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Inventory Impacts on the 2023 Transportation & Logistics Market

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As we head into 2023 it is difficult to know exactly what the new year will bring from a freight transportation and logistics perspective. One thing is highly likely - inventories will impact transport demand and the share each mode carries. Never before have we witnessed so many divergent trends in inventories as traditionally, they most all went up and down with economic swings. But now inventories in many different sectors are moving in different directions.

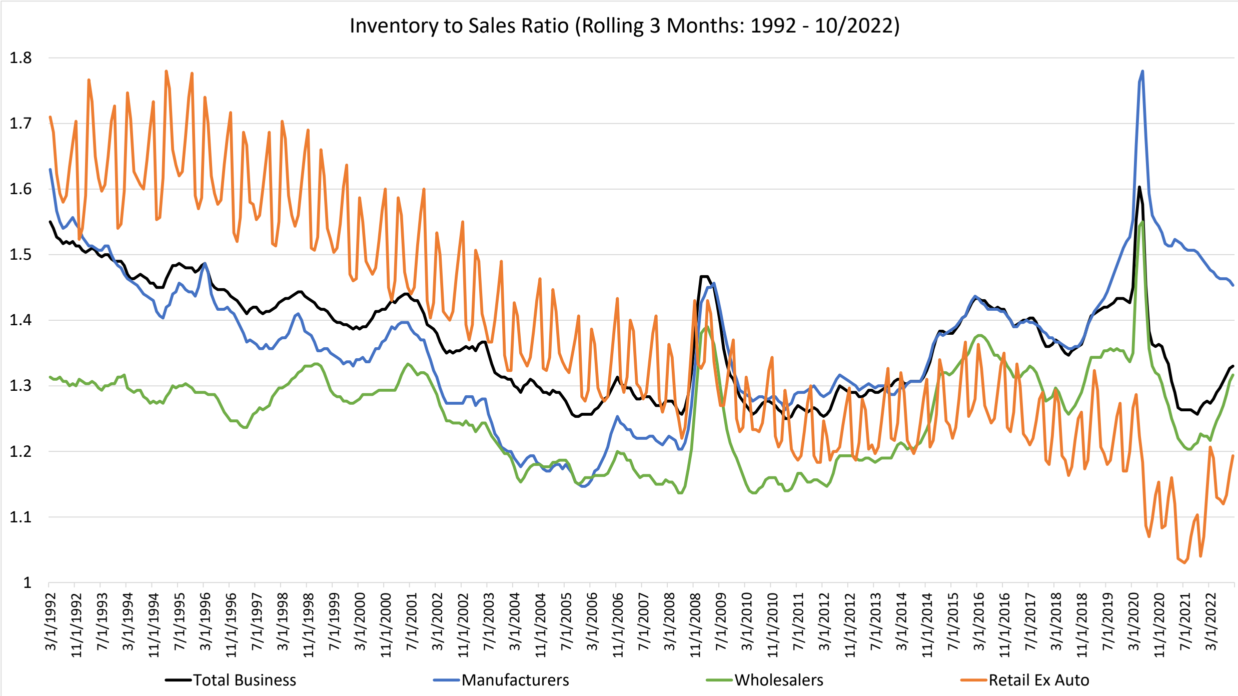
The news in 2021 and early 2022 was of supply chain snarls and low inventory levels for almost everything. However, in today's post COVID world, overall inventory levels are masking significant differences by component of the supply chain and product category. As a result, the modal/service shifts between rail, truckload, less-than-truckload, and parcel will differ greatly for different underlying shippers/receivers/beneficial cargo owners. And depending on who the served customers are for a supply chain service provider, 2023 may be a prosperous or a challenging year.

Total Inventory in Line with Historical Average
Looking at current levels, and when comparing to those over the long-time horizon, we see several things. First, is that overall US business inventories, as a percent of sales (black line in chart below), are below pre-COVID levels, but similar to the average from 2000 to 2019. The overall business inventory to sales ratio bottomed in the second half of 2021 and early 2022, but has been rising quicky since. But looking under the covers, this overall number has never been less relevant. The inventory to sales ratio for various inventory subsegments differ greatly from the overall average – many are experiencing very different dynamics than the overall.

The Further Back in the Supply Chain, the More Inventory
Manufacturers have more inventory than wholesalers, and the wholesales have more inventory than the retailers. The manufacturer inventory to sales ratio is at its highest level since the mid-1990's, and has generally been on an uphill climb since 2005 (blue line in chart below). Interestingly, manufacturing inventories are the only major subsegment that has been declining over the last 18 months. The high inventory level could be due in some part to stockpiling parts or inputs due to supply chain struggles. The recent decline could be from work-in-process inventories declining as out of stock items have been arriving, allowing the manufacturer to complete production.

The wholesaler inventory to sales ratio is currently relatively in-line with the average inventory to sales ratios since 2015, but are well above the levels from 2004 to 2014 (green line in chart below). This ratio however is moving upwards quickly, and it has increased significantly since the second half of 2021.

Despite the recent uptick, retail inventories are still at historic pre-COVID lows. This suggests that retailers will need to continue to order goods to protect from stock-outs unless demand declines significantly. The retailer inventory to sales ratio excluding automobiles and auto parts (orange line) has been below 1.2x since mid-2020 compared to ratios in the 1.6 to 1.7x range in the 1990's and 1.2 to 1.3 in pre-COVID times.



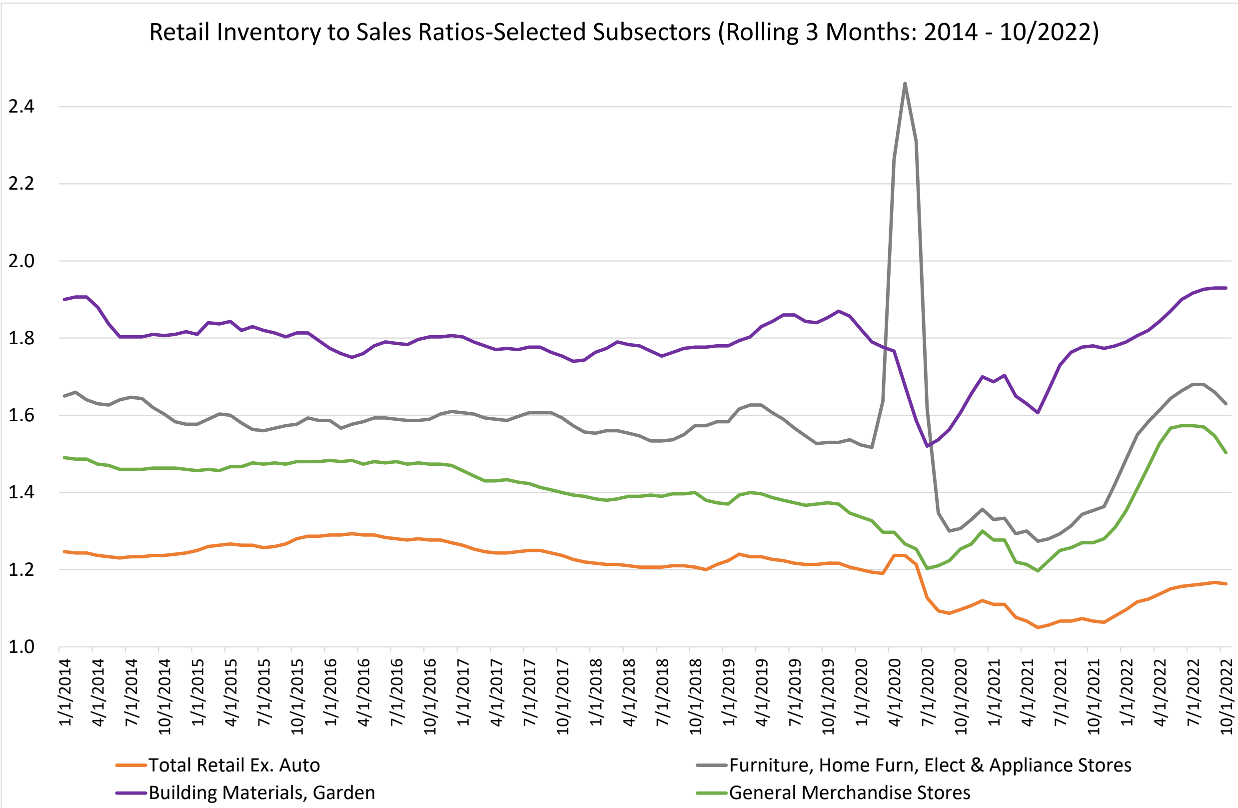
But again, it's not a one size fits all situation as some retail inventories are quite low while others may be overstocked.

Some Retail Subsegments Are Showing Stress

While total retail inventories are relatively low, retail subsectors Building Materials/Garden, General Merchandise, and Furniture/Home Furnishings/ Electronics/Appliances have inventory to sales ratios above pre-COVID levels, and at or above the highs since the start of 2014 (see chart below).

Certain product categories closely tied to the housing market are likely to experience a challenging 2023 sales environment with high interest rates impacting new home construction and existing home purchases, and a decline from the high home renovation levels during COVID. When numbers come out on consumer spending by type of retailer for the holiday season, we will have a better idea of who still has high inventory and who is facing stock-outs.

Other retailer subsectors, such as Food/Beverage, remain at relatively low inventory levels (not shown in chart). Food/Beverage retail has a relatively low inventory to sales ratio due to the higher share of perishable items, and is typically more recession-immune on the sales side. The Auto subsector (not shown in chart) also has low inventory levels as auto OEMs have struggled to produce vehicles for dealer lots. Due to the relative age of vehicles on the road and lower new car sales volume in 2021, the auto retail market could remain as strong as its supply chain can support.



So, what does this mean for supply chain participants? Where a transportation provider sits in the supply chain, serving manufacturers, wholesalers, or retailers, could have a big impact on supply chain service provider's volume growth in 2023. There could also be modal or trucking service shifts that differ by customer situation. Shippers tend to move to more frequent and smaller shipments when inventories are tight or tightening, while doing the reverse when inventories are high.

For warehouse companies these swings and changes are just as significant, but also differ significantly based on who the warehouse serves – raw materials/component parts versus finished goods, origin-based vs destination-based, and domestic product versus import.

In 2023 more than ever before, the role inventories will play in supply chain services demand will play out at the most detailed level.