UK Structured Products Association

Monthly Market Report
August 2022

With commentary from David Stevenson

US markets seem a tiny bit steadier as I write this and we all know that sentiment in the US dominates everything. By my calculations we have recently passed the fourth bounce back since the start of this bear market. As I write this the S&P 500 is now down just under 20% from its peak at the beginning of this year - down 18.9% to be precise. We've had four bounce backs varying from 6 to just under 11%. If previous bear markets are anything to go by we should expect 6 to 8 of these enjoyable interludes - there were in 6 in the GFC.

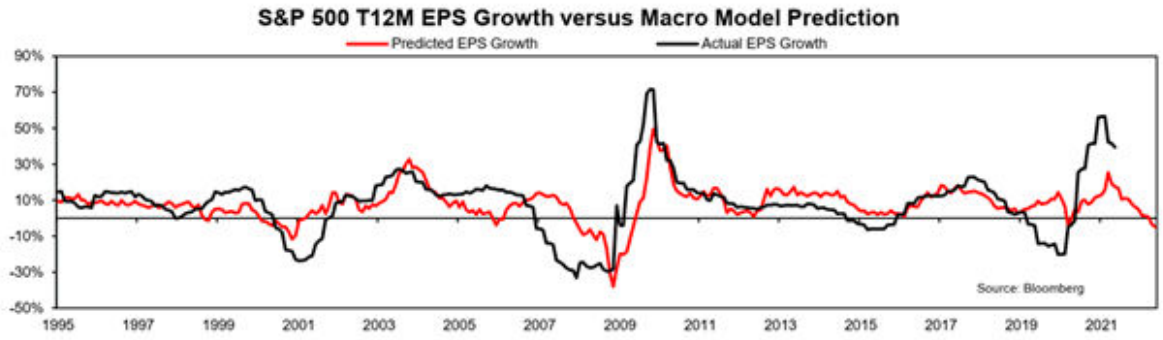
But I'd repeat the general observation that most bear markets are usually in the 30 to 35% peak to trough range, with an outer sensible range from 35 to 45%. So as bear markets go, this really isn't big at the moment. Obviously, we are waiting for the next shoe to fall - declining earnings. Looking at past market downturns and recessions, we should expect earnings per share for the S&P 500 to slide as we enter a recession. The average decline is usually in the 10 to 205 range. I think its not unreasonable to forecast aggregate earnings for the S&P 500 of les than 200 points, possibly even less.

Unfortunately, most bottom-up analysts looking at the S&P 500 expect very different numbers. Stone X analyst Vincent Deluard notes that these estimates don't really tally with what bottom up analysts think might happen to S&P 500 earnings. Deluard amusingly notes that analysts expect S&P 500 index earnings growth to accelerate to 11.1% in the fourth quarter. This is I think risible and entirely unreasonable, if you assume high inflation is here to stay for the next six months and that we are entering a recession. In fact these crazy models are based on cash-flow models which predict that margins will expand in 2023 due to a dis-inflationary boom. Take Consumer staples' margins for instance where analysts expect margins to increase and should reach an all-time of 14.3% next year. This rather contrasts with the fact that just 14% of S&P 500 companies issued a positive guidance for this quarter and 44% issued negative guidance, the most bearish outlook since COVID started. Other salient facts highlighted by Deluard:

- Only 17% of S&P 500 companies reported declining selling, general, and administrative expenses.

- The Atlanta Fed wage tracker shows that the salaries of wage switchers accelerated to 7.5% in the past three months.

According to Deluard, "a simple macro model predicts that EPS should decline by 5% in the next 12 months due to rising borrowing costs, oil prices, and the strong USD. Buybacks, which soared to a record $263 bn this past quarter, would be the first victim of the coming profit squeeze."

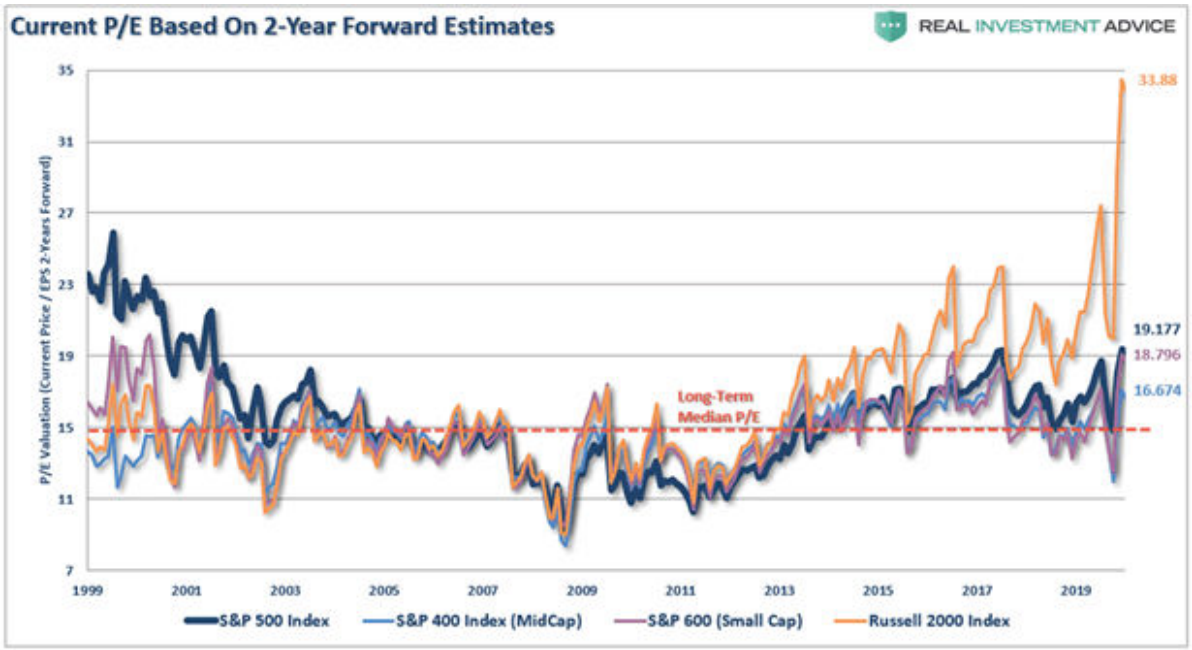


On this basis he further argues that "If S&P 500 earnings contract to $189 per share next year instead of the expected $228, then the true forward P/E of the market is around 20, instead of the reported 16.6. A P/E of 20 translates to an earnings yield of less than 5%, which is close to the yield on the Bloomberg Liquid Investment Grade Bond Index."

I think this is a very credible analysis. I reckon its entirely possible that aggregate S&P 500 earnings to fall to 185 basis points. I also think a valuation of 16 to 18 times earnings at these lower earnings per share is reasonable - 15 times if you are looking at median valuations. This puts us in a range of 2750 to 3300 for the S&P 500 before we hit the trough for valuations. Or another 10 to 15% lower than current levels.

In case you were wondering where I got the 15 times media earnings, this comes from the monthly valuations and analysis review by RIA, available here.

This report also makes another valuable point - that if we look at 2 year forward estimates for earnings, many growth and small cap stocks are still ridiculously overvalued - 33.88 times earnings for the Russell 2000 as shown in the chart below i.e investors are still overpaying for growth stocks even after the big price falls.



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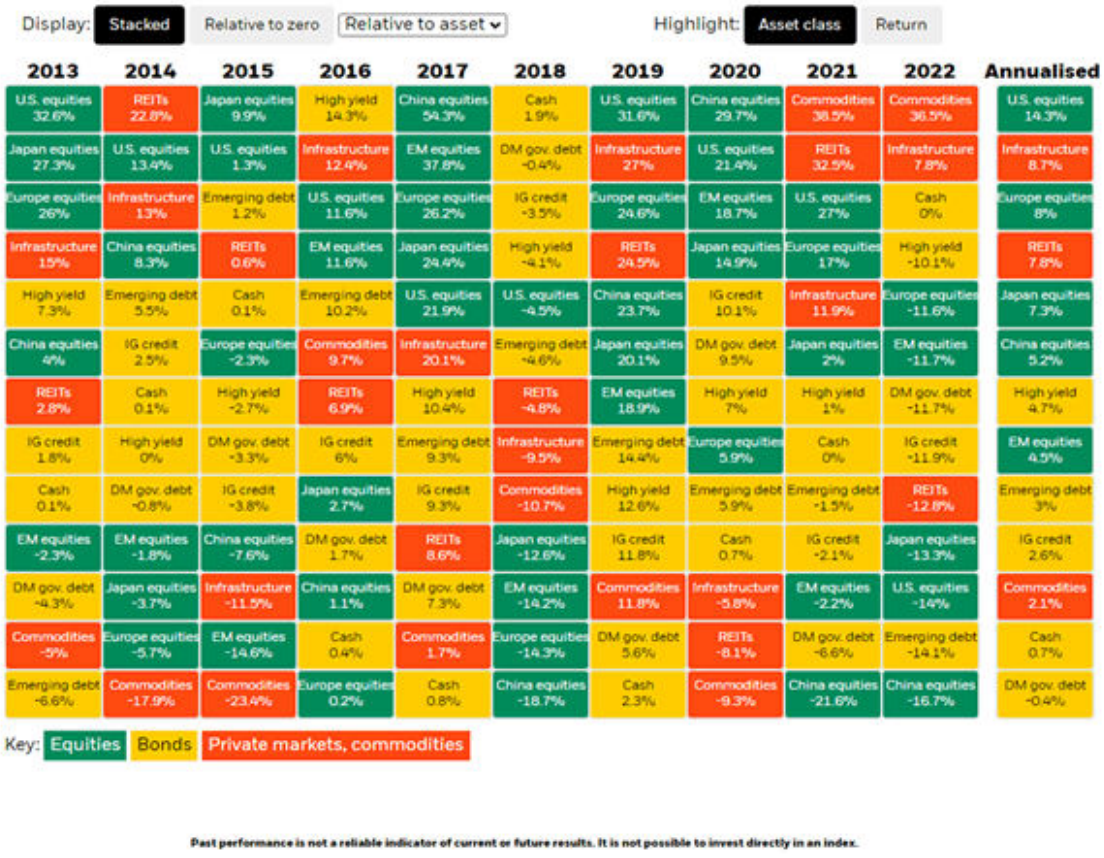
Headline Numbers

I thoroughly recommend popping along to the BlackRock Institute and their regularly updated heatmap of asset class returns since 2013. You can see it here. It reminds you that the returns on assets can be fairly random at the best of the times but here are the stand-out numbers: US equities have returned the biggest annualized returns of 14.3% since 2013 with infrastructure assets next up on annualised return of 8.7%. European equities came in third at 8.7% but Japanese equities weren't too far behind at 7.3%. And the losers? Developed markets government debt negative 0.4%, cash 0.7% and commodities 2.1%.



The energy equities team at Guinness are always worth listening to for some big picture observations. In particular they are rightly worried about the lack of OPEC + spare capacity wit nearly all members struggling to keep up with production quotas. At the start of June, OPEC+ announced an acceleration of quota increases, pulling the 0.4m b/day rise tabled for September forward into July and August. According to the Guinness team the "reality is that these are 'optical' quota changes, relying even on increases from Russia let alone the rest of the group, to be achieved. Saudi's quota for August is 11m b/day, a level that Saudi has only achieved twice in its history. We continue to think that Saudi are a rational and intelligent operator in the oil market, seeking an oil price that provides them with a fiscal surplus ($80/bl+), but one that does not stress

the world economy. Saudi will be uncomfortable with oil at much over $100-110/bl, but the question remains whether there is much they can do about it, should supply falter elsewhere." The table below puts some hard numbers on this - it comes from an excellent Reuters article which observes that OPEC + output and capacity is slowly moving up but not fast enough. As the chart below demonstrates...

OPEC+ Production Capacity

in million barrels per day

	2021	2022	Change		2021	2022	Change
Saudi Arabia	12.19	12.25	0.06	**Russia**	10.40	10.40	
Iraq	4.93	5.02	0.09	**Kazakhstan**	1.67	1.67	
UAE	3.82	3.92	0.10	**Azerbaijan**	0.66	0.64	−0.02
Iran	3.80	3.80		**Oman**	0.87	0.87	
Kuwait	2.98	3.04	0.06	**Bahrain**	0.19	1.19	
Nigeria	1.75	1.71	−0.04	**Malaysia**	0.48	0.47	−0.01
Angola	1.20	1.13	−0.07	**Brunei**	0.09	0.09	
Libya	1.19	1.22	0.03	**South Sudan**	0.18	0.18	
Algeria	1.01	0.99	−0.02	**Sudan**	0.06	0.06	
Congo	0.31	0.31		**Mexico**	1.67	1.68	0.01
Eq. Guinea	0.12	0.12		**Total non-OPEC**	16.27	16.25	−0.02
Gabon	0.21	0.21	−0.01				
Venezuela	0.58	0.58					
Total OPEC	34.10	34.30	0.20	**Total OPEC+**	50.37	50.55	0.18

Note: Capacity levels can be reached within 90 days and sustained for extended period
Source: International Energy Agency, June 2021

Measure	Values as of 2nd June, 2022	Values as of 12th July, 2022
UK Government 10 year bond rate	2.15%	2.04%
GDP Growth rate YoY	8.70%	8.70%
CPI Core rate	6%	5.90%
RPI Inflation rate	11.10%	11.70%

Interest rate	1%	1.25%
Interbank rate 3 month	1.42%	1.76%
Government debt to GDP ratio	94%	94%
Manufacturing PMI	54.6%	52.8%

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Bank CDS options

Pricing for credit default swaps surged across the board over the last month with only two banks escaping with no change in pricing (Natixis and Nomura). By and large most 1 year rates increased by at least 50% with 5 year rates increasing by less. That said, a few banks saw some very significant jumps in pricing, with Credit Suisse, Deutsche Bank and Lloyds Bank all worst hit. The driver is probably obvious - investors are now pricing in a recession which will probably hurt bank balance sheets with increased bad debts.

Bank	One Year	Five Year	Credit Rating (S&P)	Credit Rating (Moody's)	Credit Rating (Fitch)
Banco Santander	35.38	70.4	A+	A2	A -
Barclays	69.79	114	BBB	Baa2	A
BNP Parabis	34.42	67.71	A+	Aa3	A+
Citigroup	67.12	127.66	BBB+	A3	A
Credit Suisse	129.9	193.9	BBB+	Baa1	A-
Deutsche Bank	125.4	208.64	A-	A2	BBB+
Goldman Sachs	66.12	134.53	BBB+	A2	A
HSBC	34.51	64.7	A+	A1	AA-
Investec	n/a	n/a	n/a	A1	BBB+
JP Morgan	57.84	104.94	A-	A2	AA-
Lloyds Banking Group	35.95	67.38	BBB+	A2	A
Morgan Stanley	69.43	123.71	BBB+	A1	A
Natixis	19.5	45	A	A1	A+
Nomura	22.54	75.99	BBB+	Baa1	A-
RBC	23.58	70.04	AA-	A1	AA-
Soc Gen	37.92	79.34	A	A1	A-
UBS	21.36	74.31	A-	Aa3	A+

Source: Tempo Issuer & Counterparty Scorecards ('TICS') 1st July 2022 www.tempo-sp.com

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Government Bonds

Fixed Income

I'd suggest that the word correlation is the least understood but most important word for investors at the moment. Whenever I mention this word I know that vast numbers of readers switch off and think about the next cup of coffee but it's a really important word. Most investors think its importance lies in the relationship between most equities i.e as markets fall, most equities fall in value in a correlated fashion.

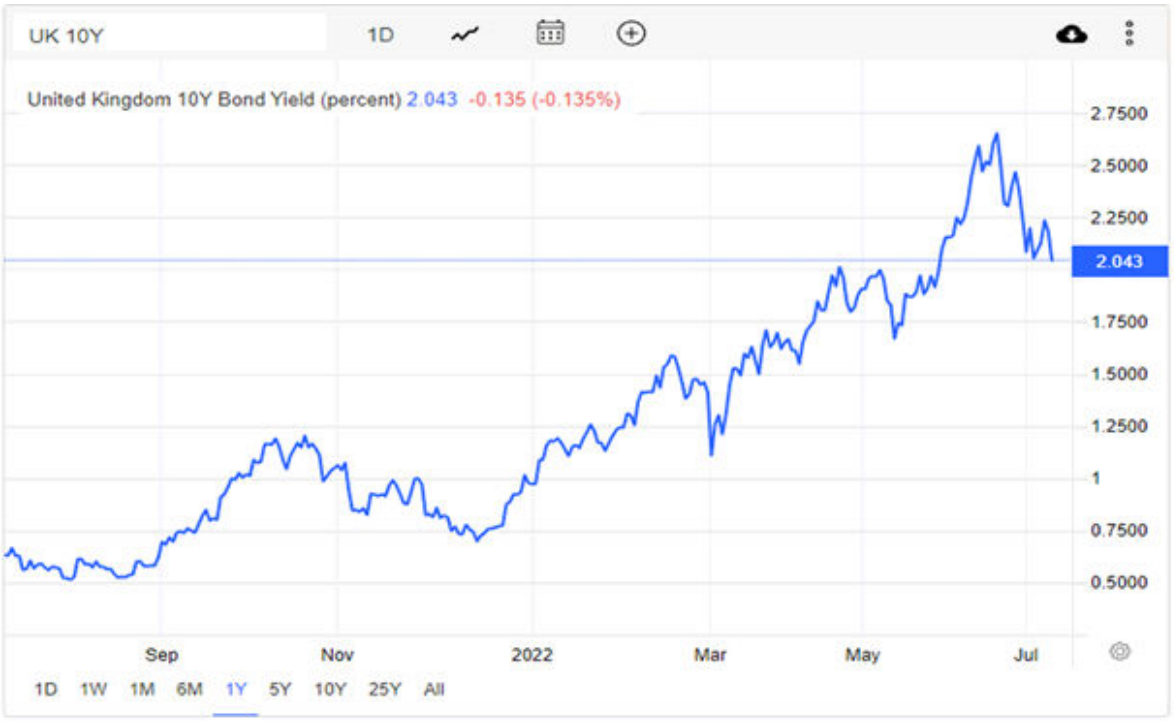
That is relevant but the more important correlation is between government bonds. Put simply for the last decade or so we have got used to a classic 60/40 diversified mix. 60% in equities, 40% in diversifying (government) bonds. The idea here is that US Treasury bonds were negatively correlated with equities so by adding bonds you magically improved diversification.

What happens though if the correlation between US Treasuries and equities reverts to the historical norm ? The chart below is taken from a big new piece of research from the pointy heads at AQR - its well worth reading HERE. If this relationship re asserts itself, then US Treasuries will be no help in a market sell off. Or as the AQR folk observe "We have become accustomed to a negative correlation between stocks and bonds, but this was not the historical norm prior to the 2000s, with the average correlation positive in the 20th century".

Helpfully the AQR experts suggest some alternatives for diversification, which all, surprise, surprise, involve active fund management in some manner, usually an expensive one:

- Illiquid alternatives like private equity and private credit may provide some cushion against short-term volatility due to their lack of mark-to-market pricing
- Commodities have been lowly correlated to both stocks and bonds on average, and have delivered stronger diversification during periods of inflation uncertainty
- Long/Short Equity and Multi-Asset Alternative Risk Premia strategies use financial tools like shorting and leverage to deliver returns less correlated to stocks and bonds
- Dynamic strategies like Trend and Macro take directional views at any point in time, but are lowly correlated to markets over the long term.

UK Government Bonds 10-year Rate 2.04%



Source: http://www.tradingeconomics.com/united-kingdom/government-bond-yield

CDS Rates for Sovereign Debt

Country	Five Year
France	26.2
Germany	15.7
Japan	32.3
United Kingdom	15.47
Ireland	18.9
Italy	139.5
Portugal	58.7
Spain	59.6

Eurozone peripheral bond yields

Country	June 2022	July 2022	Spread over 10 year
Spain 10 year	2.33%	2.22	110
Italy 10 year	3.23%	3.10%	198
Greece 10 year	3.70%	3.48%	236

	S&P Rating		Moody's Rating		Fitch Rating
Germany	AAA	Stable	AAA	Negative	AAA
United Kingdom	AAA	Negative	AA1	Stable	AA+
United States	AA+	Stable	AAA	Stable	AAA

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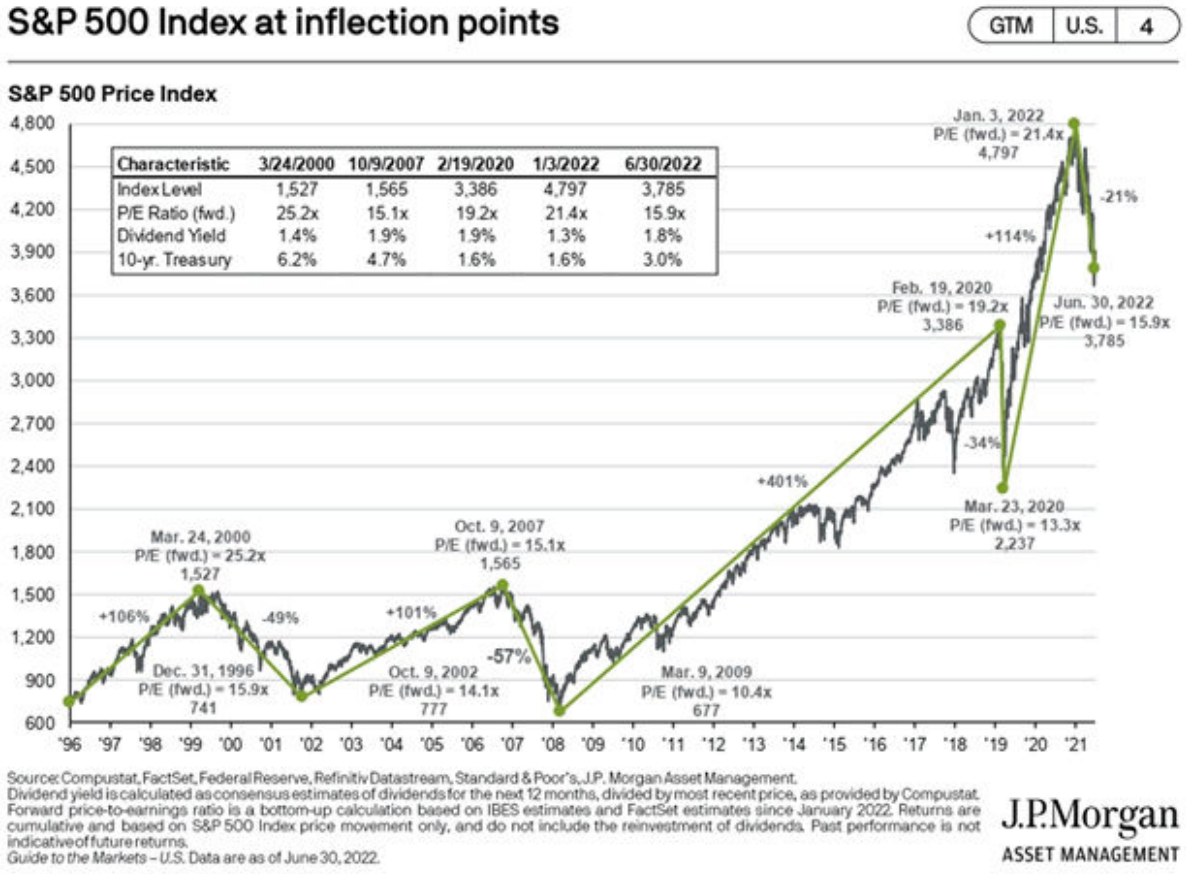
Equity Markets and Dividend Futures

Two great charts below from JPMorgan in the US. How they manage to jam all the information into one big chart amazes me but anyway, these two charts are hugely useful. To remind readers my core view is that the US markets - specifically the S&P 500 benchmark - are still not pricing in the real macro economic risks. My core view is that we'll see in the next two quarters so big earnings downgrades as the slowdown (in the US)/ recession (in the UK) becomes obvious. That means aggregate earnings for the S&P 500 might fall as low as 185 points. We might also see at that point a trough price to earnings ratio of around 15. That means we could see the US index trough at around 2800 though I think its more likely to bottom out at around 3300. That implies another 10 to 15% fall from here.

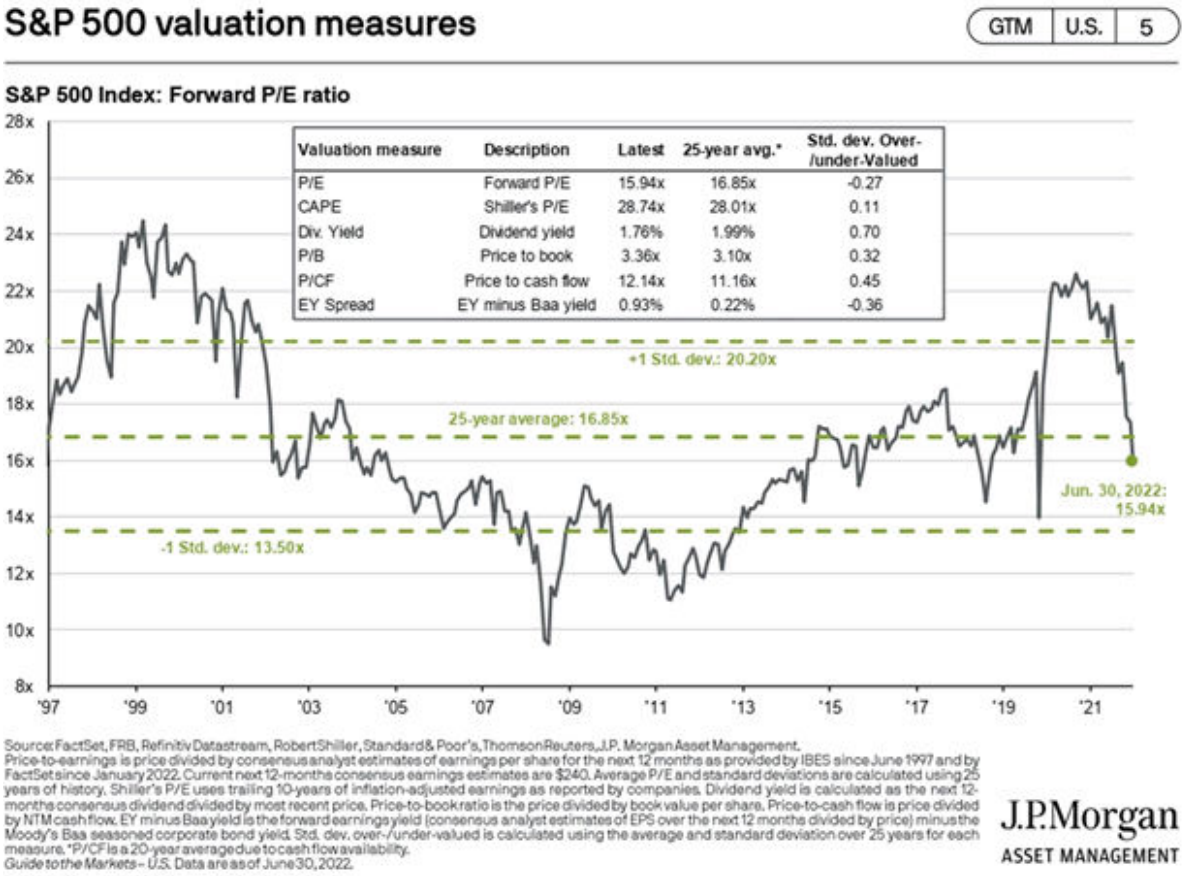
The two charts below from JP Morgan sets the scene for market falls since the beginning of the 1990s. This suggests that the current 21% fall is a bit puny. It also rams home the point that the current PE is not extravagant at 15.9 times though we are likely to see a big fall in those aggregate earnings.



The next chart suggests that current valuations are not really that out of whack with the long term - 25 year average. My caveat would be that 1) the estimate for forward earnings is way too high and that we are likely to see some big falls and 2) the 25 year average might not be too helpful if we are in a profound regime change to higher inflation.

But I think the broader JPM point is well made. Current valuations are no longer insanely high for

the S&P 500. We might not be there yet but we are probably closer to the destination than we have been for some time.



Index	June 2022	July 2022	Reference Index Value	Level 6 Months Ago
Stoxx 50 Dec 21 contract	120.6	120.4	3787	116.3
FTSE 100 Dividend Dec 2022	270.7	273.1	7190	269.1

Note changed to Dec 2022 contracts in January 2022

Name	Price % change						Close
	1 mth	3 mths	6 mths	1 yr	5 yr	6 yr	
FTSE 100	-1.98	-5.33	-5.02	0.664	-3.29	7.36	7172.71
S&P 500	-1.6	-12.7	-18.8	-12.5	57.1	78.4	3838.54
Gold Composite (Most Traded)	-7.81	-12.5	-5.38	-4.26	41.9	29.6	1729.00¢
iShares FTSE UK All Stocks Gilt	1.68	-5.09	-12.1	-14.3	-7.73	-11.1	1203.88
VIX New Methodology	-5.69	7.87	48.5	61.8	154	93.1	26.17

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Volatility

Those of us expecting a truly miserable summer of heightened market volatility have been slightly disappointed. Sure the Vix remains elevated but in recent months it seem fairly anchored in a range between 20 and 35. Maybe not for much longer though as Bloomberg reports that the call-put ratio on the Cboe Volatility Index, or VIX, in recent weeks has risen to levels unseen for some two and a half years, driven by bets on fresh market turmoil. Bloomberg reports that "options hedging is showing signs of revival after staying subdued during the recent equity selloff. The rush for protection reflects investor uneasiness in the face of the S&P 500's longest streak of gains in three months. With a cost measure of VIX options hovering near the lowest level since 2019, traders are likely taking advantage of what looks like cheap insurance against the next bout of market chaos."

Black - VIX

Measure	July Level	June Level	May Level	April Level
Vstoxx Volatility	29.63	23.92	29.61	30.01
VFTSE Volatility	26.17	26.19	31.77	24.37

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Summary of Pricing Impact on Structured Products

Pricing Parameter	Change	Impact on Structured Product Price
Interest Rates	Up	Down
Underlying Level	Up	Up (unless product offers inverse exposure to the underlying)
Underlying Volatility	Up	Down for capped return/fixed return/capital at risk products. Up for uncapped return/capital protected products.
Investment Term	Up	Down
Issuer Funding Spread	Up	Down
Dividend Yield of Underlying	Up	Down
Correlation (if multiple underlyings)	Up	Up (unless product offers exposure to the best performing underlyings only)

Source: UK Structured Products Association, January 2014

This information is provided for information purposes only, and the impact on a structured product price assumes all other pricing parameters remain constant.

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Explanation of Terms

CDS Spreads and Credit Ratings

A CDS effectively acts like an option insuring at a cost in basis points a bank or government bond in case of default. The higher the basis points, the riskier the market perceives that security. Crucially CDS options are dynamic and change in price all the time. A credit rating is issued by a credit rating firm and tells us how risky the issuer is viewed based on the concept that AAA (triple A) is the least risky and ratings at C and below are regarded as much riskier. CDS and ratings are useful for structured product buyers because they give us an indication of how financial risk is viewed by the market. Crucially a high CDS rate indicates that an issuer of a bond will probably have to pay a higher yield or coupon, which could be good for structured product buyers as bonds are usually a prime source of funding for a structured product. G8 government bonds issued by the likes of the UK and US Treasury are also sometimes used as collateral in some form of investments largely because they are viewed as being low risk. One last small note on credit ratings and CDS rates. A is clearly a good rating for a bond (and much better than B) but AA will be viewed as even safer with triple AAA the least risky. Terms of CDS rates anything much above 100 basis points (1%) would warrant some attention (implying the market has some, small, concern about the possibility of default) while anything above 250 would indicate that the market has major concerns on that day about default.

Why does the yield matter on a bond?

As we have already explained bonds are usually used as part of a structured product. The bonds yield or coupon helps fund the payout. All things being equal a higher bond yield means more funding for the payout. But rising bond yields, especially for benchmark US and UK Treasury 10 year bonds also indicate that the markets expect interest rates to rise in the future. Rising interest rates are not usually a good sign for risky financial assets such as equities.

Volatility measures

Share prices move up and down, as do the indices (the 500 and FTSE100) that track them. This movement up and down in price is both regular and measurable and is called volatility. It is measured by stand alone indices such as the Vix (tracking the volatility of the 500), VStoxx (the Eurozone Dow Jones Eurostoxx 50 index) and VFtse (our own FTSE index). These indices in turn allow the wider market to price options such as puts and calls that pay out as markets become more volatile. In simple terms more volatility implies higher premiums for issuers of options. That can be useful to structured product issuers as these options are usually built into an investment, especially around the barrier level which is usually only ever broken after a spike in volatility. Again all things being equal an increase in volatility (implying something like the Vix moving above 20 in index terms) usually implies higher funding levels for issuers of structured products.

Dividend Futures

These options based contracts measure the likely total dividend payout from a major index such as the FTSE 100 or the Eurozone DJ Eurostoxx 50 index. In simple terms the contract looks at a specific year (say 2015) then examines the total dividend payout from all the companies in the index, adds up the likely payout, and then fixes it as a futures price usually in basis points. Structured product issuers make extensive use of dividend futures largely because they've based payouts on a benchmark index. That means the bank that is hedging the payout will want to be 'long' the index (in order to balance it's own book of risks) but will not want the dividends that come from investing in that benchmark index. They'll look to sell those future possible dividends via these options and then use the premium income generated to help fund their hedging position. In general terms the longer dated a dividend future (say more than a few years out) the lower the likely payout on the dividend future as the market cannot know dividends will keep on increasing in an uncertain future and must his price in some level of uncertainty.

Equity benchmarks

Most structured products use a mainstream well known index such as the FTSE 100 or 500 as a reference for the payout. For investors the key returns periods are 1 year (for most auto calls) and 5 and six years for most 'growth' products. During most though not all five and six year periods it is reasonable to expect an index to increase in value although there have been many periods where this hasn't been the case especially as we lurch into a recession. Risk measures such as the sharpe ratio effectively measure how much risk was taken for a return over a certain period (in our case the last five years using annualised returns). The higher the number the better the risk adjusted return with any value over 1 seen as very good.

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