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Engineering Prices to Achieve Revenue / Cost Control Providing Added Value to Clients and Shareholders

By:

Jeff Mehan

Fritz Siebel

Gary Helik

Nicolas Ginman

Tradition Financial Services

The Pulp and Paper industry and its customers have begun to utilize financial instruments as another arrow in their quiver to control revenues, costs and provide value to customers and shareholders. **Bertelsmann, Cellmark, ConAgra, Ekman, Georgia Pacific, General Electric, John Roberts Holdings, Ltd., SCA, Sodra, StoraEnso, St. Laurent Paperboard, Tembec, Times Mirror and Media News Group** are amongst the diverse group of companies that have used some of these tools. If the industry begins to focus even a portion of its production and engineering prowess towards engineering price stability, this list will grow rapidly.

Financially settled swaps, futures contracts and other risk management tools have been available for just over three years to help manage price risk in the pulp and paper industry. Although their use is growing steadily (from a zero base), many questions and misperceptions still exist: What financial instruments are popular? What strategies have been used? How have the price movements of financial instruments behaved relative to actual prices for pulp and paper? A "question and answer" discussion follows to address some of these common questions and misperceptions and serve as a format for discussing various strategies that are being (sometimes quietly) employed.

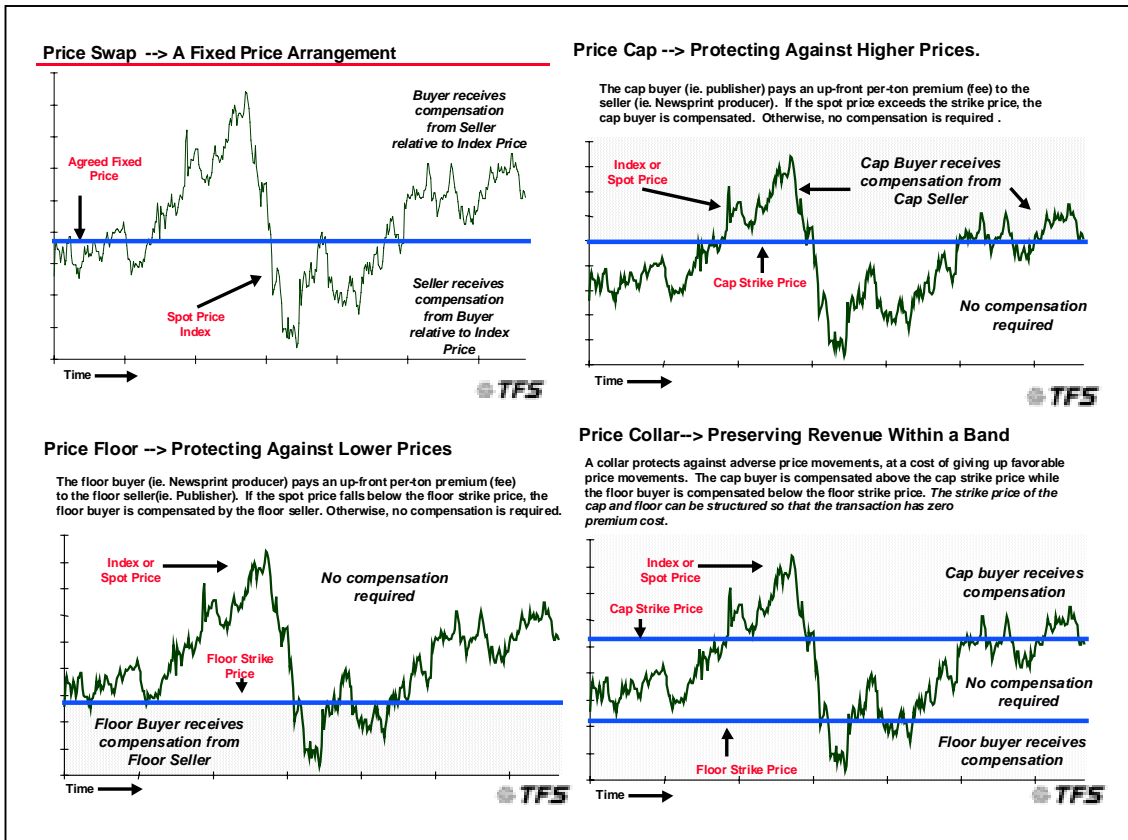
What financial instruments are popular? (Please refer to the following "Tools of the Trade" diagram for definitions). Measured by underlying tons, the financially settled over-the-counter (OTC) swap has been the most popular instrument. A swap is an agreement to a fixed price between a buyer and a seller whereby they exchange payments if the current price of the product underlying the swap rises above or falls below the agreed fixed swap price. **An example of typical swap price benchmarks are the PIX indexes by FOEX Indexes Ltd.** Swaps have traded for lengths of from one month to ten years, and have been transacted in Europe and North America, some even transatlantic. Swaps have been transacted on NBSK, BHKP, Newsprint,

Tradition Financial Services, Inc.

17 State Street, 41st floor New York, NY 10004 U.S.A.

Phone 1.212.943.4567 Fax 1.212.943.8504 www.tfsbrokers.com

TOOLS OF THE TRADE>>>



Coated Papers, Containerboard, OCC, ONP, and Sorted Office Papers, amongst other grades. As a financial instrument, OTC Swaps can be customized to cover any grade, volume, and duration a buyer and seller can agree to. Measured by transaction frequency, NBSK futures contracts are the most often traded. These are standardized contracts listed on the OMLX "Pulpex" Exchange which are traded each business day. Financially-settled price caps, price floors, and price collars have begun to gain recent use in the OTC market.

What strategies have been pursued using pulp and paper price risk management instruments? Companies have used risk-management tools to execute business strategy and satisfy customer demand for stable prices.

Strategic uses protect against unfavorable long-term price exposures. These include securing the value of an acquired asset, locking in a purchasing or selling price, processing margin or buffering revenues/earnings from cyclicalities.



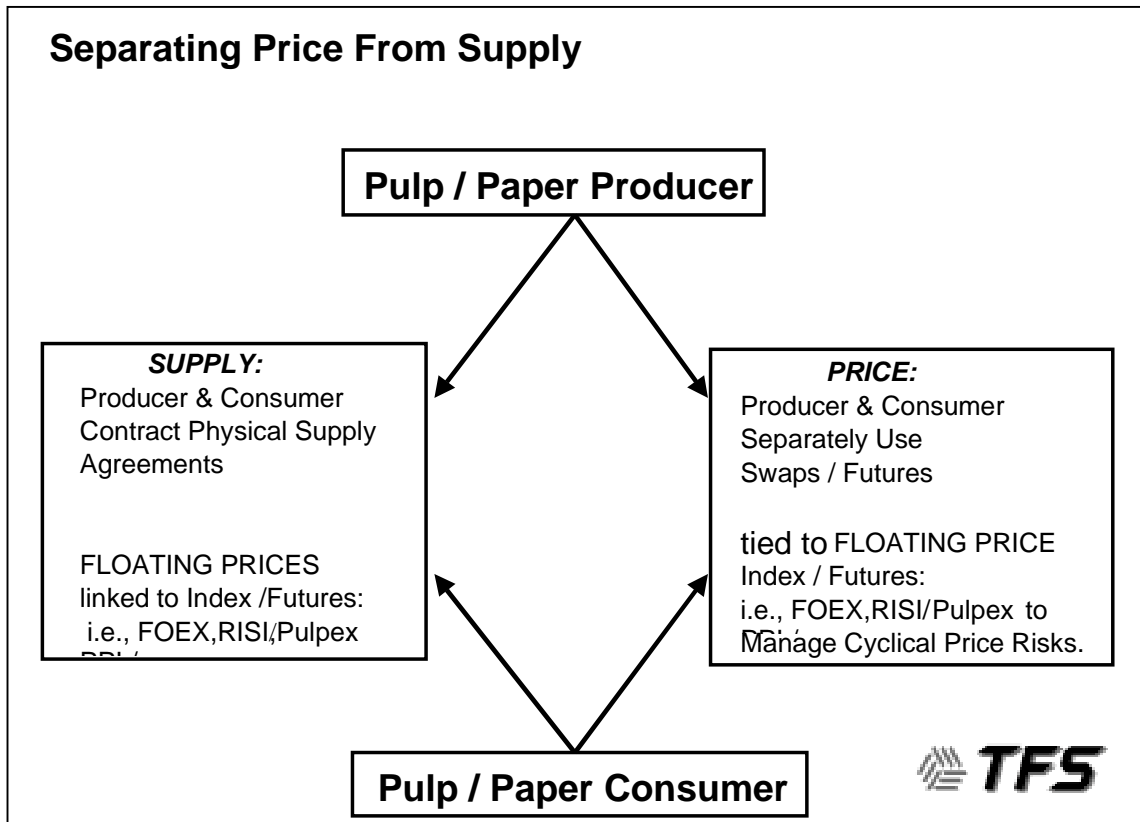
Examples of strategic usage of pulp and paper financial risk management tools include:

Papier Masson in Canada provides an example of asset securitization. In the fall of 1998, **Enron Corp.** formed an investor group to purchase the James Maclaren newsprint mill from Noranda. As part of the financing of the asset, a significant portion of the mill's output was sold forward at fixed prices for periods as long as ten years using fixed-price financially settled swaps and fixed-price physical transactions. These swap sales created a secure revenue stream for the new company, Papier Masson, thereby facilitating acquisition financing and greater certainty in the investment. In another example, **Tembec** sold fixed-price newsprint swaps in early summer 1998 to buffer revenue cyclicalities in support of a mill acquisition.

Containerboard producers **Rock-Tenn** and **St. Laurent Paperboard** have used financial tools to "lock-in" processing margins. Both have purchased fixed-price financially-settled swaps on old corrugated containers (an input cost) and simultaneously sold fixed-price swaps on 42 lb. Kraftliner or 26 lb. Semicheical Corrugated Medium, (their output) thereby financially "locking-in" an operating margin for a portion of their production.

Hedging has not been limited to producers. **General Electric** and **ConAgra** amongst others that have purchased swaps to stabilize the price of containerboard used in packaging consumer products and food. **Times Mirror** and **Media Newsgroup** amongst others have purchased newsprint swaps to reduce newsprint price volatility. **Bertelsmann** purchased a portfolio of price caps as insurance against higher prices on various grades of publication papers that they purchase.

Engineering pricing solutions for customers is gaining in popularity. Presently, most companies involved in this strategy are doing so quietly and anonymously, hoping to gain competitive advantage. Transactions have primarily been concentrated in containerboard, newsprint and pulp. Various strategies are being employed. The simplest strategy has been to use price indexes such as **FOEX Indexes Ltd**, **RISI**, **Pulp and Paper Week**, or **Pulpex** NBSK futures to passively price physical transactions. Price indexation allows buyers and sellers to "separate price from supply" and eliminates persistent price negotiation as a source of friction in their business relationship. With physical supply agreements priced to an index, the buyer and seller are free to independently manage their price risk should they decide to do so.



Another strategy is to offer clients a long-term fixed price or long-term price collar for physical transactions, then use financial transactions to adjust the profile of the client transaction to suit the producer's price outlook. Most of these transactions have been "fixed to floating". Producers have converted fixed price long-term physical supply agreements back to a floating revenue profile by purchasing financially settled swaps to offset the fixed price in the supply agreement.

Here is how it works: A producer believes that prices are going higher and does not want to have revenue constrained by a long-term fixed price supply agreement. The producer agrees to supply a buyer with 1,000 tons per month of Newsprint at \$550 per ton for 2 years. The producer wants to exit the fixed price agreement but not disrupt the customer transaction. The producer independently buys a two-year swap covering 1,000 tons per month at \$550 per ton indexed to the price of newsprint to reverse the financial impact of the physical sale. This returns the producer to a floating price profile. If the price of newsprint rises above \$550, the seller of the swap must reimburse the producer the amount of the difference above \$550 per ton. If the price of newsprint drops below \$550 per month, the producer must reimburse the seller of the swap the amount of the



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difference, however this will be funded by the \$550 per ton payment from the fixed price supply agreement. The producer is back fully exposed (as desired) to the price cycle; their customer receives the desired fixed price. A variation of this strategy would be for a producer to re-engineer a long-term price collar on a physical price agreement into a price floor with no ceiling by purchasing a financially settled price cap. The producer would be left with the floor agreement with the customer to underwrite a minimum income level, but no upside constraint to income. There would be a cost for the financial cap.

Managing price risk through financial instruments opens up a world of available prices. Most industry buyers and sellers transact with a relatively small set of counterparts that is limited by mill proximity to markets, historical relationships, product specifications, etc. This constrains pricing solutions to the collective will and imagination of a limited group. Using financial markets to manage price risk opens this universe to any counterpart in the world willing to take the other side of the risk. A producer in the southeast U.S. for example could enter into a fixed-price cash-settled swap agreement with a buyer on the West Coast, a financial institution in Europe or North America, or a commodity trading company such as Enron. The issue becomes credit – will the counterpart meet their obligations to the transaction – not geography, specification or history.

Who are the players, what are their roles? Roles can be defined by function: **Industry participants** have thus far been primarily market users. They contact the Exchanges/Brokers/Market makers/ intermediaries below and transact on available prices. Some producers and consumers have begun to “make” prices by leaving price orders with Exchanges, TFS, Enron or financial intermediaries. **Exchanges / Brokers** provide independent, anonymous, impartial conduits for price discovery and transaction execution. The OMLX Pulpex Exchange provides this function for NBSK futures. Tradition Financial Services provides an equivalent function for instruments traded OTC. **Intermediaries** are institutions that facilitate financial transactions, often using their own balance sheet. Banks and investment banks fall into this category. The most active intermediaries have been National Bank of Canada in North America and MeritaNordbanken in Europe. **Market Makers** are institutions who quote prices on swaps, futures, caps, floors, etc., to trade for profit for their own account and risk. They attempt to profit from “buying low and selling high”; based on changes in price relationships between related grades or between time periods on a given grade. Market makers are a major source of liquidity for any market. At this writing, only Enron Corp. and Southern Energy, both of the U.S., qualify as market makers. In addition, a few insurance companies are beginning to selectively quote cap and floor transactions. In many commodity markets, industry participants become the market makers, which is natural since they possess the highest quality information and exposure to profitably price financial instruments on their products. Pulp and paper companies have yet to develop to this level.

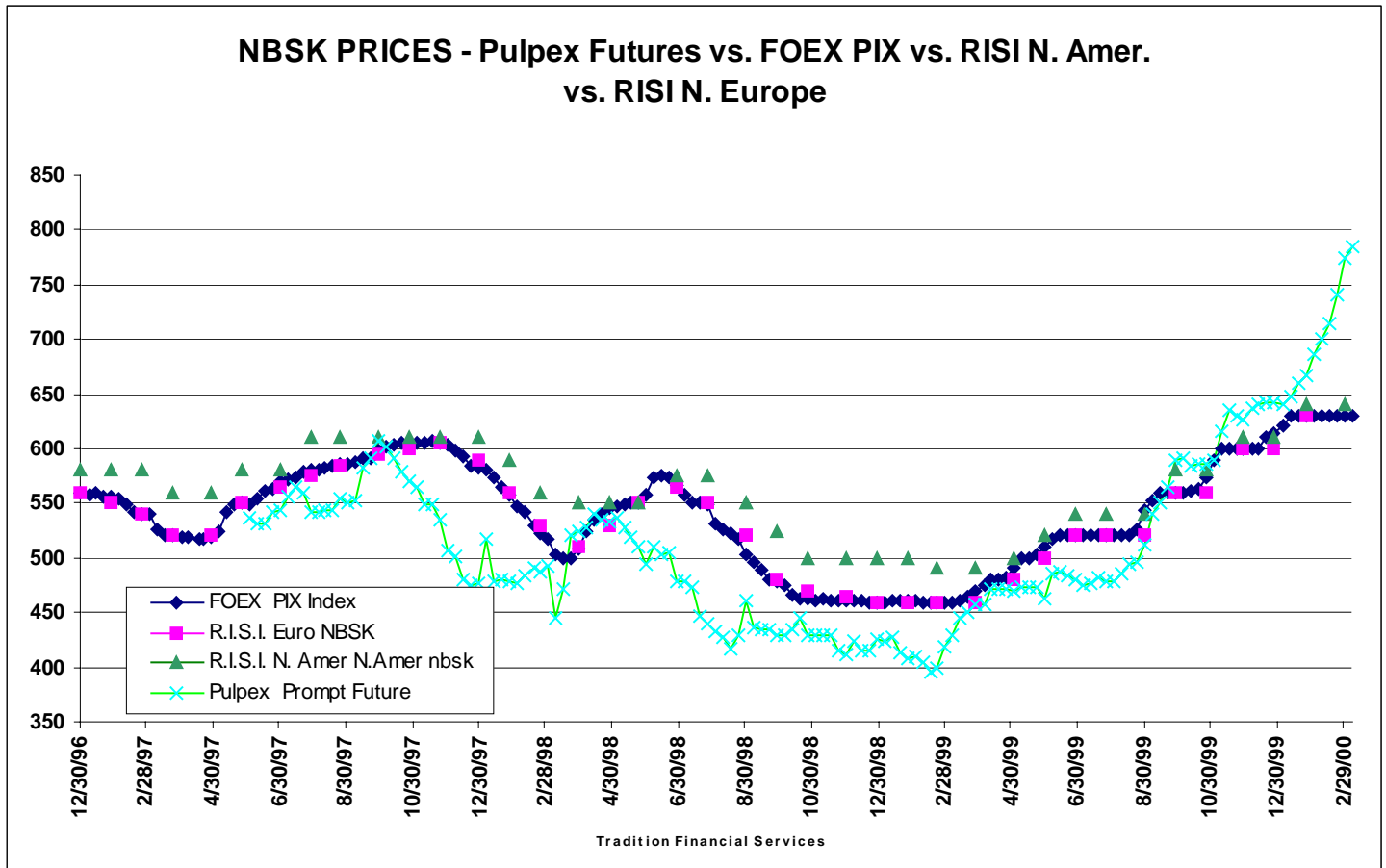


What is the difference between the FOEX PIX NBSK price and the Pulpex NBSK Futures price? The FOEX PIX NBSK price is a weekly price index based on an audited compilation of current prices for regular commercial NBSK transactions. (The same is true of the FOEX PIX BHKP and PIX paper price indexes). On the other hand, the Pulpex NBSK futures price represents the price at which Pulpex NBSK futures (more details of which follow in the next question) contracts trade. Pulpex NBSK futures are open for trading daily, and during market hours have a "bid", what someone is willing to pay for them, and an "offer", where someone is willing to sell them. Trading in Pulpex Futures requires opening a futures account with a clearing member of the Pulpex.

How have prices in the financial pulp and paper market moved in relation to pulp and paper prices in the physical market? Lets start with the industry's benchmark product, NBSK. The most visible financial product available to track the price of NBSK is the OMLX Exchange's Pulpex NBSK Futures price. The Pulpex NBSK futures contract is a physically-settled standardized contract covering a specific amount (24 metric tons) of NBSK meeting specific industry standards, delivered to specific warehouses in designated North Sea ports. This is "spot market" NBSK, as delivery of pulp can be taken upon maturity of the futures contract or by purchasing "Warrants" from the Pulpex entitling ownership of pulp in their warehouse.

The Pulpex NBSK Futures price has tended to lead contract market prices by four to six weeks, which is what may be expected since supply and demand conditions are instantly apparent in a spot market. Trends in commodity spot market prices generally feed through to contract prices.

Plotted below is the Pulpex "prompt" (nearest to expiration at the time) NBSK Futures price in relation to regular customer contract prices as reflected by the FOEX PIX NBSK price and the Resource Information Systems, Inc. (RISI) NBSK prices for Europe.



Are there futures contracts available on PIX indexes? Swaps? There are currently no futures contracts available on PIX indexes, however swaps indexed to PIX prices are available by negotiation in the over-the-counter "OTC" market, as are swaps indexed to Pulpex Futures prices.

How can I follow prices for pulp and paper financial products? TFS provides actively updated independent pricing for OTC products at www.tfsbrokers.com. Pulpex NBSK futures and options prices are posted at www.omgroup.com while PIX prices are located at www.foex.fi

Engineering prices using financial instruments may be one of the best-kept secrets in the pulp and paper industry. Although not so well publicized, individual companies are beginning to exercise some control over their financial destiny, leaving them with the financial capacity to execute their business strategy and satisfy customers and shareholders.