

This is scary: Slowing rate hikes risks a higher terminal rate or worse



David Bianco
Americas Chief Investment Officer
DWS

Dear Fed, why slowdown when you're already late? Get to your destination asap

We think recent Fed messaging about the pace of hikes after November's FOMC meeting was unhelpful and raises risk. Some recent FOMC member speeches, news articles and economists suggest the Fed likely shrinks rate hikes from 75bp to 50bp or 25bp starting in December. But if the FOMC believes the terminal rate should exceed 4.5%, then we see no good reason for hiking less than 75bp or issuing dovish guidance in December upon reaching 3.75-4.0% on November 2nd. We would prefer that the Fed be grinch this Christmas with no gifts in actions or guidance and we'd cheer further 75bp hikes until they stop. As this would most help a stop or pause to actually happen in 1Q23. If not, instead the Fed hikes 50bp in December and signals more 50bp or 25bp hikes in 2023, we think the equity and possibly bond bear market resume into yearend. Even with a 75bp hike, we doubt the Fed signals a pause in December unless capital markets suffer adverse dislocation and dysfunction.

Now is no time to go wobbly: The fate of inflation risk premiums hangs in the balance

The Fed must win this war with inflation in both a decisive and timely fashion. It's important that investors stay confident that the Fed will fight broad-based inflation when it attacks as brazenly as it has in the US and that such an attack will be crushed swiftly. Investors want to know that the Fed will and can crush inflation with speed, not just merely eventually. Right now, history is being made that will affect inflation expectations and inflation risk premiums for years to come. This hiking cycle will determine whether future bond investors treat high inflation as a risk that lasts for roughly only one year or a risk that could last multiple years. A higher inflation risk premium will cause higher real rates.

A slower climb now risks an even higher terminal Fed Funds rate later or worse

Slowing rate hikes now risks a higher terminal rate in 2023 and thus possibly a more painful recession necessary to bring inflation down. But in the absence of a large recession that the Fed and everyone wants to avoid, it's unlikely that deflation will occur, so it's important that this high inflation (anything over 3%) come down soon. The window will soon close for history and more importantly for creditors to judge this episode of high inflation as just a brief period of high inflation. It's becoming a long period, 2 years at mid-2023. This is why we find the Fed's recent back channel messaging and stock rally unwelcome at this time as it raises longer-term risks. There is more than a slightly higher terminal Fed Funds rate to consider or greater recession risk or sustained 4%+ long-term bond yields. There is the belly of the curve to consider; where most of the real economy is financed, especially consumer durable goods and much of housing and capex. If it takes 2 or more years to get inflation back to Fed target/ market expectation, it also risks a material inflation risk premium settling into 2-7yr fixed or semi fixed interest rate loans. If multiyear car, home or equipment leases seem expensive now, just wait.

Dear ECB, think carefully about trying to follow the Fed with just a lag in this cycle

Europe has different dominant causes of inflation than US. US suffers from fiscal stimulus overdoses and its labor market is exceptionally tight and aggravated by new work routines across its more varied service occupations. Whereas Europe is suffering a classic wartime supply-side shock to the cost of energy, food and essentials. A wage-price spiral appears to be starting in the US, such is less clear in Europe at least currently. For these reasons, in this author's opinion and not necessarily the view of DWS, we think the ECB's terminal rate should be roughly 2-3% lower than the Fed's likely 4.75% to 5.50% 1Q23 rate. This is why we expect the dollar to only gradually lose its super-strength over the next 2 years. If the dollar loses strength early next year, we think it threatens expected US disinflation.

3Q EPS Tracker – Weak Tech, strong Energy: Still \$222 & \$215-225 for 2022 & 2023

We still model 2023 quarterly S&P EPS as: 52+55+56+57=\$220. Our 4Q22E S&P EPS remains \$54. We put trough quarterly non-GAAP S&P EPS at \$52 in 1Q23, down 5-10% from the 1Q22 peak ex. Energy and down 10% from the \$58 2Q22 peak with Energy for 4 main reasons: 1) small recession expected for US & Europe mostly during 1H23 followed by slow growth, not a V shaped recovery, causing a 5% dip or near \$3 hit from \$56 in 3Q22 during 1Q23, 2) dollar strength that hits S&P EPS from 3Q22 levels by near \$1 quarterly through 2023, 3) minimum book profit and buyback taxes of near \$1 quarterly through 2023, 4) energy profits near \$1 above 3Q22 levels quarterly through 1H23. S&P EPS falls near 20% on average in past recessions, but more than half of past recession's average hit to S&P EPS is from Financials & Energy. Unless the recession becomes large and deflationary, we expect the hit to be similar to the 10% or less S&P EPS (GAAP) hits that occurred in the recessions of 1960, 1970 & 1980. While small disinflationary recessions hit S&P EPS less than the big deflationary recessions, we caution that significant hits to Industrials, Materials and Energy profits did eventually come, but toward the very end or even after the proper recession ended in both 1974 and 1982.

S&P > 3900 requires high conviction in 10yr Treasury yields under 4% next year

Our S&P intrinsic valuation model inside, using our S&P EPS estimates above, suggests that at 3900 today the S&P implies a 3.75% 10yr Treasury yield or lower by 2023 yearend. We could reasonably envision a 3.75% 10yr yield comprised of 1.0-1.50% (-1.25%) 10yr TIPS yield with ~2.5% 10yr inflation expectation with a small inflation risk premium fully offset by risk asset hedge value of Treasury bonds. Yet, this favorable view on yields while only expecting a small recession ahead with a very small hit to S&P EPS is a big leap of faith at this very moment, especially if the Fed takes its foot off the brakes prematurely and inflation stays well over 3%. Thus, we change our Next 5%+ S&P price move from Balanced Risk to Down, as we don't think now is the time to drop our 450bp fair ERP estimate to the long-term 400bp norm. We put S&P fair value at 4000 at 2023 end with an 18.2 trailing PE on 2023E EPS of \$220, which we view as normal, not cyclically depressed, as we put 2024E EPS at about \$230. S&P 2024 start fair value = (\$230 - \$18 for non-GAAP adj.) / (1.25% 10yr TIPS+4.0% ERP) = 4038

Contributor: Ju Wang, Portfolio Manager Equity

Global Equity Index Forecasts: 12-months			
Index	Sep 2023F	NTM EPS Growth	Target PE
S&P 500	4,200	0.0%	18.9
EuroStoxx 50	3,750	3.6%	12.0
Stoxx 600	445	3.4%	12.7
MSCI Japan	1,250	5.5%	13.0
MSCI Asia xJ	660	3.2%	12.3
MSCI EM	1,030	1.7%	11.7

S&P 500 Outlook at Yearend			
	2021	2022F	2023F
S&P 500	4766	3800	4000
Dividend Yield	1.3%	1.75%	1.75%
S&P EPS	\$210	\$222	\$220
Trailing PE	22.7	17.1	18.2
DPS	\$61	\$68	\$70

Next 5%+ Price Move
(Up / Balanced Risk / **Down**)

Risk of near-term further 10%+ correction
(Low / **Moderate** / High)

Taxable U.S. Investor Asset Allocations		
Asset Class	Long-term	Current
Fixed Income/Cash	30-35%	38.5%
Equities	55-60%	52.5%
US Equities	40%	37.0%
S&P 500	35%	33.0%
Small Caps	0-10%	4.0%
Foreign DM	10-15%	9.5%
Foreign EM	0-10%	6.0%
Alternatives	10%	9%

Key CIO Views		
Macro signal:	Current	Sep 2023F
U.S. Fed Funds rate	3.0-3.25%	4.75%**
10yr Treasury yield	3.85%	3.75%**
US IG Corp Spreads	100bp	150bp
US High Yield Spreads	340bp	550bp
Crude Oil (WTI) \$/bbl	93	100
EUR / USD FX rate	0.97	1.05

GDP Forecasts			
Region	2021	2022F	2023F
US	5.7%	1.9%	0.7%
World	6.0%	3.1%	2.8%
Euro area	5.2%	3.1%	0.7%
China	8.1%	3.3%	5.3%
Japan	1.7%	1.5%	0.9%

* Q4/Q4 GDP growth. ** This estimate under review until next CIO day.

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 10/10/2022 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

This is scary, Slowing rate hikes risks a higher terminal rate or worse_Oct 31 2022.docx

	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	17.1	16.2	15.9	Biotechnology Health Care Equipment & Supplies Life Sciences Tools & Services Pharmaceuticals	12.0 22.2 23.0 15.7	12.5 22.2 24.9 13.6	12.9 21.4 23.8 13.4	Health Care Providers & Services	19.0	17.8	17.2					
	7.5%	9.7%	Communication Services	13.3	14.7	14.3	Diversified Telecommunication Services Entertainment Interactive Media & Services Media	6.1 26.9 14.3 10.3	7.6 25.6 16.2 9.5	7.6 23.1 15.7 9.7	Wireless Telecommunication Services	62.7	60.6	45.4					
	11.4%	12.7%	Financials	11.6	13.3	12.9	Banks Diversified Financial Services Insurance	8.6 25.7 14.8	10.4 21.4 14.8	10.0 21.0 13.9					Capital Markets Consumer Finance	13.2 7.0	16.7 8.6	16.2 9.4	
	2.6%	3.6%	Real Estate	18.5	17.6	16.9	Real Estate Mgmt. & Development REITs	13.3 19.1	11.7 17.8	11.1 17.1									
	5.3%	6.3%	Energy	21.9	10.0	12.6	Energy Equipment & Services	38.2	22.8	17.9	Oil Gas & Consumable Fuels	21.2	9.6	12.3					
	3.0%	3.5%	Utilities	20.0	18.9	18.1	Electric Utilities Multi-Utilities	21.4 18.8	19.6 18.5	18.6 18.1	Gas Utilities Independent Power & Renewable E	20.5 9.0	20.1 9.6	18.7 9.6	Water Utilities	36.7	33.2	31.2	
Under-weight	26.4%	26.0%	Information Technology	22.9	22.0	21.2	Communications Equipment IT Services	16.2 25.8	15.5 22.4	15.1 21.3	Electronic Equipment Software	21.5 28.3	19.9 25.5	18.9 24.0	Semiconductors Technology Hardware Storage & Per	15.0 25.0	17.0 23.9	17.0 23.0	
	8.2%	7.7%	Industrials	25.7	20.0	19.5	Aerospace & Defense Airlines Electrical Equipment Industrial Conglomerates Road & Rail	32.6 -5.2 22.2 22.7 20.2	25.7 22.1 19.7 21.4 17.1	23.7 11.8 18.9 20.1 17.6					Air Freight & Logistics Building Products Commercial Services & Supplies Construction & Engineering Machinery Professional Services Trading Companies & Distributors	12.0 19.1 34.1 22.9 19.9 28.9 22.5	12.3 17.8 29.7 19.4 18.3 29.0 17.8	13.5 18.9 29.2 16.6 18.7 28.2 17.8	
	2.5%	0.0%	Materials	14.7	13.1	15.2									Chemicals Construction Materials Containers & Packaging Metals & Mining	16.7 30.0 13.3 8.7	14.3 27.0 11.3 8.9	15.8 25.4 11.0 14.6	
	6.9%	3.8%	Consumer Staples	21.9	21.9	21.8					Personal Products	30.2	28.6	26.3	Beverages Food Products Food & Staples Retailing Household Products Tobacco	27.2 18.9 24.6 23.3 12.8	27.5 18.3 23.8 24.1 13.2	26.9 19.2 23.3 23.5 13.4	
	10.9%	6.9%	Consumer Discretionary	27.1	26.0	25.1	Auto Components Hotels Restaurants & Leisure Textiles Apparel & Luxury Goods	19.8 -1423 21.0	17.7 53.7 22.1	16.0 35.2 21.4	Household Durables	7.0	6.1	7.3	Automobiles Distributors Internet & Direct Marketing Retail Leisure Products Multiline Retail Specialty Retail	31.3 19.7 30.9 12.6 17.5 19.3	28.7 17.9 44.0 12.1 21.2 18.4	27.6 17.9 39.8 12.1 21.2 19.1	
				Automobiles	31.3	28.7	27.6												
Internet Retail				30.9	44.0	39.8													
CD ex Auto &				24.2	20.6	20.2													
Aggregate PE: DWS View							Overweight	17.1	16.6	15.9	Equalweight	22.1	16.0	17.2	Underweight	19.3	20.1	20.2	
S&P 500								3901			2020, 2021 & 2022 EPS	207.74	222.00	220.00	2020, 2021 & 2022 PE	18.8	17.6	17.7	
											Bottom-up Consensus EPS	207.70	223.51	235.18	Bottom-up Cons. PE	18.8	17.5	16.6	
															2020, 2021 & 2022 Ex Energy PE	18.4	18.4	18.0	
															Btm-up Cons. Ex Energy PE	18.5	18.4	17.2	

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

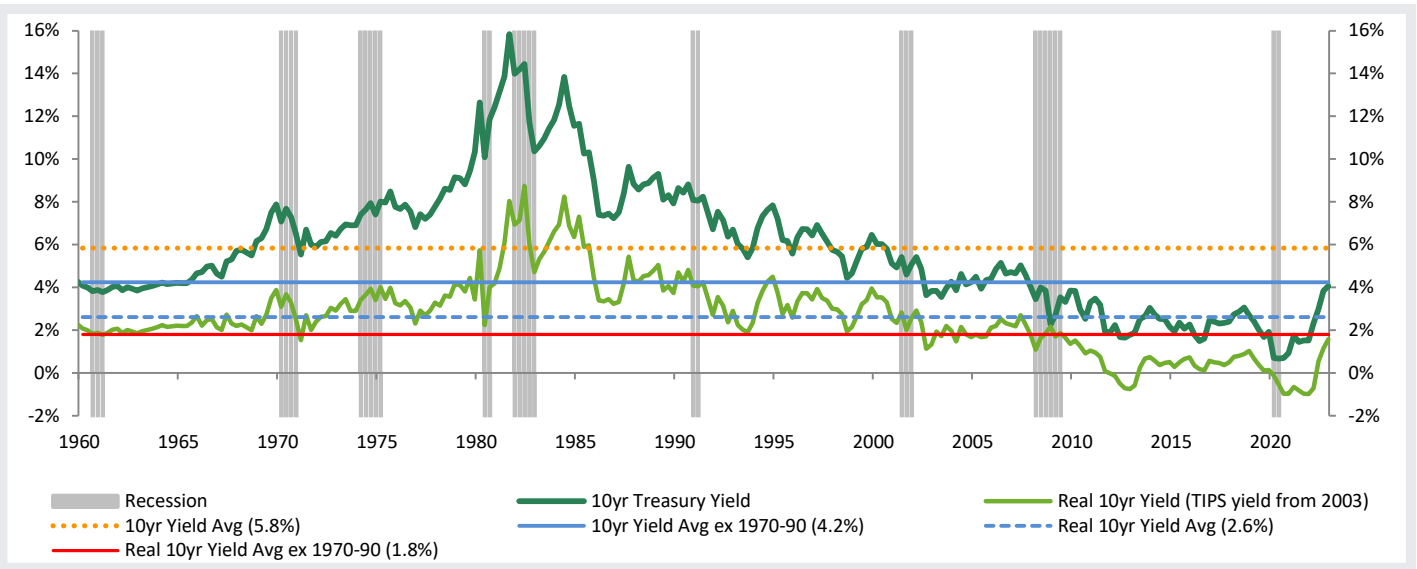
Macro tilts:	
Cyclicals	-2.97%
Defensive	2.95%
Value	-5.93%
Growth	5.93%
Consumer	-6.61%
Services/experience	0.47%
Disc. Goods	-0.25%
Retailing	-0.65%
Durables	0.43%
Staples Goods/Retail	-1.51%
Commodity	-1.30%
Energy	0.84%
Metals/Chemicals	-2.14%
Capex	3.24%
Capacity additions	1.11%
Productivity	2.13%
Health Care	4.45%
Innovation	3.06%
Marketers	1.64%
Insurers	-0.32%
Financials	1.22%
Up rates/low spreads	2.03%
Capital Markets	-1.88%
Insurance	1.07%
Bond Substitutes	1.78%
Weak FX \$ plays	0.53%
High R&D plays	4.78%
Transports	-0.30%
Geopolitical risk	1.33%
Weak oil prices	-0.53%
Inflation shock	4.81%
Domestic GDP	-2.10%
Global GDP	-4.62%
Consumer TMT	0.40%
Trade sensitive	-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 10/28/2022

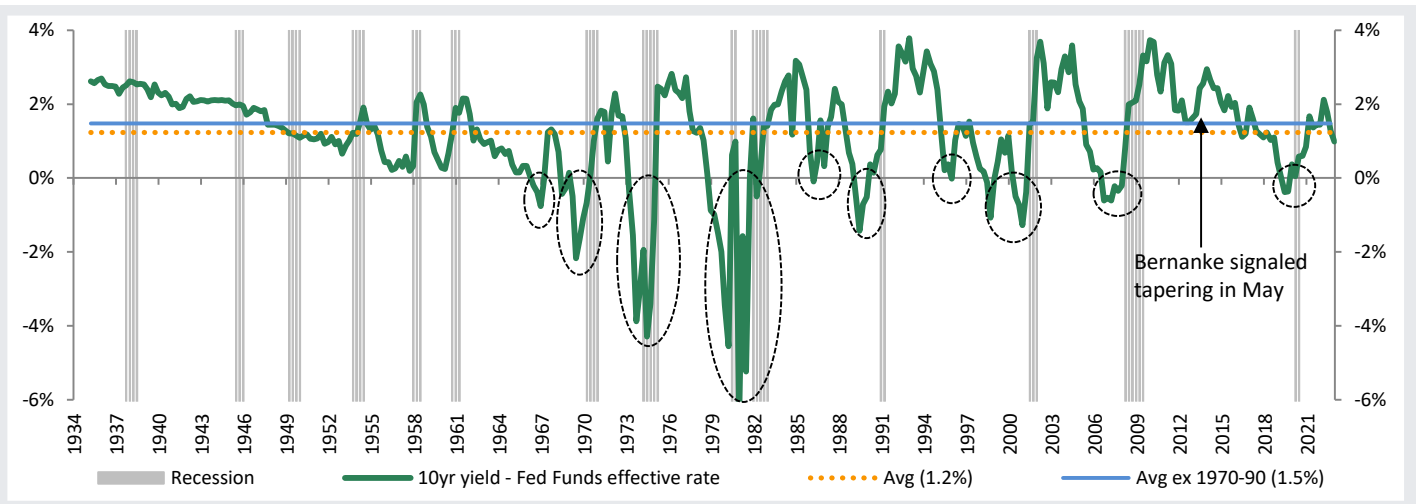
Source: DWS Investment Management GmbH

U.S. 10-year Treasury yields: nominal and real



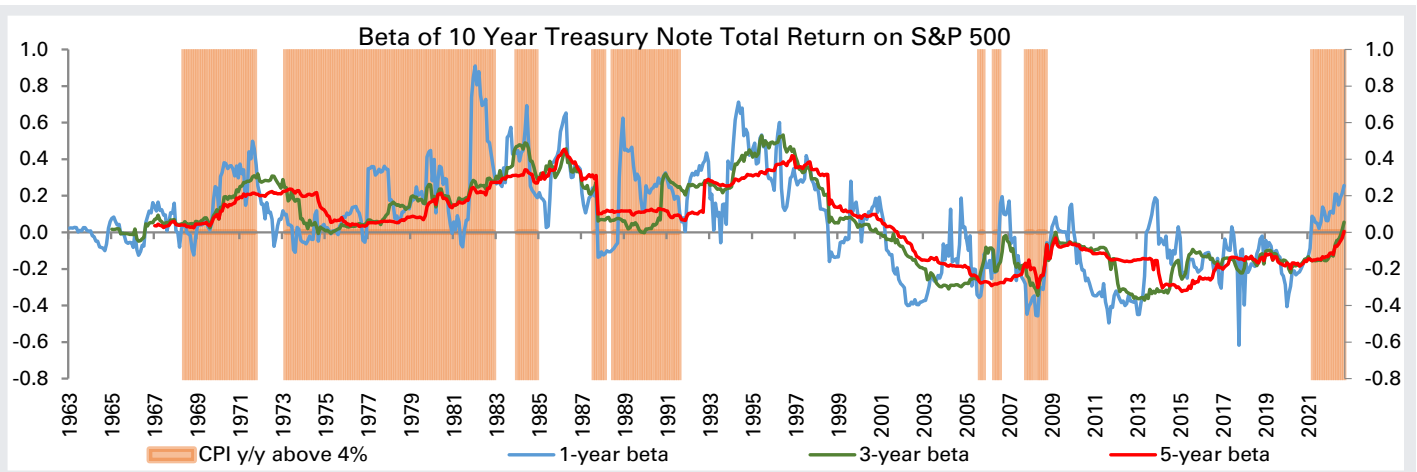
Source: Haver, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

U.S. yield curve: 10-year Treasury yield - Fed Funds rate



Source: Haver, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

Beta of 10-year Treasury note total return on S&P 500



Source: Haver, DWS Investment GmbH as of 9/30/2022. Past performance may not be indicative of future results.

S&P 500 cyclical sectors earnings decline during recessions

S&P 500			
Earnings y/y Growth			
	Before	During	After
1970	3%	-7%	14%
1974	29%	11%	-8%
1980	23%	0%	8%
1982	8%	-15%	10%
1990	-6%	-4%	13%
1991	-6%	-15%	13%
2001	14%	-19%	7%
2008	-5%	-29%	48%
2009	-5%	-1%	48%
2020	1%	-9%	46%
Average	7%	-10%	46%

Consumer Discretionary				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	-5%	-28%	58%	17%
1974	15%	-38%	16%	18%
1980	-8%	-75%	125%	13%
1982	125%	23%	102%	7%
1990	-1%	-45%	224%	18%
1991	-1%	-72%	224%	18%
2001	-5%	-35%	37%	10%
2008	-13%	-59%	46%	8%
2009	-13%	118%	46%	8%
2020	-2%	-21%	68%	8%
Average	13%	-41%	104%	14%

Financials				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	11%	-1%	12%	2%
1974	39%	-16%	-6%	2%
1980	20%	0%	-6%	8%
1982	-6%	-2%	16%	6%
1990	-39%	30%	35%	7%
1991	-39%	12%	35%	7%
2001	11%	-12%	19%	23%
2008	-37%	-159%	597%	17%
2009	-37%	122%	597%	17%
2020	3%	-21%	66%	19%
Average	-5%	-19%	88%	9%

Information Technology				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	14%	2%	7%	5%
1974	34%	14%	7%	5%
1980	8%	13%	11%	6%
1982	11%	16%	5%	7%
1990	-30%	27%	1%	5%
1991	-30%	-42%	1%	5%
2001	32%	-59%	16%	16%
2008	15%	0%	46%	14%
2009	15%	3%	46%	14%
2020	-1%	12%	28%	20%
Average	7%	-4%	12%	8%

Materials				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	6%	-13%	-12%	11%
1974	48%	42%	-29%	10%
1980	41%	-4%	-10%	9%
1982	-10%	-97%	1213%	7%
1990	4%	-28%	-15%	10%
1991	4%	-41%	-15%	10%
2001	9%	-48%	6%	3%
2008	-4%	-9%	74%	3%
2009	-4%	-44%	74%	3%
2020	-4%	-5%	82%	3%
Average	12%	-25%	152%	8%

Energy				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	6%	-1%	9%	18%
1974	60%	40%	-21%	20%
1980	68%	19%	7%	23%
1982	7%	-20%	-4%	27%
1990	3%	11%	-26%	12%
1991	3%	-17%	-26%	12%
2001	117%	-9%	-45%	10%
2008	6%	17%	54%	16%
2009	6%	-58%	54%	16%
2020	-29%	-110%	1722%	4%
Average	34%	5%	-6%	17%

Industrials				
	Earnings y/y Growth			Sector EPS % of S&P
	Before	During	After	
1970	-5%	-20%	26%	11%
1974	22%	5%	-14%	11%
1980	20%	2%	6%	12%
1982	6%	-41%	29%	12%
1990	-12%	-6%	2%	13%
1991	-12%	-13%	2%	13%
2001	6%	-12%	11%	9%
2008	11%	-4%	28%	12%
2009	11%	-32%	28%	12%
2020	-4%	-48%	68%	9%
Average	4%	-11%	11%	12%

Note: Average is on the recession years between 1970-2008

Source: Factset, Compustat, Clarifi, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

3Q S&P EPS Reporting Tracker and Estimate Revisions:

261 S&P 500 companies or 68% of index earnings have reported. 62% beat on EPS and 33% missed (the rest is in-line), with an aggregate surprise of +0.3%, +1.4% ex Financials. Historic average beat is +3.3% (2011-2019 average). 46% beat on sales and 30% missed, with an aggregate surprise of +0.5%, +0.4% ex Financials.

Bottom-up blended 3Q EPS is \$55.21, +3.3% y/y. Blended sales growth is +10.0% y/y. Blended pro-forma net margin is 12.8%, vs. 13.1% in 2Q22 and 13.6% a year ago. Bottom-up consensus 2022 EPS is \$223.50. Our estimate is \$222 (55+58+55+54=\$222). Bottom-up consensus 2023 S&P EPS has been cut to \$235, our estimate is \$220 (52+55+56+57=\$220).

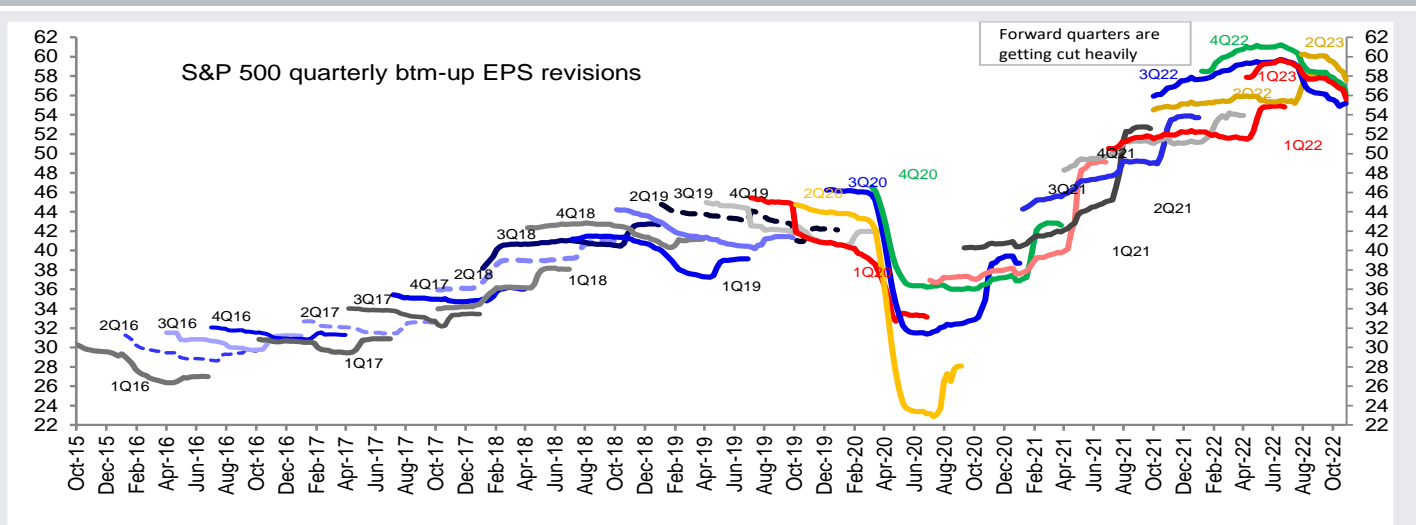
We model trough quarterly S&P EPS of \$52 in 1Q23, down 5-10% from the 1Q22 peak ex. Energy and down 10% from the 2Q22 peak of \$58 with Energy for 4 main reasons: 1) small recession expected for US and Europe over the next couple of quarters followed by slow growth, causing a 5% dip or near \$3 hit to 1Q23 EPS from \$55 in 1Q22, 2) dollar strength that hits S&P EPS from 1Q22 levels by \$1-\$1.50 quarterly through 2023, 3) minimum book profit and buyback taxes of near \$3 annually in 2023, 4) energy profits \$2-3 above 1Q22 levels quarterly in 1H23.

By sector, 3Q blended EPS y/y growth is strongest at Energy (+137% y/y), Industrials (19%), Consumer Discretionary (15%) and Real Estate (6.0%). EPS y/y growth is weakest at Communication Services (-20%), Financials (-17%), Materials (-7.9%) and Utilities (-6.7%).

3Q blended sales y/y growth is strongest at Energy (+47% y/y), Utilities (14%), Real Estate (13%), Consumer Discretionary (13%), Industrials (12%) and Consumer Staples (7.0%). Sales y/y growth is weakest at Communication Services (-1.6%), Financials (1.8%, but banks are a spread or net interest margin business), Health Care (4.3%) and Tech (5.1%).

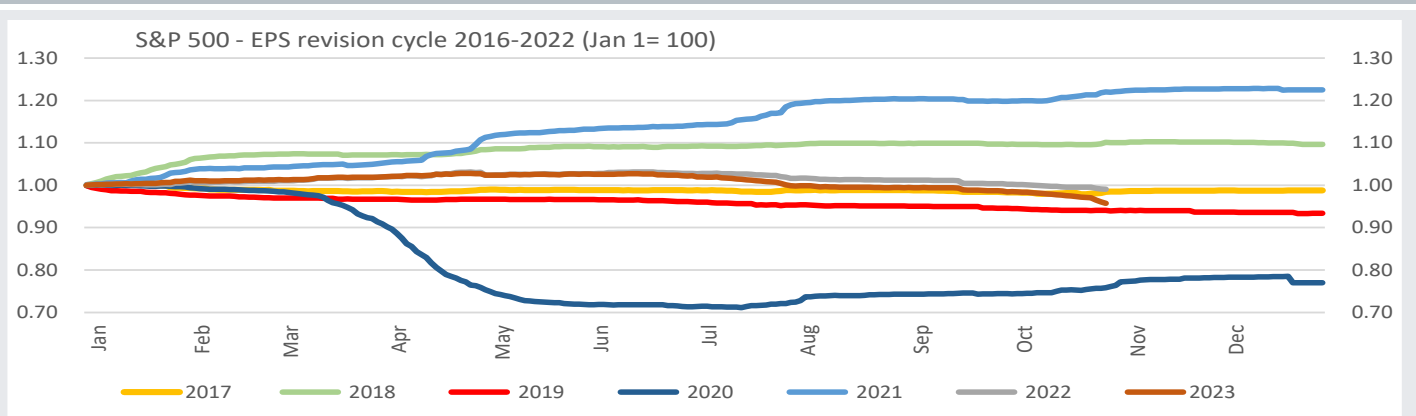
S&P net margins surged to record high of 13.8% last year, led by digital firms, banks and consumer goods producers/retailers. We see some usual recessionary set-backs in net margins. S&P 500 net margins are cyclical, but not mean reverting, they have been rising since mid-1990s for structural reasons.

S&P 500 quarterly EPS revision



Source: Factset, IBES, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

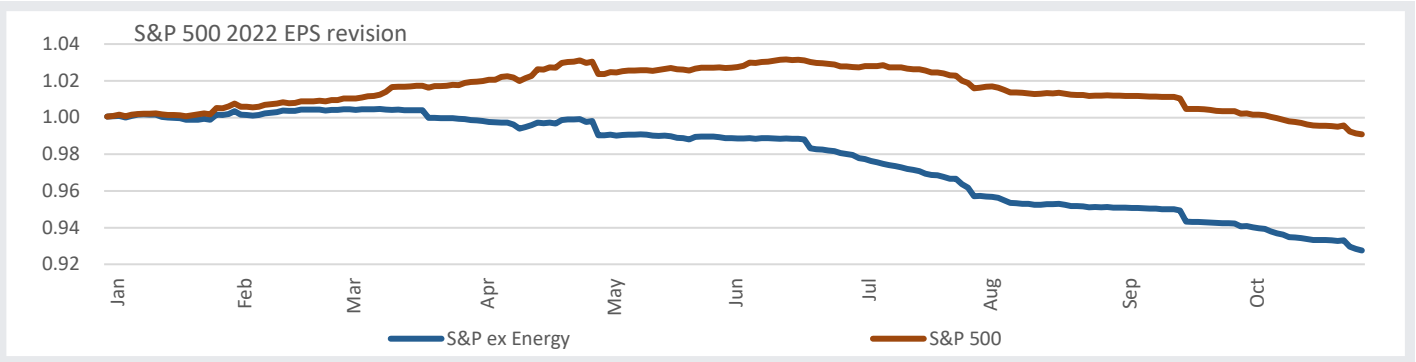
S&P 500 annual EPS revision



Source: Factset, IBES, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

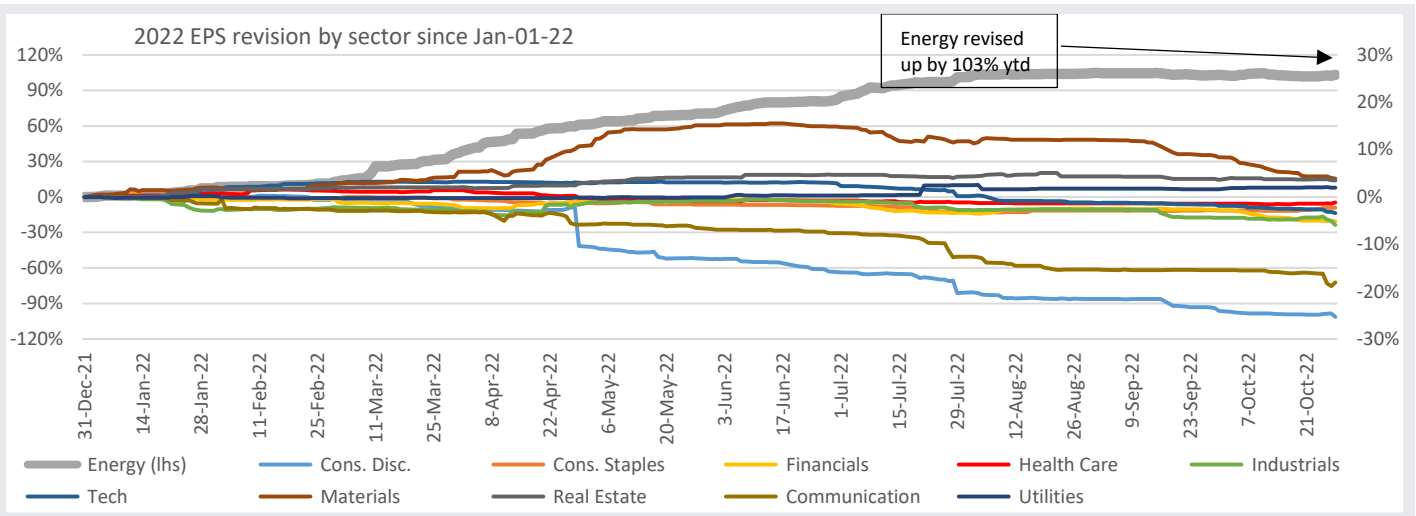
For institutional client and registered representative use only. Not for public viewing or distribution.

S&P 500 2022 EPS revision (ex. Energy)



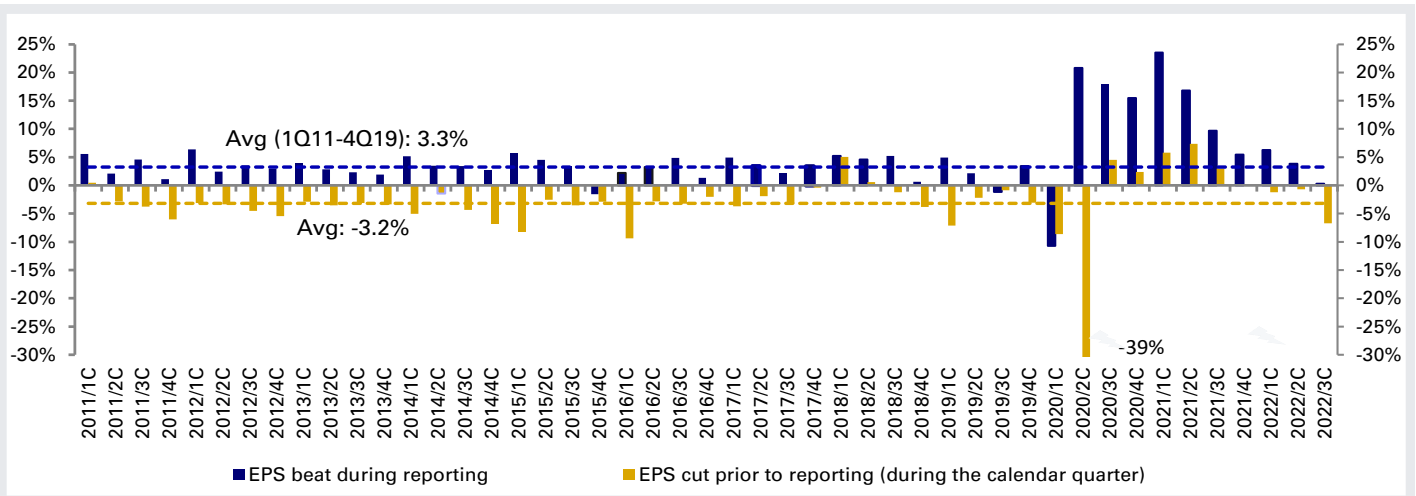
Source: Factset, IBES, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

S&P 500 2022 EPS revision by sector



Source: Factset, IBES, DWS Investment GmbH as of 10/28/2022. 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 10/28/2022. Past performance may not be indicative of future results.

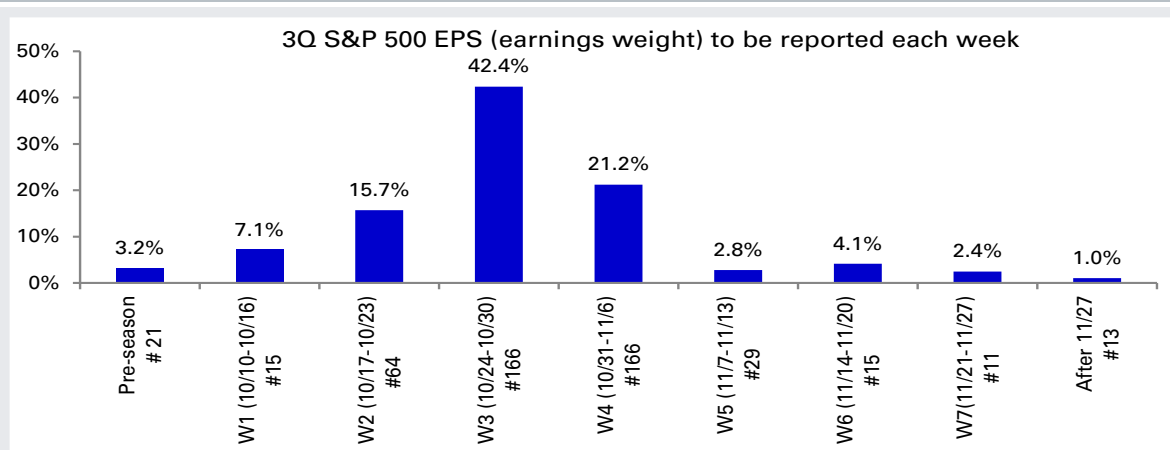
For institutional client and registered representative use only. Not for public viewing or distribution.

S&P 500: 3Q22 earnings season summary statistics

	3Q22 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	surprise (%)	surprise (%)		% beat	% miss	surprise (%)	surprise (%)		
S&P 500	68.3%	261	62%	33%	0.3%	1.3%	46%	30%	0.5%	11.4%	
S&P 500 ex. Financials & Real Est	65.8%	192	66%	29%	1.4%	5.4%	49%	31%	0.4%	12.4%	
S&P 500 ex. Energy	68.9%	252	62%	33%	-1.1%	-5.6%	45%	31%	0.7%	7.6%	
S&P ex. Tech	68.7%	233	59%	35%	-0.5%	3.0%	45%	32%	0.4%	12.5%	
S&P ex. Energy, Financials & Real Est	66.2%	183	67%	28%	-0.3%	-3.4%	48%	32%	0.6%	8.0%	
Communication Services	90.9%	11	55%	45%	-5.4%	-21.0%	55%	27%	-0.5%	-5.9%	
Consumer Discretionary	53.2%	29	55%	34%	-1.6%	13.5%	24%	59%	-1.2%	17.5%	
Consumer Staples	76.3%	18	61%	28%	3.9%	2.6%	67%	17%	2.6%	8.0%	
Energy	64.1%	9	56%	44%	13.4%	143%	67%	22%	-1.0%	51.2%	
Financials	86.2%	53	51%	43%	-4.2%	-14.5%	43%	34%	1.4%	5.2%	
Health Care	61.1%	30	70%	23%	5.8%	-0.2%	57%	20%	1.8%	7.0%	
Industrials	73.2%	49	78%	18%	-8.2%	18.6%	43%	39%	-0.9%	12.1%	
Information Technology	66.5%	28	86%	18%	3.8%	-4.9%	50%	18%	1.1%	3.8%	
Materials	52.6%	11	18%	73%	-17.8%	-28.8%	36%	45%	-1.8%	0.2%	
Real Estate	53.7%	16	50%	44%	-3.6%	3.9%	13%	6%	-0.9%	13.0%	
Utilities	36.0%	7	57%	43%	1.0%	7.4%	100%	0%	20.1%	29.9%	

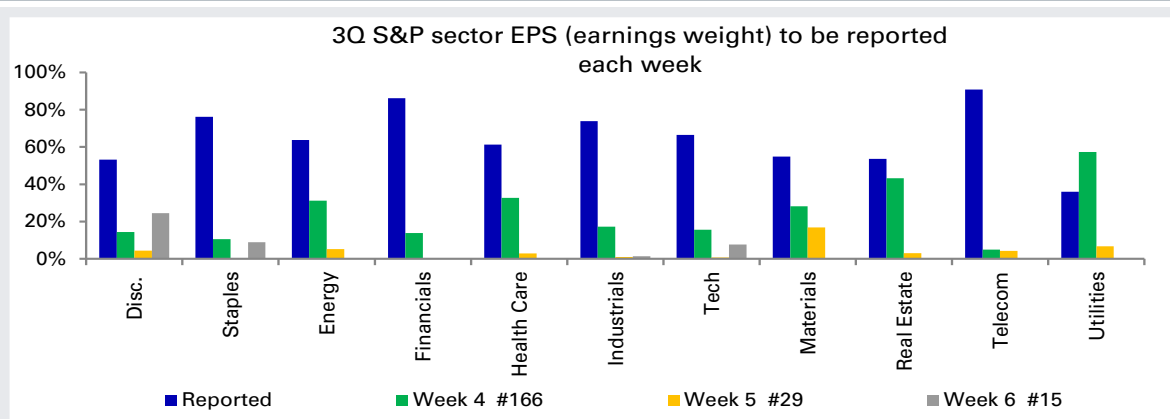
* # Beat, # miss and weighted surprise % is based on EPS and sales estimate as of 9/30/2022 (as of 9/1/2022 for pre-season reporters)
 EPS is considered beat or miss when the difference between actual and estimate as of 9/30/2022 is more than \$0.01 (9/1/2022 for pre-season reporters)
 Sales is considered beat or miss when the difference between actual and estimate as of 9/30/2022 is more than \$20 million (9/1/2022 for pre-season reporters)
 Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

3Q22 S&P 500 earnings to be reported each week



Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

3Q22 S&P 500 earnings to be reported each week by sector



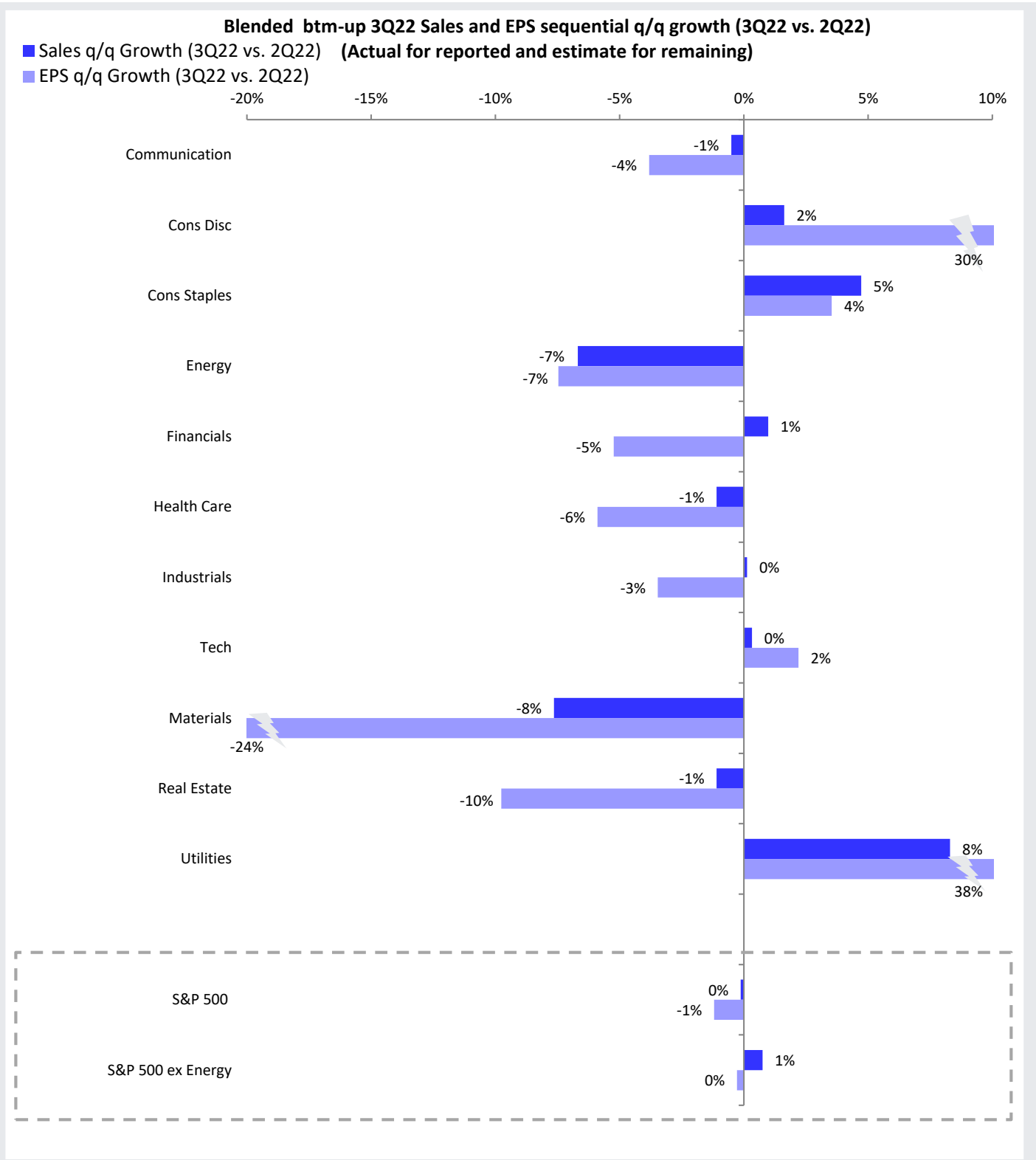
Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

S&P 500 EPS & Sales growth and Net Margins by sector (3Q22 is blended with actual for reported and consensus for the rest)

EPS growth (y/y)	2018					2019					2020					2021					2022		
	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22
S&P 500	27.2%	28.4%	27.2%	14.7%	21.6%	2.9%	1.9%	1.3%	3.5%	2.1%	-12.6%	-31.3%	-6.9%	4.4%	-8.9%	48.9%	90.2%	39.9%	29.9%	46.8%	9.9%	8.1%	3.3%
S&P 500 ex. Financials & Real Est	27.2%	29.4%	25.1%	14.5%	20.6%	1.8%	0.0%	1.0%	2.4%	0.8%	-6.1%	-27.8%	-7.7%	1.2%	-6.8%	36.1%	79.9%	41.5%	35.5%	57.3%	20.4%	-27.5%	-15.3%
S&P 500 ex. Energy	25.6%	26.1%	24.4%	12.2%	19.3%	4.1%	2.6%	3.6%	6.2%	3.8%	-12.1%	-25.4%	-3.0%	8.0%	-5.1%	49.8%	76.7%	32.6%	22.3%	40.1%	4.3%	-2.2%	-4.1%
S&P 500 ex. Tech	25.1%	27.0%	26.5%	17.1%	22.1%	4.9%	3.5%	2.2%	1.2%	1.8%	-17.9%	-38.7%	-9.6%	1.2%	-14.6%	52.5%	105.0%	40.4%	31.8%	52.3%	8.9%	10.2%	4.7%
S&P ex. Energy, Fin & Real Est	25.2%	26.5%	21.6%	11.4%	17.7%	3.3%	0.8%	3.8%	5.7%	2.9%	-5.1%	-20.0%	-2.8%	5.5%	-1.8%	36.7%	64.2%	32.3%	25.8%	35.6%	10.2%	2.0%	-1.6%
S&P ex. Energy, Fin, Real Est, Healthcare	27.6%	28.8%	22.8%	10.8%	19.1%	1.6%	-1.9%	2.7%	4.8%	1.3%	-7.8%	-26.5%	-5.6%	5.1%	-4.3%	39.4%	79.6%	33.7%	25.7%	37.9%	8.3%	0.2%	-1.0%
FANG (FB, AMZN, NFLX, Google)	36.4%	113.5%	50.0%	31.3%	55.9%	28.6%	14.7%	-6.0%	16.2%	4.4%	-14.5%	-1.5%	60.3%	56.7%	41.5%	149.8%	110.3%	26.3%	36.1%	66.0%	-40.2%	-39.8%	-28.5%
FANG & AAPL	32.9%	72.9%	45.3%	17.0%	35.5%	8.6%	5.4%	-1.3%	17.9%	3.4%	-7.0%	5.8%	29.9%	45.1%	34.4%	136.2%	106.8%	41.2%	30.8%	57.3%	-20.4%	-27.5%	-15.3%
S&P ex FANG	26.8%	26.3%	26.3%	14.0%	20.5%	1.9%	1.4%	1.6%	2.9%	2.0%	-12.5%	-32.8%	-9.7%	1.4%	-11.2%	44.1%	88.7%	40.9%	29.3%	45.4%	14.1%	11.8%	5.4%
S&P ex FANG & AAPL	26.7%	25.9%	25.8%	14.4%	20.5%	2.4%	1.7%	1.5%	1.9%	2.0%	-13.1%	-34.3%	-10.0%	-0.8%	-12.8%	41.0%	88.1%	39.8%	29.7%	45.3%	14.4%	12.8%	5.4%
S&P ex. Energy & Fin & Real Est & FANG	24.7%	23.6%	20.2%	10.2%	16.0%	2.0%	-0.1%	4.4%	5.0%	2.9%	-4.5%	-21.2%	-6.3%	1.6%	-4.4%	29.9%	60.4%	32.9%	24.6%	32.8%	16.0%	6.5%	0.8%
Communication Services	22.7%	38.2%	27.2%	17.1%	25.6%	9.7%	9.9%	0.7%	8.4%	3.4%	-9.1%	-21.3%	2.8%	10.4%	3.1%	54.2%	73.2%	35.6%	16.7%	39.5%	-3.0%	-14.7%	-19.6%
Consumer Discretionary	17.7%	21.7%	27.2%	18.2%	21.1%	11.2%	4.3%	2.8%	1.6%	1.1%	-46.6%	-62.8%	1.6%	3.6%	-19.3%	174.1%	262.6%	14.8%	47.5%	71.2%	-27.3%	-12.4%	15.4%
Multiline & Specialty Retail	22.9%	30.4%	24.4%	18.8%	23.1%	9.7%	6.5%	10.9%	6.3%	9.2%	-40.7%	-22.5%	39.6%	17.4%	11.5%	204.5%	36.8%	16.3%	17.1%	40.5%	-0.8%	-8.7%	-3.0%
Consumer Staples	13.0%	14.0%	9.3%	4.3%	9.1%	-0.8%	-0.6%	3.4%	2.8%	1.3%	6.9%	-5.0%	5.5%	6.0%	4.8%	10.2%	19.5%	7.0%	7.3%	10.7%	7.7%	2.2%	-0.3%
Energy	75.4%	107.8%	103.5%	86.8%	87.0%	-24.3%	-12.3%	-36.6%	-41.5%	-29.9%	-28.2%	-169.1%	-109.6%	-102.0%	-109.5%	17.9%	247.1%	189.9%	1287.4%	-162.6%	261.3%	299.1%	137.4%
Financials	29.9%	27.4%	41.0%	16.6%	28.3%	7.2%	10.5%	2.4%	9.6%	7.7%	-39.5%	-48.8%	-3.6%	20.4%	-18.6%	138.4%	167.5%	36.3%	10.0%	67.6%	-17.4%	-20.2%	-16.8%
Financials ex. BAC, C & JPM	26.0%	25.2%	45.3%	13.0%	26.9%	5.2%	6.6%	0.8%	4.6%	4.8%	-32.6%	-45.8%	-2.4%	23.6%	-15.1%	106.0%	152.5%	34.0%	16.0%	61.5%	-9.9%	-17.6%	-17.6%
Health Care	16.9%	17.9%	17.1%	13.9%	12.1%	10.0%	12.1%	8.6%	10.0%	9.9%	4.6%	3.5%	8.3%	7.3%	7.9%	28.3%	25.5%	27.7%	26.2%	28.0%	16.5%	8.2%	-3.7%
Industrials	29.5%	25.8%	28.2%	33.9%	24.6%	8.2%	-9.0%	2.5%	-9.9%	-3.6%	-27.0%	-80.1%	-4.7%	-29.0%	-47.1%	-1.7%	387.0%	76.6%	39.0%	71.0%	36.5%	29.6%	19.1%
Industrials ex. BA	26.7%	25.5%	28.0%	30.6%	22.8%	9.8%	5.7%	6.2%	3.2%	5.0%	-19.4%	-74.5%	-43.6%	-24.6%	-42.8%	-2.0%	244.1%	71.2%	43.4%	62.6%	38.2%	31.3%	28.8%
Industrials ex. Defense	30.4%	26.2%	26.4%	25.8%	23.7%	6.6%	-11.0%	2.6%	-12.2%	-4.9%	-29.9%	-88.6%	-51.9%	-34.0%	-52.7%	-3.8%	706.7%	99.4%	46.2%	87.8%	43.7%	38.2%	17.0%
Information Technology	35.6%	34.2%	29.8%	7.3%	19.6%	-4.5%	-4.1%	-2.0%	11.8%	3.4%	9.9%	1.3%	3.8%	14.8%	14.0%	37.5%	49.8%	38.2%	24.1%	29.6%	13.4%	0.0%	-2.1%
Materials	67.1%	63.3%	28.3%	-22.8%	11.1%	-12.7%	-19.5%	80.2%	-11.5%	-9.2%	-7.5%	-34.6%	-13.0%	12.8%	-6.1%	47.6%	133.0%	86.6%	63.8%	83.9%	47.0%	18.6%	-7.9%
Real Estate	8.3%	8.9%	6.8%	7.7%	8.0%	4.7%	0.9%	4.3%	0.0%	2.0%	-3.0%	-12.2%	-5.6%	0.4%	-4.2%	9.0%	28.9%	17.2%	10.0%	14.7%	16.8%	10.5%	6.0%
Utilities	18.9%	7.5%	11.9%	-10.4%	7.6%	-0.7%	1.4%	7.3%	18.0%	6.3%	4.3%	6.9%	0.8%	-2.8%	1.3%	-1.2%	12.7%	10.2%	-1.3%	5.1%	26.3%	-4.8%	-6.7%

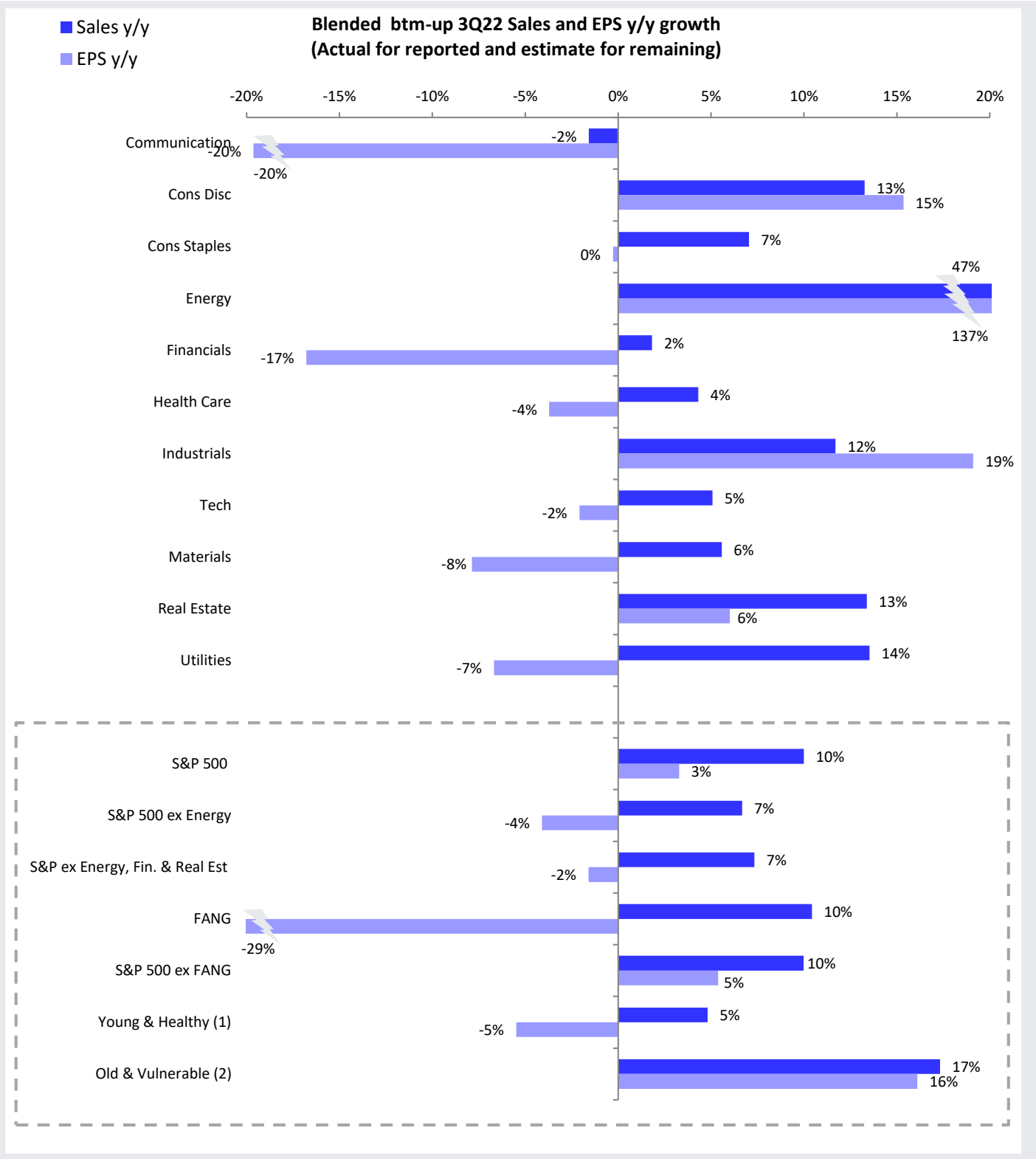
Sales growth (y/y)	2018					2019					2020					2021					2022		
	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22
S&P 500	9.4%	11.2%	10.7%	4.0%	8.7%	5.8%	5.2%	4.0%	7.8%	5.7%	-1.8%	-10.3%	-2.3%	-0.5%	-3.7%	9.5%	21.8%	13.9%	15.2%	15.0%	13.6%	12.2%	10.0%
S&P 500 ex. Financials & Real Est	9.2%	10.2%	9.6%	1.7%	7.6%	3.3%	2.9%	2.1%	6.5%	3.7%	-2.8%	-11.7%	-2.5%	1.5%	-3.9%	12.2%	26.7%	17.5%	16.5%	18.8%	15.3%	13.1%	11.1%
S&P 500 ex. Energy	7.9%	8.5%	7.7%	1.6%	6.3%	3.7%	3.4%	3.4%	7.6%	4.5%	-1.7%	-6.8%	0.2%	4.0%	-1.1%	12.4%	20.7%	13.5%	11.8%	15.1%	10.4%	6.9%	6.7%
S&P 500 ex. Tech	8.0%	9.7%	8.7%	2.2%	7.1%	3.8%	3.4%	2.4%	6.4%	4.0%	-3.2%	-12.5%	-3.4%	0.1%	-5.2%	10.5%	24.6%	16.3%	15.9%	17.3%	13.7%	12.5%	10.7%
S&P ex. Energy, Fin & Real Est	8.4%	8.6%	8.0%	1.0%	6.4%	3.5%	3.3%	3.3%	7.9%	4.5%	-2.0%	-7.2%	0.7%	4.7%	-1.0%	13.0%	22.3%	13.9%	12.0%	16.6%	11.8%	7.5%	7.3%
S&P ex. Energy, Fin, Real Est, Healthcare	8.7%	8.9%	8.2%	-0.6%	6.4%	0.8%	0.5%	0.2%	6.5%	1.9%	-5.3%	-10.1%	-2.1%	2.5%	-4.2%	13.8%	23.0%	13.8%	11.6%	17.9%	10.9%	6.7%	8.4%
FANG (FB, AMZN, NFLX, Google)	37.6%	35.0%	27.4%	21.7%	29.4%	18.2%	20.9%	23.5%	20.6%	20.8%	21.3%	22.6%	27.7%	35.7%	27.5%	40.6%	38.8%	24.6%	16.9%	28.6%	11.7%	7.9%	10.4%
FANG & AAPL	27.8%	28.1%	24.3%	9.5%	21.5%	8.8%	13.8%	15.2%	15.9%	12.6%	14.0%	18.9%	18.6%	30.2%	22.5%	44.6%	38.1%	25.9%	14.9%	27.5%	10.7%	6.0%	9.6%
S&P ex FANG	7.9%	9.3%	8.5%	1.5%	6.7%	3.0%	2.4%	1.7%	5.9%	3.2%	-3.2%	-11.9%	-3.7%	-0.4%	-4.8%	10.4%	23.8%	16.2%	15.6%	16.4%	13.6%	12.1%	10.0%
S&P ex FANG & AAPL	7.7%	9.2%	8.3%	1.7%	6.6%	3.2%	2.5%	1.7%	5.8%	3.3%	-3.3%	-12.4%	-3.8%	-1.1%	-5.2%	9.5%	23.5%	15.9%	15.8%	16.2%	13.8%	12.4%	10.0%
S&P ex. Energy & Fin & Real Est & FANG	7.5%	7.7%	7.3%	0.1%	5.6%	2.9%	2.6%	2.4%	7.2%	3.8%	-3.1%	-8.7%	-0.7%	2.9%	-2.5%	11.4%	21.2%	13.2%	11.6%	15.8%	11.8%	7.4%	7.2%
Communication Services	12.1%	10.8%	13.2%	12.9%	11.7%	12.3%	14.9%	11.2%	3.9%	9.2%	4.0%	-7.1%	0.8%	5.7%	2.7%	12.5%	26.1%	16.8%	11.7%	15.3%	7.5%	3.9%	-1.6%
Consumer Discretionary	10.0%	9.9%	10.3%	7.7%	9.0%	4.4%	5.3%	5.6%	2.9%	4.2%	0.5%	-11.8%	6.5%	11.9%	6.9%	19.7%	35.3%	10.6%	11.2%	13.2%	9.1%	11.0%	13.3%
Multiline & Specialty Retail	5.3%	7.6%	5.9%	3.1%	0.0%	4.6%	3.2%	4.2%	2.7%	0.0%	0.8%	11.4%	16.5%	15.5%	0.0%	28.5%	17.2%	9.2%	10.0%	0.0%	3.1%	2.4%	2.7%
Consumer Staples	5.3%	5.5%	3.0%	1.9%	4.0%	2.7%	2.5%	3.6%	3.4%	2.7%	5.8%	-0.3%	3.4%	4.7%	5.1%	3.8%	12.5%	10.1%	9.5%	6.5%	9.5%	8.5%	7.0%
Energy	18.1%	28.1%	25.7%	8.6%	20.2%	0.6%	-0.7%	-8.6%	-6.1%	-4.0%	-10.8%	-54.0%	-34.4%	-32.1%	-32.9%	3.3%	110.8%	73.0%	88.6%	51.5%	58.7%	75.7%	46.9%
Financials	4.3%	8.2%	5.3%	4.7%	5.4%	4.7%	3.4%	4.1%	6.2%	4.6%	0.1%	-4.0%	-2.7%	-0.6%	-1.6%	9.3%	11.3%	10.7%	9.5%	5.5%	0.5%	2.4%	1.8%
Financials ex. BAC, C & JPM	3.7%	9.3%	5.6%	4.6%	5.6%	5.6%	3.6%	4.3%	6.4%	5.0%	-0.3%	-6.5%	-2.1%	0.2%	-1.8%	10.6%	16.2%	12.1%	10.4%	6.6%	1.0%	1.9%	0.1%
Health Care	7.4%	7.5%	7.2%	7.7%	6.5%	14.4%	14.6%	15.4%	13.0%	15.1%	9.2%	2.7%	10.3%	12.6%	9.9%	10.6%	20.0%	15.0%	13.4%	12.7%	14.6%	9.8%	4.3%
Industrials	10.4%	9.7%	7.9%	4.8%	4.9%	5.0%	-3.0%	0.7%	2.0%	2.3%	-7.4%	-23.7%	-15.4%	-8.7%	-11.0%	-0.8%	28.5%	16.5%	13.3%	14.2%	12.6%	13.0%	11.7%
Industrials ex. BA	6.4%	5.2%	3.6%	14.5%	7.6%	-2.1%	-7.2%	-20.8%	-27.8%	-16.4%	-26.5%	-45.1%	-29.5%	-23.4%	-31.2%	-10.2%	44.3%	7.9%	-6.9%	24.2%	-6.5%	-2.2%	12.0%
Industrials ex. Defense	11.0%	6.6%	7.0%	3.9%	4.2%	3.6%	-1.1%	0.2%	1.4%	1.5%	-8.4%	-26.5%	-17.3%	-10.4%	-12.6%	-1.5%	31.9%	18.8%	15.2%	15.6%	14.6%	15.0%	12.7%
Information Technology</																							

S&P 500: Blended bottom-up 3Q22 Sales and EPS sequential q/q growth by sector: 3Q22 vs. 2Q22



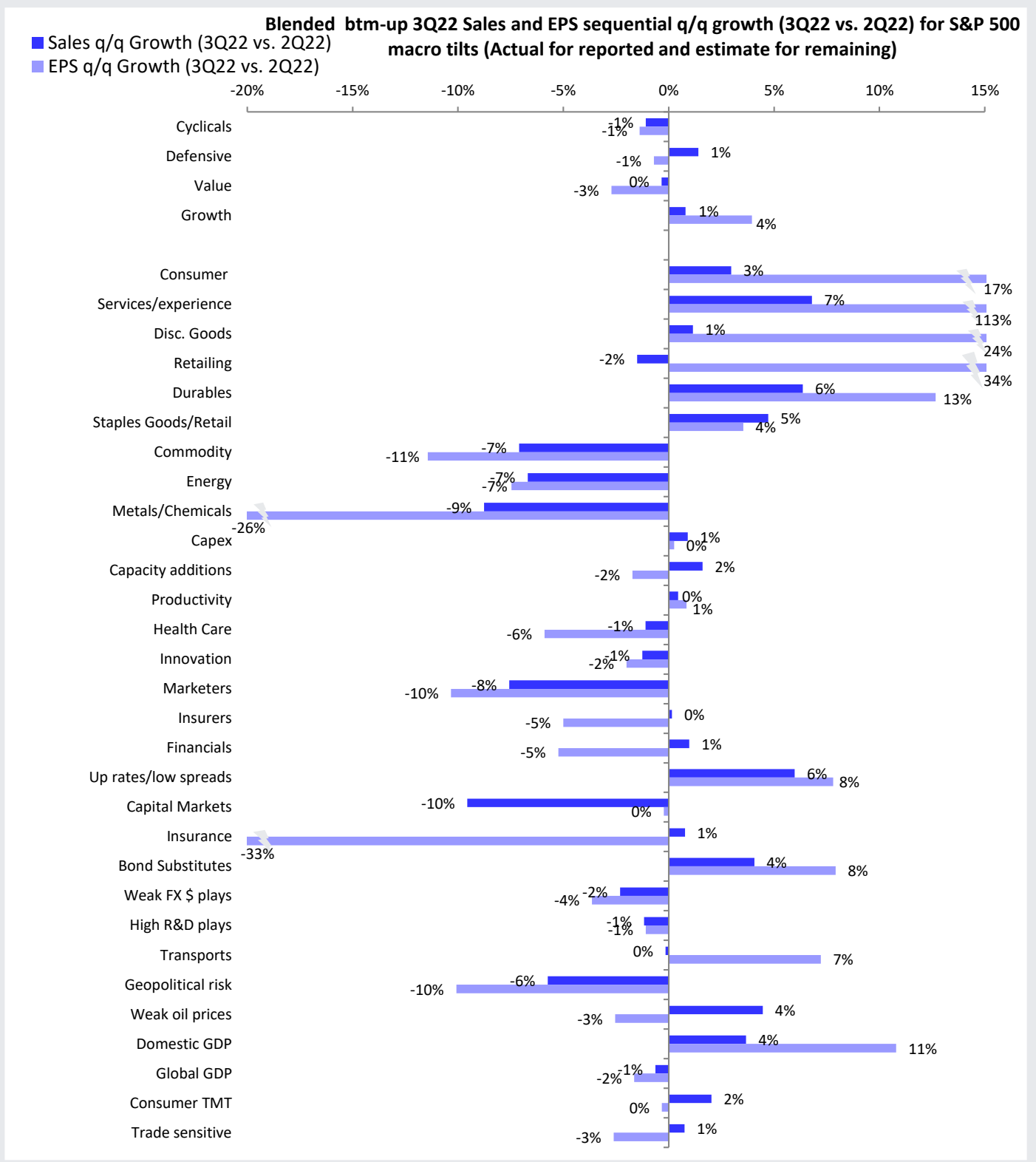
Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 3Q22 Sales and EPS y/y growth by sector: 3Q22 vs. 3Q21



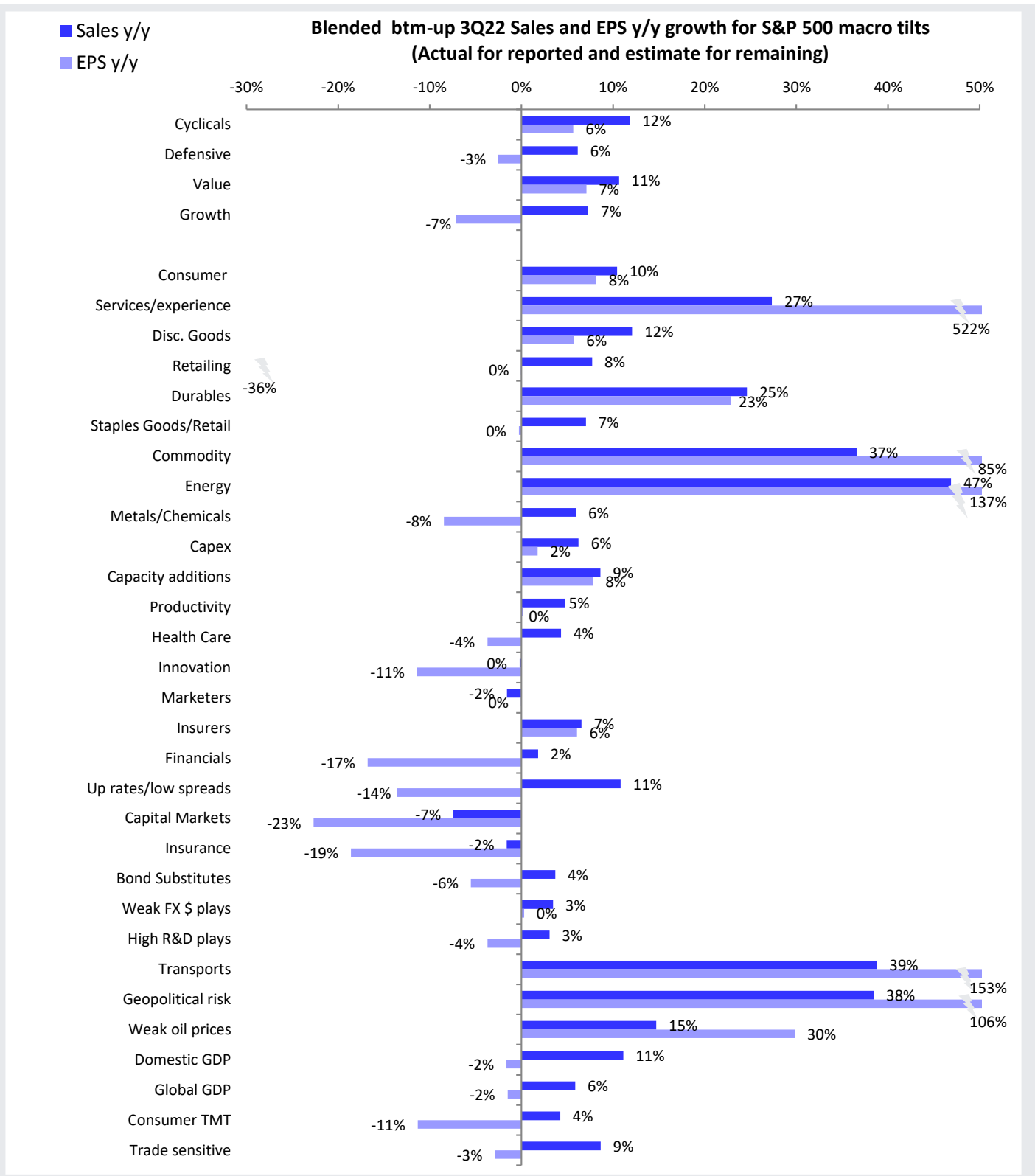
Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 3Q22 Sales and EPS sequential q/q growth for macro tilts: 3Q22 vs. 2Q22



Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

S&P 500: Blended bottom-up 3Q22 Sales and EPS y/y growth for macro tilts: 3Q22 vs. 3Q21



Source: Factset, DWS Investment GmbH as of 10/28/2022. Past performance may not be indicative of future results.

2018 and 2002 are relevant examples of the S&P 500 performing weakly after midterms owing to hawkish Fed in 2018 and second Iraq war looming in 2002. And while the S&P tends to perform well after elections, this is not the case in election years with recessions as occurred in multiple general election years.

S&P 500 performance statistics in election years

Time Period	Years with 10%+ Jan-Apr Returns				All Years				Non-recession Years				Mid-term Election Years				Non-recession Mid-term Election Years				Election Years				Non-recession Election Years (Presidential and Mid-term)			
	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min
Jan	5.9%	4.1%	13.2%	0.2%	0.9%	5.0%	13.2%	-8.6%	1.0%	4.6%	13.2%	-7.1%	-2.0%	3.4%	3.3%	-7.6%	-1.1%	3.1%	3.3%	-6.2%	-0.7%	4.6%	11.8%	-7.6%	0.3%	4.2%	11.8%	-6.2%
Feb	2.6%	3.5%	7.1%	-2.9%	0.2%	3.7%	7.1%	-11.0%	0.3%	3.2%	7.1%	-9.2%	1.0%	4.0%	7.1%	-6.1%	1.4%	3.9%	7.1%	-3.0%	0.5%	3.3%	7.1%	-6.1%	0.9%	3.3%	7.1%	-3.9%
Mar	3.2%	1.0%	5.3%	2.1%	1.2%	3.4%	9.7%	-10.2%	1.5%	2.9%	9.7%	-4.6%	1.1%	3.1%	5.9%	-4.6%	1.7%	3.4%	5.9%	-4.6%	0.6%	3.7%	9.7%	-10.2%	1.5%	3.4%	9.7%	-4.6%
Apr	2.1%	2.9%	7.5%	-1.4%	1.3%	3.8%	9.4%	-9.0%	1.3%	3.3%	8.5%	-6.2%	-0.7%	4.6%	8.5%	-9.0%	0.2%	4.2%	8.5%	-6.2%	0.2%	3.9%	8.5%	-9.0%	0.5%	3.5%	8.5%	-6.2%
May	0.3%	3.7%	5.0%	-6.3%	0.2%	3.7%	9.2%	-8.6%	0.2%	3.6%	9.2%	-8.6%	-1.7%	5.0%	9.2%	-8.6%	-1.9%	4.5%	5.0%	-8.6%	-0.8%	4.2%	9.2%	-8.6%	-1.3%	3.7%	5.0%	-8.6%
Jun	1.4%	3.1%	4.8%	-4.8%	-0.2%	3.3%	5.4%	-8.6%	0.1%	3.2%	5.4%	-8.2%	-2.1%	3.4%	3.9%	-8.2%	-2.0%	4.0%	3.9%	-8.2%	-0.6%	3.7%	4.3%	-8.6%	-0.1%	3.6%	4.3%	-8.2%
Jul	0.6%	4.6%	8.8%	-6.8%	0.6%	4.1%	8.8%	-7.9%	0.7%	4.0%	8.8%	-7.9%	0.1%	5.2%	7.3%	-7.9%	0.4%	5.0%	6.9%	-7.9%	-0.1%	4.1%	7.3%	-7.9%	-0.1%	3.8%	6.9%	-7.9%
Aug	0.7%	5.0%	7.1%	-14.6%	0.1%	4.7%	11.6%	-14.6%	0.4%	4.2%	10.6%	-14.6%	-0.6%	7.4%	11.6%	-14.6%	-0.6%	6.5%	7.1%	-14.6%	0.5%	5.8%	11.6%	-14.6%	0.5%	5.4%	10.6%	-14.6%
Sept	-0.1%	3.7%	6.2%	-8.5%	-0.6%	4.3%	8.8%	-11.9%	0.1%	3.8%	8.8%	-11.0%	-1.8%	6.1%	8.8%	-11.9%	-1.3%	6.1%	8.8%	-11.0%	-0.8%	5.3%	8.8%	-11.9%	0.2%	4.8%	8.8%	-11.0%
Oct	-0.8%	7.1%	8.0%	-21.8%	1.1%	5.9%	16.3%	-21.8%	0.9%	5.1%	10.8%	-21.8%	3.9%	6.1%	16.3%	-9.2%	2.9%	5.0%	8.6%	-9.2%	1.6%	5.9%	16.3%	-16.9%	1.6%	3.7%	8.6%	-9.2%
Nov	0.5%	3.7%	5.9%	-8.5%	1.4%	4.4%	10.2%	-11.4%	1.5%	3.9%	10.2%	-8.5%	2.5%	4.1%	10.2%	-5.3%	2.6%	3.9%	10.2%	-4.0%	1.9%	4.6%	10.2%	-8.0%	1.8%	4.1%	10.2%	-8.0%
Dec	3.1%	4.0%	11.2%	-2.8%	1.5%	3.1%	11.2%	-6.0%	1.7%	3.1%	11.2%	-6.0%	1.1%	3.4%	6.5%	-6.0%	0.8%	3.6%	6.5%	-6.0%	1.0%	3.0%	6.5%	-6.0%	0.8%	3.0%	6.5%	-6.0%
Q1	12.2%	4.6%	21.6%	5.5%	2.3%	7.7%	21.6%	-12.1%	2.9%	6.4%	20.5%	-8.4%	0.1%	6.7%	13.5%	-8.6%	2.0%	6.9%	13.5%	-6.2%	0.5%	6.9%	13.9%	-9.9%	2.6%	6.5%	13.9%	-6.5%
Q2	3.8%	5.0%	14.2%	-3.3%	1.4%	7.4%	16.9%	-21.3%	1.6%	6.7%	16.9%	-21.3%	-4.2%	9.3%	7.1%	-21.3%	-3.4%	9.4%	7.1%	-21.3%	-1.1%	8.0%	11.9%	-21.3%	-0.8%	7.4%	10.4%	-21.3%
Q3	1.1%	6.8%	9.8%	-11.9%	0.2%	8.3%	15.8%	-26.1%	1.1%	6.6%	15.0%	-17.6%	-2.1%	12.3%	15.8%	-26.1%	-1.5%	9.3%	10.7%	-17.6%	-0.3%	9.4%	15.8%	-26.1%	0.5%	6.9%	10.7%	-17.6%
Q4	2.8%	9.3%	20.9%	-23.2%	4.0%	7.7%	20.9%	-23.2%	4.3%	6.8%	20.9%	-23.2%	7.6%	6.7%	20.9%	-6.3%	6.4%	7.3%	20.9%	-6.3%	4.5%	8.1%	20.9%	-22.6%	4.3%	6.3%	20.9%	-8.1%
Jan - Apr	14.5%	4.5%	27.3%	10.6%	3.6%	7.9%	27.3%	-11.4%	3.8%	7.0%	19.1%	-9.4%	-0.6%	7.8%	14.6%	-11.4%	2.1%	7.5%	14.6%	-8.8%	0.6%	7.0%	14.6%	-11.4%	3.1%	6.2%	14.6%	-8.8%
May - Sep	2.6%	6.9%	13.5%	-8.5%	0.6%	9.7%	21.1%	-29.6%	1.0%	8.2%	18.2%	-24.3%	-6.0%	11.3%	5.9%	-29.6%	-5.3%	10.1%	5.9%	-24.3%	-1.8%	10.2%	18.0%	-29.6%	-0.9%	8.1%	5.9%	-24.3%
Oct - Dec	2.8%	9.3%	20.9%	-23.2%	4.0%	7.2%	20.9%	-23.2%	4.5%	6.3%	20.9%	-23.2%	7.6%	6.7%	20.9%	-6.3%	6.4%	7.3%	20.9%	-6.3%	4.5%	8.1%	20.9%	-22.6%	4.3%	6.3%	20.9%	-8.1%
Whole Year	20.4%	8.6%	34.1%	2.0%	8.1%	16.0%	34.1%	-38.5%	10.7%	8.6%	34.1%	-23.4%	0.6%	16.2%	26.7%	-29.7%	3.0%	15.5%	26.7%	-23.4%	3.6%	16.1%	26.7%	-38.5%	6.5%	12.6%	26.7%	-23.4%

Time Period	All Years				Non-recession Years				Non Presidential Election Years				Presidential Election Years				Presidential Election Years ex. Recessions (1960, 1980, 2008)				Presidential Election Years ex. 2008				Presidential Election Years in Recessions (1960, 1980, 2008)			
	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min	Avg	Std Dev	Max	Min
Jan	0.9%	5.0%	13.2%	-8.6%	1.0%	4.6%	13.2%	-7.1%	1.1%	5.0%	13.2%	-8.6%	0.3%	5.3%	13.2%	-7.1%	1.0%	3.9%	11.8%	-5.1%	0.8%	5.2%	11.8%	-7.1%	-2.5%	7.2%	5.8%	-7.1%
Feb	0.2%	3.7%	7.1%	-11.0%	0.3%	3.2%	7.1%	-9.2%	0.3%	4.1%	7.1%	-11.0%	0.1%	2.5%	7.1%	-3.9%	0.3%	2.0%	4.2%	-3.9%	0.3%	2.4%	4.2%	-3.9%	-1.0%	2.2%	0.9%	-3.5%
Mar	1.2%	3.4%	9.7%	-10.2%	1.5%	2.9%	9.7%	-4.6%	1.4%	3.0%	8.5%	-6.4%	0.6%	4.5%	9.7%	-10.2%	1.7%	3.0%	9.7%	-3.3%	0.6%	4.6%	9.7%	-10.2%	-4.1%	5.3%	-0.6%	-10.2%
Apr	1.3%	3.8%	9.4%	-9.0%	1.3%	3.3%	8.5%	-6.2%	1.5%	4.1%	9.4%	-9.0%	1.0%	2.9%	9.4%	-3.1%	0.7%	2.2%	8.2%	-3.1%	0.8%	2.8%	8.2%	-3.1%	2.4%	3.6%	4.8%	-1.8%
May	0.2%	3.7%	9.2%	-8.6%	0.2%	3.6%	9.2%	-8.6%	0.2%	3.9%	9.2%	-8.6%	0.1%	3.0%	9.2%	-6.3%	-0.5%	2.3%	2.3%	-6.3%	0.1%	3.1%	4.7%	-6.3%	2.8%	1.8%	4.7%	-1.1%
Jun	-0.2%	3.3%	5.4%	-8.6%	0.1%	3.2%	5.4%	-8.2%	-0.5%	3.3%	5.4%	-8.2%	0.9%	3.2%	5.4%	-8.6%	1.4%	1.8%	4.3%	-2.2%	1.6%	2.0%	4.3%	-2.2%	-1.3%	6.3%	2.7%	-8.6%
Jul	0.6%	4.1%	8.8%	-7.9%	0.7%	4.0%	8.8%	-7.9%	0.8%	4.4%	8.8%	-7.9%	0.0%	3.0%	8.8%	-4.6%	-0.3%	2.0%	3.9%	-4.6%	0.0%	3.1%	6.5%	-4.6%	1.0%	4.8%	6.5%	-2.5%
Aug	0.1%	4.7%	11.6%	-14.6%	0.4%	4.2%	10.6%	-14.6%	-0.3%	5.0%	11.6%	-14.6%	1.4%	3.5%	11.6%	-3.9%	1.4%	3.2%	10.6%	-3.9%	1.4%	3.6%	10.6%	-3.9%	1.5%	1.0%	2.6%	0.6%
Sept	-0.6%	4.3%	8.8%	-11.9%	0.1%	3.8%	8.8%	-11.0%	-0.9%	4.4%	8.8%	-11.9%	0.2%	4.1%	8.8%	-9.1%	1.4%	2.3%	5.4%	-5.3%	0.9%	3.3%	5.4%	-6.0%	-4.2%	6.0%	2.5%	-9.1%
Oct	1.1%	5.9%	16.3%	-21.8%	0.9%	5.1%	10.8%	-21.8%	1.8%	6.1%	16.3%	-21.8%	-0.9%	4.7%	16.3%	-16.9%	0.2%	1.3%	2.6%	-2.2%	0.3%	1.6%	2.6%	-2.2%	-5.2%	10.2%	1.6%	-16.9%
Nov	1.4%	4.4%	10.2%	-11.4%	1.5%	3.9%	10.2%	-8.5%	1.4%	4.2%	10.2%	-11.4%	1.4%	5.0%	10.2%	-8.0%	1.2%	3.3%	7.3%	-8.0%	2.1%	4.5%	10.2%	-8.0%	2.3%	9.0%	10.2%	-7.5%
Dec	1.5%	3.1%	11.2%	-6.0%	1.7%	3.1%	11.2%	-6.0%	1.7%	3.2%	11.2%	-6.0%	0.9%	2.6%	11.2%	-4.2%	1.0%	1.9%	5.2%	-4.2%	0.9%	2.7%	5.2%	-4.2%	0.7%	4.0%	4.6%	-3.4%
Q1	2.3%	7.7%	21.6%	-12.1%	2.9%	6.4%	20.5%	-8.4%	2.8%	7.9%	21.6%	-12.1%	0.9%	7.0%	16.9%	-9.9%	3.1%	4.9%	13.9%	-6.5%	1.7%	6.5%	13.9%	-7.6%	-7.6%	2.3%	-5.4%	-9.9%
Q2	1.4%	7.4%	16.9%	-21.3%	1.6%	6.7%	16.9%	-21.3%	1.2%	8.1%	16.9%	-21.3%	2.0%	4.7%	15.8%	-3.8%	1.6%	3.2%	10.4%	-3.8%	2.4%	4.6%	11.9%	-3.8%	3.8%	7.6%	11.9%	-3.2%
Q3	0.2%	8.3%	15.8%	-26.1%	1.1%	6.6%	15.0%	-17.6%	-0.3%	9.2%	15.8%	-26.1%	1.6%	4.9%	20.9%	-8.9%	2.4%	2.6%	8.4%	-2.3%	2.3%	4.1%	9.8%	-6.0%	-1.7%	10.1%	9.8%	-8.9%
Q4	4.0%	7.7%	20.9%	-23.2%	4.3%	6.8%	20.9%	-23.2%	4.8%	7.5%	20.9%	-23.2%	1.5%	8.0%	36.2%	-22.6%	2.4%	3.7%	8.7%	-8.1%	3.2%	4.7%	8.7%	-8.1%	-1.9%	17.9%	8.6%	-22.6%
Feb - Aug *	6.0%	13.5%	43.8%	-39.3%	7.4%	12.2%	37.3%	-30.2%	5.7%	15.3%	43.8%	-39.3%	6.7%	6.2%	21.2%	-11.6%	8.0%	5.1%	21.2%	-4.0%	8.1%	5.0%	21.2%	-4.0%	1.5%	9.4%	12.7%	-11.6%
Sep - Oct *	2.6%	16.4%	128.5%	-81.5%	6.5%	14.2%	128.5%	-80.2%	4.6%	15.5%	128.5%	-80.2%	-2.9%	19.0%	60.2%	-81.5%	10.0%	7.6%	60.2%	-30.2%	7.6%	10.2%	60.2%	-32.2%	-42.7%	35.5%	27.7%	-81.5%
Nov - Jan *	16.3%	14.2%	88.2%	-47.2%	18.3%	10.9%	88.2%	-24.2%	16.8%	14.4%	88.2%	-41.6%	14.9%	14.2%	79.3%	-47.2%	17.9%	8.0%	54.4%	-16.6%	20.8%	10.3%	79.3%	-16.6%	3.5%	30.5%	79.3%	-47.2%
Whole Year	8.1%	16.0%	34.1%	-38.5%	10.7%	8.6%	34.1%	-23.4%	8.5%	16.4%	34.1%	-29.7%	6.7%	15.5%	26.7%	-38.5%	9.6%	8.1%	20.3%	-10.1%	9.9%	9.5%	25.8%	-10.1%	-5.2%	32.2%	25.8%	-38.5%

Source: Haver, DWS Investment GmbH as of 10/28/2022. 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 2022	
										2022E	y/y	2023E	y/y	2022E	y/y	2023E	y/y	(\$)	% of 2022
S&P 500 EPS (historical index)	\$118.82	\$117.46	\$118.10	\$132.00	\$161.93	\$162.93	\$139.72	\$208.12	49.0%										
S&P 500 EPS (current constituents)	\$116.42	\$117.21	\$117.46	\$129.27	\$155.86	\$161.35	\$144.07	\$207.74	46.4%	\$223.51	7.6%	\$235.18	5.2%	\$222	6.4%	\$220	-0.9%	\$220	99%
Sector (\$ bn)																			
Communication Services	68.6	79.2	91.9	97.5	124.6	132.2	135.7	188.3	38.8%	169.9	-9.8%	183.2	7.9%	170.0	-9.7%	175.0	2.9%	162.0	95%
Consumer Discretionary	64.1	74.9	83.6	87.7	103.5	101.4	79.7	134.2	68.4%	141.2	5.2%	163.3	15.7%	140.0	4.3%	145.0	3.6%	149.1	106%
Consumer Staples	78.4	76.8	79.2	83.8	90.4	91.1	95.1	104.6	10.0%	106.9	2.3%	112.9	5.6%	104.5	-0.1%	105.0	0.4%	104.5	100%
Energy	93.1	39.0	10.6	36.8	68.6	48.8	-4.8	77.4	1722%	194.3	150.9%	169.6	-12.7%	170.0	119.5%	135.0	-20.6%	129.3	76%
Financials	171.2	186.0	187.6	194.8	241.3	248.1	197.1	326.9	65.9%	279.5	-14.5%	315.0	12.7%	283.5	-13.3%	292.5	3.2%	287.5	101%
Health Care	137.6	152.6	157.5	171.8	188.8	206.8	226.8	293.5	29.4%	308.6	5.1%	303.9	-1.5%	310.0	5.6%	315.0	1.6%	301.4	97%
Industrials	99.4	102.9	97.0	105.7	129.2	123.5	64.7	108.9	68.2%	142.1	30.5%	162.0	14.0%	140.5	29.0%	144.2	2.6%	142.5	101%
Information Technology	176.7	184.1	193.6	228.4	266.5	264.6	296.6	379.8	28.1%	393.3	3.6%	425.3	8.1%	395.0	4.0%	410.0	3.8%	400.0	101%
Materials	24.3	23.4	22.2	28.0	34.9	33.4	31.7	57.9	82.3%	63.9	10.4%	57.7	-9.6%	65.0	12.3%	56.0	-13.8%	55.4	85%
Real Estate	23.5	26.8	29.6	32.6	36.2	37.9	37.7	44.7	18.5%	49.0	9.8%	51.3	4.5%	47.0	5.2%	49.0	4.3%	46.1	98%
Utilities	31.4	31.7	33.9	35.3	38.9	43.0	44.3	47.3	6.8%	48.7	3.0%	52.2	7.3%	50.0	5.8%	52.0	4.0%	50.6	101%
S&P 500	968.1	977.1	986.6	1102.4	1323.0	1330.7	1204.5	1763.4	46.4%	1897.3	7.6%	1996.4	5.2%	1875.5	6.4%	1878.7	0.2%	1828.4	97%
S&P ex. Energy (\$bn)	875.1	938.1	976.0	1065.6	1254.4	1281.9	1209.3	1686.0	39.4%	1703.0	1.0%	1826.8	7.3%	1705.5	1.2%	1743.7	2.2%	1699.1	100%
S&P ex. Tech (\$bn)	791.5	793.0	793.0	874.0	1056.5	1066.1	908.0	1383.7	52.4%	1504.1	8.7%	1571.1	4.5%	1480.5	7.0%	1468.7	-0.8%	1428.3	96%
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
2019A	163	39	41	41	42
2020A	140	33	28	38	42
2021A	210	49	53	54	54
2022E	222	55	58	55	54
2023E	220	52	55	56	57

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 10/28/2022. Past performance may not be indicative of future results.

DWS Investment GmbH View: S&P 500 fair value by sector: Assuming a ~5.75% real cost of equity (CoE) for overall S&P 500

	Market Value (\$bn)	Current 2022 PE	2022E Earnings (\$bn)	Normal Ratio	Normal 2022E Earnings	Accounting Quality Adjustment	Fully Adjusted Earnings	Net Debt / Market Cap	Real CoE	Steady State Value	Growth Premium	2022 Start Fair Value (\$bn)	2021E Dividend Yield	2022 End Fair Value (\$bn)	PE on Normal 2022E EPS	2022 end Upside %
Communication Services	2,495	14.7	170.0	95%	162.0	-8%	149.0	15%	5.75%	2,592	0%	2,592	1.7%	2,774	17.1	11%
Consumer Discretionary	3,639	26.0	140.0	106%	149.1	-8%	137.2	12%	5.75%	2,385	32%	3,142	1.0%	3,385	22.7	-7%
<i>Automobiles</i>	703	28.7	24.5	110%	27.0	-10%	24.3	19%	6.50%	373	50%	560	0.4%	611	22.7	-13%
<i>Internet & Direct Marketing Retail</i>	1,055	44.0	24.0	110%	26.4	-8%	24.3	1%	5.75%	422	130%	972	0.0%	1,056	40.0	0%
<i>CD ex Auto & Internet Retail</i>	1,881	20.6	91.5	100%	91.5	-8%	84.2	17%	5.75%	1,464	10%	1,610	1.7%	1,723	18.8	-8%
Consumer Staples	2,288	21.9	104.5	100%	104.5	-8%	96.1	13%	5.00%	1,923	0%	1,923	2.5%	2,028	19.4	-11%
Energy	1,697	10.0	170.0	76%	129.3	-10%	116.3	16%	6.25%	1,861	-20%	1,489	3.2%	1,579	12.2	-7%
Financials	3,781	13.3	283.5	101%	287.5	-10%	258.7		6.50%	3,981	-5%	3,782	2.0%	4,066	14.1	8%
Banks	1,296	10.4	125.0	105%	131.3	-10%	118.1		7.00%	1,688	-10%	1,519	3.3%	1,621	12.4	25%
Health Care	5,012	16.2	310.0	97%	301.4	-10%	271.2	9%	5.50%	4,931	0%	4,931	1.5%	5,275	17.5	5%
Industrials	2,805	20.0	140.5	101%	142.5	-8%	131.1	18%	5.75%	2,281	0%	2,281	1.4%	2,449	17.2	-13%
Information Technology	8,695	22.0	395.0	101%	400.0	-5%	380.0	2%	5.75%	6,609	10%	7,270	1.0%	7,830	19.6	-10%
Materials	852	13.1	65.0	85%	55.4	-10%	49.9	17%	6.25%	798	0%	798	2.0%	855	15.4	0%
Real Estate	826	17.6	47.0	98%	46.1	-8%	42.4	29%	5.00%	848	0%	848	3.4%	887	19.2	7%
Utilities	943	18.9	50.0	101%	50.6	-8%	46.6	60%	5.00%	931	0%	931	3.2%	976	19.3	3%
S&P 500 (\$ bn)	33,033		1875.5	97%	1828.4	-8.2%	1678.6		5.74%	29141	2.9%	29987	1.7%	32105.4	17.6	-3%
S&P 500 Index (\$/sh)	3901	17.6	222.0	99%	220.0	-8.2%	202.0	11%	5.75%	3513	0.0%	3513	1.7%	3752	17.1	-4%

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

Source: IBES, DWS Investment GmbH as of 10/28/2022. 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 2022 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	
DWS 2022E S&P 500 EPS	\$222.00	DWS 2022E S&P 500 DPS	\$68.00	DWS 2022E S&P 500 aggregate ROE	21.1%	Fair long-term nominal return on S&P 500 index	8.75%
		2022E dividend payout ratio	31%	2021E end S&P 500 book value per share	\$1,050	Components of estimated fair S&P 500 return:	
DWS "normal 2022E" S&P 500 EPS	\$220.00	DWS "normal 2022E" S&P 500 DPS	\$68.00	DWS "normal 2022E" S&P 500 aggregate ROE	19.2%	+ Long-term real risk free interest rate	1.25%
"Normal 2022E" EPS / 2022E EPS	99%	Normal dividend payout ratio	34%			+ Long-term fair S&P 500 equity risk premium*	4.50%
Accounting quality adjustment to pro forma EPS	-\$18.00	EPS directed to net share repurchases	\$39.00	S&P EPS retained for true reinvestment	47%	= Long-term real S&P 500 cost of equity	5.75%
		Normal share repurchase payout ratio	19%	Estimated ROE on reinvested S&P EPS	8.75%	+ Long-term inflation forecast	3.00%
Normal 2022E S&P 500 EPS fair to capitalize	\$202	Total payout of S&P 500 EPS	\$107.00	Economic margin (EM) or ROE-CoE	0.00%	= S&P 500 nominal cost of equity	8.75%
Key principle: steady-state value = normal EPS / real CoE		Total payout ratio of normal and quality adj. EPS	53%	Sources of long-term earnings growth:		* S&P 500 ERP history 300-400bps, w/ real CoE @ 5% - 6.5%	
				+ Long-term inflation forecast	3.00%	Fair S&P 500 Market Value and Book Value Multiple	
<u>S&P 500 EPS Capitalization Valuation</u>		<u>S&P 500 DPS Discount Model</u>		+ Fair return on true reinvestment	2.70%	2021E end S&P 500 book value per share	\$1,050
Normal EPS / (real CoE - (EM/payout) - EM):		Normal DPS / (nominal CoE - DPS growth):		+ Value added return on true reinvestment	0.00%	Fair PB = Fair PE * normal aggregate ROE	3.35
S&P 500 intrinsic value at 2022 start	3513	S&P 500 intrinsic value at 2022 start	3513	= Long-term earnings growth	5.70%	Fair PE =(inc ROE-g)/(inc real ROE*(real CoE-real g))	17.4
S&P 500 intrinsic value at 2022 end	3752	S&P 500 intrinsic value at 2022 end	3752	+ Growth from net share repurchases	1.11%	= Long-term S&P 500 fair value of book at 2022 start	3513
Implied fair fwd PE in early 2022 on 2022E \$222 EPS	15.8	Implied fair forward yield on 2022E DPS of \$68.0	1.94%	= Long-term S&P 500 EPS/DPS growth	6.81%	Implied S&P 500 fair value of book at 2022 start	3513
Implied fair trailing PE at 2022 end on 2022E \$222 EPS	16.9	Implied fair trailing yield on 2022E DPS of \$68.0	1.81%	+ Fair normal dividend yield	1.94%	Steady-state PB = normal agg. ROE / real CoE	3.35
				= Total long-term return at constant PE	8.75%	Confirmed by fair steady-state PE = 1 / real CoE	17.4
Normal EPS / (real CoE-value added EPS growth)	3513	DPS discount model using true DPS (all payout)	3513	Value added growth premium in fair value est.	0%	Normal 2022E economic profit per share	\$141.63

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 2022E S&P 500 EPS				
		\$210	\$215	\$220	\$225	\$230
Real	5.25%	4215	4348	4482	4617	4754
cost of	5.50%	3862	3973	4084	4197	4309
equity	5.75%	3563	3658	3752	3847	3942
	6.00%	3308	3390	3471	3552	3632
	6.25%	3088	3158	3229	3299	3368

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%

Fed rate hike cycles

Start Date of Fed Rate Hike *	Date of Reaching Late Cycle **	Late Cycle Signals **	End Date of Fed Rate Hike	Fed Funds Effective Rate (%)	Duration of Rate Hike (Months)	Peak Fed Rate	Total Rate Hike	1yr Yield (%)	10yr Yield (%)	CPI y/y	Unit Labor Cost y/y	UE (%)	PE at Start of Hike	PE at End of Hike	Chg PE during Hike	Avg PE during Hike	10yr - 1yr Chg (%) at 1yr	10yr - 1yr Chg (%) at 10yr	Before Reaching Cycle (ar)	After Reaching Cycle (ar)	3m before	Initial Reaction ***	1m	3m	6m	12m	Date of First Hike	
Dec-65	Dec-65	1	Nov-66	0.04	12	0.06	0.017	0.04	0.04	1.7%	-0.2%	0.0	18.4	14.6	-3.8	15.9	0.1	-0.4	-0.5	-14.1%	0.6%	0%	-3%	-8%	-13%			
Aug-67	Dec-67	1,3	Aug-69	0.04	25	0.09	0.054	0.05	0.05	2.9%	3.1%	0.0	17.8	16.4	-1.4	17.6	0.2	-0.8	-1.0	9.3%	-0.6%	0.9%	3%	0%	-5%	6%		
Apr-71	Apr-71	2	Aug-71	0.04	5	0.06	0.019	0.04	0.06	4.4%	1.0%	0.1	19.2	18.6	-0.6	18.9	2.0	0.8	-1.2	-13.5%	0.5%	-4%	-8%	-9%	4%			
Mar-72	Mar-73	1,2	Sep-73	0.03	19	0.11	0.075	0.04	0.06	3.8%	2.2%	0.1	18.7	14.1	-4.6	17.1	1.8	-1.2	-3.0	4.0%	-5.5%	1.0%	0%	0%	3%	4%		
Mar-74	Mar-74	1,2	Aug-74	0.09	6	0.12	0.030	0.07	0.07	10.0%	7.1%	0.1	11.8	8.3	-3.5	9.9	0.1	-1.3	-1.4	-47.0%	3.1%	-4%	-8%	-32%	-11%			
Feb-77	Feb-77	2	Apr-80	0.05	39	0.18	0.130	0.05	0.07	5.2%	5.5%	0.1	10.3	6.9	-3.4	8.2	1.9	-1.8	-3.8	2.0%	1.4%	-1%	-4%	-3%	-13%			
Aug-80	Aug-80	1,2	Jun-81	0.09	11	0.19	0.101	0.09	0.10	13.2%	11.4%	0.1	8.1	8.8	0.7	8.9	1.6	-1.4	-3.0	8.7%	2.1%	3%	15%	7%	0%			
Jan-82	Jan-82	1,2	Feb-82	0.12	2	0.15	0.024	0.13	0.14	8.9%	7.2%	0.1	8.1	7.4	-0.6	7.7	0.9	-0.3	-1.2	-52.7%	1.1%	-6%	-3%	-11%	21%			
Apr-83			Aug-84	0.09	17	0.11	0.029	0.09	0.11	3.6%	2.8%	0.1	12.1	10.0	-2.2	11.3	1.5	0.9	-0.6	1.0%	10.8%	-1.7%	10%	10%	10%	3%	3/31/1983	
Jan-87	Aug-87	3	Oct-87	0.06	10	0.07	0.014	0.06	0.07	1.2%	3.0%	0.1	14.8	13.6	-1.3	17.2	1.2	1.9	0.7	37.3%	-80.2%	1.4%	0.4%	11%	19%	21%	3%	1/5/1987
Apr-88	Dec-88	1,2,3	Mar-89	0.07	12	0.10	0.032	0.07	0.08	3.8%	2.9%	0.1	12.5	11.8	-0.7	12.0	1.7	-0.2	-1.9	9.6%	27.1%	8.9%	-5.6%	2%	6%	6%	15%	3/30/1988
Feb-94			Apr-97	0.03	39	0.06	0.025	0.04	0.06	2.5%	1.6%	0.1	17.7	19.0	1.3	16.5	2.2	0.9	-1.3	18.6%	5.4%	-3.9%	-4%	-1%	3%	5%	2/4/1994	
Mar-97	Apr-97	3	Apr-97	0.05	2	0.06	0.003	0.06	0.06	3.0%	1.2%	0.1	19.3	19.0	-0.3	18.5	0.9	0.9	0.0	97.6%	8.8%	-9.3%	12%	24%	32%	51%	3/25/1997	
Jul-99	Mar-00	1,3	Jun-00	0.05	12	0.07	0.017	0.05	0.06	2.0%	0.6%	0.0	29.7	26.1	-3.6	27.6	0.8	-0.1	-0.9	19.8%	-11.2%	5.1%	-0.8%	1%	-3%	5%	6%	6/30/1999
Jul-04	Jan-06	1,2	Jul-06	0.01	25	0.05	0.042	0.02	0.05	3.2%	1.0%	0.1	18.4	15.6	-2.8	17.0	2.6	-0.1	-2.7	10.5%	-0.5%	3.1%	-5.2%	2%	1%	8%	14%	6/30/2004
Dec-15	Dec-15	3	Apr-19	0.00	41	0.03	0.023	0.00	0.02	0.4%	2.5%	0.1	17.5	17.3	-0.2	18.6	1.8	0.1	-1.7	10.3%	7.9%	-10.1%	-1%	9%	13%	20%	12/16/2015	

* 1971, 1977, 1983, 1994, and 2004 are the first hike after recessions

* The hikes that started in 1965, 1971, 1974, 1977, 1980, 1982, 1997 and 2015 started under late cycle conditions, despite 1971, 1977 and 2015 being the first hikes after a recession.

* The hikes that started in 1983 and 1994 stopped before reaching late cycle conditions. All other hikes started in early-cycle conditions and continued into late-cycle conditions.

** Three signs of late cycle conditions: (1) inverted yield curve; (2) high inflation; (3) more than 5 years since recession.

*** Initial reaction is the S&P price change from 1 month high before the date of first rate hike to the 1 month low after.

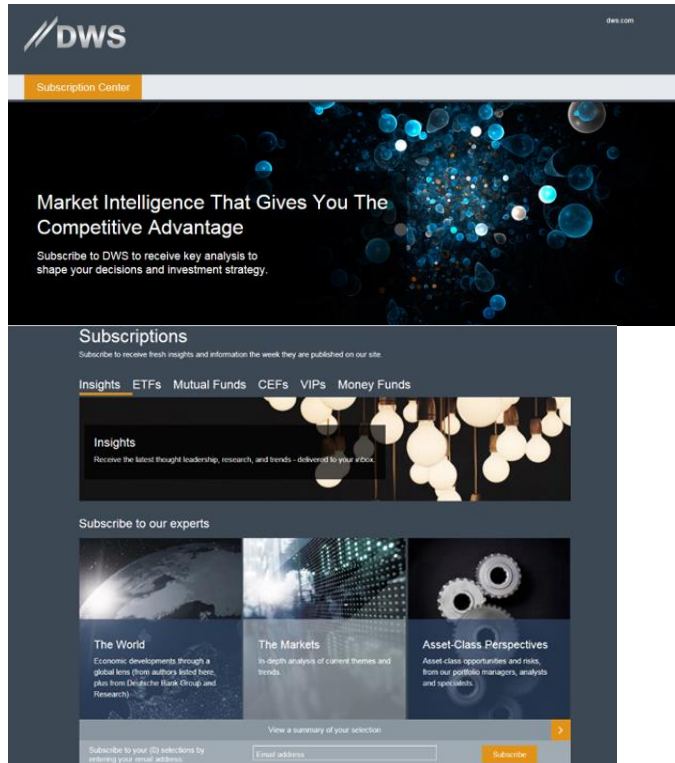
Note: For the 7 Fed hike cycles since 1983, the S&P performance are for 1m, 3m, 6m, and 12m after the initial reaction. For the other cycles, the S&P performance are based on monthly prices.

Source: Haver, DWS Investment Management GmbH

Contact Information

David Bianco 212 454-8527, david.bianco@dws.com

Ju Wang 212 454-8572, ju.wang@dws.com



Want to start to receive Americas CIO View and other materials from our thought leaders directly in your inbox?

Retail registered representatives:
Go to the **Subscription Center on dws.com:**

<https://spotlight.dws.com/subscription-center>

And sign up and request the types of thought leadership materials you would like to receive by topic (The World, The Markets, and Asset Class Perspectives) or exclusively by one or more of our experts.

Institutional clients:
View current and past editions of Americas CIO View by going to:

<https://institutional.dws.com>

DWS does not render legal or tax advice, and the information contained in this communication should not be regarded as such. The comments, opinions and estimates contained herein are based on or derived from publicly available information from sources that we believe to be reliable. We do not guarantee their accuracy. This material is for informational purposes only and sets forth our views as of this date. The underlying assumptions and these views are subject to change without notice.

Past performance is not indicative of future returns.

Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can fall as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time.

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

© 2022 DWS Group GmbH & Co. KGaA. All rights reserved. I- 092865_1 (10/22)

For institutional client and registered representative use only. Not for public viewing or distribution.