

Framing Industry Dynamics in a Global Context May 24, 2011

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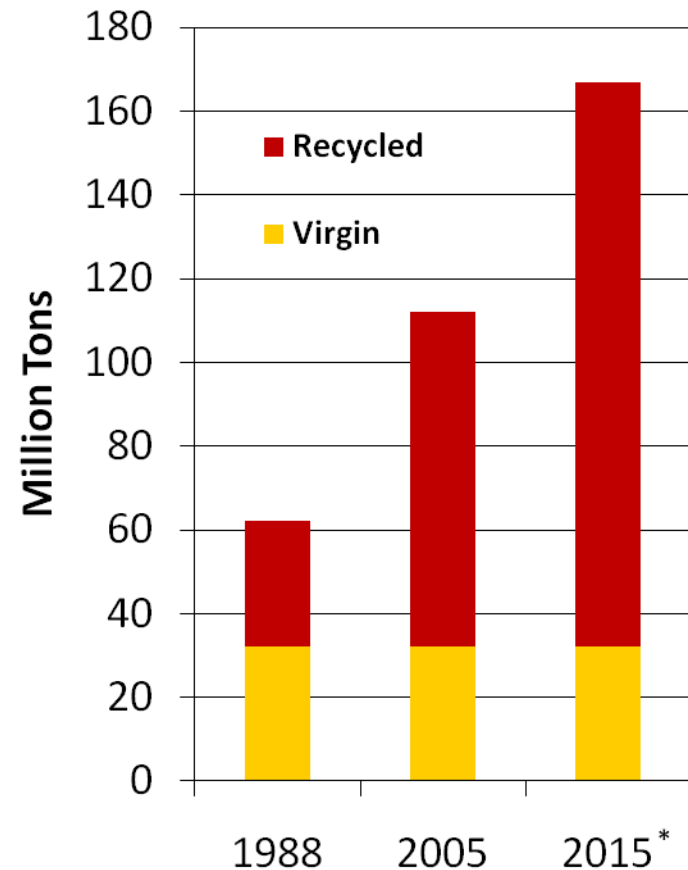
Today's Agenda

- The industry situation: some historic perspective
- Global Economic outlook—the major issues/concerns
- Prospects for global containerboard demand
- Global Fiber shortage and what have other industries have done??



Scenario project in 2004: Impending global shortage of OCC and Weyerhaeuser exposure

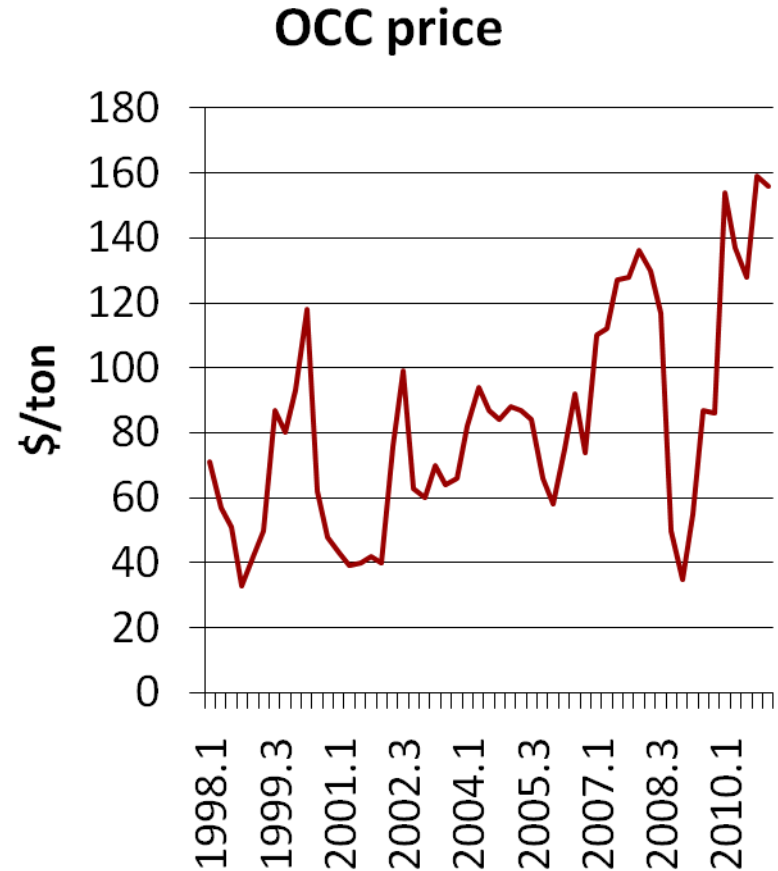
- Work done 7 years ago, concerned about global containerboard growth vs. fiber supply
- Missed severity of 2008 recession
 - Even so, Asia, particularly China, exceeded forecast
- Key message intact: OCC prices rise above chip equivalent
 - What if?—OCC goes above \$150/ton?



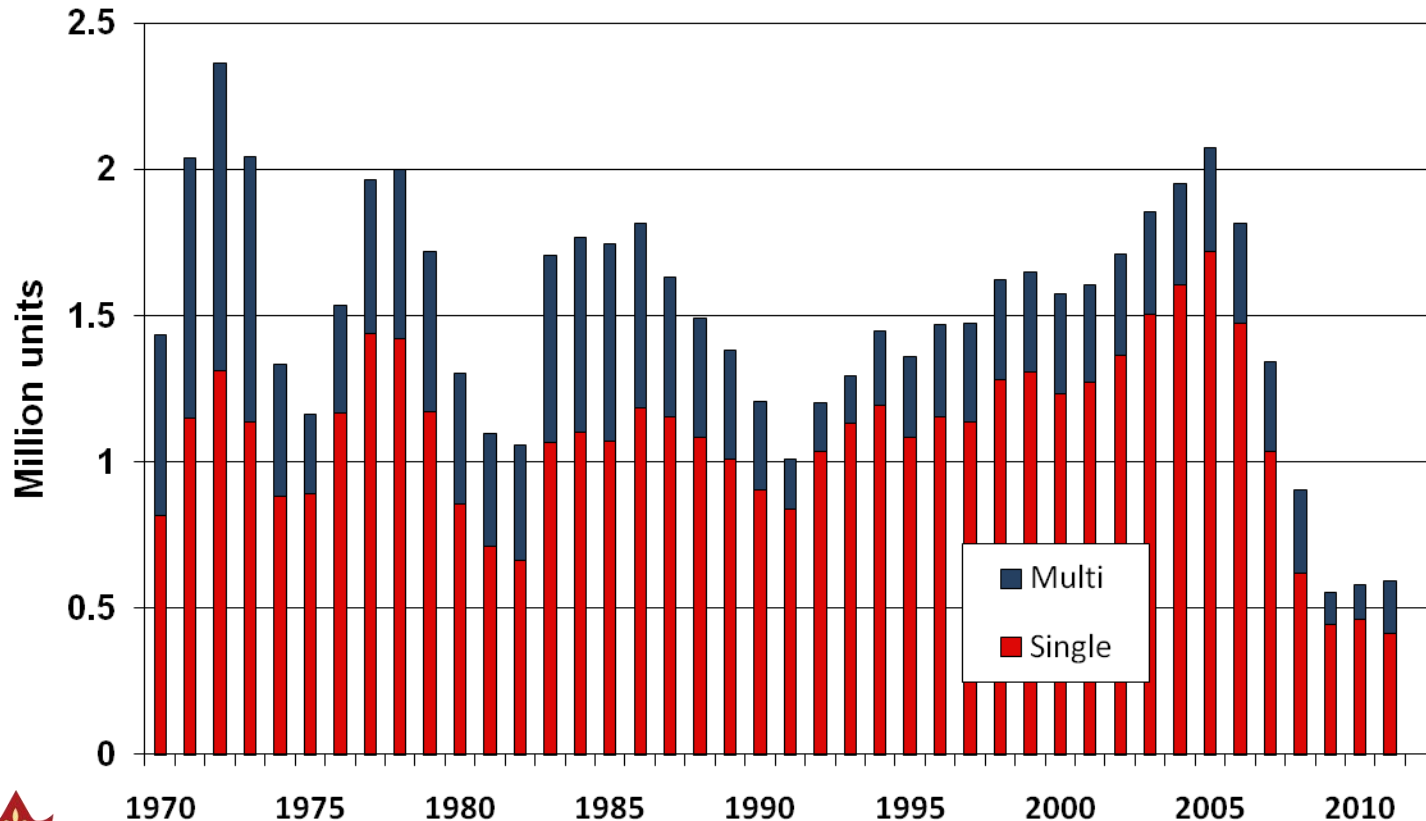
*Weyerhaeuser scenario work;
2004

The what if was deferred, but..

- Prices were approaching the number in 2007
- Recession led to decline in global demand
- Now pushing the limits again
- Today: What will industry do???



Important Economic Lesson Learned in 1982!!

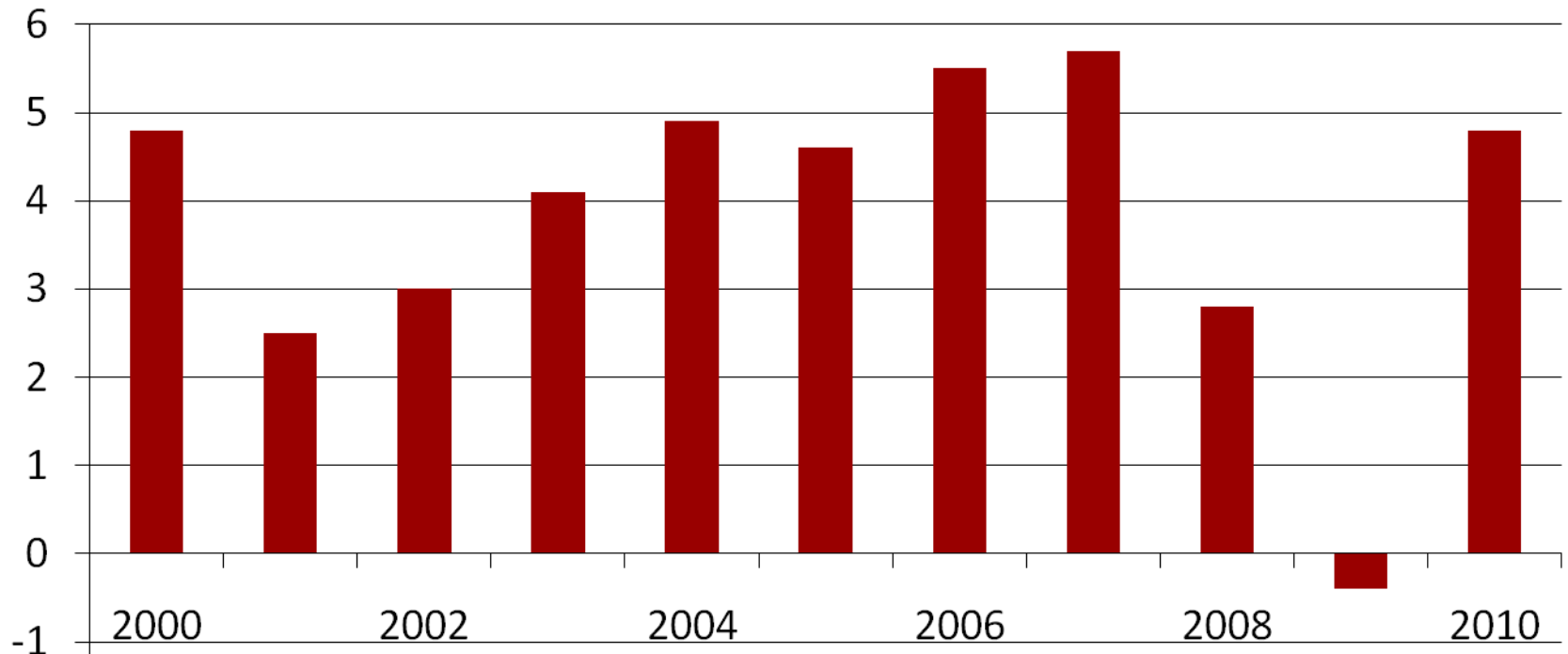


This Decade?



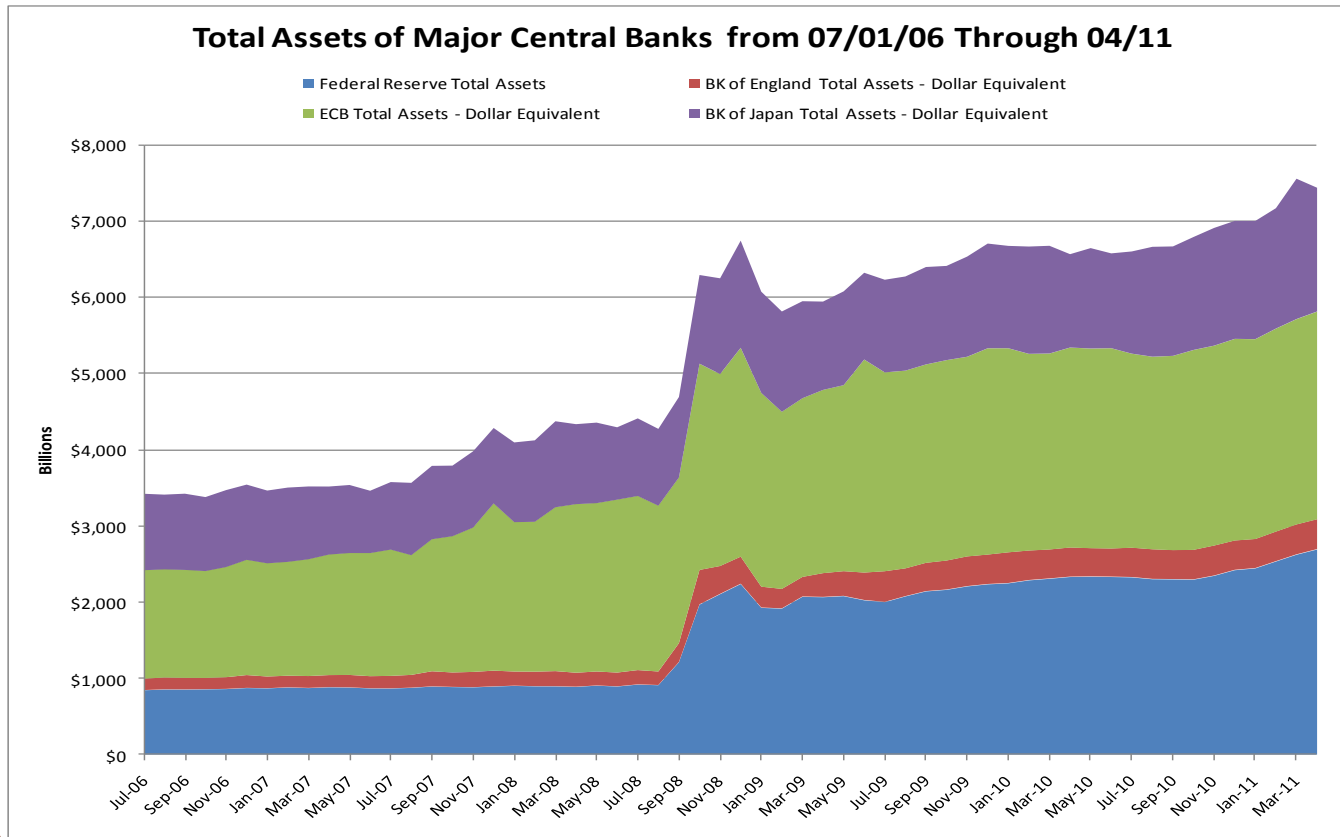
World fell into Recession: Financial Trip Wire

World GDP Growth



Source: IMF/RISI

Required Massive Monetary Stimulus Globally



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Framing the Economic Outlook Discussion

Look to where manufacturing is growing

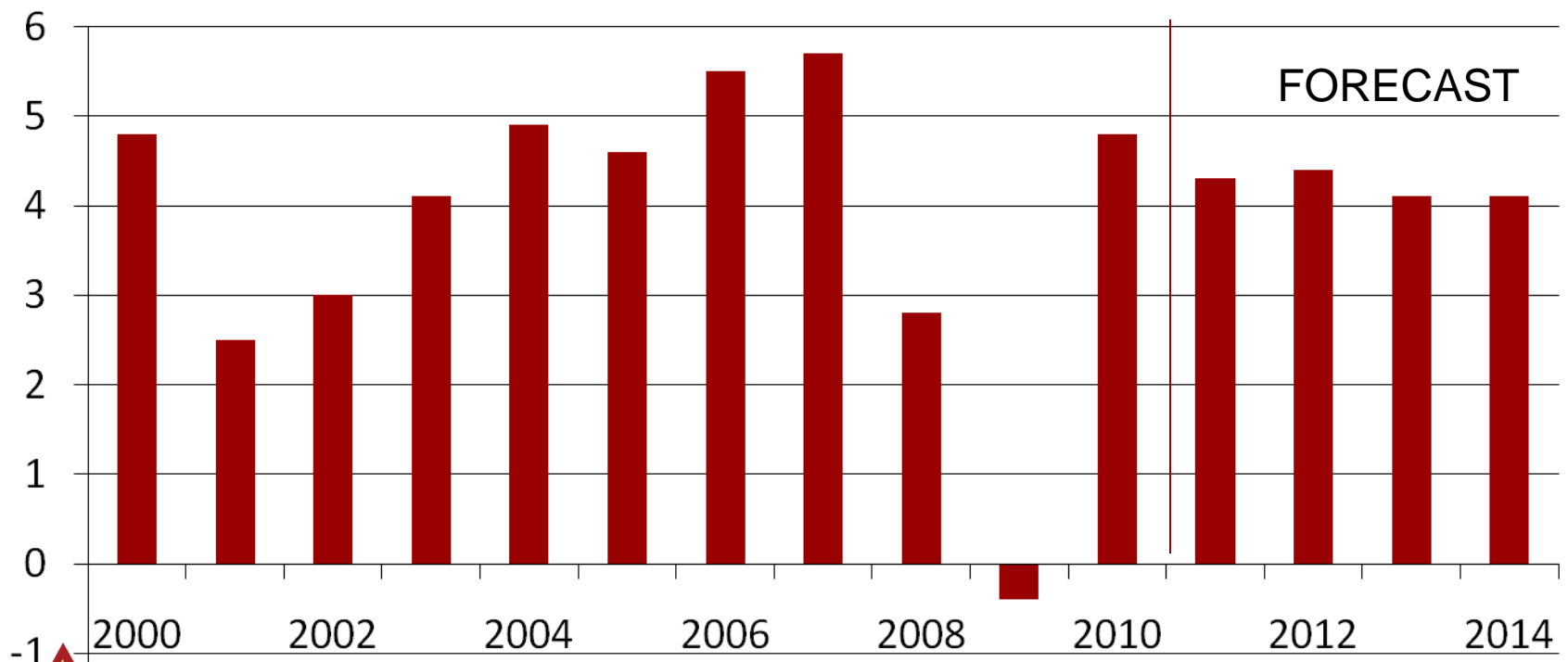
	2000*	2010*	Share (%)	Growth (%)
World	96.1	138.9	100	45
North America	30.6	27.9	20	-9
Far East	30.4	63.7	46	101
Western Europe	20.5	21.5	15	5
Central/Eastern Eur.	3.7	8.3	6	124
South America	4.3	6.6	5	53
Central America	2.7	3.9	3	44
Rest of World	3.9	7	5	79



*million tonnes, Containerboard Consumption, RISI

Despite Massive Stimulus: Modest Global Growth

World GDP Growth



Source: IMF/RISI

Remember: Nothing quite like it!!!

- This global cycle very different than any experienced since the 1930's
- Massive fiscal and monetary stimulus in U.S. to stabilize the patient—condition still fragile
 - Usual source of strong employment rebound missing: housing
 - Serious fiscal issues to address
- Very different set of international parameters
 - Sovereign debt concerns in Europe—major concern
 - Inflation emerging in Asia—different source
 - Continued imbalance on trade side



THE BASIC PROBLEM FORECASTING IS:

“An unusually uncertain
environment”

Chairman Bernanke--2010

FLYING BLIND



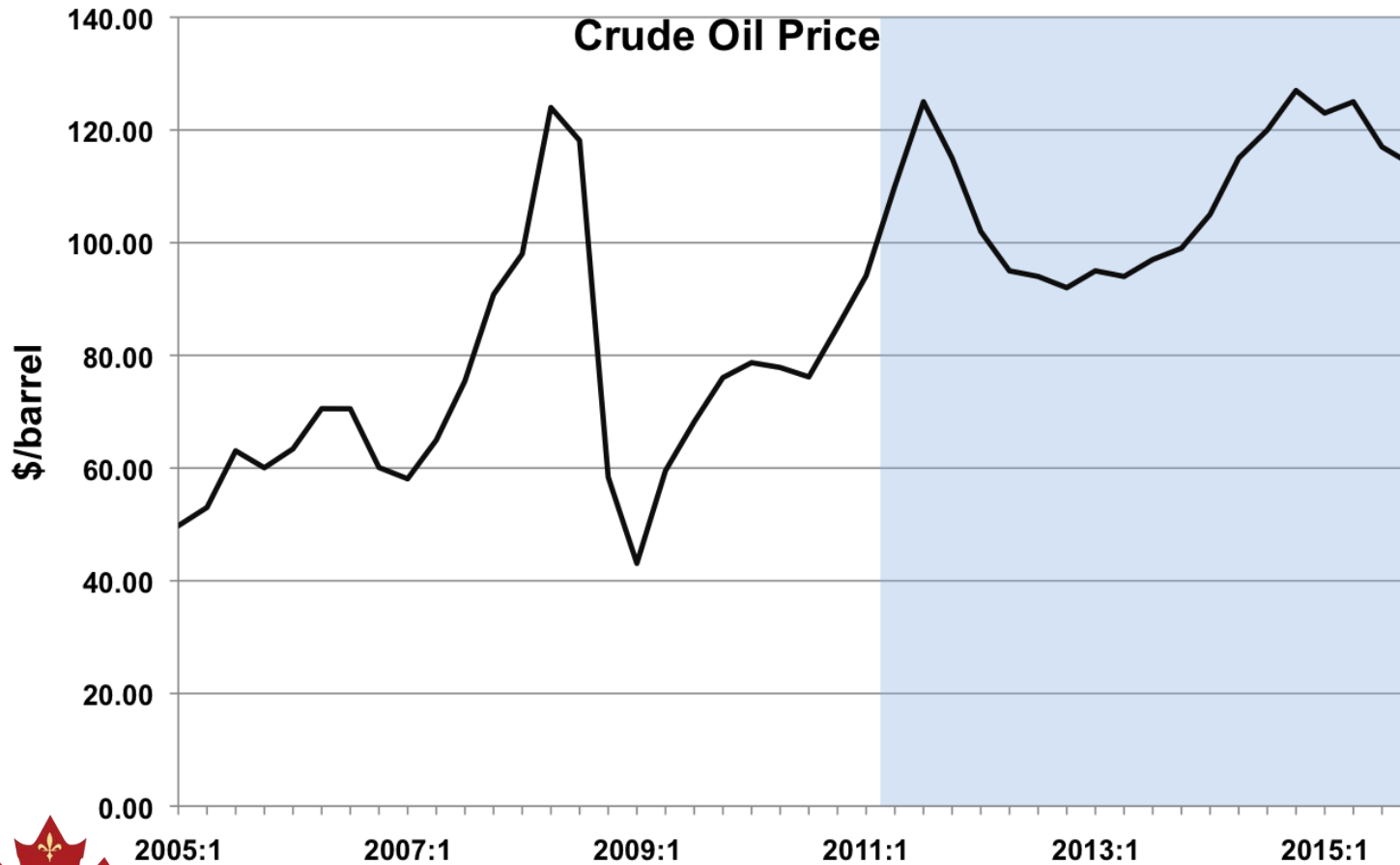
Given some global structural challenges the recovery appears “fragile”

- There are several major imbalances that still need to be addressed between surplus and deficit countries
- Global commodity prices are having differential impacts: sustained high growth in Asia and rising inflationary pressures
- Exchange rate trends could significantly reverse the imbalance problems and where manufacturing occurs over the next 10 years
- Commodity rich countries sustain relatively high growth



A major uncertainty: Oil prices

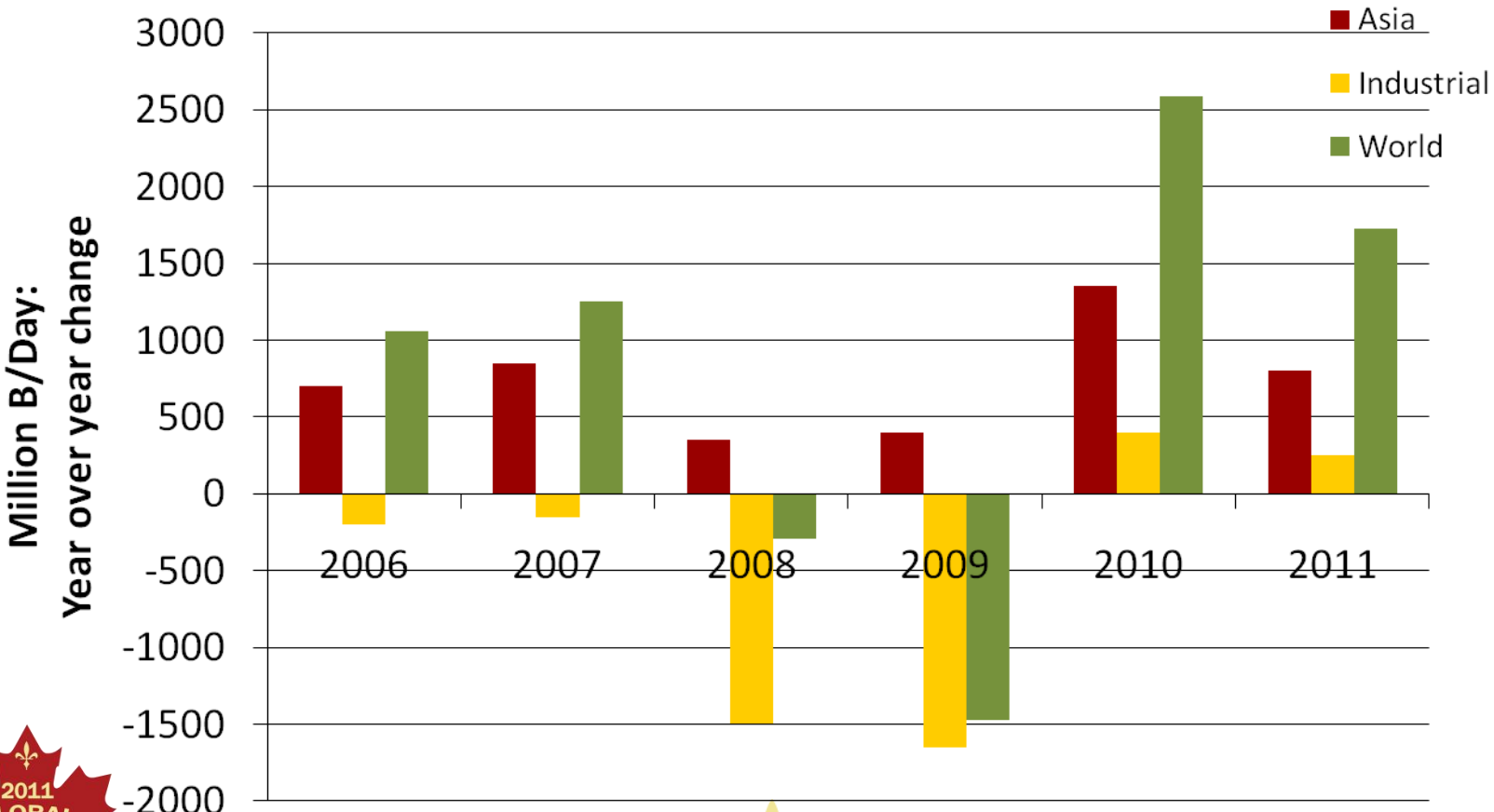
Different picture for Natural Gas in U.S.



RISI outlook



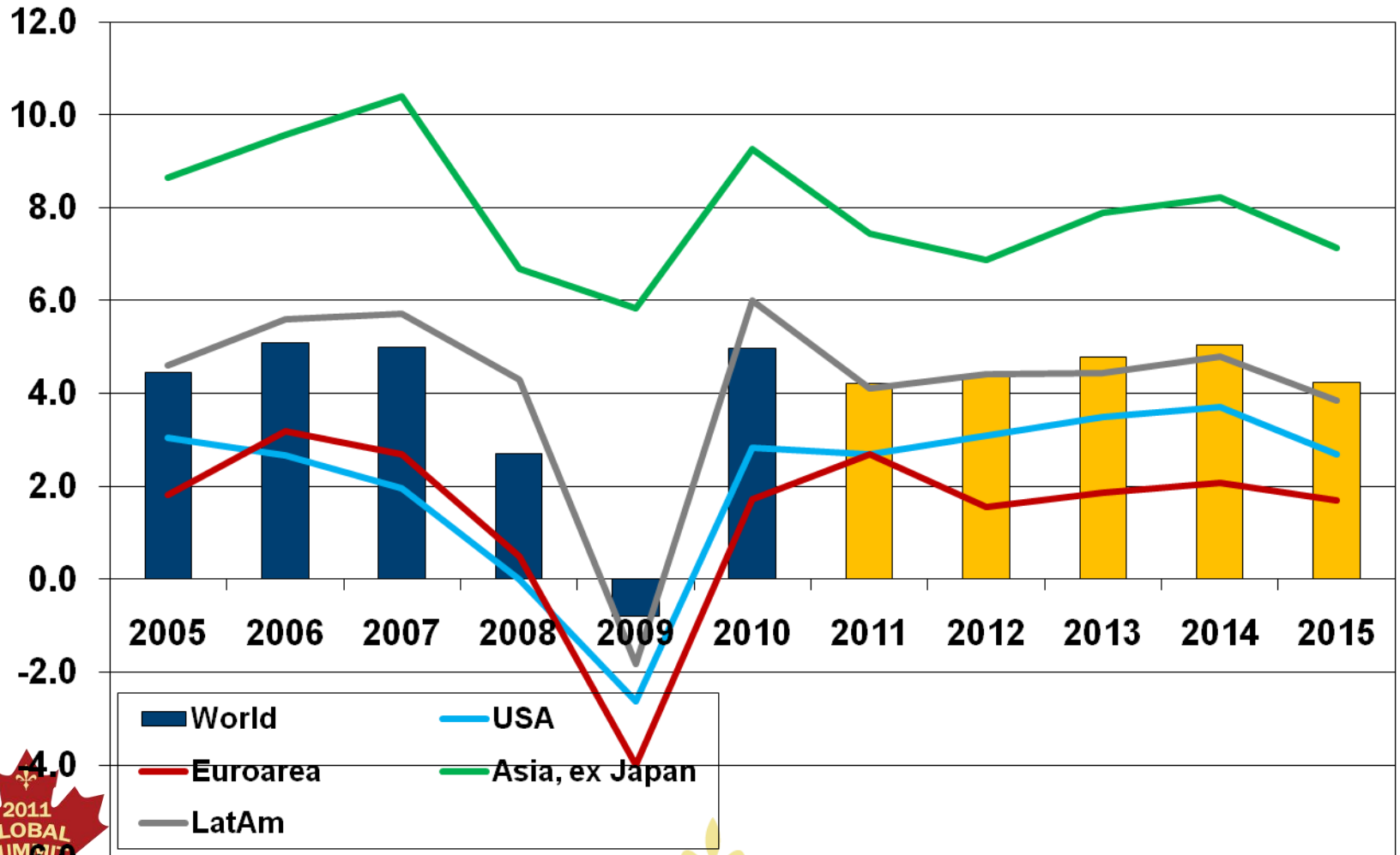
Key driver for oil prices: Asia Demand and Middle East Concerns



Source: PIRA

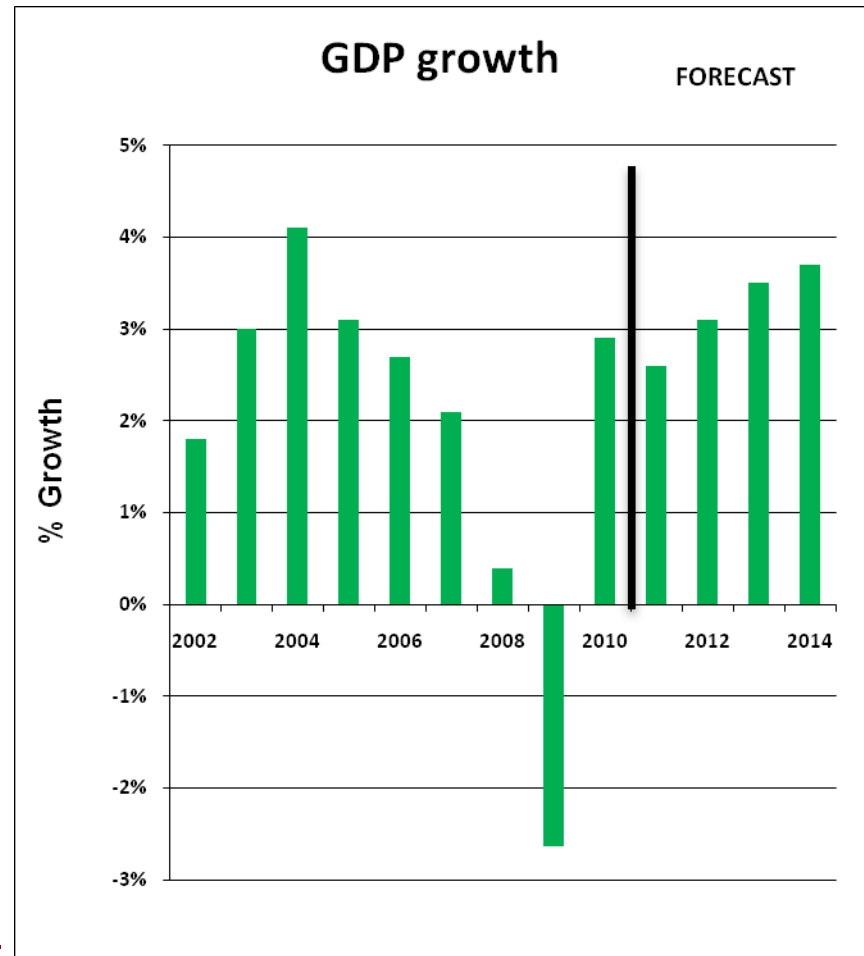


Regional Growth: The “two” Track Recovery



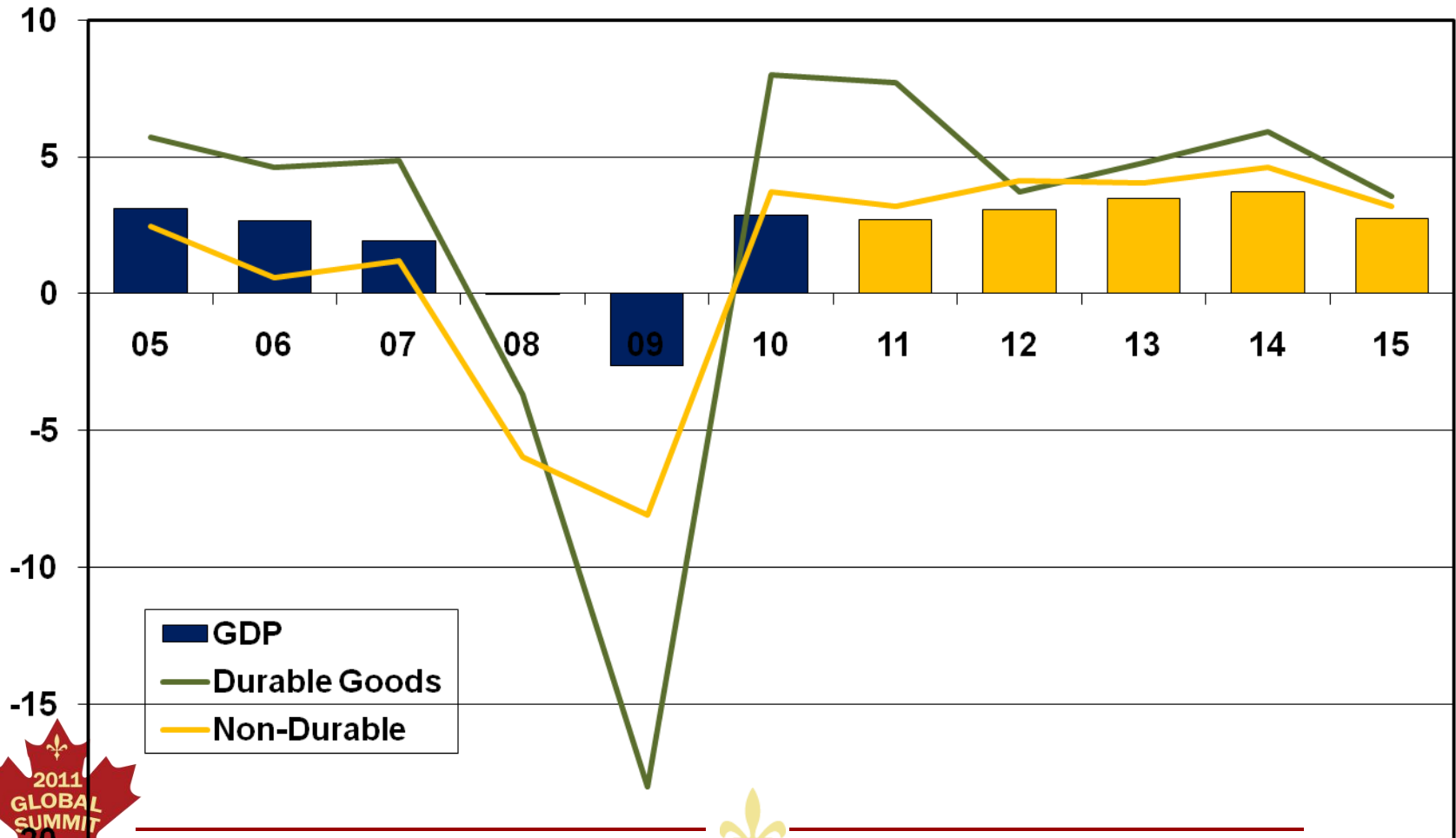
U.S. Growth : 3% give or take

- Key driver will be consumer spending
 - Employment numbers positive
- Some help: net exports
- Industrial production recovery stronger: inventory cycle and net exports
- Head winds:
 - Oil prices
 - Housing
 - Government—State/Federal?



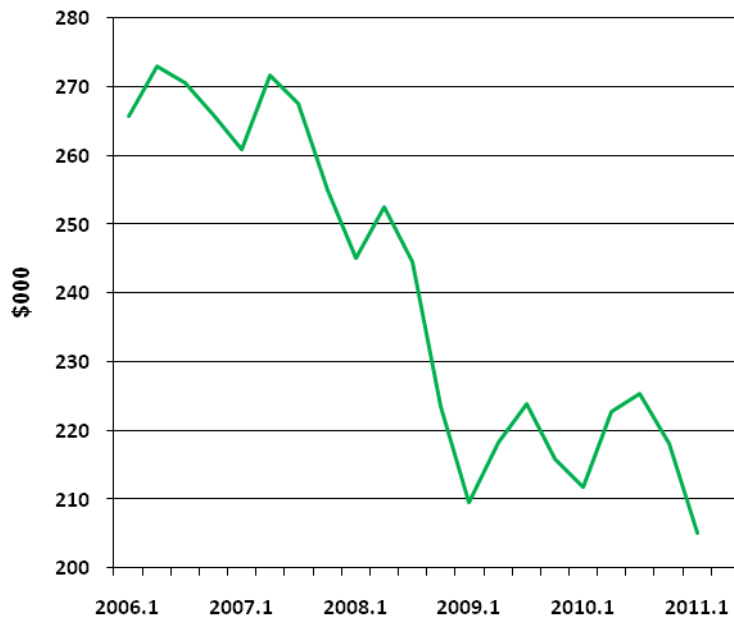
US Industrial Production

Real GDP and Industrial Production of Durable and Non-Durable Goods, Annual Percentage Change

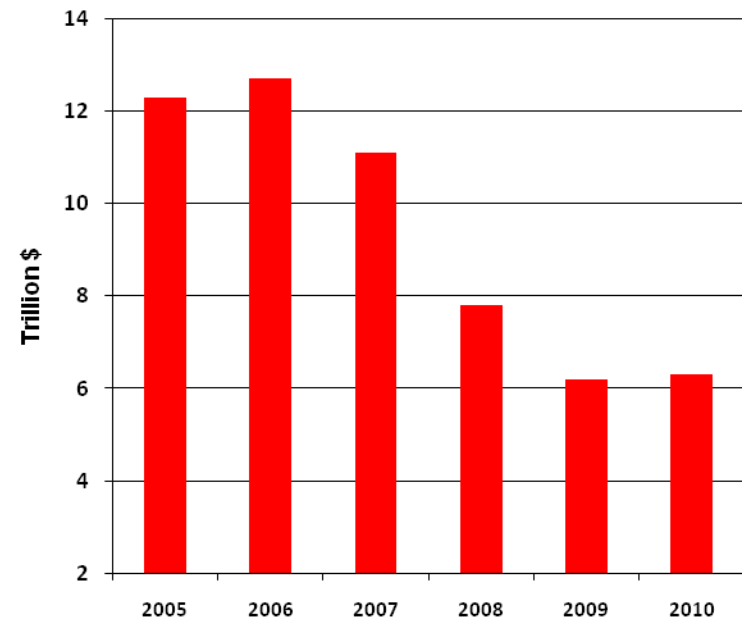


Falling home prices important for several reasons

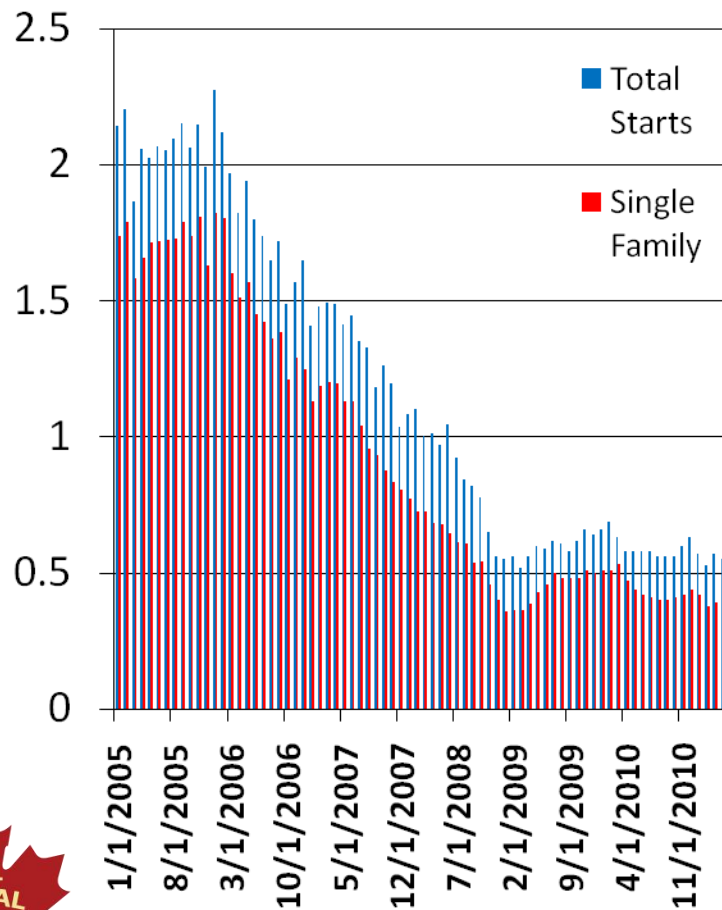
Median Existing Home Price



Home Equity



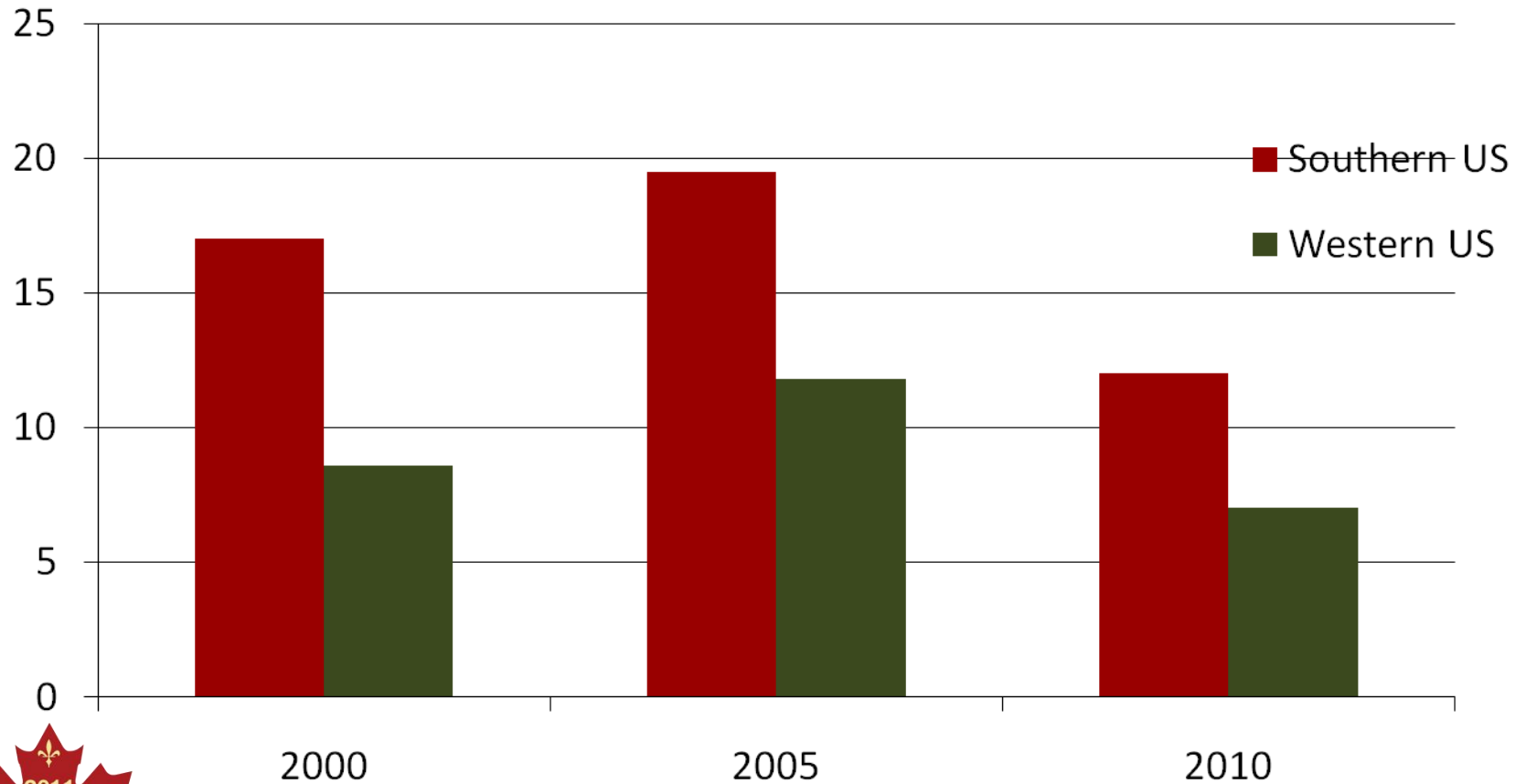
Housing starts: Not responding to low rates



- During tax break, small recovery in SF starts
- Flat line since
- Unlikely to improve this year
- Some positives for MF

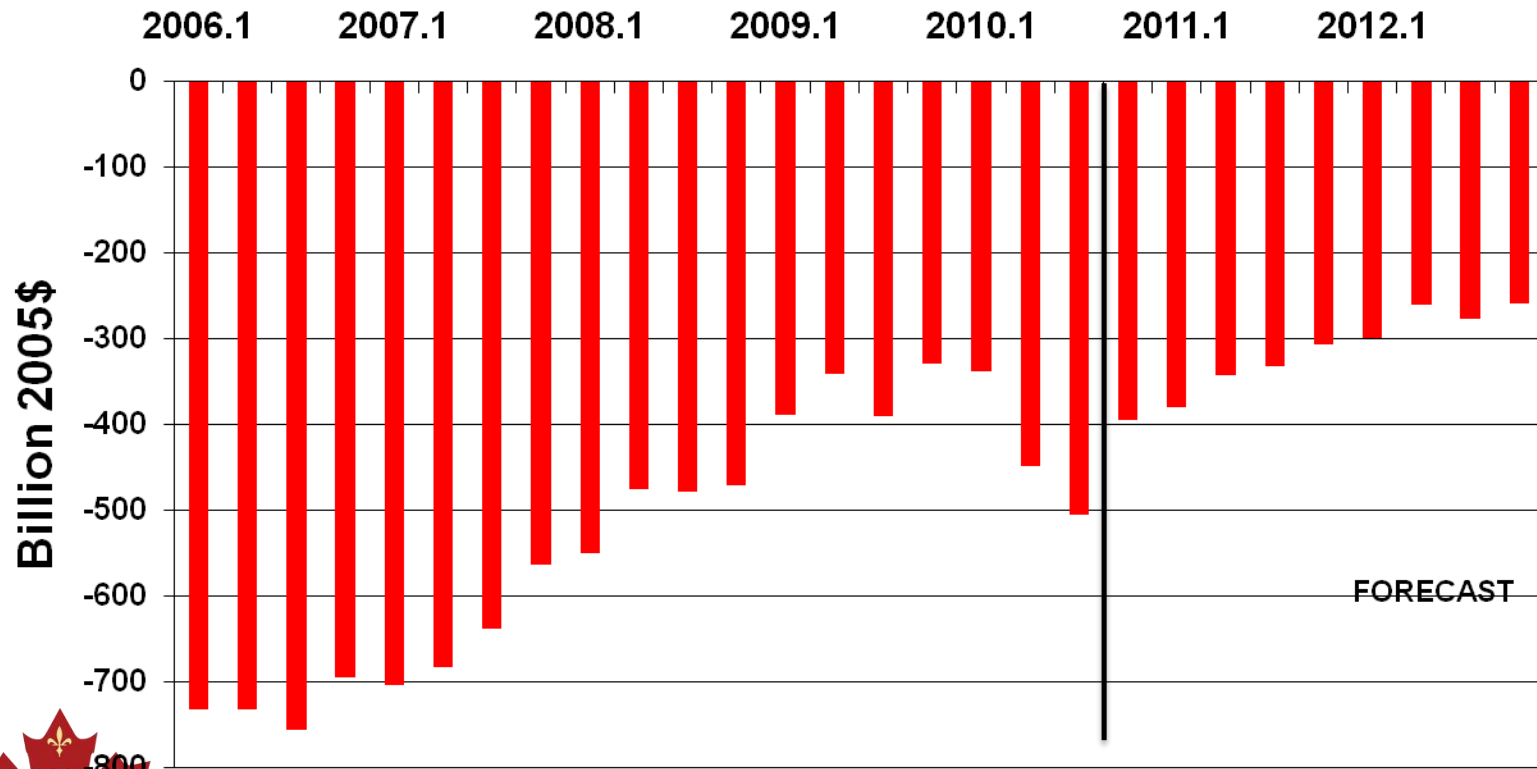


An issue for major fiber source: lumber production and chip prices



Net exports trend: particularly helpful for mfg. sector

Net Exports



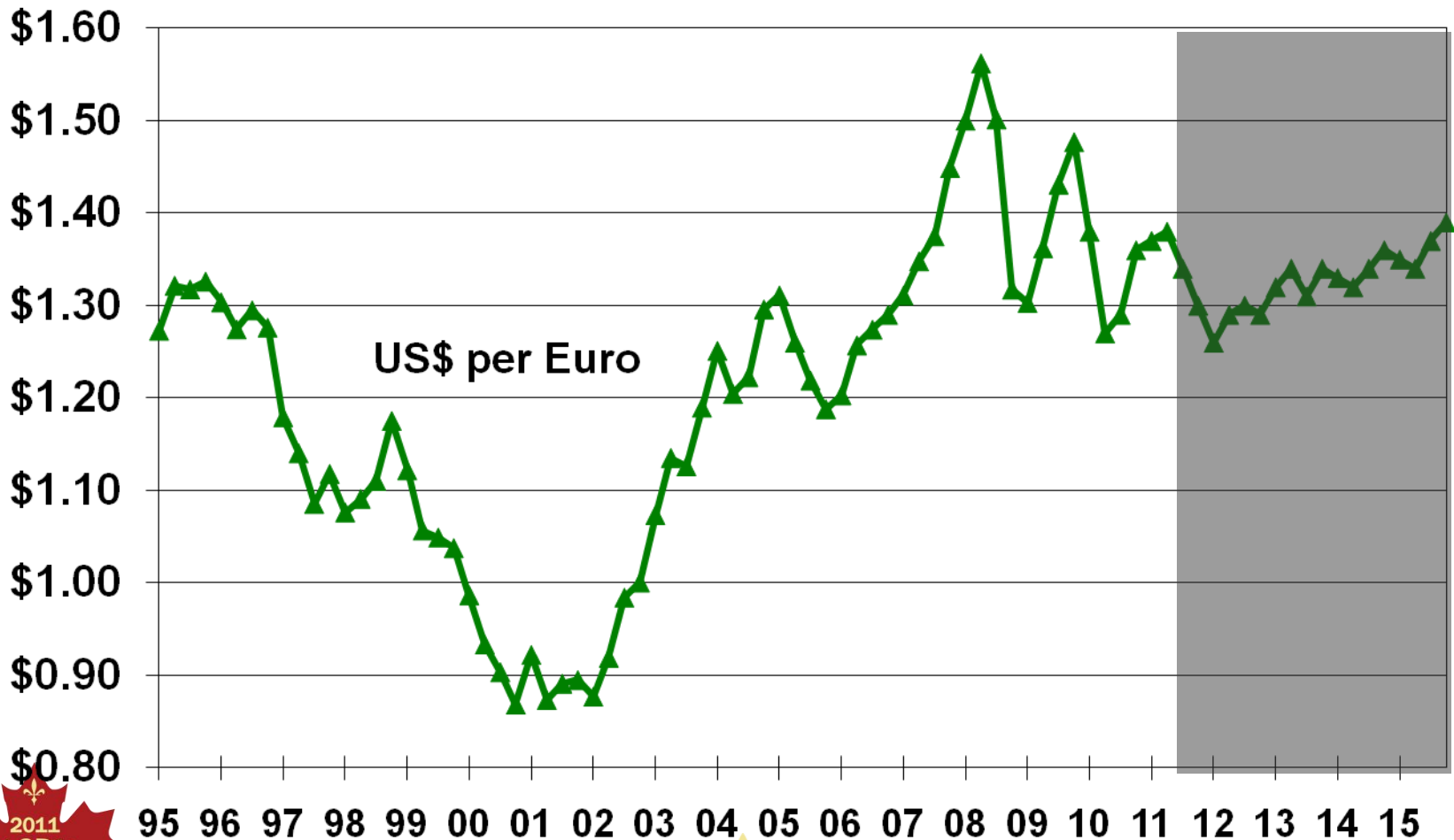
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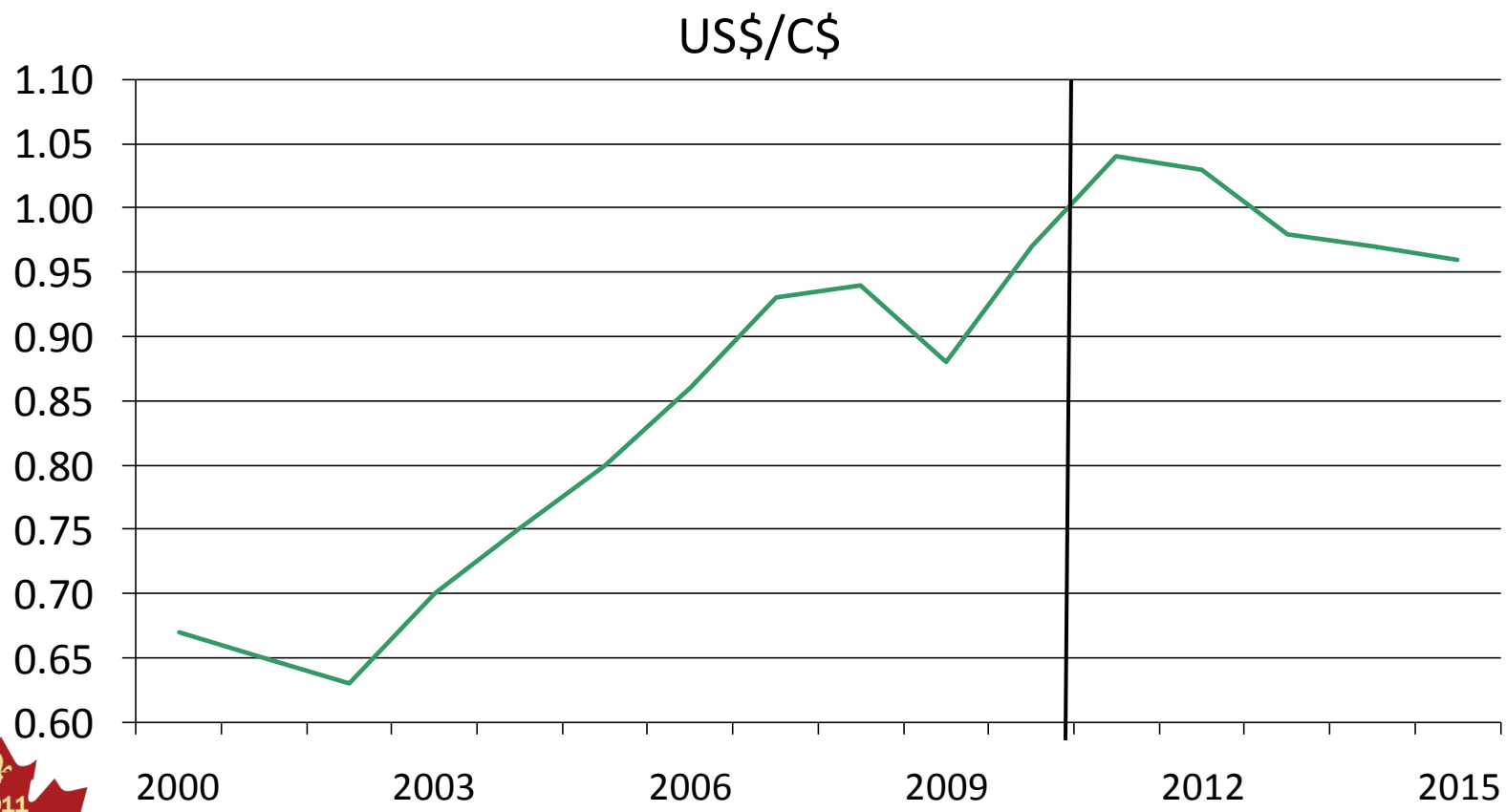


Euro to Weaken as Crisis Intensifies



Source: Fed, RISI

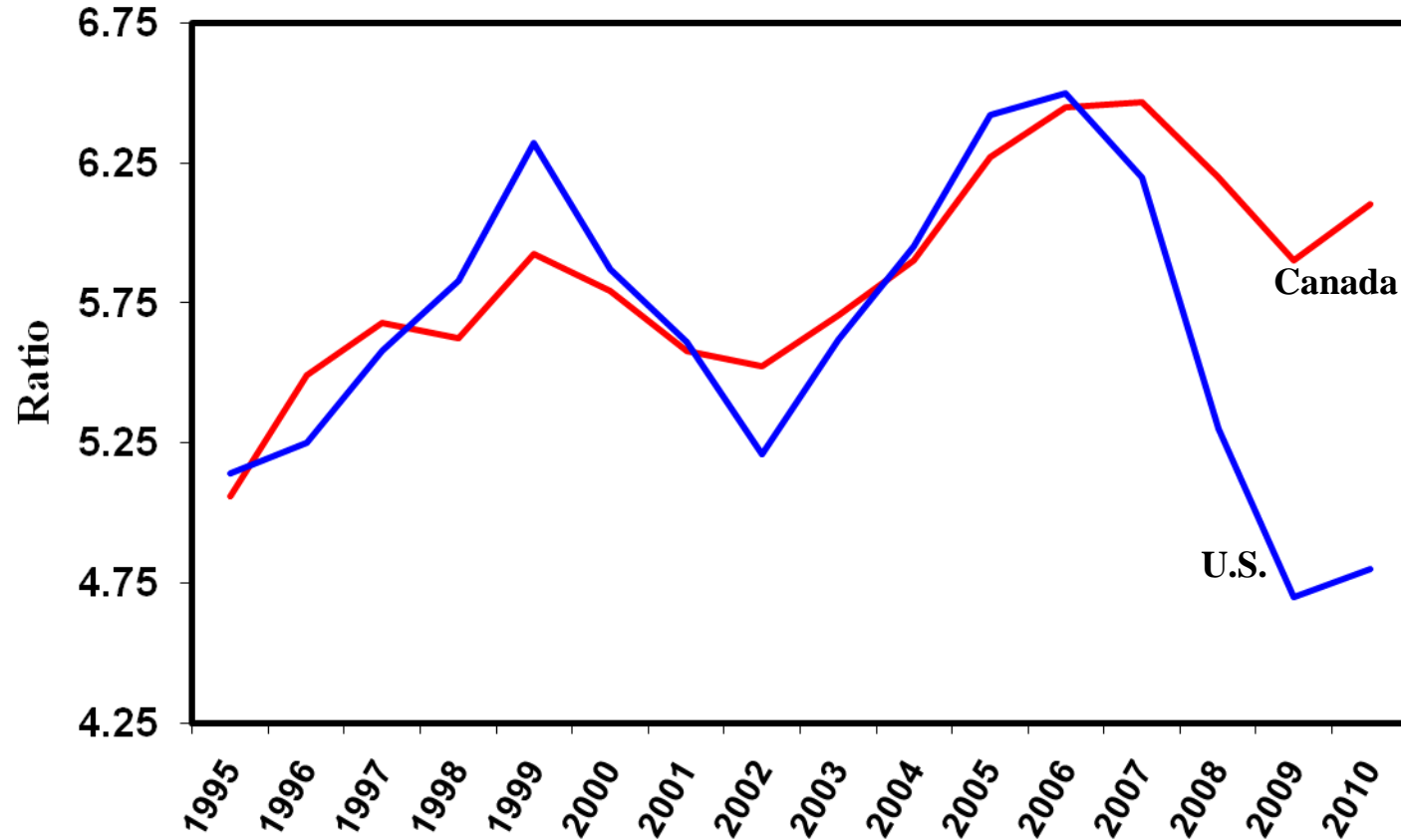
Expect C\$ to remain above parity GIVEN OIL PRICE OUTLOOK



Source: FRB, RISI

Canadian economy in much better shape

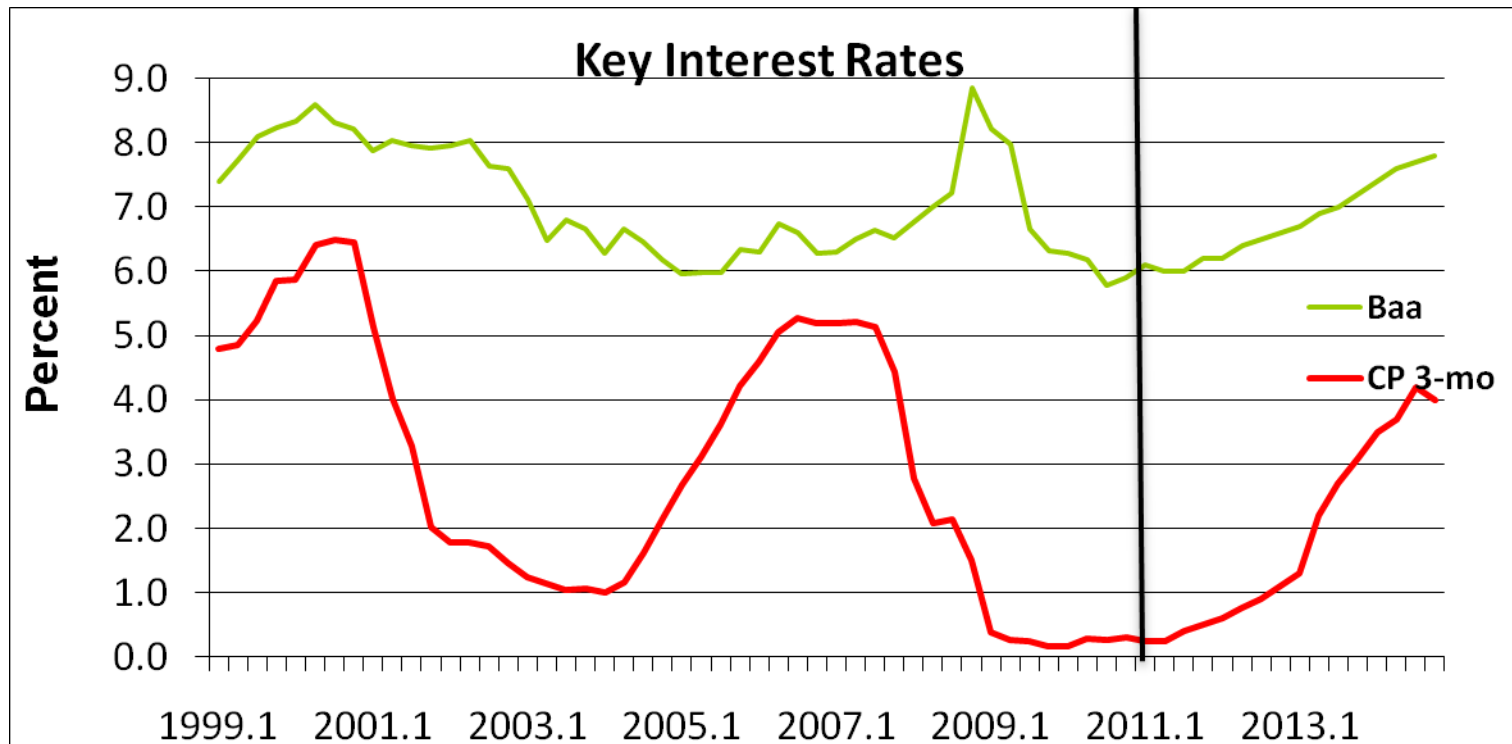
Ratio of Net Worth to Disp. Income



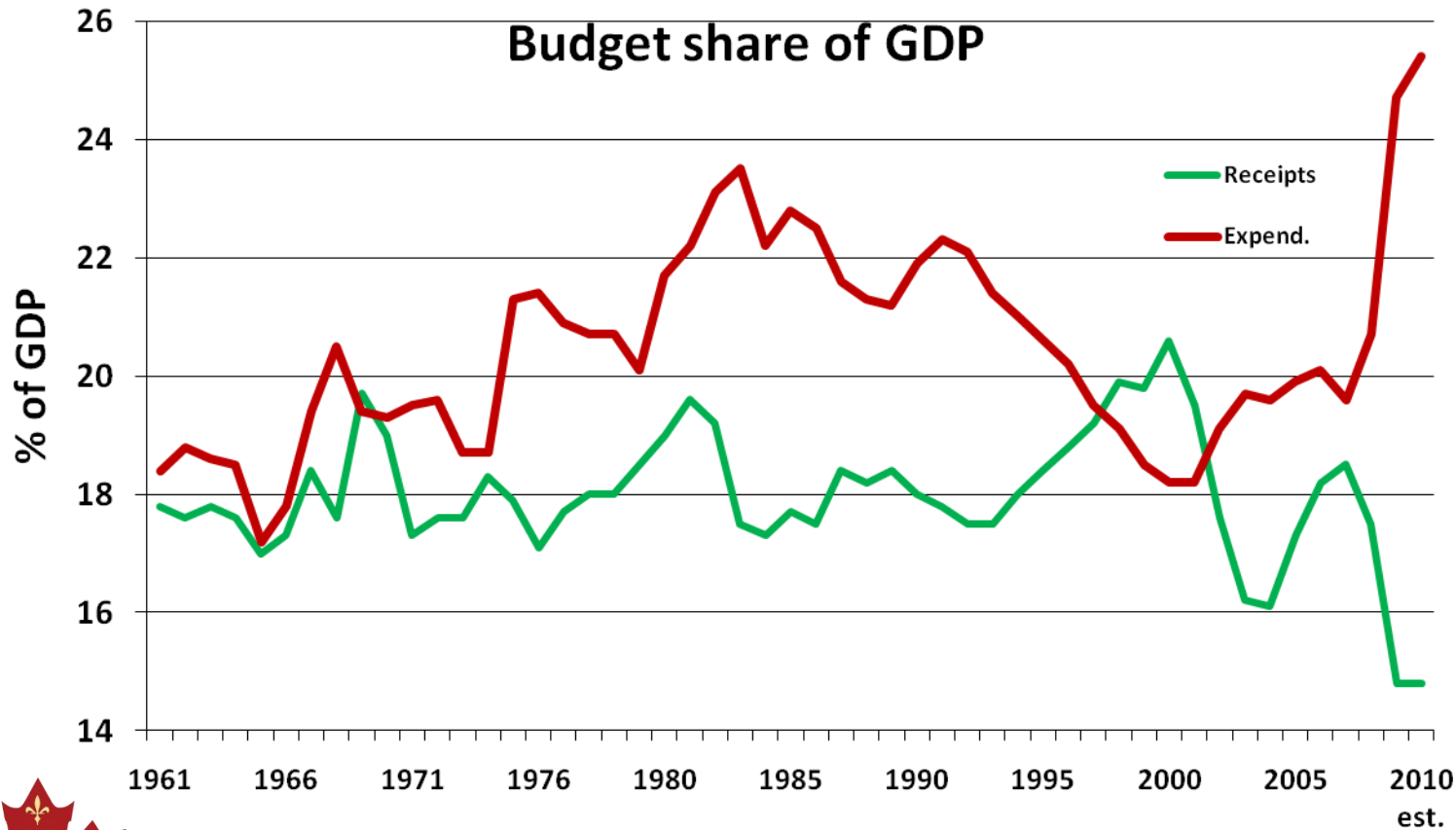
Last Plot: Q4, 2010
Source: Statistics Canada, FRB



When will Monetary Policy tighten in US?

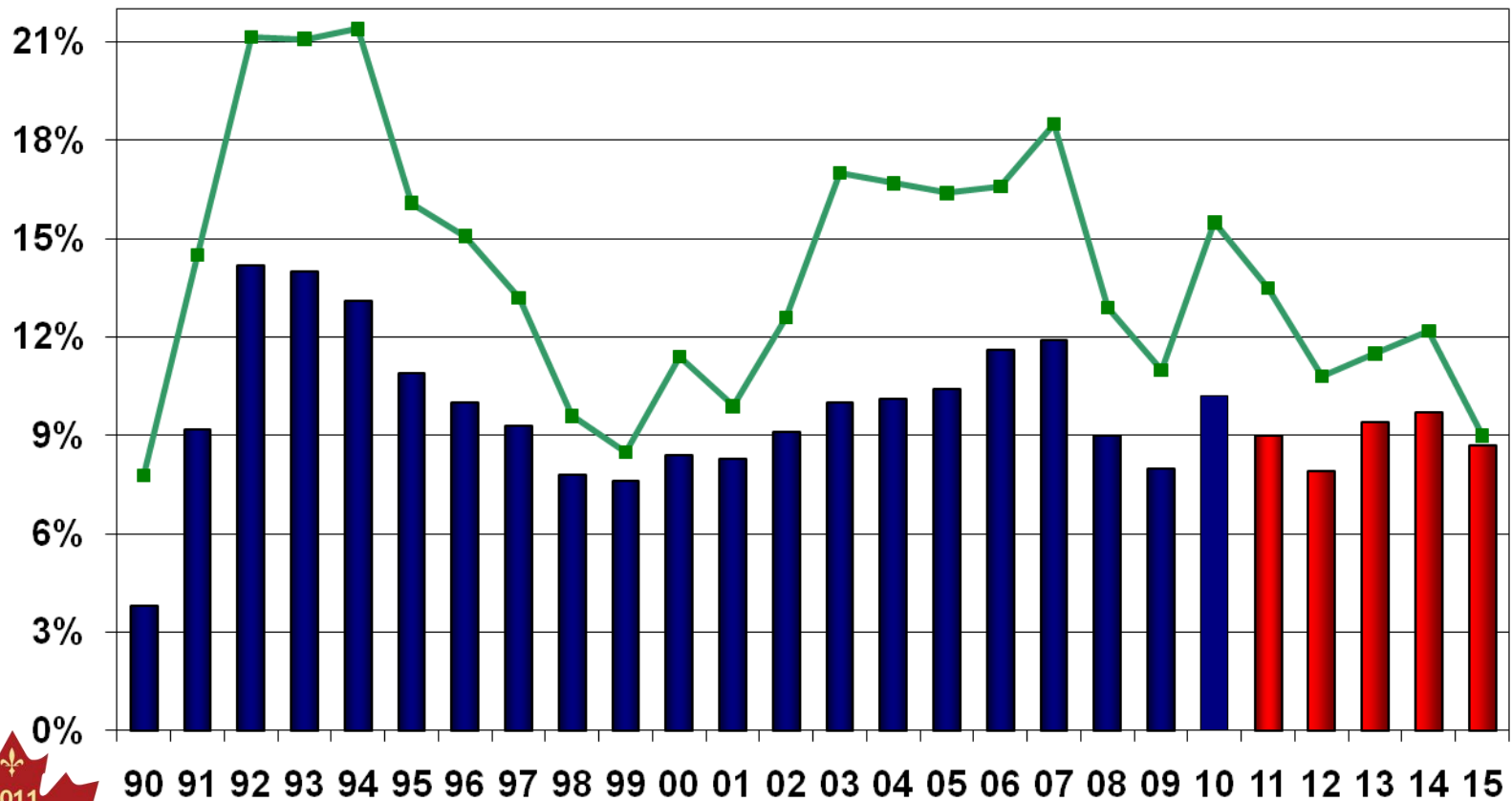


The other challenge for US: tackling massive budget deficit



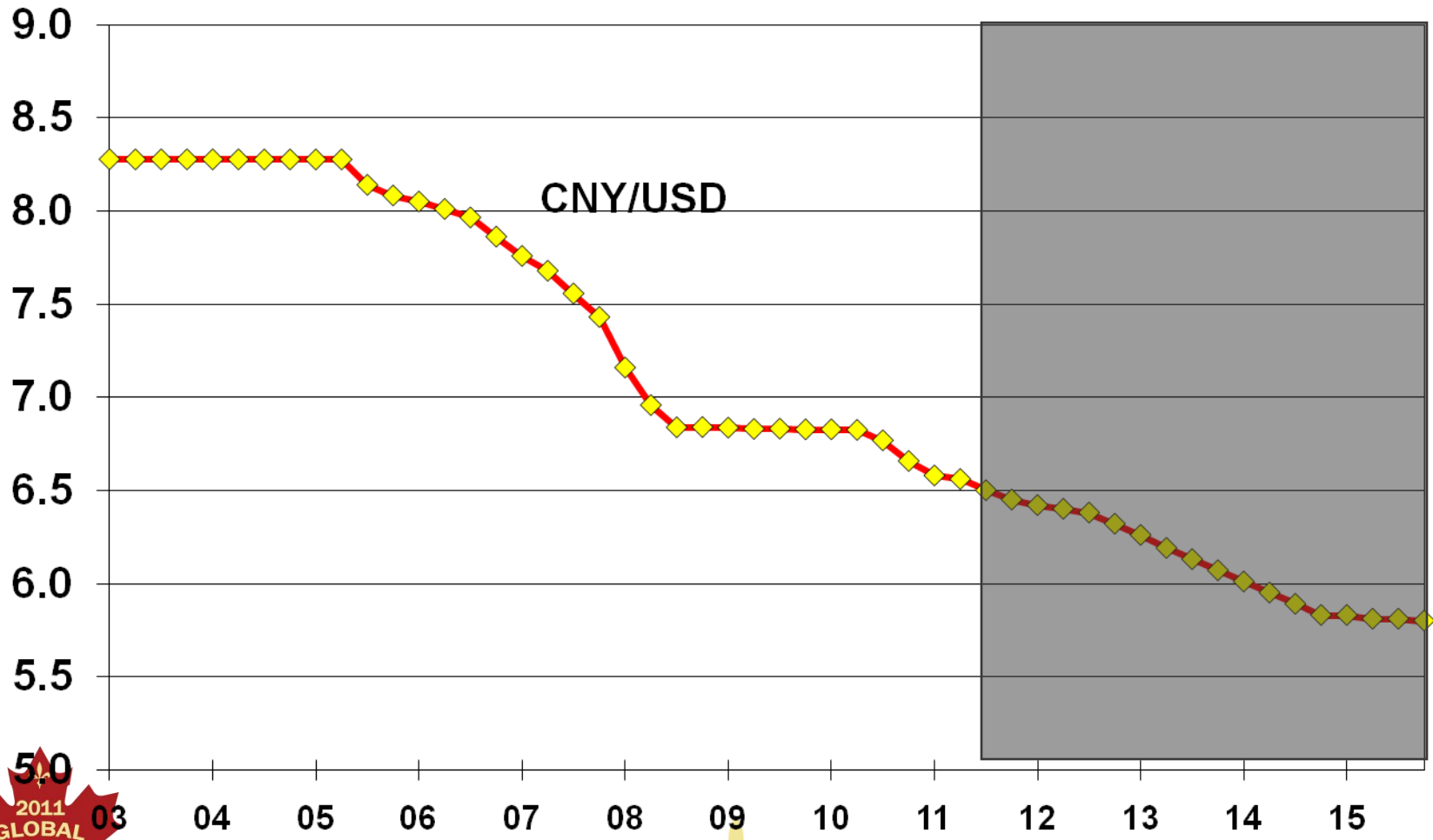
China's Growth Slowing, But Still Strong

Chinese Real GDP Growth, Industrial Production; Annual Percent Change



Source: NBS, RISI

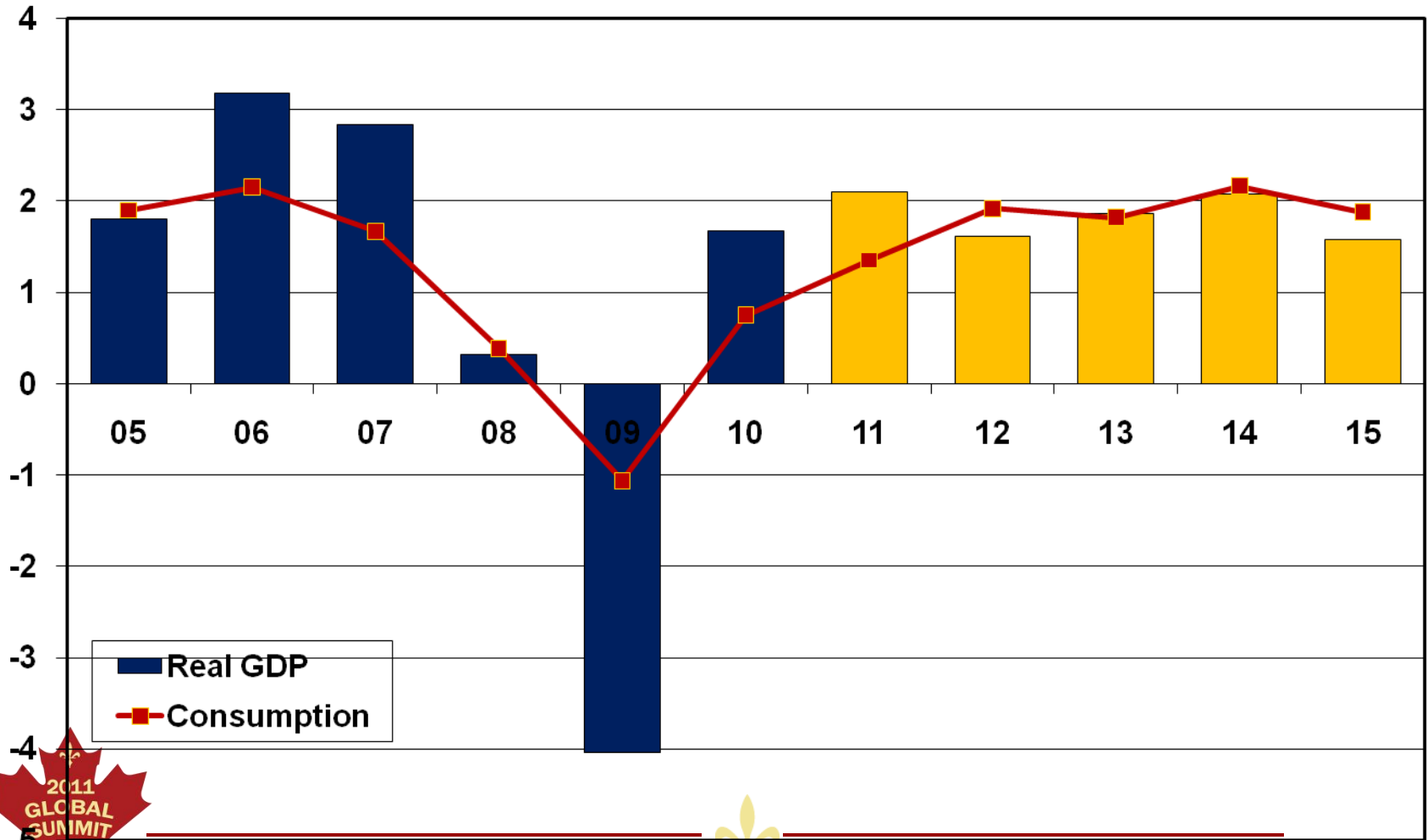
Competitive pressure on China: Currency appreciation and inflation



Source: Fed, RISI

Euro Area GDP and Consumption

Annual Percentage Change



Overview of projected Economic Growth

Region	2009	2010	2011	2012	Average 2011-15	Average 2016-20
World	-0.8	4.9	4.2	4.4	4.2	4.3
U.S.	-2.6	2.9	2.9	3.1	2.8	2.8
Europe	-4	1.7	1.5	1.6	1.4	2.0
Asia Total	3.5	8.1	6.3	6.3	6.3	6.0
Latin America	-1.8	6	4.1	4.4	3.9	3.5
Eastern Europe	-8.1	4.1	4.3	4.5	4.0	4.1



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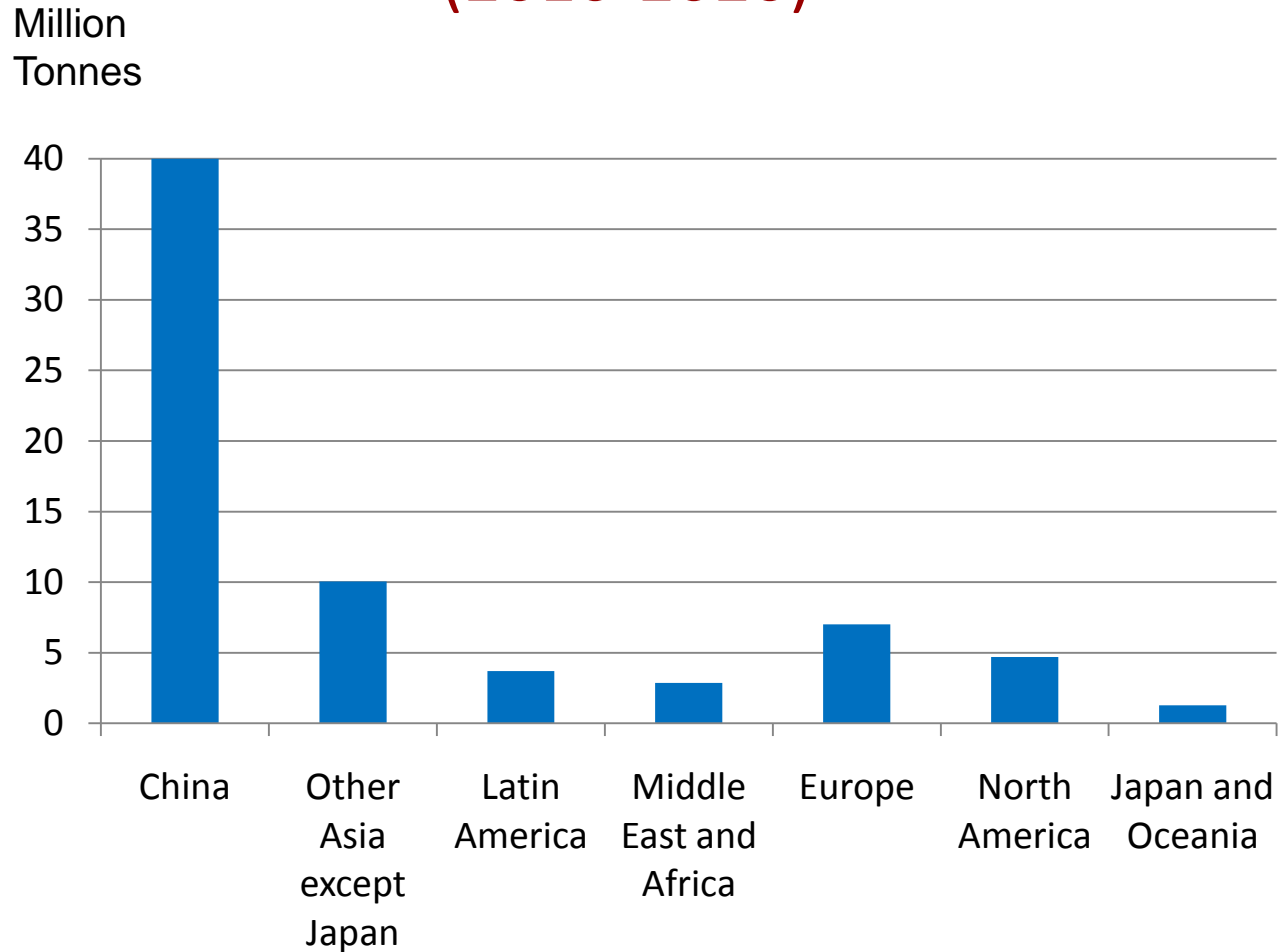


World Containerboard Consumption

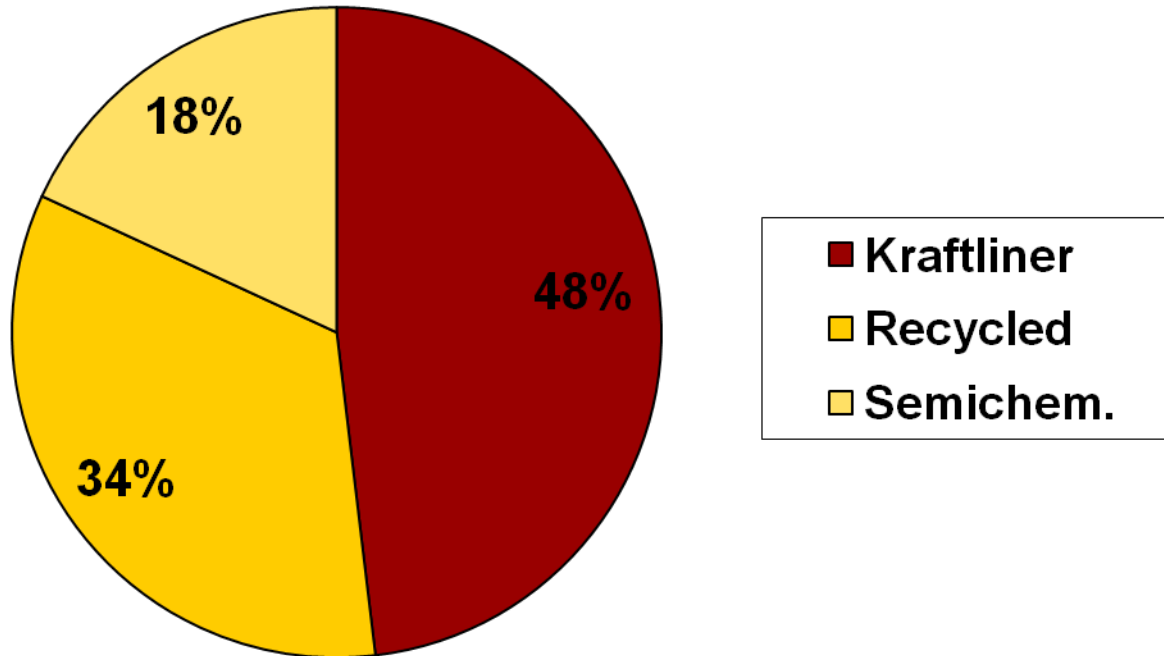
	2010	2015	Share (%)	Growth (%)
World	138.9	176.0	100	27
North America	27.9	29.8	17	7
Far East	63.7	89.3	51	40
Western Europe	21.5	23.3	13	8
Cen./east. Europe	8.3	10.9	6	31
South America	6.6	8.4	5	27
Central America	3.8	5.0	3	32
Oceania	1.7	1.9	1	12
Rest of World	5.3	7.4	4	40



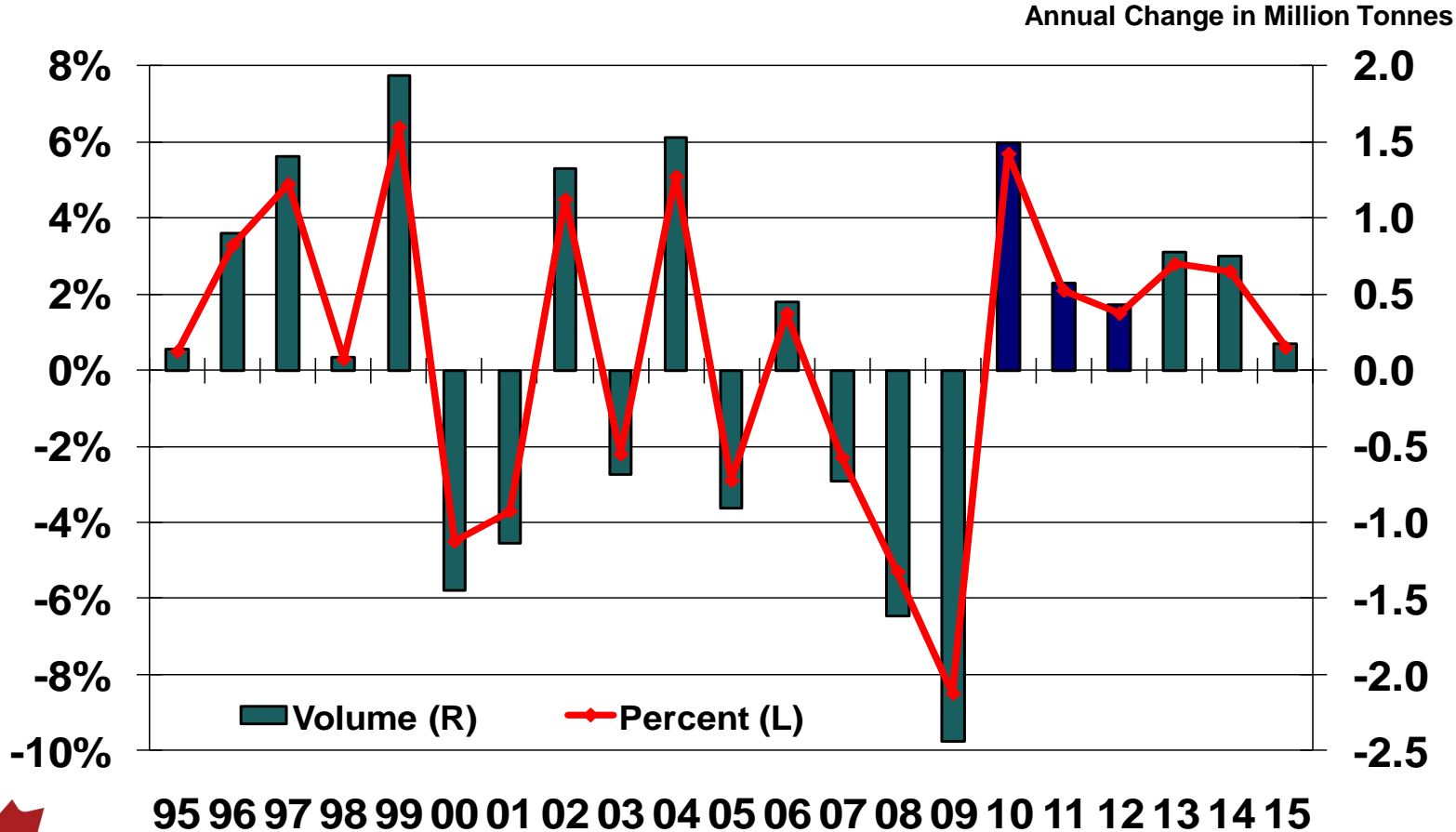
Growth in Containerboard Production by Region (2010-2020)



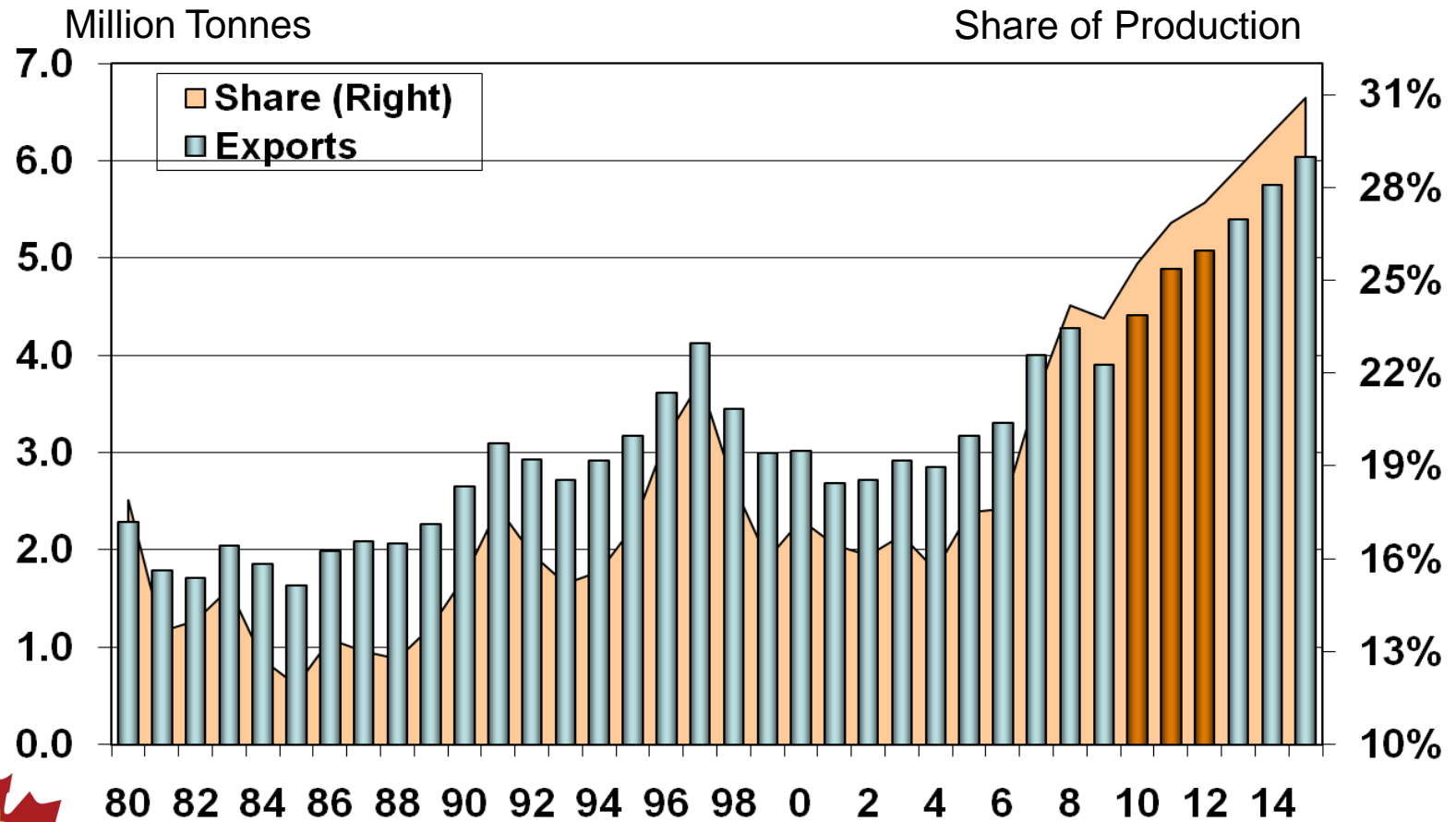
Virgin Grades nearly 70% in the North American Market (27.9 Million Tonnes in 2010)



North American Demand Growth Is Expected to Slow in 2011-2012

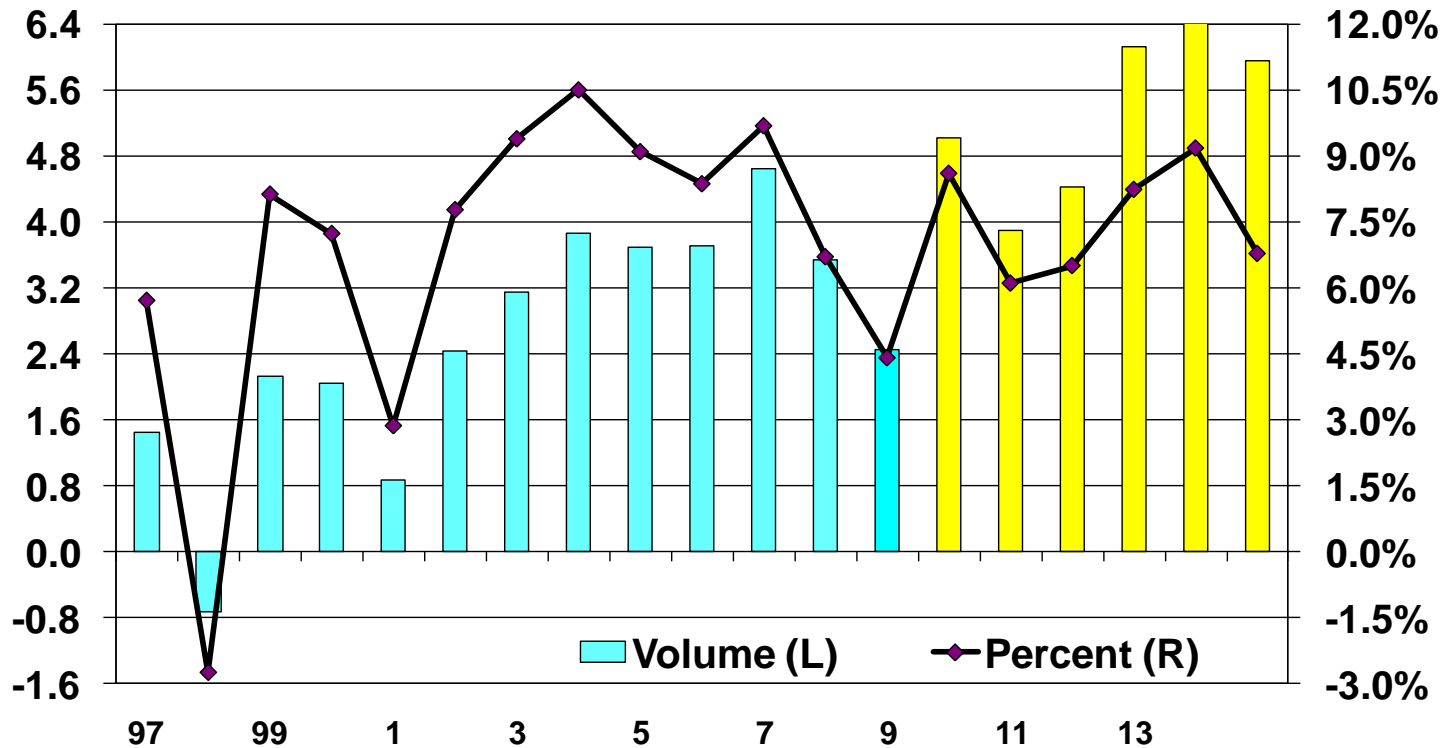


The USA Is Well Positioned to Meet Future Growth in Global Kraftliner Demand

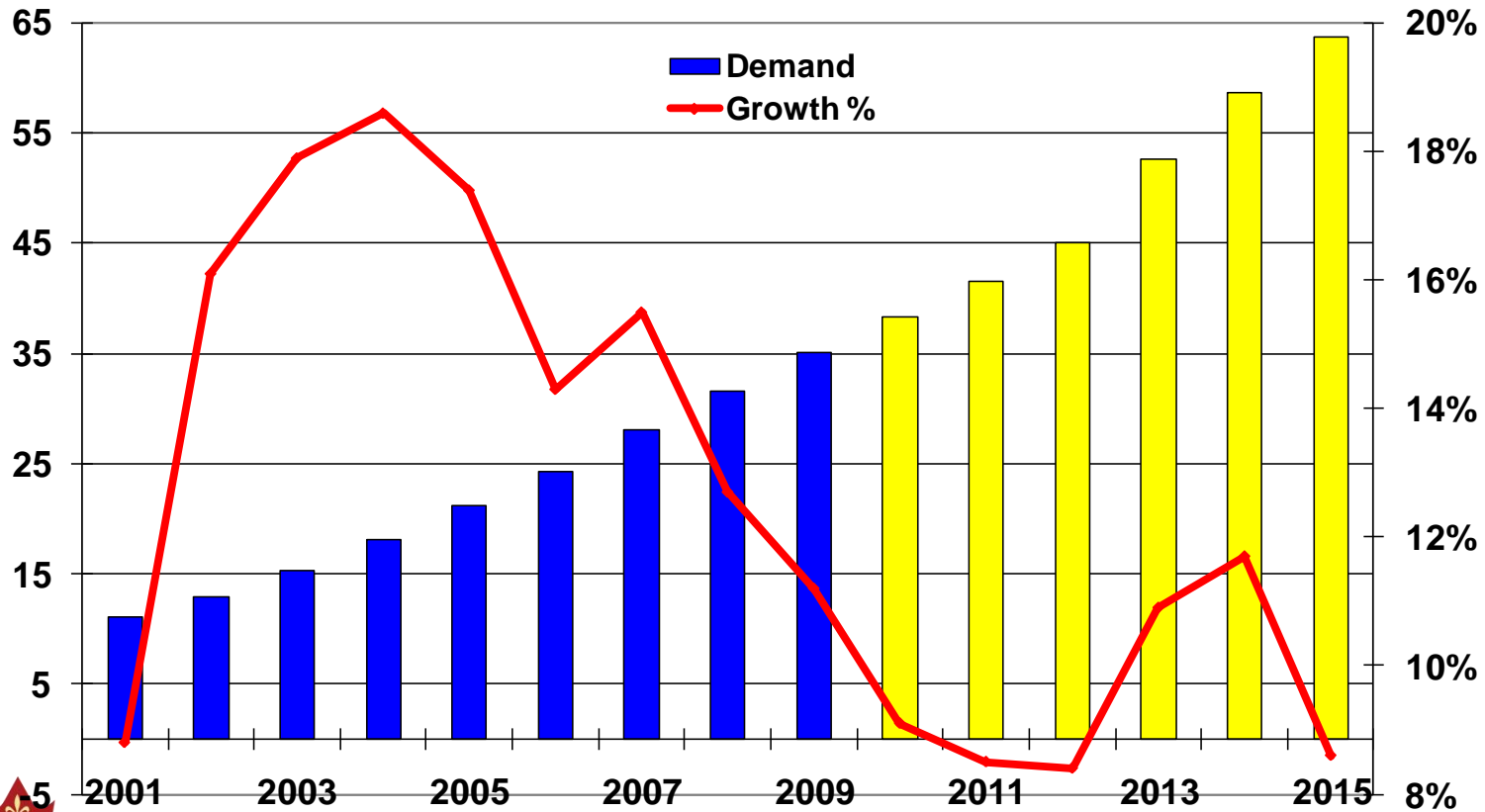


Asian Demand Recovered Strongly in 2010, But Will Slow to a 6.3% Growth Rate in 2011-2012

Annual Change in Million Tonnes

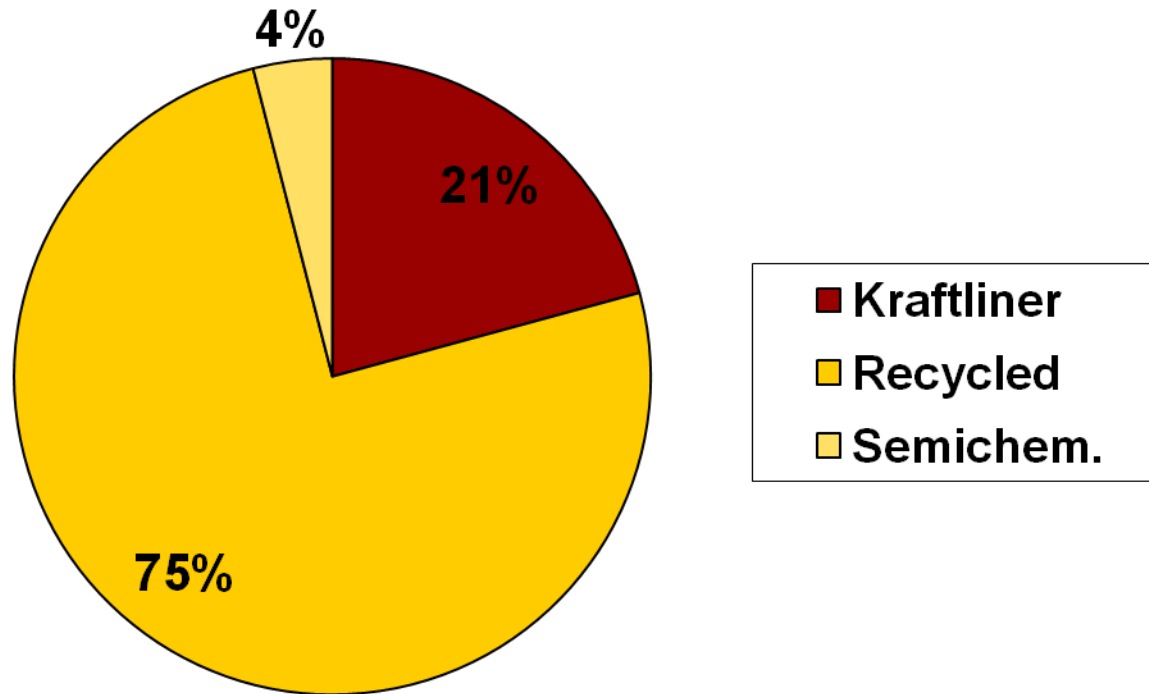


Chinese Demand Growth Is Expected to Average 3-3.5 Million Tonnes/year

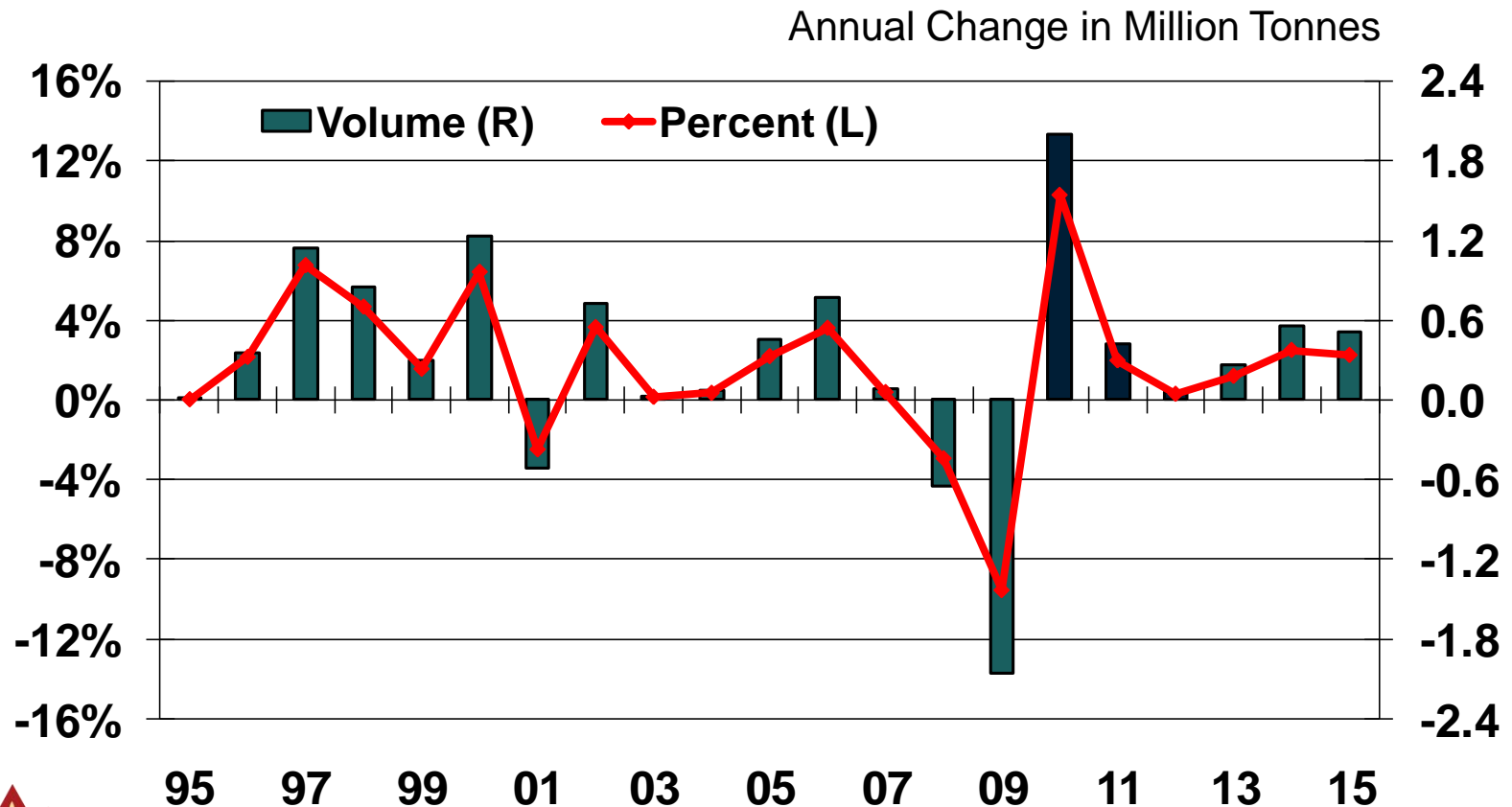


Western European Containerboard Market is primarily recycled

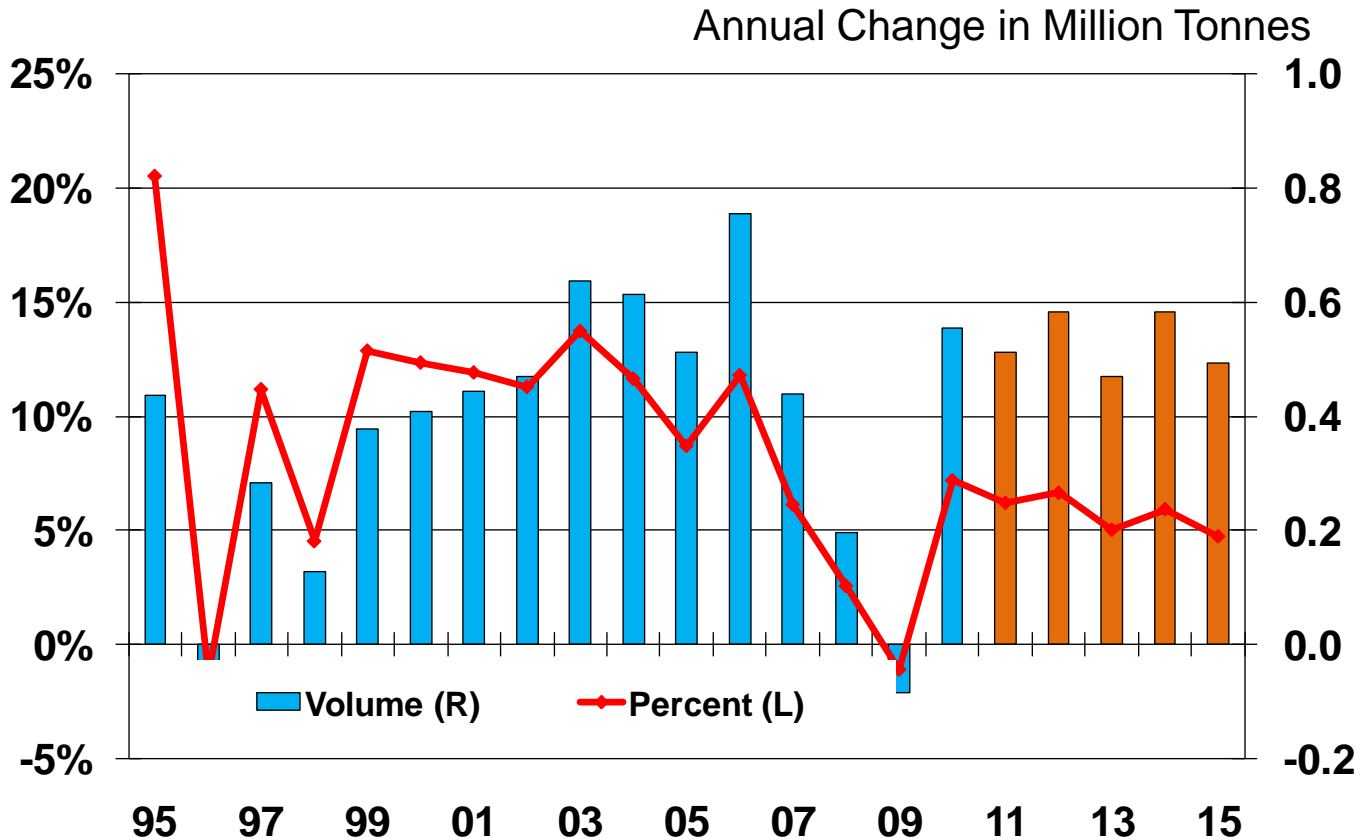
(21.5 Million Tonnes in 2010)



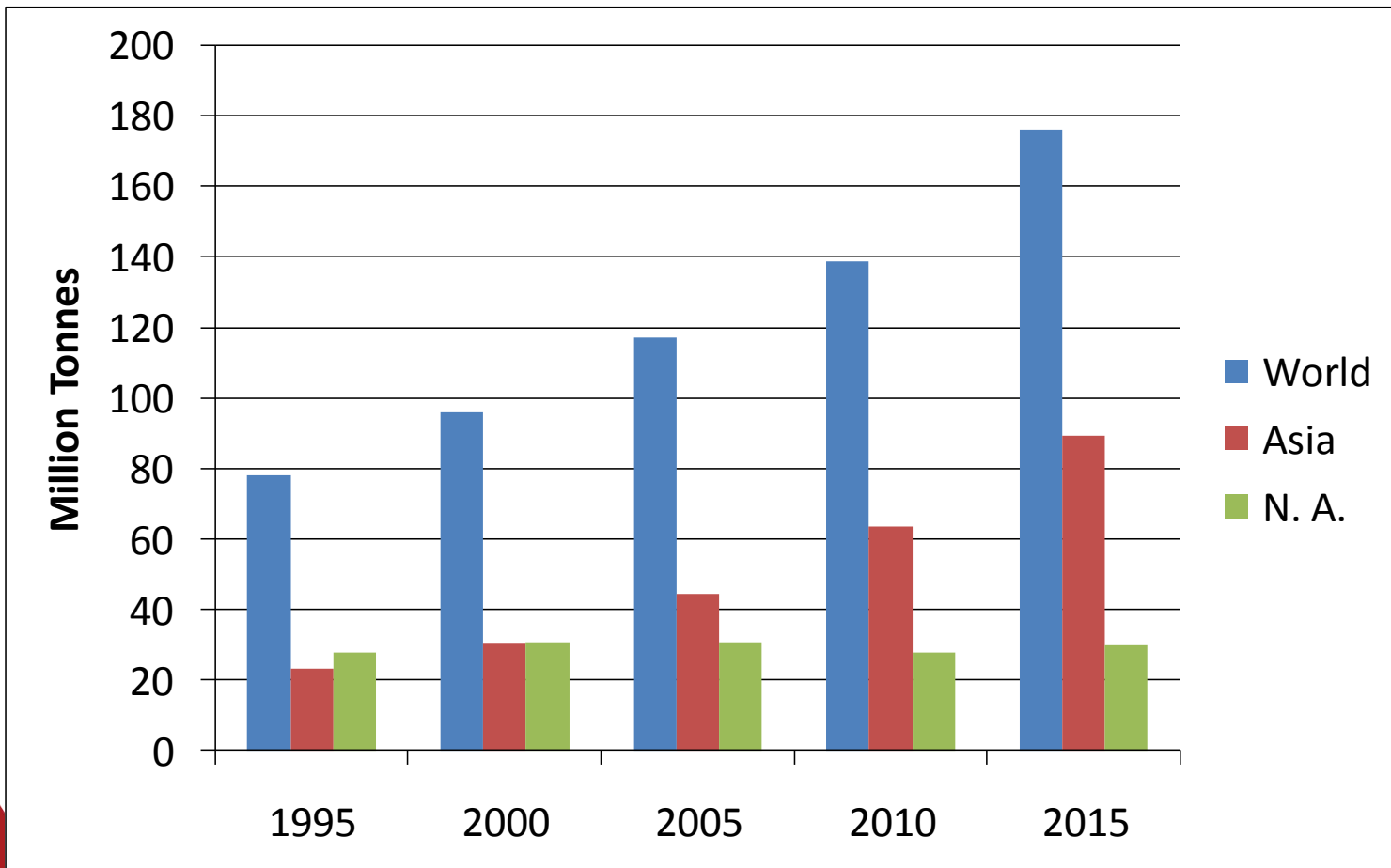
Western European Containerboard Demand Is Not Expected to Return to 2007 Level Before 2012



Eastern European Demand Will Grow More Than 1 Million Tonnes in 2011-2012



Returning to initial issue: How to source production to meet demand



Source: RISI

Take Home Points for Global Containerboard

- North American domestic market expected slow—in line with consumption growth
 - Should be offset by growth in exports
- Asian containerboard demand will continue to grow more than 4 million tons per year
- Europe will faces a several challenges: Sovereign debt, OCC and capacity growth
- Resource based economies continue to do well
- World Demand growing 35-40 million tonnes every 5 years



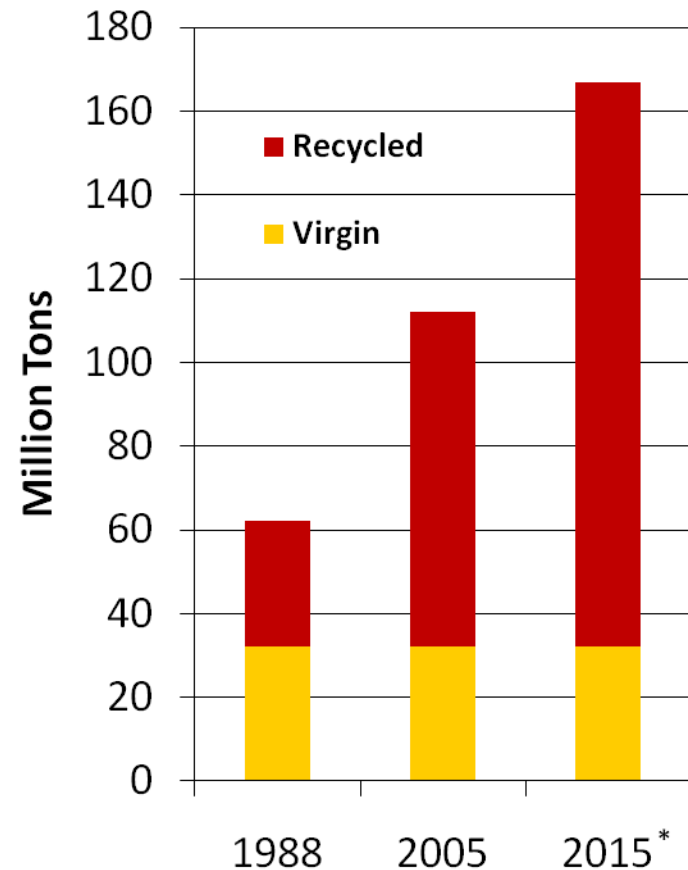
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- Fiber shortage: what do industries do??



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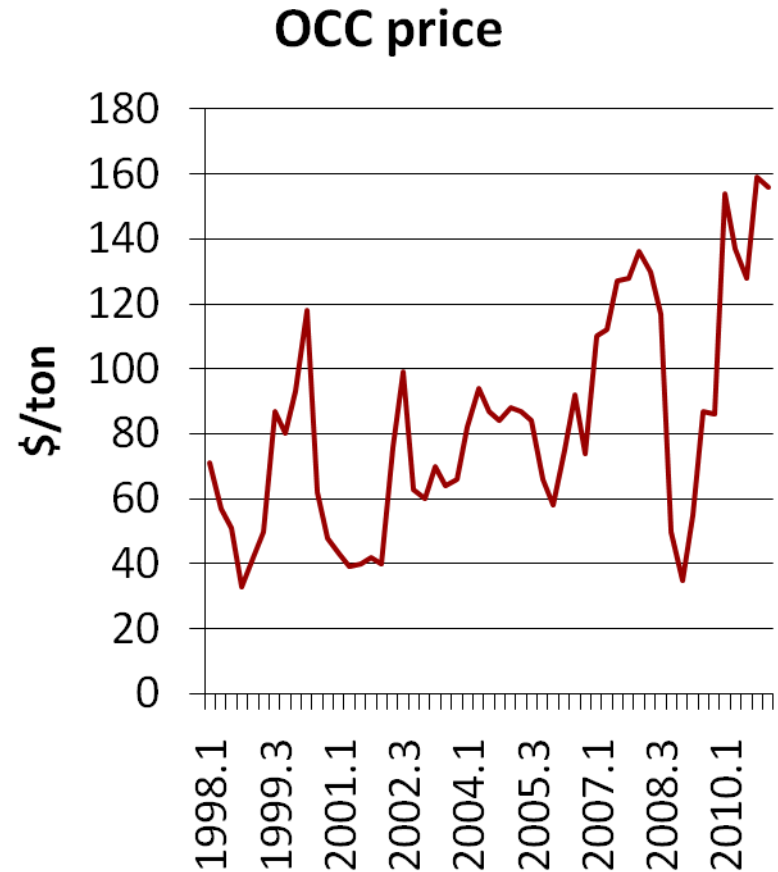
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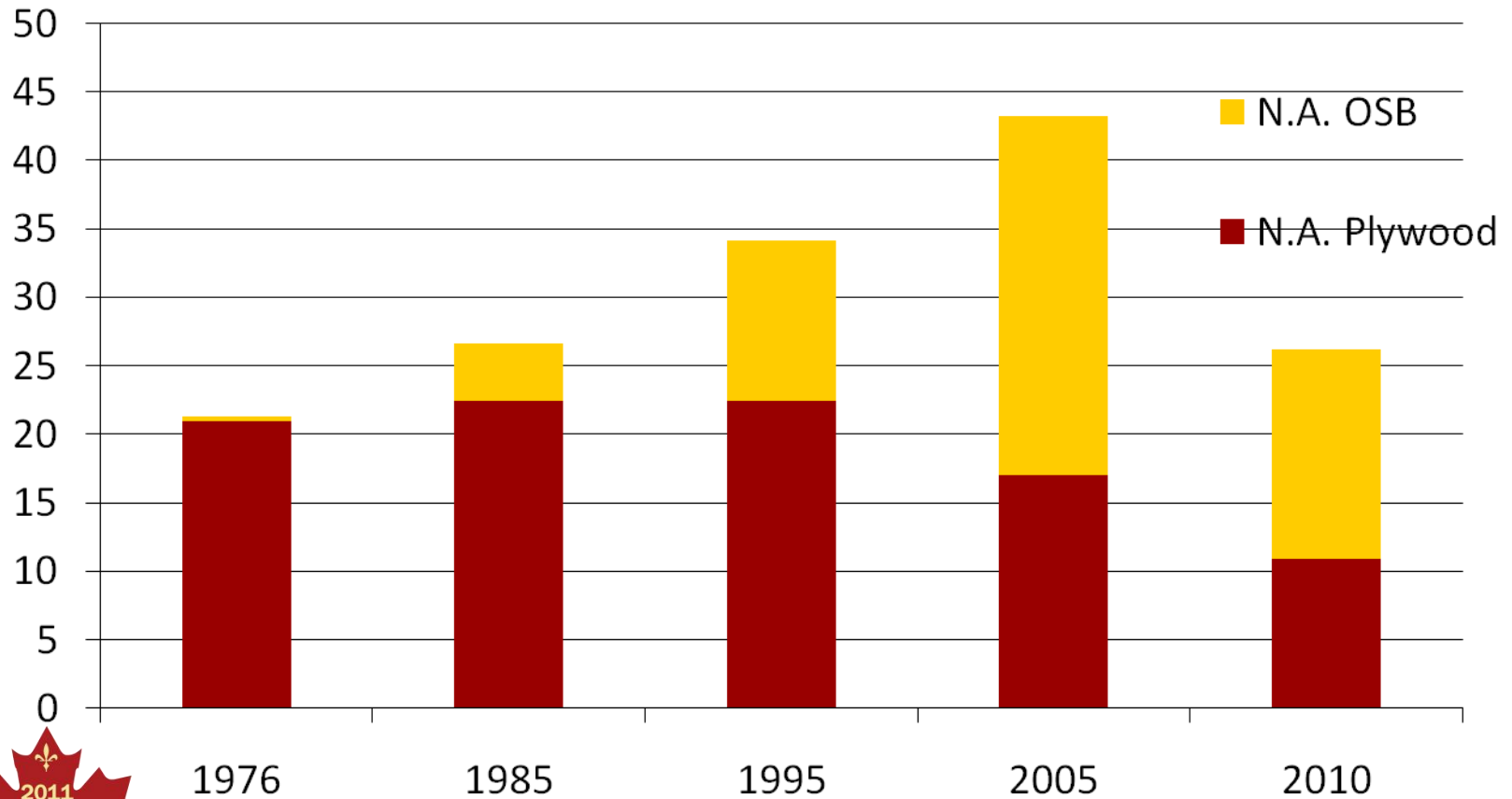


Lessons of raw material shortages and market changes from the other part of the industry

- Challenge of scarce raw material in softwood wood products: SAWLOGS
- In softwood wood products: constant technology/market change due to raw material scarcity
 - Size and quality of average logs decline
 - Need to find use for by-products
- Technology to improve recovery of the scarce raw material
 - Small log handling, sawing and peeling
 - Need to use different type of raw material: hardwoods



The Structural Change in Structural Panels



Lessons of raw material shortages and market changes from the other part of the industry

- Technology to utilize alternative type of wood
 - OSB is use of hardwood species: meet end-use strength via alignment and resin technology
 - PB and MDF: engineered for needs of industrial market
 - Containerboard: displace wooden crates
- Engineered lumber: design to meet span/strength needs given decline in log qualities



Concluding Comments

- World demand growth continues with very little virgin liner capacity additions
- Industry must meet challenge in a variety of ways
 - Adding additional virgin capacity
 - Use technology to get board properties with additives or different raw materials
 - Better box design to use raw material optimally for specific end use
 - Specialized/differentiated paper grades for different end-uses
- Econ 101 WORKS Eventually!!!!

