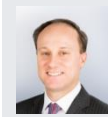


# A long year ahead and opportunity cash now pays interest: Be patient!



**David Bianco**

Americas Chief Investment Officer  
DWS

## 2023 starts with a global stock market rally: Our strategy is to be patient

After December and 2022 disappointed, 2023 started with glass half full views pushing the S&P 500 up 3.5% in the first three weeks of the year. A rally on signs of softening inflation from 40-year highs, hopes for a US soft landing as jobs still climb, China's tolerance for some decentralization and a frenzied re-opening and just a shallow recession in Europe as winter energy supplies appear adequate. However, the S&P 500 remains range-bound between 3600-4100 since last September with even 4000 putting up resistance. We think this range holds for much of 2023 and our tactical strategy is to be patient. Lots of 2023 is still ahead and markets remain very volatile. Most equity indices, regions and sectors are already at our full yearend targets. It's still good to wait in 4%+ yielding short term bonds.

The fight with inflation isn't over, the most difficult part lies ahead with getting it well under 4% and back toward 2%. Inflation is still far above the Fed's 2% target and unemployment at post war lows. Disinflation is narrow to commodities and goods because we are entering a goods consumption/manufacturing led recession. Broad based inflation remains sticky at services and wages are rising at mid-single digit rates with little to no productivity gains supporting it. Markets are not helping the Fed with its inflation fight in the new year; as stocks rally, yields fall and the dollar slips. Oil and commodity inflation could strike again. We expect the Fed to hike 25bp two or three more times to 5-5.25%. Thus, the fight is now likely to spill into spring. And a super hiking cycle might be followed by a mini hiking cycle.

## Despite resilient jobs, profit recession in progress: S&P EPS flat / down until 4Q

Whether the economy slips into recession or not, there are now clear signs of an earnings or profit recession in progress. S&P EPS will be at best flat y/y in 4Q22 and this is what's likely through 2023 unless there is a sharp rebound in oil prices and industrial activity in US and worldwide. Our standing S&P EPS estimates for 1Q and 2Q of 2023 are \$53 and \$56, both down 3-4% on y/y basis, but we expect S&P EPS y/y growth to be positive in 2<sup>nd</sup> half of 2023. 4Q earnings season has just begun with mostly Financials reporting. Bottom-up 4Q EPS is now \$53.27 and the aggregate EPS surprise is +2.5%. If the rest of companies beat by similar amount then 4Q EPS will finish exactly at our \$54 estimate, flat y/y over 4Q21. Loan growth has been rising to a strong 12% y/y. Banks' net interest margin also climbed to 3.2%, which is near the 3.4% before the pandemic. Loan loss reserves and loan loss provisions are prudent in preparation of a moderate recession. We don't expect credit cost to shoot up in this downturn and Bank profits shouldn't drop.

## Our preference across equity regions/sizes: China, EAFE, US Small, US Large

While we expect a shallow recession, we also expect a shallow recovery, not V-shaped. China is finally re-opening its travel and social interaction economy. This will benefit the service side of China's economy with small impact to its manufacturing and construction. China construction is suffering a housing glut and manufacturing faces sluggish US and European goods demand. We think China's economy will be challenged over the next couple of years, contributing to tepid global growth. But as China gets moving again its oil demand will rise. Moreover, we see growth at China Tech stocks and large valuation upside potential. China Tech is our most favored equity segment right now. We remain cautious on US and Europe large caps. Both Fed and ECB are fighting inflation, raising the cost of capital and earnings will be down in 2023 for both regions. Since October end, we prefer Europe over US (especially S&P 500), but we're still cautious about getting good gains for both. In the US, we still prefer small caps over large, but we're still cautious both tactically given our Down 5%+ call on S&P 500. But the decade looks promising for small vs. large.

## Our most favored sectors remain Health Care, Financials and Communications

Our global equity team recently upgraded Communication Services to outperform. They expect improving cashflows due to the fading 5G and fiber capex cycle. During the past 12 months, social media stocks have seen a significant reset of earnings expectation and valuations. Many defensive stocks have become too expensive in Europe as investors moved to safe havens upon a slowing economy. They can't see sector specific catalysts to extend this 20-30% PE premium and therefore downgraded Consumer Staples to underweight and Health Care to neutral. In the US, our favored equity sectors remain Health Care, Communications, Financials, Tech Services. Least favored: Cap Markets, Retailers, Auto, Semiconductors, Machinery, Materials and most Staples. We are slightly overweight (OW) Energy mostly Oil Services. We're cautious Industrials, but OW Aerospace & Defense.

Contributor: Ju Wang, Portfolio Manager Equity

Global Equity Index Forecasts: 12-months			
Index	Dec 2023F	NTM EPS Growth	Target PE
S&P 500	4,100	1.4%	18.2
EuroStoxx 50	4,000	-2.0%	12.2
Stoxx 600	445	-1.0%	13.0
MSCI Japan	1,250	2.0%	13.3
MSCI Asia xJ	625	2.0%	13.6
MSCI EM	990	0.0%	12.5

S&P 500 Outlook at Yearend			
	2021	2022F	2023F
S&P 500	4766	3800	4100
Dividend Yield	1.3%	1.75%	1.75%
S&P EPS	\$210	\$222	\$225
Trailing PE	22.7	17.1	18.2
DPS	\$61	\$68	\$70

**Next 5%+ Price Move**  
( Up / Balanced Risk / **Down** )  
**Risk of near-term 10%+ correction**  
( Low / **Moderate** / High )

Taxable U.S. Investor Asset Allocations		
Asset Class	Long-term	Current
Fixed Income/Cash	30-35%	37.0%
Equities	55-60%	53.5%
US Equities	40%	35.0%
S&P 500	35%	32.0%
Small Caps	0-10%	3.0%
Foreign DM	10-15%	11.5%
Foreign EM	0-10%	7.0%
Alternatives	10%	9.5%

Key CIO Views		
Macro signal:	Current	Dec 2023F
U.S. Fed Funds rate	3.75%-4%	5%-5.25%
10yr Treasury yield	3.60%	4.20%
US IG Corp Spreads	180bp	130bp
US High Yield Spreads	500bp	500bp
Crude Oil (WTI) \$/bbl	71	100
EUR / USD FX rate	1.06	1.05

GDP Forecasts			
Region	2021	2022F	2023F
US	5.7%	1.8%	0.4%
World	6.0%	3.2%	2.8%
Euro area	5.2%	3.2%	0.3%
China	8.1%	3.3%	5.0%
Japan	1.7%	1.6%	1.2%

\* Q4/Q4 GDP growth.

EPS = Earnings Per Share

GDP = Gross Domestic Product

FX = Foreign Exchange

TIPs – Treasury Inflation Protected Securities

Source: DWS Investment Management GmbH. All opinions and claims are based upon data on 1/23/2023 and may not come to pass. This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. All foreign asset exposures are not FX hedged unless otherwise noted. For illustrative purposes only.

## S&P 500 Sector and Industry views

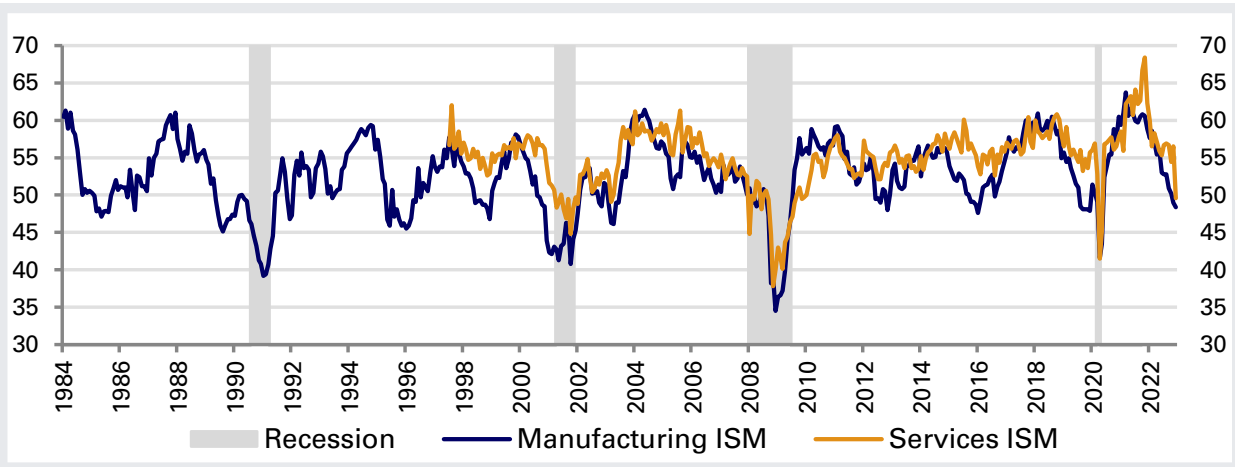
	Market	Allocated	Sector	2021	2022	2023	Overweight	2021	2022	2023	Equal weight	2021	2022	2023	Underweight	2021	2022	2023	
Over-weight	15.2%	19.7%	Health Care	17.2	16.3	16.1	Biotechnology Health Care Equipment & Supplies Life Sciences Tools & Services Pharmaceuticals	12.2 24.2 25.7 15.6	12.7 24.2 27.4 13.5	13.1 23.6 26.3 13.3	Health Care Providers & Services	17.5	16.6	15.8					
	8.0%	10.2%	Communication Services	14.2	15.7	15.5	Diversified Telecommunication Servi Entertainment Interactive Media & Services Media	6.4 28.1 15.4 12.2	7.5 27.8 17.6 11.5	7.9 26.3 16.9 12.2	Wireless Telecommunication Servi	60.2	58.0	34.8					
	11.2%	12.5%	Financials	12.0	13.9	13.4	Banks Diversified Financial Services Insurance	8.7 26.5 15.2	10.5 22.1 16.0	10.1 21.7 14.4				Capital Markets Consumer Finance	14.3 7.0	18.0 8.7	17.5 9.5		
	2.6%	3.6%	Real Estate	19.7	18.6	17.9	Real Estate Mgmt. & Development REITs	15.8 20.3	14.2 18.8	14.2 18.0									
	5.3%	6.3%	Energy	22.3	9.2	10.1	Energy Equipment & Services	43.4	25.9	19.0	Oil Gas & Consumable Fuels	21.4	8.7	9.7					
	3.0%	3.5%	Utilities	20.5	19.3	18.6	Electric Utilities Multi-Utilities	22.2 19.1	20.3 18.6	19.2 18.3	Gas Utilities Independent Power & Renewable E	21.6 7.9	21.0 8.3	19.6 8.6	Water Utilities	38.1	34.4	32.4	
	26.1%	25.7%	Information Technology	23.1	22.3	21.5	Communications Equipment IT Services	16.5 26.5	15.8 23.2	15.4 22.1	Electronic Equipment Software	22.2 29.0	20.6 26.2	19.6 24.6	Semiconductors Technology Hardware Storage & Per	17.3 22.2	19.7 21.4	19.7 20.7	
Under-weight	8.0%	7.5%	Industrials	26.7	20.5	20.1	Aerospace & Defense Airlines Electrical Equipment Industrial Conglomerates Road & Rail	32.4 -5.7 22.9 22.5 22.0	25.8 21.0 20.4 21.3 18.8	23.8 11.4 19.6 19.9 19.4				Air Freight & Logistics Building Products Commercial Services & Supplies Construction & Engineering Machinery Professional Services Trading Companies & Distributors	13.0 20.6 33.8 23.6 21.3 30.2 23.8	13.5 19.3 25.5 20.1 19.2 30.4 18.2	14.7 20.5 25.1 18.1 20.1 29.6 19.1		
	2.5%	0.0%	Materials	16.3	15.1	17.3								Chemicals Construction Materials Containers & Packaging Metals & Mining	18.0 31.7 14.6 11.1	15.9 30.3 13.2 11.9	17.2 26.7 13.2 19.4		
	6.9%	3.8%	Consumer Staples	21.7	21.6	21.4					Personal Products	39.1	42.1	42.1	Beverages Food Products Food & Staples Retailing Household Products Tobacco	26.1 18.4 23.6 24.5 13.4	25.2 17.7 22.5 25.5 14.0	24.7 17.9 22.0 24.9 14.2	
	11.3%	7.3%	Consumer Discretionary	26.1	25.0	24.0	Auto Components Hotels Restaurants & Leisure Textiles Apparel & Luxury Goods	22.8 15867 27.8	20.5 60.7 29.6	17.7 36.8 29.2	Household Durables	8.2	7.3	8.6	Automobiles Distributors Internet & Direct Marketing Retail Leisure Products Multiline Retail Specialty Retail	19.8 19.4 30.1 12.1 16.4 20.2	17.2 17.8 42.6 11.7 21.4 19.5	17.2 17.8 38.5 11.7 19.9 20.2	
				Automobiles	19.8	17.2	17.2												
				Internet Retail	30.1	42.6	38.5												
CD ex Auto &				26.2	22.6	21.7													
Aggregate PE: DWS View							Overweight	17.9	17.4	16.7	Equalweight	22.2	15.3	15.7	Underweight	19.2	19.9	20.1	
S&P 500								3973			2020, 2021 & 2022 EPS	207.99	223.00	225.00	2020, 2021 & 2022 PE	19.1	17.8	17.7	
											Bottom-up Consensus EPS	208.10	222.49	228.98	Bottom-up Cons. PE	19.1	17.9	17.3	
															2020, 2021 & 2022 Ex Energy PE	18.8	18.8	18.3	
															Bottom-up Cons. Ex Energy PE	18.8	18.9	18.0	

Sector OW	10.21%
Sector UW	-10.21%
Industry OW	18.70%
Industry UW	-18.70%

<b>Macro tilts:</b>	
Cyclicals	-2.97%
Defensive Value	2.95%
Growth	-5.93%
Consumer Services/experience	5.93%
Disc. Goods	-6.61%
Retailing	0.47%
Durables	-0.25%
Staples Goods/Retail	-0.65%
Commodity	0.43%
Energy	-1.51%
Metals/Chemicals	-1.30%
Capex	0.84%
Capacity additions	-2.14%
Productivity	3.24%
Health Care	1.11%
Innovation	4.45%
Marketers	3.06%
Insurers	1.64%
Financials	-0.32%
Up rates/low spreads	1.22%
Capital Markets	2.03%
Insurance	-1.88%
Bond Substitutes	1.07%
Weak FX \$ plays	1.78%
High R&D plays	0.53%
Transports	4.78%
Geopolitical risk	-0.30%
Weak oil prices	1.33%
Inflation shock	-0.53%
Domestic GDP	4.81%
Global GDP	-2.10%
Consumer TMT	-4.62%
Trade sensitive	0.40%
	-1.83%

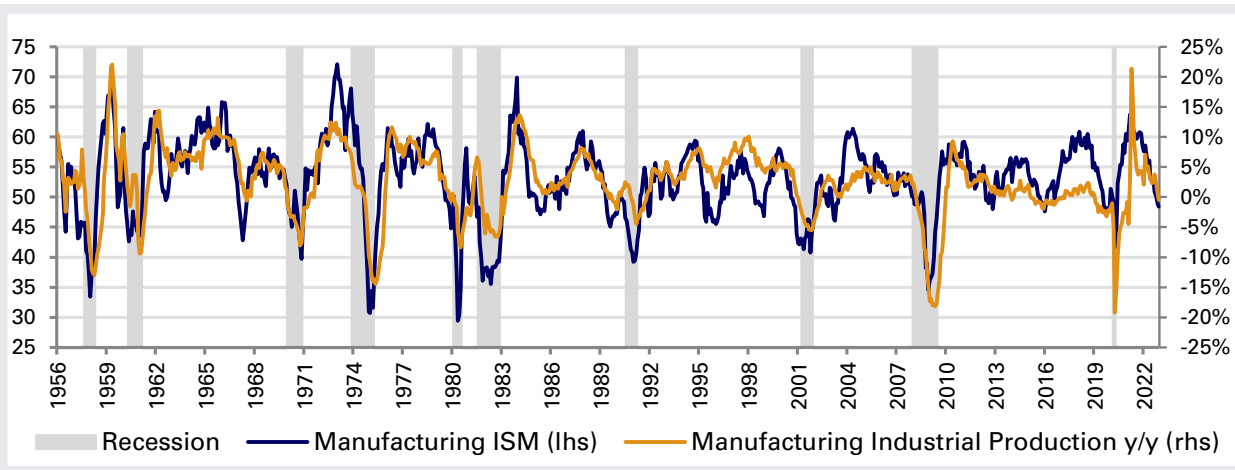
Note: More details on sector earnings forecast and sector intrinsic valuation can be found towards the back of this note.  
Price as of 1/20/2023  
Source: DWS Investment Management GmbH

### U.S. manufacturing and services ISM



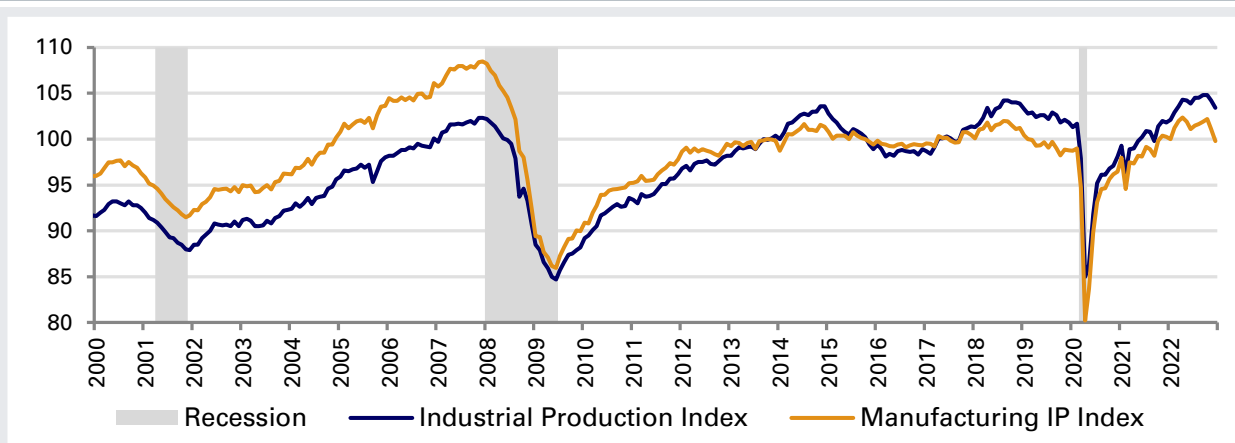
Source: ISM, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### Manufacturing ISM vs. manufacturing industrial production y/y



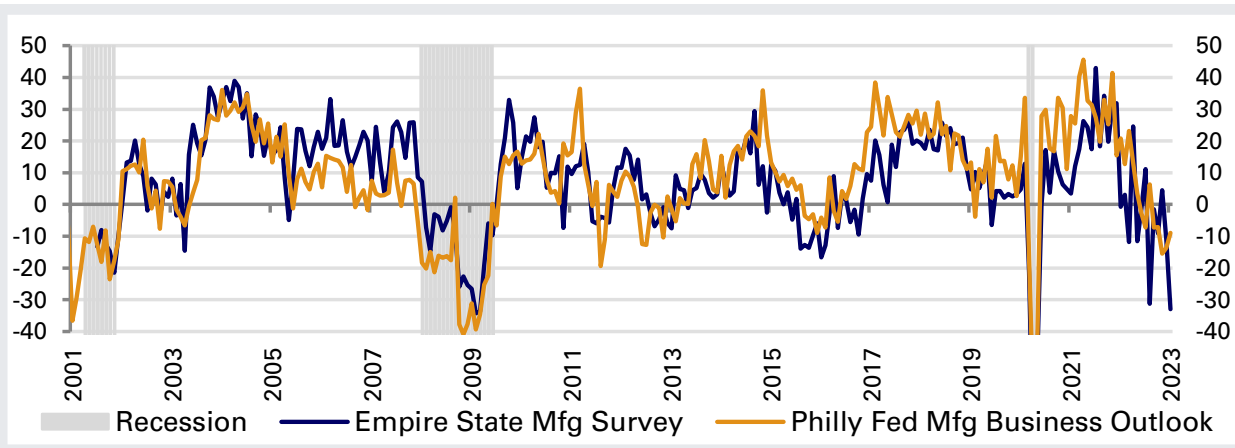
Source: ISM, FRB, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### Industrial production



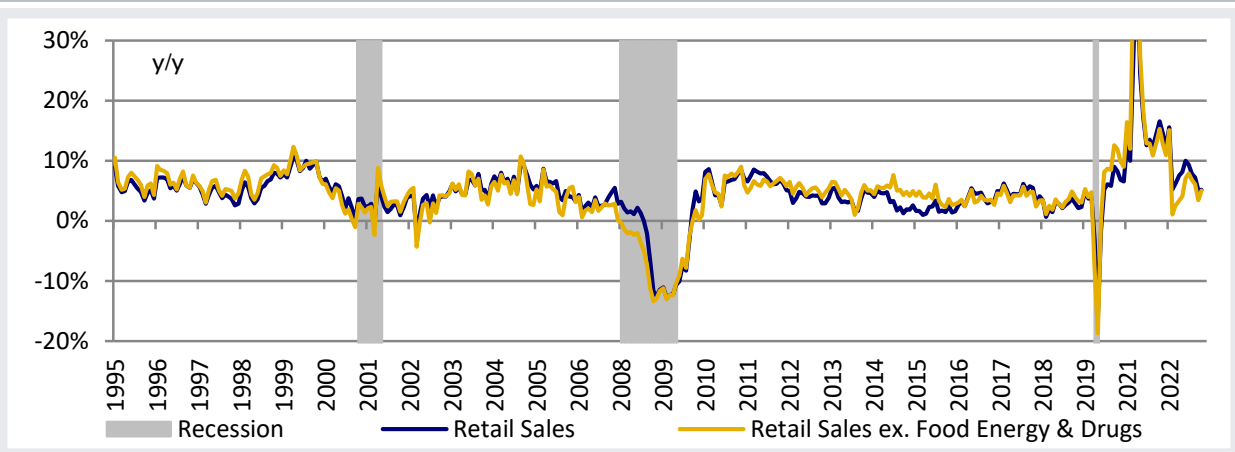
Source: FRB, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### Empire state manufacturing survey and Philly Fed manufacturing business outlook



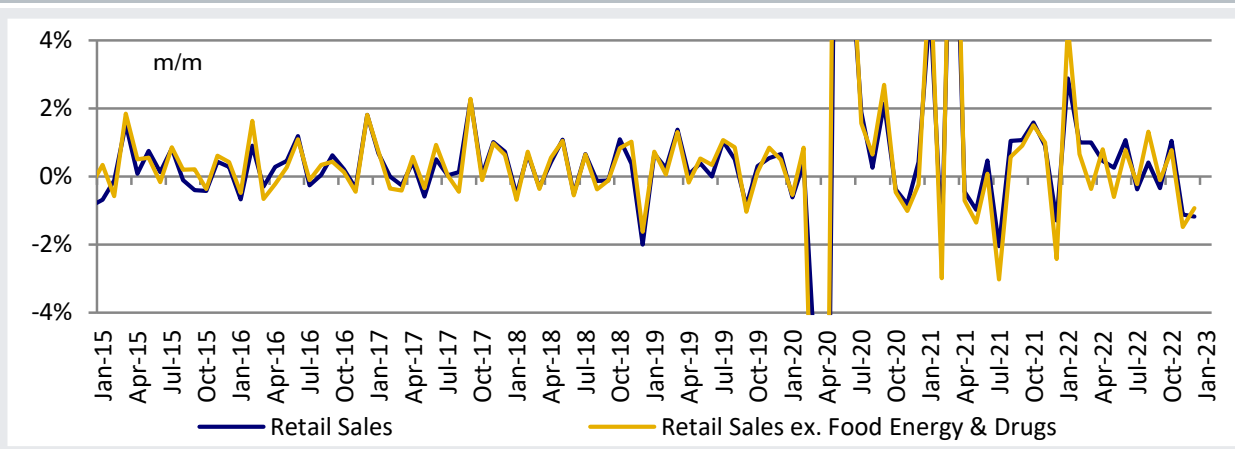
Source: Federal Reserve Bank of New York, Federal Reserve Bank of Philadelphia, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### Retail sales y/y



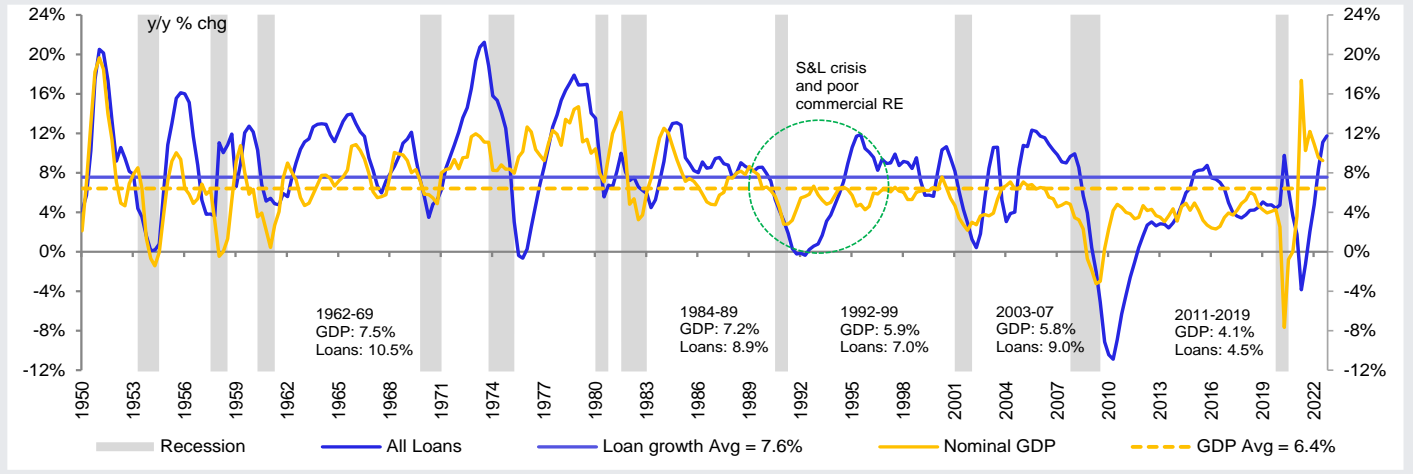
Source: Census Bureau, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### Retail sales m/m



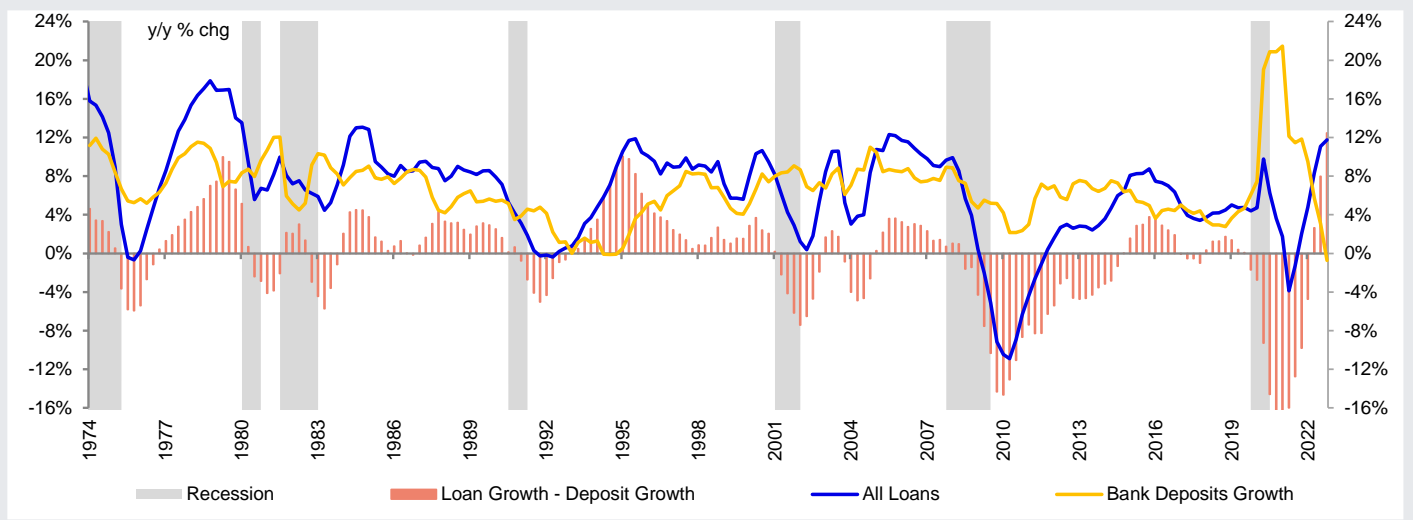
Source: Census Bureau, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### U.S. bank loan growth vs. GDP growth



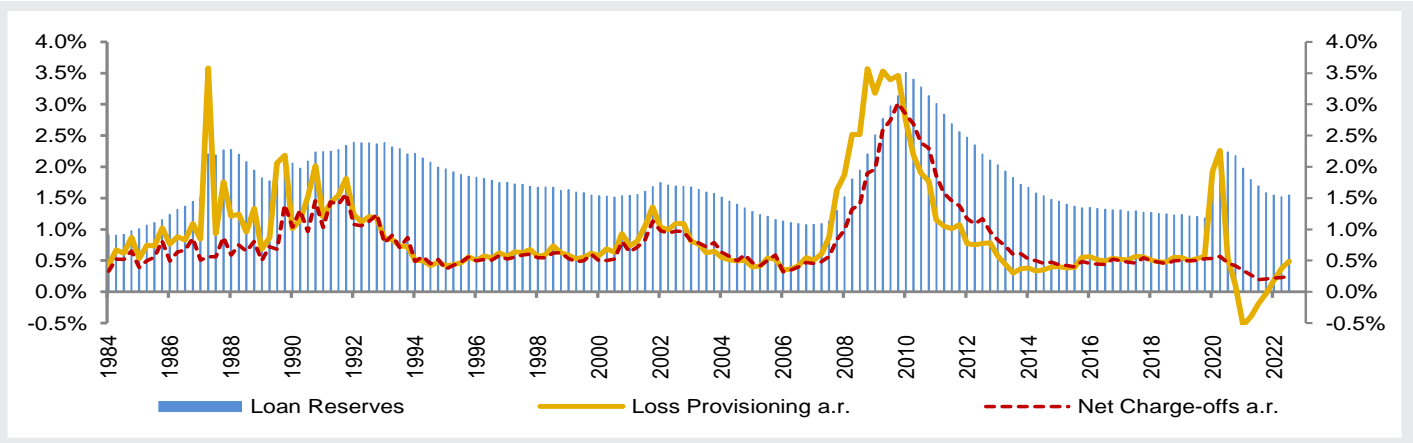
Source: Haver, DWS Investment GmbH as of 4Q2022. Past performance may not be indicative of future results.

### Bank loan growth vs. deposit growth (all commercial banks)



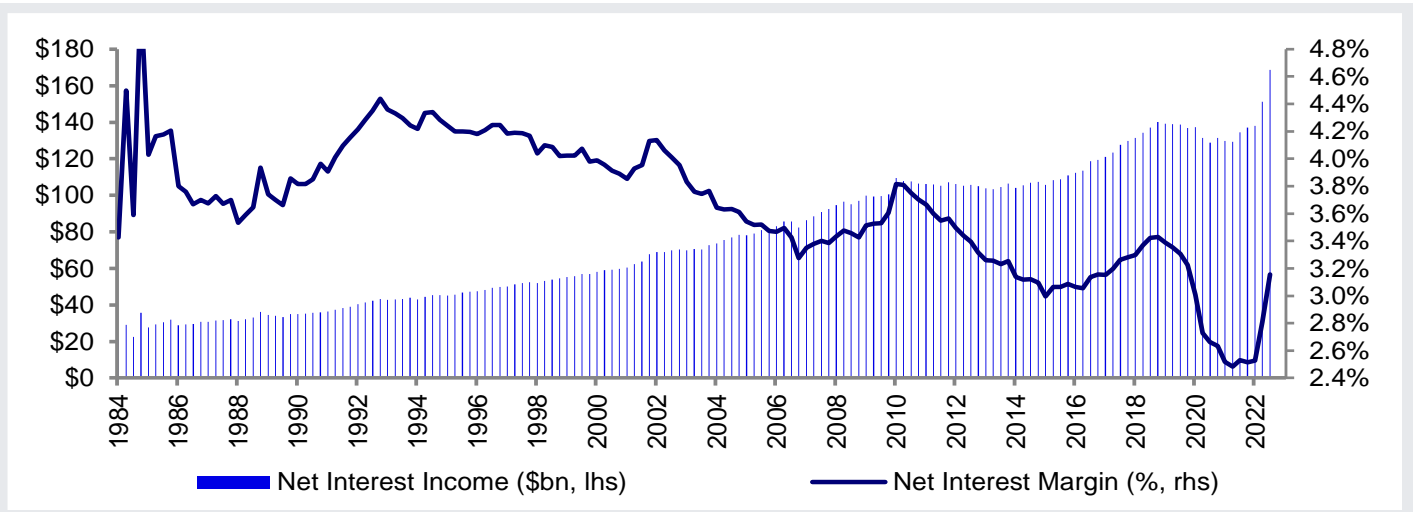
Source: FRB, BEA, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### U.S. bank loan reserves, loan loss provisions and net charge-offs (all FDIC institutions)



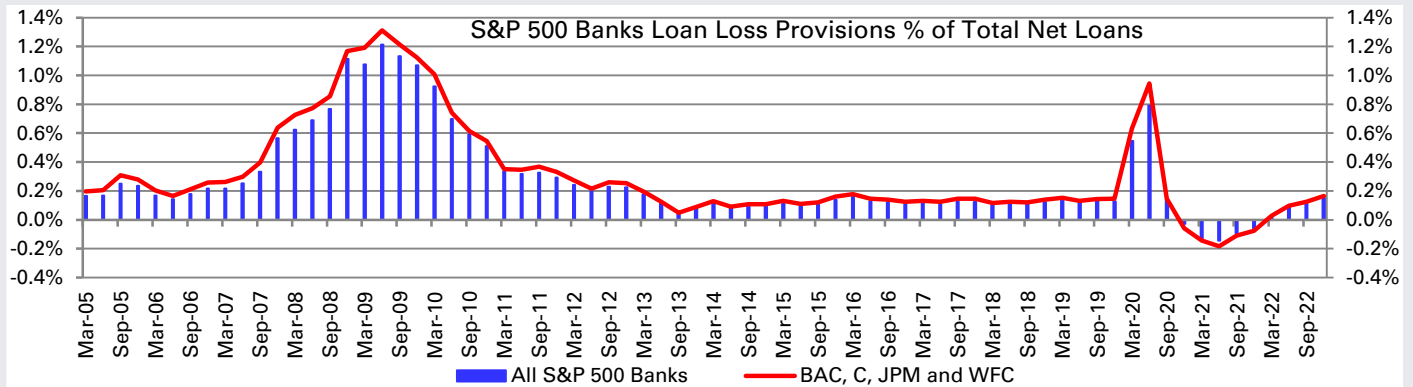
Source: Haver, DWS Investment GmbH as of 3Q2022. Past performance may not be indicative of future results.

### U.S. bank net interest income and NIM (all FDIC institutions)



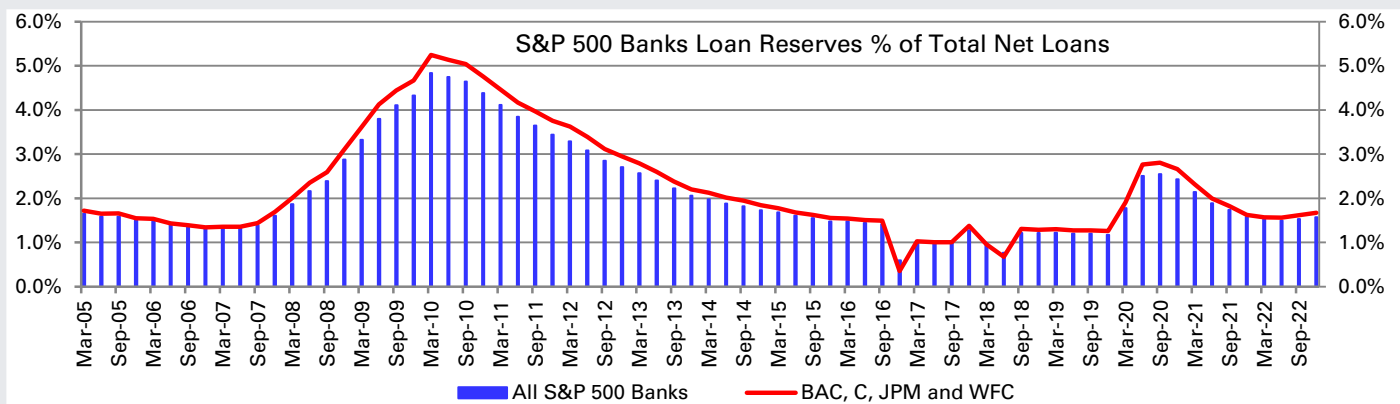
Source: Haver, DWS Investment GmbH as of 3Q2022. Past performance may not be indicative of future results.

### S&P 500 Banks loan loss provisions % total net loans



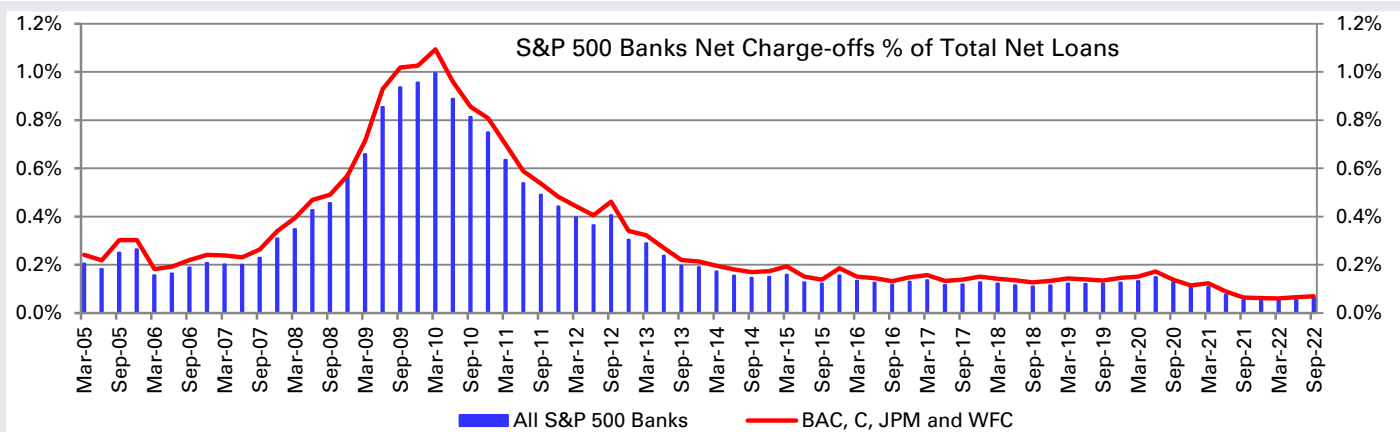
Source: Factset, DWS Investment GmbH as of 4Q2022. Past performance may not be indicative of future results.

### S&P 500 Banks loan reserves % total net loans



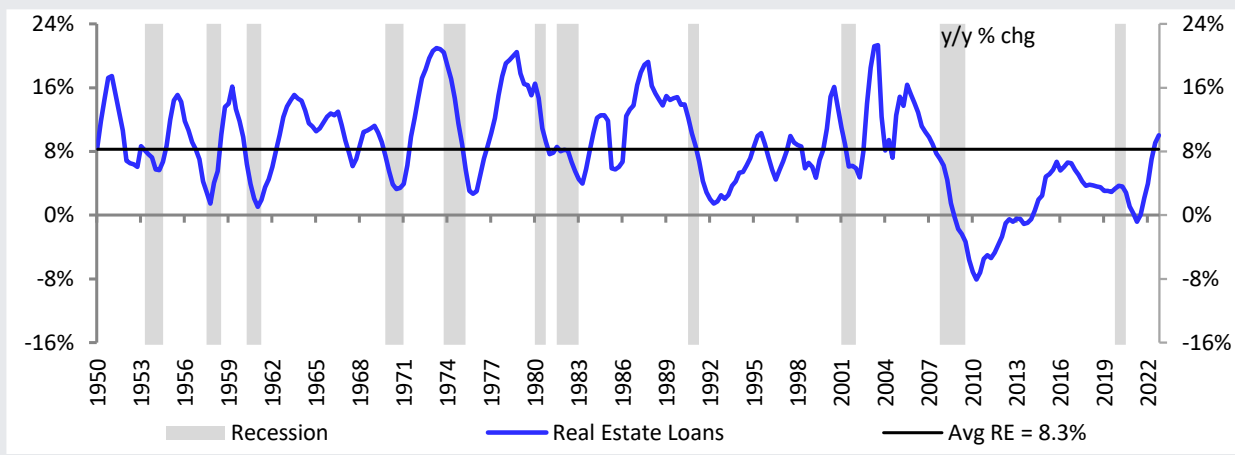
Source: Factset, DWS Investment GmbH as of 4Q2022. Past performance may not be indicative of future results.

### S&P 500 Banks net charge-offs % total net loans



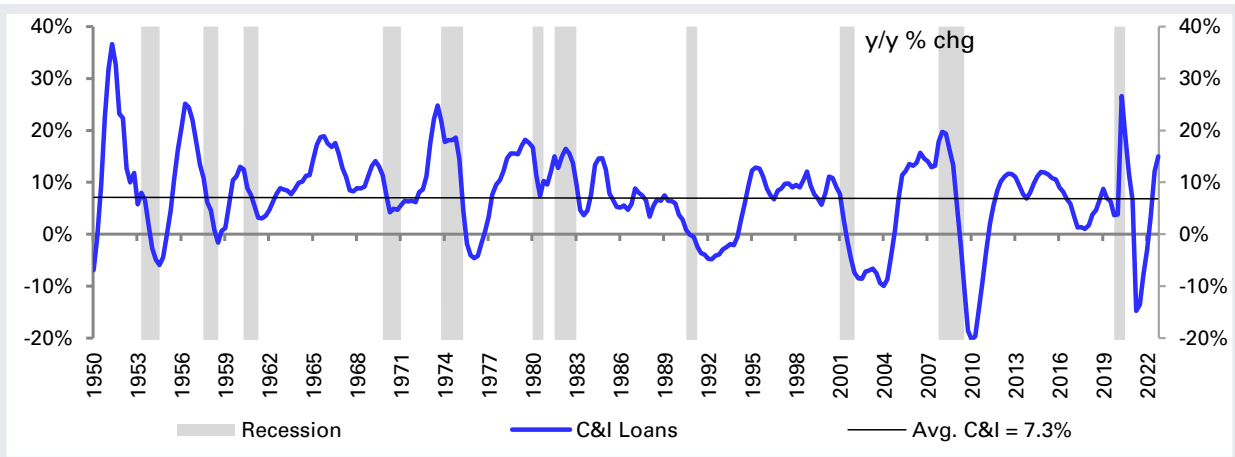
Source: Factset, DWS Investment GmbH as of 3Q2022. Past performance may not be indicative of future results.

### Real estate loan growth



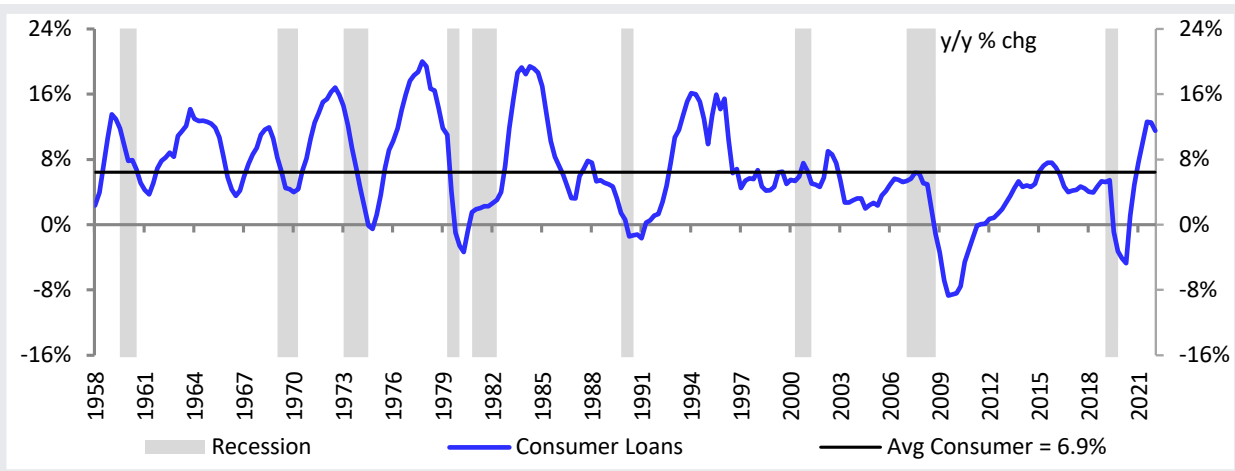
Source: FRB, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

### C&I loan growth



Source: FRB, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

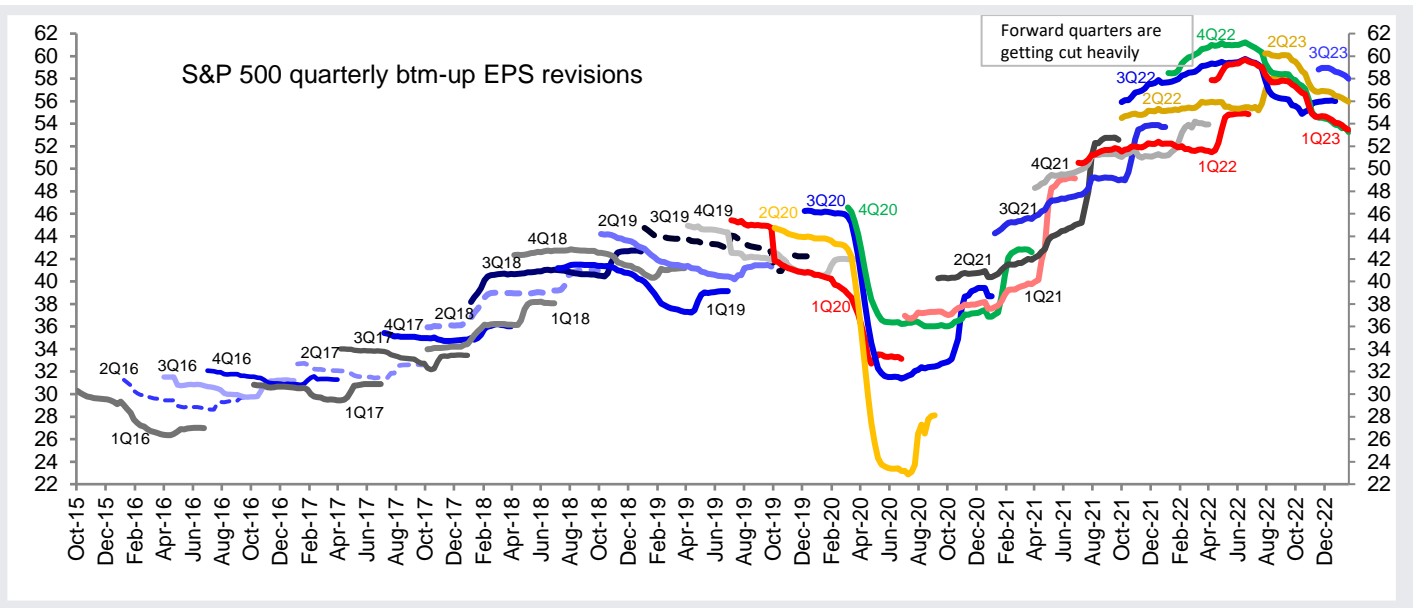
### Consumer loan growth



Source: FRB, Haver, DWS Investment GmbH as of 12/31/2022. Past performance may not be indicative of future results.

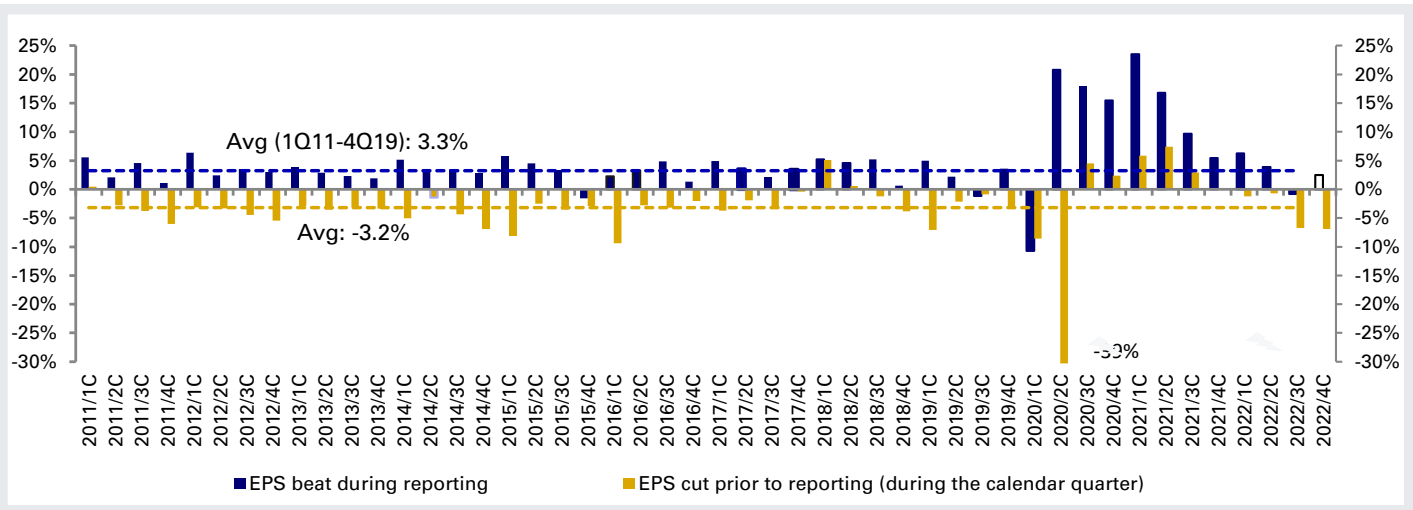


### S&P 500 quarterly EPS revision



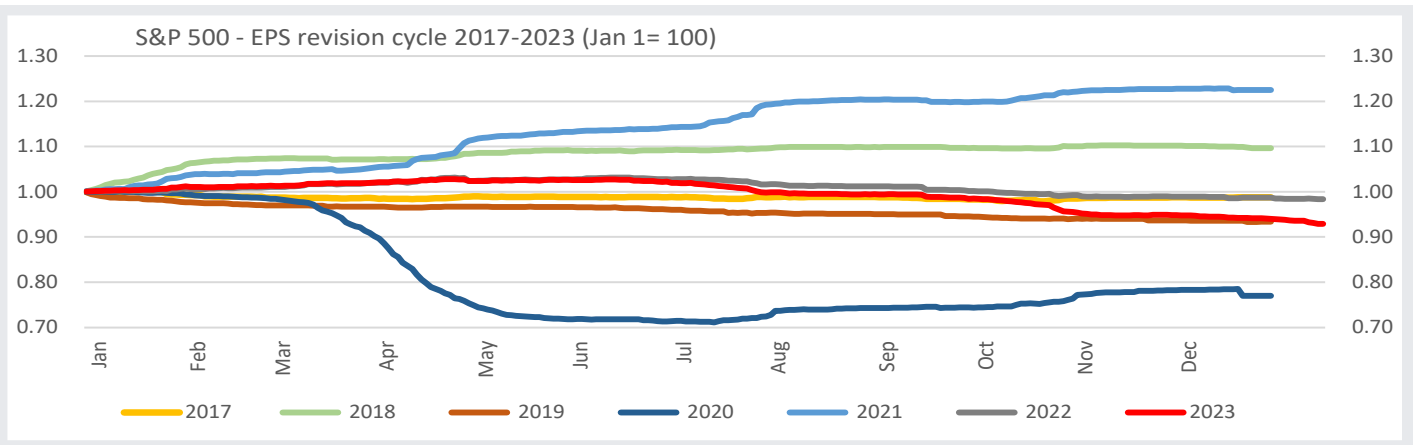
Source: Factset, IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

### S&P 500: EPS cut during the calendar quarter vs. EPS beat during earnings season



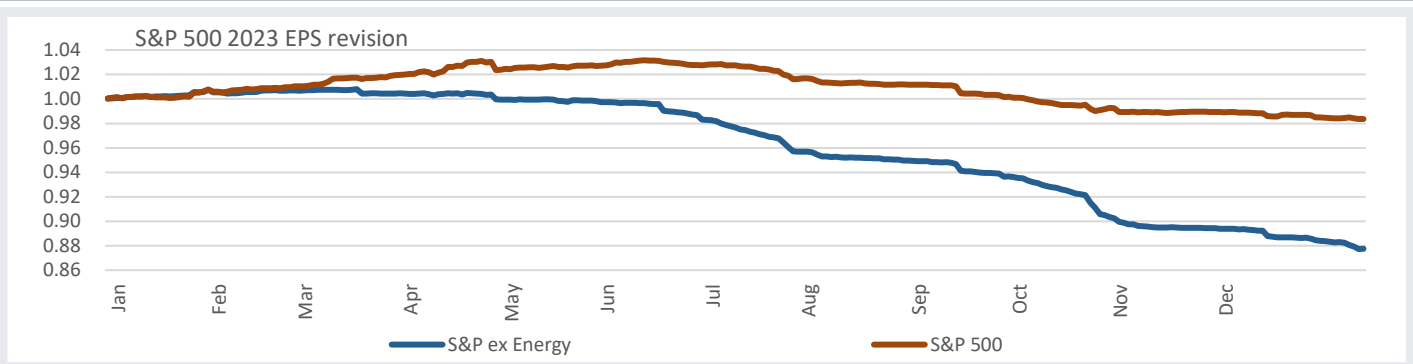
Source: Factset, DWS Investment GmbH as of 11/9/2022. Past performance may not be indicative of future results.

### S&P 500 annual EPS revision



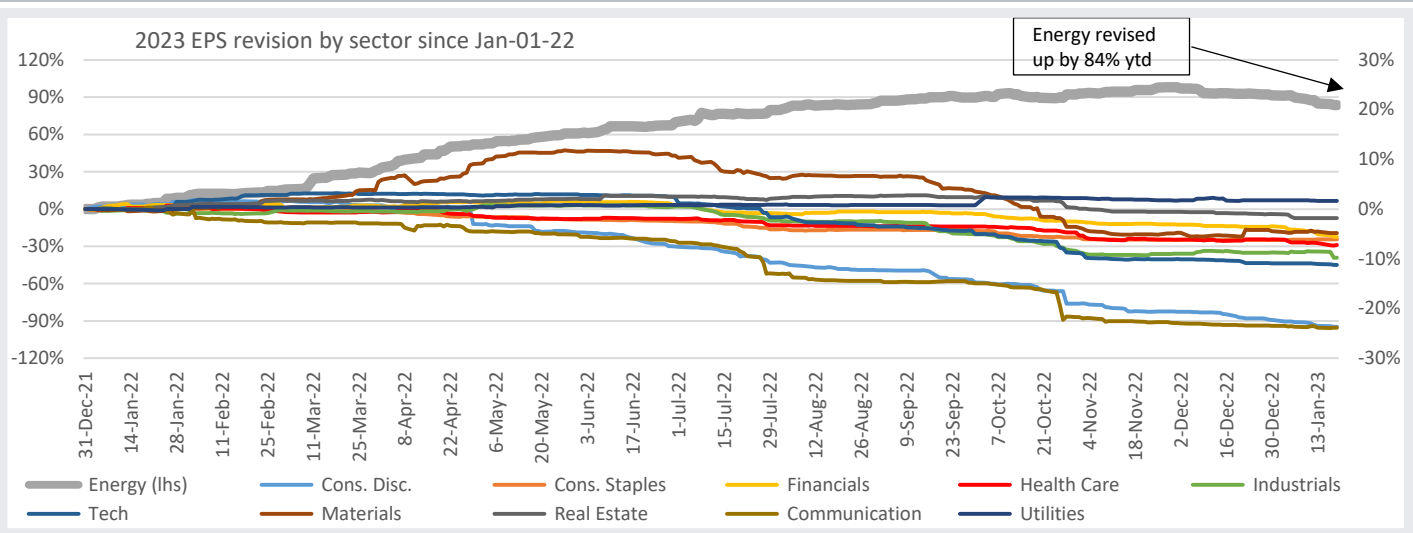
Source: Factset, IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

### S&P 500 2023 EPS revision (ex. Energy)



Source: Factset, IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

### S&P 500 2022 EPS revision by sector



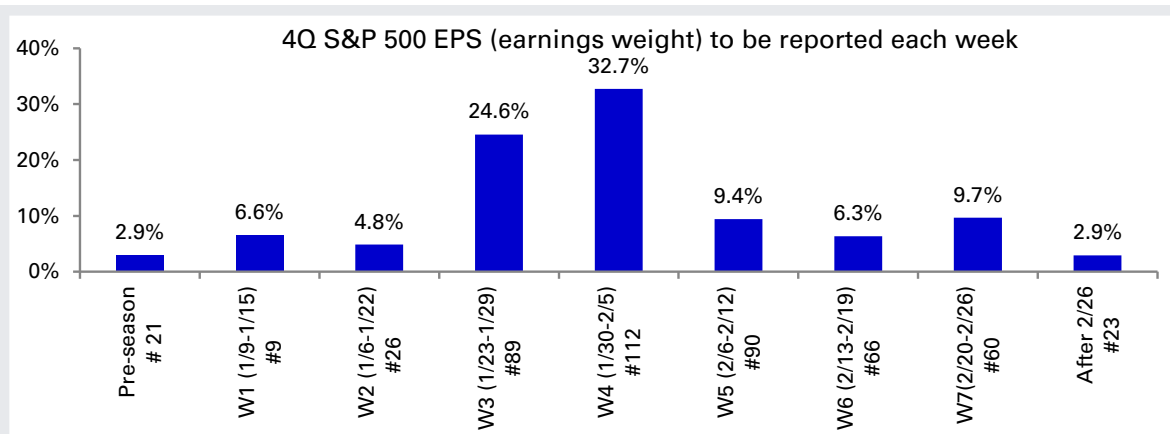
Source: Factset, IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

## S&P 500: 4Q22 earnings season summary statistics

	4Q22 Summary (Based on reported companies)										
	% of EPS reported	# Cos reported	EPS (% of co's)		EPS surprise (%)	EPS y/y (%)	Sales (% of co's)		Sales surprise (%)	Sales y/y (%)	
			% beat	% miss			% beat	% miss			
<b>S&amp;P 500</b>	<b>13.7%</b>	<b>51</b>	<b>61%</b>	<b>35%</b>	<b>2.5%</b>	<b>-7.8%</b>	<b>49%</b>	<b>35%</b>	<b>0.0%</b>	<b>6.4%</b>	
S&P 500 ex. Financials & Real Est	6.7%	28	75%	25%	3.4%	1.8%	61%	29%	0.0%	7.4%	
S&P 500 ex. Energy	15.2%	50	60%	36%	2.5%	-8.0%	50%	34%	0.0%	6.4%	
S&P ex. Tech	16.1%	46	59%	37%	2.5%	-5.3%	50%	37%	-0.1%	7.2%	
S&P ex. Energy, Financials & Real Est	7.5%	27	74%	26%	3.4%	1.5%	63%	26%	0.1%	7.4%	
Communication Services	0.1%	1	0%	100%	-72.1%	-91.0%	100%	0%	0.6%	1.9%	
Consumer Discretionary	7.5%	6	67%	33%	6.4%	48.8%	67%	33%	-0.2%	10.9%	
Consumer Staples	30.0%	7	71%	29%	2.6%	-3.6%	86%	14%	0.6%	3.9%	
Energy	1.1%	1	100%	0%	3.3%	15%	0%	100%	-6.7%	3.5%	
Financials	53.4%	22	41%	50%	1.8%	-13.9%	32%	45%	-0.2%	4.3%	
Health Care	7.5%	1	100%	0%	3.3%	19.2%	100%	0%	0.2%	12.3%	
Industrials	8.4%	6	83%	17%	10.3%	114.0%	33%	50%	-1.7%	15.3%	
Information Technology	5.6%	5	80%	20%	2.4%	-26.7%	40%	20%	0.8%	-3.7%	
Materials	2.4%	1	100%	0%	7.0%	-3.2%	100%	0%	2.1%	-0.1%	
Real Estate	7.6%	1	100%	0%	2.5%	10.7%	100%	0%	12.2%	24.6%	
Utilities	0.0%	0									

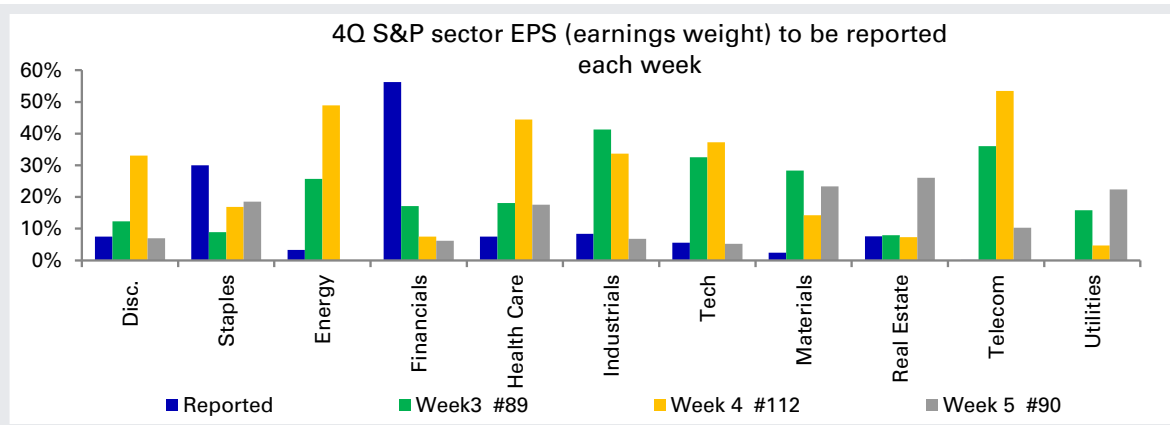
\* # Beat, # miss and weighted surprise % is based on EPS and sales estimate as of 12/31/2022 (as of 12/1/2022 for pre-season reporters)  
 EPS is considered beat or miss when the difference between actual and estimate as of 12/31/2022 is more than \$0.01 (12/1/2022 for pre-season reporters)  
 Sales is considered beat or miss when the difference between actual and estimate as of 12/31/2022 is more than \$20 million (12/1/2022 for pre-season reporters)  
 Source: Factset, DWS Investment GmbH as of 1/20/2022. Past performance may not be indicative of future results.

### 4Q22 S&P 500 earnings to be reported each week



Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

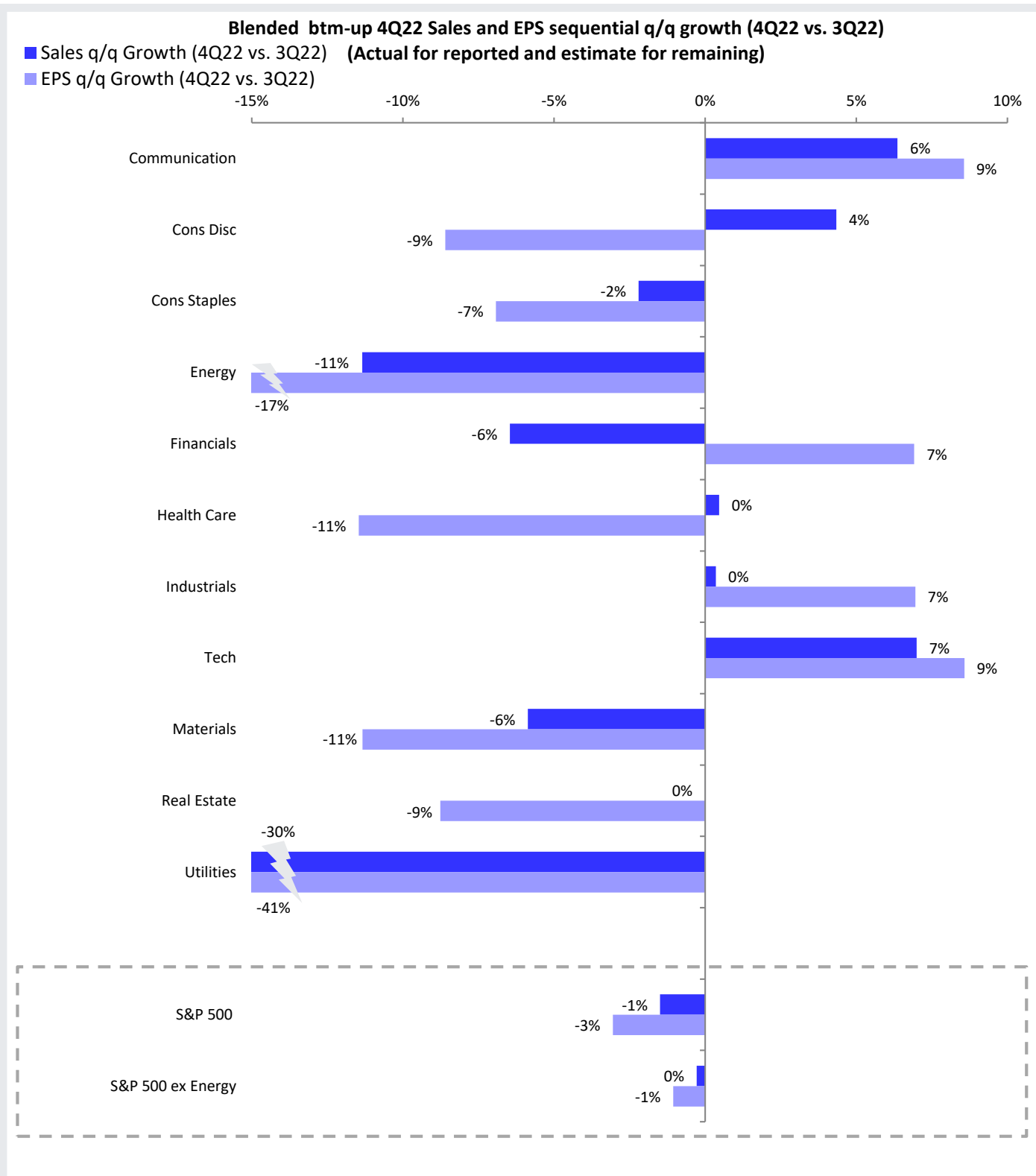
### 4Q22 S&P 500 earnings to be reported each week by sector



Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

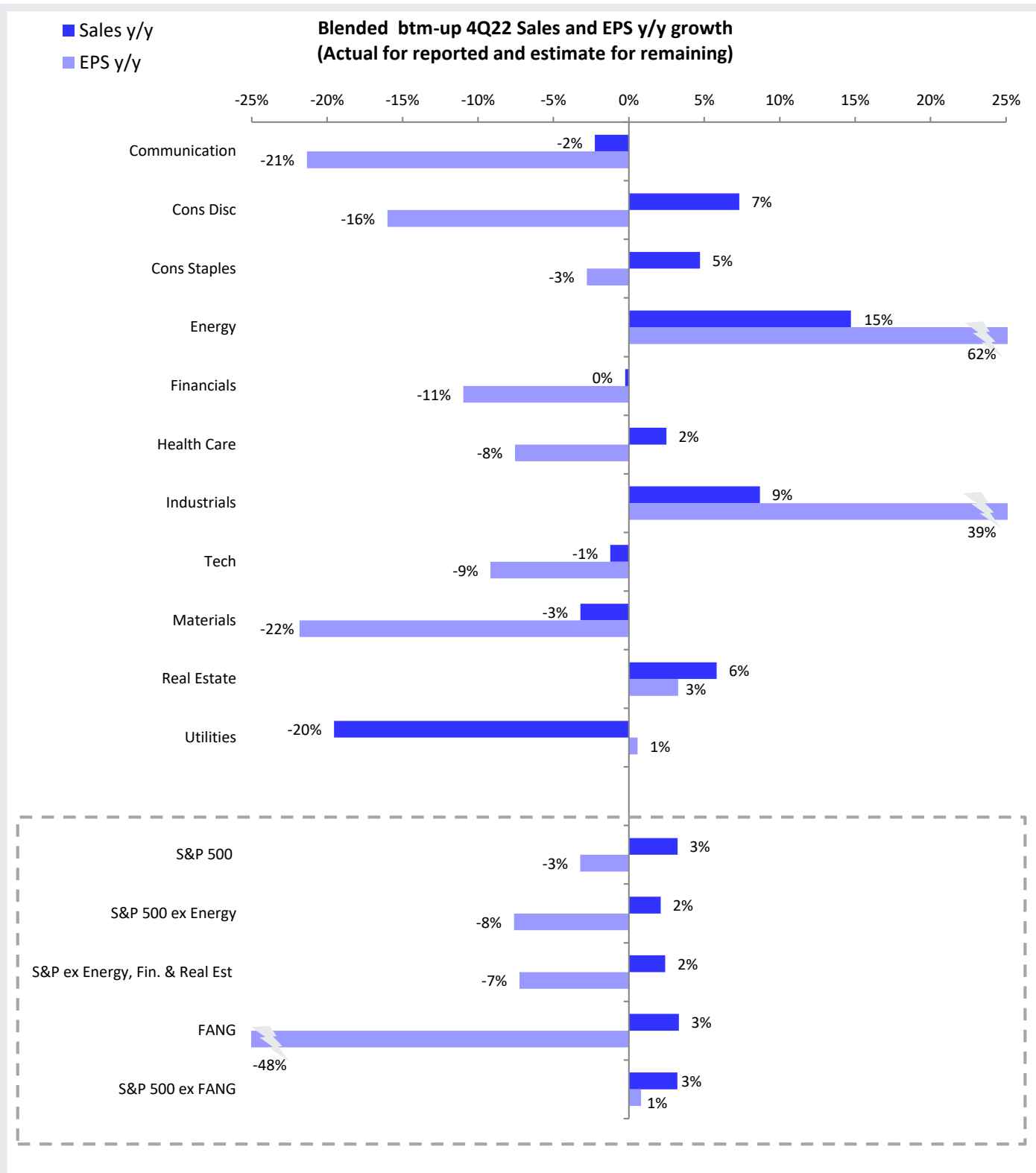


S&P 500: Blended bottom-up 4Q22 Sales and EPS sequential q/q growth by sector: 4Q22 vs. 3Q22



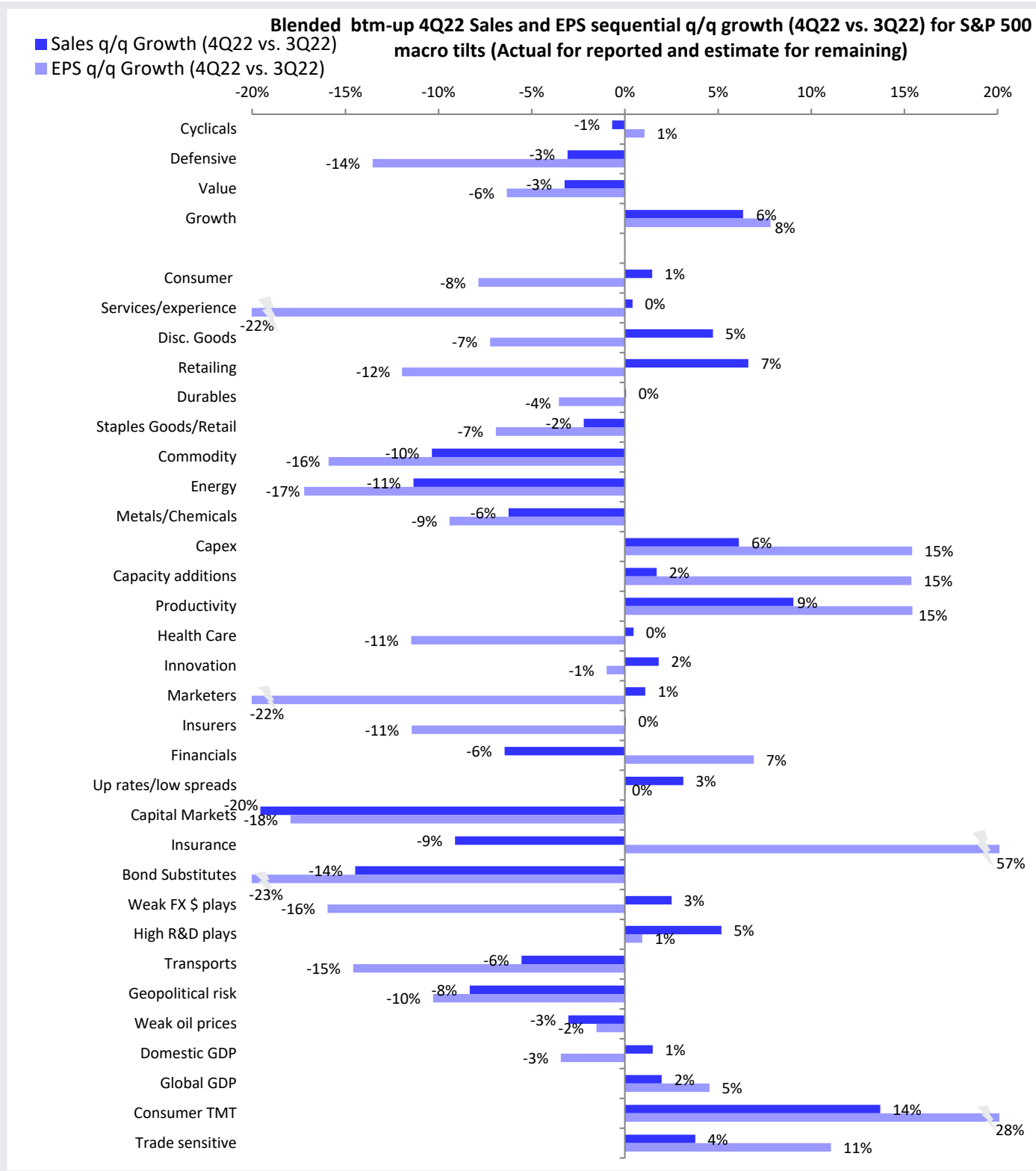
Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 4Q22 Sales and EPS y/y growth by sector: 4Q22 vs. 4Q21



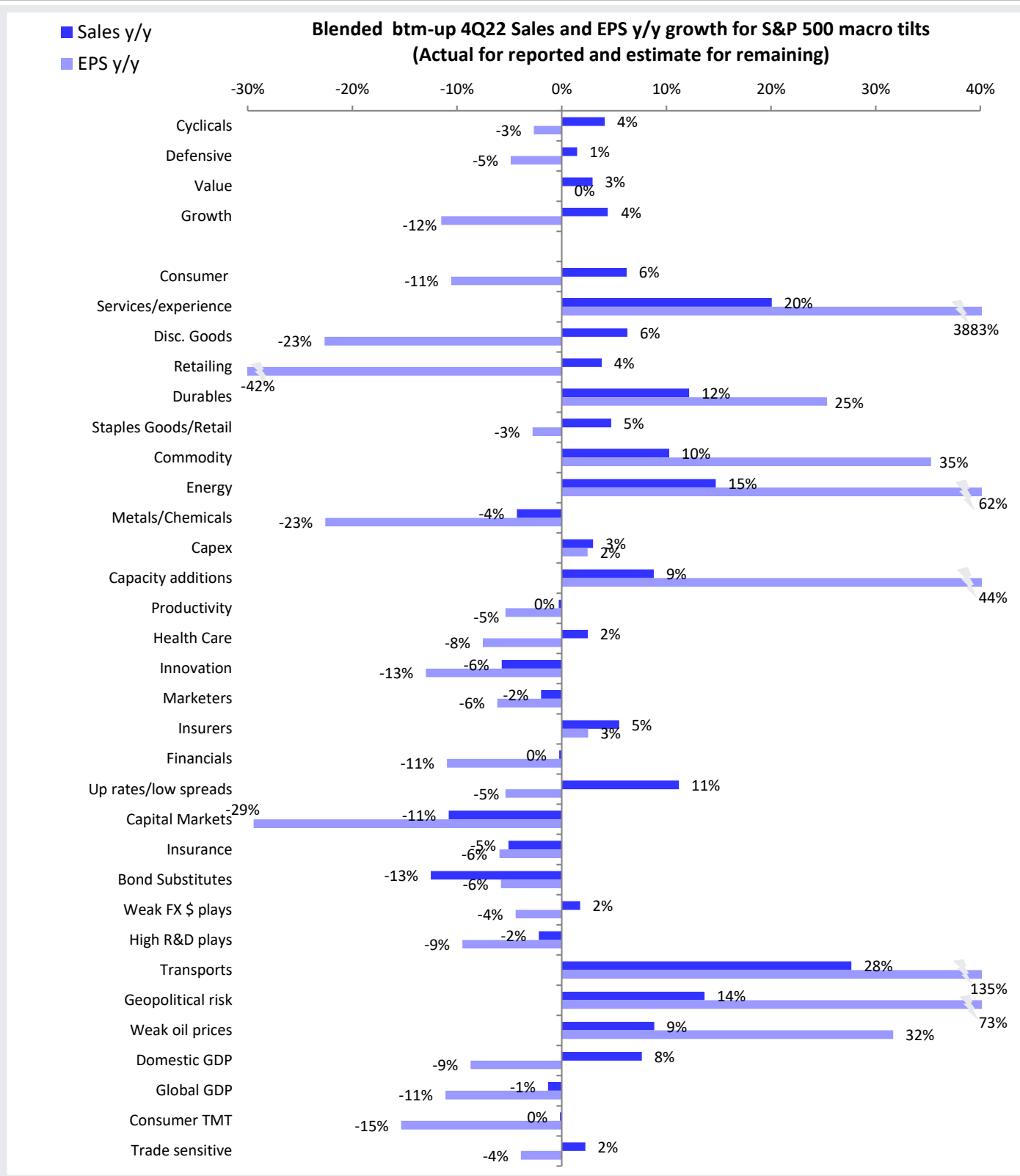
Source: Factset, DWS Investment GmbH as of 1/20/2022. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 4Q22 Sales and EPS sequential q/q growth for macro tilts: 4Q22 vs. 3Q22



Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 4Q22 Sales and EPS y/y growth for macro tilts: 4Q22 vs. 4Q21



Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.



DWS Investment GmbH S&P 500 Annual EPS Outlook

	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2021A	y/y	Bottom-up Consensus (IBES)				DWS View				Normalized 2023	
										2022E	y/y	2023E	y/y	2022E	y/y	2023E	y/y	(\$)	% of 2023
<b>S&amp;P 500 EPS (historical index)</b>	<b>\$118.82</b>	<b>\$117.46</b>	<b>\$118.10</b>	<b>\$132.00</b>	<b>\$161.93</b>	<b>\$162.93</b>	<b>\$139.72</b>	<b>\$208.12</b>	<b>49.0%</b>										
<b>S&amp;P 500 EPS (current constituents)</b>	<b>\$116.53</b>	<b>\$117.26</b>	<b>\$117.49</b>	<b>\$129.37</b>	<b>\$156.07</b>	<b>\$161.57</b>	<b>\$144.24</b>	<b>\$207.99</b>	<b>46.4%</b>	\$222.49	7.0%	\$228.98	2.9%	\$223	7.2%	\$225	0.9%	\$220	98%
Sector (\$ bn)																			
Communication Services	67.9	78.3	90.9	96.7	123.4	130.8	134.1	185.4	38.3%	164.2	-11.5%	174.0	6.0%	168.0	-9.4%	170.0	1.2%	157.0	92%
Consumer Discretionary	64.5	75.3	84.1	88.2	104.0	101.9	80.4	133.9	66.6%	137.8	2.9%	152.7	10.8%	140.0	4.5%	146.0	4.3%	149.3	102%
Consumer Staples	78.7	77.0	79.4	84.1	90.8	91.5	95.4	105.2	10.2%	107.8	2.5%	113.2	5.0%	106.0	0.8%	107.0	0.9%	107.0	100%
Energy	94.3	39.6	10.8	37.3	69.6	49.6	-5.1	78.4	1632%	204.1	160.2%	170.3	-16.5%	190.5	142.9%	172.5	-9.4%	147.8	86%
Financials	172.4	187.1	188.7	195.8	242.5	249.5	198.2	328.9	65.9%	274.8	-16.5%	307.1	11.8%	282.0	-14.3%	292.5	3.7%	295.0	101%
Health Care	137.9	153.0	157.8	172.2	189.2	207.3	227.4	294.1	29.4%	308.3	4.8%	295.8	-4.1%	310.0	5.4%	315.0	1.6%	300.7	95%
Industrials	99.9	103.4	97.4	106.2	129.8	124.1	65.1	109.0	67.4%	141.2	29.5%	158.4	12.2%	142.0	30.2%	145.0	2.1%	145.5	100%
Information Technology	177.8	185.2	194.7	229.7	268.1	266.1	298.2	382.0	28.1%	392.9	2.8%	416.2	5.9%	395.0	3.4%	410.0	3.8%	410.0	100%
Materials	24.5	23.6	22.4	28.2	35.2	33.6	32.0	58.5	82.9%	62.6	7.0%	56.2	-10.2%	63.0	7.7%	55.2	-12.4%	54.5	99%
Real Estate	23.4	26.6	29.5	32.4	36.0	37.7	37.4	44.4	18.6%	48.6	9.5%	49.8	2.4%	47.0	5.9%	49.0	4.3%	47.6	97%
Utilities	31.2	31.5	33.7	35.1	38.7	42.7	44.1	47.1	6.8%	48.0	1.9%	51.7	7.8%	50.0	6.2%	52.0	4.0%	52.6	101%
<b>S&amp;P 500</b>	<b>972.5</b>	<b>980.6</b>	<b>989.4</b>	<b>1106.1</b>	<b>1327.4</b>	<b>1334.7</b>	<b>1207.1</b>	<b>1767.0</b>	<b>46.4%</b>	<b>1890.2</b>	<b>7.0%</b>	<b>1945.3</b>	<b>2.9%</b>	<b>1893.5</b>	<b>7.2%</b>	<b>1914.2</b>	<b>1.1%</b>	<b>1867.0</b>	<b>98%</b>
S&P ex. Energy (\$bn)	878.2	941.0	978.6	1068.8	1257.8	1285.1	1212.3	1688.6	39.3%	1686.1	-0.1%	1775.1	5.3%	1703.0	0.9%	1741.7	2.3%	1719.3	99%
S&P ex. Tech (\$bn)	794.8	795.4	794.7	876.3	1059.3	1068.6	908.9	1385.0	52.4%	1497.3	8.1%	1529.2	2.1%	1498.5	8.2%	1504.2	0.4%	1457.0	97%
S&P 500 Sales/Share (historical index)	\$1,163	\$1,127	\$1,151	\$1,232	\$1,339	\$1,415	\$1,362	\$1,567	15.0%										
S&P 500 Non-GAAP Net Margin	10.2%	10.4%	10.3%	10.7%	12.1%	11.5%	10.3%	13.3%											

S&P 500 EPS	Year	1Q	2Q	3Q	4Q
<b>2019A</b>	<b>163</b>	39	41	41	42
<b>2020A</b>	<b>140</b>	33	28	38	42
<b>2021A</b>	<b>210</b>	49	53	54	54
<b>2022E</b>	<b>223</b>	55	58	56	54
<b>2023E</b>	<b>225</b>	53	56	57	59

S&P 500 EPS historical constituents represents the earnings per share (EPS) of S&P 500 index constituents at the time, while S&P 500 EPS current constituents represents the earnings per share of index constituents as of the date the data was compiled 9/30/2022.

Source: Factset, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

DWS Investment GmbH View: S&P 500 fair value by sector: Assuming a ~5.50% real cost of equity (CoE) for overall S&P 500

	Market Value (\$bn)	Current 2023 PE	2023E Earnings (\$bn)	Normal Ratio	Normal 2023E Earnings	Accounting Quality Adjustment	Fully Adjusted Earnings	Net Debt / Market Cap	Real CoE	Steady State Value	Growth Premium	2023 Start Fair Value (\$bn)	2021E Dividend Yield	2023 End Fair Value (\$bn)	PE on Normal 2023E EPS	2023 end Upside %
Communication Services	2,631	15.5	170.0	92%	157.0	-8%	144.4	15%	5.50%	2,625	0%	2,625	1.1%	2,820	18.0	7%
Consumer Discretionary	3,500	24.0	146.0	102%	149.3	-8%	137.4	12%	5.50%	2,498	12%	2,786	1.1%	2,992	20.0	-15%
<i>ex. Auto &amp; Internet Retail</i>	2,031	21.7	93.5	100%	93.5	-8%	86.0	17%	5.50%	1,564	5%	1,642	1.6%	1,755	18.8	-14%
Consumer Staples	2,287	21.4	107.0	100%	107.0	-8%	98.4	13%	4.75%	2,072	0%	2,072	2.6%	2,179	20.4	-5%
Energy	1,748	10.1	172.5	86%	147.8	-12%	130.0	16%	6.00%	2,167	-20%	1,734	2.8%	1,842	12.5	5%
Financials	3,933	13.4	292.5	101%	295.0	-10%	265.5		6.25%	4,248	-10%	3,824	2.2%	4,095	13.9	4%
Banks	1,312	10.1	130.0	105%	136.5	-10%	122.9		6.75%	1,820	-15%	1,547	3.2%	1,648	12.1	26%
Health Care	5,062	16.1	315.0	95%	300.7	-10%	270.7	9%	5.25%	5,155	0%	5,155	1.6%	5,497	18.3	9%
Industrials	2,912	20.1	145.0	100%	145.5	-8%	133.9	18%	5.50%	2,434	0%	2,434	1.7%	2,598	17.9	-11%
Information Technology	8,816	21.5	410.0	100%	410.0	-5%	389.5	2%	5.50%	7,082	10%	7,790	1.1%	8,365	20.4	-5%
Materials	953	17.3	55.2	99%	54.5	-10%	49.0	17%	5.75%	853	0%	853	1.7%	912	16.7	-4%
Real Estate	876	17.9	49.0	97%	47.6	-8%	43.8	29%	5.00%	876	0%	876	3.5%	915	19.2	4%
Utilities	966	18.6	52.0	101%	52.6	-8%	48.4	60%	5.00%	969	0%	969	3.2%	1,015	19.3	5%
S&P 500 (\$ bn)	33,684	17.6	1914.2	98%	1867.0	-8.4%	1711.0		5.50%	30,979	0.4%	31117	1.7%	33,230	17.8	-1%
S&P 500 Index (\$/sh)	3973	17.7	225.0	98%	220.0	-8.2%	202.0	11%	5.50%	3673	0.0%	3673	1.7%	3915	17.8	-1%

	>5%
	between -5% and 5%
	<-5%

Source: IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results.

S&P 500 EPS historical constituents represents the earnings per share (EPS) of S&P 500 index constituents at the time, while S&P 500 EPS current constituents represents the earnings per share of index constituents as of the date the data was compiled 9/30/2022.

The estimated 2023 year end upside is on absolute valuation basis of each sector, not on relative sector valuation basis.

DWS Investment GmbH View: S&P 500 fair value by industry (1 of 2)

	Market Value (\$bn)	Current 2023 PE	2023E Earnings (\$bn)	Normal Ratio	Normal 2023E Earnings	Accounting Quality Adjustment	Fully Adjusted Earnings	Net Debt / Market Cap	Real CoE	Steady State Value	Growth Premium	2023 Start Fair Value (\$bn)	2021E Dividend Yield	2023 End Fair Value (\$bn)	PE on Normal 2023E EPS	2023 end Upside %
<b>CONSUMER DISCRETIONARY</b>	<b>3,500</b>	<b>24.0</b>	<b>146.0</b>	<b>102%</b>	<b>149.3</b>	<b>-8%</b>	<b>137</b>	<b>12%</b>	<b>5.50%</b>	<b>2,498</b>	<b>12%</b>	<b>2,786</b>	<b>1.1%</b>	<b>2,992</b>	<b>20.0</b>	<b>-15%</b>
Auto Components	38,896	17.7	2,200	105%	2,310	-8%	2,125	11%	5.75%	36,960	5%	38,808	0.4%	42,043	18.2	8%
Automobiles	447,646	17.2	26,000	95%	24,700	-12%	21,736	19%	6.50%	334,400	30%	434,720	0.6%	473,207	19.2	6%
Distributors	53,386	17.8	3,000	100%	3,000	-8%	2,760	13%	5.75%	48,000	-5%	45,600	1.8%	48,777	16.3	-9%
Hotels Restaurants & Leisure	606,732	36.8	16,500	135%	22,275	-7%	20,716	27%	5.00%	414,315	20%	497,178	1.5%	529,658	23.8	-13%
Household Durables	124,445	8.6	14,500	90%	13,050	-15%	11,093	14%	6.75%	164,333	-15%	139,683	1.6%	151,029	11.6	21%
Internet & Direct Marketing Retail	1,021,479	38.5	26,500	100%	26,500	-8%	24,380	1%	5.50%	443,273	60%	709,236	0.0%	769,186	29.0	-25%
Leisure Products	8,200	11.7	700	100%	700	-8%	644	27%	5.75%	11,200	-20%	8,960	4.4%	9,347	13.4	14%
Multiline Retail	168,978	19.9	8,500	100%	8,500	-8%	7,820	12%	5.25%	148,952	0%	148,952	1.5%	159,035	18.7	-6%
Specialty Retail	837,295	20.2	41,500	100%	41,500	-7%	38,595	13%	5.25%	735,143	0%	735,143	1.7%	783,525	18.9	-6%
Textiles Apparel & Luxury Goods	192,677	29.2	6,600	103%	6,798	-7%	6,322	1%	5.25%	120,422	10%	132,464	1.5%	141,451	20.8	-27%
<b>CONSUMER STAPLES</b>	<b>2,287</b>	<b>21.4</b>	<b>107.0</b>	<b>100%</b>	<b>107.0</b>	<b>-8%</b>	<b>98</b>	<b>13%</b>	<b>4.75%</b>	<b>2,072</b>	<b>0%</b>	<b>2,072</b>	<b>2.6%</b>	<b>2,179</b>	<b>20.4</b>	<b>-5%</b>
Beverages	592,526	24.7	24,000	100%	24,000	-7%	22,320	13%	4.75%	469,895	15%	540,379	2.5%	568,738	23.7	-4%
Food & Staples Retailing	516,769	22.0	23,500	100%	23,500	-6%	22,090	8%	4.75%	465,053	0%	465,053	1.5%	494,038	21.0	-4%
Food Products	375,744	17.9	21,000	100%	21,000	-9%	19,110	24%	4.75%	402,316	-5%	382,200	2.5%	402,084	19.1	7%
Household Products	497,685	24.9	20,000	100%	20,000	-8%	18,400	9%	4.75%	387,368	10%	426,105	2.6%	448,254	22.4	-10%
Personal Products	63,129	42.1	1,500	100%	1,500	-8%	1,380	2%	4.75%	29,053	20%	34,863	1.0%	37,227	24.8	-41%
Tobacco	241,573	14.2	17,000	100%	17,000	-9%	15,470	20%	4.75%	325,684	-25%	244,263	6.1%	248,385	14.6	3%
<b>Energy</b>	<b>1,748</b>	<b>10.1</b>	<b>172.5</b>	<b>86%</b>	<b>147.8</b>	<b>-12%</b>	<b>130</b>	<b>16%</b>	<b>6.00%</b>	<b>2,167</b>	<b>-20%</b>	<b>1,734</b>	<b>2.8%</b>	<b>1,842</b>	<b>12.5</b>	<b>5%</b>
Energy Equipment & Services	142,224	19.0	7,500	100%	7,500	-8%	6,900	20%	5.75%	120,000	5%	126,000	1.8%	134,705	18.0	-5%
Oil Gas & Consumable Fuels	1,605,340	9.7	165,000	85%	140,250	-12%	123,420	16%	6.00%	2,057,000	-20%	1,645,600	3.4%	1,738,095	12.4	8%
<b>FINANCIALS</b>	<b>3,933</b>	<b>13.4</b>	<b>292.5</b>	<b>101%</b>	<b>295.0</b>	<b>-10%</b>	<b>266</b>	<b>0%</b>	<b>6.25%</b>	<b>4,248</b>	<b>-10%</b>	<b>3,824</b>	<b>2.2%</b>	<b>4,095</b>	<b>13.9</b>	<b>4%</b>
Capital Markets	1,034,826	17.5	59,000	95%	56,050	-10%	50,445	2%	6.25%	807,120	-5%	766,764	2.1%	821,287	14.7	-21%
Banks	1,311,927	10.1	130,000	105%	136,500	-10%	122,850	N/A	6.75%	1,820,000	-10%	1,638,000	3.1%	1,747,558	12.8	33%
Consumer Finance	194,813	9.5	20,500	95%	19,475	-15%	16,554	N/A	7.00%	236,482	-20%	189,186	1.7%	204,931	10.5	5%
Diversified Financial Services	575,801	21.7	26,500	100%	26,500	-7%	24,645	3%	5.50%	448,091	0%	448,091	0.0%	486,179	18.3	-16%
Insurance	816,053	14.4	56,500	100%	56,500	-8%	51,980	N/A	5.75%	904,000	-5%	858,800	1.7%	919,725	16.3	13%
<b>Health Care</b>	<b>5,062</b>	<b>16.1</b>	<b>315.0</b>	<b>95%</b>	<b>300.7</b>	<b>-10%</b>	<b>271</b>	<b>9%</b>	<b>5.25%</b>	<b>5,155</b>	<b>0%</b>	<b>5,155</b>	<b>1.6%</b>	<b>5,497</b>	<b>18.3</b>	<b>9%</b>
Biotechnology	801,539	13.1	61,000	95%	57,950	-10%	52,155	14%	5.25%	993,429	-15%	844,414	2.3%	894,394	15.4	12%
Health Care Equipment & Supplies	1,120,830	23.6	47,500	98%	46,550	-9%	42,361	9%	5.25%	806,867	20%	968,240	1.0%	1,038,314	22.3	-7%
Health Care Providers & Services	1,162,308	15.8	73,500	95%	69,825	-9%	63,541	8%	5.25%	1,210,300	0%	1,210,300	1.3%	1,294,947	18.5	11%
Life Sciences Tools & Services	452,089	26.3	17,200	95%	16,340	-9%	14,869	10%	5.25%	283,227	20%	339,872	0.2%	367,320	22.5	-19%
Pharmaceuticals	1,525,107	13.3	114,600	95%	108,870	-10%	97,983	8%	5.25%	1,866,343	-10%	1,679,709	2.5%	1,775,896	16.3	16%

Source: IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results. The estimated 2023 year end upside is on absolute valuation basis of each sector, not on relative sector valuation basis.

DWS Investment GmbH View: S&P 500 fair value by industry (2 of 2)

	Market Value (\$bn)	Current 2023 PE	2023E Earnings (\$bn)	Normal Ratio	Normal 2023E Earnings	Accounting Quality Adjustment	Fully Adjusted Earnings	Net Debt / Market Cap	Real CoE	Steady State Value	Growth Premium	2023 Start Fair Value (\$bn)	2021E Dividend Yield	2023 End Fair Value (\$bn)	PE on Normal 2023E EPS	2023 end Upside %
<b>INDUSTRIALS</b>	<b>2,912</b>	<b>20.1</b>	<b>145.0</b>	<b>100%</b>	<b>145.5</b>	<b>-8%</b>	<b>134</b>	<b>18%</b>	<b>5.50%</b>	<b>2,434</b>	<b>0%</b>	<b>2,434</b>	<b>1.7%</b>	<b>2,598</b>	<b>17.9</b>	<b>-11%</b>
Aerospace & Defense	618,150	23.8	26,000	102%	26,520	-8%	24,398	22%	5.25%	464,731	10%	511,205	1.5%	545,645	20.6	-12%
Air Freight & Logistics	208,912	14.7	14,200	100%	14,200	-10%	12,780	8%	6.00%	213,000	-10%	191,700	2.9%	203,382	14.3	-3%
Airlines	77,807	11.4	6,800	115%	7,820	-15%	6,647	69%	8.00%	83,088	0%	83,088	0.5%	91,771	11.7	18%
Building Products	164,167	20.5	8,000	100%	8,000	-8%	7,360	15%	5.75%	128,000	0%	128,000	1.8%	136,956	17.1	-17%
Commercial Services & Supplies	137,803	25.1	5,500	100%	5,500	-8%	5,060	12%	5.00%	101,200	0%	101,200	1.4%	107,900	19.6	-22%
Construction & Engineering	36,168	18.1	2,000	100%	2,000	-8%	1,840	18%	5.50%	33,455	0%	33,455	0.5%	36,147	18.1	0%
Electrical Equipment	185,804	19.6	9,500	102%	9,690	-8%	8,915	11%	5.25%	169,806	5%	178,296	1.8%	189,870	19.6	2%
Industrial Conglomerates	340,914	19.9	17,100	102%	17,442	-8%	16,047	11%	5.25%	305,650	0%	305,650	2.0%	324,846	18.6	-5%
Machinery	633,933	20.1	31,500	97%	30,555	-8%	28,111	21%	5.50%	511,102	0%	511,102	1.6%	546,520	17.9	-14%
Professional Services	106,563	29.6	3,600	100%	3,600	-8%	3,312	19%	5.25%	63,086	0%	63,086	0.5%	67,950	18.9	-36%
Road & Rail	319,368	19.4	16,500	97%	16,005	-8%	14,725	18%	5.25%	280,469	0%	280,469	1.7%	298,761	18.7	-6%
Trading Companies & Distributors	82,086	19.1	4,300	97%	4,171	-10%	3,754	14%	5.50%	68,253	0%	68,253	1.4%	73,126	17.5	-11%
<b>INFORMATION TECHNOLOGY</b>	<b>8,816</b>	<b>21.5</b>	<b>410.0</b>	<b>100%</b>	<b>410.0</b>	<b>-5%</b>	<b>390</b>	<b>2%</b>	<b>5.50%</b>	<b>7,082</b>	<b>10%</b>	<b>7,790</b>	<b>1.1%</b>	<b>8,365</b>	<b>20.4</b>	<b>-5%</b>
Communications Equipment	285,058	15.4	18,500	100%	18,500	-7%	17,205	-3%	5.75%	299,217	-10%	269,296	2.5%	286,102	15.5	0%
Technology Hardware Storage & Periphe	2,251,906	20.7	109,000	100%	109,000	-5%	103,550	3%	5.50%	1,882,727	5%	1,976,864	0.7%	2,130,444	19.5	-5%
Electronic Equipment Instruments & Com	205,972	19.6	10,500	100%	10,500	-7%	9,765	11%	5.75%	169,826	5%	178,317	1.1%	191,880	18.3	-7%
IT Services	1,578,091	22.1	71,500	100%	71,500	-5%	67,925	7%	5.50%	1,235,000	15%	1,420,250	1.2%	1,523,483	21.3	-3%
Semiconductors & Semiconductor Equipr	1,772,804	19.7	90,000	100%	90,000	-8%	82,800	2%	6.00%	1,380,000	0%	1,380,000	1.6%	1,481,939	16.5	-16%
Software	2,722,236	24.6	110,500	100%	110,500	-5%	104,975	0%	5.00%	2,099,500	20%	2,519,400	0.9%	2,699,290	24.4	-1%
<b>MATERIALS</b>	<b>953</b>	<b>17.3</b>	<b>55.2</b>	<b>99%</b>	<b>54.5</b>	<b>-10%</b>	<b>49</b>	<b>17%</b>	<b>5.75%</b>	<b>853</b>	<b>0%</b>	<b>853</b>	<b>1.7%</b>	<b>912</b>	<b>16.7</b>	<b>-4%</b>
Chemicals	653,907	17.2	38,000	100%	38,000	-10%	34,200	15%	5.75%	594,783	0%	594,783	1.9%	635,616	16.7	-3%
Construction Materials	45,473	26.7	1,700	95%	1,615	-10%	1,454	19%	5.75%	25,278	0%	25,278	0.8%	27,280	16.9	-40%
Containers & Packaging	98,851	13.2	7,500	100%	7,500	-10%	6,750	36%	5.75%	117,391	-15%	99,783	2.8%	105,722	14.1	7%
Metals & Mining	154,823	19.4	8,000	92%	7,360	-10%	6,624	5%	6.00%	110,400	-10%	99,360	2.0%	106,288	14.4	-31%
<b>REAL ESTATE</b>	<b>876</b>	<b>17.9</b>	<b>49.0</b>	<b>97%</b>	<b>47.6</b>	<b>-8%</b>	<b>44</b>	<b>29%</b>	<b>5.00%</b>	<b>876</b>	<b>0%</b>	<b>876</b>	<b>3.5%</b>	<b>915</b>	<b>19.2</b>	<b>4%</b>
Equity Real Estate Investment Trusts (RE	847,628	18.0	47,000	97%	45,590	-8%	41,943	30%	5.00%	838,856	0%	838,856	3.5%	876,659	19.2	3%
Real Estate Management & Development	28,320	14.2	2,000	100%	2,000	-8%	1,840	4%	5.50%	33,455	0%	33,455	0.0%	36,298	18.1	28%
<b>COMMUNICATION SERVICES</b>	<b>2,631</b>	<b>15.5</b>	<b>170.0</b>	<b>92%</b>	<b>157.0</b>	<b>-8%</b>	<b>144</b>	<b>15%</b>	<b>5.50%</b>	<b>2,625</b>	<b>0%</b>	<b>2,625</b>	<b>1.1%</b>	<b>2,820</b>	<b>18.0</b>	<b>7%</b>
Diversified Telecommunication Services	300,025	7.9	38,000	95%	36,100	-15%	30,685	105%	5.50%	557,909	-30%	390,536	6.6%	397,928	11.0	33%
Entertainment	473,214	26.3	18,000	100%	18,000	-5%	17,100	9%	5.50%	310,909	25%	388,636	0.2%	421,047	23.4	-11%
Interactive Media & Services	1,477,961	16.9	87,500	90%	78,750	-5%	74,813	-8%	5.50%	1,360,227	5%	1,428,239	0.0%	1,549,639	19.7	5%
Media	293,120	12.2	24,000	90%	21,600	-12%	19,008	60%	6.25%	304,128	-25%	228,096	2.2%	244,239	11.3	-17%
Wireless Telecommunication Services	86,965	34.8	2,500	100%	2,500	-5%	2,375	42%	5.25%	45,238	10%	49,762	0.0%	53,867	21.5	-38%
<b>UTILITIES</b>	<b>966</b>	<b>18.6</b>	<b>52.0</b>	<b>101%</b>	<b>52.6</b>	<b>-8%</b>	<b>48</b>	<b>60%</b>	<b>5.00%</b>	<b>969</b>	<b>0%</b>	<b>969</b>	<b>3.2%</b>	<b>1,015</b>	<b>19.3</b>	<b>5%</b>
Electric Utilities	614,825	19.2	32,000	102%	32,640	-8%	30,029	60%	5.00%	600,576	5%	630,605	3.2%	661,162	20.3	8%
Gas Utilities	14,720	19.6	750	100%	750	-8%	690	46%	5.00%	13,800	0%	13,800	2.8%	14,516	19.4	-1%
Independent Power and Renewable Elect	25,045	8.6	2,900	100%	2,900	-15%	2,465	113%	7.00%	35,214	0%	35,214	3.2%	37,613	13.0	50%
Multi-Utilities	283,408	18.3	15,500	100%	15,500	-8%	14,260	59%	5.00%	285,200	0%	285,200	3.4%	298,340	19.2	5%
Water Utilities	27,548	32.4	850	100%	850	-5%	808	38%	3.75%	21,533	0%	21,533	1.7%	22,615	26.6	-18%

Source: IBES, DWS Investment GmbH as of 1/20/2023. Past performance may not be indicative of future results. The estimated 2023 year end upside is on absolute valuation basis of each sector, not on relative sector valuation basis.



## S&P 500 Intrinsic Valuation Model

S&P 500 Capitalized EPS Valuation		S&P 500 Dividend Discount Model		S&P 500 Long-term EPS & DPS Growth		S&P 500 Cost of Equity & Fair Book Multiple	
<b>DWS 2023E S&amp;P 500 EPS</b>	<b>\$225.00</b>	<b>DWS 2023E S&amp;P 500 DPS</b>	<b>\$70.00</b>	DWS 2023E S&P 500 aggregate ROE	22.5%	Fair long-term nominal return on S&P 500 index	8.50%
		2023E dividend payout ratio	31%	2022E end S&P 500 book value per share	\$1,000	Components of estimated fair S&P 500 return:	
<b>DWS "normal 2023E" S&amp;P 500 EPS</b>	<b>\$220.00</b>	<b>DWS "normal 2023E" S&amp;P 500 DPS</b>	<b>\$70.00</b>	DWS "normal 2023E" S&P 500 aggregate ROE	20.2%	+ Long-term real risk free interest rate	1.50%
"Normal 2023E" EPS / 2023E EPS	98%	Normal dividend payout ratio	35%			+ Long-term fair S&P 500 equity risk premium*	4.00%
				<b>S&amp;P EPS retained for true reinvestment</b>	<b>47%</b>	<b>= Long-term real S&amp;P 500 cost of equity</b>	<b>5.50%</b>
Accounting quality adjustment to pro forma EPS	-\$18.00	EPS directed to net share repurchases	\$38.00	<b>Estimated ROE on reinvested S&amp;P EPS</b>	<b>8.50%</b>	+ Long-term inflation forecast	3.00%
		Normal share repurchase payout ratio	19%	<b>Economic margin (EM) or ROE-CoE</b>	<b>0.00%</b>	<b>= S&amp;P 500 nominal cost of equity</b>	<b>8.50%</b>
<b>Normal 2023E S&amp;P 500 EPS fair to capitalize</b>	<b>\$202</b>	Total payout of S&P 500 EPS	\$108.00	Sources of long-term earnings growth:		* S&P 500 ERP history 300-400bps, w/ real CoE @ 5% - 6.5%	
Key principle: steady-state value = normal EPS / real CoE		Total payout ratio of normal and quality adj. EPS	53%	+ Long-term inflation forecast	3.00%	<b>Fair S&amp;P 500 Market Value and Book Value Multiple</b>	
				+ Fair return on true reinvestment	2.56%	2022E end S&P 500 book value per share	\$1,000
<u>S&amp;P 500 EPS Capitalization Valuation</u>		<u>S&amp;P 500 DPS Discount Model</u>		+ Value added return on true reinvestment	0.00%	Fair PB = Fair PE * normal aggregate ROE	3.67
Normal EPS / (real CoE - (EM/payout) - EM):		Normal DPS / (nominal CoE - DPS growth):		= Long-term earnings growth	5.56%	Fair PE =(inc ROE-g)/(inc real ROE*(real CoE-real g))	18.2
S&P 500 intrinsic value at 2023 start	3673	S&P 500 intrinsic value at 2023 start	3673	+ Growth from net share repurchases	1.03%	Implied S&P 500 fair value of book at 2023 start	3673
<b>S&amp;P 500 intrinsic value at 2023 end</b>	<b>3915</b>	S&P 500 intrinsic value at 2023 end	3915	<b>= Long-term S&amp;P 500 EPS/DPS growth</b>	<b>6.59%</b>	Steady-state PB = normal agg. ROE / real CoE	3.67
Implied fair fwd PE in early 2023 on 2023E \$225 EPS	16.3	Implied fair forward yield on 2023E DPS of \$70.0	1.91%	+ Fair normal dividend yield	1.91%	Confirmed by fair steady-state PE = 1 / real CoE	18.2
Implied fair trailing PE at 2023 end on 2023E \$225 EPS	17.4	Implied fair trailing yield on 2023E DPS of \$70.0	1.79%	<b>= Total long-term return at constant PE</b>	<b>8.50%</b>		
Normal EPS / (real CoE-value added EPS growth)	3673	DPS discount model using true DPS (all payout)	3673	Value added growth premium in fair value est.	0%	Normal 2023E economic profit per share	\$147.00

S&P 500 EPS discount model 5 steps to value:	
1) Estimate normalized S&P 500 EPS	
2) Adjust normalized EPS for pro forma accounting quality	
3) Estimate a fair long-term real return on S&P 500 ownership (CoE)	
4) Capitalize normalized and accounting quality adj. EPS at real CoE	
5) Consider long-term potential for value added growth opportunities	

		Normal 2023E S&P 500 EPS				
		\$210	\$215	\$220	\$225	\$230
Real	5.00%	4427	4567	4709	4852	4997
cost of	5.25%	4041	4158	4275	4393	4511
equity	5.50%	3718	3816	3915	4014	4112
	5.75%	3443	3527	3611	3695	3778
	6.00%	3206	3279	3352	3424	3495

Source: DWS Investment Management GmbH

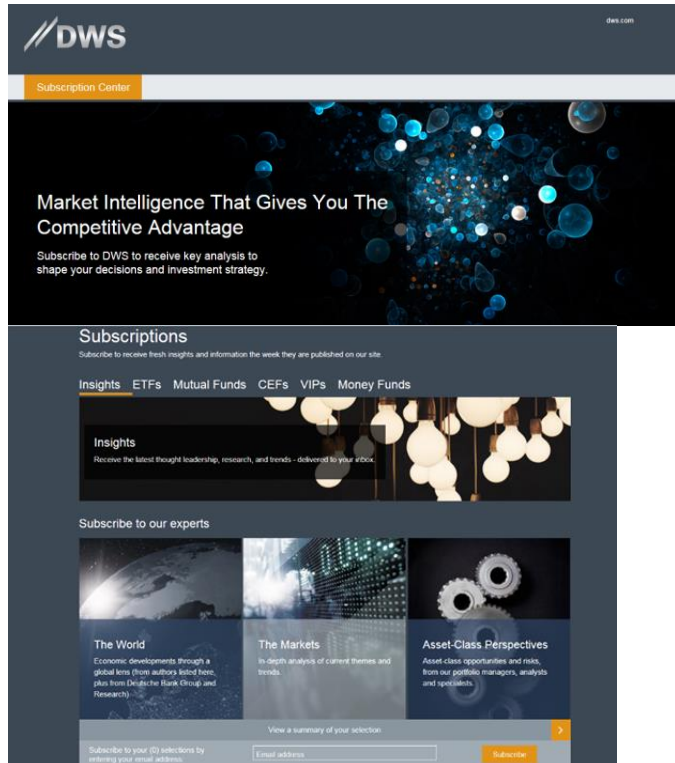
Optimistic 2023 end 10yr yield outlook: 2.5% inflation expectation + 1% overnight real rate + 0.75% inflation risk premium - 0.5% risk asset hedge = 3.75%

Pessimistic 2023 end 10yr yield outlook: 2.5% inflation expectation + 1% overnight real rate + 1.5% inflation risk premium - 0% risk asset hedge = 5.00%

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