

Strategy Matters

The equity risk premium (ERP) in the Post-Modern cycle: cyclical versus structural trends

Since the pandemic recovery, the direction of travel of the ERP has been down. This has puzzled many investors who would have expected the European ERP to increase YTD, consistent with the growth deceleration and the equity bear market. They worry that an inflection in the ERP could hurt equities further.

The reason is that the ERP is transitioning between two worlds, and is currently stuck at the confluence of opposing forces. On the one hand, higher inflation and bond term premia – which push up bond yields – justify a structurally lower ERP. Indeed, inflation is a good thing for equities, which are a claim on nominal growth. On the other hand, equities tend to digest poorly rapid inflation accelerations, which squeeze real income, raise recession risks and prevent the ERP from falling.

Short-term prospects for the ERP and equities will depend on the balance between inflation and recession risks but, as the Post-Modern cycle evolves, structural factors should support a lower ERP and equity outperformance.

At 5.8%, the European ERP appears very low by the standards of the post financial crisis era (15th percentile), meaning that equities look expensive vs bonds and investors do not get much prospective return on equities for the risk they are taking. If a recession hits the economy, equities are vulnerable to the ERP finally rising. We find that a 50bp rise in the ERP would knock 10% off SXXP fair value. A stagflation scenario (not our base case) would be somewhat more worrisome. In the 1970s, it coincided with a sharp rise in the COE, equities went nowhere in real terms, and did not clearly outperform bonds for most of the decade.

However, the ERP remains high by the standards of the pre-financial crisis era (99th percentile based on the 1990-2008 range), suggesting that equities are relatively good value vs bonds. We think equities need to see inflation peaking to rally and, historically, 6m after inflation peaks, the ERP falls by 90bp, equities rally 16% and outperform bonds 10%. Although it would bring the ERP to a 10-year low, an ERP of 5% is far from levels suggesting investors reduce their equity allocation. If equities manage to deliver real earnings growth, the ERP can continue its structural decline. **Before 2009, when inflation was structurally higher, the ERP had to fall below 2% to send a bearish signal on equities.**

This is consistent with our asset allocation: Neutral on equities over 3m and OW on a 12m horizon; OW Cash and Commodities, and UW Government bonds.

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Executive summary

The equity risk premium (ERP) is the expected excess return required by investors for holding equities over a risk-free investment such as government bonds.

1. In section I, **we discuss the near-term evolution of the ERP. If inflation peaks and recession risks recede, the ERP should deflate further and offer some relief to equities.** This constructive scenario is far from being priced: the S&P 500 officially entered a bear market earlier this week, down 21% YTD, and global equities are at their lowest point since March 2021. Based on US headline inflation peaks since 1970, the equity-real bond yield gap (a proxy for the ERP) usually narrows by 90bp in the 6 months following the inflation peak, equities rally 16% and offer a positive excess return of 10% over government bonds.

The main near-term risk to this constructive view is a recession, a scenario that investors have increasingly priced over the past few days. Equities are already down 11% versus bonds in the US YTD, 7% in Europe, roughly in line with the historical performance around US recessions since 1970. Equities usually underperform bonds by more than 10% in the 3 months before and after the start of a recession, and the equity-real bond yield gap widens by a median of nearly 180bp. Since the beginning of the year, the equity-real bond yield gap actually *narrowed*, adding downside risk to equities.

2. In section II, **we discuss the structural evolution of the ERP. We argue that the new Post-Modern cycle, in which bond term premia and nominal growth are higher, justify a lower ERP.** Before the GFC, Euro area headline inflation averaged 2.4% (1990 to 2008), while it averaged 1.4% since 2009. In this sense, the current period is more akin to the pre-GFC world. That said, while the ERP needs to structurally shift down, we do not think it should be as low as in the 1990-2008 period, when it averaged 2.4%. Indeed, bond yields averaged 5.5% in Europe and in the US, a level which after years of QE seems difficult to reach without triggering a recession. In addition, geopolitical risks are higher than in the 1990s.

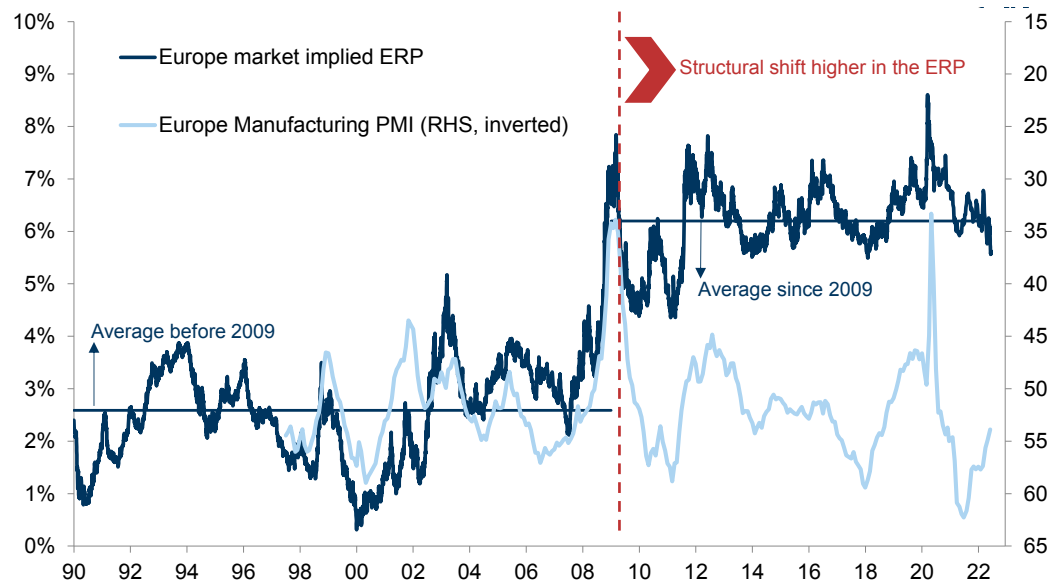
The main risk to this medium-term view is if the economy enters a prolonged period of stagflation, where violent inflation is associated with lacklustre growth and macro volatility, making equities a riskier investment. During the stagflation of the 1970s, the ERP rose and equities did not clearly outperform bonds.

3. In section III, **we model the equity risk premium that investors should require based on macroeconomic variables.** Lower growth, higher debt and inflation rapidly deviating from its medium-term average are all raising the ERP. We produce 3 ERP estimates according to our baseline outlook (ERP down 30bp next year), a stagflation (ERP up 100bp) and a recession scenario (ERP up 200bp).

4. In the last section, **we estimate the absolute and relative performance of equities depending on the ERP variations that we expect.** If the ERP falls by 50bp as inflation peaks, the fair value of equities would rebound by 10%. Although it would bring the ERP close to a 15-year low, we believe an ERP of 5% is far from levels suggesting

investors reduce their equity allocation relative to bonds. While since 2009 an ERP below 6% signaled negative excess returns of equities over bonds in the following year, before 2009, the ERP had to fall below 2% to suggest future negative excess returns.

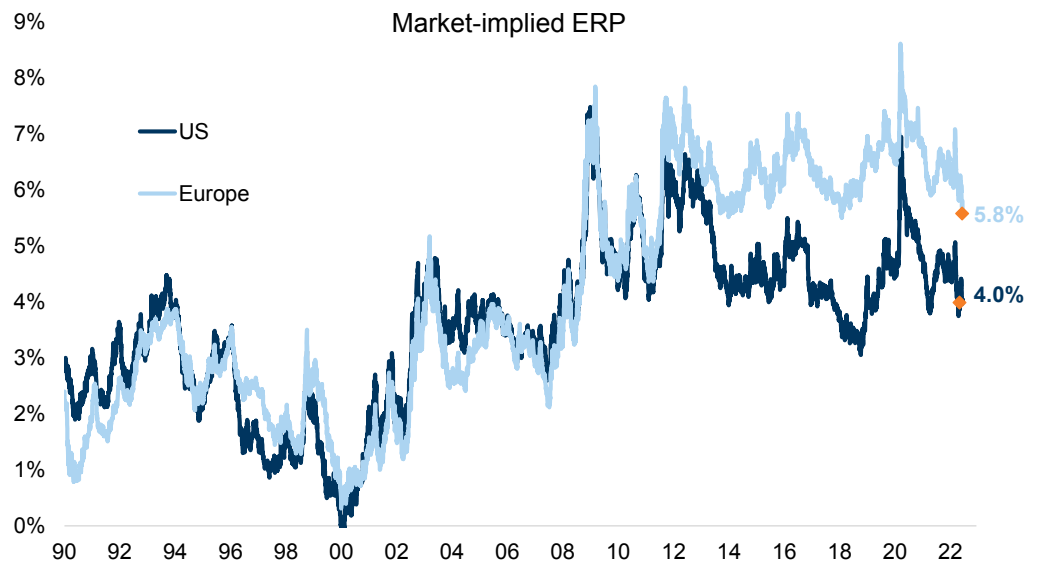
Exhibit 1: The ERP is transitioning back to its pre-Global Financial Crisis level



Source: Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 2: We estimate that the current ERP is about 6% in Europe and 4% in the US

Market-implied ERPs based on the same 4-stage DDM for both regions



These two 4-stage DDM slightly differ from the estimate published each week by the Europe and US strategy teams as it uses consensus EPS growth over time rather than GS top-down EPS growth forecast.

Source: Goldman Sachs Global Investment Research

I. What kind of equity rally as inflation peaks?

In the near-term, we need to see a peak in inflation for equities to rally. The S&P 500 is now in bear market territory YTD, as the supply-driven inflation has squeezed real income, damaged growth and raised the cost of equity.

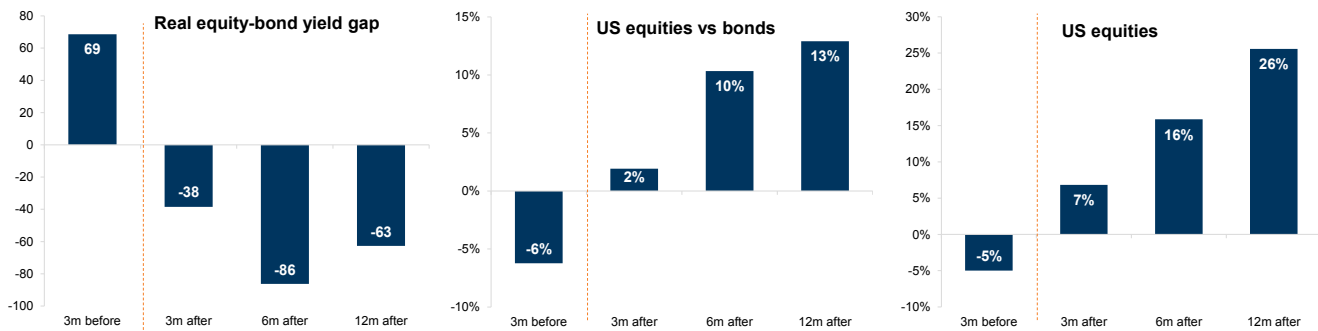
Historically, following inflation peaks, the COE comes down and offers some relief to equities which rally about 15% even if real yields rise and macro data do not improve yet. The main risk to this constructive view is an economic recession, a scenario that investors have increasingly priced over the past days.

1. Inflation peaking would offer a relief rally

Headline inflation is at peak (US) or likely to peak in the next few months (Euro area and UK) according to our economists' forecasts. Building up on our recent analysis of [equity performance around inflation peaks](#), we look at the US equity-real bond yield gap (a proxy for the ERP) around 8 peaks >3% in US headline inflation since 1970.

The equity-real bond yield gap narrowed after all the inflation peaks but one since 1970 ([Exhibit 5](#)). On average, it narrowed by 90bp in the 6 months following the peak. This coincided with a rally of 16% in equities, which outperformed bonds 10% over this horizon ([Exhibit 3](#)). This is true even though equities face two headwinds: real yields usually rise in the first 6 months after the inflation peak, and the ISM continues to deteriorate ([Exhibit 4](#)).

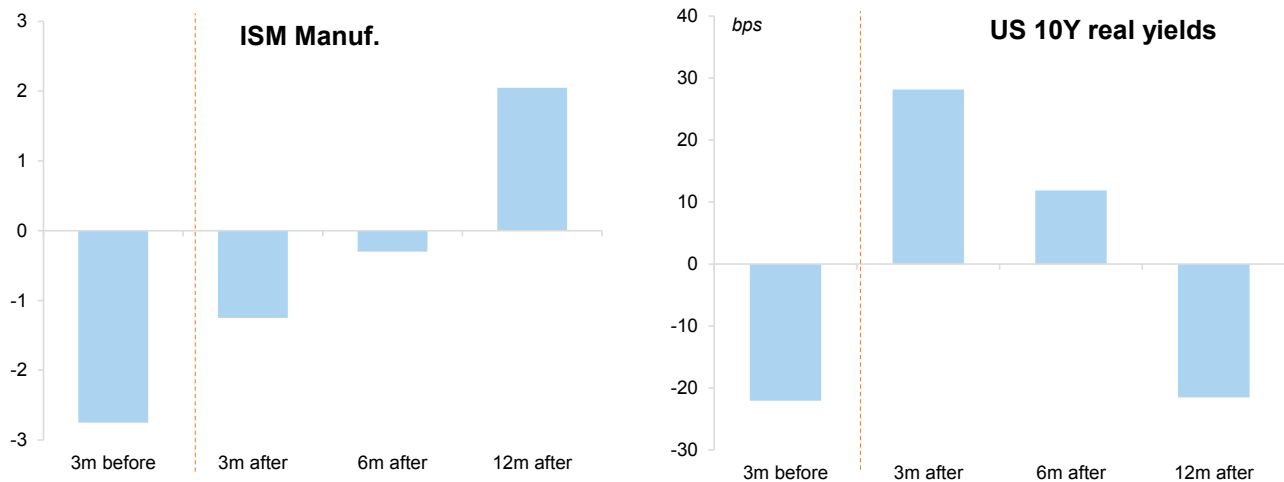
Exhibit 3: As the equity-real bond yield gap narrows following the inflation peak, equities rally, in absolute terms and relative to bonds
 Median moves around US headline inflation peaks above 3% since 1970



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 4: Equities rally post inflation peaks despite the fact that the ISM continues to fall and real yields rise

Median moves around US headline inflation peaks above 3% since 1970



Source: Haver Analytics, Datastream, Goldman Sachs Global Investment Research

The reduction in the equity-real bond yield gap was the strongest following inflation peaks in 1974, 1980 and 1990. This is because a sharp rebound in growth as well as undemanding equity multiples characterised these three inflation peaks (Exhibit 5).

By contrast, in 2001 and in 2008, inflation peaked but the equity-real bond yield gap did not narrow much. In the first case, the tech-bubble continued to deflate, and in the second case a recession followed.

Exhibit 5: The Equity-Real Bond yield gap narrows by an average 130bp following inflation peaks

Market moves around US headline inflation peaks above 3% since 1970

Date	Peak Inflation	Level at peak inflation		6m chge after peak inflation					12m chge after peak inflation				
		PE	Equity-real Bond yield gap	Equity-real Bond yield gap (bp)	US equities vs. bonds	US equities	2Y bond yields	US ISM (points)	Equity-real Bond yield gap (bp)	US equities vs. bonds	US equities	2Y bond yields	US ISM (points)
Dec-74	12.3%	8	11	-398	41%	41%		14	-305	29%	36%		24
Mar-80	14.8%	7	11	-161	12%	23%	-331	7	-330	25%	36%	-131	6
Mar-84	4.8%	11	6	-101	2%	9%	89	-9	-73	3%	22%	-60	-11
Oct-90	6.3%	12	7	-230	18%	28%	-93	0	-219	18%	38%	-197	10
Jan-01	3.7%	24	1	29	-14%	-11%	-72	1	8	-20%	-15%	-173	5
Sep-05	4.7%	17	4	-51	9%	7%	78	-3	-6	8%	11%	82	-5
Jul-08	5.6%	15	5	87	-41%	-34%	-176	-14	-53	-25%	-20%	-155	-1
Sep-11	3.9%	12	8	-72	28%	26%	13	0	-30	24%	29%	5	-3
Average				-112	7%	11%	-70	-1	-126	8%	17%	-90	3
Median				-86	10%	16%	-72	0	-63	13%	26%	-131	2

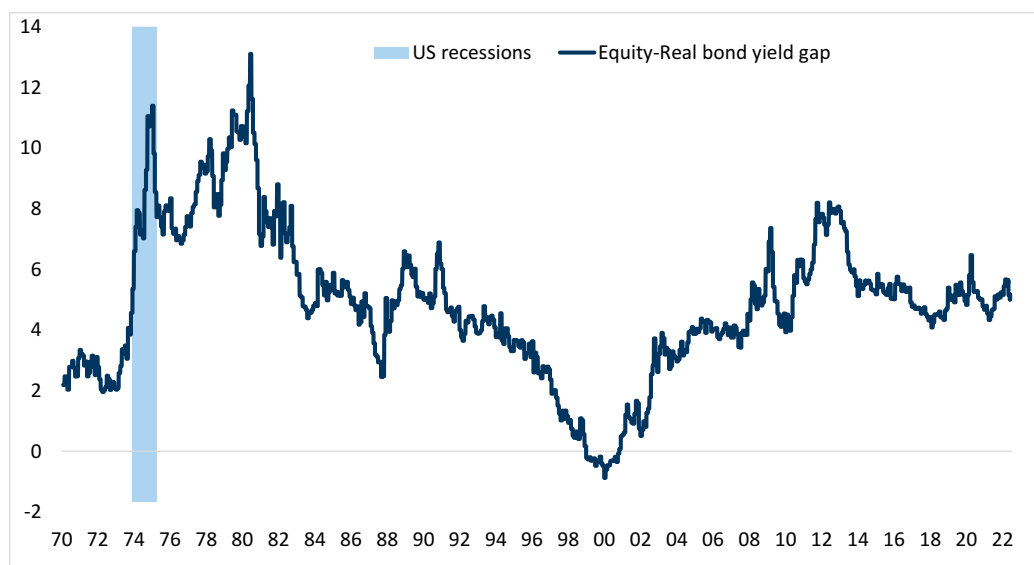
Source: Datastream, Haver Analytics, Goldman Sachs Global Investment Research

2. Equities face further downside risk in the case of recession

The main risk to our baseline is that the economy slips into a recession. With the ERP actually down YTD, there is not much cushion to get from it. We would expect it to rise and hit equities in absolute terms and relative to bonds.

Exhibit 6: The equity-real bond yield gap always widens ahead and during economic recessions but it narrowed YTD - offering little cushion to equities

US equities earnings yield minus US 10-year real bond yields around US economic recessions since 1970 (NBER)



Source: Datastream, Goldman Sachs Global Investment Research

We look at what happened to the equity-real bond yield gap (a proxy for the ERP) and equity relative returns in the previous 7 US recessions since 1970¹ (For details on index and sector performance during US recessions, see [US Equity Views - The recession manual for US equities](#), 18 May 2022).

- The market starts pricing a recession well ahead of it. In the 6 months preceding the recession, the equity-real bond yield gap widens by 60bp and equities underperform bonds 3%.
- Equities tend to be the weakest 3 months after the start of a recession. The equity-real bond yield gap is 115bp wider, and equities are down another 8% over bonds. Equities usually trough at this point.
- **So far, investors seem to be pricing a mild recession. Equities are down 11% versus bonds YTD in the US, 7% in Europe, roughly in line with the historical performance around recessions. Equity prices are now consistent with PMIs just below 50 in Europe, and around 47 in the US. That said, the equity-real bond yield gap actually narrowed YTD while it usually widens at this stage, adding downside risk to equities.**
- The ERP widens the least during short downturns, or downturns without broad economic ramifications. This is because long-term GDP growth forecasts are not necessarily revised down. The 2020 Covid recession or the beginning of the US 2001 Tech bubble are examples where the ERP did not rise much/fell. If the economy were to face a recession, its depth and length could also be limited, and so would be the surge in the ERP. With the economy close to full employment and

¹ We use the US as a reference as market data are more easily available through the history.

healthy balance sheets, a large deleveraging should be avoided.

Exhibit 7: 3m into a recession, the equity-real bond yield gap tends to be about 115bp wider and equities are down 8% over bonds

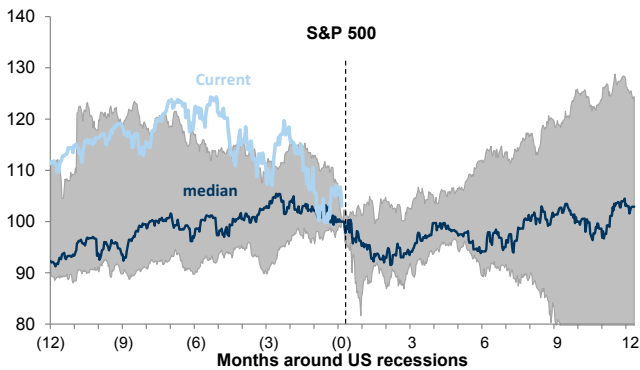
Start date	End date	Change in real Equity/Bond real yield gap (bp)				Change in ERP (bp)				US equities over bonds (total returns)			
		6m before recession	3m into recession	6m into recession	Low to High	6m before recession	3m into recession	6m into recession	Low to High	6m before recession	3m into recession	6m into recession	Peak to trough
Nov 1973	Mar 1975	214	259	192	937					-13%	-1%	-5%	-48%
Jan 1980	Jul 1980	-39	136	-19	357					18%	-9%	2%	-24%
Jul 1981	Nov 1982	60	55	79	203					9%	-8%	-11%	-29%
Jul 1990	Mar 1991	4	179	30	216	-52	46	53	174	8%	-12%	-5%	-17%
Mar 2001	Nov 2001	157	-14	2	419	153	-70	40	451	-27%	9%	-12%	-59%
Dec 2007	Jun 2009	87	116	105	395	95	74	20	498	-10%	-14%	-13%	-63%
Feb 2020	Apr 2020	1	42	-10	164	52	4	-41	316	-3%	-1%	15%	-40%
Average		69	110	54	384	62	13	18	360	-3%	-5%	-4%	-40%
Median		60	116	30	357	74	25	30	384	-3%	-8%	-5%	-40%
Hit ratio (% of positive)		86%	86%	71%	100%	75%	75%	75%	100%	43%	14%	29%	0%

Peaks and troughs from 12m before the start of the recession to 12m after

Source: Datastream, Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 8: US equities generally peak 3 months ahead of a recession and rebound 3 months after the start

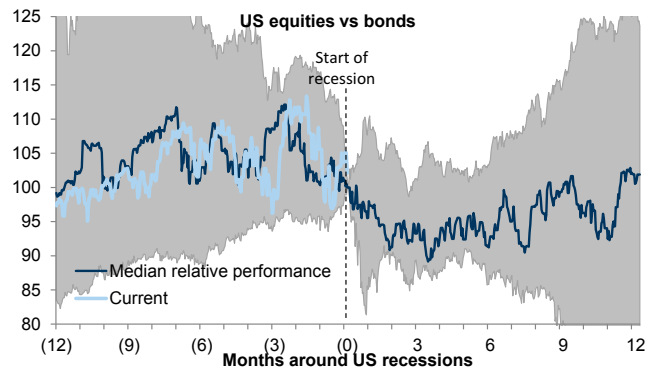
S&P 500 performance around US recessions since 1973



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 9: Equities generally underperform bonds from 3 months before the start of a recession to 3 months after

S&P 500 vs US 10Y bonds (total returns) around US recessions since 1970



Source: Datastream, Goldman Sachs Global Investment Research

II. The Post-Modern cycle justifies a structurally lower ERP

We are transitioning towards a new macroeconomic cycle, where higher nominal growth and bond term premia should make equities an attractive inflation hedge and justify a structurally lower ERP.

However, heightened geopolitical risks and concerns about the economy entering a prolonged period of stagflation prevent the ERP from meaningfully deflating and equities from outperforming bonds. High inflation surprises tend to go hand in hand with elevated macro volatility and weak profit growth, a negative for equities.

1. The Post-Modern cycle justifies a structurally lower ERP

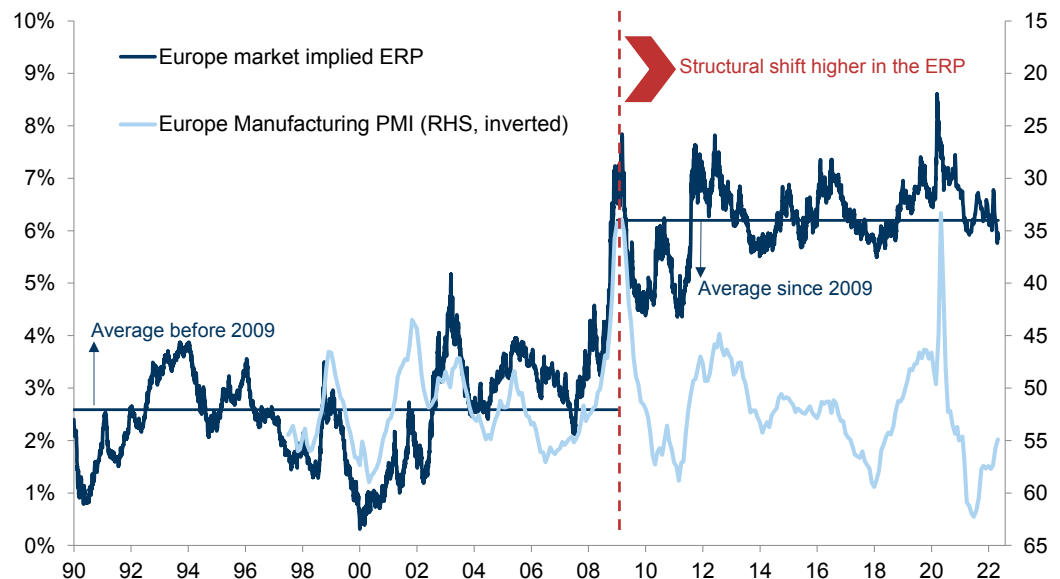
Following the Global Financial Crisis, bond yields and long-term growth expectations

collapsed. Corporate profits have stagnated, with SXXP EPS up only 2% between the 2007 peak and 2019. As a result, the ERP has structurally shifted up: while the ERP averaged 2.5% before the GFC, it averaged 6.2% since then ([Exhibit 10](#)).

We are now transitioning to a different economic cycle, moving away from disinflationary fears and falling bond yields, to inflation risks, as we argue in *Global Strategy Paper - The Post-Modern Cycle; Positioning for Secular Change*, 9 May 2022. If inflation settles at a higher pace than in the previous 15 years, and growth is good, this should be a positive for equities, which eventually are a claim on nominal growth.

Because EA inflation averaged 2.4% between 1990 and 2008, while it averaged 1.4% since 2009, the current period is more akin to the pre-GFC world. That said, while the ERP needs to structurally shift down, we do not think it should be as low as in the 1990-2008 period. Bond yields averaged 5.5% in Europe and in the US at that time, a level which after years of QE seems difficult to reach without triggering a recession.

Exhibit 10: The ERP is transitioning back to its pre-Global Financial Crisis level



Source: Haver Analytics, Goldman Sachs Global Investment Research

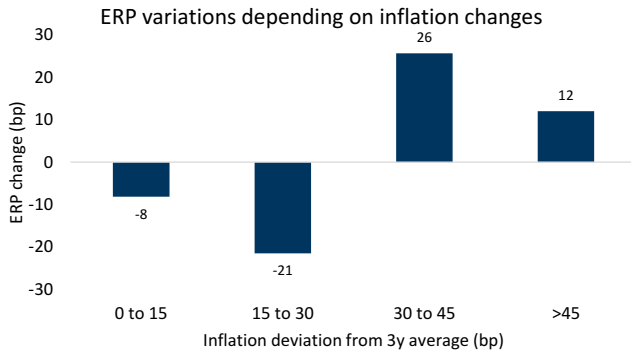
Since the beginning of the year, the ERP has made little progress towards a structurally lower level, as three factors have prevented it:

- 1. In the near-term, equities struggle with the type of inflation we face, which is supply-driven and accelerating quickly. It squeezes real income and damages growth, which raise the COE and hurt equities.** [Exhibit 11](#) shows that sharp inflation surprises (right bars) raise the ERP, while gradually rising inflation (left bars) deflates the ERP. Equities suffer in the former case and outperform bonds in the latter.
- 2. Non-economic risks have also risen,** with the start of a war in Ukraine, negative sentiment towards globalisation leading to more regionalisation. This typically maintains an elevated ERP.
- 3. Investors also worry that the new cycle becomes stagflationary, with increased**

macro volatility and poor growth. In this scenario, equities would likely not be a good inflation hedge and the 1970s show that the ERP remained elevated, preventing equities from outperforming bonds clearly.

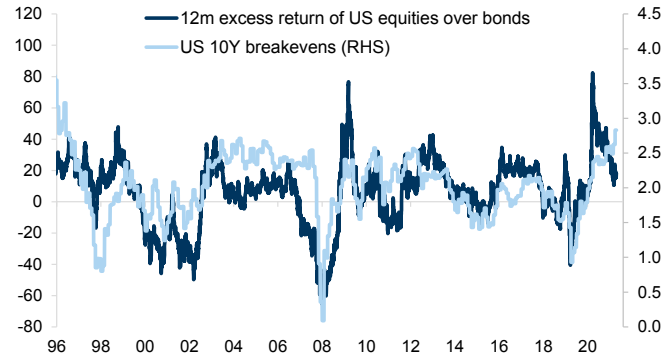
Exhibit 11: The ERP drops when inflation forecasts rise modestly but increases when inflation forecasts rise sharply

Quarterly changes since 1999 in SXXP ERP and EA SPF headline inflation forecast (yoy rate) vs the 3y average realised inflation



Source: Haver Analytics, Goldman Sachs Global Investment Research

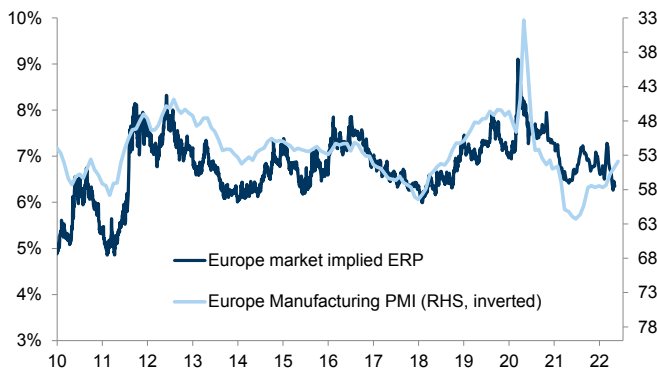
Exhibit 12: Equities outperform bonds when inflation expectations rise



Source: Datastream, Goldman Sachs Global Investment Research

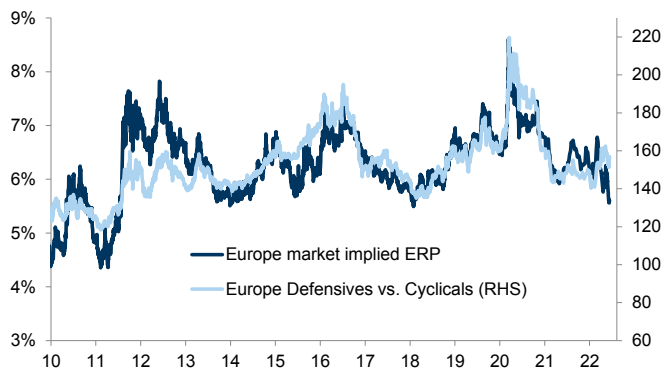
In conclusion, the current ERP of 6% does not appear necessarily misplaced. It is lower than what growth momentum would suggest: [Exhibit 13](#), [Exhibit 14](#) show that the ERP appears as having fallen too much compared to its historical relationship with PMIs and with Cyclical vs. Defensives. **But the ERP is higher than what a cycle of higher inflation would imply:** [Exhibit 10](#) shows that the ERP is still far away from having transitioned towards the structurally lower level that higher inflation and nominal growth justify.

Exhibit 13: The ERP has fallen while it used to rise when PMIs fall



Source: Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 14: The ERP has fallen while Cyclical underperformed Defensives YTD



Source: Datastream, Goldman Sachs Global Investment Research

2. Stagflation: the risk of a sticky high ERP and weak equity returns

Stagflation is one of the main risks faced by equities (the other is recession) and we believe that it is one of the reasons why the ERP is not falling structurally lower.

The 1970s stand as the period of reference for macro-economic stagflation, in the US and in the UK (see [Strategy Espresso: Portfolio strategy under stagflation](#), 21 October

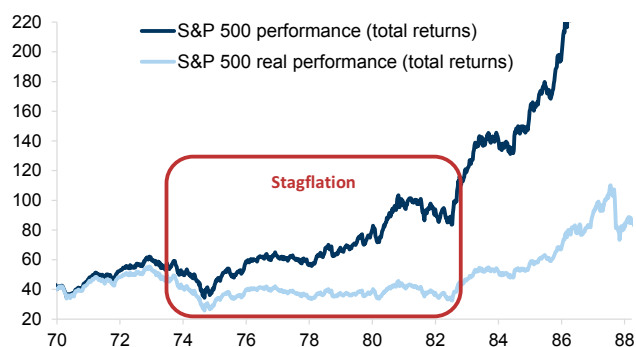
2021). **The decade started by a recession induced by an oil price shock and a bear market, and beyond the bear market rally late 1974, equities offered poor absolute returns during the rest of the decade, particularly in real terms (Exhibit 15).**

Valuations collapsed as the cost of equity (ERP + bond yields) rose, and the high equity-real bond yield gap prevented equities from meaningfully outperforming bonds. As we have shown in the past, sharp inflation surprises tend to increase the ERP as they generate more macro volatility and risks for equities (The Equity Duration Puzzle, 28 October 2020).

In section III, our macro-ERP model suggests that the ERP could rise 100bp in a stagflation scenario. We show what this would imply for the future performance of equities in section IV.

Exhibit 15: US equities averaged a total return of 0.1% annualised, in real terms (9% in nominal terms)

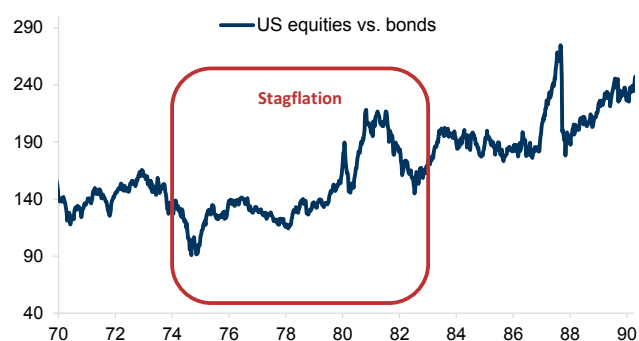
Based on an average of 2-month returns between January 1974 and October 1982



Source: Datstream, Goldman Sachs Global Investment Research

Exhibit 16: Equities did not outperform bonds until the end of the 1970s

Total returns



Source: Worldscope, Goldman Sachs Global Investment Research

The stagflation of the 1970s decomposed:

1. Going into the 1974 recession: during the course of 1973, oil prices were creeping higher, and equities fell 15%, derating from 18x to 11x P/E (Exhibit 17). Undemanding equity valuations at the start of 1974 did not prevent them from a bear market when inflation spiked.

2. The 1974 recession: January 1974 is usually taken as the starting point of the stagflation era, when Brent prices surged 240% in about a month. This supply-driven inflationary shock triggered a recession, and a bear market. US equities fell as much as 35% over 9 months, between January and October, when they bottomed.

Over this period, as they typically do during recessions, equities underperformed bonds. Equities derated from 11x to a low of 7x P/E at the end of 1974. As a result, the real equity-bond yield gap (earnings yield minus real bond yield) rose sharply, from about 6.5pp to 11pp. In 1974, equities offered an earnings yield of 11% versus a real yield of 2% for bonds, 8% in nominal terms. Equities being a claim on real profits, in periods of high inflation their earnings yield should be compared to real yields (Exhibit 18).

3. The bear market rally: equities recovered sharply, after they bottomed in October

1974. By mid-1975 they were back to their January 1974 price and P/E levels and early 1976, they had recovered their losses against bonds.

4. Beyond the bear market recovery: capturing the equity rally post the bear market was clearly the best returns you could get in the 1970s. Beyond the recovery, equities then traded very weakly until the end of the decade. They delivered an average annual return of 8% (0% in real terms). While their revenues grew 75% over the period in nominal terms, their net income margins were struggling to maintain their level (around 5% at the time). Equity valuations fell and averaged 9x P/E until the end of the decade. Real yields were low, averaging 3%, and the real equity-bond yield gap remained elevated, averaging 9pp. Equities were roughly flat against bonds.

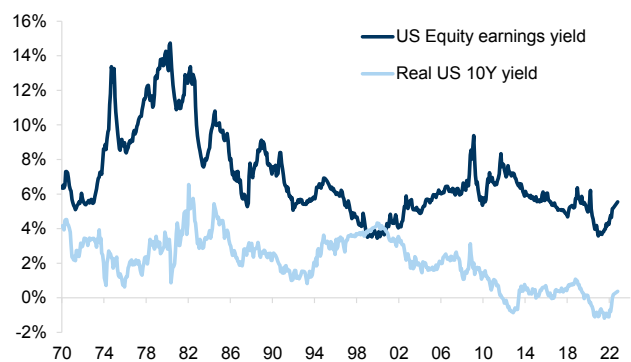
Exhibit 17: Equities derated during the 1970s

US equities



Source: Shiller, Worldscope, IBES, Datastream, Goldman Sachs Global Investment Research

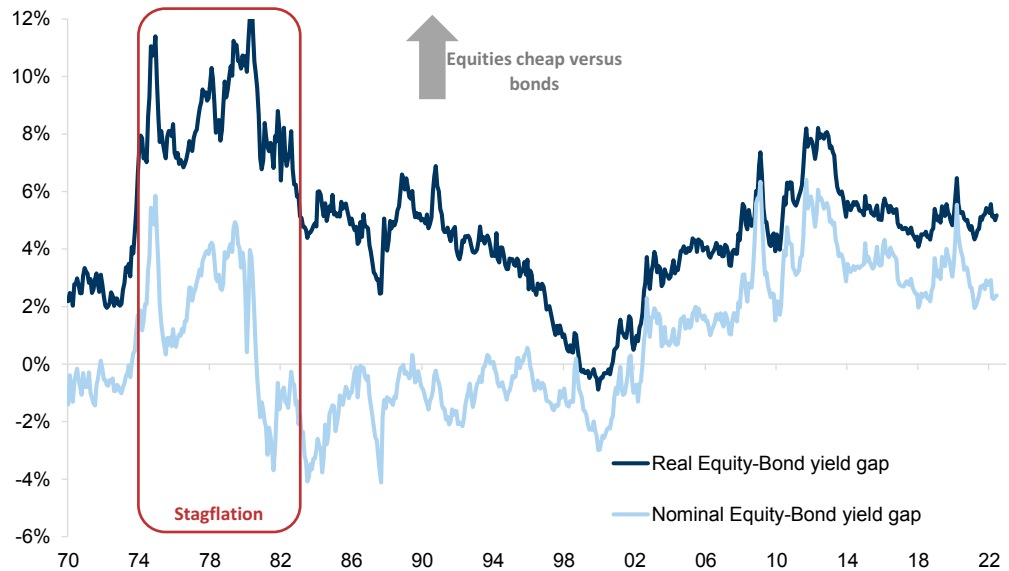
Exhibit 18: Real yields fell during the first half of the 1970s



Source: Shiller, Worldscope, IBES, Datastream, Goldman Sachs Global Investment Research

Exhibit 19: The equity-bond yield gap widened in the beginning of the stagflation decade, hurting equities' relative performance over bonds

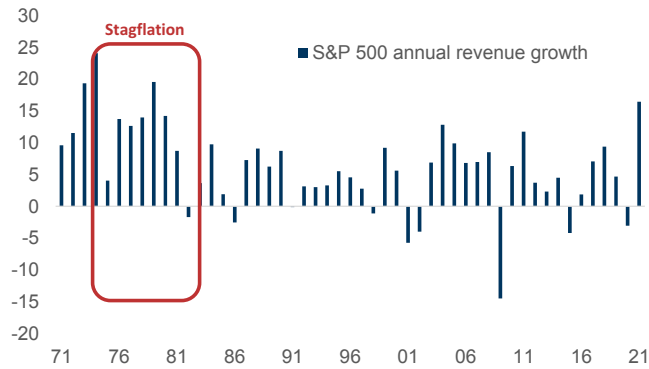
US equity earnings yield minus US 10Y nominal and real yields



Source: Robert Shiller, Worldscope, IBES, Datastream, Goldman Sachs Global Investment Research

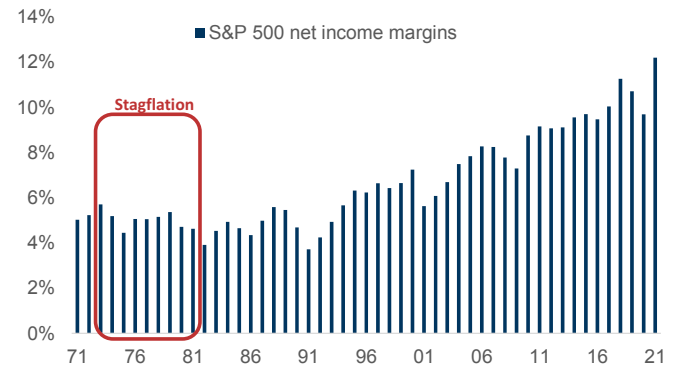
Exhibit 20: Revenues, which are nominal, experienced strong growth in the 1970s

S&P 500 annual revenue growth



Source: Standard and Poor's, Goldman Sachs Global Investment Research

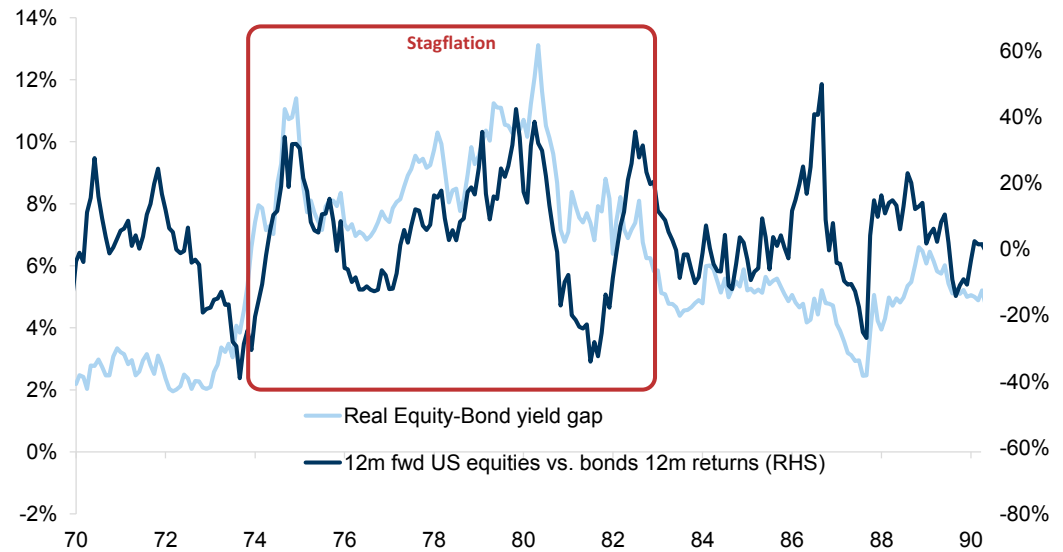
Exhibit 21: Net income margins did not expand in the 1970s, but did not collapse either



Source: Standard and Poor's, Goldman Sachs Global Investment Research

In summary, equities suffered two major periods of underperformance vs bonds: one following the 1974 recession, triggered by the first oil price shock, and one following the recession of 1981, triggered by tight monetary policy, and Paul Volcker's attempt to fight inflation. Between the two, the equity-bond yield gap remained elevated, and equities did not outperform bonds meaningfully until the very end of the 1970s.

Exhibit 22: The wider real equity/bond yield gap was a good allocation signal and coincided with stronger subsequent equity returns relative to bonds



Source: Robert Shiller, Worldscope, IBES, Datastream, Goldman Sachs Global Investment Research

III. What risk premium should investors ask based on macro fundamentals?

As an alternative to the market-implied ERP generated from a dividend discount model, we model a 'macro-implied ERP'. It is the excess return that investors require to buy equities versus a risk-free investment using macroeconomic variables, namely GDP growth, debt levels, and core inflation.

1. **This macro-implied ERP allows us to understand how the ERP moves depending on the evolution of the macro environment** (see sensitivities in the grey box).
2. **We can then forecast the ERP in different macroeconomic scenarios:** our baseline (7% by the end of the year and 6.5% in 2023), a recession (9% by the end of 2022), and a stagflation scenario (8% in 2023). See scenarios and assumptions in [Exhibit 25](#) and [Exhibit 26](#).
3. **Eventually, understanding where the ERP may go in the future gives investors a tool to project index returns and excess returns on equities relative to bonds** (see returns in section IV). The macro-implied ERP is an additional valuation metric to those such as the market-implied ERP, the P/E and the Cost of Equity. As discussed in the last grey box of this note, these metrics all have a good predictive power for excess returns of equities over bonds and/or absolute equity returns.

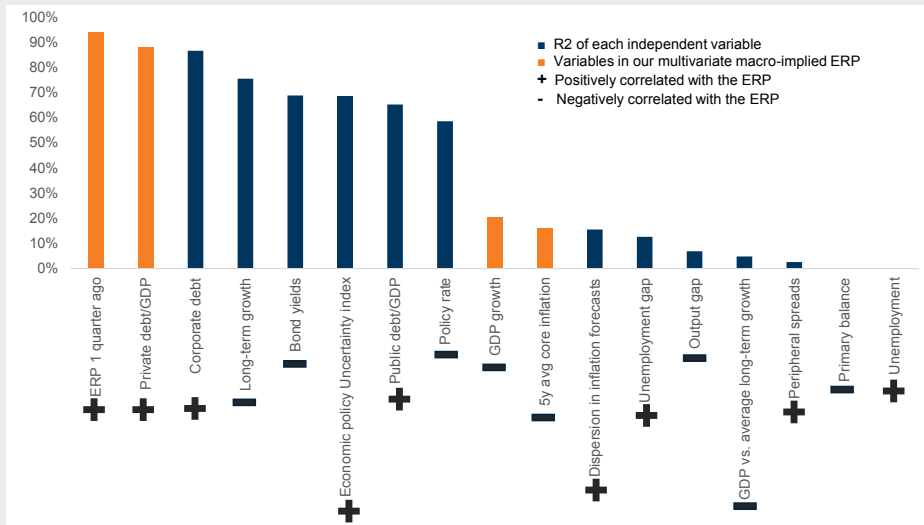
Sensitivities of the ERP to economic variables

Our macro-implied ERP model is explained by four variables: GDP growth, private debt to GDP, deviation from average core inflation and the ERP one quarter ago. This model is an update of the one we developed in *Global Strategy Paper No. 43 - Equity risk premium: how attractive are equities relative to bonds?*, 27 August 2020.

This multivariate regression model has an adjusted R2 of 95% and details are specified in [Exhibit 24](#). In order to run this model, we regressed our new GS DDM market-implied ERP on more than 20 different macroeconomic variables with a sample starting in 1990 for most data. To this extent, by construction, the levels of the market-implied and macro-implied ERPs are similar, although the latter is defined by macroeconomic variables which do not include bond yields, on which a market-implied ERP is very dependent.

For investors to appreciate how other macro indicators impact the ERP, we also show the explanatory power of about 15 variables which we considered including in our model, and the sign of their relationship with the ERP in [Exhibit 23](#).

Exhibit 23: Explanatory power of macro variables for the Europe market-implied ERP
 R2 from univariate regressions of the GS market-implied ERP on economic variables, quarterly since 1990 for most data



All variables significant at the 1% confidence level except: GDP vs. avg long-term growth (5%), Peripheral spreads (10%) and Primary balance and Unemployment, which are not significant

Source: Goldman Sachs Global Investment Research

Exhibit 24: Key statistics of our multivariate macro-implied ERP regression model

Europe macro benchmarked ERP multivariate regression model						
EU GDP growth, % (qoq)	EA Private debt to GDP (NFC+HH), %	Change in 5y avg core inflation (qoq, bp)	Europe ERP 1 quarter ago	Constant	R2	Adjusted R2
-0.2996056*	0.0120546*	0.0427623*	0.6038211*	-3.0	0.955	0.953

Significance level: *: p<0.01

Source: Goldman Sachs Global Investment Research

Key takeaways from the projections of the macro-ERP in each of our 3 scenarios:

- 1. Our baseline is that the macro-ERP should rise by a modest 30bp to 7.1% by the end of 2022, before receding back down to an average of 6.5% in 2023.** The rise in 2022 is a function of a decelerating GDP growth and accelerating inflation compared with a 5-year average. A re-acceleration in GDP growth and some normalisation in the inflation should bring down the ERP to 6.3% by the end of 2023. Beyond 2023, some build-up in private debt should prevent the ERP from falling below 6%.

The fact that the market-implied ERP went down YTD versus the rise in our macro-ERP is due to the fact that other structural developments are pushing down the ERP (higher inflation and bond term premia). This also means that there is not much cushion for equities in the event of a recession.

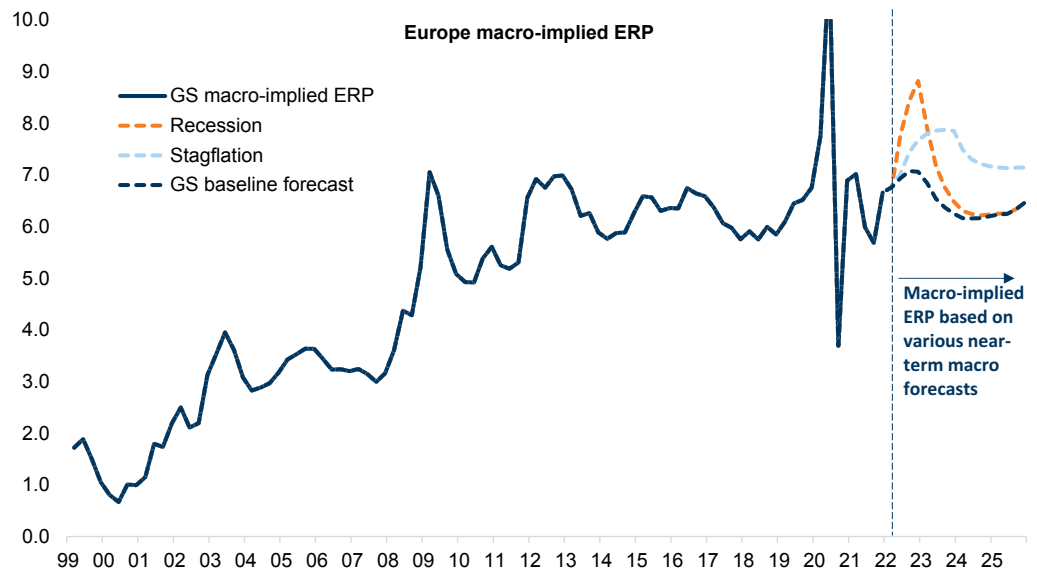
- 2. In a Recession scenario, our macro-ERP estimate suggests that the ERP would rise close to 9% by the end of 2022, which is a 200bp increase from the current**

level of the macro-ERP (6.8%).

We would expect the market-implied ERP to rise too, but probably not by 200bp. Indeed, when benchmarking the performance of equities YTD and a measure of growth momentum such as PMI, we find that market pricing is consistent with a meaningful slowdown in activity, i.e., PMIs slightly below 50, but not a recession. A potential recession would likely be short-lived, given the strength of the labour market and private balance sheets. In a recession scenario, our macro-ERP peaks in Q4 2022 and quickly falls back down to 6.5% by the end of 2023. Investors would partly look through it.

- 3. In a stagflation scenario, the macro-ERP would rise by about 100bp close to 8% in 2023 and would remain above 7% from there.** In other words, it would rise less sharply than in a recession scenario, but for longer.

Exhibit 25: The macro-ERP modestly rises by the end of the year as growth slows and recedes by about 50bp in 2023



Source: Goldman Sachs Global Investment Research

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Exhibit 26: Assumptions for the macroeconomic variables used to model our macro-ERP under different scenarios

	Strategy assumptions behind our macro-implied ERP forecast											
	Macro-implied ERP, %			EU GDP (qoq, %)			EA private debt to GDP, %			Change in 5y avg core inflation (qoq, bp)		
	Baseline	Recession	Stagflation	Baseline	Recession	Stagflation	Baseline	Recession	Stagflation	Baseline	Recession	Stagflation
Current	6.8			0.4			469			8		
Q2 2022	6.9	7.8	7.0	0.3	-1.0	0.1	459	479	461	15	20	15
Q3 2022	7.1	8.4	7.4	0.4	-1.0	0.1	456	477	460	11	15	15
Q4 2022	7.1	8.8	7.7	0.4	-1.0	0.1	454	476	458	9	15	15
Q1 2023	6.8	7.9	7.8	0.6	0.6	0.1	449	449	457	7	7	15
Q2 2023	6.5	7.2	7.9	0.7	0.7	0.1	447	447	456	4	4	15
Q3 2023	6.4	6.8	7.9	0.5	0.5	0.1	447	447	454	4	4	15
Q4 2023	6.3	6.5	7.9	0.5	0.5	0.1	444	444	451	4	4	15
Q1 2024	6.2	6.3	7.5	0.6	0.6	0.2	444	444	450	4	4	8
Q2 2024	6.2	6.2	7.3	0.5	0.5	0.2	447	447	453	4	4	8
Q3 2024	6.2	6.2	7.2	0.5	0.5	0.2	449	449	454	3	3	8
Q4 2024	6.2	6.2	7.2	0.5	0.5	0.2	451	451	455	4	4	8
Q1 2025	6.2	6.3	7.1	0.5	0.5	0.2	451	451	455	3	3	8
Q2 2025	6.2	6.3	7.1	0.5	0.5	0.2	451	451	455	3	3	8
Q3 2025	6.3	6.3	7.1	0.5	0.5	0.2	453	453	457	5	5	8
Q4 2025	6.5	6.5	7.1	0.5	0.5	0.2	453	453	457	7	7	8

Source: Goldman Sachs Global Investment Research

Why can a market-implied ERP diverge from a macro-ERP?

There can be a gap between the level of the macro-ERP, implied by fundamental macroeconomic variables, and that of a market-implied ERP, derived from market pricing and a dividend discount model. This gap might be perfectly rational as financial assets move ahead of fundamentals.

For instance, our macro-ERP estimate suggests that the ERP should have risen as high as 10% during the Covid recession, while our market-implied ERP has not surpassed 8.6%. This is because investors (justifiably, in our view) looked through part of the historically sharp recession (with the largest GDP drop on record). As governments and central banks stepped in, investors trusted the rebound would be swift and required a lower risk premium than that suggested by fundamentals.

Similarly, we think that markets have already priced the modest rise that we expect in our macro-ERP in 2H 2022.

IV. What are the implications for equity returns?

There is a strong relationship between variations in the ERP and equity returns, both absolute and relative to bonds (see last grey box of the note). A lower ERP boosts the fair value of equities, and reduces future equity returns, in absolute terms and relative to bonds.

1. A 50bp change in the ERP moves SXXP fair value by about 10%

We estimate the impact that our different scenarios for the ERP would have on equity prices, using the sensitivity of the SXXP fair value to the ERP and the risk free rate derived from our GS DDM ([Exhibit 27](#)).

Exhibit 27: A 50bp drop in the ERP raises SXXP fair value by 12%

SXXP sensitivity matrix based on GS DDM (risk-free rate is based on 10-year sovereign yields, 75% Germany and 25% UK)

		Equity Risk Premium								
		3.8%	4.3%	4.8%	5.3%	5.8%	6.3%	6.8%	7.3%	7.8%
Nominal risk-free rate (75% Germany and 25% UK)	-0.7%	2037	1518	1192	969	809	688	595	521	462
	-0.2%	1518	1192	969	809	688	595	521	462	413
	0.3%	1192	969	809	688	595	521	462	413	372
	0.8%	969	809	688	595	521	462	413	372	337
	1.3%	809	688	595	521	462	413	372	337	308
	1.8%	688	595	521	462	413	372	337	308	283
	2.3%	595	521	462	413	372	337	308	283	261
	2.8%	521	462	413	372	337	308	283	261	242
	3.3%	462	413	372	337	308	283	261	242	225
	3.8%	413	372	337	308	283	261	242	225	210
	4.3%	372	337	308	283	261	242	225	210	197

Source: Goldman Sachs Global Investment Research

- Baseline** (inflation and interest rates are close to a peak and the economy does not slip into a recession): history shows that the ERP could fall by 60bp 12 months after the inflation peak. This would imply a rise in the fair value of the SXXP of 15%.

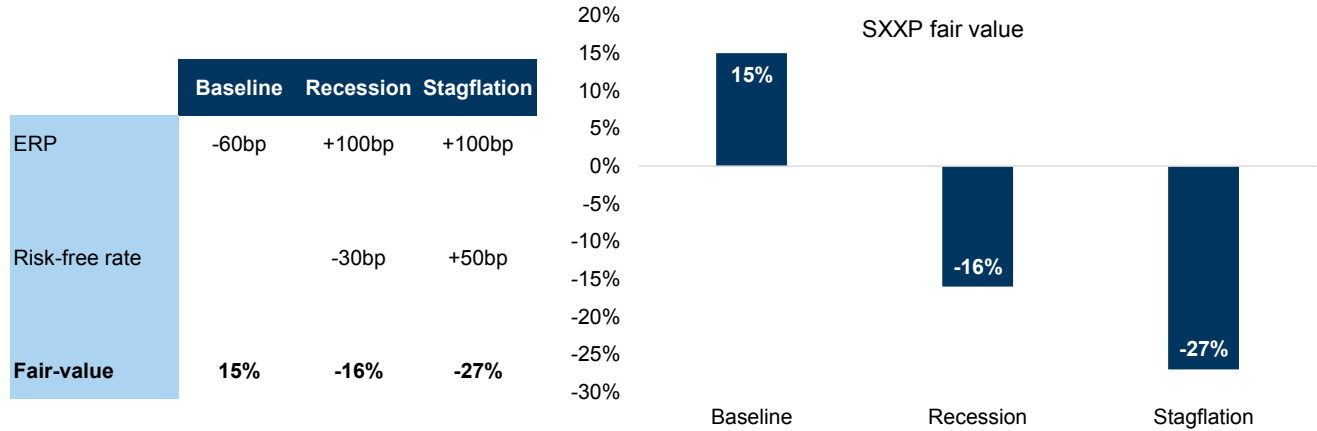
This is also the type of upside we would get assuming that the ERP drops by 50bp by the end of 2023, as our macro-ERP suggests.

- Recession**: history shows that on average, the real equity-bond yield gap rises by about 110bp in the 3 months after the start of a recession. The SXXP fair value would drop by 21%. Lower interest rates would offset some of the hit. Assuming a

risk-free rate 30bp lower, the SXXP would fall 16%.

- 3. **Stagflation:** our macro-ERP model suggests that the ERP could be 100bp higher than its current level. Combined with a risk free rate 50bp higher, this would be consistent with a fair value 27% lower.

Exhibit 28: Moves in the ERP suggest that the SXXP could rise 15% in our baseline scenario



Source: Goldman Sachs Global Investment Research

2. In the Post-Modern cycle, an ERP of 6% likely signals positive excess returns of equities over bonds

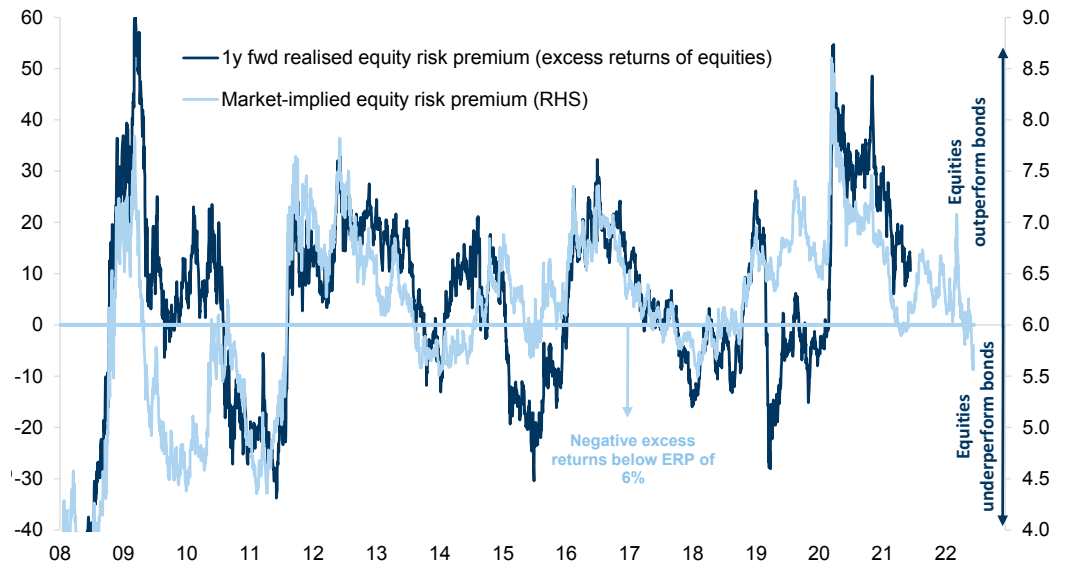
When the ERP falls, the future returns of equities and excess returns of equities over bonds tend to diminish. We detail this relationship in the grey box below.

Exhibit 29 shows the relationship between the ERP and one year forward excess returns of equities over bonds. Since the GFC, when the ERP fell below 6% (light blue line), equities then underperformed bonds in the subsequent year (dark blue line).

However, as we argued in section II, we believe that the ERP is heading to a level more similar to what preceded the GFC. Exhibit 30 shows that **before 2009, the ERP had to fall below 2% to suggest future negative excess returns of equities. Hence, if the ERP were to fall by another 50bp, we would still be far from levels suggesting investors reduce their equity allocation relative to bonds.**

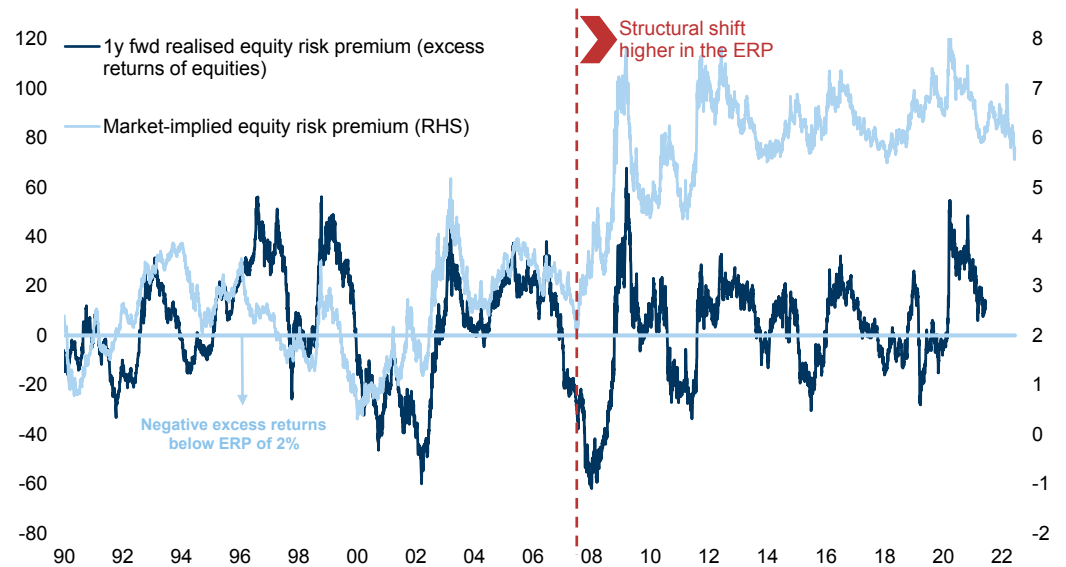
Exhibit 29: Since the 2007 crisis, an ERP below 6% has been signaling negative excess returns of equities in the subsequent year

Europe ex-ante equity risk premium (ERP) and one-year-forward ex-post ERP (equity vs German bonds, total returns)



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 30: Before the 2007 crisis, an ERP below 2% used to signal negative excess returns of equities in the subsequent year



Source: Datastream, Goldman Sachs Global Investment Research

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Why are we looking at the ERP?

Investors look at the ERP and want to know in which direction it will go as it is a good valuation metric to predict future absolute equity returns, and relative equity returns versus bonds.

A lower ERP reduces subsequent equity returns, absolute and relative to bonds (Exhibit 32 and Exhibit 29). When the ERP goes down, other things equal, the discount rate (sum of the ERP and risk free rate) falls and equity valuations rise. As valuations are a good predictor of long-term equity returns, when they rise, they reduce long-term returns.

Hence, **the aim of investors is to reduce the equity allocation and increase that of bonds before the ERP inflects back up.**

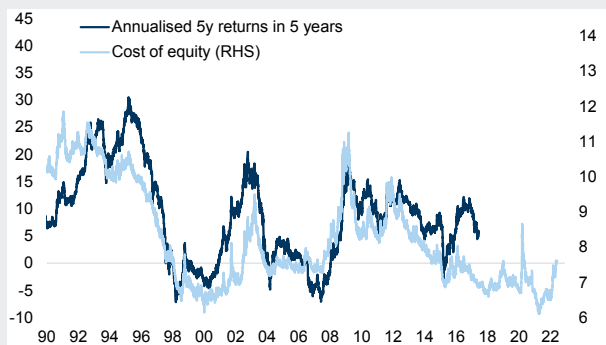
We also find that **when the ERP and the Cost of Equity (COE = ERP + risk free rate) go in opposite directions, the COE becomes a better metric to explain and predict equity relative returns** (Exhibit 31). What happened YTD or in the cycle which followed the Global Financial Crisis are two good examples:

- Since the beginning of the year, although the ERP fell, European equities derated and fell 16% in absolute terms and 10% relative to bonds. This is because bond yields rose more than the ERP fell, and the COE increased. This suggests higher subsequent equity returns, in absolute and relative terms.
- In the cycle which followed the 2007-2008 Global Financial Crisis, the ERP has been trending up but because bond yields collapsed. Hence, the COE fell. Equity valuations rose and equities performed well, in absolute terms and relative to bonds. The lower COE (i.e., higher multiples) has coincided with a decline in 5-year forward absolute and relative returns.

We discuss ways to estimate the ERP and its link with equity returns in detail in *Global Strategy Paper No. 43 - Equity risk premium: how attractive are equities relative to bonds?*, 27 August 2020.

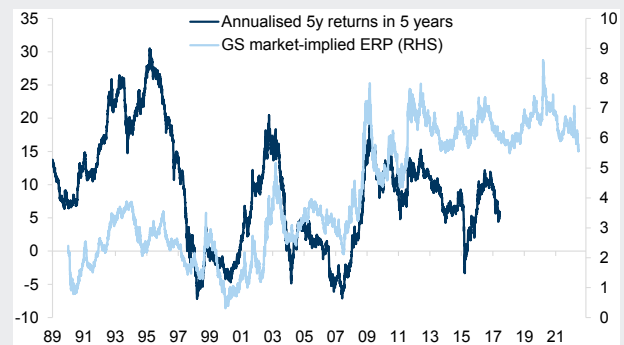
Exhibit 31: The cost of equity correlates better than the ERP with future equity returns

LHS: Europe equity returns; RHS: COE = 10y German bond yields + GS Equity Risk Premium from GS DDM



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 32: The ERP used to be a good signal of equity returns (until 2008): the higher the ERP, the higher subsequent equity returns



Source: Datastream, Goldman Sachs Global Investment Research

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Reg AC

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