Market Outlook for Wood-Based Panels

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Highlights of Wood-Based Panel Market Review, 2007-2008 (1-3)

- The European panel industry had a promising start in 2007, but a disappointing end of year as construction-related demand slowed; 2008 has proven challenging due to increasing costs and regulations as well as concerns for raw material availability.
- Escalating petroleum costs not only add transportation costs, but also raise resin costs, for all manufacturers of wood-based panels.
- North American panel production and consumption were strongly affected by the United States housing collapse, with demand projected to remain weak throughout 2008; the resulting closure of sawmills in the western US and Canada caused raw material constraints for composite panel manufacturers.

Highlights of Wood-Based Panel Market Review, 2007-2008 (4-6)

- During 2007, the North American structural panel industry closed 11 mills, but opened three, resulting in a net capacity loss of 2 million m3, bringing capacity utilization down to its lowest level since the early 1990s.
- Production of panels within Russia is forecast to increase substantially in 2008, with new production capacity and increasing domestic consumption linked to rising residential construction.
- Lower consumption in the US, together with the weak dollar, led to a 27% drop in panel imports, with the largest drop being OSB imports from Canada; conversely, the weakened dollar helped US panel exports, which rose 6%.

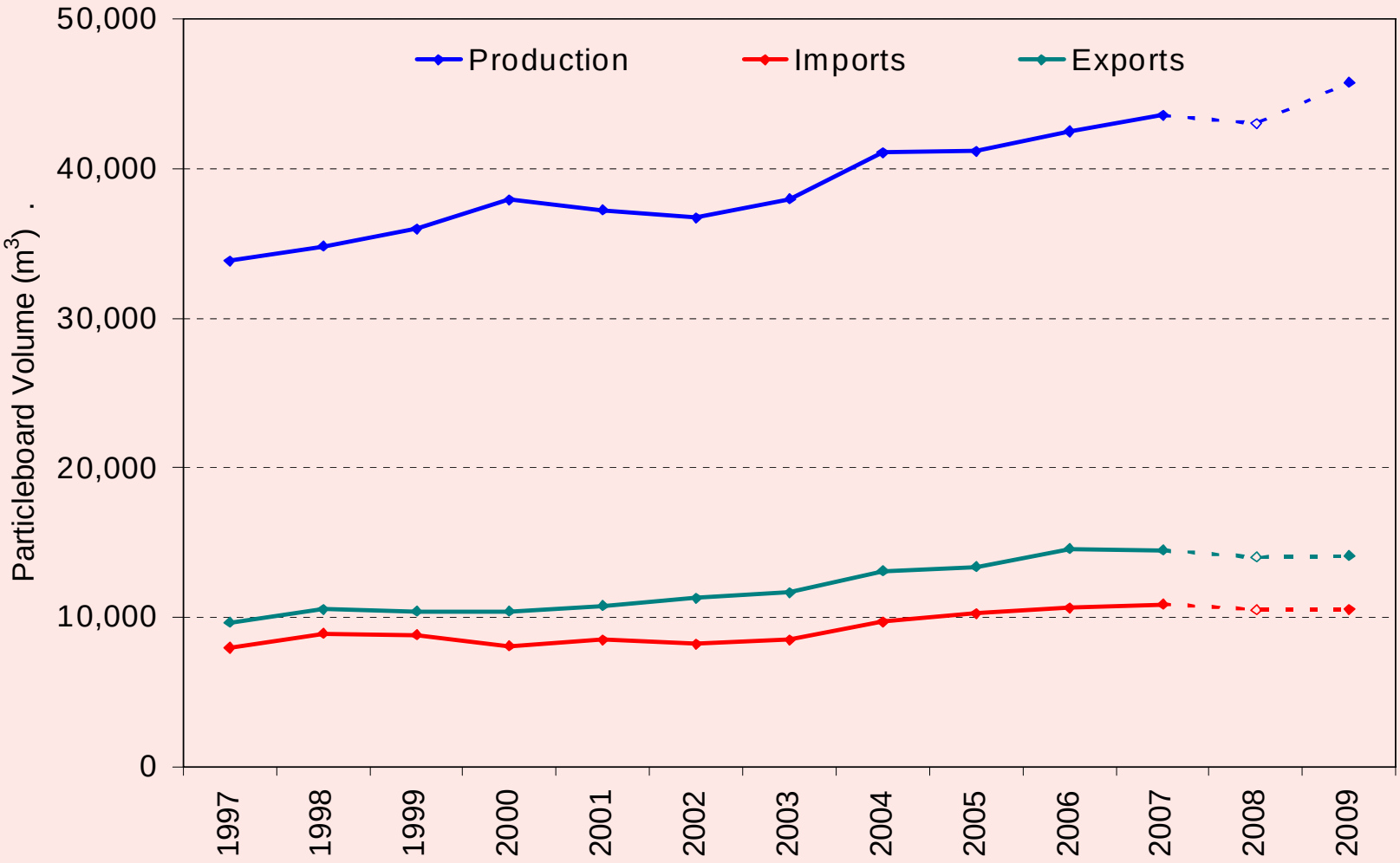
Highlights of Wood-Based Panel Market Review, 2007-2008 (7-9)

- Europe remained a net exporter of particle board, MDF and OSB, despite increasing competition and the strengthening of the euro relative to the US dollar.
- Recognition of “harvested wood products”, including panels, as carbon stores as measured in the Kyoto Protocol could help to increase their use within green building programmes.
- The California Air Resources Board formaldehyde emission regulations will cause panel manufacturers to modify panel products exported to the US.

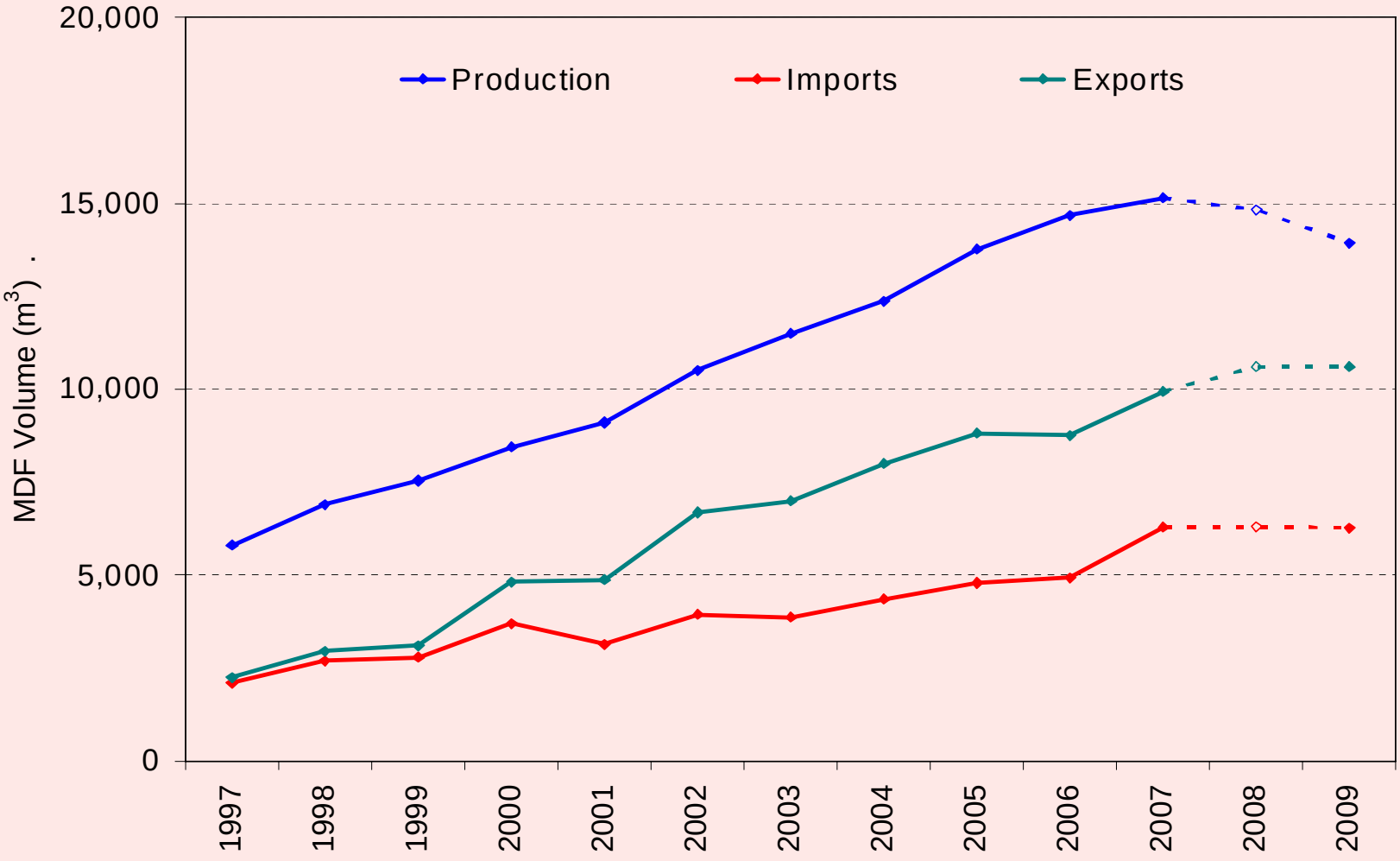
Highlights of Wood-Based Panel Market Review, 2007-2008 (10-11)

- Extra-European plywood imports continued to boom, while lower priced imports coming from China and Brazil are constrained by duties and quotas.
- US panel exports to Canada have surged while Canadian exports to the US have dropped substantially.

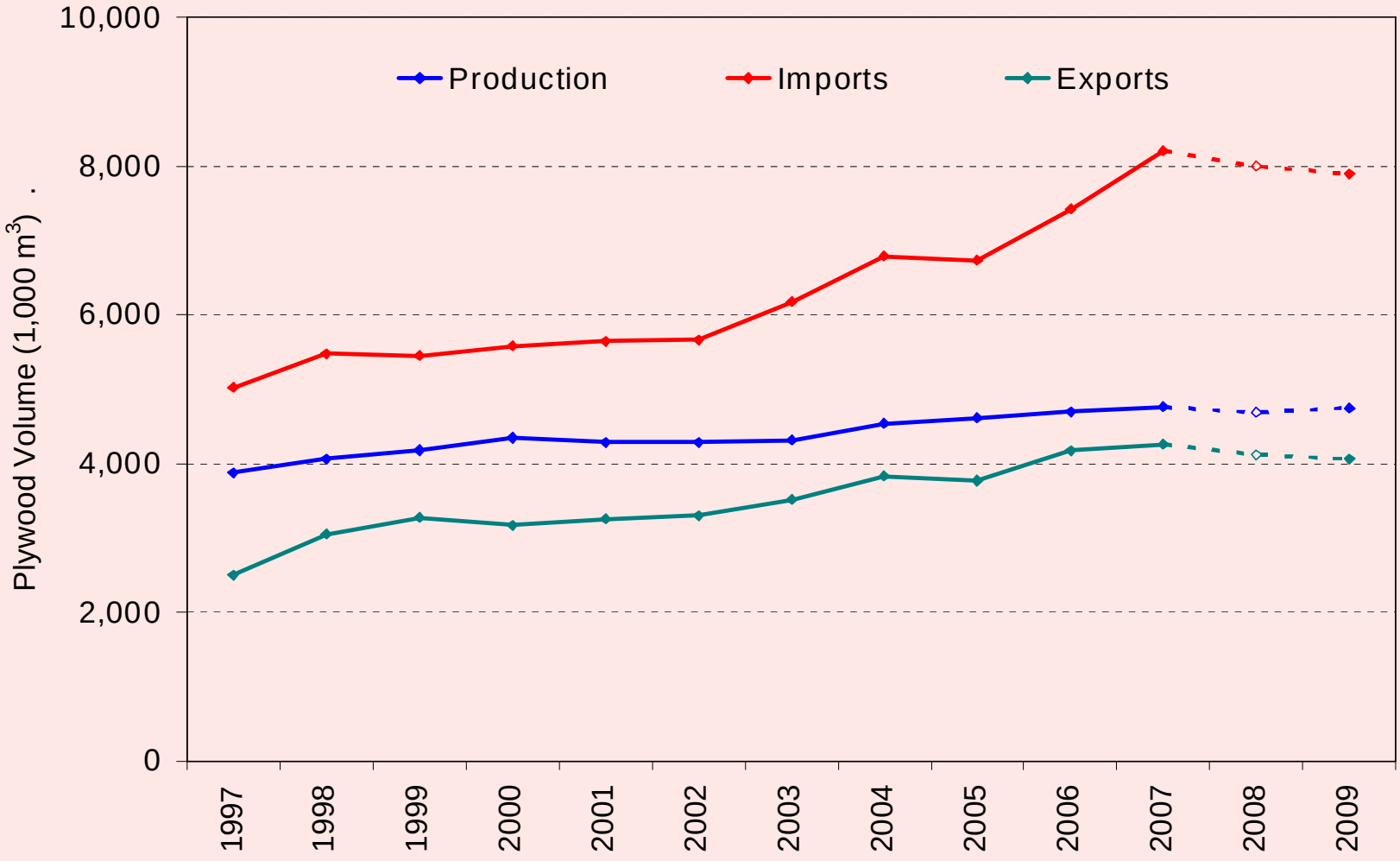
Particle Board - Europe



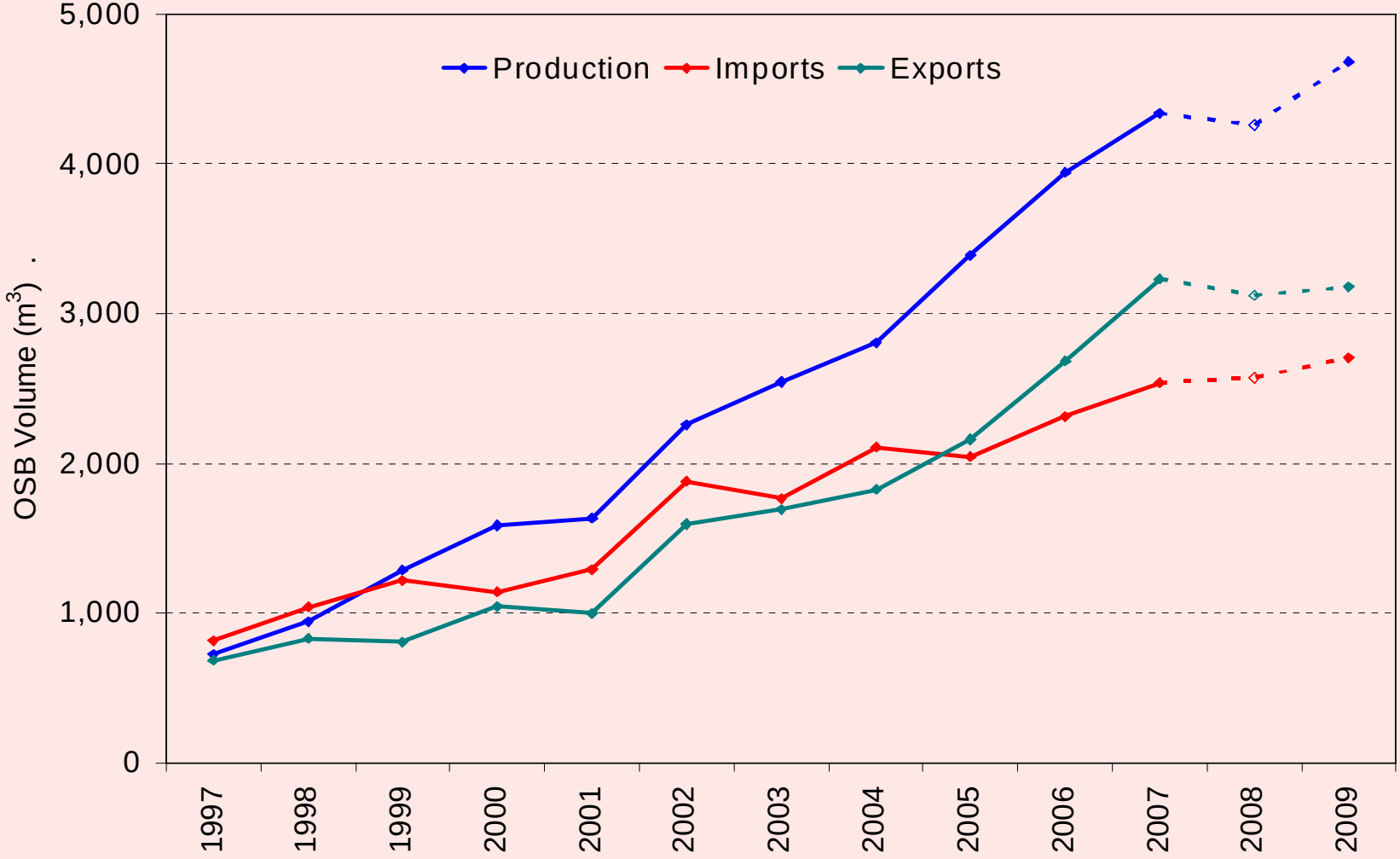
MDF - Europe


Production
Imports
Exports
MDF Volume (m3) .
20,000
15,000
10,000
5,000
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

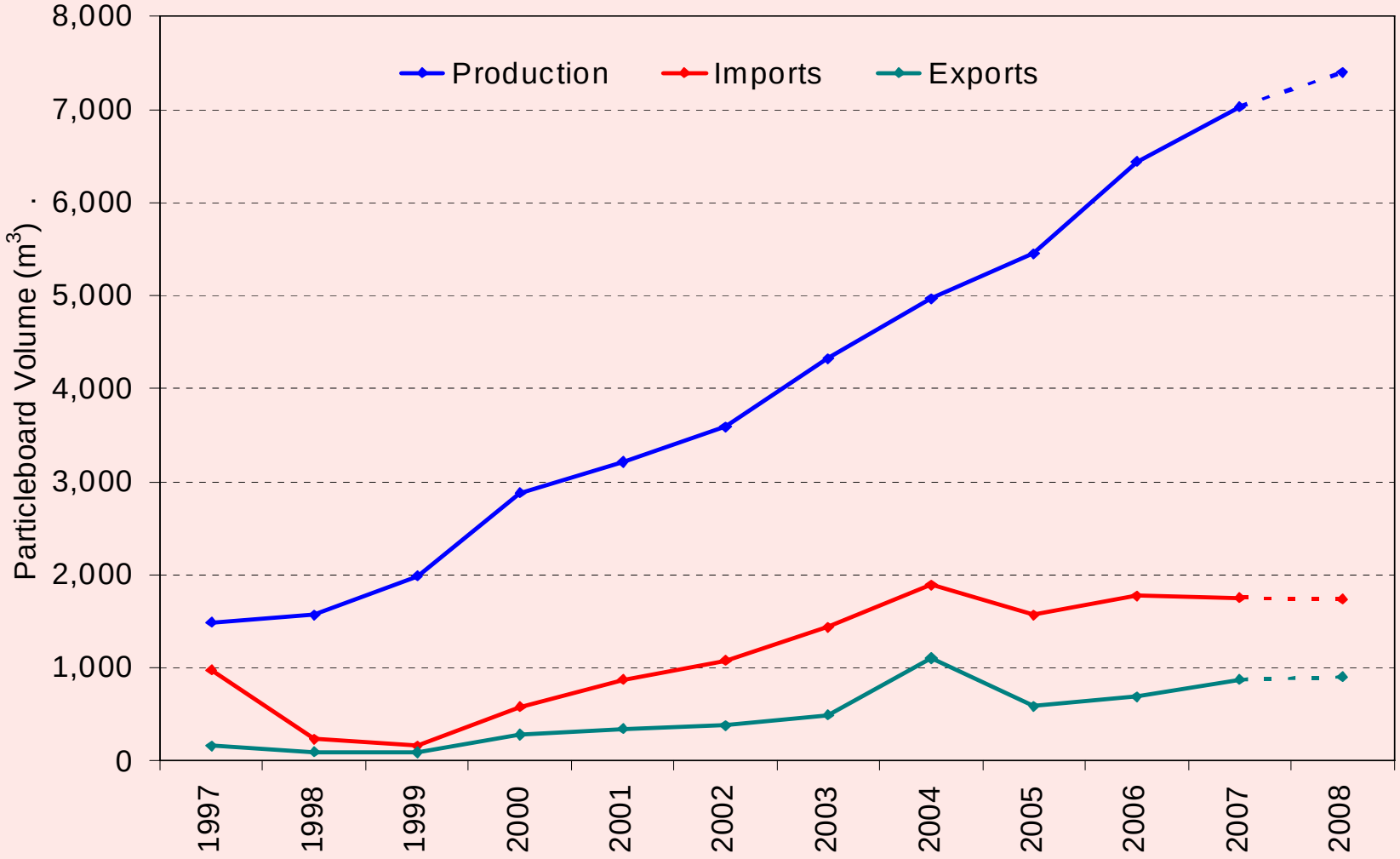
Plywood - Europe



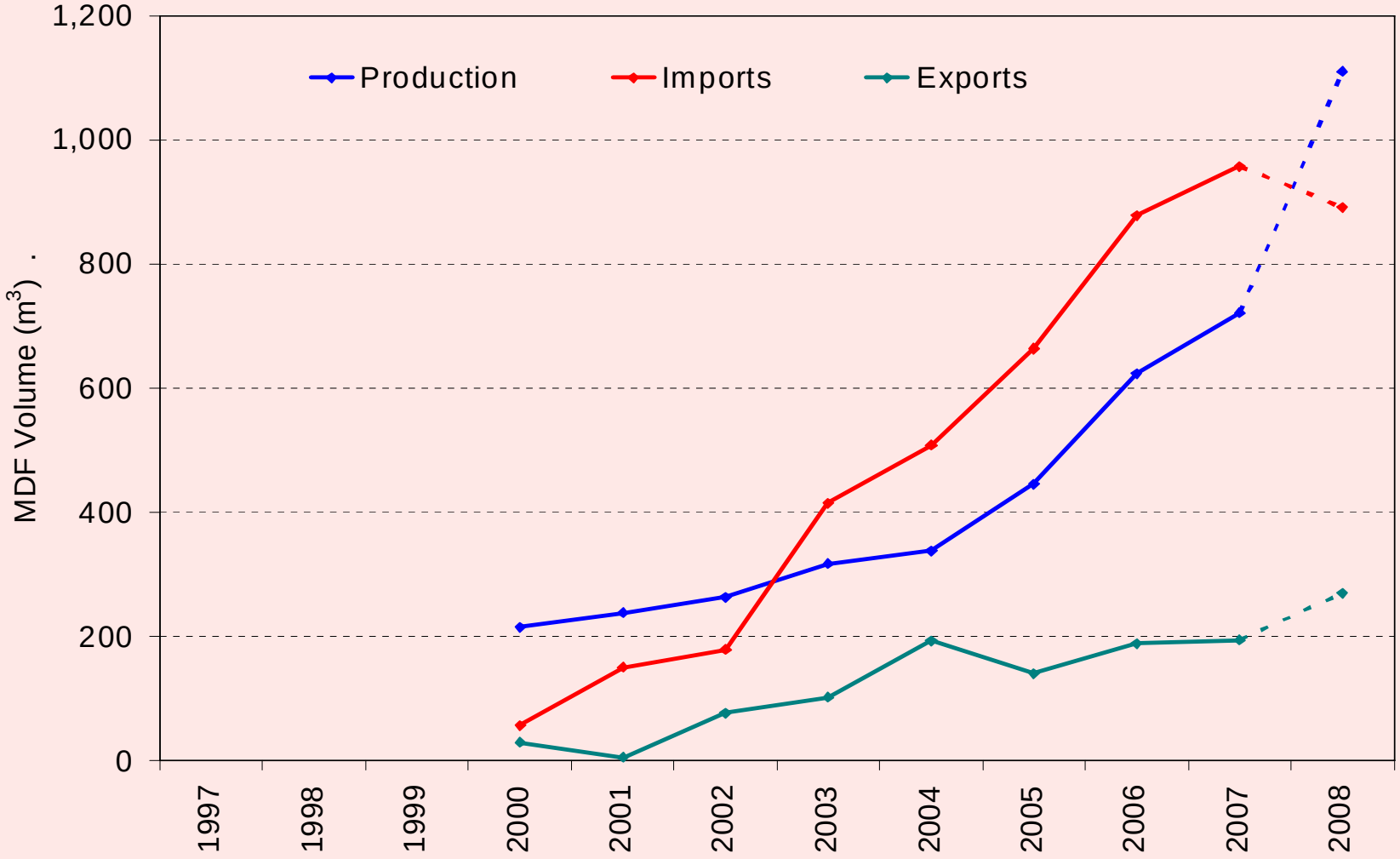
OSB - Europe


Production
Imports
Exports
OSB Volume (m3)
5,000
4,000
3,000
2,000
1,000
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

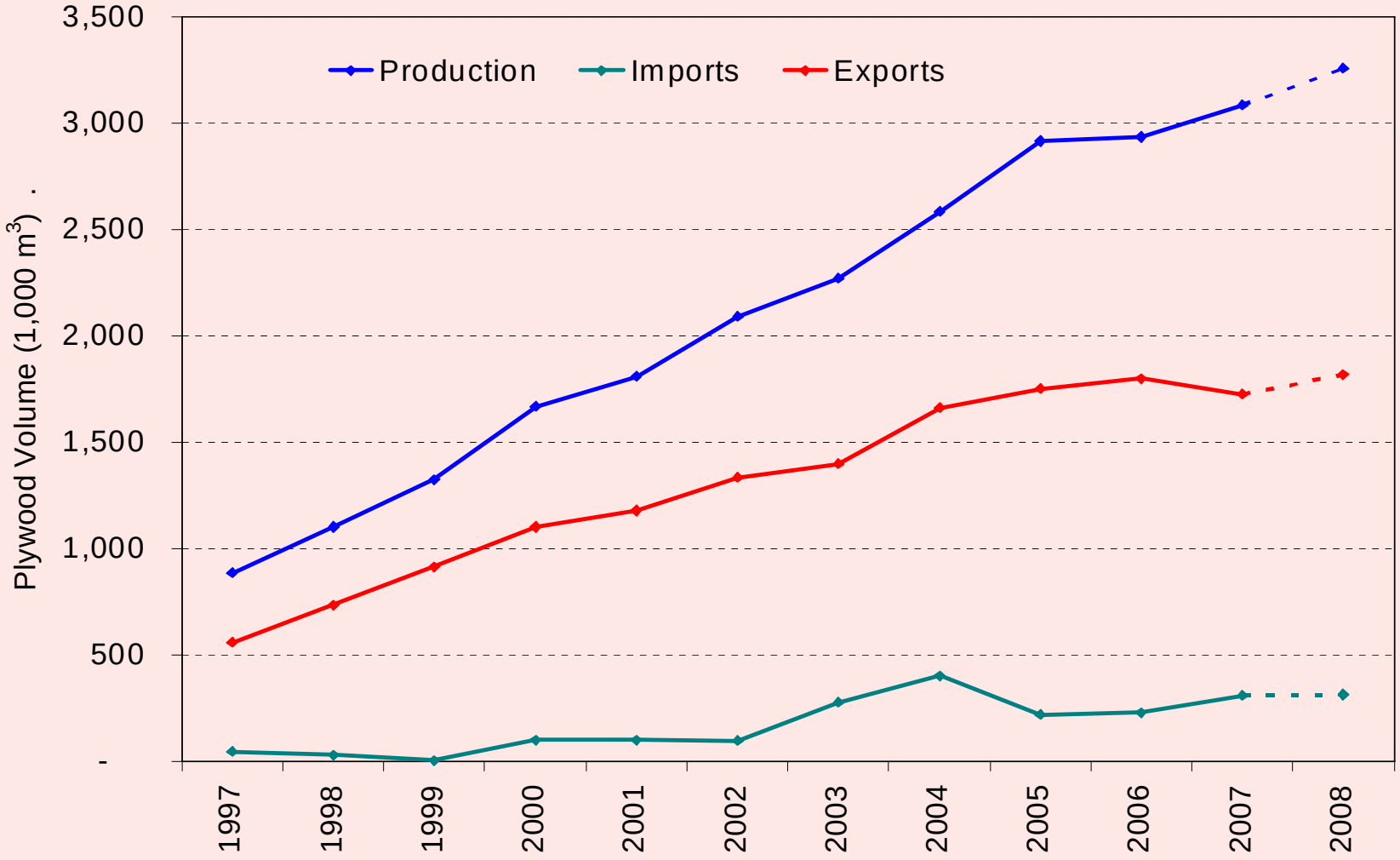
Particle Board - CIS



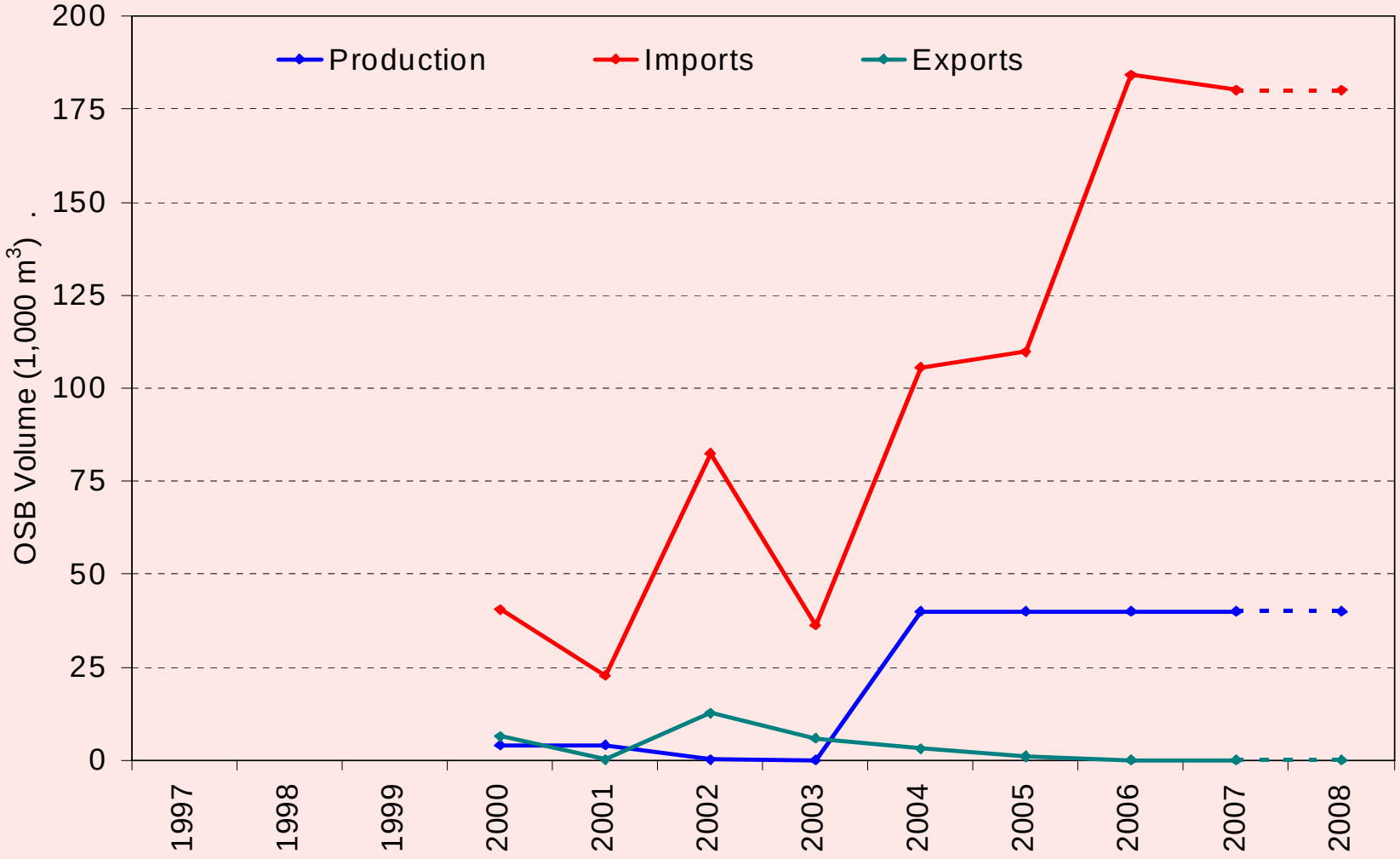
MDF - CIS


Production
Imports
Exports
MDF Volume (m3)
1,200
1,000
800
600
400
200
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

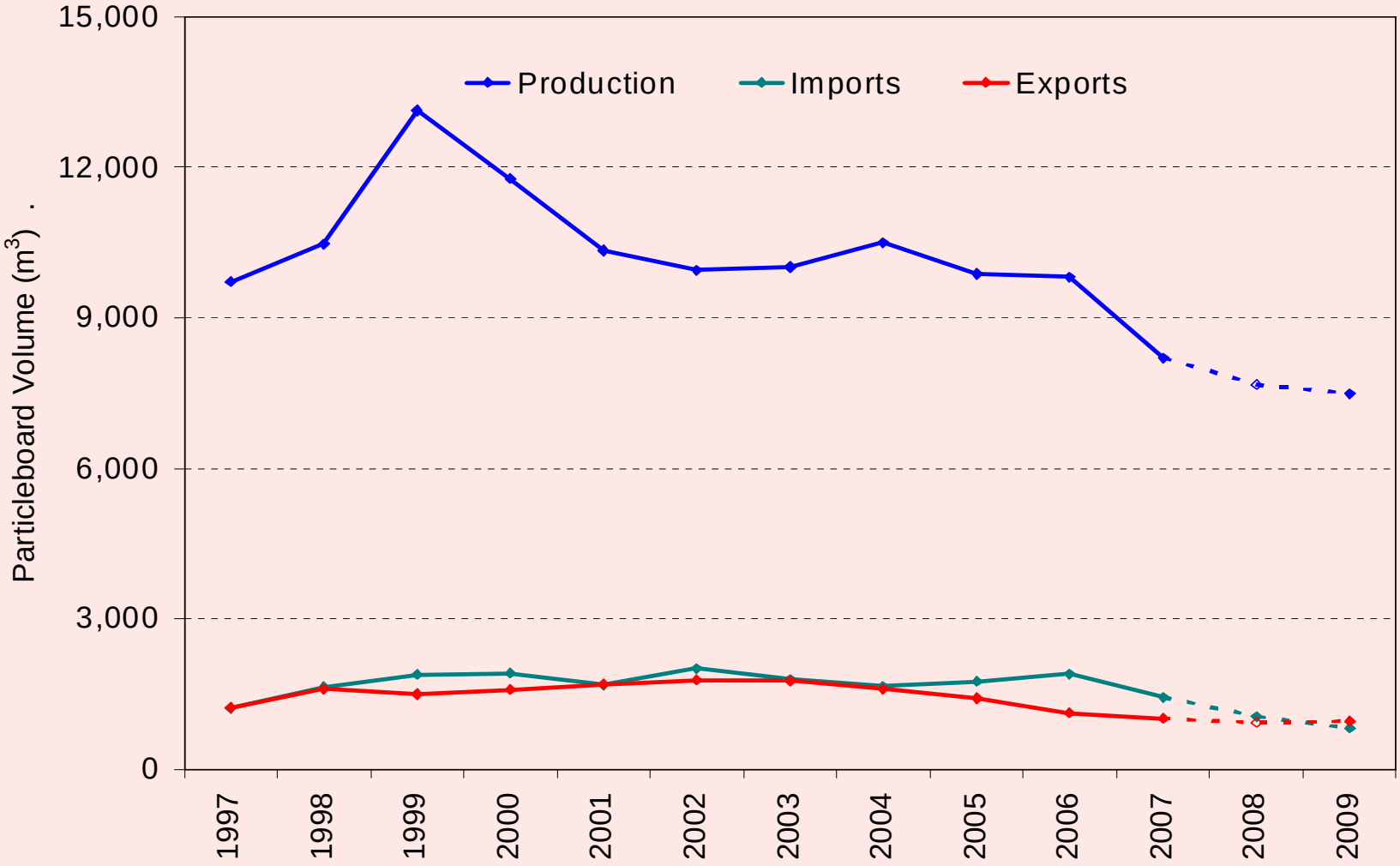
Plywood - CIS


Production
Imports
Exports
Plywood Volume (1,000 m3)
3,500
3,000
2,500
2,000
1,500
1,000
500
-
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

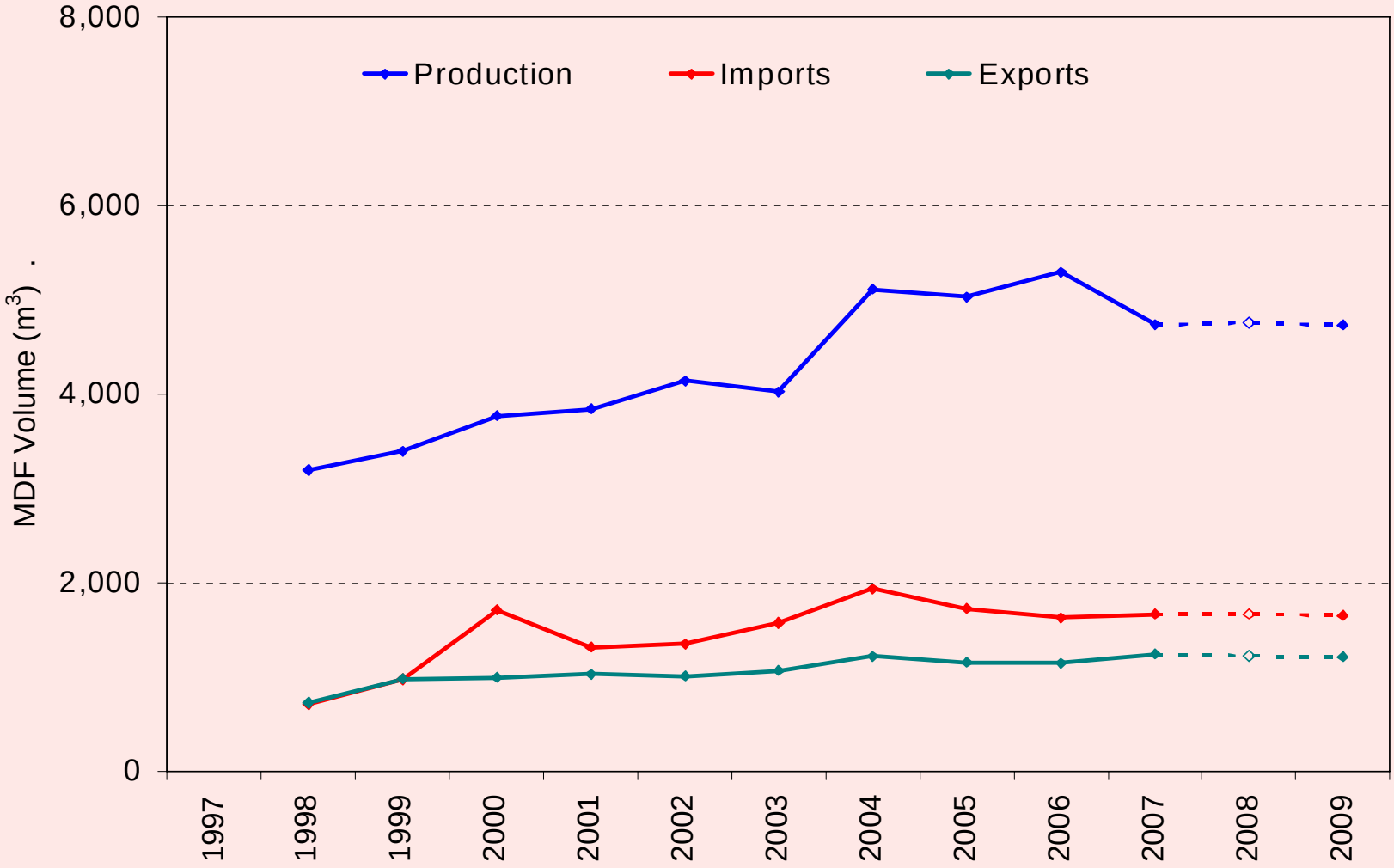
OSB - CIS


Production
Imports
Exports
OSB Volume (1,000 m3)
200
175
150
125
100
75
50
25
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

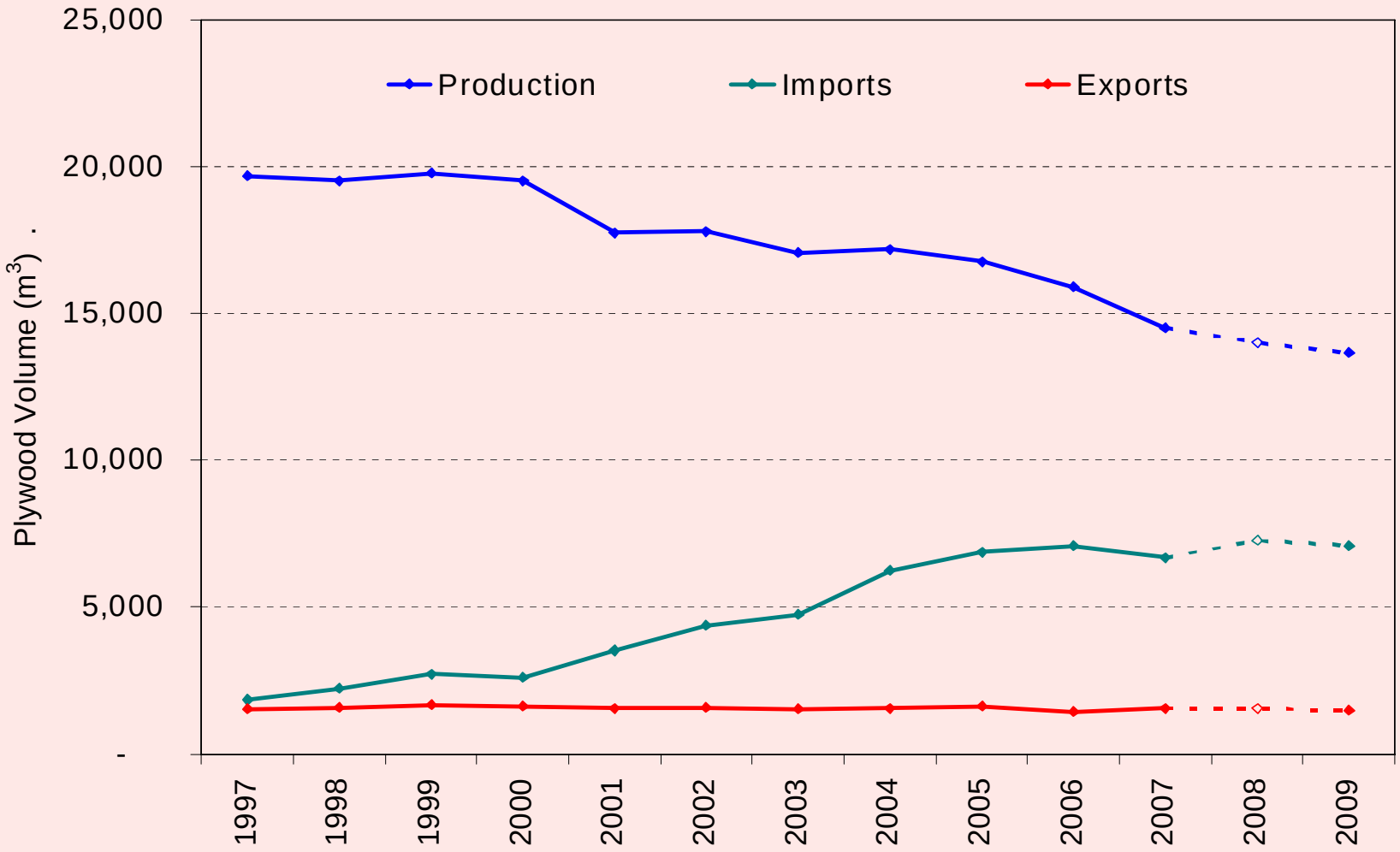
Particle Board – North America



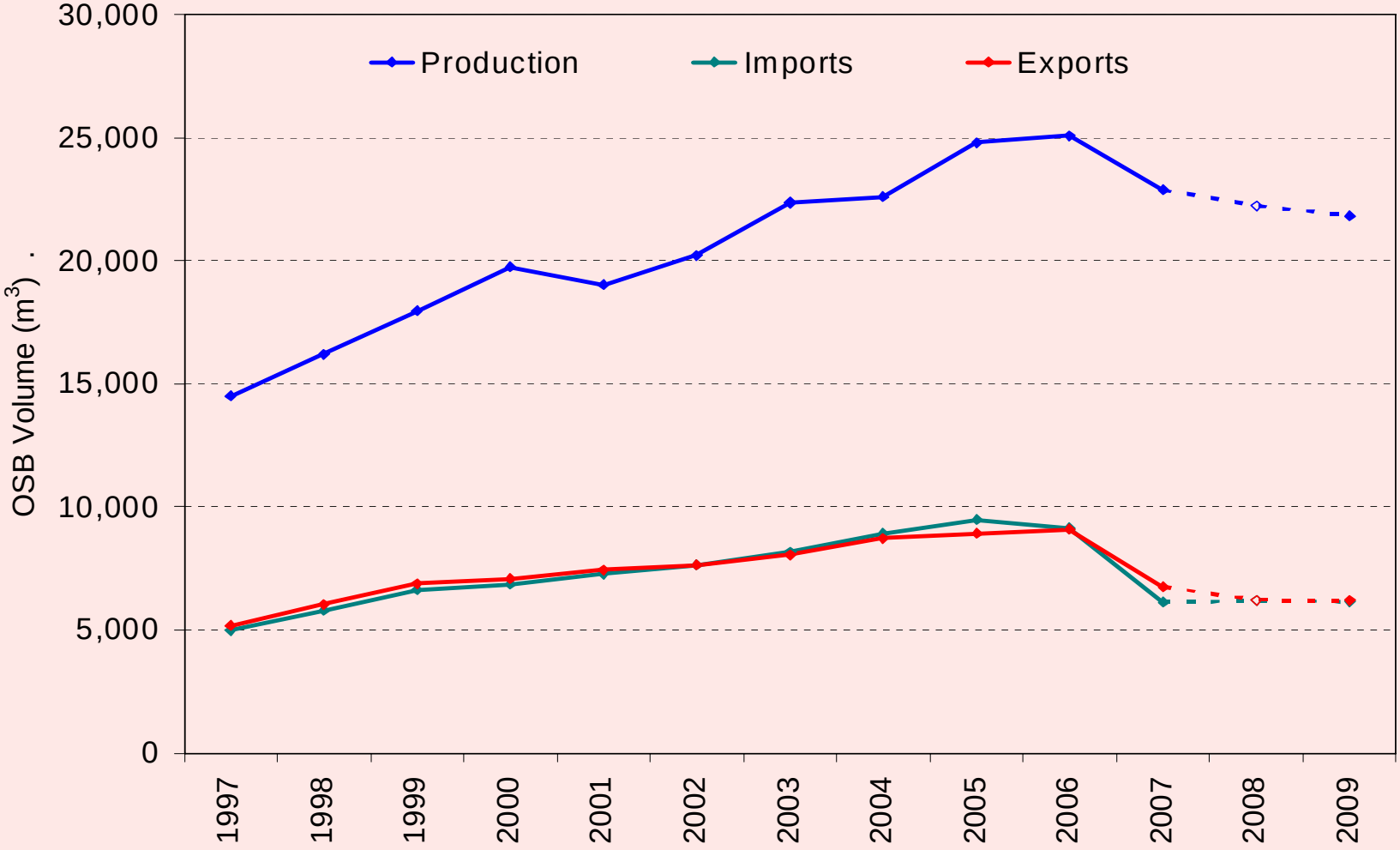
MDF – North America



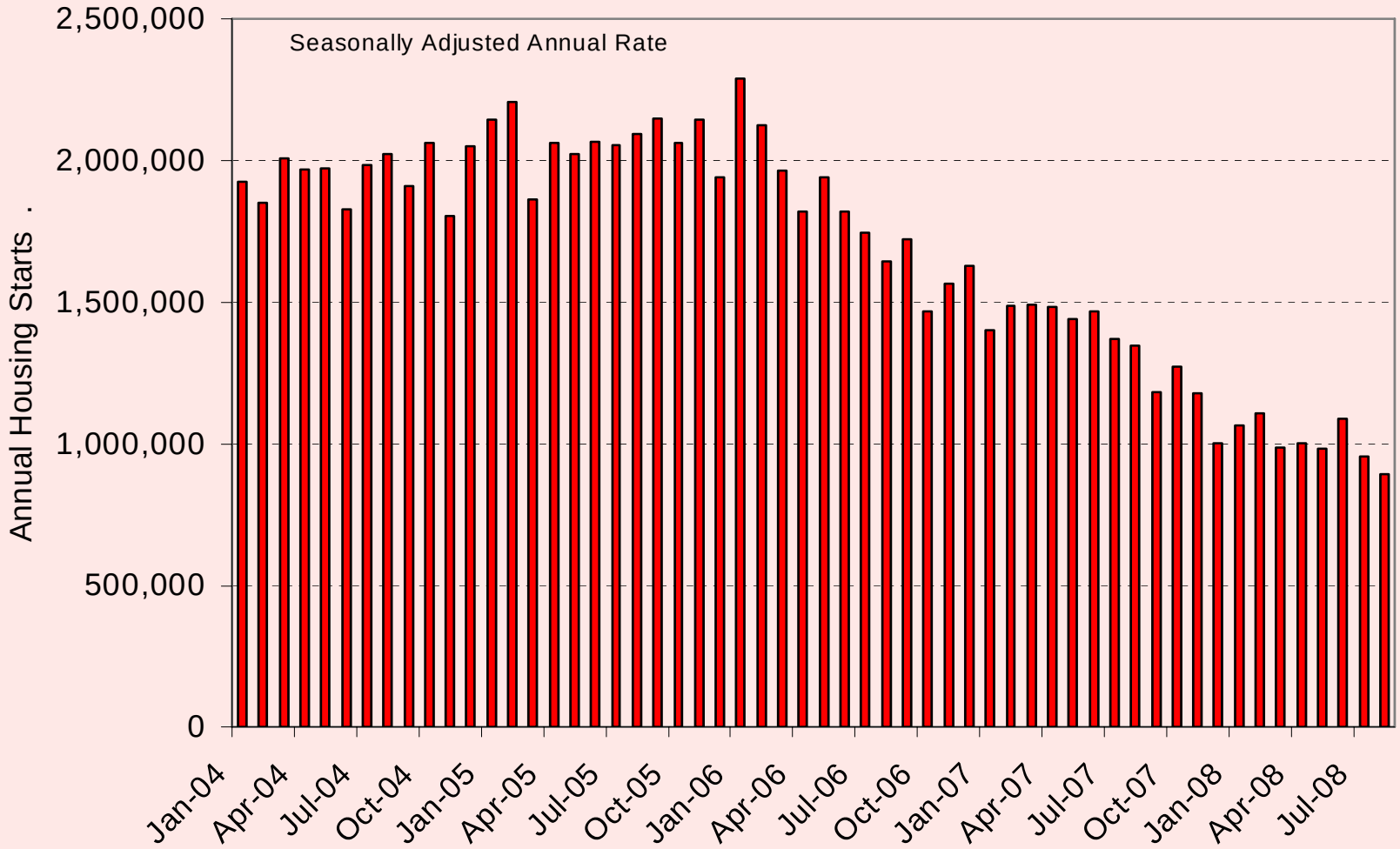
Plywood – North America



OSB – North America



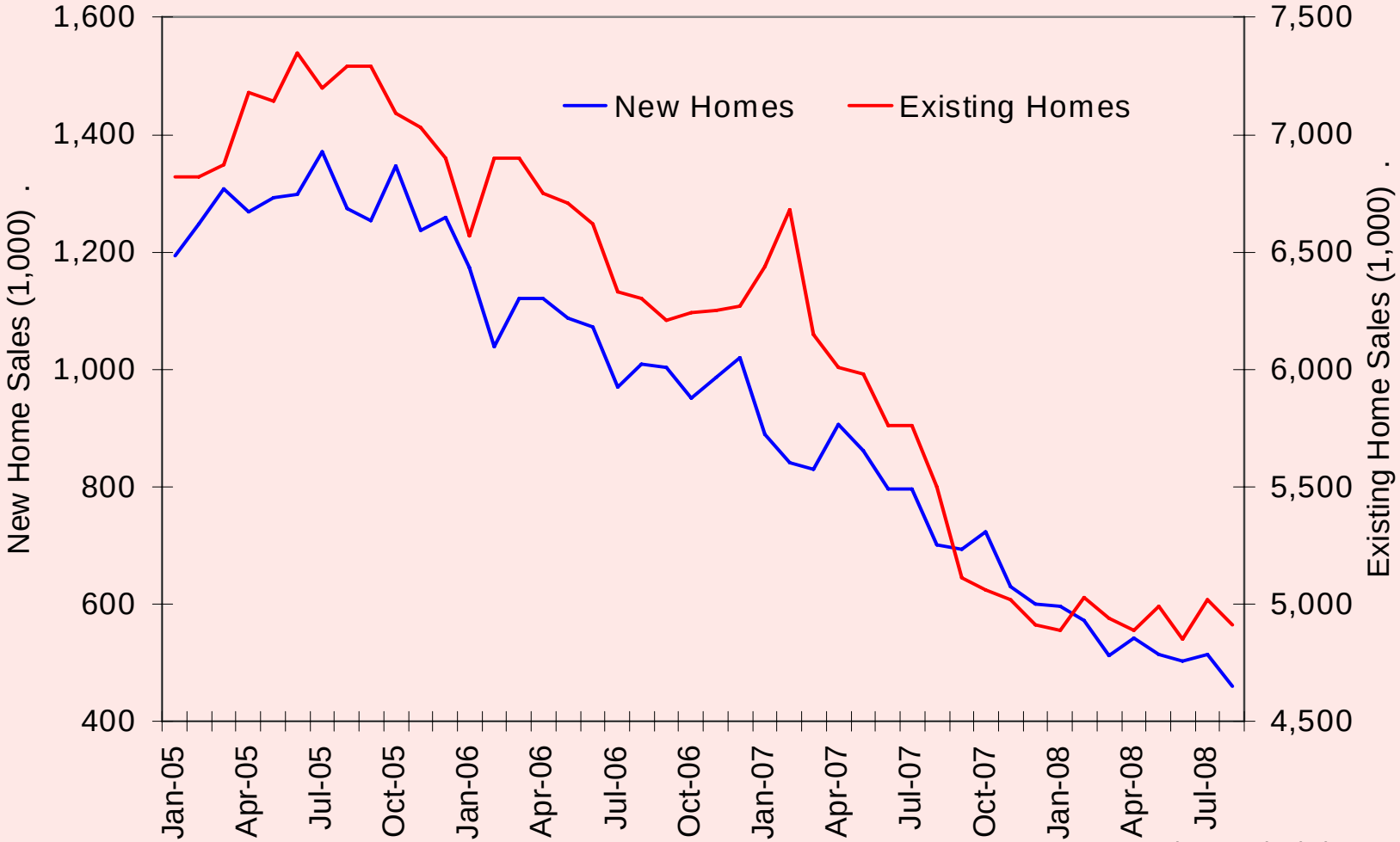
Seasonally Adjusted US Housing Starts



Source: census.gov/const

Housing starts have been in a freefall since the beginning of 2006

Sales of New and Existing Homes

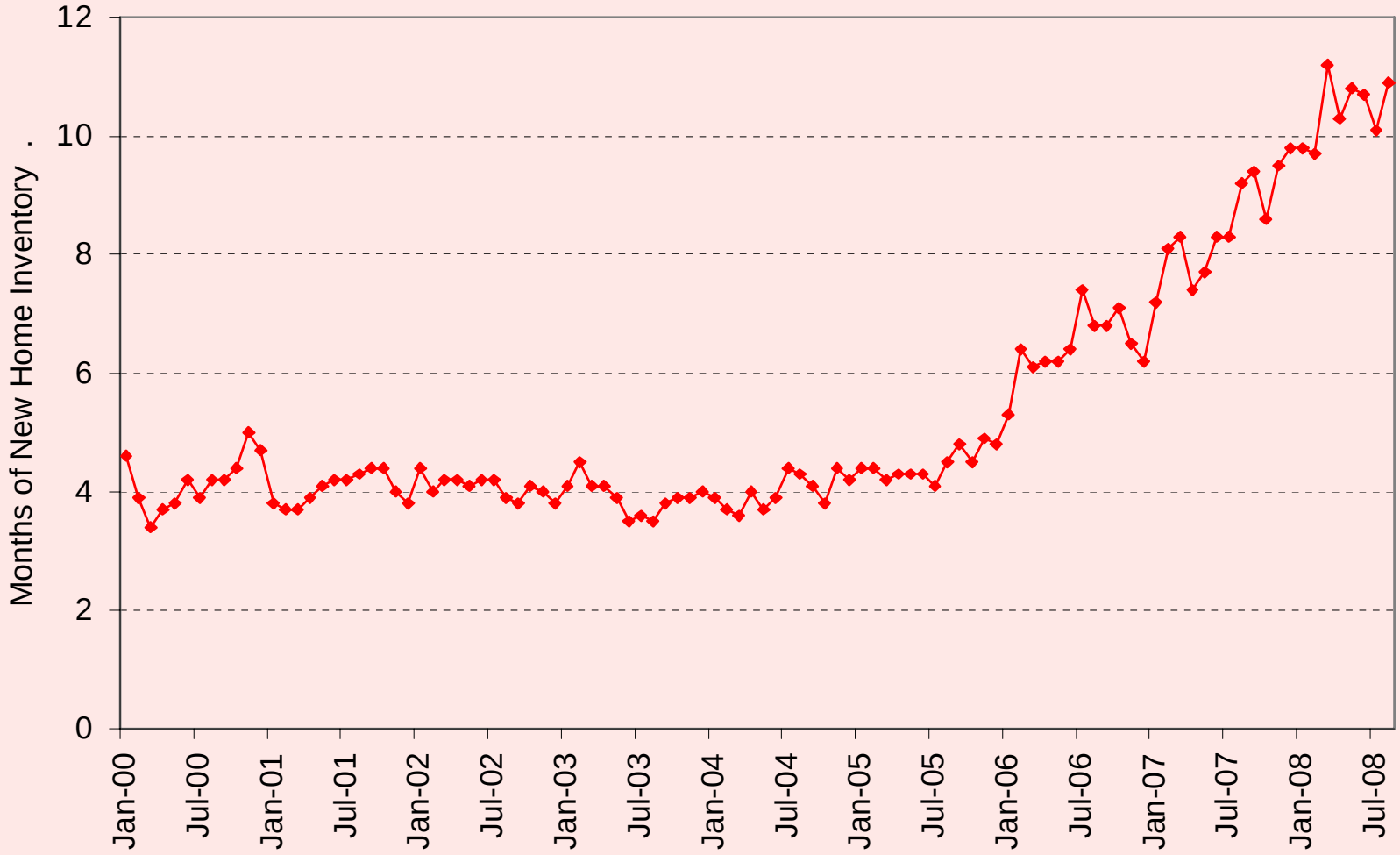


Source: census.gov/const (New homes)

Source: www.realtor.org (Existing homes)

Sales of new and existing homes continue to decline as house values fall, energy costs remain high and consumer credit remains tight

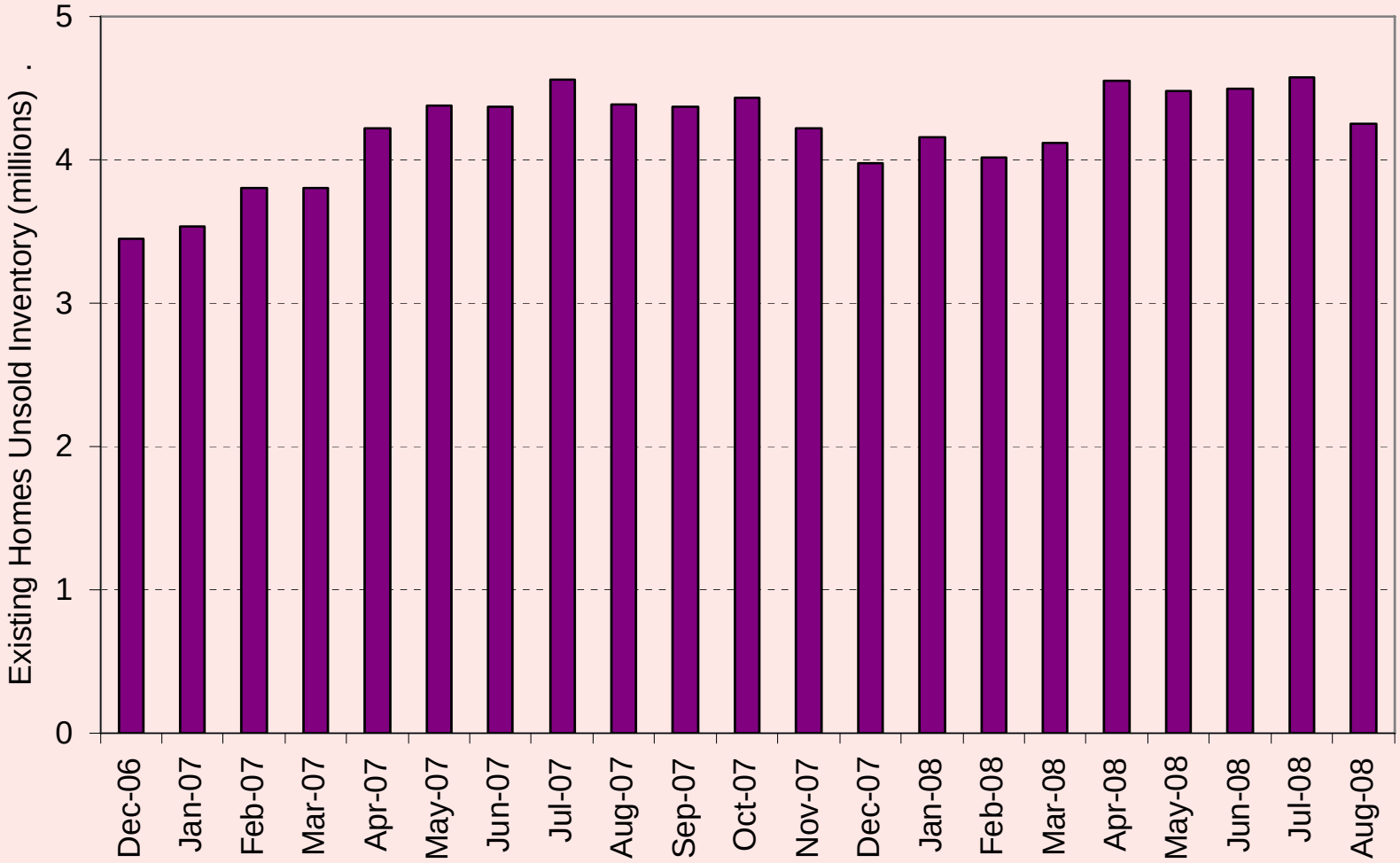
Inventory of New Homes



Source: census.gov/const

Inventory of unsold new homes remains at record levels and tightening credit will likely keep inventories high in the short-term and dampen new housing starts

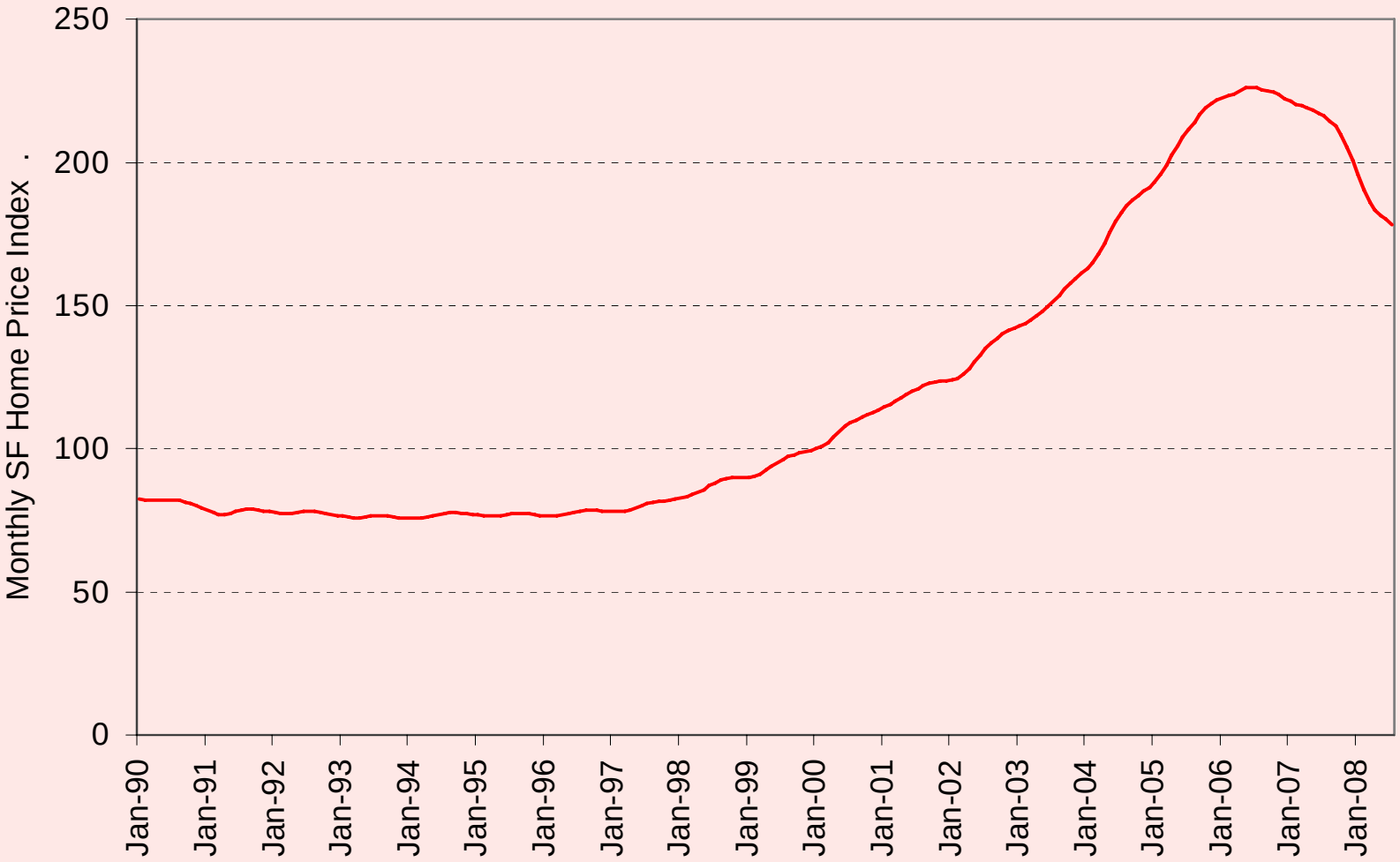
Inventory of Existing Home



Source: www.realtor.org

In 2005, the market had a normal inventory of 4.5 to 6 months. In 2008 the inventory of unsold existing homes has reached 10.5 months, although it declined from 11.4 months in July to 10.4 months in August

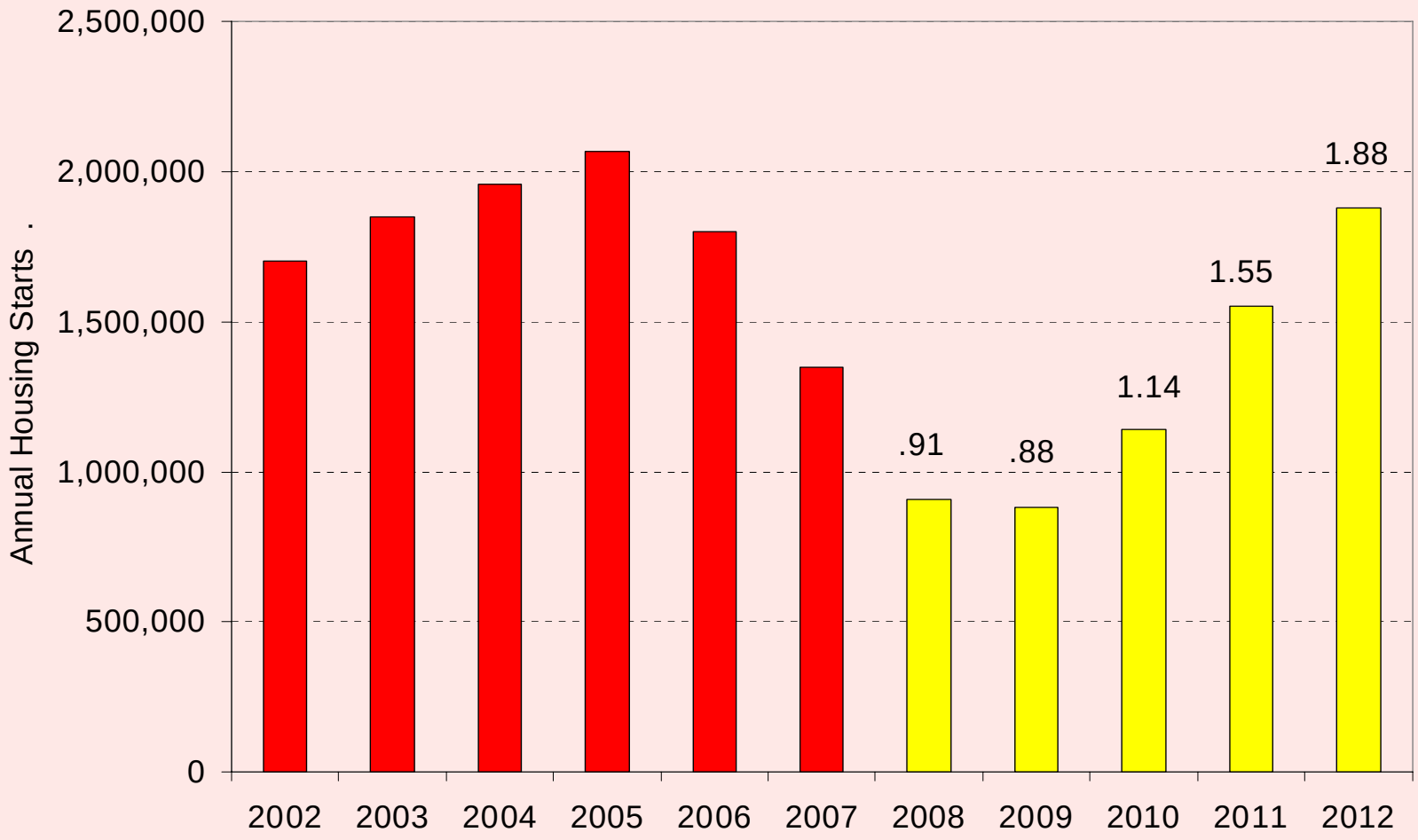
Case-Shiller House Price Index



Source: www.homeprice.standardandpoors.com

House values have declined by 21.1% since the peak in June 2006 and by 16.8% in the past year alone.

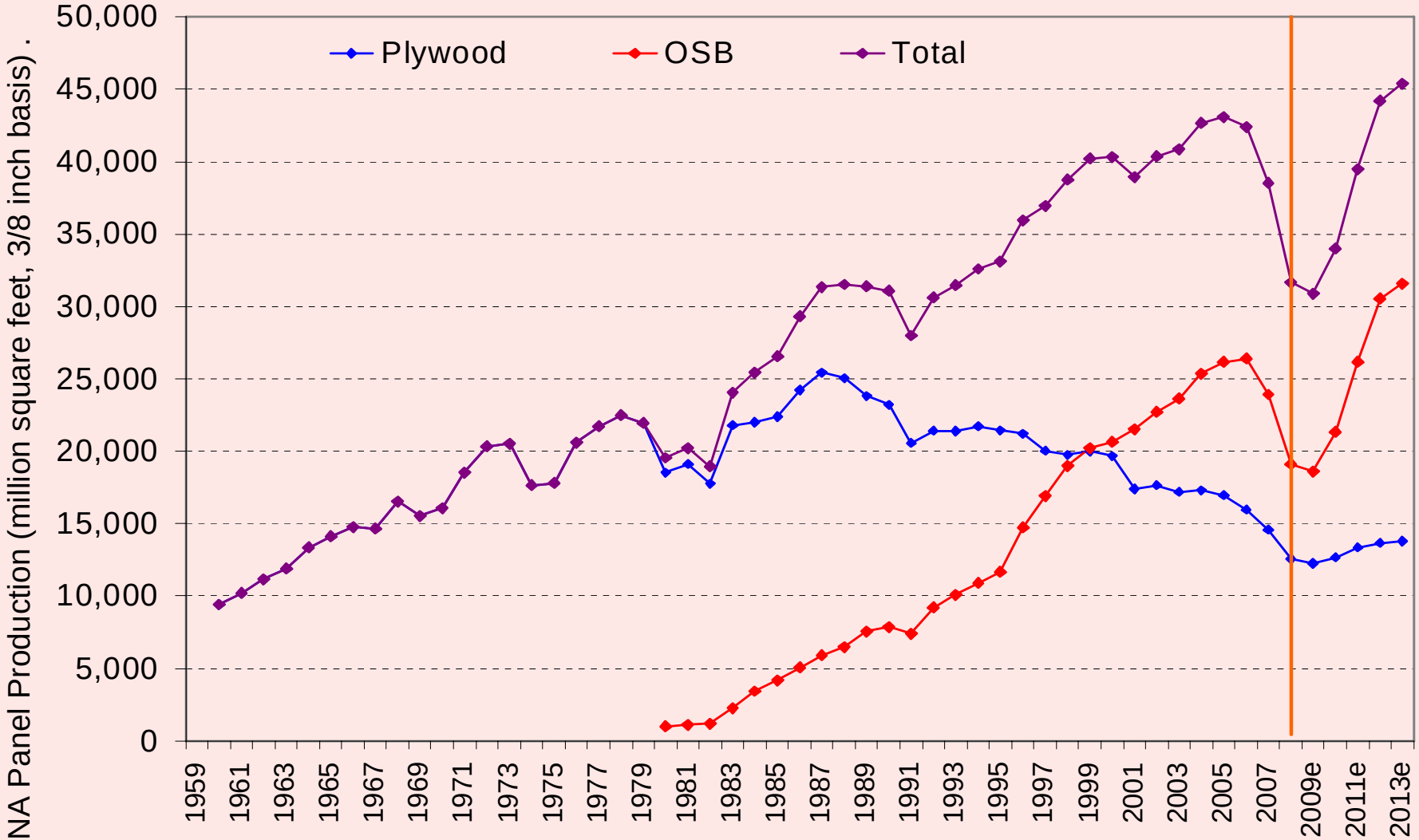
Projected US Housing Starts



Source: APA-The Engineered Wood Association

Housing starts are expected to remain weak into the second half of 2009…

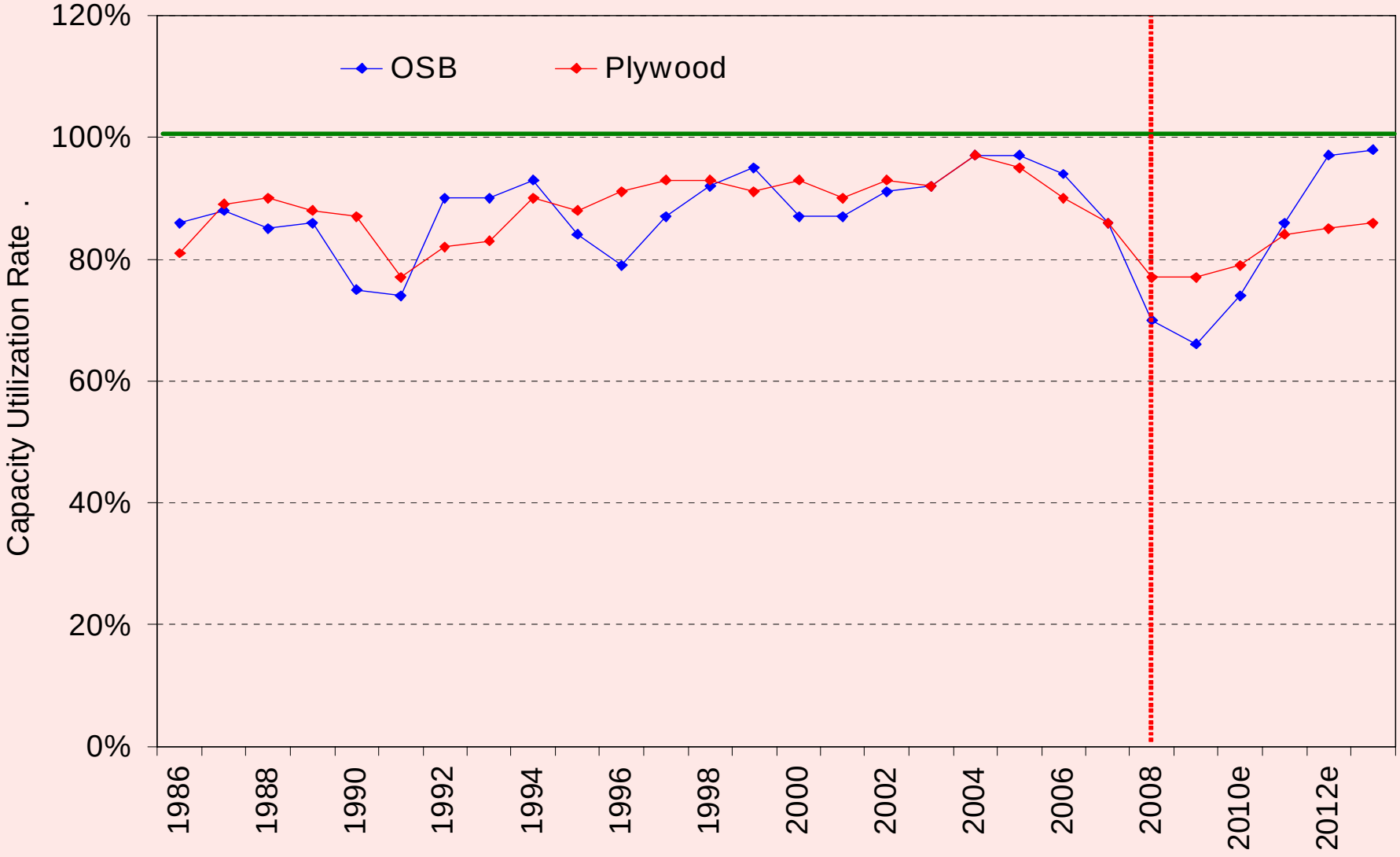
Structural Panel Production – NA



Source: APA-The Engineered Wood Association, various years.

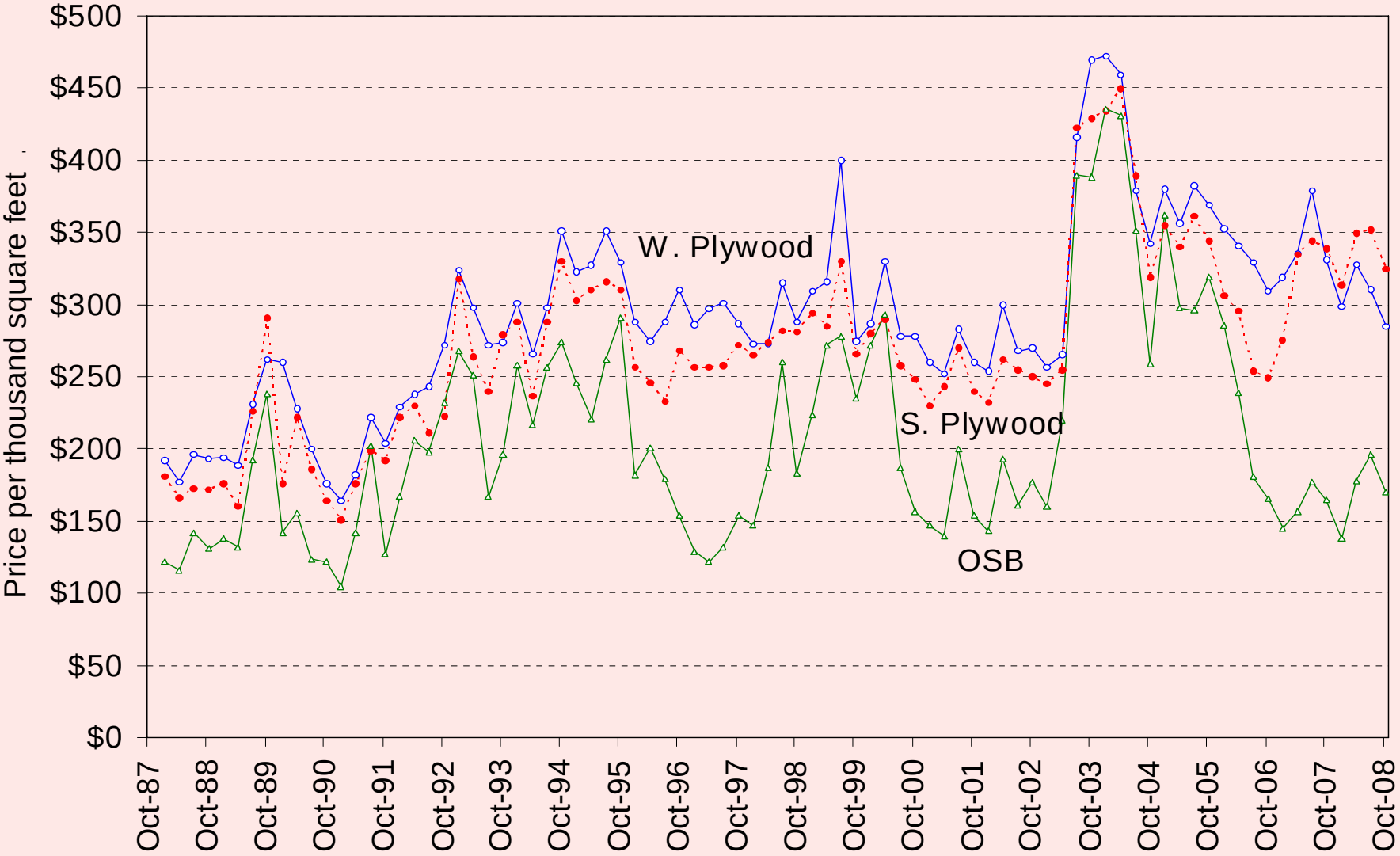
..and as a result, structural panel production in NA has declined by 26.6% since 2005...

Structural Panel Production – NA



...and capacity utilization rates have dropped to 70% for OSB and 77% for plywood...

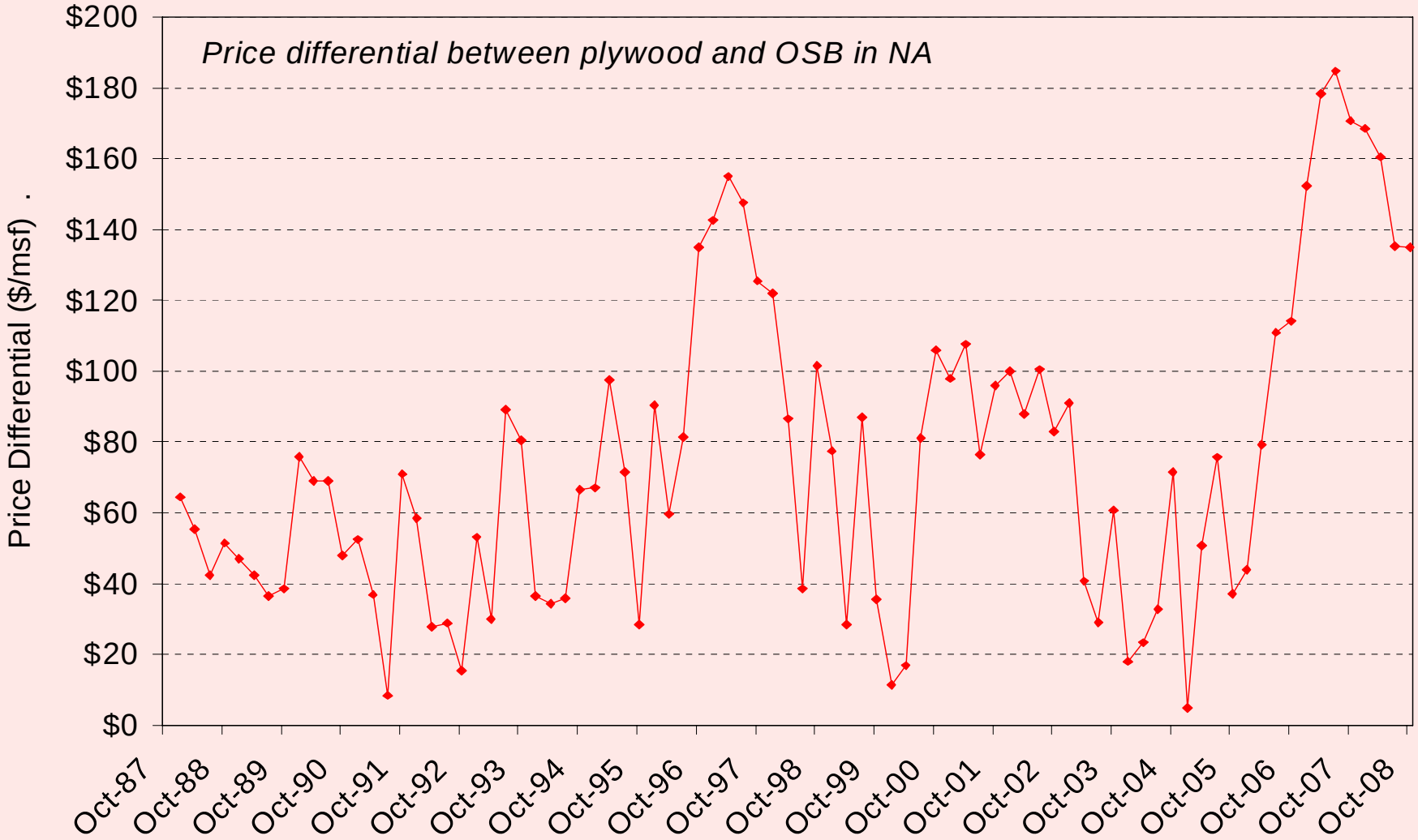
Structural Panel Prices – NA



Source: Random Lengths

...while prices have plummeted, particularly for OSB...

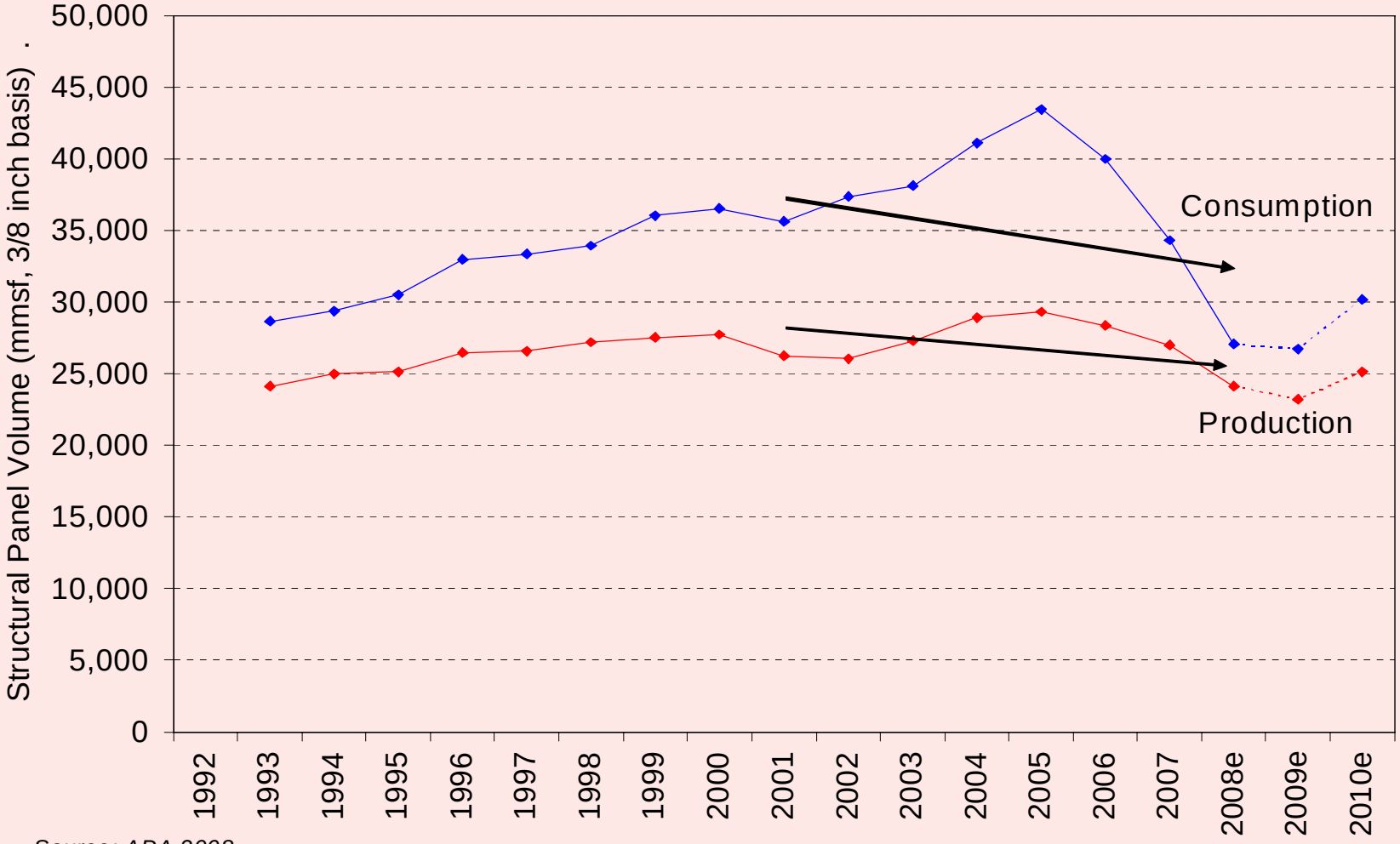
Panel Price Differentials – NA



Source: Random Lengths

...and the price differential between plywood and OSB has reached an historic high.

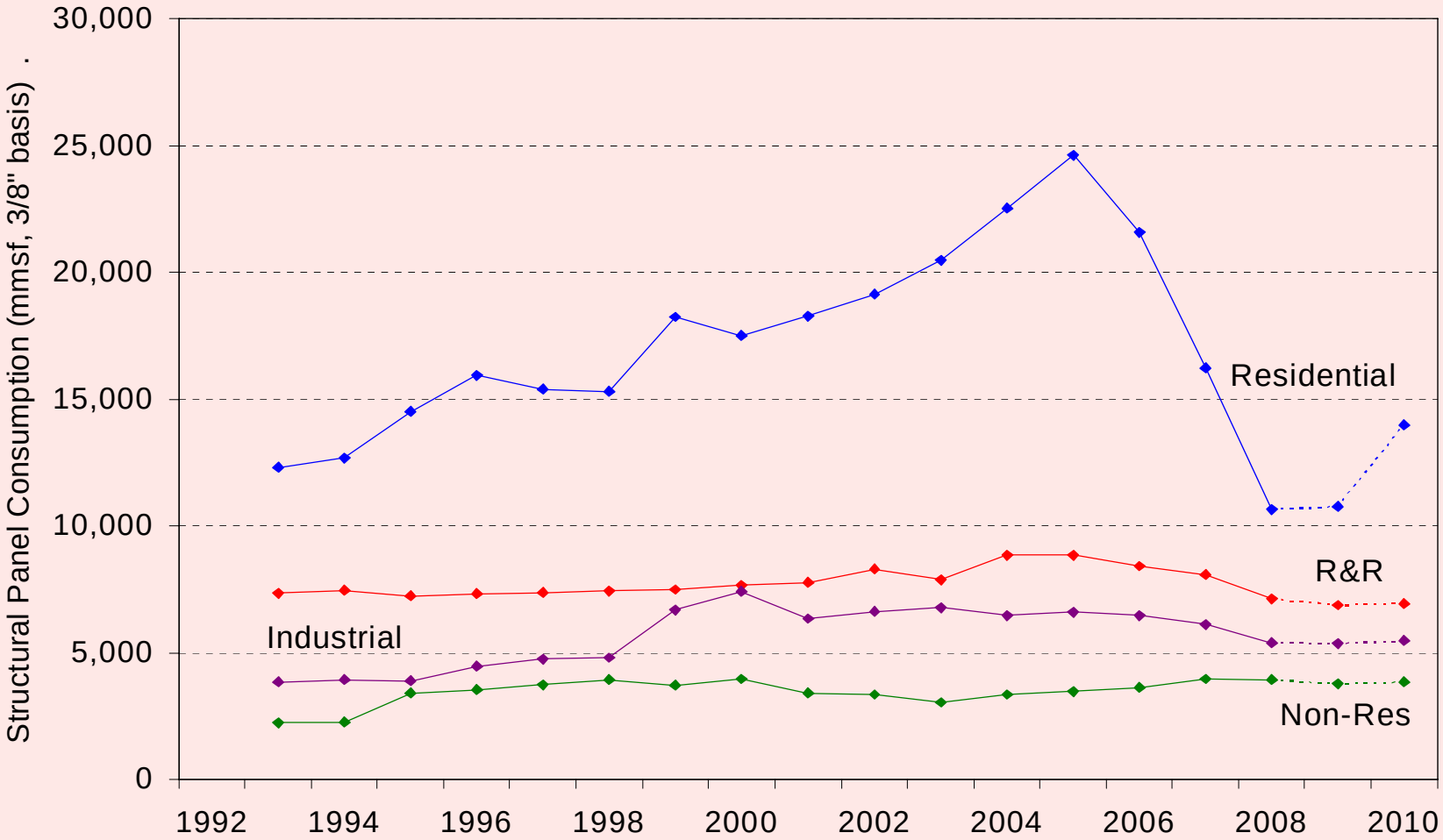
US Demand for Structural Panels



Source: APA 2008

Ominously, consumption has declined faster than production. Between 2005 and 2008, consumption was down 29.5% while production was down by 21.3%.

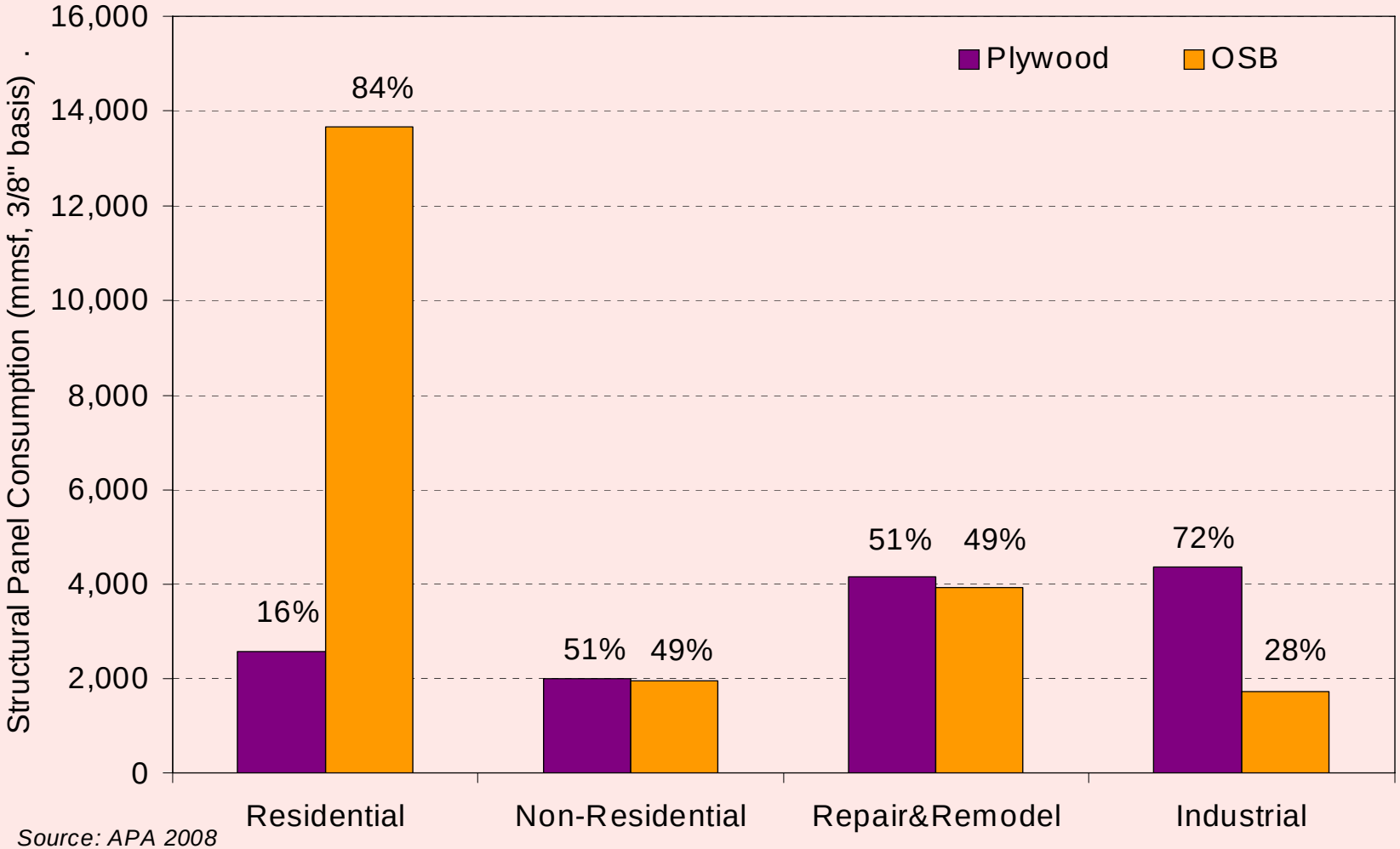
US Markets for Structural Panels



Source: APA 2008

The vast majority of the decline has been in the new housing sector

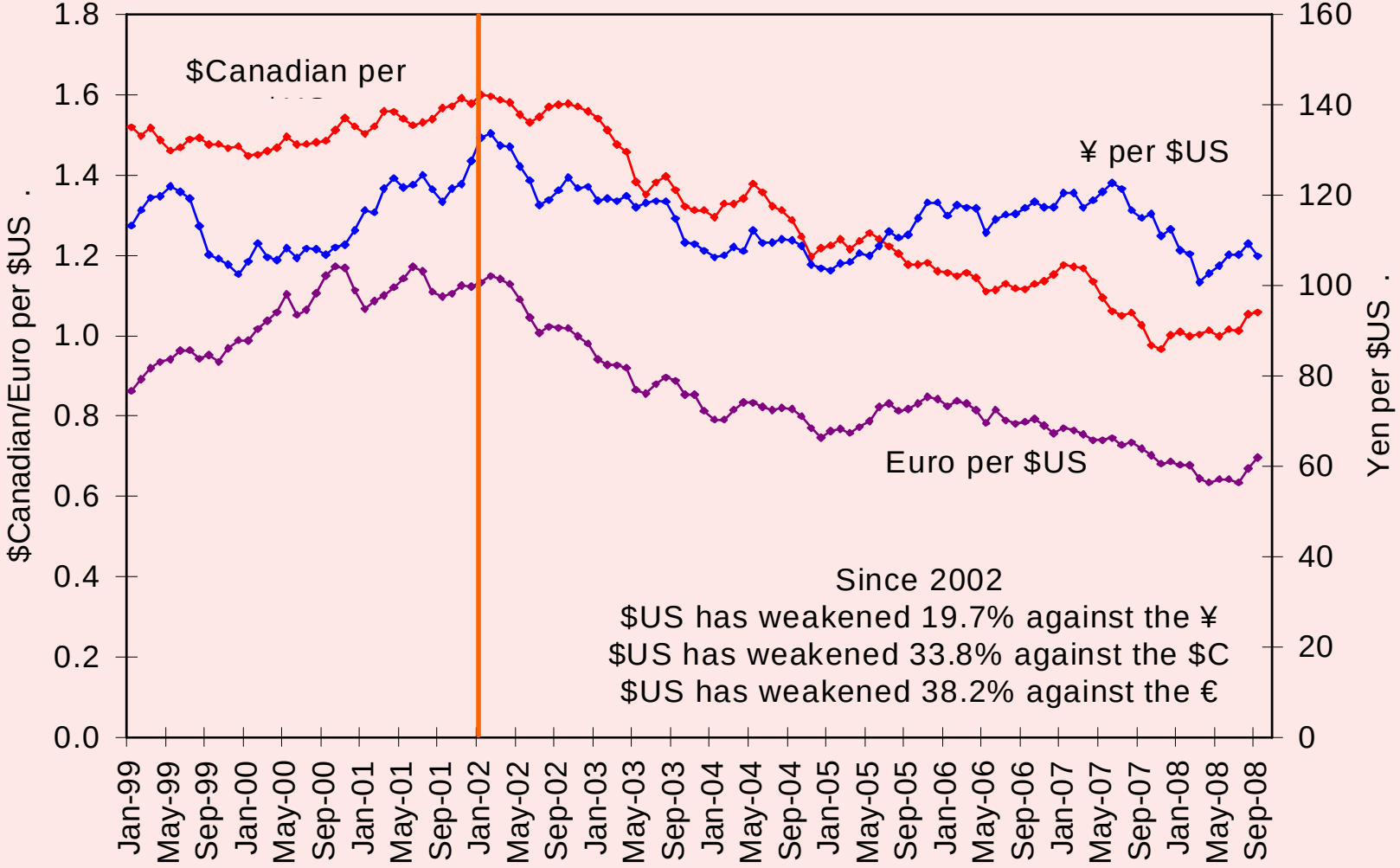
Structural Panel Shares in Major Markets



Source: APA 2008

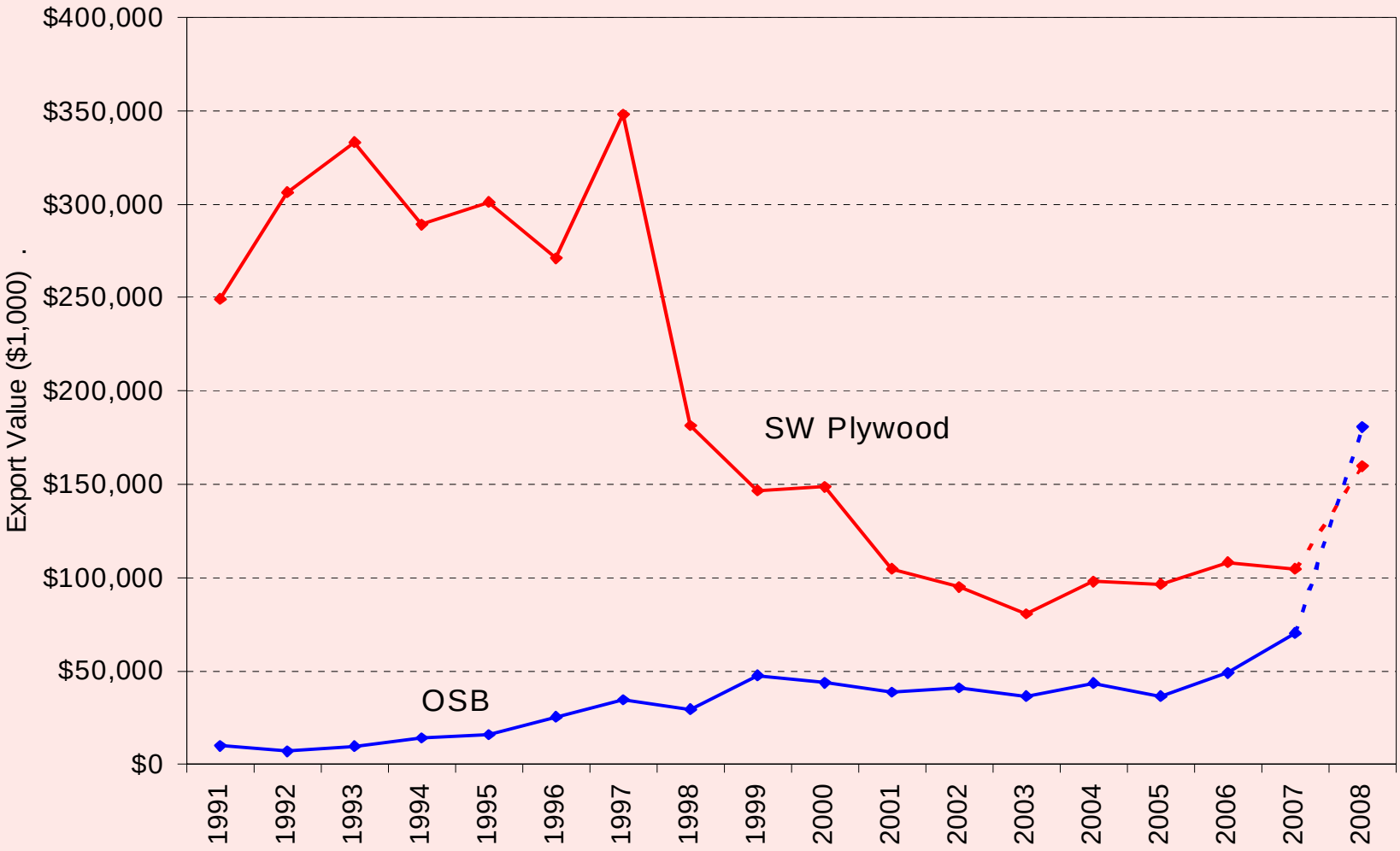
The OSB sector has been particularly hard hit, declining by 23.9% (to 68% of capacity) while plywood has declined by a slightly lower 17.9% (86% of capacity).

Exchange Rate Changes



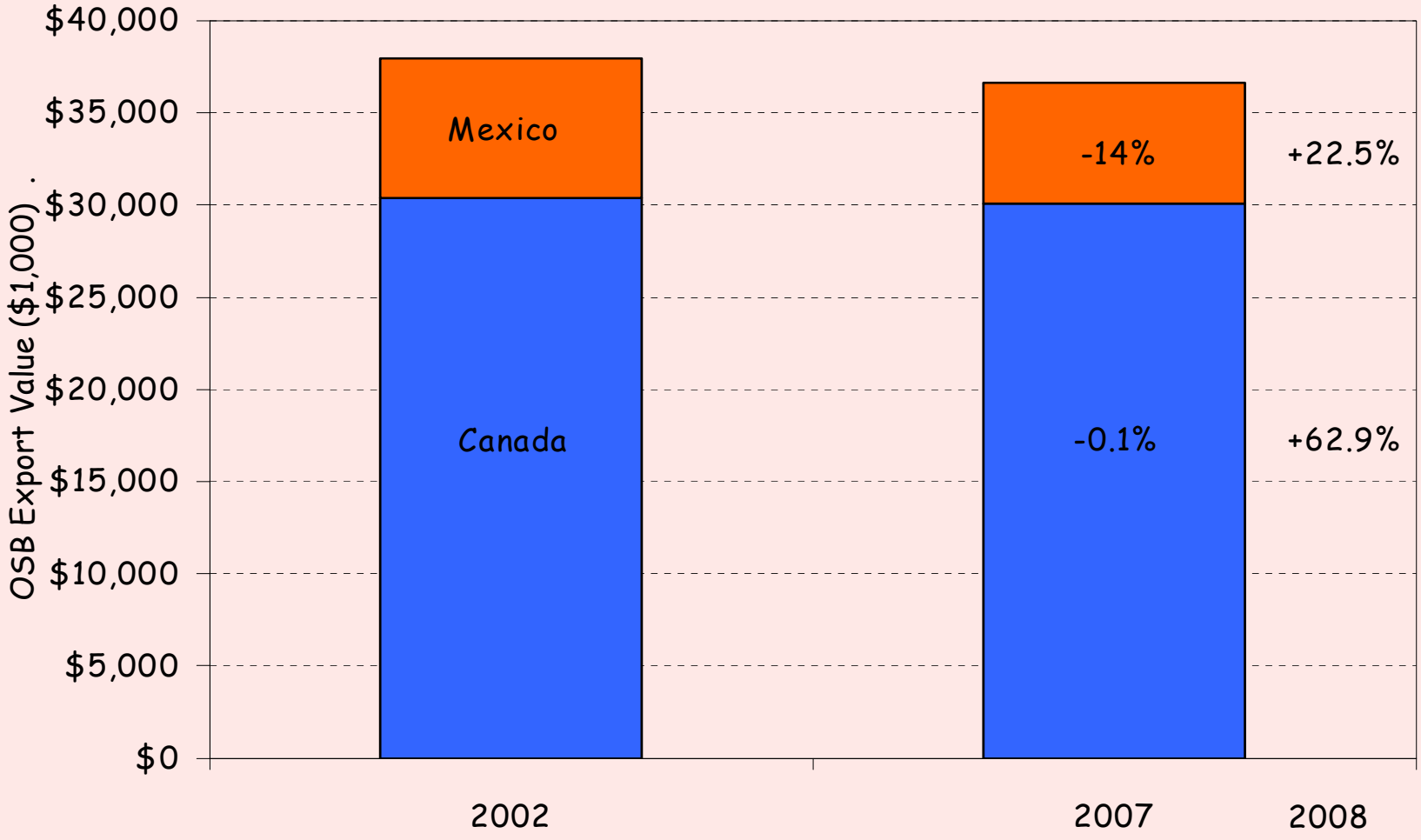
US exports have responded as the dollar has weakened since 2002, although it has begun to strengthen over the past year

US Structural Panel Exports



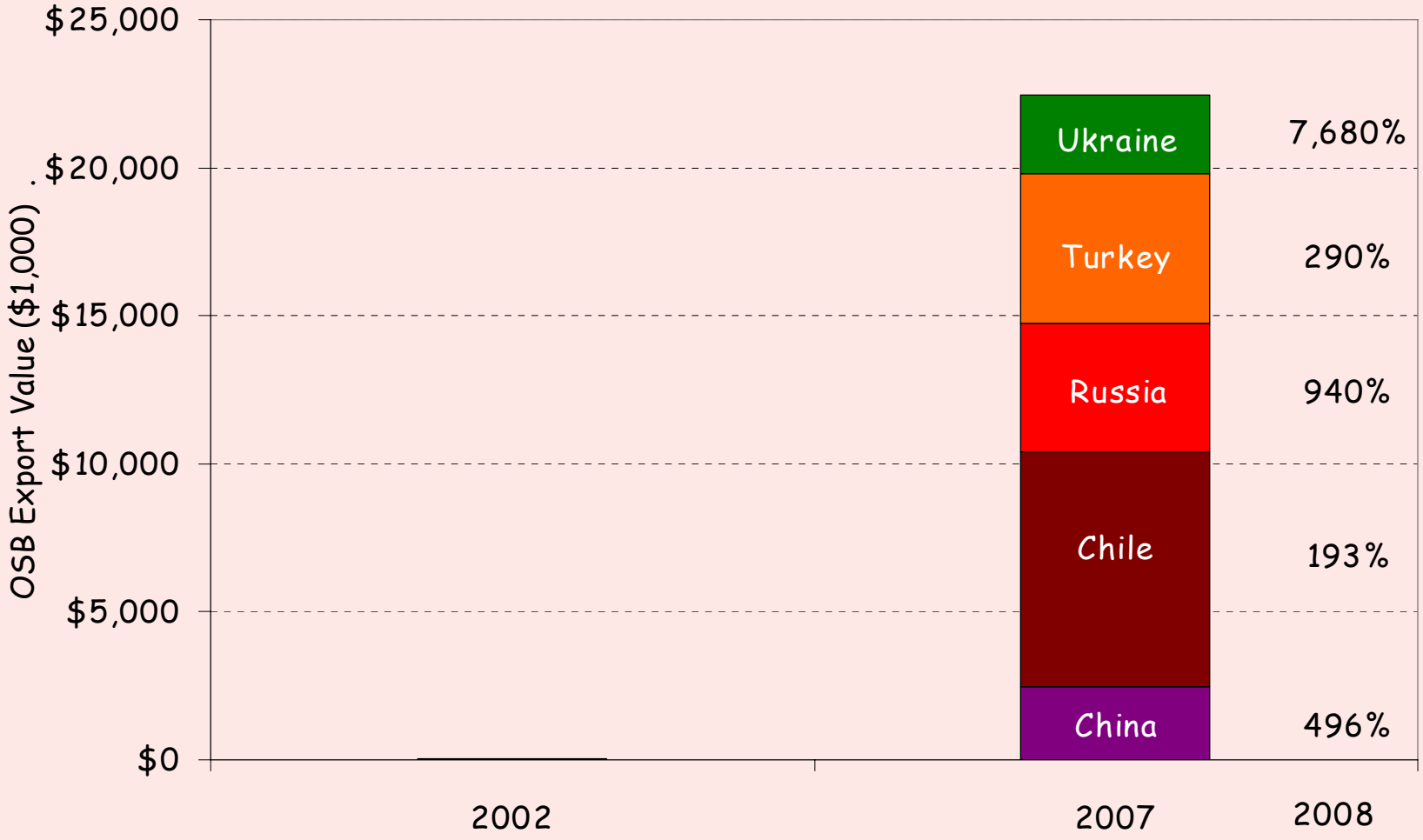
US exports of structural panels have increased substantially since 2005, particularly in the first eight months of 2008.

Traditional Markets



While panel exports to traditional markets have been weak until 2008…

New Emerging Markets



...exports to new, emerging markets continue to show strong growth.

Residential Rating Systems - National

2 Major Rating Systems

NAHB NATIONAL GREEN BUILDING PROGRAM™

- *2005:* NAHB Model Green Home Building Guidelines
- *February 2008:* NAHB National Green Building Program (NAHB Green)
- Currently 271 Accredited Verifiers in 43 states
- Over 1,000 certified green professionals

U.S. GREEN BUILDING COUNCIL

LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

- Introduced in January 2008
- 1,041 homes built so far
  - 246 certified
  - 408 silver
  - 231 gold
  - 156 platinum

Concerns with Green Building Programs

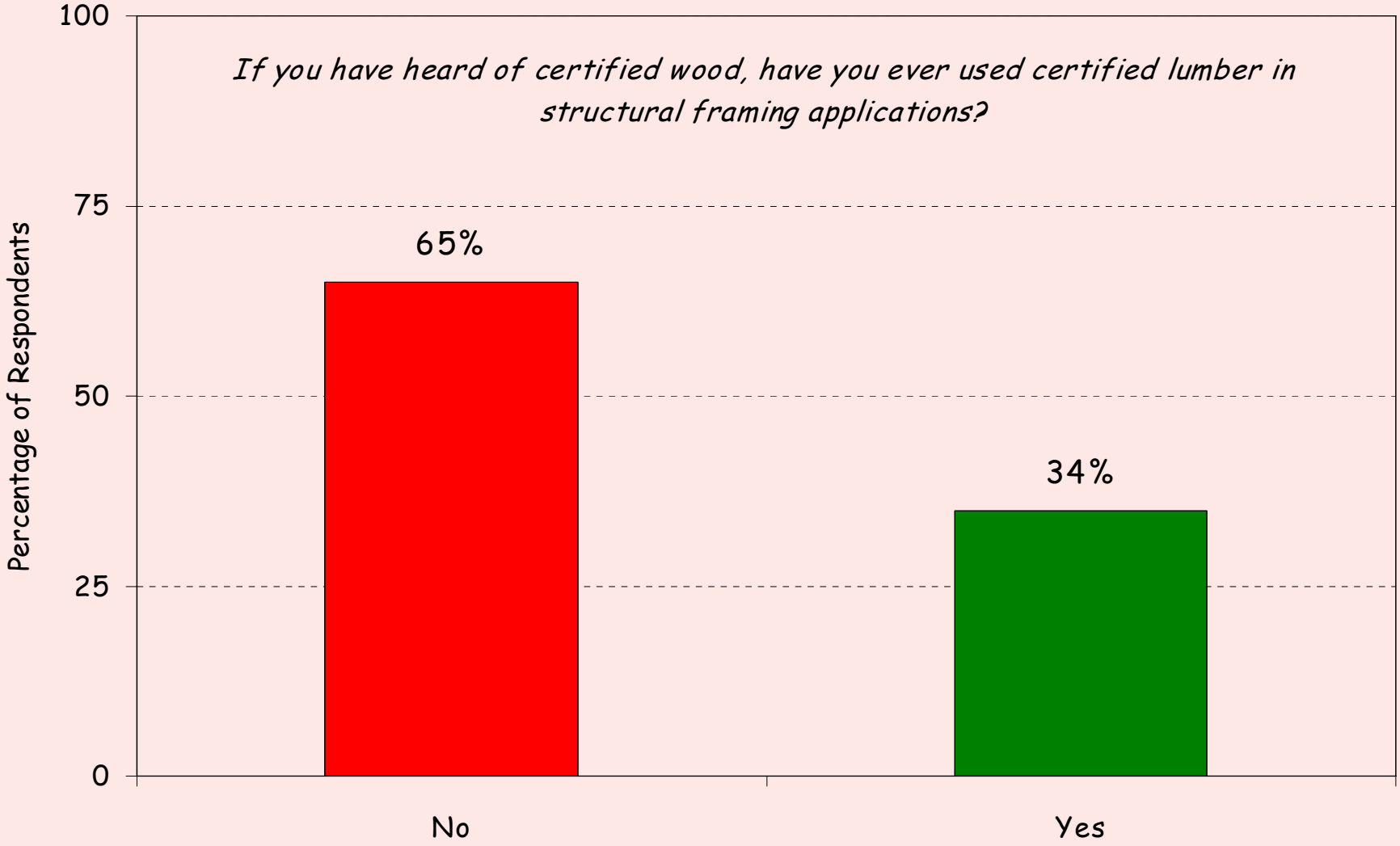
- Do not adequately consider LCI results in material specification (Under review for LEED 3.0)
- Over emphasis on material transportation distances ignores other factors such as embodied carbon and LCI data
- Inadequate consideration of carbon storage role of forests and wood products
- Little acknowledgement of renewable nature of the timber resource relative to non-renewable building materials (Under review for LEED 3.0)
- Only acknowledges FSC certification program while ignoring SFI program (Under review for LEED 3.0)

Use of Certified Lumber

Heard of Certified Lumber

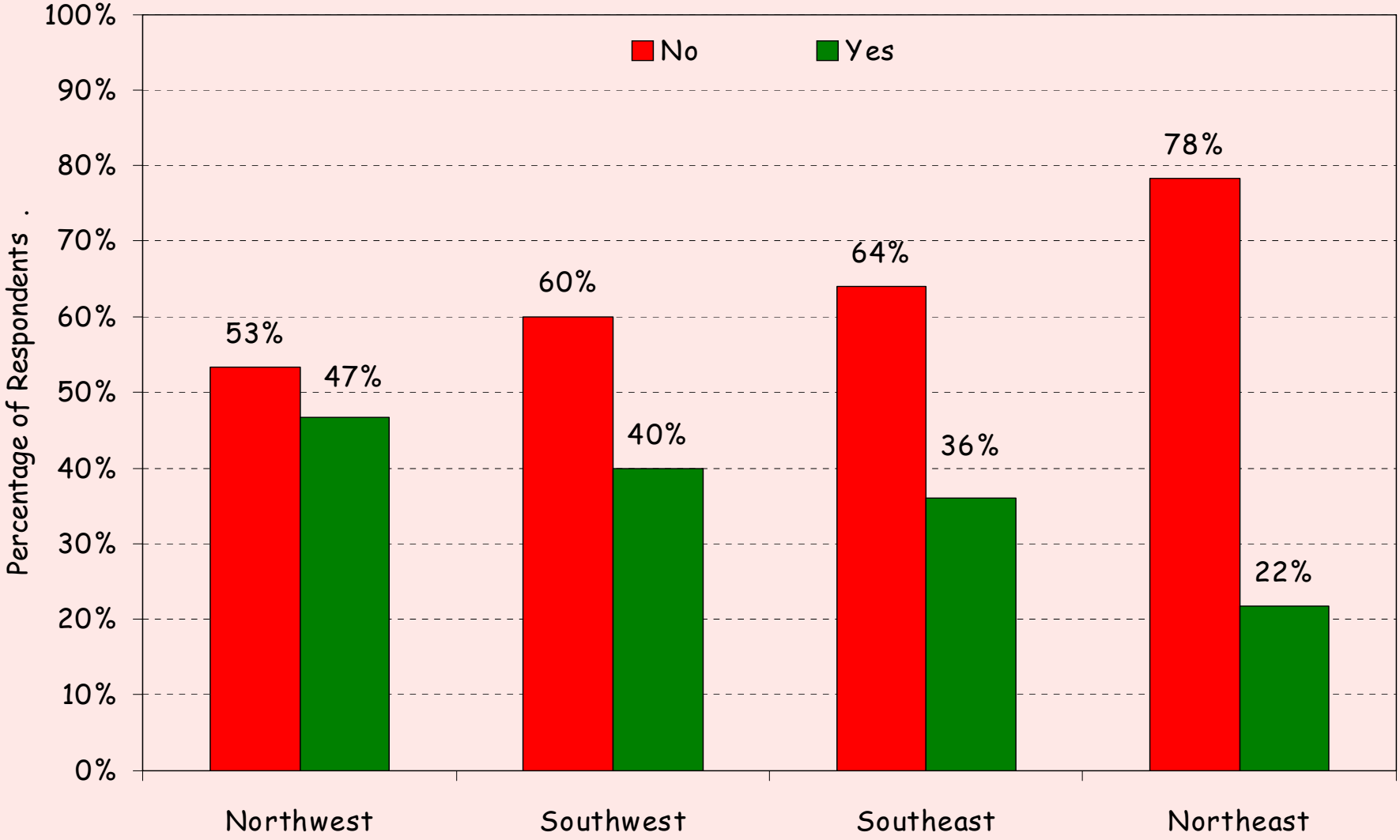
40% of builders reported that they have heard of certified lumber

Use of Certified Lumber



Almost 35% of builders who have heard of certified lumber used it in structural framing applications (13.8% of total)

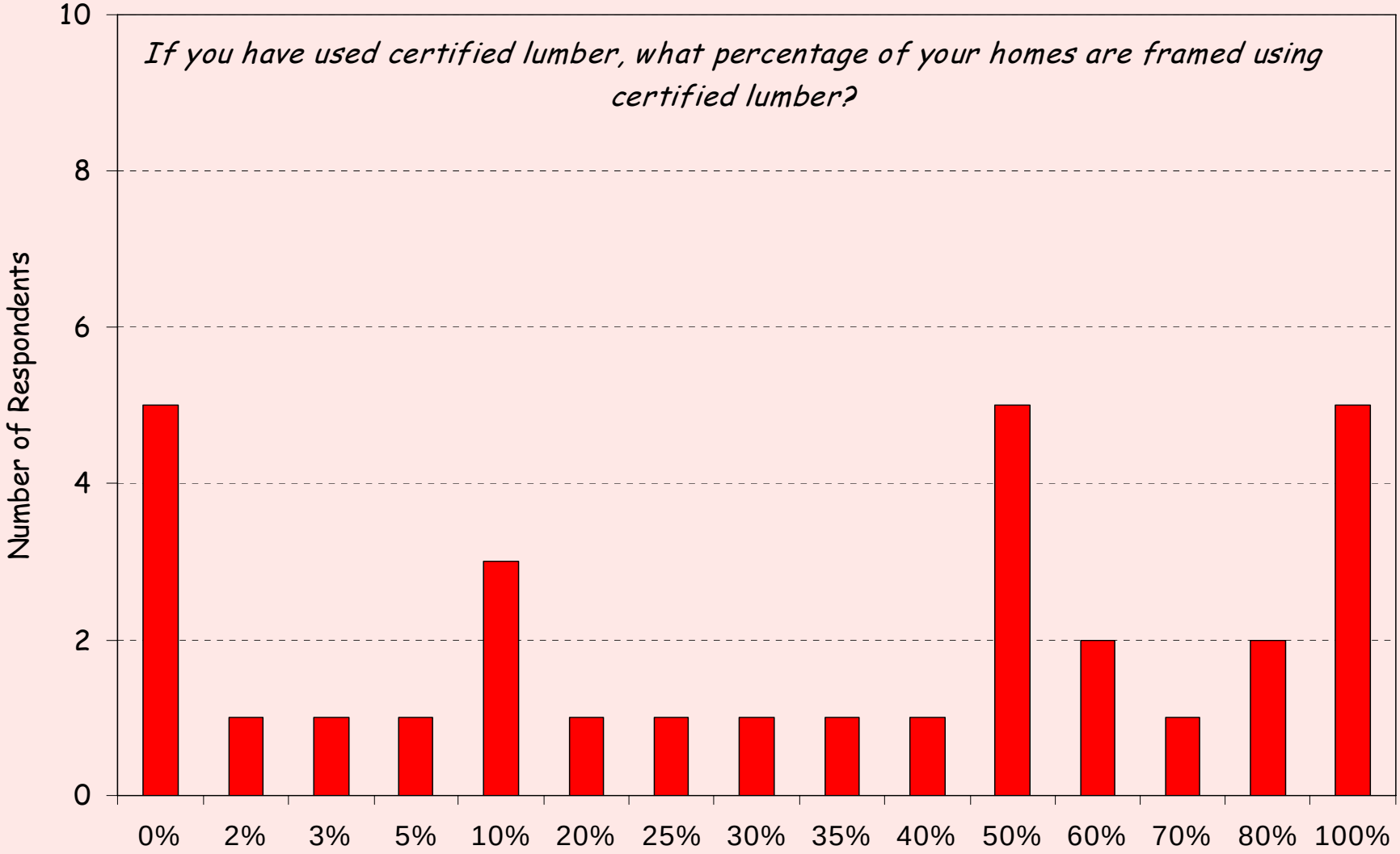
Use of Certified Lumber



A substantially higher proportion of builders in the US west have used certified wood.

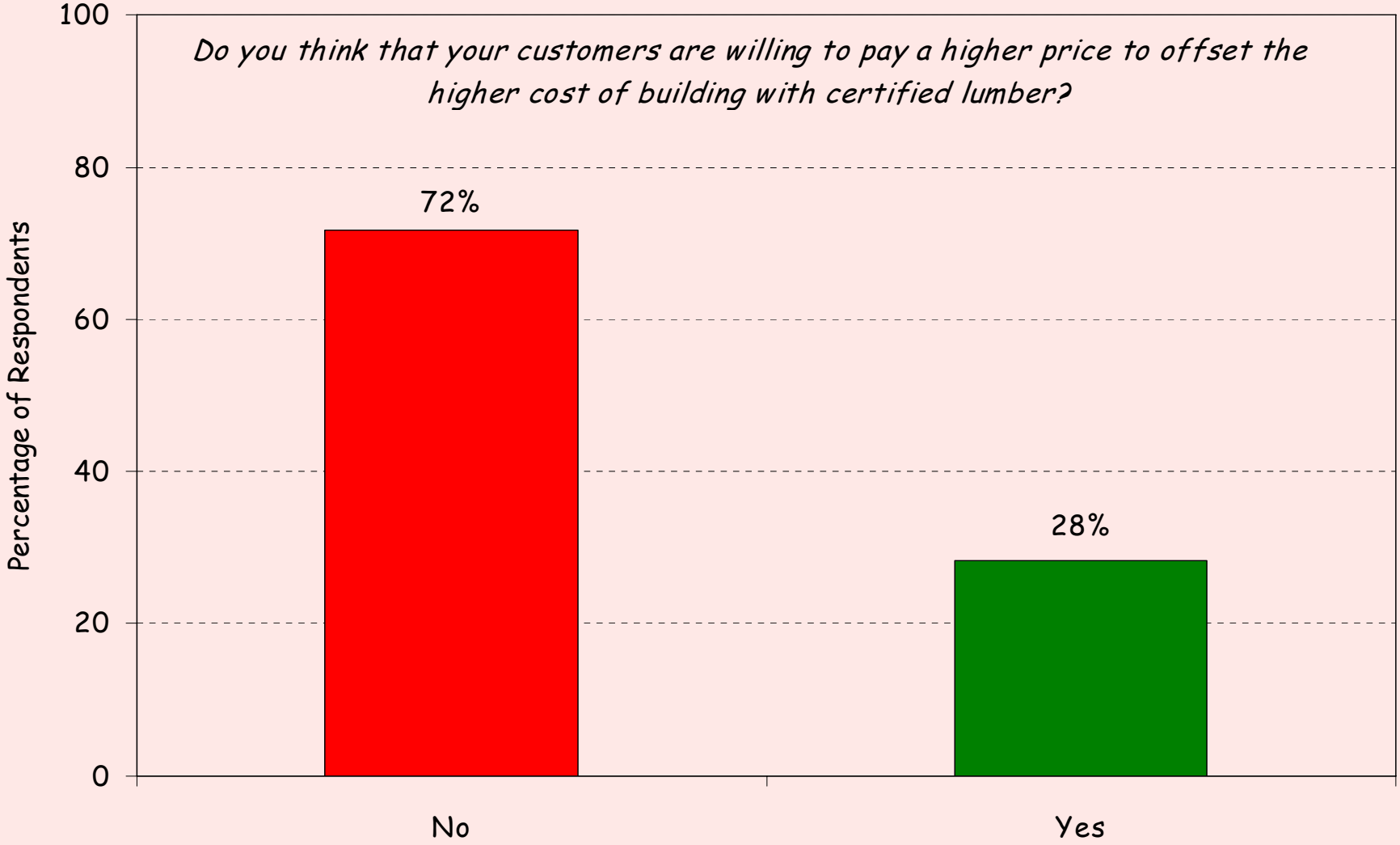
Center for International Trade in Forest Products

% of Homes Built with Certified Lumber



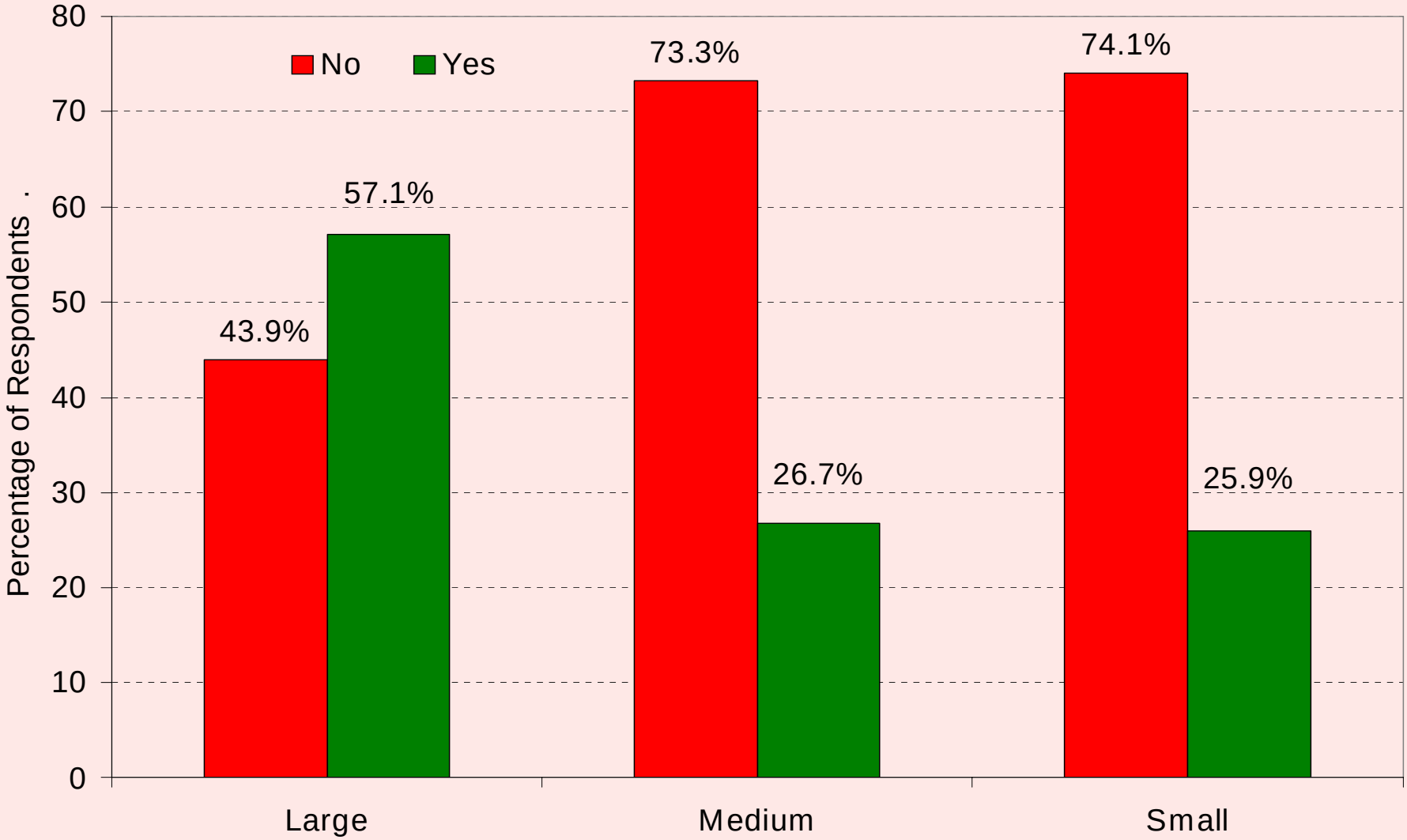
s using certified lumber reported that an average of 42% of their homes ramed with certified lumber

Price Premium for Certified Lumber



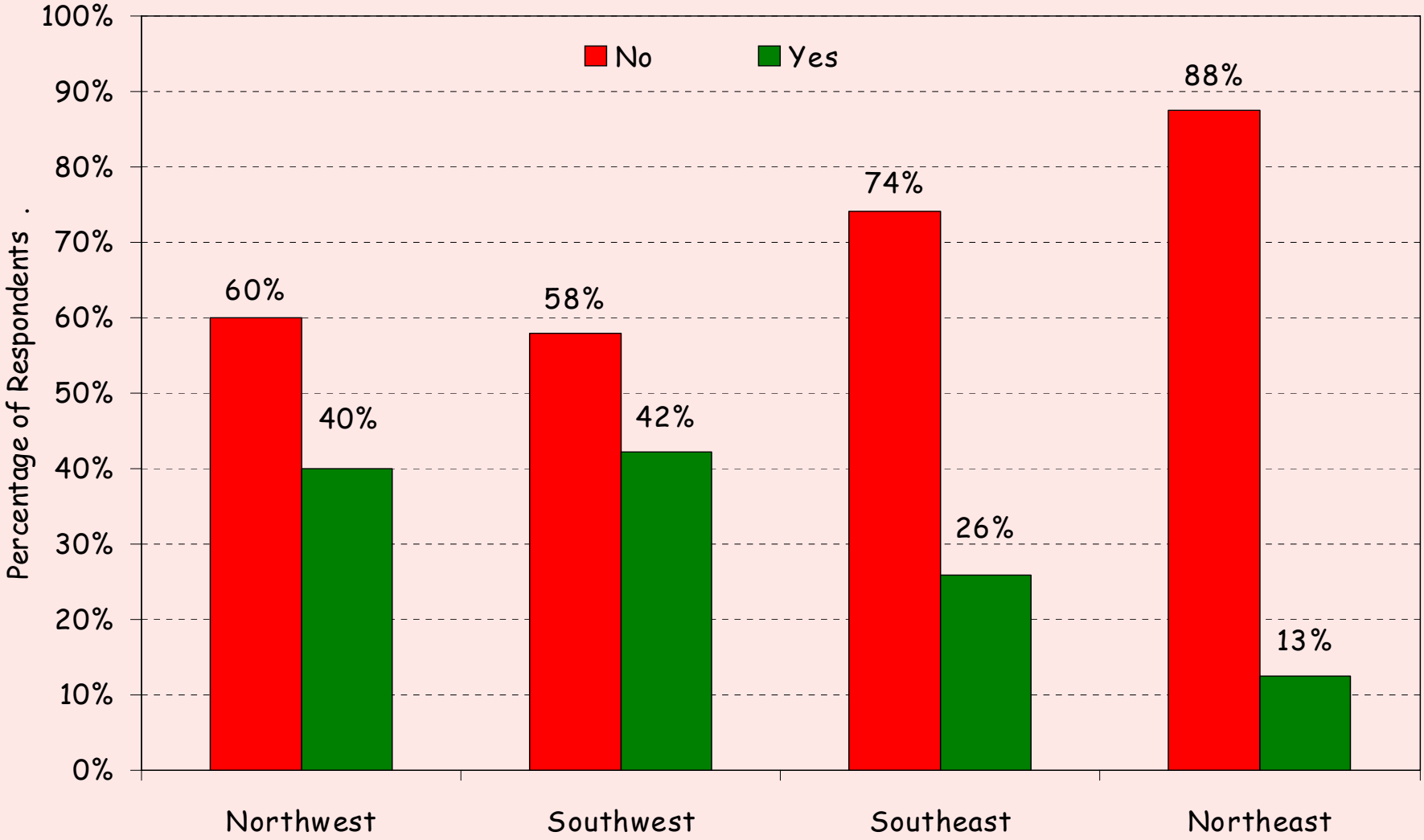
Only about a quarter of builders felt that their customers would pay a premium for a house built from certified lumber.

Price Premium for Certified Lumber



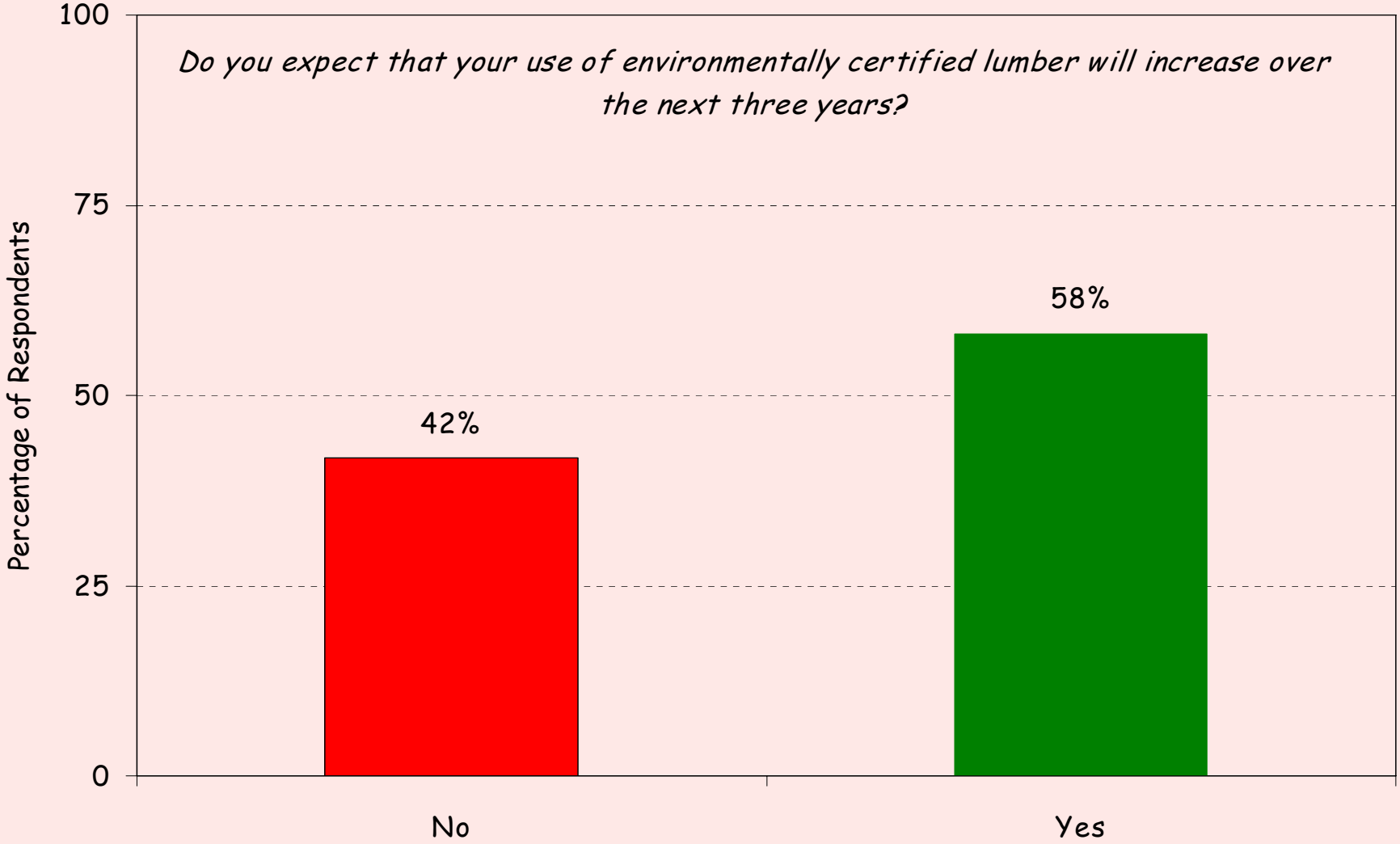
However, more than half of the large builders felt that their customers would pay a premium for a house built from certified lumber.

Price Premium for Certified Lumber



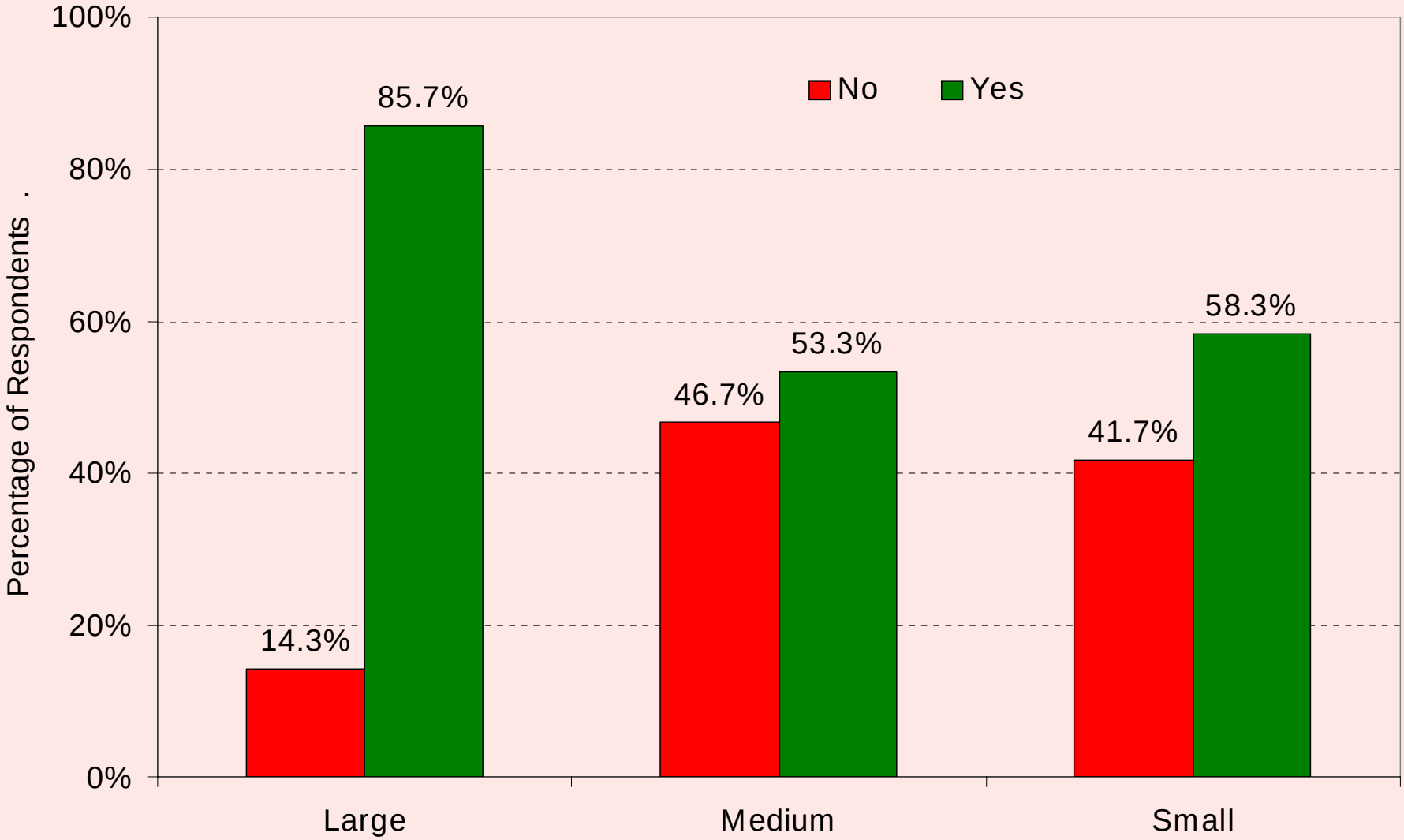
Substantially more builders in the western US felt that their customers would pay a premium for a house built from certified lumber.

Increased Use of Certified Lumber



Almost 60% of builders felt that their use of certified lumber would increase in the future…

Increased Use of Certified Lumber



…although large builders were significantly more likely to think that their use of certified wood would increase in the future.

Strategic Observations – Certified Lumber

- A substantial number of builders are already using certified lumber to build homes.
- Certified wood use is greatest in the west.
- The use of certified lumber is expected to increase in the future across all regions of the US, although large builders and builders in the west thought it would increase most.
- Only a quarter of all builders using certified lumber felt that their customers would pay a premium for a home built using certified lumber, although 40% of builders in the west, and almost 60% of large builders felt a price premium was possible.
- Likely acceptance of lumber certified under the SFI program by the LEED green building program could substantially increase the demand for certified lumber.

CARB Update

- SW plywood and OSB manufactured to PS1 or PS2 standards are excluded from CARB
- 64 mills currently certified as CARB compliant
  - 40 USA
  - 10 Canada
  - 6 China
  - 5 Indonesia
  - 2 Malaysia
  - 1 New Zealand
- 114 currently working towards certification

CARB Update

Phase 1 Emission Standards (in parts per million (ppm))					
Effective Date	HWPW-VC	HWPW-CC	PB	MDF	tMDF
Jan-09	0.08	-----	0.18	0.21	0.21
Jul-09	-----	0.08	-----	-----	-----
Phase 2 Emission Standards					
Jan-10	0.05	-----	-----	-----	-----
Jan-11	-----	-----	0.09	0.11	-----
Jan-12	-----	-----	-----	-----	0.13
Jul-12	-----	0.05	-----	-----	-----

Conclusions

- Global financial crisis will likely prolong the adverse market conditions for housing, including tight credit for businesses and consumers, and result in continued weak demand for wood panels
- US panel manufacturers are increasingly looking offshore for new demand and finding it in new, emerging markets
- Demand for wood waste by bio energy sector will continue to drive up raw material costs for PB and MDF manufacturers
- High oil and energy prices, though moderating of late, will continue to squeeze profits for the panel sector
- The California Air Resources Board formaldehyde emission regulations will cause some short-term adjustments by the global panel industry