



# 2023 Economic Outlook: Losing Altitude

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January 25, 2023

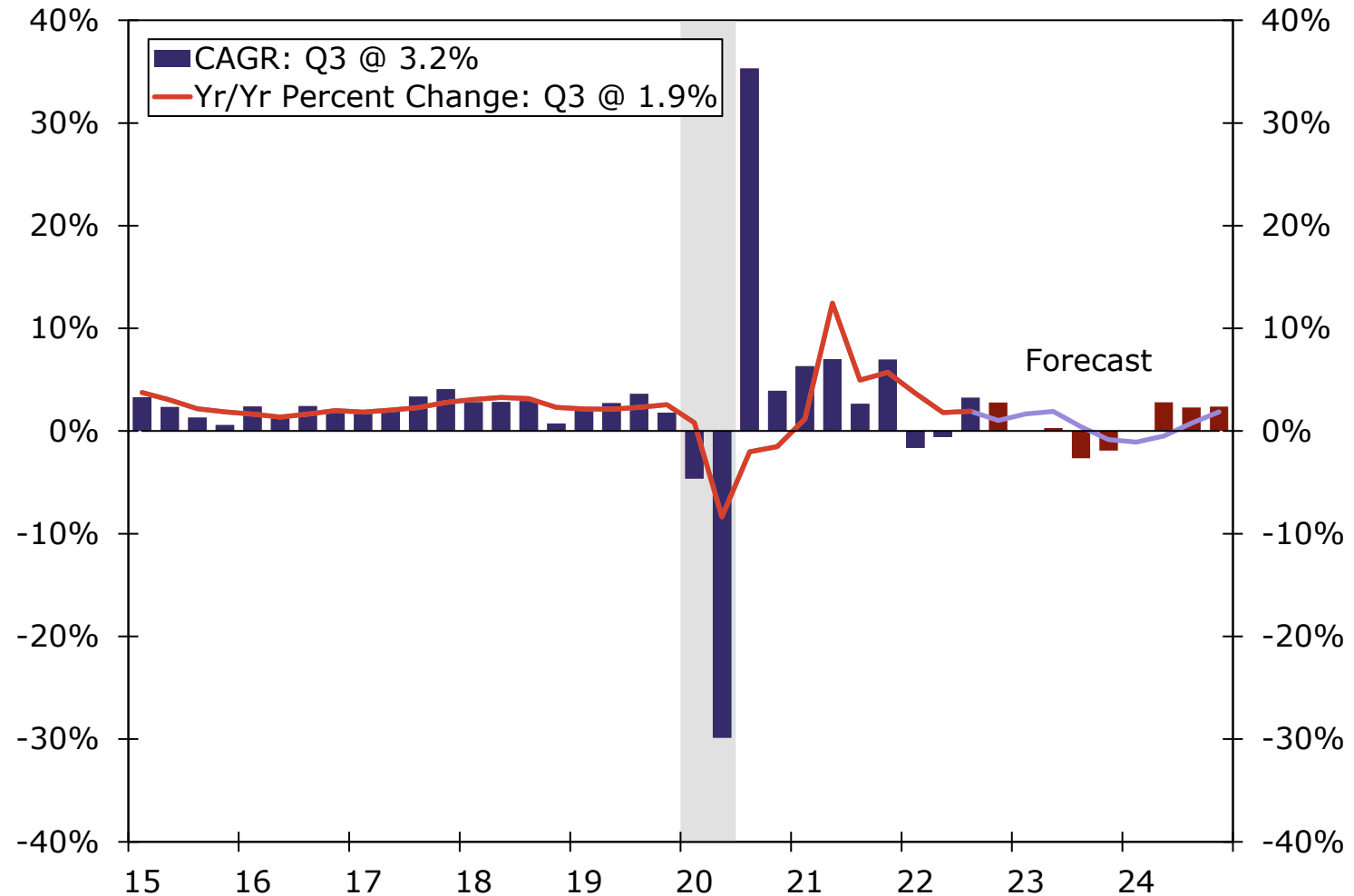
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We expect the U.S. economy to slip into a mild recession in the second half of the year

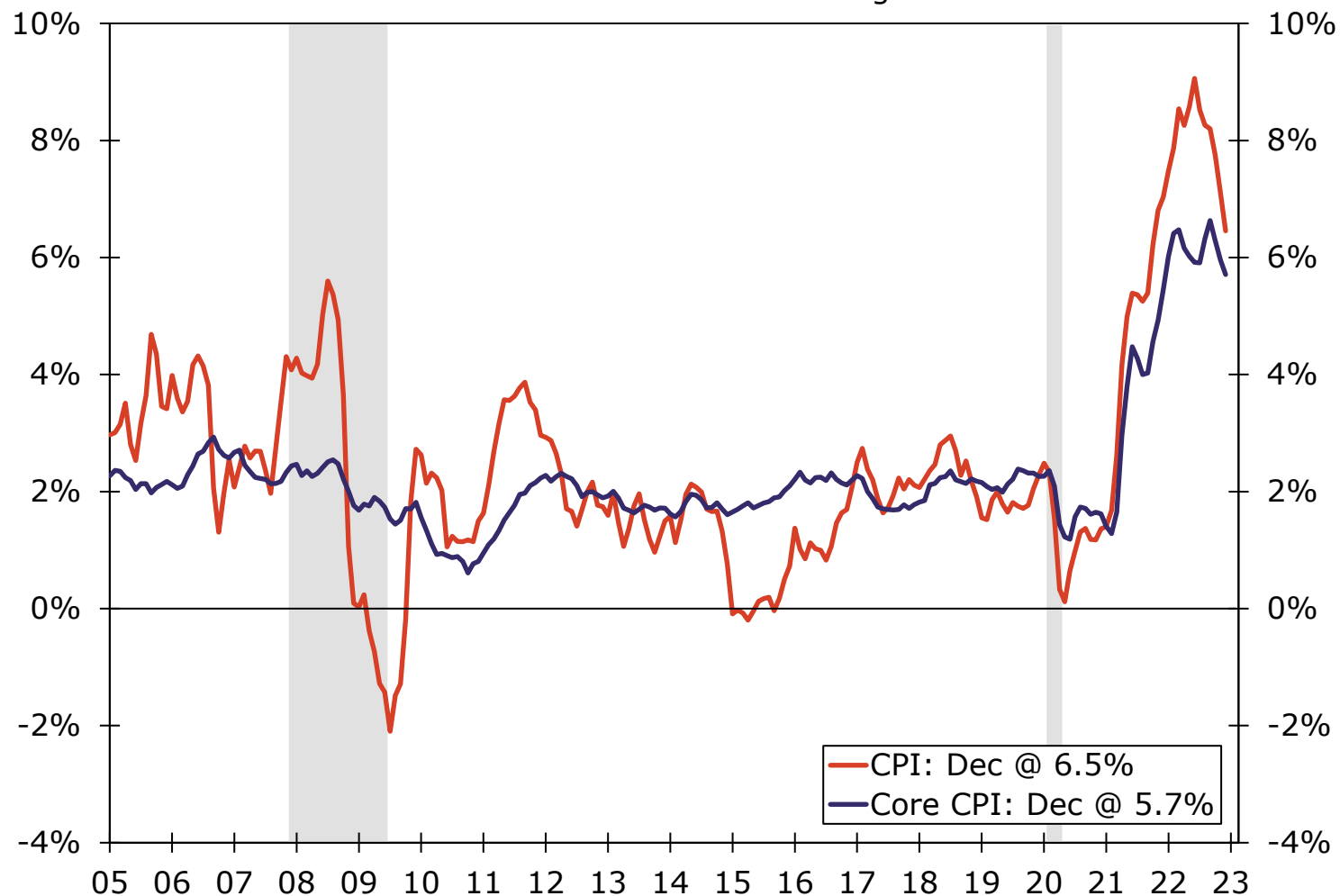
## U.S. Real GDP Growth



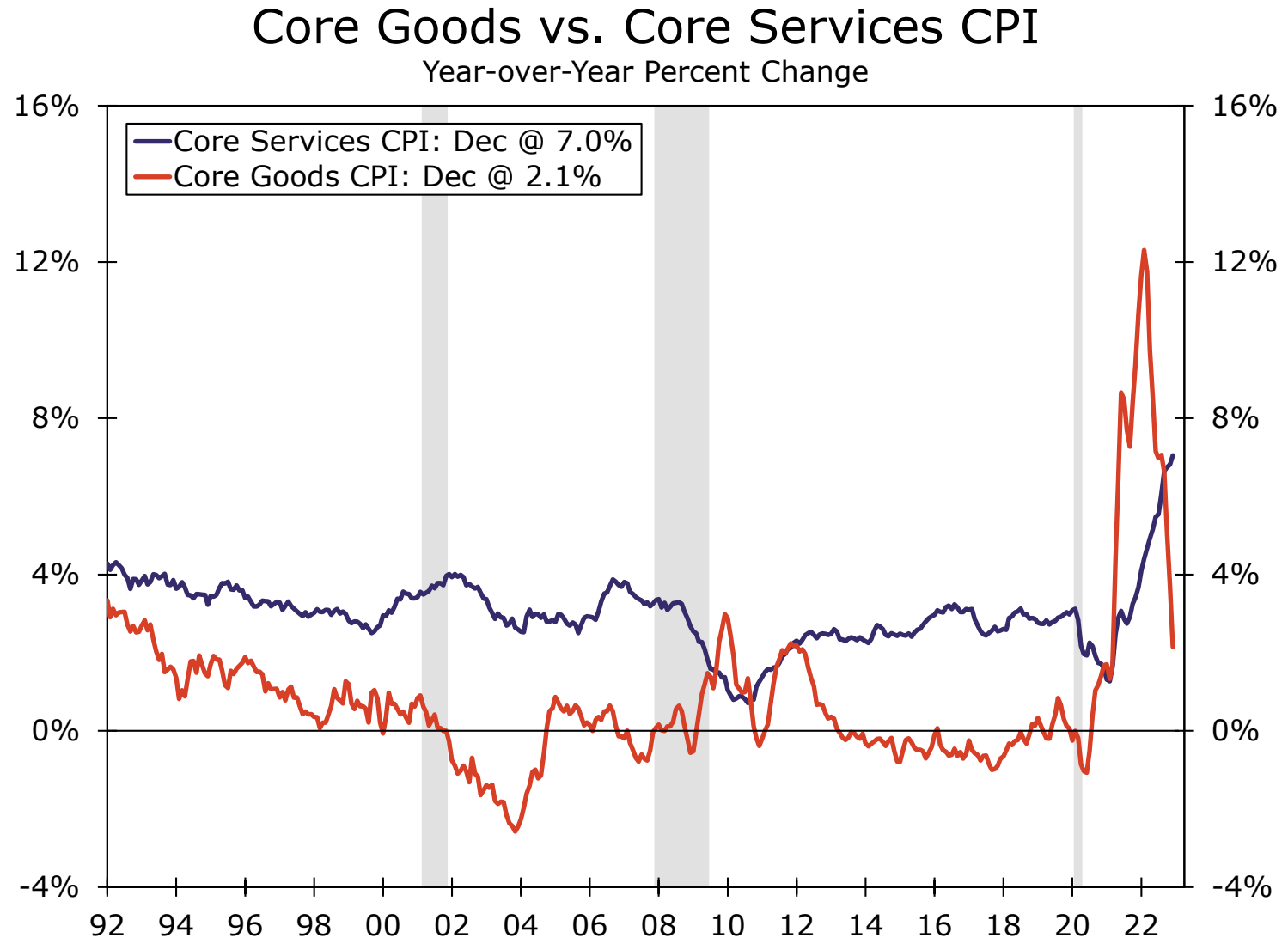
Inflation is slowing,  
but remains too  
high

## Headline CPI vs. Core CPI

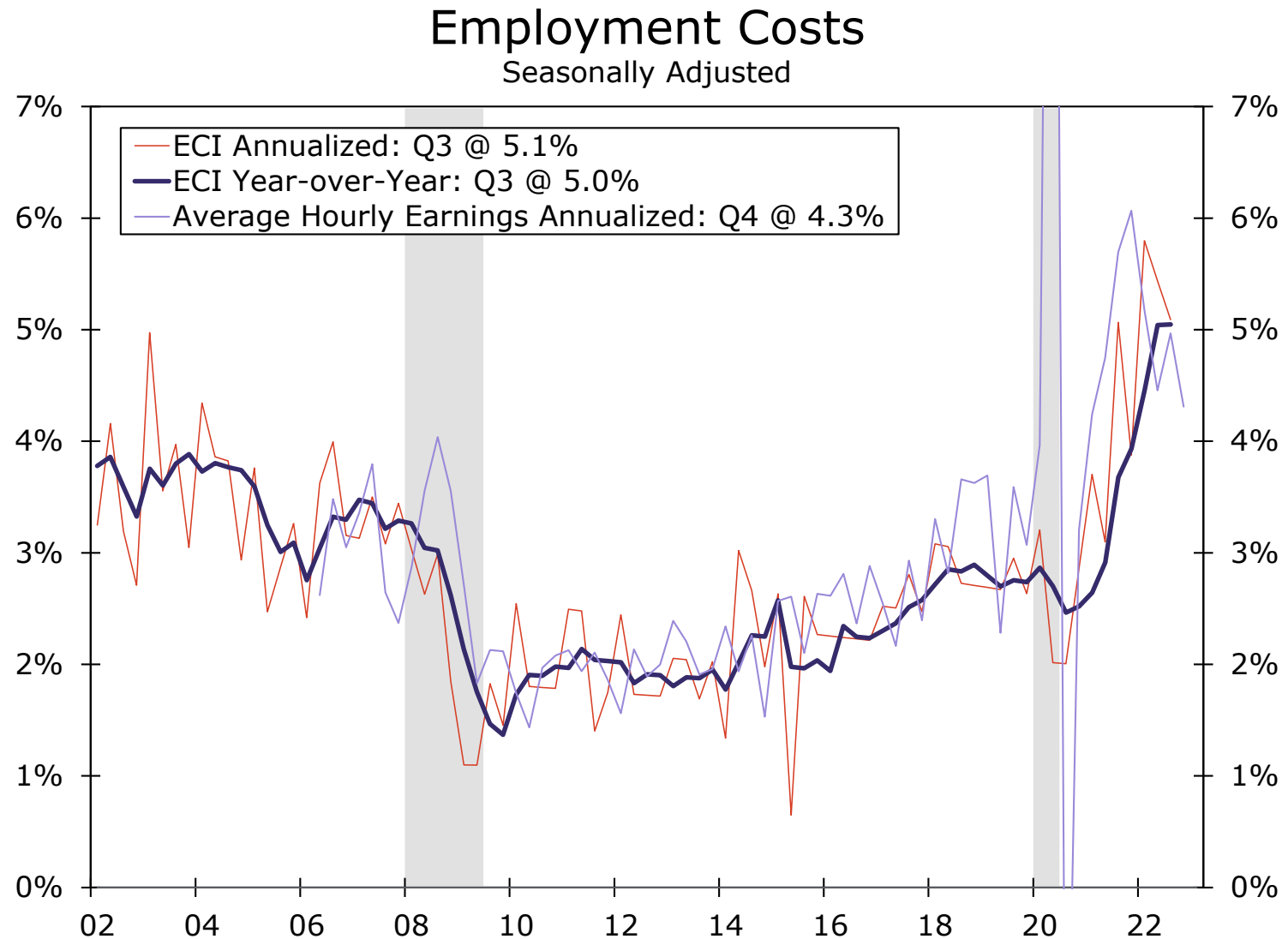
Year-over-Year Percent Change



Goods inflation is quickly retreating, but services inflation is likely to prove more stubborn



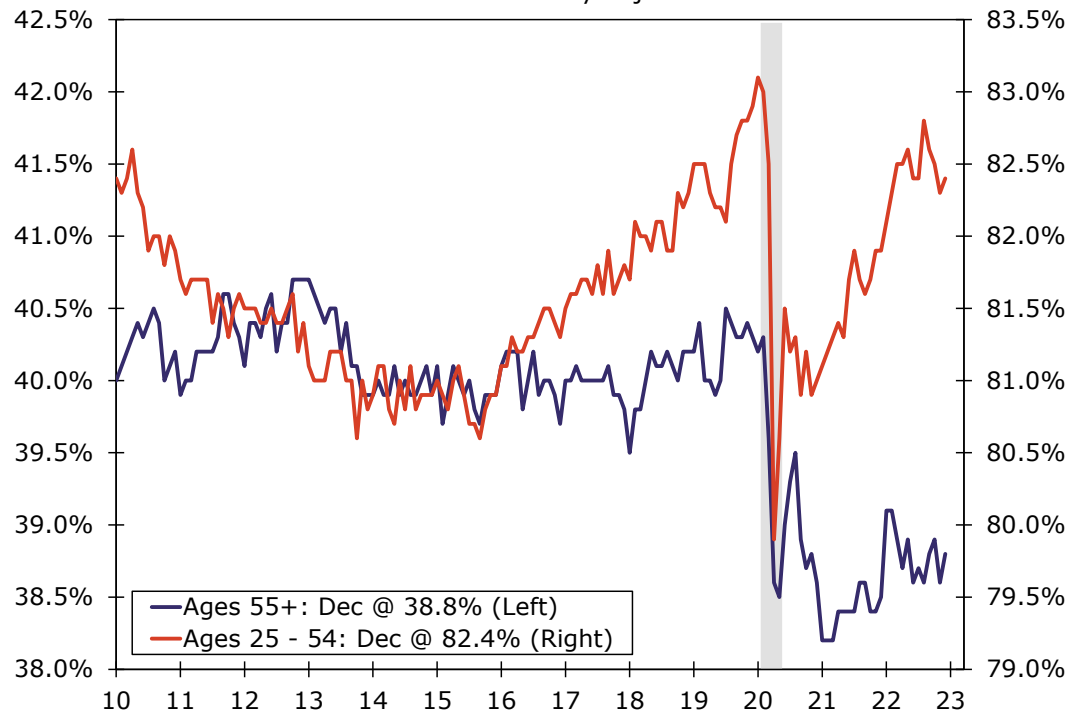
Labor costs are running well in excess of the Fed's 2% inflation goal



The overall recovery in labor supply remains incomplete and uneven.  
Demand for labor has begun to cool but the jobs market remains quite tight.

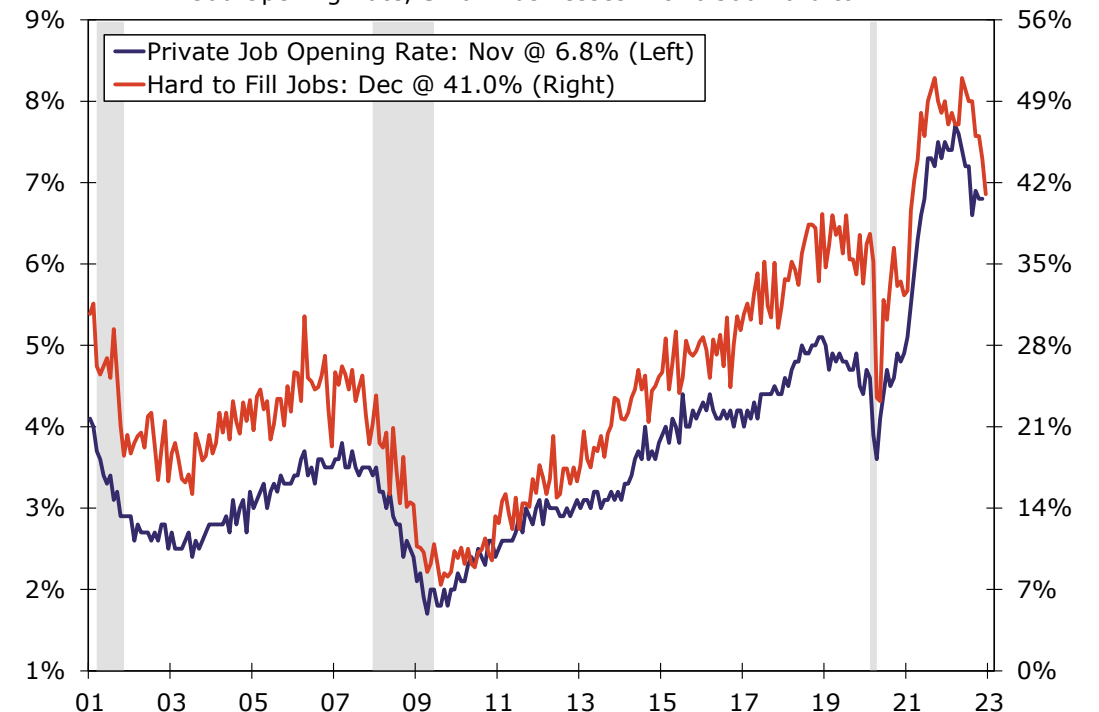
## U.S. Labor Force Participation

Seasonally Adjusted

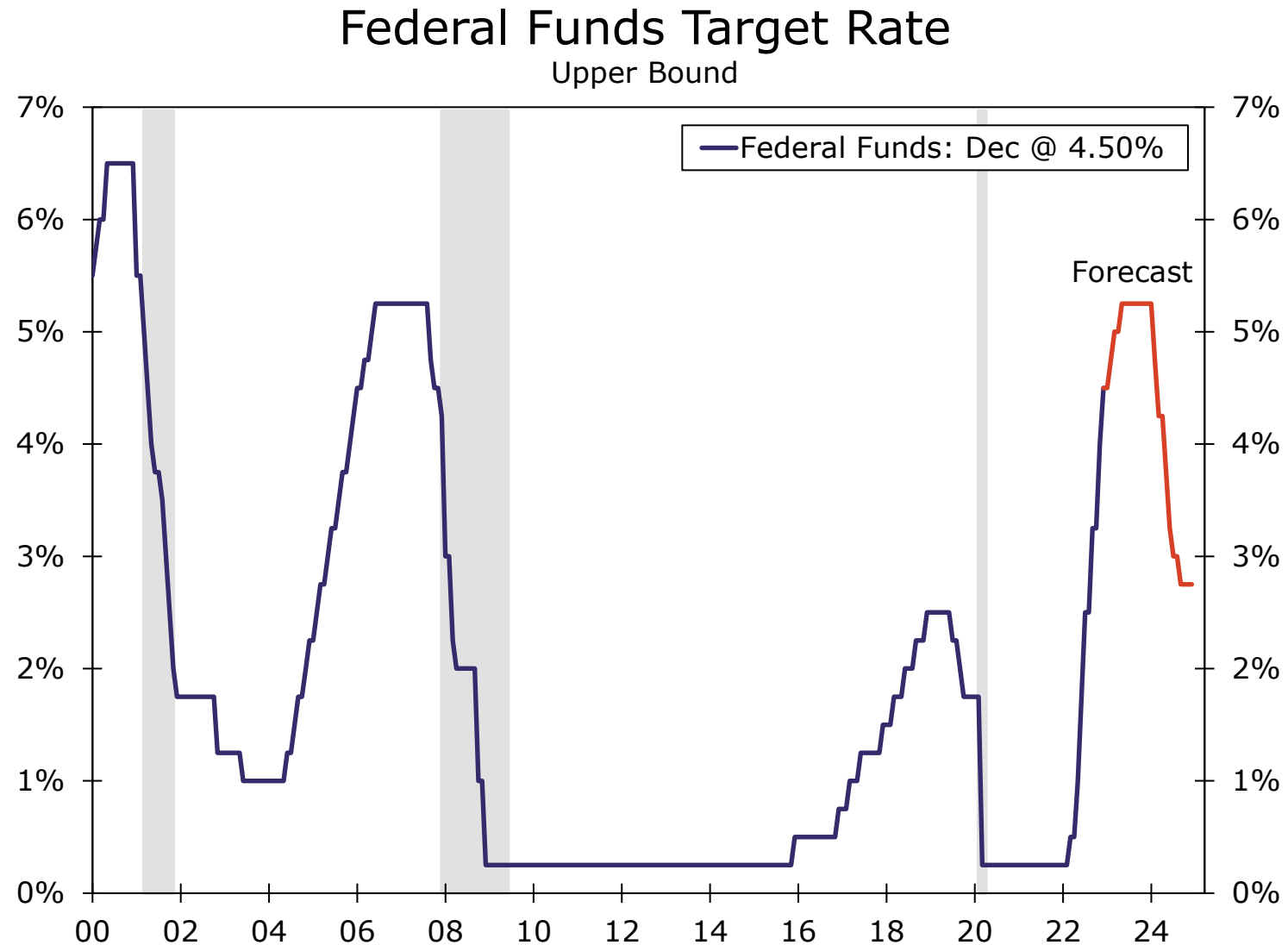


## Labor Demand

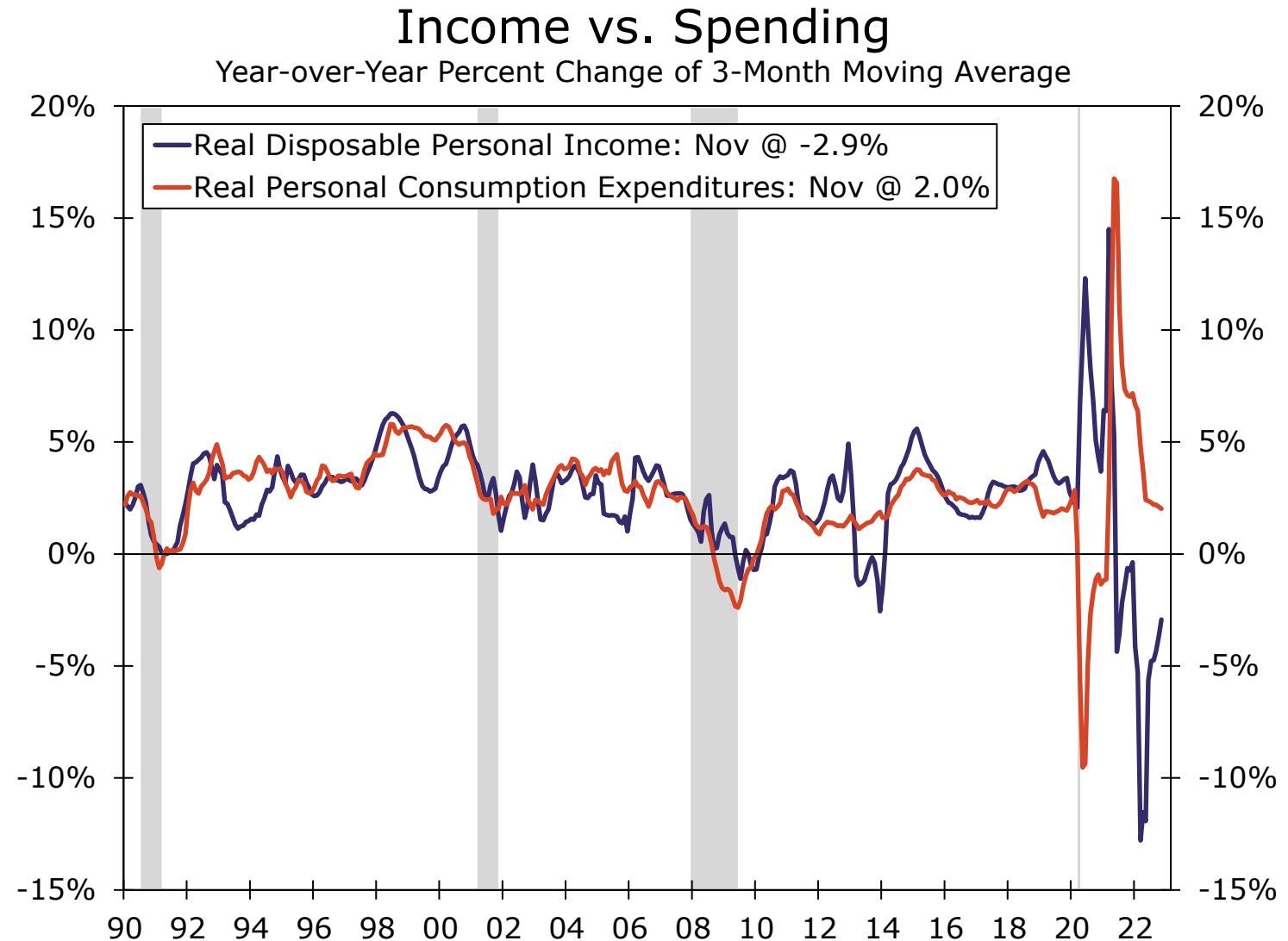
Job Opening Rate, Small Businesses with a Job Hard to Fill



The strength of the labor market and elevated inflation stand to keep the FOMC in tightening mode a bit longer

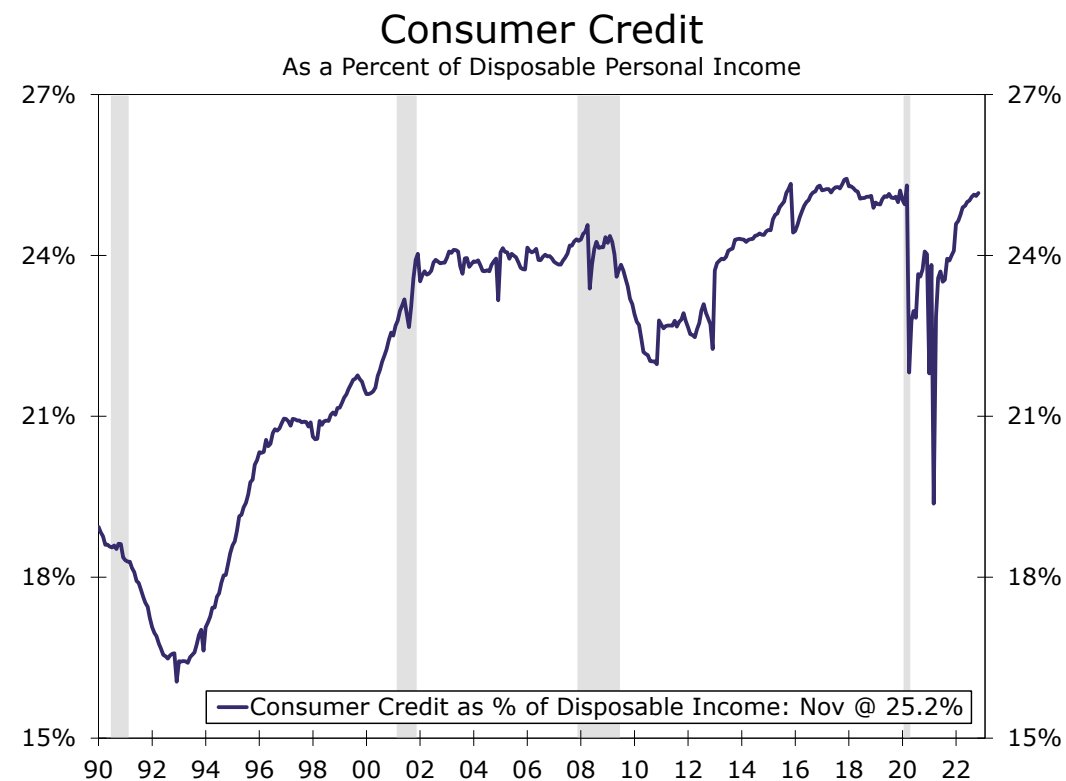
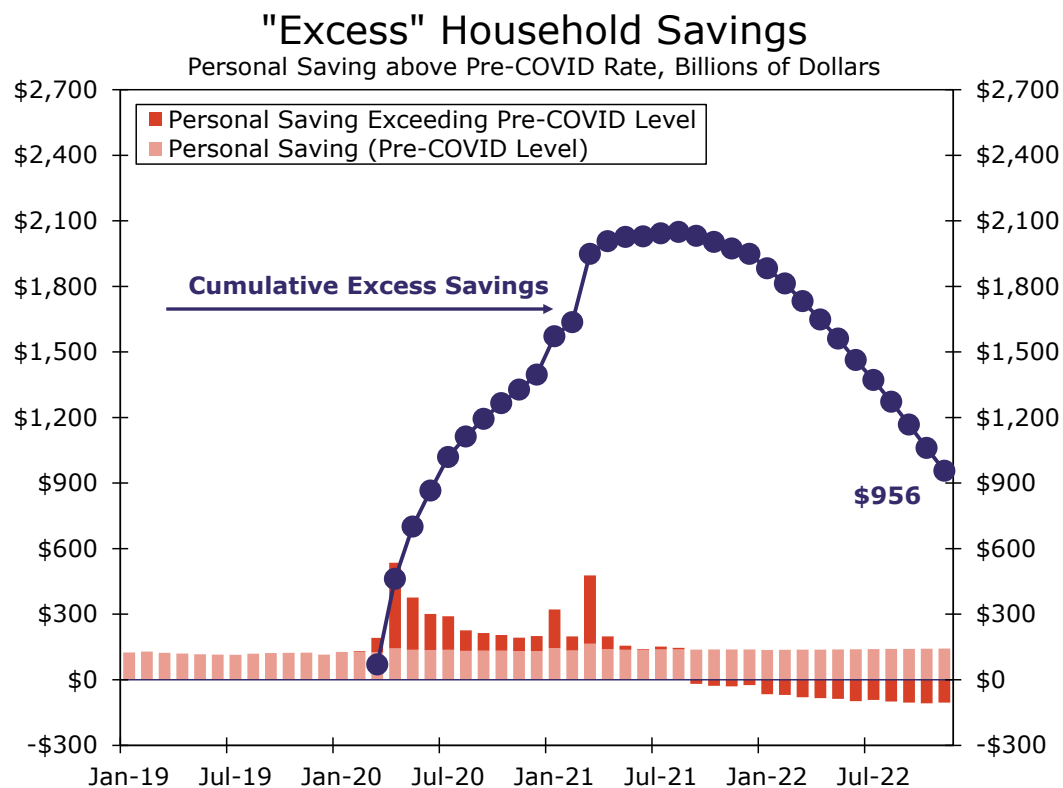


Spending and income have diverged since the pandemic, but will need to realign



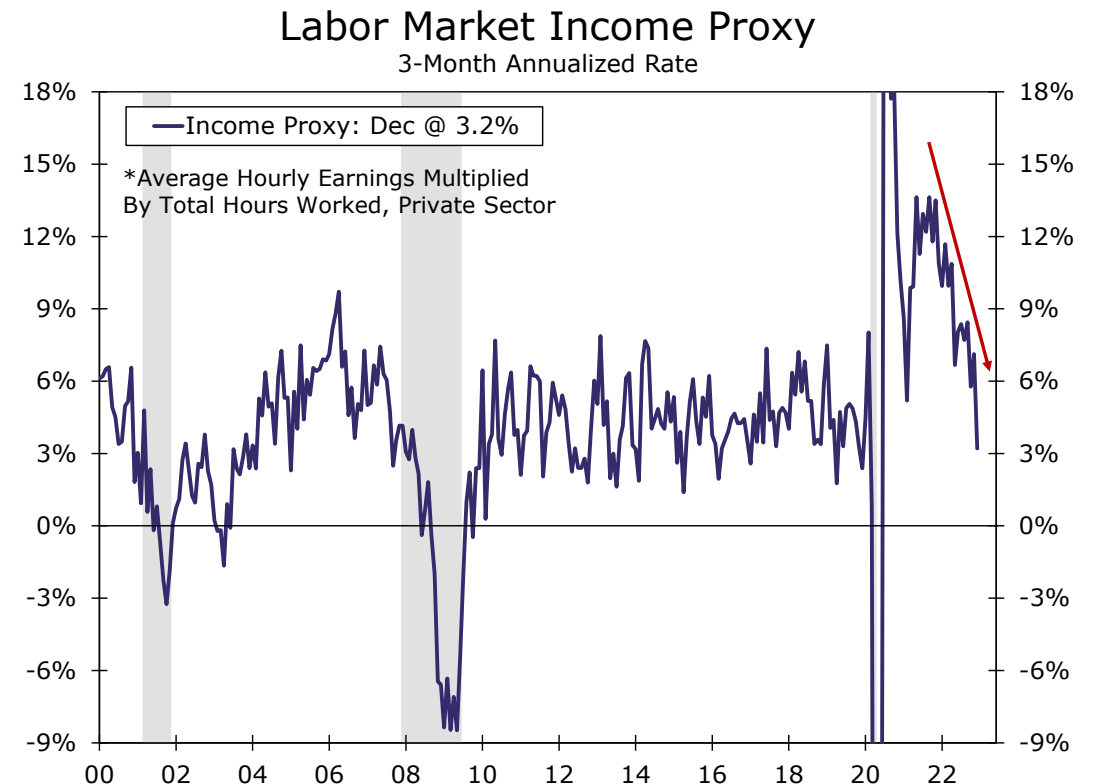
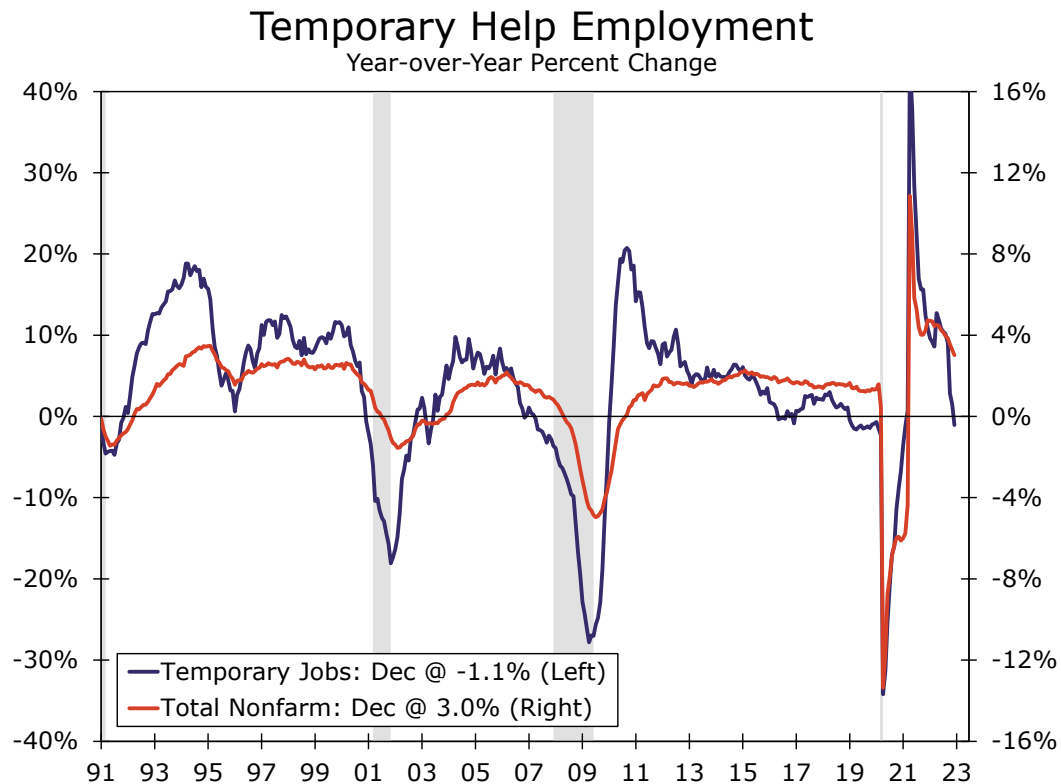


Household finances remain strong in aggregate, but are starting to deteriorate



Source: U.S. Department of Commerce, Federal Reserve Board and Wells Fargo Economics

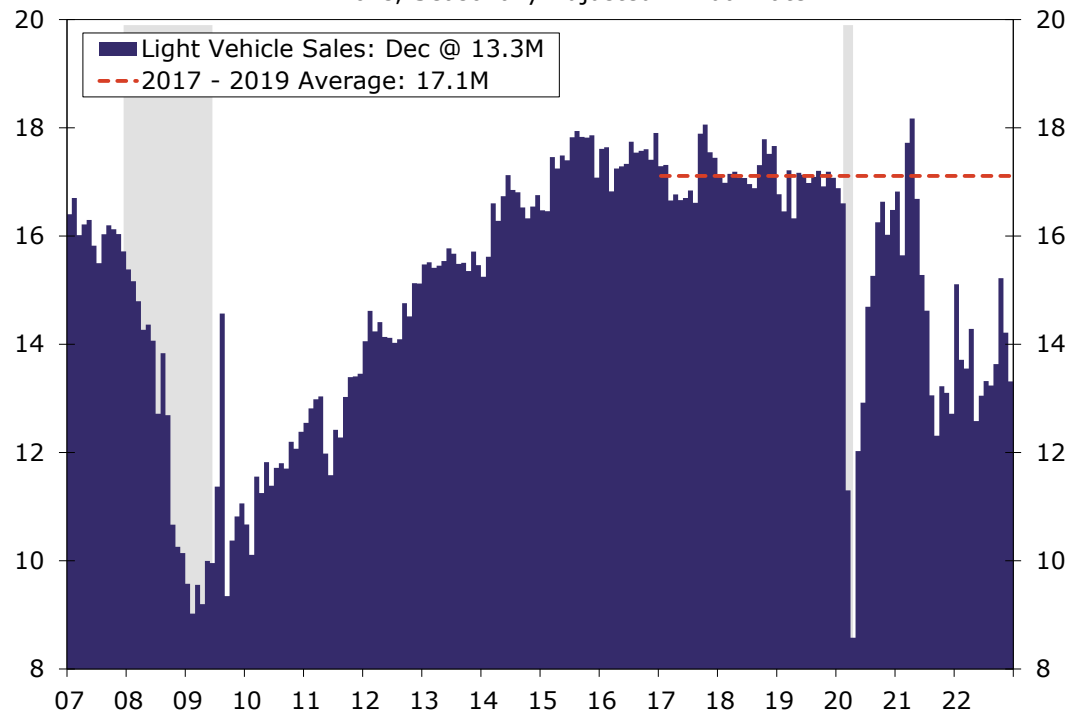
Hiring of temporary workers and a shorter average workweek suggest employers are using current workers less intensely. Along with slower employment growth, the pace of labor income is cooling.



The supply chain strains of the past two years leave more pent-up demand for autos than other goods

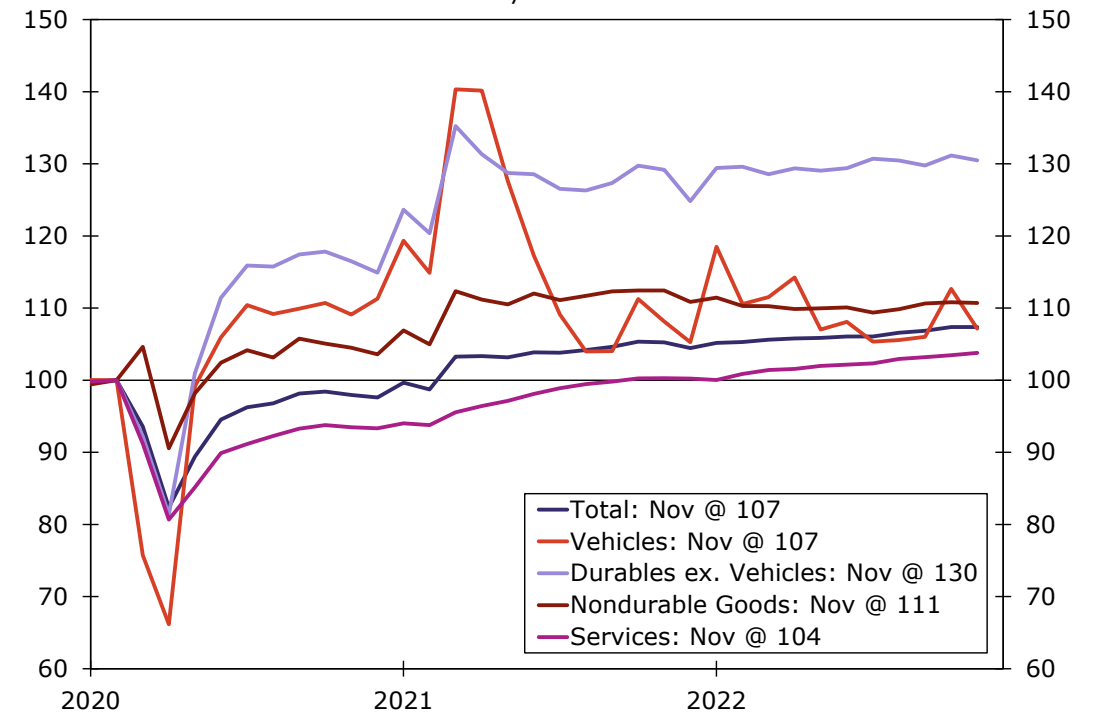
## Total U.S. Light Motor Vehicle Sales

In Millions, Seasonally Adjusted Annual Rate

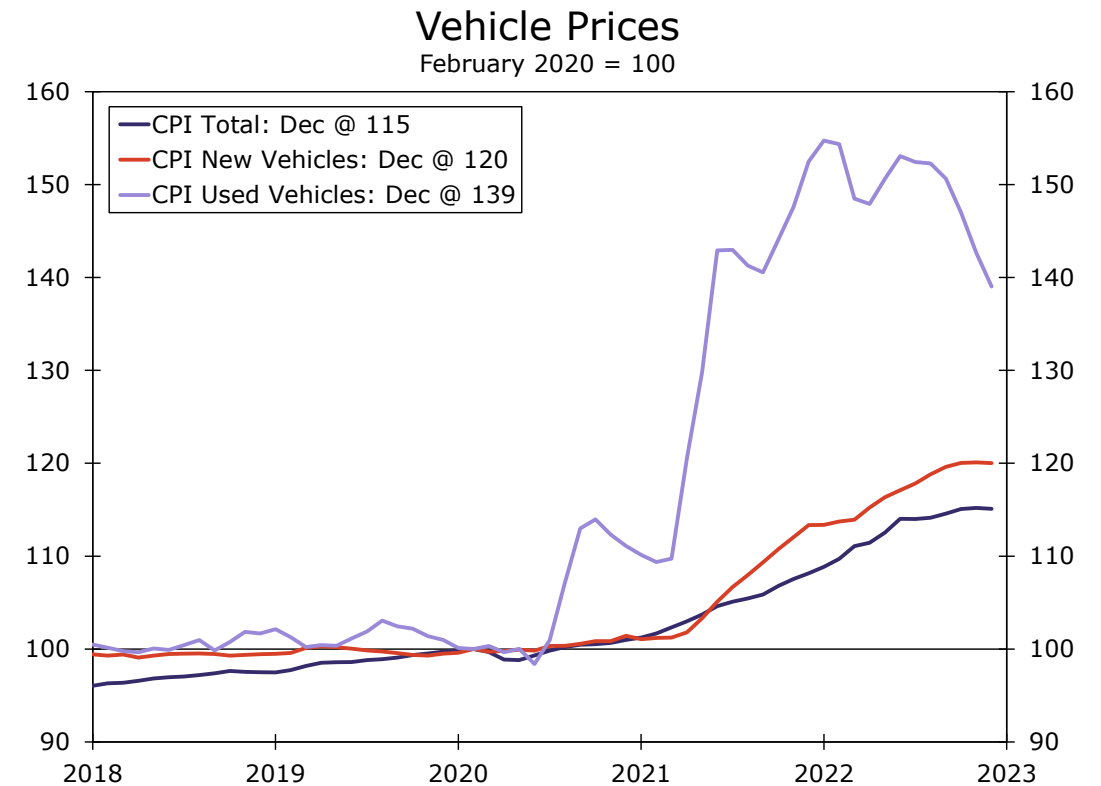
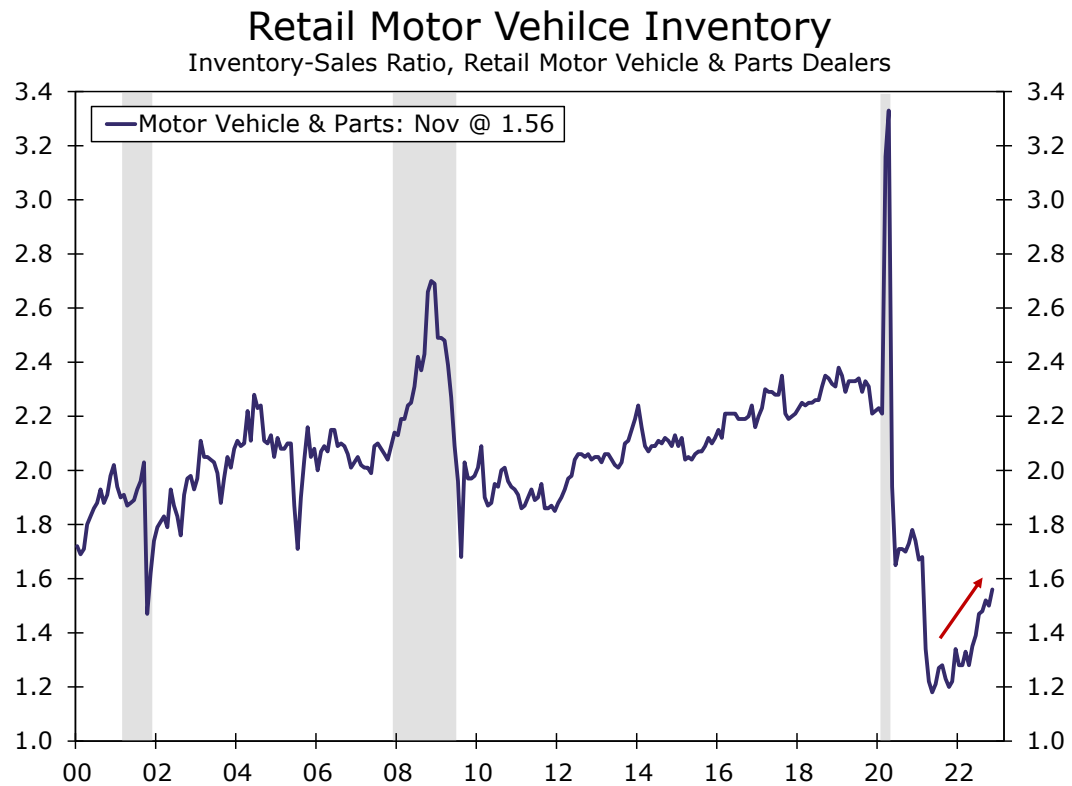


## Real Consumer Spending

February 2020 = 100



Increasingly squeezed household finances along with improving inventory points to softer pricing



# Appendix

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## Inflation Dashboard

Indicator	2020												2021												2022											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Consumer &amp; End-Use</b>																																				
Headline CPI (a)	1.0	2.3	1.8	-2.4	-3.5	-0.5	4.3	5.6	3.9	2.0	0.5	0.3	1.8	4.4	6.9	8.6	9.7	10.7	9.2	6.7	3.9	5.4	6.6	6.7	6.8	8.6	13.1	11.8	12.7	12.8	10.3	5.4	0.7	2.4	2.1	0.0
Headline PCE (a)	1.9	2.2	0.3	-2.5	-2.6	-0.3	3.1	3.9	3.2	2.1	0.9	1.9	3.4	4.7	5.4	6.0	6.7	6.6	6.3	5.8	4.8	5.2	6.2	7.1	6.9	6.9	8.6	7.2	7.3	7.4	6.2	4.8	2.1	4.0	3.3	
Core CPI (a)	1.4	3.3	3.6	0.1	-2.2	-1.5	2.4	4.5	4.2	2.5	1.1	0.3	0.6	1.8	3.7	6.4	7.9	9.9	7.8	5.3	2.4	3.6	4.7	5.9	6.4	7.7	7.8	7.0	6.3	7.6	6.8	6.5	5.2	5.1	3.3	2.3
Core PCE (a)	1.8	2.4	1.3	-1.2	-1.4	-0.3	2.7	3.5	3.3	2.1	0.9	1.6	2.7	3.3	3.7	5.0	6.5	6.7	5.7	4.9	3.8	3.9	4.6	6.0	6.3	5.7	4.9	4.3	4.3	5.4	4.4	5.1	4.5	5.2	3.6	
PPI Final Demand (a)	0.7	0.3	-1.0	-7.5	-3.7	-1.3	6.0	4.2	3.4	3.8	2.7	2.4	4.8	9.0	12.6	11.7	12.3	12.2	11.8	10.8	8.2	7.3	7.5	7.1	9.5	11.1	19.6	16.3	15.2	10.5	6.2	1.6	-2.1	1.3	2.2	-1.5
<b>Alternative Measures</b>																																				
Median CPI (a)	3.1	3.1	3.2	2.5	2.5	2.1	2.8	2.6	2.5	1.9	1.4	1.6	1.4	2.0	2.0	2.4	2.8	3.4	3.4	3.6	3.9	5.1	5.7	5.8	6.1	6.3	6.5	6.3	6.5	7.6	7.6	8.3	8.0	8.0	6.8	5.6
Trimmed Mean PCE (b)	1.9	1.9	1.9	1.7	1.8	1.9	1.9	1.8	1.9	1.9	1.7	1.7	1.6	1.7	1.8	2.0	2.4	2.6	2.7	2.9	3.2	3.5	3.7	4.0	4.5	4.7	4.5	4.3	4.5	5.0	4.5	4.8	5.0	5.1	4.7	
Atlanta Fed Sticky Core CPI (a)	2.9	2.8	2.4	0.6	0.0	0.7	3.2	4.0	3.1	1.4	1.2	1.4	1.6	1.8	2.3	3.4	4.1	4.1	3.6	3.3	3.5	4.2	4.6	4.8	5.4	6.1	6.6	6.5	6.8	7.6	7.0	7.1	7.2	7.2	6.5	5.5
Atlanta Fed Flexible Core CPI (a)	0.4	-0.4	-6.0	-13.4	-14.2	-4.2	7.7	13.2	10.7	7.8	3.4	3.9	7.0	12.5	16.4	19.3	21.7	25.4	23.7	18.2	9.6	13.8	18.6	20.7	14.8	14.6	25.1	20.1	22.7	20.1	16.5	3.5	-9.0	-3.3	-2.3	-5.5
Core CPI ex Shelter (a)	1.3	1.7	1.1	-2.5	-4.4	-2.9	3.1	6.8	6.8	3.6	2.0	1.0	0.9	0.6	1.9	6.9	10.8	14.0	9.7	6.0	2.2	4.2	5.7	7.9	8.3	8.0	6.1	5.3	5.9	8.4	6.5	5.8	4.4	3.5	1.0	-1.0
<b>Input Prices</b>																																				
CRB Food Index (a)	12.7	7.0	-14.5	-51.0	-41.0	-23.9	20.2	21.6	54.1	75.9	67.2	29.7	32.1	45.9	92.0	130.4	142.1	87.1	34.0	4.9	-13.9	-12.8	-10.4	11.4	31.8	54.6	92.0	74.7	61.2	12.0	-17.2	-20.7	-21.7	0.2	-3.0	-9.0
Gasoline Prices (\$/Gal.)	2.55	2.45	2.23	1.85	1.89	2.10	2.19	2.19	2.20	2.17	2.12	2.20	2.36	2.56	2.84	2.88	3.01	3.08	3.15	3.17	3.19	3.32	3.41	3.32	3.32	3.51	4.19	4.13	4.47	4.93	4.53	3.96	3.73	3.84	3.69	3.22
Bloomberg Industrial Metals (a)	-10.7	-27.9	-45.4	-52.5	-31.8	19.8	87.9	109.0	75.0	36.9	41.2	73.1	70.7	59.1	31.5	42.0	57.2	36.0	25.6	0.9	22.8	39.9	14.2	6.0	18.1	63.4	191.3	91.4	-2.6	-59.6	-75.2	-47.2	-45.2	-3.8	-1.6	0.0
PPI Trans. & Ware. (a)	2.2	0.3	-15.1	-23.3	-18.6	-3.2	7.6	-1.7	-8.3	3.0	6.6	4.1	-0.7	4.4	15.1	27.9	23.5	23.7	17.6	19.6	3.3	1.4	11.7	27.4	18.2	12.8	35.0	50.3	54.0	28.2	11.6	-4.0	-13.1	-5.8	-3.0	0.1
PPI Intermediate Services (a)	2.7	2.3	1.7	-6.7	-7.6	-6.7	1.3	6.9	9.3	10.3	6.4	4.6	8.0	9.7	10.7	9.9	10.5	12.8	9.8	9.3	4.8	2.3	2.9	5.0	9.7	8.4	11.2	10.5	10.9	4.2	1.4	2.1	4.2	5.0	6.2	6.0
Average Hourly Earnings (a)	2.7	3.7	6.0	21.8	16.8	10.3	-6.5	-2.7	0.2	2.3	1.8	6.3	5.6	5.6	2.7	5.0	6.7	7.5	7.6	6.9	7.2	7.3	7.1	7.5	7.0	6.2	4.9	4.7	5.6	5.9	5.9	5.2	4.9	4.7	5.0	4.2
Employment Cost Index (c)		2.9			2.7			2.5			2.5			2.6			2.9			3.7			3.9			4.5		5.0			5.0					
<b>Expectations</b>																																				
U. Mich Consumer 5-10 Yrs.	2.5	2.3	2.3	2.5	2.7	2.5	2.6	2.7	2.7	2.4	2.5	2.5	2.7	2.7	2.8	2.7	3.0	2.8	2.8	2.9	3.0	2.9	3.0	2.9	3.1	3.0	3.0	3.0	3.0	3.1	2.9	2.9	2.7	2.9	3.0	2.9
NY Fed Consumer 3-Yr.	2.5	2.6	2.4	2.6	2.6	2.5	2.7	3.0	2.7	2.7	2.8	3.0	3.0	3.0	3.1	3.1	3.6	3.5	3.7	4.0	4.2	4.2	4.0	4.0	3.5	3.8	3.7	3.9	3.9	3.6	3.2	2.8	2.9	3.1	3.0	3.0
ATL Fed Business Unit Cost	1.9	1.7	1.9	1.3	1.4	1.7	1.7	1.7	1.6	1.8	1.9	2.0	2.2	2.2	2.4	2.6	2.8	2.9	2.8	3.0	3.1	3.1	3.3	3.4	3.4	3.5	3.8	3.8	3.7	3.6	3.7	3.5	3.4	3.4	3.4	3.2
NFIB Price Plans	24.0	20.0	12.0	-3.0	9.0	11.7	13.0	16.0	17.0	20.0	20.7	22.1	28.0	34.0	34.1	36.0	43.0	44.0	44.0	44.0	46.0	51.0	54.0	49.0	47.0	47.0	52.0	48.0	51.0	49.0	37.0	32.0	31.0	34.0	34.0	24.0
Fed 5-Yr. Forward Breakeven	1.7	1.6	1.3	1.4	1.4	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.2	2.3	2.4	2.5	2.3	2.2	2.2	2.2	2.4	2.3	2.3	2.3	2.2	2.4	2.5	2.3	2.3	2.2	2.2	2.1	2.2	2.2	2.1
Common Inflation Expectations		1.9			1.9			2.0			2.0			2.0			2.1			2.1			2.1			2.2		2.2			2.2					

Notes: (a) 3-Month Annualized Rate, (b) 6-Month Annualized Rate, (c) Quarterly Annualized Rate

# Supply Chain Dashboard

## Pressure Gauge

Indicator	Feb-20	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb-21	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb-22	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
<b>Volume</b>																																						
Unfilled Orders (a)	9.0%	6.2%	2.6%	0.6%	1.1%	4.6%	5.6%	7.4%	9.4%	10.7%	10.3%	11.2%	12.6%	15.3%	16.2%	15.6%	14.1%	12.4%	11.6%	9.1%	7.8%	6.0%	4.5%	4.4%	3.9%	4.3%	3.5%	2.2%	1.2%	1.5%	3.0%	3.2%	1.8%	1.6%				
Cass Freight Index (a)	-13.2%	14.0%	-33.5%	-44.1%	-36.3%	48.0%	88.4%	115.9%	80.5%	21.6%	-17.4%	-21.7%	-8.1%	29.1%	26.8%	59.0%	12.2%	-0.3%	-10.6%	-14.4%	4.1%	-8.8%	8.4%	-32.4%	-11.1%	-1.6%	39.7%	23.7%	0.0%	9.5%	14.7%	13.2%	8.6%	-22.0%	-23.4%			
Taiwan Elect. Product Exports (a)	-38.1%	14.7%	56.6%	41.7%	14.7%	39.7%	120.9%	87.0%	96.2%	3.3%	-9.4%	10.2%	-47.1%	23.5%	6.6%	133.2%	35.7%	39.3%	73.1%	70.5%	-2.4%	20.0%	-7.5%	41.6%	-4.8%	58.0%	37.1%	27.1%	-19.5%	-5.8%	8.4%	-6.5%	-1.3%	-37.6%	-20.6%			
Real Goods Consumption (b)	0.0%	-1.1%	-13.9%	-1.0%	5.1%	7.7%	6.9%	9.2%	8.9%	8.0%	7.2%	12.3%	9.9%	20.7%	18.9%	16.7%	16.8%	14.9%	14.8%	15.5%	16.8%	16.4%	14.0%	16.7%	15.3%	15.1%	15.3%	14.7%	14.9%	14.6%	14.8%	15.2%	16.2%	15.5%				
<b>Time</b>																																						
ISM Manuf. Supplier Deliveries	57.3	65.0	76.0	68.0	56.9	55.8	58.2	59.0	60.5	61.7	67.7	68.2	72.0	76.6	75.0	78.8	75.1	72.5	69.5	73.4	75.6	72.2	64.9	64.6	66.1	65.4	67.2	65.7	57.3	55.2	55.1	52.4	46.8	47.2	45.1			
ISM Serv. Supplier Deliveries	52.4	62.1	78.3	67.0	57.5	55.2	60.5	54.9	56.2	57.0	62.8	57.8	60.8	61.0	66.1	70.4	68.5	72.0	69.6	68.8	75.7	75.7	63.9	65.7	66.2	63.4	65.1	61.3	61.9	57.8	54.5	53.9	56.2	53.8	48.5			
Ships Awaiting Space LA & LB (c)	0.0	0.0	0.0	0.0	0.0	0.5	2.0	1.5	4.3	10.0	22.2	32.1	32.6	26.5	21.5	18.9	13.8	21.4	34.8	56.3	66.6	70.0	85.6	103.2	79.9	48.4	41.5	29.8	23.0	24.0	20.9	9.0	6.3	6.0	0.0			
<b>Price</b>																																						
World Container Index (WCI)	\$1,633	\$1,520	\$1,500	\$1,549	\$1,788	\$2,009	\$2,144	\$2,541	\$2,592	\$2,806	\$3,955	\$5,263	\$5,227	\$4,991	\$4,919	\$5,898	\$7,052	\$8,879	\$9,556	\$10,237	\$9,891	\$9,180	\$9,227	\$9,518	\$9,398	\$8,783	\$7,907	\$7,667	\$7,412	\$6,908	\$6,317	\$4,894	\$3,425	\$2,705	\$2,168			
PPI Transp. & Ware. of Goods (a)	0.3%	-1.9%	-7.6%	-12.2%	-8.8%	1.0%	9.0%	8.0%	6.5%	7.8%	10.2%	10.7%	13.0%	16.3%	16.5%	16.9%	14.4%	12.5%	9.6%	11.9%	16.4%	22.5%	19.6%	21.0%	19.5%	35.1%	34.3%	36.5%	15.9%	8.5%	-6.7%	-6.8%	-9.8%	-0.8%	-4.7%			
Dry Van Rate Per Mile (a)	7.6%	-16.0%	-28.6%	-49.7%	-16.5%	52.6%	352.8%	315.4%	191.1%	112.6%	48.8%	12.2%	-25.4%	10.5%	12.6%	52.0%	-8.4%	-8.6%	-0.2%	41.8%	64.5%	57.1%	54.4%	91.6%	70.1%	-7.2%	-56.2%	-69.7%	-67.0%	-57.5%	-35.7%	-25.9%	-15.0%	-28.8%	-13.0%			
<b>Inventory</b>																																						
Retail Inventory-to-Sales Ratio	1.42	1.53	1.69	1.35	1.23	1.22	1.23	1.23	1.25	1.27	1.27	1.22	1.24	1.10	1.09	1.09	1.09	1.12	1.11	1.10	1.09	1.10	1.17	1.15	1.15	1.18	1.18	1.20	1.21	1.23	1.24	1.24	1.22	1.24				
ISM Manuf. Cons. Inventories	41.8	43.4	48.8	46.2	44.6	41.6	38.1	37.9	36.7	36.3	37.9	33.1	32.5	29.9	28.4	28.0	30.8	25.0	30.2	31.7	31.7	25.1	31.7	33.0	31.8	34.1	37.1	32.7	35.2	39.5	38.9	41.6	41.6	48.7	48.2			
Inventory Too Low (d)	-3.5%	-1.5%	-6.6%	-4.5%	1.2%	1.3%	2.7%	4.8%	4.4%	4.9%	6.5%	5.3%	4.5%	2.5%	7.0%	8.0%	11.0%	12.0%	11.0%	10.0%	9.0%	15.0%	9.0%	7.0%	7.0%	9.0%	6.0%	8.0%	5.0%	2.0%	3.0%	1.0%	0.0%	-2.0%	1.0%			
<b>Labor</b>																																						
Production & Manuf. Posts (b)	0.2%	1.3%	-30.0%	-31.6%	-23.7%	-13.8%	-6.1%	4.2%	12.9%	20.6%	27.4%	26.3%	38.2%	46.8%	63.5%	74.8%	76.7%	84.0%	78.0%	87.3%	92.4%	103.0%	115.3%	102.9%	108.9%	108.3%	96.3%	97.1%	92.9%	91.1%	89.3%	91.1%	87.1%	90.4%	92.5%			
Loading & Stocking Posts (b)	1.4%	-0.4%	-32.5%	-32.7%	-17.6%	-0.8%	4.6%	12.3%	28.2%	38.8%	39.0%	26.3%	38.9%	46.4%	61.7%	72.7%	76.6%	90.2%	72.0%	82.4%	92.4%	106.5%	114.9%	92.9%	97.5%	93.9%	80.7%	84.9%	83.5%	89.3%	74.1%	79.3%	77.8%	79.5%	79.3%			
Jobs Hard to Fill (d)	37.6%	35.2%	23.5%	23.2%	31.9%	30.2%	33.4%	36.4%	33.1%	33.5%	32.3%	32.7%	39.6%	42.2%	44.0%	48.0%	46.0%	49.0%	50.0%	51.0%	49.0%	48.0%	49.0%	47.0%	48.0%	47.0%	47.0%	51.0%	50.0%	49.0%	49.0%	46.0%	46.0%	44.0%	41.0%			

Notes: (a) 3-Month Annualized Rate, (b) versus February 2020, (c) Monthly Average, (d) Net % of Firms, Current Month Reflects Monthly Average of Available Data for All Series

# Labor Market Dashboard

## Labor Market Dashboard

Indicator	Feb-20	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan-21	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan-22	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Hiring</b>																																			
Nonfarm Payrolls (Mo. Chg.)	376K	-1,498K	-20,493K	2,642K	4,505K	1,388K	1,665K	919K	647K	333K	-115K	520K	710K	704K	263K	447K	557K	689K	517K	424K	677K	647K	588K	504K	714K	398K	368K	386K	293K	537K	292K	269K	263K	256K	223K
ISM Manufacturing Employment	46.9	43.8	27.5	32.1	42.1	44.3	46.4	49.6	52.1	48.3	51.7	52.6	54.4	59.6	55.1	50.9	49.9	52.9	49.0	50.2	52.1	53.0	53.9	54.5	52.9	56.3	50.9	49.6	47.3	49.9	54.2	48.7	50.0	48.4	51.4
ISM Services Employment	55.6	47.0	30.0	31.8	43.1	42.1	47.9	51.8	50.1	51.5	48.7	55.2	52.7	57.2	58.8	55.3	49.3	53.8	53.7	53.0	51.6	56.5	54.7	52.3	48.5	54.0	49.5	50.2	47.4	49.1	50.2	53.0	49.1	51.5	49.8
Fed Mfg. PMI Average	3.0	-11.0	-34.8	-10.8	-3.0	4.7	9.4	11.8	10.3	11.9	13.1	18.2	19.4	20.0	25.3	22.2	23.3	27.1	21.9	22.3	26.4	26.0	24.3	19.8	24.9	23.9	22.5	21.2	19.4	16.4	13.3	8.8	10.7	5.1	5.2
Fed Services PMI Avg.	7.4	-3.6	-35.1	-29.1	-15.4	-12.1	-4.6	-2.0	1.4	1.3	0.4	-4.1	-1.6	6.5	12.9	13.8	15.7	13.9	18.1	13.9	14.4	15.7	13.2	8.3	13.0	14.5	14.7	14.1	11.8	9.9	9.5	10.3	9.2	8.2	1.7
<b>Demand</b>																																			
Initial Jobless Claims (Week of the 12th)	190K	221K	4,201K	2,176K	1,473K	1,393K	927K	861K	804K	738K	886K	844K	802K	699K	566K	467K	429K	424K	405K	380K	310K	265K	220K	240K	209K	177K	185K	218K	233K	261K	245K	209K	214K	223K	216K
NFIB Hiring Plans (Net % of Firms)	21.2	9.1	1.2	7.7	16.3	17.9	21.1	22.8	18.2	20.6	16.6	17.3	18.2	22.1	21.0	27.0	28.0	27.0	32.0	26.0	26.0	25.0	28.0	26.0	19.0	20.0	20.0	26.0	19.0	20.0	21.0	23.0	20.0	18.0	17.0
NFIB Jobs Hard to Fill (Net % of Firms)	37.6	35.2	23.5	23.2	31.9	30.2	33.4	36.4	33.1	33.5	32.3	32.7	39.6	42.2	44.0	48.0	46.0	49.0	50.0	51.0	49.0	48.0	49.0	47.0	48.0	47.0	47.0	51.0	50.0	49.0	46.0	46.0	44.0	41.0	
Indeed Job Openings (vs. Feb. 2020)	-0.2	-3.2	-34.3	-38.2	-31.5	-22.5	-18.2	-14.0	-8.4	-6.1	-3.9	-1.2	3.6	8.6	18.2	25.8	29.8	36.0	36.5	41.4	46.7	52.9	61.4	60.6	60.5	58.7	53.3	55.6	54.1	54.0	50.9	49.6	49.0	48.5	48.0
JOLTS Job Openings	7.0M	5.9M	4.7M	5.4M	6.0M	6.6M	6.3M	6.5M	6.9M	6.8M	6.9M	7.2M	7.9M	8.5M	9.3M	9.6M	9.9M	10.8M	10.6M	10.7M	11.1M	10.9M	11.4M	11.3M	11.3M	11.9M	11.7M	11.3M	11.1M	11.2M	10.3M	10.7M	10.5M	10.5M	
Challenger Job Cuts (3-MMA YoY)	-9.5	82.1	435.4	710.6	780.9	495.3	308.5	271.4	116.9	93.7	74.2	52.5	21.5	-58.3	-90.7	-93.9	-94.5	-92.3	-89.9	-89.4	-82.1	-79.0	-74.5	-76.1	-72.1	-61.5	-30.8	-15.0	14.0	23.5	42.9	45.1	49.4	153.0	172.0
<b>Supply</b>																																			
Unemployment Rate	3.5	4.4	14.7	13.2	11.0	10.2	8.4	7.9	6.9	6.7	6.7	6.3	6.2	6.1	6.1	5.8	5.9	5.4	5.2	4.8	4.5	4.2	3.9	4.0	3.8	3.6	3.6	3.6	3.6	3.5	3.7	3.5	3.7	3.6	3.5
Labor Force Participation Rate	63.3	62.6	60.1	60.8	61.5	61.5	61.7	61.4	61.7	61.5	61.5	61.3	61.4	61.5	61.6	61.5	61.7	61.8	61.7	61.7	61.8	61.9	62.0	62.2	62.2	62.4	62.2	62.3	62.2	62.1	62.3	62.3	62.2	62.2	62.3
Prime Participation Rate (Ages 25-54)	83.0	82.5	79.9	80.6	81.5	81.2	81.3	80.9	81.2	80.9	81.0	81.1	81.2	81.3	81.4	81.3	81.7	81.9	81.7	81.6	81.7	81.9	81.9	82.1	82.3	82.5	82.5	82.6	82.4	82.4	82.8	82.6	82.5	82.3	82.4
Employment-Population Ratio	83.0	82.5	79.9	80.6	81.5	81.2	81.3	80.9	81.2	80.9	81.0	81.1	81.2	81.3	81.4	81.3	81.7	81.9	81.7	81.6	81.7	81.9	81.9	82.1	82.3	82.5	82.5	82.6	82.4	82.4	82.8	82.6	82.5	82.3	82.4
Jobs Plentiful Less Hard to Get	32.6	29.5	-15.7	-12.7	-2.8	2.2	-2.2	3.3	7.1	6.9	-1.9	-1.8	1.4	10.2	21.6	36.9	44.2	44.1	44.4	43.5	43.8	44.7	44.2	43.0	41.5	47.1	44.7	39.5	39.9	36.8	36.0	38.1	31.8	31.5	35.8
JOLTS Quit Rate	2.3	2.0	1.6	1.7	1.9	2.1	2.1	2.2	2.3	2.3	2.4	2.3	2.4	2.6	2.8	2.6	2.8	2.8	2.8	2.9	2.8	3.0	3.0	2.8	2.9	2.9	2.9	2.8	2.8	2.7	2.7	2.7	2.6	2.7	
<b>Wages</b>																																			
NFIB Compensation Plans (Net % of Firms)	19.2	16.0	7.0	10.0	13.0	14.0	14.0	16.0	18.0	20.2	13.6	17.0	19.0	16.5	20.0	22.0	26.0	27.0	26.0	30.0	32.0	32.0	32.0	27.0	26.0	28.0	27.0	25.0	28.0	25.0	26.0	23.0	32.0	28.0	27.0
Average Hourly Earnings (YoY)	3.1	3.6	8.0	6.7	5.1	4.9	4.8	4.8	4.6	4.6	5.5	5.3	5.2	4.4	0.6	2.2	4.0	4.3	4.3	4.8	5.4	5.3	4.9	5.4	5.2	5.6	5.5	5.3	5.2	5.2	5.2	5.1	4.8	4.8	4.6
Average Hourly Earnings (3-M Annualized)	3.0	6.1	24.2	17.1	8.2	-7.8	-3.1	2.1	1.6	2.3	5.7	5.5	5.4	1.9	3.7	4.3	6.3	6.4	5.4	5.3	5.9	6.3	6.1	5.9	4.8	4.8	3.9	4.9	4.6	5.2	4.8	4.8	4.2	4.7	4.1
Employment Cost Index (YoY)		2.8		2.7		2.4		2.5		2.6		2.9		2.9		3.7		4.0		4.5		5.1		4.5		5.1		6.0		6.0		6.1		6.4	6.1
Atlanta Fed Median Wage Tracker (3-MMA)	3.7	3.5	3.3	3.5	3.8	3.9	3.5	3.5	3.5	3.5	3.7	3.4	3.4	3.4	3.4	3.2	3.0	3.2	3.7	3.9	4.2	4.1	4.3	4.5	5.1	5.8	6.0	6.0	6.1	6.7	6.7	6.7	6.3	6.4	6.1

Source: U.S. Department of Labor, Institute for Supply Management, Challenger, Gray & Christmas Inc., Federal Reserve Board, National Federation of Independent Business (NFIB), Indeed.com, The Conference Board and Wells Fargo Economics



## Wells Fargo U.S. Economic Forecast

	Actual				Forecast								Actual		Forecast	
	2022				2023				2024				2021	2022	2023	2024
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product <sup>1</sup>	-1.6	-0.6	3.2	2.8	0.0	0.3	-2.6	-1.9	0.0	2.8	2.3	2.4	5.9	2.1	0.5	0.3
Personal Consumption	1.3	2.0	2.3	2.7	-0.3	0.8	-1.4	-2.2	-0.9	1.3	2.0	2.0	8.3	2.8	0.7	-0.1
Business Fixed Investment	7.9	0.1	6.2	5.9	2.0	1.0	-4.3	-5.0	-2.8	0.9	3.3	4.4	6.4	4.0	1.7	-1.3
Equipment	11.4	-2.0	10.6	6.0	1.5	0.9	-7.3	-8.9	-5.4	0.4	3.7	4.2	10.3	4.9	1.2	-3.2
Intellectual Property Products	10.8	8.9	6.8	6.9	2.9	2.0	-1.8	-1.8	-0.4	2.2	3.8	5.5	9.7	8.9	3.4	0.7
Structures	-4.3	-12.7	-3.6	2.5	1.3	-1.8	-2.4	-2.6	-2.3	-1.5	1.1	1.5	-6.4	-7.3	-1.3	-1.5
Residential Investment	-3.1	-17.8	-27.1	-23.0	-16.4	-11.3	-5.5	-3.4	-1.4	3.2	4.4	5.7	10.7	-10.5	-16.5	-1.0
Government Purchases	-2.3	-1.6	3.7	1.3	1.8	1.6	1.4	1.3	1.2	1.1	1.1	1.0	0.6	-0.7	1.6	1.2
Net Exports <sup>2</sup>	-3.1	1.2	2.9	-0.1	-0.2	-0.5	-0.1	0.9	1.3	0.2	-0.1	-0.1	-1.7	-0.7	0.4	0.5
Inventories <sup>2</sup>	0.2	-1.9	-1.2	0.7	0.3	0.1	-1.0	-0.6	-0.4	1.2	0.1	0.1	0.2	0.7	-0.3	-0.1
Nonfarm Payroll Change <sup>3</sup>	539	349	366	247	165	63	-33	-175	-242	-100	50	142	562	375	5	-38
Unemployment Rate	3.8	3.6	3.6	3.6	3.6	3.7	4.1	4.8	5.2	5.3	5.2	4.9	5.4	3.6	4.1	5.1
Consumer Price Index <sup>4</sup>	8.0	8.6	8.3	7.1	5.3	3.3	2.4	2.2	2.3	2.4	2.5	2.4	4.7	8.0	3.3	2.4
Real Disposable Income <sup>4</sup>	-12.8	-5.7	-4.3	-2.4	1.9	2.7	2.6	1.9	0.6	1.0	1.5	2.5	1.9	-6.5	2.3	1.4
Quarter-End Interest Rates <sup>5</sup>																
Federal Funds Target Rate	0.50	1.75	3.25	4.50	5.00	5.25	5.25	5.25	4.25	3.25	2.75	2.75	0.25	2.02	5.19	3.25
Conventional Mortgage Rate	4.27	5.58	6.01	6.36	6.60	6.35	5.85	5.55	5.30	5.15	5.00	4.90	3.03	5.38	6.09	5.09
2 Year Note	2.28	2.92	4.22	4.41	4.45	4.30	3.85	3.25	2.95	2.80	2.75	2.75	0.27	2.99	3.96	2.81
10 Year Note	2.32	2.98	3.83	3.88	3.85	3.75	3.35	3.15	3.00	2.95	2.90	2.90	1.45	2.95	3.53	2.94

Forecast as of: January 20, 2023

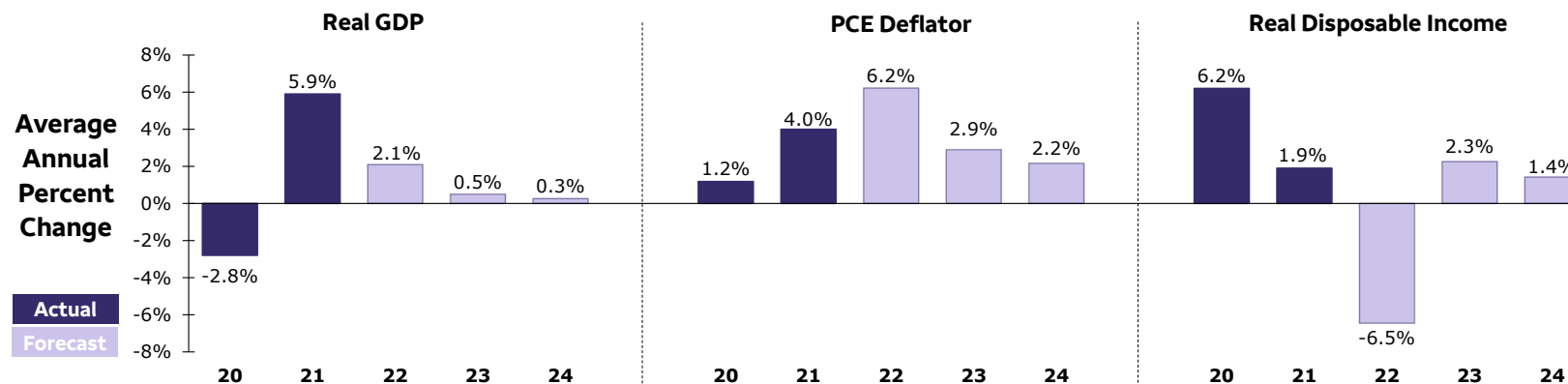
<sup>1</sup> Compound Annual Growth Rate Quarter-over-Quarter

<sup>2</sup> Percentage Point Contribution to GDP

<sup>3</sup> Average Monthly Change

<sup>4</sup> Year-over-Year Percentage Change

<sup>5</sup> Annual Numbers Represent Averages



Forecast as of: January 20, 2023

## Wells Fargo International Economic Forecast

	GDP				CPI			
	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Global (PPP Weights)	6.0%	2.4%	1.8%	2.6%	4.7%	7.2%	4.8%	3.6%
Advanced Economies <sup>1</sup>	5.2%	2.8%	0.5%	1.4%	3.1%	7.9%	4.4%	2.2%
United States	5.9%	2.1%	0.5%	0.3%	4.7%	8.0%	3.2%	2.3%
Eurozone	5.2%	3.3%	-0.6%	2.0%	2.6%	8.4%	5.6%	2.1%
United Kingdom	7.4%	4.0%	-1.2%	1.5%	2.6%	9.1%	7.6%	2.5%
Japan	1.7%	1.2%	1.3%	1.5%	-0.2%	2.4%	1.8%	0.8%
Canada	4.5%	3.5%	0.4%	2.4%	3.4%	6.8%	3.6%	2.1%
Switzerland	4.2%	2.0%	0.1%	2.2%	0.6%	2.8%	1.8%	1.2%
Australia	4.9%	3.6%	1.5%	2.4%	2.8%	6.4%	4.3%	2.9%
New Zealand	5.6%	2.8%	1.1%	1.3%	3.9%	7.0%	4.2%	2.5%
Sweden	5.1%	3.0%	0.4%	2.0%	2.7%	8.0%	5.6%	1.9%
Norway	3.9%	3.5%	0.3%	0.8%	3.5%	5.8%	4.1%	2.5%
Developing Economies <sup>1</sup>	6.6%	2.0%	2.8%	3.5%	5.9%	6.5%	5.2%	4.6%
China	8.1%	3.0%	4.9%	4.9%	0.9%	2.0%	2.3%	2.0%
India	8.7%	6.5%	5.7%	6.5%	5.5%	6.8%	4.5%	5.0%
Mexico	4.8%	3.1%	1.1%	2.2%	5.7%	7.9%	5.5%	3.6%
Brazil	4.6%	3.1%	0.7%	2.2%	8.3%	9.0%	5.0%	4.0%

Forecast as of: January 20, 2023

<sup>1</sup>Aggregated Using PPP Weights

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