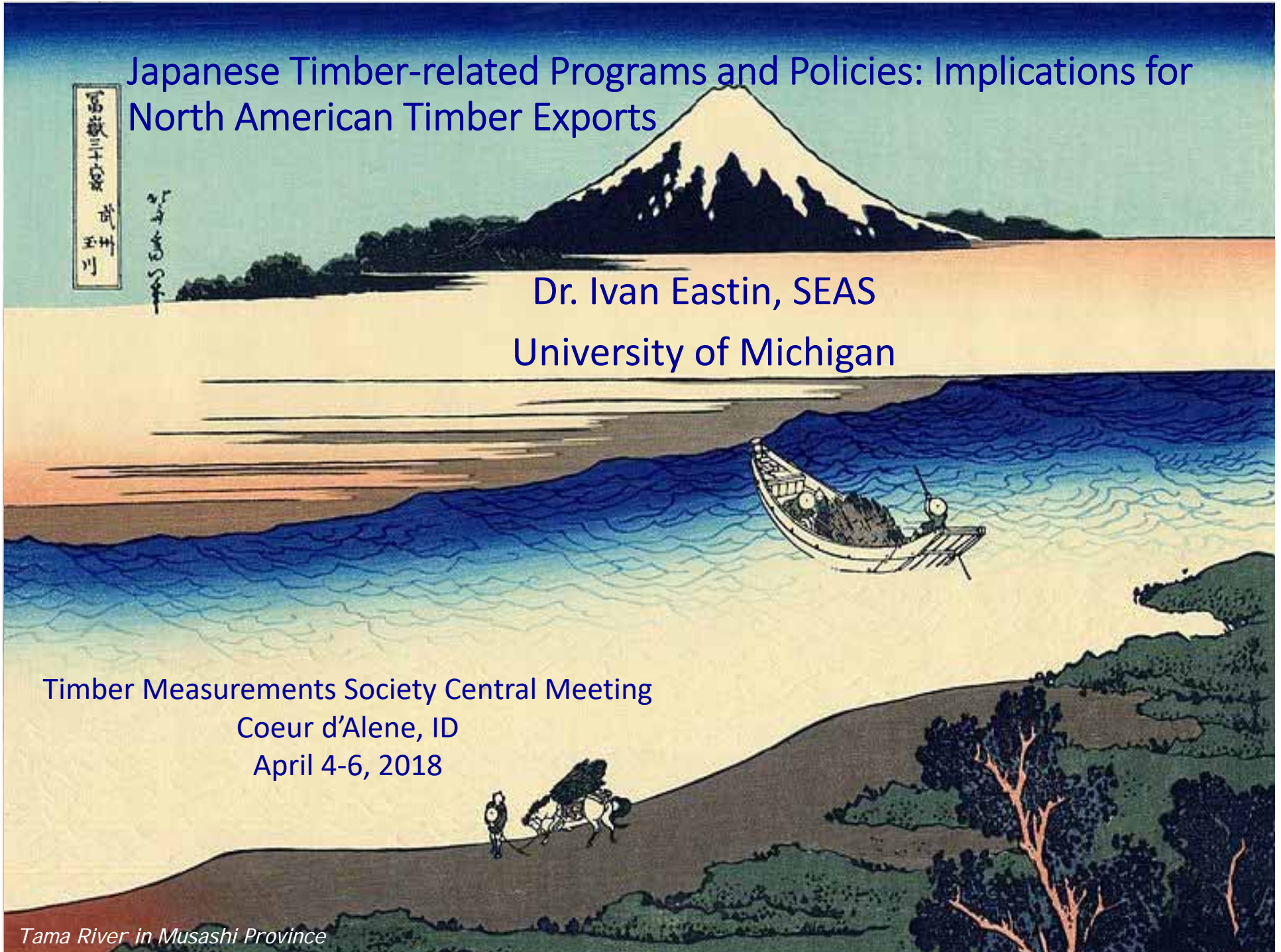


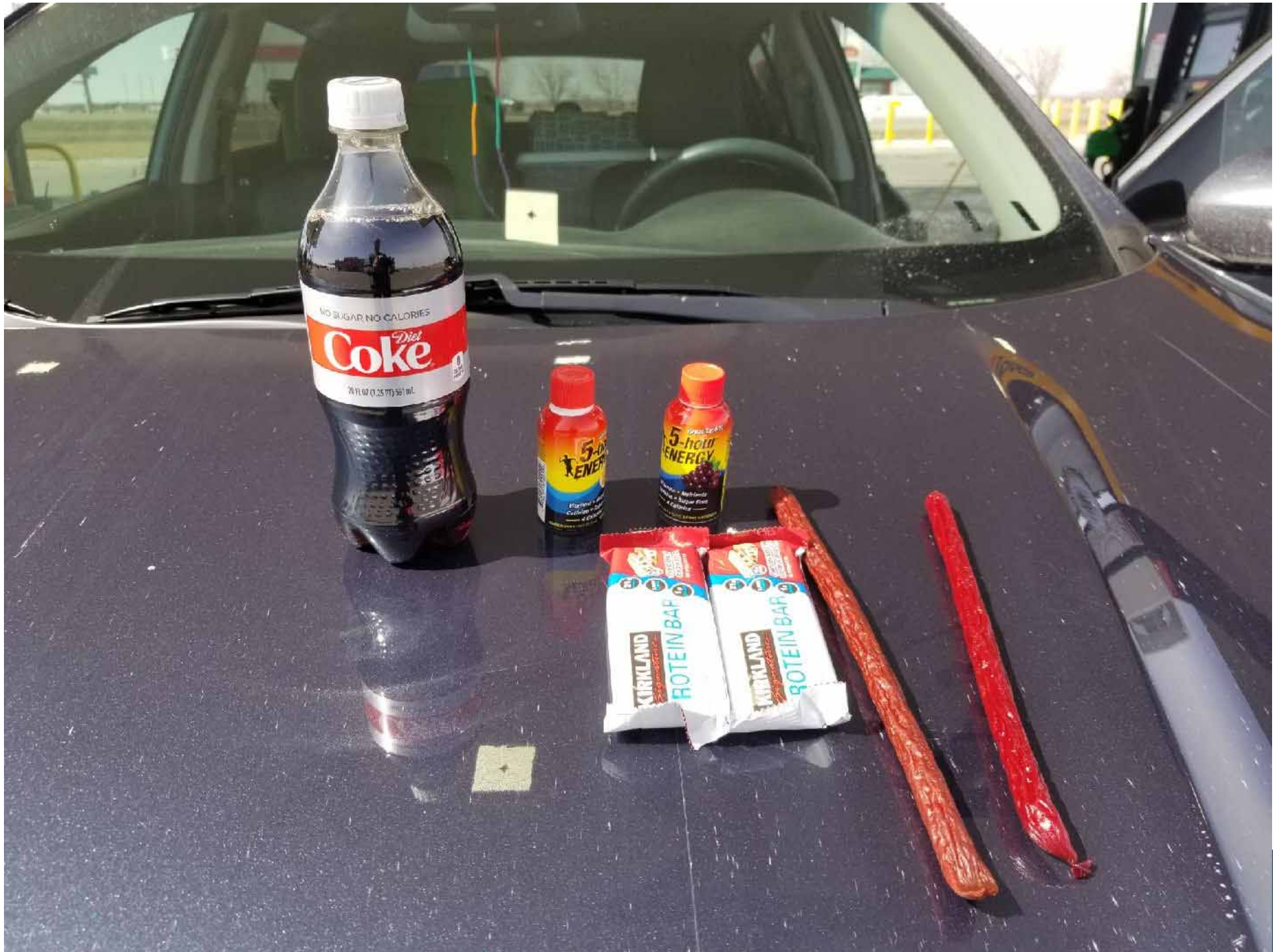
Japanese Timber-related Programs and Policies: Implications for North American Timber Exports

Dr. Ivan Eastin, SEAS
University of Michigan

Timber Measurements Society Central Meeting
Coeur d'Alene, ID
April 4-6, 2018


Tama River in Musashi Province







*Plus a playlist of 437 songs
from the 1960's and 1970's!*



In contrast, during the more than 25 years that I have been doing research in Japan, I have watched as Japan has employed an increasingly complex combination of policies, regulations, Laws and subsidies adopted at the national, regional, prefectural and/or municipal levels that are designed to improve the competitiveness of domestic wood products. And these policies and regulations have sometimes bordered on the bizarre.

Agenda

1. Background
2. Japan's Wood Trade
3. Japan's Housing Trends
4. Japan's Demographic Tsunami
5. Japan's Forestry Dilemma
6. Outlook



Background



Summary of Japanese Economy

- *Economic growth slowed substantially in 2016 and 2017,*
- *The US dollar has fallen 7.6% relative to the yen since January 2017,*
- *Unemployment is extremely low, which is causing problems in sectors that rely on manual labor such as forestry and construction,*
- *Japan has the highest ratio of public debt to GDP in the developed world at 253% of GDP.*

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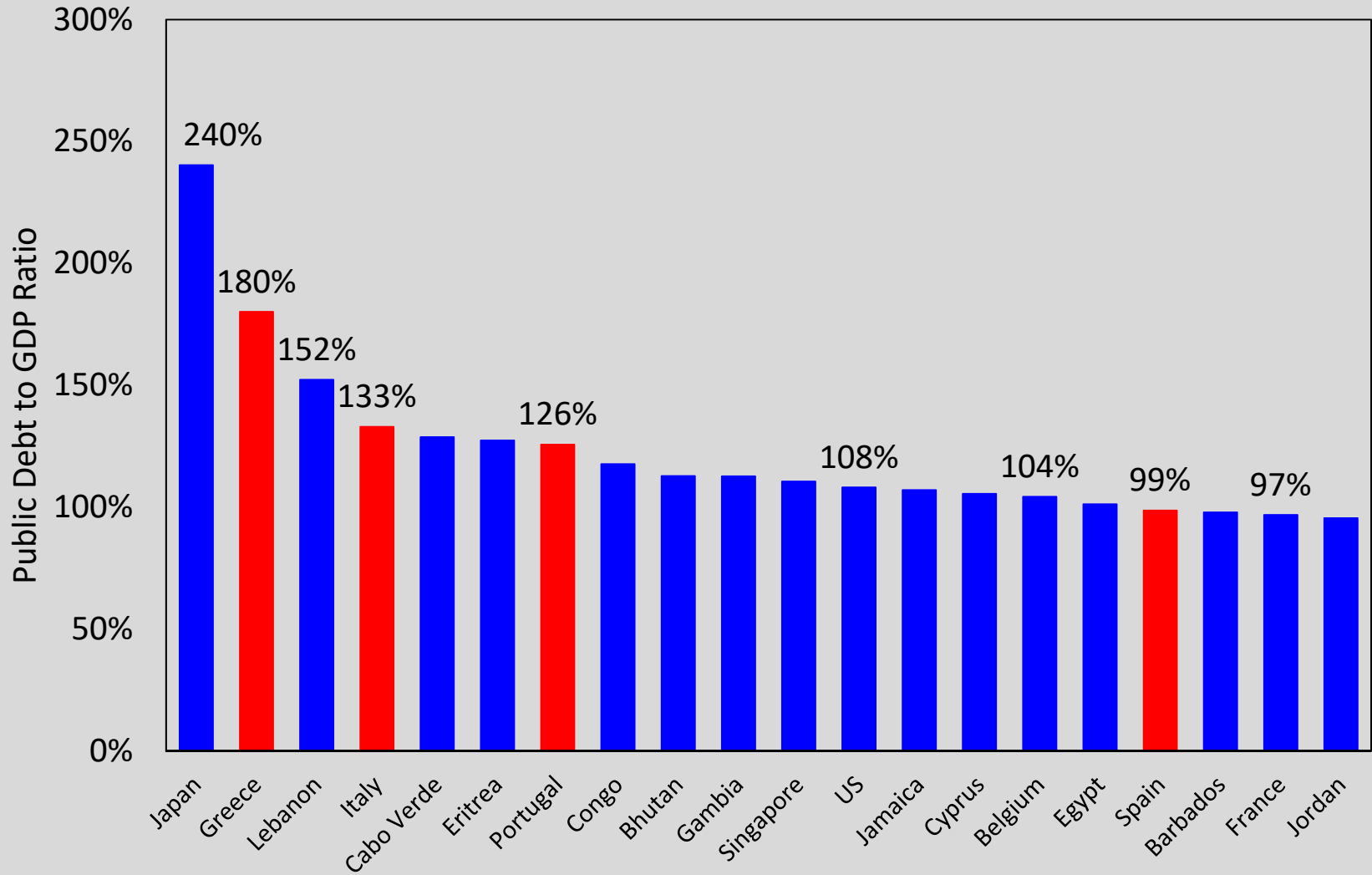
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Global Debt Ratios (2016)



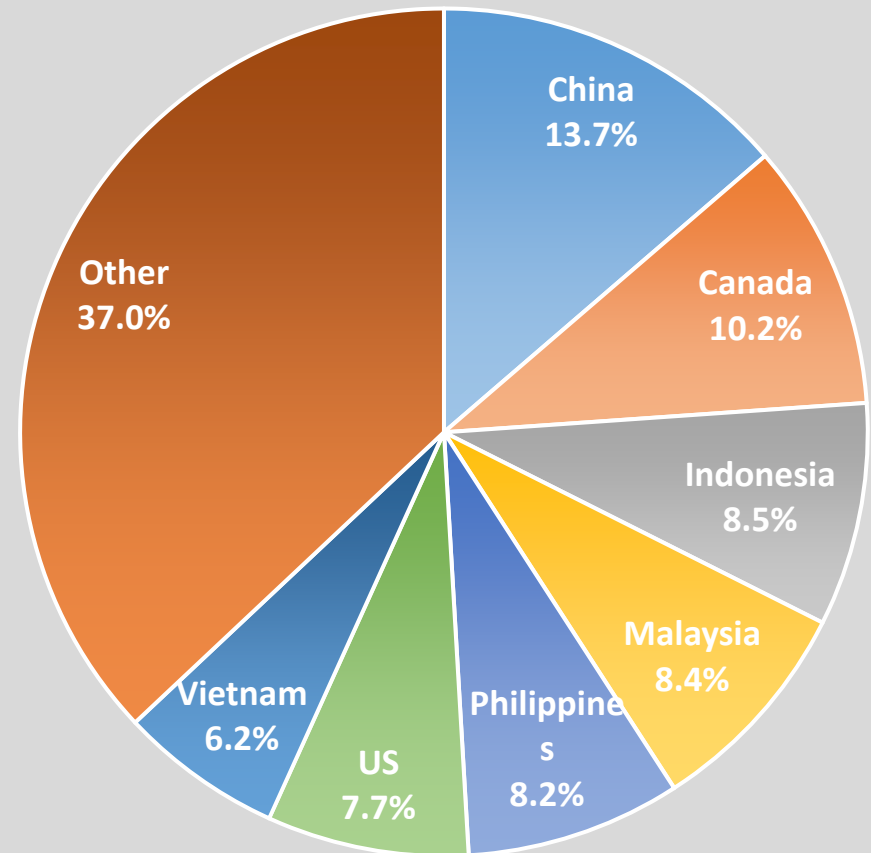
Servicing this debt will constrain Japan's ability to provide health and social services to their rapidly aging population.

Japan's Wood Trade



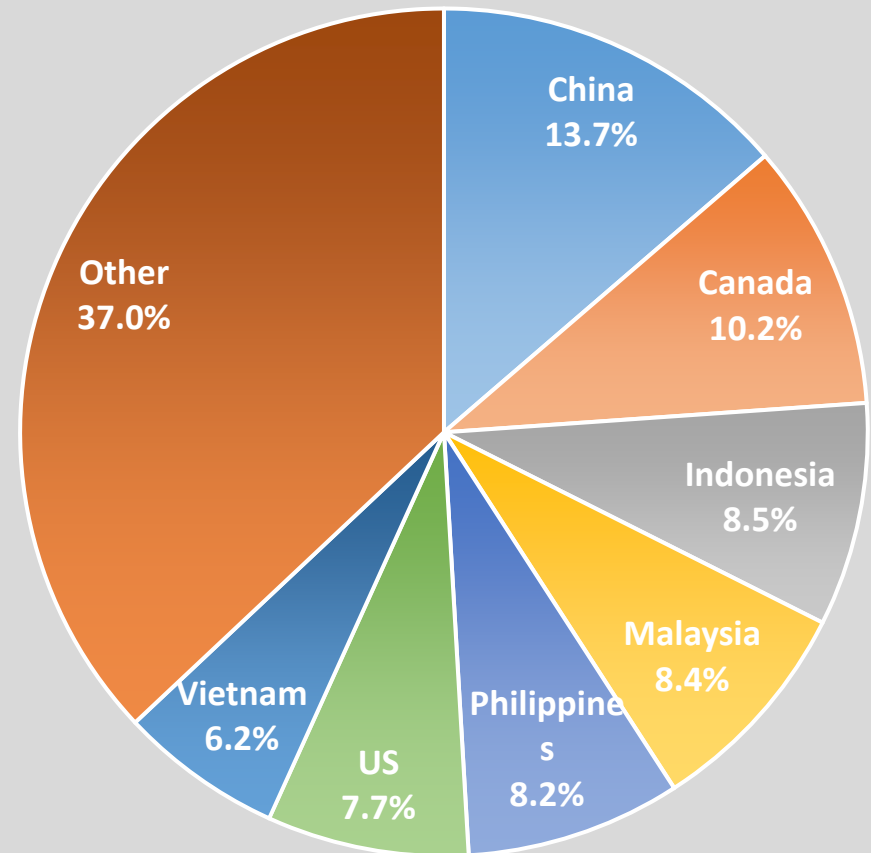
Japan's Wood Imports (\$10.3 billion in 2017)

- *Japan is the 3rd largest wood importer following China and the US.*
- *China is the largest supplier of wood products followed by Canada. The US is #6.*
- *Japan's wood imports are down by 18% since the Basic Forest Plan was adopted in 2011.*
- *US and Canadian wood exports to Japan are down by 6.8% and 20.2% since 2011.*



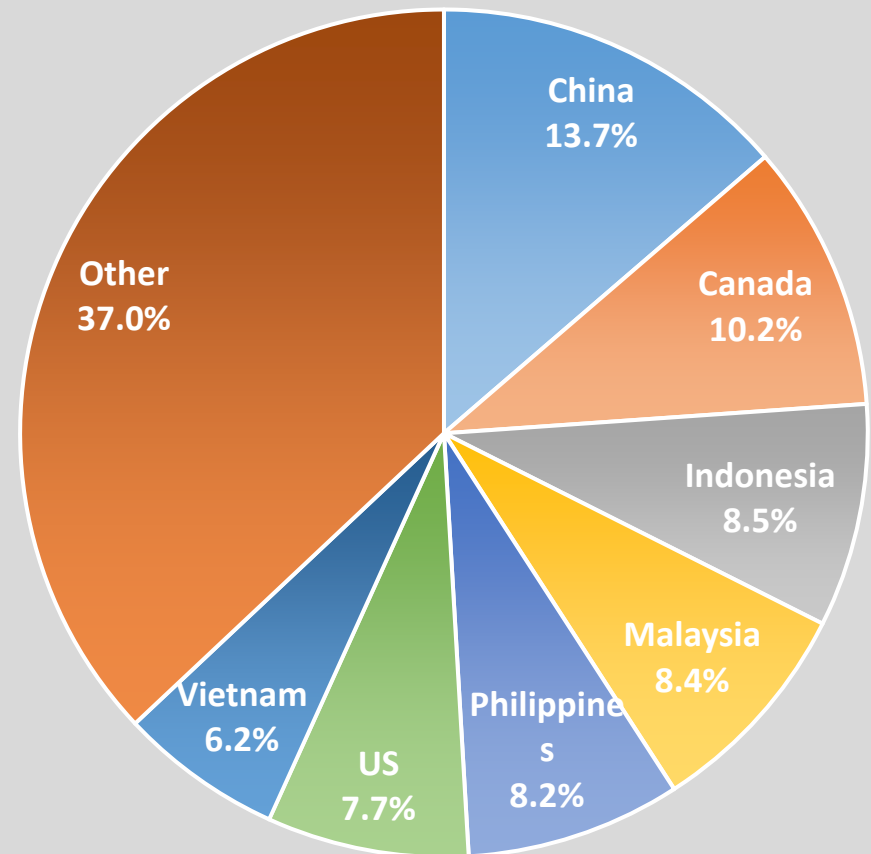
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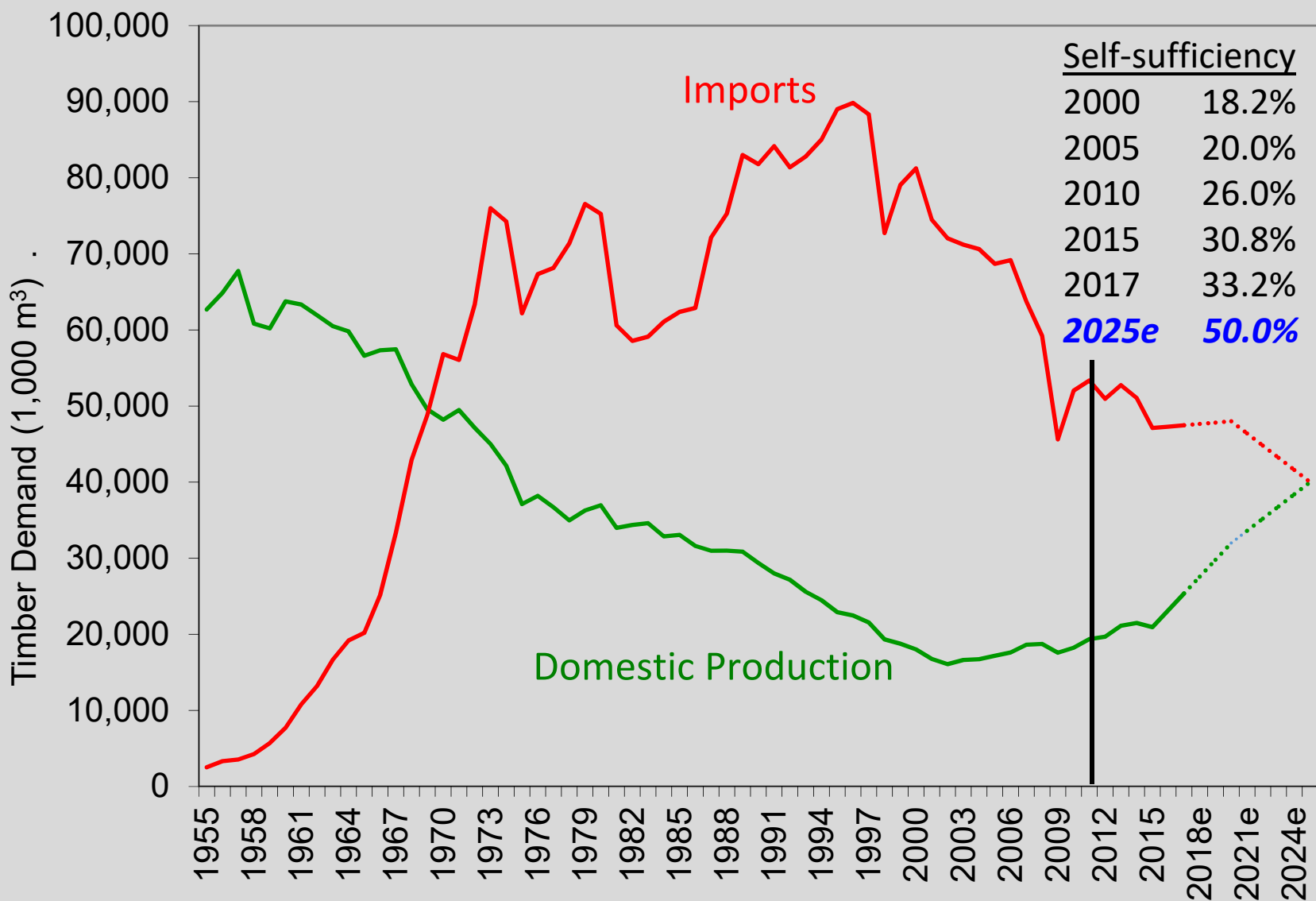


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- *Japan is the 3rd largest wood importer following China and the US.*
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Basic Forest Revitalization Plan

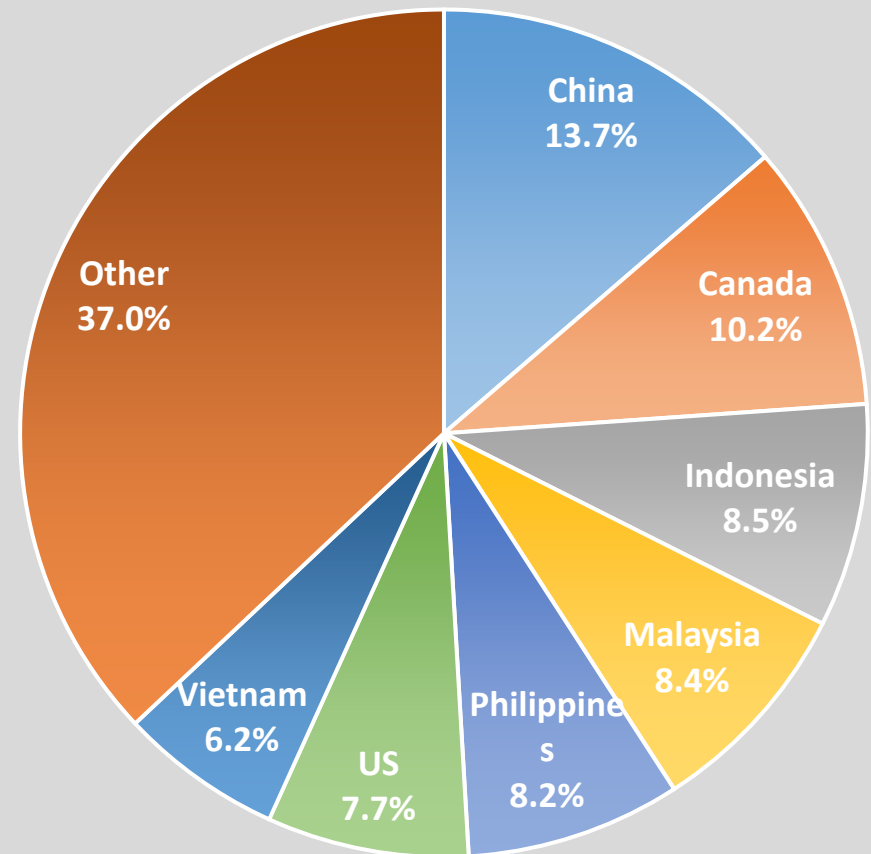


The Basic Forestry “Revitalization Plan” targets 50% self-sufficiency in Japan’s timber supply by 2025. Despite this, both the domestic wood supply and imports actually grew in 2016 and 2017!



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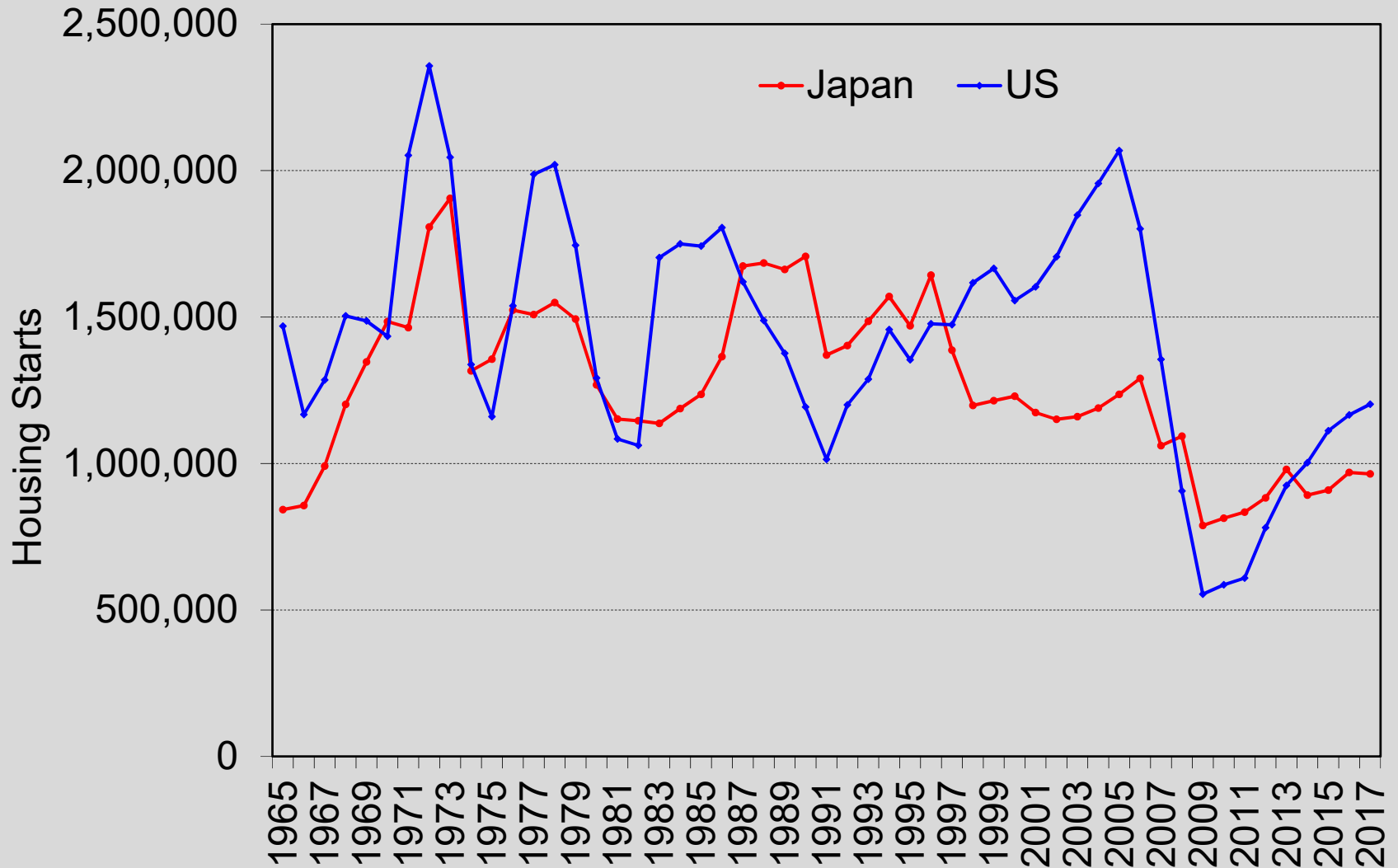
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- *Japan's wood imports are down by 18% since the Basic Forest Plan was adopted in 2011.*
- ***However, overall US and Canadian wood exports to Japan are down by 6.8% and 20.2% since 2011.***



Japan's Housing Sector



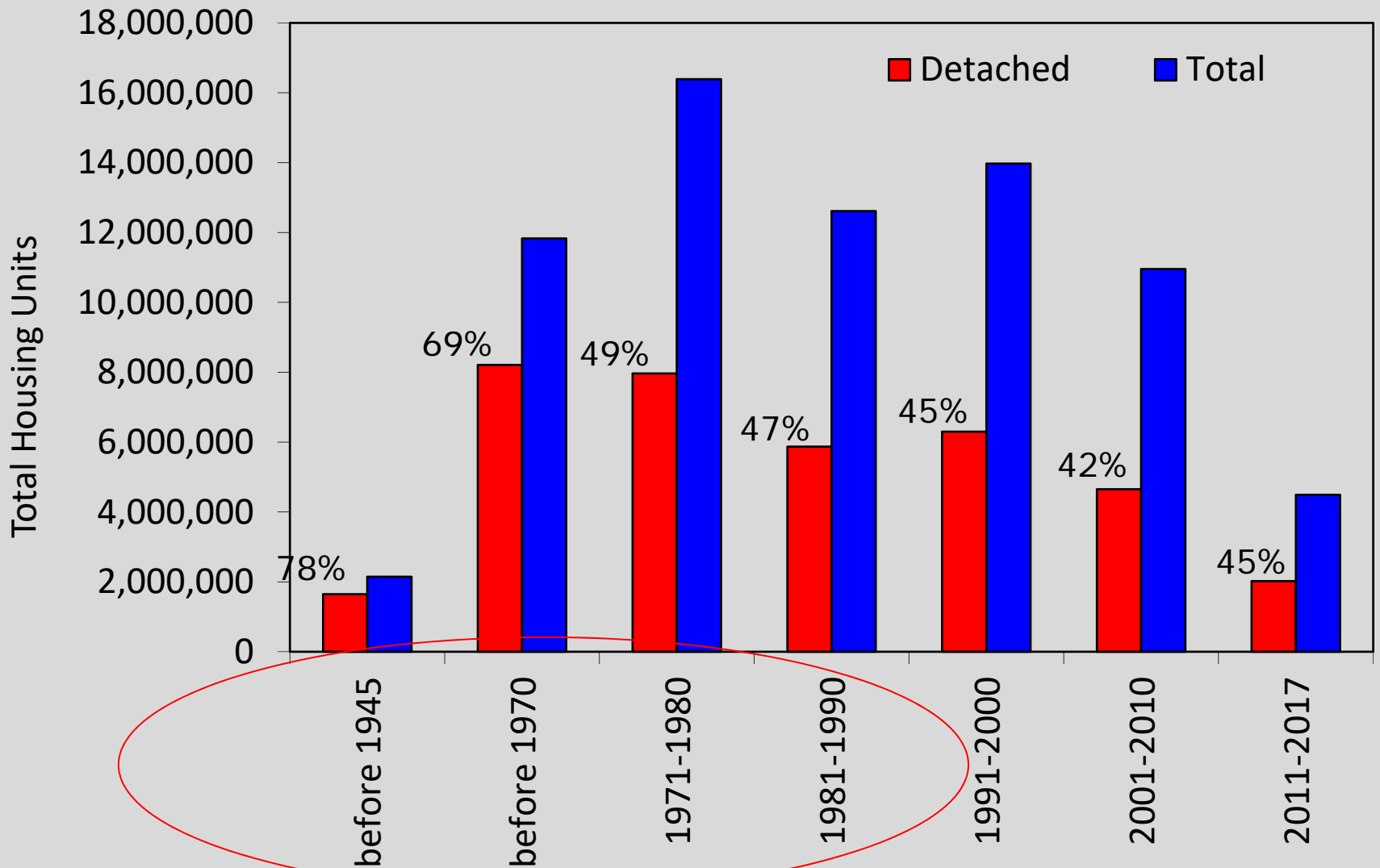
Japan Housing Starts



Housing starts in Japan have been stagnant but steady since 2012, largely because there is no resale market for used homes. In the US: 80% of home sales are used homes versus just 10% in Japan

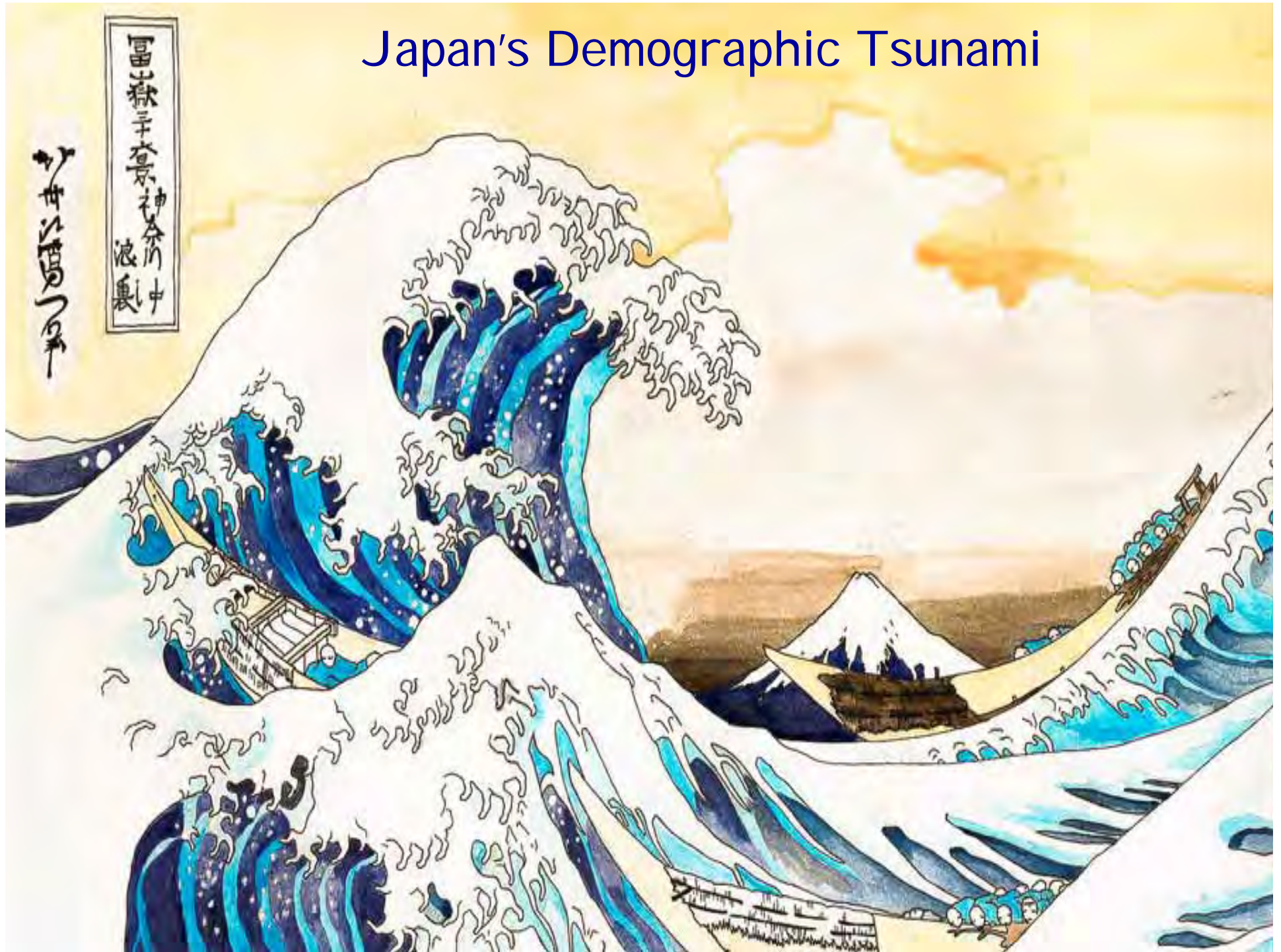


Japanese Housing Stock

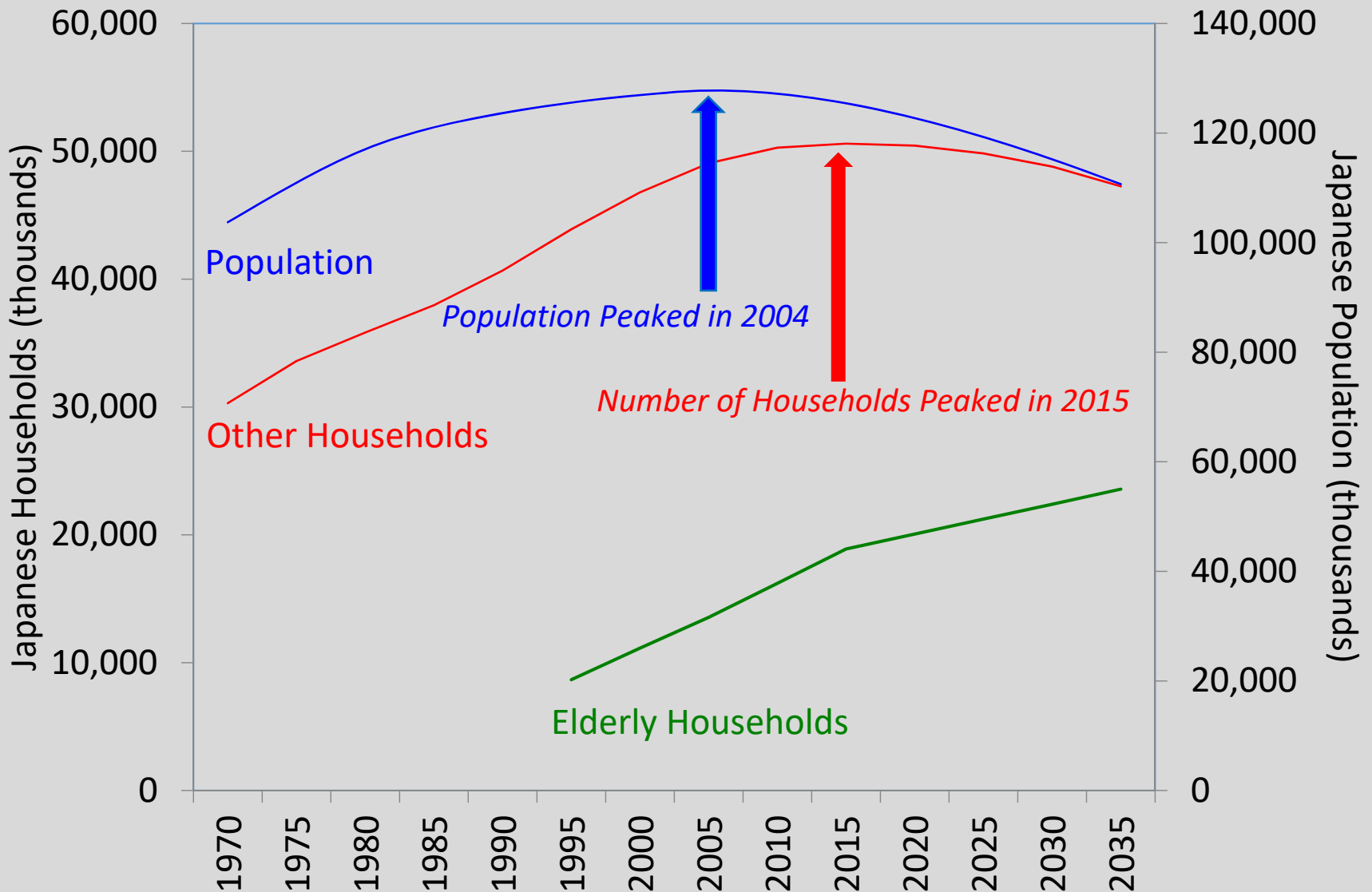


Almost 24 million detached homes are over 30 years old and will need to be replaced, including over 10 million abandoned “ghost” homes (the number of abandoned homes is projected to reach 20 million by 2033).

Japan's Demographic Tsunami

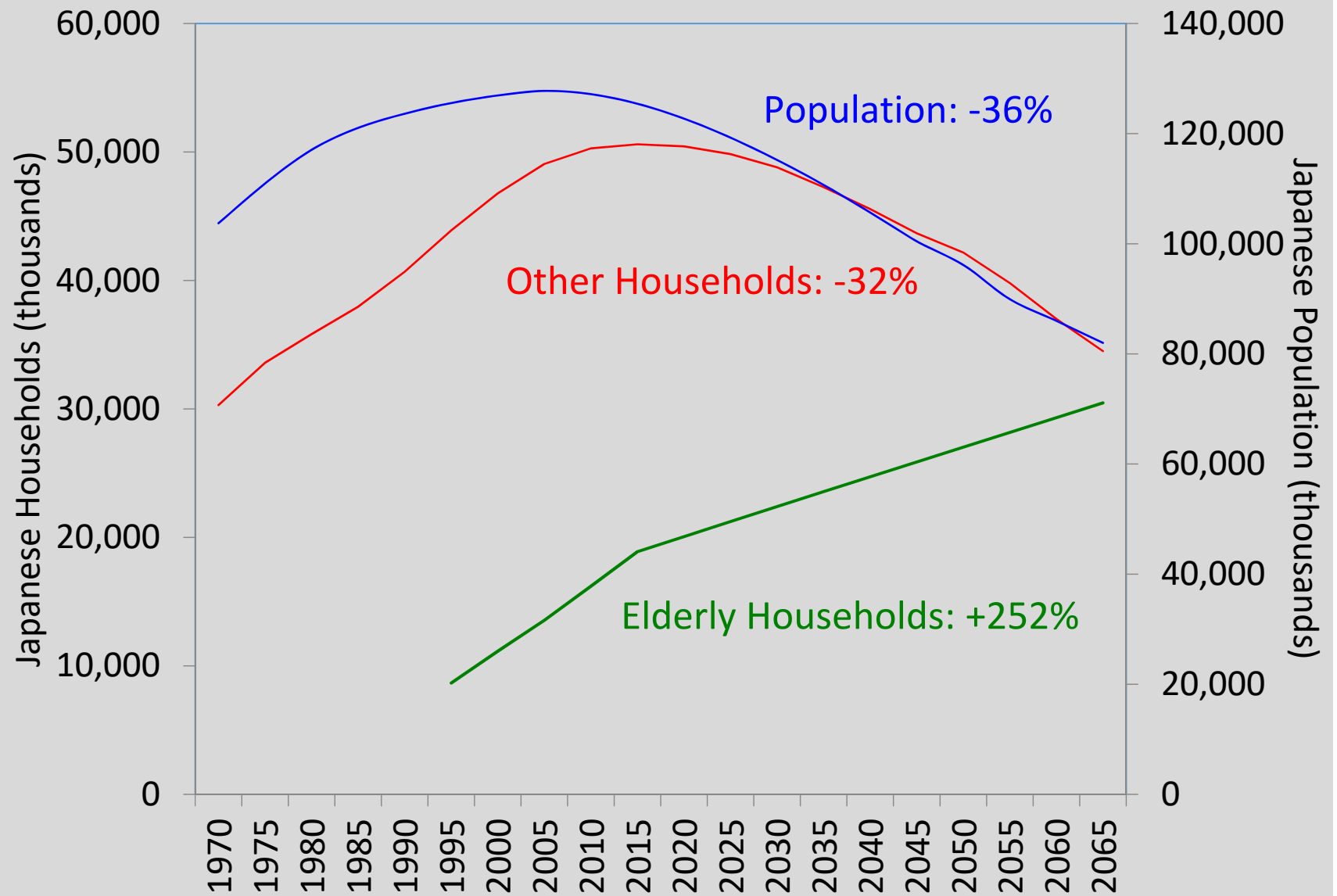


Japan Population Demographics *thru 2035*



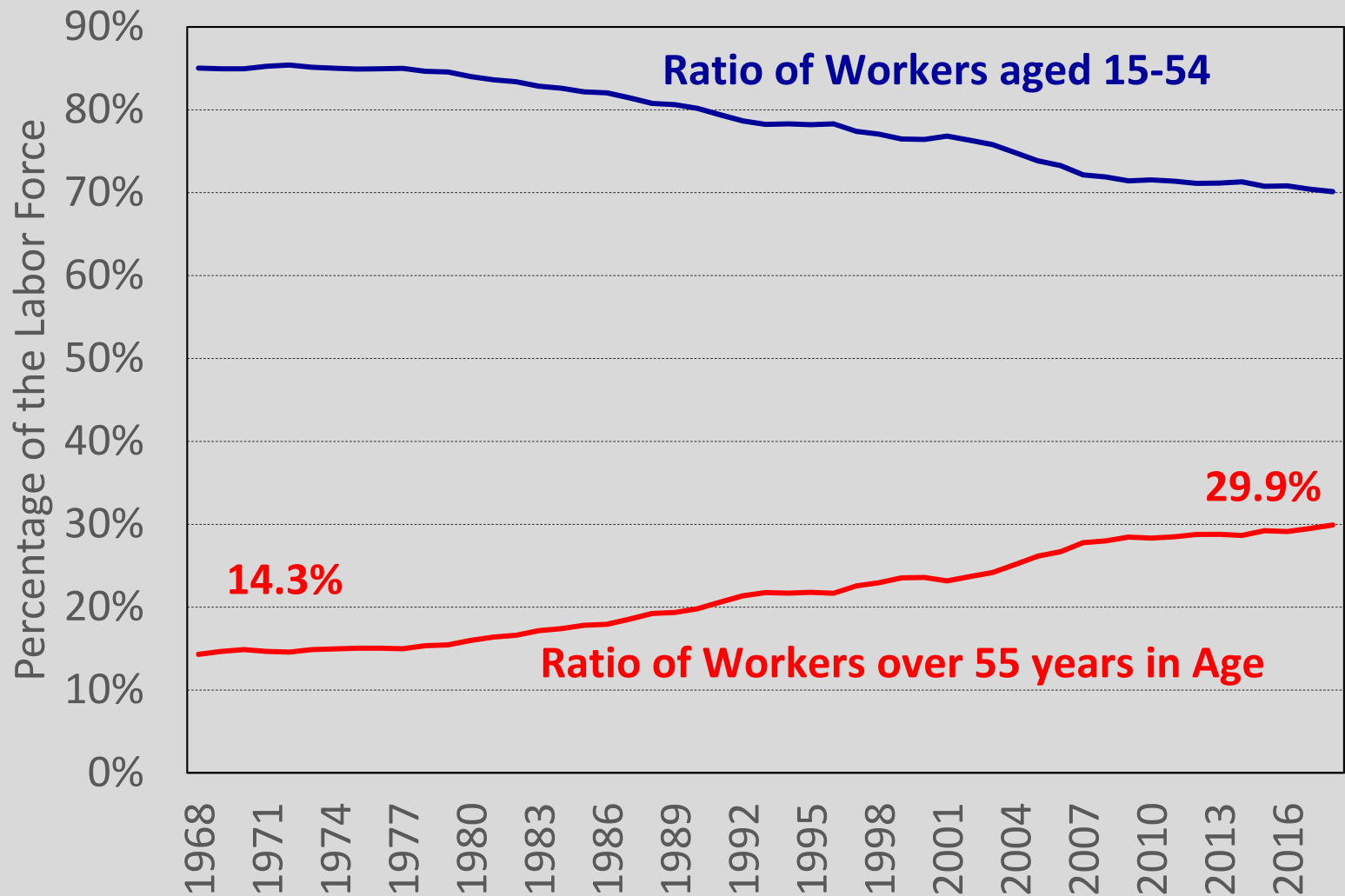
The implications of these demographic trends are huge in terms of future labor supply and tax receipts to fund health and social programs...

Japan Population Demographics *thru 2065*



...and things get worse looking forward.

Age Structure of the Labor Force



The labor force is aging rapidly, especially in manual labor sectors like construction and forestry which young people avoid entering. In the forestry sector, the ratio of workers over 55 now exceeds 50%.



留鉄三十五
甲州
三篇越

葉の青い木

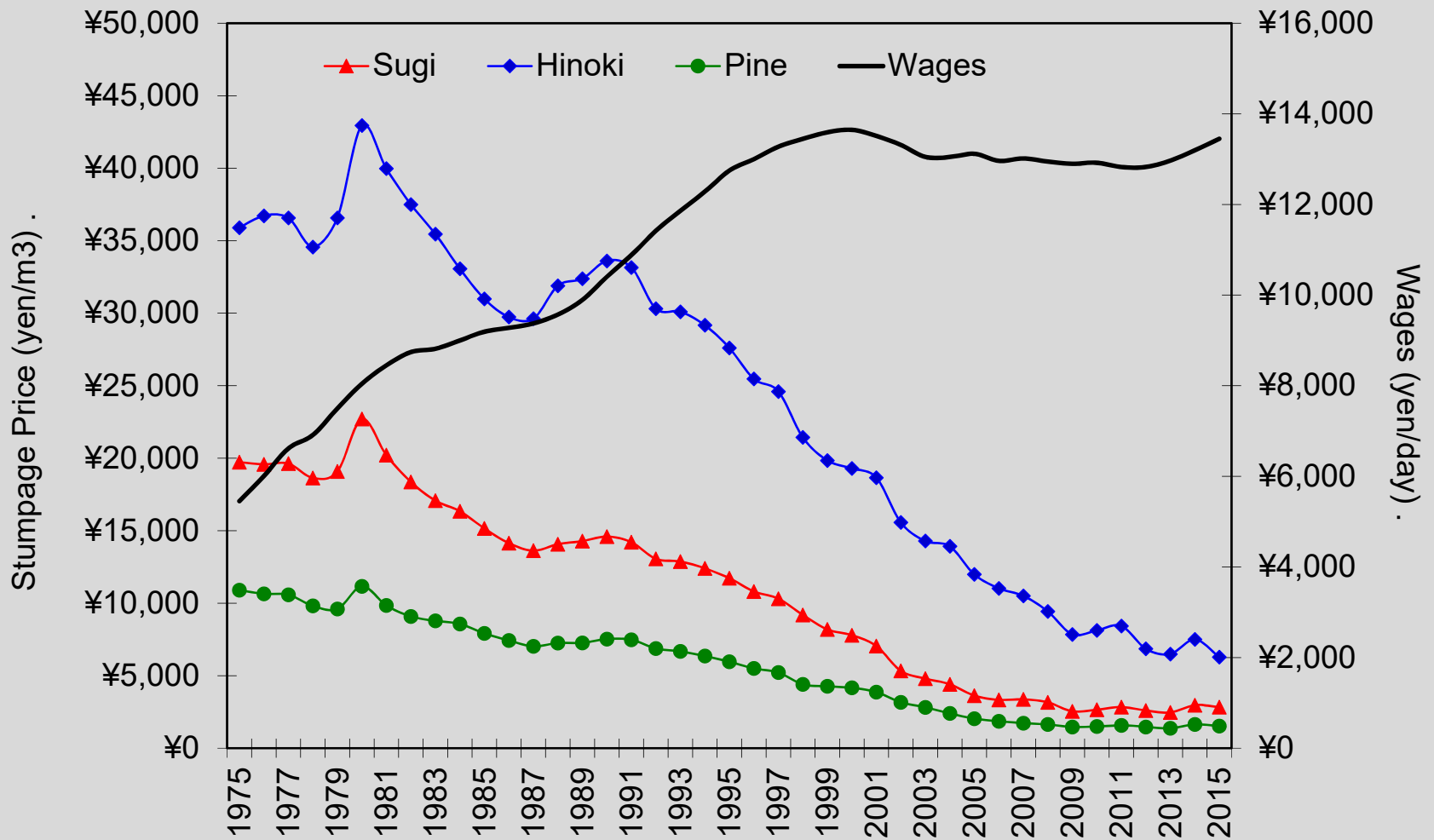
Japan's Forestry Dilemma

Forestry Challenges in Japan

- *Two-thirds of Japan is covered with forests*
- *Most planted forests have been unmanaged, so timber quality is low*
- *Forest inventory has doubled since 1980 to 4.8 billion m³ (2.03 trillion board feet)*
- *51% of forests are over 50 years old and ready to harvest*
- *Approximately 75% of private forests are less than 5 hectares in size (12.4 acres)*
- *Forests are located in mountains and the lack of forest roads increases harvest costs*
- *Since 1980, stumpage prices have fallen by 83% while wages have jumped by 61%*
- *The number of forestry workers has dropped from 450,000 in 1960 to 80,000 in 2014*
- *Over half of forestry workers are over 55 years old*

Bottom line: the private forest sector is dominated by small, non-resident forest owners who are reluctant to manage their forests because costs are high and the net return is negative.

Stumpage and Labor Price Trends



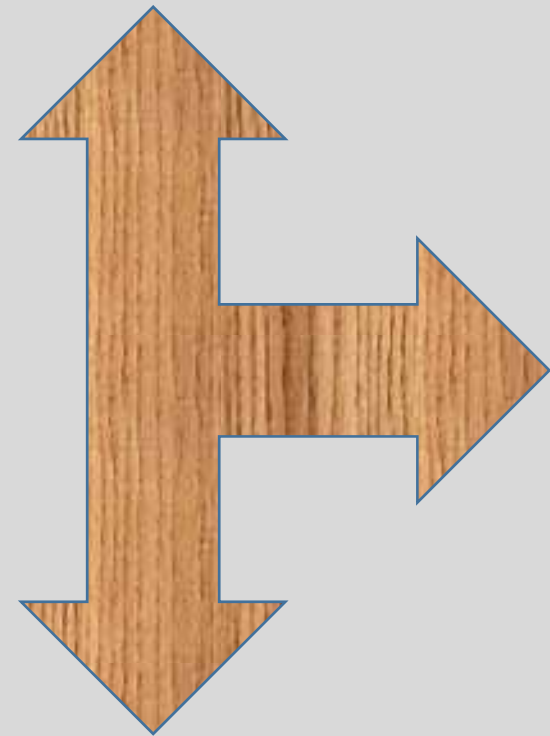
Declining stumpage prices and rising harvest and labor costs have made forest management a losing proposition for small non-resident forest owners.



Outlook

Given the...

- *slow economy*
- *stagnant housing starts*
- *record high government debt*
- *declining and aging population*
- *huge number of abandoned homes*
- *high timber harvest costs*
- *low stumpage prices*
- *lack of forest roads and infrastructure*
- *labor shortages in the forestry and construction sectors*



...where do I see wood demand going in Japan?

富嶽三十六景 甲州
三景遊

東の山は高し
西の山は深し

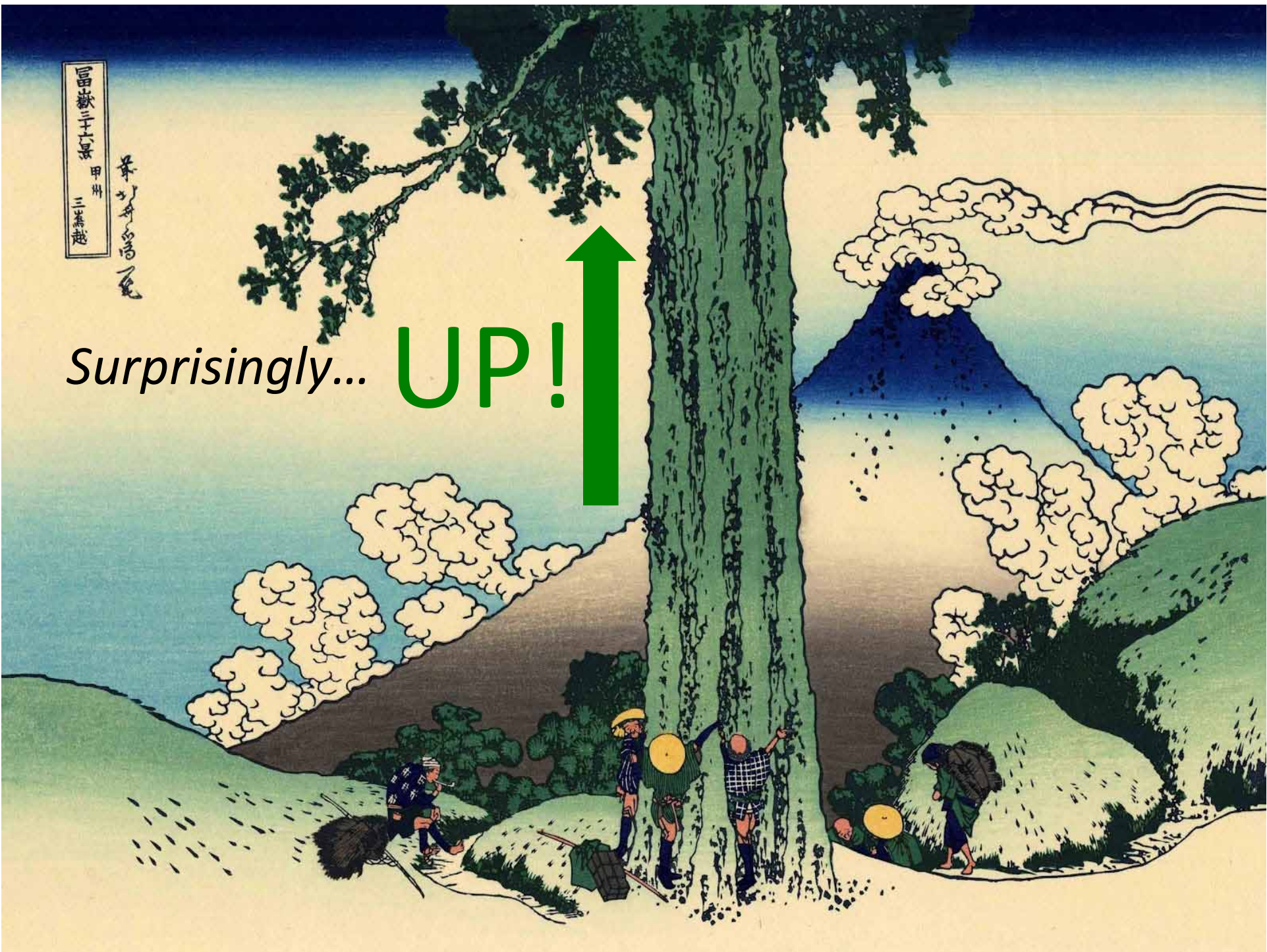
Surprisingly...



富嶽三十六景 甲州 三景遊

東の山は高し

Surprisingly... UP!



Outlook...On the plus side

Several factors will support increased demand for wood products in Japan, including imported wood:

- 2020 Olympics (use of domestic wood emphasized)
- Strategic priority to develop CLT industry by 2024
 - *Revision of building codes has been largely completed*
 - *Subsidize 50% of new CLT mills (CLT production capacity to 500,000 m³ by 2024)*
 - *Subsidize 75% of CLT panel costs in 2018*
 - *All prefectures required to build at least one model CLT structure by 2018*
 - *Ultimate goal is to achieve a 6% market share for CLT in mid-rise buildings*
- Wood use prioritized in all public buildings at all levels of gov't.
- Opportunities in buildings with long spans (warehouses, offices, gyms)
 - *Domestic species recognized as having low bending strength*
 - *Opportunity for DF lamstock and glulam in long span applications*
 - *Opportunity for DF in "hybrid" glulam and CLT floor panels*
- Expanding woodenergy sector (.27GW in 2017 to 3.2GW by 2020)
- Domestic wood exports increasing (+149% since 2011)
 - *40% increase to US (primarily sugi fence boards)*
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Sumitomo Forestry W350 Building

- 350 meters tall (70 stories)
- 90% wood
- 185,000 m³ wood (78.4 million bf)
- Completed in 2041 to celebrate 350th anniversary



THE WORLD'S TALLEST WOODEN BUILDINGS

1,200ft

1,000ft

800ft

600ft

400ft

200ft



W350 Project, Tokyo
1,148 feet (350 metres)
(Set for completion in 2041)

The Tree Bergen, Norway
160 feet (49 metres)
(2015)

'The Cube', London
108 feet (33 metres)
(2015)



Brock Commons Tallwood House, Vancouver
174 feet (53 metres)
(2017)



Dalston Lane London
108 feet (33 Metres)
(2017)



Forte, Melbourne
105 feet (32 metres)
(2012)



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- **...which will provide opportunities in wooden mid-rise buildings with long spans (warehouses, offices, schools and gyms)**
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Outlook...on the negative side

However, there are a few factors that could adversely impact the demand for imported wood products in Japan:

- Sugi and hinoki approved for dimension lumber and will compete against imports (esp. from Canada)
 - 22 sawmills approved to produce domestic 2x4 lumber; more are planned
- Plywood sector will continue shift to using domestic logs
 - Industry beginning to shift towards the production of structural plywood which very well could compete against imported OSB
- Glulam industry increasing the use of domestic wood
 - Domestic species will displace imported wood in P&B applications where bending strength is not critical such as posts, sujikai, dodai, neda...

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Other Factors To Be Aware Of

There are also several new regulations, taxes and policies that could impact wood demand:

- Forest Environmental Tax likely approved this summer
 - *¥1,000 yen per taxpayer will generate ¥62 billion (\$580 million) every year. Some of the taxes will be used to subsidize wood products manufacturers.*
- Clean Wood Law: promote the use of legally harvested wood
 - *Voluntary program that could benefit US and Canadian wood products*
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But bottom line is that I expect wood demand in Japan to grow over the next two to three years, ***for both domestic wood and imported wood***

Thank you!
Any Questions?

