



2015 Economic State of the B.C. Forest Sector

August 2016

Prepared by Alex Barnes
Competitiveness and Innovation 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](#): Summary outlining B.C.'s harvest and timber processing activity during the year.
- ❖ [Log Exports](#): Summary of permit information ([direct link](#) to Permit Report).
- ❖ [Economic State of the BC Forest Sector](#): Year in review for the B.C. forest sector.

Overview of B.C. Forest Sector

- ❖ **Includes** forest management, harvesting, reforestation, wood product manufacturing, and paper product manufacturing.
- ❖ **Plays a key role in the provincial economy**, especially in communities outside the Lower Mainland.
- ❖ **Is export-oriented**, depending heavily on global markets and exchange rates.
- ❖ **Is cyclical**, affected by the global forest commodity markets and general performance of the world economy.

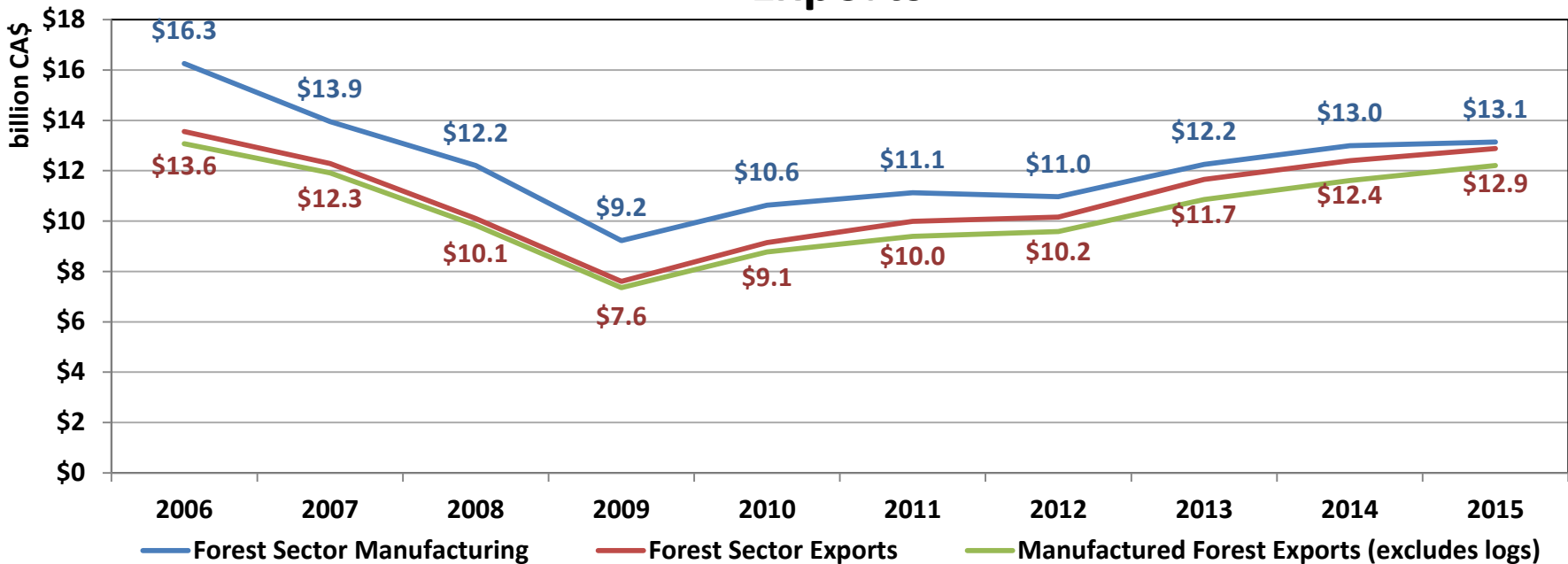
Overview of 2015

- ❖ **In aggregate, 2015 was a similar year to 2014**, with a mix of “ups” and “downs” that saw the sector come out a bit ahead of 2014.
- ❖ **B.C.’s forest sector manufacturing sales increased** slightly in 2015, though many product prices fell. Sales gains were almost entirely due to non-lumber solid wood products.
- ❖ **The U.S. market** continued to gradually improve, as seen in the U.S. housing market and higher B.C. forest sector exports to the U.S.
- ❖ **China*** continued as the second largest export market for B.C.’s forest sector. Lumber and log export values and volumes fell, but they improved for pulp.
- ❖ **Employment increased** slightly in 2015.
- ❖ **The B.C. forest sector continues to recover** from 2009, the sector’s worst year of the recession, and one of the worst years for B.C. forestry in recent history.

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

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

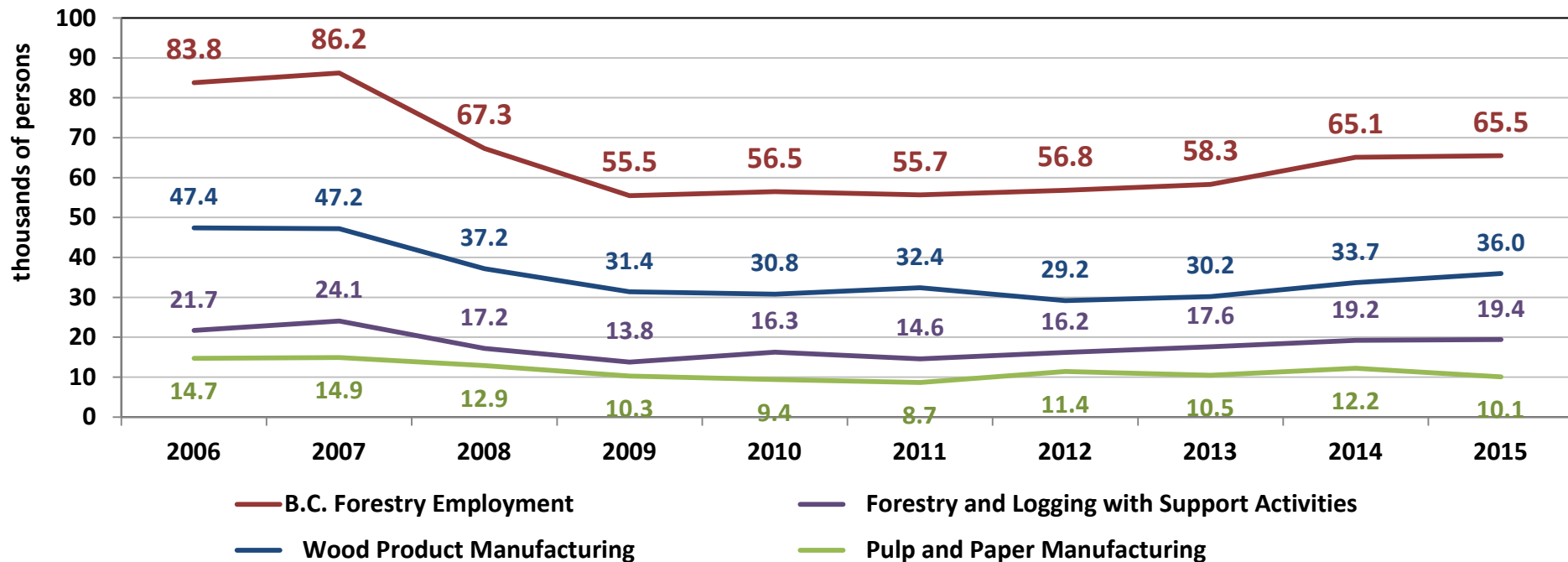
B.C. Manufactured Forest Product Sales and Forest Exports



Data source: Statistics Canada; CANSIM 304-0015, and Canadian International Merchandise Trade Database (CIMTD) or via BC Stats. Log exports included in the red line (Forest Sector exports), but aren't part of manufacturing sales (blue line) nor manufactured exports.

Overview Indicator 1 – B.C. forest sector manufacturing sales in 2015 were up 1.2% from 2014 and accounted for 30% of B.C. total manufacturing sales. Exports were up 69% from 2009, and were up 3.9% from 2014, accounting for 36% of B.C. total merchandise exports. During the U.S. Housing boom, 2004 was the peak in forest sector manufacturing sales and exports (CA\$18.2 and CA\$15.1 billion).

B.C. Forest Sector Direct Employment



Data source: Statistics Canada via [BC Stats](#); Labour Force Survey. There was a correction to the data being used which increased Wood Product Manufacturing employment by 2-5 thousand in any given year.

Overview Indicator 2 – B.C. forest sector direct employment was 65,500 in 2015, up 0.6% from 2014 and 18% from 2009. In 2015 there was an increase in Wood Product employment (6.8%) and Forestry and Logging with Support Activities (1.0%), but a decline in Pulp and Paper (-17.2%)

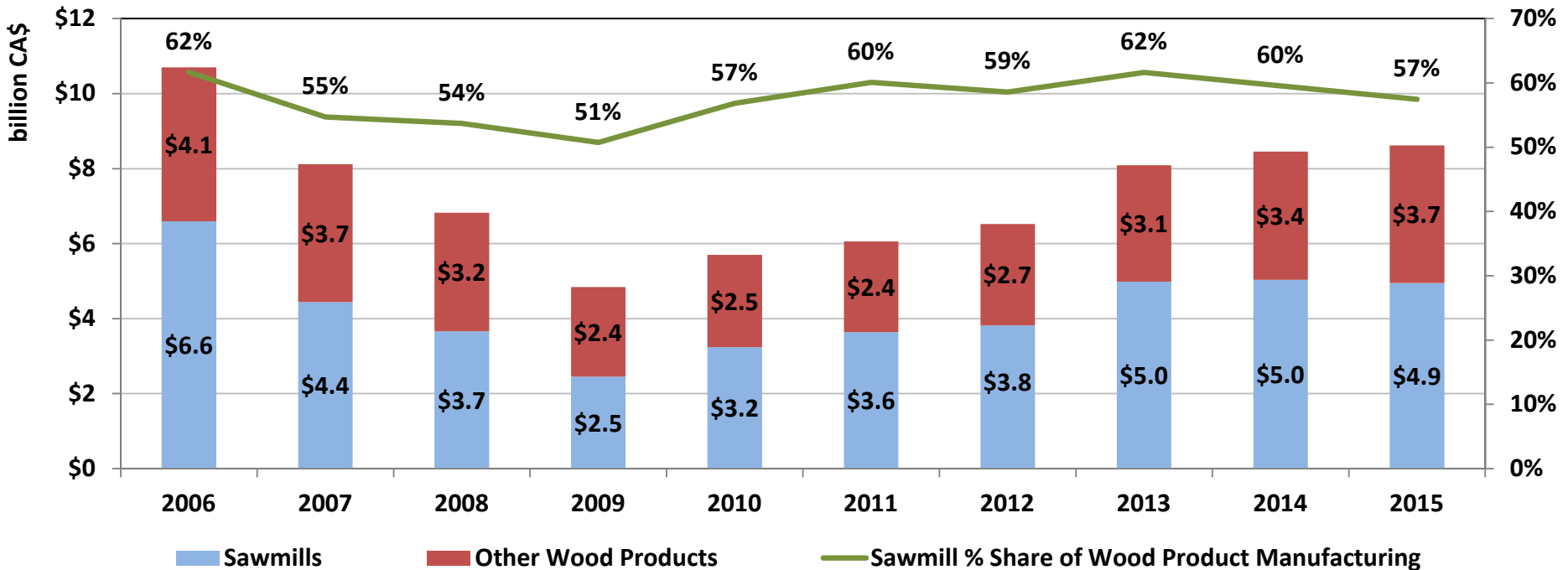
Products Overview

- ❖ **Wood Products, especially Lumber:** In 2015, B.C. produced 31.2 million cubic metres of lumber, or 50% of Canada's total softwood lumber production. B.C. sawmill* sales (primarily lumber) were CA\$4.9 billion in 2015, or 57% of total Wood Product Manufacturing sales in B.C.
- ❖ **Pulp and Paper Products, especially Market Pulp:** B.C. pulp mills** had sales of CA\$2.6 billion in 2015, or 57% of total Paper Manufacturing sales in B.C.
- ❖ **Logs:** In 2015, 68.5 million cubic metres of logs were harvested. Exports of 5.6 million cubic metres (8.1% of harvest), mostly from coastal areas, were worth CA\$666 million.
- ❖ **Wood Product-Pellets:** B.C. exported 1.26 million tonnes of wood pellets worth CA\$201 million. The UK was the primary destination by weight (80%), followed by Italy (6.7%), Japan (6.4%), and South Korea (3.9%).

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

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

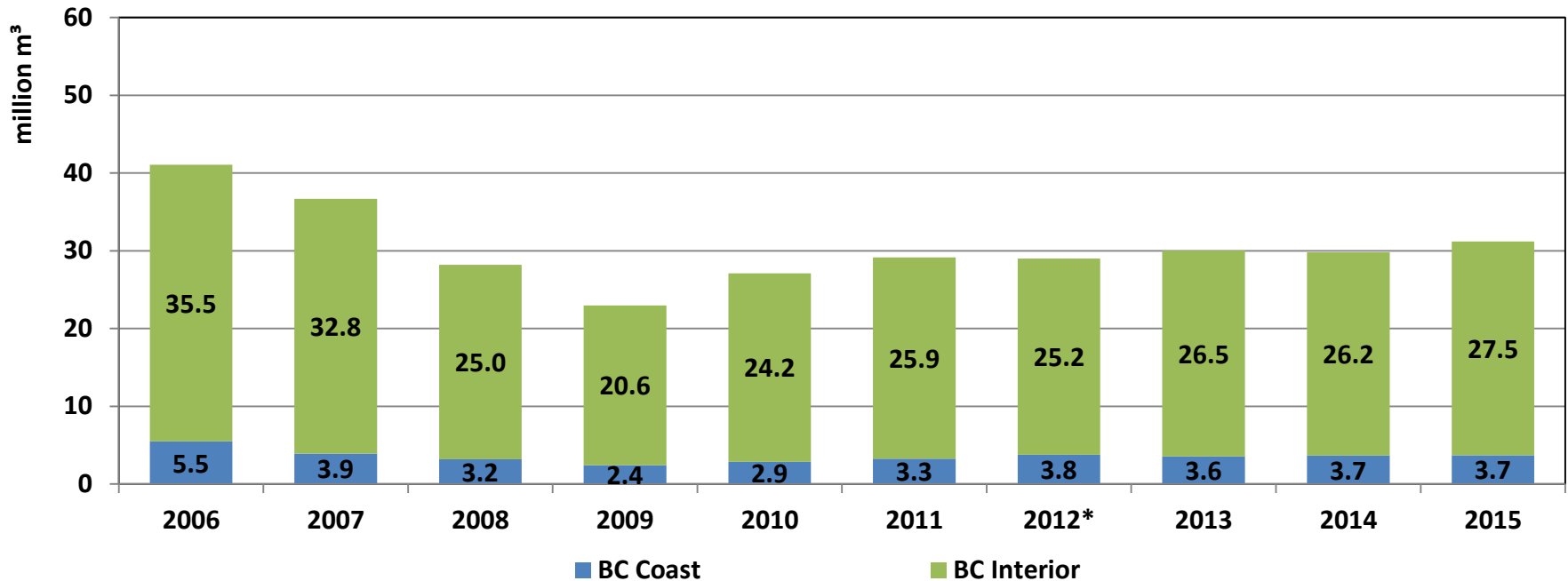
B.C. Wood Product Manufacturing Sales



Data source: Statistics Canada; [CANSIM 304-0015](#). Sawmill sales are primarily lumber, and include chip and sawdust sales. Other wood products include veneer, plywood, oriented strand board, shake and shingles, wood pellets, and many other products.

Products – Wood Products – Wood Product Manufacturing sales totaled CA\$8.6 billion in 2015. Sawmill sales accounted for 57% of Wood Product Manufacturing sales. From 2014 to 2015, Sawmill sales declined 1.7%, and Other Wood Products increased 9.4%.

B.C. Softwood Lumber Production

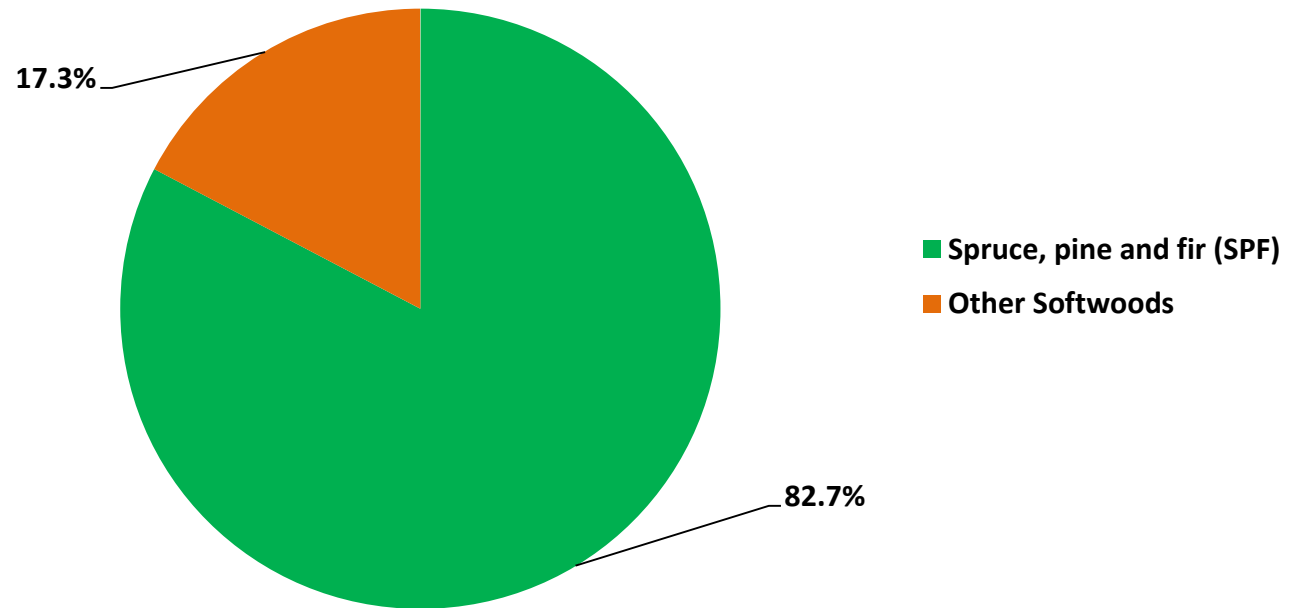


*Interior and Coast Share are Estimates. In all years the Interior includes production from Yukon, Northwest Territories, and Nunavut.

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

Products – Softwood Lumber – Softwood lumber production volume increased 4.6% in 2015. The Coast accounted for 12% 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.

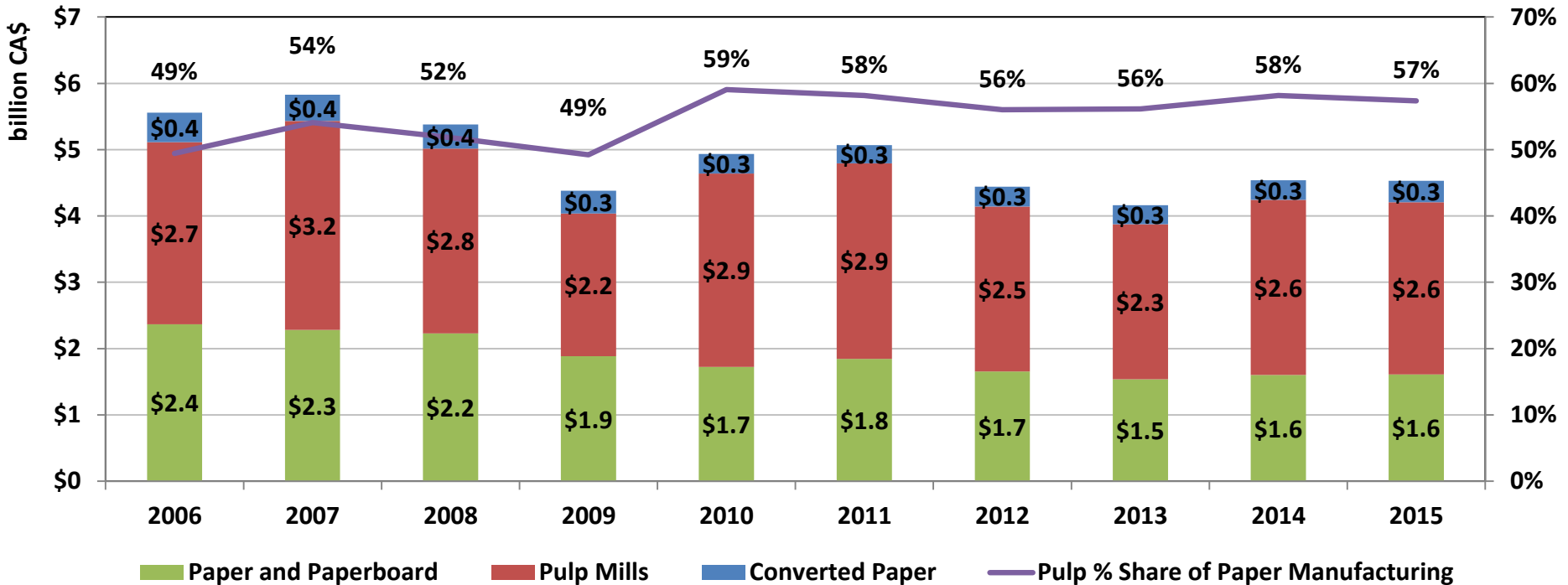
B.C. Softwood Lumber Production (31.2 million m³) Share by Species, 2015



Data source: Statistics Canada; [CANSIM 303-0064](#). Based on volume in cubic metres.

Products – Softwood Lumber – In 2015, 82.7% of softwood lumber production volume was spruce, pine or fir (SPF), and 17.3% was from other species such as cedar, Douglas fir, and hemlock.

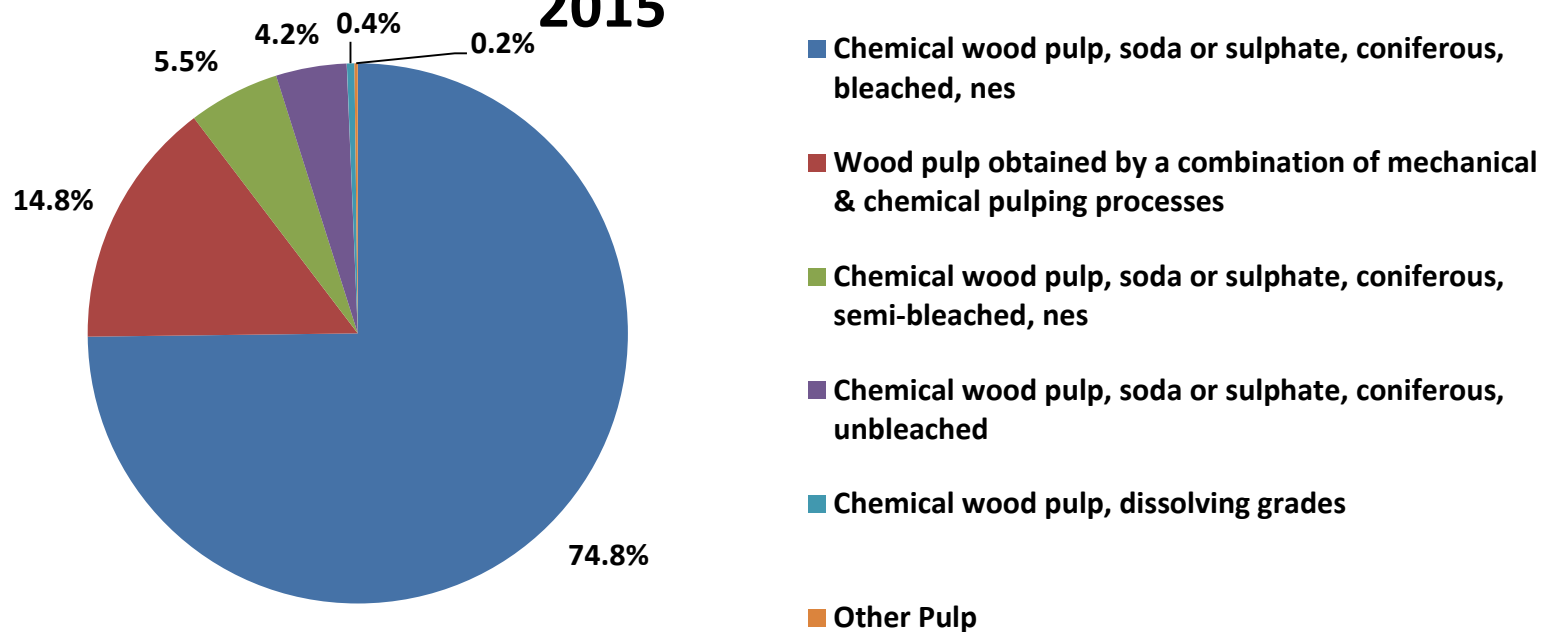
B.C. Paper Manufacturing Sales



Data source: Statistics Canada; [CANSIM 304-0015](#).

Products – Pulp and Paper – Total Paper Manufacturing sales were CA\$4.5 billion in 2015, decreasing by 0.2%. Pulp Mills declined 1.6% from 2014 to 2015, and accounted for 57% of total sales. Paper and Paperboard sales were up 0.3%, and Converted Paper was down 9.4%.

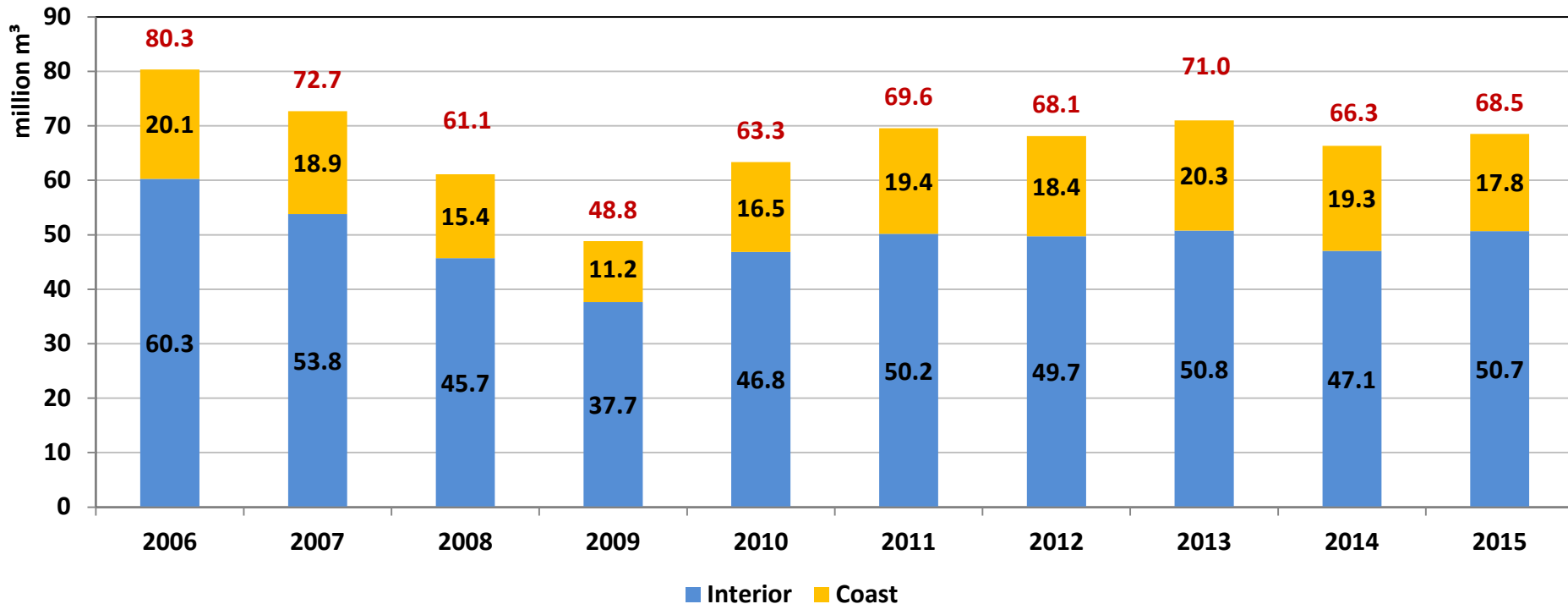
B.C. Pulp Export Share (4.3 million tonnes) by Product, 2015



Data source: Statistics Canada via BC Stats; CIMTD. Based on air dry tonnes. NES stands for "not elsewhere specified".

Products – Pulp – Bleached sulphate (kraft) pulp dominates B.C.'s pulp exports. Dissolving pulp accounted for 0.4% of the export volume, and Other Pulp 0.2%.

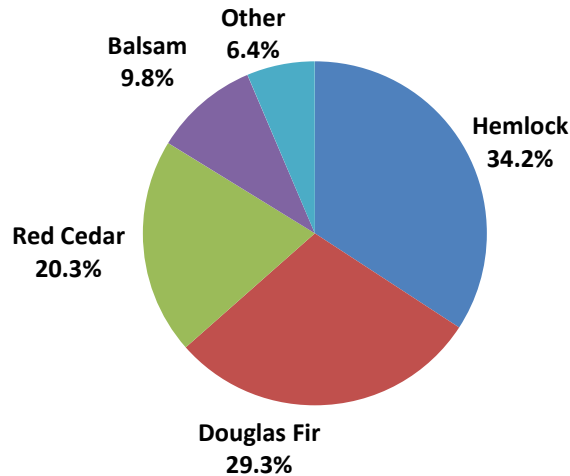
B.C. Timber Harvest Volume



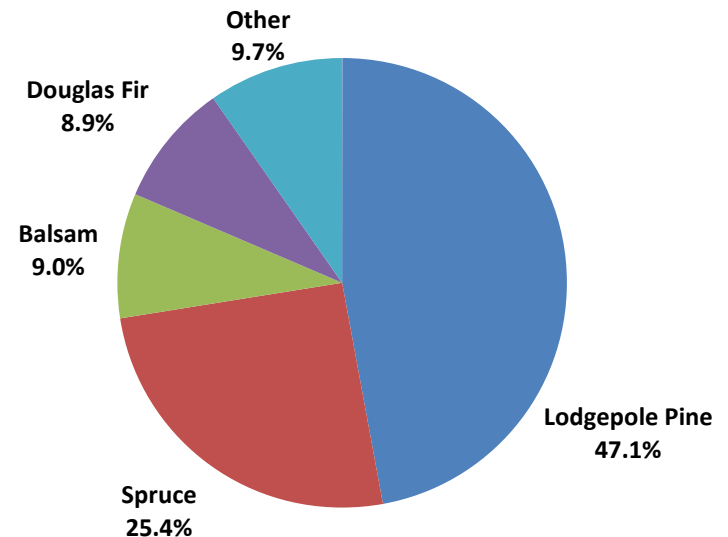
Data source: B.C. Ministry of Forests, Lands, and Natural Resource Operations (FLNR) [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on June 1, 2016. Includes both Crown and Private lands.

Products – Logs – Total harvest volume (68.5 million m³) was up 3.3% from 2014, and up 40% from 2009. The Interior accounted for 74% of the harvest, and the Coast for 26%. The last few years of harvest are close to pre-beetle harvest uplift, pre-housing boom levels.

Species Mix for 2015 B.C. Coast Harvest (17.8 mil. m³)



Species Mix for 2015 B.C. Interior Harvest (50.7 mil. m³)



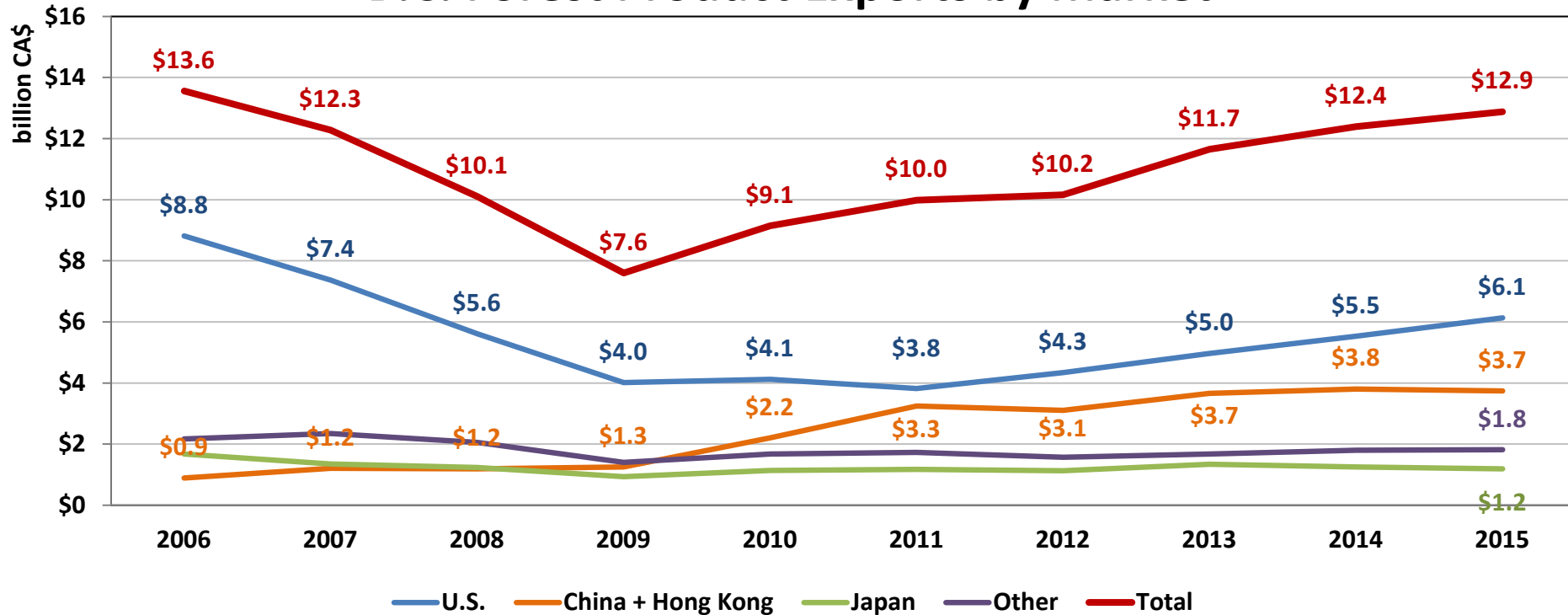
Data source: B.C. Ministry of Forests, Lands, and Natural Resource Operations (FLNR) [Harvest Billing System](#). All logs, special forest products, species and grades billed excluding waste, reject and Christmas trees, data run on June 1, 2016. Includes both Crown and Private lands.

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 by spruce.

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, but its value continues to increase steadily.
- ❖ **China has increased** substantially over the last decade and is now in a strong second place. China's share has remained around 30% since 2011. Total export value to China declined for the first time since 2008.
- ❖ **Japan has decreased** since the late 1990s, but has been steady lately, and remains in third place since 2009. Lumber exports were up in terms of volume and value, but other products fell resulting in a net decline from 2014 to 2015 (-5.4%).
- ❖ **Other export markets** made up 14% of total forest sector exports in 2015, with notable destinations being South Korea, the U.K., Taiwan, and Indonesia.

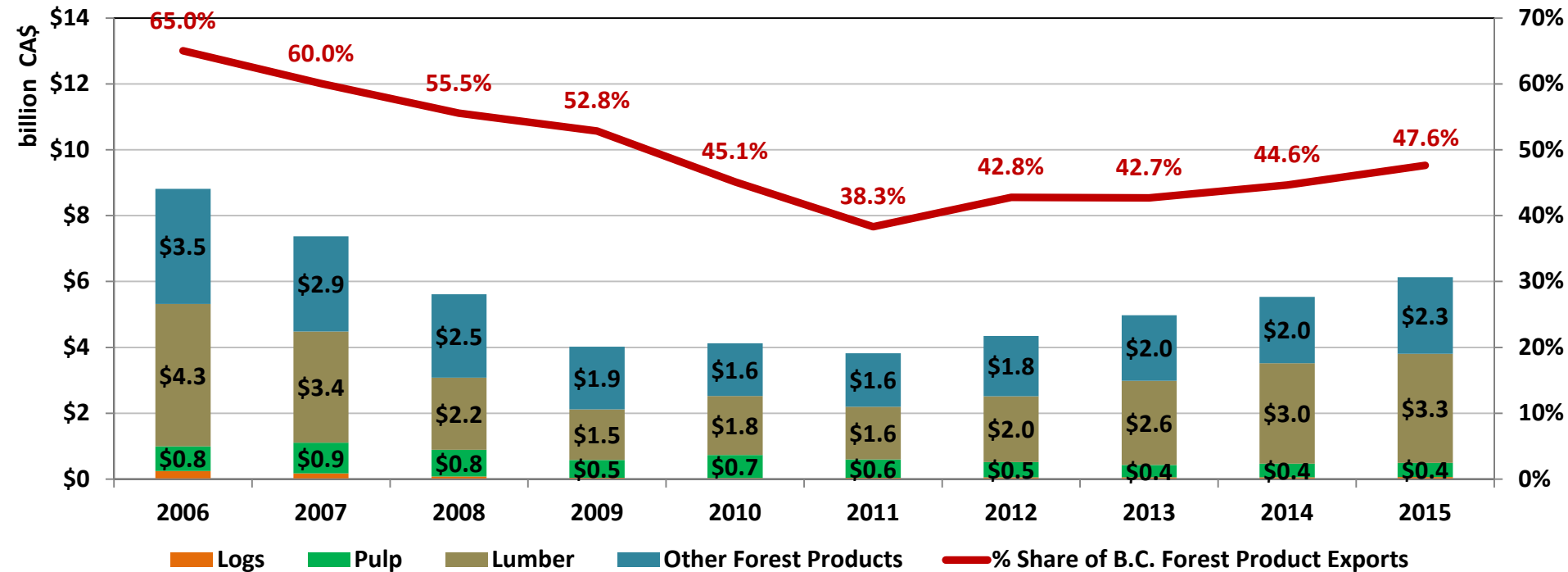
B.C. Forest Product Exports by Market



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

Markets – The U.S. was the #1 export market by value, and has been increasing steadily since the housing crash. 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.

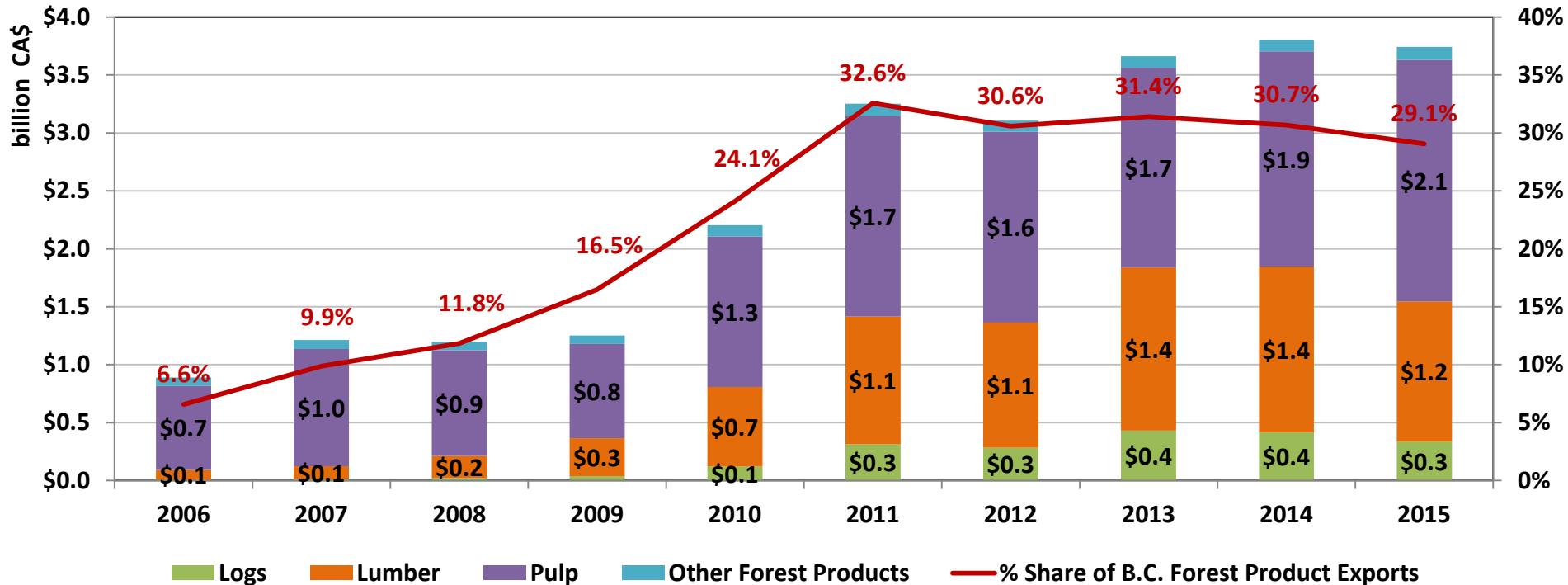
B.C. Forest Product Exports to the United States



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

Markets – U.S. – The U.S. was B.C.’s largest market in 2015 at CA\$6.1 billion, an increase of 10.8% over 2014. The U.S.’s share of B.C.’s forest product exports increased to 47.6%.

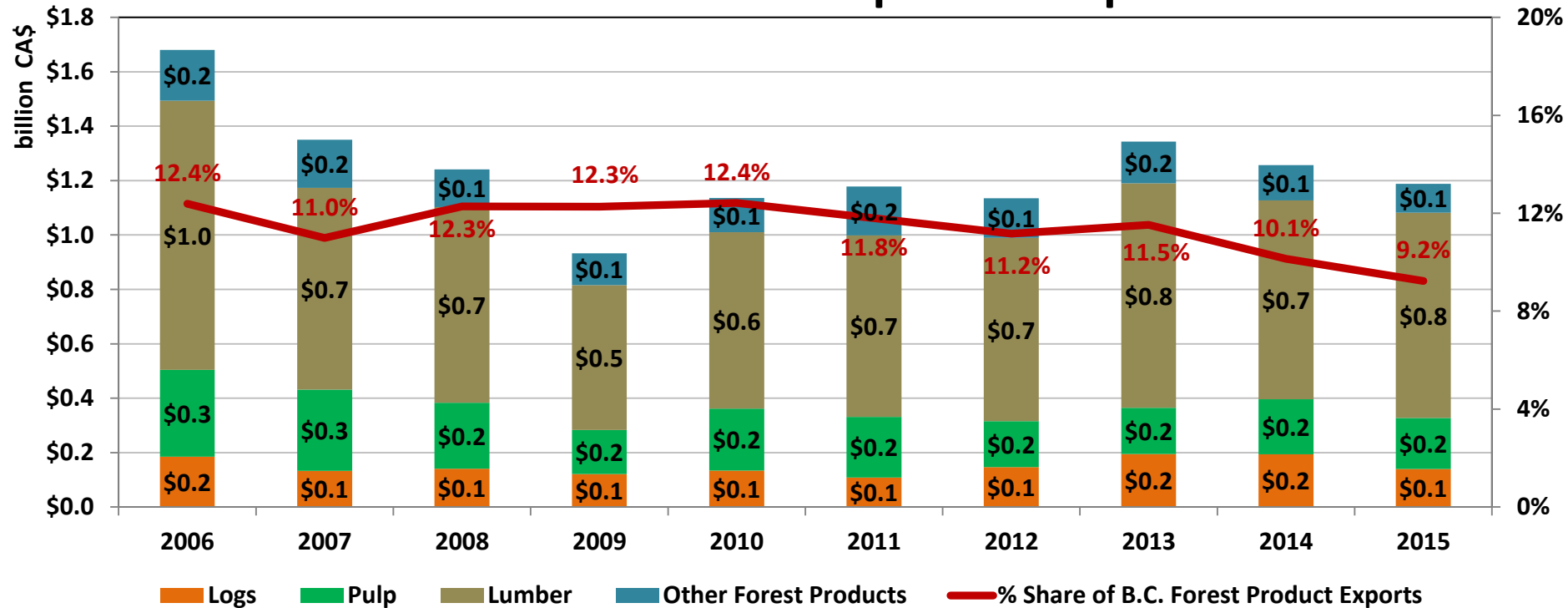
B.C. Forest Product Exports to China



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

Markets – China – B.C. forest product exports to China have hovered around 30% of total forest exports since 2011. The value in 2015 was CA\$3.7 billion, a decrease of 1.6% over 2014. Lumber and log exports grew the fastest in recent years, but pulp still dominates with 56% of export value.

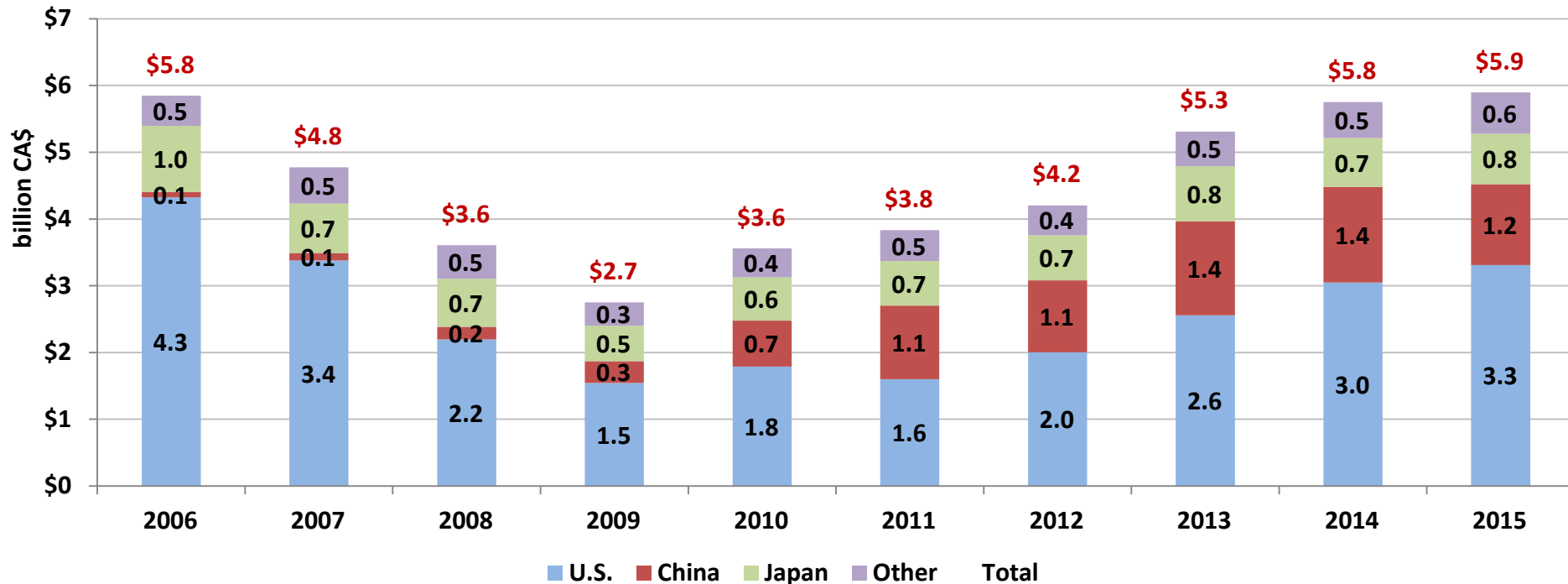
B.C. Forest Product Exports to Japan



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

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\$1.19 billion in 2015, a decrease of 5.4% from 2014. Lumber had the highest share of value with 64% in 2015.

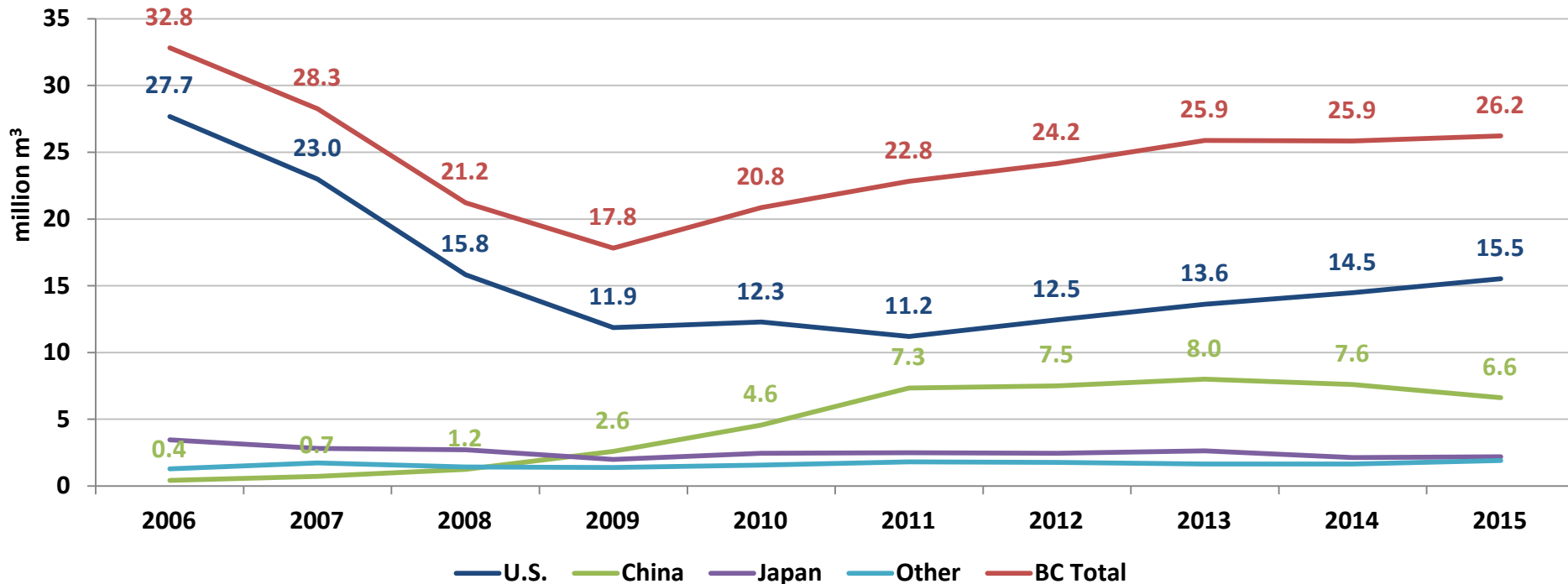
B.C. Softwood Lumber Export Value by Market



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

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.

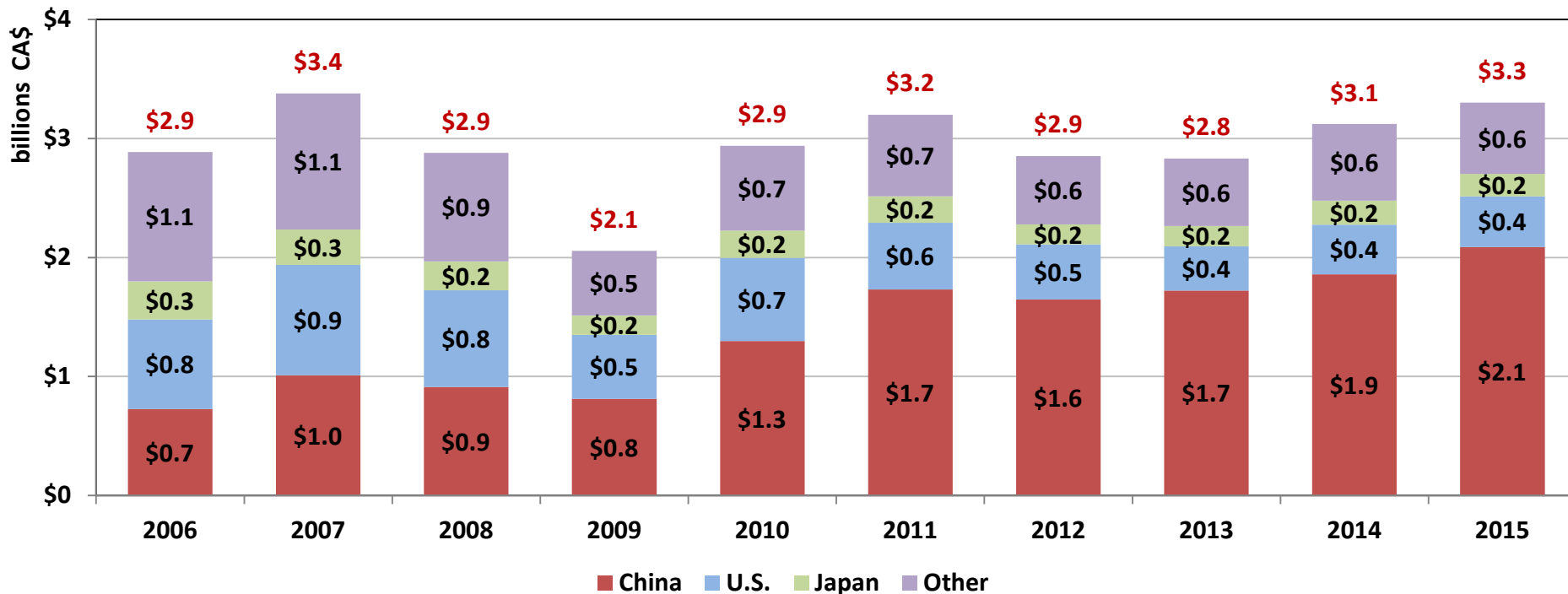
B.C. Softwood Lumber Export Volume by Market



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

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 volume.

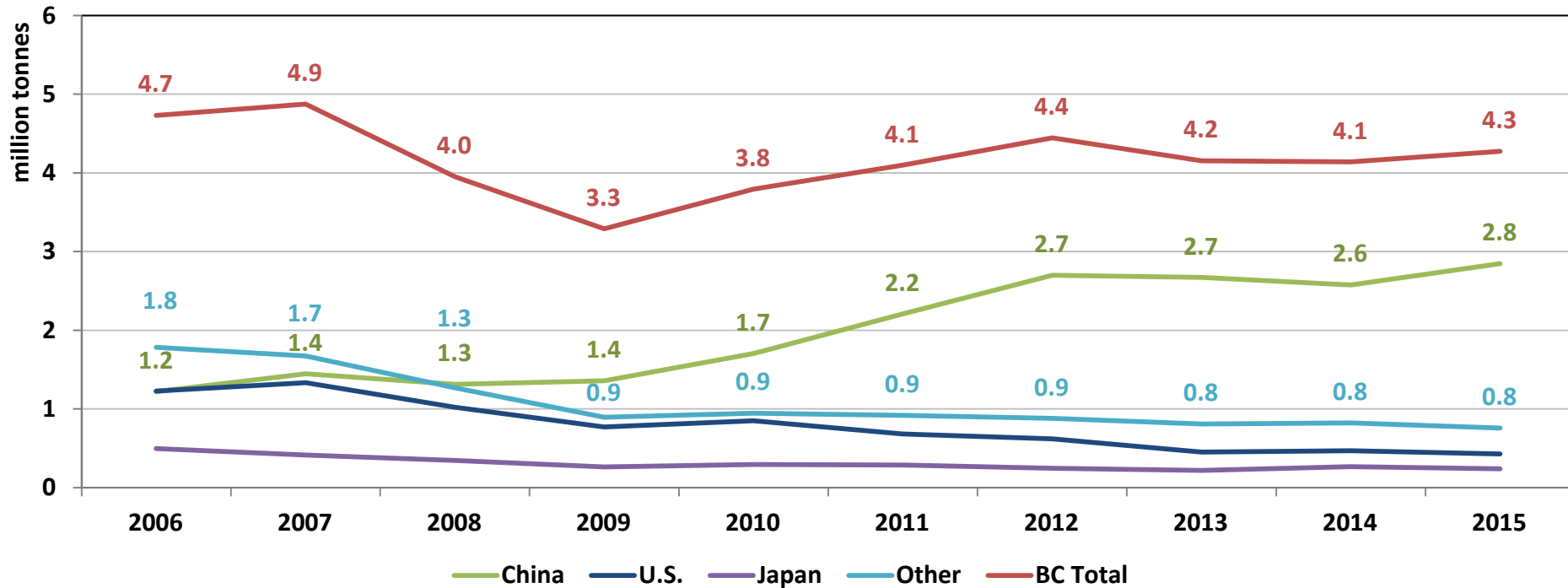
B.C. Pulp Export Value by Market



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

Markets – Pulp – China had a dominant 63% share of B.C. pulp exports in 2015, followed by the U.S. (13%), Japan (6%) and other destinations (18%). Over the past decade, exports to China have tripled while exports to other destinations have shrunk.

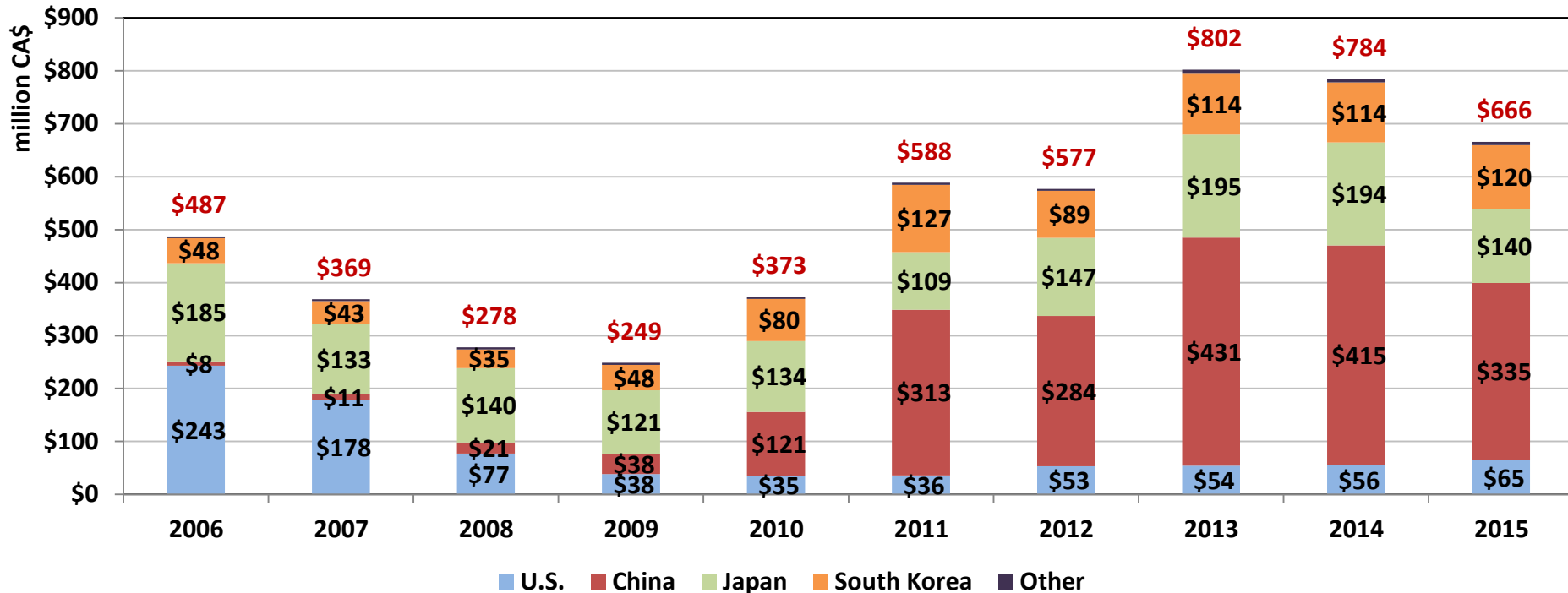
B.C. Pulp Export Tonnage by Market



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

Markets – Pulp – China had a dominant share of B.C. pulp exports in 2015. Over the past decade, exports to China have more than doubled.

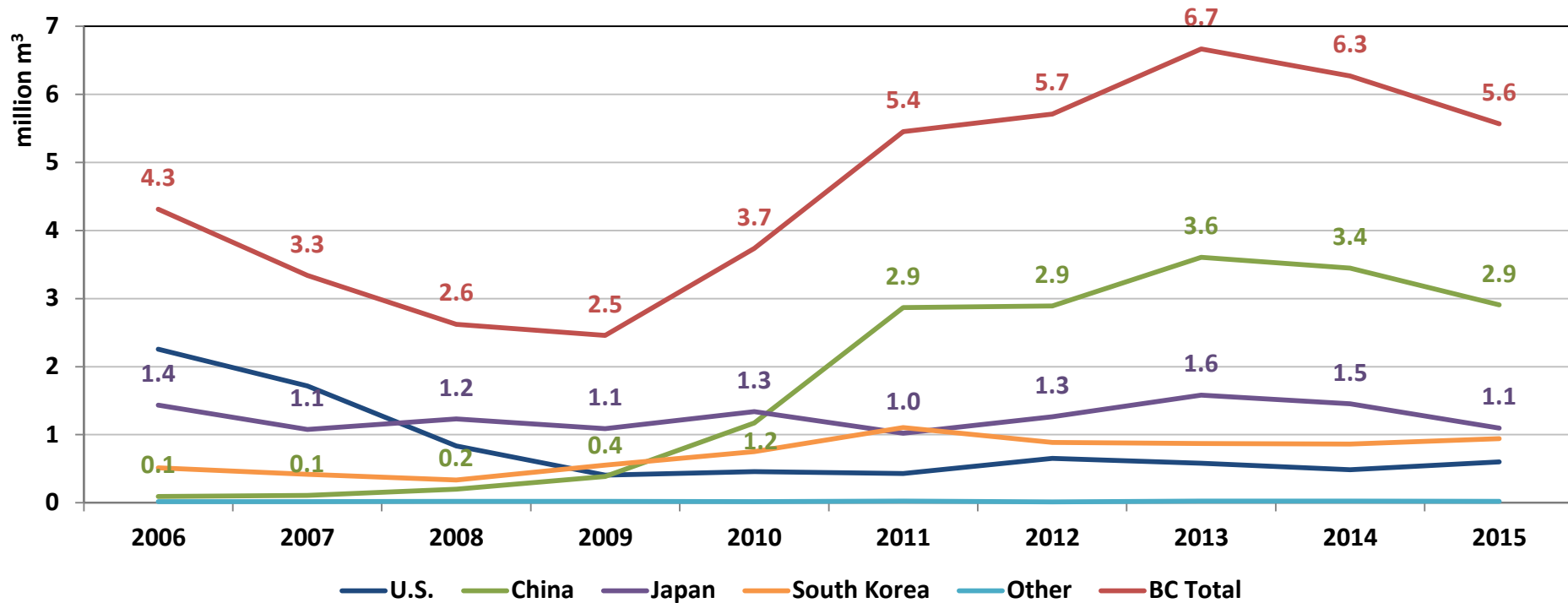
B.C. Log Exports by Market



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

Markets – Logs – The value of log exports decreased by 15% in 2015. China (50%) remained the largest destination. South Korea (18%) and the U.S. (10%) increased slightly. Japan (21%) decreased in 2015 over 2014. Over the past decade China replaced the U.S. as the main log export market.

B.C. Log Export Volume by Market



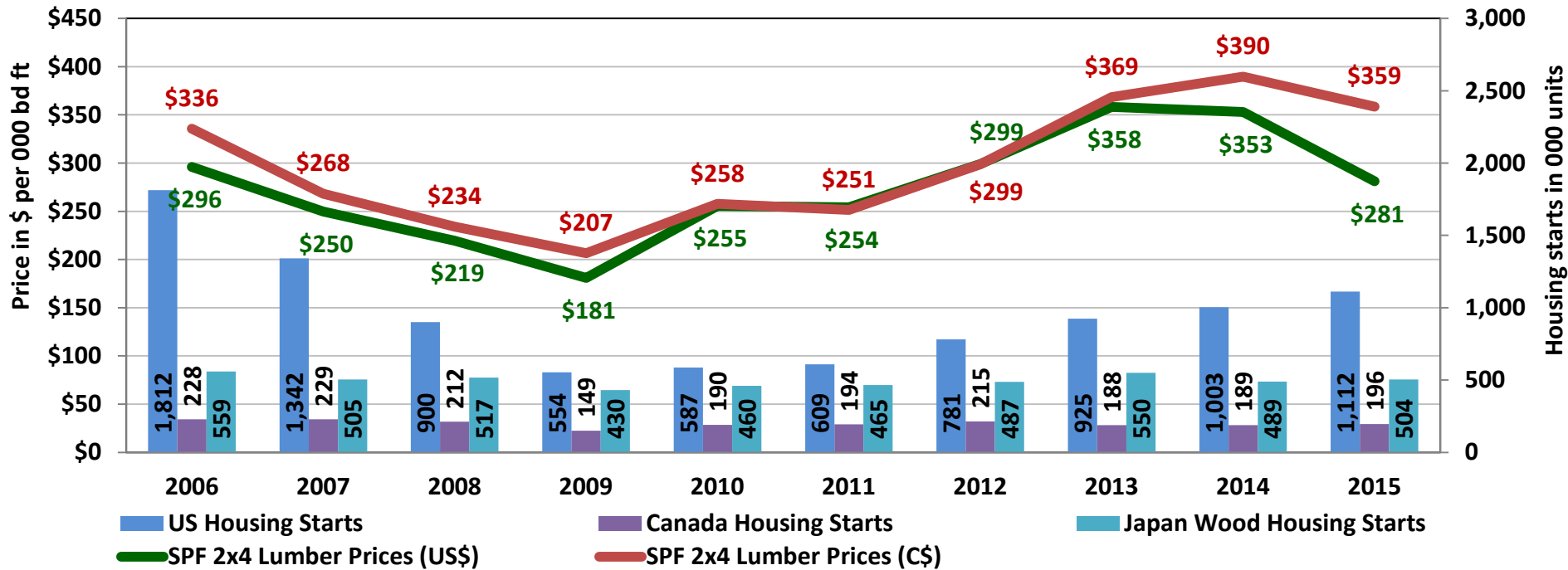
Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#).

Markets – Logs – The volume of log exports decreased again in 2015. China fell roughly 0.5 million m³. South Korea (18%) and the U.S. (10%) increased slightly. Japan (21%) decreased in 2015 over 2014. Over the past decade China replaced the U.S. as the main log export market.

Overview of Sector Indicators

- ❖ **Prices and Costs:** Prices for most products fell in 2015, though for exports this was mitigated by continued depreciation of the Canadian dollar.
- ❖ **U.S. Housing Market:** U.S. housing starts were 1.1 million in 2015, the sixth year of gains since the 0.55 million start low in 2009. The share of multi-family starts is high though, 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 decreased slightly from 2014 to 2015, now accounting for 37% of Canadian forest product export value. This was in spite of increased B.C. export value, and increased softwood lumber and pulp export volumes.
- ❖ **Government Revenues:** Direct forestry revenues to government increased 17% in fiscal year 2015/16 compared to 2014/15.

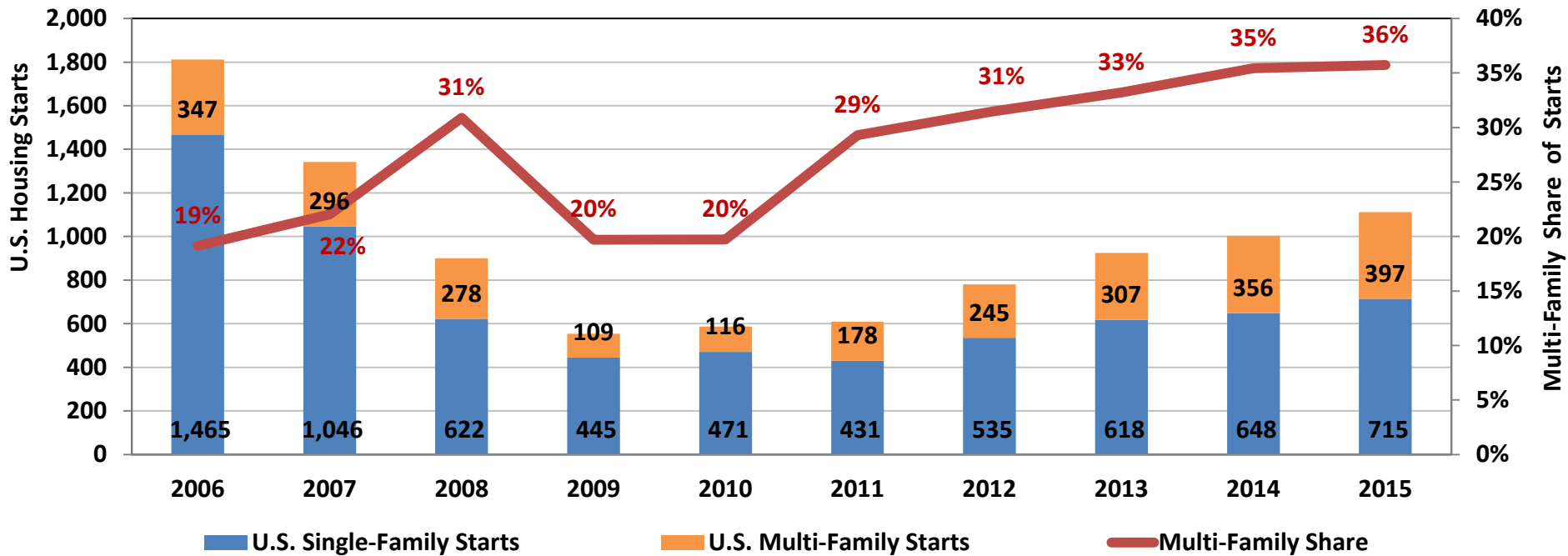
SPF 2x4 Lumber Prices and Housing Starts



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

Prices and Costs – North American and Japanese housing markets improved in 2015, but housing starts were still low compared to the early/mid 2000's. Average SPF 2x4 lumber prices fell substantially in 2015. This may have been partially offset for Canadian exporters thanks to the depreciating Canadian dollar.

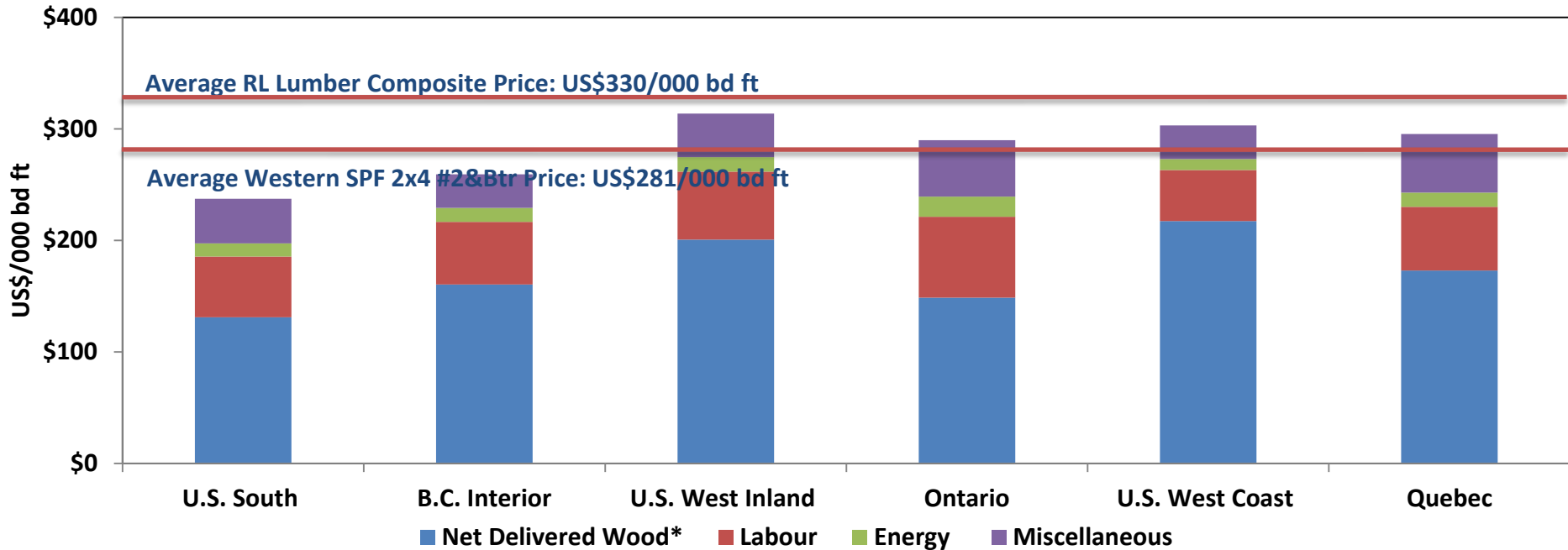
U.S. Housing Starts: Single vs. Multi-Family Units



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

Prices and Costs – The share of multi-family starts has been increasing since 2010, and they now account for roughly 36% of housing starts. The last time the share was this high was in the 1980s. Multi-family units use roughly 66-75% of the wood that a single family unit does.

Softwood Lumber Mills' Variable Costs (2014)

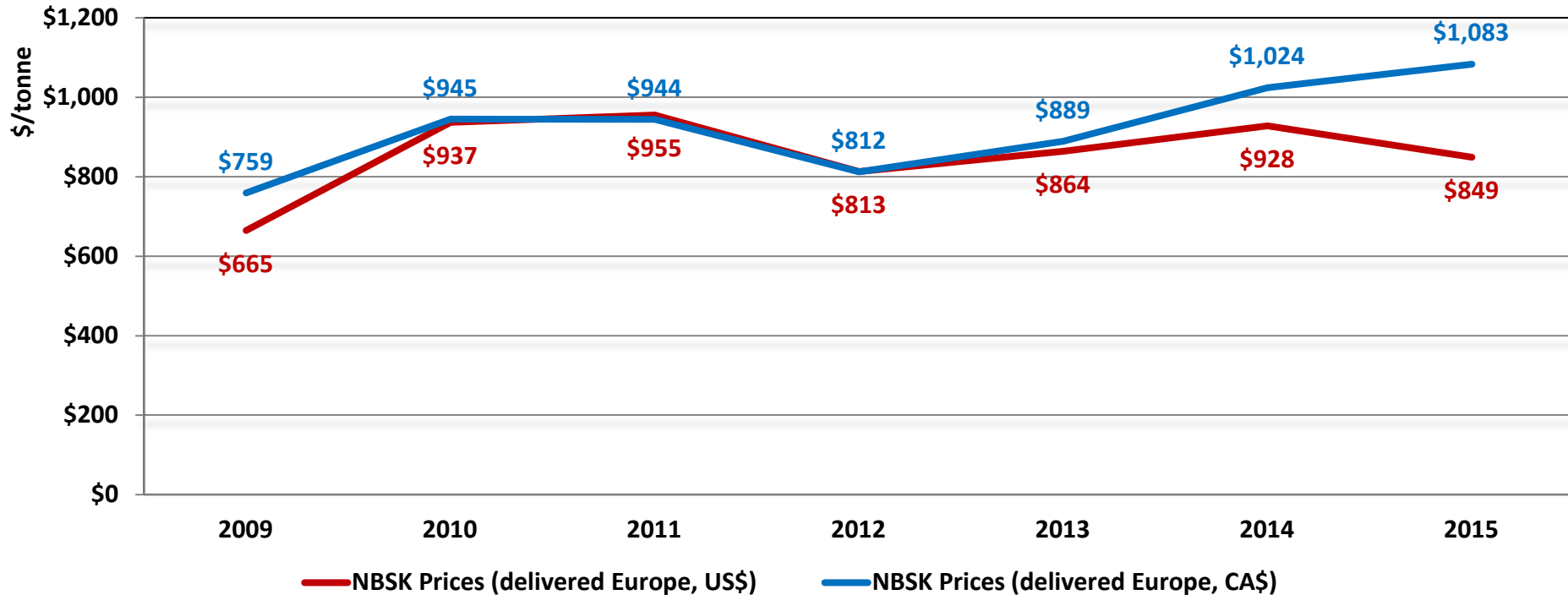


* = Delivered Wood - Residual Income

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

Prices and Costs – In 2014, B.C. Interior softwood lumber mills had the second lowest variable costs in the U.S. and Canada. In 2011, the B.C. Interior was the lowest cost region, but in 2012 it moved to second due to increased delivered wood cost.

Market Pulp Prices



Data source: [Equity Research Associates \(ERA\)](#).

Prices and Costs – Pulp prices declined in 2015. Pricing of pulp in U.S. dollars provided B.C. producers with prices that actually increased in Canadian dollar terms, which could help cover costs of production.



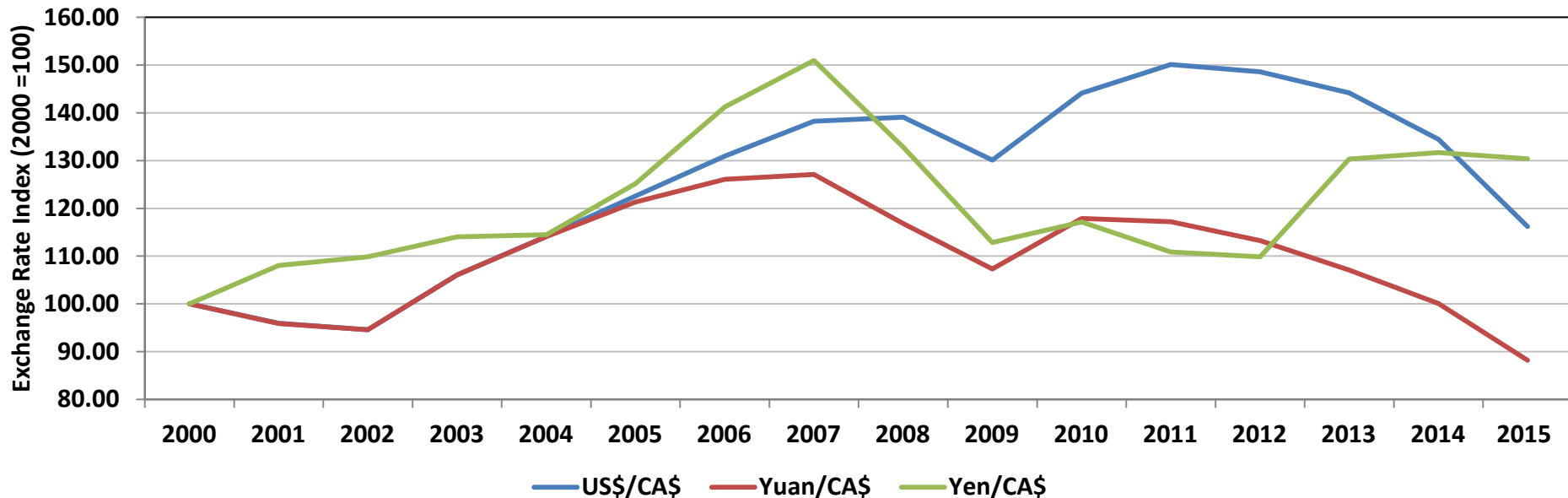
2000 Exchange Rates

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

2015 Exchange Rates

0.78 US\$/CA\$
4.92 Yuan/CA\$
94.66 Yen/CA\$

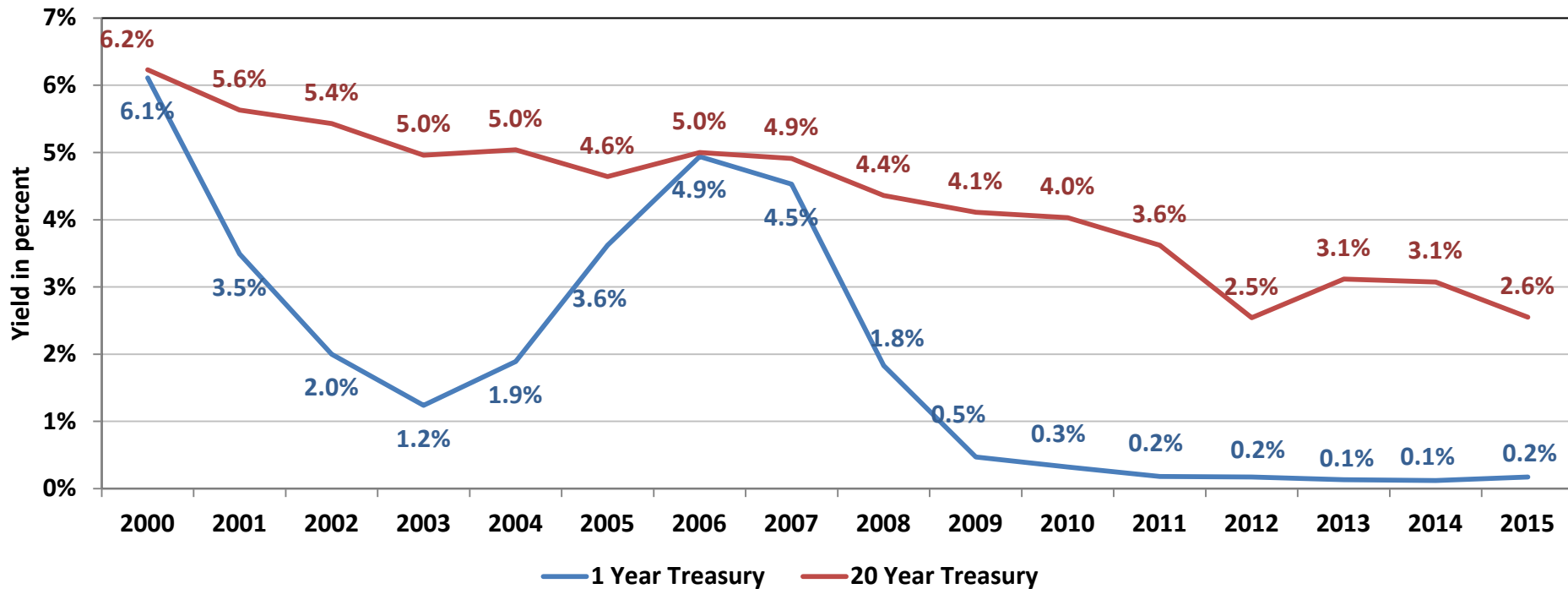
Indexed Foreign Exchange Rates Relative to CA\$



Data source: 2000-2006, [OANDA](#). 2007-2015, [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 2015 the CA\$ had depreciated markedly against the US\$ and Yuan compared to 2014, but are still above the rates in 2000. The Yen/\$CA rate changed little from 2014 to 2015.

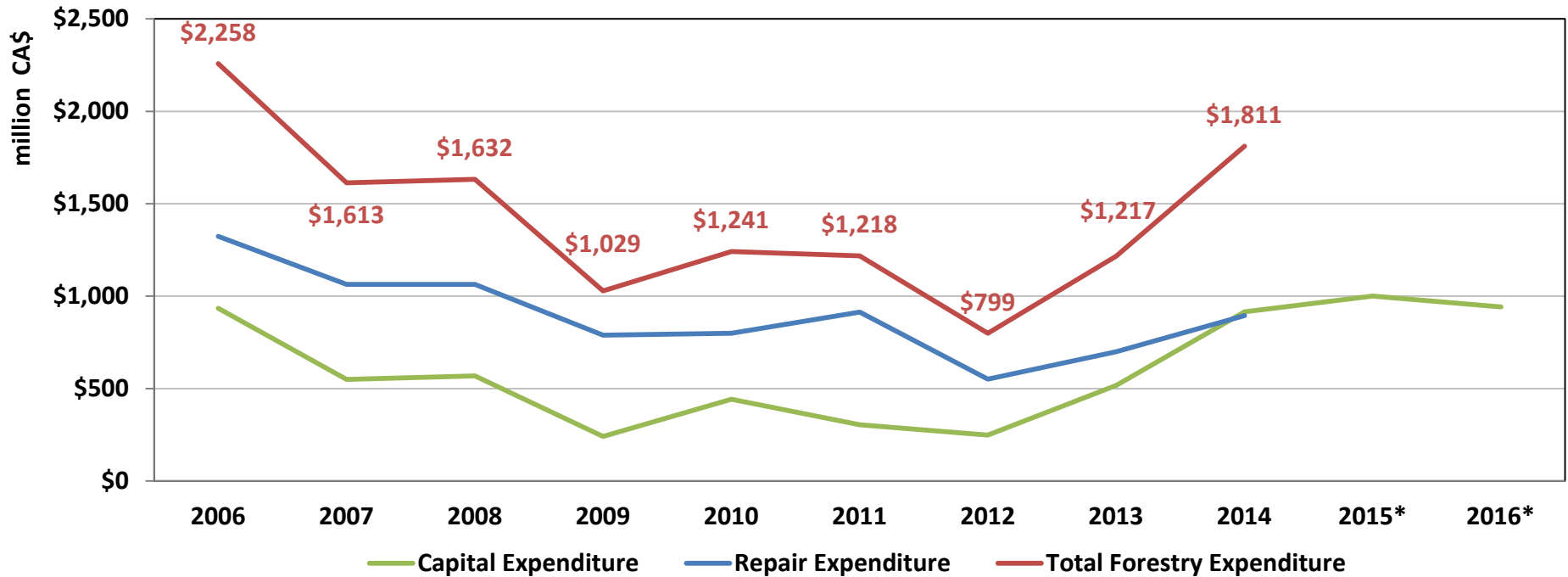
U.S. Treasury Bill Rates



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

Prices and Costs – The cost of short-term borrowing increased slightly in 2015, but long-term borrowing rates fell. After the financial crisis of 2008, rates were lowered to stimulate the economy, and they continue to remain low.

B.C. Forest Sector Capital and Repair Expenditures

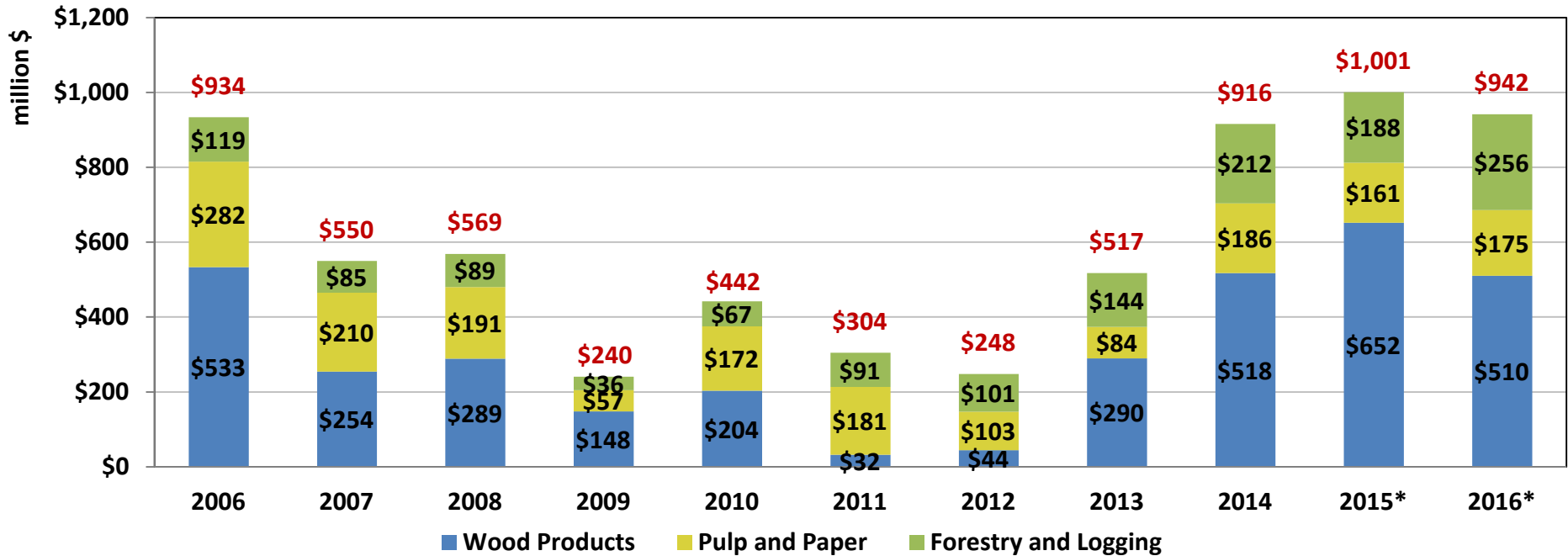


*Preliminary and intentions, subject to change. Data quality grade is often "Use with caution".

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

Investment – B.C. forest sector investment (CA\$1,811 million) increased 49% from 2013 to 2014. 2014 is the latest data for repairs. Expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2014 is the latest year for repair expenditure.

B.C. Forest Sector Capital Expenditure

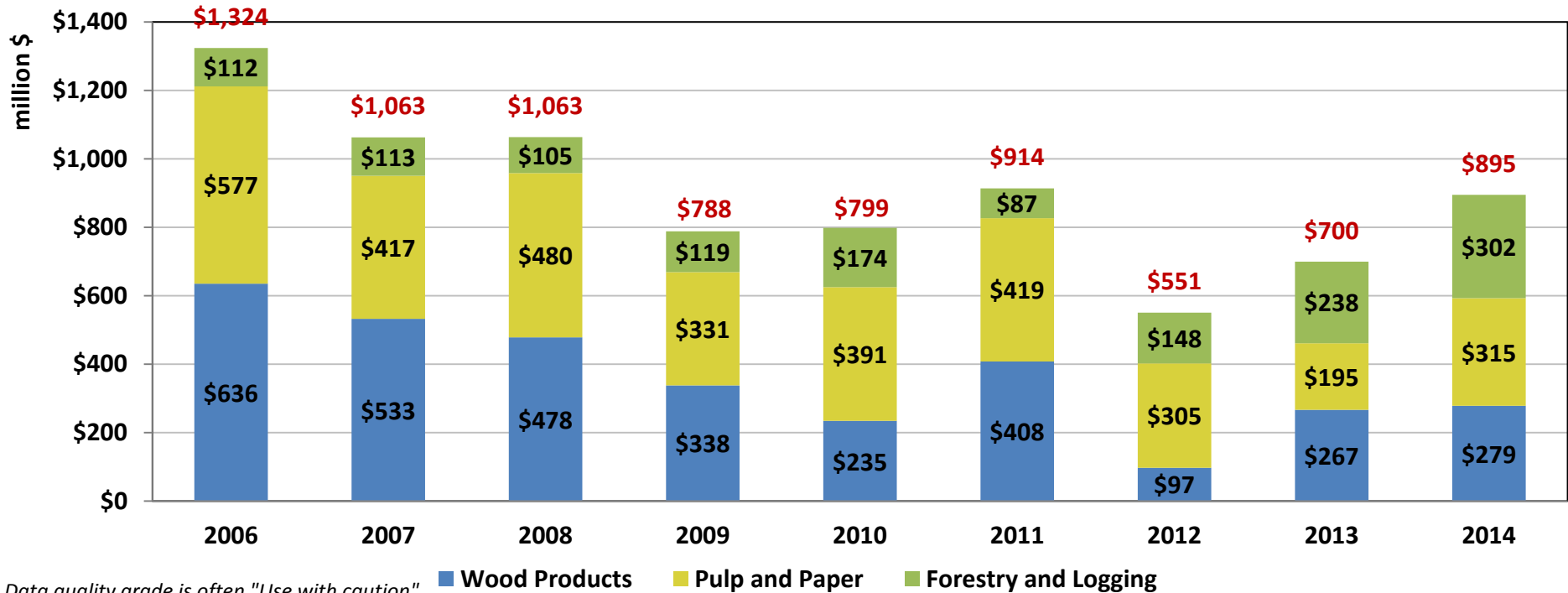


*Preliminary and intentions, subject to change. Data quality grade is often "Use with caution".

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

Investment – From 2013 to 2014 capital expenditure increased 77%, 2015 preliminary results indicate a 9.3% increase from 2014, and 2016 intention a decrease of 5.9%. Capital expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment.

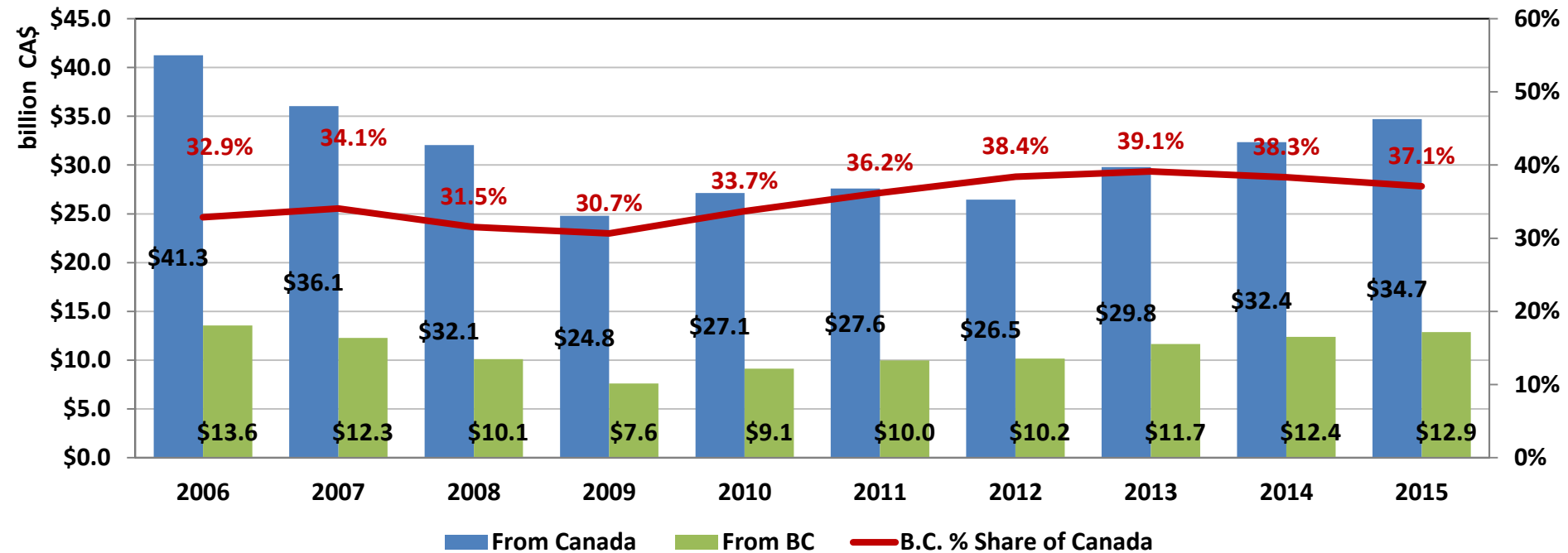
B.C. Forest Sector Repair Expenditure



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

Investment – 2014's results indicate B.C. forest sector repair expenditures increased 28% from 2013. Repair expenditure includes investment in construction (e.g. buildings and land improvements) and in machinery and equipment. 2014 is the latest data for repair expenditure.

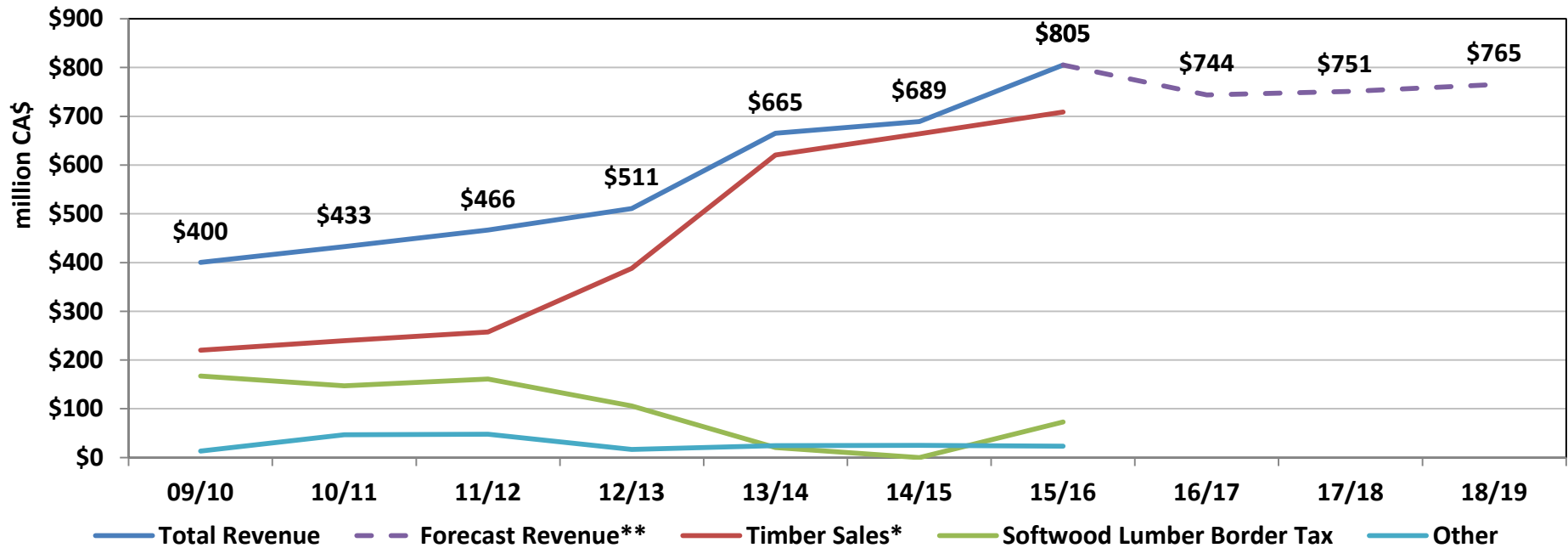
Forest Product Exports: B.C. and Canada



Data source: [B.C. Stats](#) extract from Statistics Canada data. Also available from Statistics Canada [CIMTD](#). Note sources may differ slightly.

B.C.'s Share – B.C.'s share of Canadian forest exports decreased slightly in 2015. Both B.C. and Canada saw the total value of forest exports rise in 2015.

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



2015/16 is unaudited and subject to change. *Timber Sales includes BCTS sales. **Excludes Recoveries, and Logging Tax.

Data source: B.C. FLNR. Corporate and personal income taxes are not included in these figures. While not identical, similar numbers can be viewed in the B.C. Ministry of Finance [Budget and Fiscal Plan](#), page 118. Forecasts are from the 2016/17 to 2018/19 Budget and Fiscal Plan.

Government Revenues – In 2015/16, the B.C. government received direct forest revenues of CA\$805 million, an increase of roughly CA\$116 over the previous year. Revenue from timber sales increased by CA\$45 million in 2015/16.

Conclusions

- ❖ B.C.'s forest sector showed improvement in sales value in 2015, even though many prices declined. This suggests the increase in sales is due to changes in the exchange rate and product quantities.
- ❖ Chinese demand for logs, lumber, and pulp continued to play a key role in the B.C. forest sector. However, Russia continues to take market share from Canada, and despite higher total lumber imports into China Canada's volume declined.
- ❖ 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.

Outlook

- ❖ Stronger demand (mainly from China and a recovering U.S. market) and weaker B.C. timber supply are expected to have a positive impact on prices. So far in 2016 prices have shown mixed results, and the Canadian dollar is appreciating. However lumber export values and quantities are up ([June YTD](#)).
- ❖ China continued as the world's largest importer of logs and lumber in 2015, though uncertainty in 2015 has raised questions about the strength of their demand. Russia's continued increase in supply to China may harm B.C. exporters.
 - ❖ However, an announcement by China [to ban logging](#) in natural forests could have major impacts on world markets. Some estimates claim a 40-50 million m³ decline in domestic harvest, but it remains to be seen how the policy is implemented.
- ❖ The softwood lumber dispute adds additional uncertainty to the U.S. lumber market. Negotiations are ongoing, with the one year standstill agreed to in the previous Softwood Lumber Agreement ending in October 2016.

Outlook - Continued

- ❖ Foreign demand for wood pellets has been strong, but Britain exiting the EU adds uncertainty to future demand.
- ❖ Innovations and investments in markets, products and technologies will make the sector more competitive. Changing building codes to allow tall wood buildings, such as [UBC's 18 storey residence](#), and encouraging wood use over other building materials in general, are just two examples of programs that could grow the forest sector.
 - ❖ UBC's residence is expected to use 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*.