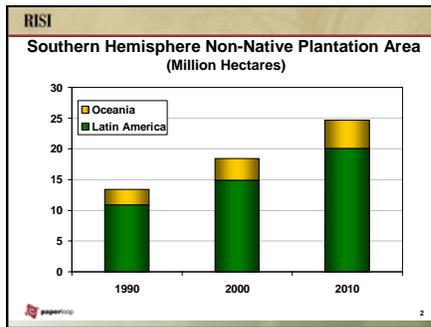


Appendix 5n Keyser

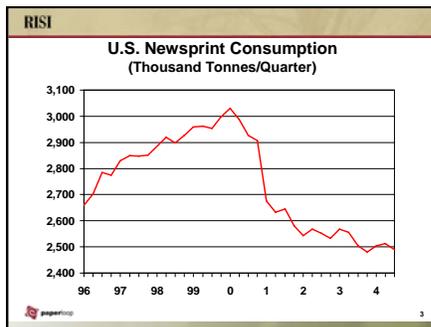
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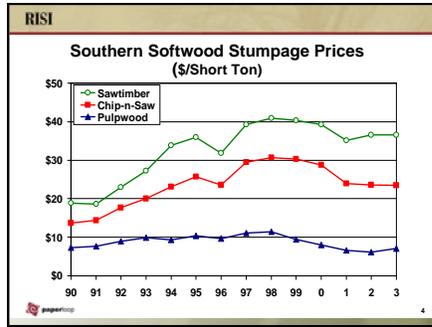
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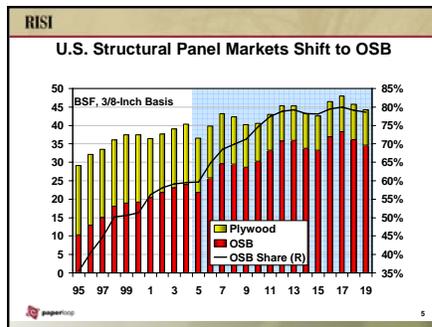
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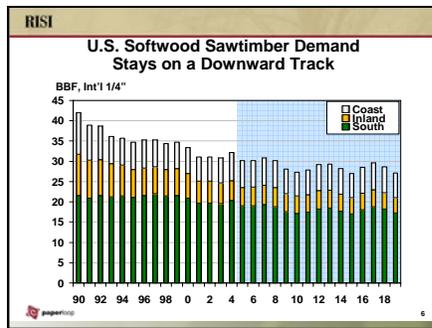
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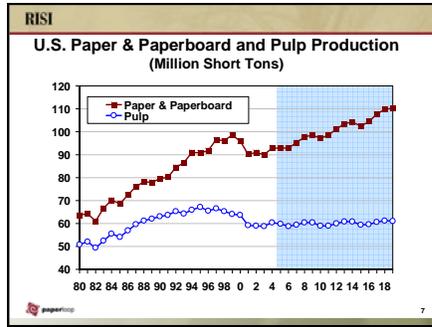
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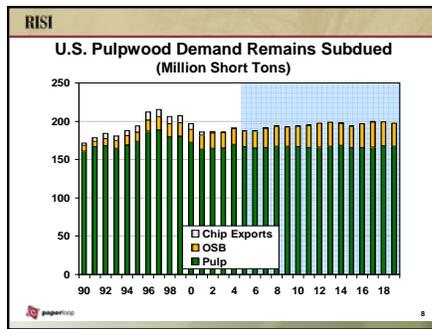
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Slide 7



Slide 8



Slide 9

RISI			
Industrial Roundwood Production by Region (Million Cubic Meters)			
	1990	2003	Share of Growth
Latin America & Oceania	142	244	71%
Asia	335	361	18%
Western Europe	242	261	13%
North America	572	569	-2%
Total	1,292	1,436	

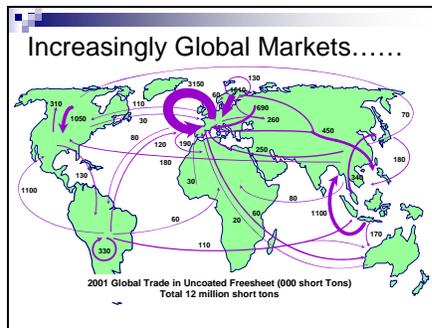
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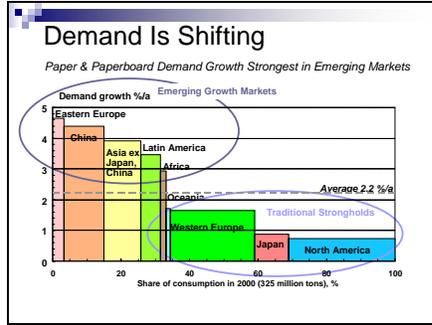
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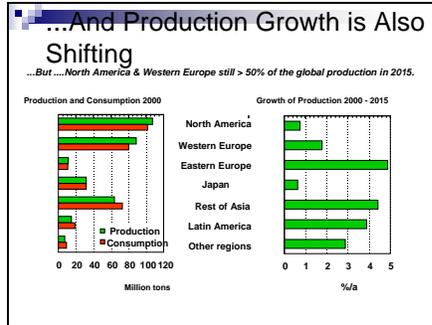
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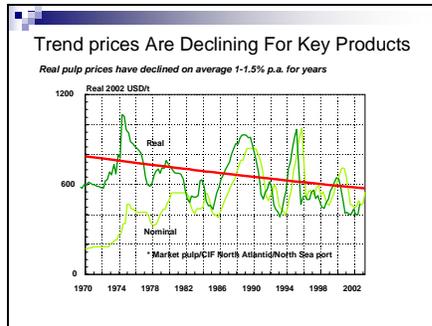
Slide 13



Slide 14



Slide 15



Slide 16

**Future Trends in US Forestry
in a Global Context**

Roger A. Sedjo*

Presented to the Global Markets Forum
Orlando, Florida
February 15-17, 2005

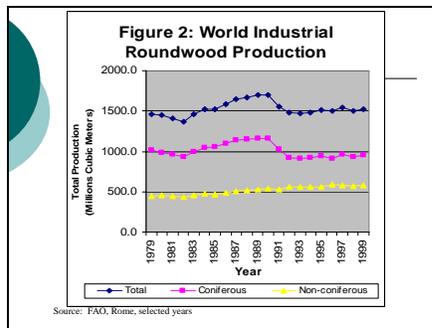
Slide 17

Overview

General decline in US Competitiveness in
resource and manufacturing sectors

- o Current Situation in the U.S. Forest Industry
- o Changing Demand Conditions
- o Exchange Rates
- o Environment for the US Forest Industry
- o Rational Response and Recent Industry Behavior
- o Implications for the US industry

Slide 18



Slide 19

Why Stagnate Demand?

- o More efficient use of raw wood.
- o Non wood substitutes, e.g., plastic packaging, steel in residential construction
- o Greater recycling, waste paper.
- o Aging population in much of wood using industrial world.
- o Decreased wood production as centrally planned economies move to efficient markets, e.g., Russian production/consumption decline.

Slide 20

Supply Factoid

According to the FAO, in 2000, 34% of the world's industrial wood came from planted forests.

By contrast,

In 1950 planted forests made up a negligible portion of industrial wood.

Slide 21

Supply Sources: Globally

- o Global harvest shift from foraging natural forests to a **tree cropping** mode of wood production, especially in subtropical areas
- o Massive areas of **forest plantations** have been established largely in subtropical areas
- o Tree planting creates opportunities for **tree improvement** but traditional and genetic engineering
- o Increasing **participation** of North American and European firms in subtropical plantations.

Slide 22

Summary and Conclusions

- Global demand likely to continue relatively weak while supply sources are growing.
- Much of the new supply will come from biologically advantaged intensively managed plantations **outside** the US using **genetically improved** material.
- Implies a continued **relative deterioration in the position of the US** as a wood producer.
- Tax and certification** considerations provide additional incentives for US firms to divest forestlands in the US.
- A long-term **weak dollar** could help some.
- Overall, expect US industry to continue moving aggressively offshore while, at the same time, reducing and restructuring its domestic timberland holdings.

Slide 23

Assessing market impacts on forest conditions in the US South

David Wear
USDA Forest Service
Southern Research Station

Slide 24

Organizing Concept

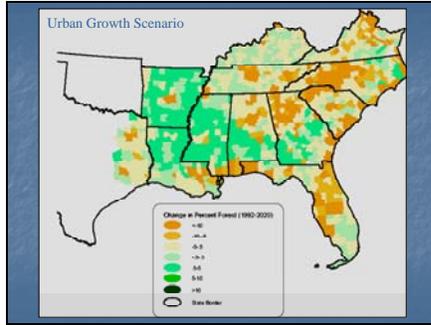
Land use and resource conditions are outcomes of landowner decisions influenced by a web of economic and social forces.

- US South is unusual—predominant private ownership of forests
- Laboratory for investigating sustainability

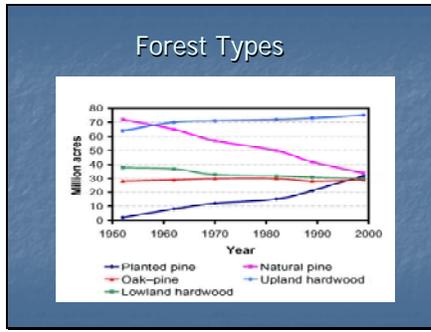
Ownership Type	Percentage
Nonindustrial private	69%
Forest industry	20%
National forest	8%
Other public	3%

200 million acres

Slide 25



Slide 26



Slide 27

- Subregions of Concern
- ❖ *Southern Appalachians*
 - ♦ population growth, fragmentation
 - ♦ sensitivity to increased air pollution
 - ♦ rare forest communities at risk.
 - ❖ *Gulf and Atlantic coastal areas*
 - ♦ wetlands and imperiled species
 - ♦ more intensively managed forests
 - ♦ loss of land to urbanization
 - ❖ *The Piedmont Crescent*
 - ♦ highest concentration of forest loss to urban uses
 - ♦ susceptibility to fragmentation

Slide 28

The Appalachian Forest as it relates to Industry



Mark Barford, CF, CAE
 Certified Forester #1970
 President
 APPALACHIAN
 HARDWOOD MANUFACTURERS, INC.
 March 29, 2006

Slide 29

HARDWOOD TIMBER INVENTORY
 Merchantable Timber - Billions of Board Feet

1953	414
1963	452
1977	569
1987	715
1997	899
2005 (estimated)	1,000

(source - USDA Forest Service)

Slide 30

Lumber Production By State

State	Volume (MMBF)
Pennsylvania	1,081
Tennessee	860
Virginia	855
West Virginia	705
North Carolina	692
Kentucky	683
Georgia	431
New York	411
Ohio	360
South Carolina	137

Slide 31

<u>US Hardwood Lumber Production</u>			
	<u>1991</u>	<u>1997</u>	
<u>2005</u>		10.6	13.3
	11.0		
Pallets	4.6	4.5	3.6
Furniture	2.0	3.0	1.0
EXPORTS		1.0	1.4
		1.4	
Millwork	1.0	1.3	1.3
Cabinets	0.9	1.2	1.5
Flooring	0.5	1.1	1.4
RR Ties	0.6	0.8	0.8

Slide 32

Markets are Changing

US furniture has lost about 50% of capacity – and remaining mills are using 50% less lumber!

Industry has shifted lumber exports to new countries without substantial increase in volume

Markets everywhere have become more demanding – length, widths and color requirements

Higher demand for lower volume species

Slide 33

Hardwood Production Concerns

- ◆ Overhead costs ridiculous – Workers Comp.
- ◆ Trees less available
- ◆ Production and employment numbers down
- ◆ More logs leaving Appalachia to be processed

Slide 34

Forestry in Appalachia

- ◆ Forest owned 90% by non-government
- ◆ TIMO'S largest private landowners
- ◆ 10 million landowners
- ◆ National Forests are essentially CLOSED
- ◆ Regulations and restrictions making active management more difficult
- ◆ Diseases and insects pose unknown threats

Slide 35

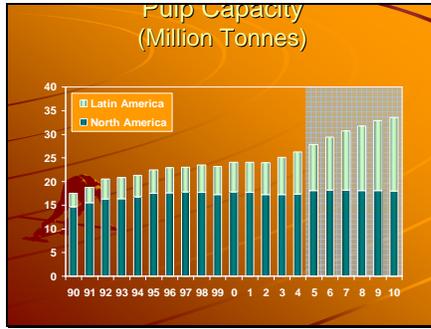
Forestry in Appalachia - Harvesting

- ◆ Predominately unmanaged cutting – High Grading – little forester involvement
- ◆ Little to no clear cutting – little Oak or Cherry regeneration
- ◆ Deer browse a significant problem for regeneration
- ◆ Logger certification and restrictions make recruiting new forest workers tough... along with better paying competition

Slide 36



Slide 37



Slide 38

