

Send in the optimists: If the bond market rain stops, equities can shine



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If Treasury yields stabilize around 3.0% this summer, optimists can boost PEs

May was another tough month of many in 2022 so far, for both bond and equity investors. However, the last days of May and first days of June brought a strong rally for both asset classes off their worst YTD levels. While the equity bounce was broad based, both in the US and abroad, across sectors and style, leadership remains narrow. It's just Energy being driven upward by a continued oil price rally. Despite commodities grinding higher and the dollar retreating from its recent highs, investors apparently got fatigued with all the inflation pessimism and focused instead on the peaking thesis and decided to give the Fed and the supply-side a bit more benefit of the doubt. Some pointed to the many signs of economic slowing, a still healthy but more disciplined labor and housing market, and that inflation this high leaves plenty of room for it to fall. We'd agree with much of this, but it's really too early to tell and maybe it was simply investor goodwill around Memorial Day weekend. So much feels like the 1970s lately, perhaps Top Gun in the theatres again gave us a 1980s moment.

S&P fell 19% at its low, isn't that enough?: Depends on interest rates and growth

The S&P PE fell from about 21x our forward EPS estimate at year start to about 17x at its May 19-20 low and is currently about 18x the midpoint of our 2022E EPS of \$225 and 2023E EPS of \$235. Our yearend and 12-month S&P target of 4400 is 19.5x trailing EPS. However, we don't think the S&P will exceed 4400 until we get closer to the end of Fed hikes and while we see 4000 as reasonable immediate long-term attractive fair value, we think risk is to the downside until commodities, the dollar and interests rates plateau. We've argued for many years that a fair S&P PE is anything between 18-21x, if long-term real interest rates stay close to 0% and if there is confidence in healthy long-term real S&P EPS growth. It's the latter that we want to elaborate on and quantify in this note. But if our S&P EPS estimates hold-up and 10yr Treasury yields stabilize around 3% with inflation expectations or breakeven in a 2.5-3.0% range and 10yr TIPS yield in a 0-0.5% range, then we'd be more confident in our S&P price and PE target, even with some upside, provided a healthy expansion endures. Because of ifs, we use a higher than normal ERP.

S&P PE driven by real interest rates, risk premiums & long-term real EPS growth

Our fair S&P PE and intrinsic valuation framework is based on capitalizing accounting quality adj. S&P EPS by an estimated fair real return on long-term S&P 500 ownership. Our estimate of such fair long-term real return or S&P CoE is based on our outlook for long-term real Treasury or TIPS yields plus a fair Equity Risk Premium (ERP). We expect 10yr TIPS yields to approach, but not exceed 0.5%, but because we are uncertain in this outlook we use a 4.75% S&P ERP. Inflation affects the outlook for real interest rates and real growth and thus the ERP. If inflation exceeds the Fed's target, then real interest rates are likely to be above the neutral real interest rate (which we estimate at roughly 0%) until inflation slows. If inflation is materially above real GDP growth, it usually brings poor real S&P EPS growth and also poor accounting quality from inadequate depreciation. Thus, although inflation isn't one of the three primary PE drivers, it affects all three of them. Charts inside compare real S&P EPS growth to real economic growth and inflation conditions. High inflation, but also commodity deflation and dollar strength hurt. Golden cycles help.

Healthy real S&P EPS growth= EPS retention ratio * real CoE= 70% * 5%= 3.5%

The steady-state S&P PE formula that we use of $1 / \text{real CoE}$ assumes that long-term S&P EPS growth will equal the ratio of earnings not paid out as dividends multiplied by the real Cost of Equity (CoE) plus the inflation rate. Such that reinvested profits earn a fair real return and that earnings also rise with inflation. This healthy or steady-state equivalent EPS growth rate is also the nominal cost of equity less the dividend yield, when S&P is priced at steady-state. Thus, in order for an about 20 S&P PE to be fair, the fair real CoE must be about 5% and if inflation is 2.5%, then S&P EPS growth about 7.5% less the dividend yield.

What about optimism?: PEs above the steady-state PE for economic profit growth

While we use a steady-state PE to guide our S&P 500 fair value estimates, PEs should be different for sectors, industries and especially companies not at steady-state. Inside, we show our steady-state fair value estimates for each sector and what value added growth premium or discount we think appropriate. Our adjustments from steady-state values are small by sector, but we note that unless real interest rates climb a lot, the S&P 500 overall has no economic profit growth optimism built into its current valuation. It's not an optimistic market despite the still high S&P PE vs. history. That said, our market emotion indicator (PE/VIX), cannot tell if this market is skeptical or in denial about the health of the 2020s.

Contributor: Ju Wang, Portfolio Manager Equity

Global Equity Index Forecasts: 12-months

Index	Jun 2023F	NTM EPS Growth	Target PE
S&P 500	4,400	5.0%	19.2
EuroStoxx 50	3,900	3.5%	13.6
Stoxx 600	460	6.0%	14.0
MSCI Japan	1,200	8.0%	13.6
MSCI Asia xJ	700	5.4%	12.9
MSCI EM	1,110	1.7%	12.1

S&P 500 Outlook at Yearend

	2020	2021	2022F
S&P 500	3756	4766	4400
Dividend Yield	1.60%	1.40%	1.60%
S&P EPS	\$140	\$210	\$225
Trailing PE	26.6	22.7	19.6
DPS	\$58	\$60.50	\$72

Next 5%+ Price Move

(Up / Balanced Risk / **Down**)

Risk of near-term correction

(Low / **Moderate** / High)

Taxable U.S. Investor Asset Allocations

Asset Class	Long-term	Current
Fixed Income/Cash	30-35%	35.0%
Equities	55-60%	55.5%
US Equities	40%	39.0%
S&P 500	35%	34.0%
Small Caps	0-10%	5.0%
Foreign DM	10-15%	10.5%
Foreign EM	0-10%	6.0%
Alternatives	10%	9.5%

Key CIO Views

Macro signal:	2021	Jun 2023F
U.S. Fed Funds rate	0-0.25%	3.25-3.50%
10yr Treasury yield	1.52%	3.25%
US IG Corp Spreads	100bp	135bp
US High Yield Spreads	340bp	460bp
Crude Oil (WTI) \$/bbl	75	110
EUR / USD FX rate	1.13	1.10

GDP Forecasts

Region	2021	2022F	2023F
US	5.7%	2.9%	2.2%
World	6.0%	3.3%	3.3%
Euro area	5.2%	2.8%	2.2%
China	8.1%	4.5%	4.8%
Japan	1.7%	2.0%	1.8%

* 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 6/7/2022 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

	Market	Allocated	Sector	2020	2021	2022		2020	2021	2022		2020	2021	2022		2020	2021	2022	
Over-weight	14.0%	19.1%	Health Care	21.5	16.8	15.9	Biotechnology	14.2	10.7	11.3									
							Health Care Equipment & Supplies	33.1	24.7	24.1									
							Health Care Providers & Services	19.4	17.0	16.0									
							Health Care Technology	31.7	28.3	25.9									
							Life Sciences Tools & Services	33.3	24.7	26.0									
		8.6%	10.4%	Communication Services	17.3	16.3	16.5	Pharmaceuticals	20.5	15.6	13.4								
	Diversified Telecommunication Services							8.3	7.7	8.9					Wireless Telecommunication Services	7.3	4.9	4.0	
	Entertainment							38.8	26.3	21.4									
	Interactive Media & Services							33.2	19.0	19.3									
		10.9%	12.5%	Financials	19.1	11.9	13.0	Media	15.8	13.3	12.5								
Banks	16.7							9.1	10.5	Diversified Financial Services	31.3	26.7	23.3	Capital Markets	18.8	13.4	15.0		
	2.9%	3.1%	Utilities	23.8	22.1	21.5	Insurance	17.0	14.3	13.8						Consumer Finance	27.9	7.8	8.8
Electric Utilities							24.0	23.5	22.4	Independent Power & Renewable Energy	13.7	8.3	9.9	Gas Utilities	26.8	22.4	22.2		
							Multi-Utilities	23.9	21.6	21.0						Water Utilities	40.2	39.0	35.2
Equal-weight	3.0%	3.1%	Real Estate	26.6	22.0	21.9					Real Estate Mgmt. & Development REITs	30.0	15.1	13.5					
	27.4%	27.8%	Information Technology	32.5	24.7	22.1						26.5	22.8	22.3					
Under-weight	7.9%	7.0%	Industrials	44.9	26.0	20.0	Aerospace & Defense	45.5	31.1	23.7						Airlines	-2.8	-5.8	27.7
							Electrical Equipment	31.2	22.5	19.9					Air Freight & Logistics	21.4	14.1	14.5	
							Industrial Conglomerates	30.0	22.9	21.8					Building Products	22.7	18.7	16.8	
															Commercial Services & Supplies	41.3	31.8	30.2	
															Construction & Engineering	28.8	23.5	20.0	
	6.8%	4.6%	Consumer Staples	24.2	22.0	21.3									Machinery	28.5	19.5	18.3	
															Professional Services	19.9	23.6	20.4	
															Road & Rail	24.9	22.2	18.8	
															Trading Companies & Distributors	25.2	22.3	18.4	
															Beverages	30.4	26.7	25.3	
	11.7%	10.1%	Consumer Discretionary	35.3	20.8	18.6									Food Products	20.1	18.0	18.1	
															Food & Staples Retailing	26.2	23.1	22.1	
															Household Products	24.7	24.9	23.9	
															Personal Products	56.4	39.0	35.5	
															Tobacco	16.3	14.7	14.6	
	4.1%	2.3%	Energy	-284	21.5	13.6									Auto Components	32.7	23.1	21.8	
															Automobiles	76.3	31.8	30.5	
														Distributors	26.8	18.7	18.2		
2.7%	0.0%	Materials	32.0	17.1	15.8									Internet & Direct Marketing Retail	11.0	8.9	8.5		
														Leisure Products	22.9	16.9	17.0		
														Multiline Retail	20.2	16.6	15.6		
															Specialty Retail	26.2	18.5	17.6	
							Energy Equipment & Services	134.1	40.9	26.8						Oil Gas & Consumable Fuels	-225	20.7	13.1
																Chemicals	32.9	18.8	17.1
																Construction Materials	32.9	30.5	25.7
																Containers & Packaging	21.5	17.2	14.9
																Metals & Mining	42.8	11.3	11.4
Aggregate PE: DWS View							Overweight	23.8	17.3	16.6	Equalweight	24.9	21.6	20.4	Underweight	33.8	20.8	18.5	
	S&P 500							4121			2020, 2021 & 2022 EPS	143.00	208.21	225.00	2020, 2021 & 2022 PE	28.8	19.8	18.3	
											Bottom-up Consensus EPS	143.39	207.27	227.54	Bottom-up Cons. PE	28.7	19.9	18.1	
															2020, 2021 & 2022 Ex Energy PE	25.8	18.2	18.2	
																Btm-up Cons. Ex Energy PE	26.5	19.0	18.2

Sector OW	9.21%
Sector UW	-9.21%
Industry OW	16.44%
Industry UW	-16.45%

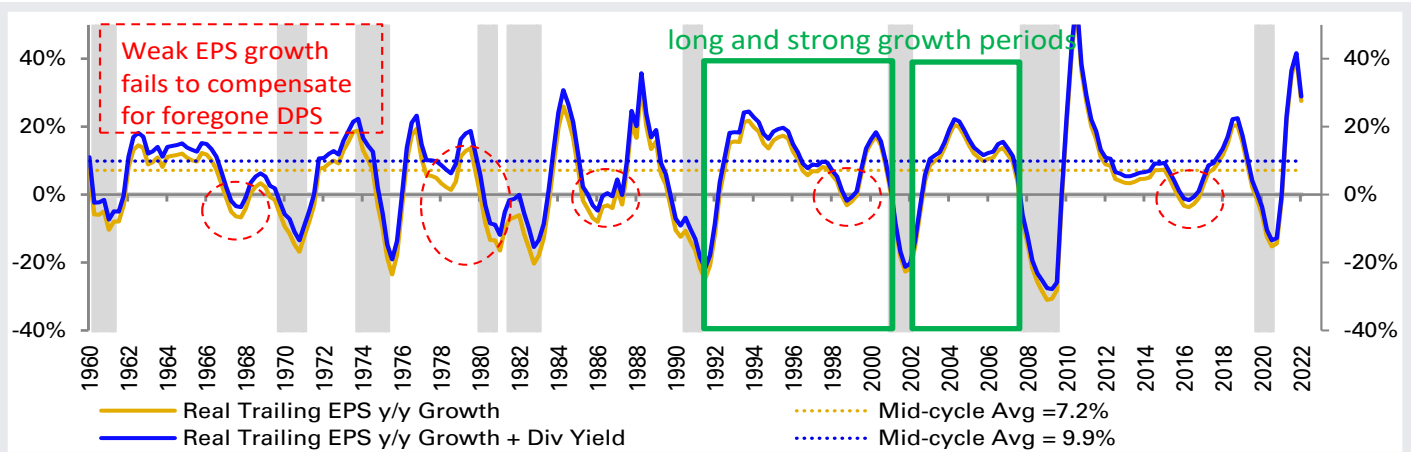
Macro tilts:	
Cyclicals	-2.99%
Defensive	2.99%
Value	-5.20%
Growth	5.20%
Consumer	-3.57%
Services/experience	1.08%
Disc. Goods	0.14%
Retailing	-0.61%
Durables	0.78%
Staples Goods/Retail	-1.53%
Commodity	-4.20%
Energy	-1.86%
Metals/Chemicals	-2.34%
Capex	3.12%
Capacity additions	1.86%
Productivity	1.26%
Health Care	4.71%
Innovation	2.54%
Marketers	1.73%
Insurers	0.00%
Financials	1.86%
Up rates/low spreads	1.14%
Capital Markets	-0.13%
Insurance	0.85%
Bond Substitutes	1.02%
Weak FX \$ plays	0.67%
High R&D plays	4.42%
Transports	-0.88%
Geopolitical risk	-1.97%
Weak oil prices	-1.67%
Inflation shock	-1.22%
Domestic GDP	-0.55%
Global GDP	-3.27%
Consumer TMT	0.59%
Trade sensitive	-1.36%

Note: More details on sector earnings forecast and sector intrinsic valuation can be found towards the back of this note.

Price as of 6/6/2022

Source: DWS Investment Management GmbH

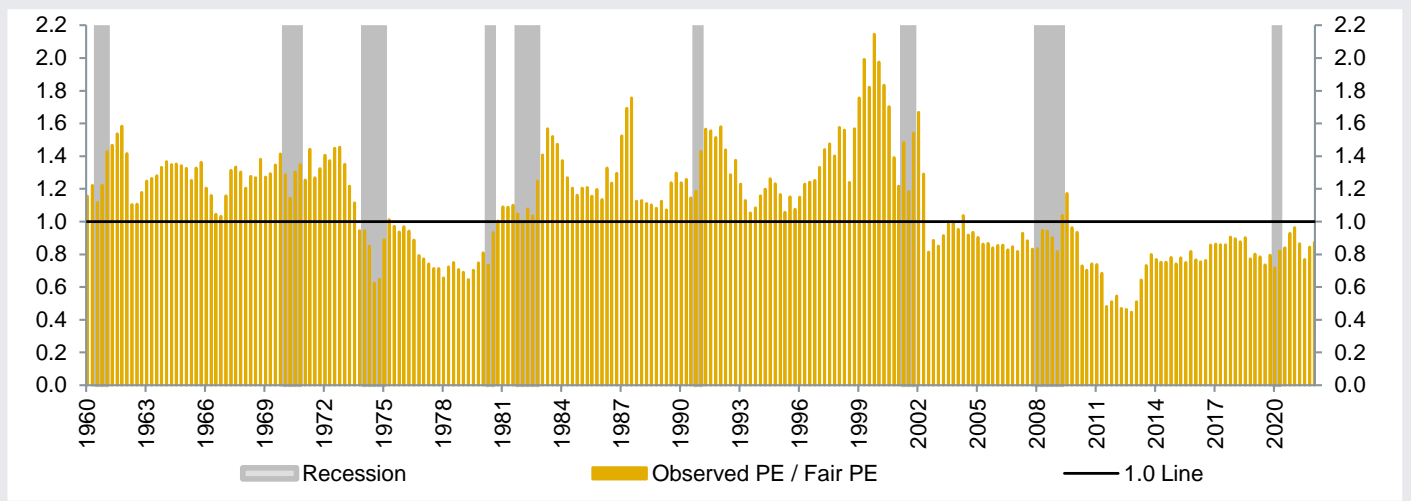
S&P 500 real EPS growth and dividend yield



Note: Mid-cycle average is the average excluding recessions and 2 years after recession.

Source: Haver, IBES, DWS Investment GmbH as of 1Q 2022. Past performance may not be indicative of future results.

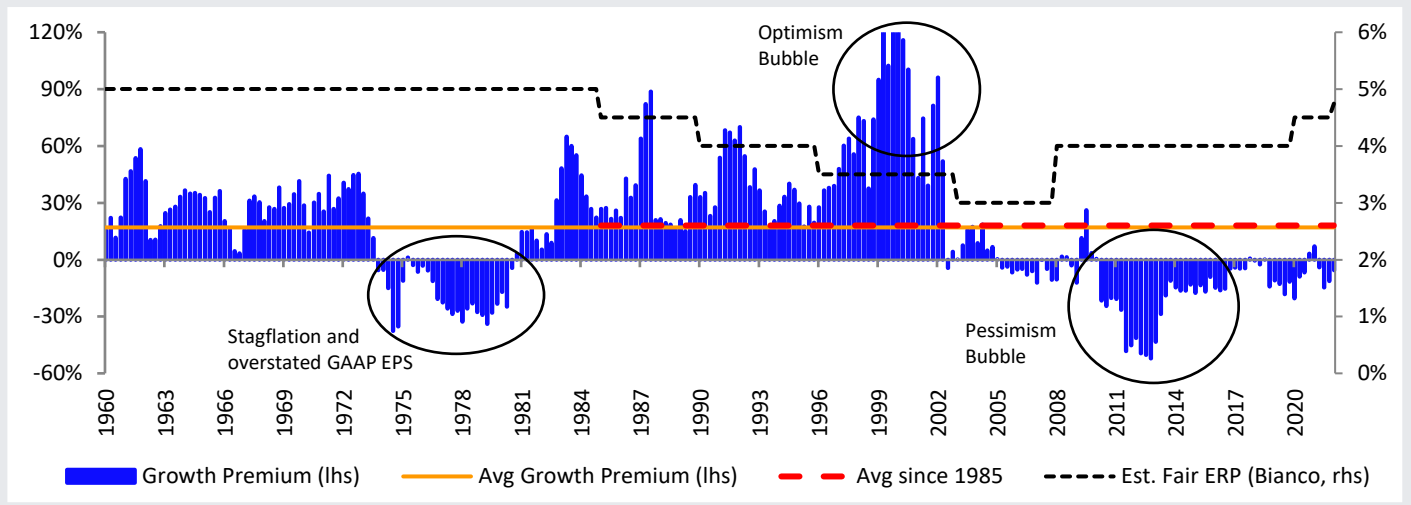
Equity market optimism gauge: S&P 500 trailing PE / Fair PE (Fair PE is calculated as $1 / (\text{Real LT Interest Rate} + \text{Demanded ERP})$)



Note: Real long term rate is 10-year real interest rate. Demanded ERP is our proprietary estimated ERP for S&P 500.

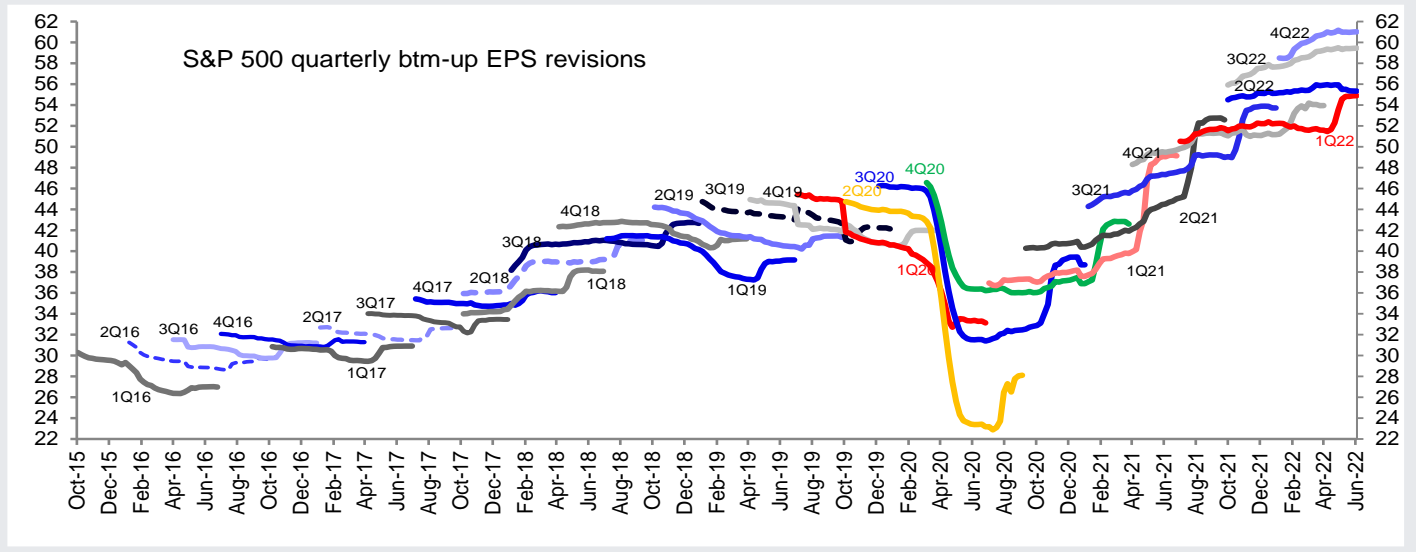
Source: Haver, IBES, DWS Investment GmbH as of 1Q 2022. Past performance may not be indicative of future results.

Equity growth premium: S&P 500 accounting quality adjusted PE / Fair PE - 1



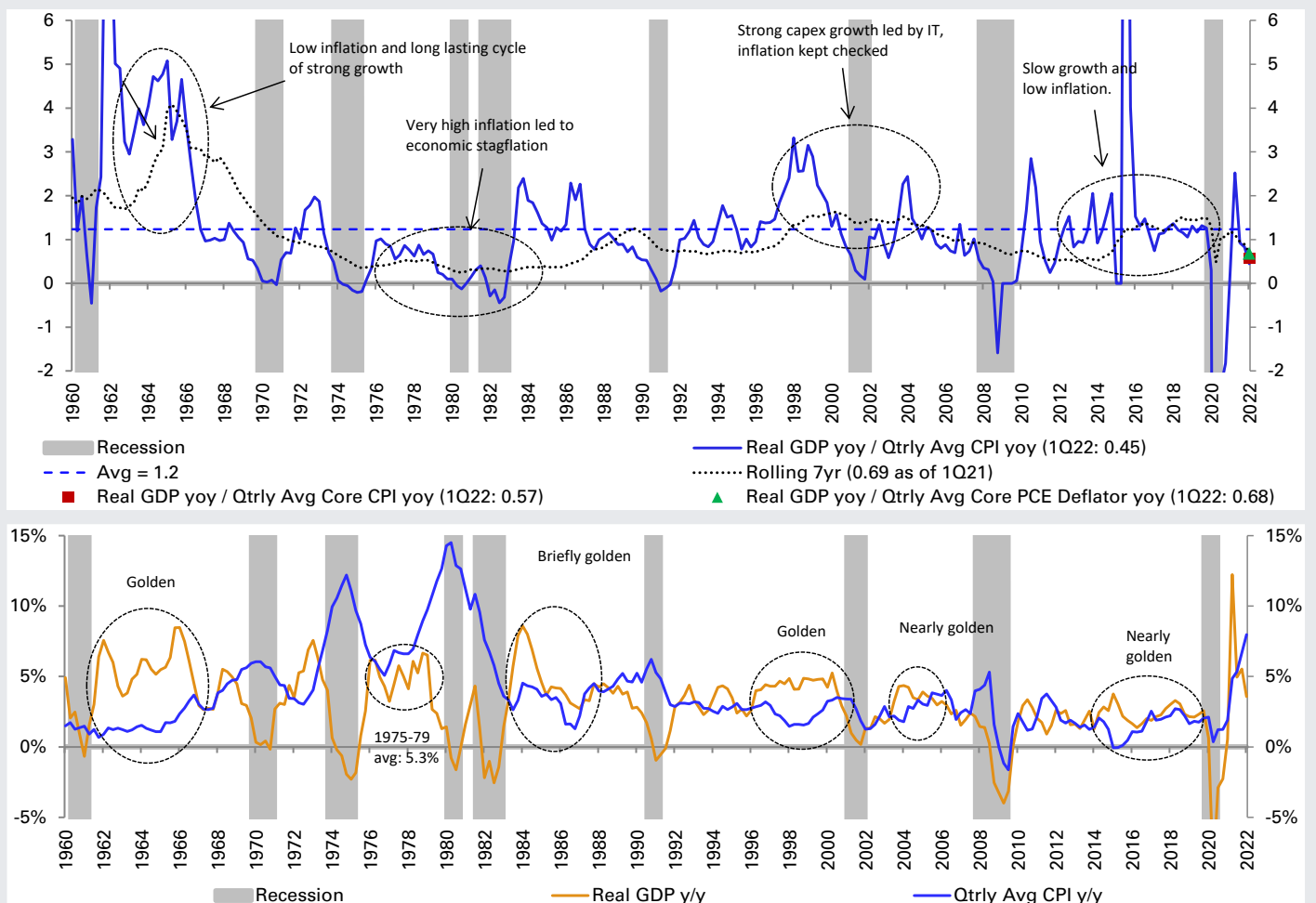
Source: Haver, IBES, DWS Investment GmbH as of 1Q 2022. Past performance may not be indicative of future results.

S&P 500 quarterly EPS revision



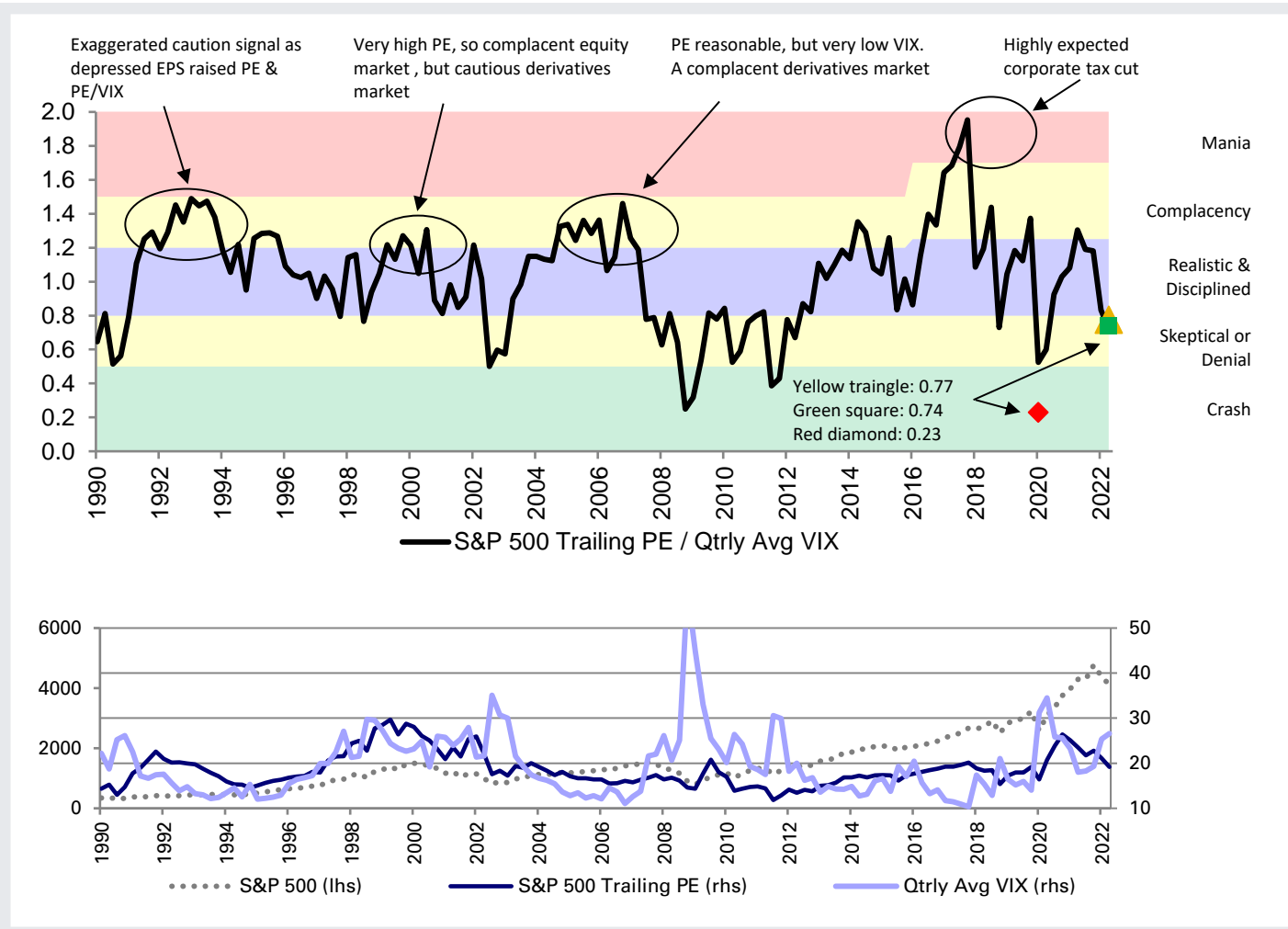
Source: Factset, IBES, DWS Investment GmbH as of 6/6/2022. Past performance may not be indicative of future results.

The golden ratio: Real GDP growth / Inflation



Source: Haver, DWS Investment GmbH as of 1Q 2022. Past performance may not be indicative of future results.
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Equity market emotion: S&P 500 PE / VIX



Green square: PE on our 2022E normalized EPS divided by VIX on Jun 6 2022.

Yellow triangle: Trailing PE as of Jun 6 2022 divided by VIX on Jun 6 2022.

Red diamond: Trailing PE as of Mar 23 2020 S&P 500 trough divided by VIX on Mar 23 2020.

Source: Haver, IBES, DWS Investment GmbH as of 6/6/2022. 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)	\$115.97	\$116.53	\$116.71	\$129.34	\$156.09	\$161.45	\$143.39	\$208.21	46.7%	\$227.54	9.3%	\$248.74	9.3%	\$225	7.5%	\$235	3.9%	\$225	100%
Sector (\$ bn)																			
Communication Services	65.7	75.5	88.1	100.4	125.8	133.4	137.7	189.4	37.6%	185.4	-2.1%	212.7	14.7%	187.0	-1.3%	202.6	8.3%	187.0	100%
Consumer Discretionary	64.5	75.3	83.9	88.1	103.8	102.0	79.6	134.9	69.3%	141.0	4.6%	168.1	19.2%	151.0	12.0%	164.0	8.6%	154.3	102%
<i>Automobiles</i>	9.6	15.4	16.0	15.5	14.1	11.5	10.3	22.1	114%	26.9	22%	29.6	10%	23.0	4%	25.0	9%		
<i>Internet & Direct Marketing Retail</i>	5.6	6.2	8.1	8.6	16.2	17.7	20.0	23.9	19.9%	10.3	-57.0%	15.6	51.1%	25.0	4.4%	28.5	14.0%		
<i>CD ex Auto & Internet Retail</i>	49.3	53.7	59.8	63.9	73.5	72.8	49.3	88.8	80.0%	103.8	16.9%	123.0	18.5%	103.0	16.0%	110.5	7.3%		
Consumer Staples	77.5	75.9	78.2	82.4	89.2	89.6	93.4	102.7	9.9%	107.0	4.2%	115.3	7.8%	105.8	3.0%	109.1	3.2%	105.8	100%
Energy	95.9	40.0	10.8	37.7	71.1	50.3	-5.7	79.2	1489.7%	153.9	94%	138.5	-10%	125.0	57.8%	96.5	-22.8%	101.0	81%
Financials	171.4	186.3	188.0	195.4	242.2	249.2	198.7	328.5	65.4%	295.9	-10.0%	337.7	14.2%	300.0	-8.7%	320.5	6.8%	300.0	100%
Health Care	137.9	153.1	158.1	172.3	189.4	207.5	227.4	294.3	29.4%	309.5	5.2%	309.7	0.1%	310.0	5.3%	320.7	3.5%	310.0	100%
Industrials	99.9	103.8	97.5	106.1	129.5	123.7	63.4	108.1	70.5%	146.7	35.7%	173.9	18.6%	140.5	30.0%	154.1	9.6%	150.9	107%
<i>Airlines</i>	10.9	17.6	13.3	10.9	11.5	13.2	-28.8	-14.2	50.5%	2.9	120%	9.8	235%	3.0	121.1%	6.0	100.0%		
Information Technology	177.1	184.3	193.9	228.7	266.8	265.0	297.5	380.7	28.0%	423.9	11.3%	482.7	13.9%	425.0	11.6%	454.0	6.8%	425.0	100%
Materials	24.6	23.7	22.5	28.3	35.2	33.6	31.9	58.2	82.3%	70.2	20.6%	66.5	-5.4%	63.0	8.2%	57.5	-8.7%	55.0	87%
Real Estate	23.1	26.3	29.2	31.6	34.6	36.2	35.6	42.2	18.4%	44.9	6.5%	47.9	6.6%	42.5	0.7%	43.7	2.8%	42.5	100%
Utilities	31.3	31.6	33.8	35.3	38.9	42.9	44.2	47.2	6.8%	48.0	1.7%	51.7	7.7%	48.5	2.7%	50.4	3.8%	48.5	100%
S&P 500 (\$ bn)	969.0	975.6	983.9	1106.4	1326.5	1333.4	1203.8	1765.5	46.7%	1926.4	9.1%	2104.9	9.3%	1898.3	7.5%	1973.0	3.9%	1879.9	99%
S&P ex. Energy (\$bn)	873.0	935.7	973.1	1068.7	1255.4	1283.1	1209.5	1686.3	39.4%	1772.5	5.1%	1966.4	10.9%	1773.3	5.2%	1876.5	5.8%	1778.9	100%
S&P ex. Tech (\$bn)	791.9	791.4	790.0	877.6	1059.7	1068.4	906.3	1384.8	52.8%	1502.5	8.5%	1622.2	8.0%	1473.3	6.4%	1519.0	3.1%	1454.9	99%
S&P 500 Sales/Share (historical index)	\$1,163	\$1,127	\$1,151	\$1,232	\$1,339	\$1,415	\$1,362	\$1,568	15.1%										
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
2021E	210	49	53	54	54
2022E	225	55	55	56	59
2023E	235	57	58	59	61

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 3/31/2022.

Source: Factset, DWS Investment GmbH as of 6/6/2022. Past performance may not be indicative of future results.

DWS Investment GmbH View: S&P 500 fair value by sector: Assuming a ~5.00% 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	3,053	16.3	187.0	100%	187.0	-8%	172.0	15%	5.00%	3,441	-5%	3,269	1.4%	3,475	18.6	14%
Consumer Disc.	3,803	25.2	151.0	102%	154.3	-8%	141.9	12%	5.25%	2,703	29%	3,490	1.0%	3,736	24.2	-2%
Automobiles	692	30.1	23.0	105%	24.2	-10%	21.7	21%	5.75%	378	50%	567	0.2%	614	25.4	-11%
Internet & Direct Marketing Retail	1,224	49.0	25.0	100%	25.0	-5%	23.8	1%	5.00%	475	125%	1,069	0.0%	1,151	46.0	-6%
CD ex Auto & Internet Retail	1,886	18.3	103.0	100%	103.0	-10%	92.7	16%	5.00%	1,854	0%	1,854	1.7%	1,967	19.1	4%
Consumer Staples	2,254	21.3	105.8	100%	105.8	-5%	100.5	13%	4.25%	2,364	-3%	2,293	2.5%	2,396	22.7	6%
Energy	1,708	13.7	125.0	81%	101.0	-10%	90.9	14%	6.00%	1,515	-15%	1,288	3.2%	1,359	13.5	-20%
Financials	3,899	13.0	300.0	100%	300.0	-8%	276.0		6.00%	4,600	-5%	4,370	1.9%	4,668	15.6	20%
Banks	1,369	10.5	130.0	100%	130.0	-8%	119.6		6.50%	1,840	-5%	1,748	3.1%	1,856	14.3	36%
Health Care	4,944	15.9	310.0	100%	310.0	-10%	279.0	9%	4.75%	5,874	0%	5,874	1.5%	6,223	20.1	26%
Industrials	2,801	19.9	140.5	107%	150.9	-8%	138.9	18%	5.00%	2,777	0%	2,777	1.4%	2,955	19.6	6%
Technology	9,399	22.1	425.0	100%	425.0	-5%	403.8	3%	5.00%	8,075	10%	8,883	1.0%	9,485	22.3	1%
Materials	988	15.7	63.0	87%	55.0	-10%	49.5	15%	5.75%	860	-5%	817	1.8%	872	15.9	-12%
Real Estate	932	21.9	42.5	100%	42.5	-7%	39.5	30%	4.25%	930	0%	930	2.9%	969	22.8	4%
Utilities	1,037	21.4	48.5	100%	48.5	-10%	43.7	61%	4.50%	970	0%	970	2.9%	1,012	20.9	-2%
S&P 500 (\$ bn)	34,817		1898.3	99%	1879.9	-7.7%	1735.6		5.09%	34108.9	2.5%	34959.9	1.6%	37148.9		7%
S&P 500 Index (\$/sh)	4121	18.3	225.0	100%	225.0	-8.0%	207.0	11%	5.00%	4140	0.0%	4140	1.6%	4396	19.5	7%

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

Source: IBES, DWS Investment GmbH as of 6/6/2022. 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 3/31/2022.

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	\$225.00	DWS 2022E S&P 500 DPS	\$72.00	DWS 2022E S&P 500 aggregate ROE	21.4%	Fair long-term nominal return on S&P 500 index	7.75%
		2022E dividend payout ratio	32%	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	\$225.00	DWS "normal 2022E" S&P 500 DPS	\$72.00	DWS "normal 2022E" S&P 500 aggregate ROE	19.7%	+ Long-term real risk free interest rate	0.25%
"Normal 2022E" EPS / 2022E EPS	100%	Normal dividend payout ratio	35%			+ Long-term fair S&P 500 equity risk premium*	4.75%
Accounting quality adjustment to pro forma EPS	-\$18.00	EPS directed to net share repurchases	\$39.00	S&P EPS retained for true reinvestment	46%	= Long-term real S&P 500 cost of equity	5.00%
		Normal share repurchase payout ratio	19%	Estimated ROE on reinvested S&P EPS	7.75%	+ Long-term inflation forecast	2.75%
Normal 2022E S&P 500 EPS fair to capitalize	\$207	Total payout of S&P 500 EPS	\$111.00	Economic margin (EM) or ROE-CoE	0.00%	= S&P 500 nominal cost of equity	7.75%
Key principle: steady-state value = normal EPS / real CoE		Total payout ratio of normal and quality adj. EPS	54%	Sources of long-term earnings growth:		* S&P 500 ERP usually 300-400bps, w/ real CoE @ 5% - 6.5%	
<u>S&P 500 EPS Capitalization Valuation</u>		<u>S&P 500 DPS Discount Model</u>		+ Long-term inflation forecast	2.75%	<u>Fair S&P 500 Market Value and Book Value Multiple</u>	
Normal EPS / (real CoE - (EM/payout) - EM):		Normal DPS / (nominal CoE - DPS growth):		+ Fair return on true reinvestment	2.32%	2021E end S&P 500 book value per share	\$1,050
S&P 500 intrinsic value at 2022 start	4140	S&P 500 intrinsic value at 2022 start	4140	+ Value added return on true reinvestment	0.00%	Fair PB = Fair PE * normal aggregate ROE	3.94
S&P 500 intrinsic value at 2022 end	4389	S&P 500 intrinsic value at 2022 end	4389	= Long-term earnings growth	5.07%	Fair PE =(inc ROE-g)/(inc real ROE*(real CoE-real g))	20.0
Implied fair fwd PE in early 2022 on 2022E \$225 EPS	18.4	Implied fair forward yield on 2022E DPS of \$72.0	1.74%	+ Growth from net share repurchases	0.94%	Implied S&P 500 fair value of book at 2022 start	4140
Implied fair trailing PE at 2022 end on 2022E \$225 EPS	19.5	Implied fair trailing yield on 2022E DPS of \$72.0	1.64%	= Long-term S&P 500 EPS/DPS growth	6.01%	Steady-state PB = normal agg. ROE / real CoE	3.94
				+ Fair normal dividend yield	1.74%	Confirmed by fair steady-state PE = 1 / real CoE	20.0
				= Total long-term return at constant PE	7.75%		

Normal EPS / (real CoE-value added EPS growth)	4140	DPS discount model using true DPS (all payout)	4140	Value added growth premium in fair value est.	0%	Normal 2022E economic profit per share	\$154.50
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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

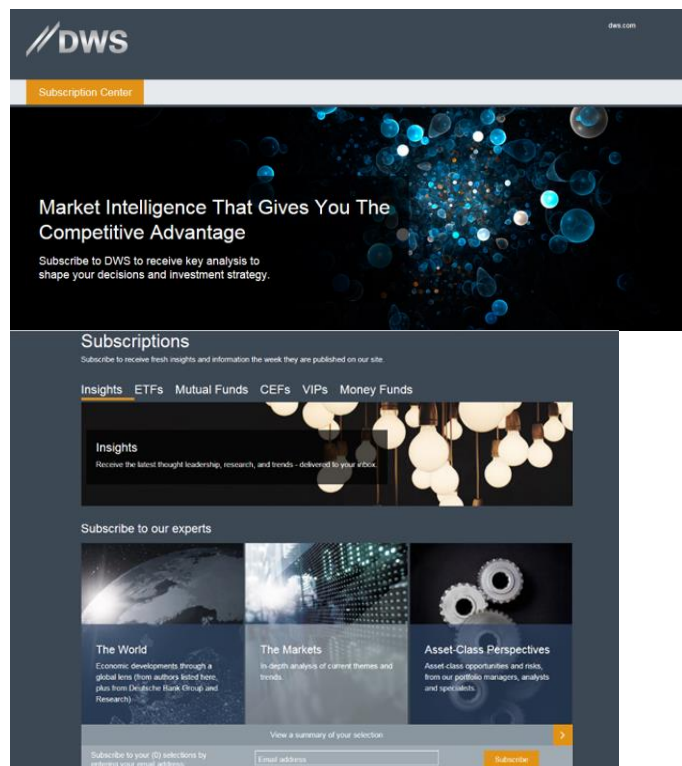
		Normal 2022E S&P 500 EPS				
		\$215	\$220	\$225	\$230	\$235
Real	4.50%	5065	5225	5386	5549	5714
cost of	4.75%	4576	4706	4836	4967	5099
equity	5.00%	4173	4281	4389	4497	4604
	5.25%	3836	3927	4018	4108	4198
	5.50%	3550	3628	3705	3782	3858

Source: DWS Investment Management GmbH

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