

A HMR Publication

Wrapping Up the North American Hardwood Marketplace for 2019

Part II of II

Supply

US hardwood supplies for 2019 are estimated at 8.3B board feet. Volumes contributed each by Eastern and Western US sawmill production and imports decreased from 2018.

This change in supply, like all changes, resulted from motion. So as a refresher, let's turn to the person who wrote the book on motion. Sir Isaac Newton.

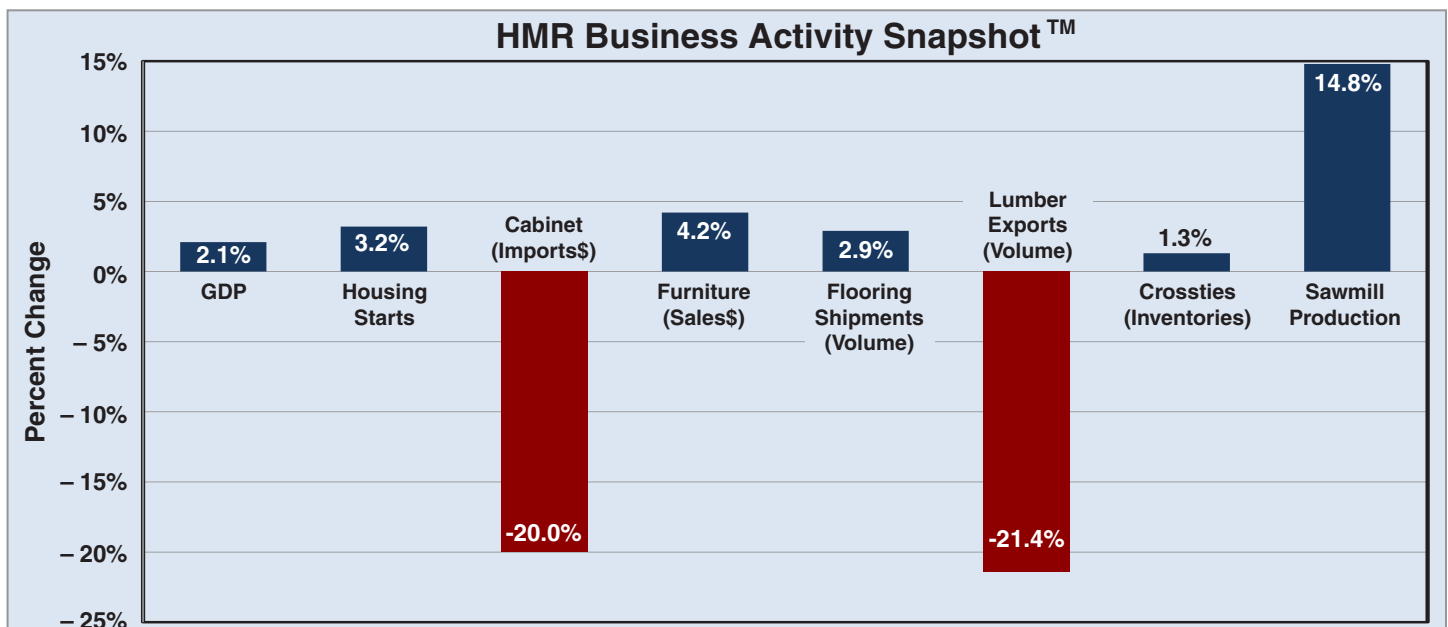
Newton's Laws of Motion (paraphrased)

1. Every object will remain at rest or moving in a straight line unless compelled to change its state by an external net force.
2. The velocity of an object changes when it is subjected to an external net force. For an external applied force, the change in velocity depends

- Real average hourly earnings for all US employees were down 0.1% in December from November to \$10.96 but were 0.6% higher than one year earlier.
- US manufacturing capacity utilization was 75.2% in December 2019, up from 75.1% in November but down from 77.3% in December 2018.
- November total US exports were \$208.6B; imports were \$251.7B, leaving a deficit of \$43.1B, down \$3.9B from October.
- There were 891,286 US business applications in Q4 2019, up 3.4% from Q3 2019. The West posted the highest percentage increase, up 4.6%. The South had the most applications at 388,934.
- In 2019, retail sales in China grew 8.0% over 2018.
- China's GDP grew 6.1% in 2019 over 2018.

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GDP – Q4 2019, Advance est. **Housing Starts** – 2019:2018, Unadj. **Cabinet Imports** – Y-T-D Nov '19:'18. **Furniture** – Y-T-D Nov '19:'18, Unadj. **Flooring** – Y-T-D Jan '20:'19. **Exports** – Y-T-D Nov '19:'18. **Crossties** – Dec '19 vs. '18. **Sawmill Production** – Y-T-D Jan '20:'19.

on the mass of the object. [Example: you attempting to tackle [Marshawn Lynch](#) would not be a net force. In contrast, Marshawn Lynch running over you during your feeble attempt to tackle him would be a net force that dramatically changes your velocity.]

3. For every action in nature there is an equal and opposite reaction. (Consider the example set above for Newton's Second Law.)

History has portrayed Newton as a physicist for more than 300 years. Who knew he really was talking about the North American hardwood marketplace?

Yes, US hardwood sawmill production decreased in 2019 because of external forces in the marketplace. The January issue of HMR *Executive*® identified those external forces and explained their impacts quite well. Given Newton's Laws of Motion, listed above, the response by supply seems to be as much physics as it is business.

But the important distinction of US hardwood supply contraction in 2019 is not just that production changed, it is how production changed.

This article will:

- Provide a perspective of total US hardwood supply and how it has aligned with demand over time.
- Discuss efforts made by sawmills and lumber yards to control the volume of items produced and processed.
- Highlight some of the obstacles mills and yards faced when attempting to control the items produced.
- Address the protracted amount of time it has taken for supply to measurably respond to declines in critical market sectors.
- Consider potential lasting effects on the US hardwood lumber supply network caused by these lingering external market forces.

One suggestion before getting too deep in the weeds of this article ... you might want to treat yourself to a snack while reading. Word has it that Newton fellow makes a good cookie.

"Eastern US hardwood lumber production fell in 2018 and again last year, with 2019 ending at the lowest annual level since 2013."

Supply Perspective

To restate the opening line of this article, approximately 8.3B board feet (BF) of new hardwood lumber production entered the US supply stream in 2019. The makeup of the total for 2019 shown in **Figure 1** includes 7.6B BF of Eastern US hardwood lumber production, 338 million BF of Western US production, and 350 million BF of imports* (as reported by USDA Foreign Agricultural Service). *Import data for December were not available at the time of this writing.

Eastern US hardwood lumber production fell in 2018 and again last year, with 2019 ending at the lowest annual level since 2013. Western US production was down from 2018 and at its lowest level since 2012. The volume of hardwood lumber imported to the US dropped in three of the last four years and also ended at the lowest level since 2012.

There is no phenomenon driving the current production downturn other than the natural course of supply following demand. Whatever impacts there were from inclement weather, labor shortages, or any other disruptive outside force, the effects were incidental at most. **Figure 2** illustrates demand trends and the obligatory responses by supply (think Newton's Laws of Motion) and provides a sense of the supply and demand relationship.

For clarity and caution, the data points in **Figure 2** are supply and demand volumes cumulative for each year; they do not show direction of change or market energy within any 12-month period. It is possible, and sometimes likely, annual results shown in this graph are counterintuitive to what is happening in the marketplace at the time the graph is published.

The lines connecting one year to the next are representative of the direction of business and the trajectory (velocity) of change. The space between the Supply and Demand graph lines represents inventory expansion and contraction as determined by the relationship of the lines.

Figure 1

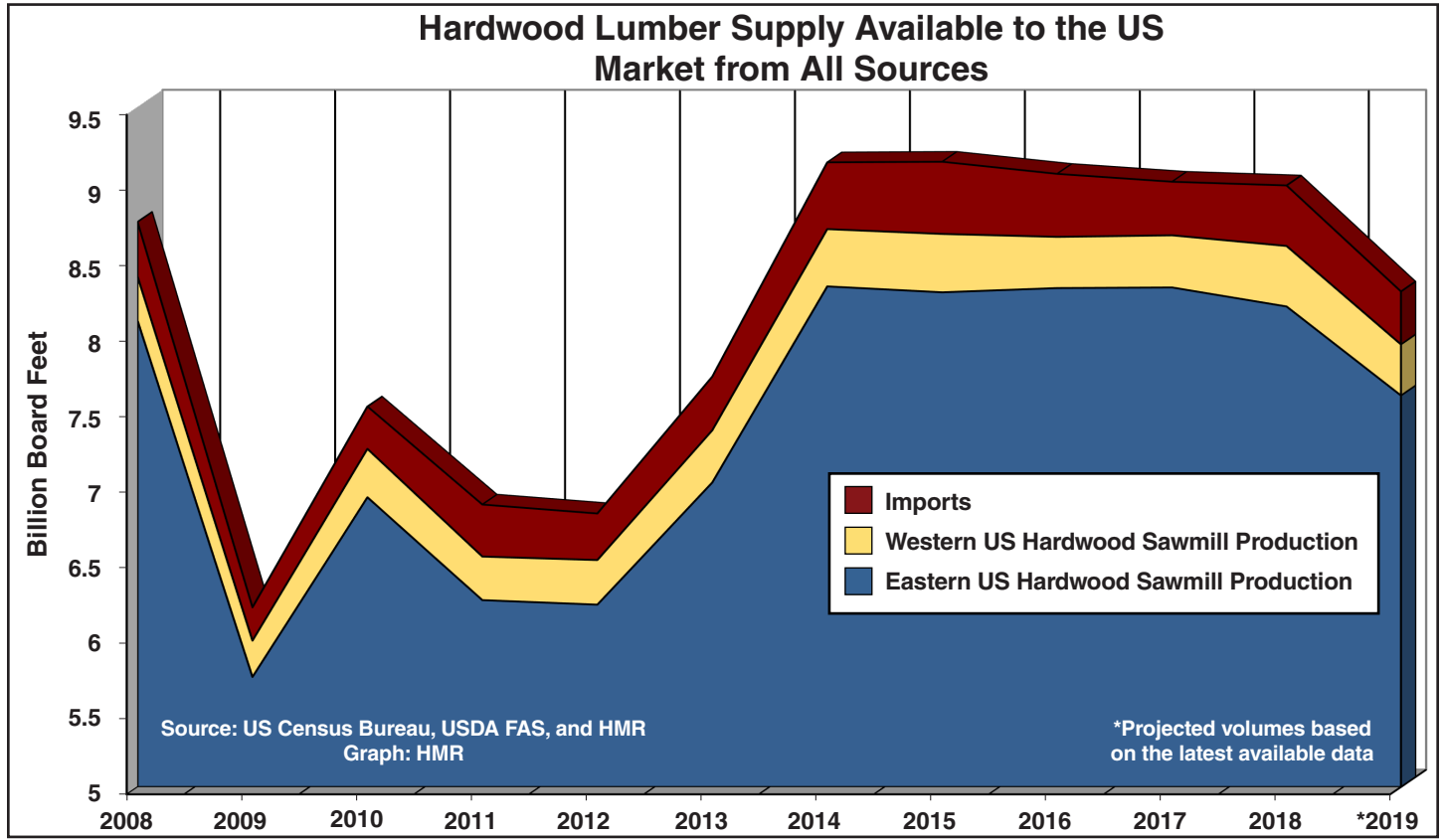
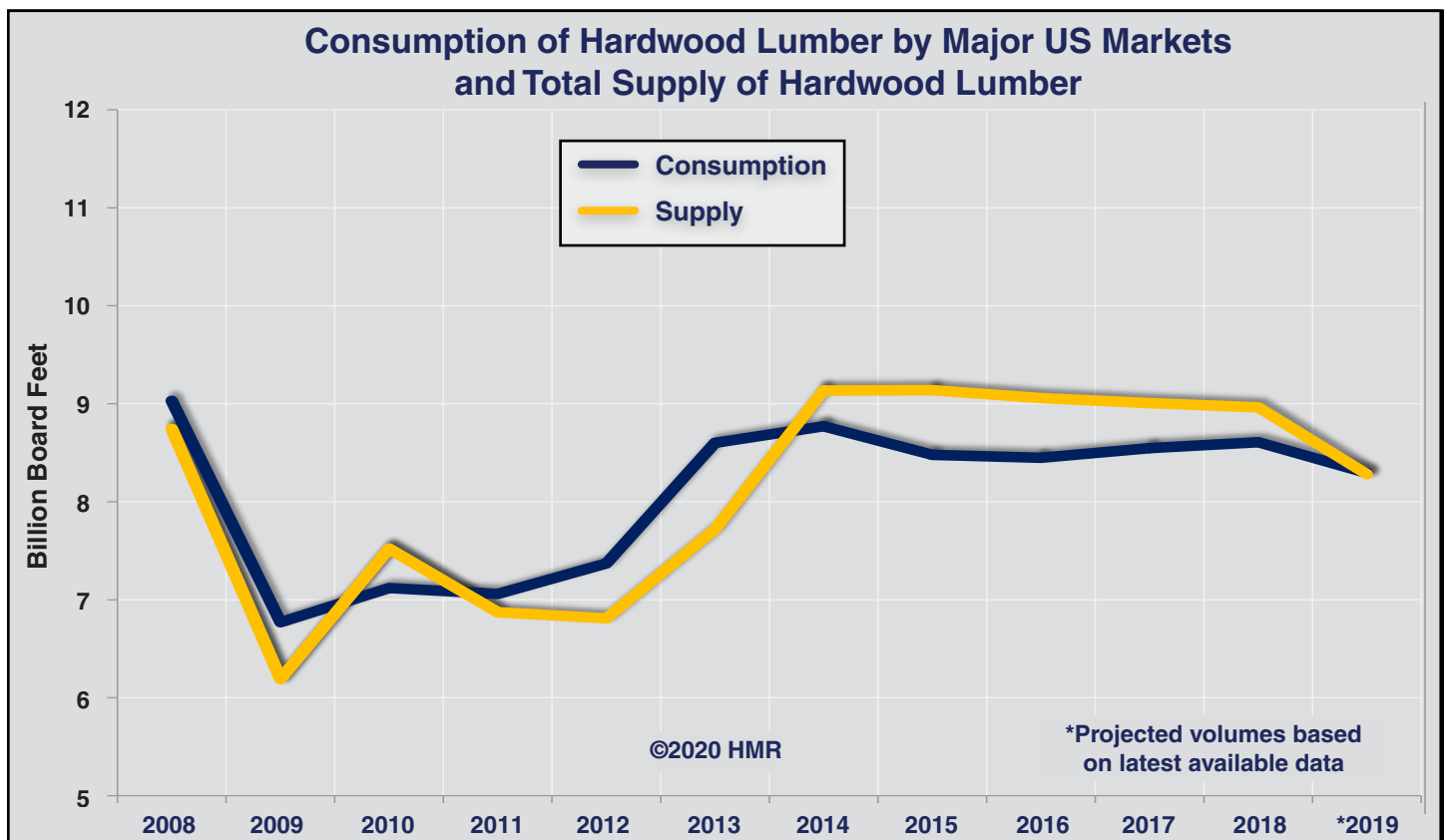


Figure 2



Inasmuch as the graph shows supply and demand are in balance for 2019, the implication is that business conditions and prices for hardwood lumber were stable.

Supply Correction

Of course, business conditions and prices were not stable in 2019. **Figure 2** provides an excellent view of total quantities, but it misses critical information about supply and demand ... it does not detail market performance by the eight individual major market sectors or even the two hardwood market groups.

We are reminded once again that the US hardwood market is complex. There are multiple inputs and multiple outputs, all of which must achieve balance.

Had this latest business downturn resulted from a domestic economic event, most markets would have contracted simultaneously. Therefore, production could have responded to such a decline faster and more effectively.

Instead, this business downturn was influenced by contraction in the Chinese market and hardwood's eroding share in domestic and international consumer product markets. These circumstances affected only high valued grade lumber items, whereas business for industrial hardwood products expanded on the strength of sound domestic economic conditions.

Consequently, the supply contraction process was as disjointed as the marketplace itself. Correction has been protracted and is still incomplete, in spite of total supply and demand volumes being balanced.

Challenges Faced

The goal: Be rewarded by making what the market wants.
Reality: Make what the market wants with resources that are available.

In terms of producing sawn lumber products, the timber resource within each sawmill and lumber yard wood basket determines what can and cannot be produced.

Merchandising logs is effective for altering the species and quality of logs individual mills process. In turn, this can influence the product distribution of mill output, such as less grade lumber and more industrial tim-

ber products, as the market has dictated these past 18-plus months. But, merchandising timber does not alter the species or quality of logs flowing into the total production stream. It merely redistributes those logs to different producers.

Lumber concentration yards (in the business of purchasing green lumber and processing it for sale to kiln dried markets) are strategically located based on the species and quality of hardwood growing stocks that are available. Proximity to markets and/or transportation hubs is another important factor, but without the right combinations of salable materials, efficient delivery to customers is of no value.

Pulling materials from an adjacent wood supply basket, for example, is reasonable for augmenting supplies. But, relying on outside sources for the core supply of logs or lumber is counterproductive and not sustainable, except in specialized businesses. Sawmills are dependent on the local forest resource, as are green lumber markets – whether they are yards or secondary manufacturers.

This means there are limitations – limitations on how much additional volume can be produced and processed of items in strong demand, and limitations on how much or how long production can avoid processing items in weak demand.

"It is difficult to imagine any sawmill or lumber yard staying financially whole for the duration of this current downturn in grade lumber business. In cases—likely most cases—inventory assets have been used to offset revenue shortfalls."

Managing input and outputs

Yes, there are limitations, but mills and yards were not without options.

As these business types are production-based, operation costs are spread across processed volumes. Fixed costs plus whatever variable costs are necessary require minimum quantities of production. Therefore, there is a baseline of throughput (volume) necessary to maintain when reducing production in response to a contracted market.

Identifying which items are most advantageous to produce for the financial benefit of the business is another component for managing inputs and outputs. So is knowing which species to avoid and knowing what to produce from those species when production is no longer avoidable.

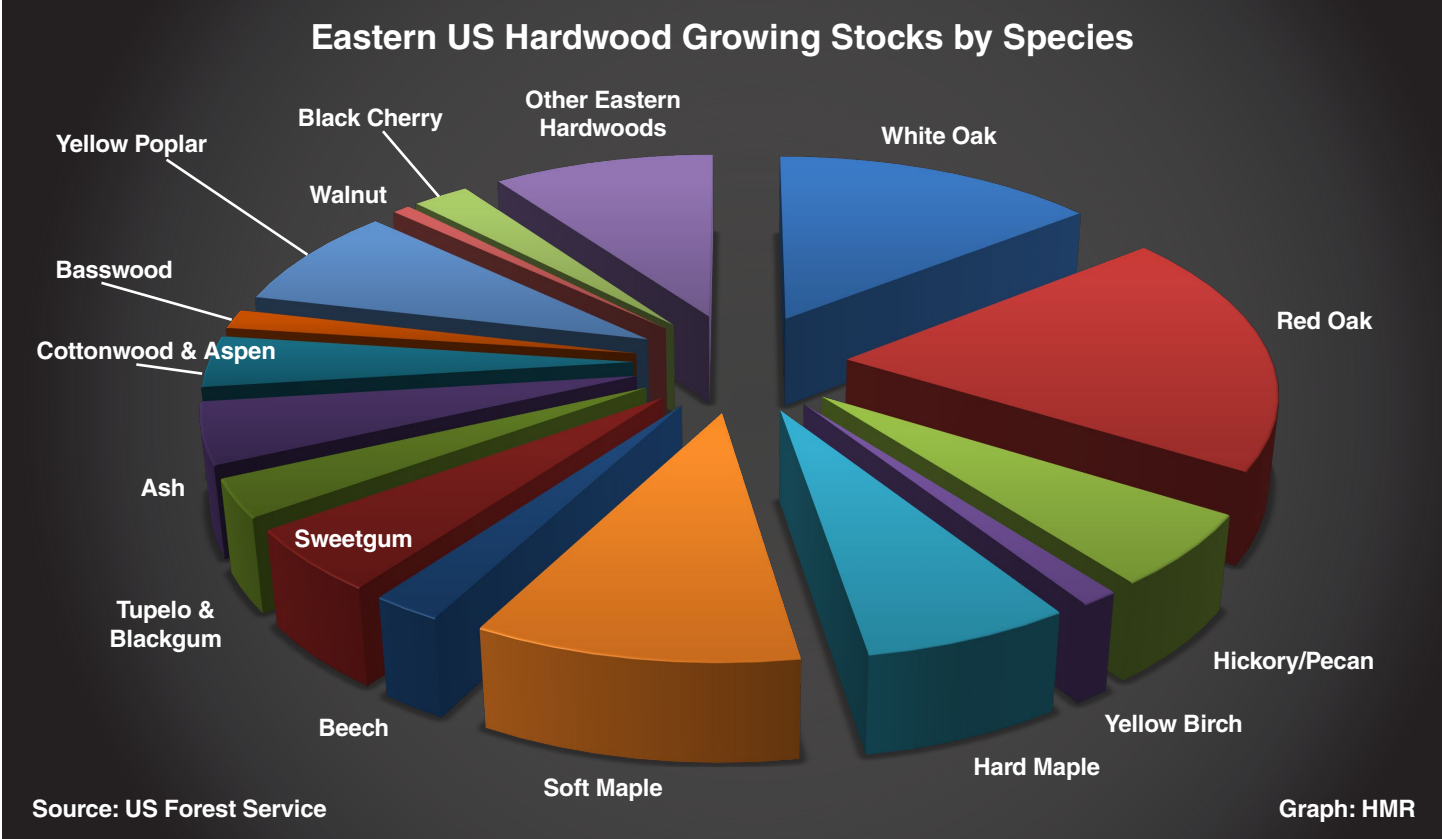
For more than a year, sawmills and yards strived to avoid producing and processing Red Oak, Cherry, and Ash. Given the makeup of Eastern US hardwood forests (Figure 3), they were immensely successful restricting production input of these species. They also were immensely successful controlling product output by directing a large percentage to industrial lumber and timber markets and, as opportunities allowed, to products meeting stringent size and quality requirements specified by customers.

Poplar, Basswood, Hard Maple, Soft Maple, and White Oak have been species of choice for production at different times during this past year-and-a-half because A) they were salable, and B) they had potential for profit.

The shifts to Poplar and Basswood were especially interesting. Because of the lower sales prices compared to Red Oak, Cherry, and Ash at that time, greater volumes had to be processed to cover manufacturing costs. A real example of addressing this problem was a yard that increased total throughput volume 10% from the previous month with Poplar and Basswood, but revenue decreased 5%. However, demand and pricing for Red Oak, Cherry, and Ash were in such sharp decline at that time, the 5% variance in revenue from Poplar and Basswood was a far better outcome than if the shift in species had not been made.

Hard Maple has had a very nice run in the market, and Soft Maple is popular, too. The trend in species was certainly beneficial to Upper Midwest and New England producers, where Hard Maple growing stocks are prevalent. However, it was also critical to Appalachian mills and yards by providing a viable alternative to slow-moving, price-sensitive species. The forest resource provided options for mills and yards in these regions.

Figure 3



So, chalk one up for expanding production in a contracting market. It would not have been possible without the proper resource. And, it would have been impossible if the business was not there. The fact is, demand for Poplar, Basswood, Hard Maple, Soft Maple, and White Oak has been strong during much of this period of downturn for Red Oak, Cherry, and Ash.

As demand and the forest resource dictated, Red Oak, Cherry, and Ash production was steered toward industrial markets to the extent possible. As with processing the better moving species, producing ties, board road, crane mats, timber, and pallet material was a viable option for sawmills only because the business was there.

Staying Power

How have hardwood businesses endured such a crushing downturn in demand and pricing for high-valued grade lumber for what is now over a year-and-a-half?

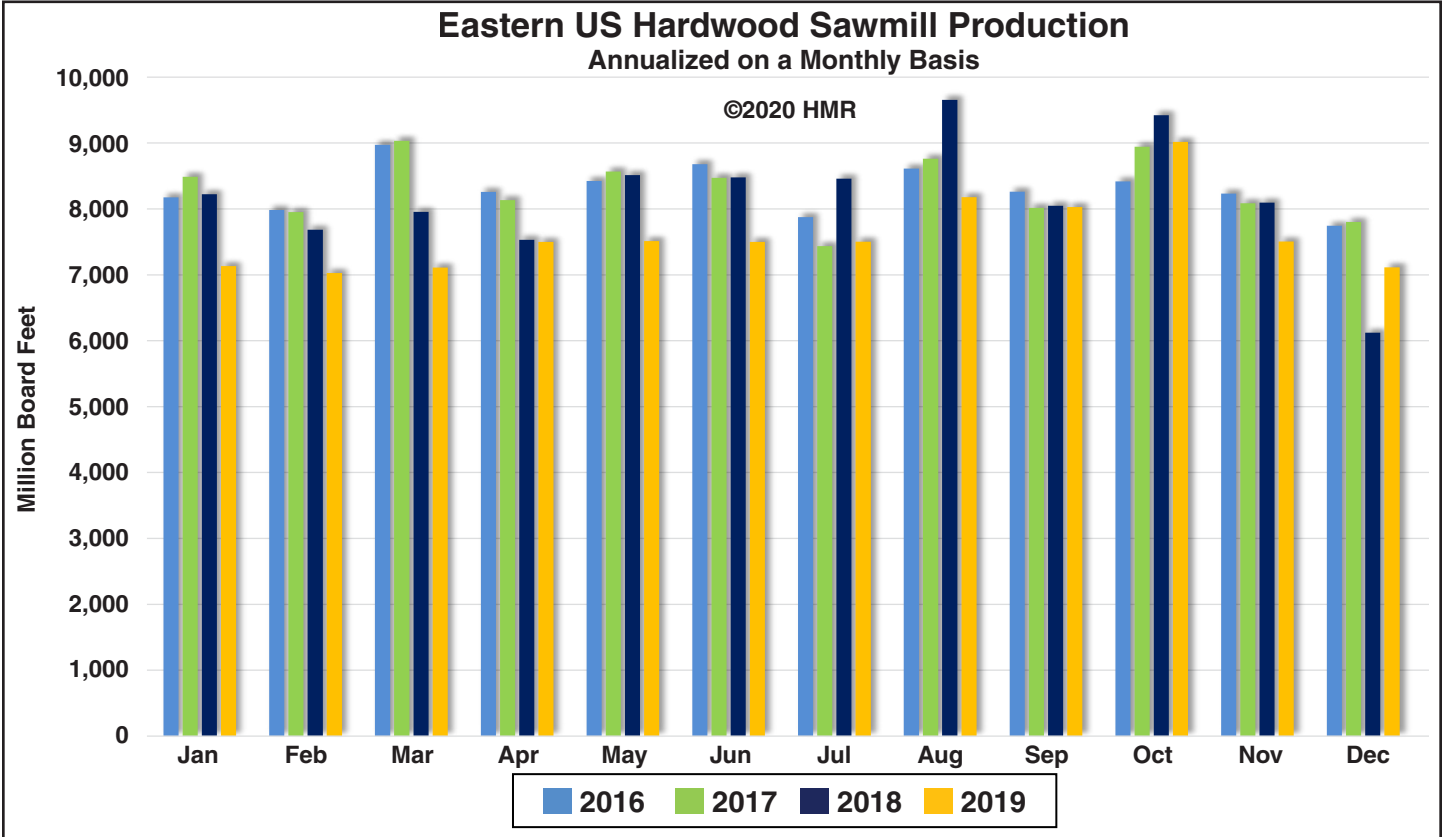
We can discuss things like commitment, ingenuity, resiliency, and even luck if you choose. Each one of

those has a part in keeping companies operational at a time when market conditions say otherwise. But, no company can exist without cash.

It is difficult to imagine any sawmill or lumber yard staying financially whole for the duration of this current downturn in grade lumber business. This has been a time of negative returns. At some point, dipping into cash reserves funded by previously earned profits has been necessary. In cases – likely most cases – inventory assets have been used to offset revenue shortfalls.

In general, the depth of inventory assets amounts to a few months for most lumber yards ... perhaps several months when factoring in the species and thicknesses of lumber involved. For larger sawmills, timber can be purchased as long as a year or two in advance of intended use. Small mill inventories can be a few weeks to essentially none at all. Whatever inventory has been available has helped subsidize ongoing operations. The larger the inventory asset, the longer companies can exist.

Figure 4



"During this market downturn, we have witnessed reductions in production of slow moving, price sensitive species. There has been a meaningful shift in production of these same species from grade lumber to industrial products."

Collateral Damage

Different companies have different circumstances. Some have been more successful than others in mitigating the effects of contracted demand and prices for traditionally high valued lumber products. Again, how the local forest resource aligns with demand is key to the results.

During this market downturn, we have witnessed reductions in production of slow moving, price sensitive species. There has been a meaningful shift in production of these same species from grade lumber to industrial products.

At this point in time, the changes in production have provided significant relief in supplies of certain grade lumber items, but it is premature to consider this accomplishment much more than progress; the marketplace is still unsettled. Furthermore, increases in Poplar and industrial product output, for example, have elevated supplies of those items – some to the point of excess.

Some sawmills and lumber yards are operating reduced hours as a means to limit production volumes. Some sawmills and yards have ceased operations altogether, though far fewer than the harsh market conditions would suggest.

Among the options, running unabated is hardly a good choice unless raw material costs are aligned with sales volumes and values. There has been progress on this front, but again, more work is needed. Running at reduced rates has its problems, including higher unit manufacturing costs. Shuttering operations is expensive and has long-lasting effects. There are options, but there is no simple solution when it comes to contracting business.

The supply side of the US hardwood marketplace has experienced all of these changes from mills and yards attempting to recalibrate production with demand. But, the thread that connects each of these actions and, frankly, each company involved, is that the supply side of the marketplace has been financing losses for more than a year.

The toll being paid by hardwood lumber producers is impactful, but the final results are not yet known. How much more staying power do sawmills and concentration yards have? How many more assets do companies have left to subsidize business after this extended period of time? How many more of those assets are they

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You may also like:



In the January Issue ...

US imports of tropical hardwood lumber increased from every tropical region during the first 11 months of 2019 compared to the same period in 2018. However, growth was much stronger from one region than all others. Read the January HMR *Import Newsletter*™ for full details on trade flows and much, much more.



willing to invest?

Will grade lumber markets improve and reverse the trend in contraction? If so, will it happen soon enough to prevent lost production capacity? Even then, will all hardwood producers be able to participate in a market rebound that undoubtedly will fuel higher prices for logs and green lumber?

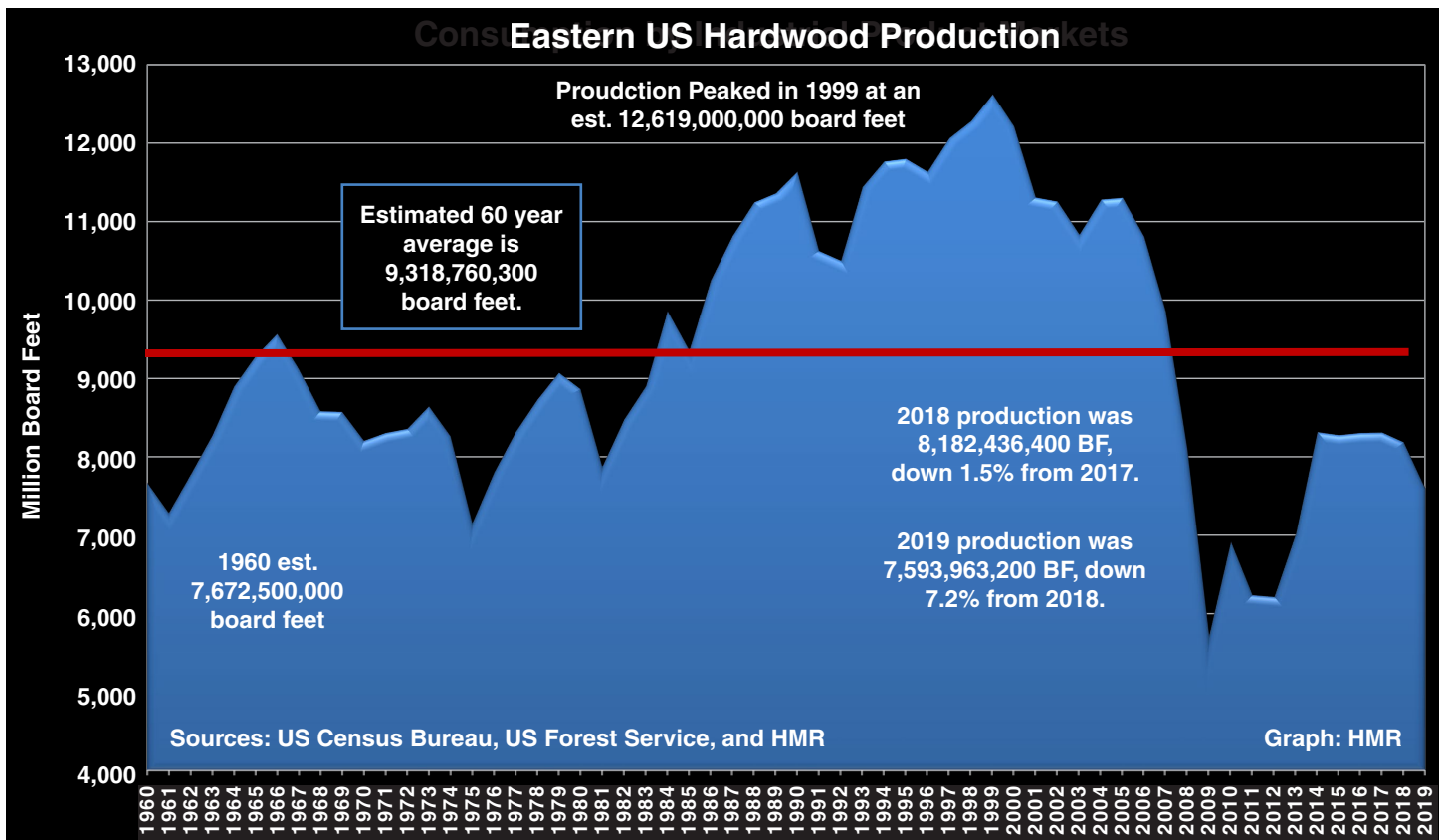
US hardwood producers have been financially strained and, in many cases damaged. Yet, it is shortsighted to count this group out. There have been other times

throughout this industry's history when the supply side of the marketplace faced seemingly insurmountable odds with no clear solution. It survived then, and it will survive these present challenges.

As long as there is opportunity – meaning, a positive market force created by either supply correction, increased demand, or a combination of both – hardwood producers will be compelled to change with that market force. After all, it's physics.

Anyone for an apple? 🍏

Figure 5



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