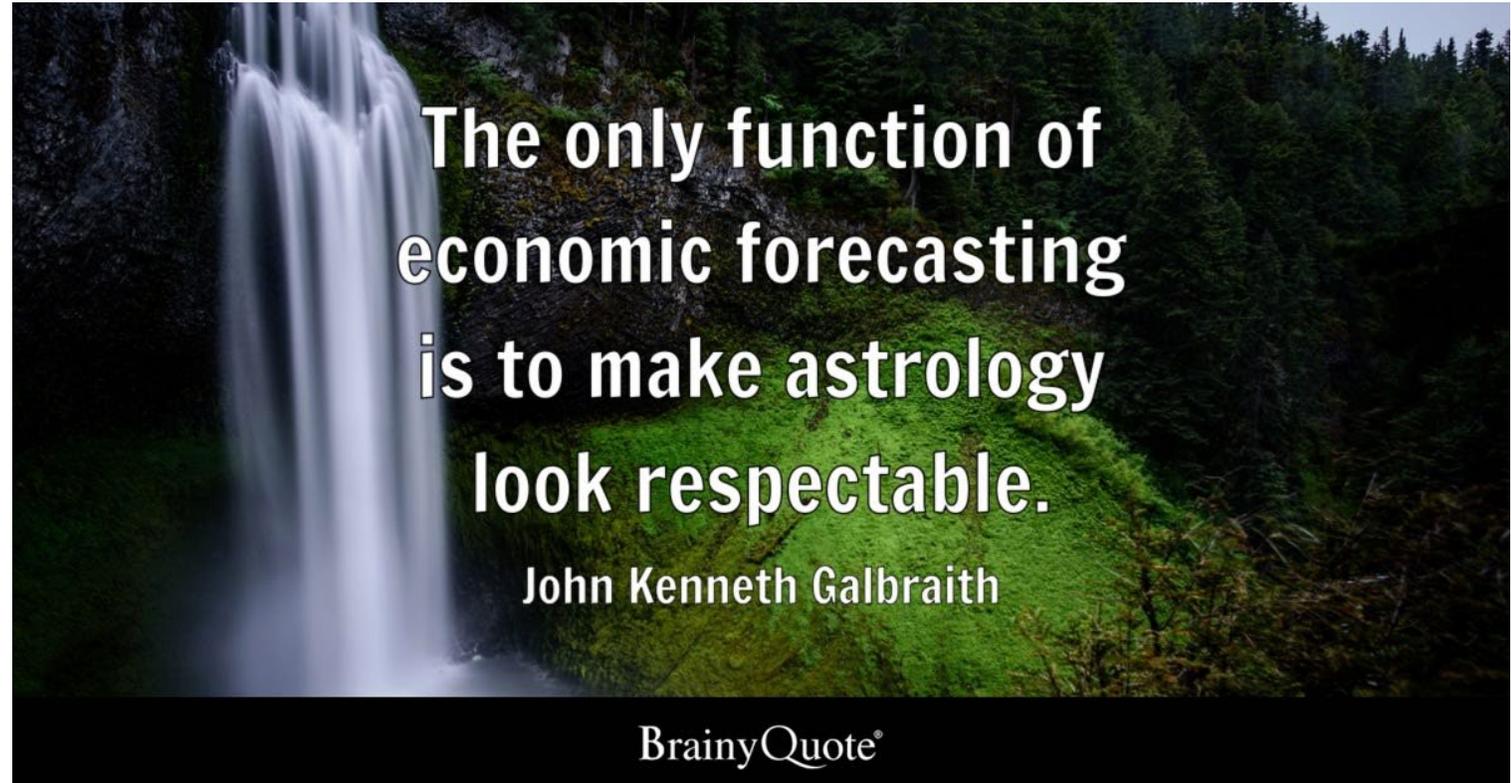




ARMADA

NACM – Nebraska Annual Meeting



Chris Kuehl – Armada Corporate Intelligence

Tackle the Elephant in the Room...



- **Banking situation has become too complex for bankers...**
- **Fundamentally, most are passing regulatory checks...\$1.1 T reportedly has flowed out of high-risk banks in the past month, Powell says outflows have “stabilized”**
 - \$18 trillion in deposits to insure; FDIC has \$125 billion in reserve
 - \$66B in current Distressed Corporate Bond Debt (\$88B was all-time high set in 2008)
- **But the creative financing and financial instruments are complex – and too complex for modern banking systems to track risk. And “bank runs” are too easy today.**
- **More risks remain, but they look more traditional:**
 - Commercial real estate – risk could be as high as \$3 trillion
 - Gig properties (AirBnB and states shifting regulation) - \$10B risk estimates
 - Automotive default risk
 - But most big banks had reserves set aside for this

Macroeconomic Outlook



3. Back to sub-2% growth through '25

	2023				2024				2019	2020	2021	2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Real GDP	1.0	-0.9	-1.8	-0.6	1.4	2.7	2.2	2.3	2.3	-2.8	5.9	2.1	0.7	1.6	1.8
Unemployment rate (%)	3.4	3.5	4.0	4.4	4.4	4.3	4.2	4.1	3.7	8.1	5.4	3.6	3.8	4.3	4.5
PCE Inflation (%Y/Y)	4.6	3.6	3.1	3.1	2.5	2.3	2.1	2.0	1.5	1.1	4.0	5.6	3.1	2.2	2.0
Core PCE Inflation (%Y/Y)	4.0	3.6	3.5	3.5	2.5	2.3	2.1	2.0	1.7	1.3	3.5	4.8	3.5	2.2	2.0
Fed Funds Rate	4.9	5.1	5.1	5.1	4.9	4.4	3.9	3.8	1.6	0.1	0.1	4.4	5.1	3.4	3.1
Canada Real GDP	-	-	-	-	-	-	-	-	1.8	-5.2	4.5	3.4	1.0	1.3	-
Unemployment rate (%)	-	-	-	-	-	-	-	-	5.8	9.5	7.4	5.4	5.7	6.0	-
Mexico Real GDP	-	-	-	-	-	-	-	-	-1.8	-8.2	5.0	2.7	1.6	2.1	-
Unemployment rate (%)	-	-	-	-	-	-	-	-	3.6	4.4	4.1	3.3	3.4	3.3	-

1. Greatest recession risk is being pushed further out, but it appears greatest between Q2 and Q3 of 2023. This timing keeps getting pushed out.

2. Q3 could invert positive if business inventories fall faster than expected. But pressure on consumer household spending could keep inventory building activity weaker than expected in Q3. Q4 is lackluster, especially if the unemployment rate hits 4.4% or higher.

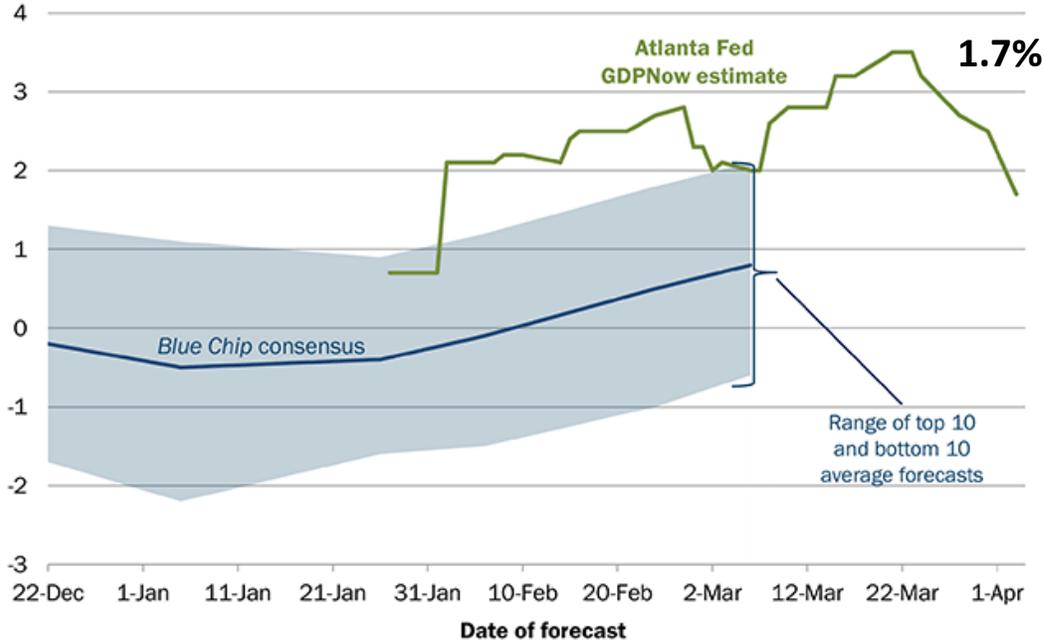
4. To hit 2% inflation target, estimates suggest the Fed will have to hit a peak Effective Funds Rate of 5.1% to 5.5% and unemployment will likely approach 4.4%.

Any banking debacle can quickly change these outlooks.

Backdrop: But Real GDP Remains Hotter Than Expectations: Why?

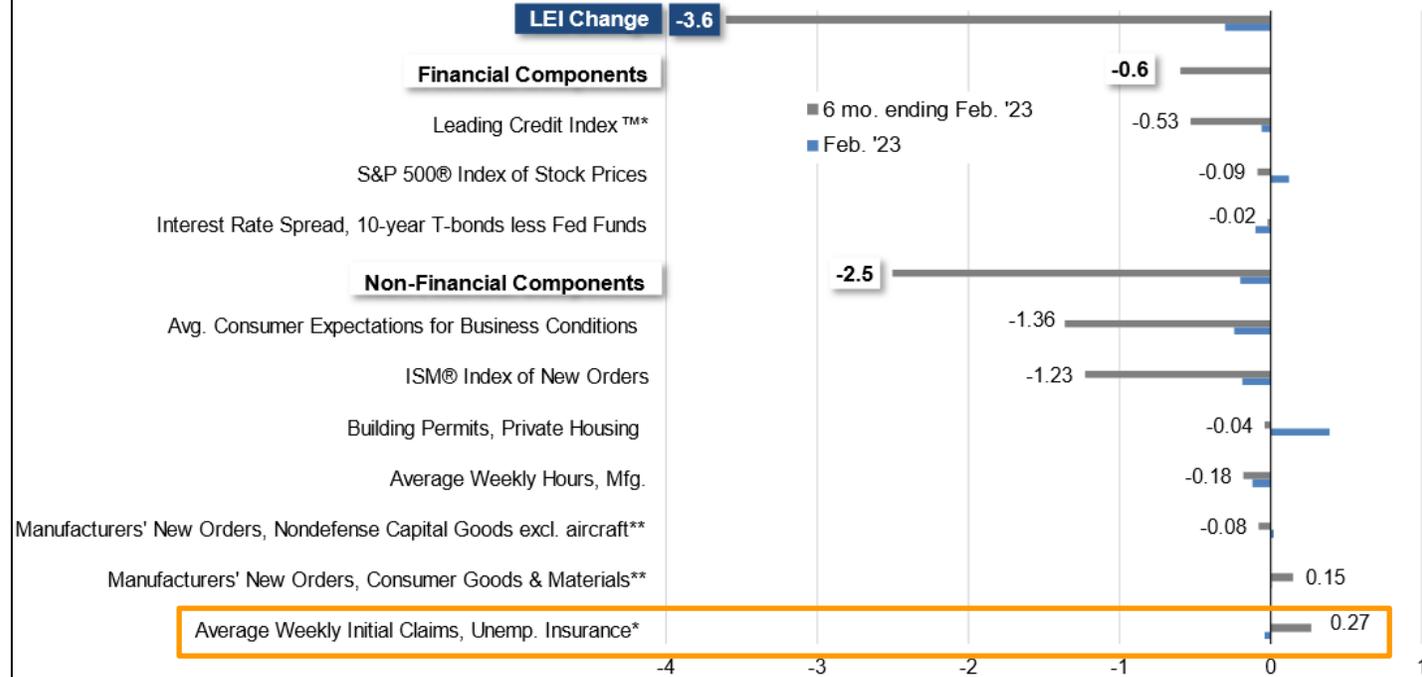


Evolution of Atlanta Fed GDPNow real GDP estimate for 2023: Q1
Quarterly percent change (SAAR)



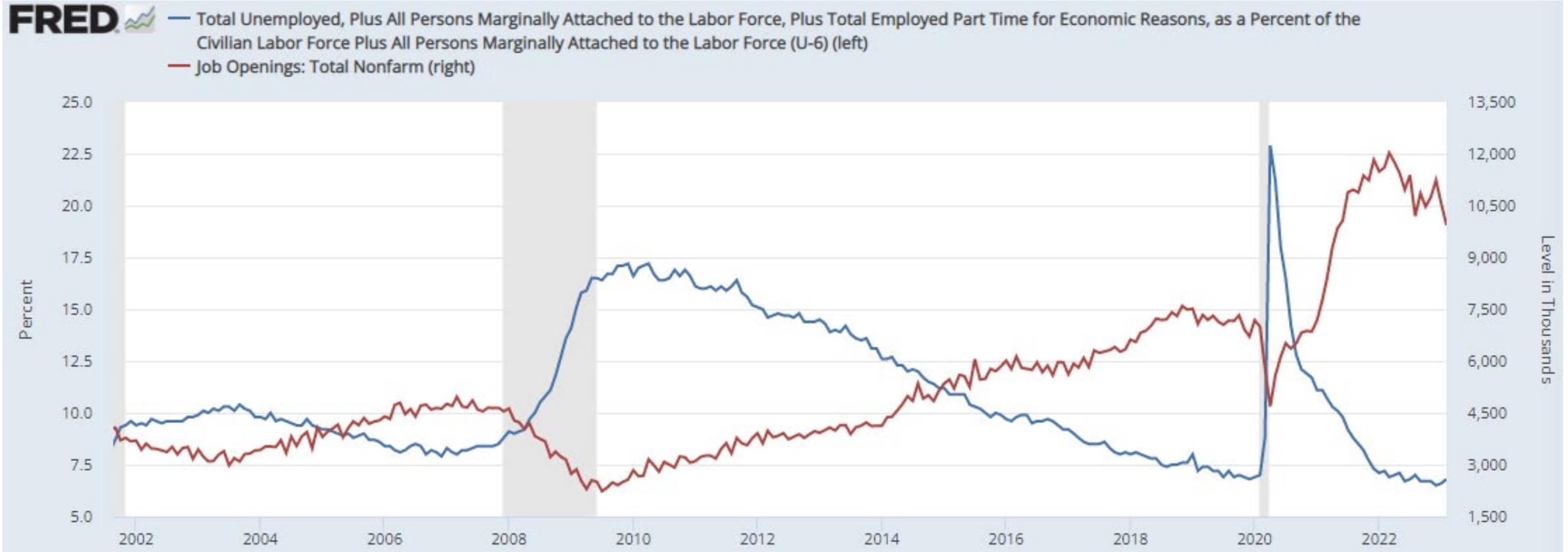
Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts
Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.

The Conference Board Leading Economic Index® and Component Contributions (Percent)



Source: The Conference Board
* Inverted series; a negative change in this component makes a positive contribution.
** Statistical Imputation
LEI change might not equal sum of its contributions due to application of trend adjustment factor

Backdrop: Labor Market Remains Overheated, Keeping Consumer Spending Stable

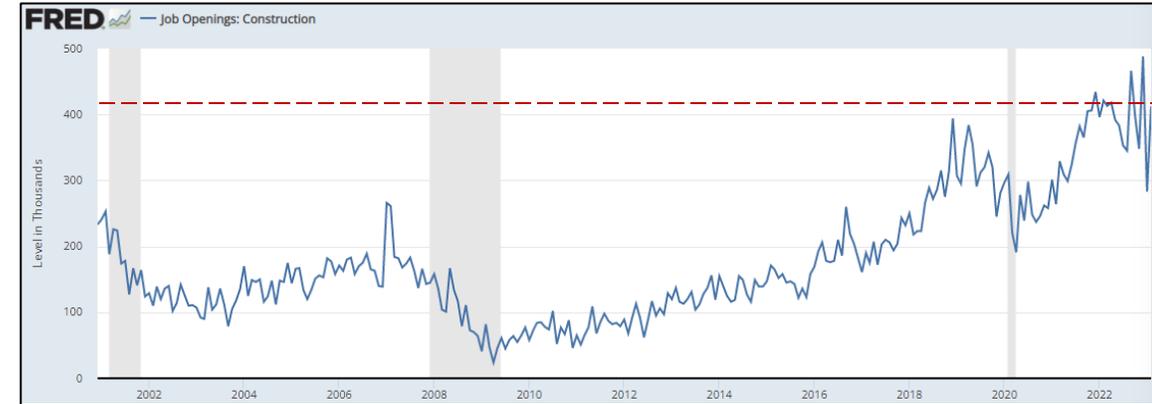


Job Openings are Cooling...Some Dramatically



Category	Job openings				
	Feb. 2022	Jan. 2023	Feb. 2023	M/M	Y/Y
LEVELS BY INDUSTRY (in thousands)					
Total	11,601	10,563	9,931	-6.0%	-14.4%
Total private	10,516	9,536	8,937	-6.3%	-15.0%
Construction	421	283	412	45.6%	-2.1%
Manufacturing	826	732	694	-5.2%	-16.0%
Durable goods	511	462	475	2.8%	-7.0%
Nondurable goods	315	270	219	-18.9%	-30.5%
Trade, transportation, and utilities	1,903	1,837	1,627	-11.4%	-14.5%
Wholesale trade	338	304	310	2.0%	-8.3%
Retail trade	1,008	901	829	-8.0%	-17.8%
Transportation, warehousing, and utilities	557	633	488	-22.9%	-12.4%
Information	255	138	147	6.5%	-42.4%
Financial activities	501	451	476	5.5%	-5.0%
Finance and insurance	354	337	350	3.9%	-1.1%
Real estate and rental and leasing	147	114	127	11.4%	-13.6%
Professional and business services	2,255	2,101	1,823	-13.2%	-19.2%
Education and health services	2,171	2,012	1,862	-7.5%	-14.2%
Educational services	189	178	178	0.0%	-5.8%
Health care and social assistance	1,982	1,834	1,684	-8.2%	-15.0%
Leisure and hospitality	1,743	1,588	1,501	-5.5%	-13.9%
Arts, entertainment, and recreation	200	188	226	20.2%	13.0%
Accommodation and food services	1,543	1,400	1,275	-8.9%	-17.4%
Government	1,084	1,027	995	-3.1%	-8.2%
Federal	167	169	138	-18.3%	-17.4%
State and local	917	858	857	-0.1%	-6.5%

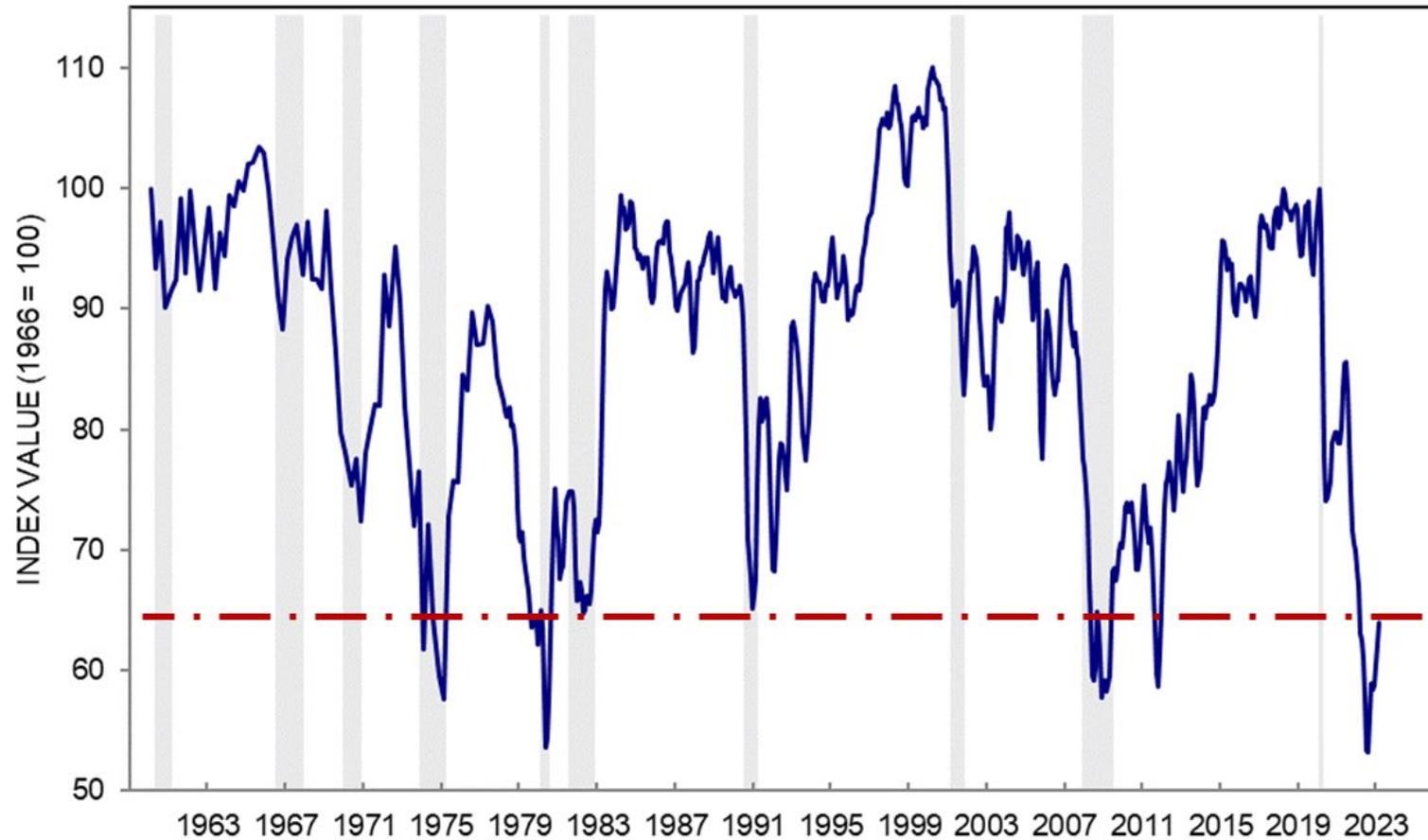
But construction snapped back in February.



But: We Are Depressed and Worried About the Future.

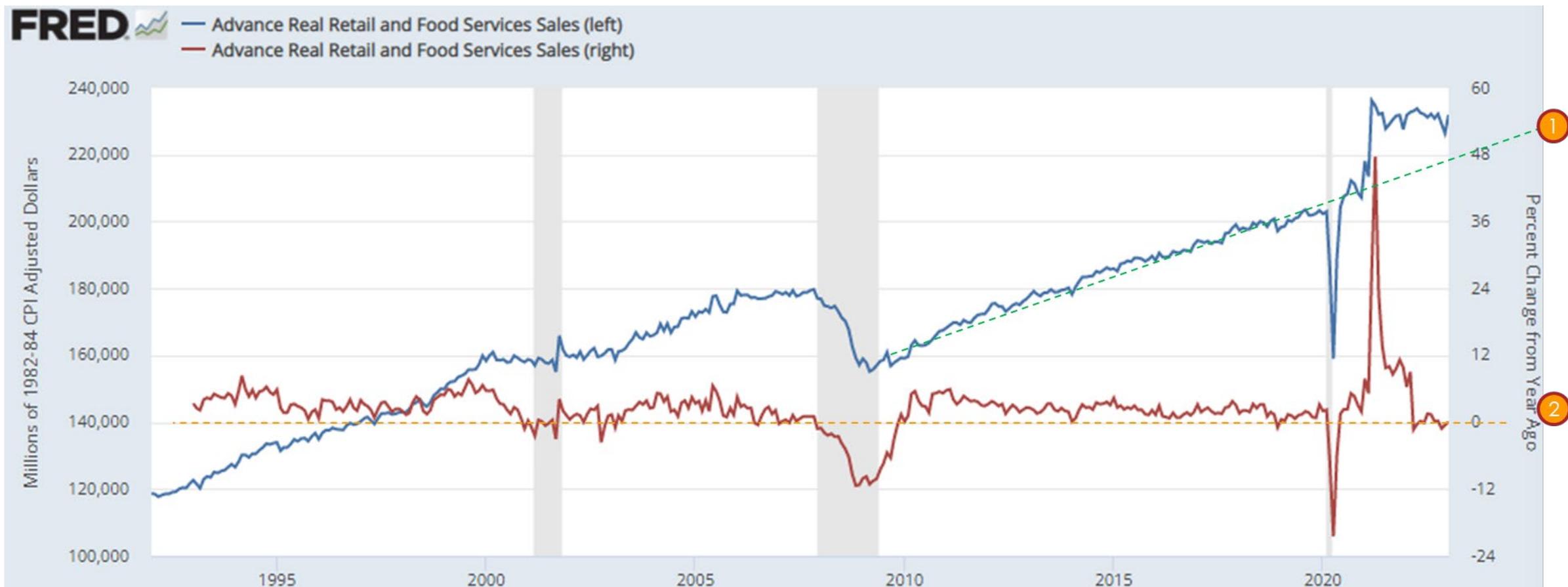


THE INDEX OF CONSUMER SENTIMENT



Source: University of Michigan

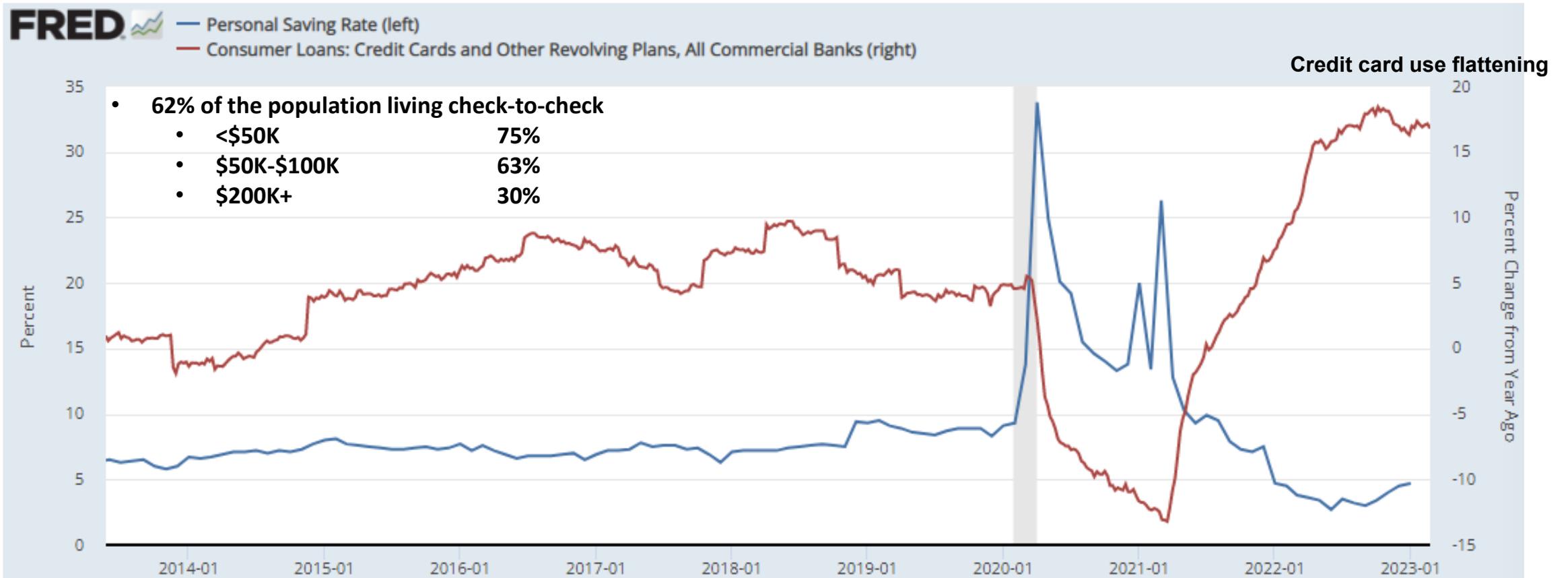
Backdrop: When Depressed, the Depressed Go Shopping!



Savings Rate Still Low, Now Consumers Working on Paying Down Debt



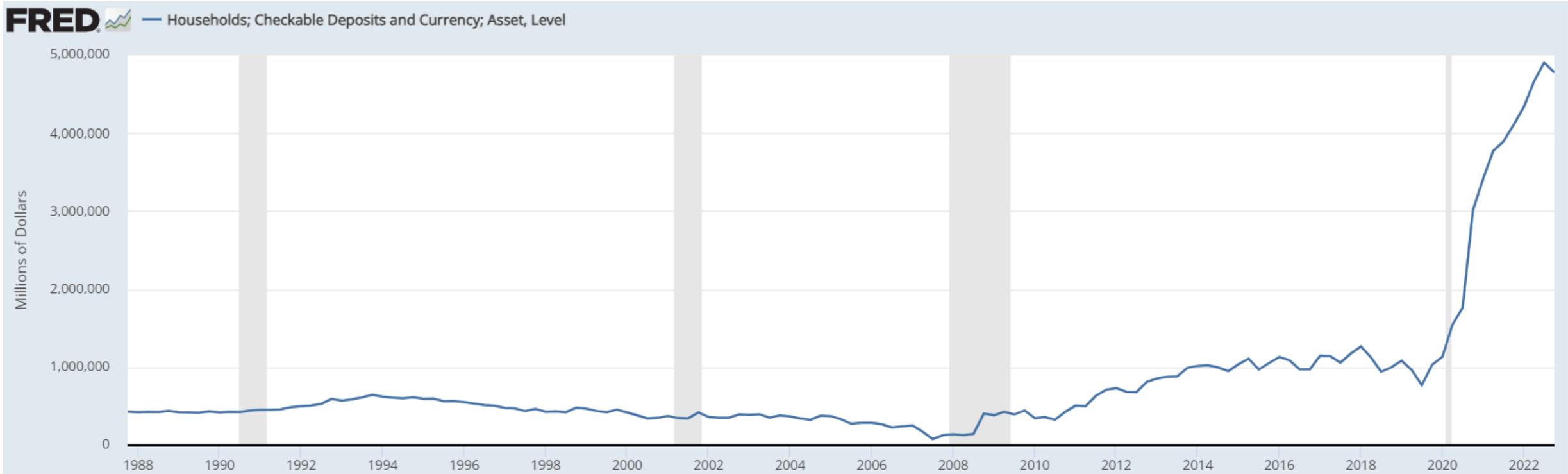
- Borrowing has actually improved a bit through January, consumers did work on paying down their debt in the month – but spending remained stable
- Credit card interest rates have hit new all-time highs in November of 19.07%.
- Consumers were becoming a bit more optimistic about their ability to pay down their debt in 2023, but spending is weaker as a result.



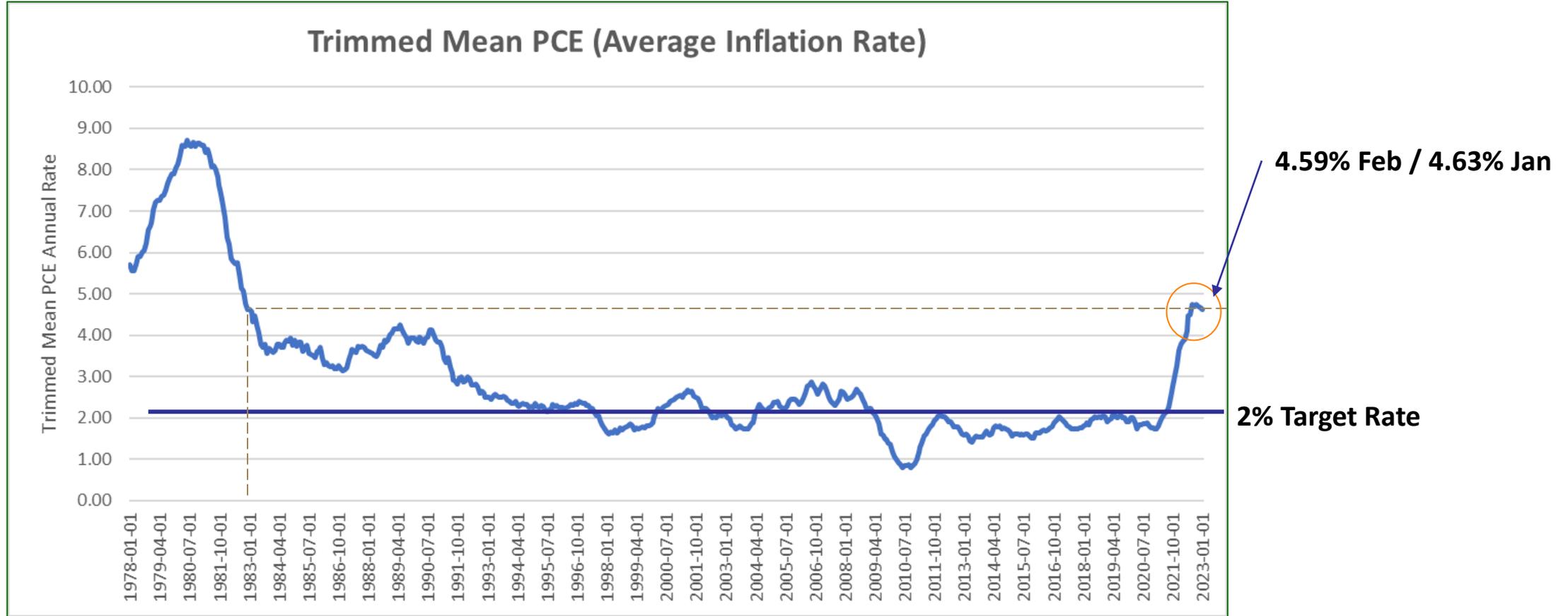
But 40% of Households are Sitting on Record Deposit Levels - Still



- Government stimulus activity and perhaps the impact of the pandemic is clear – but this savings is still high in the 40% of households that are not living check-to-check.
- **Some private data from the “Big 4” suggests that this level is lower than the Fed is showing it**

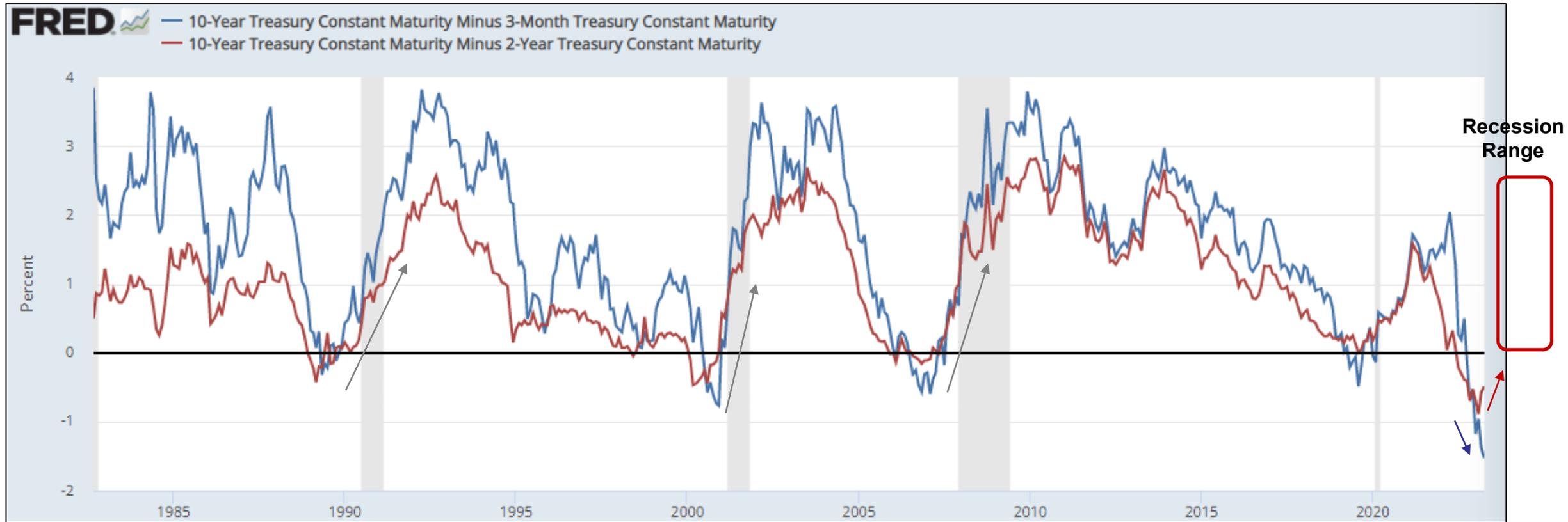


That's Why the Fed is Still Fighting...it Can't Allow 150M Households to Fail.

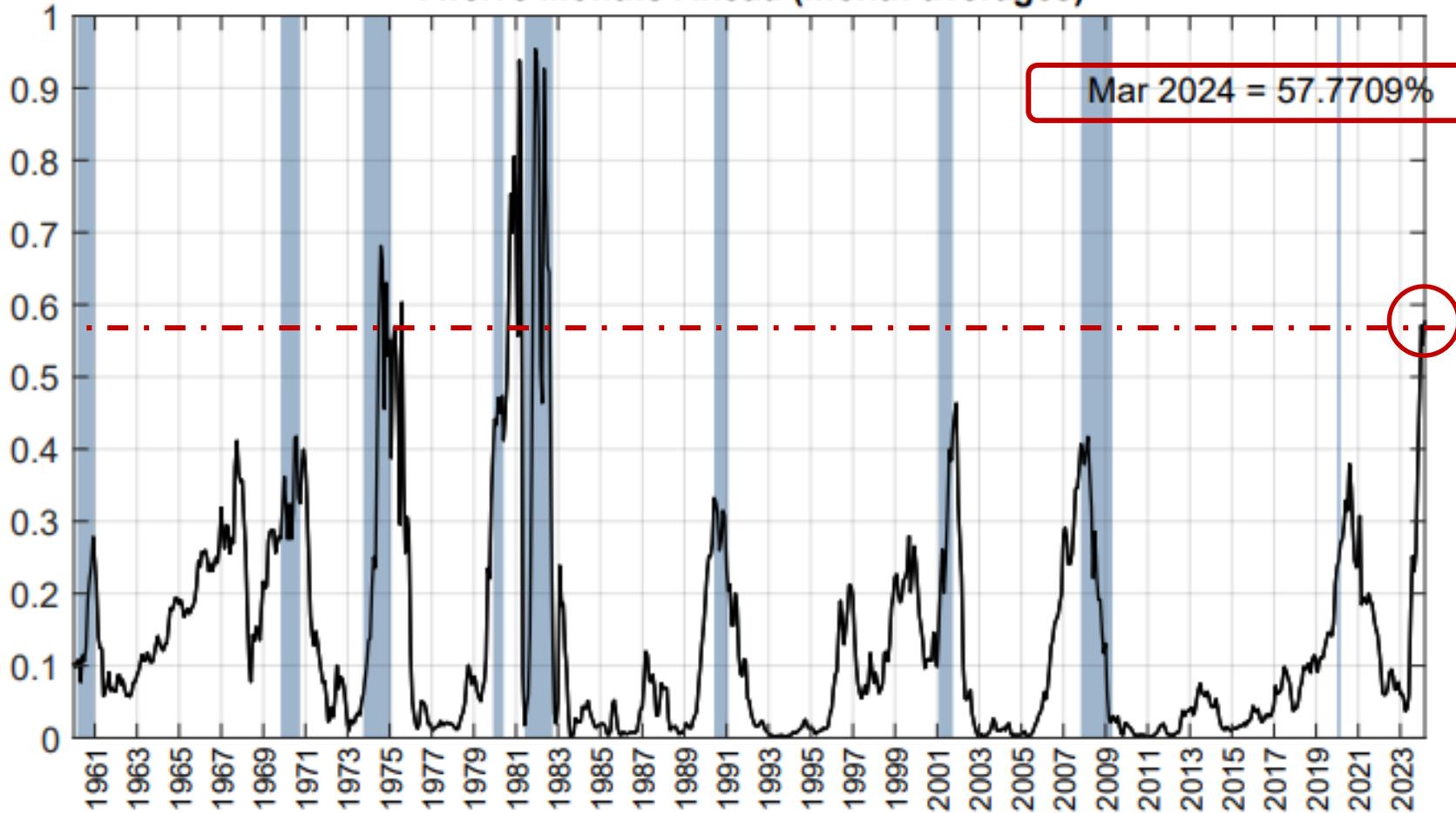


Note: The Trimmed Mean Personal Consumption Expenditures (TMPCE) averages more than 3,000 inflationary measures, stripping off the extreme highs and lows to give us a more accurate view of street level inflation.

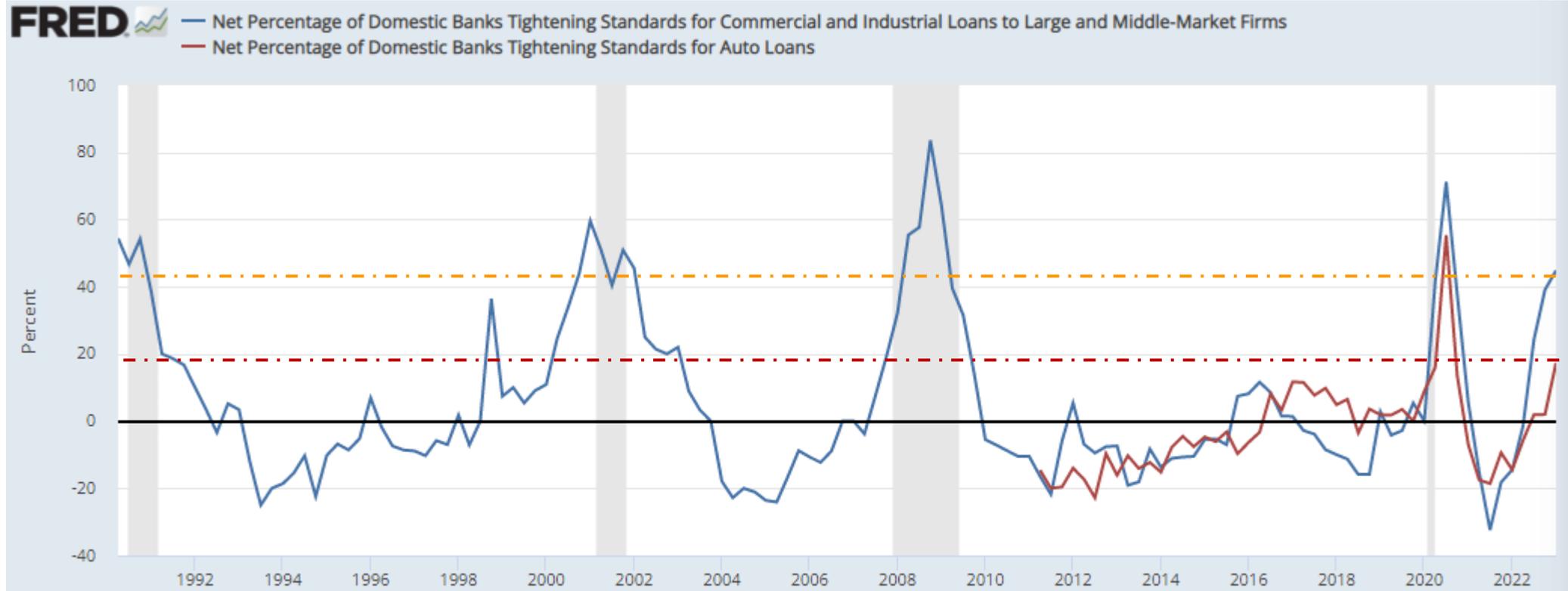
Recession Fear is Still a Factor...



Probability of US Recession Predicted by Treasury Spread* Twelve Months Ahead (month averages)



The Fear...Credit Tightening (as you know)



The Biggest Factor in Product Recession Risk: Inventory Levels.



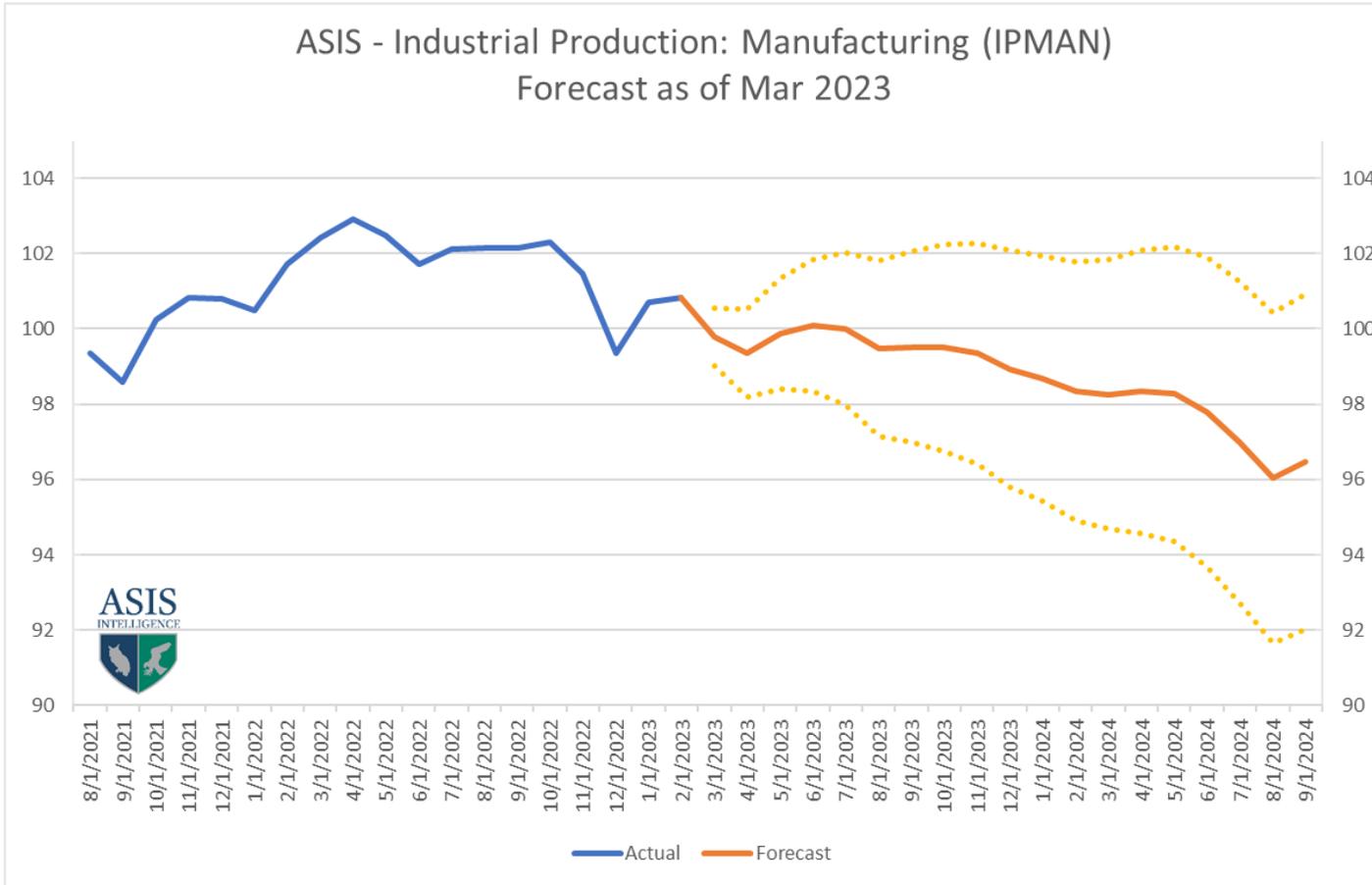
- January is the latest data available.
- 65.1% of the marketplace remains **overstocked through the end of December.**
- **18.7% were reporting conditions that were understocked on a historical basis.**
- **16.3% are effectively “balanced”.**
- Said another way, approximately 29% of the market is likely in a continuous reorder cycle, but the majority of the market is likely still conservatively ordering for the rest of 2023. Especially with the cost of capital rising for carrying additional inventory.
- Some supply chain pressures in China could reverse this thinking for sourcing managers.

Inventory to Sales Ratio (ISR) Analysis					
	Sector	January Sales (Millions)	Jan 2020 ISR	Jan 2023 ISR	ISR Percent Above/Below 2020 Levels
	Total Business		1.43	1.34	-6.3%
1	Automotive		1.95	0.58	-70.2%
2	Retail		1.43	1.23	-14.0%
3	Merchant Wholesalers		1.33	1.34	0.8%
4	Manufacturing		1.53	1.48	-3.3%
1	Apparel Stores	26,906	2.31	2.11	-8.7%
2	Department Stores (ie. Nordstrom's)	12,056	2.01	1.86	-7.5%
3	Machinery Wholesalers (ie. John Deere, Vermeer)	54,481	2.84	2.64	-7.0%
4	Food and Beverage Stores	80,618	0.81	0.78	-3.7%
5	Chemical Wholesalers	13,624	1.22	1.18	-3.3%
6	Drugs Wholesalers	81,330	1.11	1.08	-2.7%
7	Paper Wholesalers (ie. National Paper)	8,945	1.10	1.09	-0.9%
8	General Merchandise (ie. Walmart)	73,392	1.34	1.38	3.0%
9	Furniture, Appliance Stores (i.e NFM)	19,553	1.51	1.57	4.0%
10	Durable Goods Wholesalers	319,856	1.71	1.79	4.7%
11	Computer Wholesale Distributors	24,744	0.79	0.83	5.1%
12	Grocery Wholesalers	74,138	0.71	0.76	7.0%
13	Commerical Equipment Wholesalers	49,325	1.16	1.27	9.5%
14	Building Material Stores (ie. Home Depot)	36,945	1.78	1.96	10.1%
15	Alcohol Wholesale Distributors	12,190	1.32	1.46	10.6%
16	Household Appliances/Electronics Wholesalers	68,245	1.16	1.29	11.2%
17	Lumber and Construction Material Wholesalers	20,124	1.57	1.76	12.1%
18	Furniture Wholesalers	10,659	1.63	2.00	22.7%
19	Hardware, Plumbing, Heating Wholesalers	18,742	2.12	2.66	25.5%

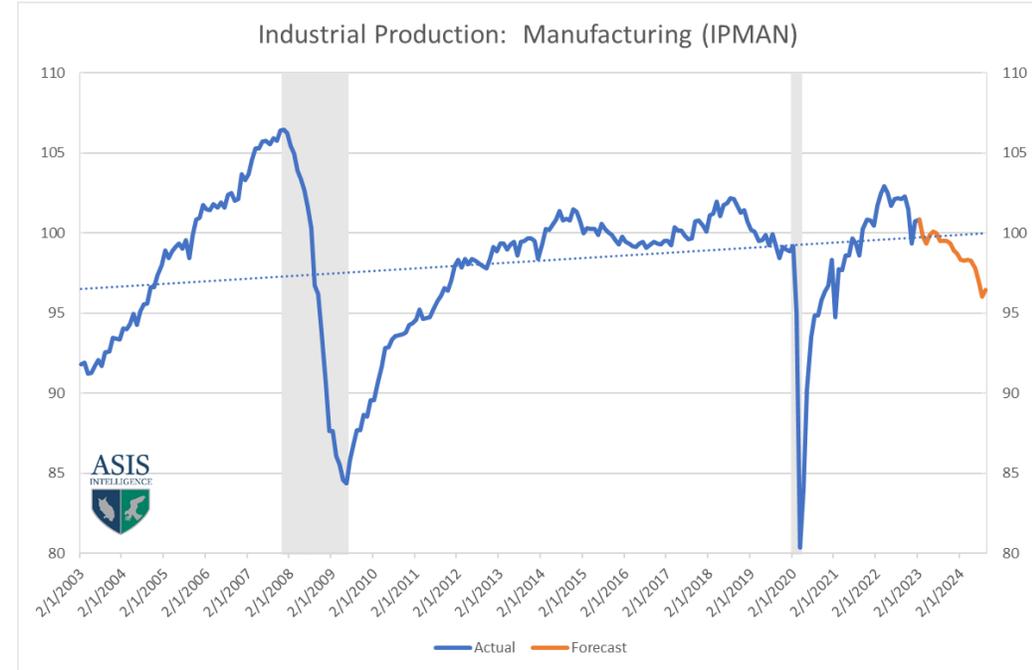
Forecast For Industrial Production in Manufacturing (High Correlation to Broader Economic Activity)



ASIS - Industrial Production: Manufacturing (IPMAN)
Forecast as of Mar 2023



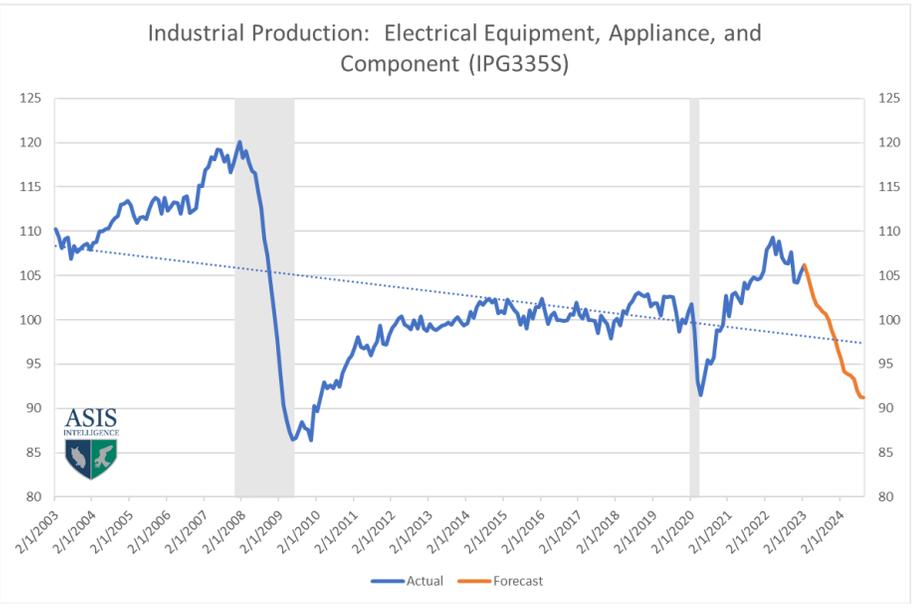
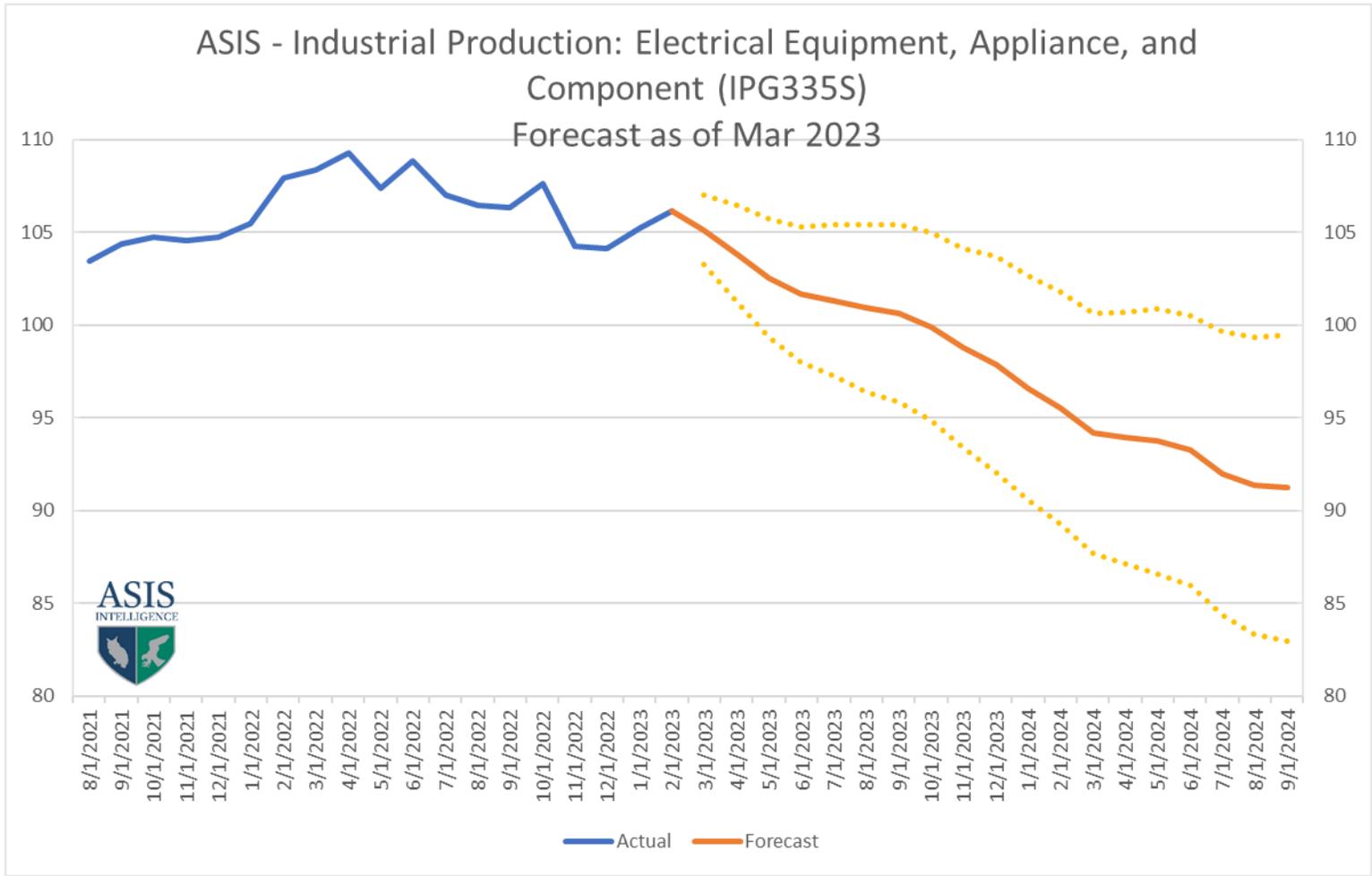
Industrial Production: Manufacturing (IPMAN)



Accuracy:

- 3 months: **99.65%**
- 6 months: **93.88%**

Forecast For Electrical Equipment and Appliances



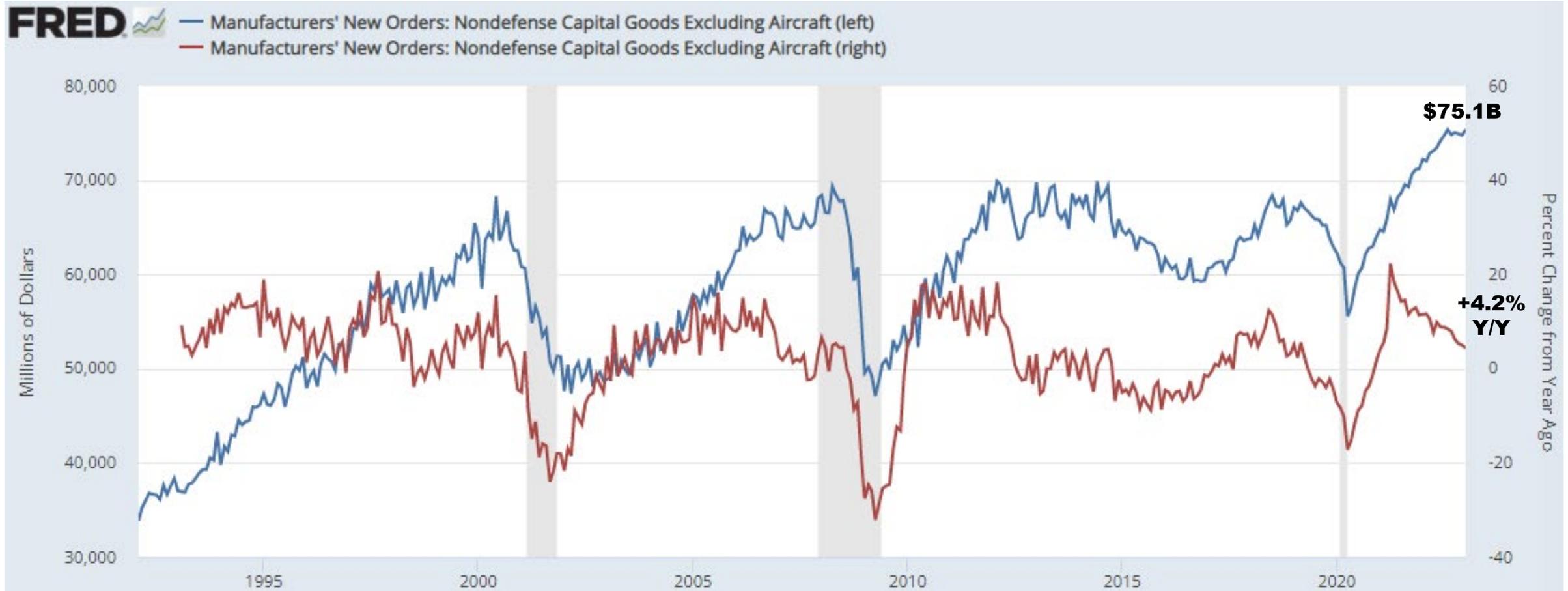
Accuracy:

- 3 months: **95.19%**
- 6 months: **87.29%**

Corporate Investment Remains Steady



- Small business surveys show investment has started to decline, but still not showing in this view of the national data yet



The New Normal for Office Occupancy...

- The back-to-office barometer is not changing materially in most markets.
- There was a notable drop in late March/early April, but it was likely seasonal
- Any dramatic changes to the percentages of people going back to the office would change commuter volumes and increase fuel consumption in the process.



Construction Spending Improved in February



- Nonresidential construction spending still growing 16.8% Y/Y vs. residential which was down 5.5%
 - **Single family** **-21.4%**
 - **Multi-family** **+22.2%**
- Manufacturing construction activity up 53.5% Y/Y on \$140B in annualized spending. This is continued evidence of the re-shoring trend taking place.
- Infrastructure spending beginning to build some slight momentum.
- Lodging up 34.3%
- Data Center and Mission Critical construction should be booming, but it is buried in the commercial and communication sectors – tough to see the strong growth rate
- Also waiting on health care expansion to start

Type of Construction	Feb 2023 ^p	Jan 2023 ^r	Dec 2022 ^r	Nov 2022	Oct 2022	Feb 2022	Percent change Feb 2023 from -	
							Jan 2023	Feb 2022
Total Construction	1,844,105	1,845,407	1,838,507	1,840,294	1,808,343	1,753,123	-0.1	5.2
Residential	861,940	866,756	868,435	869,322	874,105	912,047	-0.6	-5.5
New single family	368,359	375,010	380,874	392,451	406,197	468,619	-1.8	-21.4
New multifamily	122,793	121,050	120,799	117,785	112,249	100,480	1.4	22.2
Nonresidential	982,165	978,650	970,071	970,972	934,238	841,077	0.4	16.8
Manufacturing	140,667	137,044	129,965	137,916	118,274	91,664	2.6	53.5
Lodging	22,272	22,240	22,043	21,774	21,845	16,582	0.1	34.3
Conservation	10,270	10,373	9,467	11,127	9,735	8,170	-1.0	25.7
Commercial	126,870	127,739	131,767	129,822	125,866	104,434	-0.7	21.5
Sewage and waste disposal	35,220	34,874	35,141	34,099	33,214	29,085	1.0	21.1
Highway and street	121,638	121,336	120,095	117,272	117,811	102,413	0.2	18.8
Water supply	22,791	23,073	24,184	24,109	25,288	19,444	-1.2	17.2
Office	96,709	96,401	95,946	95,292	89,874	84,608	0.3	14.3
Transportation	61,839	62,107	60,718	59,925	59,559	54,895	-0.4	12.6
Public safety	11,575	11,301	11,219	11,701	11,739	10,291	2.4	12.5
Health care	56,753	56,863	56,002	55,869	55,157	50,611	-0.2	12.1
Amusement and recreation	28,883	29,001	29,224	28,991	28,648	26,249	-0.4	10.0
Educational	105,361	106,324	105,286	105,978	103,429	98,546	-0.9	6.9
Religious	3,044	3,081	2,897	2,837	2,707	2,869	-1.2	6.1
Communication	25,001	25,018	24,996	24,818	24,966	23,826	-0.1	4.9
Power	113,273	111,874	111,122	109,443	106,127	117,391	1.3	-3.5

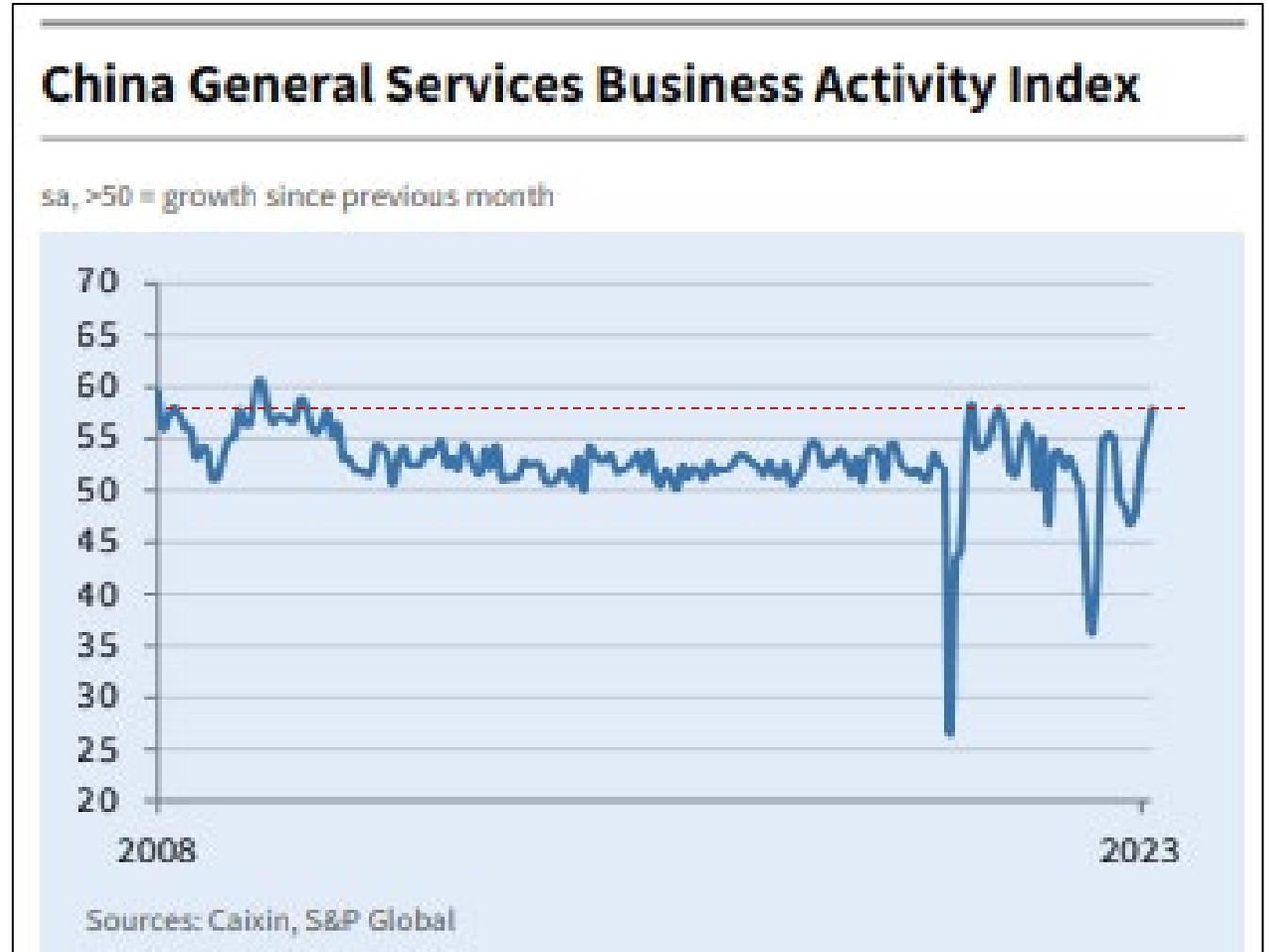
Global Highlights

- 18 countries had manufacturing sectors in contraction in February, up from 12 in January.
- Across the broader global PMI's, there is a hint of improving consumption in the services sector but was still sluggish on the manufacturing front.

Country	Current Month	Latest Month Manuf. PMI	Prior Month Manuf. PMI	M/M Change	Current Month	Latest Month Services PMI	Prior Month Services PMI	M/M Change
Global PMI	Mar	49.6	49.9	-0.3	Feb	52.6	50.0	2.6
Eurozone PMI	Mar	47.3	48.5	-1.2	Mar	55.0	52.7	2.3
US	Mar	49.2	47.3	1.9	Mar	52.6	50.6	2.0
China	Mar	50.0	51.6	-1.6	Mar	57.8	55.0	2.8
Canada	Mar	48.6	52.4	-3.8				
Mexico	Mar	51.0	51.0	0.0				
Japan	Mar	49.2	47.7	1.5	Mar	55.0	54.0	1.0
Germany	Mar	44.7	46.3	-1.6	Mar	53.7	50.9	2.8
South Korea	Mar	47.6	48.5	-0.9				
UK	Mar	47.9	49.3	-1.4	Mar	52.9	53.5	-0.6
France	Mar	47.3	47.7	-0.4	Mar	53.9	53.1	0.8
India	Mar	56.4	55.3	1.1	Mar	57.8	59.4	-1.6
Italy	Mar	51.1	52.0	-0.9	Mar	55.7	51.6	4.1
Taiwan	Mar	48.6	49.0	-0.4				
Brazil	Mar	47.0	49.2	-2.2	Mar	51.8	49.8	2.0
Spain	Mar	51.3	50.7	0.6	Mar	59.4	56.7	2.7
Russia	Mar	53.2	53.6	-0.4	Mar	58.1	53.1	5.0
Netherlands	Mar	46.4	48.7	-2.3				
Ireland	Mar	49.7	51.3	-1.6	Mar	55.7	58.2	-2.5
Greece	Mar	52.8	51.7	1.1				
Poland	Mar	48.3	48.5	-0.2				
ASEAN	Mar	51.0	51.5	-0.5				
Vietnam	Mar	47.7	51.2	-3.5				
Philippines	Mar	52.5	52.7	-0.2				
Australia	Mar	49.1	50.5	-1.4	Mar	48.6	50.7	-2.1
Switzerland	Mar	47.0	48.9	-1.9				
Hong Kong	Mar	53.3	53.9	-0.6				
Singapore	Mar	49.9	50.0	-0.1				

First Signs of More Rapid Chinese Reopening?

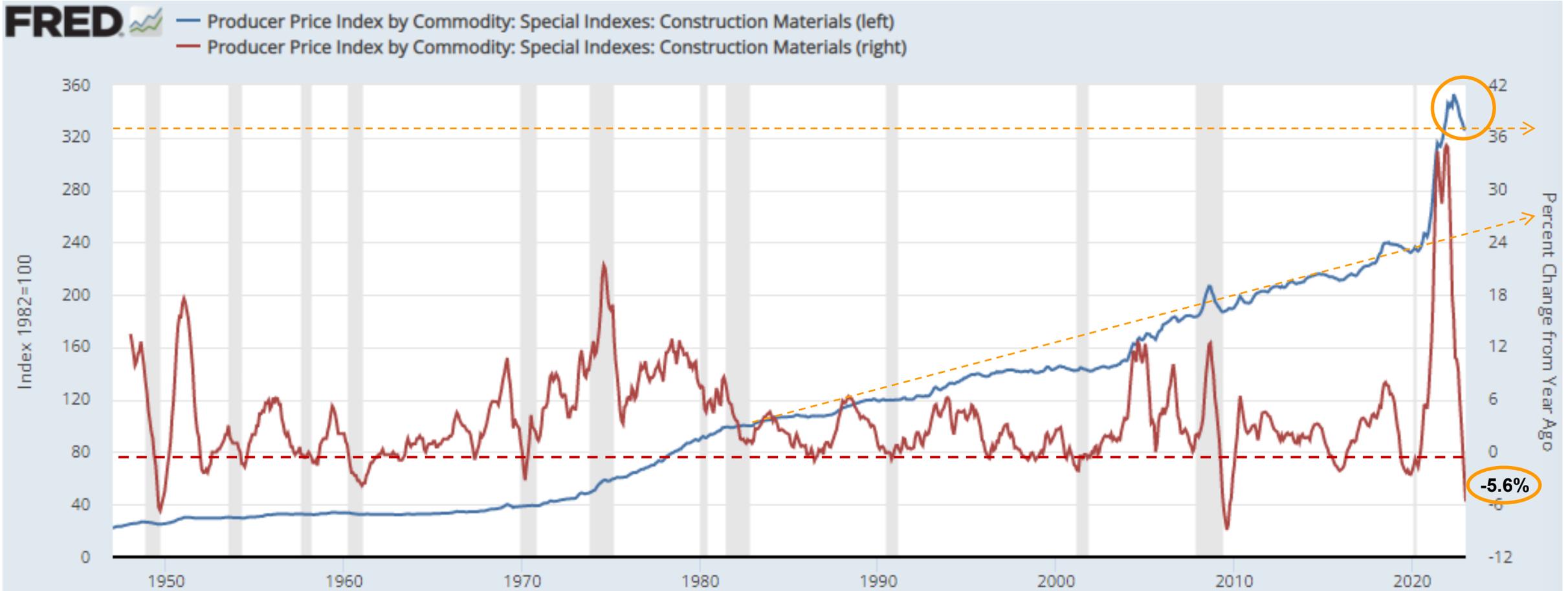
- Services PMI accelerated in March, and “export orders” (which also include retail in this instance) accelerated at the “fastest pace on record”.
- New orders across the board were among the fastest ever recorded, and much of that comes as China emerges after lifting Covid provisions and improves relations abroad.
- Again, this likely gives us an inflationary risk crosscurrent. Raw materials are still in short supply.



Construction Prices / Material Prices Are Still Historically High Despite Coming Off of the Post-Pandemic Peak.



- Producer Prices released for February (latest available) shows some continued slight softening in construction material prices
- Relative to the past decade, construction material prices at a macro level are still running well above the 43-year trend



Baltic Dry Index Shows Material is Moving Once Again



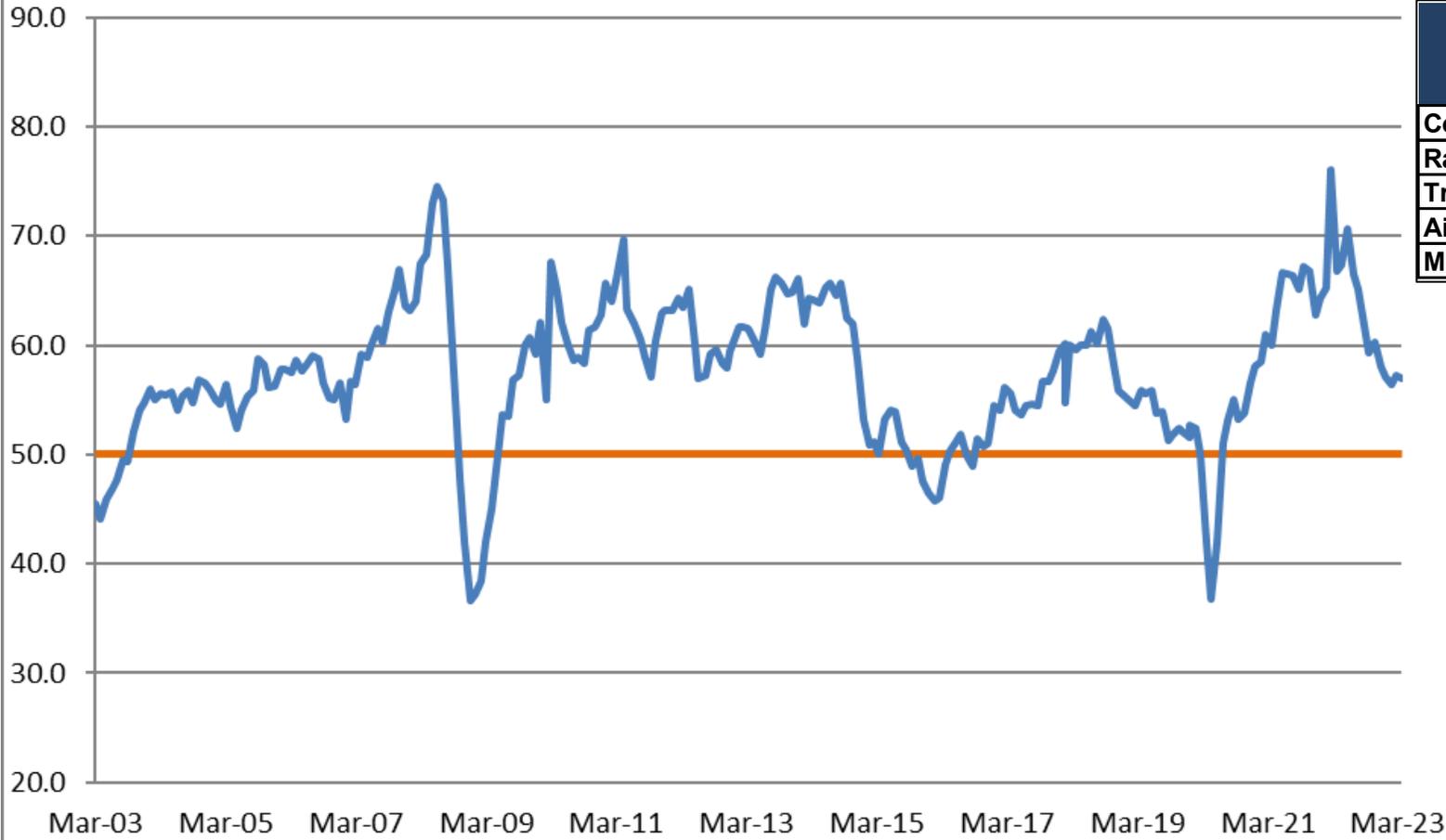
- **Up 21% in the past 30 days**
- **But still down 28% Y/Y**

- **One of the oldest indexes in the world.**
- **Is a leading indicator for global commodity movement and manufacturing.**

Armada Demand Index Showing a Pattern...



Composite Transportation Demand Index (TDI)



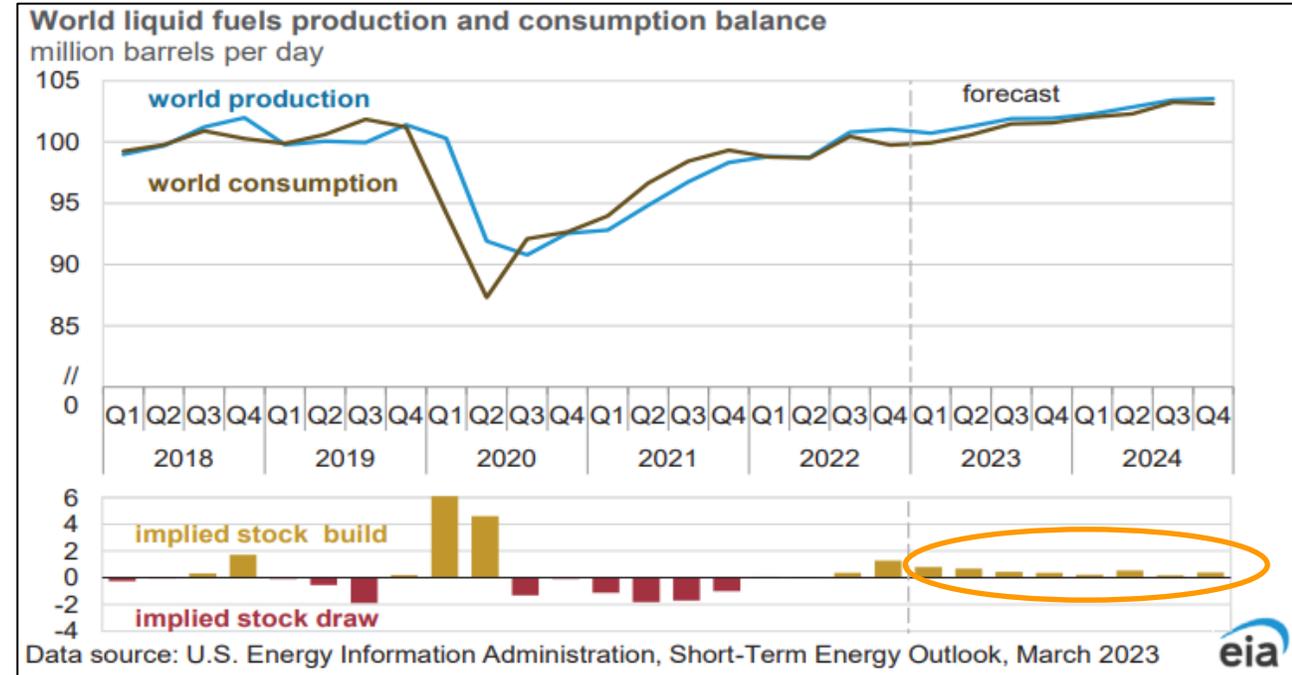
	23-Mar	23-Feb	22-Mar	Y/Y Change %	M/M Change %
Composite	57.0	57.2	66.7	-14.5%	-0.3%
Rail	55.0	55.2	62.5	-12.0%	-0.4%
Trucking	57.2	57.5	67.3	-15.0%	-0.5%
Air	61.2	60.8	71.3	-14.2%	0.7%
Maritime	59.1	58.7	68.8	-14.1%	0.7%

- All measures still over 50, but the “normalization” is obvious.
- March ushered in a bit of a flattening of the demand curve, and it remains stable relative to historical values.

EIA still predicting a net build in inventories based on a global recession.



- Now an implied net build through most of 2023 according to EIA
 - US production still expected to touch an all-time high this year of 13M Bpd
 - But, with commuter traffic cut off, consumption is still 20M Bpd currently
 - 7M Bpd gap must be imported
 - The US will start rebuilding the SPR in 2023 and 2024
- Concerns that global excess capacity is just 1.2% higher currently, when China and Europe are largely consuming less.
 - China has now lifted quotas on refiners and have told them to import as much as possible.
- Globally, analysts are showing a net deficit in inventories for 2023 and are less optimistic than the EIA. Even in the EIA forecast, inventories are tighter toward the back-half of the year than in the front end.



Crude forecast:	
• 2021	\$68.21
• 2022	\$94.91
• 2023	\$77.10
• 2024	\$71.57

Diesel forecast:	
• 2021	\$3.29
• 2022	\$4.97
• 2023	\$4.17
• 2024	\$3.73

Gasoline forecast:	
• 2021	\$3.02
• 2022	\$3.97
• 2023	\$3.49
• 2024	\$3.25

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OF ECONOMICS IS
TO DEMONSTRATE
TO MEN HOW LITTLE
THEY REALLY KNOW
ABOUT WHAT THEY
IMAGINE THEY
CAN DESIGN**

**-F.A. HAYEK
1899 - 1992**

