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Economic Environment

Volatility in Commodity Prices Is the “Nature of the Beast” (Part 1 of 2) by Al Schuler

The structural building components industry is experiencing raw materials price volatility more than ever before. Here we look at the factors contributing to volatility and how supply and demand affect the equation.

In this article, we discuss price volatility of building materials used primarily in residential construction. We will focus on lumber and structural panels, but steel pricing is also briefly discussed. What causes volatility? What can you do (as a buyer of lumber or panels) to mitigate negative impacts? Historically, lumber and panel prices have been more volatile than steel, concrete and other non-wood building materials, but today, volatility affects them all. We need only to look at this past year to see what volatility can mean. For example, between the first quarters of 2003 and 2004, panel prices more than doubled, lumber prices increased 26 percent, and steel prices increased 30 percent (figure 1). Such volatility naturally begs the question: What can I, the buyer (i.e., component manufacturer), do to minimize the negative impacts? In this issue, we

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FIGURE 1. BUILDING MATERIAL PRICE TRENDS

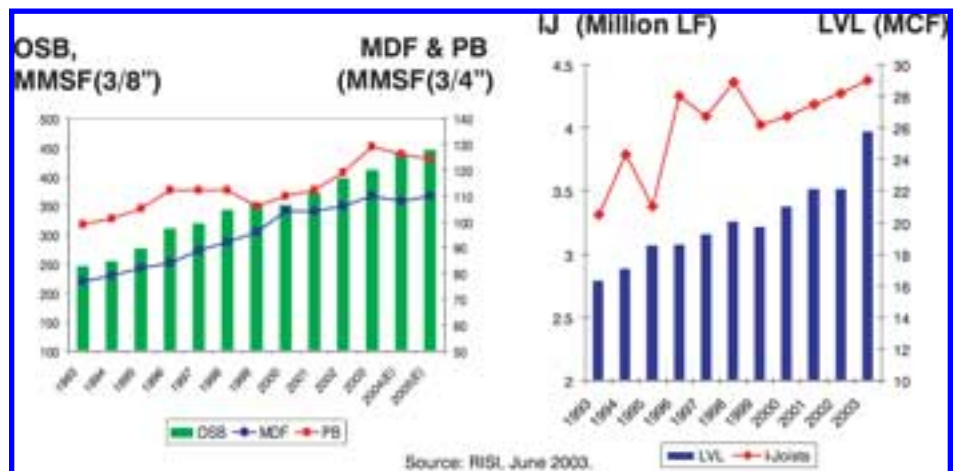


FIGURE 2. NORTH AMERICAN PLANT CAPACITY TRENDS – ECONOMIES OF SCALE MEAN LARGER PLANTS. [SOURCE: RISI, JUNE 2003]

discuss two key factors affecting price volatility: production capacity and changes in the supply channels. There are other factors such as changes in demand, but most volatility comes from the availability of supply to meet demand. (See Figure 1.)

PRODUCTION CAPACITY

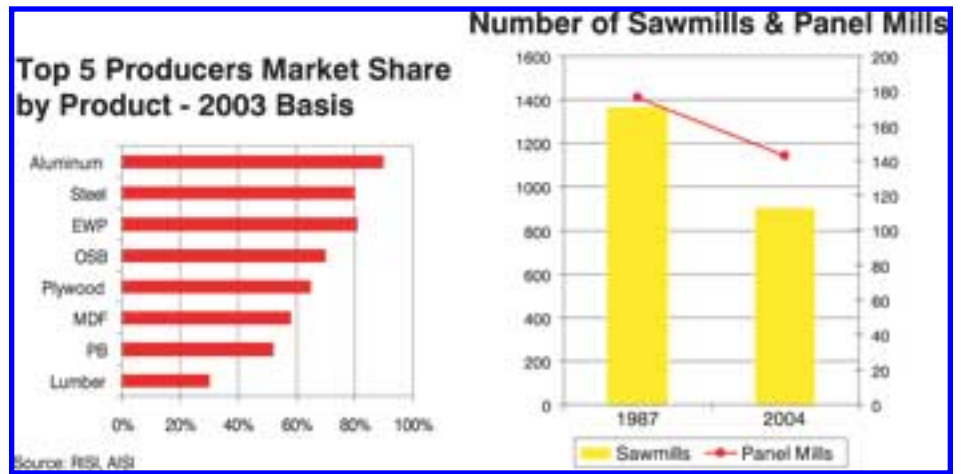


FIGURE 3. CONSOLIDATION IN NORTH AMERICAN COMMODITY MARKETS

Most building materials, including many wood products and some steel products, are commodities with price being the overriding purchase criteria. Commodities are often traded in large quantities, with prices changing daily as opposed to other products (like industrial molding/millwork and some engineered wood products) where contract prices are the norm. Steel prices have traditionally followed the contract/fixed price approach, but that changed abruptly in the past six months. Today, the tight world markets are forcing steel suppliers to quote just 30 days out, and then, there is often a surcharge added to the “negotiated” price. As with nearly all markets, price is determined by the balance between demand and supply. Demand for wood products is dominated by residential construction, which is affected by the economy, employment and interest rates. Supply depends primarily on production capacity. The more demand and supply get out of balance, the more volatility we get.

How does demand and supply get out of balance? There are two answers that depend upon whether we look at the short- or long-term perspective. In the long-term, commodities are manufactured to a standard (ASTM or NLGA), and as long as the product has the appropriate grade stamp, price is king.¹ In such an environment, producers follow one key goal: focus on driving as much cost as possible out of the system through production and distribution efficiencies, with less attention paid to marketing. Most producers build large plants to achieve “economies of scale” and sell these products by the rail car or truck load (Figure 2). In Figure 2, we see that the average size plant (industry average for all plants, new and existing) keeps increasing for all wood products (e.g., the industry average IJ plant capacity has increased in size by almost 50 percent—from 20 million LF to 30 million LF—in the past decade.) From data provided by Resource Information Systems, we know that between 1987 and 2003, the average size (capacity) saw-mill in North America (includes all sawmills, existing and new “Greenfield” mills) increased in size by 60 percent, from 46.7 million BF to 75 million BF. As with most products, larger plants with more capacity, yield “economies of scale” as the fixed costs are spread over larger production, thus lowering average total unit cost.

The problem is that when everyone follows this strategy, overcapacity often results, followed by weak pricing and poor profits. If this lingers too long, the industry goes through a consolidation phase where they build fewer mills and some players decide to get out of the business. This is happening today (see Figure 3). In the case of lumber, which has the lowest market concentration in the wood products arena, we see that the top five producers now account for

about 28 percent market share; whereas in 2000, the top five controlled 22 percent share. We also see that the number of sawmills has decreased between 1987 and 2004—from 1366 in 1987 to 900 in 2004, a 35 percent drop. We have fewer mills, but they are bigger. The other interesting point in Figure 3 is that the lumber industry is clearly more fragmented than the panel industry. With consolidation, we get concentration of production capacity, which can be a problem for the buyer. We're also seeing more concentration within the supply channel, which we will get into in the next section of this article. According to Random Lengths, "a reduction in the number of players, generally, is not good for the industry—less liquidity, less suppliers, less customers, but more volatility" (January 23, 2004). Conversely, during the "boom times," the industry is flush with cash and optimism, and they build new mills, often adding more capacity than the market can absorb. This is the traditional "boom bust" cycle that many commodities follow. If industry guesses wrong, oversupply or its counterpart, shortages, can be with us for an extended period of time.

Another problem is that often, industry can't add new capacity very quickly. For example, it can take 18-24 months to build a new OSB plant when you include the time to do a fiber supply analysis, obtain the necessary permits and order capital equipment. So, if the market is under-supplied, it takes time to source new production, whether from imports, or squeezing more from domestic production. In the short-term (one to three months), supply can be affected by log availability—wet weather and fires cause problems. During the past two years, wet weather restricted log availability, often, just when demand was increasing. Weather can affect the demand side (housing) as well.

SUPPLY CHANNELS

In an effort to cut distribution/selling/marketing costs, primary mills are selling more product direct to large component manufacturers, pro yards or dealers, DIY stores (Home Depot), and large home builders (Centex, Pulte and Horton). As a result, primary mills are selling more products via contracts—specified volume per period of time (five trucks per week for six months)—with price determined at time of delivery, and commonly based on Random Lengths quoted prices. Specifics of the contracts can vary considerably, but they do offer an opportunity for buyers/sellers to find a common ground where both benefit. Larger contract volume leaves smaller volumes available to the "open market." Furthermore, direct sales trends are escalating as the homebuilding industry undergoes consolidation in an effort to become more profitable, and to better deal with issues such as labor shortages and site waste (SBC Magazine, June/July 2003). The rise of the large national homebuilder is accelerating the changes in the distribution channel for residential building products (Joint Center for Housing Studies, Harvard University, February 2004, www.jchs.harvard.edu/publications/industrystudies/w04-3.pdf). To service larger builders, consolidation at the retail level is also increasing.

Consolidation among retailers serving the DIY market began two decades ago and has resulted in two major players, Lowe's and Home Depot, accounting for over 50 percent of the market. On the other hand consolidation among the pro dealers, which cater to the professional builders and remodelers, is a relatively new phenomenon (Harvard Study). At the same time, the traditional office and stocking distributors (Weyerhaeuser and GP) have been losing market share. The end result is a tighter supply chain that is more susceptible to sudden quirks and surges in demand or supply. In the old days, most of the product went through distributors, and this provided a buffer

in the system. Another trend that is increasing price volatility is buyers' just-in-time purchasing habits—"avoiding suppliers and running inventories down to bare-bones levels during weak markets, and chasing it higher in strong ones" (Random Lengths, January 23, 2004). A vivid example of not having an adequate buffer occurred just last fall when the Army ordered 250 truckloads of plywood for Iraq. The supply system was so tight (super housing market, wet woods and much volume under contract to other buyers), that prices for panels literally went through the roof.

WHAT ABOUT STEEL?

Steel price volatility has also increased recently and has been the topic of debate in the housing industry. Sheet steel, the base material for steel framing, increased from \$390/ton (FOB mill, U. S.) in December 2003, to \$420 in January and \$480 in February and forecasts of \$565 for March (cold rolled sheet steel: www.purchasingdata.com)—a 50 percent increase in three months. For many years, the domestic steel industry was plagued with poor profits and stiff competition from imports. This led to consolidation, and even more imports, and finally, import quotas. Enter China, with its massive economic growth over the past five years, coupled with improvements in our own economy over the past two years, and we have unwelcome volatility in steel prices. The current surge in steel in prices is due more to scrap metal availability (feedstock for the minimills), and less to production capacity. Volatile scrap prices have increased 88 percent in the past two years with huge demand from China cited as the main culprit (ENR: www.enr.com).

CONCLUSION

Volatility in commodities is part of the "nature of the beast." But, there are some strategies that you, the components manufacturer, can take to mitigate the negative impacts of price volatility. We will discuss these options in detail in the August issue of SBC Magazine.

¹ There are exceptions—the truss industry and retail sector (DIY) prefers wane free or "square," straight lumber. The housing industry is more forgiving (but that is changing)—as long as the lumber or panel has the correct grade stamp, price is the overriding purchase criteria.

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