

North American and Global Forest Market Trends

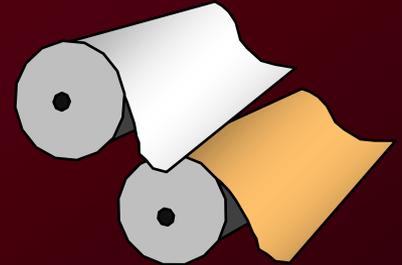
Peter J. Ince
US Forest Products Laboratory
Madison, Wisconsin



5th Annual SUSTAINABLE FORESTRY CONFERENCE
A circular emblem containing various icons related to forestry and sustainability, including a bird, a person on a horse, a factory, a deer, a car, a bus, and a tent.
GROWING NEW & TRADITIONAL FOREST ECONOMIES
April 16, 2009 8:00AM-3:45PM FLORENCE, WI

Principal Forest Markets:

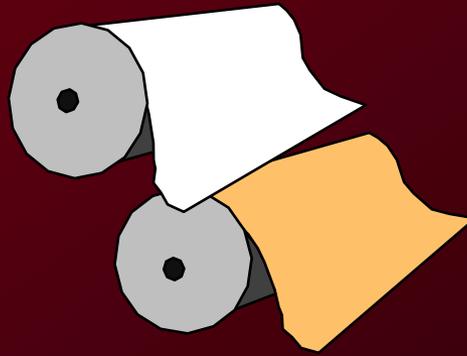
- **Wood Pulp, Paper & Board**



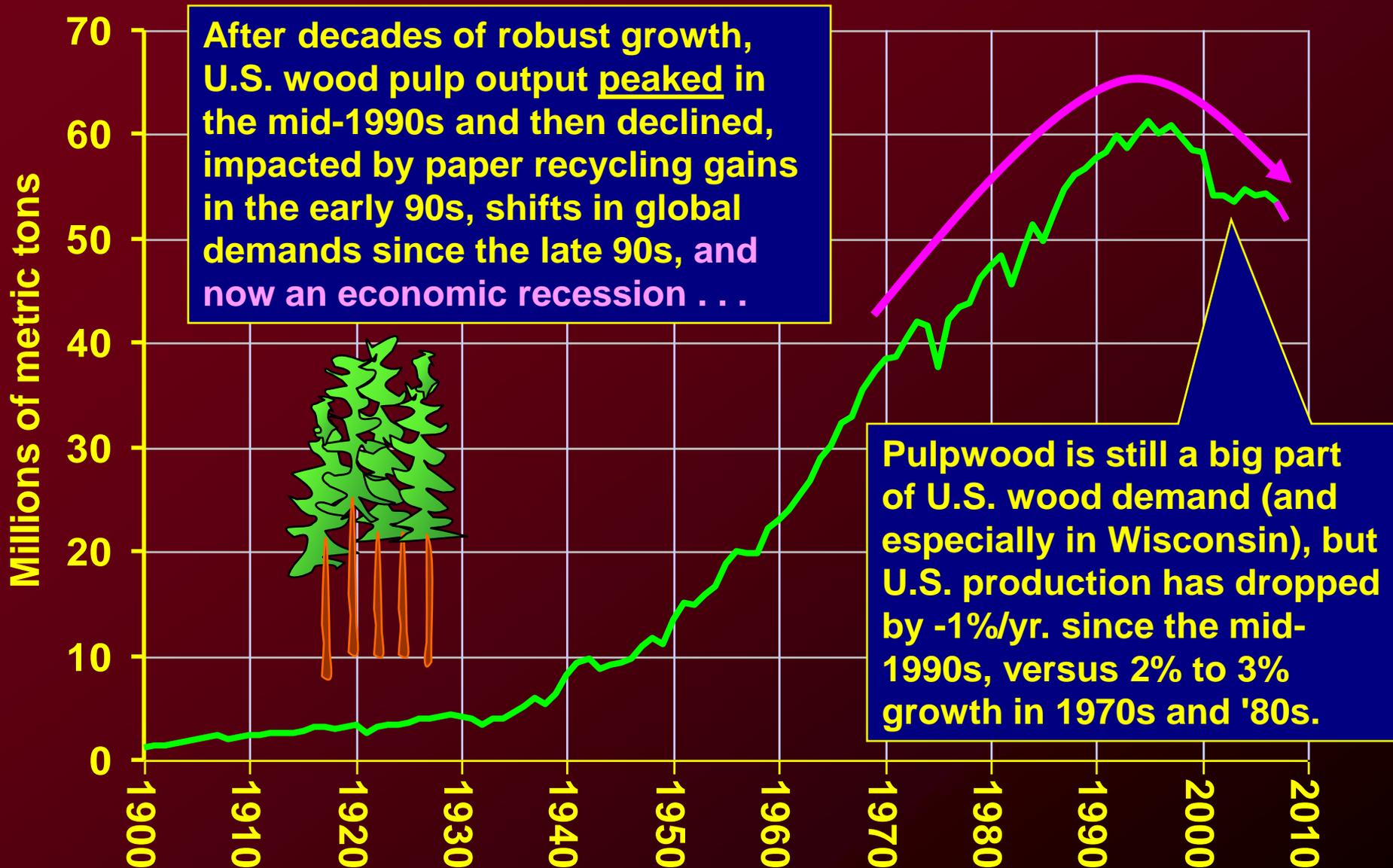
- **Lumber & Wood Panels**



Wood Pulp, Paper & Paperboard



U.S. Wood Pulp Production – Now Declining:



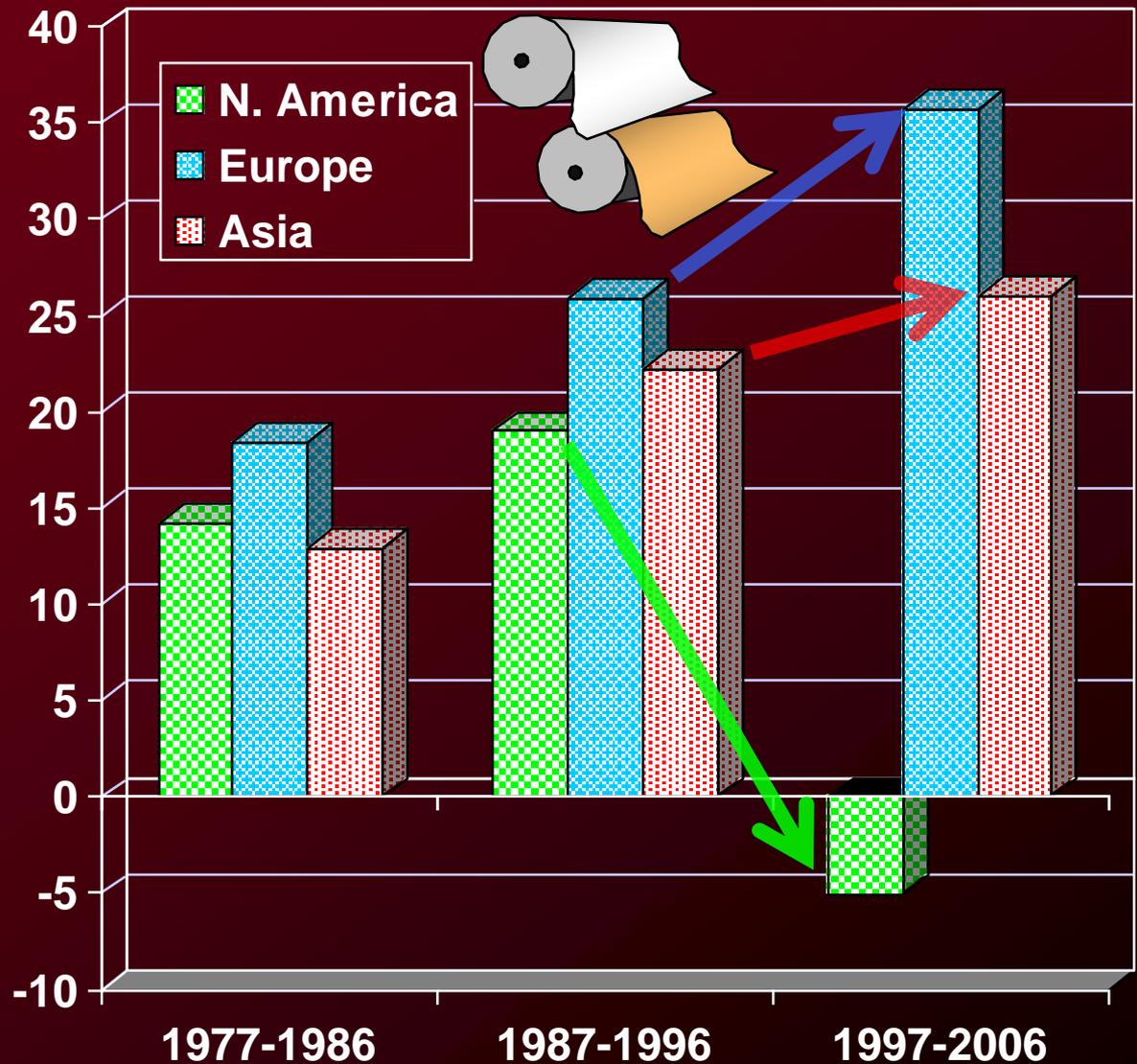
After decades of robust growth, U.S. wood pulp output peaked in the mid-1990s and then declined, impacted by paper recycling gains in the early 90s, shifts in global demands since the late 90s, and now an economic recession . . .

Pulpwood is still a big part of U.S. wood demand (and especially in Wisconsin), but U.S. production has dropped by -1%/yr. since the mid-1990s, versus 2% to 3% growth in 1970s and '80s.

Outsourcing Production . . . Change in Paper & Board Production (million metric tons per decade)

North American output of paper and paperboard declined in the most recent decade, while growth was sustained in Europe and Asia.

China became the world's most rapidly expanding consumer and producer of paper and paperboard, likely to surpass the USA within the next decade.



Global Drivers . . .



Trade liberalization (GATT → WTO)

Expanded global commerce

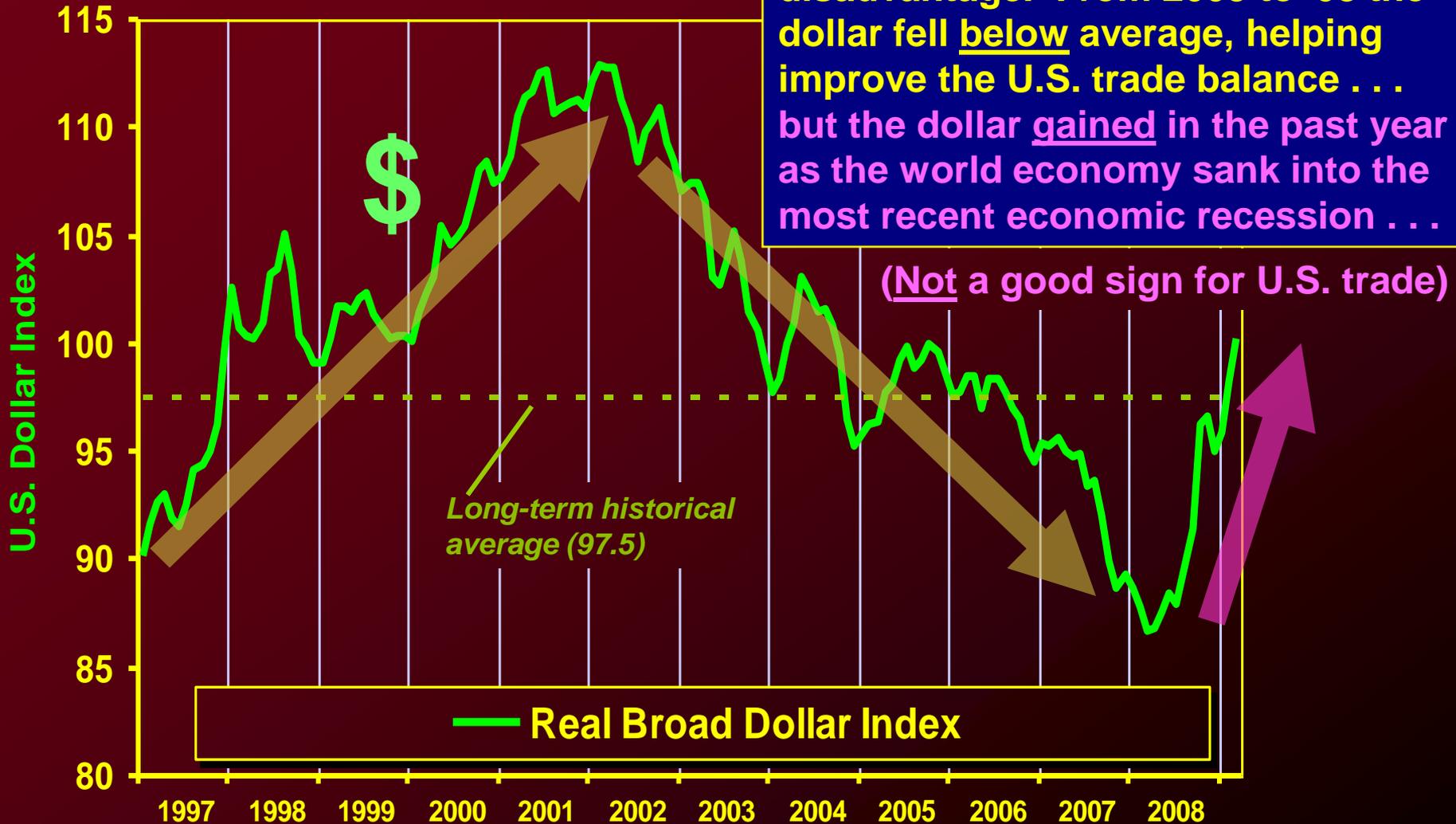
Shift of manufacturing growth to Asia and Europe

Collapse of global financial system (current recession)

Globalization

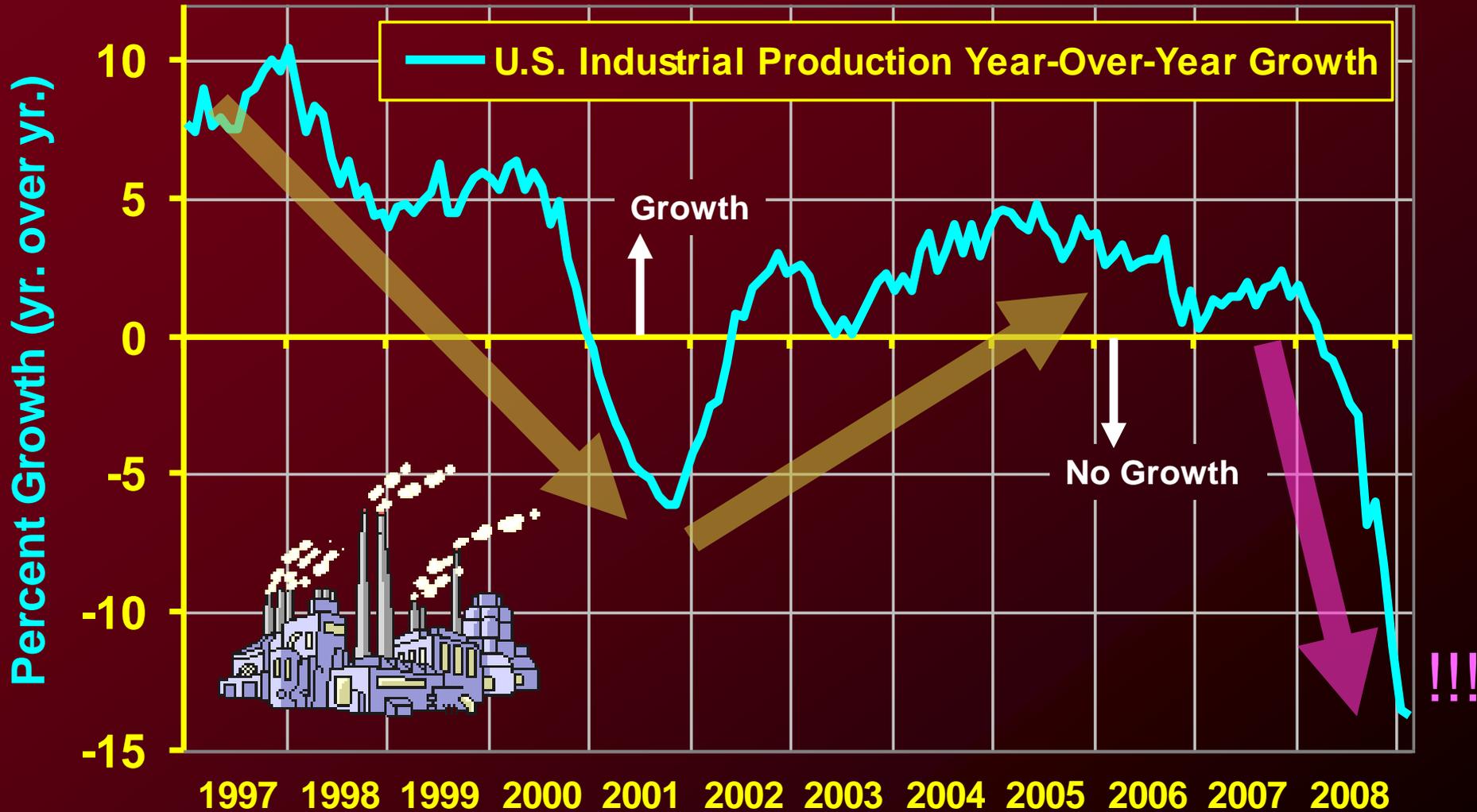


Real Broad Dollar Index



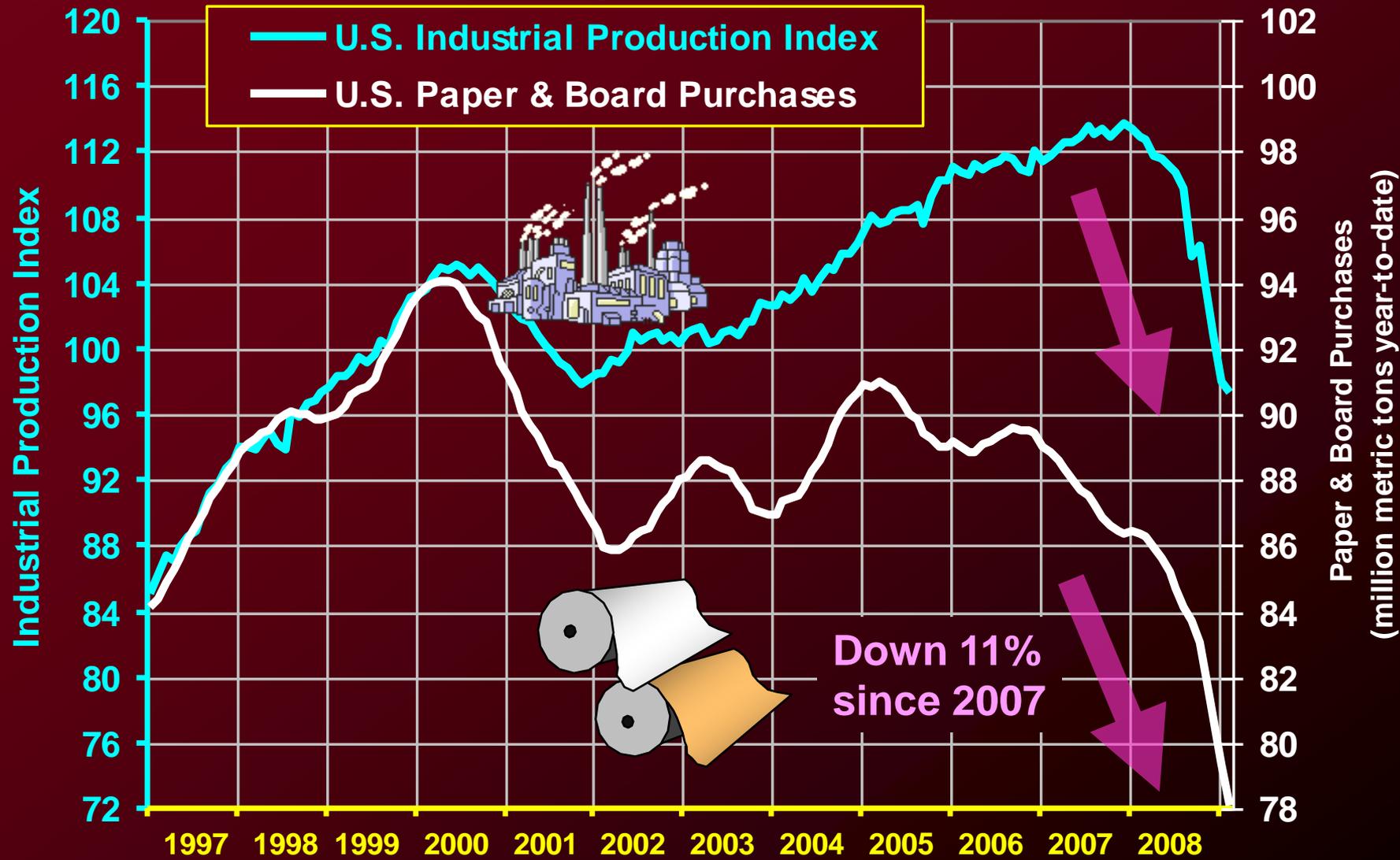
Source: U.S. Federal Reserve (H.10 Real Broad Dollar Index)

As the dollar soared, manufacturing growth went abroad and U.S. industrial output plunged (in the recession of 2000-2001). Output rebounded with a weaker dollar, but growth barely reached 4% average growth of 1950-2000, . . . and in the past year, U.S. industrial output has collapsed again!!!



Source: U.S. Federal Reserve (G.17 Industrial Production, seasonally adjusted)

Paper and paperboard demands follow industrial production because of usage in packaging and print advertising, but industrial outsourcing and electronic media have displaced growth. U.S. paper and board purchases plunged along with industrial output in the current recession . . .



Sources: U.S. Federal Reserve (G.17 Industrial Production); AF&PA (Paper and Board Purchases)

Apart from the decadal trend in outsourcing and downsizing of U.S. manufacturing, *what caused the recent dramatic plunge in U.S. production?*

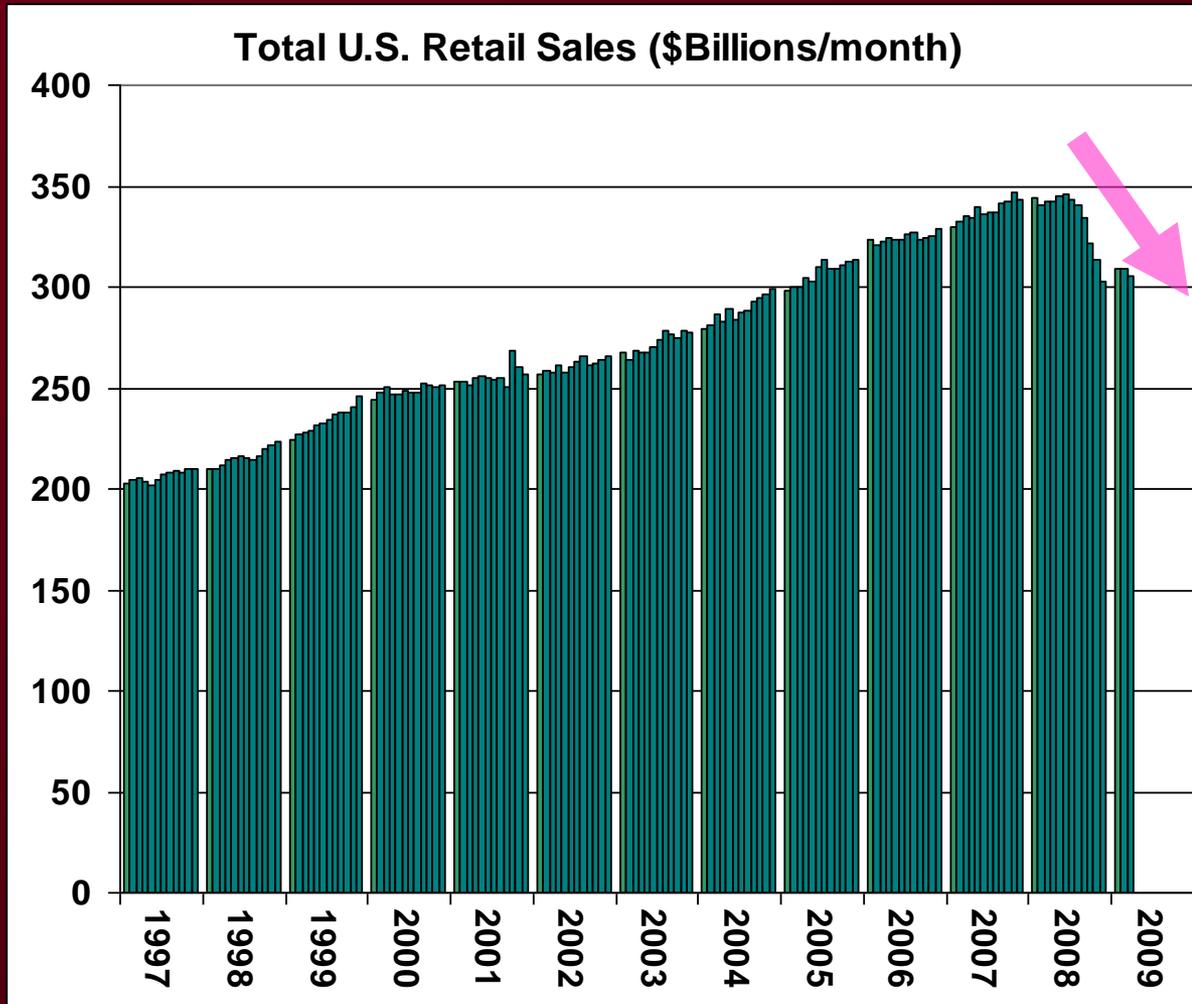
The Credit Crisis: *“Governments and central banks around the world pursued policies that, with the benefit of hindsight, caused a huge global boom in credit . . . to levels that defied gravity.”*



Remarks by Treasury Secretary Timothy Geithner
February 10, 2009

Translation: There was a global credit boom that went bust in 2008 . . .

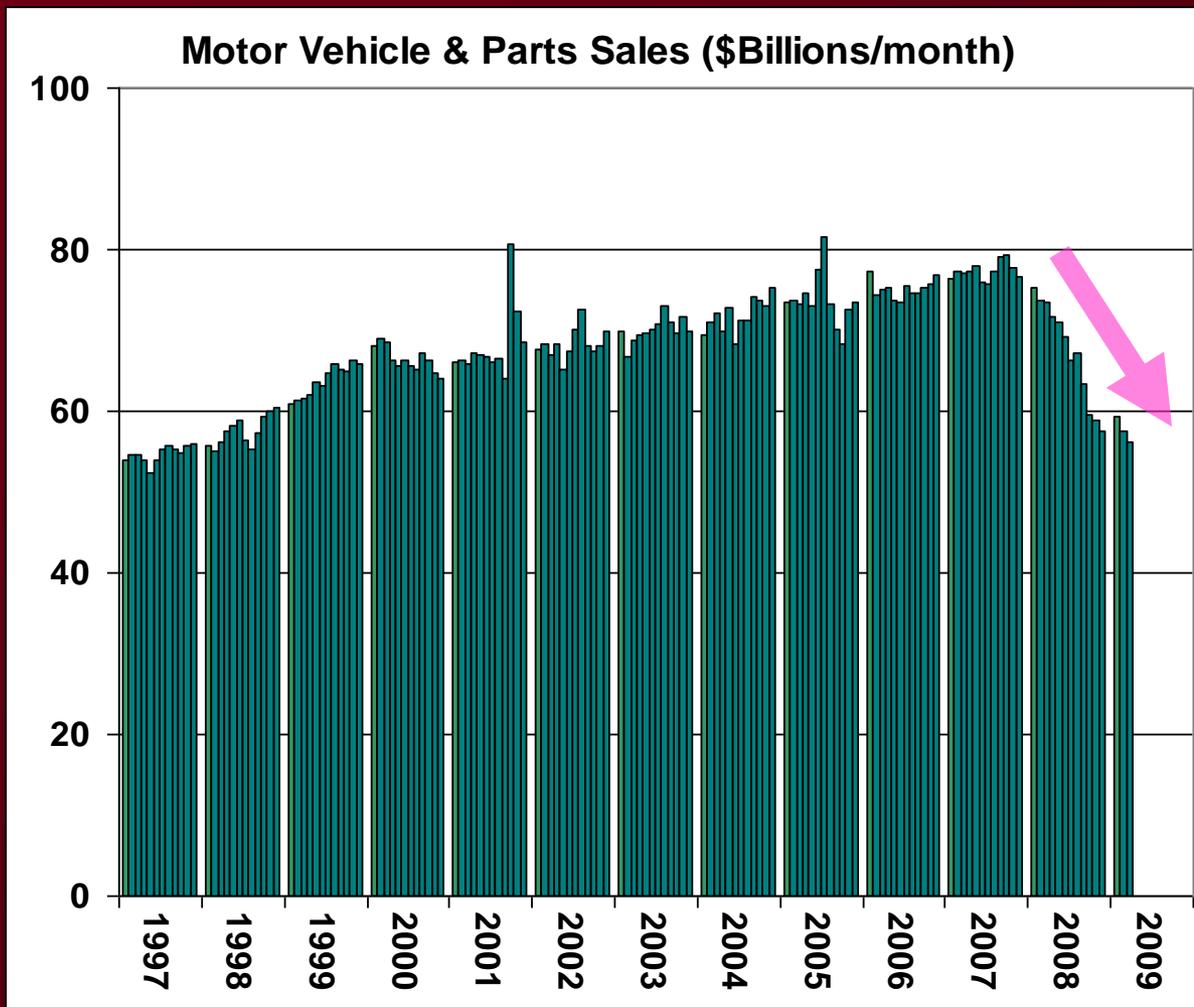
The credit bust: When the credit boom went bust in 2008, U.S. retail sales went into a sudden steep decline (unlike recession of 2001-2002) . . .



With the sudden collapse of financial institutions and end to easy credit terms, total U.S. retail sales dropped by 12.4% from June to December of 2008.

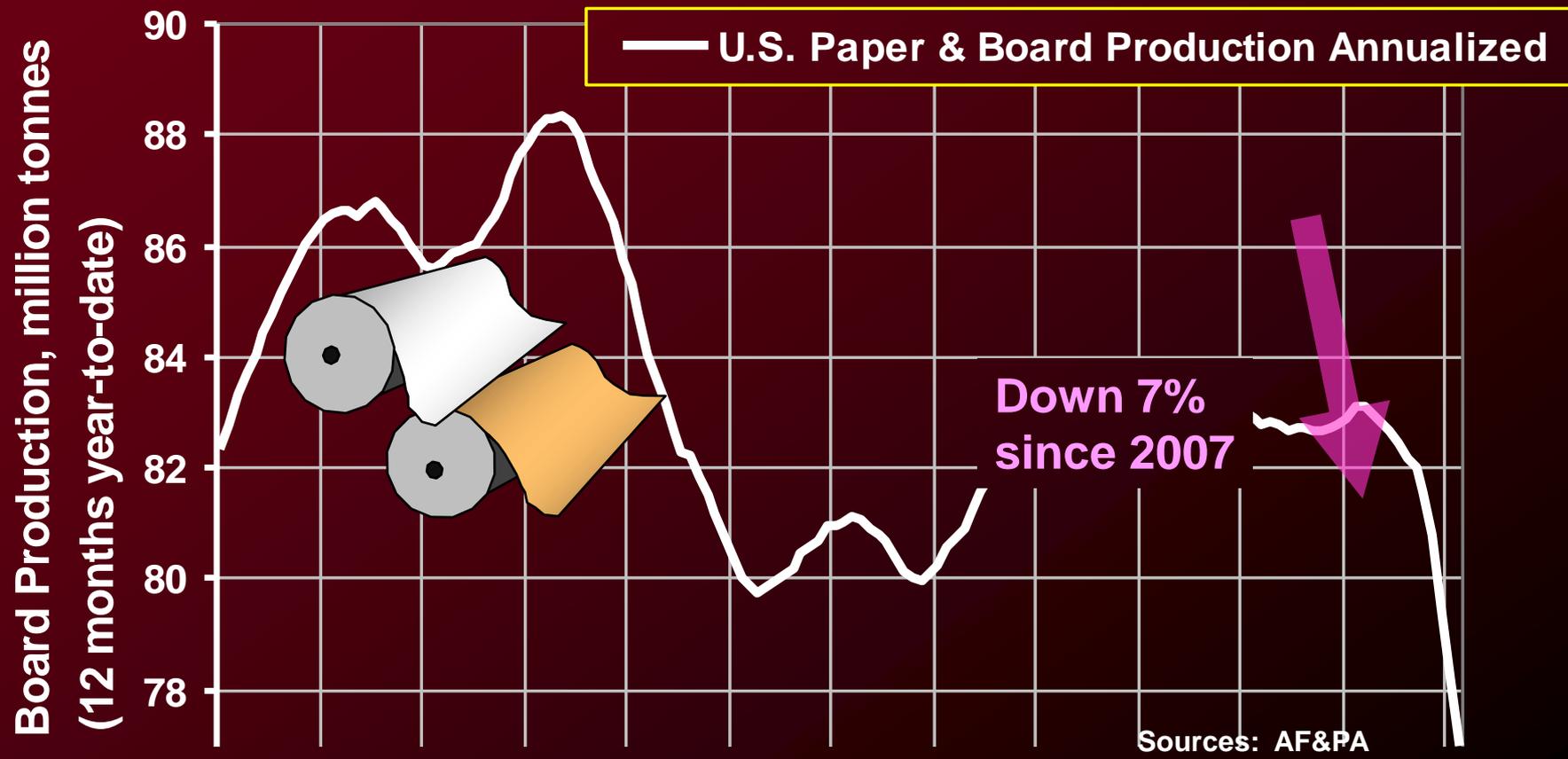
The current recession featured a big drop in consumer spending (the largest element of U.S. GDP), although spending may have begun to stabilize in the past few months.

In some credit-dependent sectors, such as motor vehicles & parts, the drop in sales activity was even more pronounced . . .

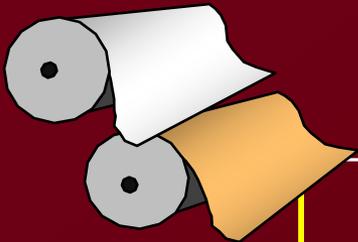


Motor vehicle and parts dealer sales dropped by 29% from October 2007 to March of 2009 (and sales continue to decline in 2009).

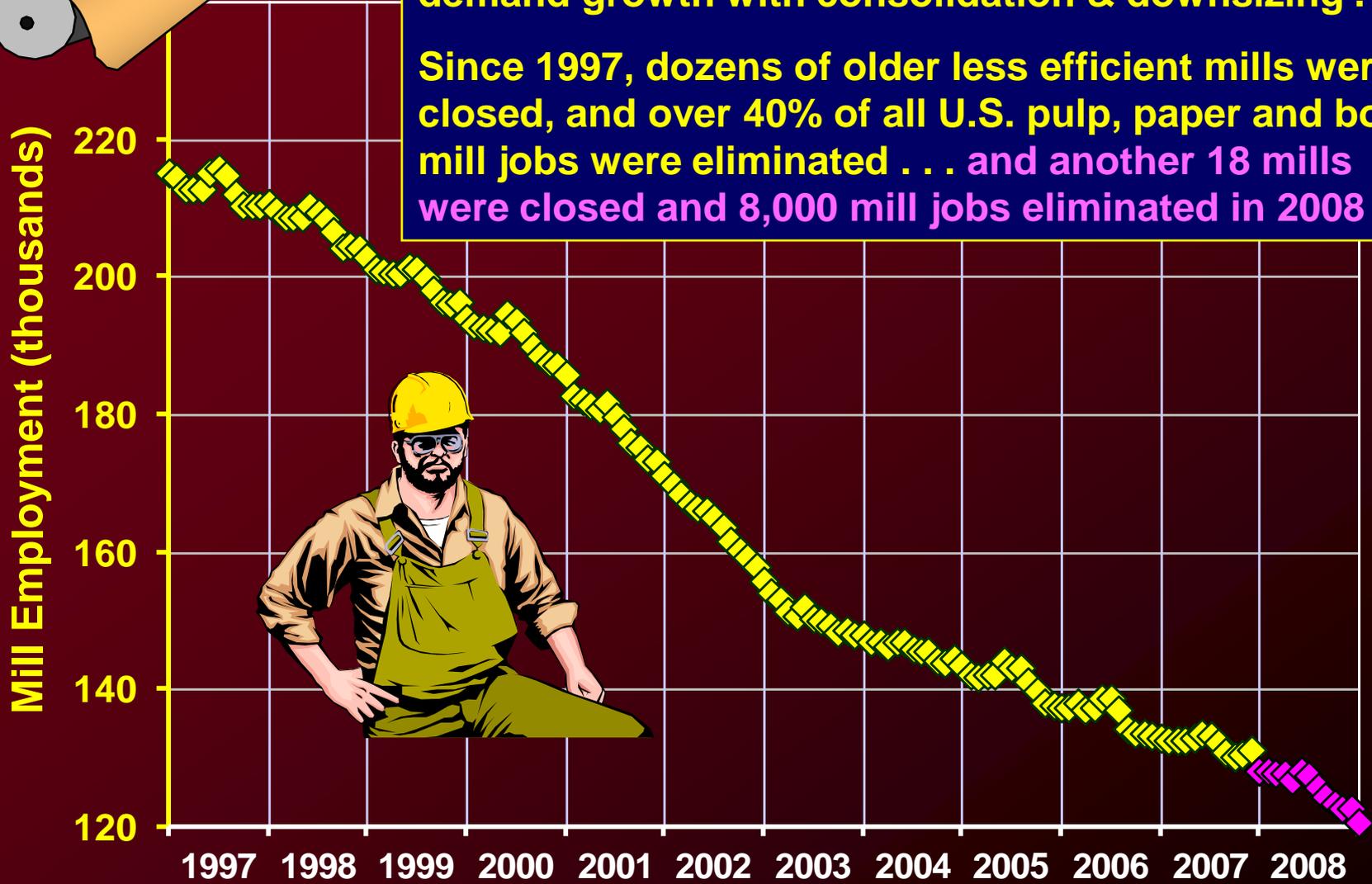
Thus, U.S. paper and paperboard output generally declined over the past decade, and the latest drop in output was steep and abrupt, but it can be noted that the drop in annualized production since 2007 (-7%) was *less than* the drop in U.S. purchases (-11%). This was due to gains in exports.



◆ U.S. Pulp, Paper & Board Mill Employment

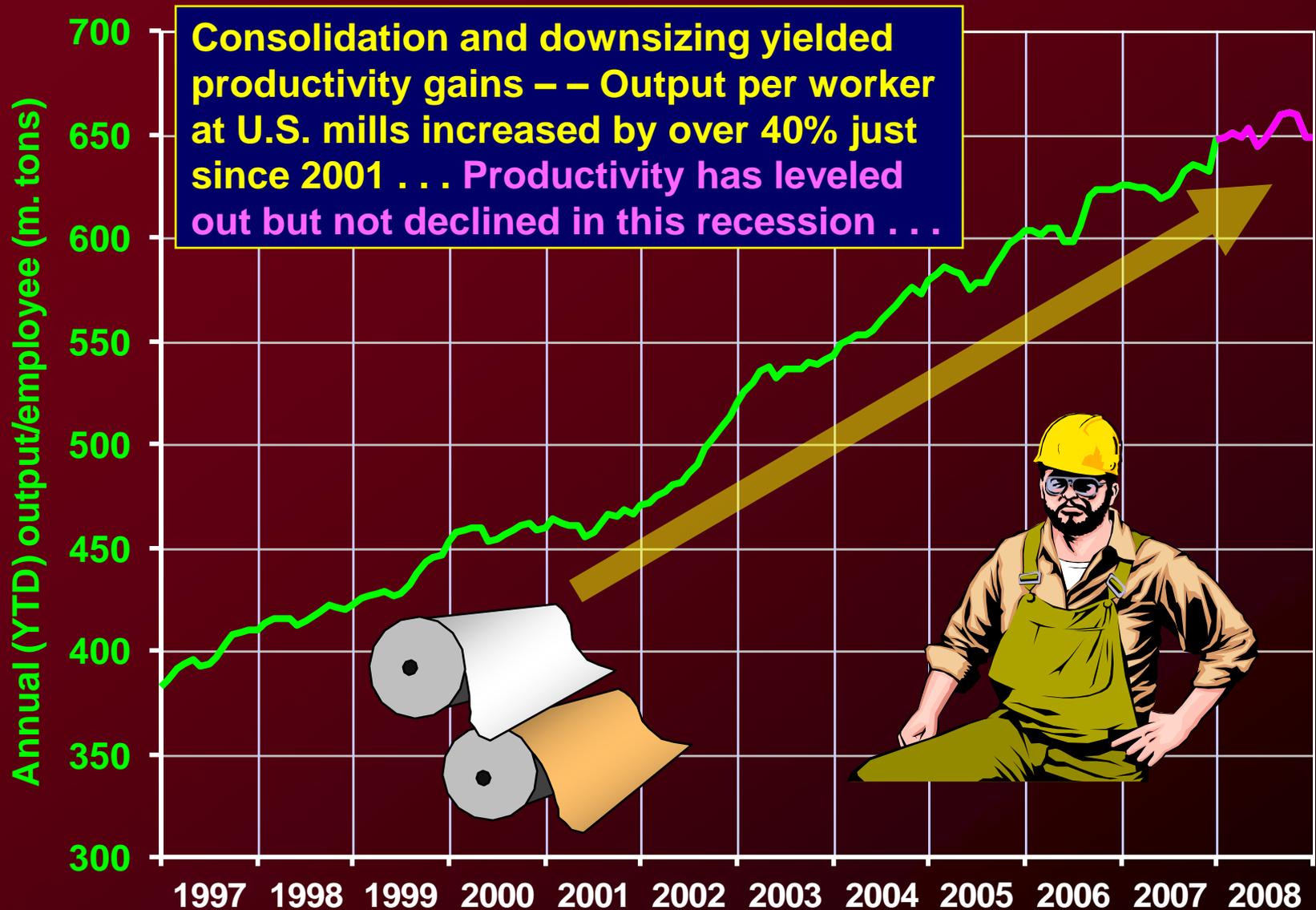


The U.S. pulp & paper industry responded to slower demand growth with consolidation & downsizing . . .
Since 1997, dozens of older less efficient mills were closed, and over 40% of all U.S. pulp, paper and board mill jobs were eliminated . . . and another 18 mills were closed and 8,000 mill jobs eliminated in 2008 . . .



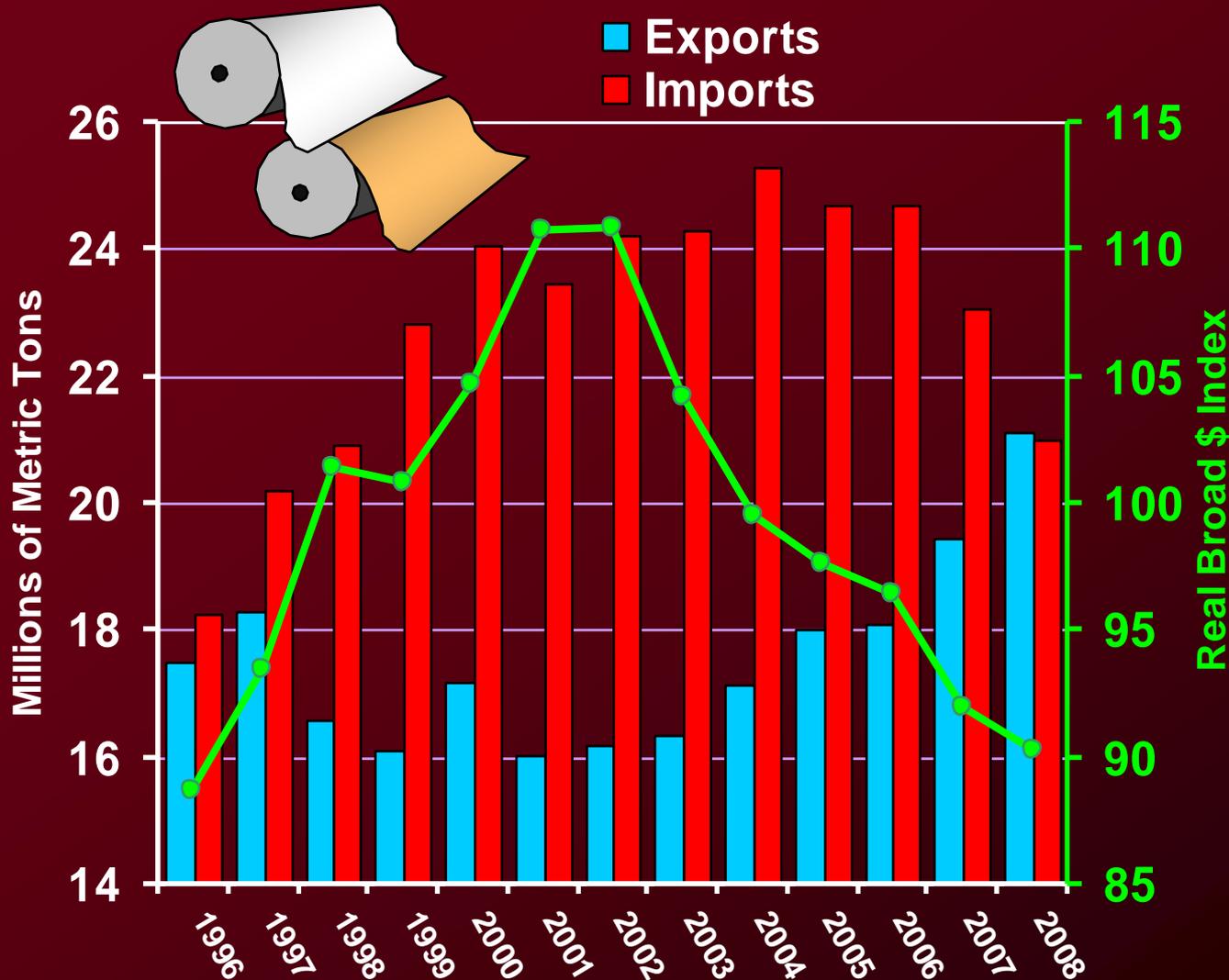
Sources: U.S. Bureau of Labor Statistics

U.S. Paper & Board Output per Mill Employee



Sources: U.S. Bureau of Labor Statistics (pulp, paper & board mill employment)
AF&PA (paper and paperboard production, in short tons)

U.S. Pulp, Paper & Board Product Trade (Tonnage)

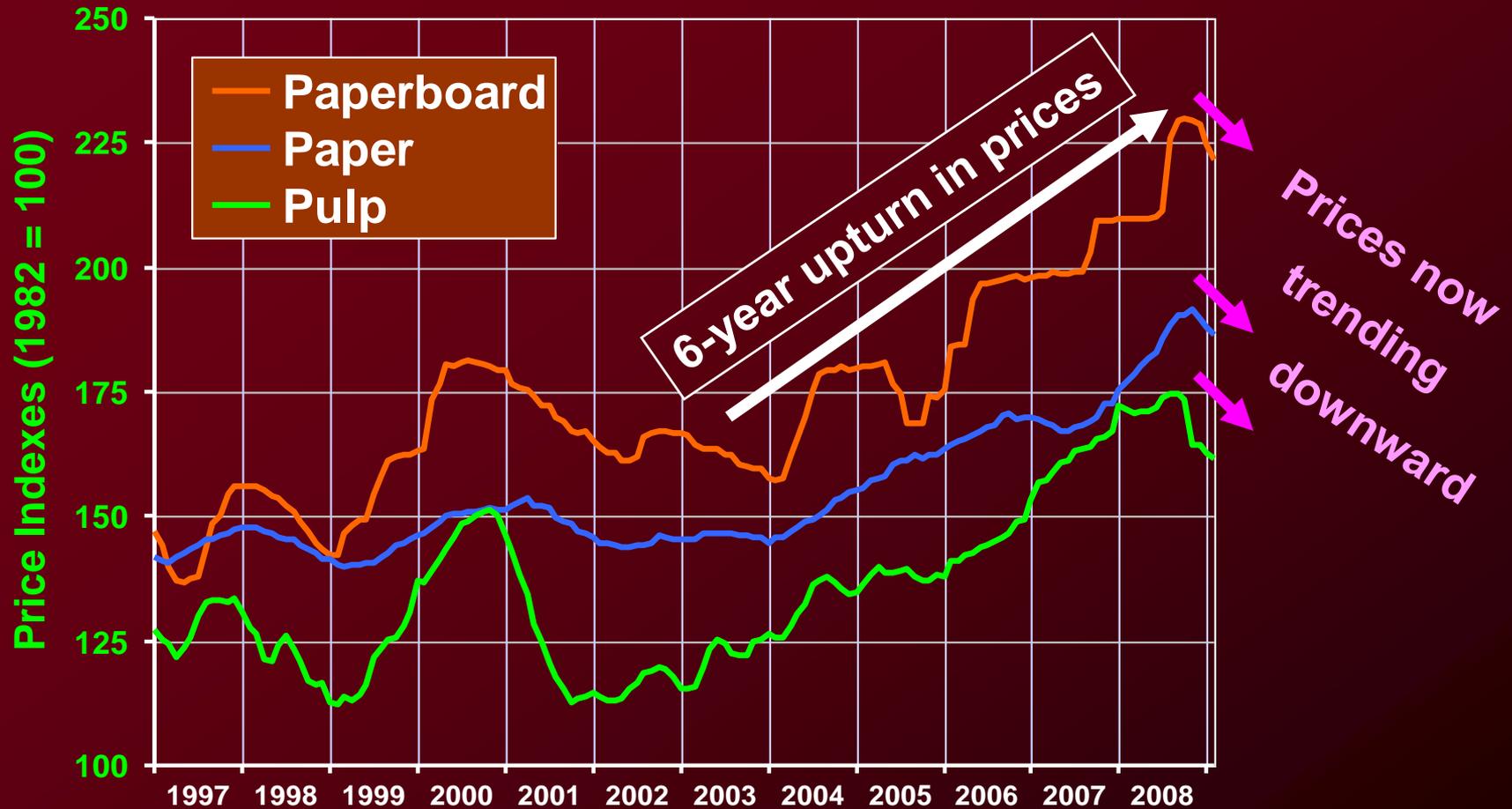


The U.S. trade gap in pulp, paper and board had bulged to 8 million metric tons in 2002 . . .

But as a result of consolidation, a weaker dollar, and productivity gains, the trade gap was narrowed, and *in 2008 the trade gap was closed !!* (exports actually exceeded imports in tonnage).

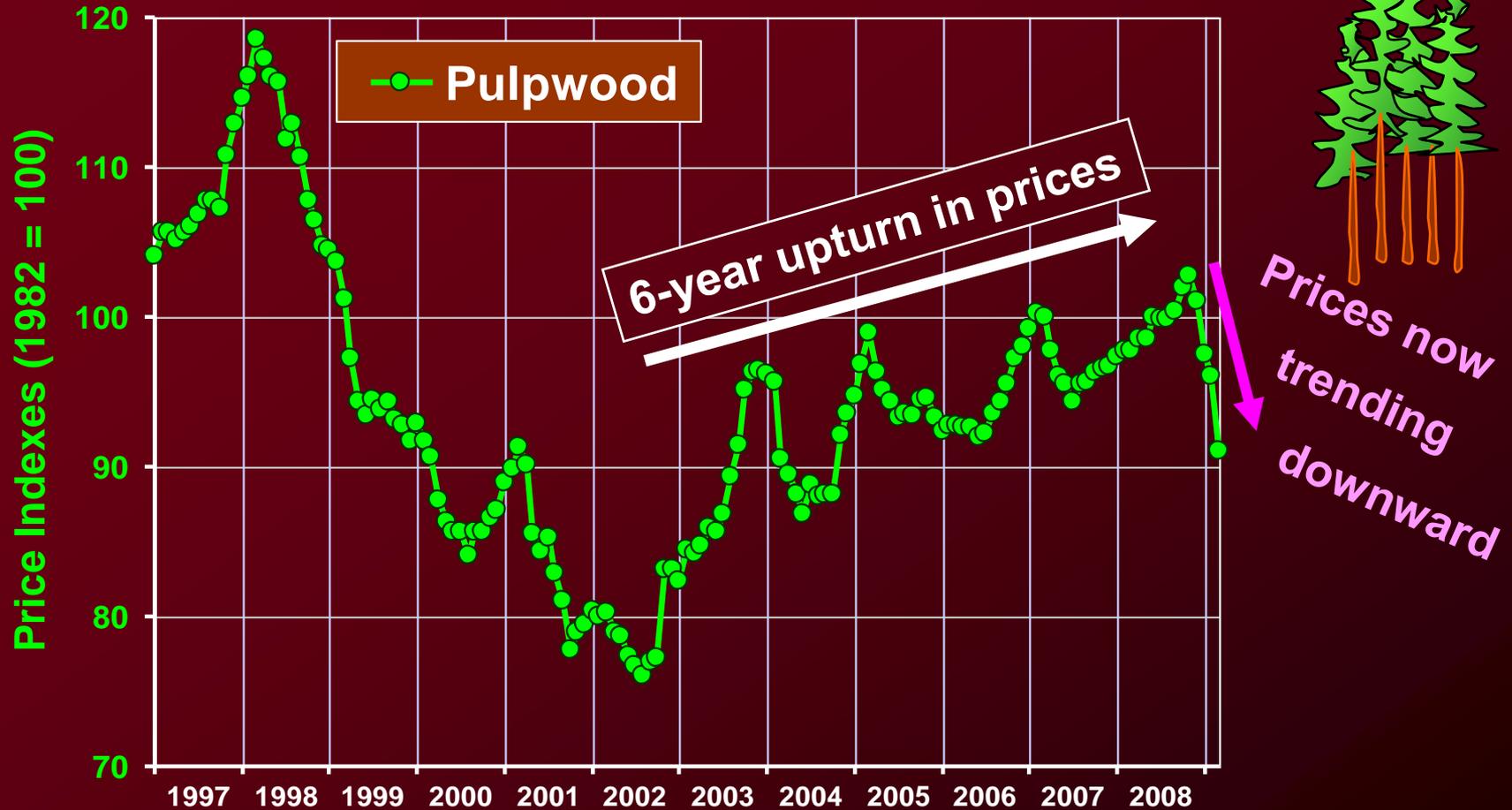
Data Sources: AF&PA, Commerce Dept. (trade statistics); Federal Reserve (dollar index);
[Data include paper and paperboard products and wood pulp shipments, and exclude recovered paper]

Market Trends – Pulp, Paper & Board Price Indexes



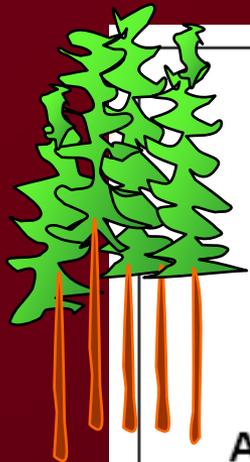
Prices (in U.S. \$) increased by ~ 50% over six years, after the recession of 2001-2002 . . . In the current economic recession prices are receding and have likely peaked for the near term, but prices remained high well into 2008, partly due to exports.

Market Trends – U.S. Pulpwood Price Index

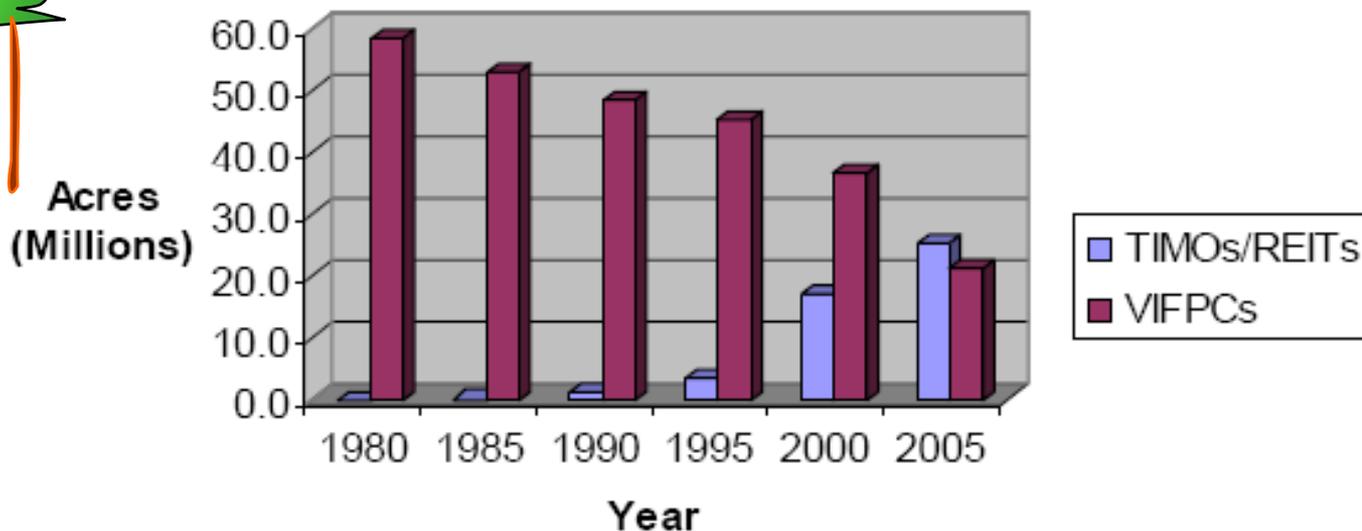


Pulpwood prices also experienced an upturn for about six years following the 2001-2002 recession . . . In the current economic recession the pulpwood price index is trending downward.

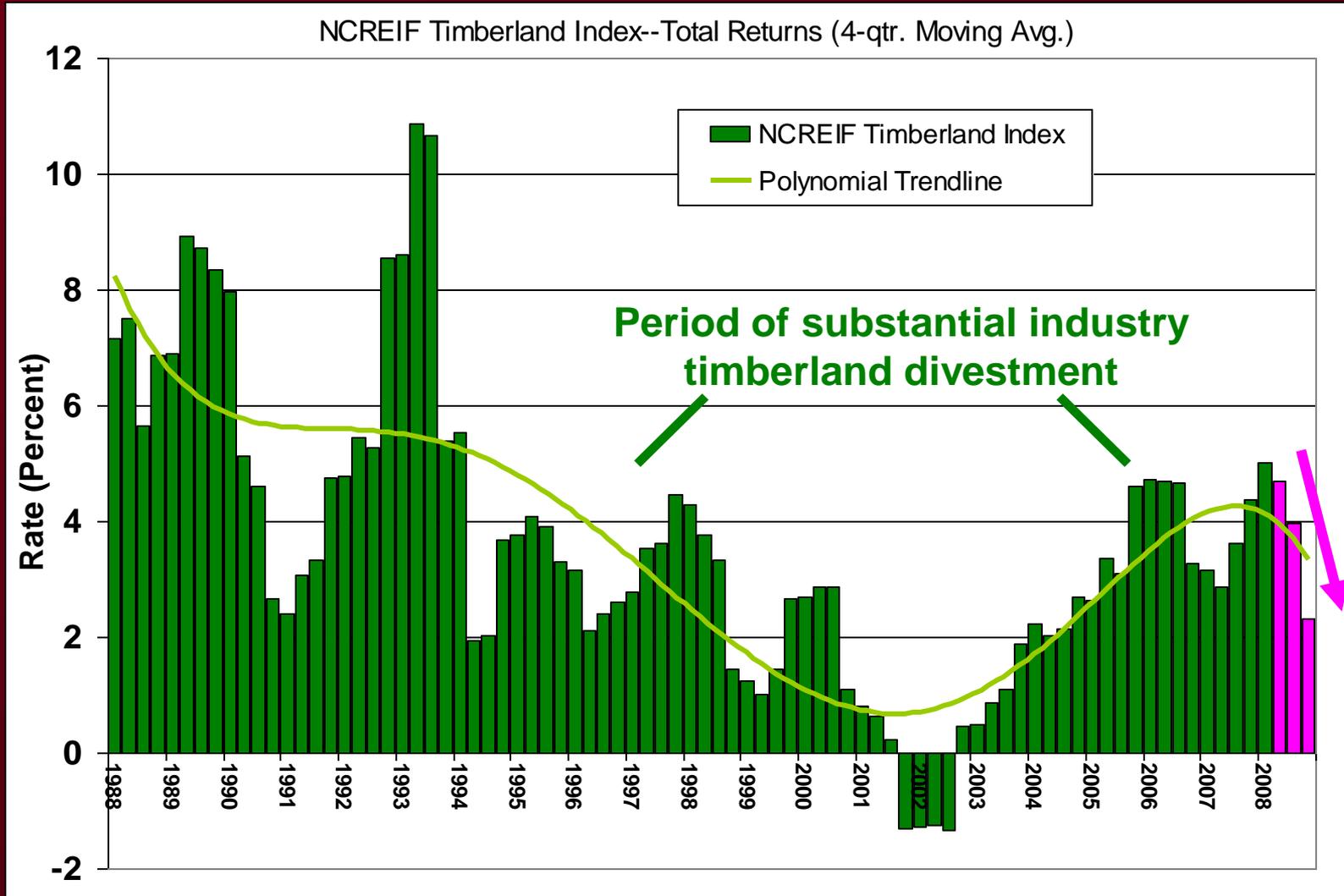
**Another aspect of consolidation and downsizing . . .
Since the early 1990s, divestiture of timberland by
vertically integrated forest product companies resulted in
a huge shift of timberland ownership to TIMOs & REITs:**

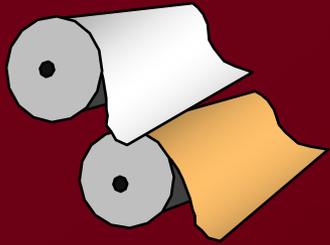


**Trend in US Forestland Ownership by TIMOs/REITs
vs. VIFPCs**



Timberland total returns (annual timber and land value appreciation) collapsed in the 2001-2002 recession, amid industry divestment. Returns rebounded, but are recently slipping again . . .

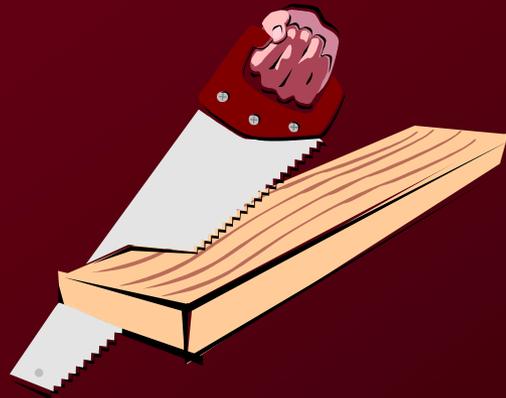




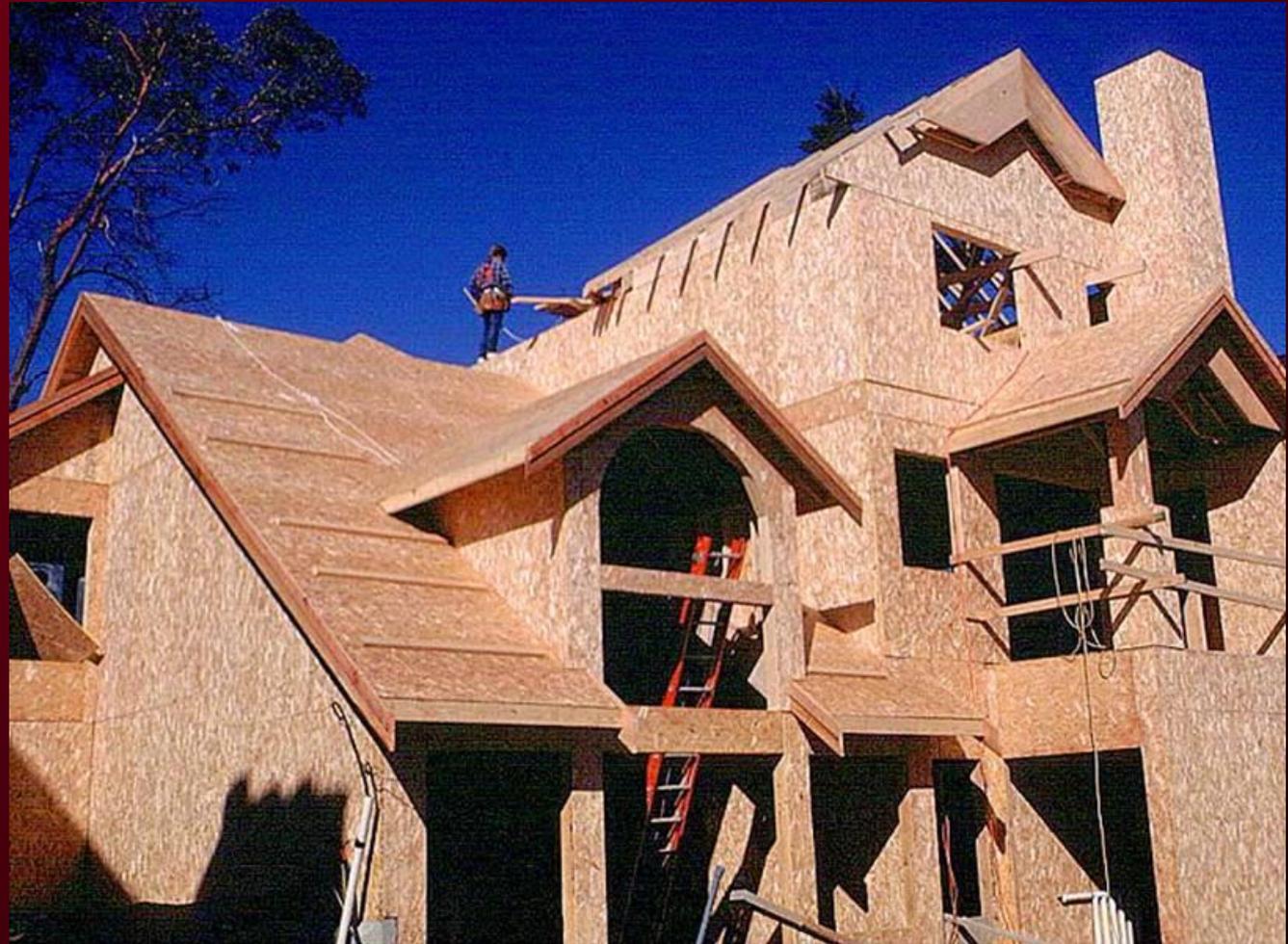
Summary of pulp & paper market trends

1. U.S. pulp, paper and board production peaked in the late 1990s, as output was impacted by industry globalization.
2. The U.S. pulp and paper industry responded to the challenge of globalization with consolidation and downsizing; A weaker dollar and productivity gains helped close the pulp and paper trade gap by 2008.
3. Pulp, paper and board prices climbed from 2002 to 2008 but have likely peaked in the near term, with receding industrial production and declining demand.
4. Markets are indicating generally lower pulpwood prices and lower timberland returns for the near term.

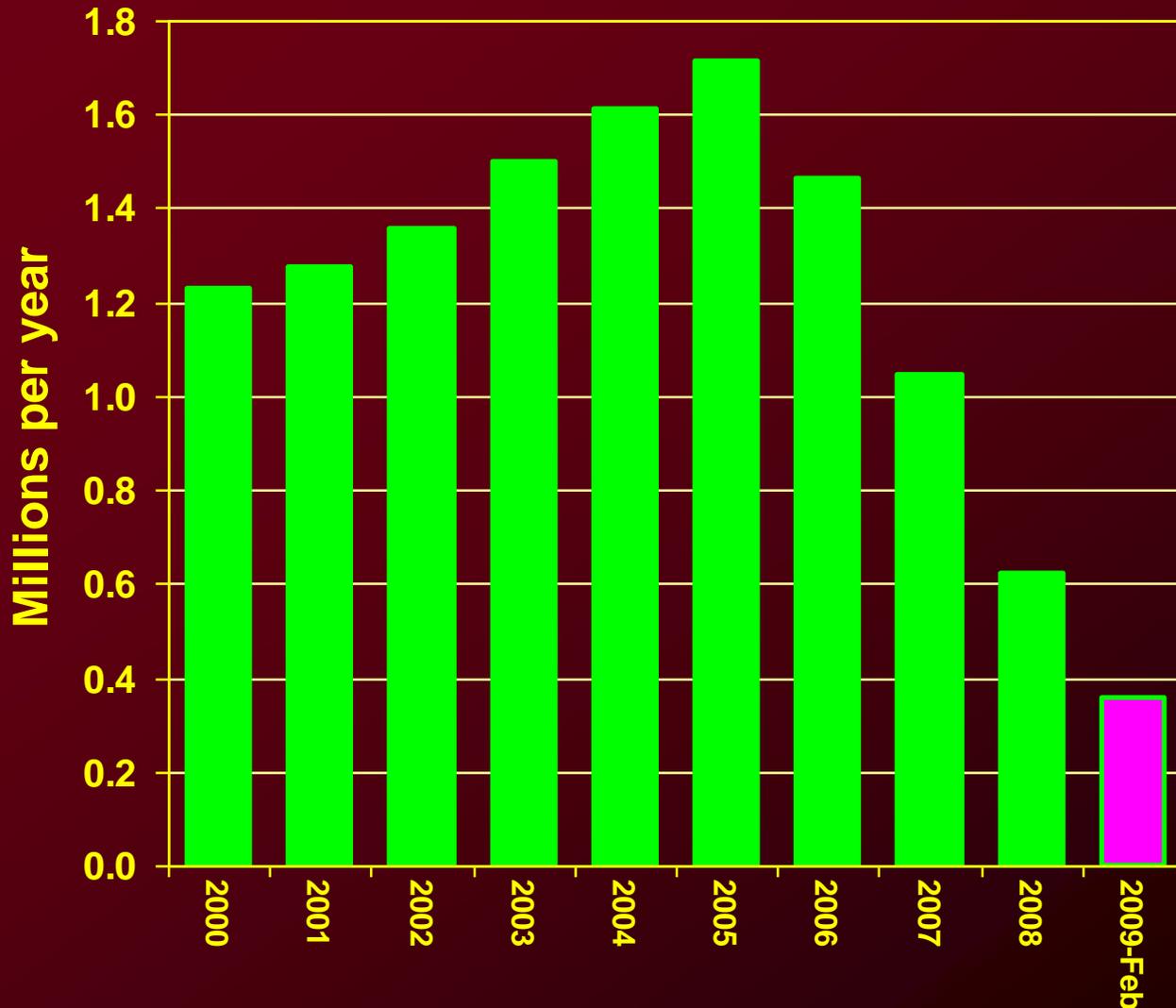
Lumber & Wood panels



Historically, more than half of U.S. wood panel & lumber usage is in housing construction, so lumber & panel markets are impacted by changes in housing demand . . .



Since 2005, the big change was the end to the housing boom with now lowest starts in more than 50 years . . .



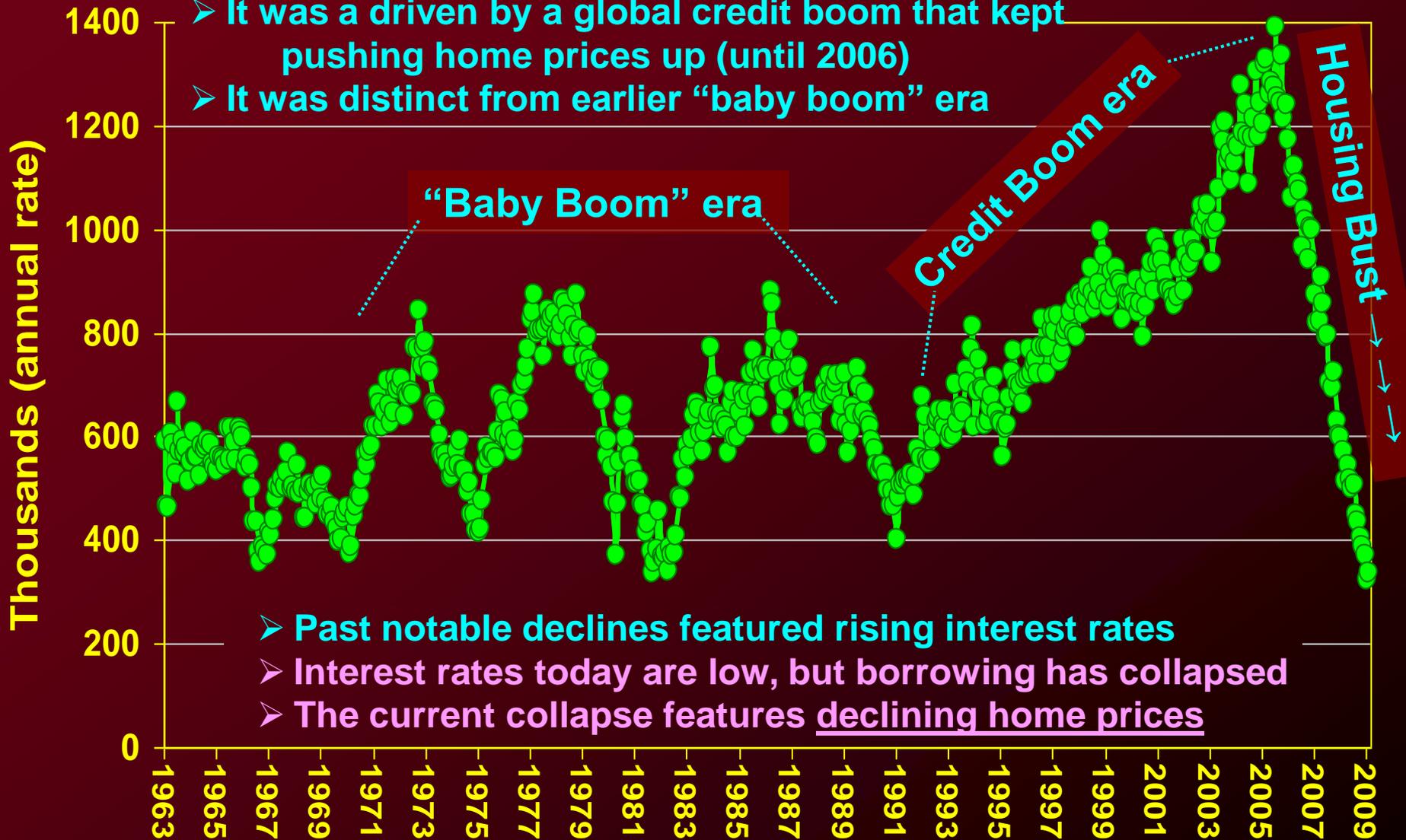
**Single-family
housing unit
construction
starts/year**



Sources:
Data - U.S. Census Bureau
2009-Feb = SAAR in February

U.S. New Home Sales - Long History

- The 90s - 2005 sales boom was the biggest ever!
- It was driven by a global credit boom that kept pushing home prices up (until 2006)
- It was distinct from earlier “baby boom” era



- Past notable declines featured rising interest rates
- Interest rates today are low, but borrowing has collapsed
- The current collapse features declining home prices

Global forces were behind the recent boom and bust in U.S. housing demand.



(the rest of Tim Geithner's quote) . . .

“Governments and central banks around the world pursued policies that, with the benefit of hindsight, caused a huge global boom in credit, pushing up housing prices and financial markets to levels that defied gravity.”



Remarks by Treasury Secretary Timothy Geithner
Introducing the Financial Stability Plan
Tuesday, February 10, 2009

Billions of Dollars per Year



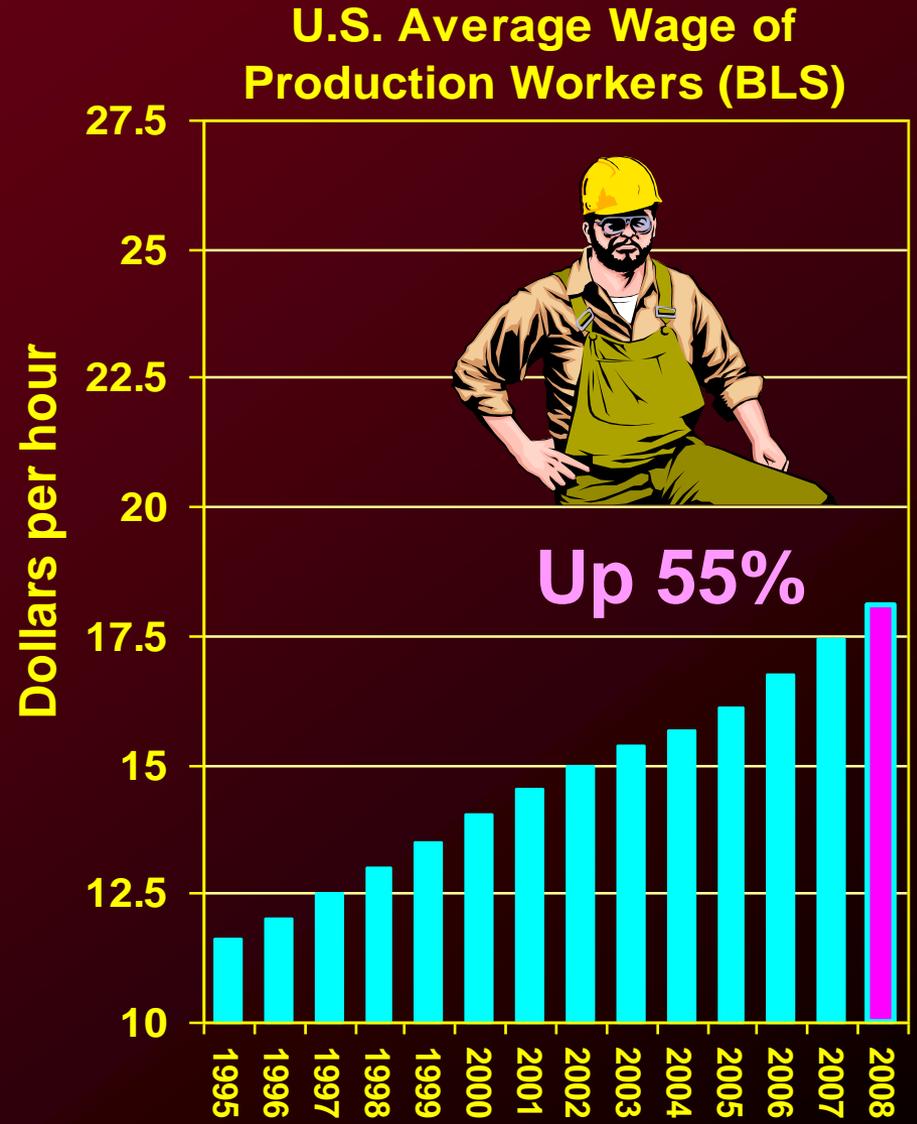
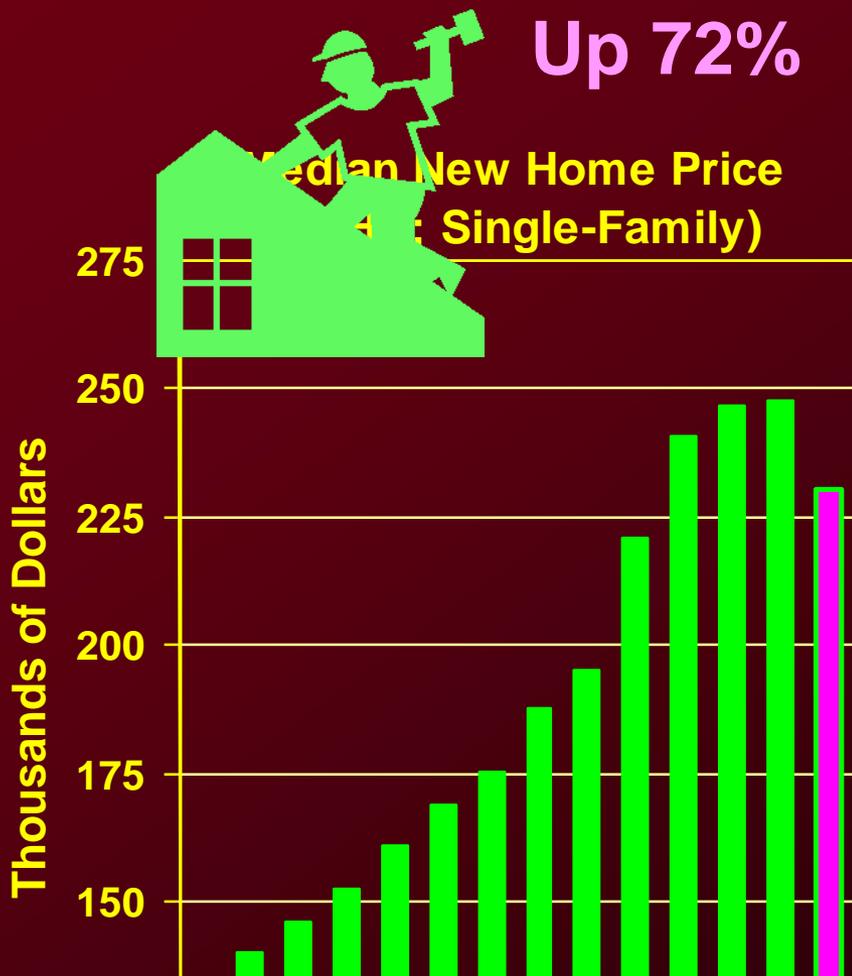
As the U.S. trade deficit expanded since the early 90s, billions of dollars came back from foreign sources into U.S. mortgage markets via foreign purchases of GNMA, FNMA & FHLMC agency bonds (and CDOs) that fund mortgages. This global credit boom helped facilitate the U.S. housing boom, but loose credit led to inflated home values and bad debts . . .

Foreign Purchases of U.S. Agency Bonds

By 2008 global lines of housing credit were drying up and foreign bond holders cashing out . .

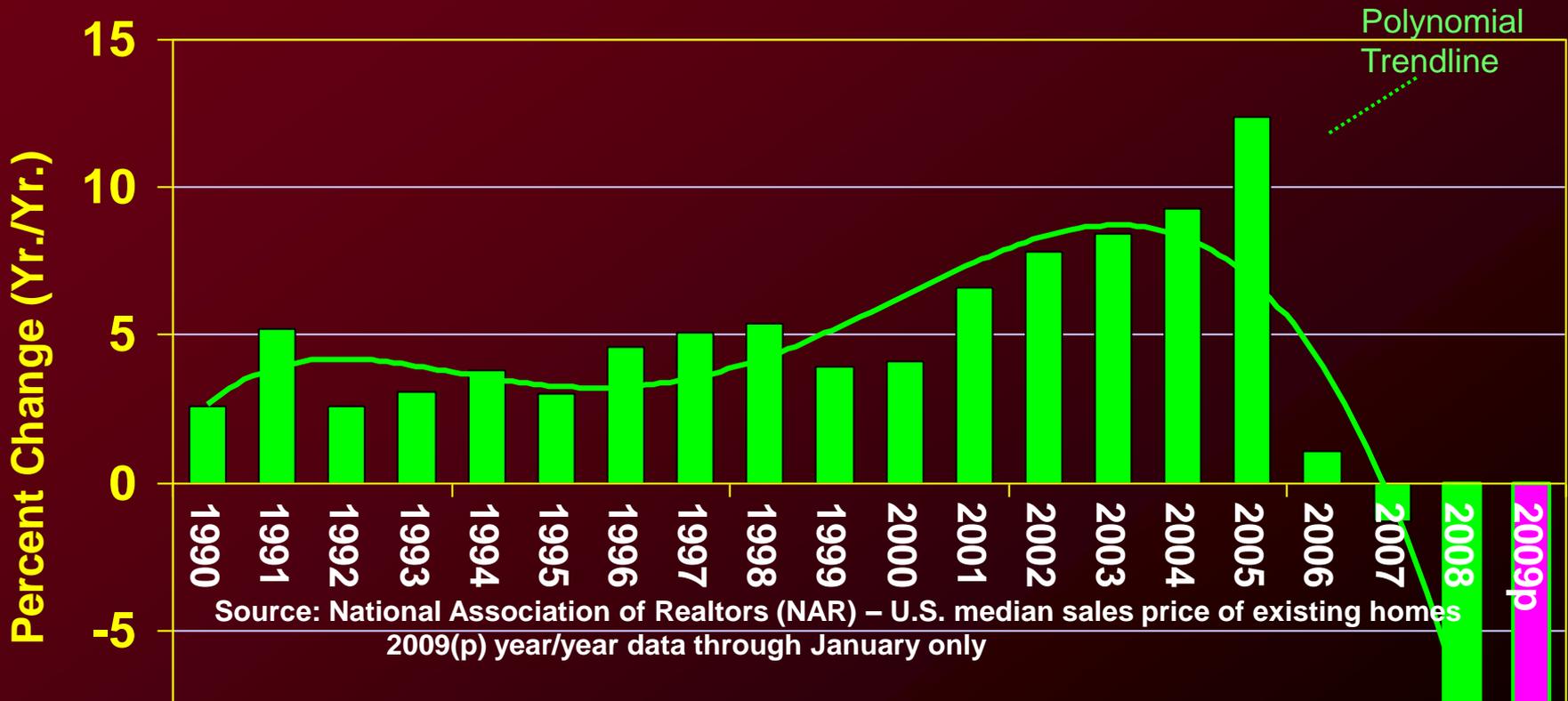


Booming credit facilitated booming home prices, but average wage gains did not keep up with new home prices, so home affordability became a big issue . . . Even after recent declines in home prices the gains in home prices still far exceed gains in average earnings.

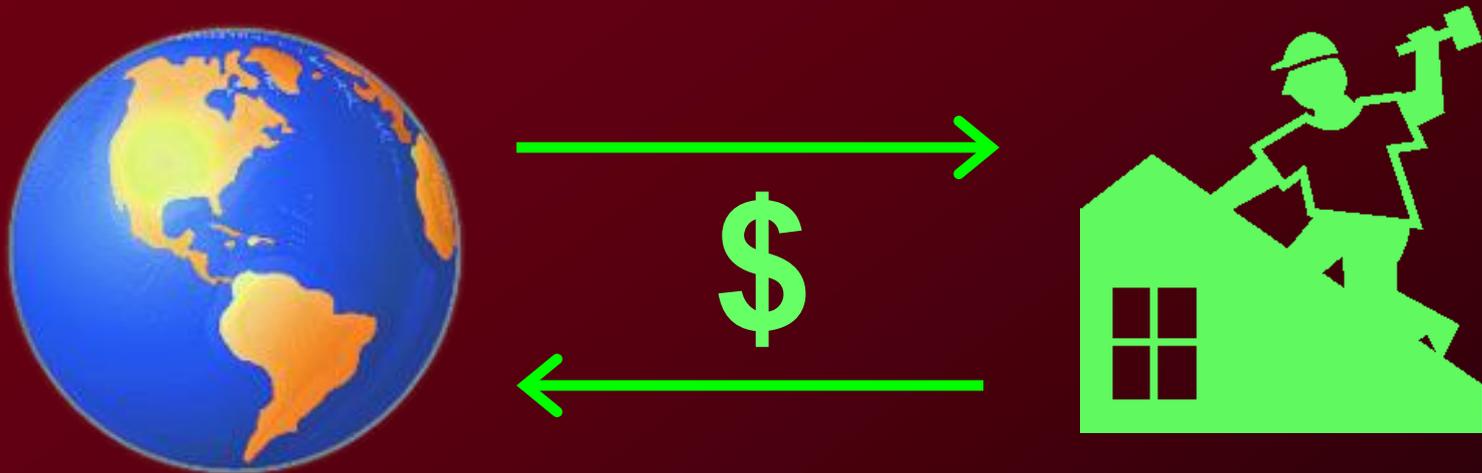


Consequences of “defying gravity” . . . The credit boom drove up home prices but in 2006 the rate of appreciation dropped. With this abrupt change in home equity appreciation much of the economic incentive to buy or build new homes suddenly evaporated.

Annual Change in Existing Home Sales Price



A global credit boom drove home prices and recent housing boom, but wages did not keep pace and eventually home values declined.



Without the lure of home equity gains new home sales collapsed since 2006. The record housing construction boom became the housing bubble, which is still undergoing its long correction.



Sources: U.S. Census Bureau, Seasonally Adjusted Annual Rate (SAAR), by month

What experts said last year about housing downturn and prospects for recovery (still relevant today)

“The housing boom was unprecedented in U.S. history, and the correction will be as well.”

Michael Youngblood, FBR Investment Management
(CNN Money, June 12, 2008)

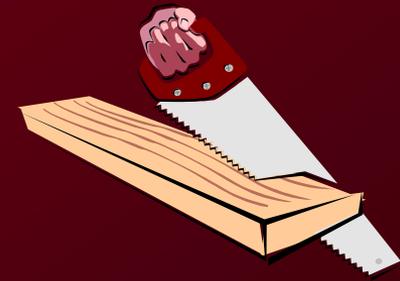


“ . . . the housing correction, what's going on in the housing market, this is not over . . . ”

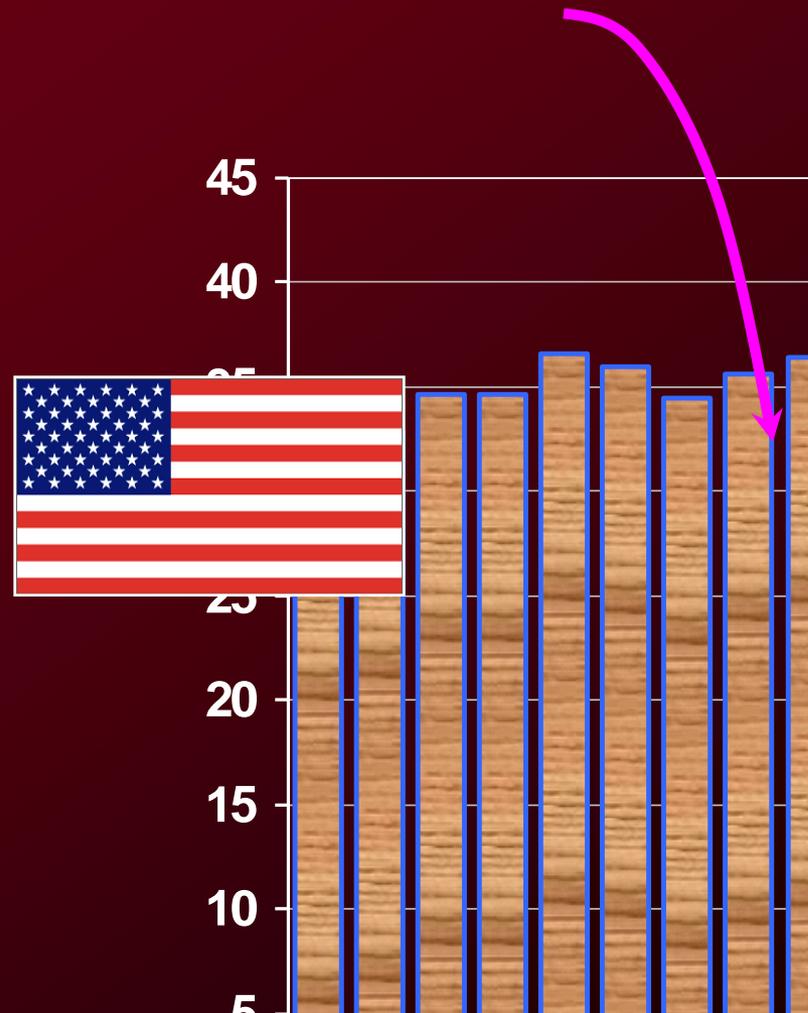
Hank Paulson, U.S. Treasury Secretary
(YouTube, February 12, 2008)



The housing downturn has severely impacted U.S. softwood lumber production . . .



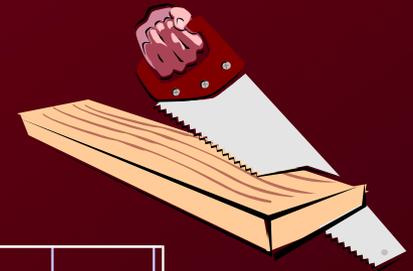
U.S. Softwood Lumber Production
Billion Board Feet



Down 54% since 2005
(based on
January 2009
production at
an annualized
rate)

Source: WWPA

Impact on lumber prices . . .



Some additional views on
hardwood lumber markets . . .

by

William Luppold

USDA Forest Service, Princeton, WV

Decline in Hardwood Lumber Production From Winter of 2008 to Winter of 2009 (down ~30% in all regions)

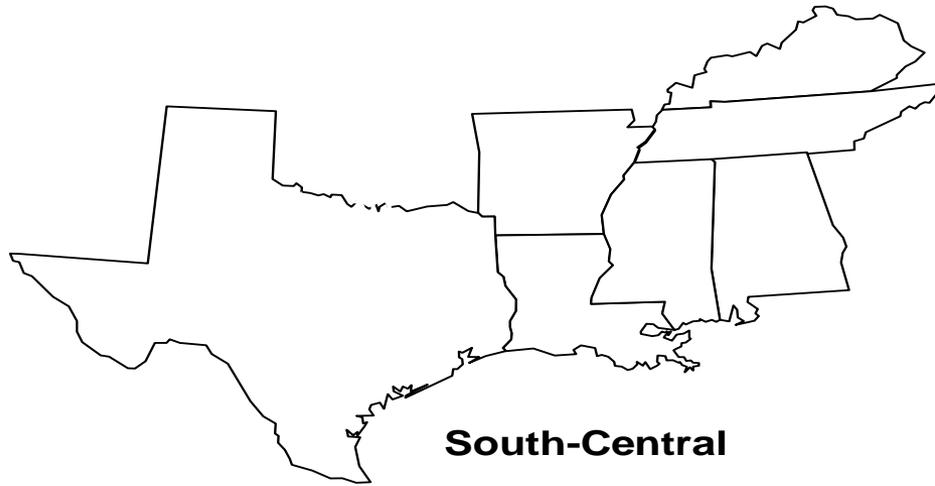
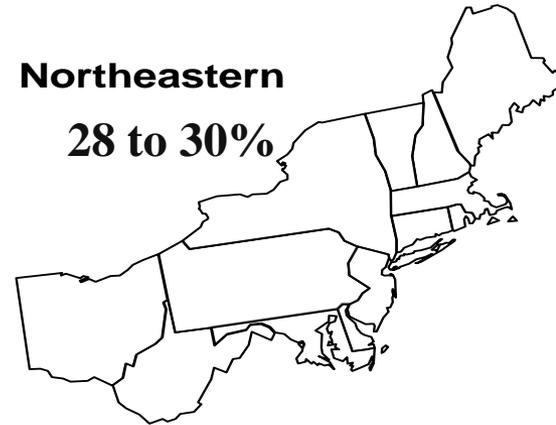
North-Central

27 to 29%



Northeastern

28 to 30%



South-Central

32 to 33%



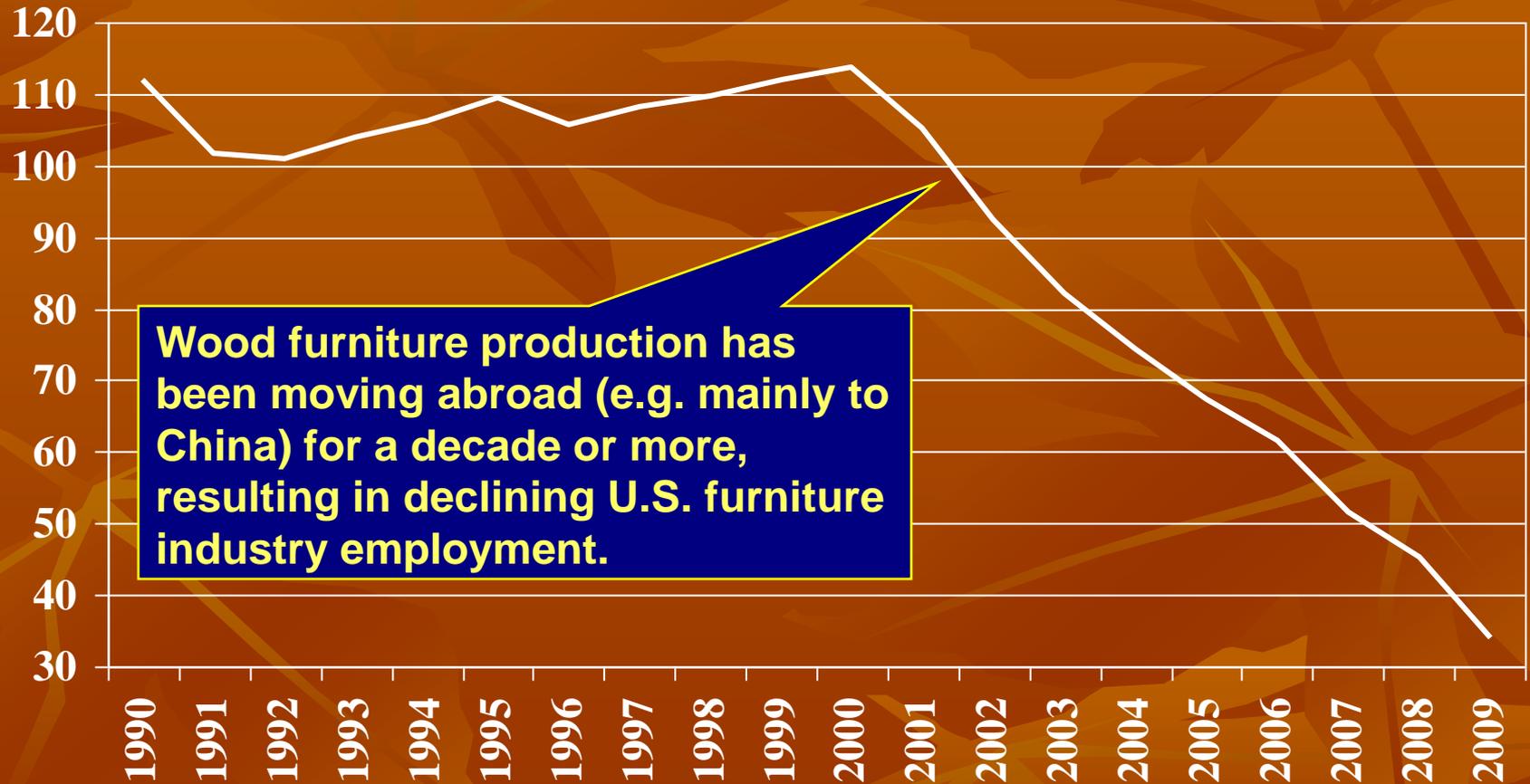
Southeastern

32 to 36%

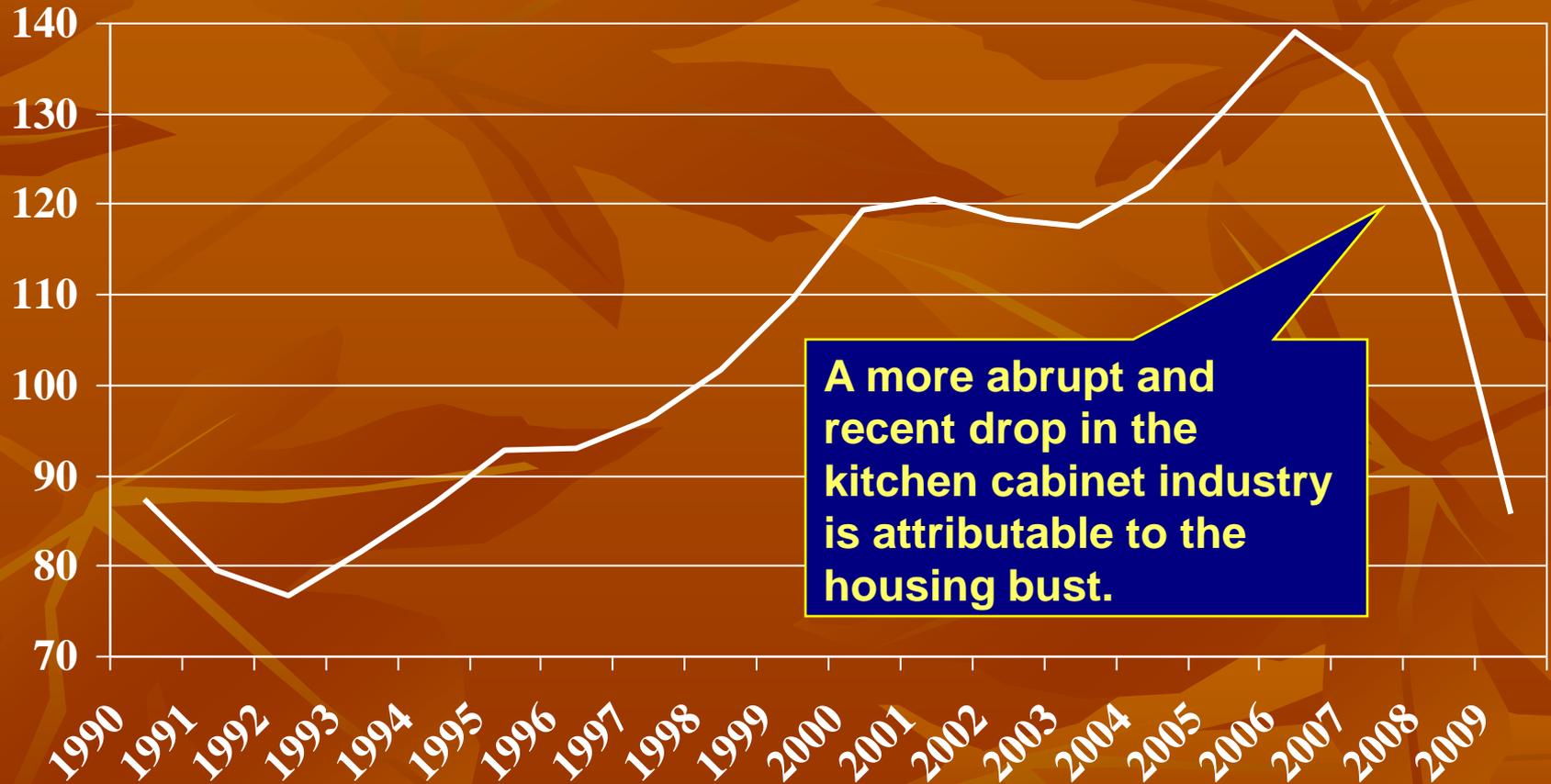
States that are Hurting, Really Hurting or in Real Pain

- Hurting – production down 25 to 30 percent
 - – PA, NY, LA, VA, IA, OH
- Really hurting – production down 35 to 40 percent
 - – TN, MS, KY, NC, MI, ME, WV
- Real pain – production down more than 45 percent
 - – AL, GA, WI, CT, MA

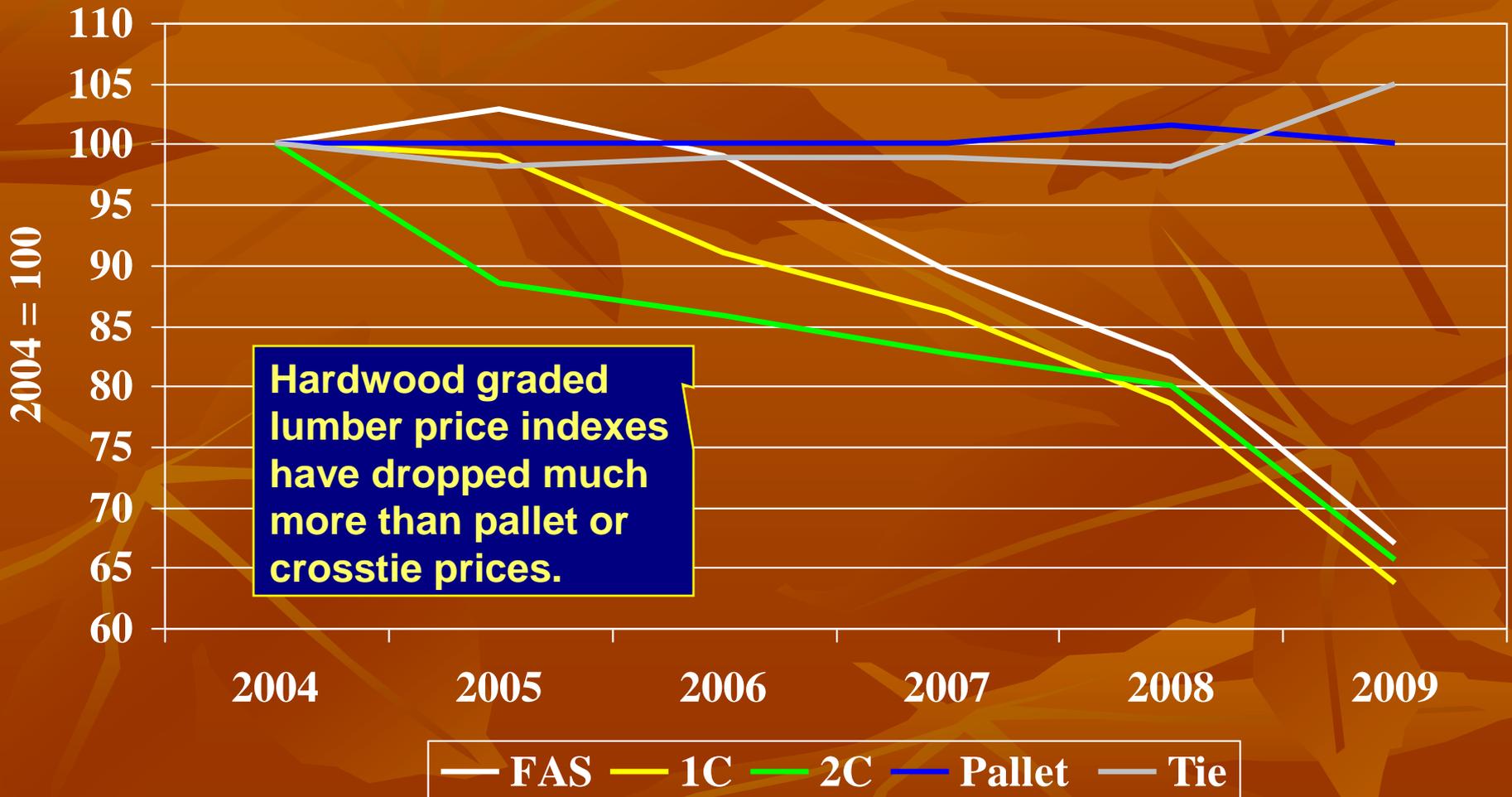
Production Employment in Wood Household Furniture Industry



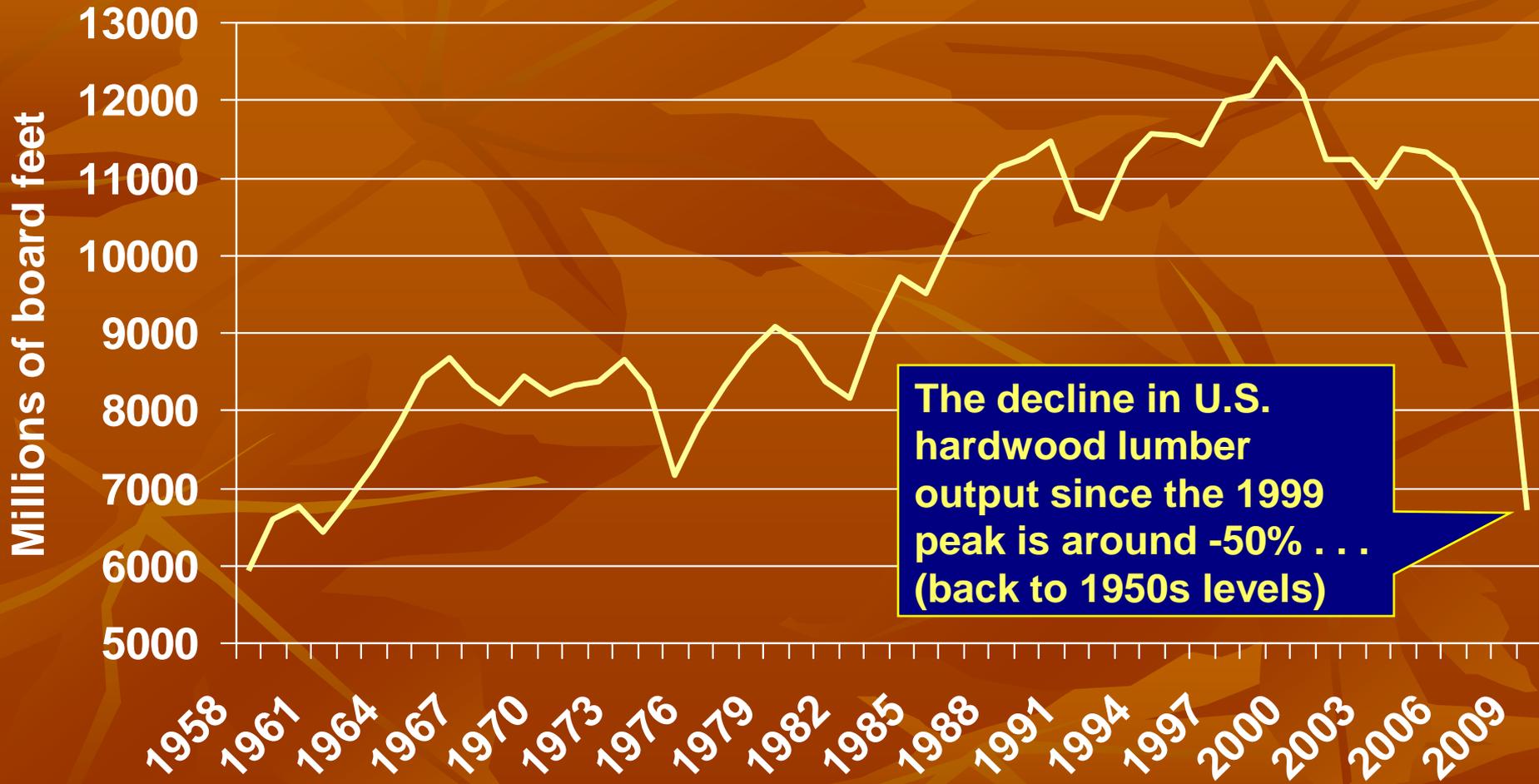
Production Employment in Kitchen Cabinet Industry



Indexes of Hardwood Lumber, Cross Ties and Pallet Cant Prices 2004 to 2009

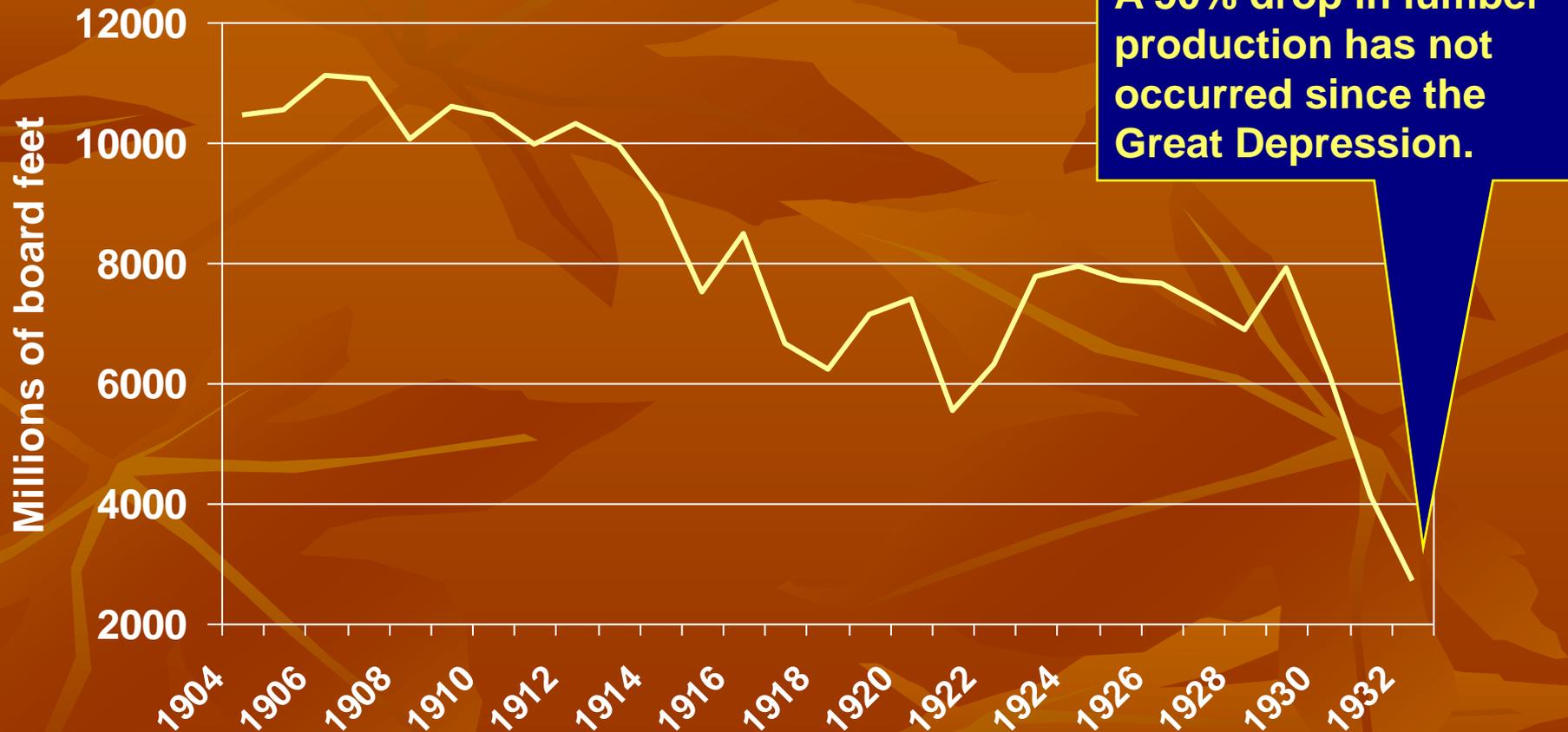


Eastern Hardwood Lumber Production 1958 to 2009



The decline in U.S. hardwood lumber output since the 1999 peak is around -50% . . . (back to 1950s levels)

Eastern Hardwood Lumber Production 1904 to 1932

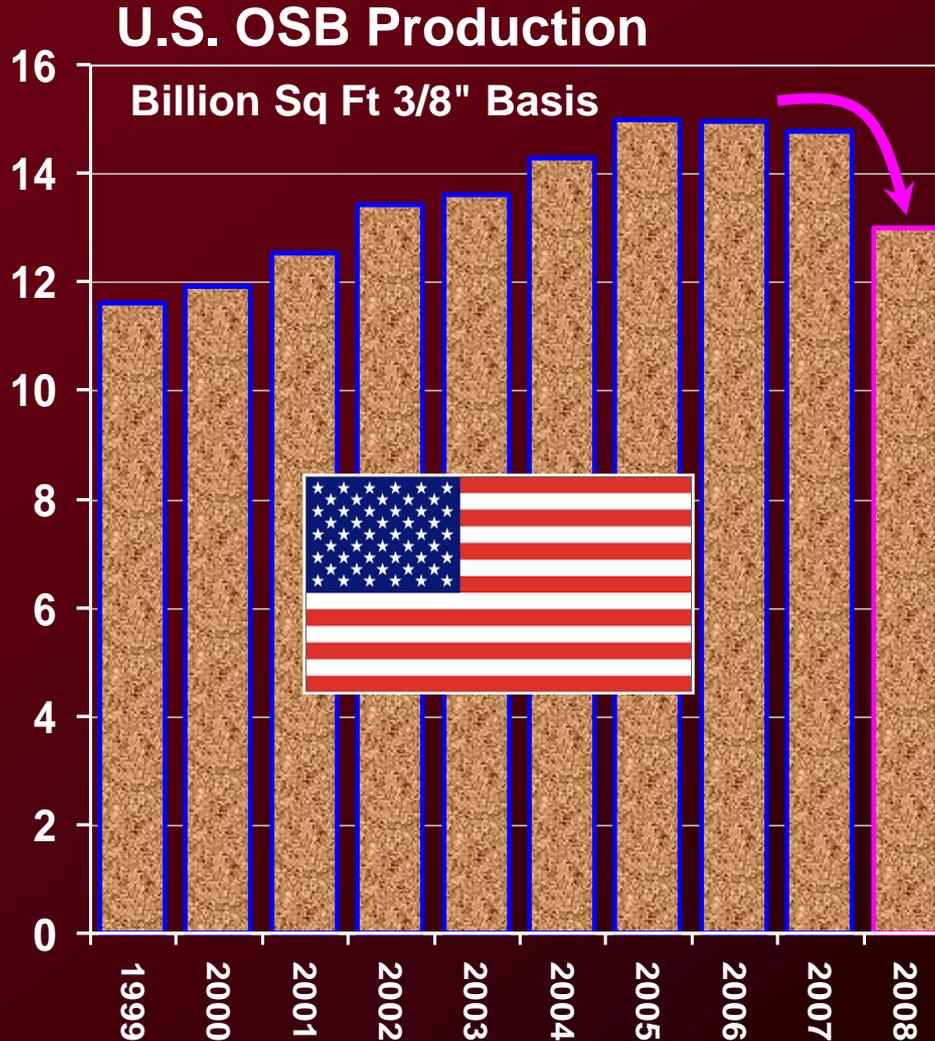


U.S. Delivered Log Price Trends (2001 – 2007) . . .



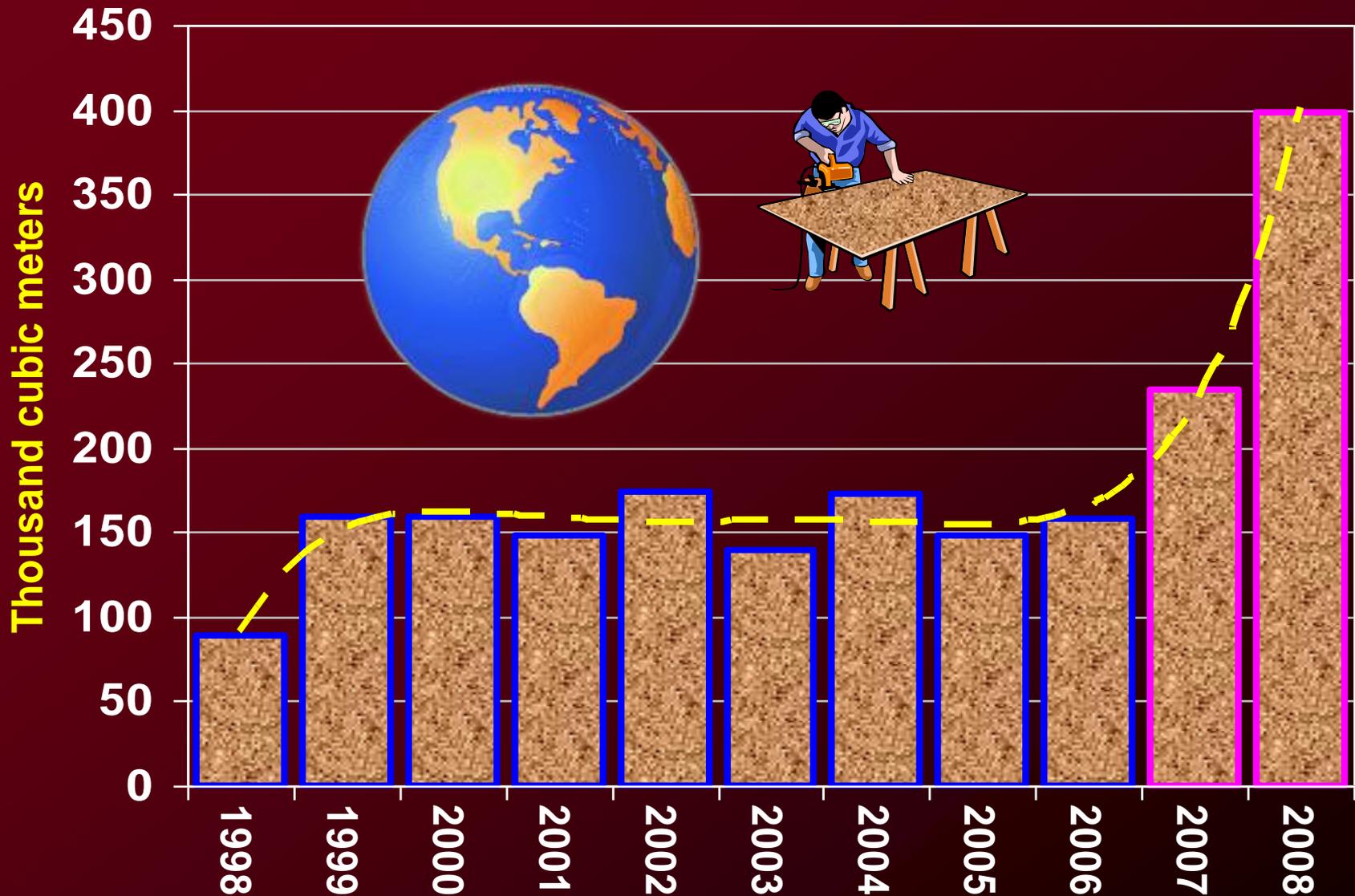
Log prices generally followed lumber markets, climbing to recent peaks in 2004-2005, but collapsing with the housing bust. The drop in log prices (-30% for softwood and -33% for hardwood from recent peaks) is now similar to the average drop in lumber prices.

North American OSB production was also crimped by the housing downturn, but higher U.S. exports helped sustain U.S. production into 2008:



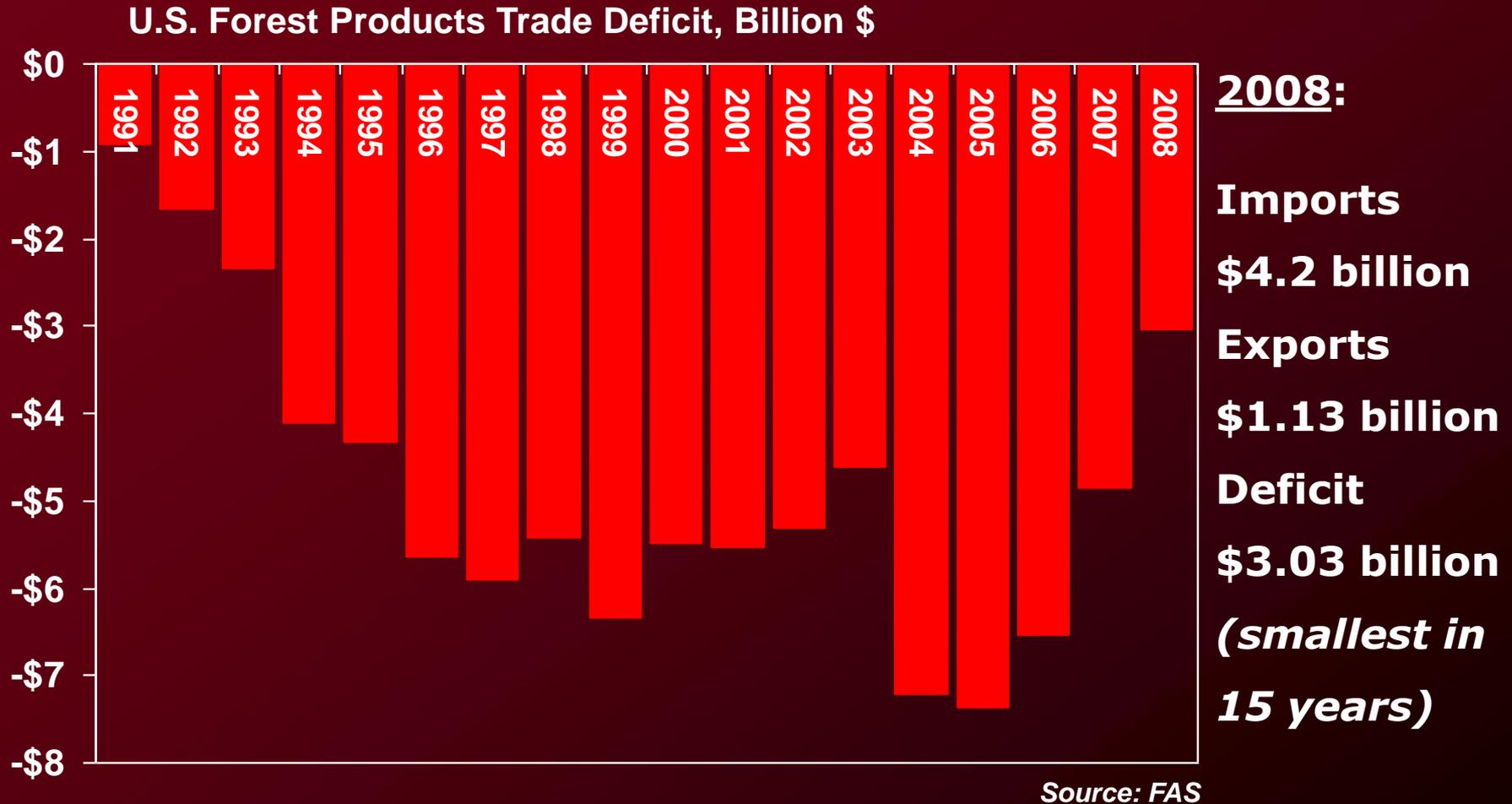
Source: APA – The Engineered Wood Assoc.

U.S. OSB exports surged in 2007-2008, due to low prices and excess capacity, but a stronger U.S. dollar might dampen export growth . . .

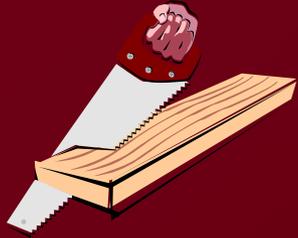


Source: FAS

Overall U.S. Trade Deficit has declined since 2005 in Forest Products*



* Forest products here include roundwood, sawnwood, wood based panels, pulp



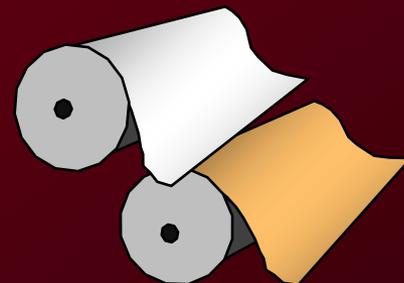
Summary of trends in lumber and wood panel markets



1. U.S. lumber and wood panel demands follow housing construction for obvious reasons (homes and furnishings are made of wood).
2. The U.S. housing market experienced a big collapse in demand, following the recent credit boom and peaking of home prices.
3. Since 2005 the collapse in housing has changed the market situation for lumber and wood panel products, with lower demand and prices.
4. An upturn in U.S. markets for lumber and wood panels hinges upon an upturn in the housing market, the timing of which remains uncertain.
5. The weaker U.S. dollar since 2005 helped improve the U.S. wood trade balance, but a stronger dollar and global economic recession in the past year raise doubts about export markets.

General Summary:

Global shifts in trade and manufacturing led to declining U.S. pulp, paper & board production since the 1990s.



A credit boom from the early 90s to 2005 gave a big boost to housing, but the boom led to an unsustainable housing bubble and market bust.



Forest markets were deeply impacted by the ongoing recession with declining demand and uncertainty about recovery.



