

The background of the slide features a photograph of bare, light-colored trees against a pale sky. A solid green horizontal banner is positioned across the middle of the image, containing the main title in white text.

Special Focus on Dissolving Pulp Market

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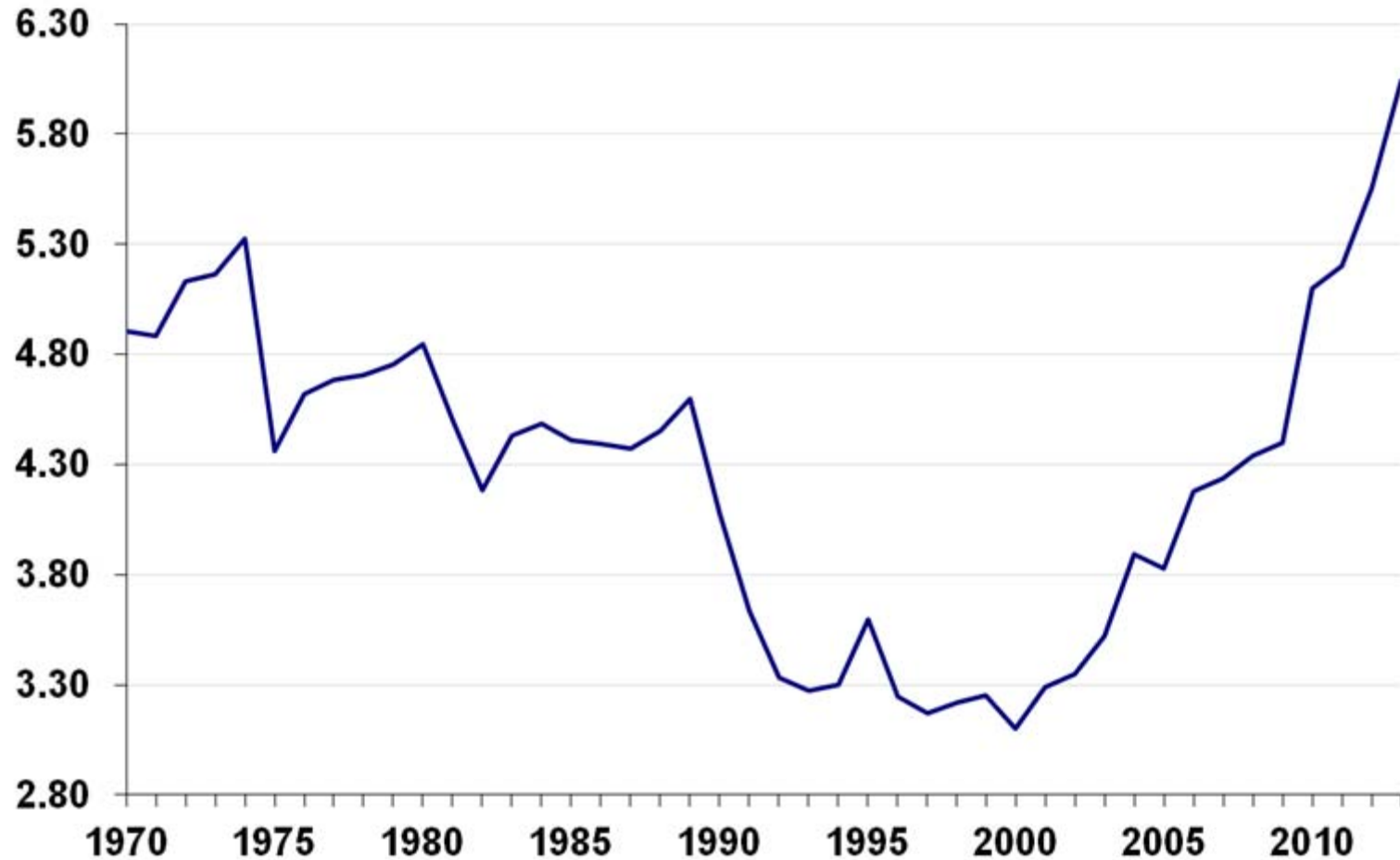


Overview

- ▶ World demand will continue upward through 2013
 - Viscose products will lead the upswing
 - China and Other Far East will generate the majority of the growth
- ▶ Investors have been enamored by this market
 - Drawn by the strong demand and high prices
 - New capacity announced on a regular basis
- ▶ Prices falling from recent, historically high levels
 - Supply overtaking demand due to small size of market
 - Cotton prices crashing as new supply hits the market

World Dissolving Pulp Demand

(Million Tonnes)

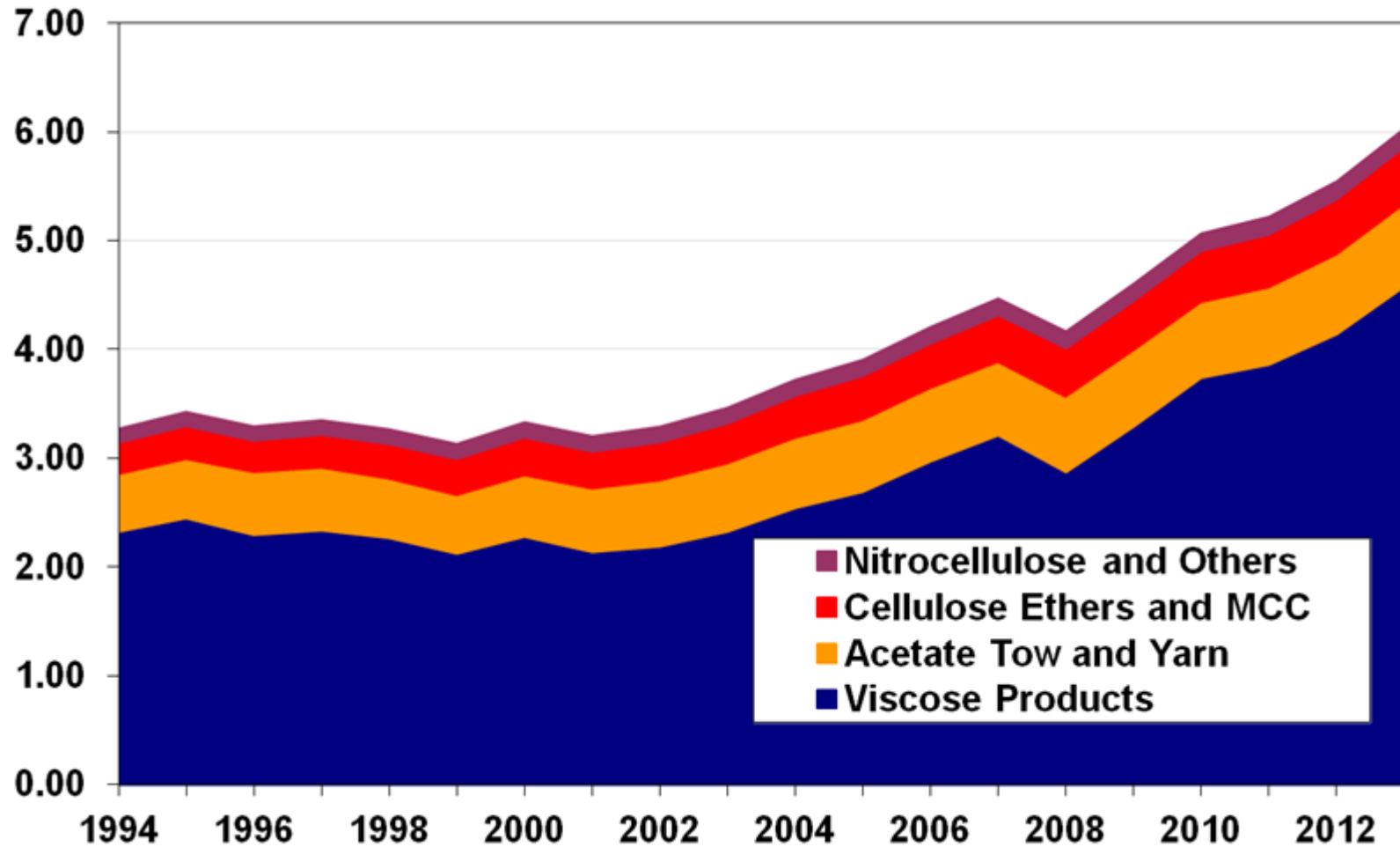


Viscose Products Leading the Development of End Uses for Dissolving Pulp

- ▶ Viscose fibers are taking share from cotton
 - Adding to overall growth in total fiber usage
 - Limited availability and relatively high prices for cotton
 - Shift in consumer taste toward rayon
 - Chinese government policies favoring viscose staple
- ▶ Other major end uses are growing, too, but not as fast
 - Acetate benefiting from more cigarette filters in developing world
 - Ethers boosted by wide range of end uses
 - Nitrocellulose remains small and slow growing

World Dissolving Pulp Usage by Major End Use

(Million Tonnes)

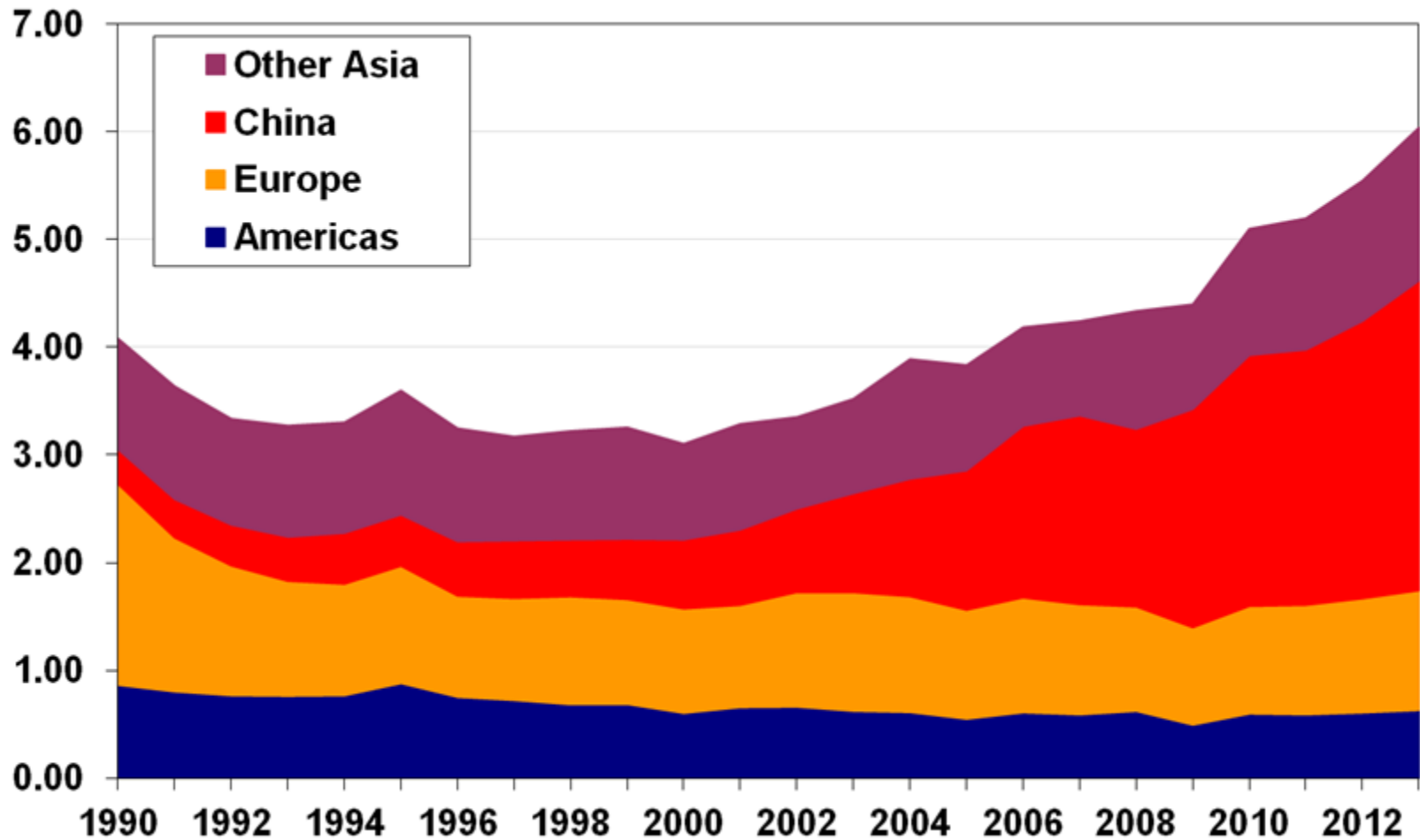


Asia Will Account for the Majority of the Growth in Dissolving Pulp Demand

- ▶ China will continue to be at the forefront
 - Strong growth in garment production
 - Limited domestic supplies of cotton
 - Increasing production of acetates and ethers
 - Chinese policies favoring viscose staple
- ▶ Other Asian countries will contribute more to demand
 - Several viscose projects already announced in India and Indonesia
 - Rising domestic demand for rayon

Dissolving Pulp Demand by Major World Region

(Million Tonnes)

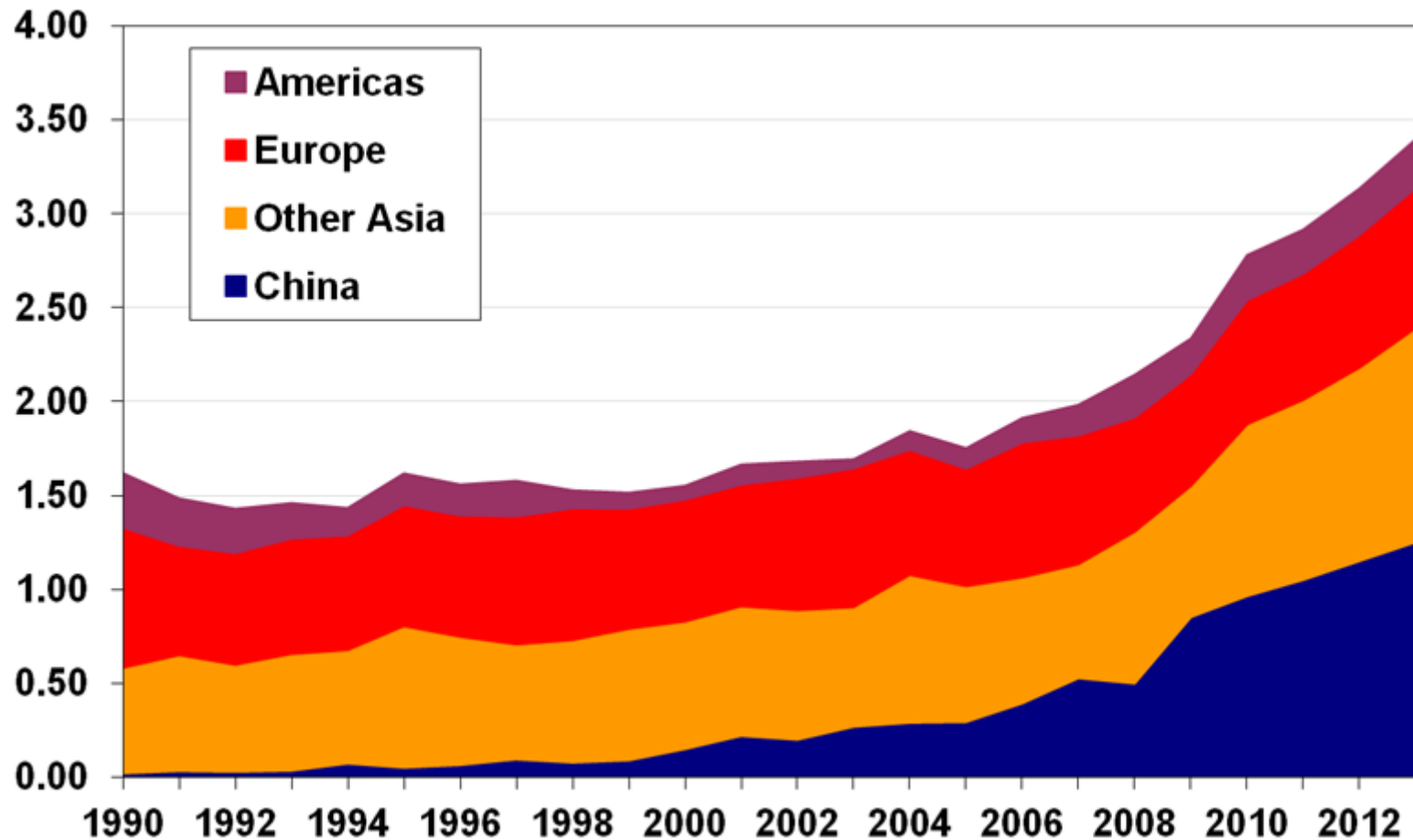


Imports Will Account for the Majority of World Demand

- ▶ Demand growth occurring in regions with limited fiber
 - Dissolving pulp is fiber intensive, especially for scale facilities
 - Lack of cotton will limit cotton linter pulp also
- ▶ Mills based on imported fiber could be alternative
 - High cost of virgin fiber
 - Large amount required due to low pulping yields
- ▶ Should be adequate availability of product to import
 - As new mills enter the market around the world

Dissolving Pulp Imports by Major Region/Country

(Million Tonnes)

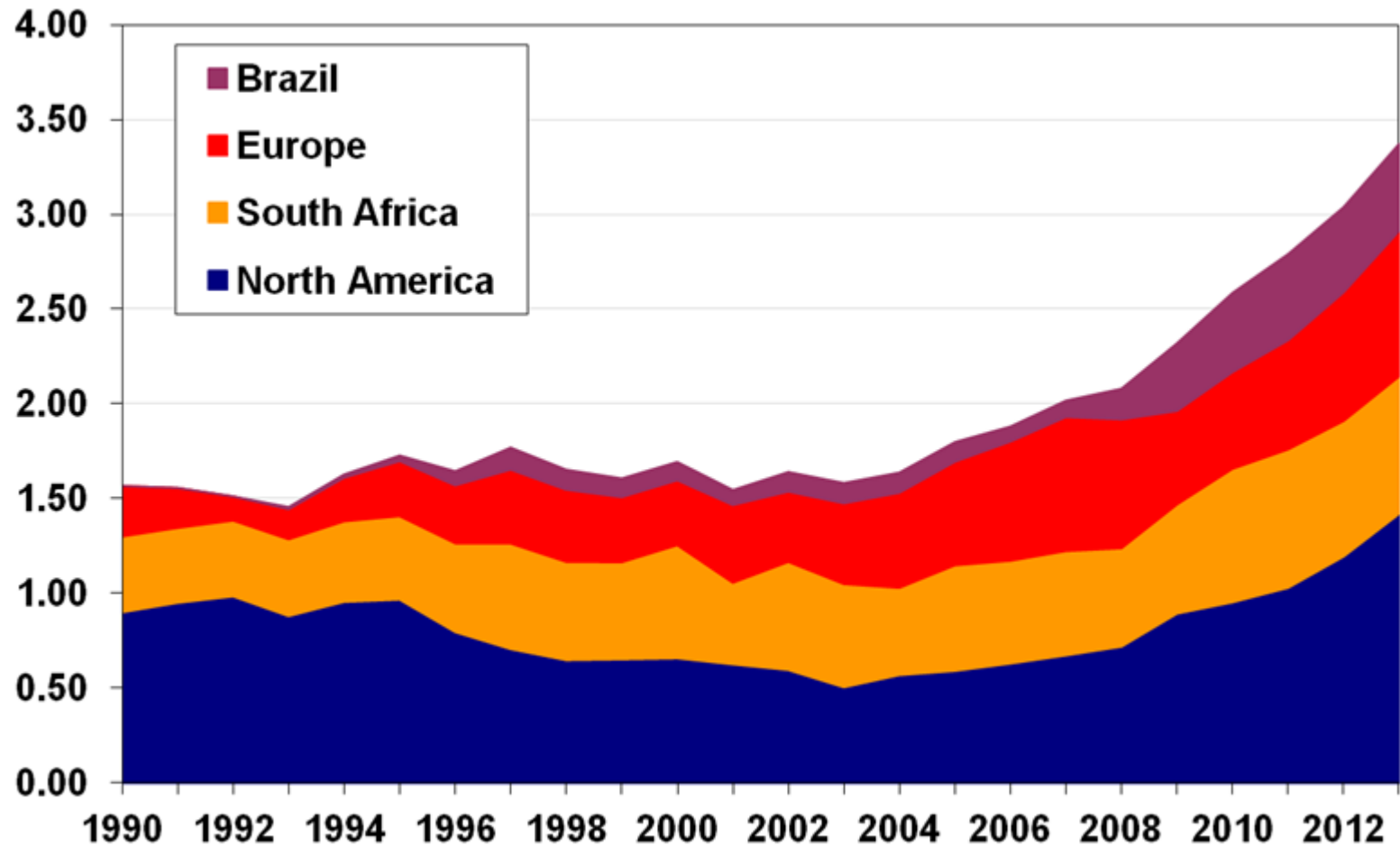


North America Will Remain the Largest Exporting Region for Dissolving Pulp

- ▶ New suppliers are entering the market
 - Through conversions of paper grade capacity and restarts
- ▶ More export capacity will be available from Europe, too
 - Mainly due to conversions of paper grade lines
- ▶ Low-cost suppliers will also be expanding exports
 - Brazilian mill has announced investment program
 - South African operation reaching full capacity

Dissolving Pulp Exports by Major Region/Country

(Million Tonnes)



Investors Have Lined Up to Install More Capacity Around the World

- ▶ Strong demand and high prices made an impression
 - More than 1.0 million tonnes of capacity set to start this year
 - Adding 20% to world capacity in one year
 - Almost all in high-cost northern hemisphere locations
- ▶ Many more projects are under construction
 - Traditional suppliers protecting their market positions
 - New entrants looking to capitalize on high prices
 - High-cost paper grade mills shifting to dissolving

Announced Dissolving Pulp Capacity Expansions

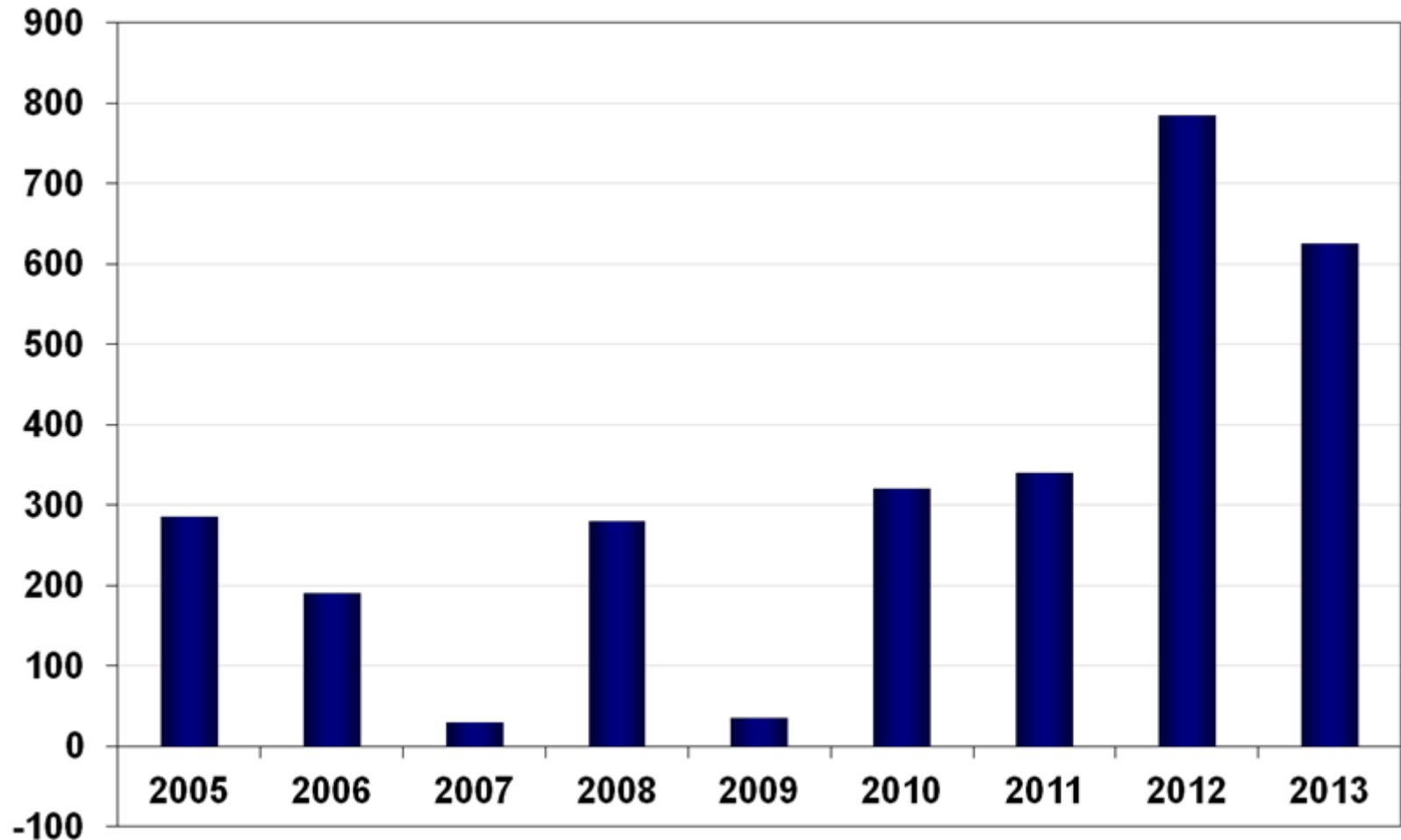
Mill	Country	Type	Tonnes/Yr	Year
Cambara	Brazil	Conversion	36,000	2011
Sateri	Brazil	Upgrade	20,000	2011
Fortress Specialty	Canada	Conversion	200,000	2011
Cosmo Specialty	USA	Restart	140,000	2011
Sodra	Sweden	Conversion	150,000	2011
Sun Paper	China	Conversion	200,000	2011
Fujian Qingshan	China	Conversion	120,000	2011
Hunan Juntai	China	Conversion	300,000	2011
Jilin Shixian Paper	China	Conversion	40,000	2011
Jilin Chenming	China	Conversion	40,000	2011
Lee & Man	China	Conversion	140,000	2011
Vida Paper	Sweden	Conversion	30,000	2011

Announced Dissolving Pulp Capacity Expansions

Mill	Country	Type	Tonnes/Yr	Year
Shandong Chenming	China	New mill	600,000	2012
Base Element	Russia	Conversion	30,000	2012
Sun Paper	China	New line	200,000	2012
Fujian Nanping	China	Conversion	150,000	2012
Lenzing	Czech Rep	Conversion	25,000	2012
Base Element	Russia	Upgrade	70,000	2012
Rayonier	USA	Conversion	190,000	2013
Domsjo Fabrikker	Sweden	Upgrade	25,000	2013
Paper Excellence	Canada	Conversion	250,000	2013
Lenzing	Austria	Upgrade	25,000	2013
Lenzing	Czech Rep	Conversion	25,000	2013
Sappi	South Africa	Conversion	210,000	2013
Sateri	Brazil	Upgrade	65,000	2013
Lee & Man	China	New line	103,000	2013
		Total	3,378,000	

World Dissolving Wood Pulp Capacity Expansion

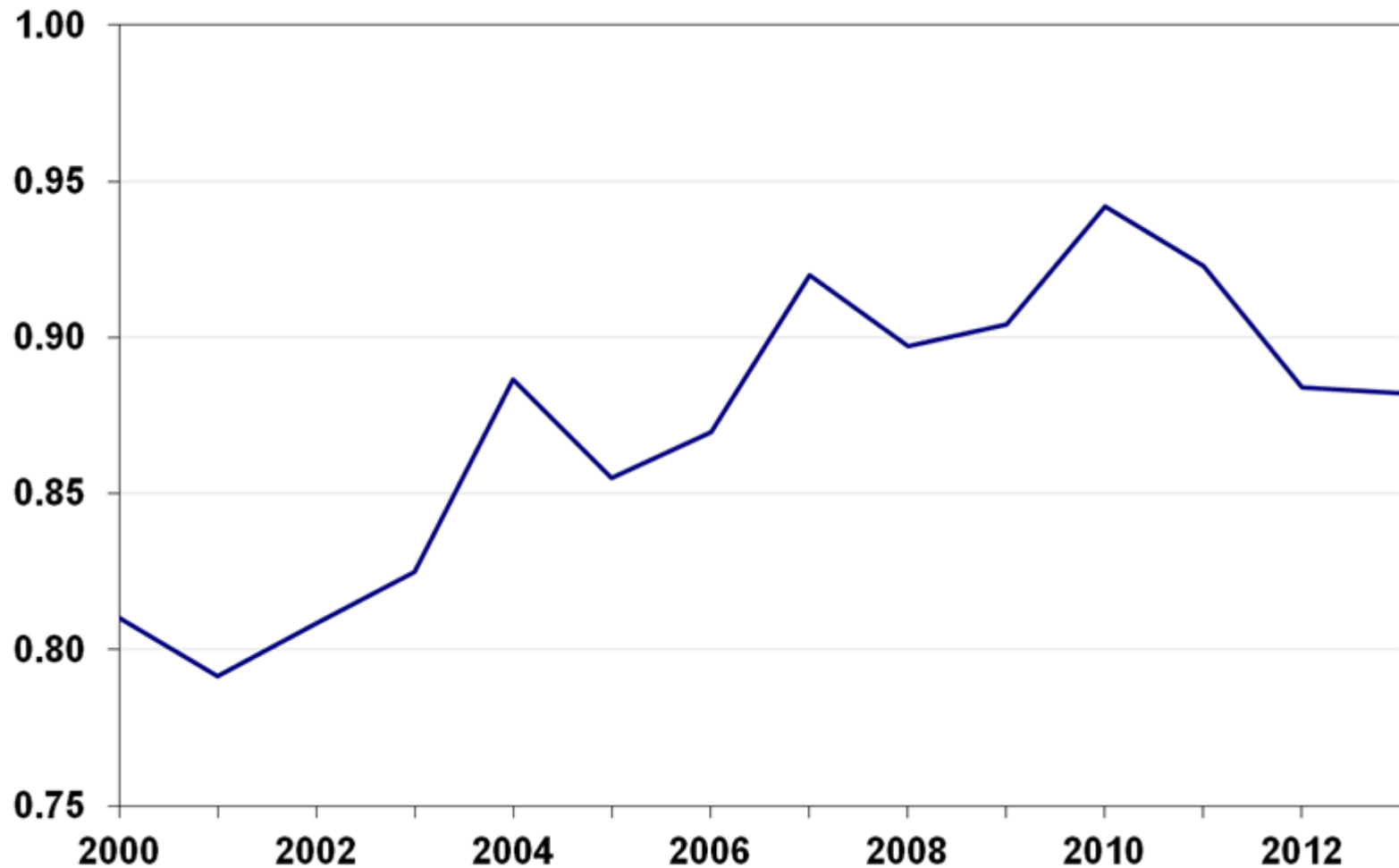
(Thousand Tonnes)



Capacity Expansion Overtaking Demand Growth

- ▶ Large amount of paper grade capacity available for conversion
 - Paper grade pulp market 10 times bigger than dissolving
 - Many mills looking for exit to higher-valued business
- ▶ Timing of shift in market balance dependent on:
 - Degree of demand growth
 - Aggressiveness of suppliers
 - Availability of cotton supplies
- ▶ Our forecast shows the current round of expansion
 - Outstripping demand by year-end 2011

World Dissolving Wood Pulp Operating Rates

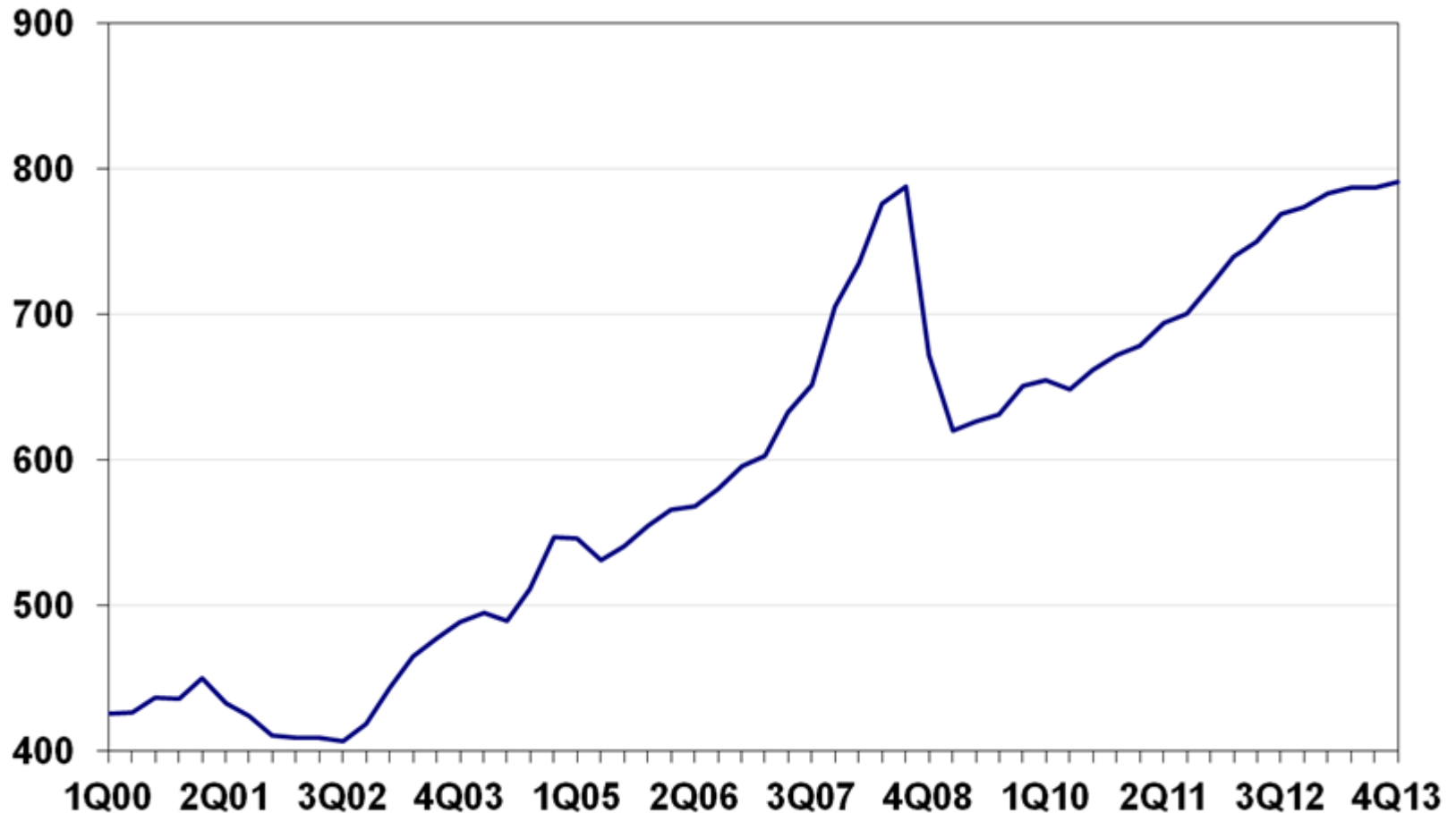


Production Costs Are Headed Higher for Dissolving Pulp

- ▶ Fiber is the largest part of the industry cost structure
 - Increasing competition with energy uses
 - Limitations on availability in northern hemisphere
- ▶ Other cost components rising also
 - Chemicals boosted by raw material increases
 - Energy pulled up by rising usage in developing world
 - Transportation forced upward by energy
- ▶ Relatively weak dollar doesn't help
 - Nor do capacity additions at upper end of cost curve

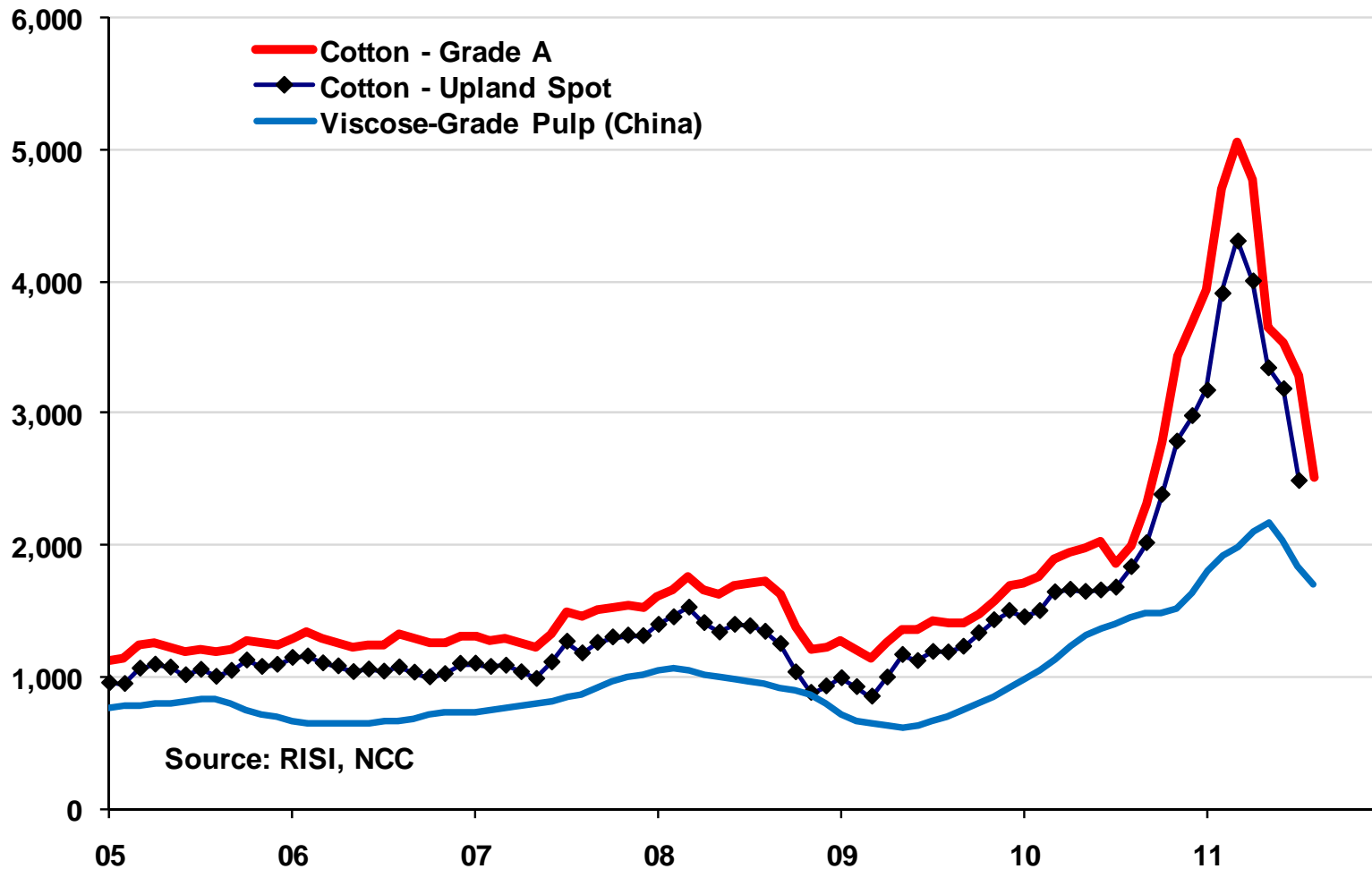
World Average Variable Production Costs

(US\$/Tonne, Delivered to Shanghai)



Record Cotton Prices Drive Dissolving Pulp Prices

(US\$/Tonne, Delivered to Shanghai)



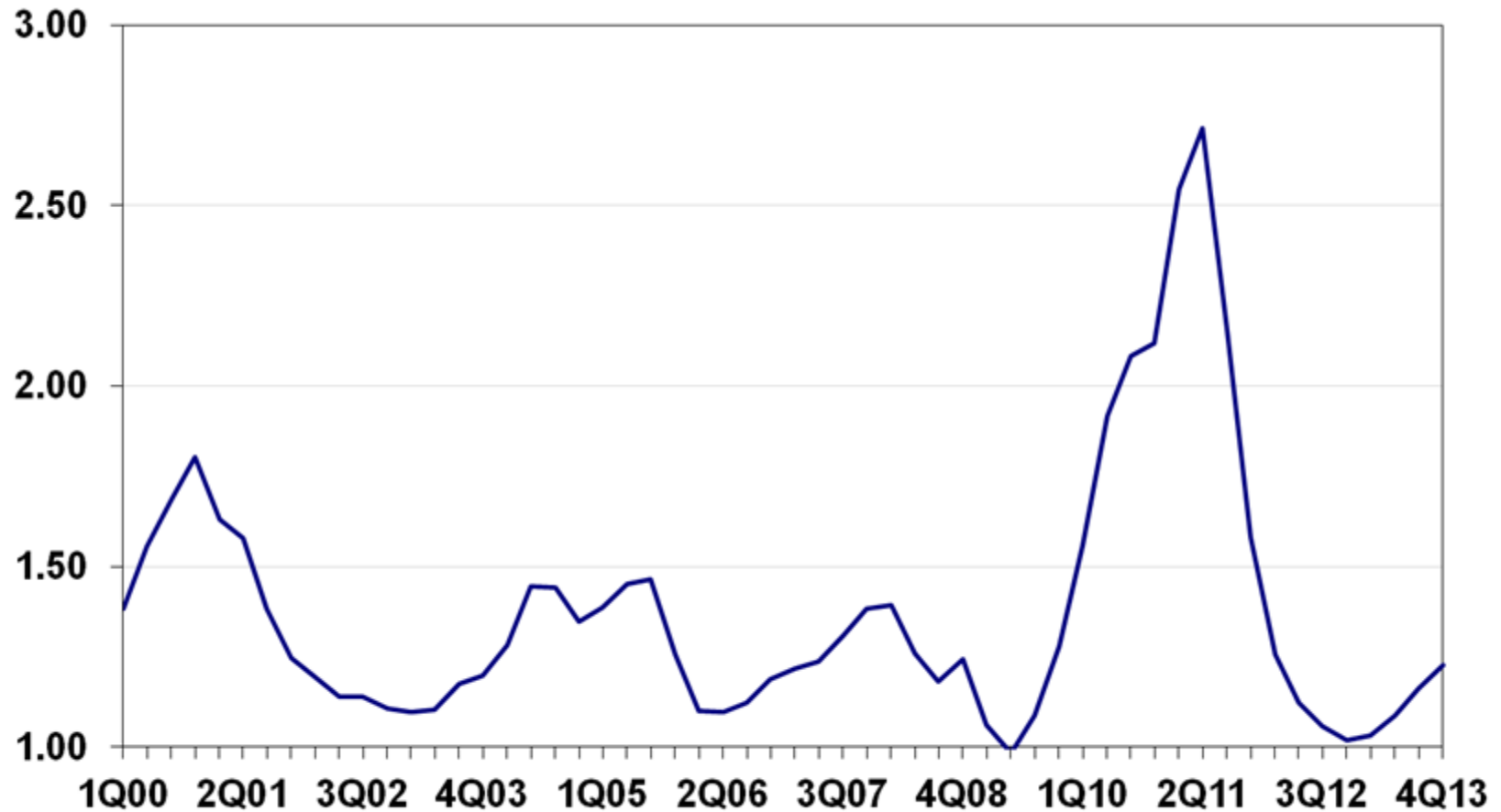
Source: RISI, NCC

Profitability Will Return to Sustainable Levels, Sooner Rather Than Later

- ▶ Price/variable costs for an average viscose producer
 - Hit nearly double the normal cyclical high
- ▶ Extraordinary conditions not long lasting
 - More acres of cotton being planted around the world
 - More dissolving pulp capacity becoming available
 - Rayon will lose share to synthetics
- ▶ Price/variable costs expected to plummet by mid-2012
 - Confirming the volatility of this market

World Average Profit Margins for Viscose Pulp Delivered to China

(Price/Variable Costs)



Summary

- ▶ World demand will continue upward in 2011-2013
 - Growth in total fiber usage will be one factor
 - But biggest wild card is rayon share of world fiber market
- ▶ Supply side gearing up to meet virtually any amount of growth
 - High prices and margins encouraging investment
 - Large amount of paper grade capacity available for conversion
- ▶ High prices and margins won't last long
 - Supply-side response in both cotton and dissolving pulp

Thank you for your attention and feel free to contact me if you have any questions.

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