

State of the North American Pulp & Paper Industry – *An Update & Outlook* –



Unstable Times – Problems or Opportunities?
-- Q2 2006 Data--

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Overview

North American Pulp & Paper Industry – *An Update & Outlook*

- Where are We?
- How Competitive?
- The Economy?
- Grade-By-Grade Discussion
- Industry Spending
- Investment Decisions' Drivers
- Wrap-up and Q&A

Outlook – Where Are We?

■ North American Paper Industry:

- ✓ Remains one of the largest world regions for paper consumption and enjoys significant fiber resources . . .
- ✓ Competitiveness has been boosted by weaker U.S. dollar, *but is being strained by aging assets* . . .
- ✓ Has enjoyed a moderate, cyclical upturn, but solid returns are still lagging & *volumes are struggling* . . .
- ✓ With prices, and financial performance improving moderately – maybe *can extend through 2006 into 2007* . . .
- ✓ ...Many companies *may* have – *for a time* – more resources and opportunities to invest in their businesses since 1995.

Outlook – Where Are We?

2005 Volume Was Flat To Down – But Prices Improved

North American Grade	2005 Change In NA Production	2005 vs. 2004 Average Price
Printing & Writing	0%	+11%
Boxboard	-1%	+4%
Containerboard	-3.4%	+5%
Newsprint	-1.7%	+19%
Chemical Paper Grade Pulp	0%	+2%

Outlook – Where Are We?

Selected Current Prices Report – *Continuing to Improve*

Grade	Date	Latest	Year Ago	% Chg
50lb UFS (US\$/ton)	06/01/06	865	730	18.5%
60lb #3 CFS (US\$/ton)	06/01/06	940	900	4.5%
42# Kraft Liner (US\$/ton)	06/01/06	525 - 535	425 - 435	23.3%
30lb Newsprint (US\$/tonne)	06/01/06	660	595	10.9%
Pulp NBSK List (US\$/tonne)	05/12/06	690 - 720	630	11.9%

Outlook – How Competitive?

- Competitiveness Is Multidimensional:
 - ✓ Mill Performance vs. International Competition (*i.e. North American vs. South Am. vs. European vs. Asian mills' productivity and quality*)
 - ✓ Product Performance vs. Substitutes (*i.e. paperboard folding cartons vs. plastic packaging – newspaper vs. TV, etc.*)
 - ✓ End-User Performance vs. International Competitors (*i.e. domestic vs. international manufacturers*)
 - ✓ Financial Performance vs. Other Investments (*i.e. returns on paper investment vs. alternatives of similar risk*)

Outlook – How Competitive?

- Based On These Dimensions, Industry Participants Must Recognize:
 - ✓ Off-shoring and substitution by alternative mediums *are driving long-term demand below current levels*
 - ✓ North America *has become increasingly uncompetitive* in pulp and paper production
 - ✓ The industry's cost based competition and capital rationing strategies *have eroded its asset base.*
 - ✓ The composite financial performance of the industry has been pitiful looking back – and without a sustained upturn will further dissuade future investment – *even with the improved short-term environment . . .*



Outlook – How Competitive?

Absent Strength of the US Dollar Issues – *North America Does Not Enjoy Low Cost Producer Status In Most Grades*

Grade Category	Low Cost Production Centers
Pulp	<i>Brazil</i> , Chile, Argentina, Indonesia and <i>Canada</i> (selected)
Printing & Writing Papers	<i>Brazil</i> , Russia, Indonesia, Thailand, Scandinavia, Western Europe
Newsprint	Eastern Europe, <i>Brazil</i> , Chile and <i>Canada</i>
Premium Folding Carton Grades	<i>Brazil</i> , Russia, Sweden, Chile and Finland

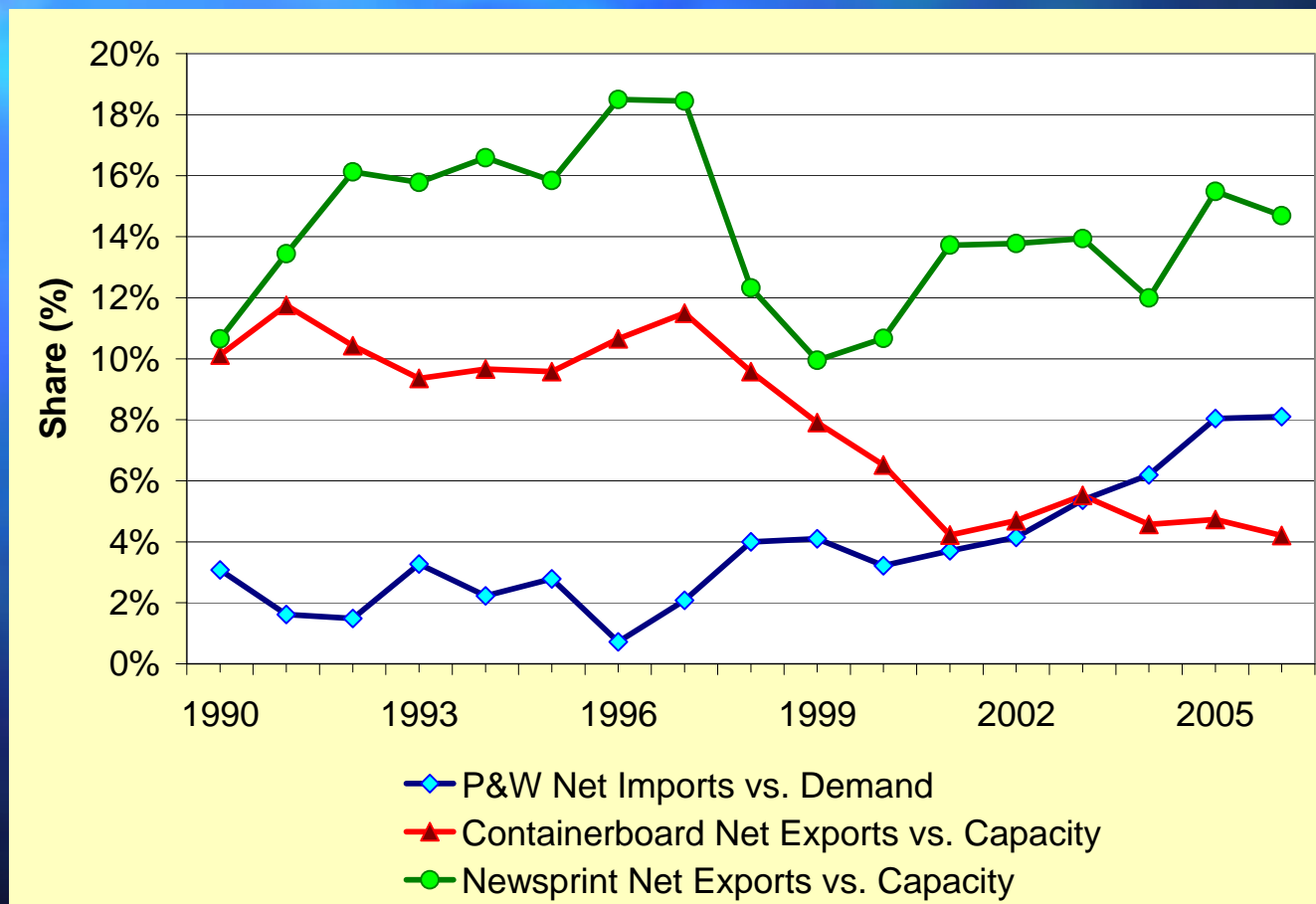
Outlook – How Competitive?

High Volume North American Grades
Have Significant Substitution Threats

Grade Category	Substitutes
Containerboard	Re-usable shipping containers, offshoring of manufacturing
Packaging Grades	Flexible packaging, offshoring of manufacturing
Printing & Writing Papers	Electronic communications, alternative advertising mediums
Newsprint	Electronic communications, alternative advertising mediums
Tissue	<i>No major substitutes</i>

Outlook – How Competitive?

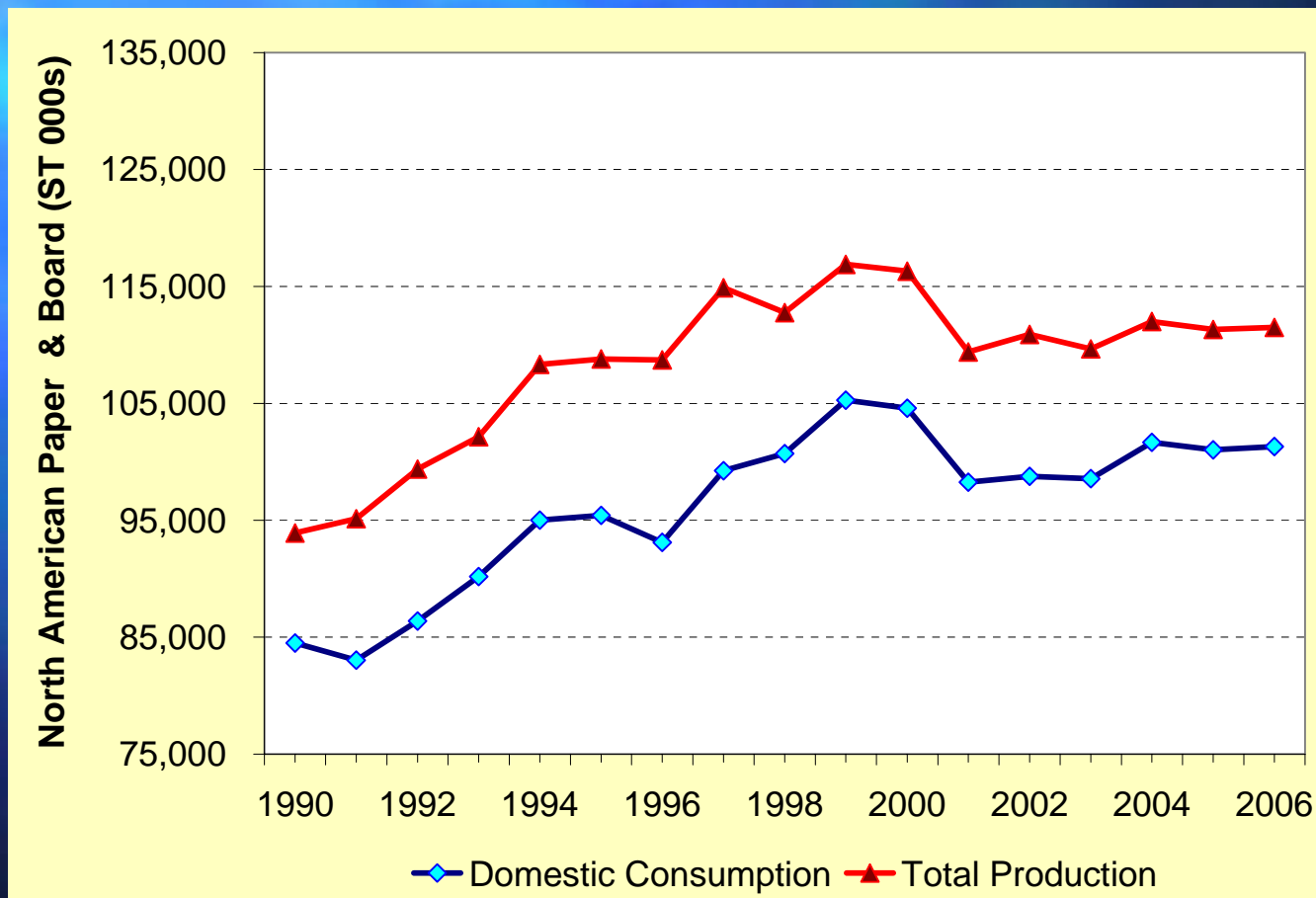
Trade Patterns Have Weakened For North American Producers In P&W, Containerboard and Newsprint



Outlook – How Competitive?

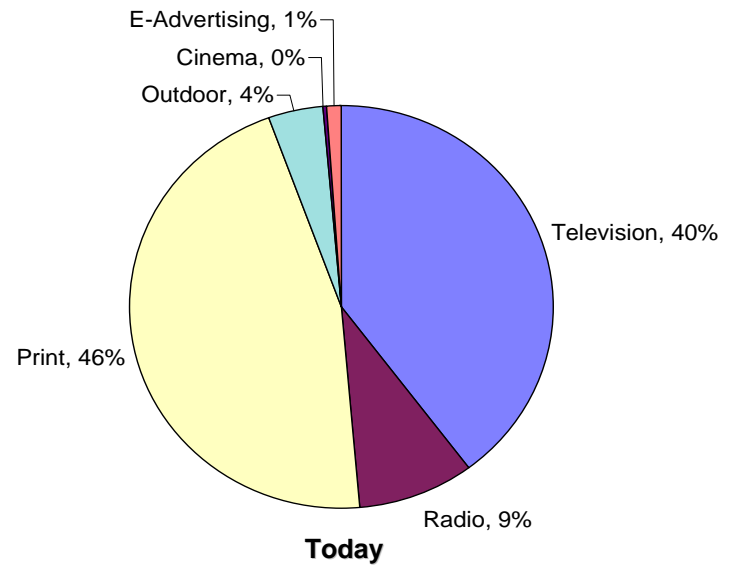
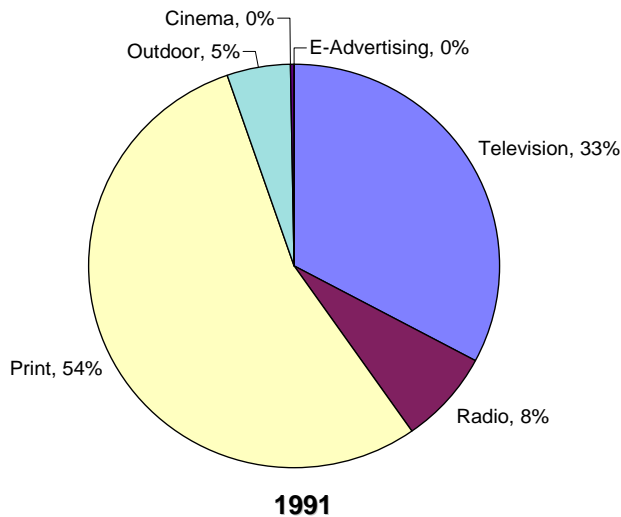
Substitutes, The Early 2000s Recession & International Competition Together Suppressed Domestic Production and Consumption

- Off 3% to 4% in 2006 From Its 1999 Peak – In Spite Of Modest Recent Rebound



Outlook – How Competitive?

Worldwide Print Advertising Has Lost Nearly 10 Points of Market Share Since 1991 – And Expectations Are For This Trend to Continue

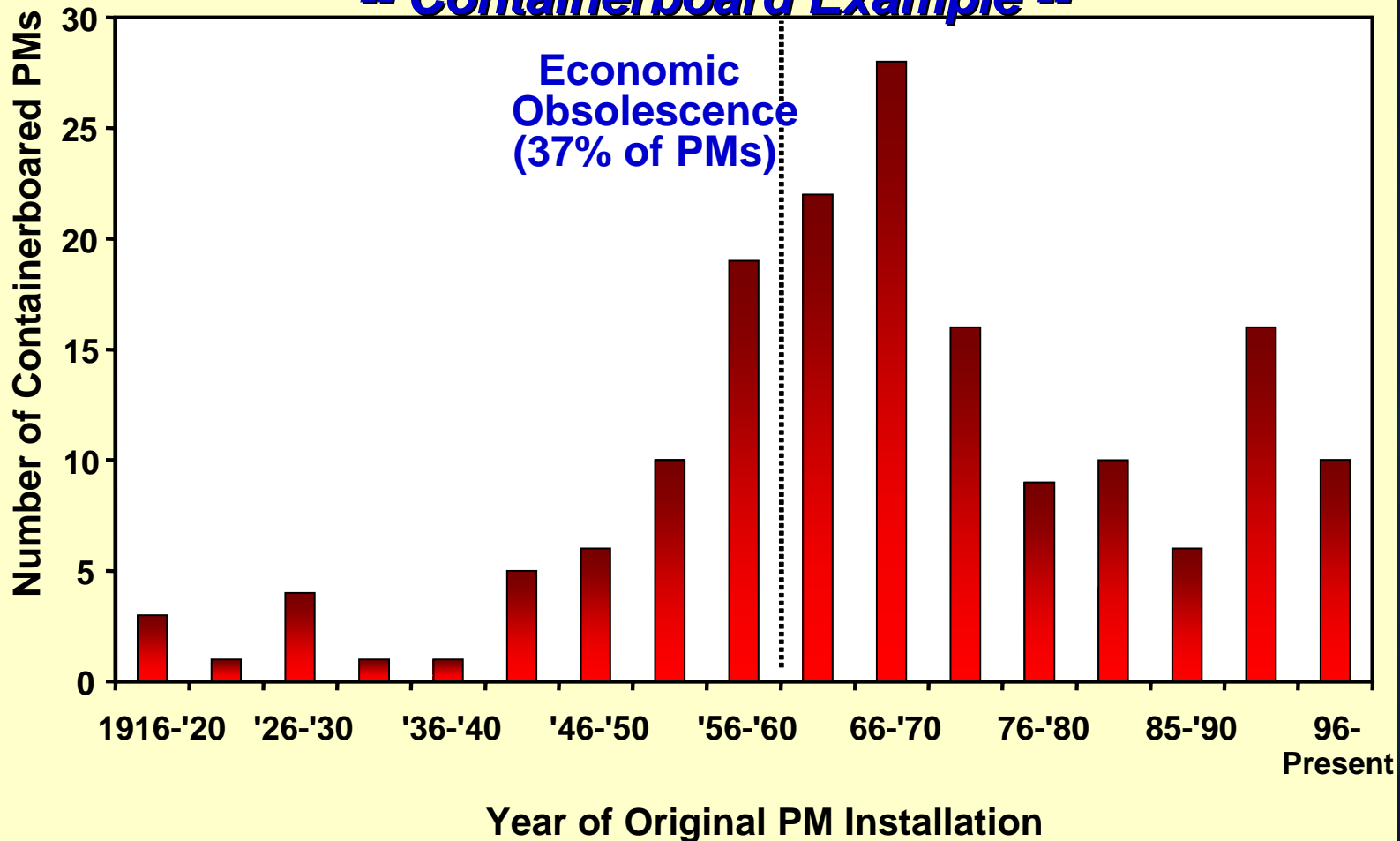




Outlook – How Competitive?

Large Share of North American Assets Are Approaching The End of Their Economic Lives

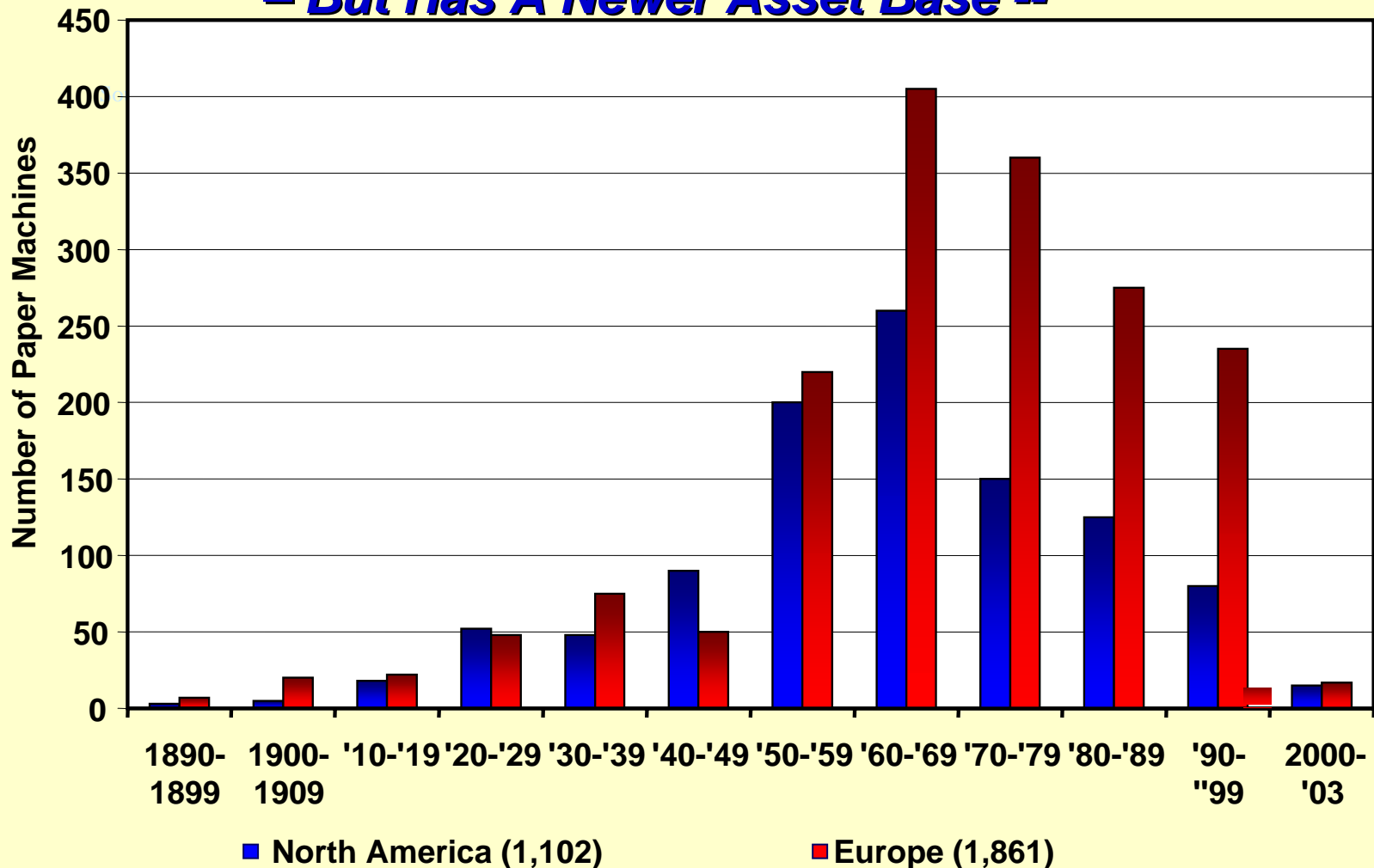
-- Containerboard Example --



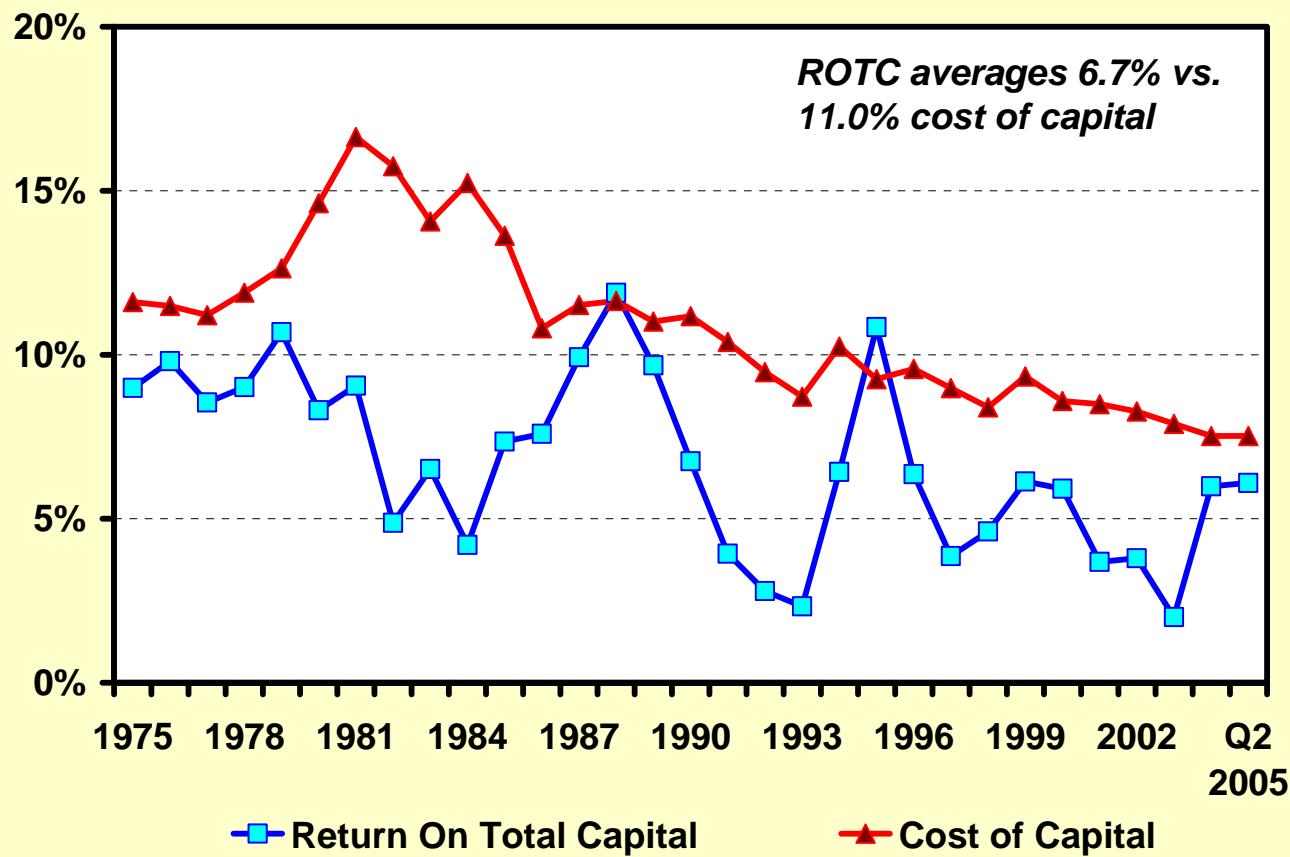
Outlook – How Competitive?

Europe Is Facing Similar Demand & Competitive Issues

– But Has A Newer Asset Base --



Outlook – How Competitive?

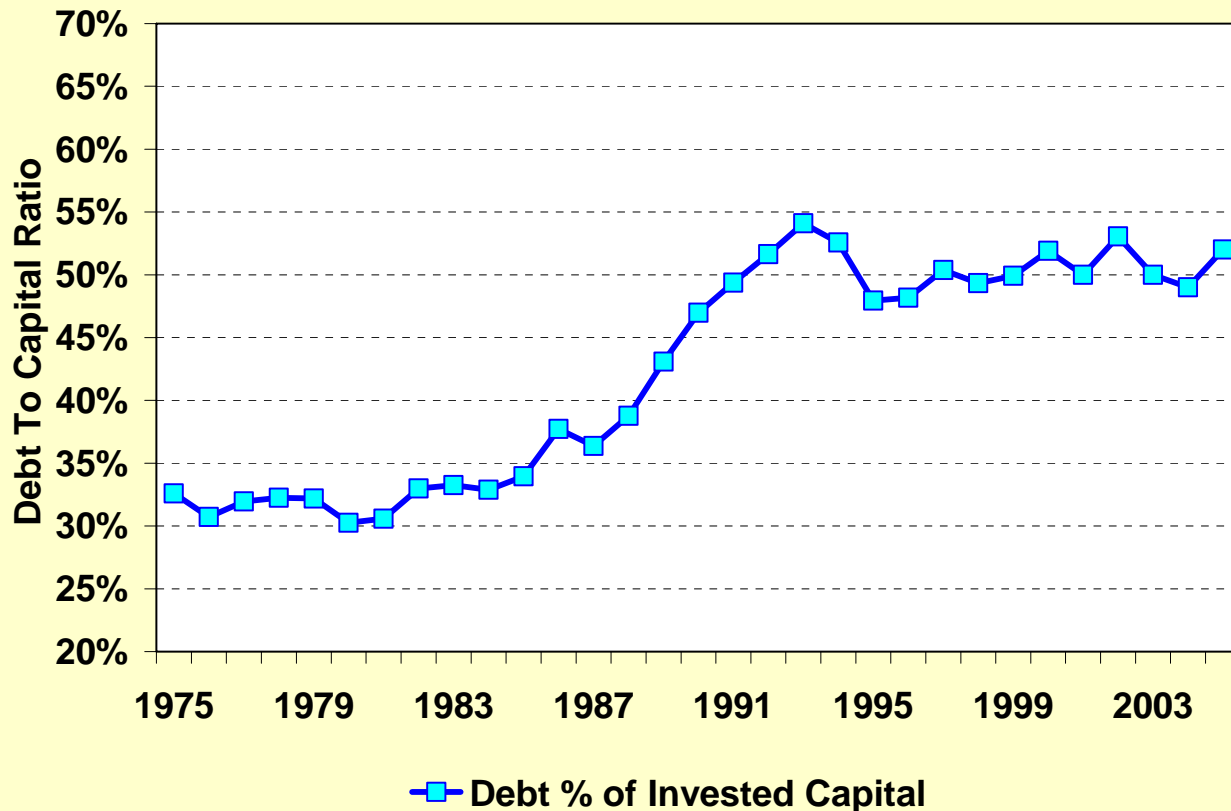


2005 Returns Were *Best Since 1995* – But Have Been 4.3 Points Below Target – Rational Investors *Will Not Allocate* Capital To A Poorly Performing Industry – *Key Question = Is The Industry Situation Changing?*

Outlook – How Competitive?

Increased Debt Levels Across Time

Significantly Limit Investment Opportunities & Flexibility



Outlook – How Competitive?

- In essence then – the industry has been a poor performer since the 1970s – it faces a continually tough business environment – *in spite of today's decent upturn*
- And, as Noted – the North American Pulp and Paper Industry
 - ✓ Is *not the low-cost producer* on most grades, and
 - ✓ High-volume grades have *significant substitution and global market place threats*
- Wherein – traditional business models have been *stretched to the limit* with
 - ✓ The emergence of the *global marketplace*, and
 - ✓ The new power of rapidly moving *knowledge and knowledge transfer*

Outlook – How Competitive?

- Accordingly – participants must learn how to thrive under these often *intense, negative, and rapidly changing conditions*

...but individual companies *can* excel if they use the current short to mid-term upturn to chart a new course looking out . . .

Outlook – The Economy?

Real GDP Growth By Region	2003	2004	2005	2006
Advanced Economies				
US	3.0%	4.4%	3.5%	3.4%
Euro Area	0.5%	2.2%	1.4%	2.2%
Japan	2.5%	4.4%	2.4%	2.0%
UK	2.2%	3.4%	1.7%	2.5%
Canada	2.0%	2.9%	3.0%	3.2%
Other Advanced Economies	2.4%	4.3%	2.8%	3.3%
Newly Industrialized Asian	3.0%	5.5%	3.1%	4.5%
Other Emerging Markets	6.1%	6.6%	6.4%	6.1%
Africa	4.3%	4.5%	5.3%	4.5%
Central / Eastern Europe	4.5%	5.5%	4.3%	4.6%
Developing Asia	7.7%	7.6%	7.8%	7.2%
Middle East	6.0%	5.1%	5.4%	5.0%
Latin America	1.8%	4.6%	4.1%	3.8%

**Overall
Economic
Growth
Projections
*Do Favor
Continued
Demand
Growth In The
Industry***

Outlook – The Economy?

NA Sectors That Directly Drive Pulp & Paper Demand Are Projected To Be Weaker Than Overall GDP – But Remain Positive

Economic Indicator	Industry Segment Impacted	1990-1995	1995-2000	2000-2004	2005	2006-2010
Real GDP	All	2.5%	4.1%	2.5%	3.5%	3.0%
Implicit Price Deflator	All	2.4%	1.6%	1.9%	3.0%	2.2%
Personal Consumption Expenditures	All	2.6%	4.4%	3.2%	3.5%	2.8%
Industrial Production	All	3.5%	6.0%	0.1%	3.7%	2.5%
Indust. Prod. - Non-Durables	Containerboard	1.8%	1.3%	-0.6%	0.1%	0.8%
Indust. Prod. - Durables	Packaging	4.9%	9.5%	0.7%	7.7%	5.3%
Food & Beverage Sales	Boxboard	1.9%	3.2%	3.6%	5.1%	3.1%
Food services and drinking places	Tissue	4.8%	5.5%	6.3%	7.1%	2.9%
Computer & Peripheral Sales	P&W Papers	21.6%	5.2%	2.0%	32.9%	4.6%
Professional Employment & Business Services	P&W Papers, Tissue	3.4%	5.3%	-0.4%	3.4%	2.7%
US Households	Tissue, Building Products	1.2%	1.1%	0.2%	1.0%	1.0%
Housing Starts	Tissue, Building Products	2.5%	2.9%	5.5%	3.8%	-2.0%

Outlook – Grade-by-Grade Discussion

- North American Market
- NA Boxboard
- NA Containerboard
- NA Newsprint
- NA Printing & Writing Papers
- NA Market Pulp
- NA Tissue

Outlook – NA Market Overview

- The weakness in primary pulp and paper demand in the 2000s *has as noted somewhat corrected* – due in part – to improving domestic economic conditions
- This – combined with the closure of significant capacity within the industry – *has put supply relatively in balance with demand for now . . .*
- *And as shown* – producers have been successful at implementing price increases in this environment

The net result is a cyclical upturn in the NA pulp and paper industry that could reverse circa late 2006 / 2007

Outlook – NA Market Overview

- The North American Pulp and Paper industry is *a mature web of businesses* generally characterized by:
 - ✓ *Highest per capita consumption in world across all grades*
 - ✓ *Slower growth than real GDP*
 - ✓ *High capital intensity*
 - ✓ *Cost and price based competition*
 - ✓ *Below cost of capital returns*
 - ✓ *Cyclical pricing and profitability . . .*

Historically – the NA industry expanded after each cyclical peak.
Excess capacity was then been pushed onto international markets
– ***This pattern has changed***

Outlook – NA Market Overview

- Today the NA Industry business environment *has stabilized due to a combination of factors:*
 - ✓ *A weakening US dollar,*
 - ✓ *Rebounding domestic demand,*
 - ✓ *Improving returns, Weakening competitiveness of European producers, and*
 - ✓ *Moderating industry growth in developing regions*
 - ✓ *Better understanding by industry leaders of the role of capacity and spending management*
- This represents *a substantive change from the past five years of persistent weakening overall market place and industry performance*

Outlook – NA Market Overview

This has generated *a much needed breath of fresh air* for the NA Industry to take stock, and determine its path forward under more stable and positive circumstances.

Accordingly – the North American industry does have a window of opportunity to further restructure and innovate to better compete in the changing global market looking out – but the business environment for such enhancement moves is transient – ***and time is likely essential***

Outlook -- NA Market Overview

Grade Segment	Change in Capacity (Tons/Tonnes)		Compound Annual Growth Rate	
	2000- 2005	2005- 2010	2000- 2004	2005- 2010
NA Boxboard	-69	347	-0.2%	0.7%
U.S. Containerboard	-1,073	639	-0.9%	0.3%
NA Newsprint	-2,844	-1,541	-3.3%	-2.4%
NA Printing & Writing	-970	-930	-0.8%	-0.5%
NA Tissue	952	247	2.2%	0.8%
NA Market Pulp	-342	532	-0.4%	0.5%

**Industry
Surveys And
Projections
Indicate That
*Capacity
Growth Will Be
Minimal*
Between 2005
And 2010**

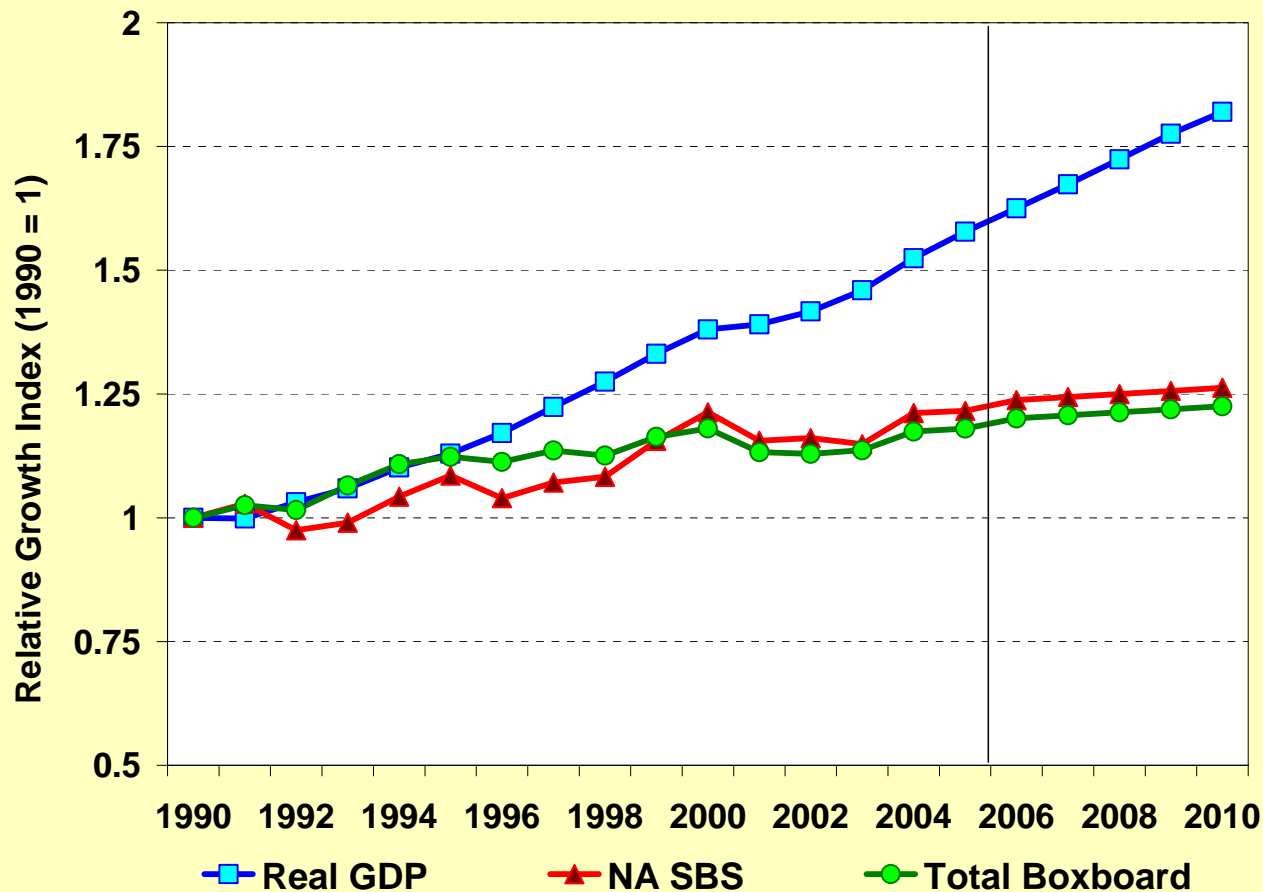
Outlook – NA Boxboard

Boxboard is a weak but stabilizing NA segment --

- *Slow growth in industries that consume boxboard, increased competition from overseas producers and widespread substitution by plastics and alternative packaging materials have hurt producers*
- *Profitability/returns are better than industry average despite these poor fundamentals due to a relatively concentrated supply base*
- *Facility closures have brought supply and demand in line*

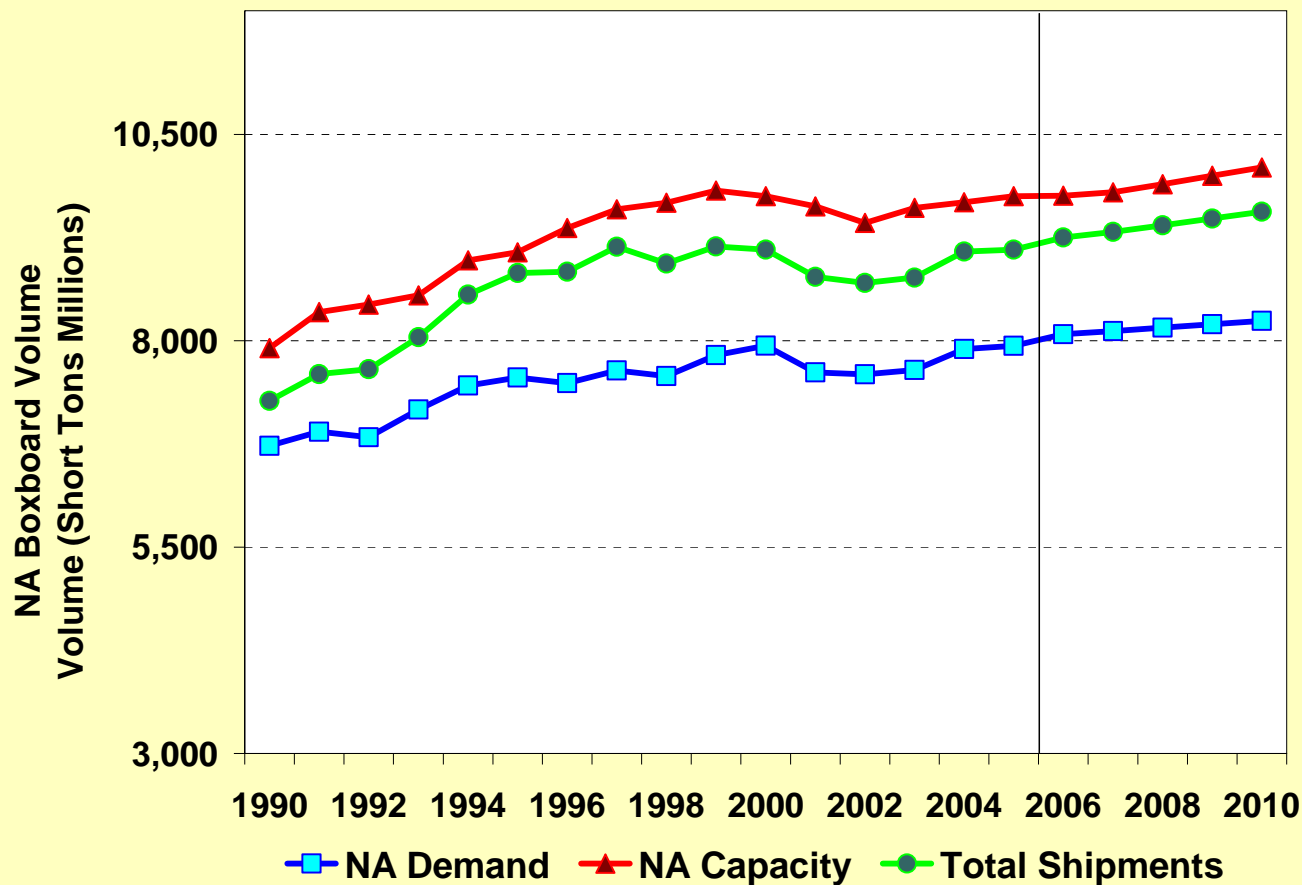
Implications – Slow capacity growth is projected but carries a relatively high risk of falling demand & additional facility closures

Outlook – NA Boxboard



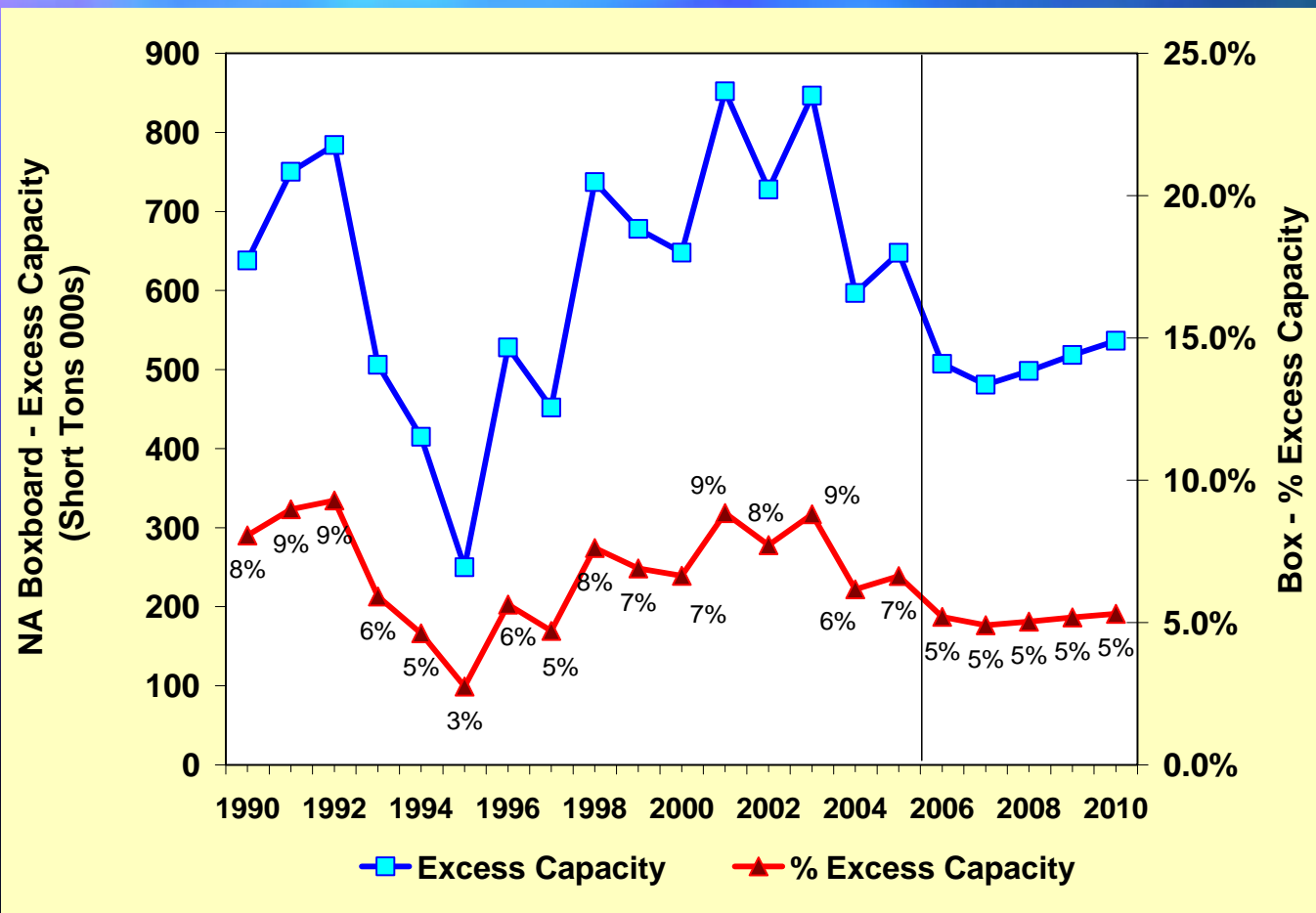
**NA
Boxboard
Demand
Growth Now
*Significantly
Lags GDP –
Bleached
Board
Growth
Slightly
Outpaces
Recycled***

Outlook – NA Boxboard



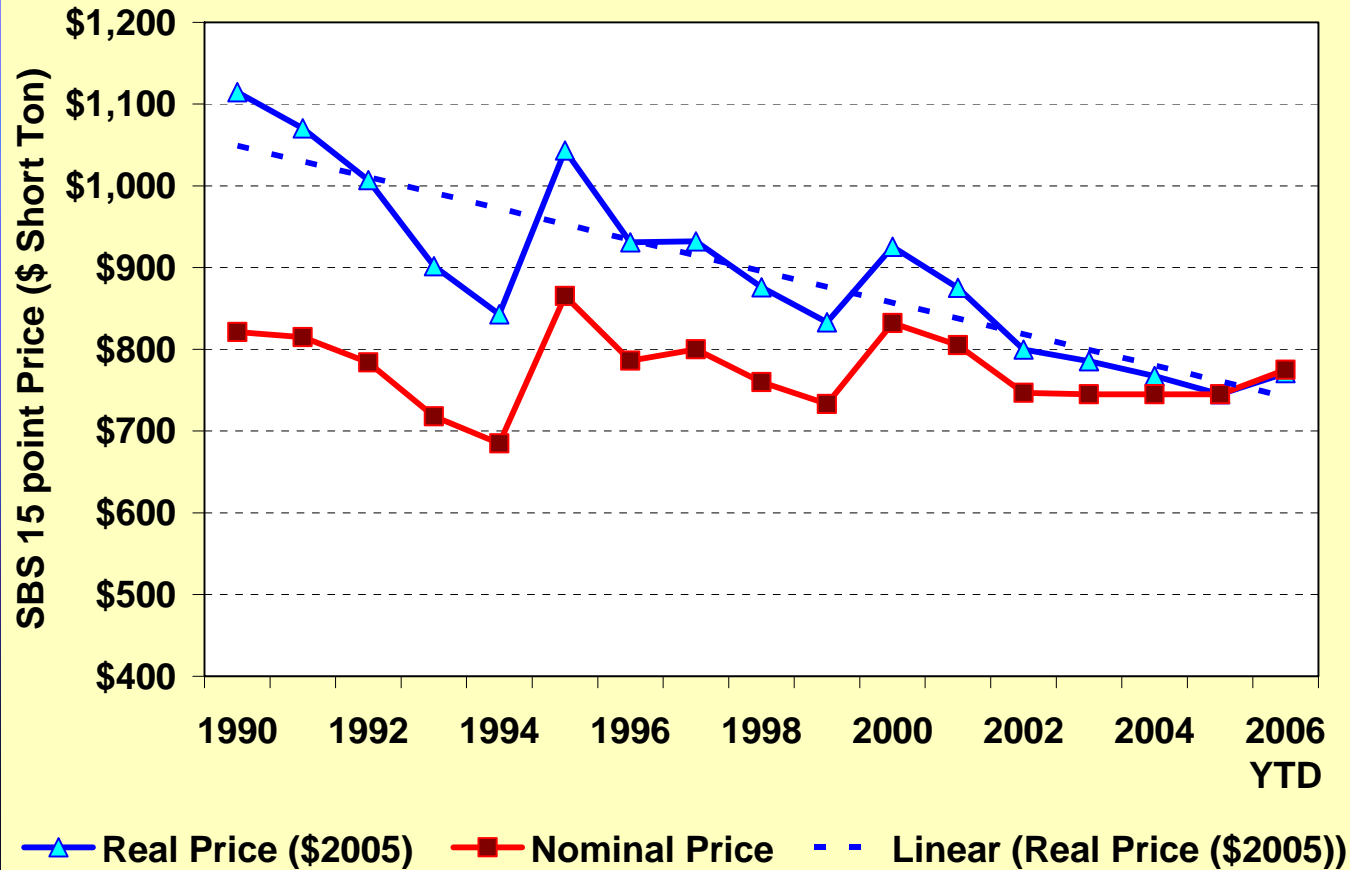
Both Demand And Supply Have Resumed Growth But Will Take Several Years To Reach Historic Levels

Outlook – NA Boxboard



NA Boxboard
Has Consolidated & Reduced Excess Capacity –
But May Be Tempted To Add Capacity In The Out-years If Demand Continues To Grow

Outlook – NA Boxboard



*Long-term
Prices
Continue To
Trend
Downwards*

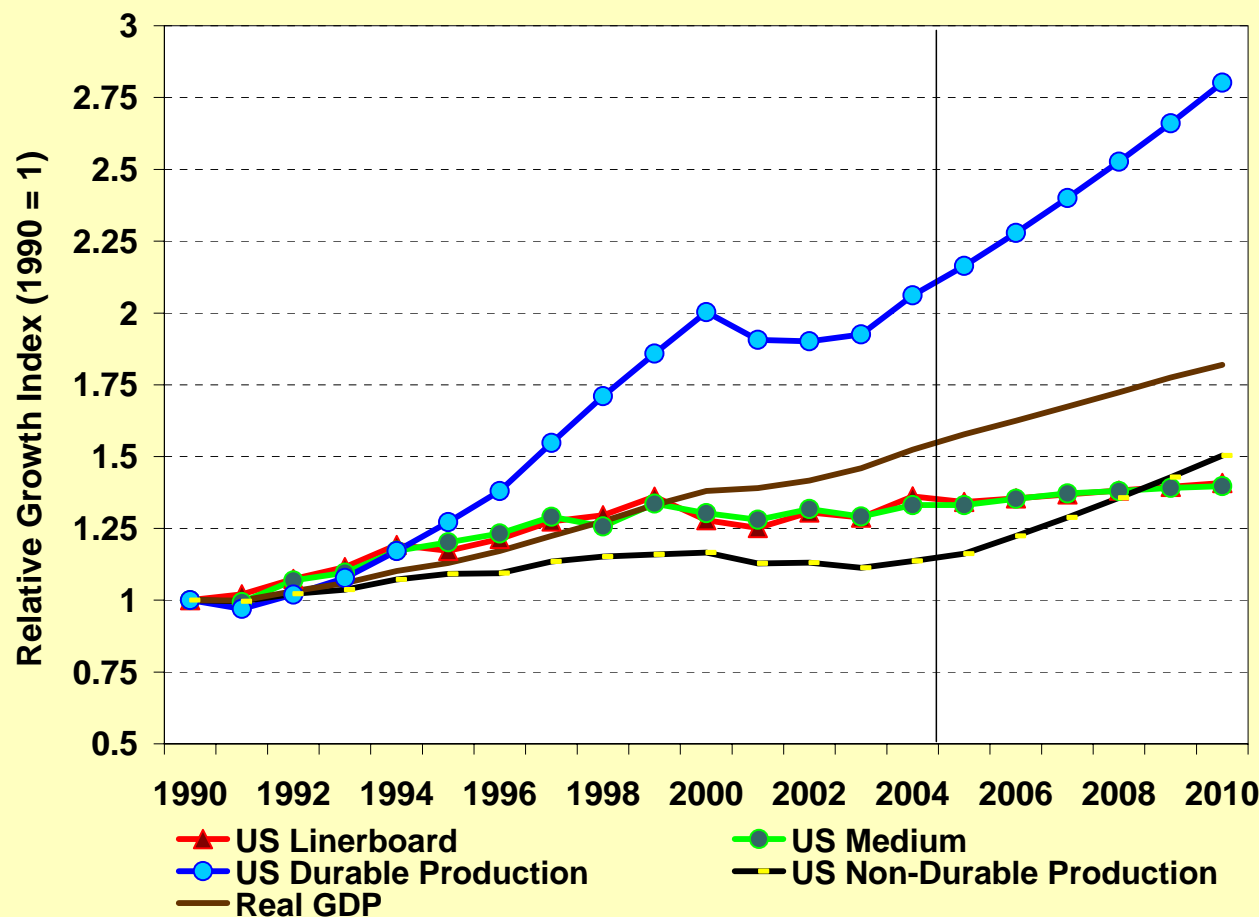
Outlook – NA Containerboard

This NA Containerboard segment has undergone one of the most extensive restructurings within the industry --

- Concentration of top producers *has gone from one of the lowest to highest in the industry* – improved capacity utilization and expansion discipline has followed
- Further acquisitions by large players *will be difficult*
- However, *NA producers have lost export market* to new overseas capacity, especially in China and Germany
- Profitability and returns are *lower than industry average*
- Slack capacity *absorbed quickly* with improved economy

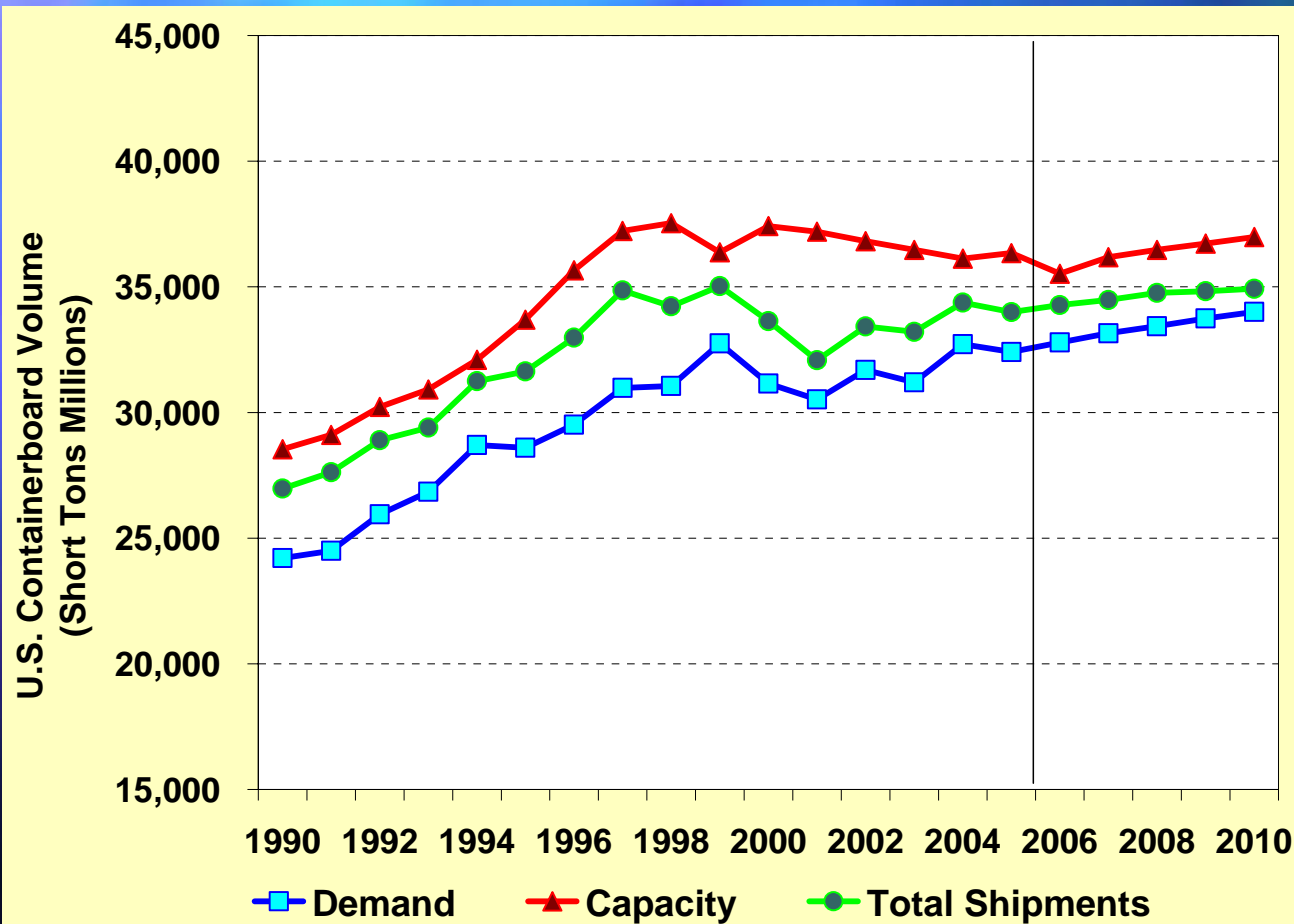
Implications – Producers are expected to grow capacity slowly with demand – risks of further closures persist from loss of volume in export markets **and to substitutes**

Outlook – NA Containerboard



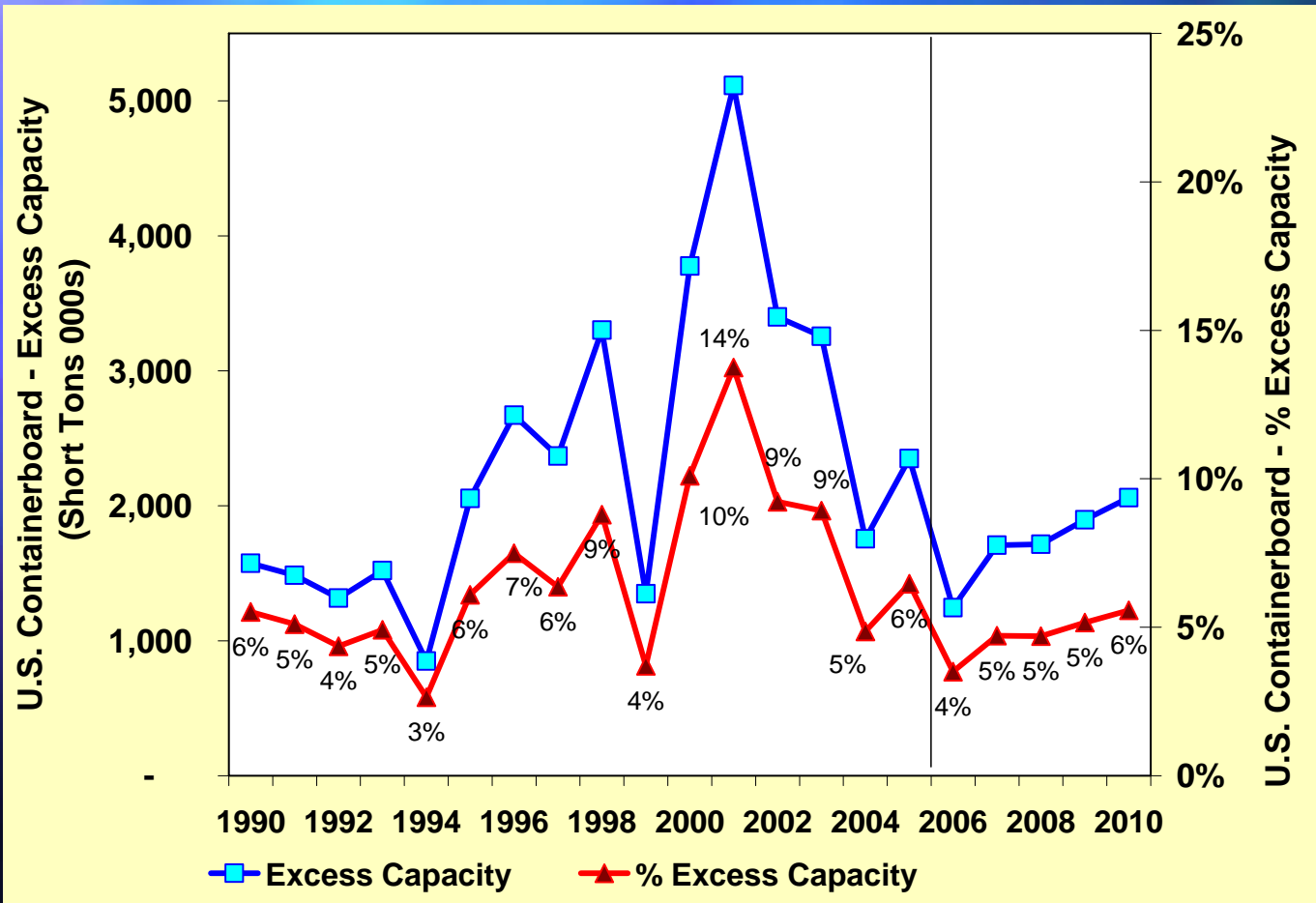
NA Containerboard Demand Continues To Grow At A Rate Closely Tied To Domestic *Non-Durables and Durables* Production

Outlook – NA Containerboard



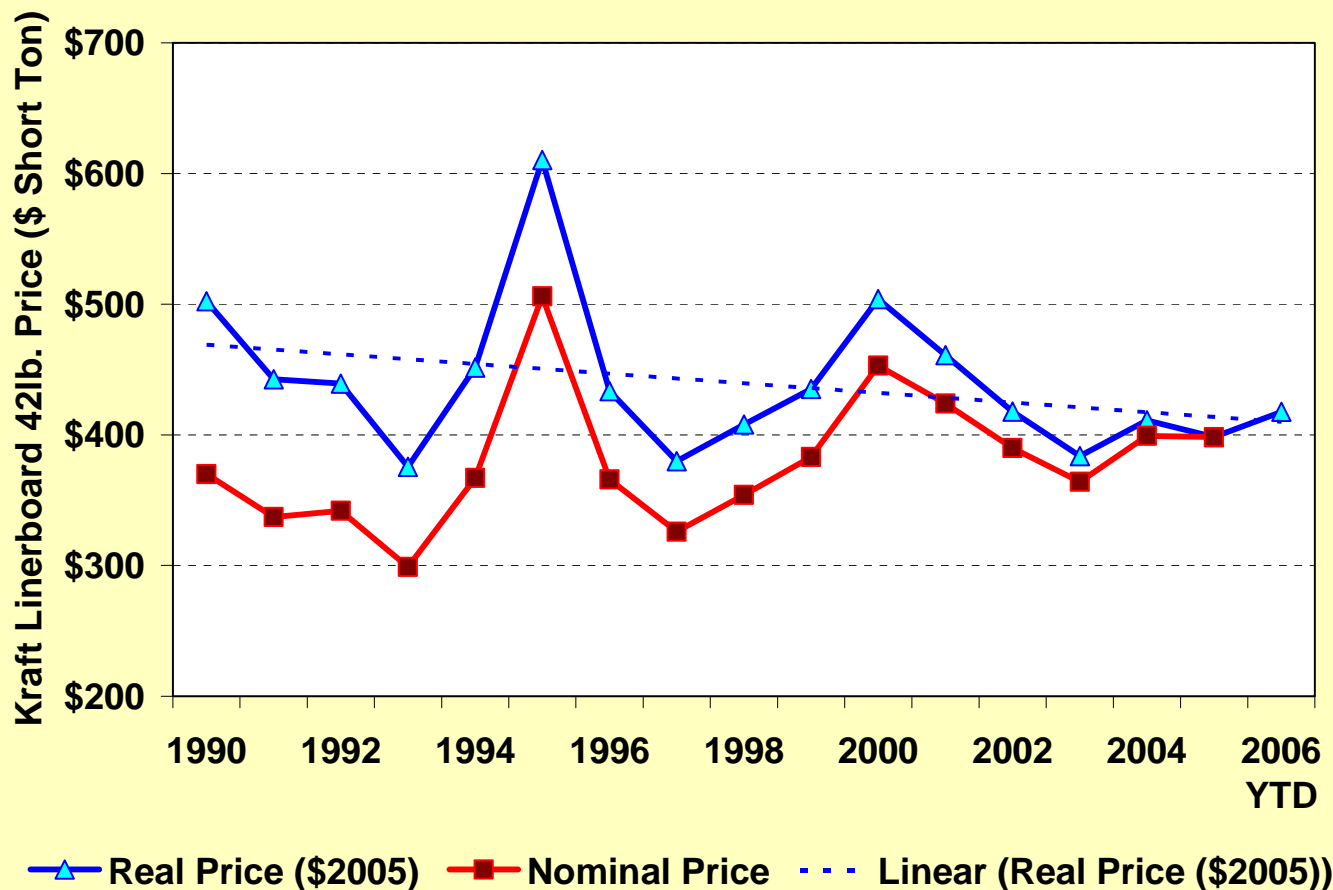
**NA Capacity
Is Expected
To Be Well
Controlled
Relative To
Demand**

Outlook – NA Containerboard



**NA
Container-
board's
*Excess
Capacity Is
Relatively In
Balance***

Outlook – NA Containerboard



NA Capacity Reductions Helped Containerboard Producers Maintain & Prices – *But Profits Remain Below Required Levels*

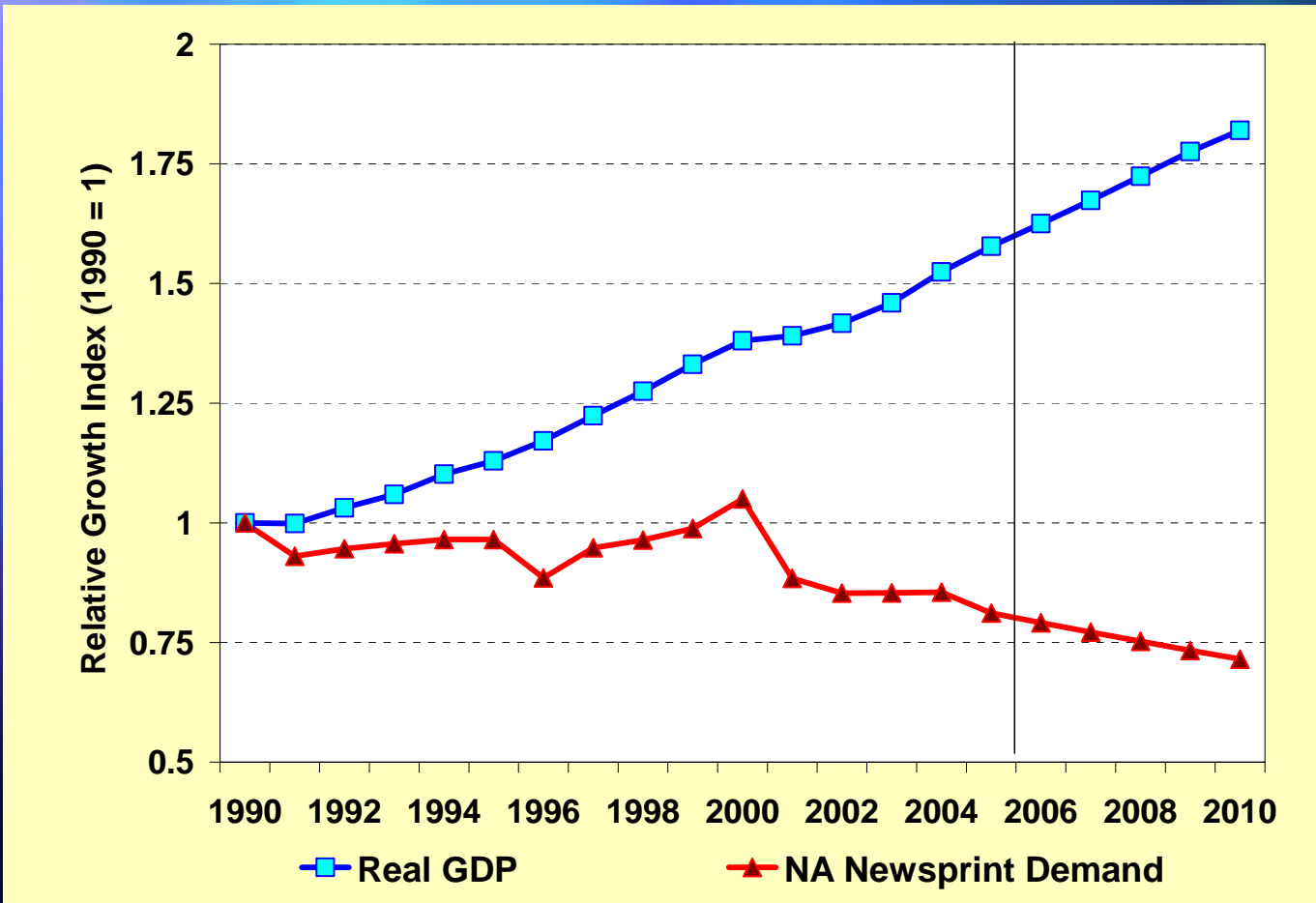
Outlook – NA Newsprint

Newsprint is the *weakest overall industry NA segment --*

- Short-term publishing and printing declines have been exacerbated *by substitution to alternative media*
- National and local papers continue to *reduce page size*
- Newsprint *is in decline* in the long-term
- Opportunities for further consolidation exist and *significant capacity reductions and grade conversions will continue*

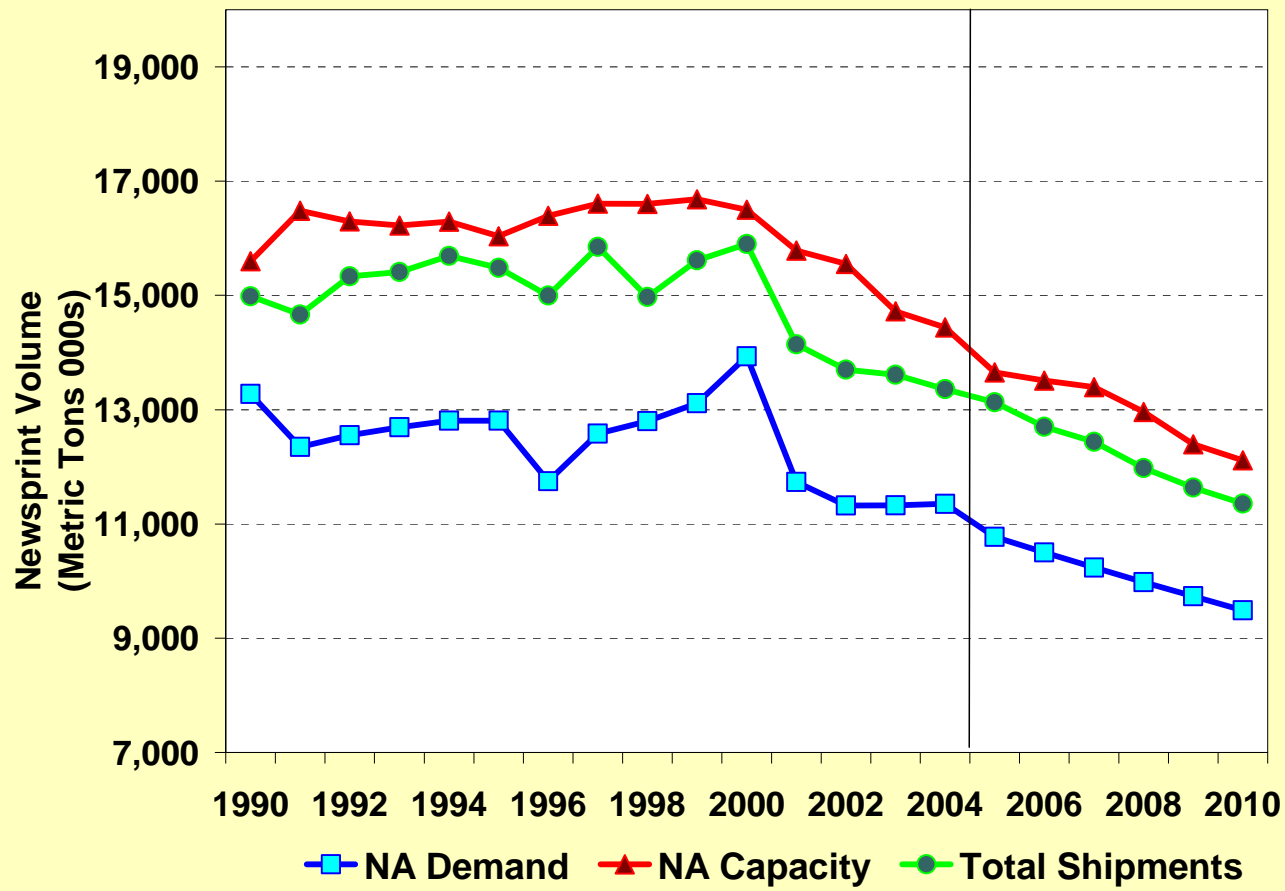
Implications – Rational players will spend a minimum of capital and seek value added grade conversions. No new NA Newsprint mills are likely to be built – *at least by rational sector players . . .*

Outlook – NA Newsprint



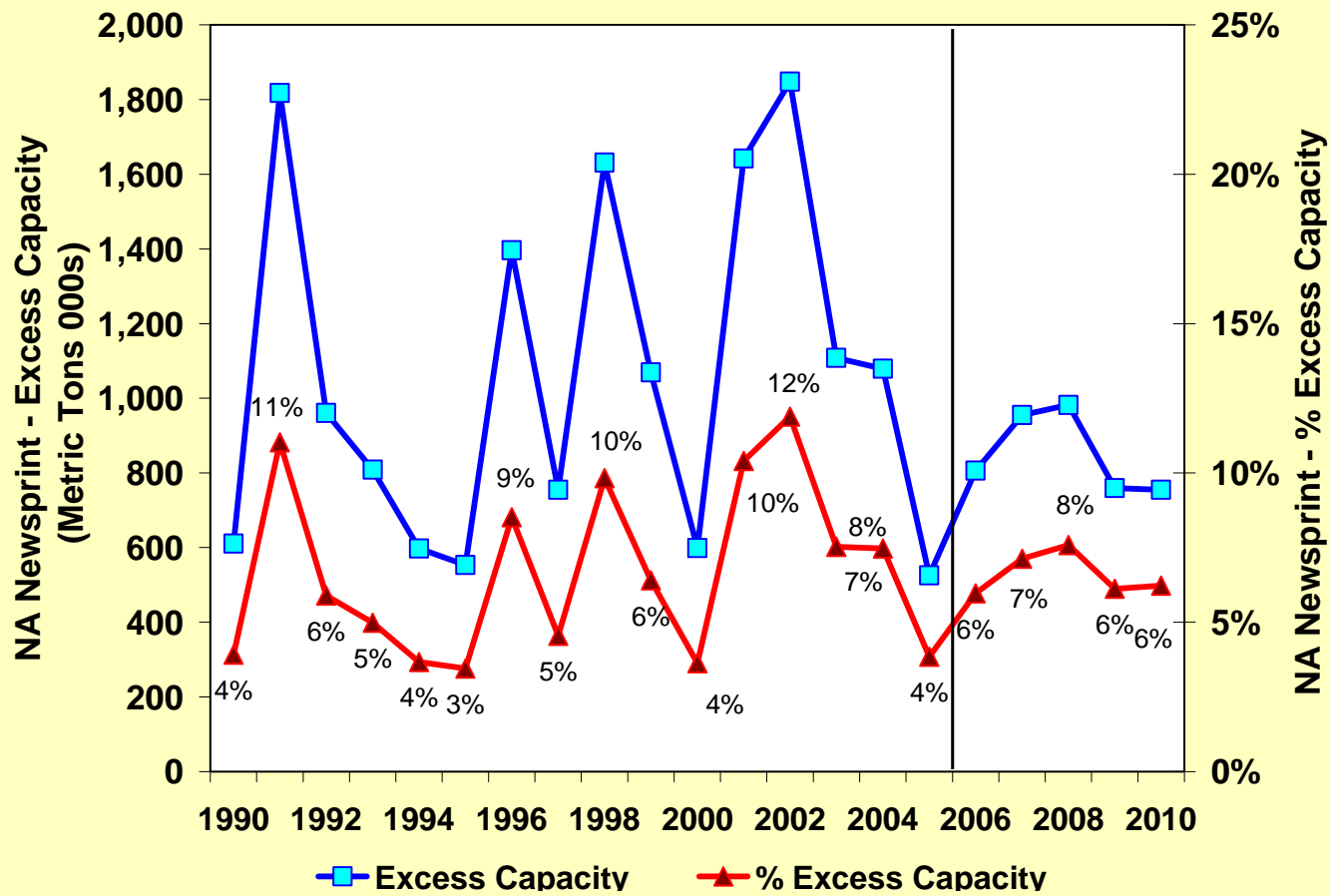
NA Newsprint Is A Declining Segment In Long-Term – A Short- to Mid- Term Improvement May Occur But Is Not Projected

Outlook – NA Newsprint



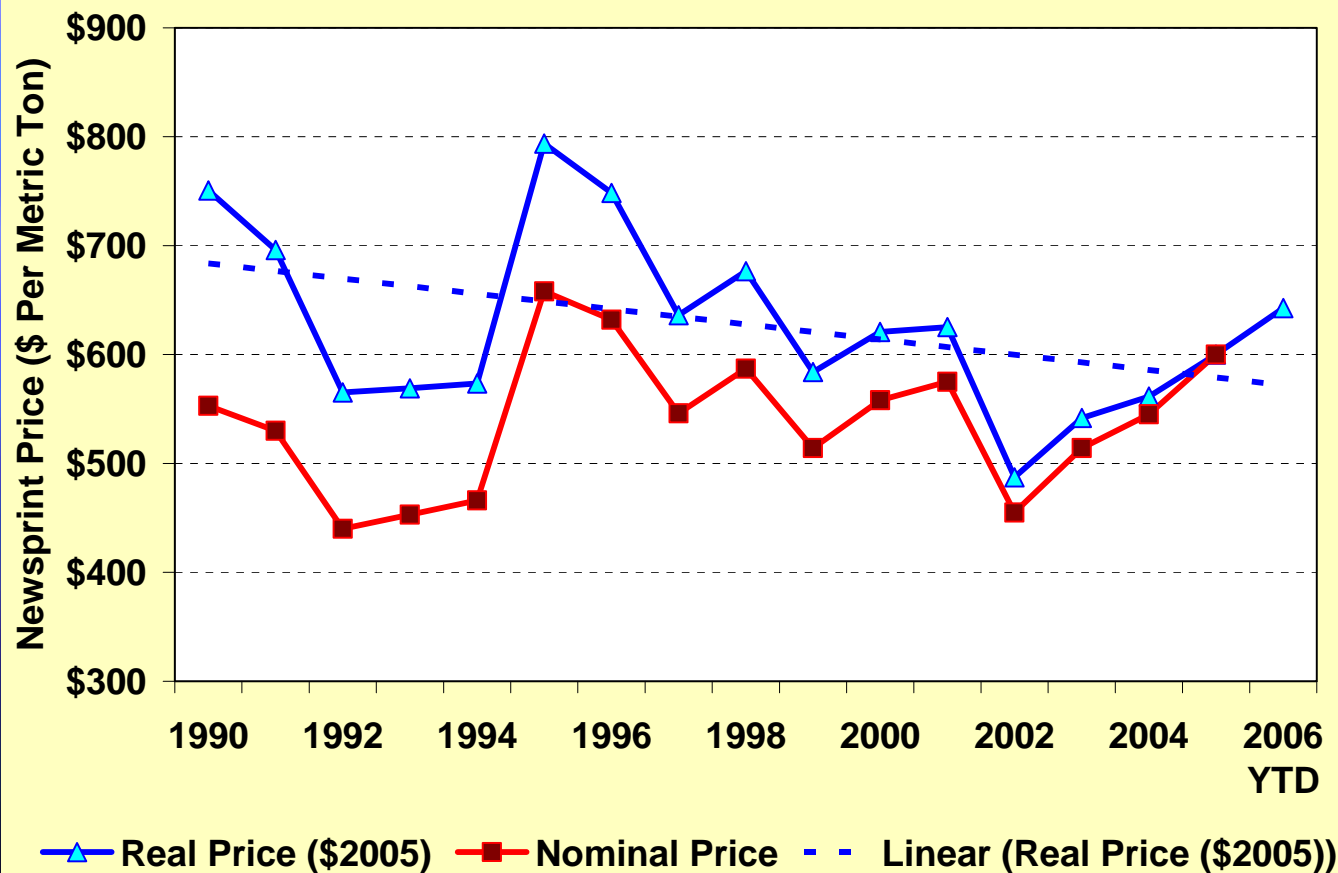
**Demand,
Capacity,
Exports, &
Shipments
*Are All
Sliding
Downward
At A
Relatively
Quick Rate***

Outlook – NA Newsprint



The Supply And Demand Situation *Has Improved*

Outlook – NA Newsprint



Capacity Reductions Have Helped Boost Prices --
But A Downward Trend Persists

Outlook – NA P&W Papers

Recent *Economic Slowdown & Alternative Media Substitution* Have Impacted P&W Demand Negatively –

- Uncompetitive *capacity being closed* & modest demand increases will tend to reign in excess capacity
- CF, CGW, UCF & GW Grades *have seemingly collapsed* into one relatively inter-changeable/somewhat flexible grade structure *from consumers' perspectives*
- In this context -- CF quickly became commoditized -- displaced by improved CGW grades – *changes still expected*

Implications – Significant repositioning / redeployment of assets – continued M&A & financial constraints

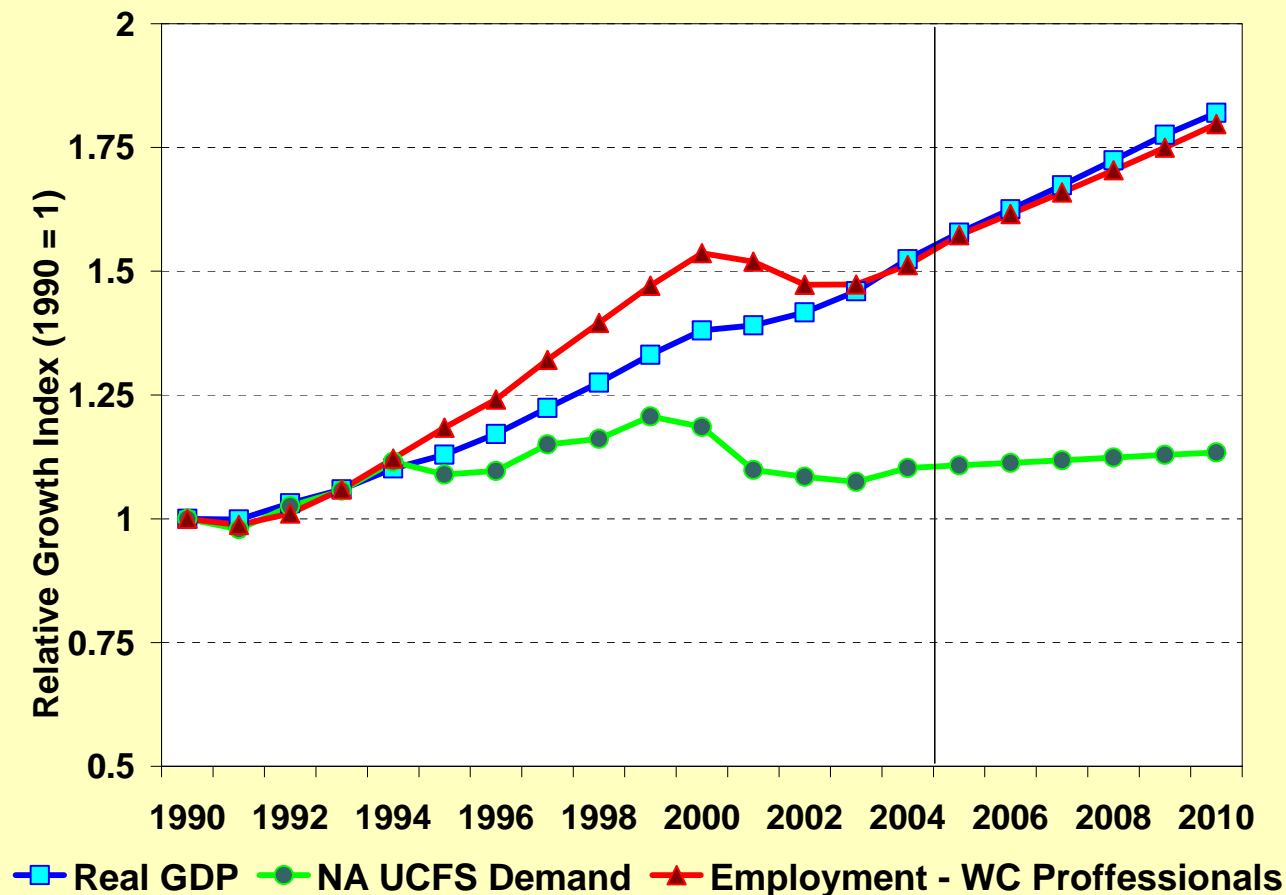
Outlook – NA P&W Papers (cont.)

In Addition – High End Uses – Auto Brochures/Annual Reports – *Are Being Replaced By Website Versions*

- High volume UCF under pressure from overseas competitors, and Newsprint producers *are converting capacity to UC and CGW grades*
- Financial returns & growth prospects *are similar to industry average & room exists for continued M&A activity*

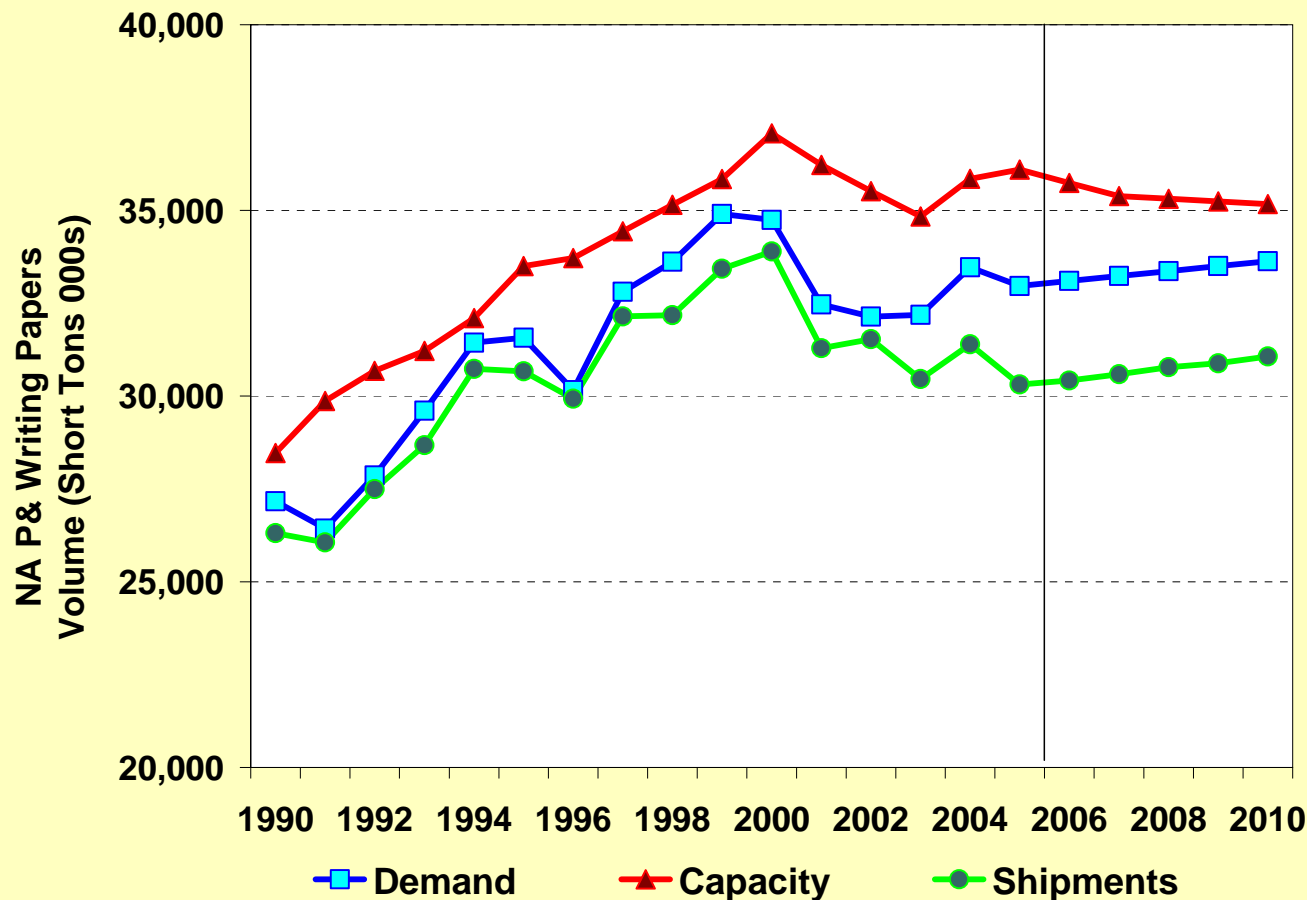
Implications – Certain segments will suffer net capacity reductions and the grade turmoil will continue to create an unstable overall grade-to-grade business environment

Outlook – NA P&W Papers



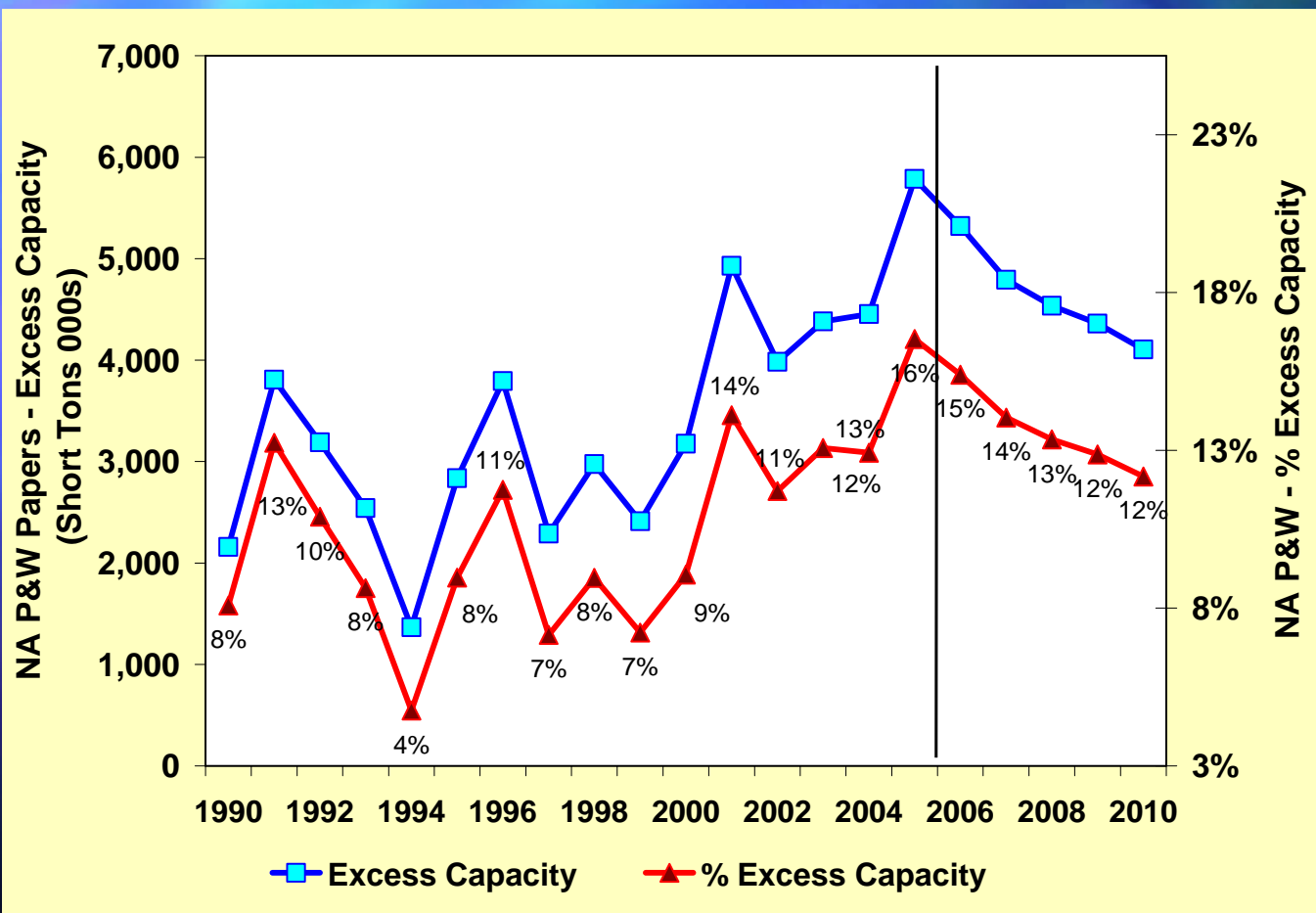
**P&W Paper
Demand
Fundamentals
Began To
Change In The
Mid-1990s –
Minimal And
Risky Growth
Is Expected
Going
Forward**

Outlook – NA P&W Papers



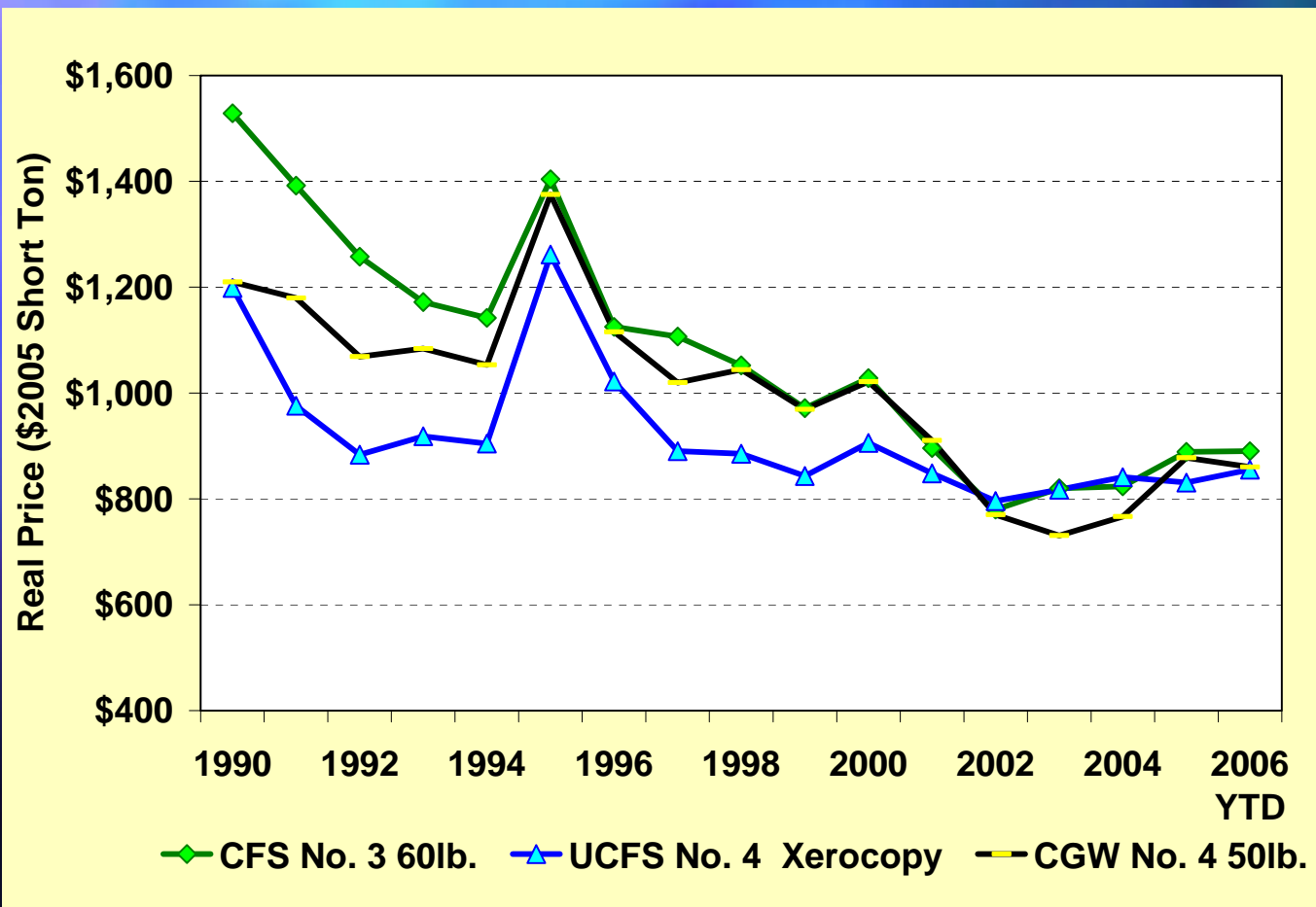
**Rising Imports
Have *Slowed*
Shipments
Relative To
Domestic
Demand And
Further
Capacity
Rationalization
Is Likely**

Outlook – NA P&W Papers



**Significant
NA P&W
Over-
Capacity
Persists**

Outlook – NA P&W Papers



**Collapsed
Real Price
Trends
*Continue
Downward*
And Recent
Pricing
Improvements
*Have Been
Slow & Less
Than Desired***

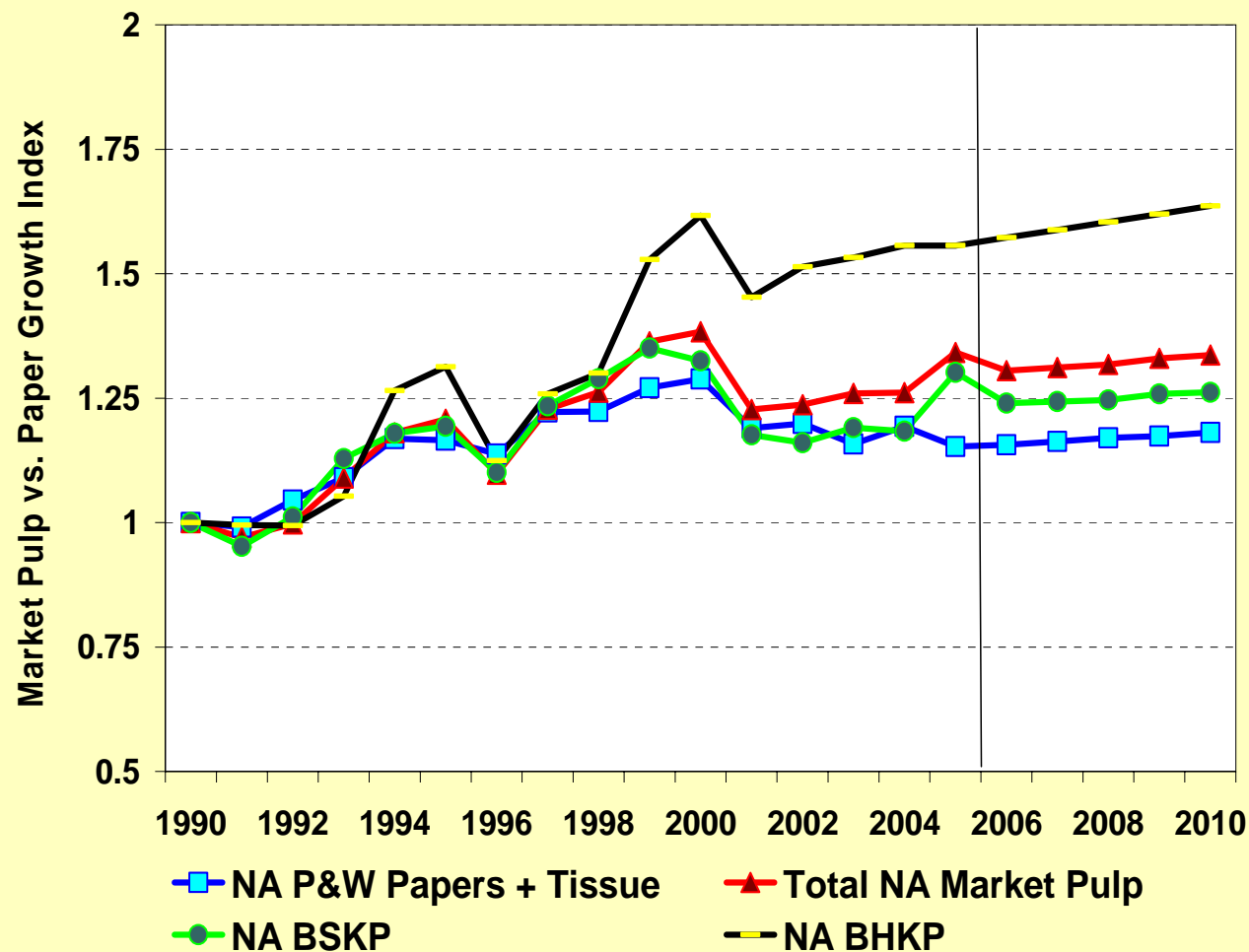
Outlook – NA Market Pulp

Market Pulp Is An Intermediate Good In The Production Of The Other Paper And Paperboard Grades –

- Pulp Investment returns -- *among the poorest in the industry – which in some circles is baffling . . .*
- Environmental restrictions -- *new capacity additions difficult*
- International producers – *continue to import pulp competitively to US*
- DIP pulps presently relatively more financially attractive than virgin pulps

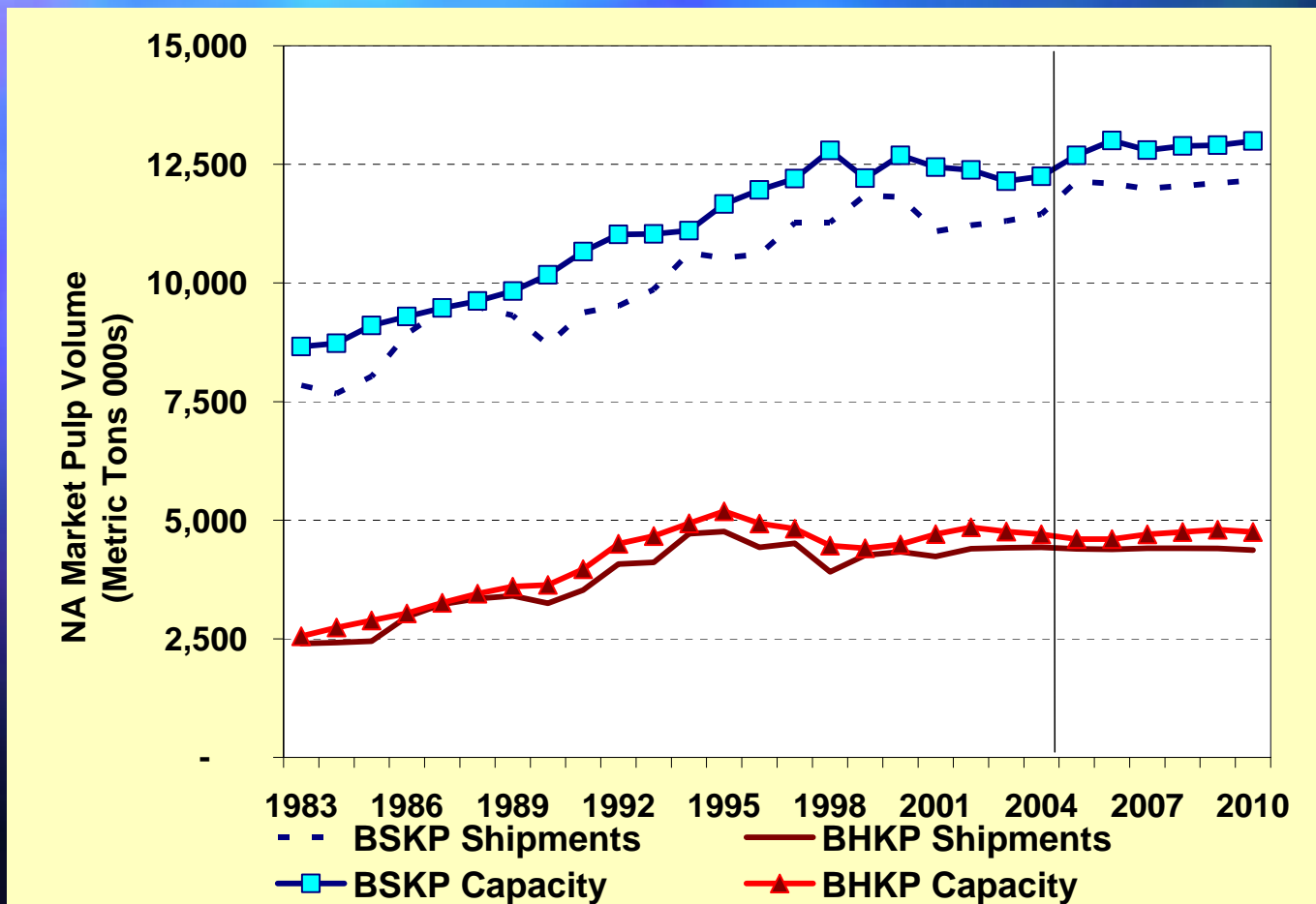
Implications – Some capital to be spent on integrated DIP facilities. Capacity will creep up with incremental improvement projects – Wild card here is China's fiber demand . . .

Outlook – NA Pulp



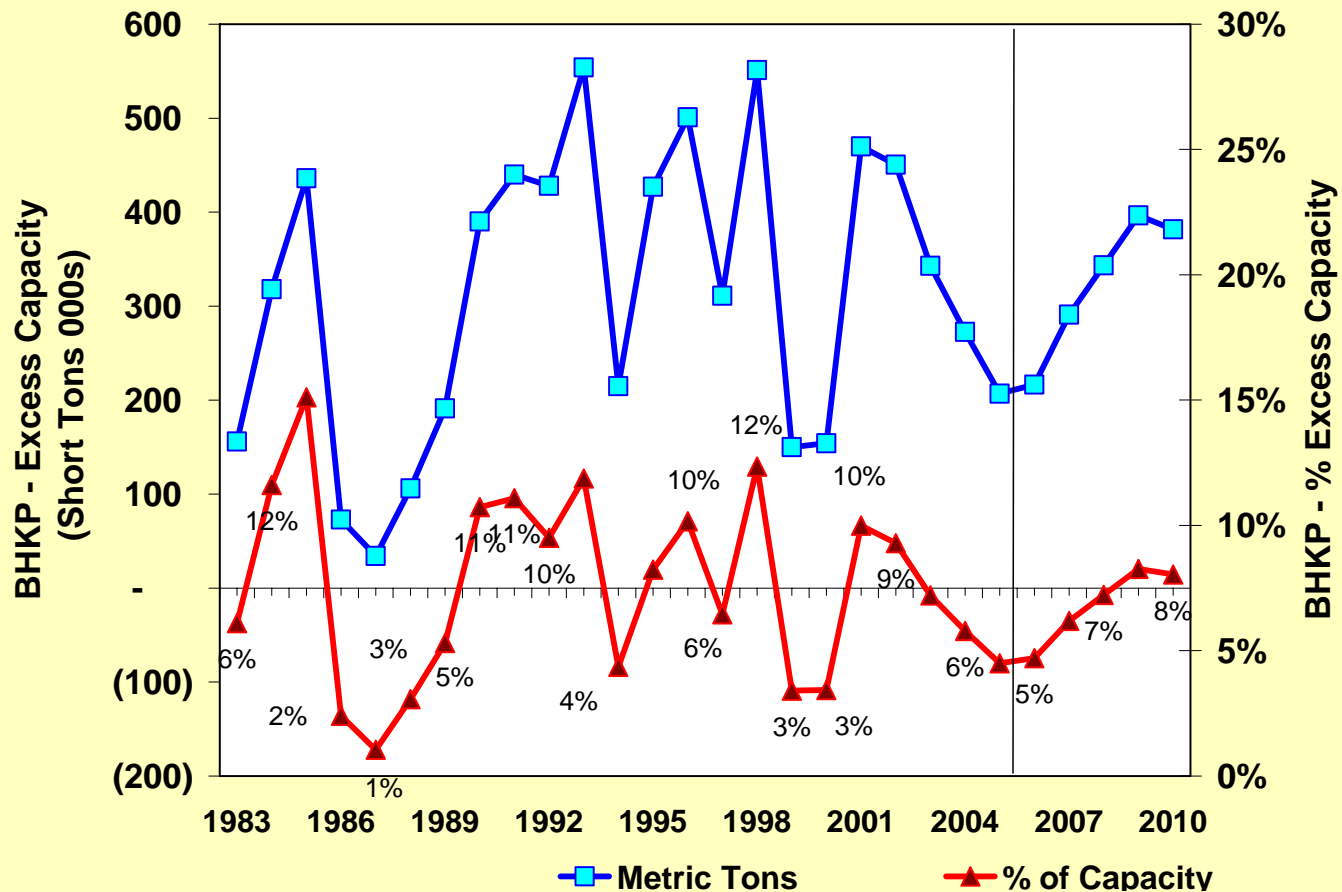
**Demand
For Market
Pulp
*Follows
Other
Grades –
But Watch
China
Needs and
Demands
Looking
Out***

Outlook – NA Pulp



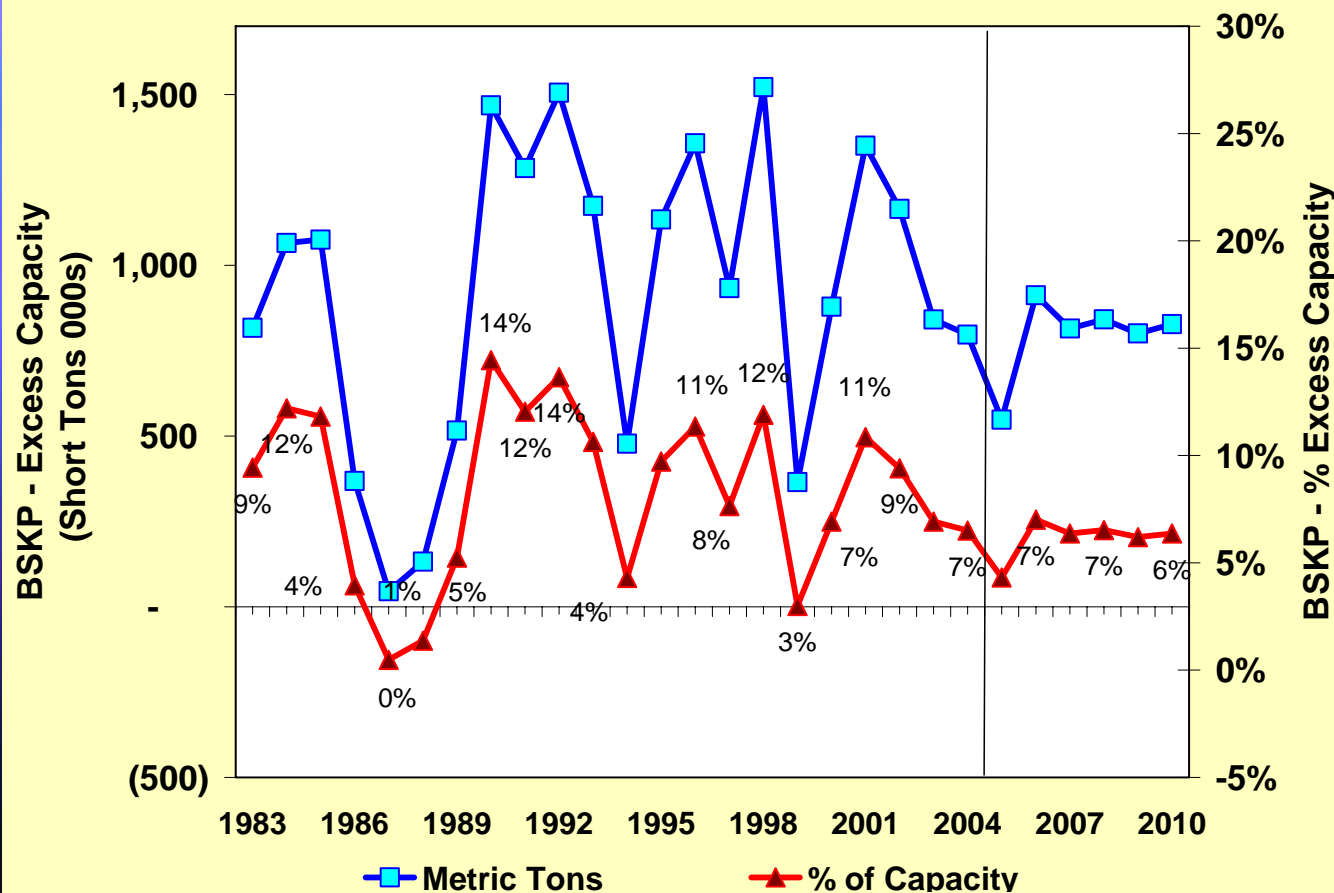
Supply And Demand For Chemical Market Pulp Is Expected To Be Relatively Flat – But Again – *Watch China's Needs Evolve . . .*

Outlook – NA BHKP



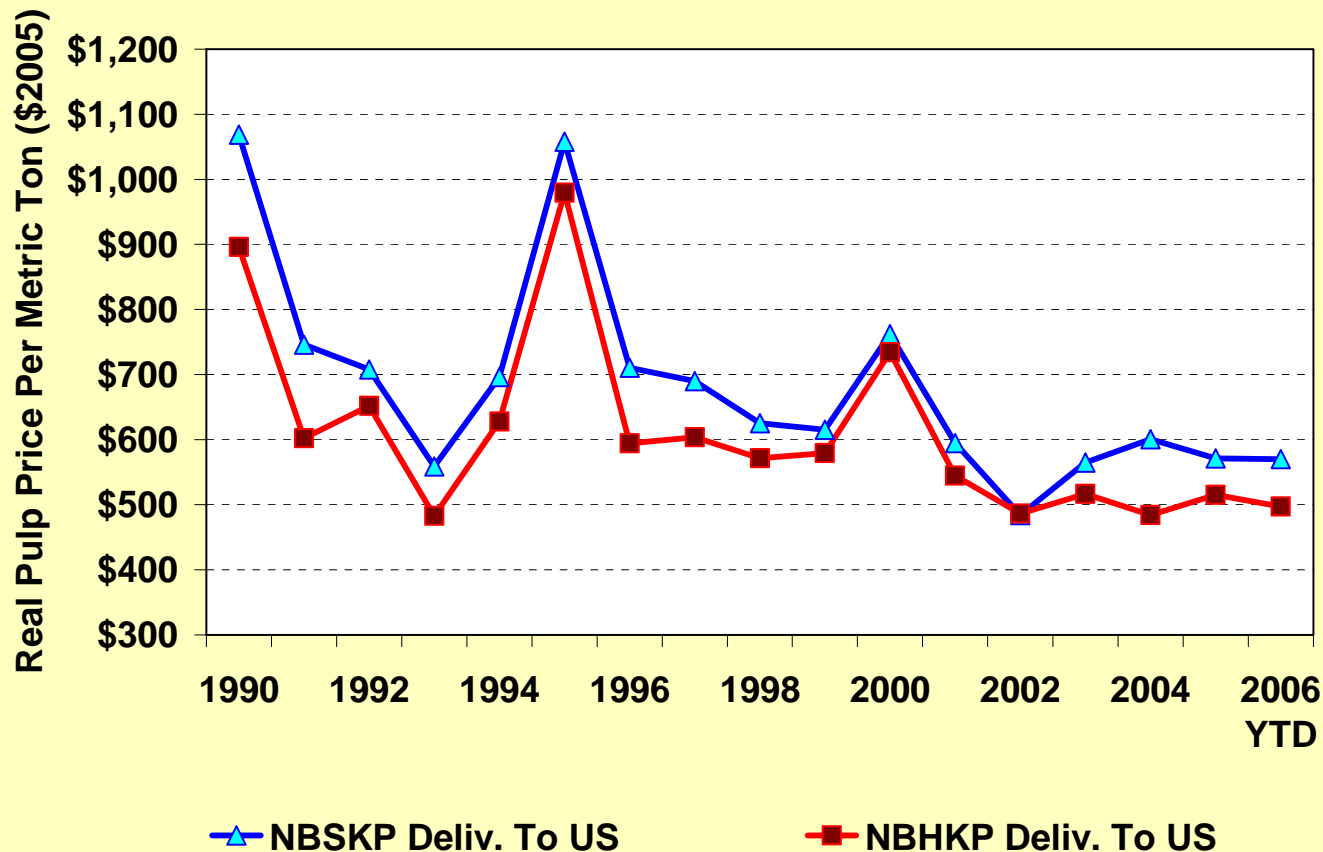
**NA BHKP
Capacity Is
In Check But
Is Expected
To Creep Up
Over Time –
Increasing
The Risk Of
Capacity
Closures**

Outlook – NA BSKP



NA BSKP Is Carrying Relatively More Capacity Than BHKP – Making It More Sensitive To Swings In Demand

Outlook – NA Market Pulp



**Market Pulp
Prices Have
Flattened &
Long-term
Fundamentals
Still Not
Strong Going
Forward**

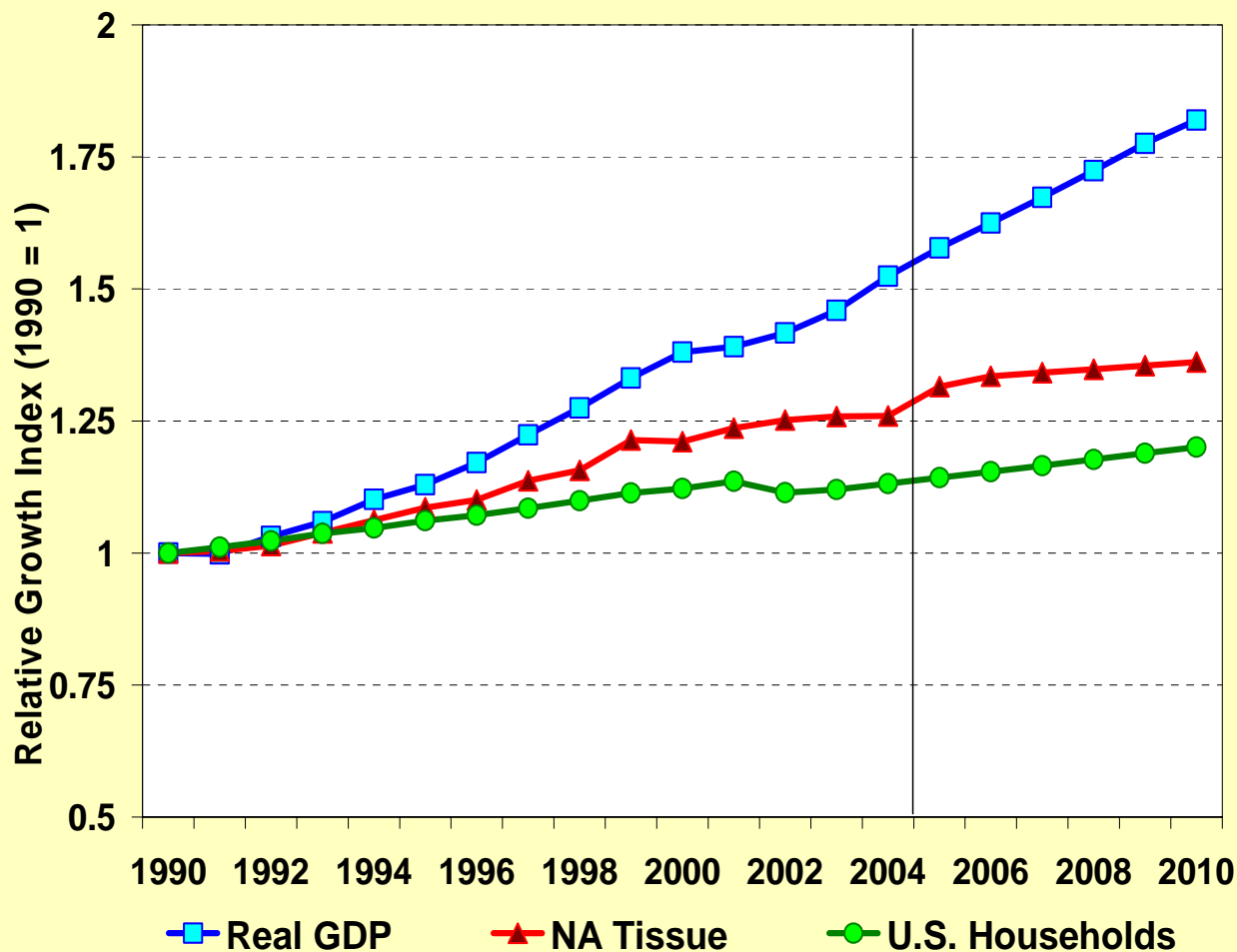
Outlook – NA Tissue

Tissue Is *Strongest Overall Segment* In North America –

- End-product demand is mature -- Americans highest per-capita consumers in world & *incremental demand is slow*
- Demand growth is slowing -- *but still expanding per capita*
- However, overall company financial returns *less sensitive to supply / demand dynamics* at mill level than other grades
- Regulatory considerations *will limit large M&A activity*
- Both technology changes and *new entrepreneurial entrants* will drive spending
- Excess capacity is building – *but likely to be absorbed*

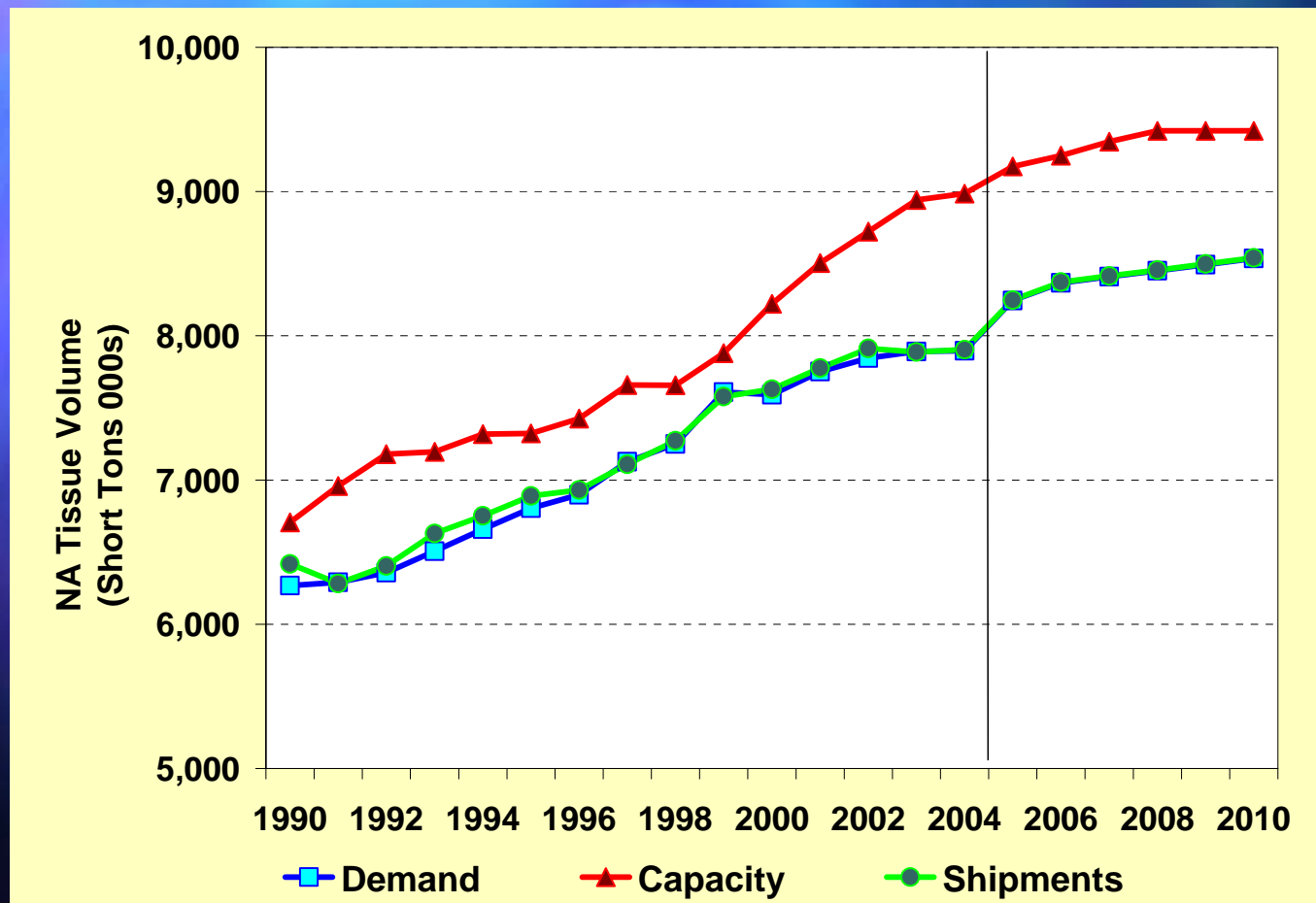
Implications – Segment may be losing some luster – is a day of reckoning coming or will historical market dynamics win out?

Outlook – NA Tissue



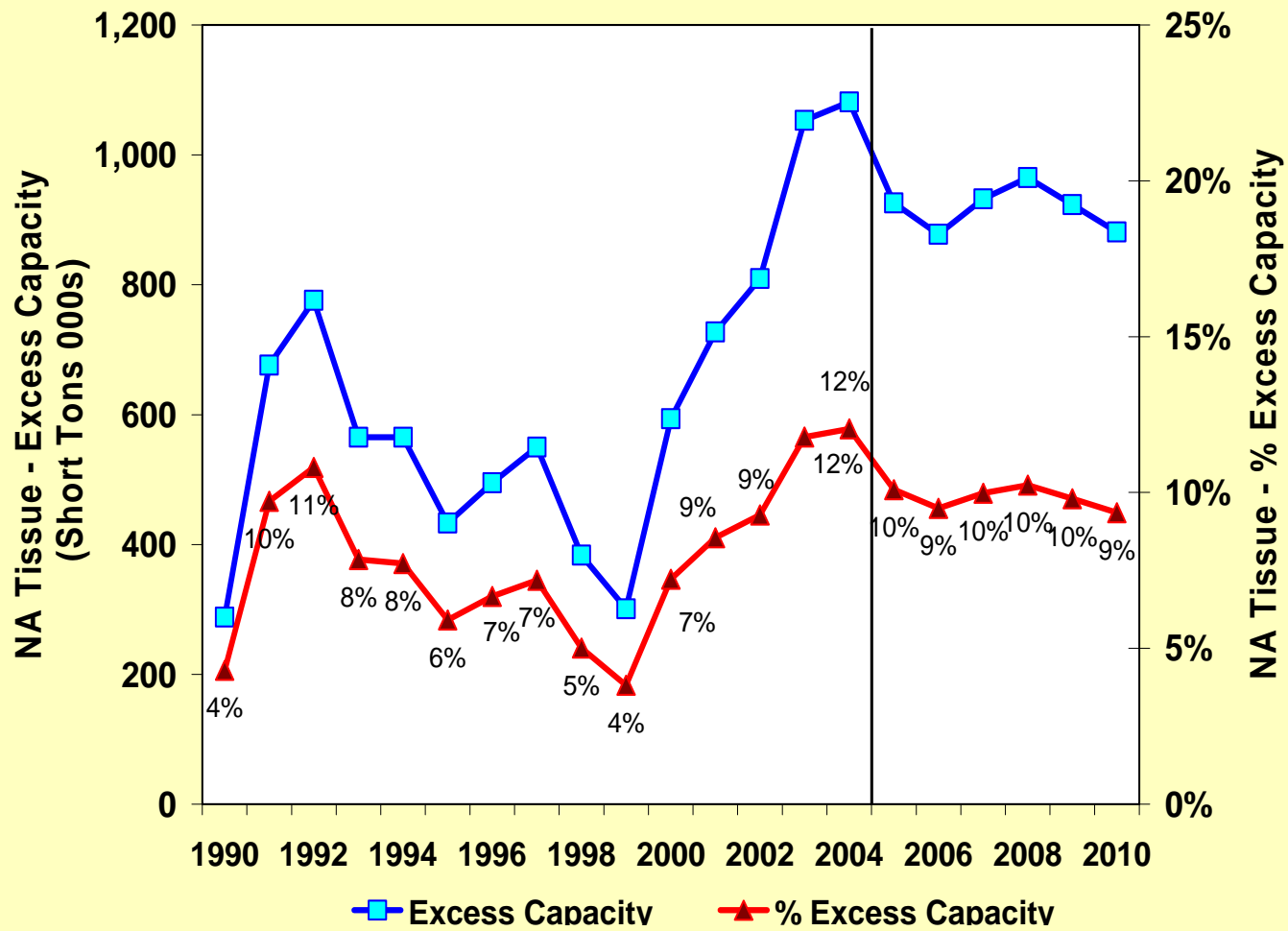
**NA Tissue
Has
Innovated
To Keep
*Demand
Growth
Ahead Of
Household
Formation***

Outlook – NA Tissue



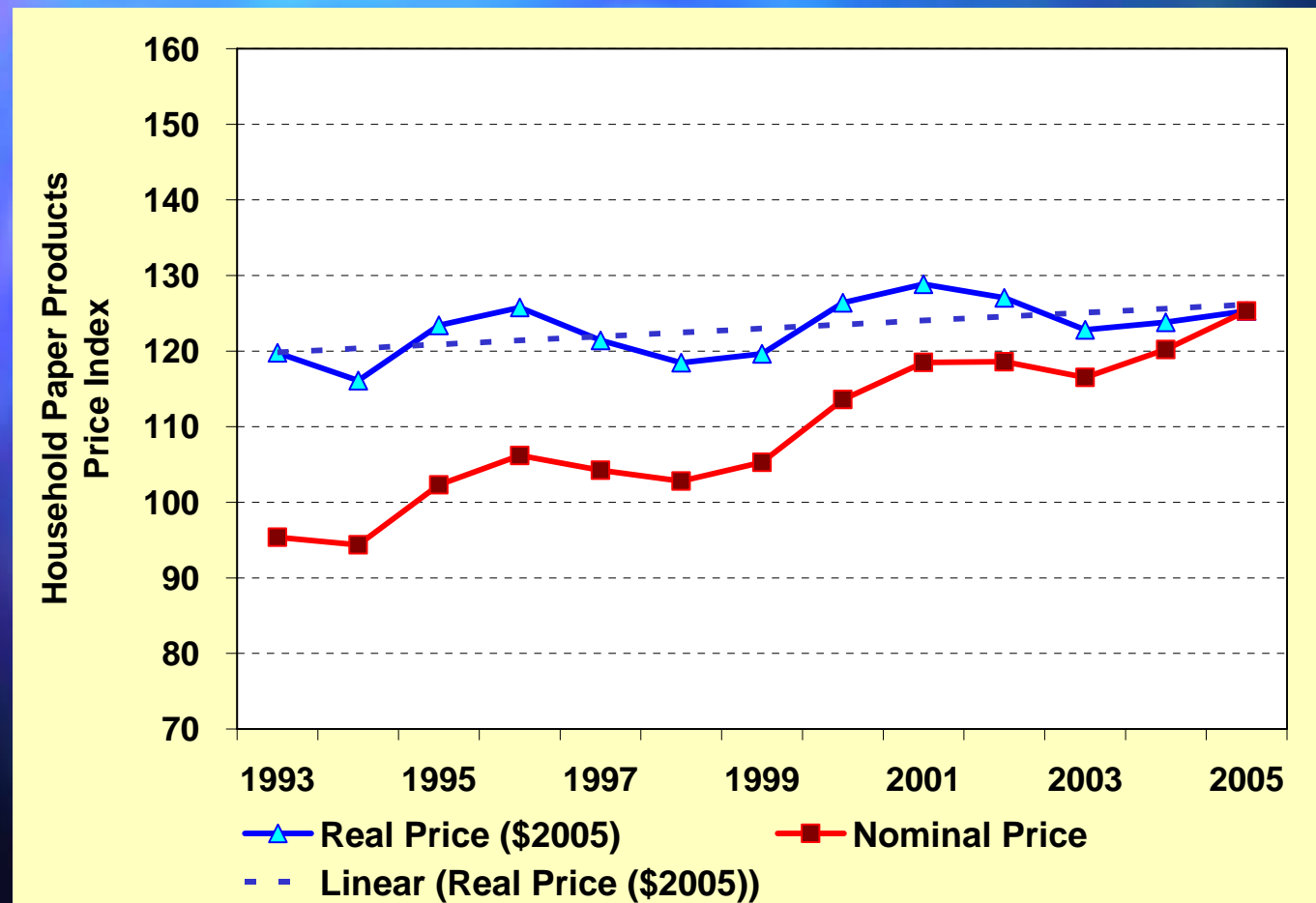
**Constraint
Is Needed
As
*Capacity
Growth Is
Now
Outpacing
Demand –
But Some
Structural
Protections
Remain***

Outlook – NA Tissue



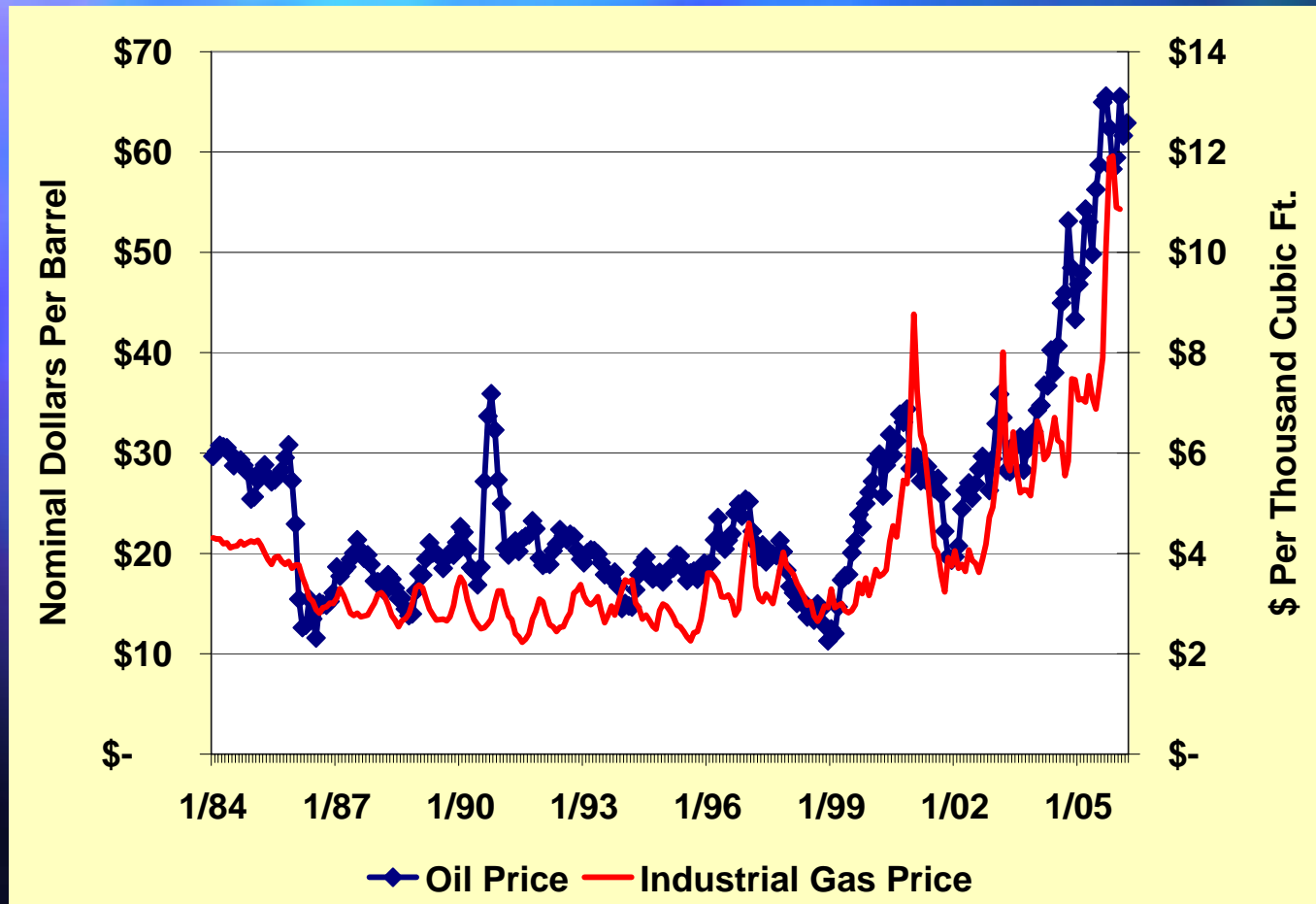
Excess Tissue Is Building But Will Moderate If The Rate Of Capacity Additions Slow

Outlook – NA Tissue



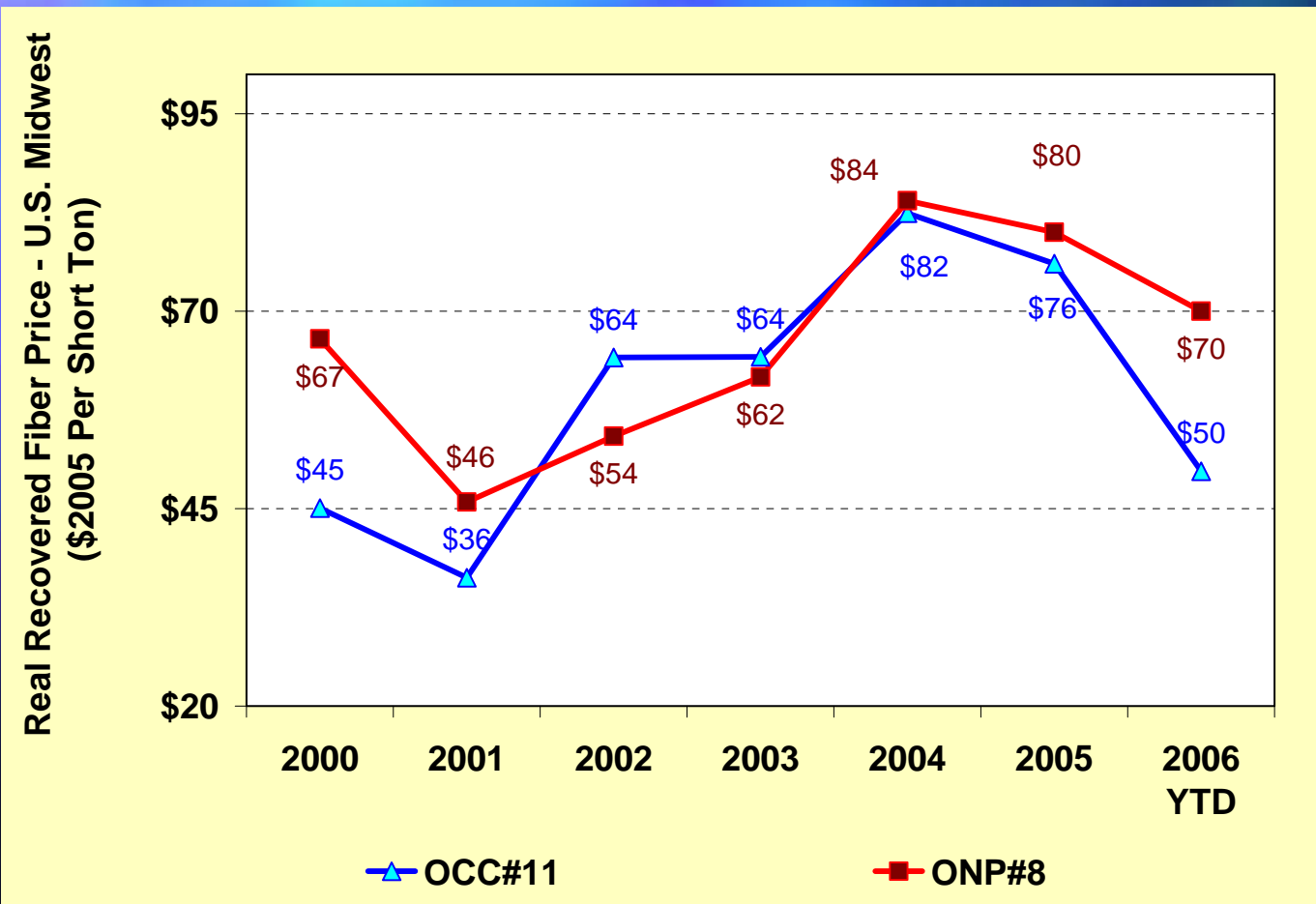
Consumer Level Pricing Is Trending Upward – The Away-from Home Market Trends Are Less Favorable

Outlook – Oil and Natural Gas



**\$60+ Bbl Oil
& \$7/Mcf
Natural Gas
*Will Create
GDP &
Industry
Instability –
But Also
Raise Value
Opportunity
For Wood To
Fuel . . .***

Outlook – Recycled Fiber



**Recycled
Fiber Cost
Pressures
Mitigated in
Q1 2006**

US Industry Spending

History, Issues, and Directions –

- Capital Spending – Overview & Outlook
- Profitability & Capital Turnover
- ROTC Versus Cost of Capital
- Debt Levels
- Production Capacity Expectations
- Capital Spending/Depreciation
- Capital Spending Level

US Industry – *Capital Spending*

US Capital Expenditures Will Continue to Be Depressed By Poor Financial Performance & Slowing of Capacity Growth –

- M&A crowded out CAPEX on PPE last 5 years -- *Should ease within largest firms* -- antitrust constraints
- However, asset swaps & *business-line spin-offs likely to accelerate* + second-tier players consolidation
- There is risk that unexpected international acquisitions activity *will interrupt capital spending patterns*

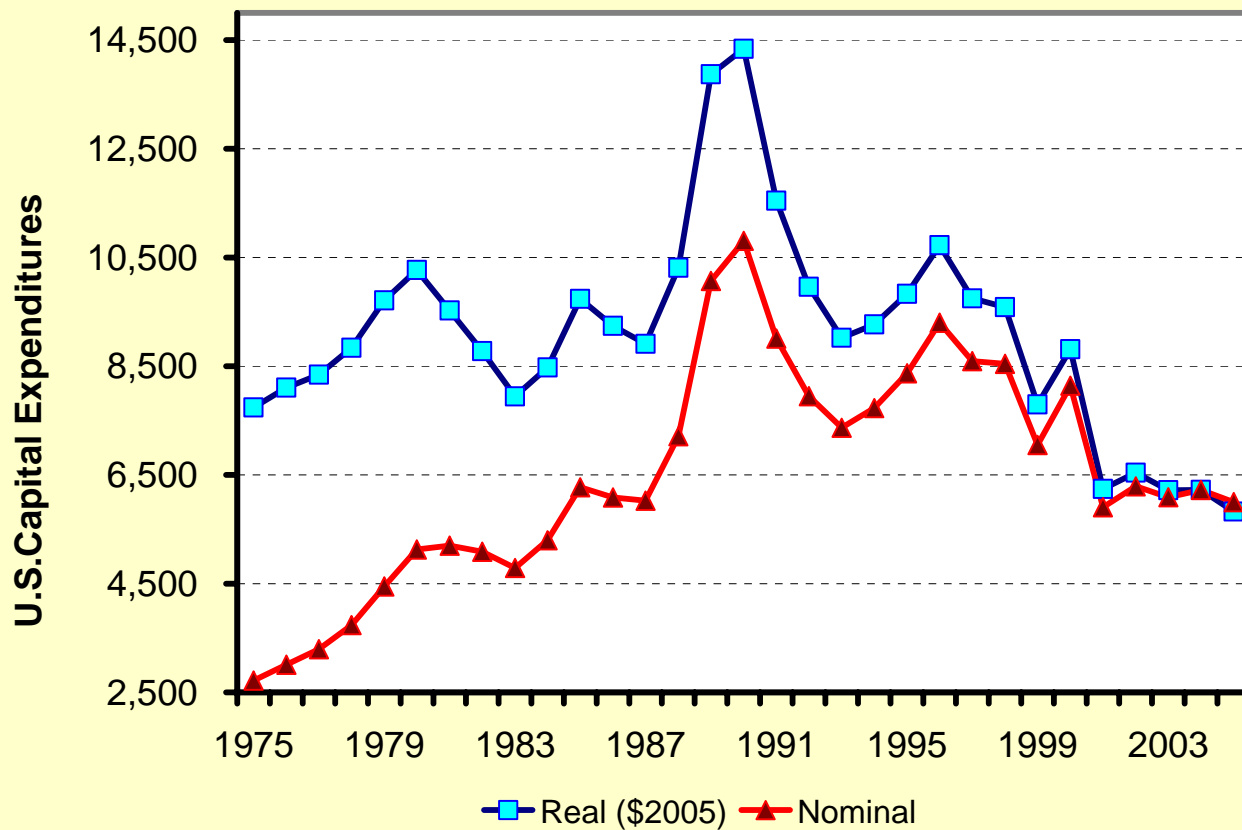
Overall, net M&A impact should be better (less impacting) for CAPEX than the last 5 years – but not enough to offset weak investment fundamentals yet

US Industry – *Capital Spending*

Combination Of Economic, Pulp And Paper Market, And Financial / Investment Realities Drove US Capital Expenditures Down *From \$8+ Billion In 2000 To \$6+ Billion By 2001* –

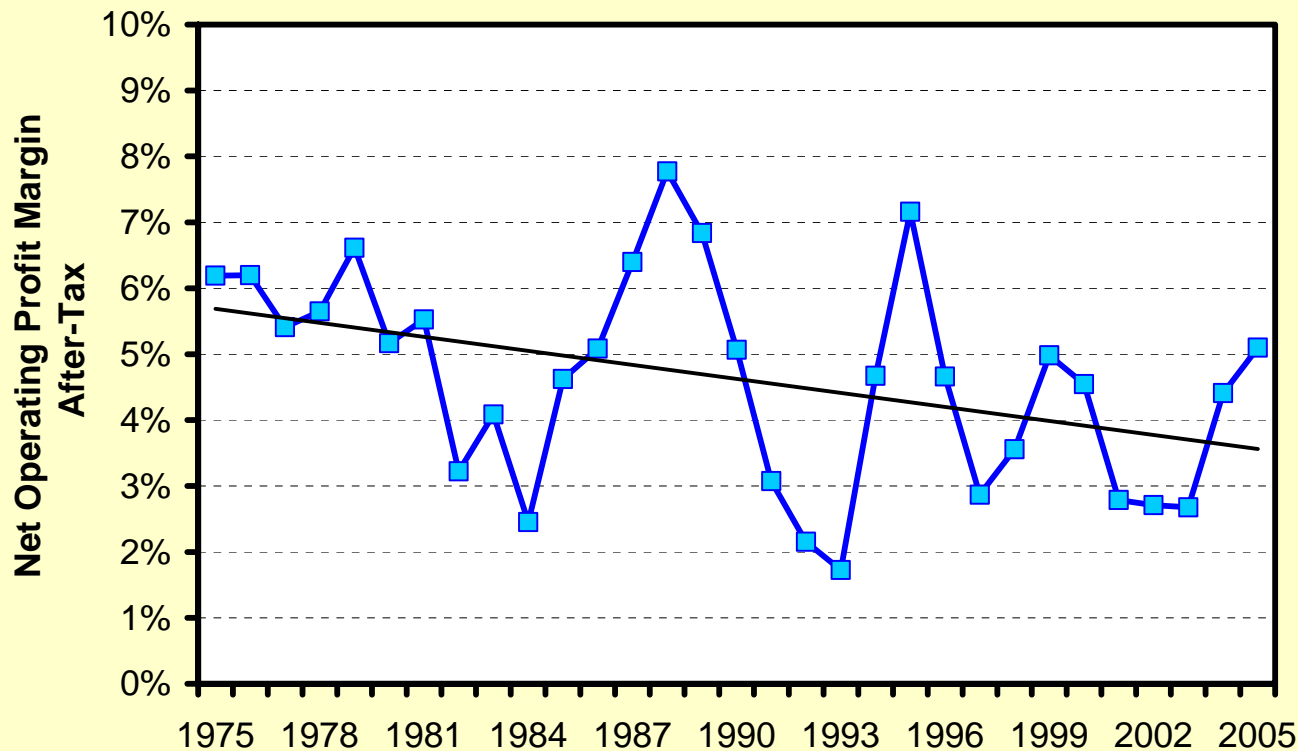
- 2005 capital expenditures *fell again* to \$6 billion and then likely cycle between \$6.0 billion and \$8.5 billion through 2006
- The following table and graphs summarize these historical trends and projections

US Industry – Capital Spending



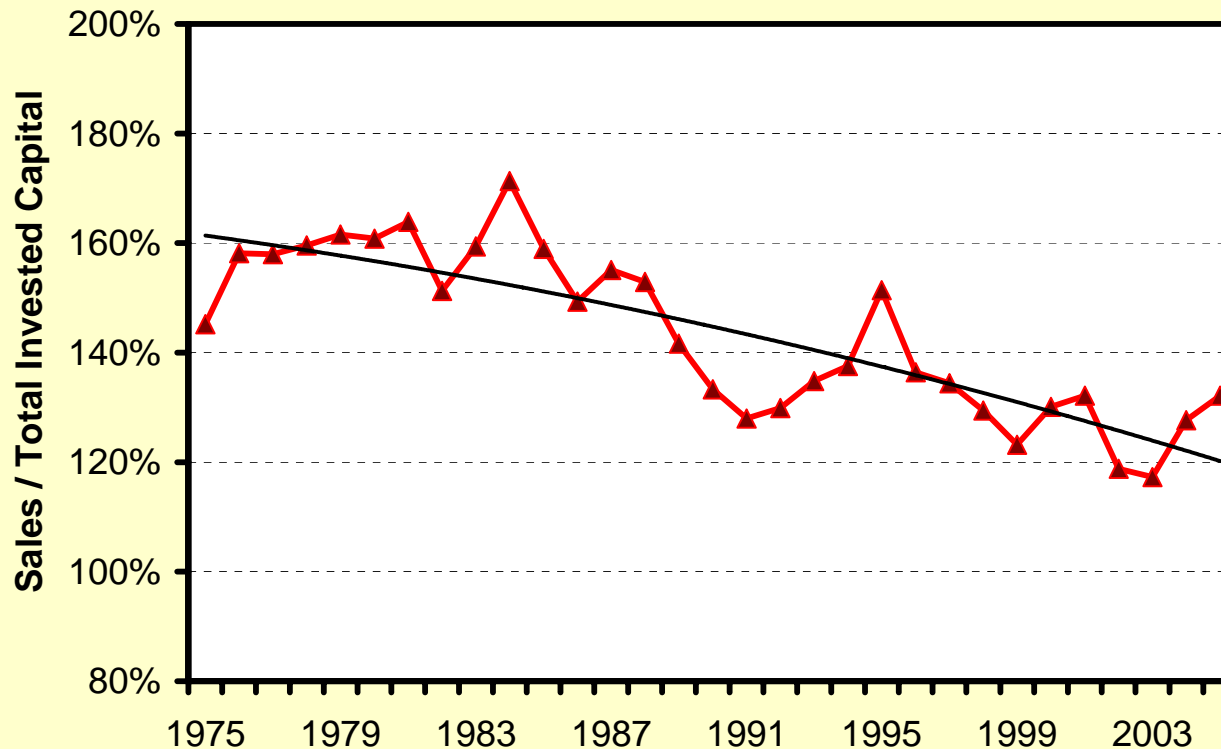
Capital Expenditures (CAPEX) On Pulp & Paper Property, Plant & Equipment

US Industry – Profitability



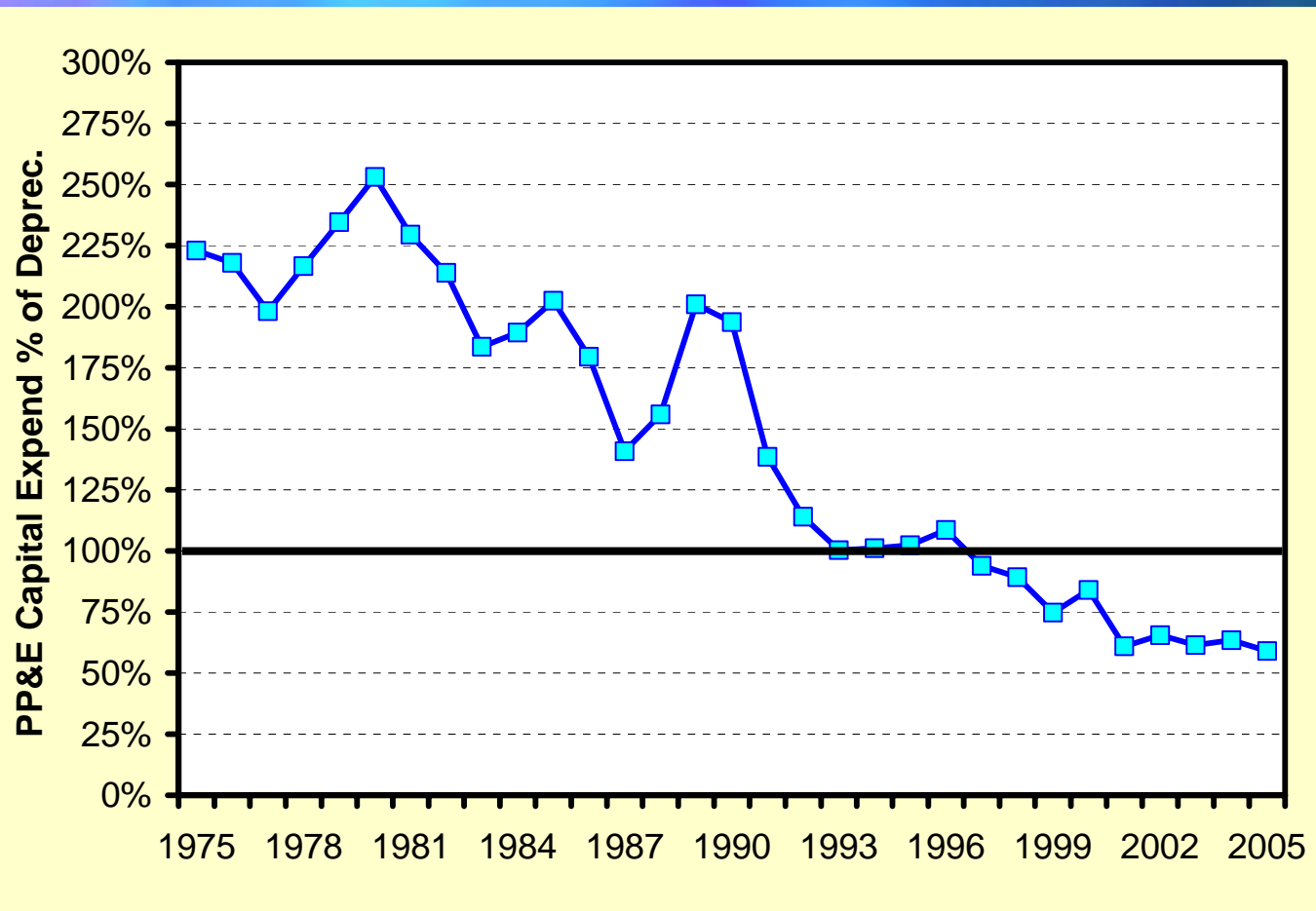
**Profitability
Is the
Highest Its
Been Since
2000 – But
Still Low
Relative To
Historic
Levels**

US Industry – Capital Turnover



**Capital
Turnover
Has
Improved
But Is Still
Trending
Downward**

US Industry – Capital Spending/Depreciation



US Capital Expenditures Remain *Significantly Below Depreciation Levels* – But Seem To Have Stabilized

US Industry – *Investment Decisions' Drivers*

Attractive Opportunities = More Likely To Invest

- *Strong ROTC* = Proven capability to identify/execute value creating projects – more likely to attract & invest capital *than poor performers*
- *Good Outlook Product Mix* = More likely to invest (i.e. tissue, selected P&W) *than poorly performing segments* (i.e. boxboard, containerboard, newsprint, market pulp)
- *Geographic Mix* = Firms in Higher growth geographic markets (i.e. Asia & Latin America) more likely to invest than US and Canadian (*and now some European*) focused players

US Industry – *Investment Decisions' Drivers*

Greater Capital Availability = More Likely To Invest

- *Debt-To-Capital Ratio* = High debt % – the more likely to divert cash to lower debt instead for capital expenditures
- *Debt Capacity* = Low debt % – creates real opportunities to use *new low cost debt* for innovative investment moves
- *Cash Flow Available For Reinvestment* = More cash generated by operations, the more funds *typically invested in the business* & to stimulate investors

Recap & Final Thoughts

- The NA industry financial performance *has been poor on an absolute basis and persistently weak* in the late 90's through today – *But we are seeing improvements*
- These short-term performance improvements are a welcome relief for the industry *but could be transient* if industry management is again tempted to significantly increase *major capacity oriented* capital investments
- The quality of *pending investment decisions, basic economic and demand factors and the industry's motivation to pursue innovative structural change via enterprise transformation* will drive industry performance in the mid-to long-term
- Changes in the industry direction will in turn obviously impact all aspects of the industry – *producers and suppliers alike . . .*

Recap & Final Thoughts

The essential focus we should have at this place in our industry's path forward is that the future is ours to create – timidity will undermine our efforts . . .

And . . . In this context – our challenge is really to seize the opportunities instead of simply enjoying our respite – to refocus and restructure in new and novel ways . . .

And Remember

Even though the Current Industry State of Affairs is Still Unstable & Many Systemic Problems Remain -- As that Famous Arm Chair Philosopher Ziggy Once Said



***“You can Complain Because
Roses have Thorns, or you can
Rejoice Because Thorns have
Roses”***

Recap & Final Thoughts

Thank You! -- Copies Available At

www.valueresolution.com -- And – www.cpbis.gatech.edu

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