



# THE END OF THE INVENTORY SUPER-CYCLE?

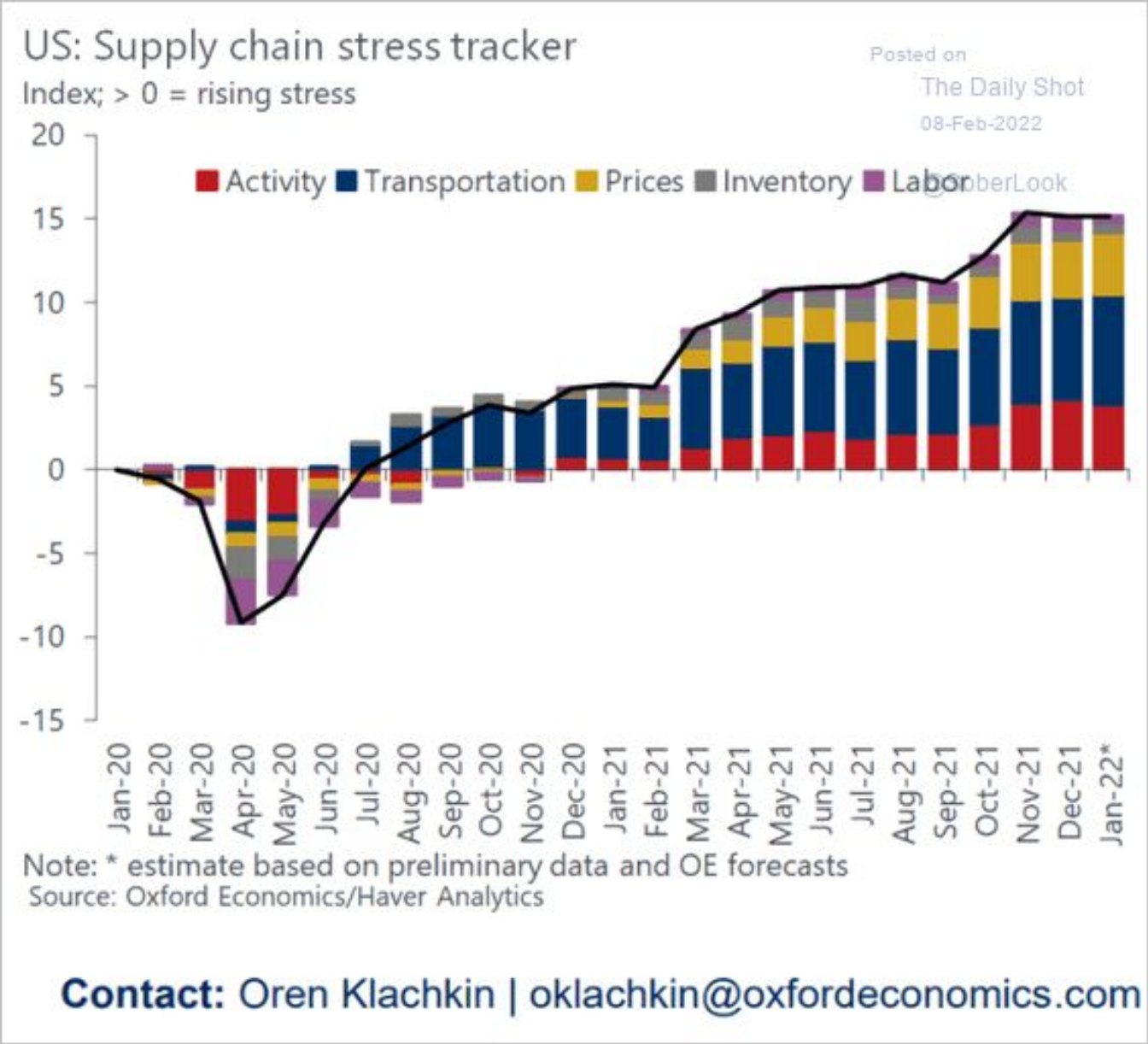


# Agenda

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- PMIs
- A typical inventory cycle
- Today's inventory / sales
- Retail sales
- Capacity expansion?

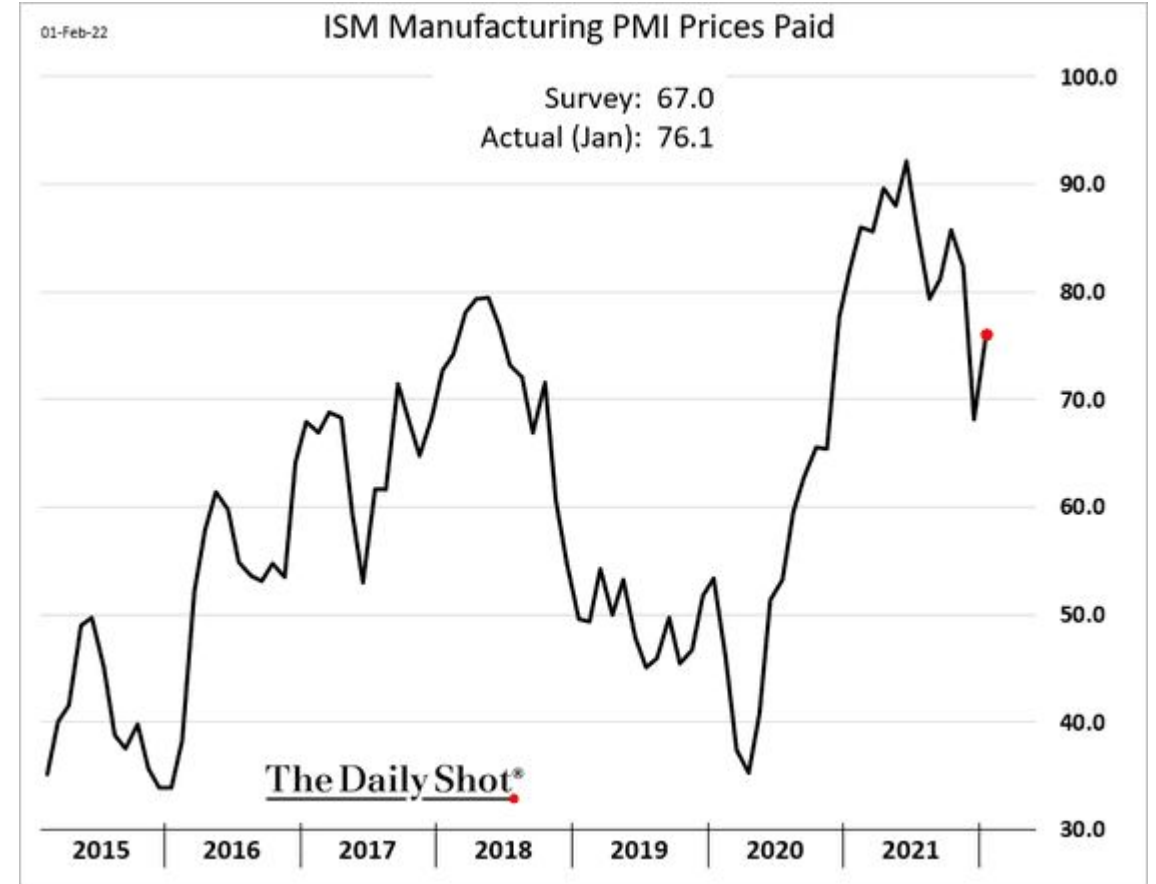
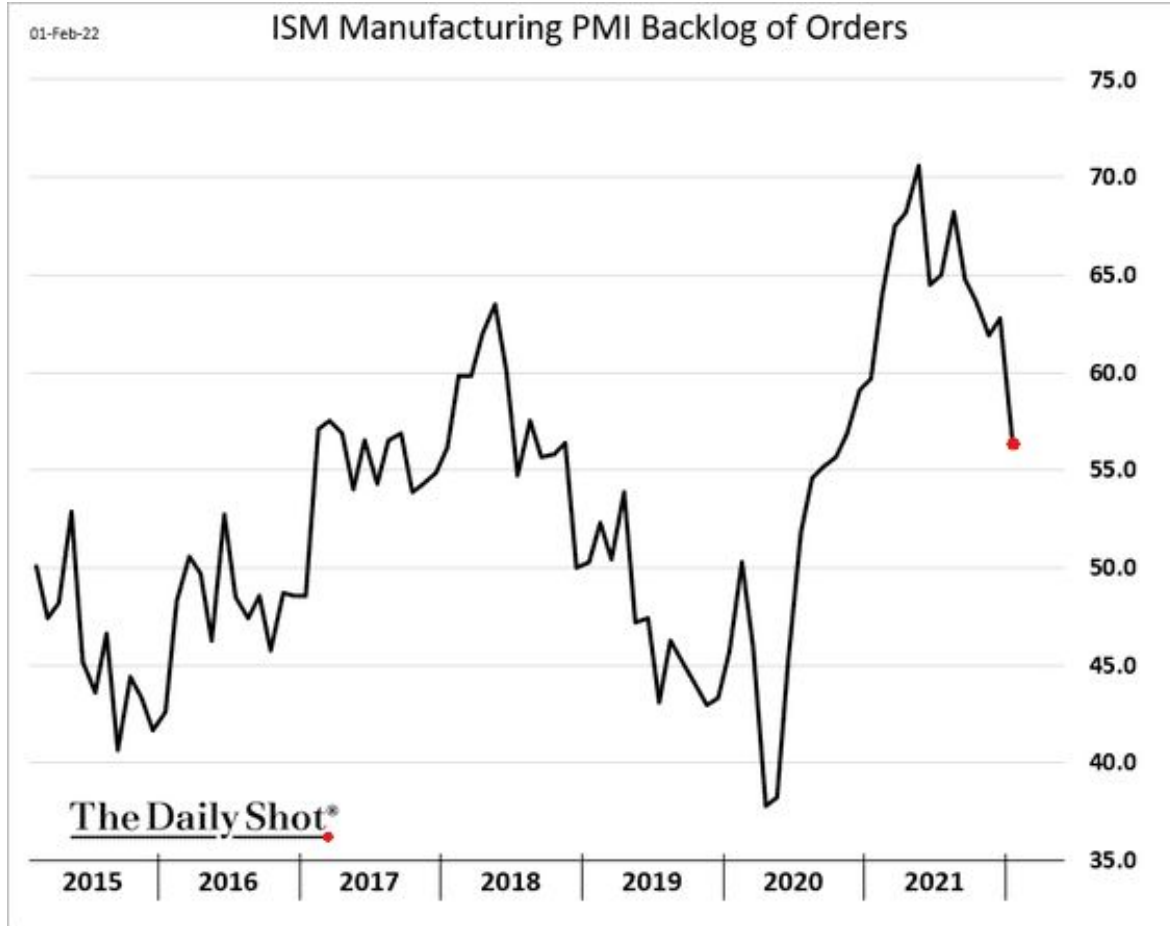
# Supply Chains: Still stressed. Easing slightly.



# PMIs: Normalising



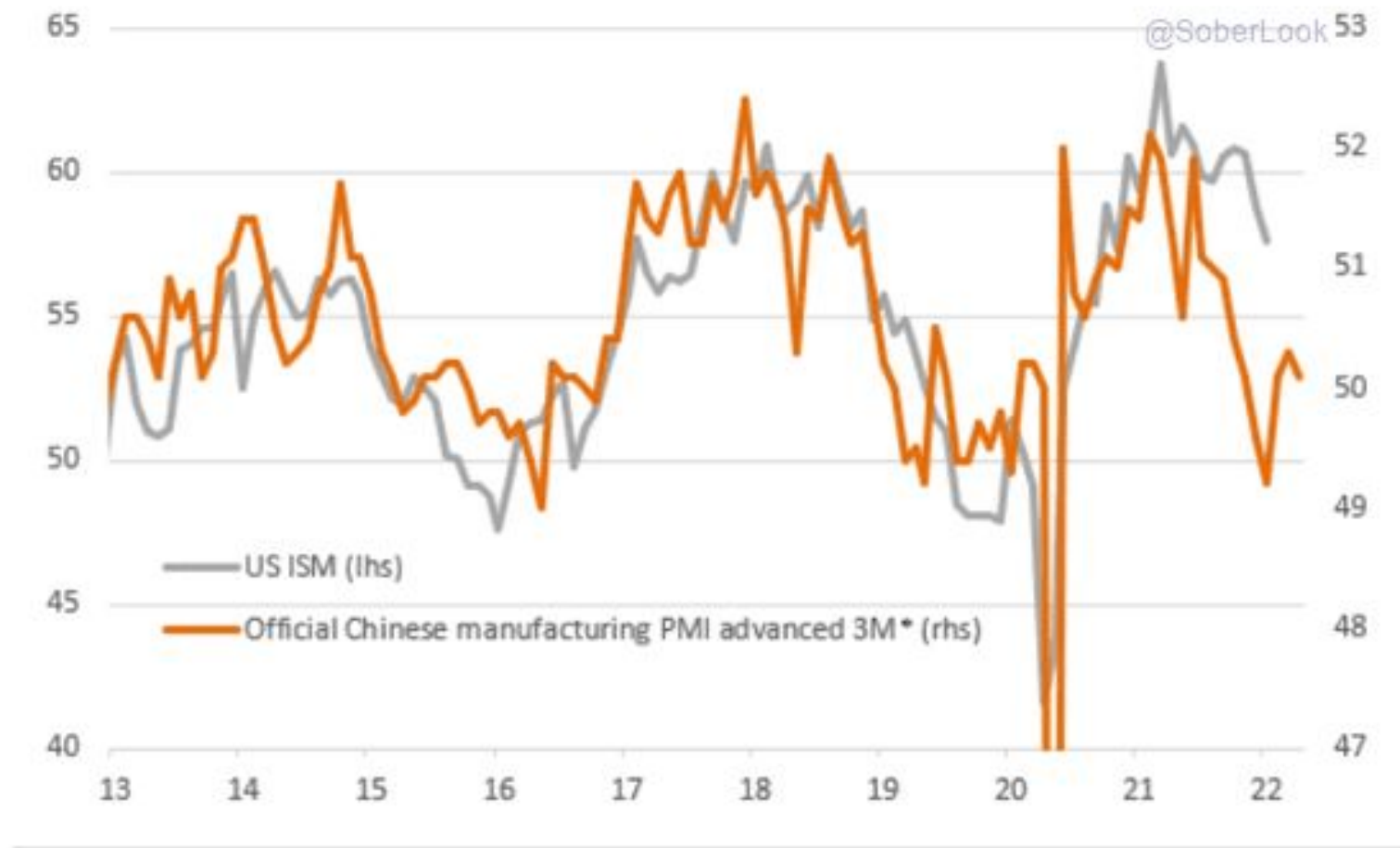
# PMIs: Normalising



# Purchasing manager indexes: Rolling over

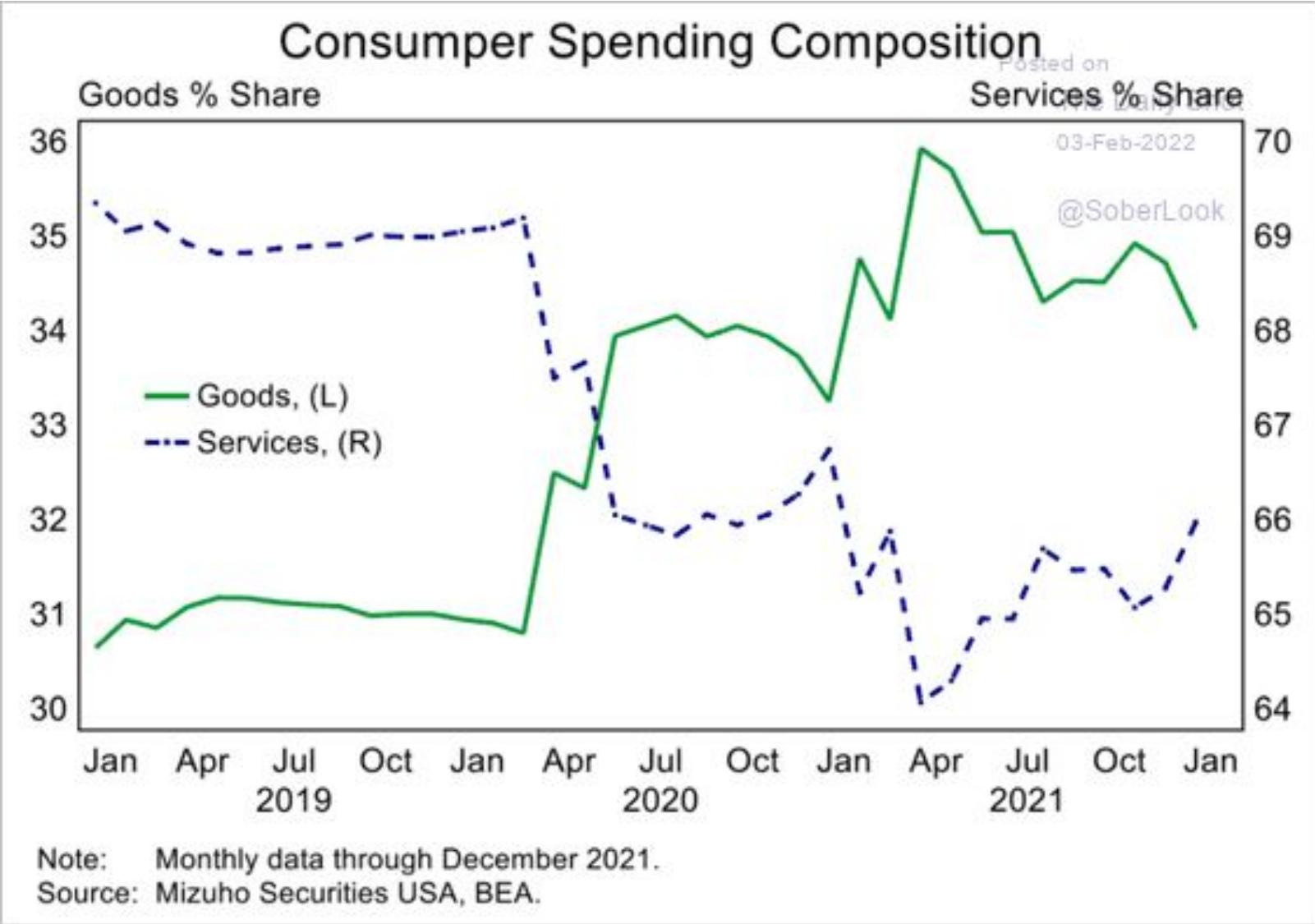
US manufacturing growth is slowing, but not as rapidly as in China

Posted on  
The Daily Shot  
08-Feb-2022

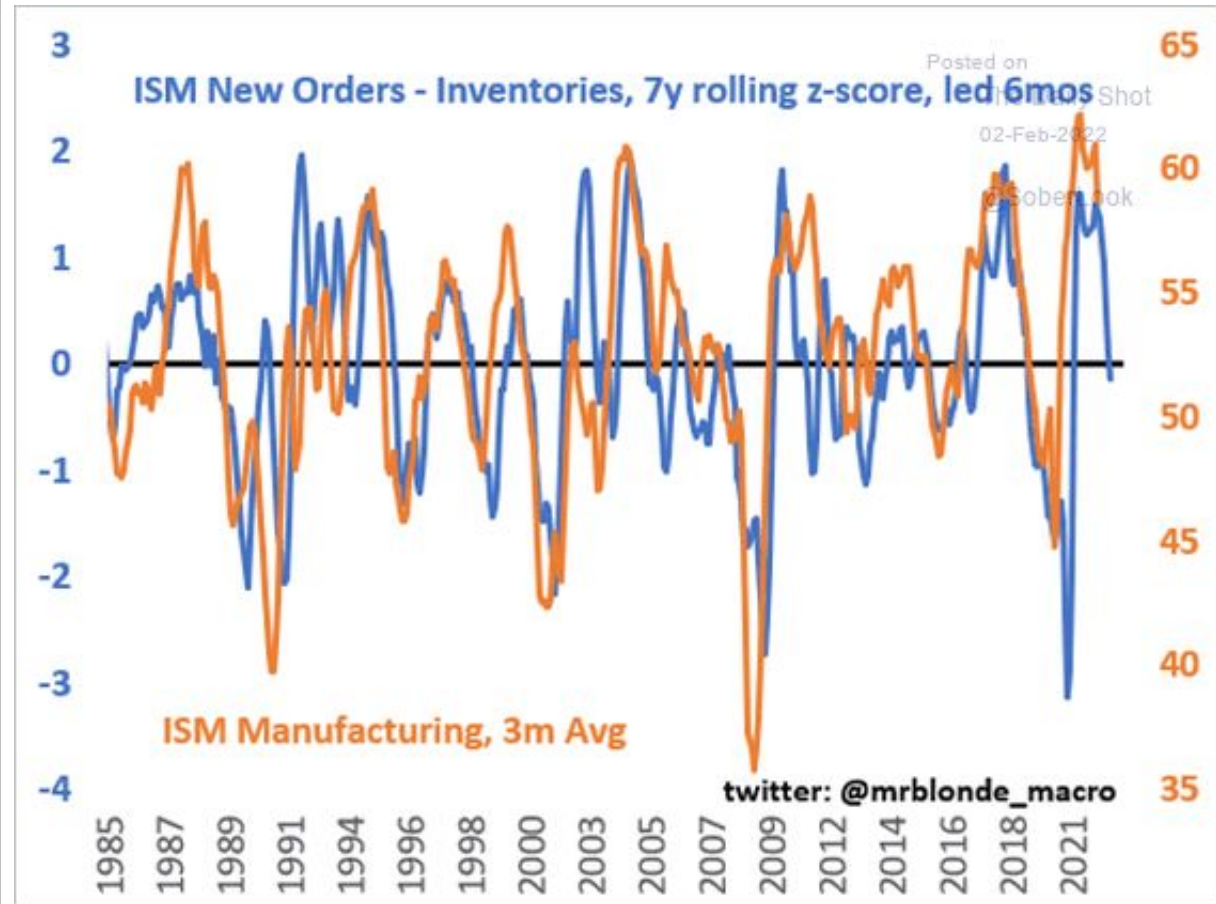
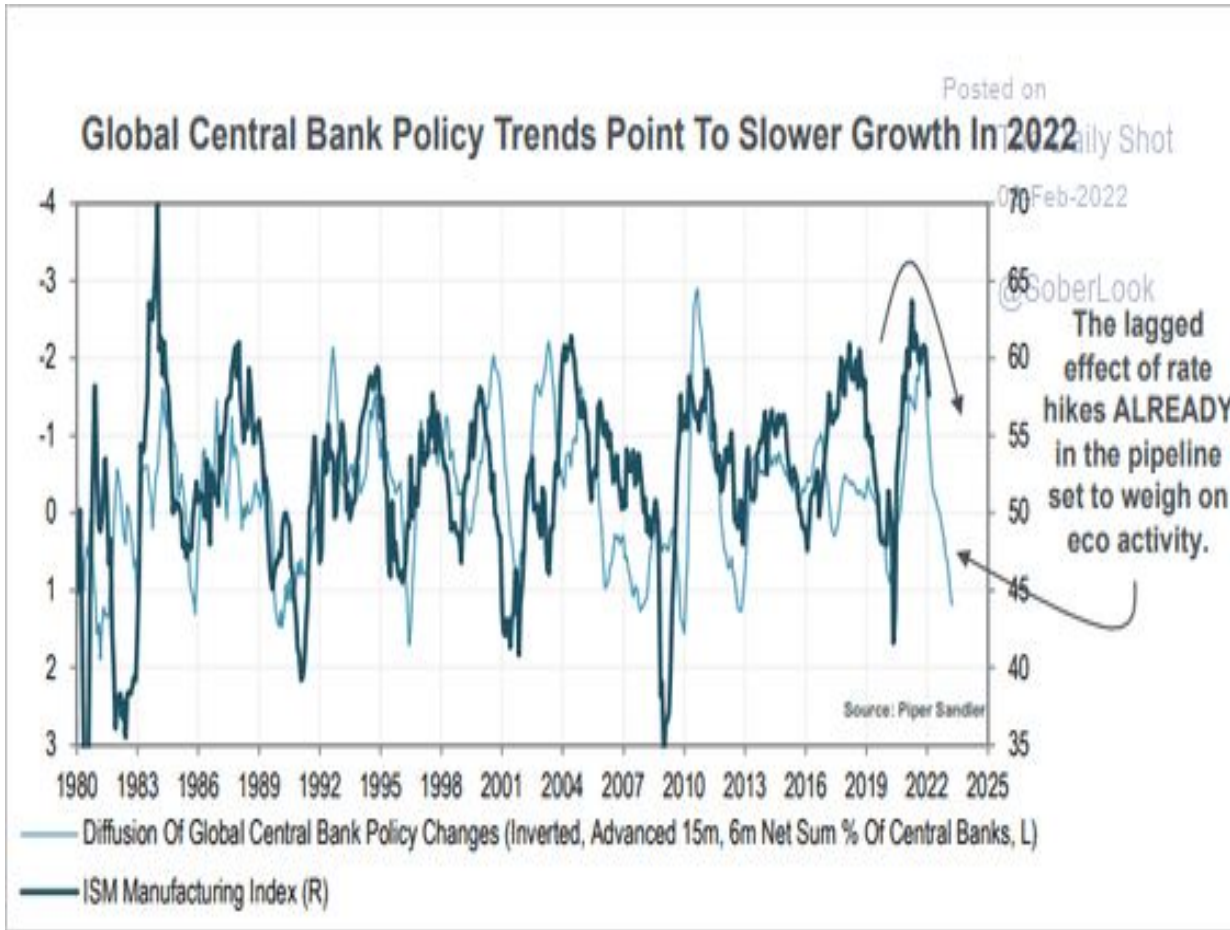


Source: Macrobond, ING

# Goods vs Services: Normalising

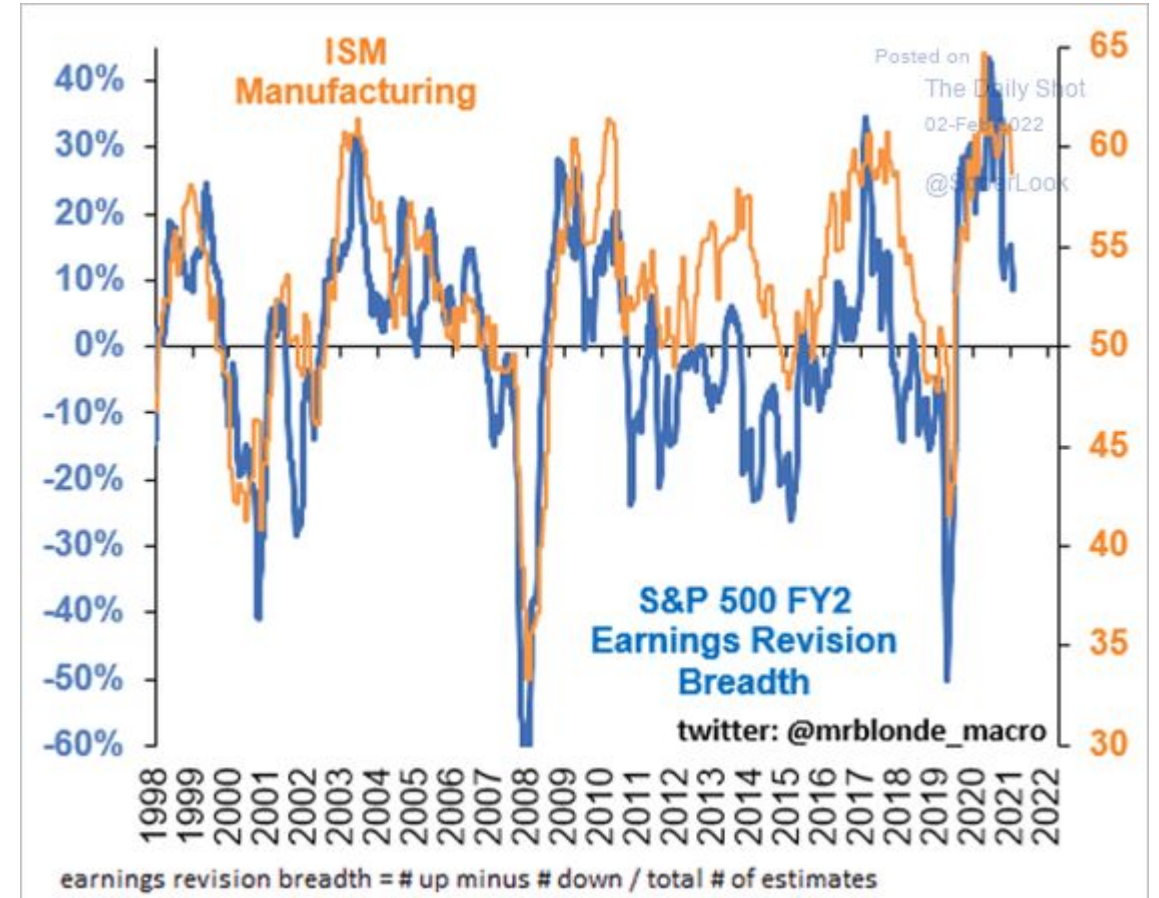
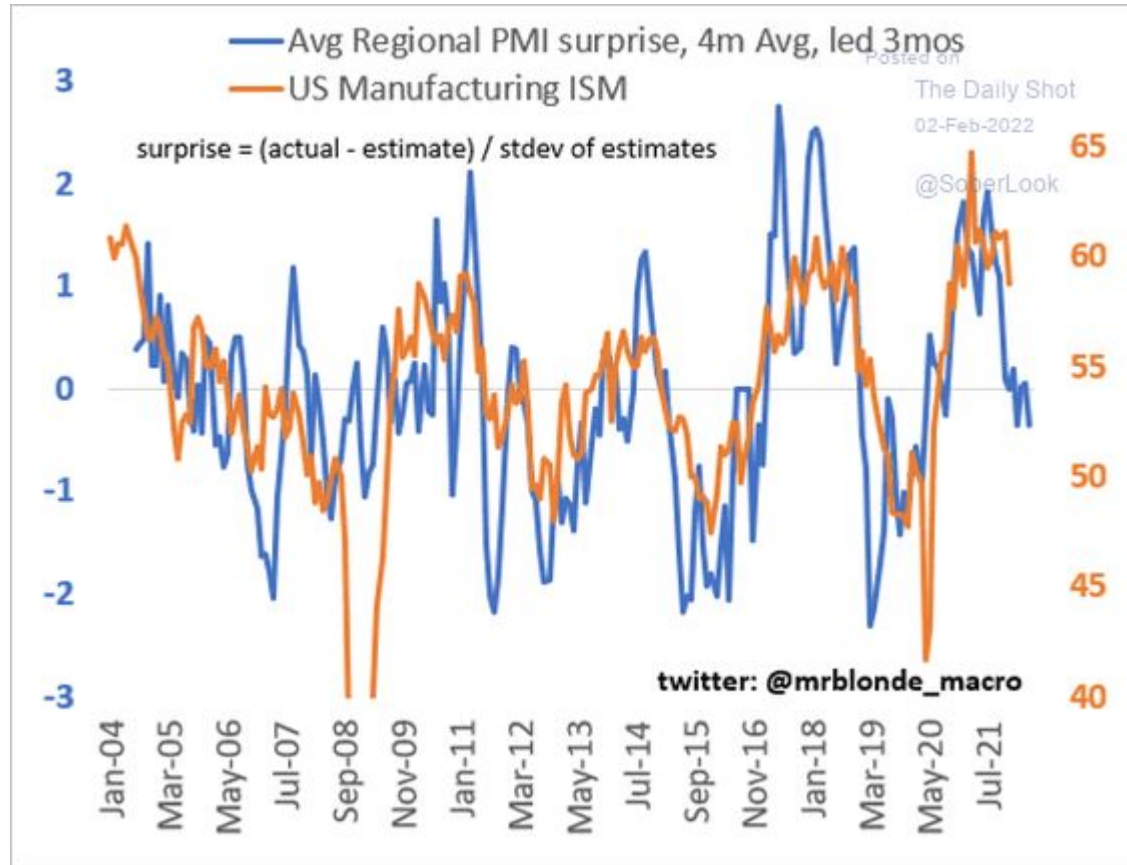


# Forward indicators: Suggest further slowing





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# Typical Cycle:

## Steady State

	Period 1	Period 2	Period 3
<b>Retailer</b>			
Sales	100	100	100
Inventory	150	150	150
Inventory / Sales	1.5	1.5	1.5
<b>Wholesaler</b>			
Sales		100	100
Inventory		150	150
Inventory / Sales		1.5	1.5
<b>Manufacturer</b>			
Sales			100

The retailer assumes they will keep selling 100 units. They want to keep their inventory at 1.5x sales and so orders another 100 units from the wholesaler

The wholesaler effectively does the same thing with the manufacturer.

# Typical Cycle:

## Drop in Sales

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
<b>Retailer</b>							
Sales	100	100	100	90	90	90	Sales drop to 90, so now inventory is 160. But the retailer only needs 135 of inventory (1.5 x 90 of sales)
Inventory	150	150	150	160	135	135	
Inventory / Sales	1.5	1.5	1.5	1.8	1.5	1.5	
<b>Wholesaler</b>							
Sales		100	100	100	65	90	So now the order is only 65 units, then back to 90
Inventory		150	150	150	185	135	
Inventory / Sales		1.5	1.5	1.5	2.8	1.5	
<b>Manufacturer</b>							
Sales			100	100	100	40	And the order for the Manufacturer is only 40

**Sales Growth**  
- Retailer  
- Wholesaler  
- Manufacturer

Period 4   Period 5   Period 6  
-10%                      -35%                      -60%

The drop in sales gets exponentially larger the further down the supply chain

# Typical Cycle:

## Increase in Sales

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10
<b>Retailer</b>										
Sales	100	100	100	90	90	90	100	100	100	100
Inventory	150	150	150	160	135	135	125	150	150	150
Inventory / Sales	1.5	1.5	1.5	1.8	1.5	1.5	1.3	1.5	1.5	1.5

Sales rise to 100 so now inventory is low and needs an extra big order to restock

### Wholesaler

Sales		100	100	100	65	90	90	125	100	100
Inventory		150	150	150	185	135	135	100	150	150
Inventory / Sales		1.5	1.5	1.5	2.8	1.5	1.5	0.8	1.5	1.5

Same for the wholesaler

### Manufacturer

Sales			100	100	100	40	90	90	150	100
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And the Manufacturer booms

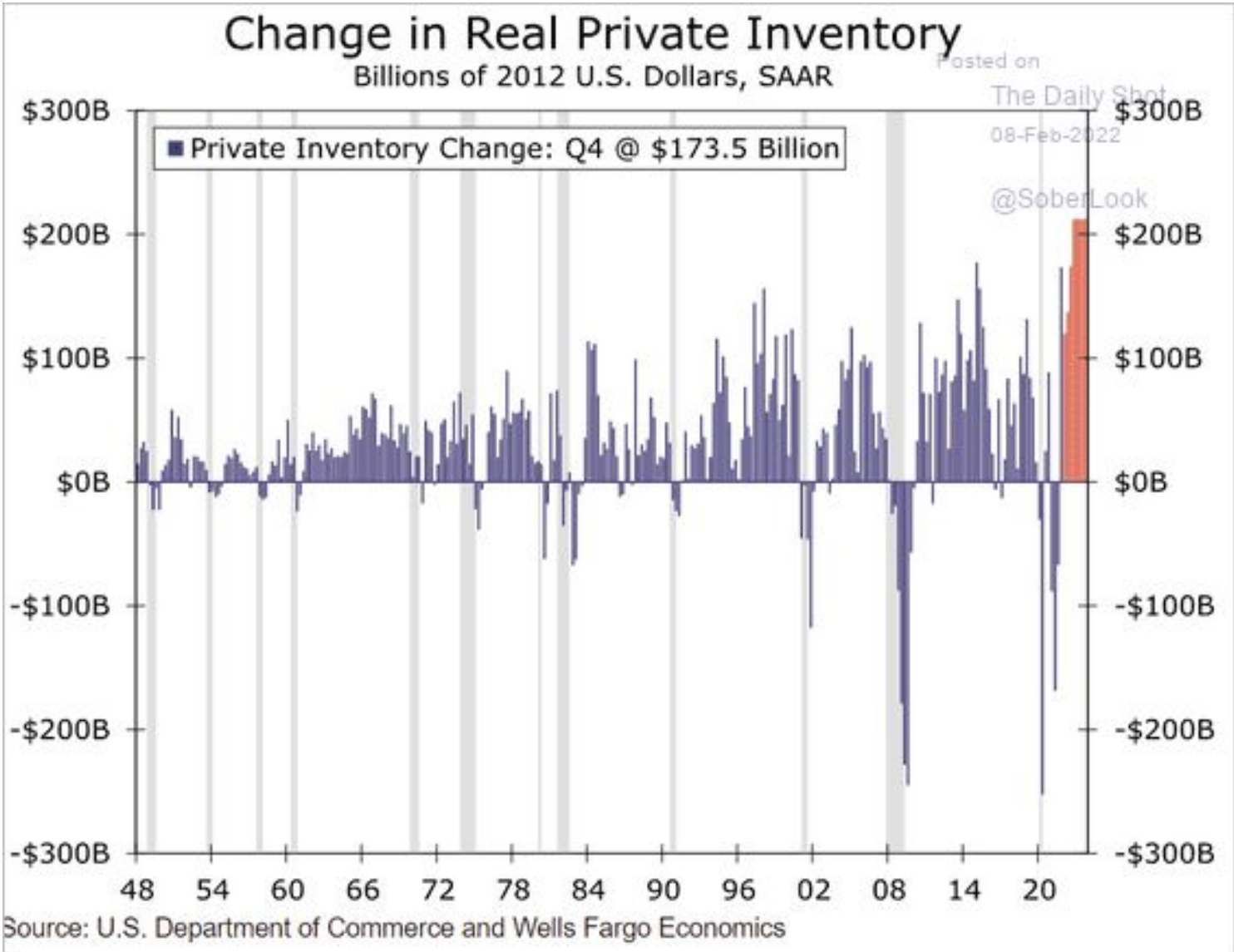
### Sales Growth

- Retailer
- Wholesaler
- Manufacturer

	Period 7	Period 8	Period 9
Retailer	11%		
Wholesaler		39%	-20%
Manufacturer			67%
Total			-33%

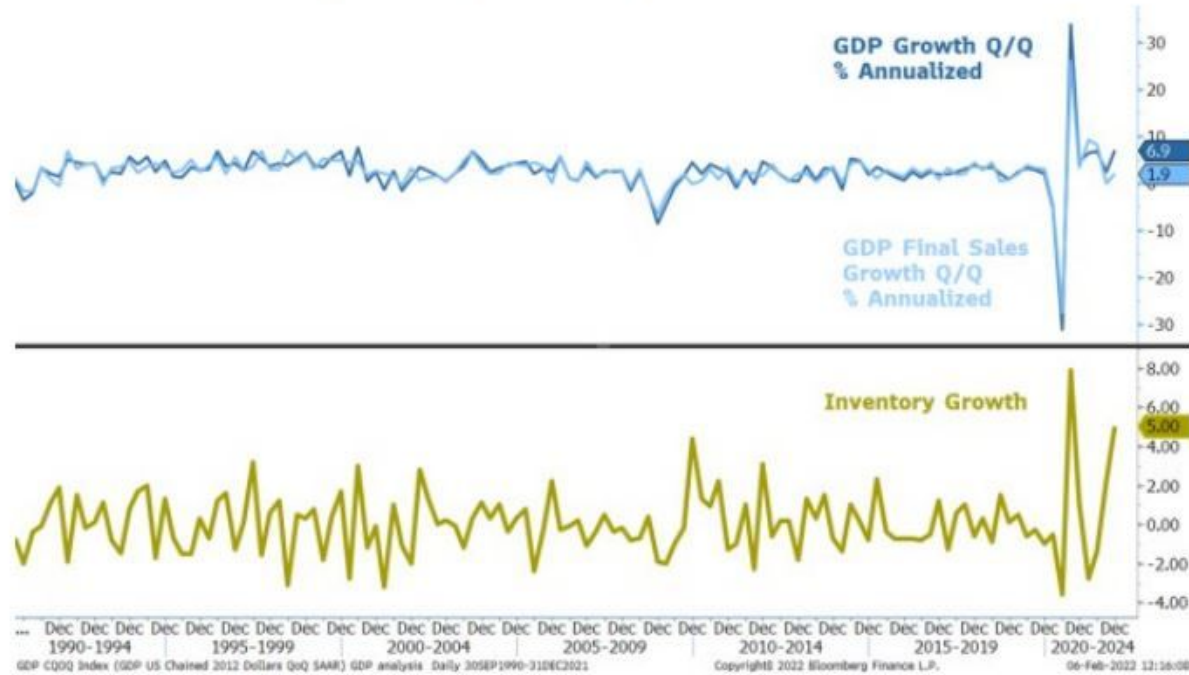
The rise in sales gets exponentially larger the further down the supply chain

# Inventories: Building strongly.

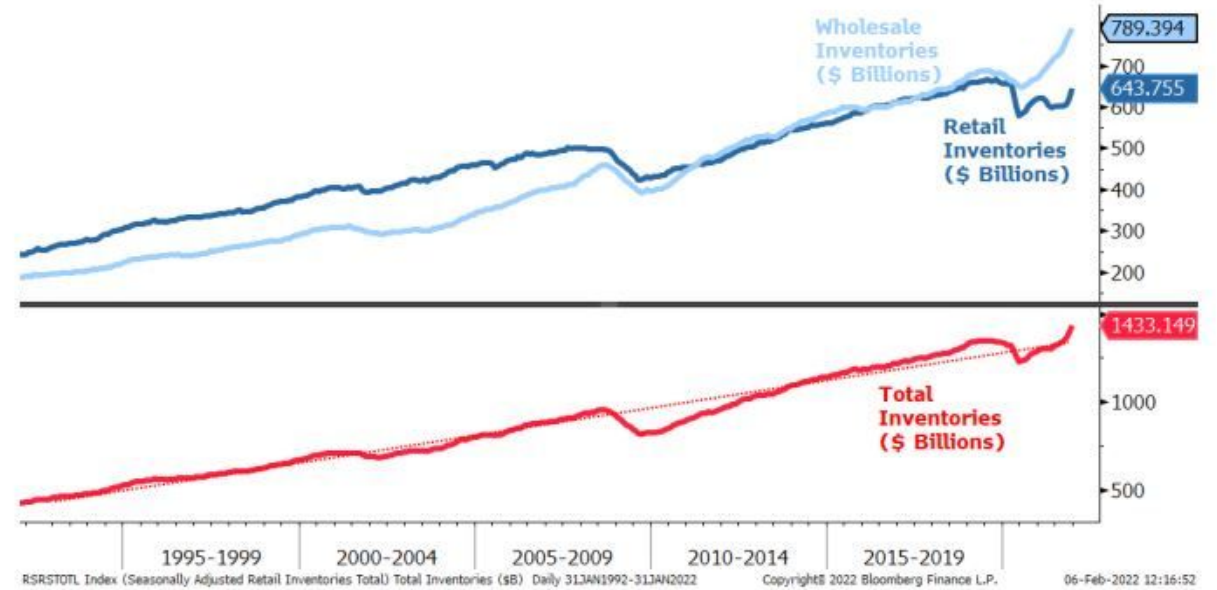


# Inventory: Is there “shadow” inventory stuck in warehouses?

**Exhibit 7:** GDP suggests big Inventory build

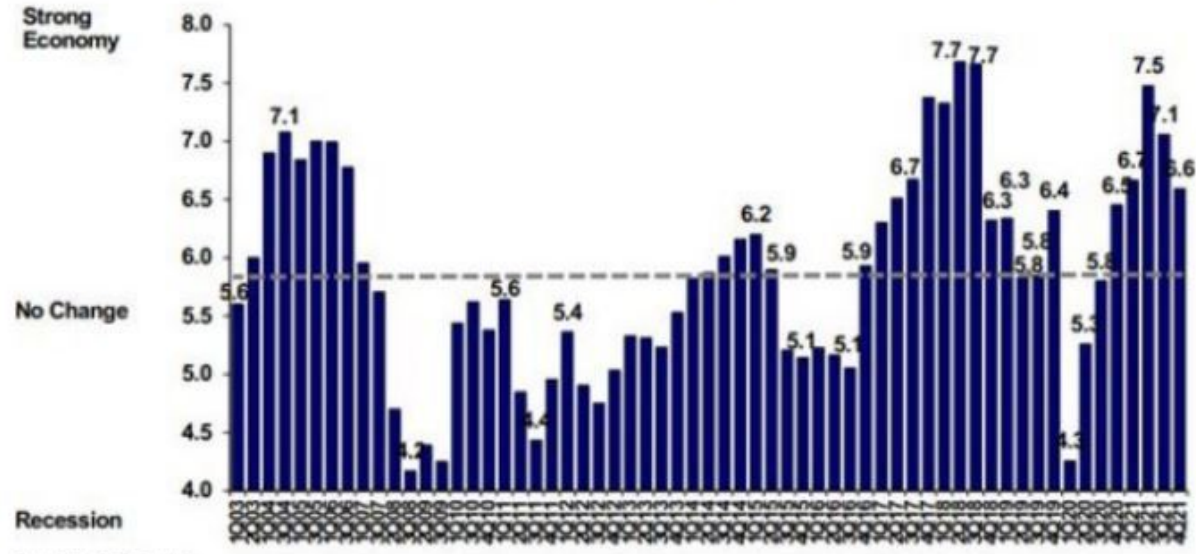


**Exhibit 8:** While Logistical constraints loosen and product reaches end point



# Inventory: Transport company outlook continues to fade

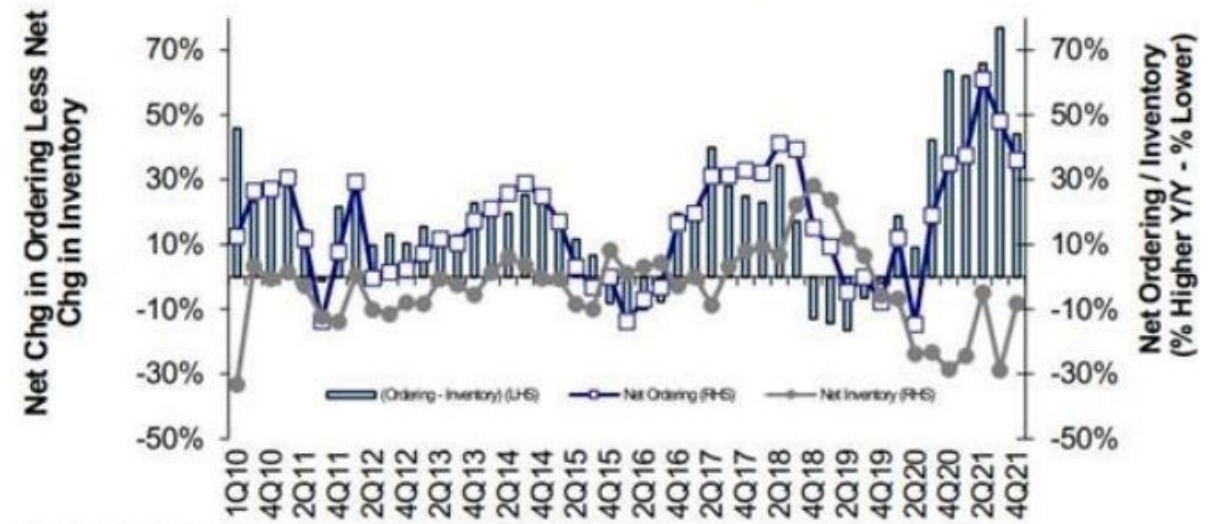
**Exhibit 10:** Shipper outlook downticks again



Source: Morgan Stanley Research

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**Exhibit 11:** Leading fewer to build inventory



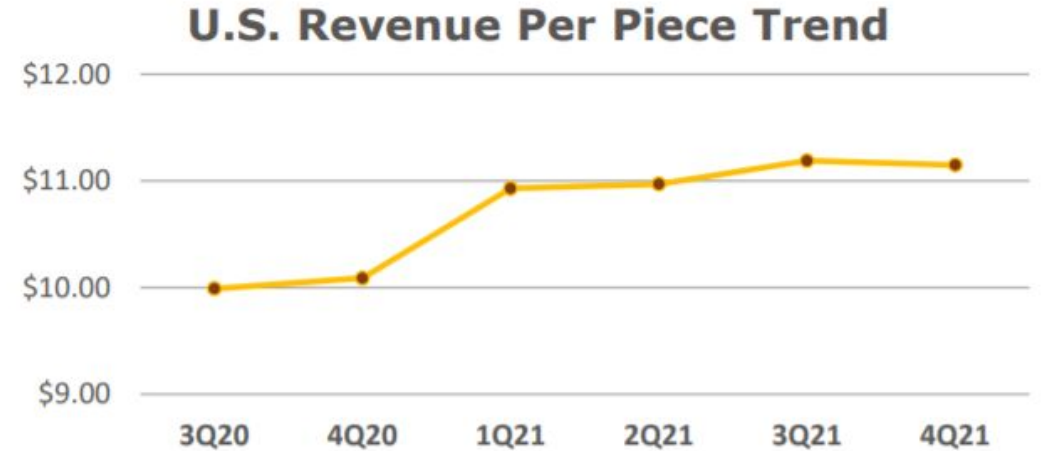
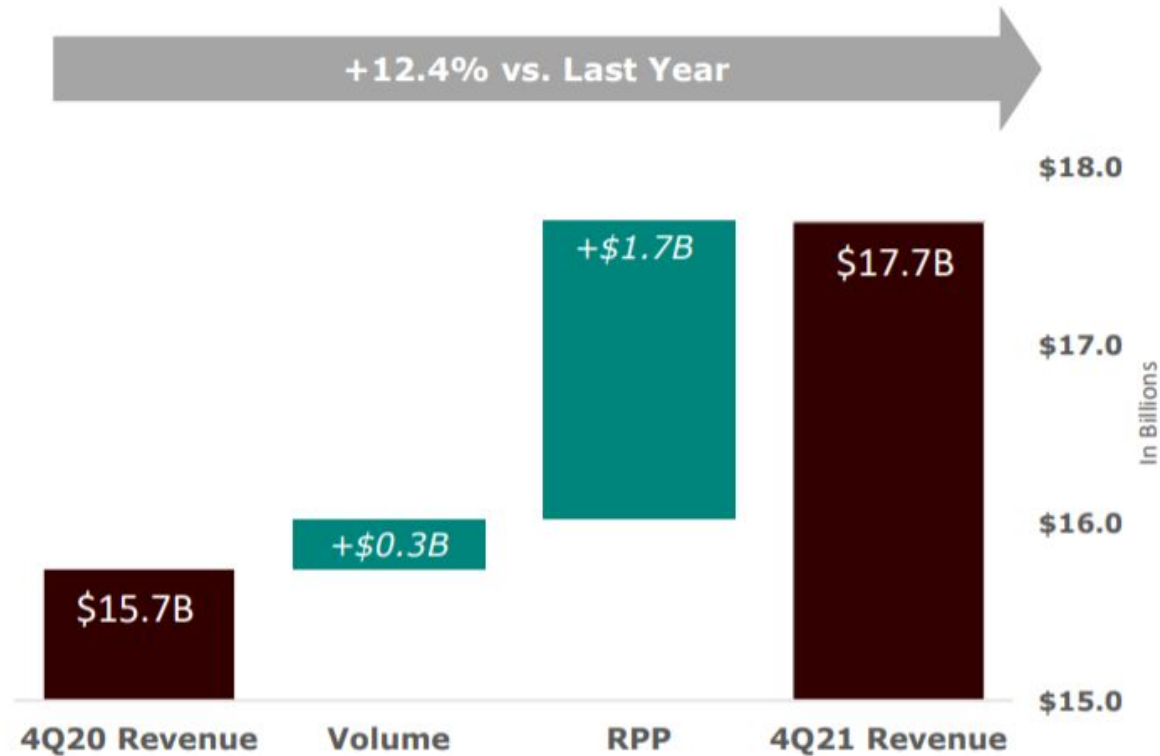
Source: Morgan Stanley Research

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# Inventory: UPS Revenue shows volumes not growing

## 4Q Revenue Increased 12.4% to \$17.7B

Driven by 10.5% increase in revenue per piece



- Revenue quality initiatives resulted in 10.5% RPP increase in 4Q21
  - Includes 380 basis point benefit from fuel and 110 basis point benefit from demand-related surcharges
- RPP grew across all products and customer segments



# Capacity Expansion:

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- Capacity expansion
- Operational improvements
- Many companies reporting low volume growth, all in price. i.e. paid more to sit in a traffic jam. Will this reverse?
- Goods vs services
- Will there be excess capacity?

**Viewer question of the week:**

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**Is the inventory cycle over?**

**Drop your answers in the comments**

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