

A banner at the top of the slide showing the British Columbia flag waving over a coastal landscape with mountains and a sunset.

2017 Economic State of the B.C. Forest Sector

August 2018

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Economic Services Branch

A decorative banner at the top of the slide featuring the British Columbia flag, a landscape with mountains, and a field of yellow grass.

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.

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.

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, and foreign competition.
- ❖ **Is cyclical**, affected by the global forest commodity markets and general performance of the world economy.

Overview of 2017

- ❖ **In sales terms, 2017 was an improvement over 2016**, with wood products (+13%) and paper products (+11%) both doing well.
- ❖ **B.C.'s forest sector exports increased** in 2017 (+3.3%). Export growth was primarily from pulp products (+25%).
- ❖ **The U.S. market** continued to gradually improve, as seen in the U.S. housing market, though B.C. exports to the U.S. declined slightly.
- ❖ **China¹** continued as the second largest export market for B.C.'s forest sector. Exports to China increased 13% thanks to strong pulp exports.
- ❖ **Employment increased** 2.9% (+1,600) in 2017 according to the System of National Accounts².
- ❖ **In 2017 B.C. Wildfires** burned an area 8 times larger than the average area burned from 2007-2016. The fires cost nearly \$570 million to fight, and the negative impact on the forest sector can be seen in lower lumber production.
- ❖ **B.C. Lumber Exporters** are estimated³ to have paid CA\$333 million in U.S. lumber duties in 2017. Tariffs were imposed in May.

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

2. According to the Survey of Employment, Payrolls and Hours employment increased slightly (+700), and the Labour Force Survey showed a decrease (-2,800). See Appendix starting on slide 51 for more information.

3. Ministry estimate based on monthly B.C. lumber export value and the "all others" duty rates (CVD + AD).

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 Exports

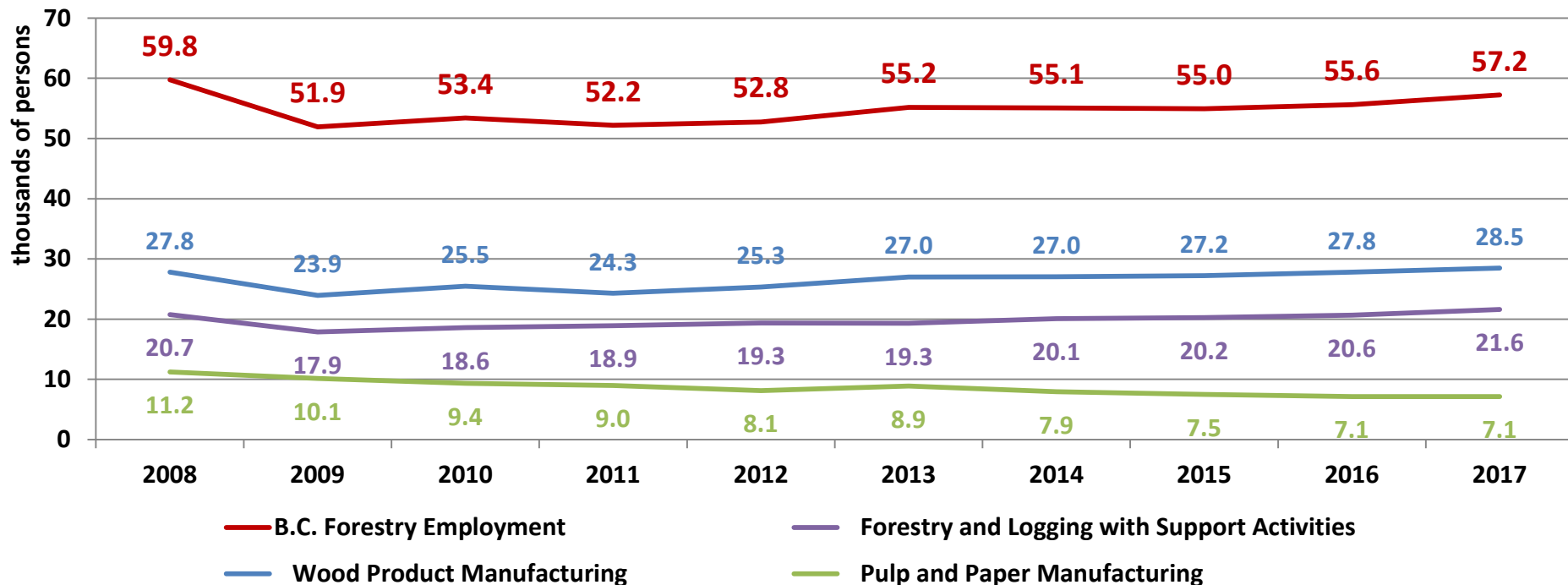


Data source: Statistics Canada; [CANSIM 304-0015](#), and [Canadian International Merchandise Trade Database \(CIMTD\)](#) or via [BC Stats](#). Note historic data is subject to revisions.

Overview Indicator 1 – B.C. forest sector manufacturing sales in 2017 were up 12% from 2016 and exports, excluding logs, were up 3.2% from 2016. During the U.S. Housing boom, 2004 was the peak in forest sector manufacturing sales and non-log exports (CA\$18.2 and CA\$14.7 billion).

The increasing gap between manufacturing sales and exports suggests growth of the domestic market, and the gap is now similar to levels seen from 2003-2005. Additionally, in May 2018 manufacturing sales for 2016 received a second upward revision (\$580 million which is in addition to the original \$780 million revision). Most of this revision was for wood products.

B.C. Forest Sector Direct Employment



Data source: Statistics Canada System of National Accounts (SNA): [CANSIM 281-0024](#).

Overview Indicator 2 – B.C. forest sector direct employment was 57,200 in 2017, up 2.9% from 2016. In 2017 there was an increase in Wood Product employment (2.4%) and in Forestry and Logging with Support Activities (4.6%). Pulp and Paper was down (-0.2%).

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 51 in the appendix. 7

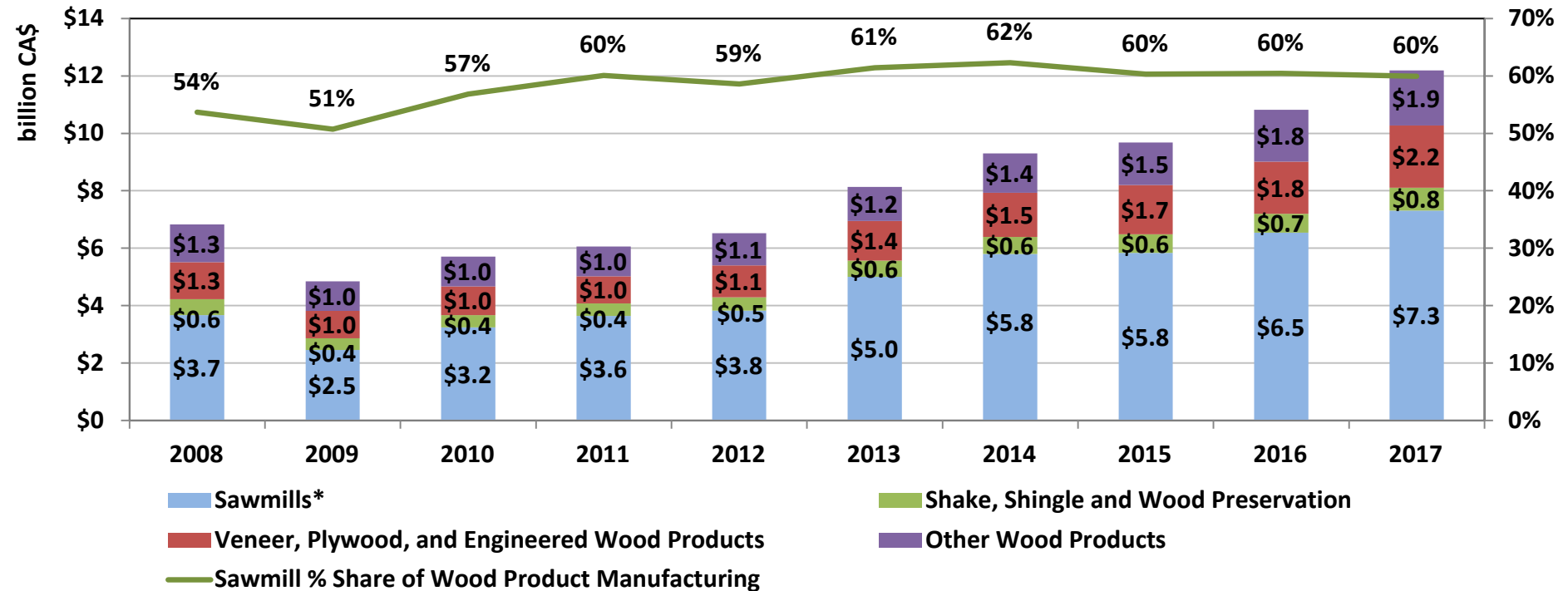
Products Overview

- ❖ **Wood Products, especially Lumber:** In 2017, B.C. produced 30.6 million cubic metres of lumber, or 46% of Canada's total softwood lumber production. B.C. wood product sales were CA\$12.2 billion in 2017. Sawmill* sales were CA\$7.3 billion, or 60% of total Wood Product Manufacturing sales in B.C.
- ❖ **Pulp and Paper Products, especially Market Pulp:** B.C. Paper Manufacturing sales were CA\$4.8 billion in 2017. Pulp mills** had sales of CA\$2.9 billion, or 59% of total Paper Manufacturing sales in B.C.
- ❖ **Logs:** In 2017, 64.3 million cubic metres of logs were harvested. Exports of 6.0 million cubic metres (9.3% of harvest), mostly from coastal areas, were worth CA\$807 million.
- ❖ **Wood Products-Pellets:** B.C. exported 1.78 million tonnes of wood pellets worth CA\$311 million. The UK was the primary destination by weight (73%), followed by Japan (14%), Belgium (7.1%), and South Korea (3.1%).

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

**Pulp is a subcategory of the Paper Manufacturing NAICS code.

B.C. Wood Product Manufacturing Sales

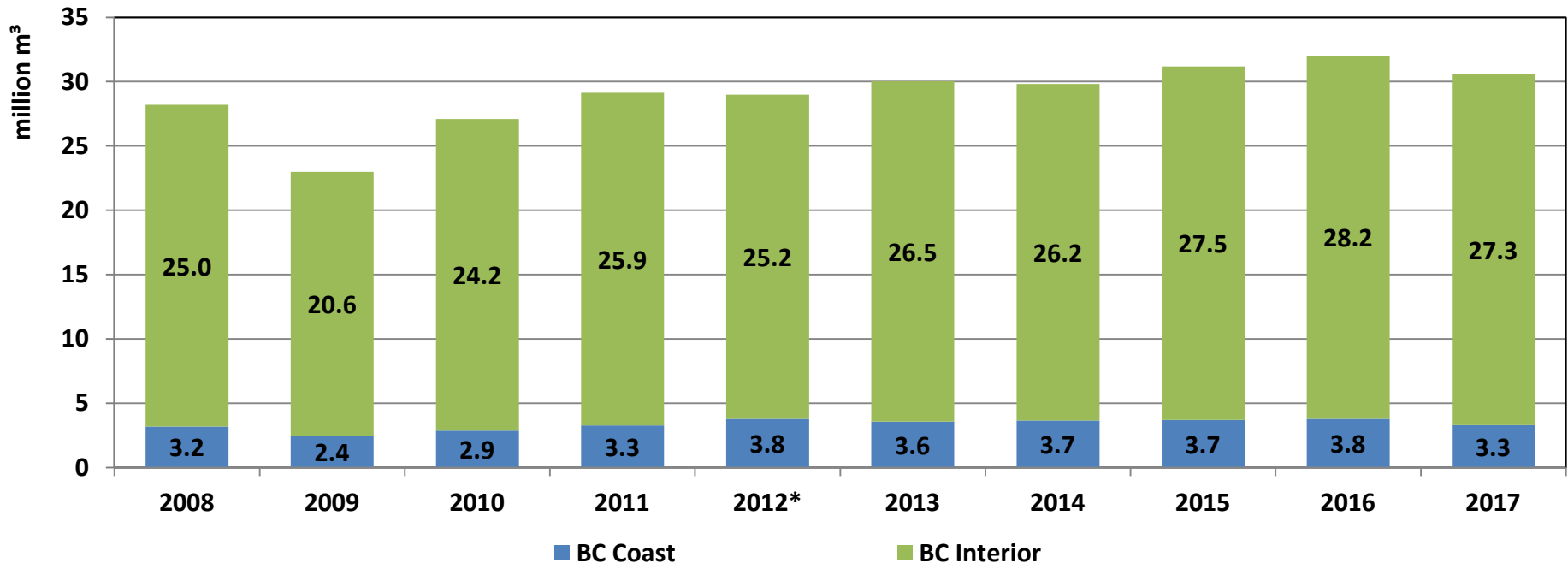


Data source: Statistics Canada; [CANSIM 304-0015](#). Sawmill sales are primarily lumber, and include chip and sawdust sales. Other wood products include wood pellets, and most other products of wood such as cabinets, bowls, tool handles, fencing, etc.

Products – Wood Products – Wood Product Manufacturing sales totaled CA\$12.2 billion in 2017. Sawmill sales accounted for 60% of Wood Product Manufacturing sales. From 2016 to 2017, Sawmill sales increased 12%, and the three other industry groupings increased a combined 14%.



B.C. Softwood Lumber Production



*Interior and Coast totals are Estimates. In all years the Interior includes production from Yukon, Northwest Territories, and Nunavut, though the volume is negligible

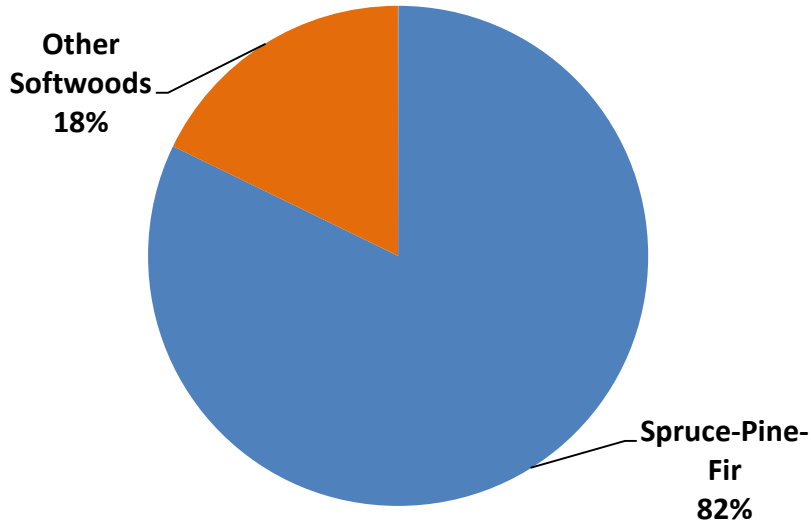
Data source: Statistics Canada; [CANSIM 303-0064](#).

Products – Softwood Lumber – Softwood lumber production volume declined 4.5% in 2017. Part of this decline was due to forest fires. The Coast accounted for 11% of B.C. production. Lumber production in the past several years is comparable to the production in 1995-1999 when U.S. housing starts averaged around 1.5 million, yet housing starts are currently only 1.2 million. This is due to expanding offshore markets, and possibly to increased domestic value added manufacturing.

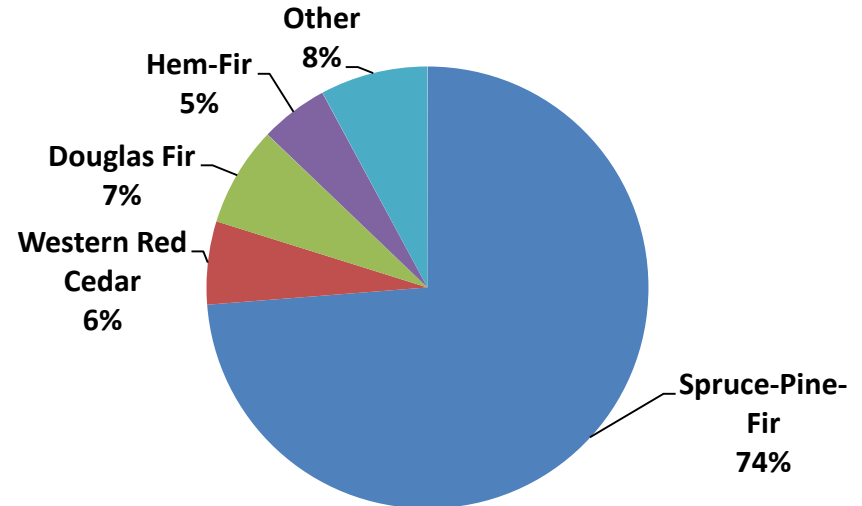


B.C. Softwood Lumber Production and Export Value Share by Species, 2017

**B.C. Softwood Lumber Production
(30.6 million m³), 2017**



**B.C. Softwood Lumber Export Volume
(25.3 million m³), 2017**

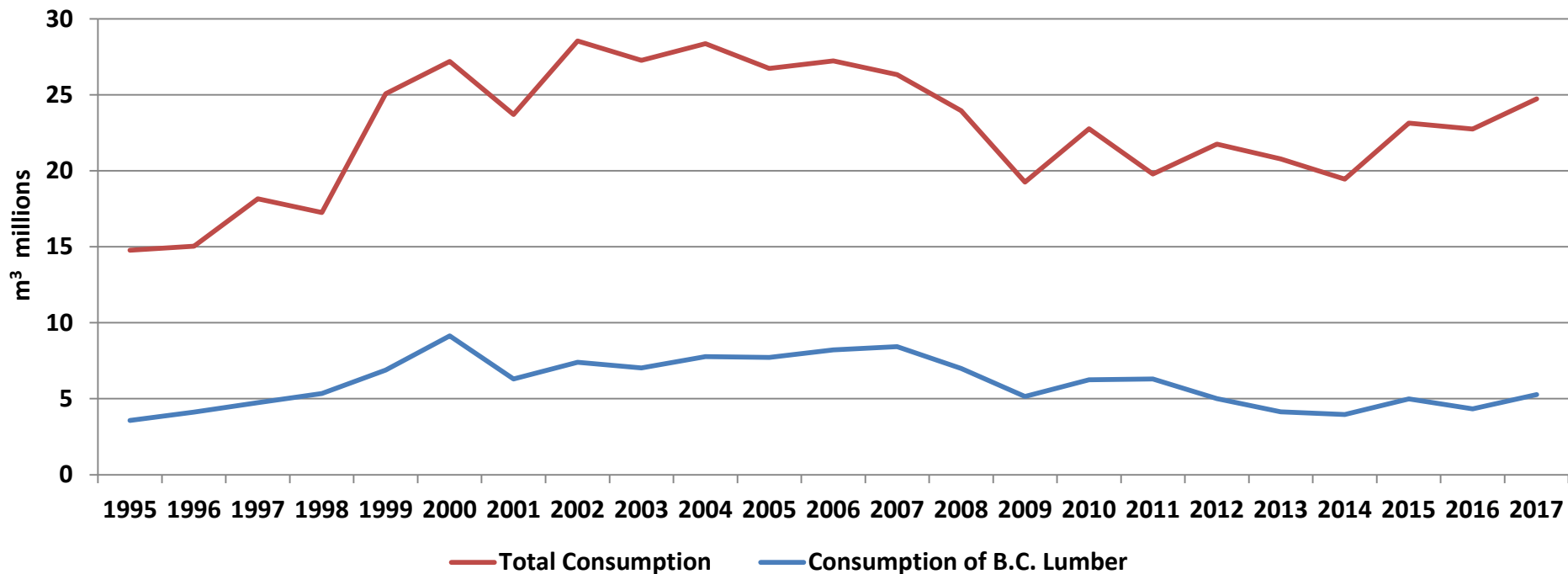


Data source: Statistics Canada; [CANSIM 303-0064](#) and [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Based on volume in cubic metres. Note historic data is subject to revisions.

Products – Softwood Lumber – In 2017, 82.2% of softwood lumber production volume was spruce, pine or fir (SPF), and 17.8% was from other species such as cedar, Douglas fir, and hemlock. For comparison, in terms of export volume SPF was 74% of the total, while other species made up 26%. This demonstrates SPF is important to the domestic market (5.3 million m³, 17% of production).



Estimated Canadian Consumption of Lumber

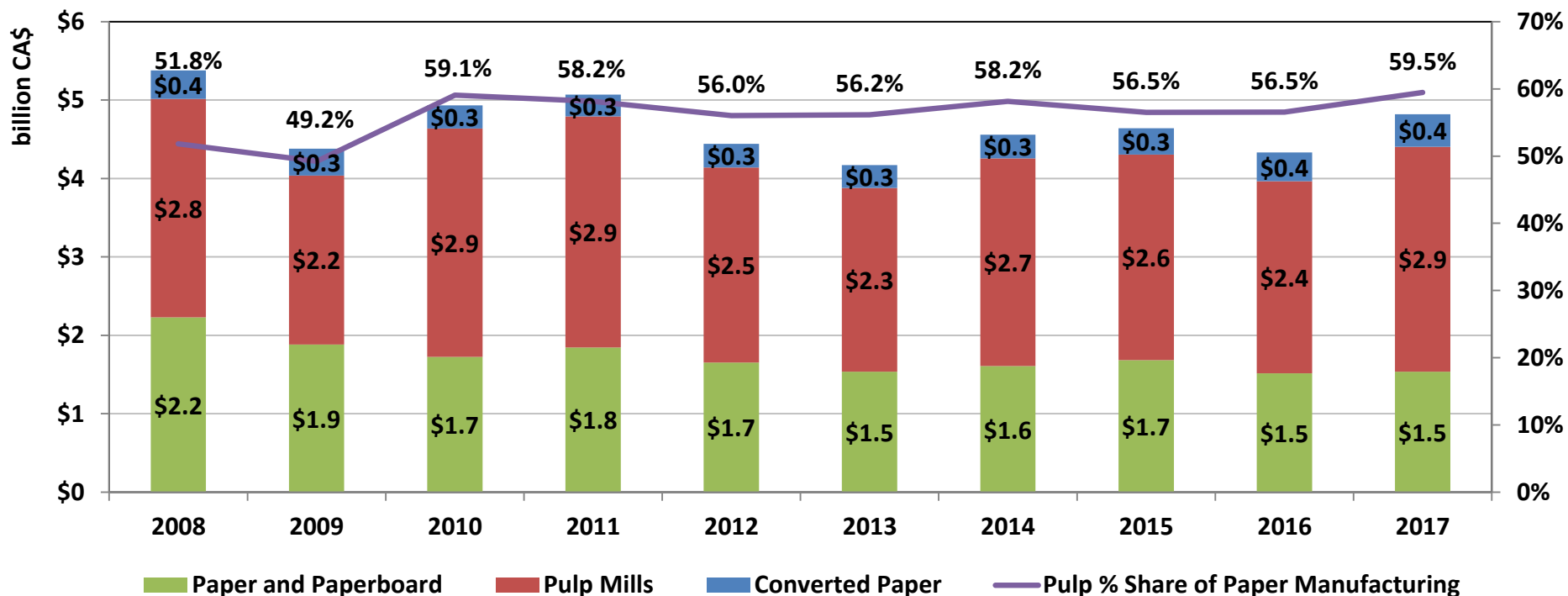


Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#) and [CANSIM 303-0064](#). Note historic data is subject to revisions.

Products – Softwood Lumber – In 2017 Canada consumed approximately 25 million m³ of lumber, which included 5.3 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. In 2017 an additional 1 million m³ of B.C. lumber production was consumed in Canada.

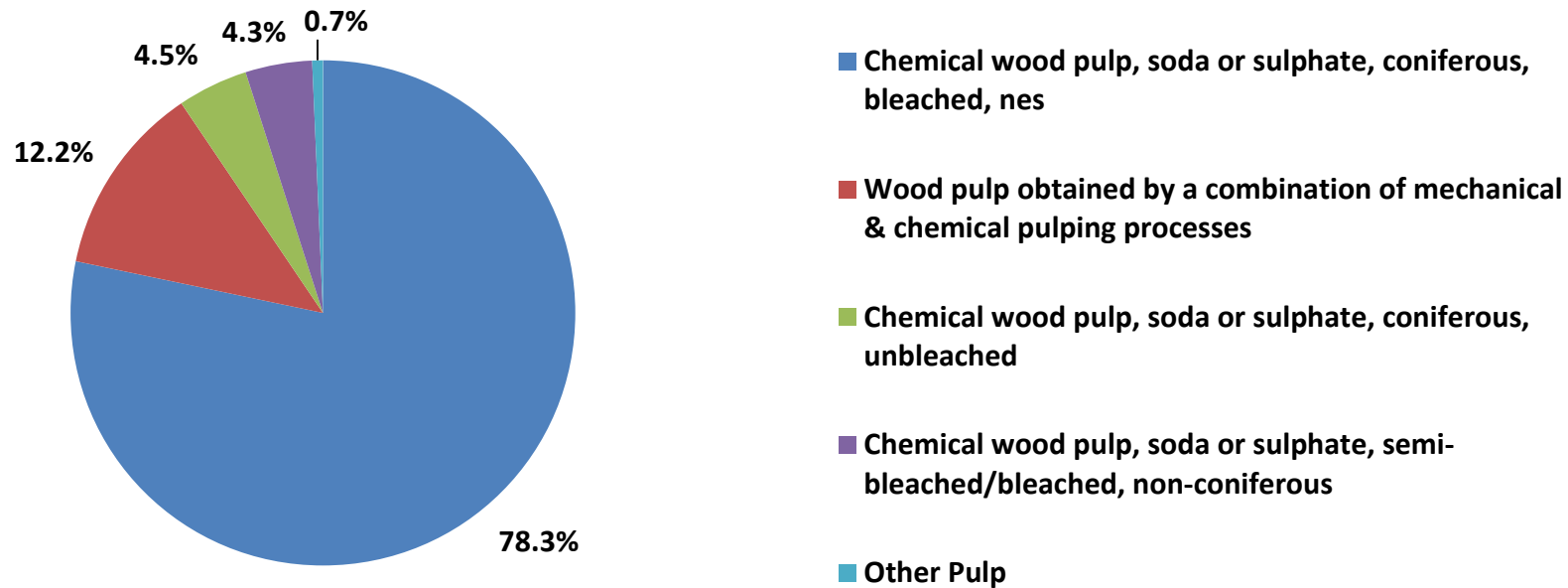
B.C. Paper Manufacturing Sales



Data source: Statistics Canada; [CANSIM 304-0015](#). Converted paper includes products created from purchased paper and paperboard.

Products – Pulp and Paper – Total Paper Manufacturing sales (includes pulp) were CA\$4.8 billion in 2017, increasing by 11%. Pulp Mill sales increased 17% from 2016 to 2017, and accounted for 60% of total sales. Paper and Paperboard sales were up 1.4%, and Converted Paper was up 13%.

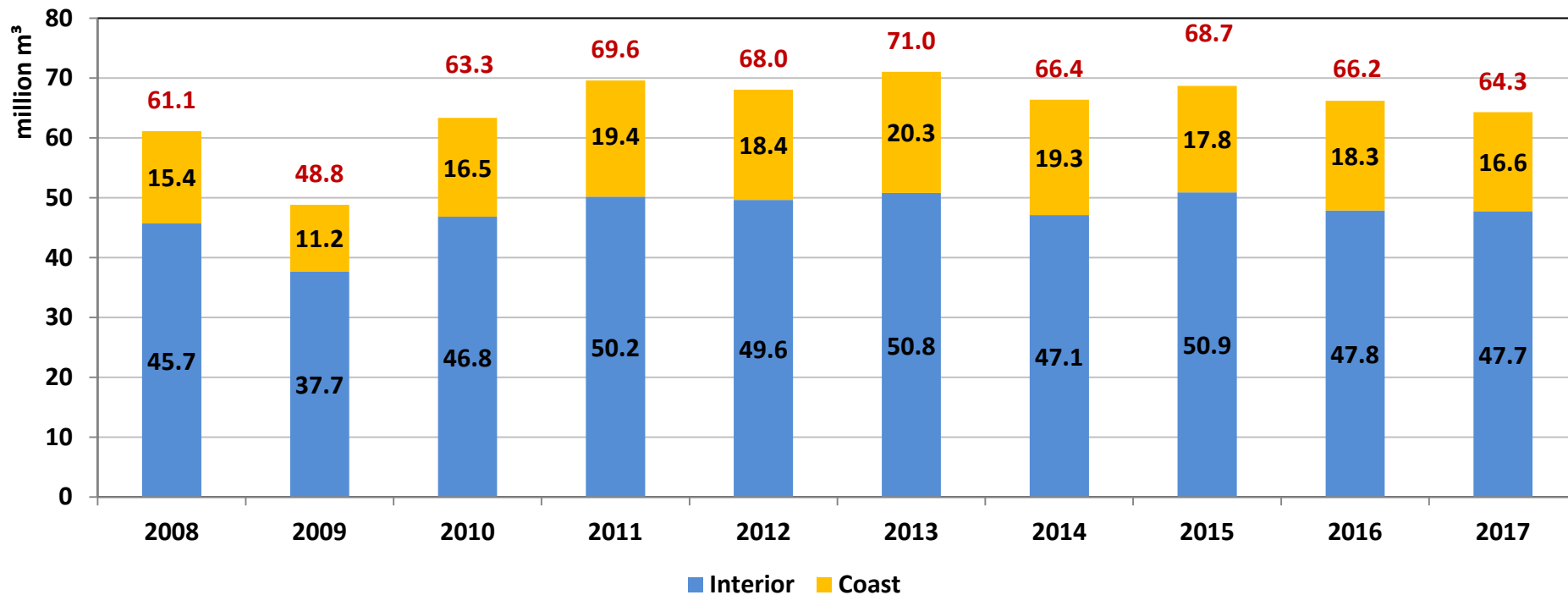
2017 B.C. Pulp Export Share by Product (4.3 million tonnes)



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

Products – Pulp – Bleached sulphate (kraft) pulp dominates B.C.'s pulp exports.

B.C. Timber Harvest Volume

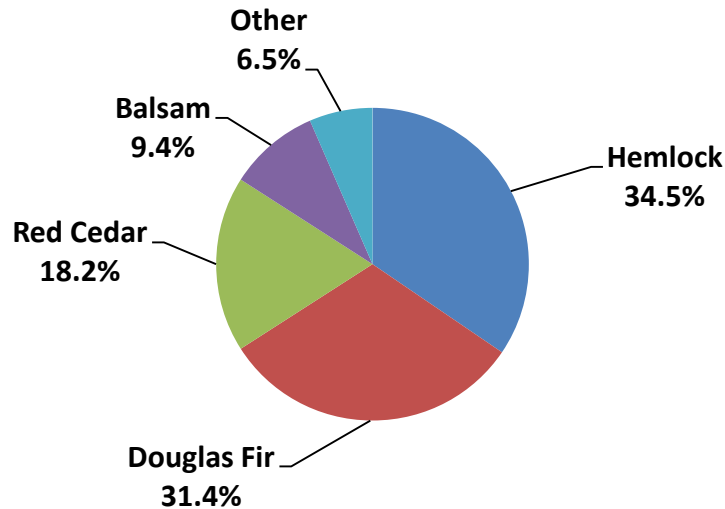


Data source: B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on June 1, 2018. Includes both Crown and private lands.

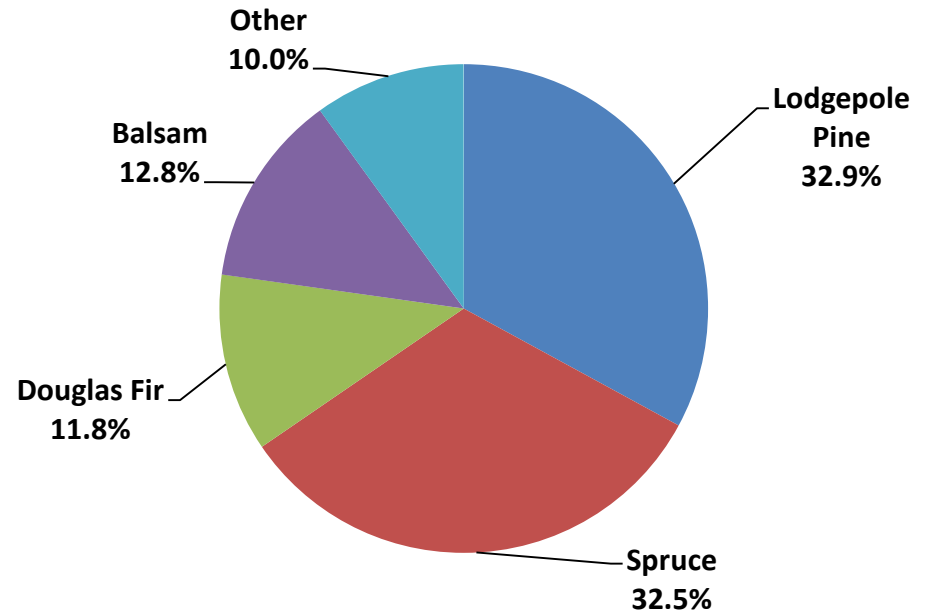
Products – Logs – Total harvest volume (64.3 million m³) was down 2.9% from 2016, and up 32% from 2009. The Interior accounted for 74% of the harvest, and the Coast for 26%. The last few years of interior harvest are close to pre-beetle harvest uplift, pre-housing boom levels.



Species Mix for 2017 B.C. Coast Harvest (16.6 mil. m³)



Species Mix for 2017 B.C. Interior Harvest (47.7 mil. m³)



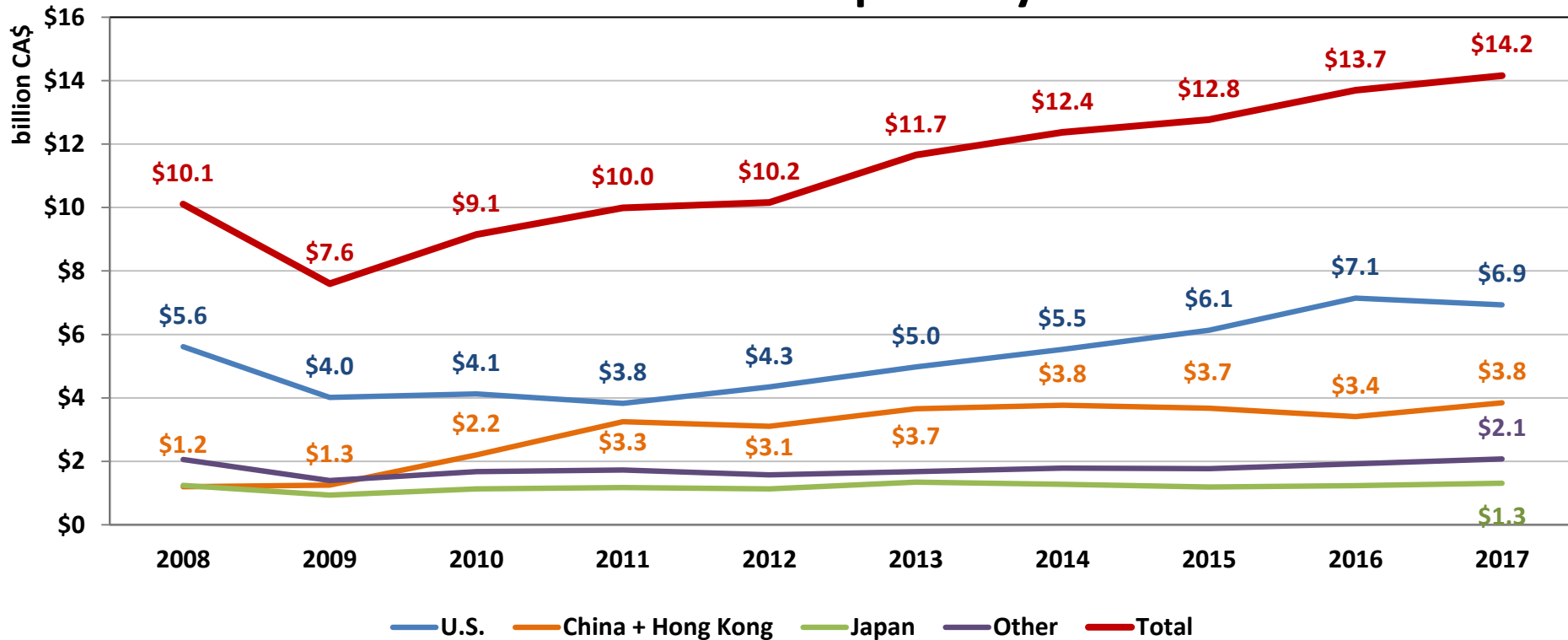
Data source: B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on June 1, 2018. Includes both Crown and Private lands.

Products – Logs – Hemlock and Douglas fir make up roughly 2/3 of the harvest on the Coast. In the Interior the main species is lodgepole pine, followed closely by spruce in 2017. Lodgepole pine as a share of Interior harvest fell roughly 10 percentage points compared to 2016, with spruce filling most of the gap. During the height of salvage response to the mountain pine beetle epidemic, lodgepole’s share was in the 60’s.

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 2017 (-\$212 million) due primarily to lower lumber export volume.
- ❖ **China has increased** substantially over the last decade and is now in a strong second place. China's share increased to around 27% of B.C. forest product exports in 2017 compared to 25% in 2016.
- ❖ **Japan has decreased** compared to the late 1990s, but value has been steady lately. In terms of share, Japan remains in third place since 2009. Value was up \$77 million in 2017.
- ❖ **Other export markets** made up 15% of total forest sector exports in 2017, with notable destinations being South Korea (2.8%), the U.K. (2.2%), Indonesia (1.9%), and Taiwan (1.2%).
- ❖ **The domestic market** is also important to the forest sector. The potential size of the market is suggested by the difference between manufacturing sales and exports on slide 6.

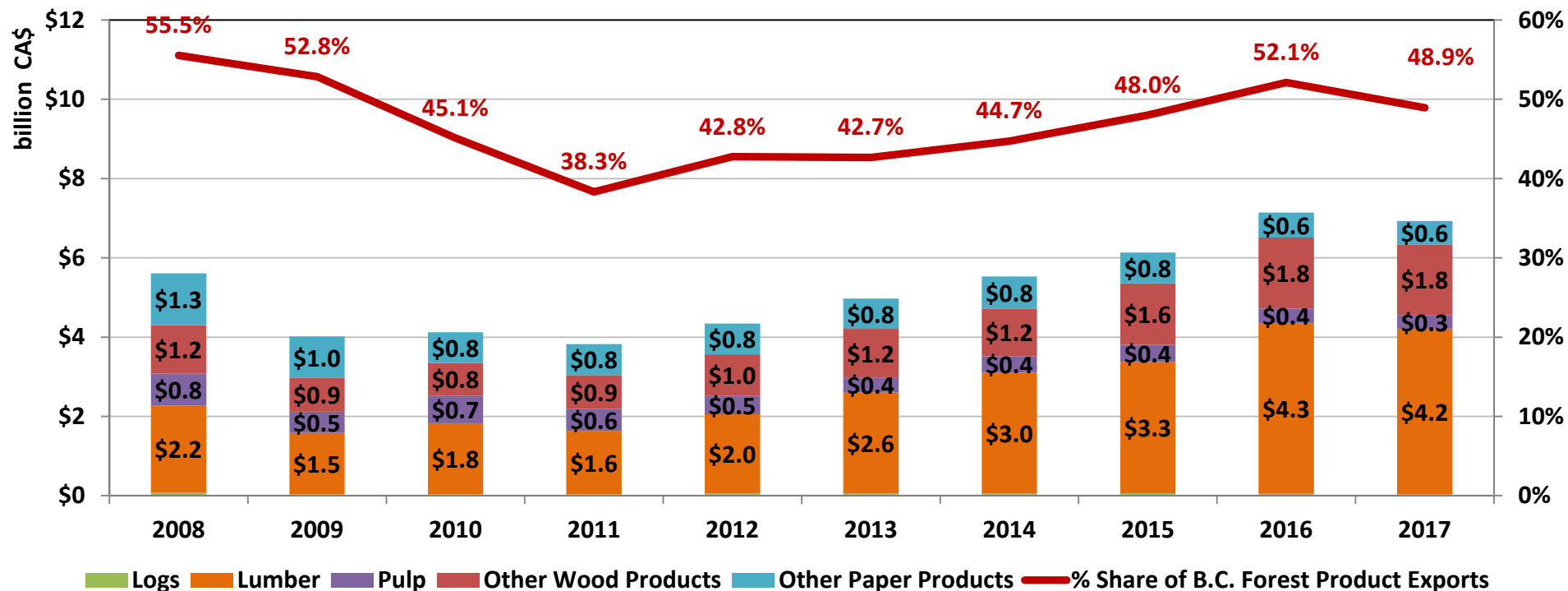
B.C. Forest Product Exports by Market



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

Markets – 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.

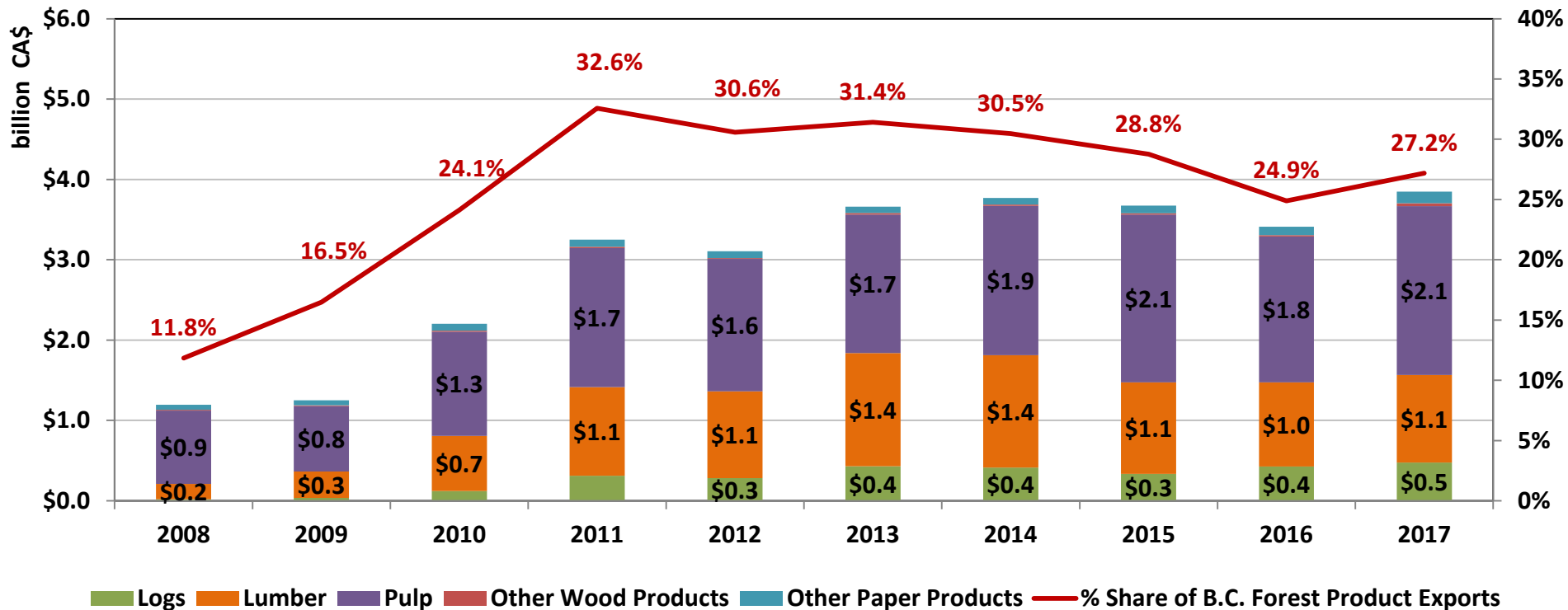
B.C. Forest Product Exports to the United States



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

Markets – U.S. – The U.S. was B.C.’s largest market in 2017 at CA\$6.9 billion, a decrease of 3% over 2016. The U.S.’s share of B.C.’s forest product exports decreased to 48.9%. The top 5 Other Wood Products were OSB, Veneer and Plywood (Douglas fir), Shakes, Shingles, and Siding.

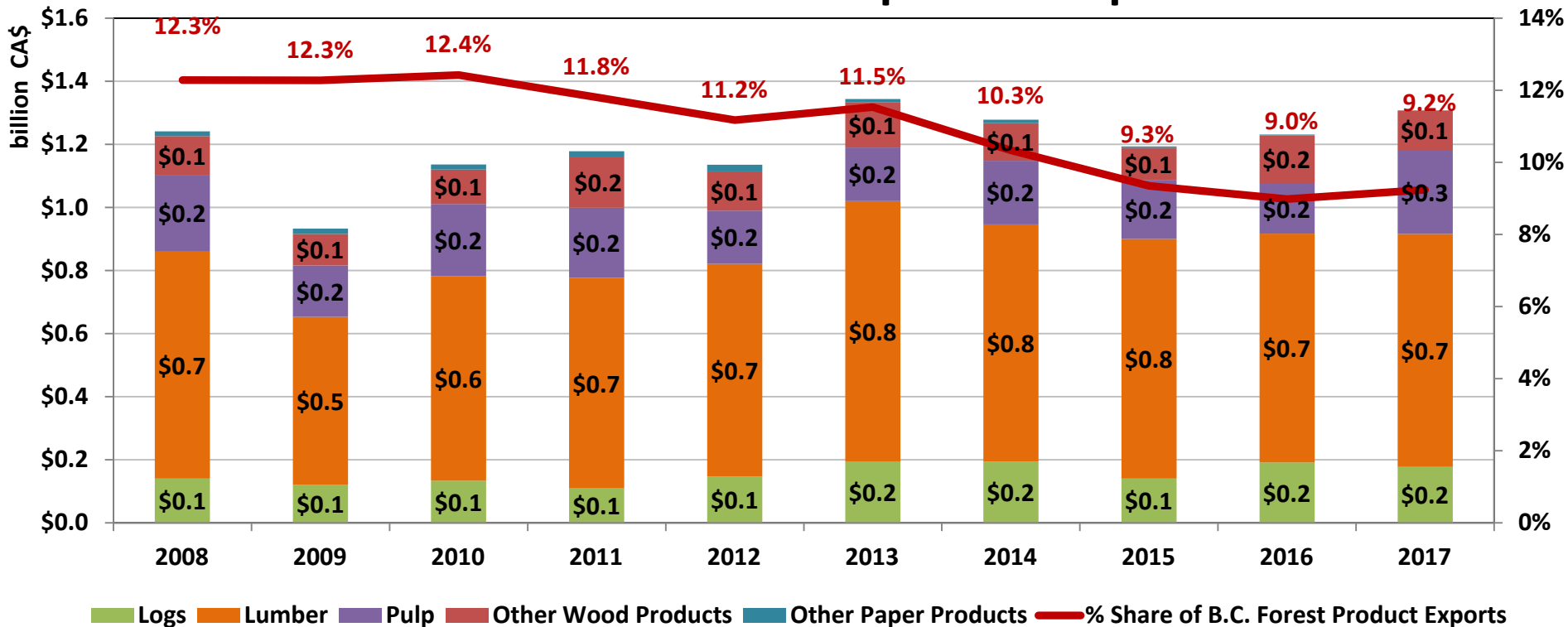
B.C. Forest Product Exports to China



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note 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 27% of B.C.’s forest exports. The value in 2017 was CA\$3.8 billion, an increase of 13% from 2016. Pulp is the dominant export product (55%).

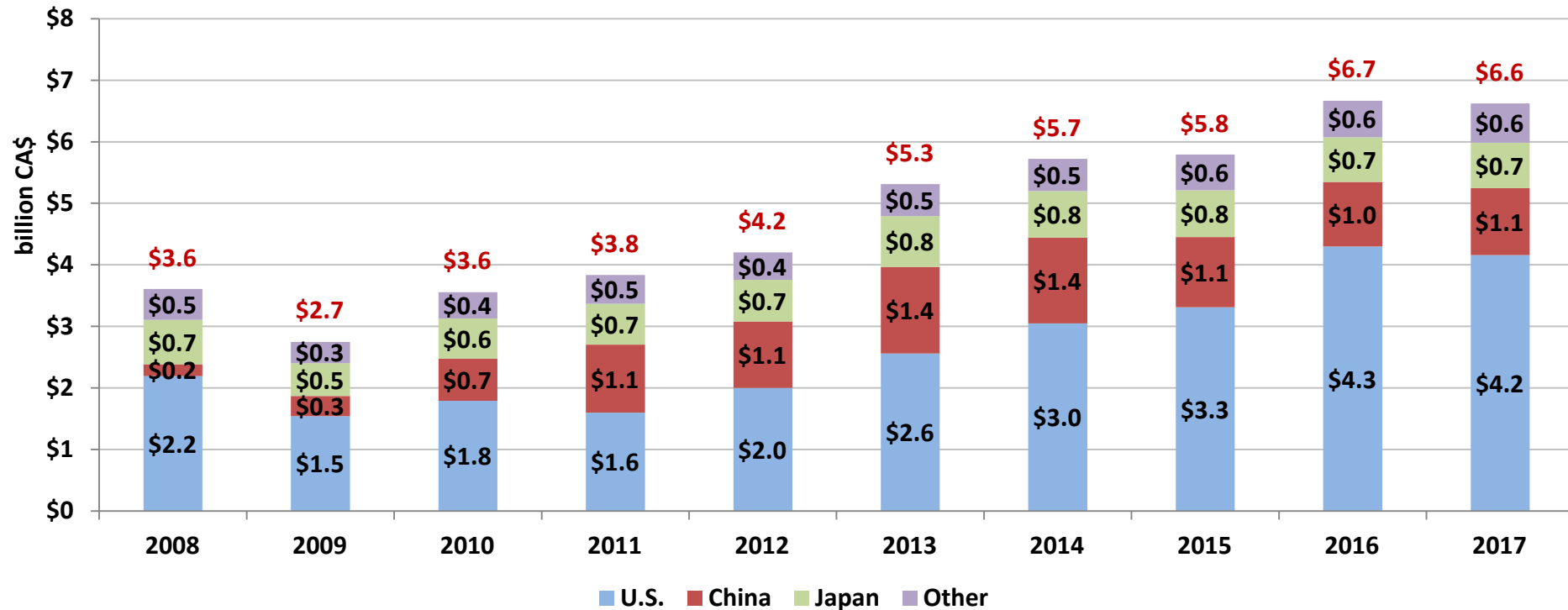
B.C. Forest Product Exports to Japan



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note 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\$1.3 billion in 2017, an increase of 6.3% from 2016. Lumber had the highest share of value with 56% in 2017.

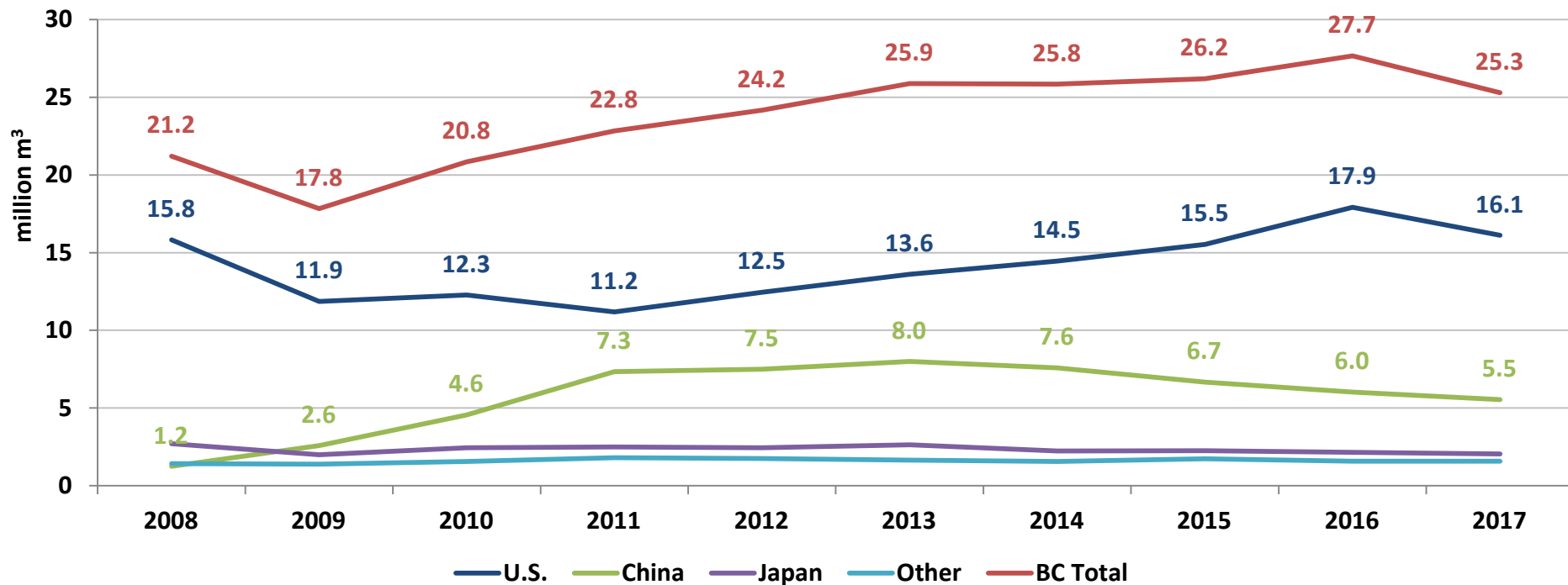
B.C. Softwood Lumber Exports by Market



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

Markets – 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.

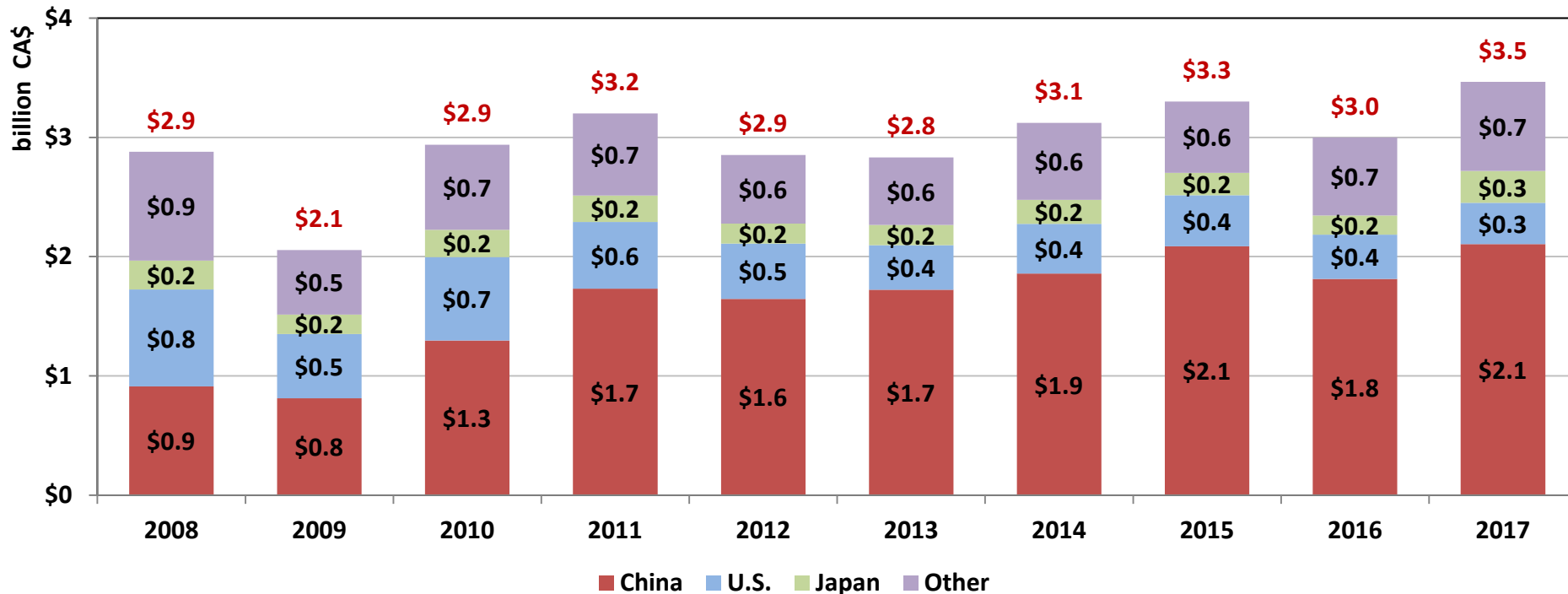
B.C. Softwood Lumber Export Volume by Market



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note 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. The lower volumes in 2017 were offset by higher prices as demonstrated on the previous slide where total value is relatively unchanged.

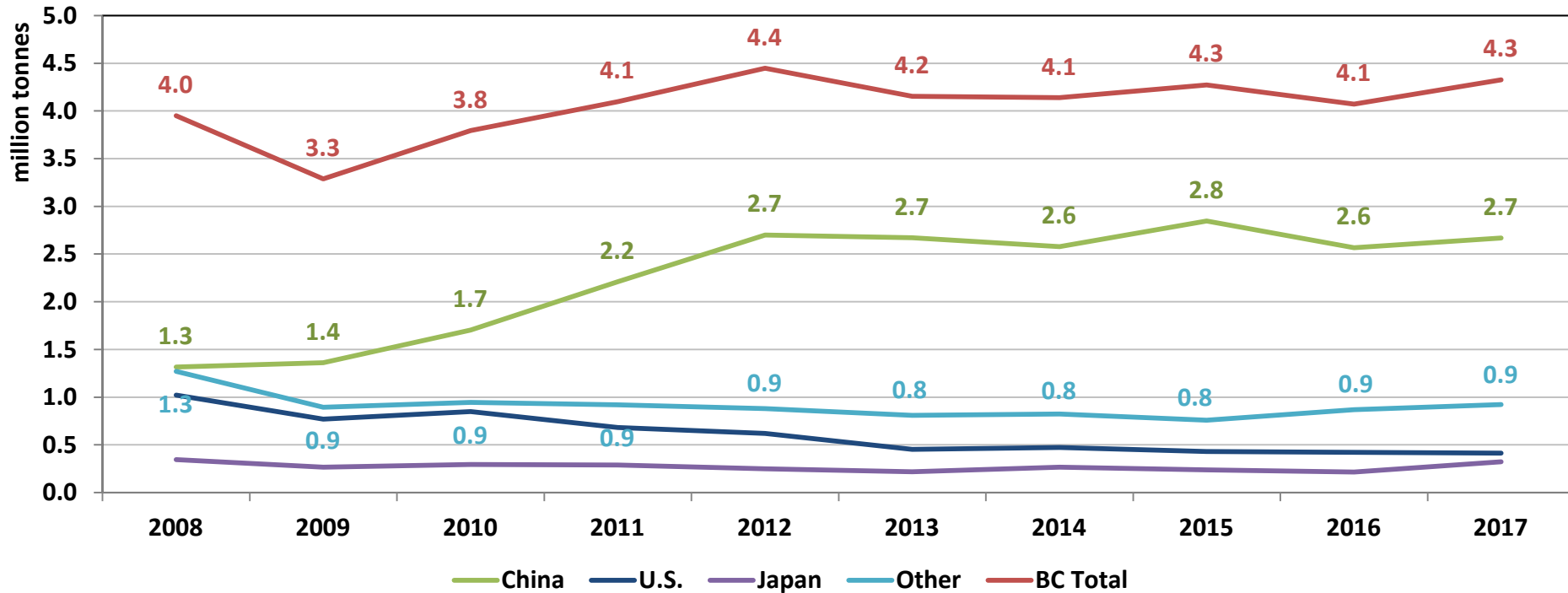
B.C. Pulp Export Value by Market



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 61% share of B.C. pulp exports in 2017, followed by the U.S. (10%), Japan (8%), and other destinations (22%).

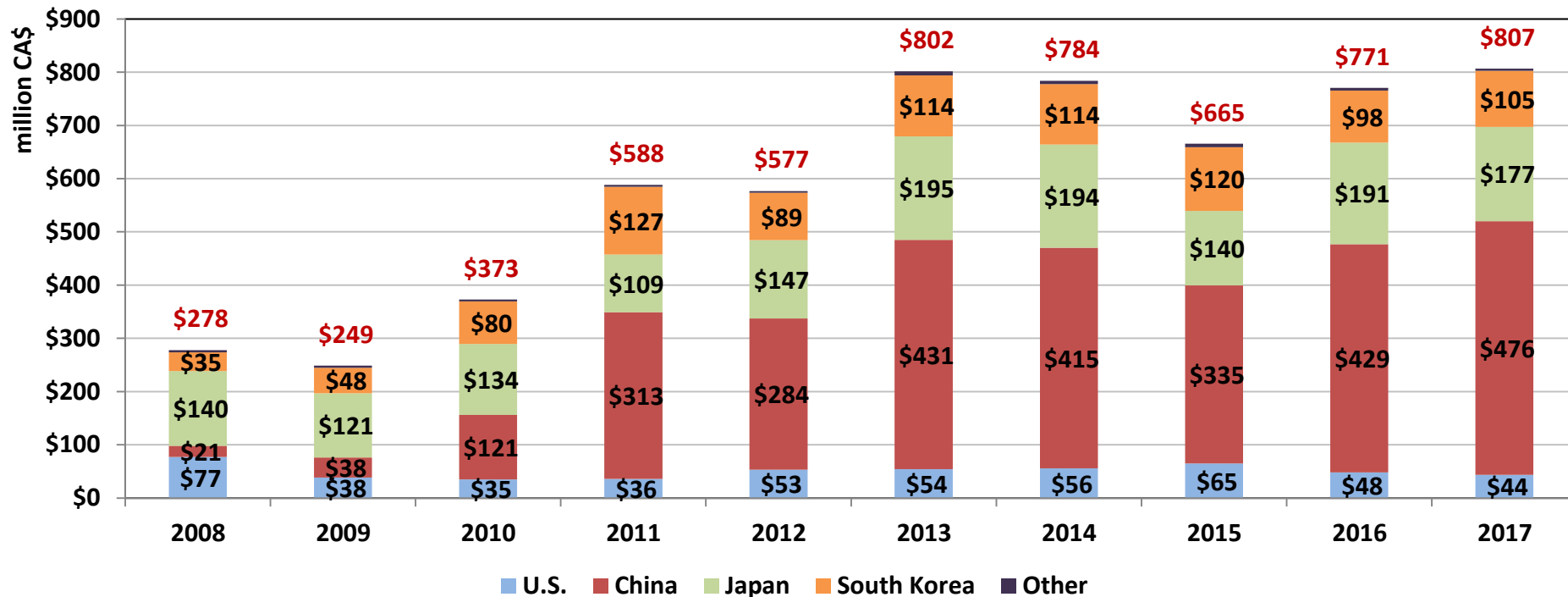
B.C. Pulp Export Tonnage by Market



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 share of B.C. pulp exports in 2017. Over the past decade exports to China have more than doubled.

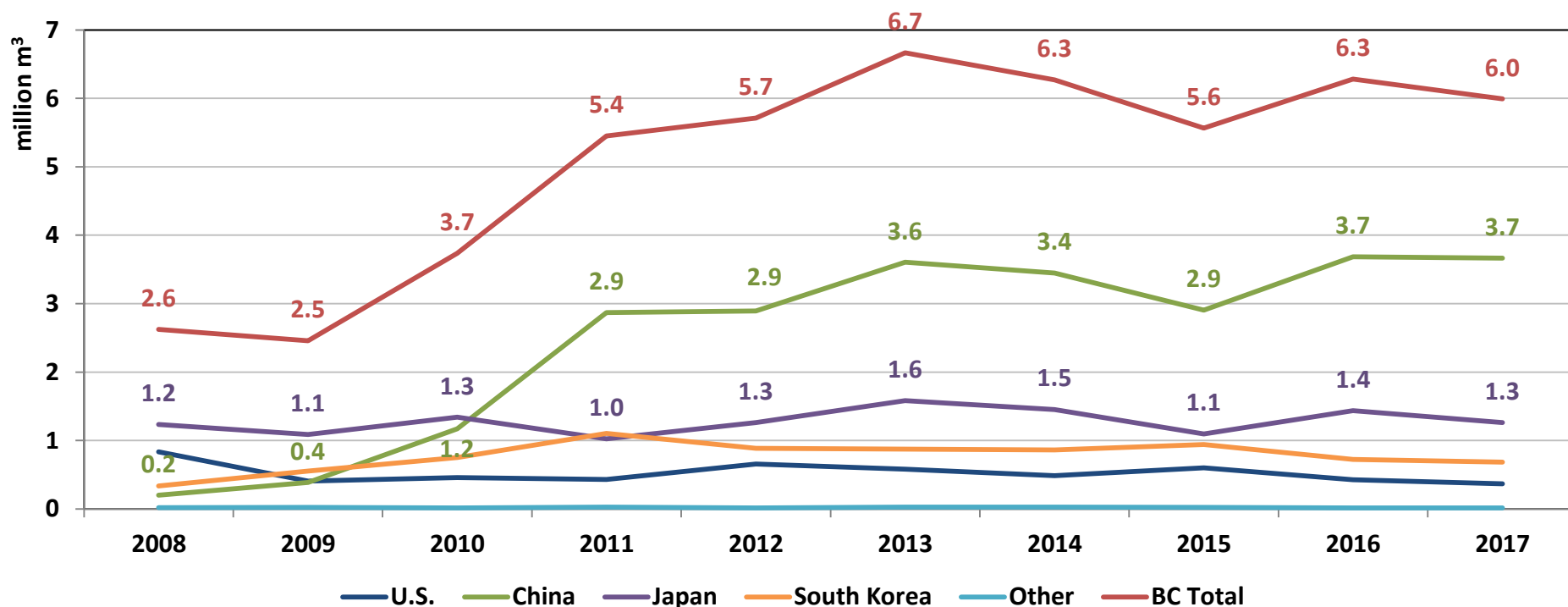
B.C. Log Exports by Market



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 increased by 4.7% in 2017. China (59%) remained the largest destination. Japan (25% share) and the U.S. (5%) decreased. South Korea (13% share) increased in 2017 over 2016. Over the past decade China replaced Japan as the main log export market.

B.C. Log Export Volume by Market



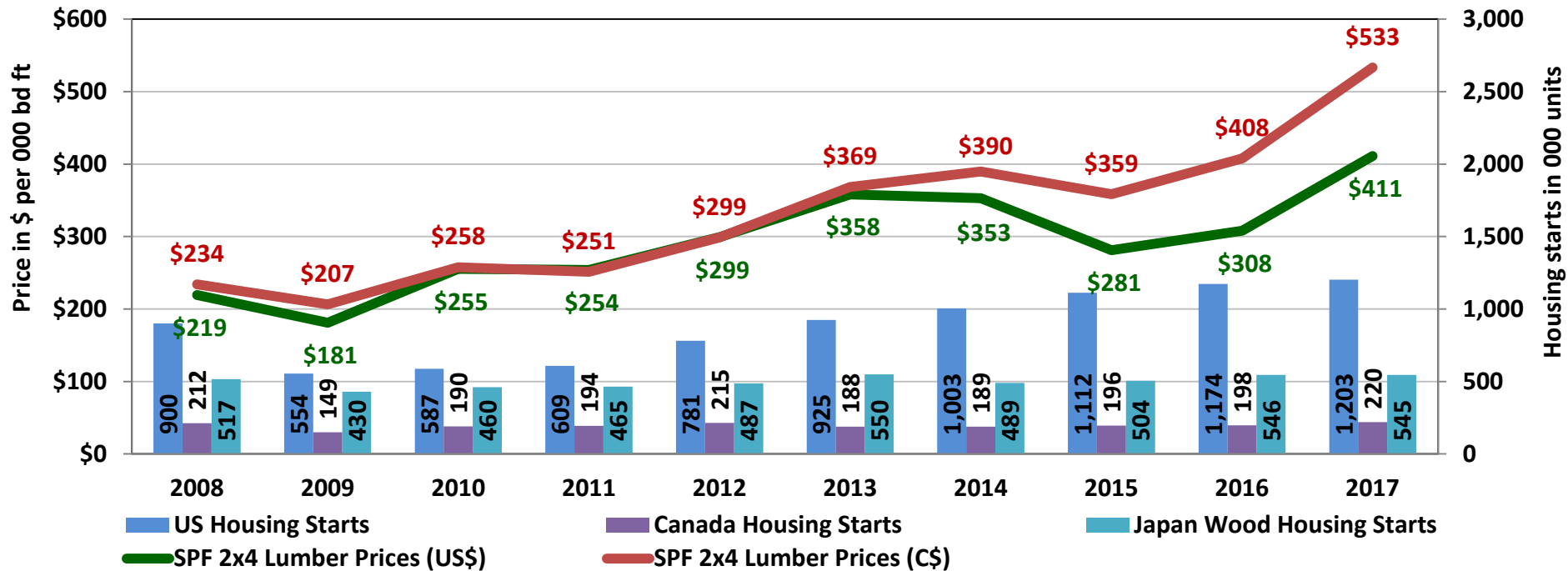
Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note historic data is subject to revisions.

Markets – Logs – The volume of log exports decreased in 2017. Volume to China (59% share) declined slightly. South Korea (11% share), the U.S. (6%), Japan (21%) decreased in 2017 over 2016. Over the past decade China replaced Japan as the main log export market.

Overview of Sector Indicators

- ❖ **Prices and Costs:** 2017 was a good year for a vast array of wood products. Lumber, wood panels, pulp, and paper all had price increases. B.C. Interior sawmilling costs increased slightly in 2016, but this was more than offset by higher lumber prices.
- ❖ **U.S. Housing Market:** U.S. housing starts were 1.2 million in 2017, the seventh year of gains since the 0.55 million start low in 2009. The share of multi-family starts is high (29%, down from 2015's recent high of 36%), which reduces wood consumption compared to similar levels of starts in the past.
- ❖ **B.C.'s Share of Canadian Forest Export Value:** B.C.'s share increased slightly from 2016 to 2017, now accounting for 38% of Canadian forest product export value.
- ❖ **Government Revenues:** Direct forestry revenues to government increased 5.7% in fiscal year 2016/17 (\$913 million) compared to 2015/16 (\$865 million) according to the 2018 B.C. budget and fiscal plan. Ministry accounts indicate revenue of \$1,065 million in 2017/18.

SPF 2x4 Lumber Prices and Housing Starts

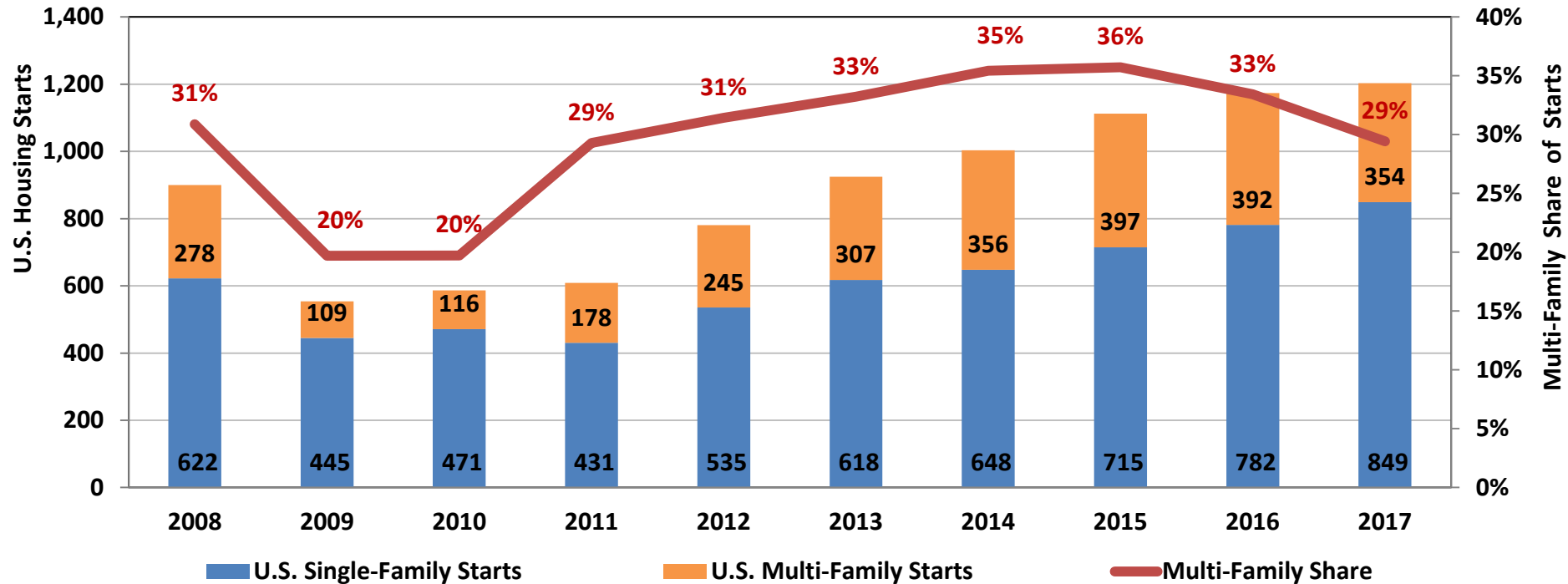


Data sources: [Madison's Lumber Reporter](#) (SPF), [U.S. Census Bureau](#), [JAWIC](#) and [Statistics Canada](#).

Prices and Costs – North American housing markets improved in 2017, but housing starts were still low compared to the early/mid 2000's. Average SPF 2x4 lumber prices rose significantly in 2017.



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

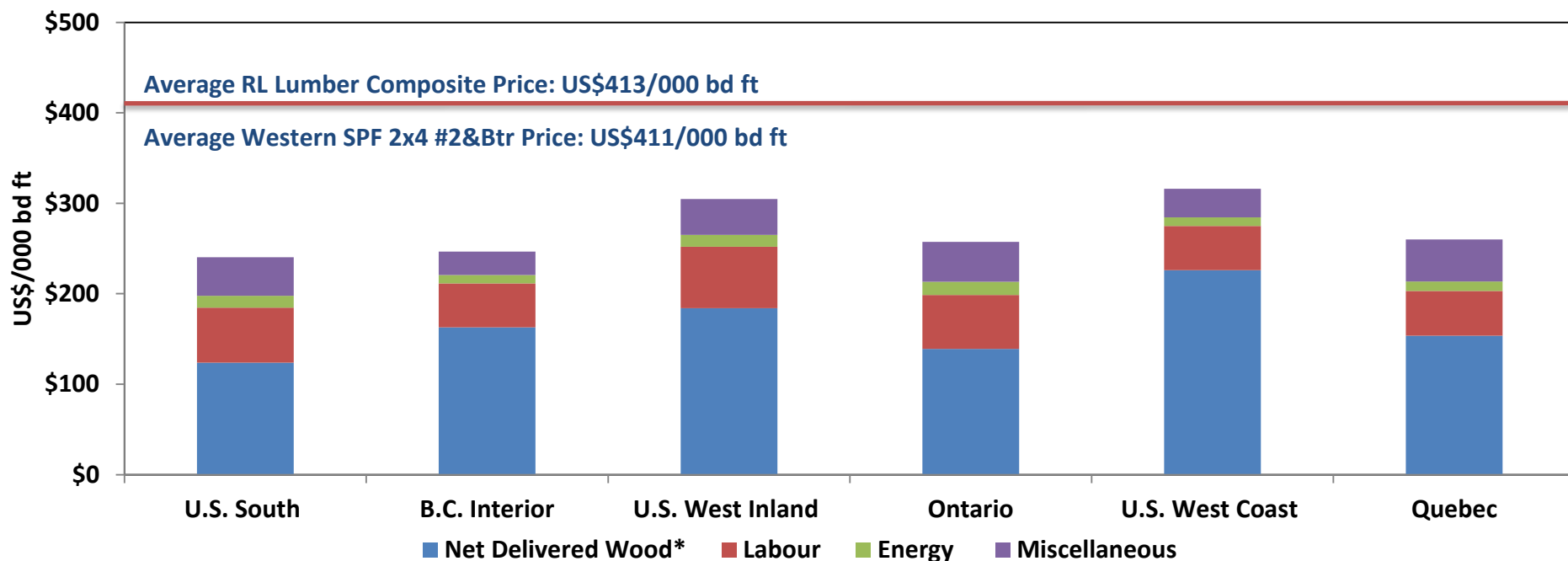


Data sources: [U.S. Census Bureau](http://www.census.gov).

Prices and Costs – The share of multi-family starts has declined for two years in a row now. Multi-family units use roughly 66-75% of the wood that a single family unit does.



Softwood Lumber Mills' Variable Costs (2017)

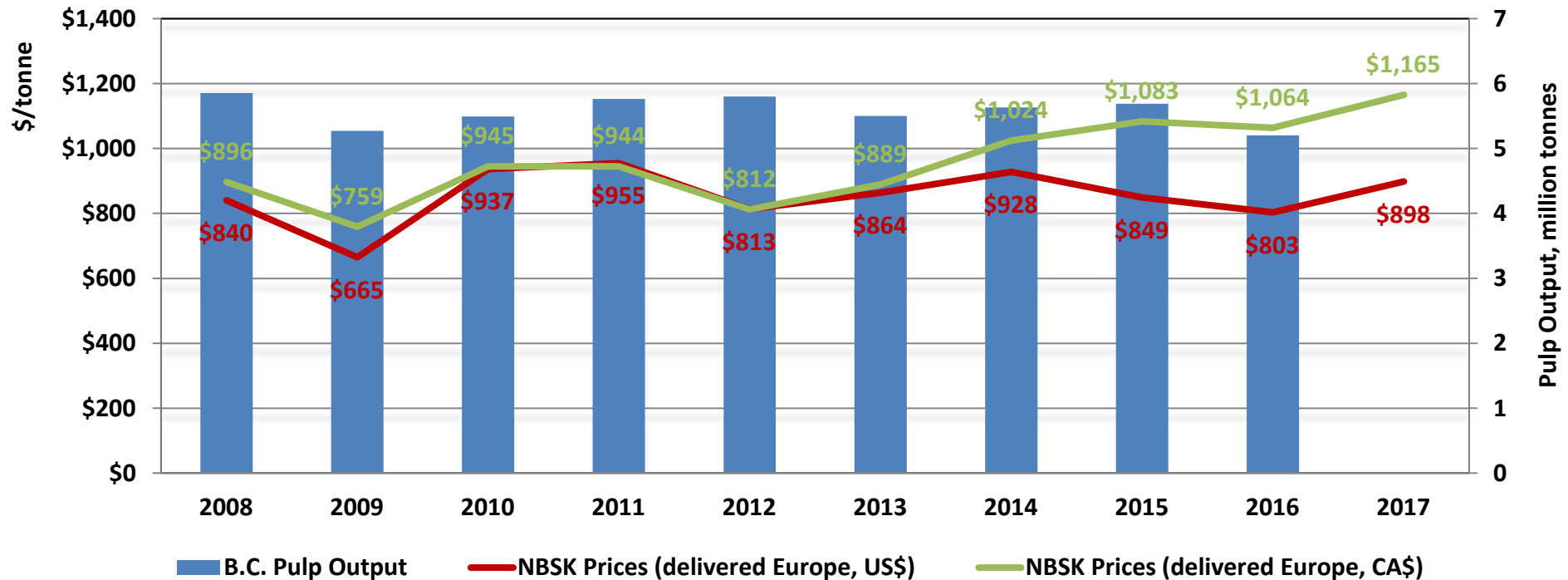


* = Delivered Wood - Residual Income

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 2017. Pulp output declined in 2016 (-8.6%). The latest production data available from the B.C. Mill survey is for 2016.



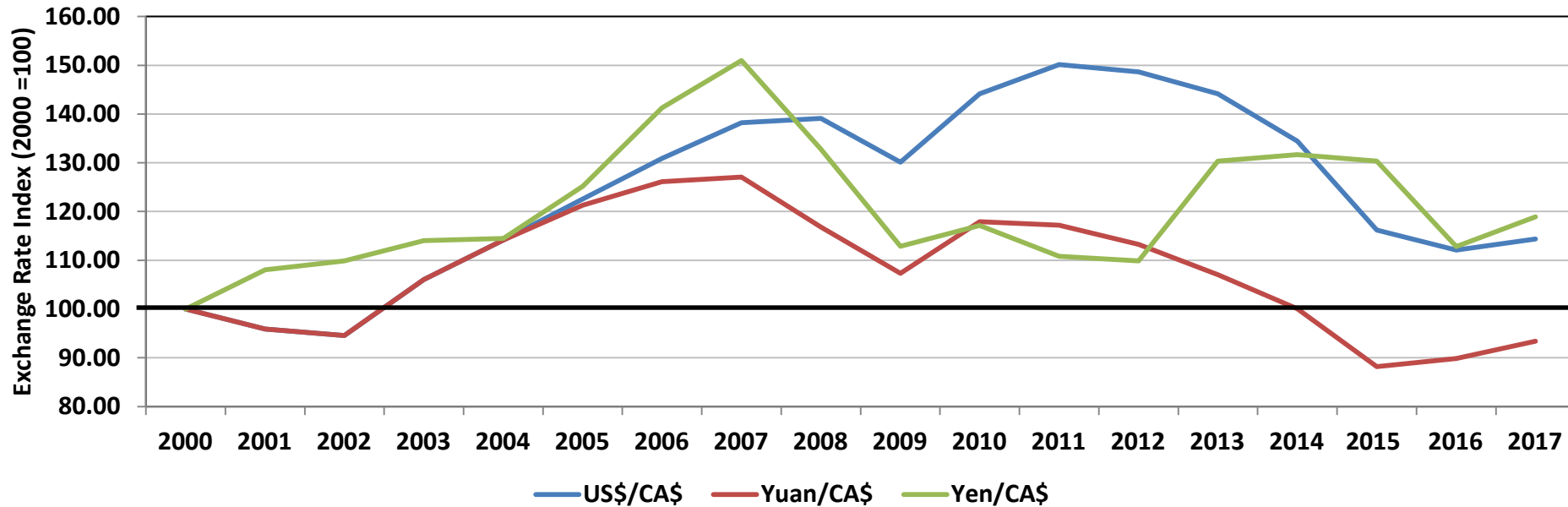
2000 Exchange Rates

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

2017 Exchange Rates

0.77 US\$/CA\$
5.21 Yuan/CA\$
86.36 Yen/CA\$

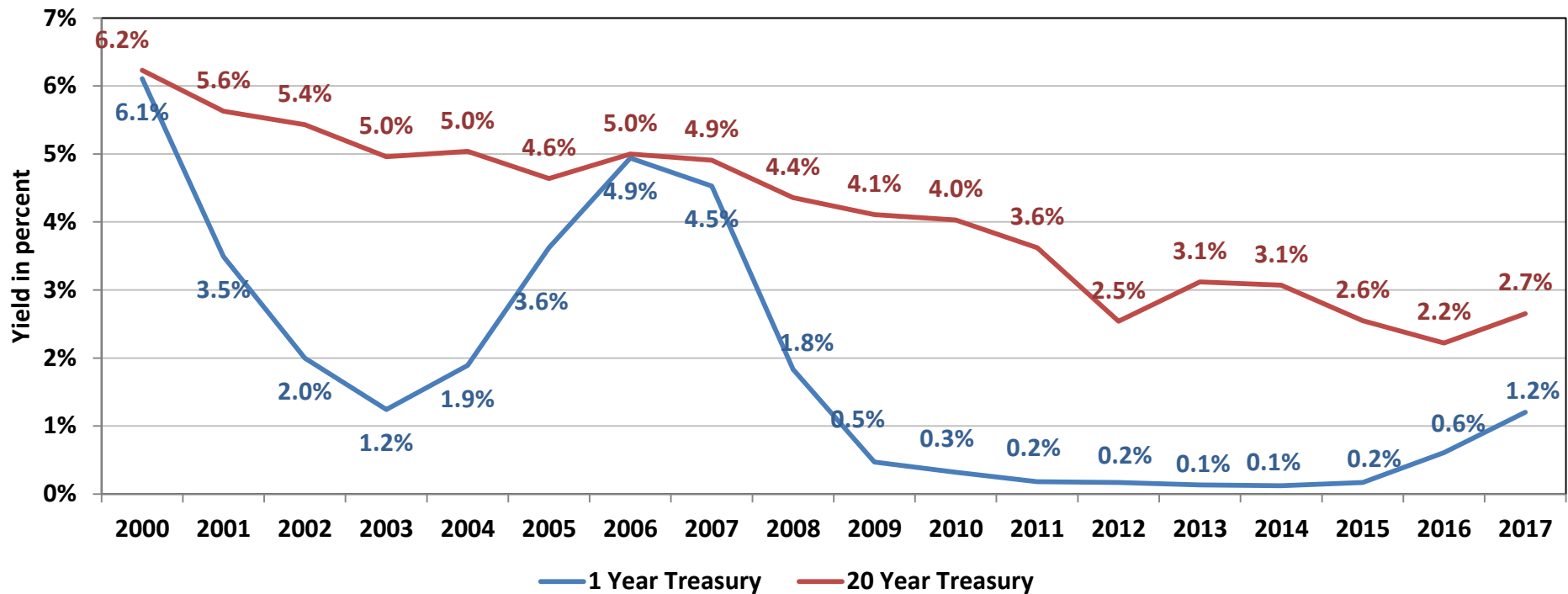
Indexed Foreign Exchange Rates Relative to CA\$



Data source: 2000-2006, [OANDA](#). 2007-2016, [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 2017 the CA\$ appreciated against the US\$ and Yen and Yuan.

U.S. Treasury Bill Yields

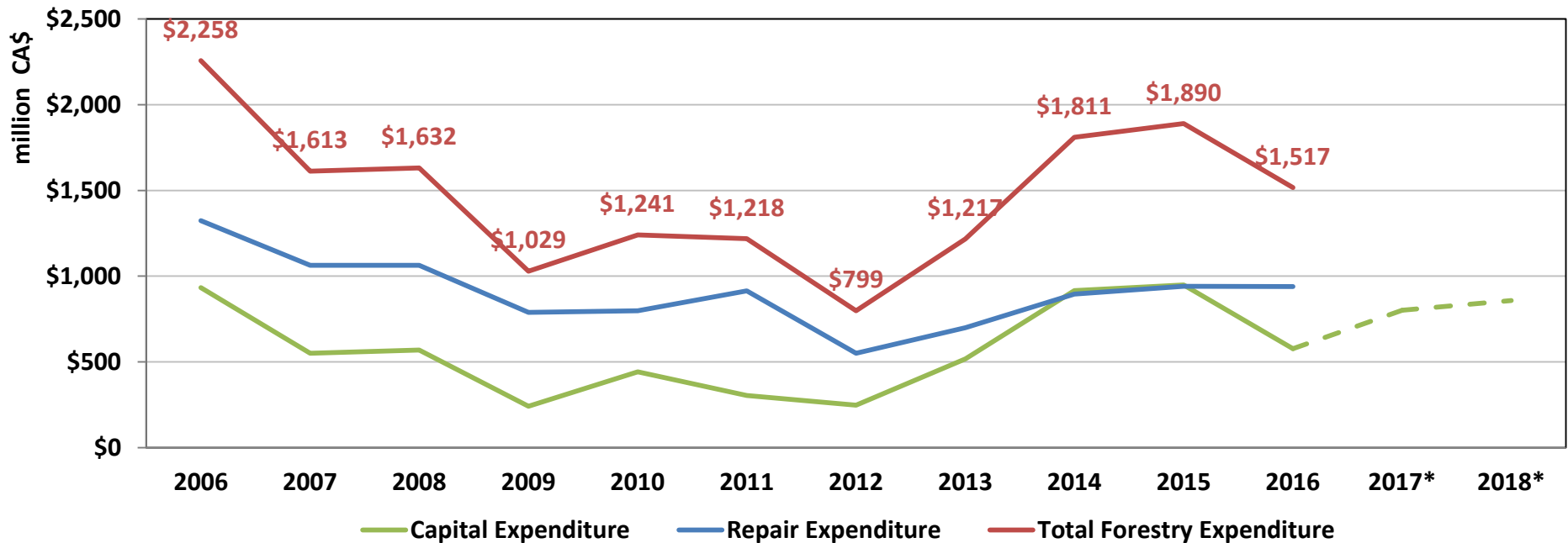


Data source: [U.S. Department of the Treasury](http://www.treasury.gov).

Prices and Costs – The cost of short-term and long-term borrowing increased in 2017. This is the first time they've both increased since 2006.



B.C. Forest Sector Capital and Repair Expenditures

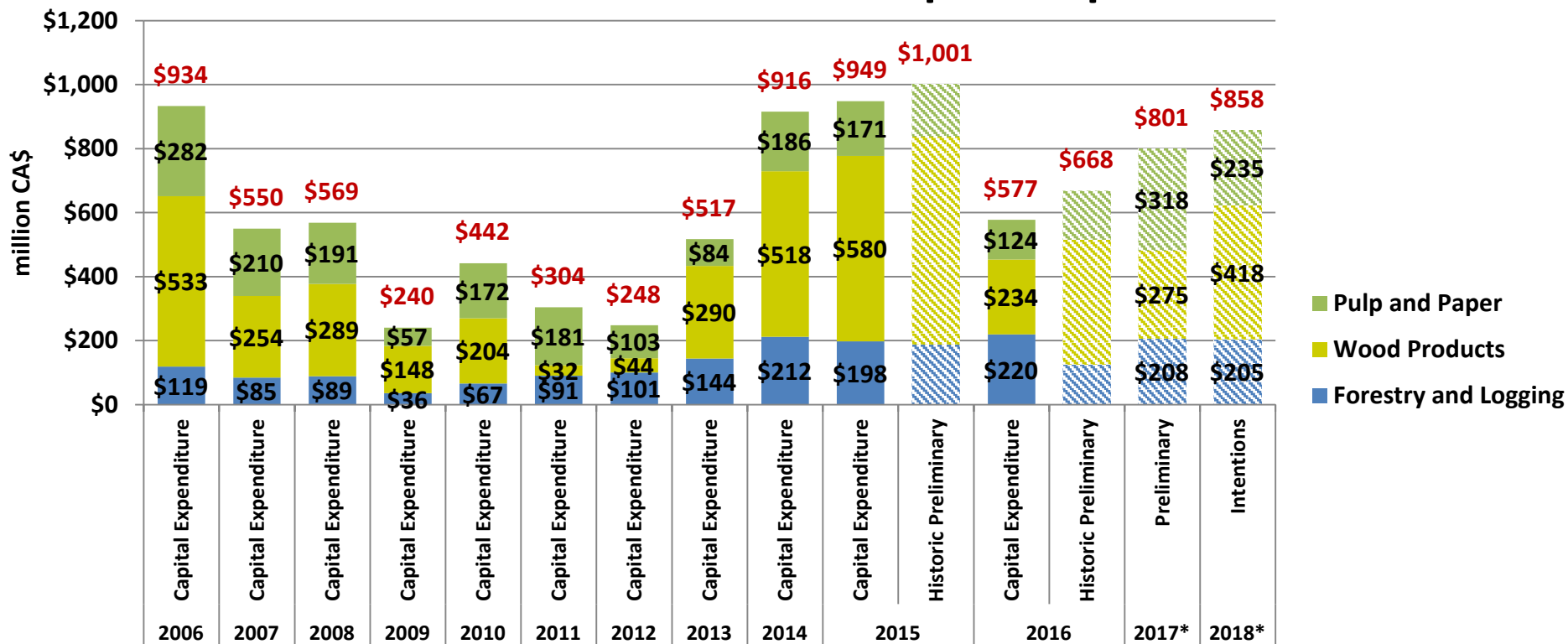


Data quality grade is often "Use with caution".
*Preliminary and intentions, subject to change.

Data source: Statistics Canada; [CANSIM 029-0045](https://www150.statcan.gc.ca/n1/pub/29-0045).

Investment – B.C. forest sector investment (CA\$1,517 million) decreased 20% from 2015 to 2016. Expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2016 is the latest year for repair expenditure.

B.C. Forest Sector Capital Expenditure

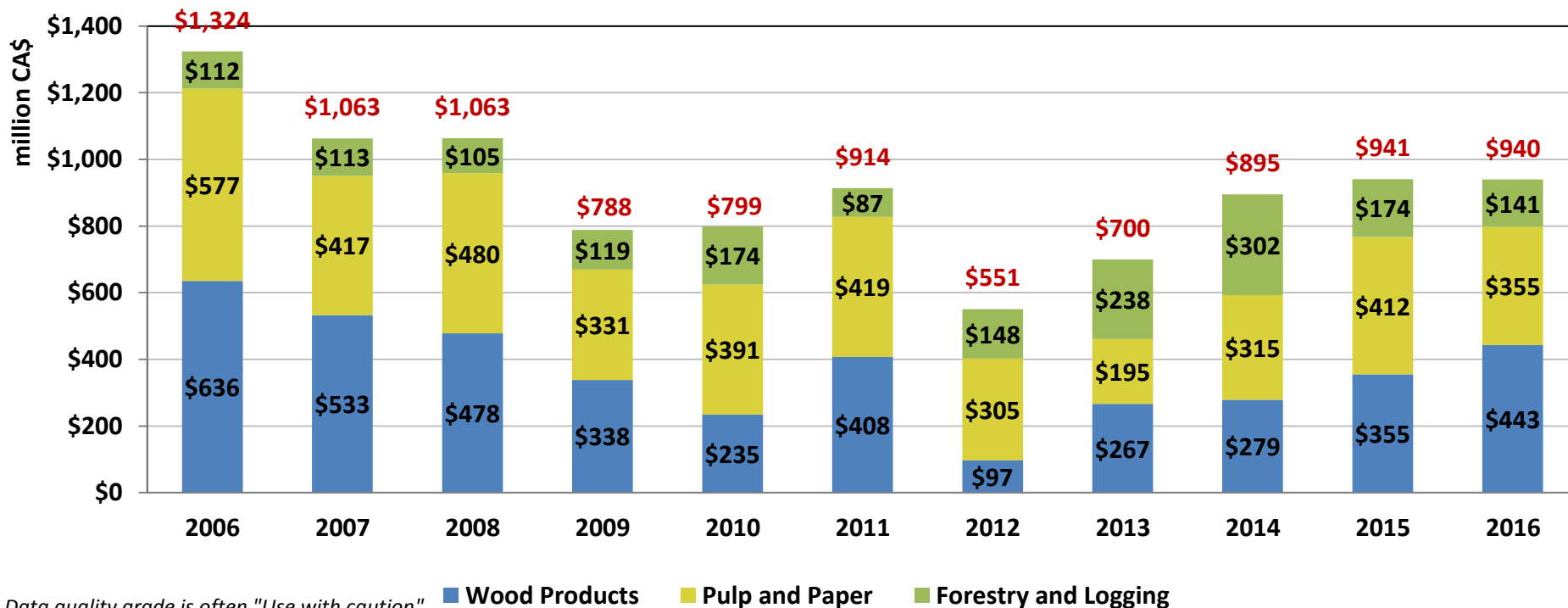


Data source: Statistics Canada; [CANSIM 029-0045](#). *Preliminary and intentions, subject to change. Data quality grade is often "Use with caution".

Investment – From 2015 to 2016 capital expenditure decreased 39%, 2017 preliminary results indicate a 39% increase from 2016 to 2017. Historic preliminary data has been included to demonstrate the difference that can occur 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

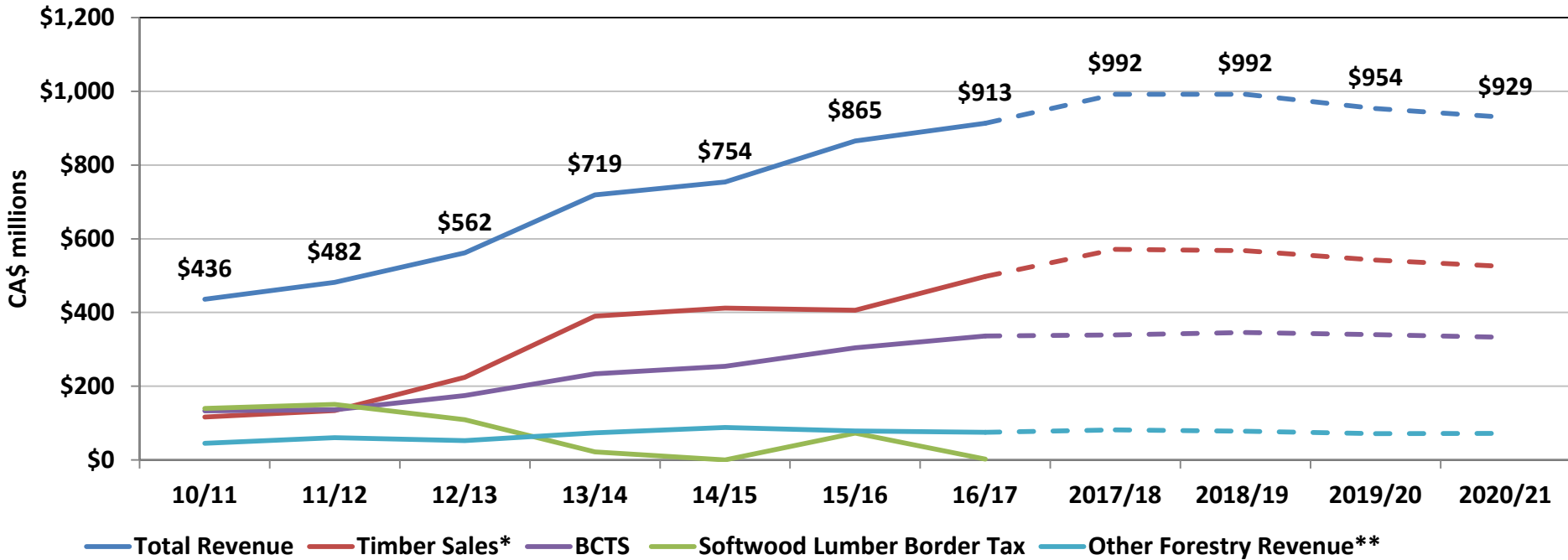


Data quality grade is often "Use with caution".

Data source: Statistics Canada; [CANSIM 029-0045](#).

Investment – 2016's results indicate B.C. forest sector repair expenditures were relatively unchanged from 2015. Repair expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2016 is the latest data for repair expenditure.

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



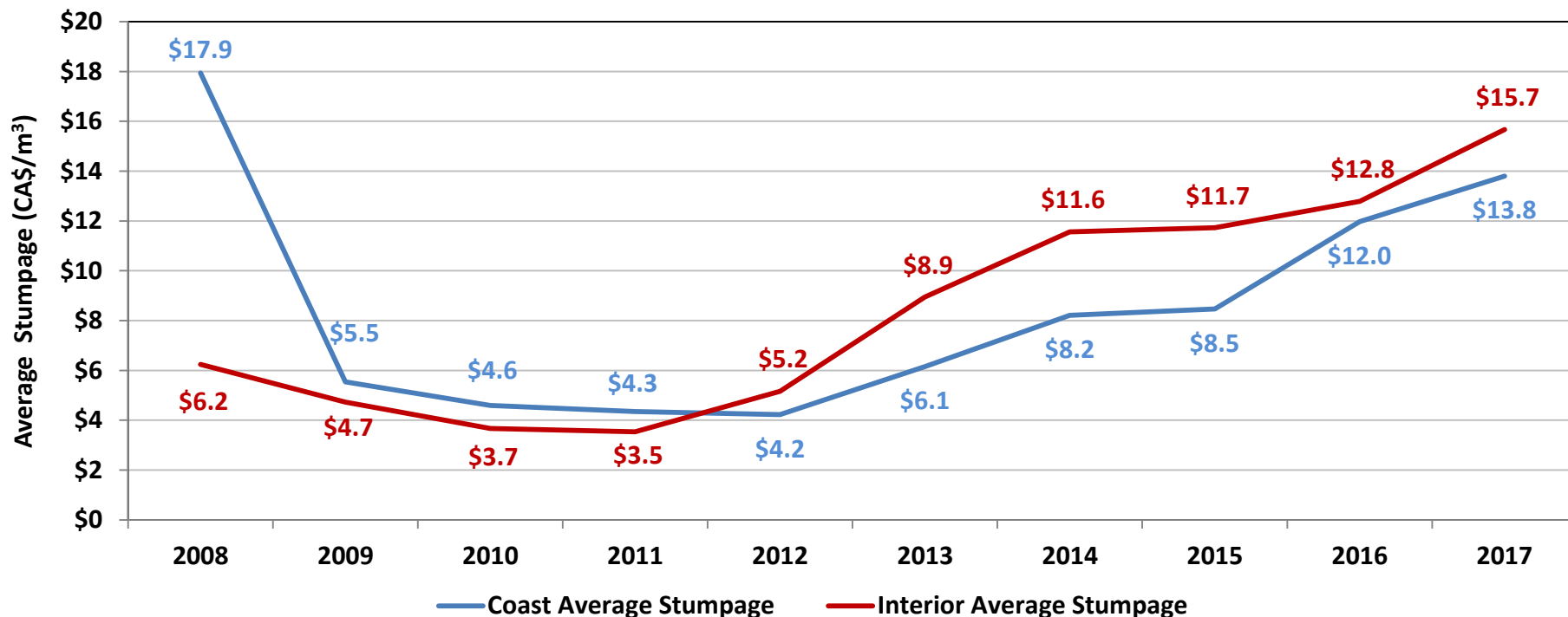
*Timber Sales excludes BCTS sales. **Includes Other CRF Revenue, Forest Recoveries, and Logging Tax. Dashed lines denote forecasts.

Data source: B.C. FLNR. 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 133. Forecasts are from the 2018/19 to 2020/21 Budget and Fiscal Plan dated February 20, 2018.

Government Revenues – The current version of the Budget and Fiscal plan shows forest revenue of CA\$912 million in 2016/17. Current 2017/18 actual revenue is \$1,065 million, which is higher than the updated forecast shown above (\$992 million).

Note this chart is different than in previous years; it now matches information found in the B.C. Budget and Fiscal Plan. The softwood lumber border tax ended in 2016/17.

Average Stumpage Rates (CA\$/m³)



Data source: [FLNR HBS](#). Data run on June 1, 2018. Includes BCTS. Excludes waste and reject.

Government Revenues – In 2017, Interior average stumpage increased CA\$2.9/m³ (23%) and Coast average stumpage increased CA\$1.8/m³ (16%).

Conclusions

- ❖ Despite some quantity indicators suggesting a slowdown in B.C.'s forest sector (lumber production -1.4 million m³, harvest -2 million m³), and an unprecedented fire season, value indicators demonstrate strong growth (manufacturing sales +\$1.9 billion, exports +\$1.1 billion). The \$800,000 increase of manufacturing over exports suggests a large bump in the Canadian domestic market (which may also indicate additional value added).
- ❖ Chinese demand for logs, lumber, and especially pulp continued to be a key market for the B.C. forest sector. China's total lumber imports rose substantially yet again (+6 million m³), mostly from Russia and non-U.S./Canadian. Canada's lumber export volume to China declined (-0.2 million m³), but this was offset by strong pulp sales.
- ❖ 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 new products such as engineered lumber and wood pellets.

Outlook

- ❖ Stronger demand (mainly from a recovering U.S. market) and smaller B.C. timber supply are expected to continue to have a positive influence on prices. So far in 2018 lumber prices have been exceptional, hitting record levels. It's difficult to tell how much has been driven by the U.S. tariffs on lumber (CVD 14.19%, AD 6.04%*) vs. changing consumer demand and supply constraints. Transportation problems have also been contributing to higher prices.
- ❖ China continued as the world's largest importer of logs and lumber in 2017, with large increases in log and lumber imports. This demonstrates China is continuing as a strong market, but Russia's continued increase in supply to China may harm B.C. exporters.
- ❖ Pulp and paper prices have been high recently as well. If this continues it will be good news for the B.C. Industry. However, paper has been a target for U.S. tariffs as well.

*These are the rates for "All others", which excludes Canfor, Irving, Resolute, Tolko, and West Fraser. Those five companies have their own rates.

Outlook - Continued

- ❖ Foreign demand for wood pellets has been strong. B.C. export tonnage increased roughly 56% making it an extraordinary year to follow; 2017 tonnage decreased roughly 8%. The U.K. is the number one destination. Japan and Belgium also took large volumes in 2017.
- ❖ Innovations and investments in markets, products and technologies will make the sector more competitive. BC is known for manufacturing high-quality engineered wood products and advancing innovative mass timber building systems, such as [UBC's 18 storey residence](#), and UNBC's Wood Innovation Research Lab, representing opportunities that can grow the forest sector and maximize the value of BC's forest resource.
 - ❖ UBC's Brock residence used an estimated 2,233 m³ of Cross-Laminated-Timber or Glulam, which is equivalent to the amount of lumber used in 60 single-family houses in Canada*.
- ❖ There's also research and innovation occurring for non-traditional uses of wood. Products like wood-cellulose based plastic, 3-d printing, and insulation are just a few examples.