

How We Got Here And Where We're Going

A Review of SC and Coated Grades

For Gravure Publishing Council
November 18, 2008

Verle Sutton
The Reel Time Report, a Forestweb Company



“No trees were destroyed to produce this presentation, but two baby bushes were clubbed to death.”

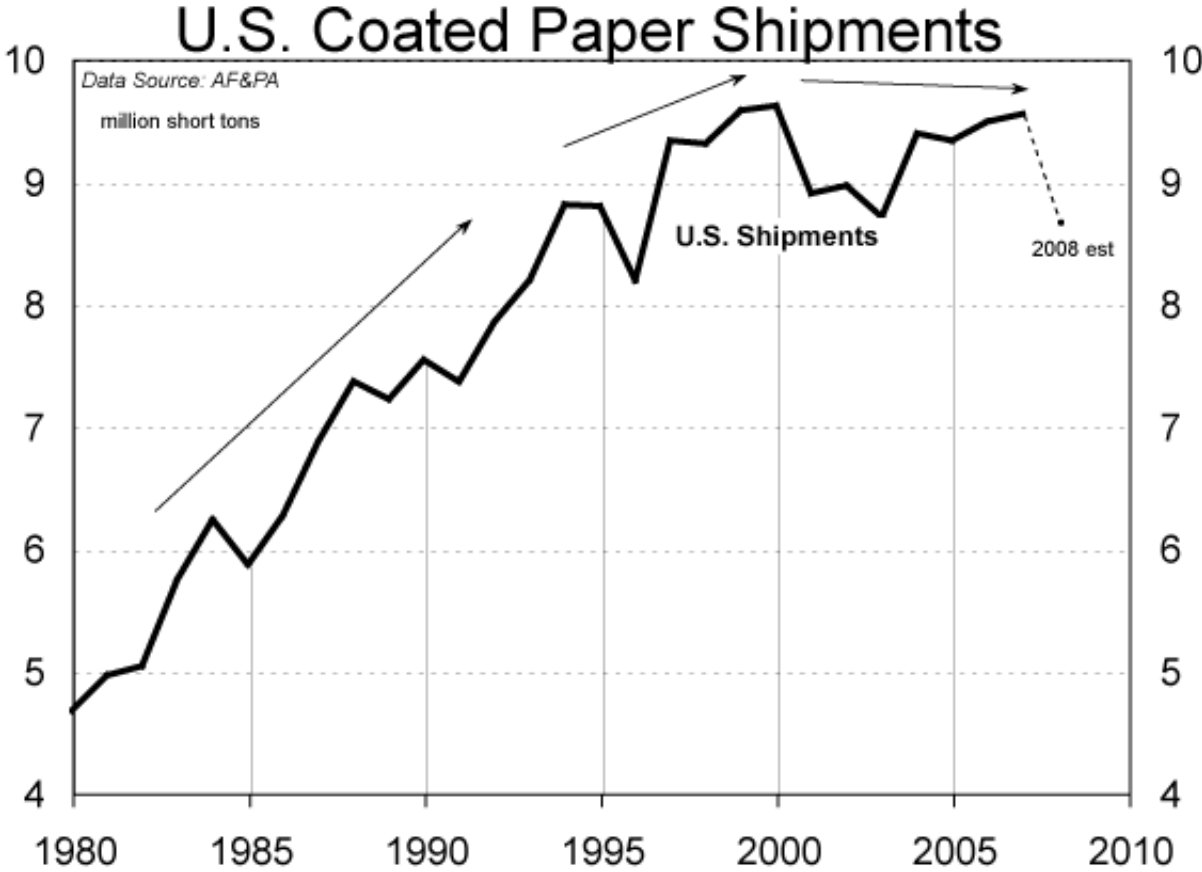
How We Got Here...

- North American trends in demand
- World-wide additions to capacity
- Consolidation and the impact of supply control

North American Trends in Demand

SC and Coated Shipments and Demand

- North American shipments of coated grades grew rapidly in the '80s, slowed in the '90s, and peaked in 2000.



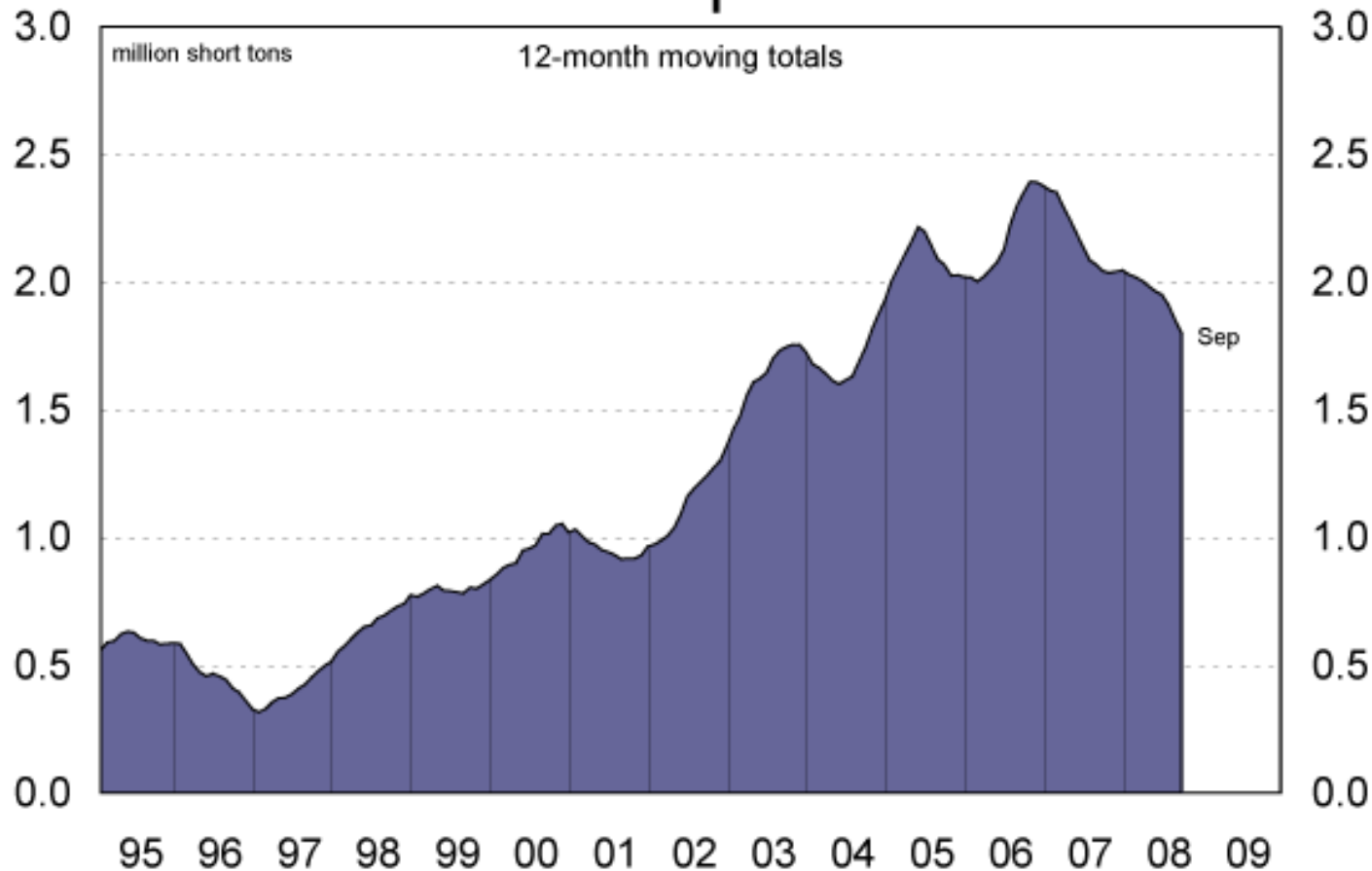
Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

SC and Coated Shipments and Demand

- North American shipments of coated grades grew rapidly in the '80s, slowed in the '90s, and peaked in 2000.
- Coated demand has held up a little better, but imports have secured all of the demand growth since 2000.

North American Coated Papers Net Imports



Data Source: *PPPC*

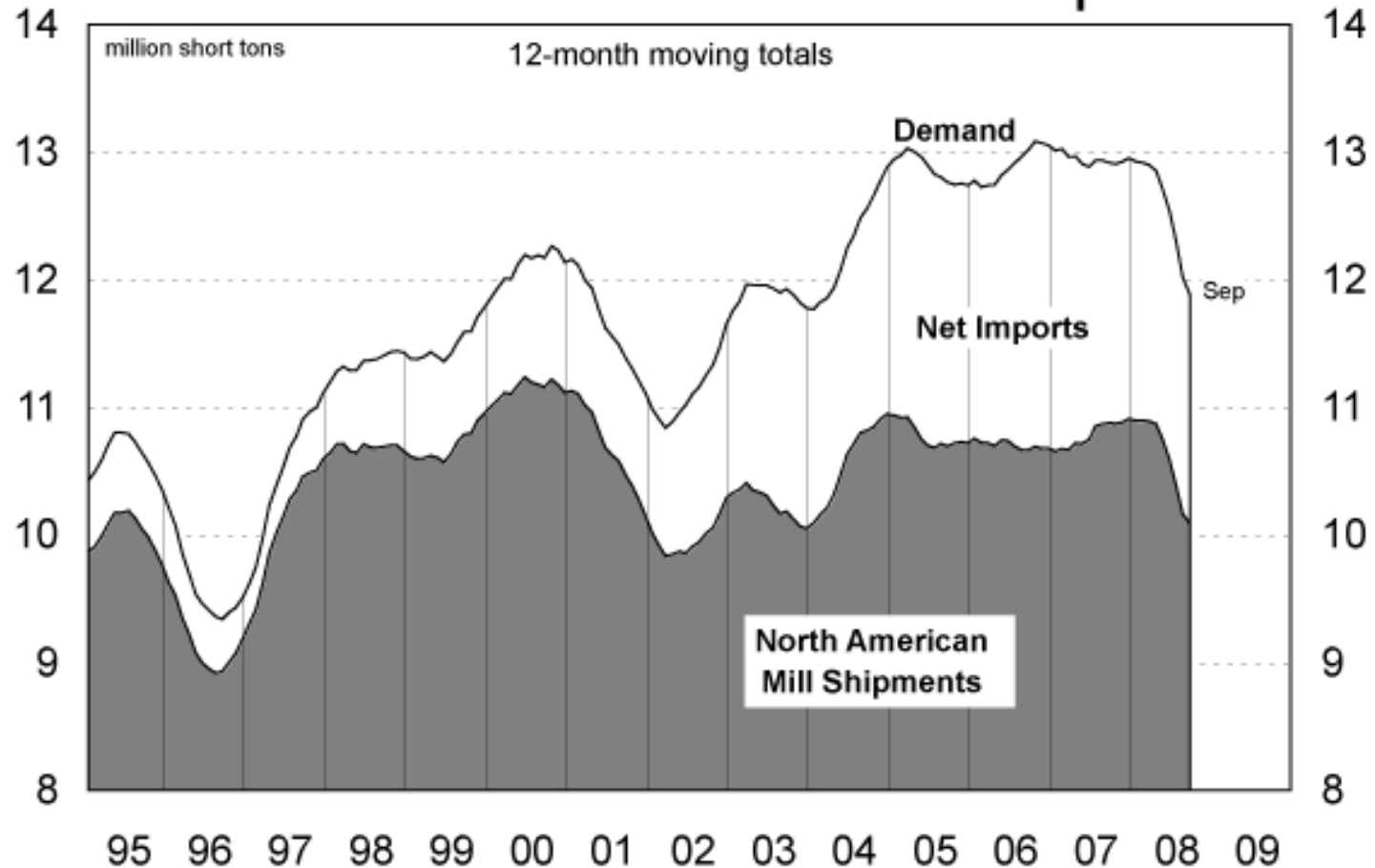
Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

SC and Coated Shipments and Demand

- North American shipments of coated grades grew rapidly in the '80s, slowed in the '90s, and peaked in 2000.
- Coated demand has held up a little better, but imports have secured all of the demand growth since 2000.
- Demand for coated grades flattened from 2005 to 2007 - during the good economic times. The peak in 2006 will be the historical high point.

Coated Papers North American Demand vs. Shipments

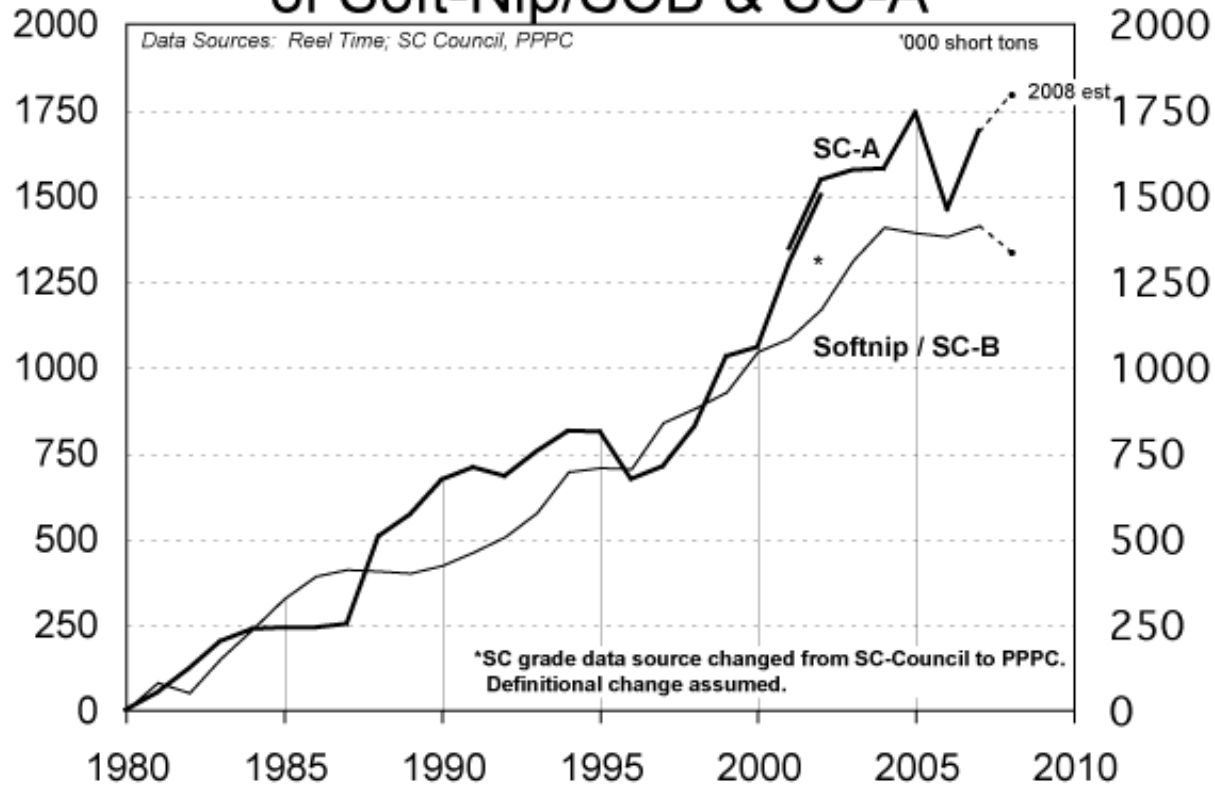


Data Source: PPPC

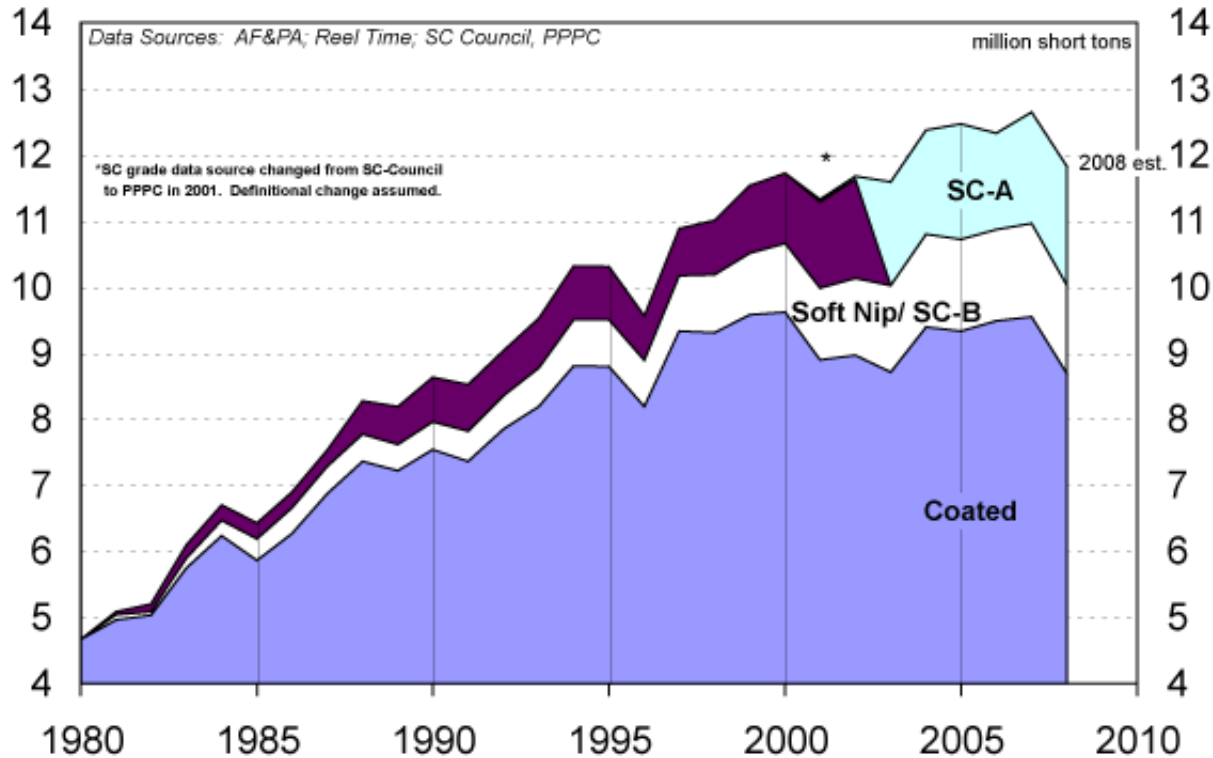
SC and Coated Shipments and Demand

- North American shipments of coated grades grew rapidly in the '80s, slowed in the '90s, and peaked in 2000.
- Coated demand has held up a little better, but imports have secured all of the demand growth since 2000.
- Demand for coated grades flattened from 2005 to 2007 - during the good economic times. The peak in 2006 will be the historical high point.
- **SC grades have continued to grow this decade and take market share from the coated grades.**

North American Shipments of Soft-Nip/SCB & SC-A



Total Shipments: SC-A (NA) + Soft-nip/SCB (NA) + Coated Grades (U.S.)

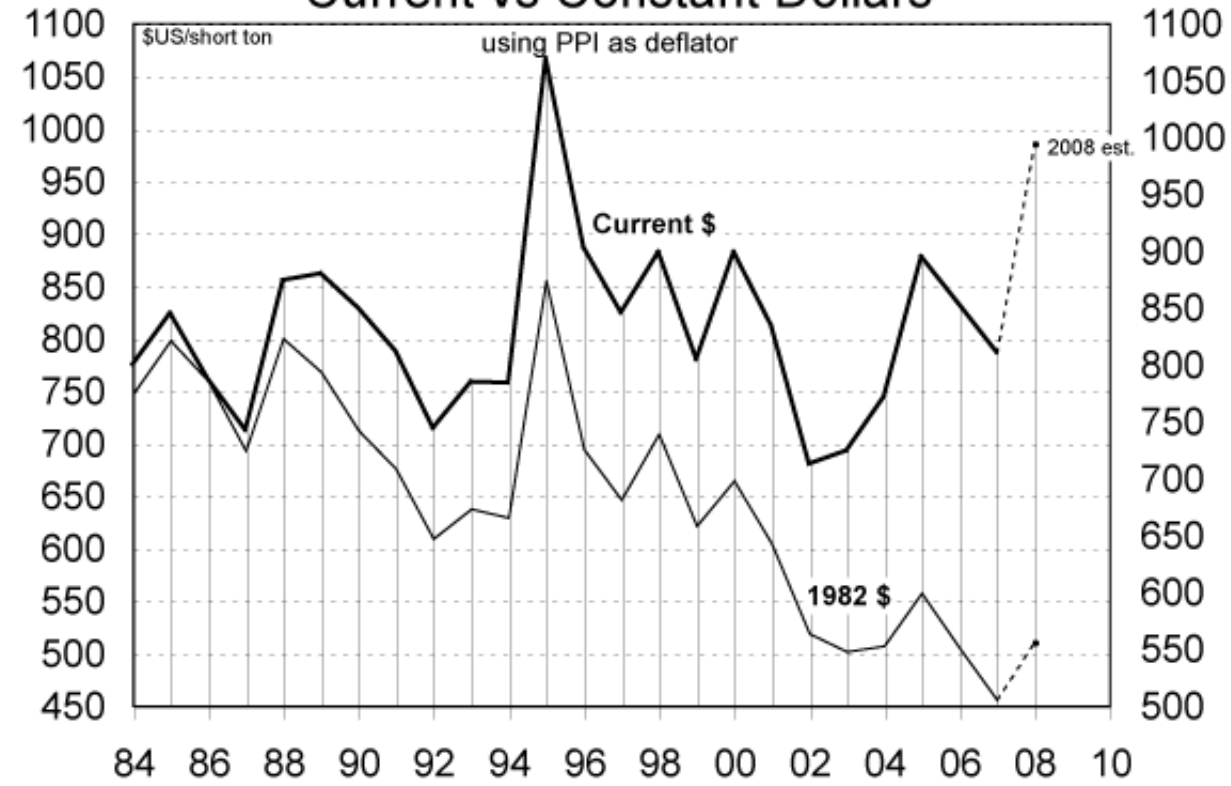


World-Wide Additions to Capacity

Supply Dynamics in North America

- As we entered the '90s, capacity “creep” sprinted forward, shipments slowed, and increasing competition with imports resulted in weak pricing, and poor profits.

Coated Groundwood Pricing Current vs Constant Dollars



Data Sources: Pulp & Paper Week; ERA

Supply Dynamics in North America

- As we entered the '90s capacity “creep” sprinted forward, shipments slowed, and increasing competition with imports resulted in weak pricing, and poor profits.
- With limited capital available and future market conditions unsettled, nearly all additions to value-added capacity were limited risk (and limited reward) conversions.

Supply Dynamics in Europe

Europe, in contrast, benefited from a newly free Eastern Europe and enjoyed strong pricing as well as considerable growth in both demand and new capacity.

1990–2009 Capacity Additions (CWF+CM+SC) as a % of '08 Capacity

Europe **43%** (11.2 million of 26.0 million capacity — per EMGE)

* Most of this was 1990s' capacity.

North America **15%** (2.0 million of 13.3 million capacity)

* Most new capacity additions were conversions from newsprint.

New Capacity in Asia

Capacity also grew rapidly in Asia in the 1990s, but the largest increases took place in China as we moved into the 2000s.

1990–2009 Capacity Additions (CWF+CM+SC) as a % of '08 Capacity

Europe **43%** (11.2 million of 26.0 million capacity — per EMGE)

* Most of this was 1990s' capacity.

North America **15%** (2.0 million of 13.3 million capacity)

* Most new capacity additions were conversions from newsprint.

Asia **72%** (12.0 million of 16.7 million tons/year capacity — per EMGE)

* About 39% of total capacity came on-line this decade.

* Only coated grades and vast majority of tons are CWF.

Paper Machine Technological Progression

SELECTED SC-A MACHINES

NewPage:	1987	Duluth SCA capacity eventually increased to 250,000 tons/year
NewPage:	1998	Port Hawkesbury SCA capacity 385,000 tons/year
Myllykoski:	2007	Plattling SCA capacity 420,000 tons/year

Paper Machine Technological Progression

SELECTED SC-A MACHINES

NewPage:	1987	Duluth SCA capacity eventually increased to 250,000 tons/year
NewPage:	1998	Port Hawkesbury SCA capacity 385,000 tons/year
Myllykoski:	2007	Plattling SCA capacity 420,000 tons/year

SELECTED COATED WOODFREE MACHINES

SAPPI:	1989	Somerset #3 CWF capacity 290,000 tons/year
APP:	2005	Goldeast #3 CWF capacity 850,000 tons/year
APP:	2010	Dagang (planned) CWF capacity 1,110,000 tons/year

Advancements in Technology

In addition to much higher machine capacity, other costs-per-ton items are lower. Machine efficiency tends to be higher. Finishing costs associated with improvements in calendaring technologies are reduced. Less kraft pulp is often required for the coated and uncoated groundwood grades.

The Quality of North America's New Capacity

- Since 1995, there have been 13 capacity additions through conversions, but only two new machines.
- All but three of these capacity additions were, in some way, a replacement of newsprint capacity.
- Six of these “additions” have already been subtracted.

Capacity Additions Since 1995 in SC-B, SC-A, Coated Groundwood and Coated Free Sheet (Revised)

Company	Grade	Start-Up Date	Capacity in each Market Segment			
			Soft-Nip/SC-B	SC-A	CGW	CFS
Catalyst	CGW	1st Quarter 1995	—	—	220,000	—
StoraEnso (PH)	SC-A, SC-A+	April 1998	—	385,000	—	—
Irving (PM #2)	SC-B	March 1999	225,000	—	—	—
Alliance/Bowater	SC-B/SC-A	October 2000	30,000	140,000	—	—
Abitibi-Consolidated	SC-B	July 2001	275,000	—	—	—
Bowater (Nuway)	CGW	Mid-2001	—	—	95,000	—
Great Northern	SC-A	December 2001	—	195,000	—	—
Madison Paper	CGW	1st Quarter 2002	—	—	120,000	—
Bowater (Nuway)	CGW	March 2002	—	—	95,000	—
Catalyst	SC-A type	1st Quarter 2003	(140,000)	165,000	—	—
Bowater (Catawba)	CGW	2nd Quarter 2003	—	—	330,000	—
StoraEnso	CFS	June 2003	—	—	(190,000)	205,000
Kruger (Wayagamack)	CGW	November 2003	—	—	220,000	—
Tembec (Gaspesia)	CFS	2nd Quarter 2004	—	—	—	220,000
Irving (PM #1)	SC-A/SC-A+	2nd Quarter 2006	—	225,000	—	—
TOTALS			390,000	1,110,000	890,000	425,000
		<i>New Totals</i>	85,000	775,000	795,000	205,000

The Quality of North America's New Capacity

- Since 1995, there have been 13 capacity additions through conversions, but only two new machines.
- All but three of these capacity additions were, in some way, a replacement of newsprint capacity.
- Six of these “additions” have already been subtracted.

The takeaway is this. In spite of the elimination of the highest-cost capacity, paper machines in NA are, on average, vastly less productive than those in both Europe and Asia.

Consolidation and the Impact of Supply Control

Consolidation and Supply Control

The production of value-added publication grades has become an industry –

- With low or no profits
- With declining demand
- Requiring heavy capital investments
- With low-cost international competition
- With relatively high-cost paper machines
- Under regular attack by environmental extremists
- Heavily influenced by currency values which fluctuate substantially

Consolidation, which can lead to supply and price control, is the “best hope of producers”.

North American Coated Mechanical Capacity • By company

Company	000 tons	Market Share
NewPage	1,100	24.5%
Verso	1,000	22.2%
AbitibiBowater	700	15.6%
Kruger	465	10.4%
UPM - Kymmene	380	8.5%
Domtar	240	5.3%
Catalyst	230	5.1%
Pine Bluff	200	4.4%
Madison	130	2.9%
Fraser	<u>50</u>	<u>1.1%</u>

Handwritten note: A bracket groups NewPage and Verso with the value 46.7%.

North American Coated Free Sheet Capacity • By company

Company	000 tons	Market Share
NewPage	2,200	45.2%
Sappi	1,250	25.7%
Verso	700	14.4%
Appleton Coated	400	8.2%
West Linn	250	5.1%
Newton Falls	<u>70</u>	<u>1.4%</u>
	4,870	100.0%

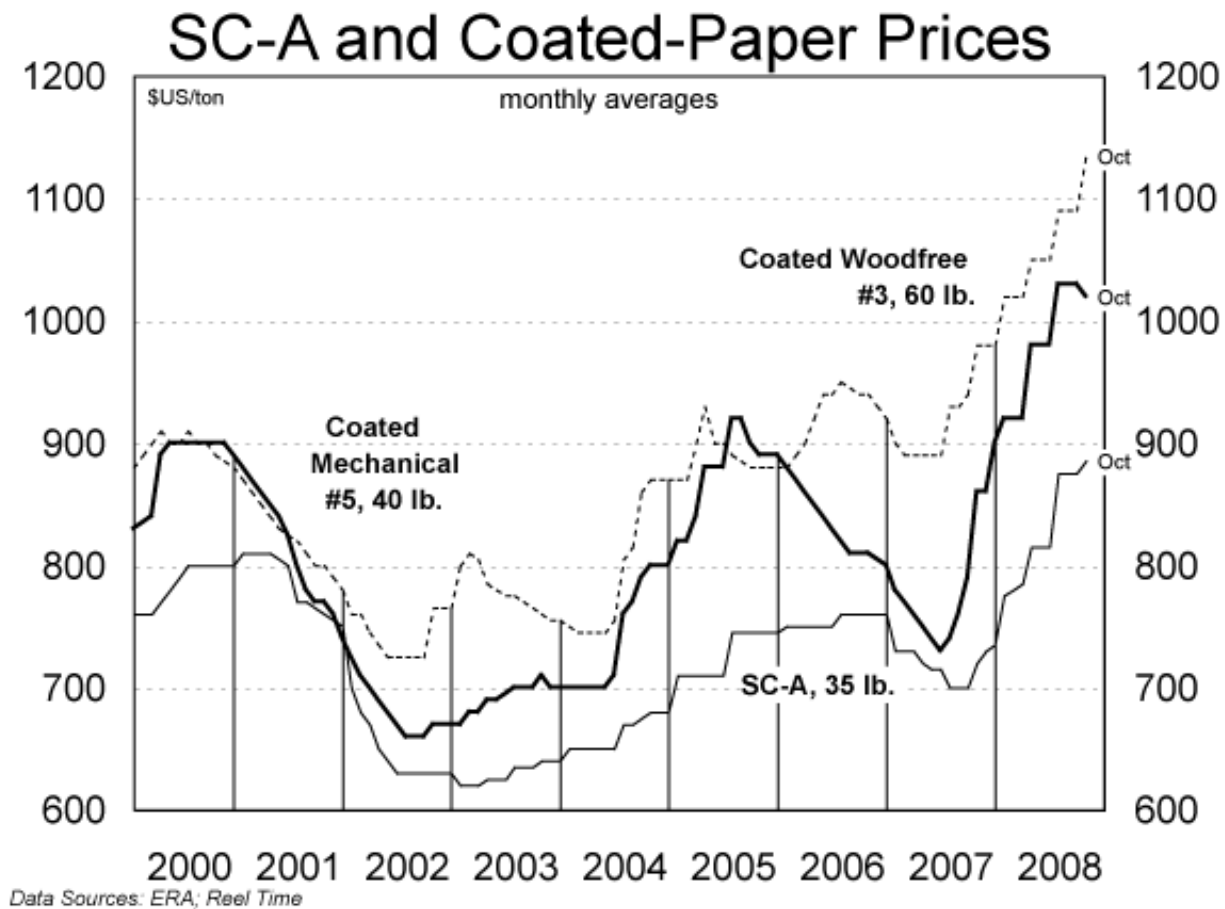
Handwritten note: A red bracket groups NewPage and Sappi with the text "70.9%" next to it.

North American Coated Capacity Reductions in 2007–2008

Company/Mill Location	Capacity (000 tons)	Grade	Date Closed
NewPage — Luke, MD	100	CFS	Jan. 2007
Fraser Papers — Madawaska, ME	80	CGW	TBD
Tembec — St. Francisville, LA	325	CFS	Jul. 2007
UPM — Miramichi, NB	495	CGW	Aug. 2007
Domtar — Hull, QC	100	CFS	Oct. 2007
<hr style="border-top: 1px dotted red;"/>			
NewPage — No. 11 Rumford, ME	90	CGW/CFS	Feb. 2008
NewPage — Niagara, WI	230	CGW	Jul. 2008
NewPage — No. 95 Kimberly, WI	130	CFS	May 2008
NewPage — No. 96 and 97 Kimberly, WI	<u>500</u>	CGW/CFS	August 2008
Total	2,050	Coated	

Consolidation Has Arrived

- Pricing has increased substantially



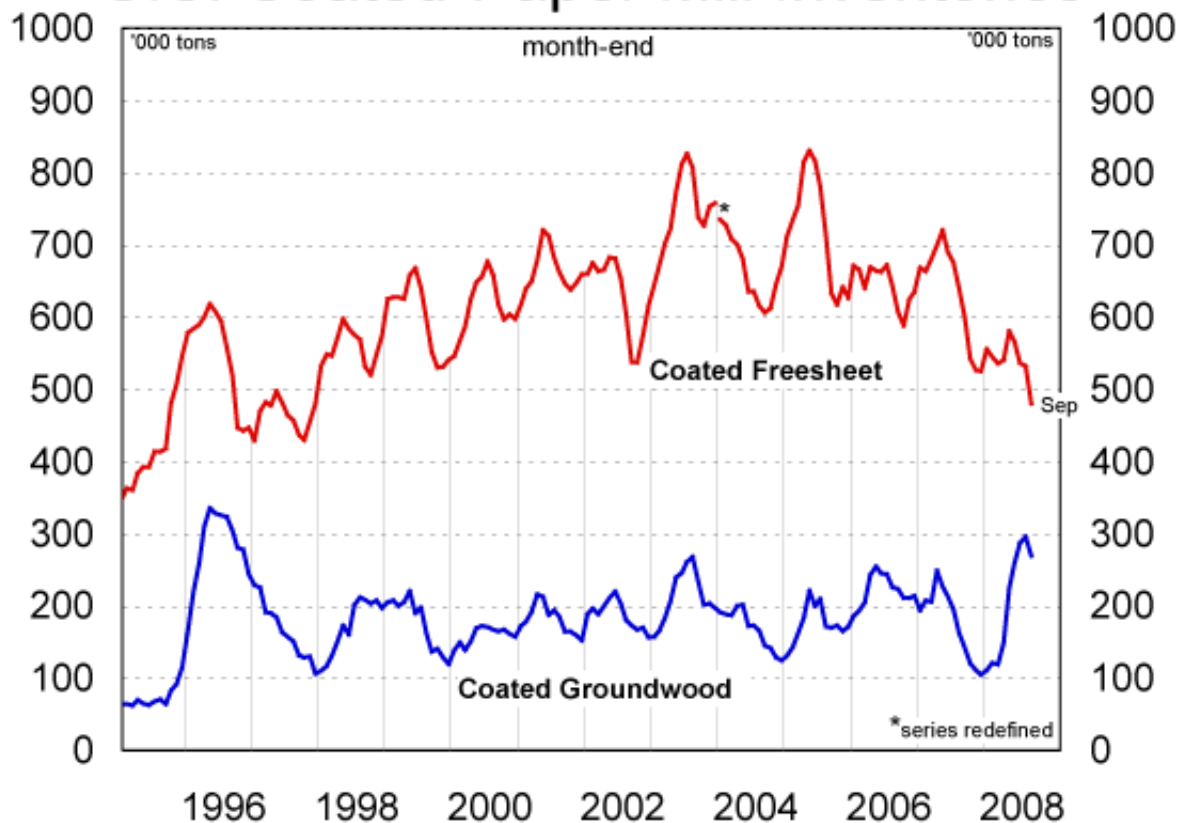
Consolidation Has Arrived

- Pricing has increased substantially
- Consumption of coated grades has declined sharply

IDEAlliance Consumption Data (tons)

Average monthly consumption	UNCOATED GROUNDWOOD	% CHANGE (y/y)	COATED GROUNDWOOD	% CHANGE (y/y)	COATED FREE SHEET	% CHANGE (y/y)
Q3/2005	263,910	—	366,693	—	133,676	—
Q3/2006	277,353	+5.1	377,288	+2.9	136,337	+2.0
Q3/2007	262,031	-5.5	350,385	-7.1	136,493	no change
Q3/2008	263,824	+0.7	279,868	-20.1	115,987	-15.0

U.S. Coated-Paper Mill Inventories



Data Source: AF&PA

Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

...And Where We Are Going

North American Publications Paper Forecast 2008-2022

- Forecast of Currency Values
- Trends in Production Costs
- An Overview of Factors Impacting the Demand for Print Advertising
- Demand Forecasts for Magazines, Catalogs, and Inserts
- North American Imports from Europe
- North American Paper Trade with Asia
- General Expectations as to Supply-Demand Balance in the Coming Years

...And Where we are Going

- The Financial Crisis of 2008
- Currency Values and Revenue Implications
- Print Advertising Declines as Communication/ Entertainment Options Increase Exponentially
- North American Imports From Europe
- North American Paper Trade With Asia
- Summary...And Where We Are Going

The Financial Crisis of 2008

The Financial Crisis of 2008

Economic conditions normally have less impact on demand/market conditions for publication grades than...

- Pricing
- Large swings in inventory
- Electronic substitution
- Large currency swings
- Substantial changes in supply (domestic or imports)
- Steep increases in commodity costs
- Large postage increases
- Environmental initiatives

But not in 2009 – economic weakness will have a crucial impact on our businesses.

The Economy in 2009

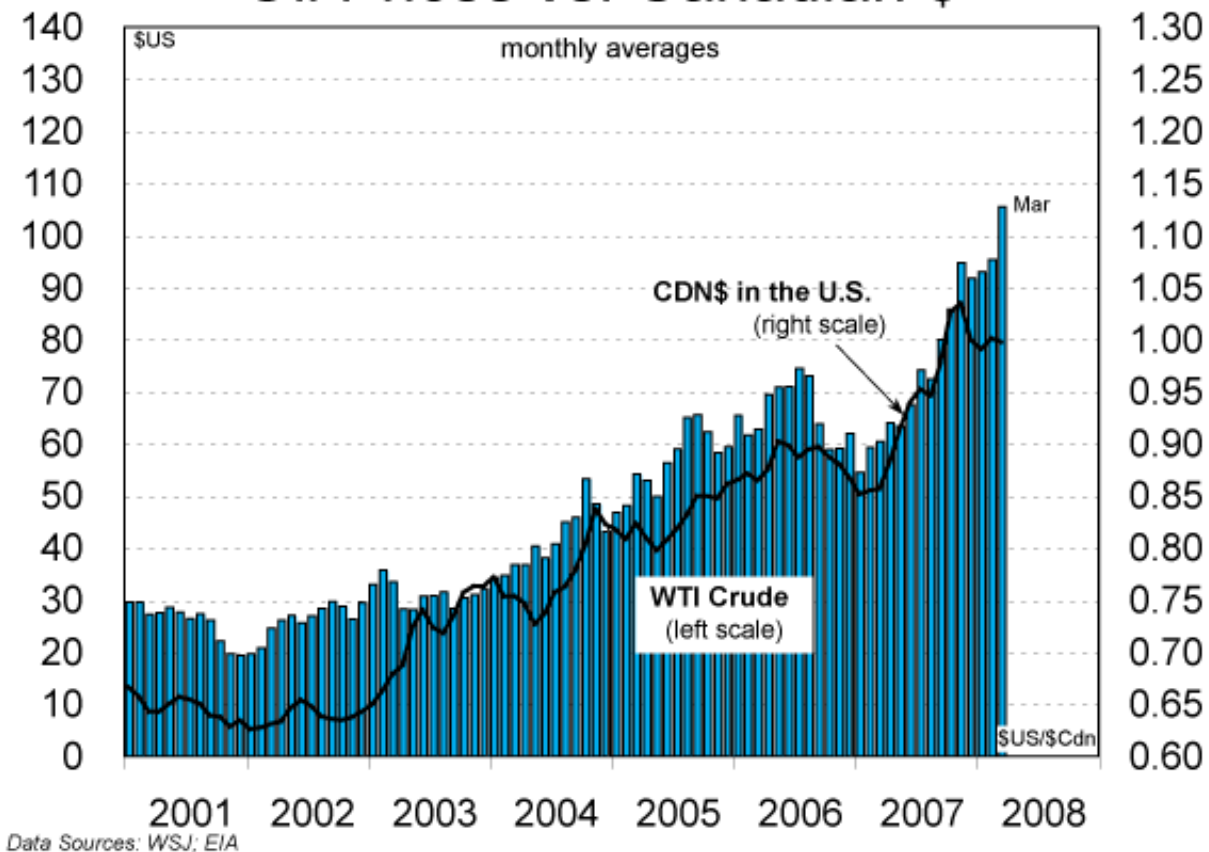
- The best we can hope for is a severe recession.
- If confidence is regained in the financial markets and there is no melt-down in the developing world, perhaps the economy will begin to strengthen in one to two years.
- In the meantime, print advertising in all forms, will be significantly effected.

Currency Values And Revenue Implications

Currency Values and Revenue Implications

- Currency values relate to oil and other commodity prices.

Oil Prices vs. Canadian \$



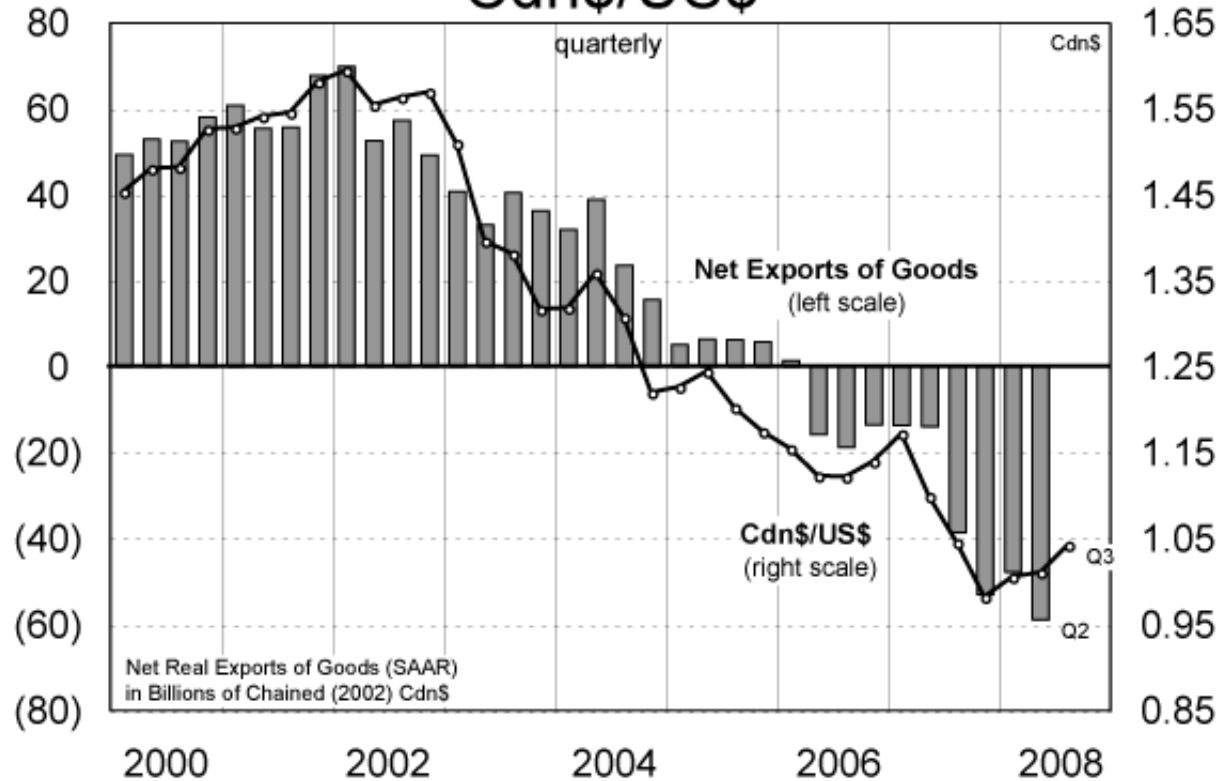
Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
 1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

Currency Values and Revenue Implications

- Currency values relate to oil and other commodity prices.
- But currency values also tend to move in long-term (six to eight year) cycles.
- And strong currencies weaken economies by discouraging exports and encouraging imports.

Net Exports of Canadian Goods vs. Cdn\$/US\$



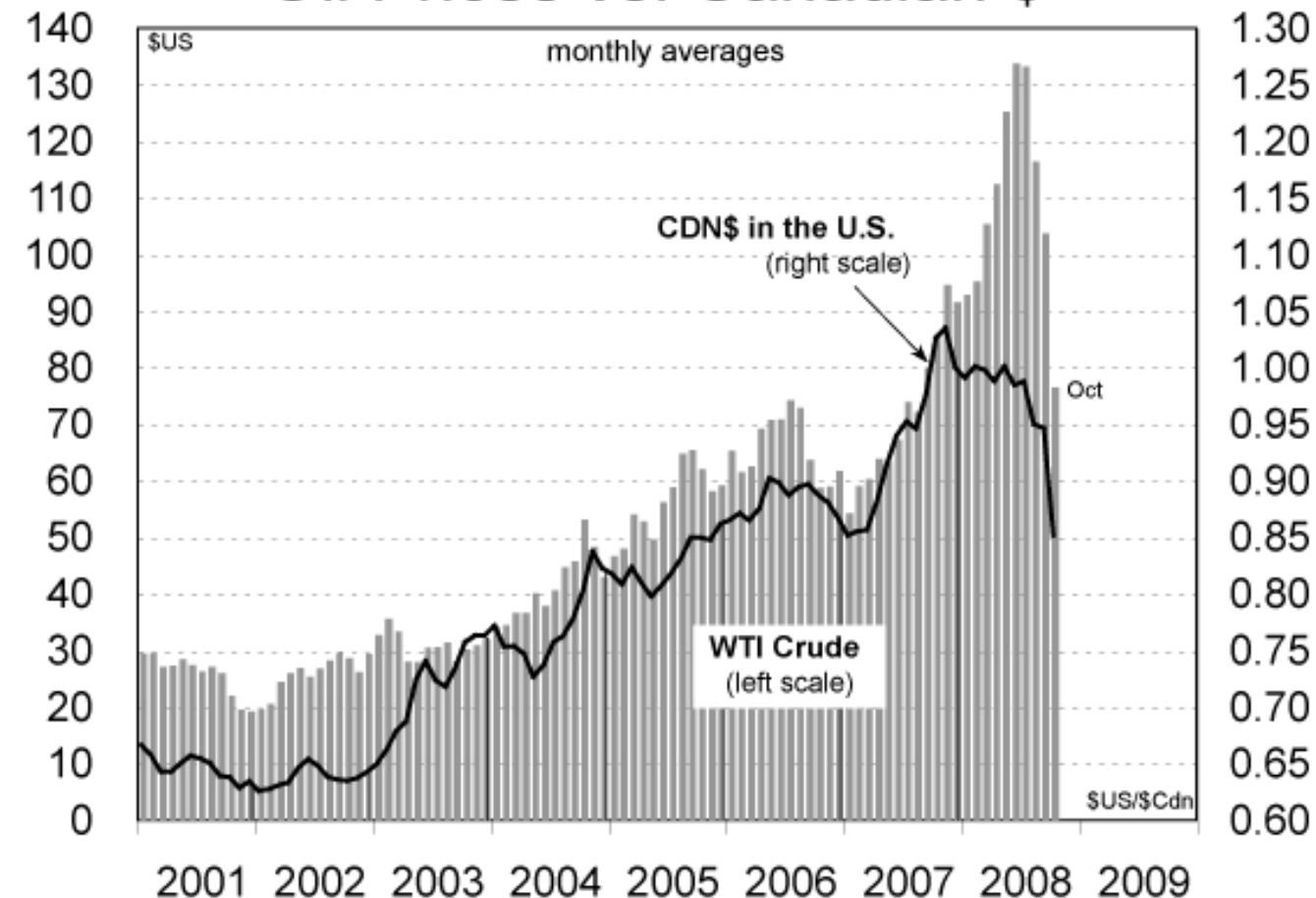
Data Sources: StatsCan; WSJ

Currency Values and Revenue Implications

- Currency values relate to oil and other commodity prices.
- But currency values also tend to move in long-term (six to eight year) cycles.
- And strong currencies weaken economies by discouraging exports and encouraging imports.
- By 2005 the Canadian economy was weakening from manufacturing losses more quickly than it was strengthening from the commodity boom.

In March, we concluded that, “*The loonie has peaked versus the U.S. dollar and is in a slow, long-term decline.*” We made the same prediction for the euro.

Oil Prices vs. Canadian \$

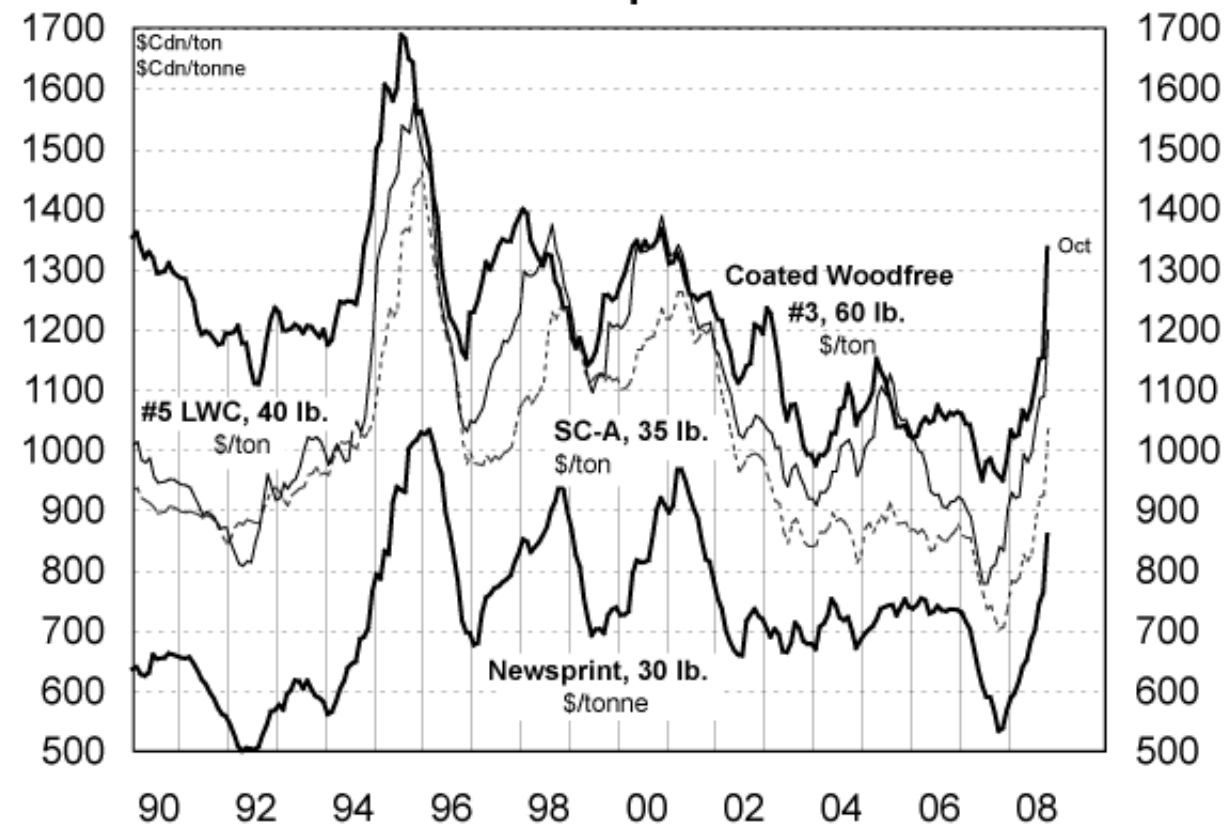


Data Sources: WSJ; EIA

Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
 1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

U.S. Publication-Paper Prices in \$Cdn



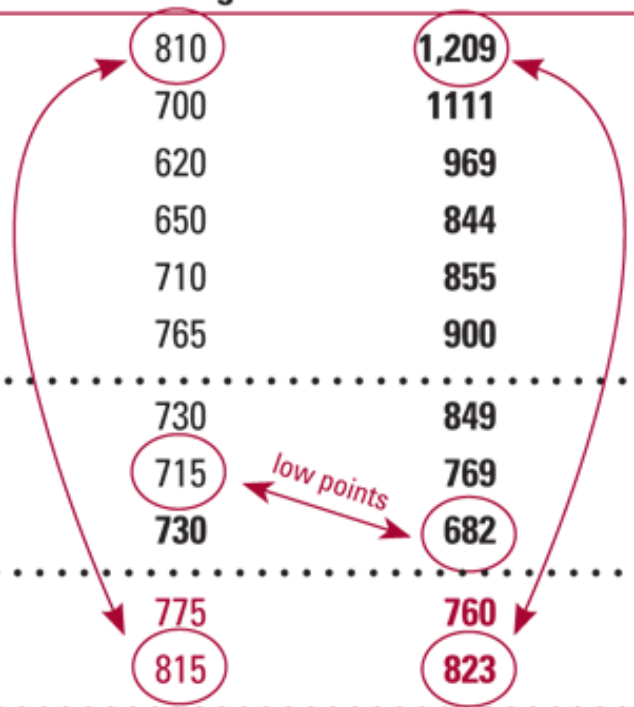
Data Sources: P&PW; ERA; Reel Time; WSJ

SC-A (35#) Pricing in U.S. & Canadian Dollars			
Date	Value Canadian Currency vs. U.S. Dollar	U.S. Pricing	U.S. Pricing Converted to Canadian Dollars
Jan. 1, 2001	0.67	810	1,209
Jan. 1, 2002	0.63	700	1111
Jan. 1, 2003	0.64	620	969
Jan. 1, 2004	0.77	650	844
Jan. 1, 2005	0.83	710	855
Jan. 1, 2006	0.85	765	900

Jan. 1, 2007	0.86	730	849
May 28, 2007	0.93	715	769
Nov. 5, 2007	1.07	730	682

Jan. 1, 2008	1.02	775	760
April 29, 2008	0.99	815	823

Oct 27, 2008	0.77	885	1,110
Nov. 3, 2008	0.84	885	1,054



Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
 1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

Print Advertising Declines As Communication/Entertainment Options Increase Exponentially

Technology News

Dad

Thought this was interesting technology news. You can now stream Netflix "watch now" through your Tivo and Intendo 360, limited selection in HD. *If licensing caught up with technology, we'd be able to watch every movie ever made any time we want.*

http://news.cnet.com/8301-1023_3-10078711-93.html

Duke

North American Imports From Europe

North American Imports from Europe

- Within the next 5 years, European demand for coated and SC grades will begin to decline.
- Machines still operating will be highly productive.
- The euro will be weaker versus the U.S. dollar.
- Overseas shipping costs will be lower.

The risk is that imports from Europe could increase substantially over the last 10 years of this forecast period.

But this is a risk, not a certainty. Virgin and recycled fiber have become scarce in some regions of Europe. Carbon reduction initiatives and rapid growth in fiber-to-fuel projects will increase the cost of fiber even more. Union cooperation has been minimal.

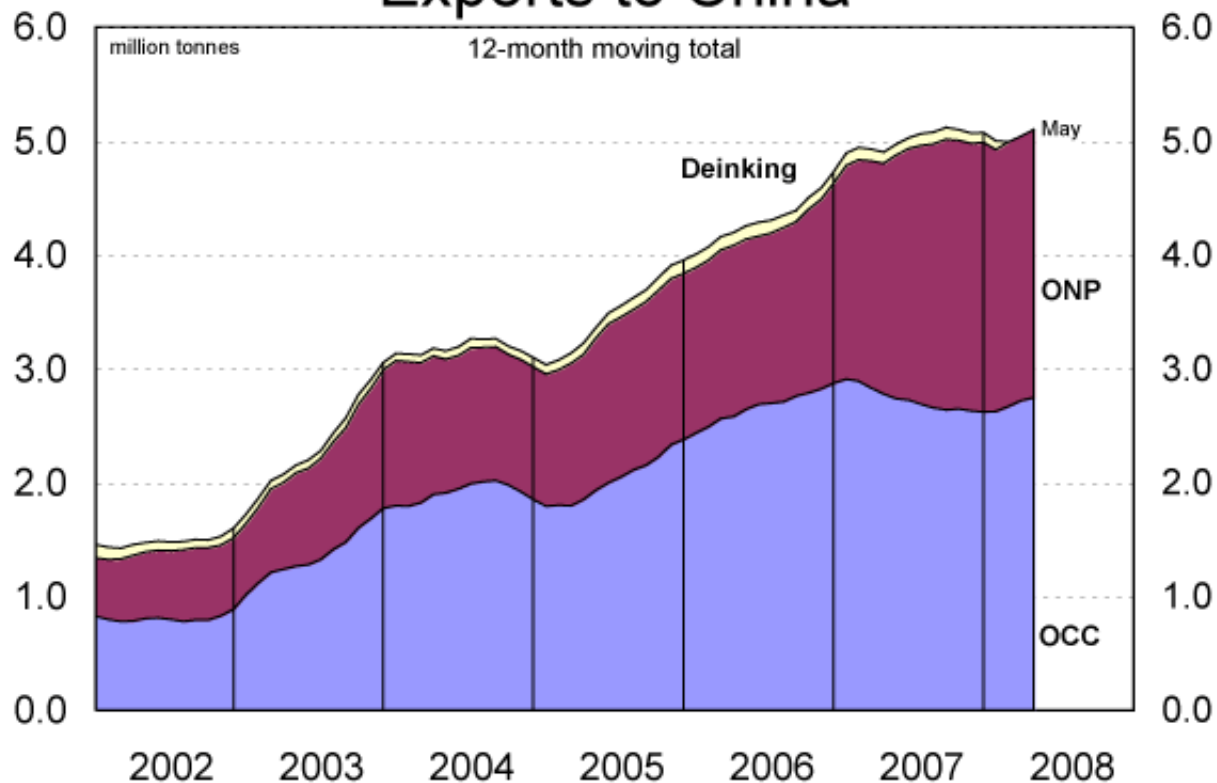
North American Paper Trade With Asia

North American Paper Trade with Asia

Coated Groundwood and SC Grades

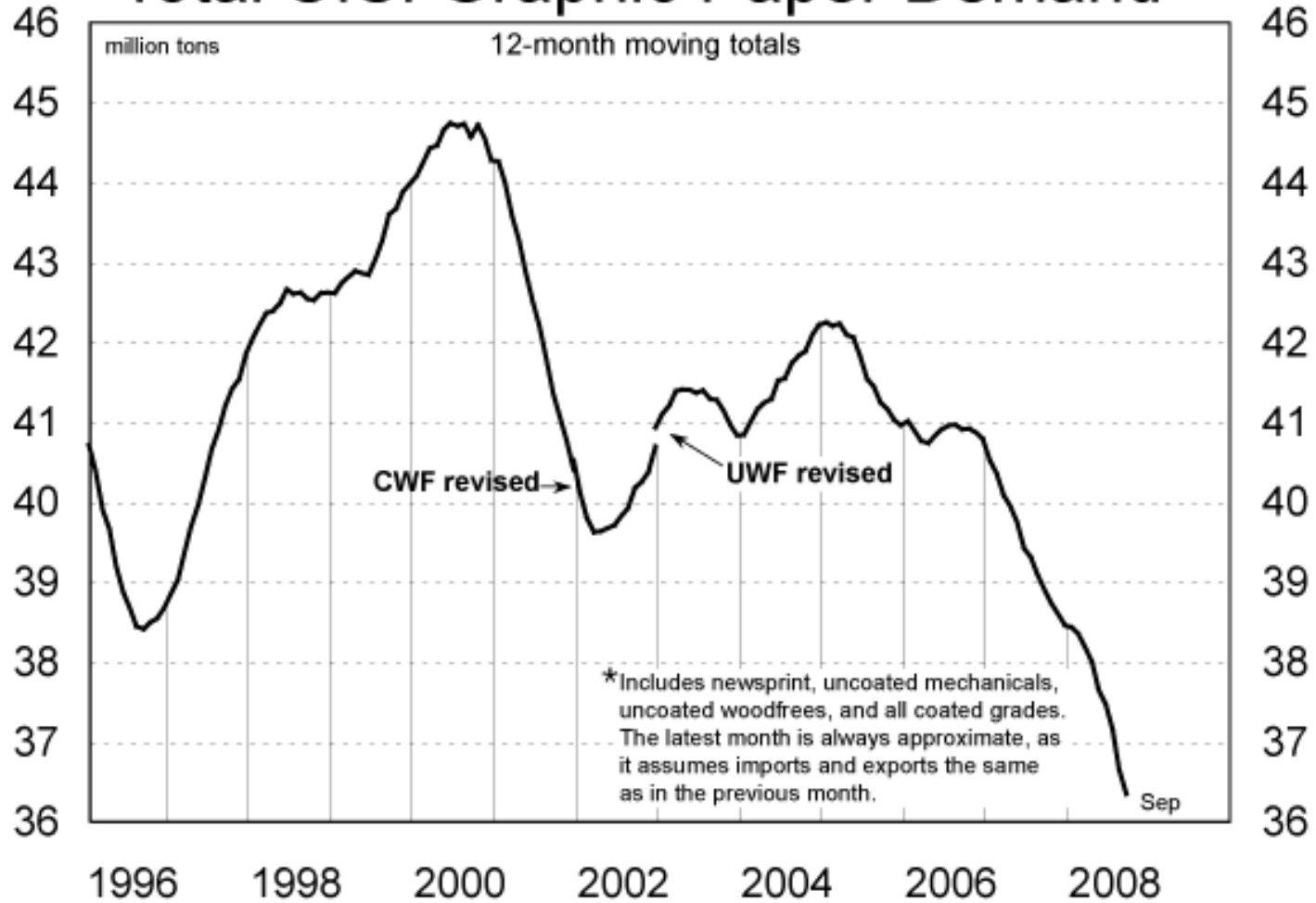
- One million tons of coated groundwood and SC capacity will start up in China between 2007 and 2009, most dependent on recycled fiber.
(EMGE)
- Also, 1.4 million tons of coated groundwood is to start up in Japan in 2007-2008 although the majority of this capacity is being offset with closures. Most of this capacity is also dependent on recycled fiber.
(EMGE)
- Where is the recovered paper going to come from?

U.S. OCC, ONP and Deinking Paper Exports to China



Data Source: P&P Week, Paper

Total U.S. Graphic Paper Demand*



Data Sources: AF&PA; Census Bureau

Forestweb: Intelligence + Technology

We make companies smarter. More productive. More competitive.
 1801 Avenue of the Stars, Suite 520 . Los Angeles, CA . ph: 310.553.0008

North American Paper Trade with Asia

Coated Groundwood and SC Grades

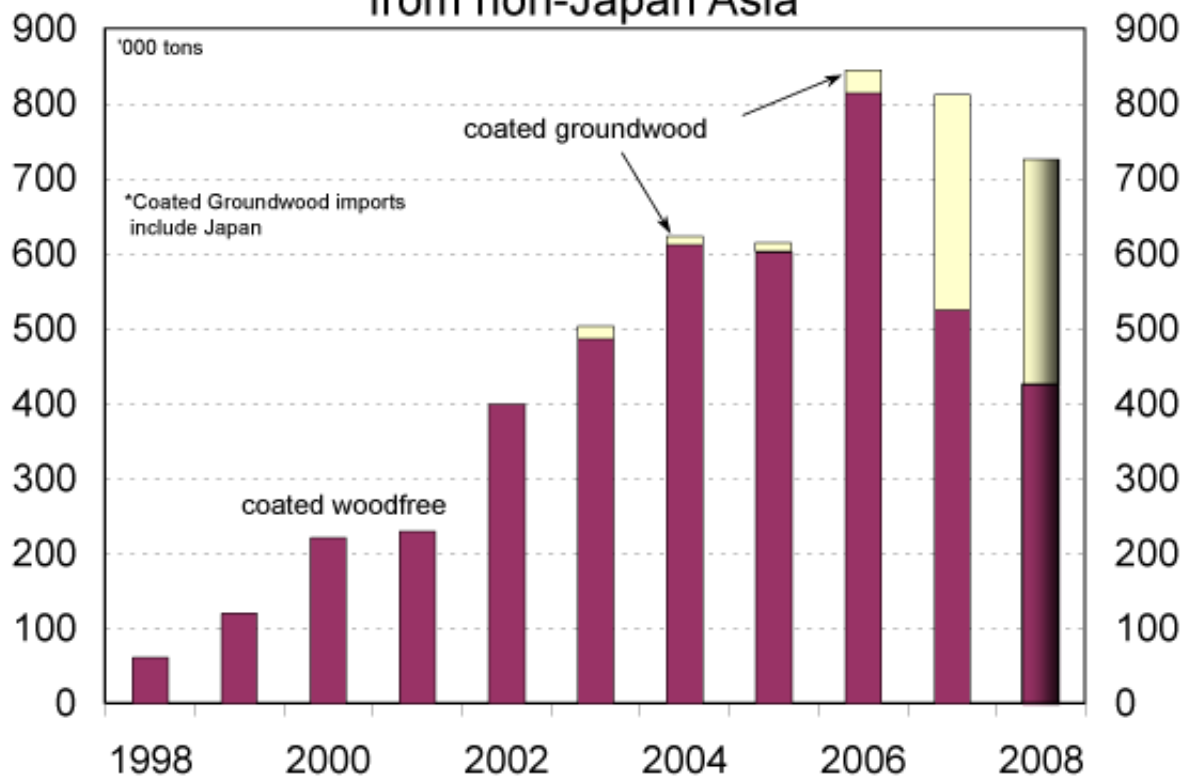
- One million tons of coated groundwood and SC capacity will start up in China between 2007 and 2009, most dependent on recycled fiber. (EMGE)
- Also, 1.4 million tons of coated groundwood is to start up in Japan in 2007-2008 although the majority of this capacity is being offset with closures. Most of this capacity is also dependent on recycled fiber. (EMGE)
- Where is the recovered paper going to come from?

Limited softwood pulp and a shortage of recovered paper will likely limit the production and exports of groundwood grades in Asia.

Coated Free Sheet Sold as Coated Groundwood

There are fewer limits, of course, on coated free sheet grades with 10% groundwood fiber, which are sold as coated groundwood in the U.S.

U.S. Imports of Coated Grades from non-Japan Asia*



Data Sources: U.S. Census Bureau; Reel Time

North American Paper Trade with Asia

Coated Free Sheet Grades

Capacity of coated free sheet grades in Asia is scheduled to rise by more than 3.5 million tons from 2008 through 2012. (EMGE)

- Short lead times, small run sizes, and the fact that relatively little of this grade (in rolls) is printed in the West, could limit exports to the U.S.
- We also wonder if anti-trust concerns have had an impact on China's aggressiveness in the U.S.
- China is not immune to higher costs, inflation, and an appreciating currency.

Coated free sheet imports from China are a big risk in the years to come, but China has obstacles to overcome.

North American Paper Trade with Asia

Printing and Converting Operations in China

The growth of printing and converting operations in China is also a risk to both the paper and printing industries in the U.S.

Summary – Where We're Going

It is not going to get any easier in the SCA and Coated Grades

There are perhaps three key questions.

1. How fast will demand fall in the coming years?
2. Will the rate of capacity withdrawal in North America be determined by the decline in demand, or will growth in imports shorten the life-span of North American paper machines?
3. Will consolidation have a material impact on pricing over the long-term, or will North American shipments decline so quickly that supply control efforts will only have sporadic, short-term effects on pricing?

How We Got Here And Where We're Going

A Review of SC and Coated Grades

For Gravure Publishing Council
November 18, 2008

Verle Sutton
The Reel Time Report, a Forestweb Company