

Lumber Does Grow On Trees

While being a lumberjack probably is not the second-oldest profession, the chopping down of trees and gathering of loose wood for fuel and shelter goes back to time immemorial. Some scholars believe the Indus River valley in modern Pakistan was once a lush forest region that turned into a desert via deforestation.

Lumber, or more specifically the 2x4 random length studs of spruce, pine and fir commonly used in residential construction, is one of those markets that should never mislead you. It is thinly traded and obscure enough not to be buffeted about by speculative traders and it is linked so closely to forward-looking economic activity, the housing cycle specifically, that it can be used as a barometer. No one goes out and buys 110,000 board-feet of lumber just to see what happens; you need construction contracts in hand.

As a result, much of the price action in lumber over the past-quarter century has been the result of supply disruptions such as the 1993 spotted owl decision removing old-growth forests in the Pacific Northwest from the market or the never-ending disputes between the United States and Canada over the Softwood Lumber Agreement (just because you are in a free trade agreement does not mean you cannot have trade battles). Long-term lumber prices really have gone nowhere in nominal terms since the Carter administration and thus have declined by almost 60% in constant-dollar terms.

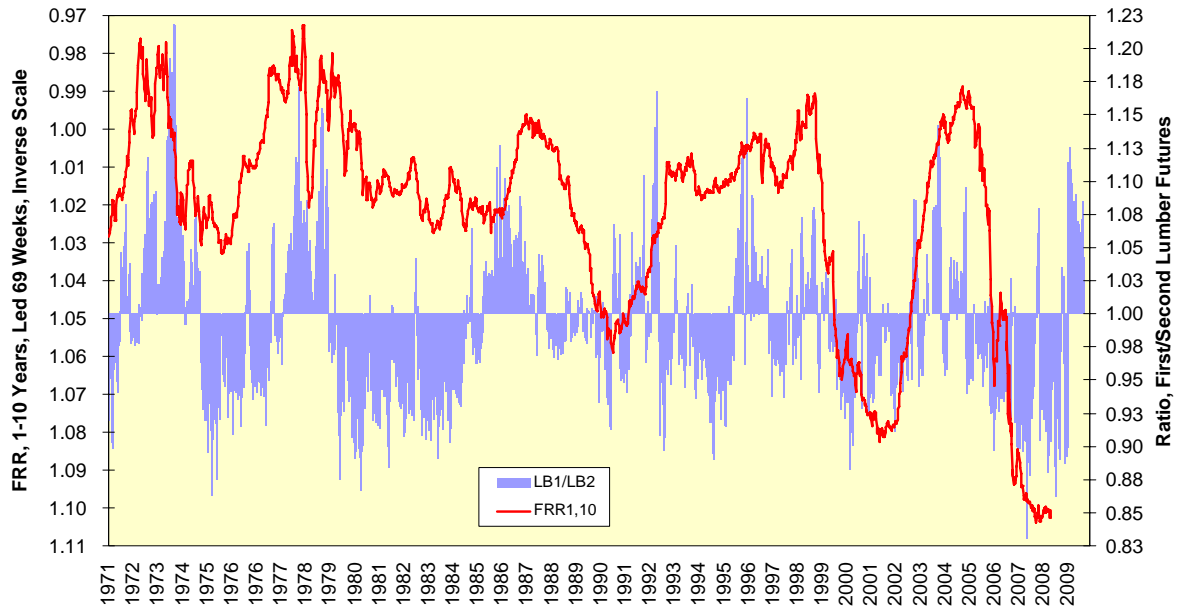
Lumber And The Yield Curve

As is the case for so many physical commodities, the forward curve of lumber is information-rich. As builders tend to fix their prices on the second contract – lumber futures contracts are spaced two months apart – the front-month contract tends to be something of an orphan. In a rising market with tight supplies, the front-month contract will trade at a premium; just the opposite tends to occur in a weak market. If demand is slow, sawmills tend to shut operations in and let the trees stand until demand reemerges. The cheapest place to store lumber is in the existing forest, and this should drive the forward curve of lumber into backwardation whenever spot demand rises or price expectations turn negative.

As we can see in Chart 1, the forward curve of lumber tends to lead the forward rate ratio between one and ten years; this is the rate at which we can lock in borrowing for nine years starting one year from now divided by the ten-year rate itself. The more this ratio exceeds 1.00, the steeper the yield curve.

The lead time actually is a distributed lag centered around 69 weeks, or about sixteen months. This is equivalent to saying a weak housing market causes the carry in the forward curve of lumber futures to deepen, which in turn elicits a monetary policy response. The real question is always whether the Federal Reserve, which has been biased permanently toward lowering interest rates since 1994, will allow the process to work in reverse and raise interest rates in the face of a strengthening housing market if and when one occurs.

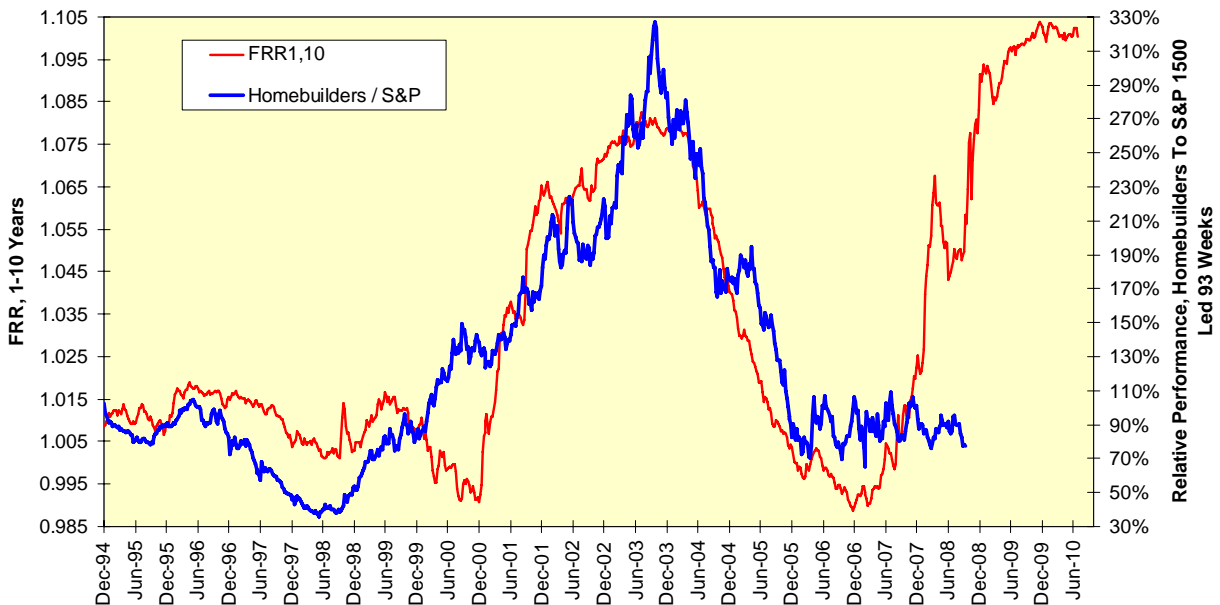
Chart 1: Lumber's Forward Curve Leads Yield Curve



Stock Market Impact

How does the yield curve affect the relationship between the S&P 1500 homebuilders index and the S&P 1500 Supercomposite itself? We can see in Chart 2 how the yield curve has led the relative performance by a substantial 93 weeks, or almost seven calendar quarters. The housing market tends to lag monetary policy decisions by a very long time, which is why trying to stimulate the economy in the short-term with lower interest rates fails so often. Eventually the economy rights itself – whether it would right itself in the absence of the Federal Reserve shamans standing on the runway and banging drums like some members of a South Pacific cargo cult is unknowable – and eventually lower short-term interest rates start to affect the long-term interest rates on which mortgages are based, but this is hardly the direct and quick fix demanded by so many.

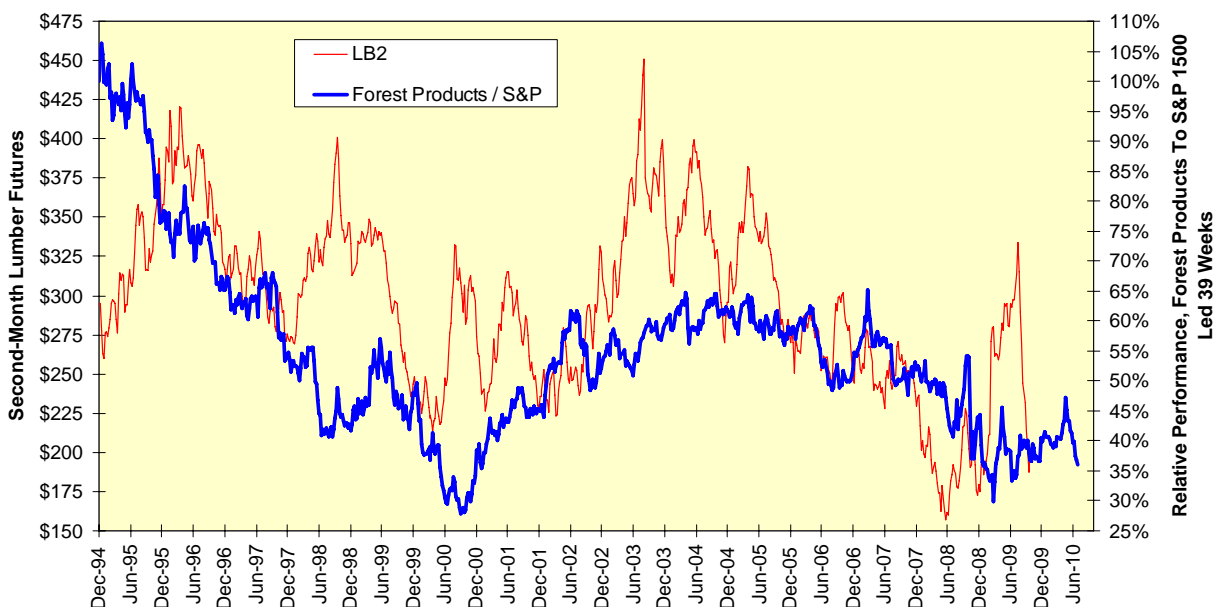
Chart 2: Will Yield Curve Lead Homebuilders Higher?



We can take a look in Chart 3 at the relative performance of the S&P Forest Products index, which consists of Louisiana-Pacific, Weyerhaeuser and Deltic Timber to the Supercomposite as a function of second-month lumber futures. The relative performance leads the lumber futures by 39 weeks, or nine months, on average. We can state with a reasonably high degree of confidence the stock market anticipates both an upturn in housing permits and then

a subsequent upturn in lumber demand. Yes, this is the way things are supposed to work, but after a decade of broken intermarket relationships, it is somewhat surprising and satisfying to see it happen. Lumber futures thus are part and parcel of the long-running great monetary experiment begun under Alan Greenspan and continued under Ben Bernanke.

Chart 3: Lumber Leads Forest Products' Relative Performance



A Note On Seasonality

The practice of managing supply in the lumber market by simply not cutting down the trees would be seen as inefficient in most other businesses. The modern impulse is to monetize inventory rather than leave it standing in a forest or, in the case of metals and petroleum, remaining in the earth's crust. But the holding costs for forest lands are low, and despite the rush into timberland as an "alternative" investment by a number of endowments and pension funds after Harvard Management had some initial successes with it, the pressures to cut down every last tree are fairly weak. As a result, lumber has something of a just-in-time supply response.

Moreover, the costs of storing cut timber are higher than the costs of letting a tree live. Once the lumber is cut, it is subject to rot, insects, desiccation, fire and other forms of inventory shrinkage. The two great fires of October 1871, those in Chicago and Peshtigo, Wisconsin, involved dried lumber as an accelerant. A warehouse or even a lumber yard is more expensive to operate than a forest.

Finally, there is another problem those inside the business are well aware of and those outside of the business find shocking: If a lumber supplier quotes a fixed price to a small homebuilder and hedges that forward sales commitment in the futures market, the "lifting" risk is high. If the price of lumber falls, small builders will demand the lower of the fixed price or the current, lower spot price. Suppliers have learned the hard way to keep supplies low.

The net result is a much stronger seasonal curve than should exist in a market where demand is not as seasonal as it once was – the center of population in the U.S. is outside of the Northeast and Midwest where construction slows during the winter – and where production need not be seasonal at all. The long-term seasonal pattern of the cash lumber market since 1971 shows a statistically significant price peak during June-August and a very pronounced price trough during November-January. The futures market should have smoothed this seasonality away, but it did not and could not for all of the reasons mentioned above.

Still, until homebuilders start using structural forms such as lightweight steel or even concrete instead of lumber this market will remain one of the better links between the stock market, monetary policy and the housing cycle. Not too many other markets, especially those distorted by speculative inflows, can make such a claim.