 2016 was altered to match revised Statistics Canada data (may no longer match WWPA data).

Markets – U.S. – U.S. softwood lumber consumption relies primarily on U.S. domestic supply. The U.S. is still supplying a higher level of their consumption than during the housing boom, largely due to lower lumber demand resulting in less need for imports. Canada provided 28.3% of total U.S. consumption in 2018.



Estimated Canadian Consumption of Lumber



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#) and [Table 16-10-0017-01](#). Historic data is subject to revisions.

Products – Softwood Lumber – In 2018, Canada consumed approximately 23 million m³ of lumber, which included 4.8 million m³ of B.C. lumber. This volume was used domestically as lumber (such as in housing) or was turned into a value added wood product (siding, engineered wood products) which was used domestically or exported.

The increase in consumption since 2014 indicates growing demand for lumber, and possibly the expansion of the value added sector.



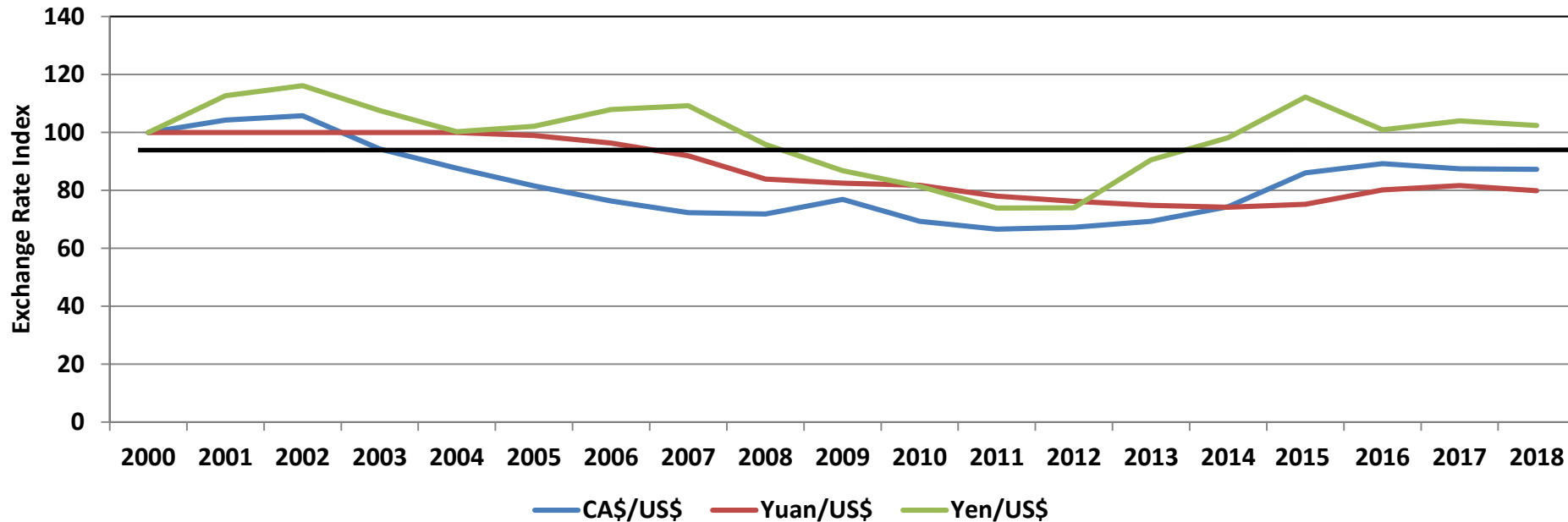
2000 Exchange Rates

1.48 CA\$/US\$
8.28 Yuan/US\$
107.82 Yen/US\$

US\$ Exchange Rates Indexed to 2000

2018 Exchange Rates

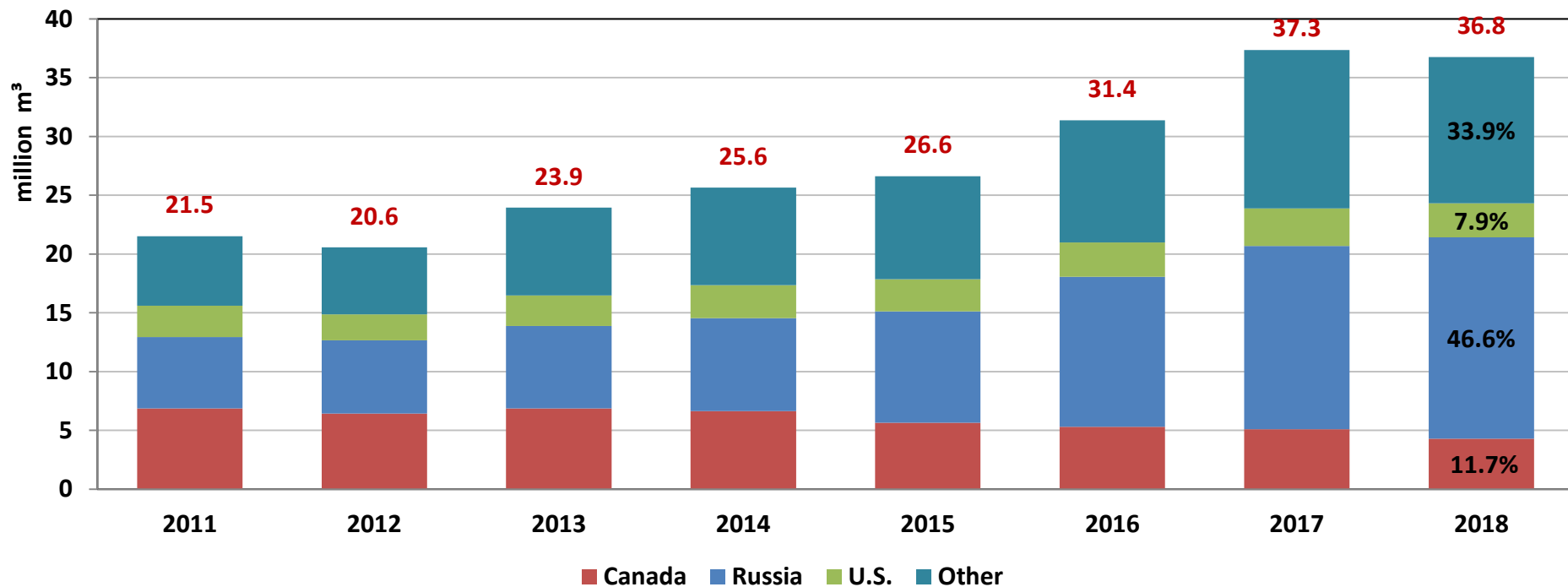
1.30 CA\$/US\$
6.62 Yuan/US\$
110.44 Yen/US\$



Data source: Organization for Economic Co-operation and Development (OECD).

Markets – Prices and Costs – The exchange rate impacts product prices and mill revenue. From 2002 to 2011 the US\$ depreciated about 33% relative to the Canadian dollar. From 2011 to 2016 the US\$ appreciated against the CA\$, and 2017 and 2018 had slight depreciations.

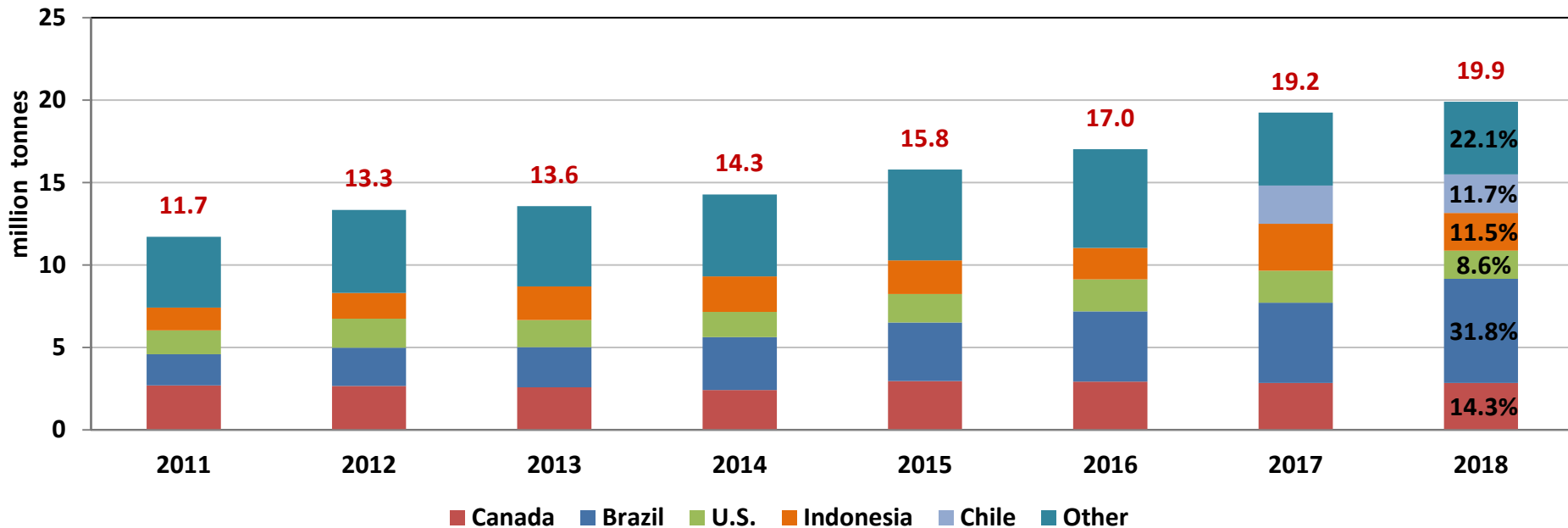
China Lumber Imports by Supply Country



Data source: [WOOD MARKETS China Bulletin](#). All species, including hardwoods.

Markets – China – In 2018, Russia’s share increased to 46.6% while Canada’s declined to 11.7%. Total imports declined for the first time since 2012.

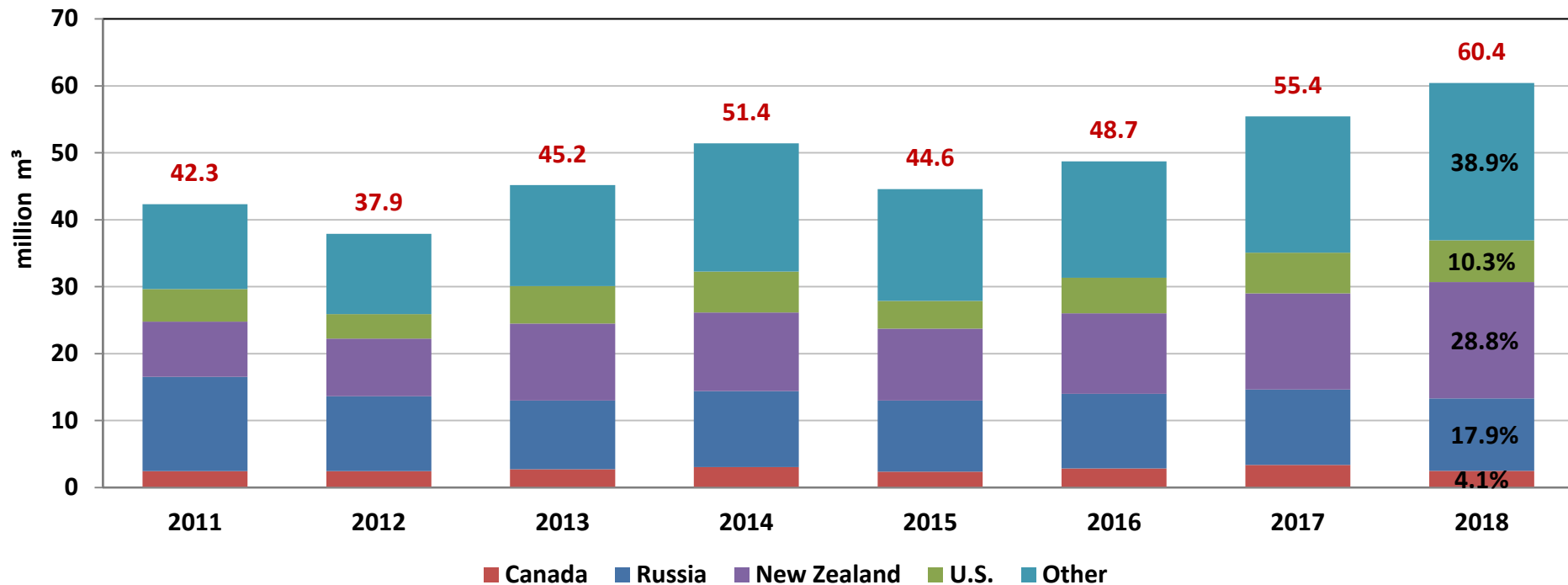
China Sulfate (Kraft) Wood Pulp Imports by Supply Country



Data source: [WOOD MARKETS China Bulletin](#).

Markets – China – In 2018, Canada (14.3% share) was second behind Brazil (31.8%) as the leading supplier of China’s kraft market pulp imports. They were followed by Chile (11.7%), Indonesia (11.5%), the U.S. (8.6%), and other countries (22.1%). Imports from Chile became large enough to warrant its own representation. 75

China Log Imports by Supply Country

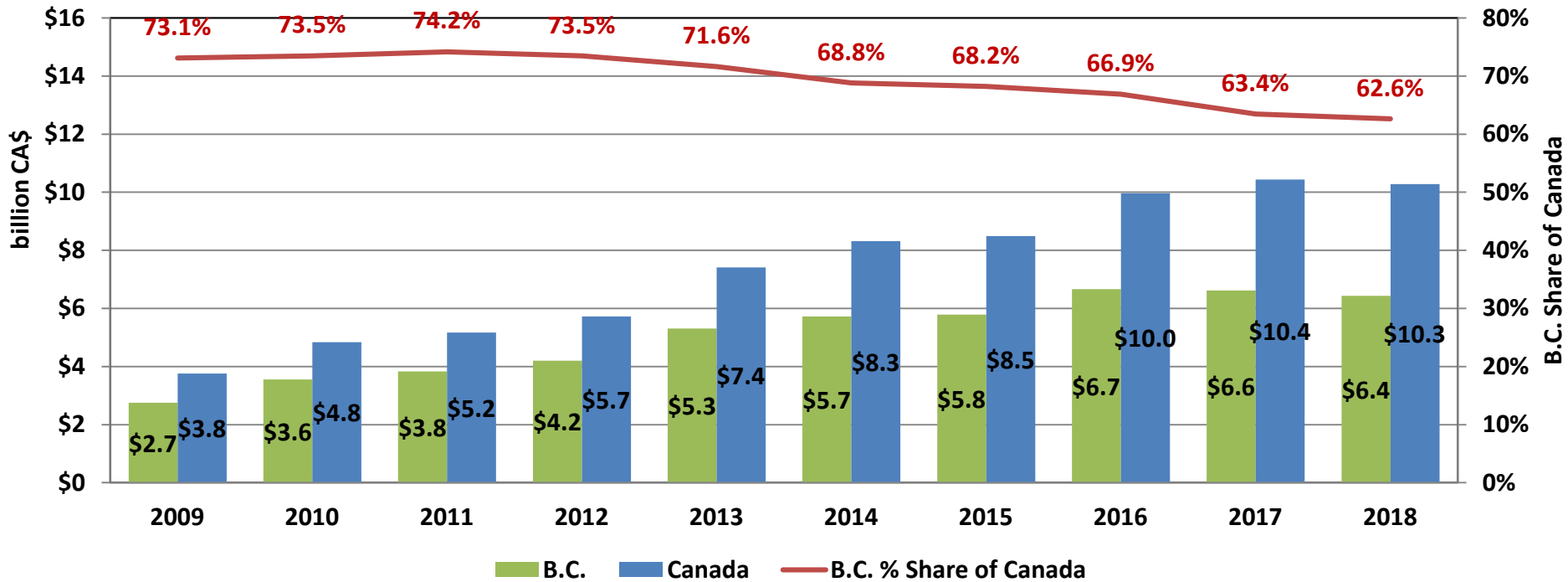


Data source: [WOOD MARKETS China Bulletin](#). All species, including hardwoods.

Markets – China – In 2018, New Zealand continued as China’s largest log supplier (28.8%). They were followed by Russia (17.9%), the U.S. (10.3%), Canada (4.1%) and other countries (38.9%).



Softwood Lumber Exports: B.C. and Canada

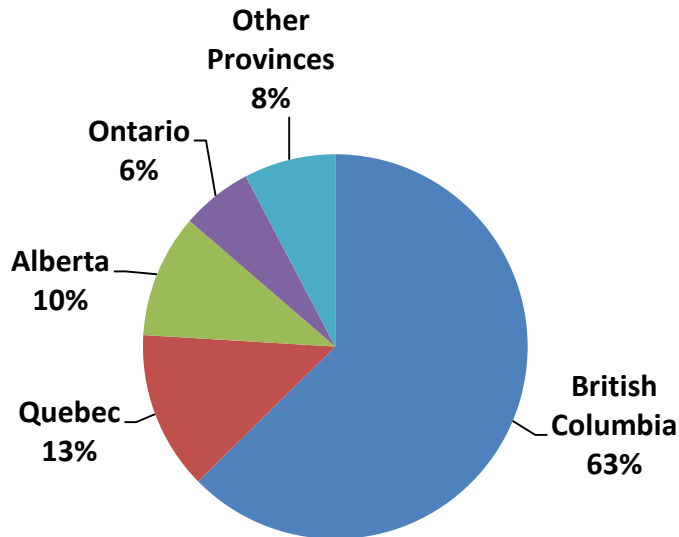


Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Historic data is subject to revisions.

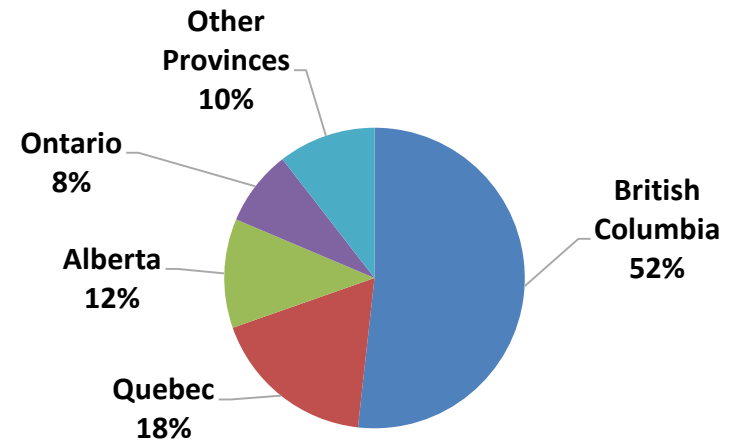
Markets – B.C.’s Share – B.C.’s share of Canada’s total softwood lumber export value was 62.6% in 2018, decreasing from 2017.



Canada Softwood Lumber Export Value (\$10.3 billion) by Province, 2018



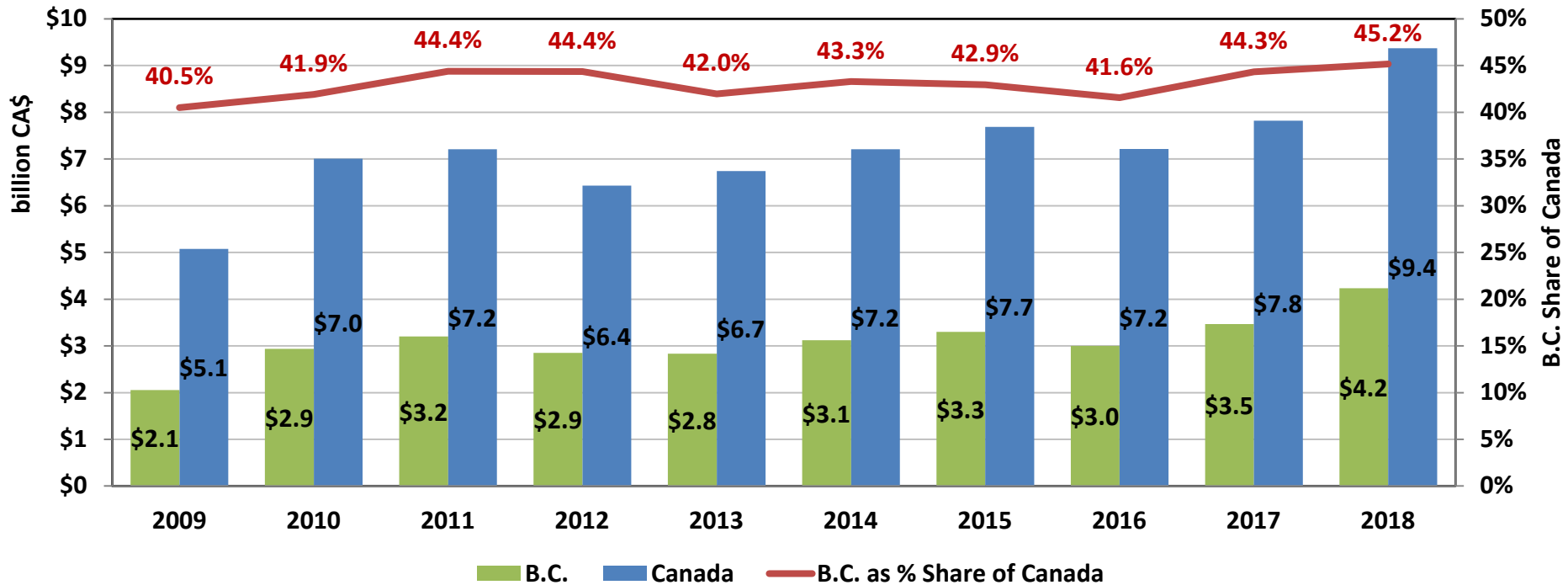
Canada Softwood Lumber Export Value to USA (\$7.5 billion) by Province, 2018



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – In terms of value B.C. is the dominant supplier of Canada’s softwood lumber exports, followed by Quebec, Alberta, Ontario and other provinces.

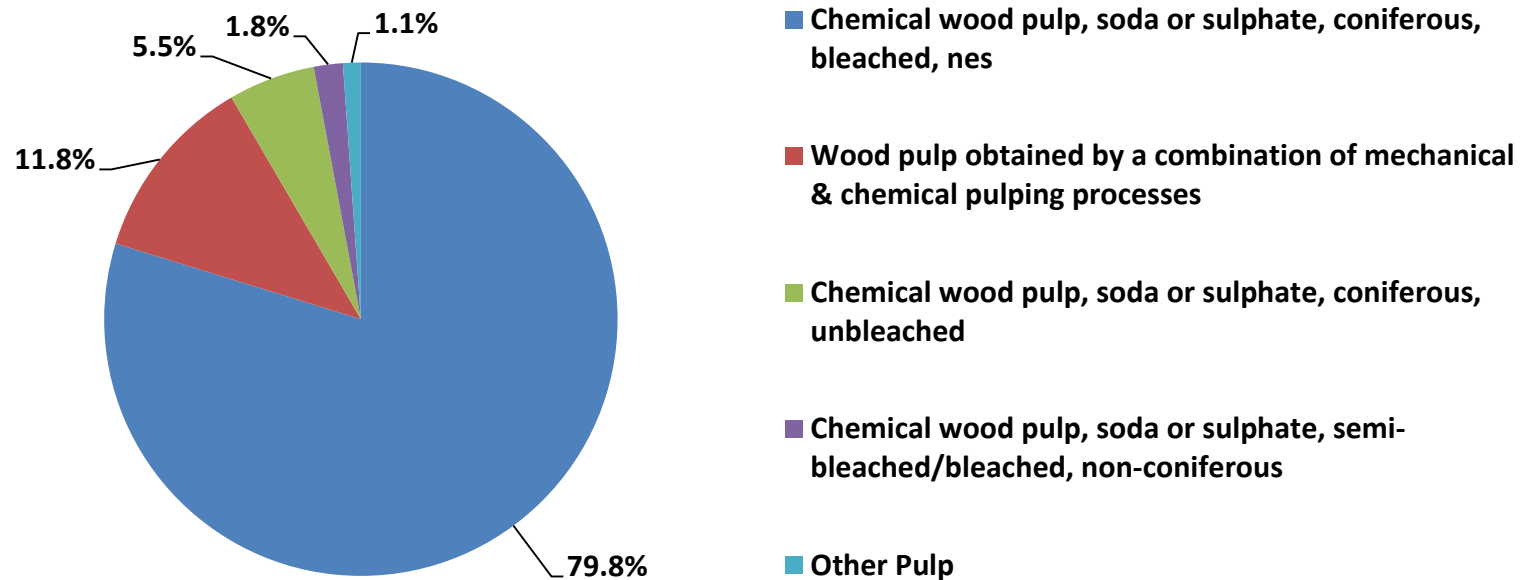
Pulp Exports: B.C. and Canada



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – B.C. accounted for 45.2% of Canada’s total pulp export value in 2018. B.C. sells a greater proportion of its pulp production compared to other provinces, which make more paper.

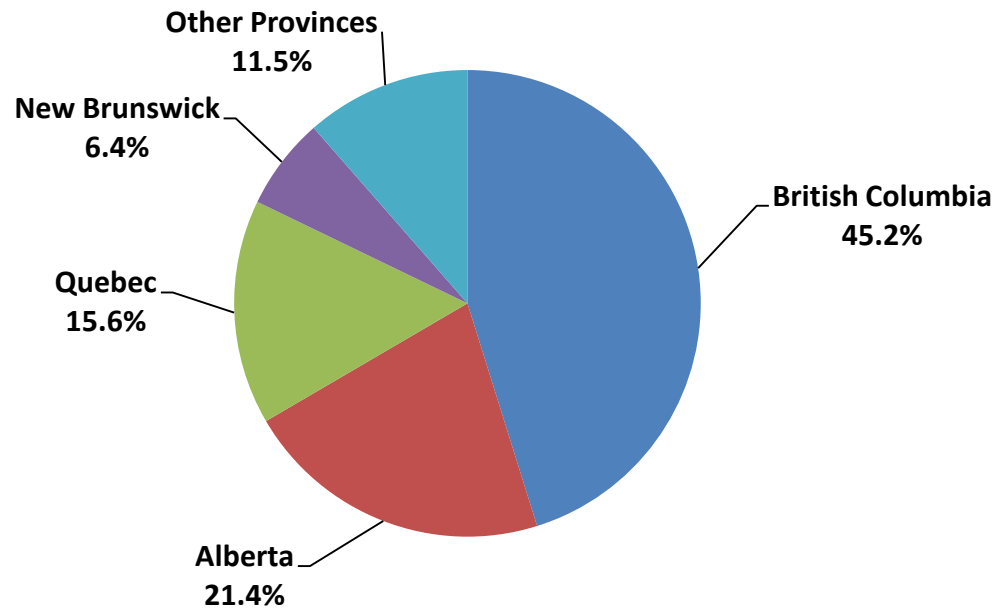
2018 B.C. Pulp Export Share by Product (4.1 million tonnes)



Data source: Statistics Canada via BC Stats; CIMTD. Based on air dry tonnes. NES stands for "not elsewhere specified". Historic data is subject to revisions.

Products – Pulp – Bleached coniferous pulp dominates B.C.'s pulp exports.

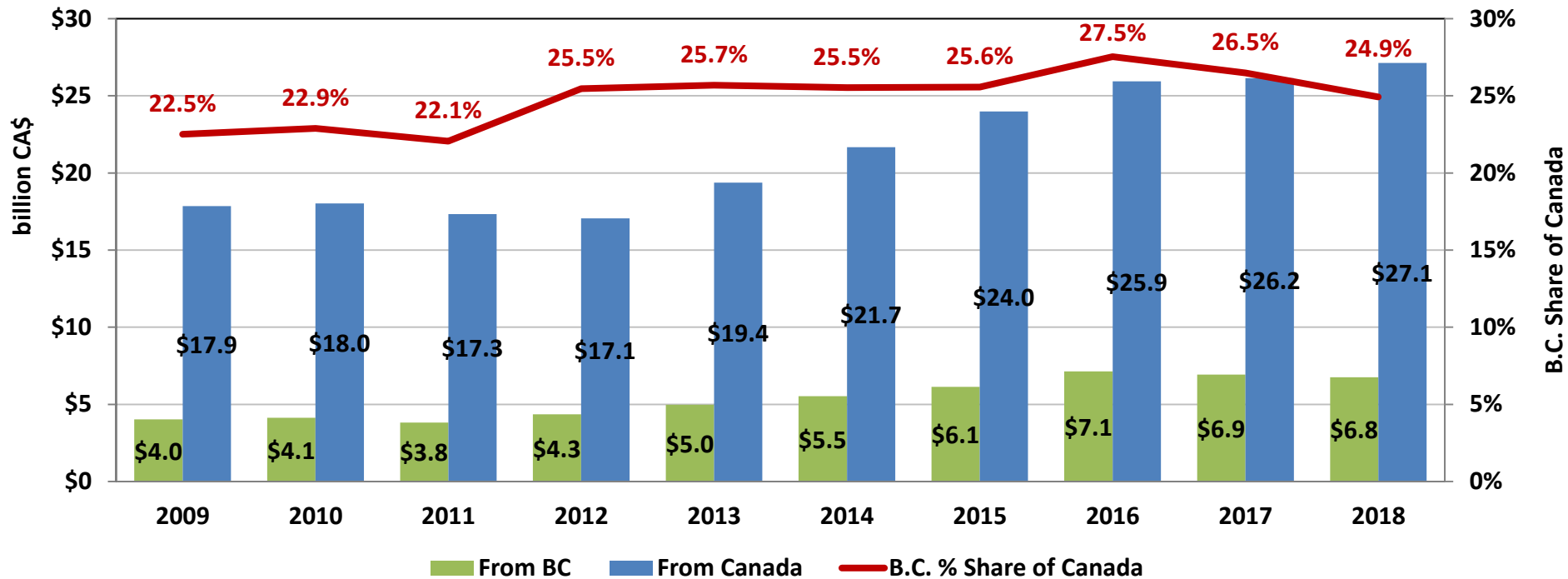
Canada Pulp Export Value (\$9.4 bil.) by Province, 2018



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – B.C. is the largest supplier of Canada’s pulp exports in terms of value, followed by Alberta, Quebec, New Brunswick and other provinces. B.C.’s primary market is China. The two other large exporters, Alberta and Quebec, export large amounts to both China and the U.S.

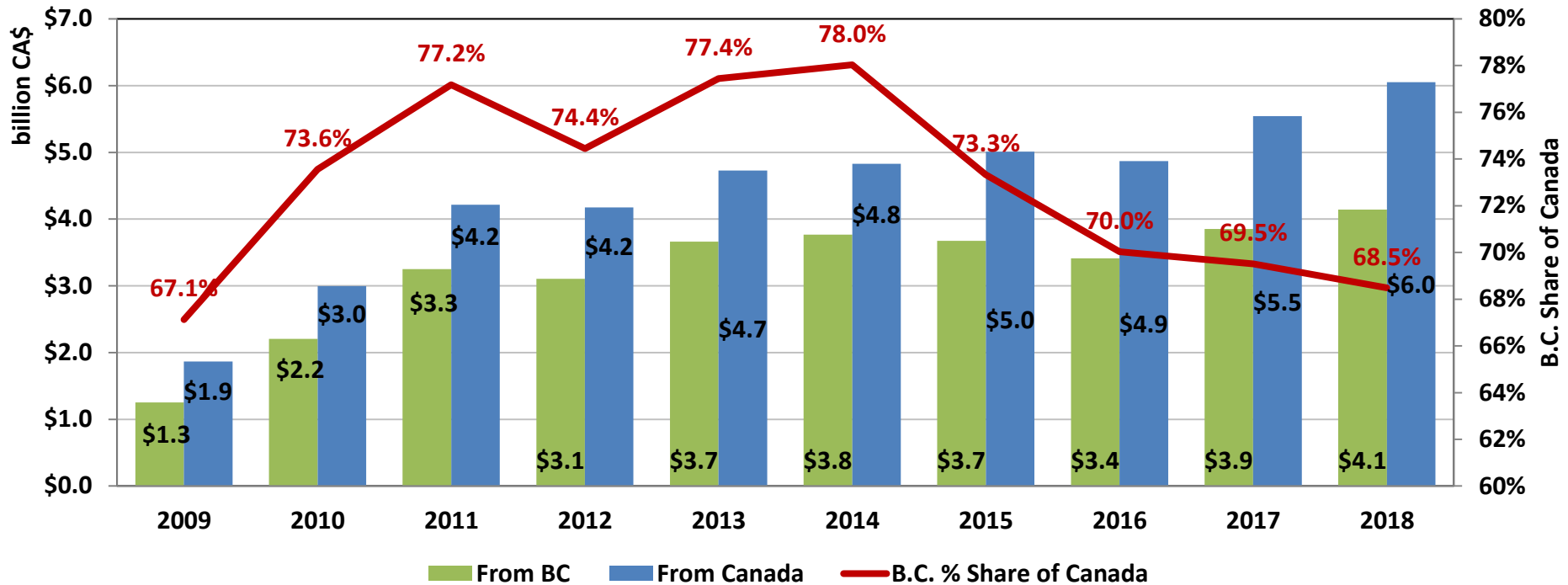
Forest Product Exports to U.S.: B.C. and Canada



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – B.C. accounted for 24.9% of the value of Canada’s total forest product exports to the U.S. in 2018.

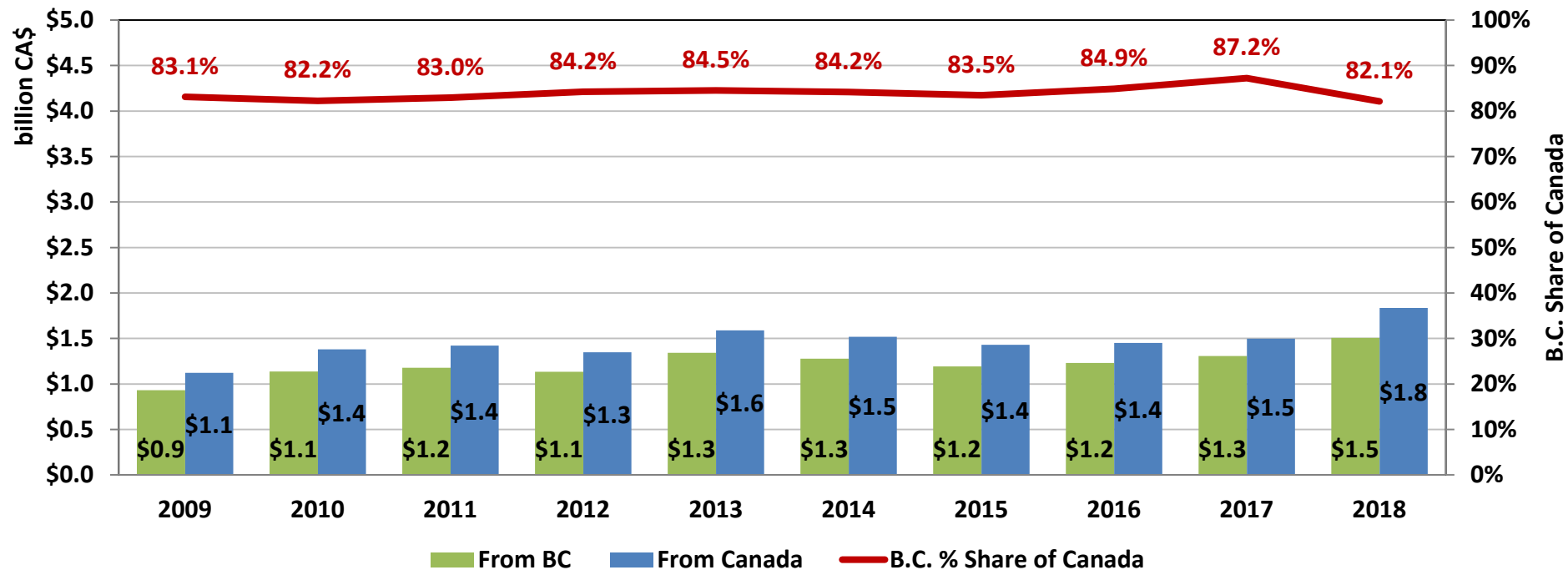
Forest Product Exports to China: B.C. and Canada



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – B.C. accounted for 68.5% of Canada’s total forest product exports to China in 2018.

Forest Product Exports to Japan: B.C. and Canada



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – B.C.’s Share – B.C. accounted for 82.1% of Canada’s total forest product exports to Japan in 2018.

Forest Sector Economic Multipliers

- ❖ The multipliers presented below are FLNRORD estimates of the contribution to key B.C. economic indicators per million m³ of harvest. These estimates are based on a special run of the [B.C. Input-Output Model](#) (the IO Model). The Ministry uses these multipliers for economic impact analysis, such as the harvest impacts presented in Timber Supply Reviews.

Impact **per million m³** of Harvest (excludes waste and reject) - **dollar values in millions**

2015 Basis	Impact Type	Output	GDP	Household Income	Employment	Provincial Tax Revenue
Provincial	Direct	\$315	\$100	\$68	749	\$7.8
	Total (Direct + Indirect + Induced)	\$423	\$160	\$106	1,288	\$11.9

- ❖ The estimates combine impacts for the four forestry related industries reported by Stats Canada ([Forestry and Logging with Support Activities](#), [Wood Product Manufacturing](#), and [Paper Manufacturing](#)), and remove double counting of impacts that could arise because of inter-industry linkages (termed “delinking”)
- ❖ Impacts are presented for Output (sales value), Gross Domestic Product (GDP), Household Income, Employment, and Provincial Tax Revenue.
- ❖ Direct impacts and total impacts are shown. Total impacts include direct impacts, indirect impacts (on suppliers to the industry), and induced impacts (from direct and indirect employees spending their wages).
- ❖ These multipliers have been updated from 2011 to 2015, incorporating the census data for 2015. Changes in the multipliers include:
 - ❖ For direct impacts: higher Output (+\$59 m.) and GDP (+\$17 m.) per million m³ of harvest due to higher product prices, higher Household Income (+\$6), lower Employment (-14), and higher tax revenue (+\$2.3 m.)
 - ❖ For total impacts: higher Output (+\$55 m.) and GDP (+\$24 m.) per million m³ of harvest due to higher product prices, higher Household Income (+\$10), lower Employment (+1), and higher tax revenue (+\$2.2 m.)

Additional Sources for Data

- ❖ Canadian [National Forestry Database](#).
- ❖ Food and Agriculture Organization of the United Nations ([FAO](#))
- ❖ Natural Resources Canada [Forestry Statistics](#)
- ❖ B.C. Forestry Innovation Investment – [Forest Sector Overview](#)