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## GLOBAL PULP MARKETS And the Impact of the NBSK Supply Shock

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What you all want to go home with today is a comprehensive overview of where the pulp market is most likely to be heading for. What you really mean by this is “where are prices heading to”. I can’t deliver on that one, as we are only allowed to talk about historical prices.

How pulp price evolves is the resultant of 3 parameters:

- where we are in the business cycle, which is a driver of demand and is not under company control;
- where the relation of Demand v Supply is, measured by the shipment to capacity ratio; this parameter is supply-driven and is under company control;
- how many days of normal supply are covered by inventories, which is a direct consequence of the former parameter and is, more than the two above, under company control.
- Then let’s add a 4<sup>th</sup> one: the individual reaction of each of the players.

Over the next 30 minutes, we will guide you through what we believe are the decisive parameters that, over the next 18 months, may impact your (and my) fortune:

1. Where in The Paper & Pulp Business Cycle are we? I believe we are at a cyclical high
2. Historical Paper demand by grade to give a birds-eye view of future paper and, derived from this, pulp demand: I believe that demand for most paper grades today grows at lower rates than previously.
3. NBSK Historical Price chart in € - C\$ - SKr to prove that, at \$710-750, prices are still VERY low and below the average of the past 15 years. They are no incentive to restart idled pulp mill (yet), or to build new ones
4. Last: we will go through some questions that are on most people’s mind nowadays: possible scenarios of how the supply shock on the NBSK side and new capacities on the hardwood side could impact the market?

I must apologize to the other speakers on this panel for grazing in their meadows. We think that our in some aspects out-of-consensus view of the market will help you to detect trends to understand the forces that are at work.

### 1. Business Cycle

Three years ago, at this same TTS symposium, we presented our Pulp Business Cycle.

We will now quickly go through the methodology, which you can find in detail on the Canfor technical website under

<http://www.temap.com/temap/confpapers.html>

In a nutshell:

- We look at early indicators [EI] in the 4 major geographic areas, EI’s that we believe have shown over time to have a CAUSATION (not correlation) with paper demand.
- The geographic EI’s are weighed at the pro-rata of each region’s ratio of market pulp consumption and added together. Today’s weighing factors are Europe at 44%, N-Am 24%, Japan 7% and SEA 25%.
- Our EI is important only for announcing turning points; it is no indicator for how strong recovery or contraction will be. As EI moves above the zero line, they hint at expansion, and the reverse when the EI fall below zero.
- Our indicators are (normally) leading from a few months to one year.
- The EI are quiet, and turning points are unambiguous

**Chart 1** shows the situation in July 2003, as presented at the September 2003 TTS Symposium. Based on our EI, we judged at that time that we were in a cyclical recovery with paper and pulp to follow, and so they did.

Let us browse quickly through the EI for the different areas:



1. Japan (**chart 2**): seems to run out of steam; EI bumping up and down between top and bottom level. Economic data in recent weeks has been disappointing.
2. US EI (**chart 3**) is flat, the monthly EIs are heading down; the July and August indicators (not yet input) mostly point in the same direction. The P&W deviation from trend (is the global here) moves nearly synchronic with the EI. The near future will tell where both are heading.
3. In **chart 4**, we plot the N-American EI vs. NBSK prices in C\$ (US GDP deflator 200 = 100). What counts for pulp producers is how much they get paid in their currency, not the US dollar price. For Canadians, the \$710 from July (and August) only translates into C\$ 663, still very very low. We will come back to this point later.
4. **Chart 5** shows us Europe. Like Japan, the EI seem to have reached a ceiling. After a strong Q2 by European standards, many observers fear this cannot be sustained. The market doesn't discriminate against Canadians; the pulp price in euros hasn't risen up that much from historical low levels either, though a tiny bit more than in C\$.
5. The world pulp cycle in **chart 6** seems not to have peaked (yet) but the P&W deviation from trend doesn't look comforting. My bet is, that with the July and August numbers in there, we may very well be at peak.

## 2. P&W

The graphs show the long-term trend evolution of DEMAND (also called apparent consumption = production + imports – exports) in the four major P&W '**reporting**' areas only: N-America, Europe, Japan and S-Korea.

Our only intention is to show overall trends. The trend is calculated on demand per day, starting in 1990 up to 2005. The 2-sigma deviation from trend shows when demand 'overheated' or 'under-cooled'.

When wandering through the next 4 slides, please try not to forget that the past 3 years were all years of worldwide record GDP growth.

**Chart 7** is on mechanical paper grades, predominantly produced and consumed in the N-Hemisphere. In 2005, around 3 million tons of a total of 31.4 million produced were exported outside the geographic area of those four where 94% of all PMC worldwide is located. Trend is still close to linear, though sloping slightly downwards. As of July last year, we have stayed below the LT trend line.

Is this a proof that new technology/internet and the alike are making inroads?

Coated woodfree in **chart 8** shows how buoyant consumption has been lately. Notwithstanding this, this grade suffers from pricing power for the same reason as NBSK did for many years: overcapacity, and all producers fighting for the last marginal ton at the equivalent price.

The graph also demonstrates how long it took for the market to surpass the peak reached in 2000 and that six years on, demand is only a fraction above the peak of 2000. Has consumption of this grade peaked as well?

**Chart 9** shows how fast the fall can be, once the peak is behind us.

- Demand peaked in early 2000 at 26.5 million tpy,
- the average of the past 12 months comes in at an annualized rate of 24.2 million tons only, 2.3 million tons or nearly 9% below the peak six years ago.
- The 4 represent 60% of worldwide PMC

If our trend line is a true reflection of what is happening out there, then the following statements can be made:

- total demand is back at the level where it was at the height of the '94-'95 cycle and the years thereafter.
- demand is shrinking at about the same rate as it was growing in the '90s.

The aggregated picture (**chart 10**) for P&W points out two things:

- demand is bang on the +2-sigma line, not abnormal (if my trend line assumptions are valid)
- trend line and demand are peaking (again: if my trend line assumptions are valid)

Now relate these graphs to pulp.

Mechanical grades consume NBSK (and little coarse Pinus Radiata) and no hardwood at all.

Woodfree grades use little softwood and lots of hardwood.

The point I want to make is this: all are rushing to L-America to build hardwood mills (and some softwood as well), while NBSK mills are closing by the dozen.



### 3. Pulp

Since the recovery of 2003, the 12-mma softwood shipment-to-capacity ratio has been hovering between 95 and 96%. Full capacity over a closed 12-month period is reached when shipments are at 98% of PMC. One can estimate that the gap between demand and full capacity was only 600 to 700.000 tons.

Until the mid 90's, when pulp was shipped above 95% of PMC (measured by its 5-mma), the market was red hot and producers had pricing power. Not so any longer. Due to the change in behaviour and to faster and better information, 98% of PMC or running at full capacity has become the trigger point. Pulp has followed the path newsprint took earlier, and the woodfree P&W grades today have to overcome exactly the same problems in achieving pricing power.

Why then did the industry collectively decided to produce flat out? Some high-cost producers desperately needed all the cash they could get, and those who during the 90s acted as market leaders got muscle cramps in their arms from holding up the umbrella. At the same time, major pulp and paper groups forced their non-integrated paper mills to buy captive rather than market pulp.

Time now to look at historic pulp prices in **chart 11**. The red lines are price levels in €. Europe produces 45% of all NBSK, Canada 55%, but Europe is, with close to 50% (47%) of the total, a much bigger consumer of NBSK than N-America (< 25%). It doesn't make sense to analyze pulp prices in US\$; analyses are only significant when done in the currency of the major producer or/and buyer, the € or C\$.

Following the fall of the iron curtain, Finland saved its skin (and shaved that of its competitors) by two massive depreciations, and was aided by massive state support to restructure its leading industries. Sweden could only retaliate with a massive depreciation, but didn't need restructuring as this had already been done, with massive state intervention as well, under Prime Minister Olav Palme in the late '70s. Within a few months, the bottom of the market dropped from € 675 to €410, or from 165 to 100.

Until 1990, prices went from boom to bust and directly up again, with very short periods of dismal prices in between. Since 1991, the periods of bottom prices between spikes got longer, decreasing the average price.

This chart demonstrates that the thesis of long-term falling pulp prices caused by cheap hardwood from the S-Hemisphere is a fallacy. The trend line drops because, since 1991, each month came in at a much lower price than the price of the 80s. I can elaborate on this if you wish, but simple and basic arithmetic explains why long-term NBSK prices have been falling. It is not the work of the market; it is the visible hand of state intervention. The bottom line proves how stable prices have been for a long time around that bottom level. If it were hardwood, this would have been a gradual decline.

When you can't rely on your government for help, your survival depends on keeping investments at the bare minimum, cutting costs and corners, and so on. No wonder some Canadians are in the state they in are today!

All Canadian NBSK mills closed for the same reasons:

- old, relatively small and unproductive
- most mills - those closed and some not closed yet - need between 50-150 million C\$ for upgrading (most of which will be sub-optimal anyway, limiting ROI's of most any project)
- then came reduction in the Annual Allowable Cut and rising chip prices (Eastern Canada)
- high energy and chemical costs
- last but not least, the appreciation of the C\$ vs. US\$ and also a bit against the €

In this analysis, we count all closures for their total PMC, irrespective of whether it is all market or all captive, as in the end the impact is the same: this capacity has gone.

The closure per July 31<sup>st</sup> of Smooth Rock Falls (200.000 tpy) and the closure of the Hinton A-line (120.000 tpy per Sept 30th) will be compensated by the (possible) re-start of Terrace Bay (320.000 tpy), which brings the total NBSK capacity reduction (including a few increases) to 1.1 million tons.

The start-up of the 430.000 tpy Pinus Radiata line at Nueva Aldea brings the total reduction in softwood capacity worldwide since late 2005 down to around 700.000 tons. Over the course of the 4th quarter, softwood production will go from undersupplied to a market where full supply matches full demand. But until this happens, the market will be largely undersupplied at a time of year when softwood consumption is at its



strongest, and inventories are very low, coming down further as some mills take their maintenance downtime in autumn.

At paper mills, treasuries reduced working capital tied up in inventories at a time when their suppliers eliminated the capacity overhang. Today, producers' inventories can no longer rise to unmanageable levels as demand exceeds supply. Facit: the softwood market has become "idiot proof".

**What if closed mills restart?**

They will remain what they are: old, inefficient, small and high cost. Prices will drop again, and soon these mills will hit the same wall again, and close down, again.

Several of the high cost mills that should also have been shut, have been temporarily rescued because of the closure of others. If idled mills restart, others will shut.

TFS (Traditional Financial services) latest NBSK RISI US Swap price for NBSK, believes in a price of \$730 in 1 year from now, \$685 in two and only \$655 afterwards. The NYBOT futures 12 months out are at \$619. What bank will finance a restart of those idled mills?

**What is the consequence for pulp buyers of the closures of Canadian NBSK mills?**

It is the job of a buyer to increase competition and the job of a seller to limit it. The closures in Canada will bring with it a reduction in competition, price- and quality-wise.

Although the net global total of closures and expansions is around 700.000 tons, total capacity idled in Eastern Canada is 995.000 tons. Those mills shipped all their produce to the USA, where higher mill nets can be earned over the cycle. The pulp is also, without any discussion, all *black spruce* based NBSK, say real PRP pulp: Premium Reinforcement Pulp, which is the quality component.

Export markets are mostly less profitable than home markets and a nearby friend always preferred over a far away acquaintance. In commodities, mills that overproduce always try to dump their proceeds the farthest away from their mill to limit the impact on its home market; competition in your backyard always has to be stopped, at any reasonable cost.

**2005 Shipments of NBSK in million Admt**

From	W-Europe	Canada	Total
To W-Europe	4.6	1.4	6.0
To N-America	0.1	3.2	3.3
To Asia + Japan	0.8	2.2	3.0
To Rest of World	0.3	0.2	0.5
TOTAL	5.8	7.0	12.8
Exports	1.3	3.8	5.0

Last year, W-Europe exported 1.3 million tons NBSK, about the same as Canada exported into W-Europe. If European producers can find a way to gently force the Canadians to ship less pulp to Europe, this will strengthen their competitive position and mill nets. Price always does wonders, certainly as yearend draws closer and new contracts have to be negotiated.

The majority of Canadian and European exports went to Asia, where mill nets in an oversupplied market were the lowest. Canadians will have to find a way to fill the local 1 million ton hole and please their next-door neighbours (1 million ton in a 3.2 million ton market is >30%). Any idea why announced prices in N-America always stick from day one, and why the spread with Europe could well grow to up to \$60 this month?

As Europeans withdraw from Asia and Canadians have 1.25 million tons less to sell, the shock will be felt the furthest away from the mill, and that is Asia. With prices in the \$680 to \$690 range this month, mill nets achieved out there significantly outperform those in Europe.



***Now the qualitative component of the change in competition.***

If I were to make the following statement, you may well think I have my Canadian biased hat on:

- for softwoods, geography and climate are important for the fibre properties;
- for hardwood pulp, species are more important than climate and geography.

The statement above comes from Björn Dillner from Södra.

Any paper maker knows that when he has strength problems on his machine, he has to throw some extra bales of softwood at it. It has also been known for years that Canadian NBSK has greater strength potential or PRP than its European counterpart. Some Europeans have lately started to claim that they also have PRP pulp to offer. Let us look at what our research at CRDC (Canfor Research & Development Centre) found.

Over the past three years, CRDC has tested 55 different softwoods (of which some several times). I believe most of you know what Factor Analysis is all about. Those of you who have tested pulp samples in a consistent manner, be it on Jokkro or PFI, have enough data to do a Factor Analysis on your own. You may well find that your outcome will be the same as ours.

Slide 18 confirms Björn Dillners' statement: for softwoods, geography and climate are important for the fibre properties. Morphology is destiny.

Slide 19 confirms that for the same energy input, most Canadian pulps - NOT ALL – outperform non-Canadian pulps. 100 kW is about the range where most NBSK pulps are refined. Slide 20 are the same data, presented differently. More information is available on our TEMAP website under [www.temap.com](http://www.temap.com)

Yes: not all pulps are created equal. Though some believe they are, and would like to charge the same price for their products, you now know there is a huge difference. Until late last year, PRP pulps were in over supply, with buyers in the driver seat to cherry pick those with the lowest cost of ownership, not the highest performance or total cost in their paper. Most all of the 1.25 million tons lost in Canada qualify as PRP, as do most of those who are on death row. Why? Because, as most producers know, it is more expensive to produce a PRP pulp.

***Is it possible that more pulp mills may close in today's market circumstances?***

Sure. A new wave of restructuring is on the way following the Domtar-Weyerhaeuser deal. They will surely shut some old, small paper machines. Quévillon and most likely Prince Albert may never start-up again, and the Kamloops mills, quipped the 'orphan' in the new group, is in desperate need of investment if it wants to survive the next downturn. The new group however needs all its money to execute the restructuring of its uncoated woodfree business. Will not come cheaply.

Rating companies have downgraded many of the companies in forest and related industries. With interest rates up and risk priced in again, many poorly financed and unprofitable companies may soon be forced to take action on the pulp side. As long as lumber made loads of money, who cared about pumping millions a year to the pulp side, as long as they consumed the expensive chips. But as the reduction of free cash flow on the lumber side is in no way compensated for by incremental free cash flow on the pulp side, the sinking continues.

***What if the economy tanks, paper mills de-stock and pulp demand falls below the 95% PMC hurdle and send inventories soaring?***

The impact of de-stocking is one to one correlated to the intensity of hoarding up to the peak. In 1995, because the whole P&P industry was behind the curve for up to one year, P&W demand fell by close to 11% for the next 30 months. In 2000, the drop was only 7.5%. The associated de-stocking on the pulp side was even bigger.

This time, the P&W cycle has been a very weak one in comparison with the business cycle. Overcapacity on the paper side made any grade of paper available within 10 days, if not from inventory. There is hardly any inventory that paper consumers can push back to the paper producers.

Today, paper makers have high inventories. Should demand drop, they no longer have spare space (nor money) and must shut down their machines at short notice. As we all know, paper makers hardly have any pulp inventory today.



Facit: any inventory correction may very well be much milder than at any time before in history. But it will push the very important shipment to capacity ratio down and inventories up, forcing down pulp prices. From our historical price graphs, you must have remembered that prices in C\$ or € cannot drop that far, even if energy and wood costs were to abate. After having milked the last drops, high cost mills will have no other option than to close, restoring market balance or, not to be excluded, pushing PMC again below demand.

***What about hardwood? Gosh, I nearly forgot it.***

We think that all the new hardwood expansions that hit the market as we speak, and those under construction or in the final planning stage, come at the worst of times. We have a hard time seeing paper demand getting any stronger than it has been since March 2003.

Not only have softwood mills in Canada closed, but also some hardwood mills, with more will follow in N-America (and in Europe and Asia) as major restructuring on the woodfree side is underway and unavoidable.

Some people speak negatively about those companies that made the right investment decisions at the right time, and are now making healthy profits. Because they do, they keep many market and integrated hardwood mills alive. The moment they change their pricing policy, many of them will be flush, restoring supply and demand on the hardwood side.

In 2004, the price differential between SW and HW went as high as \$120. I am convinced the market will reinstate this differential over the course of 2007, some say it may be even more this time. The upcoming period will also put to the test another theory we believe to be just another fallacy: the substitution of hardwood for softwood. Yes, over time, a very long time. For those who know me, you know I will follow this one closely.

I hope I have not confused you too much, but if this is the case, it will at least be a higher level of confusion. Your presence today is highly appreciated, as will your comments be.