

# Bear Repair

## The Bumpy Road to Recovery



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- **Bear markets** can be split into three categories: **Structural, Cyclical and Event-driven.**
- The initial **transition from a bear market to a bull market tends to be strong** and driven by valuation expansion, irrespective of the type of bear market.
- **But bear market rallies are common**, making these transitions difficult to spot in real time.
- **Low valuations are a necessary, although not sufficient, condition for a market recovery. Getting close to the worst point in the economic cycle, reaching a peak in inflation and interest rates, and negative positioning are also important.**
- Our **fundamentals-based Bull/Bear Indicator (GSBLBR)** and our **sentiment-based Risk Appetite Indicator (GSRAll)** help identify potential inflection points. Combining these can provide powerful signals when they are both close to extremes.
- **We have not yet met these conditions, suggesting further bumpy markets before a decisive trough is established.**
- **We expect the next bull market to be 'Fatter & Flatter' than the last;** this 'Post-Modern Cycle' is also likely to be driven by some distinct themes with a greater focus on margin sustainability.

## Summary

Investors often see bear markets, and the recessions that follow them, as binary events; you are either in one or not. But in reality the scale and depth of bear markets vary quite a lot. The same can be said for bull markets – some are much stronger and longer than others, driven by powerful secular trends in growth and cost of capital.

**Bear markets can be split into three categories: ‘Structural’, ‘Cyclical’ and ‘Event-driven’.** Each type of bear market is driven by a different set of conditions and has different profiles in terms of depth, length and time to recover.

**Most bear markets ultimately tend to end with a similar powerful initial rebound (which we describe as the ‘Hope’ phase). However, in real time, it is often difficult to distinguish between a bear market rally and a genuine inflection into a new bull market as they can look and feel very similar, at least to begin with.**

The difference between a bear market rally and a transition into a ‘Hope’ phase of a new bull market often depends on the drivers of the bear market itself, and a combination of other factors that tend to coincide with a genuine turning point. In this piece we describe and analyse these trigger points in an attempt to understand the likely path from here following the powerful equity rally since June.

**Low valuations are a necessary, although not sufficient, condition for a market recovery. Getting close to the worst point in the economic cycle where the rate of deterioration slows, and reaching a peak in inflation and interest rates are also important triggers. Positioning can also play a significant role.** Bull markets typically start during a recession, around 6-9 months before trough earnings and around 3-6 months before trough PMIs.

Our Bull/Bear Market indicator (GSBLBR) and our Risk Appetite indicator (GSRAII) attempt to capture the fundamental and sentiment factors that are important around inflection points. Combining these can provide a useful guide, particularly when they are both close to extremes. When GSBLBR is below 45% AND the GSRAII is below 1.5, the probability of achieving high returns over 12 months is very high. **Current levels of these indicators would suggest that we are not yet at the market trough.**

**Something has to give: either returns stay low and volatile for a long time or the market is likely to re-test its lows before a genuine trough is established.**

**The bull market cycle that follows the initial ‘Hope’ phase can, like bear markets, vary quite a lot in terms of length and strength.** Broadly we split bull markets into two types; those **that are ‘Secular’ and during which valuations tend to rise, and those that are ‘Flatter’** – with lower aggregate price returns but with a greater focus on compounding returns. Sometimes these types of bull market exhibit a very wide trading range (‘Fat & Flat’), or are more stable with a narrow trading range (‘Skinny & Flat’). **We expect the next bull market – what we call the Post-Modern Cycle – to be ‘Fatter & Flatter’ than the last, with some distinct secular drivers.**

**The last secular bull market (1982-2022) achieved high real returns powered by**

**increased valuations. It was driven by:**

- 1. Disinflation** - the collapse in inflation and interest rates.
- 2. De-regulation** - supply-side reforms and lower taxes.
- 3. De-escalation** - lower geopolitical risk premia (post the collapse of the Soviet Union and the emergence of US hegemony).
- 4. Globalisation** - the entry of India and China into the WTO.
- 5. Digitisation** - the emergence of the digital economy and lower physical capex spend.
- 6. Monetisation** - the emergence of zero interest rates and QE post the GFC.

**The Post-Modern Cycle is likely to see a part reversal of a number of these drivers. We are likely to see a higher cost of capital together with more fiscal and government intervention, greater regionalisation, and higher spending on capex and infrastructure.**

We expect:

- **Lower aggregate returns;** a Fat & Flat rather than a secular bull market.
- **More focus on Alpha than Beta.**
- **A greater reward for diversification and buying at attractive valuations.**
- **Investment to increase corporate efficiency (energy efficiency and labour productivity).**

## Bear market profiles

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**Not all bear markets are the same. The type of bear market has some bearing on the triggers, timing and speed of the recovery.** A simple starting point is to look at the broad differences between different types of bear market using our bear market framework first published in [Share Despair](#) (2002) and [Bear Repair](#) (2004).

Looking at the long-term history (using US data as a proxy), we find that there are different types of bear markets; each is a function of different triggers and has distinct characteristics. We split bear markets into three categories:

- **Structural bear market** - triggered by structural imbalances and financial bubbles. Very often there is a 'price' shock such as deflation and a banking crisis that follows.
- **Cyclical bear markets** - typically triggered by rising interest rates, impending recessions and falls in profits. They are a function of the economic cycle.
- **Event-driven bear markets** - triggered by a one-off 'shock' that either does not lead to a domestic recession or temporarily knocks a cycle off course. Common triggers are wars, an oil price shock, EM crisis or technical market dislocations. The principal driver of the bear market is higher risk premia rather than a rise in interest rates at the outset.

[Exhibit 1](#) shows the previous bear markets and our classification.

**Exhibit 1: US Bear markets & Recoveries since the 1800s**

S = Structural, C= Cyclical, E = Event-driven

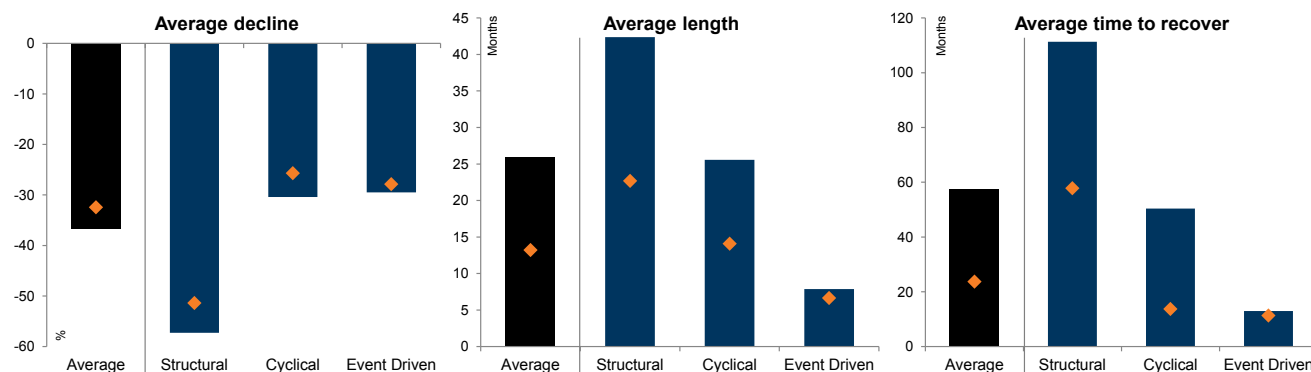
Type					Time to recover back to previous level		Volatility	
Type	Start	End	Length (m)	Decline (%)	Nominal (m)	Real (m)	Peak to trough	Trough to recovery
S	May-1835	Mar-1842	82	-56	259	-	13	17
C	Aug-1847	Nov-1848	15	-23	42	-	8	9
C	Dec-1852	Oct-1857	58	-65	67	-	19	25
C	Mar-1858	Jul-1859	16	-23	11	-	21	15
C	Oct-1860	Jul-1861	9	-32	15	-	31	17
C	Apr-1864	Apr-1865	12	-26	48	-	14	8
S	Feb-1873	Jun-1877	52	-47	32	11	11	11
C	Jun-1881	Jan-1885	43	-36	191	17	9	11
C	May-1887	Aug-1893	75	-31	65	49	10	12
C	Sep-1902	Oct-1903	13	-29	17	22	9	10
E	Sep-1906	Nov-1907	14	-38	21	250	15	11
C	Dec-1909	Dec-1914	60	-29	121	159	9	12
C	Nov-1916	Dec-1917	13	-33	85	116	12	12
C	Jul-1919	Aug-1921	25	-32	39	14	15	10
S	Sep-1929	Jun-1932	33	-85	266	284	30	20
S	Mar-1937	Apr-1942	62	-59	49	151	20	10
C	May-1946	Mar-1948	21	-28	27	73	14	12
E	Aug-1956	Oct-1957	15	-22	11	13	11	11
E	Dec-1961	Jun-1962	6	-28	14	18	17	10
E	Feb-1966	Oct-1966	8	-22	7	24	12	10
C	Nov-1968	May-1970	18	-36	21	204	11	12
S	Jan-1973	Oct-1974	21	-48	69	148	18	13
C	Nov-1980	Aug-1982	20	-27	3	8	14	24
E	Aug-1987	Dec-1987	3.3	-34	20	20	53	16
C	Jul-1990	Oct-1990	3	-20	4	4	20	17
S	Mar-2000	Oct-2002	30	-49	56	56	22	13
S	Oct-2007	Mar-2009	17	-57	49	49	37	19
E	Feb-2020	Mar-2020	1	-34	5	5	80	29
C	Jan-2022	Sep-2022	8	-18			23	
<b>Average</b>			<b>26</b>	<b>-37</b>	<b>58</b>	<b>77</b>	<b>20</b>	<b>14</b>
<b>Median</b>			<b>17</b>	<b>-32</b>	<b>35</b>	<b>36</b>	<b>15</b>	<b>12</b>
<b>Average Structural</b>			<b>42</b>	<b>-57</b>	<b>111</b>	<b>116</b>	<b>22</b>	<b>15</b>
<b>Average Cyclical</b>			<b>26</b>	<b>-30</b>	<b>50</b>	<b>67</b>	<b>15</b>	<b>14</b>
<b>Average Event Driven</b>			<b>8</b>	<b>-29</b>	<b>13</b>	<b>55</b>	<b>32</b>	<b>15</b>

Source: Goldman Sachs Global Investment Research

In terms of profiles, the average **cyclical and event-driven markets generally tend to fall around 30%**, although they differ in terms of duration. Cyclical bear markets last an average of two years and take around five years to fully rebound to their starting point, while the event-driven ones tend to last around eight months and recover within a year. Structural bear markets are by far the worst. The average declines are around 60% playing out over three years or more, and they tend to take a decade to fully recover.

**Exhibit 2: US bear markets & recoveries since the 1800s**

Orange diamonds mark post-WW2 averages



Source: Goldman Sachs Global Investment Research

Good examples of structural bear markets are the collapse that was triggered by the 1929 crash, the downturn in Japan in 1989/90 and, most recently, the Global Financial Crisis. Each exhibited similar conditions of broad-based asset bubbles, euphoria, private-sector leverage and, finally, a banking crisis. Meanwhile, the bear market during the pandemic was an example of an event-driven downturn. At the time it occurred, the economy was relatively balanced, with low and stable growth and inflation. True, the event itself was unusual and the initial shock to growth extreme, but the scale and breadth of the policy support were such that the market hit was short-lived and the recovery rapid, similar to other event-driven bear markets in history.

**Overall, the drivers of the current bear market appear to be more cyclical than structural in nature. While there are some important structural shifts taking place, in line with our views about the Post-Modern Cycle, these are more likely to impact future returns than the scale and magnitude of the current downturn.**

Nevertheless, these averages are taken over many decades. If we isolate the bear markets since WW2, we find fairly similar profiles in terms of the depth of bear markets, but generally shorter duration. This is an important observation because it suggests that the payoff for being invested when anticipating a recovery is less beneficial now that it may have been in the past. As a consequence, **having consistent indicators that help identify a market trough and distinguish a genuine inflection point from a bear market rally becomes increasingly important. In this piece we discuss the conditions that are commonly met at a market trough.**

## How do you know if you are in a Cyclical or Structural downturn?

In our view, there are a few consistent hallmarks of financial bubbles that lead structural bear markets. The majority can be characterised by many, if not most, of the following:

1. **Excessive price appreciation & extreme valuations**
2. **New valuation approaches justified**
3. **Increased market concentration**
4. **Frantic speculation and investor flows**
5. **Easy credit, low rates & rising leverage**
6. **Booming corporate activity**
7. **New Era narrative and technology innovations**
8. **Late-cycle economic boom**
9. **The emergence of accounting scandals and irregularities**

As we entered the current bear market, elements of it have resembled a structural bear market: the extreme rise in unprofitable tech and bitcoin were similar to some other bubble periods in history that preceded structural bear markets ([Exhibit 3](#)).

**Exhibit 3: Characteristics common pre and post the different kinds of bear markets**

Pre Bear	Cyclical	Event	Structural	Current
Rising rates	✓	Maybe	✓	✓
Exogenous shock	Maybe	✓	Maybe	✓
'Speculative Rise' in equity prices	✗	✗	✓	Selective
Economic Imbalances	✗	✗	✓	✓
Rising productivity	Maybe	-	✓	✗
Unusual strength in economy	✗	✗	✓	✗
'New Era' belief	✗	✗	✓	✗*
Post Peak	Cyclical	Event	Structural	Current
Economic recession/downturn	Usually	Maybe	Usually	Not yet
Profits collapse	✓	Maybe	✓	Not yet
Interest rates fall & trigger rise in equity prices/fall in bonds	✓	Usually	✗	May 2023**
Price shock	✗	✗	✓	✓

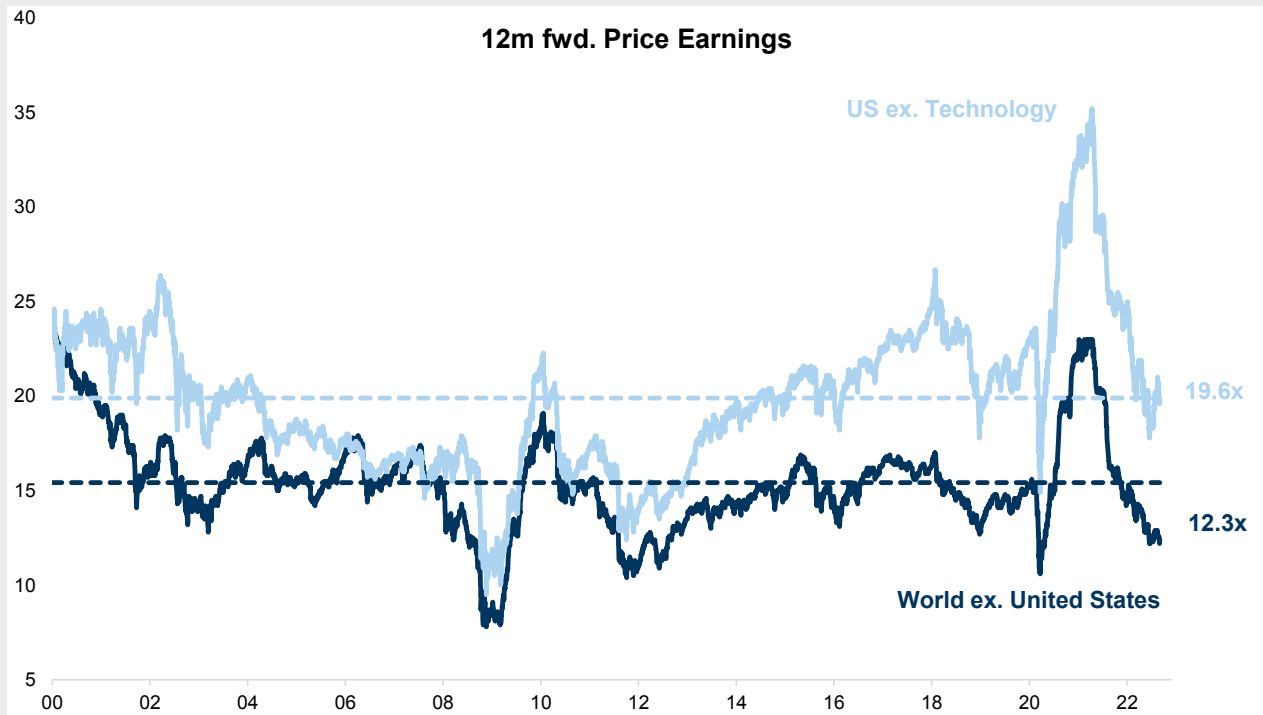
\* Some pockets of the market like Crypto and Non-Profitable tech companies have shown signs of 'New Era' belief, but not the broader market

\*\* Current market pricing of Fed Funds Future

Source: Goldman Sachs Global Investment Research

That said, the scale and breadth of the asset bubbles were narrower than in other bear markets. Furthermore, many equity markets outside of the US were expensive when the bear market hit, but once the prevailing level of interest rates is taken into account, not excessive in terms of valuations.

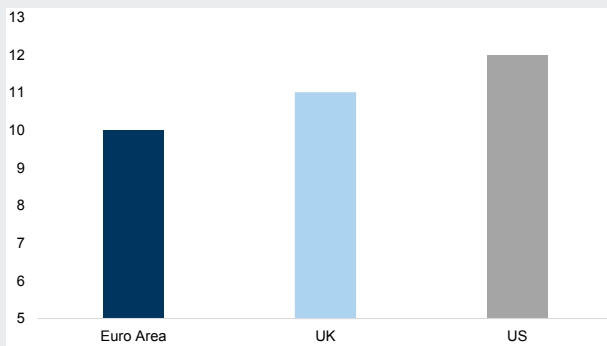
**Exhibit 4: Equity markets outside the US were expensive but not excessive in terms of valuations when the bear market hit**  
Price/Earnings, US ex. Technology and World ex. US P/E



Source: Datastream, Worldscope, Goldman Sachs Global Investment Research

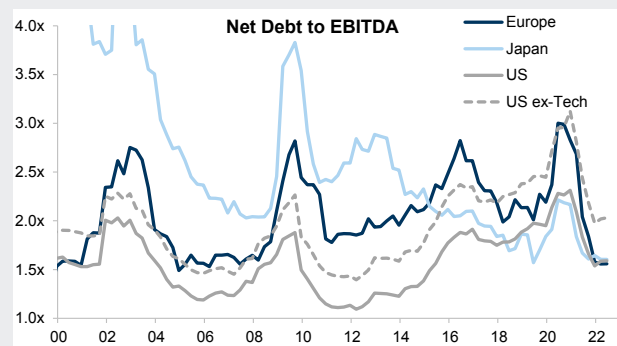
**Another important factor is that in most structural bear markets private-sector leverage becomes very extreme, whereas currently private-sector balance sheets are generally healthy.** The financial crisis has forced banks to de-lever. Meanwhile, households and corporates have relatively healthy balance sheets in aggregate. **While this won't prevent a recession, it may help to moderate the worst second- and third-round effects of any economic downturn.**

**Exhibit 5: High savings rate across regions provides a buffer**  
% of annual income, excess savings



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 6: Net debt to EBITDA has decreased**  
Net debt to EBITDA, ex financials



Source: Datastream, Worldscope, Goldman Sachs Global Investment Research



## Differentiating between a Bear bounce & a new Bull market

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Our framework for looking at investment cycles ([Analysis of a cycle: part 1](#) and [Analysis of a cycle: part 2](#)) suggests that most cycles have four distinct phases. Most bull markets start with a decisive and powerful initial recovery, or 'Hope' phase, irrespective of whether they have been cyclical, structural or event-driven. Nevertheless, because bear markets don't tend to fall in a straight line (with the exception of most event-driven bear markets), there are often false starts; rallies within a continuing bear market are quite typical.

**The Despair phase** is the period where the market moves from its peak to its trough, usually resulting in a bear market. This correction is mainly driven by P/E multiple contraction as the market anticipates and reacts to a deteriorating macroeconomic environment and its implications in terms of lower future earnings. In cyclical bear markets, this is usually triggered by rising inflation and interest rates, while in structural bear markets interest rates are often a trigger for the bursting of an asset bubble that exacerbates a prospective economic and profit downturn.

**The Hope phase** is typically a short period (on average 10 months), where the market rebounds strongly from its trough through multiple expansion. This occurs in anticipation of a forthcoming trough in the economic cycle as well as future profit growth and is leading to a local peak in the trailing P/E multiple. We define the end of the Hope phase as this local peak of the trailing P/E multiple.

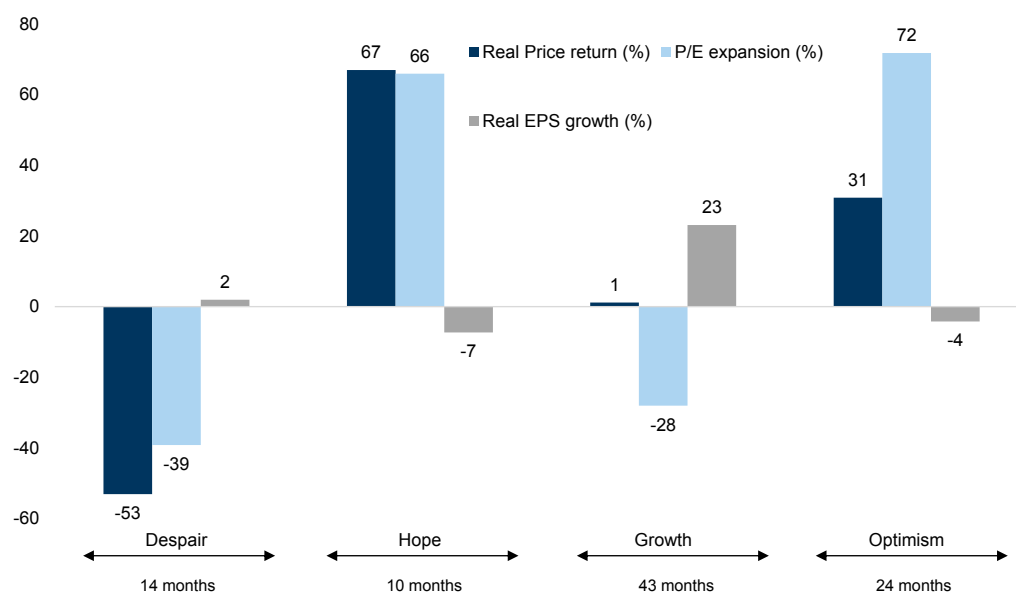
**The Growth phase** is typically a longer period (on average 43 months), where earnings growth drives returns. We define the end of this period as when multiple expansion again starts to provide a larger proportion of the returns than earnings growth.

**The Optimism phase** is the final part of the cycle, where returns driven by P/E multiple expansion outpace earnings growth, thereby setting the stage for the next market correction.

The framework demonstrates that the relationship between earnings growth and price performance changes systematically over the cycle. While earnings growth is what fuels equity market performance over the very long run, **most of the earnings growth is not paid for when it occurs but rather when it is correctly anticipated by investors in the Hope phase.**

### Exhibit 7: The relationship between earnings growth and price performance changes systematically over the cycle

Real Price Return, P/E expansion and Real EPS growth (%)



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

#### Bear market rallies are common

As investors process new information and adjust expectations accordingly, it would be unusual if there were never rallies within bear markets (or corrections in bull markets). But there are usually two reasons for bear market rallies: (i) longer-term expectations of growth improve, even if in the short term it is still pretty negative; and (ii) investors become increasingly confident that they are approaching the peak in the interest rate cycle. Often, given light positioning in bear markets, marginal changes in these variables can have amplified effects on markets.

**Bear market rallies are quite common.** Taking the experience of the bear markets since the 1980s, including the collapse of the technology bubble in 2000-2002 and the GFC in 2008, we see a repeated pattern of rebounds before the market reaches a trough.

**Exhibit 8: Historical examples of bear market rallies**

## MSCI AC World - Bear Market Rally

Global Bear Market Rally	Length (days)	MSCI AC World (%)	Cyclicals vs. Defensives (%)	Value vs. Growth (%)	EM vs. DM (%)	Small vs. Large (%)	US 10y BY (Δ bp)	
Recession & Stagflation	26-Oct-81 04-Dec-81	39	10.3	0.2	-1.8	-	-2.44	
	17-Mar-82 07-May-82	51	9.2	0.6	-1.3	-	-0.33	
Program trading collapse	20-Oct-87 21-Oct-87	1	7.9	-0.8	0.0	-	-0.11	
Recession & Oil shock	02-Apr-90 17-Jul-90	106	15.3	-1.3	-3.4	10.0	-0.21	
Dot-com bubble	23-May-00 17-Jul-00	55	8.7	3.6	-9.1	3.0	1.0	-0.29
	22-Mar-01 21-May-01	60	14.7	5.3	-0.3	-7.5	-0.2	0.68
	21-Sep-01 04-Jan-02	105	20.1	17.8	-5.1	13.3	1.5	0.46
	06-Feb-02 19-Mar-02	41	9.2	3.3	3.5	-2.2	-0.4	0.39
	23-Jul-02 22-Aug-02	30	13.9	-3.0	-0.6	-14.8	-6.7	-0.16
Global Financial Crisis	09-Oct-02 28-Nov-02	50	18.6	12.6	6.5	-2.6	-0.3	0.67
	22-Jan-08 27-Feb-08	36	8.4	5.5	-1.9	6.2	2.5	0.37
	17-Mar-08 19-May-08	63	13.9	7.0	-2.0	5.7	-0.2	0.53
	17-Sep-08 19-Sep-08	2	8.2	4.9	2.9	1.8	-0.9	0.38
	10-Oct-08 14-Oct-08	4	12.5	0.6	1.8	1.3	-3.5	0.18
China & Oil turbulence	27-Oct-08 04-Nov-08	8	21.8	5.7	-0.2	9.9	0.0	0.03
	20-Nov-08 06-Jan-09	47	23.8	8.9	1.1	6.3	3.3	-0.64
COVID-19	29-Sep-15 03-Nov-15	35	10.8	2.2	-0.7	0.1	-2.4	0.16
2022 Bear Market Rally	23-Mar-20 08-May-20	46	27.7	2.6	-4.7	-6.6	5.1	-0.09
	17-Jun-22 16-Aug-22	60	12.8	2.8	-7.0	-11.8	0.8	-0.41
Average		44	14.1	4.1	-1.2	0.8	0.0	-0.04
Median		46	12.8	3.3	-0.7	1.6	-0.2	0.03

Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 8** shows 18 global bear market rallies since the early 1980s. **On average, they last 44 days and the MSCI AC World return is 10% to 15%. Cyclicals outperform Defensives 83% of the time and by 4% on average.**

We find a similar result at the regional level; EM outperforms DM 67% of the time. During these periods there is no clear pattern in the performance of Value vs. Growth or Small vs. Large Caps.

**In this context the recent rally since June 22 is, in our view, a bear market rally. Its duration and magnitude were not unusual relative to the experience of previous decades. We expect further weakness and bumpy markets before a decisive trough is established.**

### The Difference between Hard & Soft Landings

One of the factors that helps to explain the difference between a bear market rally and a genuine bull market transition is the perceived scale of any prospective downturn. Volatility around the trough is often a function of investor perception oscillating between these two outcomes.

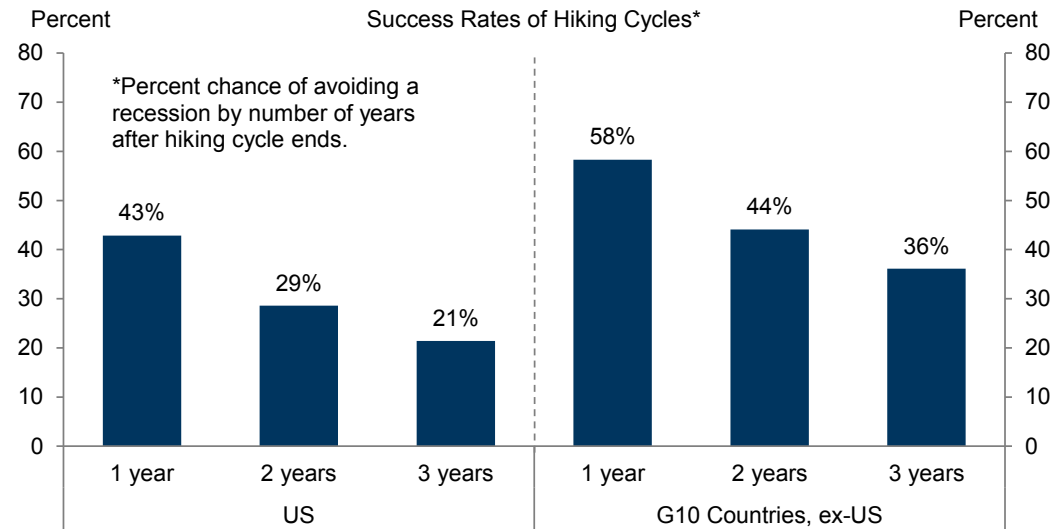
#### In general:

- Cyclical bear markets around 'soft landings' are likely to end around the perceived peak in the policy cycle.**
- Cyclical bear markets associated with 'hard landings' are not likely to be resolved by interest rates alone.** A peak in the policy cycle is an important part of the recovery puzzle, but a slowing in the second derivative of growth, together with depressed valuations, also tends to be important.

The difference has much to do with the tightening cycle and what other conditions exist as rates start to rise. Historically, a minority (43%) of US tightening cycles were not followed by a recession over a period of one year after the last hike (while this number

falls to 29% for two years, and 21% for three years after the last hike). The corresponding numbers for the G10 indicate a much higher success rate: 58% of tightening cycles avoided a recession for one year after the last hike, 44% for two years, and 36% for three years (see [The Odds of a Soft Landing: Lessons from G10 Economies](#)).

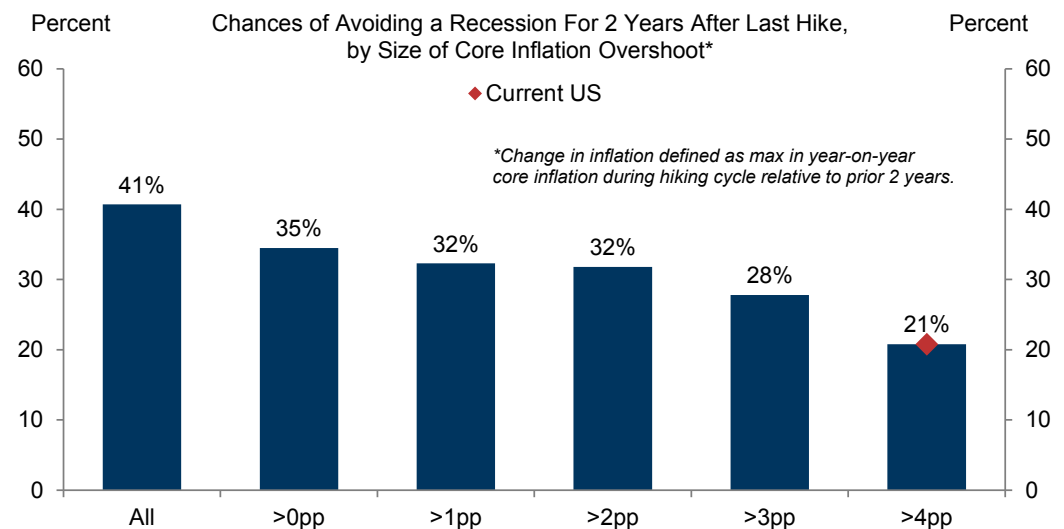
**Exhibit 9: Soft Landings Are More Common Outside the US**



Source: Department of Labor, Haver Analytics, Goldman Sachs Global Investment Research

Nevertheless, the odds of a soft landing are much smaller when inflation is high.

**Exhibit 10: Soft Landings in G10 Countries Have Been Less Common When Inflation Is Very High**

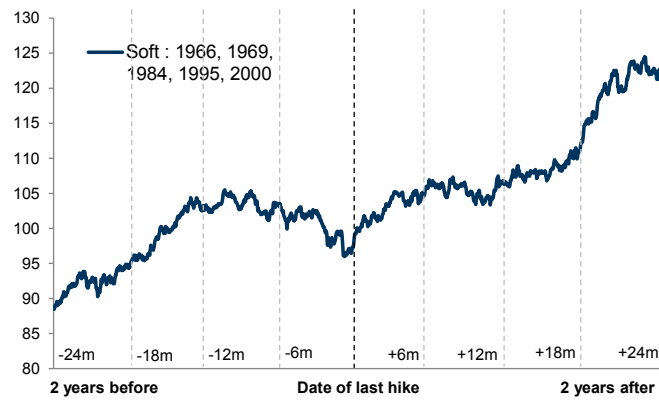


Source: Department of Commerce, Haver Analytics, Goldman Sachs Global Investment Research

Looking at the historical evidence, the profile of the bear market and its recovery has varied between soft and hard landings, or those that start out looking soft but end up as hard landings.

**Exhibit 11: Profile of S&P 500 performance around historical soft landings**

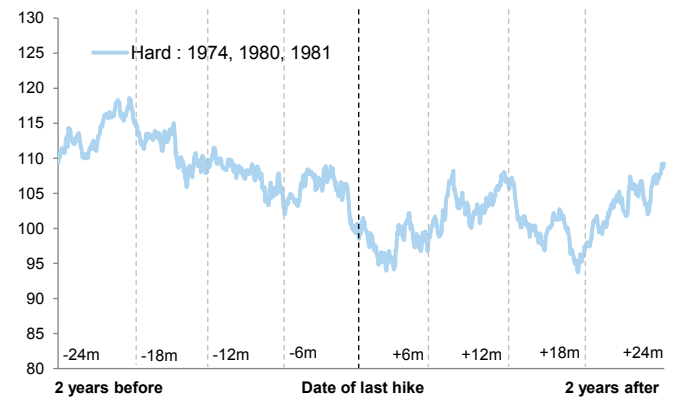
S&P 500, Real total return



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 12: Profile of S&P 500 performance around historical hard landings**

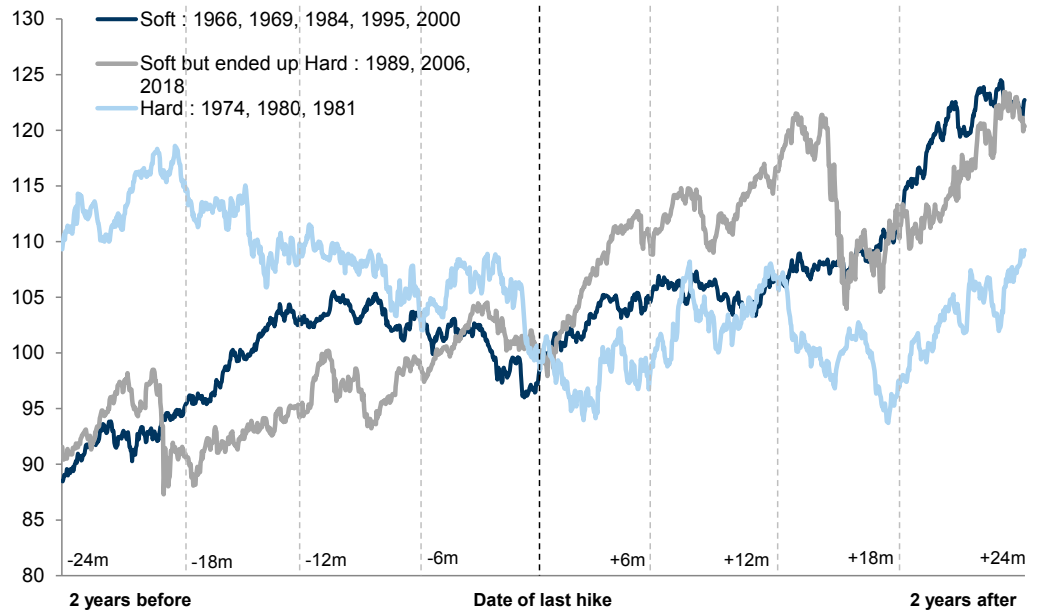
S&P 500, Real total return



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 13: Profile of S&P 500 performance around historical landings**

S&P 500, Real total return

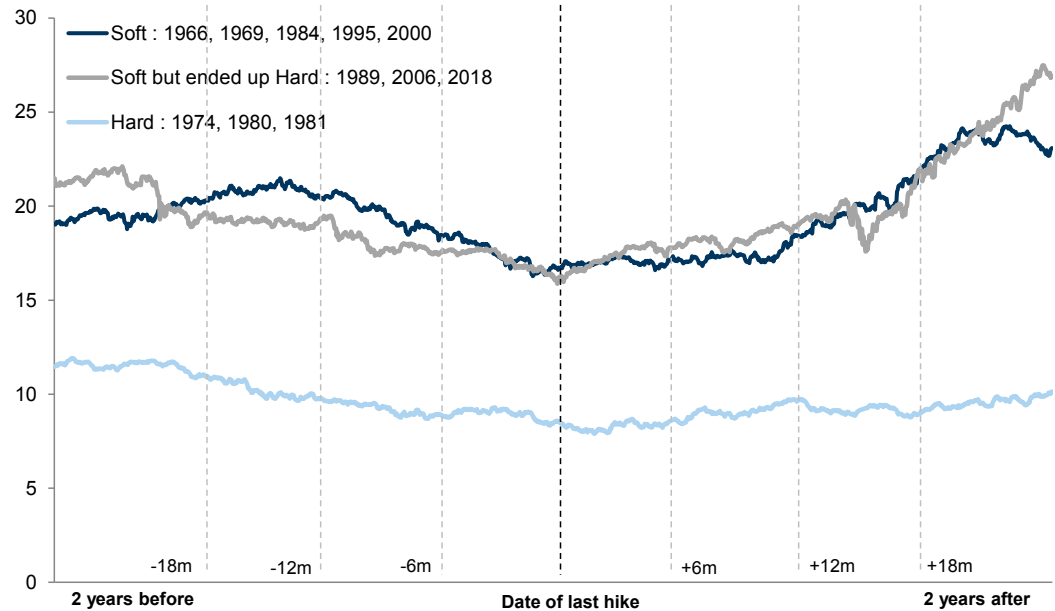


Source: Datastream, Goldman Sachs Global Investment Research

In terms of valuation, markets tend to de-rate in both soft and hard landing scenarios but the scale of the de-rating tends to be greater in a hard landing and it continues for longer even after the latest rate hike in the cycle.

**Exhibit 14: Markets tend to de-rate in both soft and hard landing scenarios**

12m trailing P/E



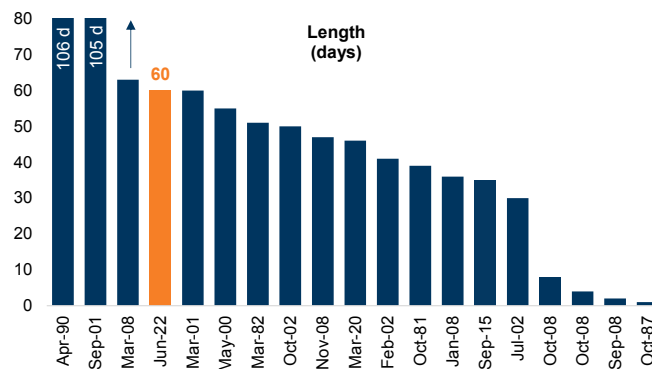
Source: Datastream, Goldman Sachs Global Investment Research

**Why have we experienced a bear market rally and not a bull market inflection?**

The rally that we have seen across equity markets since mid-June in our view was a bear market rally rather than a genuine transition into a new Hope phase. Its duration and magnitude were not unusual relative to the experience of previous decades.

**Exhibit 15: Duration of Bear Market Rallies**

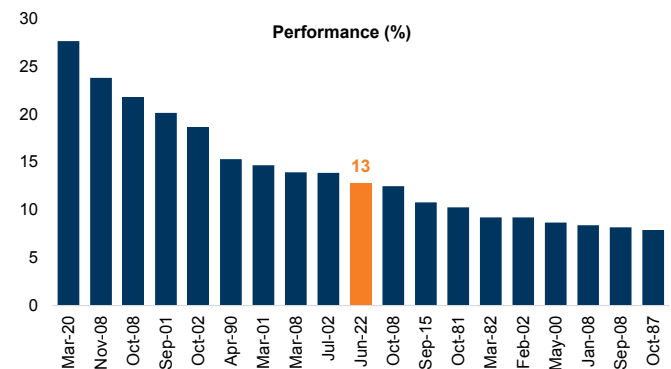
MSCI AC World, Since 1981



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 16: Performance of Bear Market Rallies**

MSCI AC World, Since 1981



Source: Datastream, Goldman Sachs Global Investment Research

It was largely a reflection of growing confidence that inflation is reaching a peak and that the peak in the interest rate cycle (or the 'Fed pivot') is closer at hand than previously feared. This renewed optimism resulted in a 'bad news is good news' regime that has been a feature of a large part of the past cycle when central banks regularly had large dovish pivots during growth slowdowns. As a result, during this rally, equities had been negatively correlated with macro surprises.

The simple lesson from history is that asset corrections that are primarily driven by tight monetary policy usually end around the point when the Fed shifts towards easing (see [Too Soon to Price the Fed Pivot](#)). [Our US strategists](#) have also found that **the approach of the peak in interest rates, or a 'Fed Pivot', in terms of expectations can be powerful triggers for a strong market rebound, particularly in the absence of any major recession. Taking episodes in the US since 1995, the median 3-month return was 9% and the 6-month return was 16% for the S&P 500 following the last Fed rate hike. Only in the case of 2000, which turned out to be a 'structural' bear market and recession, did the market fall after the end of the hiking cycle.**

Since it is not always clear in real time whether the Fed is implementing its last hike, fed funds futures pricing represents a useful signal for investors about expectations for future interest rate moves. Once a hiking cycle has begun, we can define a perceived Fed pivot as the first time in at least a 3-month window that the fed futures market implies less than a 12.5bp increase in the front-end rate within the subsequent six months. In the 7 episodes we looked at using this metric, the median 3-month and 6-month S&P 500 returns following this signal were 7% and 13%, respectively. Although the market is not pricing the final hike until February 2023, the strong rally in risk assets from the June trough has reflected increased confidence that inflation is close to a peak, providing the runway for sharp interest rate cuts. This seems premature.

**We see three reasons why a genuine bear market trough has not yet been reached:**

**1) Inflation and Interest rates will likely have further to rise.** Inflation may be close to a peak but the levels of inflation may stay elevated for some time, putting upward pressure on rates relative to current market pricing. At the same time, our economists argue that there is a narrow path to a soft landing that requires policymakers to (i) slow GDP growth to a below-potential pace in order to (ii) re-balance supply and demand in the labour market enough to (iii) bring down wage growth and, ultimately, inflation. Related to this point, the most recent central bank commentary and the Jackson Hole statement have been hawkish again: it noted that, while it will become appropriate to slow the pace of tightening "at some point," the FOMC remains committed to bringing inflation down. Similar comments have emerged in Europe.

**2) Economic growth is likely to weaken.** Strong private-sector balances may help to moderate any economic downturn but many of the problems that economies are currently facing stem from profound supply-driven issues, not demand. It is not clear that a peak in interest rates alone will provide a lasting solution. Meanwhile, constraints in labour and commodities may well contribute to weaker growth and lower profit margins. While recessions could still be relatively shallow compared with many in the past, there is still a greater than even chance that investors will price more recessionary risk as interest rates continue to rise.

**3) Valuations and positioning are not at extremes.** As we see in the next section, however, optimism over the path for monetary policy and inflation is just one of the factors that typically triggers a recovery into the next bull market. **Valuation and positioning are also important. Since other conditions that are typically in place**

before a sustained recovery are not yet evident, we see the current rally as temporary and not the inflection point marking the start of the real 'Hope' phase.

### **Supply as the problem, not demand**

Related to these issues, the investment picture is also complicated by the scale of the current supply shock. Most inflation periods in the past have been resolved, at least in part, by rising interest rates triggering sufficient demand weakness to alleviate the price pressures. Similarly, most economic downturns have been a function of weaker demand that has been eased by falling interest rates. **The current cycle is different because of the supply-side** issues that have contributed to it. The combination of the pandemic and the war in Ukraine has compounded the problems that reflect a sustained period of under-investment in physical capacity. We have gone from an era of plentiful and cheap supplies of labour and energy to one in which these factors of production are scarce and expensive. The price response to higher prices has also weakened. A focus on ESG investment criteria has reduced the attraction of many traditional energy- and resource-related companies. Meanwhile, the companies themselves have been more reluctant to invest given the short productive life of large investment projects in transition towards a net zero economic model. **This suggests that monetary policy alone will be a more blunt instrument than it has been in past cycles and that some inflationary pressures will likely remain stronger for longer than we have seen in past cycles since the 1970s. Consequently, markets are likely to price a combination of higher terminal rates and greater recessionary risk before a genuine bull market inflection is likely to be reached.**

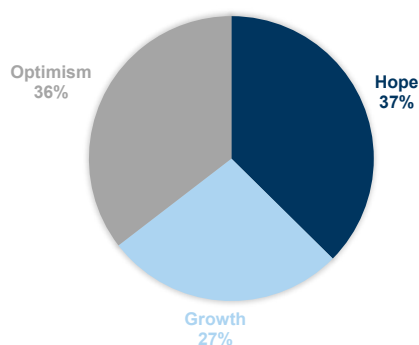


## Identifying the transition from Bear Market to Bull Market

The Hope phase (the start of a new bull market) nearly always begins during recessions when the economy is weak and news is bad. On an annualised basis, the Hope phase is the strongest (but shortest) phase, accounting for around two-thirds of bull market returns (Exhibit 18). **It is important for investors not to miss it. But how can they know that any initial recovery from a bear market is not a temporary rally in an ongoing downturn?**

### Exhibit 17: While the returns on average are fairly evenly distributed across the 3 phases of the bull market...

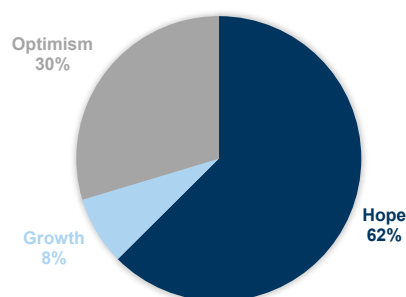
Average returns across the 3 phases of the bull market



Source: Datastream, Goldman Sachs Global Investment Research

### Exhibit 18: ...The length of these periods varies

Annualised return across phases



Source: Datastream, Goldman Sachs Global Investment Research

Transitions between the phases can result in very different drivers and leadership in the market. **Determining whether a market rebound, for example, is just a bear market rally or the start of a genuine inflection point is clear when we look at the data historically. However, the reality is that it can be quite difficult to access in real time. We are left with judgment based on the sets of conditions that have been consistent with inflection points in the past.**

For an investor trying to analyze the probability of different market outcomes in real time, understanding the specific conditions that are likely to unfold around the trough of a bear market can be very helpful.

**We find that historically there are generally 4 sets of conditions that help generate a recovery from cyclical bear markets that include a recession:**

1. Cheap valuations
2. A bottoming in the rate of deterioration in economic activity
3. A sense that interest rates and inflation are peaking
4. Negative positioning

### 1. Valuations & the market inflection

Valuations tend to fall as investors anticipate a recession. However, although a low valuation may be a necessary condition for a market recovery, alone it is not

**sufficient.** [Exhibit 20](#) shows the average percentile for a number of metrics for the global equity market using data from Datastream (Worldscope). This aggregate measure includes 12m fwd P/E, 12m trailing P/E, 12m trailing P/B and 12m trailing P/D (the inverse of DY). Generally, **valuations below the 30<sup>th</sup> percentile of historical averages are associated with positive returns, while extreme high valuations are followed by downturns.**

**Exhibit 19: Valuations below the 30th percentile of historical averages are associated with positive returns**

Average forward return, World

Valuation %ile		Avg fwd return			
from	to	3m	6m	12m	24m
0%	10%	4%	10%	14%	21%
10%	20%	3%	5%	12%	30%
20%	30%	2%	4%	13%	37%
30%	40%	3%	3%	9%	16%
40%	50%	1%	2%	5%	15%
50%	60%	2%	4%	9%	17%
60%	70%	2%	5%	7%	12%
70%	80%	2%	5%	10%	16%
80%	90%	3%	4%	6%	17%
90%	100%	-2%	-2%	-2%	-3%
<b>Unconditional</b>		<b>2%</b>	<b>4%</b>	<b>8%</b>	<b>18%</b>

Source: Datastream, Worldscope, Goldman Sachs Global Investment Research

**Exhibit 20: Global equities do not yet look cheap**

Percentile for World NTM P/E, LTM P/E, LTM P/B and LTM P/D



Source: Datastream, Worldscope, Goldman Sachs Global Investment Research

This is important information as it suggests that even if the market falls further from this point, or there is a risk of further economic deterioration, very depressed valuations do provide a good entry point for investors, particularly for those that have a time horizon of 6 months or more. Nonetheless, **this is only a reliable indicator in isolation if valuations have fallen to extremes. Other fundamental factors, such as growth and policy, are also critical.** On a global basis, valuations are around mid-range taking a history back over 40 years ([Exhibit 20](#)). Typically, this range of percentile in terms of valuation has been associated with modest positive returns over the following year.

**Current assessment: We are not yet at levels consistent with a market trough.**

## 2. Growth & the market inflection

**Equity markets tend to do better when growth is very weak but improving, rather than when it is strong but slowing.** Strong economic growth has a good relationship with returns over the previous year (as markets anticipate it) but it is not always a good predictor of future returns. Typically, the equity market has begun to price a recession on average 7 months prior to the official start of the recession, when looking at the US and using the NBER's definition ([Exhibit 21](#)), and bottoms prior to the end of the recession (see [The recession manual for US equities](#)). **The 2000 recession was the only experience that departed from this pattern.** In that instance, the market continued to decline well after the economic recession ended, reaching a trough 8 months after the recession ended and 30 months after its pre-recession peak. But this was largely a reflection of the scale of overvaluation that preceded it and the structural nature of the bear market with its associated banking crisis.

**Exhibit 21: The equity market has begun to price a recession on average 7 months prior to the official start of the recession**  
United States

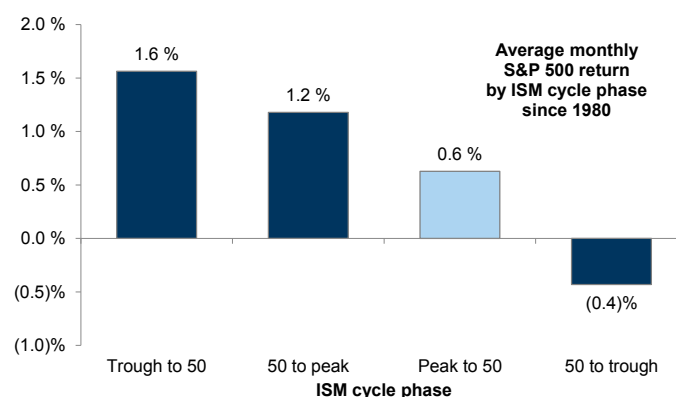
Market peak	Months between market and recession inflection points		
	Mkt. peak to recess. start	Recess. start to mkt. trough	Market peak to trough
Jun-48	6	6	12
Jan-53	7	1	8
Aug-56	13	2	15
Aug-59	9	6	15
Nov-68	13	5	18
Jan-73	11	10	21
Feb-80	0	2	1
Nov-80	8	12	20
Jul-90	1	2	3
Mar-00	12	18	30
Oct-07	3	14	17
Feb-20	0	1	1
<b>Average</b>	<b>7</b>	<b>7</b>	<b>13</b>
<b>Median</b>	<b>8</b>	<b>6</b>	<b>15</b>
<b>Max</b>	<b>13</b>	<b>18</b>	<b>30</b>
<b>Min</b>	<b>0</b>	<b>1</b>	<b>1</b>

Source: Goldman Sachs Global Investment Research

In this sense, market returns are fairly counter-cyclical. For example, if we take ranges of a cycle as it transitions from trough to growth, from growth to peak and so on, **it is actually the period from the weakest point as it improves (but is still weak) that typically generates the highest average monthly returns.** Conversely, the weakest returns are when the economy slows from peak towards contraction ([Exhibit 22](#)).

**Exhibit 22: Weakest returns are when the economy slows from peak towards contraction**

Average monthly S&P 500 return by ISM cycle phase since 1980



Source: Goldman Sachs Global Investment Research

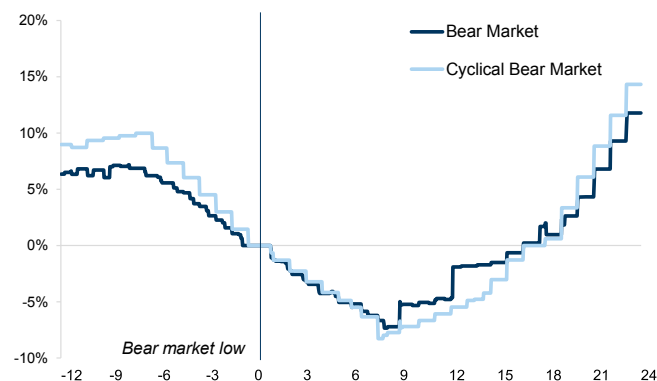
In line with this pattern, **the equity market nearly always starts the Hope phase of the next bull market while corporate earnings are still deteriorating.**

**Most bear markets trough around 6 to 9 months before a recovery in corporate earnings per share ([Exhibit 23](#)) and roughly 3 to 6 months before any trough in**

**growth momentum (using the rate of change in the PMI as a benchmark, [Exhibit 24](#)).** This is why the Hope phase is associated with rising valuations; the price recovery happens *in anticipation* of a profit recovery. In real time, therefore, it is very difficult to know with any confidence whether a deterioration in economic activity is sufficiently priced for investors to start to think that the rate of deterioration is about to slow.

**Exhibit 23: Most bear markets trough around 9 months before a recovery in corporate earnings per share**

United States, S&P 500 Actual Earnings



Source: Robert Shiller, Goldman Sachs Global Investment Research

**Exhibit 24: Most bear markets trough roughly 3-6 months before any trough in growth momentum**

ISM Rate of Change



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Does this mean that there is a particular level or rate of growth that investors should have in mind as an indicator of a potential inflection point during a bear market? The answer is yes, but only when growth hits extremes (much as we saw with valuation).**

For example, using the PMI as a guide to the pace of growth (which has the advantage of being more frequent and timely than GDP), significant weakness is typically followed by strong returns and significant strength is followed by weak returns. This is why we include this indicator as one of the components in our [bull/bear market indicator](#) (see [Bear Necessities; identifying signals for the next bear market](#)). In this model, the higher the level of the PMI, the greater the forward market risk reflected in the index. The exhibits below show the 3m forward returns and 12m forward returns, together with the hit rate of positive returns, following different levels of the PMI. While there is a general inverse relationship, we need to be cautious: **weak PMIs are often a sign that the economy is going to get weaker still.** For example, using US history as a guide when the ISM is below 48, only 66% of the time will it be higher over the following 3 months, whereas when it is below 46, 95% of the time it will be higher over the following 3 months.

**So the PMI needs to be at extremes (either high or low) to be very useful as an indicator on its own. Looking at these, we could argue the following general rules of thumb:**

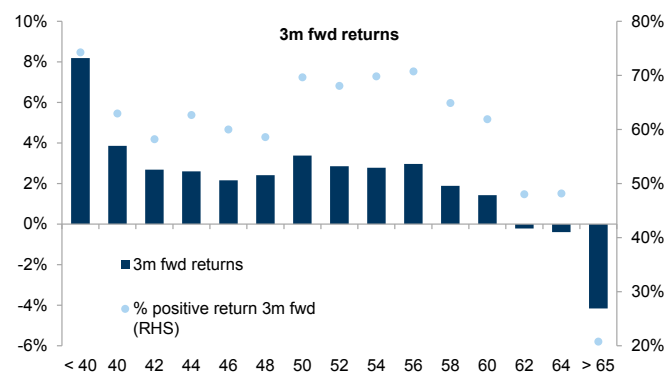
- **ISM <40 – strong BUY signal, you are at or very close to a trough**
- 42-44 – DON'T BUY, we have gone below the point of no return and are now heading for recession
- 46-48 – provided the downturn is mild, this can be an excellent entry point,

especially over 6 and 12m - BUY

- 50-54 – this is more or less ‘normal’ and generally ‘normal’ has been good for US equities – BUY
- **58 or above – SELL, the rate of growth is very likely to slow.**

**Exhibit 25: Significant weakness is typically followed by strong returns...**

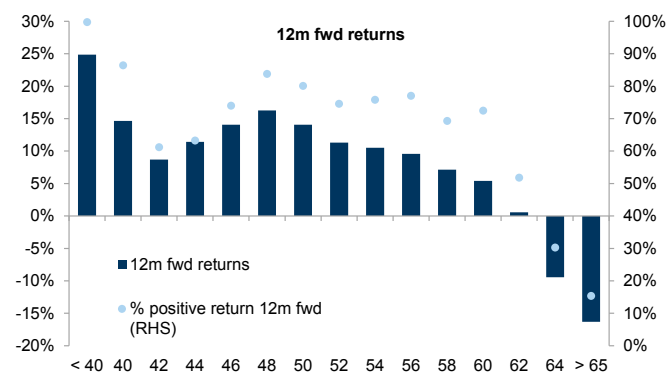
S&P 500, 3m fwd return, % positive return and ISM level



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 26: ...and significant strength by weak returns**

S&P 500, 12m fwd returns, % positive return and ISM level



Source: Datastream, Goldman Sachs Global Investment Research

### Combining Growth and Valuation as a signal

While both valuation and growth play a part in the recovery process from bear markets, each, in isolation, is typically useful only at extremes. What then, can we derive from a combination of valuation and growth signals?

**The tables below combine the ISM with a valuation percentile.** This is based on an aggregate measure taking a mix of 12m fwd P/E, 12m trailing P/E, 12m trailing P/B and 12m trailing P/D (the inverse of DY). Over a six-month period, valuations below average and an ISM below 50 generally give a reasonably good signal.

**Exhibit 27: Over a six-month period valuations below average and ISM below 50 generally give a reasonably good signal**

ISM, S&P 500 valuation percentile and 6m fwd return (%)

Valuation		ISM								
		< 40	38-42	42-46	46-50	50-54	54-58	58-62	62-66	> 65
0%	20%	17%	18%	10%	5%	8%	5%	5%	-5%	-8%
20%	40%	5%	7%	2%	4%	10%	5%	3%	-11%	
40%	60%	4%	2%	9%	7%	6%	4%	-1%	-12%	-7%
60%	80%		17%	3%	10%	5%	4%	6%	-12%	-7%
80%	100%		-5%	-9%	2%	3%	9%	2%	7%	

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

The value of combining these metrics is much better still when we look **at 12 month forward returns. In the ‘Optimism’ phase, towards the peak of the cycle, strong growth trumps high valuations and the market tends to be strong (so long as the ISM doesn’t go above 60). During the ‘Despair’ phase, where valuations are below the 50<sup>th</sup> percentile but the ISM is contracting (below 46), forward returns over a 12 month horizon also tend to be strong. But current conditions are not at these extremes either in valuation or growth.**

**Exhibit 28: When valuations are below the 50th percentile and the ISM is contracting (below 46), forward returns tend to be strong**  
 ISM, S&P 500 valuation percentile and 12m fwd return (%)

Valuation		ISM								
		< 40	38-42	42-46	46-50	50-54	54-58	58-62	62-66	> 65
0%	20%	28%	31%	15%	24%	14%	7%	12%	1%	1%
20%	40%	22%	19%	10%	12%	15%	11%	0%	-10%	
40%	60%	8%	7%	15%	13%	10%	10%	15%	-23%	-29%
60%	80%		47%	23%	17%	7%	10%	9%	-29%	-17%
80%	100%		-18%	-16%	14%	10%	12%	2%	7%	

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

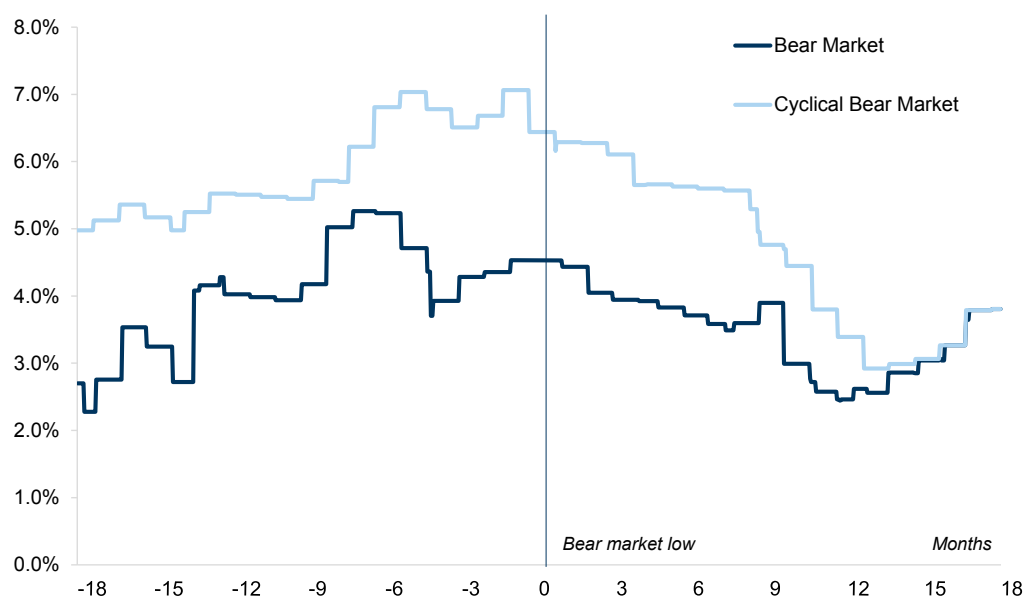
**Current assessment: We are not yet at levels consistent with a market trough.**

### 3. Inflation, interest rates & the market inflection

In addition to weak growth and low valuation, **an easing of inflationary concerns and interest rates is typically also a combination that tends to help the healing process.**

**Exhibit 29: An easing of inflationary concerns and interest rates also typically tends to help the healing process**

United States, CPI since the 1940s



Source: Goldman Sachs Global Investment Research

As we show in [Exhibit 29](#), the market usually falls in the run-up to the peak in headline inflation, just as we have seen in recent months. That said, after the peak, there is a little more variance depending on other conditions, although on average the market does recover, particularly over 6-12 months, and has a better chance of doing so if investors expect a soft rather than a hard landing.

**Exhibit 30: S&P 500 performance and ISM moves around previous peaks in headline US CPI inflation**

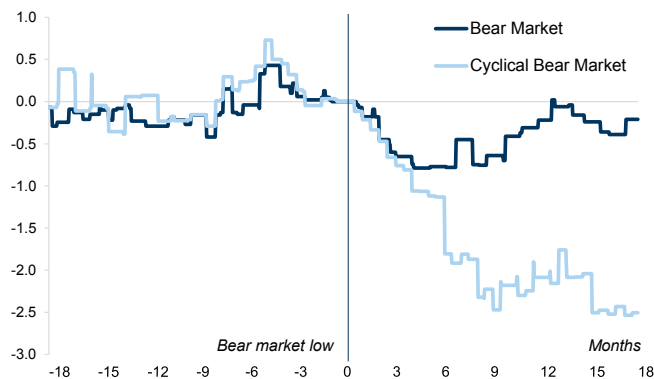
Date	y/y Peak Inflation	Level S&P 500	12m fwd P/E	S&P 500 price return				Level ISM Manuf.	Change				
				3m before	3m after	6m after	12m after		3m before	3m after	6m after	12m after	
Feb-51	9.4%	22		11.7%	-1.3%	6.8%	6.7%	69	6.2	-18.6	-25.7	-27.5	
Mar-57	3.7%	44		-5.5%	7.4%	-3.8%	-4.6%	48	-5.2	-1.6	-1.7	-7.7	
Oct-66	3.8%	80		-4.1%	8.0%	17.2%	17.1%	57	-3.1	-8.1	-14.4	-3.1	
Dec-69	6.2%	92		-1.1%	-2.6%	-21.0%	-0.1%	52	-2.1	-5.1	-0.9	-6.6	
Dec-74	12.3%	69		7.9%	21.6%	38.8%	31.5%	31	-15.3	0.7	14.2	24.0	
Mar-80	14.8%	102		-5.4%	11.9%	22.9%	33.2%	44	-1.2	-13.3	6.5	6.0	
Mar-84	4.8%	159		-3.5%	-3.4%	4.3%	13.5%	59	-11.0	-0.8	-8.9	-11.1	
Oct-90	6.3%	304	10	-14.6%	13.1%	23.5%	29.1%	43	-3.4	-4.0	-0.4	9.9	
Jan-01	3.7%	1366	22	-4.4%	-8.5%	-11.3%	-17.3%	42	-6.4	0.4	1.2	5.2	
Sep-05	4.7%	1229	15	3.1%	1.6%	5.4%	8.7%	57	4.4	-1.7	-2.5	-4.6	
Jul-08	5.6%	1267	13	-8.5%	-23.6%	-34.8%	-22.1%	51	2.3	-12.6	-14.4	-1.1	
Sep-11	3.9%	1131	11	-14.3%	11.2%	24.5%	27.3%	54	-2.1	-0.7	-0.2	-2.9	
Jun-22	9.1%	3785	16	-16.4%				53	-4.1				
				Median	-4.4%	4.5%	6.1%	11.1%	Median	-3.1	-2.9	-1.3	-3.0
				Average	-4.2%	2.9%	6.0%	10.3%	Average	-3.2	-5.5	-3.9	-1.6
				SD	8.4%	11.9%	21.2%	18.7%	SD	5.8	6.3	10.5	12.5

Source: Haver Analytics, Goldman Sachs Global Investment Research

Interest rates also play a part. On average the market starts to recover just before 2-year rates start to fall (Exhibit 31) and typically not until the fed funds rate has actually peaked.

**Exhibit 31: On average the market starts to recover just before 2-year rates start to fall...**

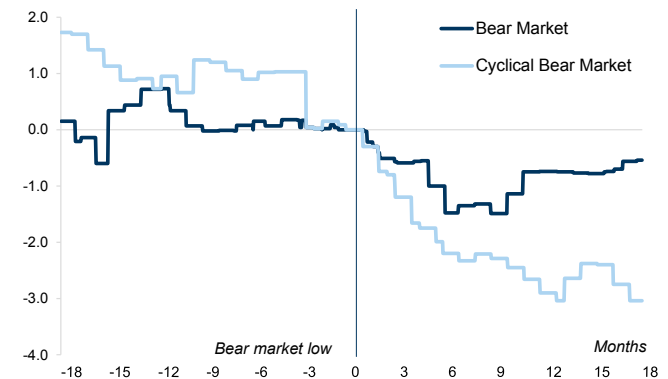
2yr US Treasury since the 1940s



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 32: ...and typically not until the fed funds rate has peaked**

Fed Funds Effective Rate since the 1950s



Source: FRED, Goldman Sachs Global Investment Research

**Combining Growth and Interest rates**

As we have seen when combining valuation and growth momentum, it is really the confluence of factors rather than any single factor that best helps investors judge the trough in the market, or at least the probability of achieving a positive return when buying during a bear market.

Growth momentum coupled with the change in real interest rates is also a useful indicator. As Exhibit 33 shows, taking data back to the mid-1970s, accelerating real GDP is associated with positive returns irrespective of the direction in real rates, while decelerating growth coupled with rising real rates is by far the worst scenario.

**Exhibit 33: Accelerating real GDP is associated with positive returns irrespective of the direction in real rates, while decelerating growth coupled with rising real rates is by far the worst scenario**

US Real GDP growth and Real 10-year Treasury Yield, since mid-1970s

		Real 10-year Treasury yield			
		Falling	Stable	Rising	All
US real GDP growth	Accelerating	19 %	16 %	19 %	18 %
	Stable	14	15	12	13
	Decelerating	8	0	(4)	4
	All	12	11	11	11

GDP (US CAI) 3m avg vs. 3m avg 12 months prior: Accelerating > 1%, Stable between 1% and -1%, Decelerating < -1%. Real 10yr change vs. 12 months prior: Rising >25bp, stable between 25bp and -25bp, falling < -25bp.

Source: Goldman Sachs Global Investment Research

But at the current time it is premature to price the peak in interest rates and the prospect for rate cuts. Equally, economic growth is decelerating and not yet sufficiently depressed to expect the second derivative to be improving.

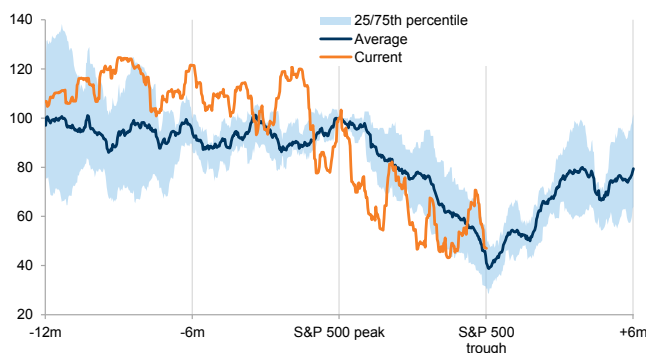
**Current assessment: We are not yet at levels consistent with a market trough.**

**4. Investor positioning & the market inflection**

Historically, troughs in our aggregate positioning and sentiment indicator have broadly been coincident with the bottom in the equity market, when considering both bear markets and corrections (Exhibit 34). However, a prolonged bear market such as the GFC has been characterised by several sharp reversals in positioning before a sustained rebound (Exhibit 35); for details, see [From rough to trough? Positioning and sentiment stabilising despite mixed macro](#). **The real value of this indicator in isolation (like valuation and growth) is when it is at extremes – in this case below the 20th percentile.**

**Exhibit 34: Troughs in our indicator have historically coincided with equity troughs**

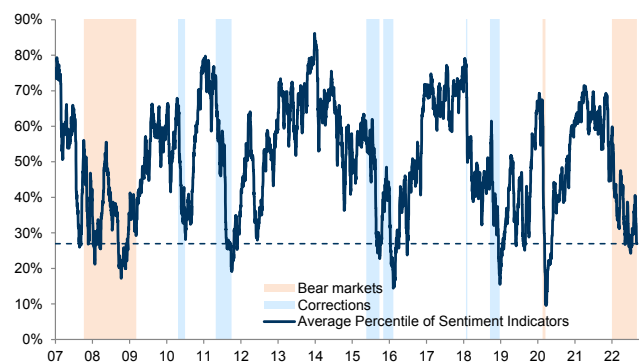
Sentiment and positioning indicator, indexed at 100 at the S&P 500 peak. Data since 2007.



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

**Exhibit 35: Prolonged bear markets can see sharp reversals in positioning before a sustained rebound**

Average percentile of sentiment indicators. Data since 2007.



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

While our indicator tends to be coincident with market developments in aggregate,



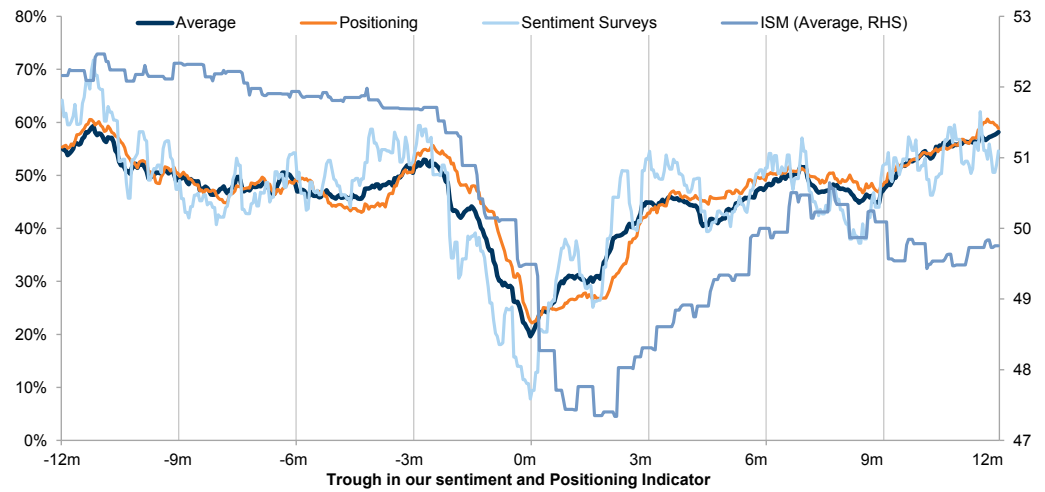
there are some meaningful differences across its sub-components when considering both the trajectory into the trough and the recovery path. For example, the surveys component of our indicator tends to be somewhat leading going into the trough and, even more clearly, it rebounds much faster than other positioning data.

Our sentiment indicator has weakened materially over recent months but it is not yet at the levels from which we can be confident of a positive risk asymmetry.

**Current assessment: We are not yet at levels consistent with a market trough.**

**Exhibit 36: Sentiment surveys tend to peak only slightly earlier vs. other positioning indicators, but rebound much faster**

Positioning and sentiment sub-components. Data since 2007.



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

## Aggregate indicators to guide investors at inflection points

Many of the above conditions can also be amalgamated into tools or indicators that help to gain greater confidence in the likely transition from a bear market into the next bull market (or vice versa).

### **Our fundamentals indicator, GSBLBR**

**One way to analyse this risk is to use our Bull/Bear market indicator (GSBLBR Index). This indicator combines 6 key variables to assess the risk of a bear market or, indeed, an inflection point into a bull market.**

While it is difficult to find variables that consistently turn just prior to a peak in the market, we found 6 variables that, in combination, tend to move in a particular way in the build-up to a bear market. While some of these start to exhibit 'risky' levels well in advance, it is the combination that provides a useful indicator of risk. At the very least, in combination they could provide valuable information after the peak of the market on whether a 'bear market bounce' is genuinely the start of a bigger fall rather than a shorter correction. **These indicators reflect and assess, in aggregate, the factors described above (valuation, growth momentum, policy/inflation and positioning/sentiment).**

**1. Unemployment (a measure of spare capacity)** – rising unemployment tends to be a good indicator of recession: unemployment has risen prior to every post-war recession in the US. The problem is that rising unemployment (and of course recessions) lags the equity market. But we do find that very low unemployment is a consistent feature prior to most bear markets and, in particular, we find that combining periods when unemployment has hit a low with valuations provides a useful signal: the combination of cycle-low unemployment and high valuations does tend to be followed by negative returns and it seems that we are still in this phase.

**2. Inflation (a measure of excess demand)** – rising inflation has been an important contributor in past recessions and, by association, bear markets because rising inflation tends to tighten monetary policy. As we saw earlier, a peak in inflation tends to be one of the contributing factors in a market recovery. But, again, recent data would suggest that while there may be greater confidence that price pressures have peaked, inflation remains high relative to policy rates and it seems premature to price in a rapid moderation in inflation, at least with the absence of a damaging recession.

**3. The yield curve (a measure of monetary policy and inflation expectations)** has moderate value as an indicator in isolation, but if we combine the signal with valuation, we find a combination of flat or inverted yield curves together with high valuation is a useful bear market indicator.

**4. ISM at a high (a measure of growth momentum)** – typically very high levels of momentum indicators, such as the ISM and PMIs, tend to be followed by lower returns when the pace of growth starts to moderate. While the ISM (and other momentum measures such as the PMIs) has weakened significantly, the rate of deterioration has

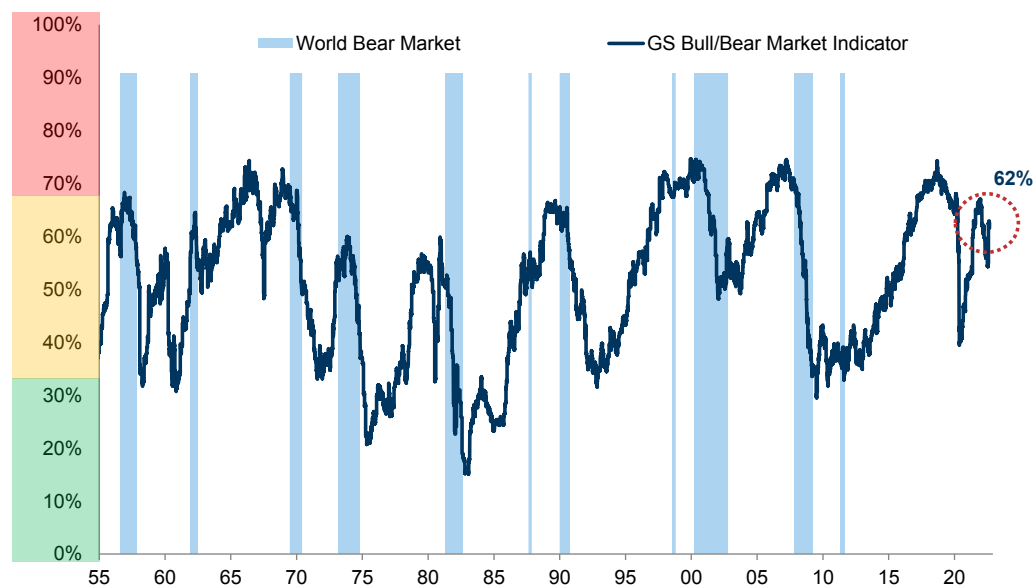
not yet reached a trough.

**5. Valuation (a measure of market expectation and sentiment)** – high valuations are a feature of most bear market periods. So far valuations have come down but remain elevated, particularly in the US and in the growth parts of the market. Global equities do not yet look cheap. Even after the selloff this year, valuations are in line with the long-term average. The forward P/E (14x) is the only metric that looks attractive (in its 20th percentile) but investors are naturally questioning the sustainability of these earnings given EPS have not been revised down (yet).

**6. Private-sector balance (PSFB) a measure of structural vulnerability.** This variable measures the risk of financial overheating by calculating the financial balance as total income minus total spending of all households and firms. We chose the PSFB over alternatives, such as growth in credit or home prices, given its empirical track record and intuitive appeal as a measure of private-sector overspending. To approximate the stock, we use a 3y moving average of the PSFB. The PSFB was flashing a level of risk of 89%, while the 3y moving average is flashing a level of risk of only 5%.

Combining these factors in our aggregate Bull/Bear indicator shows that, despite the drawdown in the market, overall risks remain high and the index remains relatively elevated.

**Exhibit 37: Our GS Bull/Bear Market Indicator remains elevated**  
 GS Bull/Bear Market Indicator (GSBLBR)



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

Looking at the percentiles of the components shows that valuation (here shown as a cyclically adjusted P/E) remains the most stretched and raises risks as earnings will need to be revised down (Exhibit 38).

**Exhibit 38: The percentiles of the components remain stretched**

GS Bull/Bear Market Indicator components

	Level	Percentile
Unemployment	3.7	92%
Shiller PE	28.8	87%
Core Inflation	5.9	83%
0-6 quarter yield curve	0.8	58%
ISM	52.8	45%
Private sector Financial Balance	7.7	5%
<b>GS Bull/Bear Market Indicator</b>		<b>62%</b>

*Note: 100<sup>th</sup> percentile means these variables are at their highest level, except for Private sector Financial Balance, yield curve and unemployment where 100% means they are at their lowest.*

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

**Our Risk Appetite Indicator (GSRail)**

**An additional guide comes from our risk appetite indicator (GSRail).** This is based on the 1y rolling z-scores of several indicators of risk appetite across assets (see [Global Strategy Paper: Disentangling Risk Appetite](#)). We include the following:

- **Equities** (all for MSCI World): ERP, EM vs. DM, Cyclical vs. Defensives, Small vs. Large, Financials vs. Staples, S&P 500 vs. low volatility stocks.
- **Equity volatility**: VIX, VSTOXX, CBOE skew, CBOE put/call ratio (1-month average), EUREX put/call ratio (1-month average).
- **Credit**: USD HY vs. IG spread, EUR HY vs. IG spread, EUR IG spread, USD IG spread, Spain and Italy sovereign spreads, EM USD credit spreads.
- **Bonds**: Germany 10- and 30-year, US 10- and 30-year.
- **FX**: JPY/AUD, CHF/GBP, EUR/USD, Gold and USD trade-weighted.

A sharp rise in the index can send a signal that investors have more risk appetite and are potentially exposed to a correction if consensus views are tested. Similarly, **a sharp decline indicates a reduction in risk appetite, and at extreme levels it can indicate a risk of reversal.**

**While this indicator has reached low levels, it is not at the levels that have historically indicated very positive asymmetry.**

**Combining our Bull/Bear Market Indicator with our Risk Appetite Indicator**

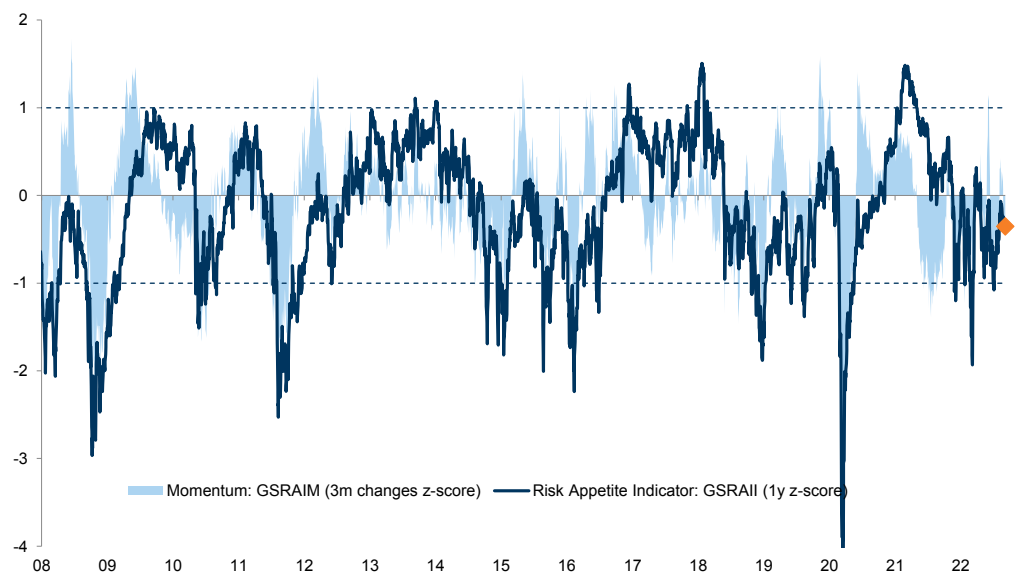
As is frequently the case when we look at inflection points in markets, there is no single indicator that an investor can rely on. **Combining different measures and indicators can help to paint a broad picture that makes the judgment on risk and reward more reliable.** Taking this broad-based holistic approach, **we can combine our Bull/Bear market indicator as a fundamentals-based tool with our Risk Appetite Indicator as a sentiment-based tool.**

In combination, the value of these indicators is greatly enhanced. As **Exhibit 40** shows, when the fundamentals-based indicator is above 65%, the average 12-month forward return is particularly low, irrespective of sentiment and positioning. Towards the trough of the market, when the fundamentals indicator is below 45% AND the sentiment-based indicator is below 1.5, the probability of achieving high returns over 12 months is high. We are not at these levels yet.

**Current assessment: We are not yet at levels consistent with a market trough. It is likely that the market will price a worse combination of growth and interest rates before a sustained trough in equity markets can be established.**

**Exhibit 39: Risk Appetite Indicator level and momentum factors**

See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

**Exhibit 40: When the fundamentals-based indicator is above 65%, the average 12-month forward return is typically negative, irrespective of sentiment and positioning**  
 Average 12m forward return, GSBLBR and GSRAII

Risk Appetite Indicator (GSRAII)		Average 12m fwd return					
		Bull/Bear Market Indicator (GSBLBR)					Unconditional
		< 35%	35% to 45%	45% to 55%	55% to 65%	>65%	
> 1	-	13%	6%	20%	-5%	3%	
1.0 to 0.5	10%	8%	10%	10%	4%	7%	
0.5 to 0	15%	8%	2%	13%	9%	9%	
0 to -0.5	27%	10%	5%	4%	1%	5%	
-0.5 to -1	28%	15%	4%	6%	0%	7%	
-1 to -1.5	22%	22%	7%	9%	-7%	6%	
< -1.5	13%	27%	7%	21%	11%	18%	
Unconditional	22%	11%	5%	9%	2%	7%	

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

**Exhibit 41: When the fundamentals-based indicator is below 45% AND the sentiment-based indicator is below 1.5, the probability of achieving high returns over 12 months is high**  
 % Positive Return, GSBLBR and GSRAII

Risk Appetite Indicator (GSRAII)		% positive return					
		Bull/Bear Market Indicator (GSBLBR)					Unconditional
		< 35%	35% to 45%	45% to 55%	55% to 65%	>65%	
> 1	-	100%	82%	100%	26%	61%	
1.0 to 0.5	100%	87%	86%	82%	59%	74%	
0.5 to 0	87%	79%	51%	85%	75%	75%	
0 to -0.5	100%	81%	48%	62%	58%	63%	
-0.5 to -1	100%	82%	66%	62%	52%	67%	
-1 to -1.5	95%	95%	68%	55%	44%	65%	
< -1.5	100%	100%	57%	55%	74%	80%	
Unconditional	97%	83%	61%	73%	59%	69%	

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

## The Post-Modern Cycle and the Leaders of the Next Bull Market

While we are of the view that equity markets have not yet reached a trough, some necessary conditions are starting to move into place. As we look forward over the next few months, it is worthwhile thinking about some likely characteristics and themes of the next cycle.

**In our Post-Modern Cycle analysis we argued that the period from the early 1980s through to 2020 marked the Modern era.** What we meant by this is that the cycles over this period were different from the shorter and more volatile cycles in the Traditional cycles that preceded it.

The period from the 1982-2020 was also driven by four important secular trends. While these were a function of several factors, they can be broadly defined as:

- 1. Disinflation** - the collapse in inflation and interest rates
- 2. De-regulation** - supply-side reforms, and lower taxes
- 3. De-escalation** - lower geopolitical risk premia (post the collapse of the Soviet Union and US hegemony)
- 4. Globalisation** - the entry of India and China into the WTO
- 5. Digitisation** - the emergence of the digital economy
- 6. Monetisation** - the emergence of zero interest rates and QE post the GFC.

**The combination led to a secular super-cycle of strong asset returns, with a high proportion of returns coming from valuation expansion.**

We have argued that the new cycle will be quite different.

Several of these factors are reversing, at least in part. We would expect to see higher interest rates and cost of capital, which should limit the scope for valuation expansion. At the same time, geopolitical risks are likely to increase risk premia. This may be exacerbated by the threat of greater government intervention and windfall taxes on companies in politically sensitive sectors. Meanwhile, the race to find alternative secure energy sources and desire to increase defence spending should result in more capex and infrastructure expenditure in an environment of greater regionalisation.

Consequently, in what we describe as a **Post-Modern Cycle**, we would expect 5 major drivers:

- 1. Disinflation to inflation, and from negative to positive interest rates:** this should mean lower aggregate returns and less room for valuation expansion to be a driver of returns.
- 2. Globalisation to regionalisation:** A combination of geopolitical issues, decarbonisation (internally the cost of carbon) and technology are changing the patterns of supply chains. This should raise costs but lead to different opportunities.

**3. Cheap & plentiful, to scarce & expensive labour and energy:** A decade or more of cheap input costs has boosted margins, but not productivity. Higher input costs will put downward pressure on margins but incentivise productivity-enhancing investment.

**4. Low capex to more spending, together with larger government with more debt and intervention:** Capex has weakened in recent years while opex on software has increased. A greater focus on priorities such as defence and alternative energy supplies is likely to boost physical infrastructure spending. Governments are also likely to become more interventionist on regulation and spending.

**5. Growth to margin scarcity:** The last cycle rewarded high growth (even in loss-making companies). The focus on margin and cash flow sustainability is likely to increase as investors switch from focusing on valuation-led returns towards compounding returns.

**Collectively, these trends are likely to result in the following themes:**

- **Lower aggregate returns;** a Fat & Flat rather than secular bull market
- **More focus on Alpha than Beta**
- **A greater reward for diversification and buying at attractive valuations**
- **Increased investment to increase corporate efficiency**

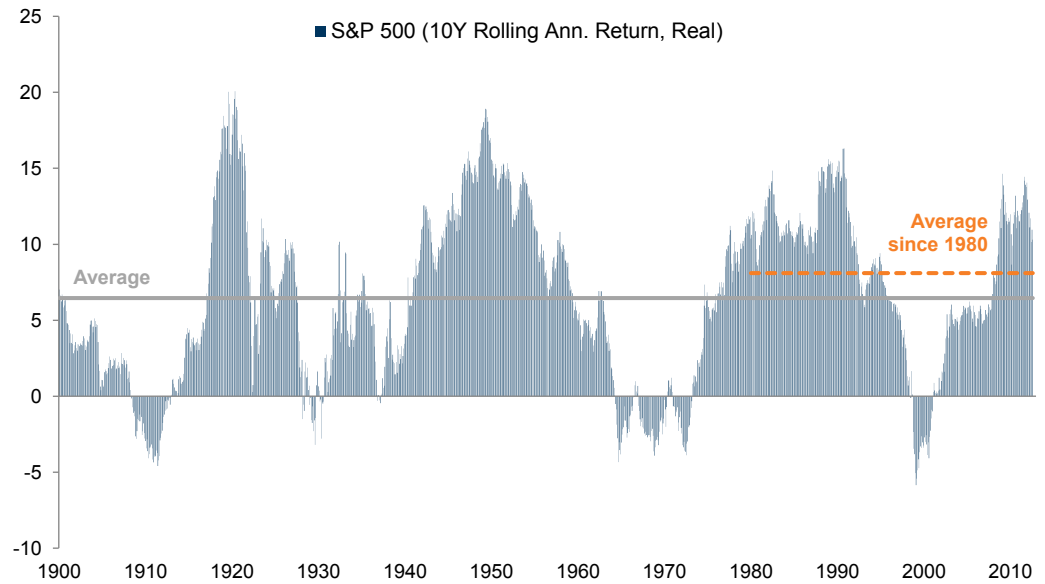
### **Lower Returns; Fat & Flat**

The secular bull market of the 1980s to 2000s was driven by a combination of favourable tailwinds. But the persistent falls in interest rates over this period helped support higher returns through higher valuation. Stocks bought and held between the peak in interest rates in 1982 and 1992 saw annualised real returns of around 15%.



**Exhibit 42: 10-year rolling real returns in US equities bought between 1982 and 1992 annualised at around 15%**

US equities 10-year subsequent real returns (rolling)

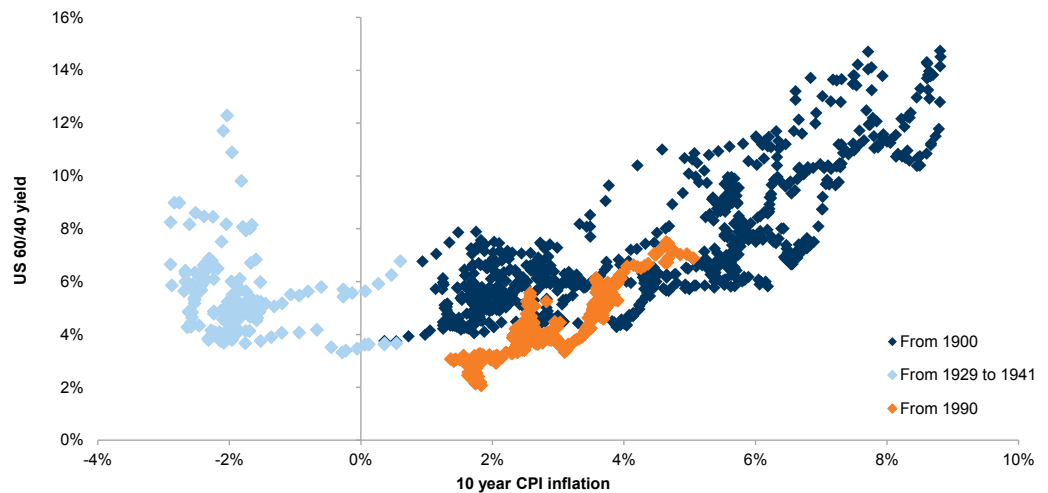


Source: Haver Analytics, Goldman Sachs Global Investment Research

In the decade after the financial crisis this process accelerated. Lower inflation, and interest rates, pushed valuations up further across all financial assets.

**Exhibit 43: Lowflation tends to be supportive of higher valuations**

United States 60/40 yield and 10-year CPI inflation



Source: Robert Shiller, Goldman Sachs Global Investment Research

**The post financial crisis decade should, in particular, be seen as an exception rather than the rule. It is unlikely that the drivers and themes of that cycle will be repeated in the next.**

The near collapse in the banking system that resulted from the bursting of the US sub

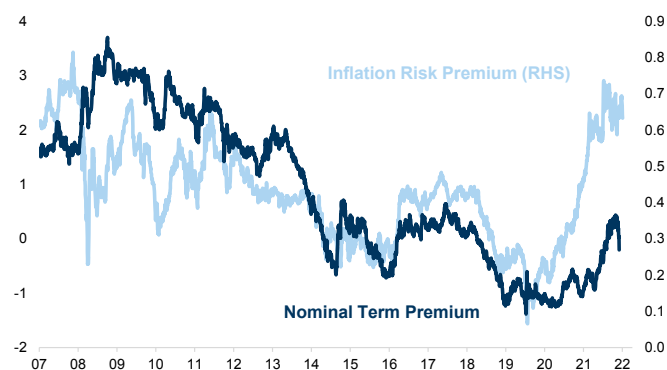
prime housing bubble triggered a series of shocks as the private sector de-levered. While central banks (with the exception of the ECB) were quick to cut interest rates to zero to offset the negative demand shock, it was clear that this would not be enough as financial conditions continued to tighten. The result was the start of QE.

While inflation expectations continued to drift down, and inflation as measured in the real economy was highly constrained, much of this money contributed to huge inflation in financial assets. The best-performing companies were those that had most to gain from the falls in the cost of capital – long-duration growth stocks in particular. Inflation risk premia fell, as did nominal term premia (Exhibit 44). This boosted nominal assets, such as bonds, relative to real assets, such as equities, and the ERP moved to a higher level.

Such was the shift in interest rates that on the eve of the pandemic more than a quarter of all government debt had a negative yield.

**Exhibit 44: Inflation risk premia fell, as did nominal term premia**

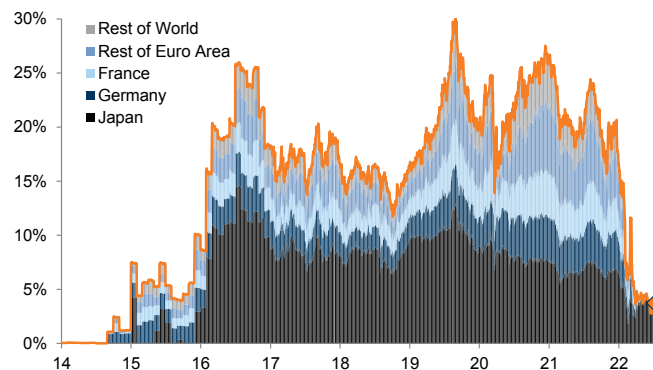
Nominal Term Premium and Inflation Risk Premium (%)



Source: Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 45: Proportion of negative-yielding global bonds**

Negative yielding global bonds across regions



Source: Bloomberg, Goldman Sachs Global Investment Research

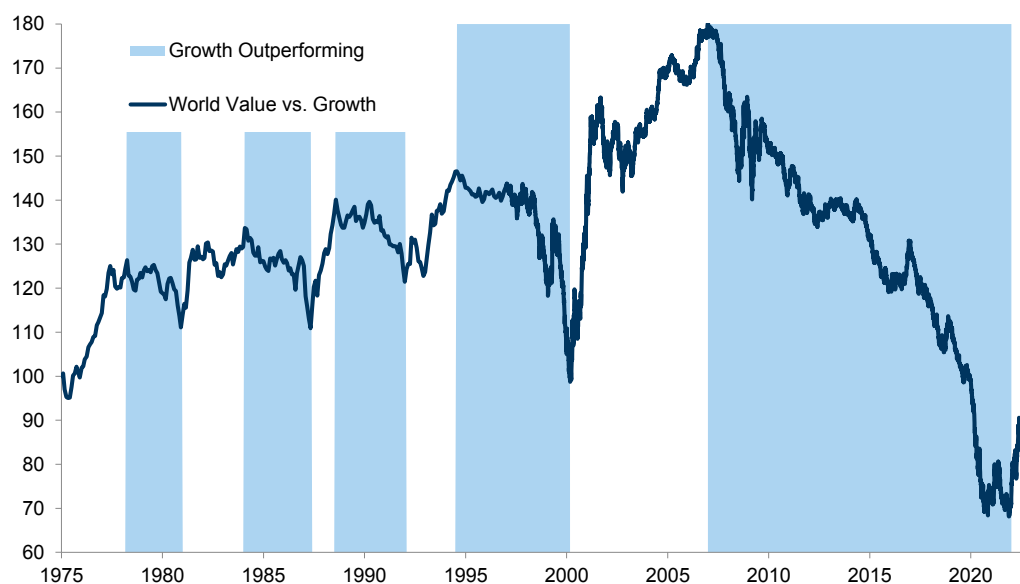
With the absence of ever-lower interest rates, we would expect a less directional bull market and one that generates returns closer to the cost of equity. In general, **we expect more of a Fat & Flat market environment where buy and hold strategies at the index level generate lower price returns in a wider trading range. It should also support an environment where investors move away from nominal assets like bonds and increase exposure to real assets like equities.**

## More Alpha than Beta

Over the past decade in particular, being invested was much more important than what one invested in. The support of ultra-low interest rates and QE contributed to this, although over the long run that is often the case. **However, one of the unusual characteristics of the past cycle was that factors and styles mattered much more than companies.** Growth became highly rewarded almost irrespective of individual company prospects and little differentiation was made between companies that were profitable and those that were not. Similarly, value stocks underperformed no matter the quality or competitive position of any particular company, or whether the company was very cyclical or not.

**Exhibit 46: The secular underperformance of Value vs. Growth is starting to shift**

World Value vs. Growth



\*Monthly Frequency until 1996. Daily Frequency from 1997 onwards.

Source: Datastream, Goldman Sachs Global Investment Research

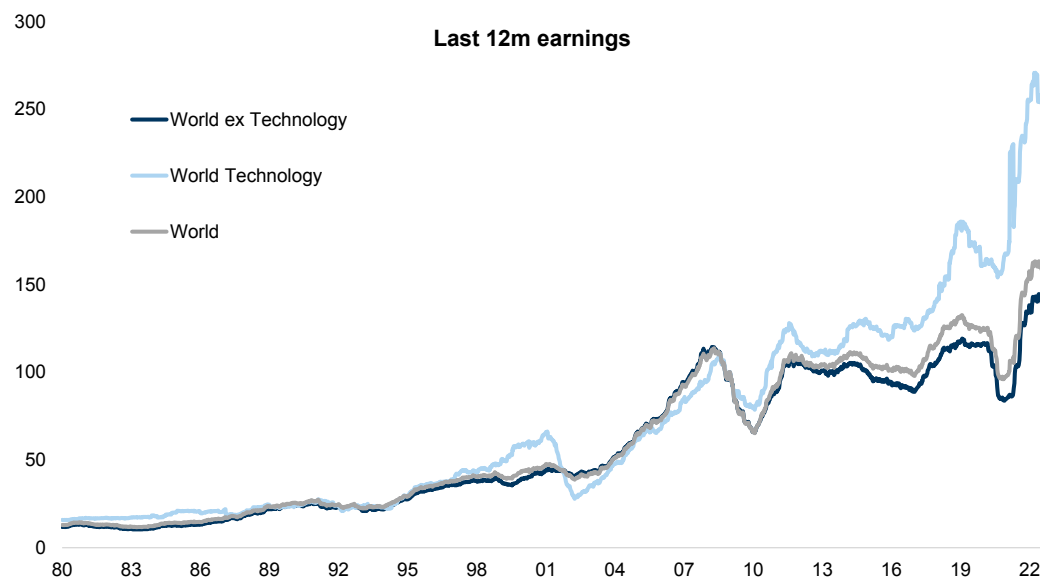
The extent of this factor bifurcation was greater than we have seen historically and there were four major reasons why this has occurred, in our view:

1. **The secular decline in bond yields** and inflation expectations has boosted the value of longer-duration Growth companies (while hitting Value companies most at risk of deflation).
2. **A secular decline in long-term growth expectations**, together with greater uncertainty about growth.
3. **The bifurcation of industry returns**, with impressive growth in the returns of the Technology sector and, at the same time, a secular decline in returns in sectors such as Banks and Energy.
4. **Specific headwinds facing many value industries**. For example, banks needed to de-lever and face tougher capital requirements and regulation, while commodity-related stocks suffered from falling commodity prices.

In the post financial crisis cycle the Technology industry was remarkably successful in driving higher ROE and EPS. As [Exhibit 47](#) shows, the World ex Technology has achieved no progress in terms of EPS since the 2008 crisis.

### Exhibit 47: In the post financial crisis cycle the Technology industry had remarkable success in driving higher ROE and EPS

Last 12m earnings, World Ex. Technology, World Technology and World



Source: Datastream, Goldman Sachs Global Investment Research

**These conditions are changing.** In particular, lower interest rates are likely to be less of a driver in the axis of performance between short and long duration. Furthermore, the relentless rise in Technology margins appears to be reaching a peak, while the returns are rising in the previously beleaguered value areas of the market, in particular Energy-related sectors.

**All of this should mean a less 'factor' focused market and one in which there is greater differentiation made between companies across and within sectors.**

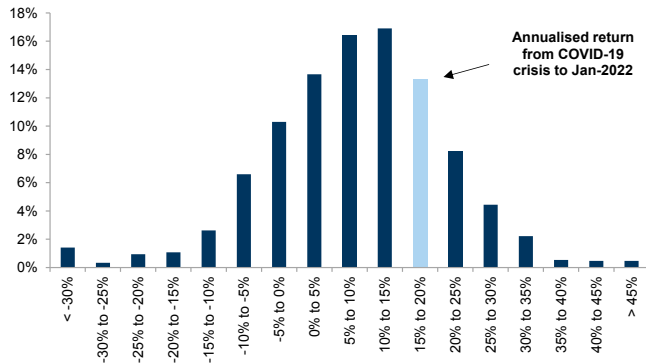
### Diversification

**There are two rules in investing that have lasted the test of time. The first is that diversification helps to reduce risk and boost aggregate returns, and the second is that investors are better off buying assets when they are cheap** (usually when economic conditions are bad) and not when they are expensive (when conditions are typically favourable).

**In the last cycle, these two rules seemed to have lost their validity.** Diversification did not pay off. In a multi-asset setting, holding a 60:40 equity bond split was sufficient to drive record returns without the need to invest in other asset classes.

**Exhibit 48: Since the COVID-19 crisis a US 60/40 portfolio has delivered strong annualised returns**

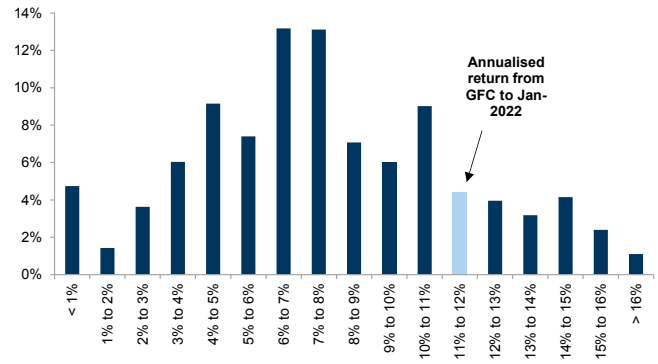
Distribution of 1-year rolling US 60/40 returns (data since 1900)



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 49: Despite the COVID-19 crisis the annualised 60/40 returns since the GFC remain in the top quartile**

US 60/40 portfolio 10-year rolling returns (data since 1900)

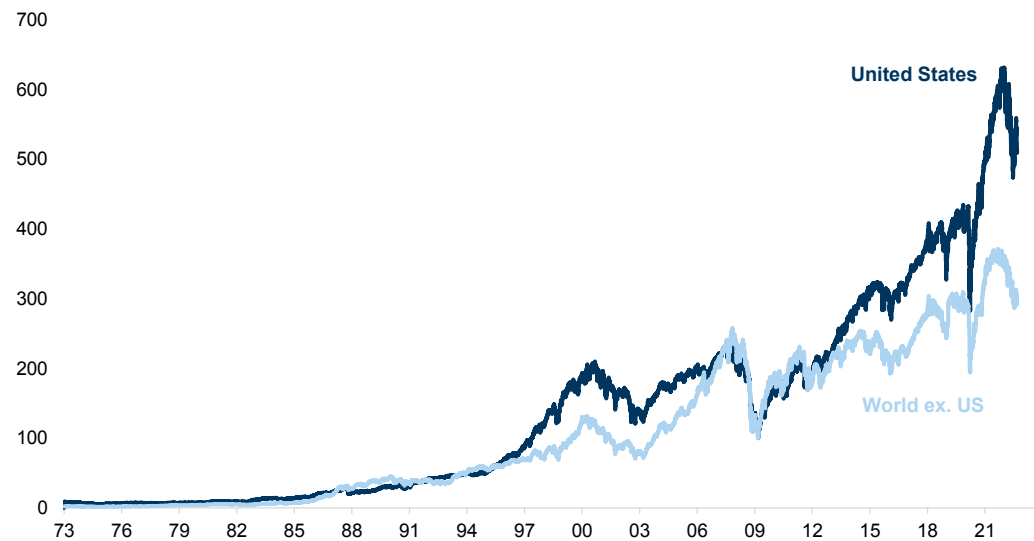


Source: Haver Analytics, Goldman Sachs Global Investment Research

Meanwhile, within equities diversification would have reduced returns given the extent to which both Technology and the expensive US equity market outperformed other sectors and regions.

**Exhibit 50: United States outperformance versus rest of the world**

United States and World ex. US Price Index, Re-based from 2009\*



\*Start of 'Hope' Phase (09/03/2009)

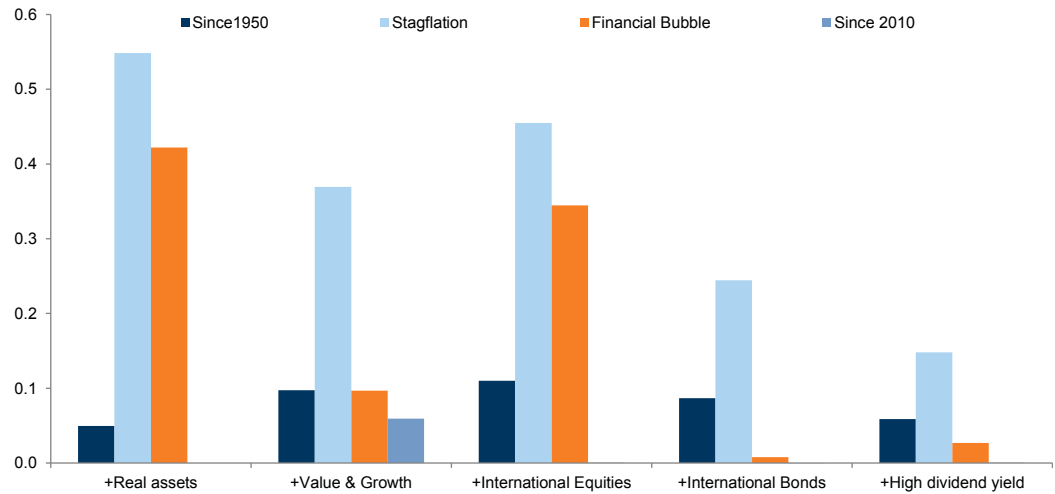
Source: Datastream, Worldscope, Goldman Sachs Global Investment Research

**Furthermore, the higher the valuation, the greater the returns tended to be. Long duration 'Growth' assets enjoyed ever greater outperformance despite becoming ever more expensive.** The beleaguered Value sectors of the market became increasingly cheap as they underperformed.

We expect this to change. As [Exhibit 51](#) shows, in stagflationary periods (the light blue column), adding real assets to a portfolio and increased diversification has enhanced returns. We continue to think investors should diversify more across assets and across geographies to minimise risk and maximise return (see [Global Strategy Paper: Balanced](#)

Bear Despair - Part 3).

**Exhibit 51: During 60/40 'lost decades' our 5 strategies would have materially enhanced Sharpe ratios**  
Improvement in optimal Sharpe ratio from adding assets to a US balanced portfolio (monthly returns)



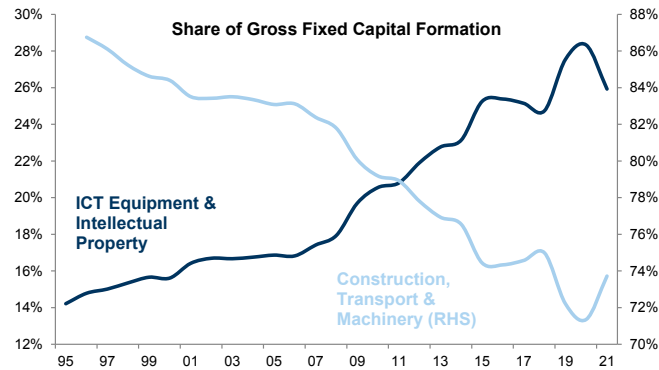
Source: Datastream, Haver Analytics, Goldman Sachs Global Investment Research

**Greater Efficiency**

One of the interesting developments of the past 15 years has been the growth of the internet, and social media in particular. New companies developed near monopolies in a very short space of time. Over this period the attraction of the digital revolution meant an increase in spending on IT and a fall in spending on physical capex.

**Exhibit 52: The aggregate spend on gross fixed capital has declined just as spending on ICT has increased**

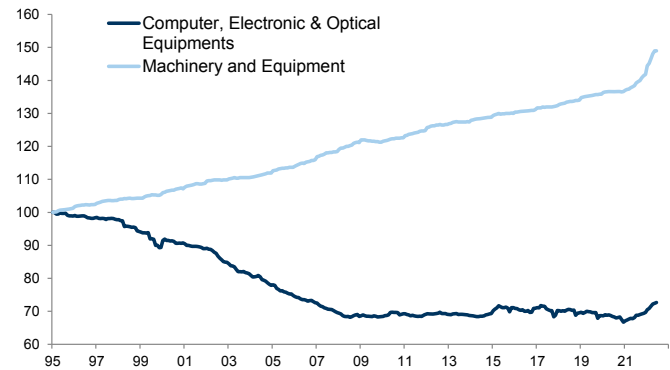
Euro area



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 53: Deflation in technology costs and inflation in capital costs**

Euro area, PPI

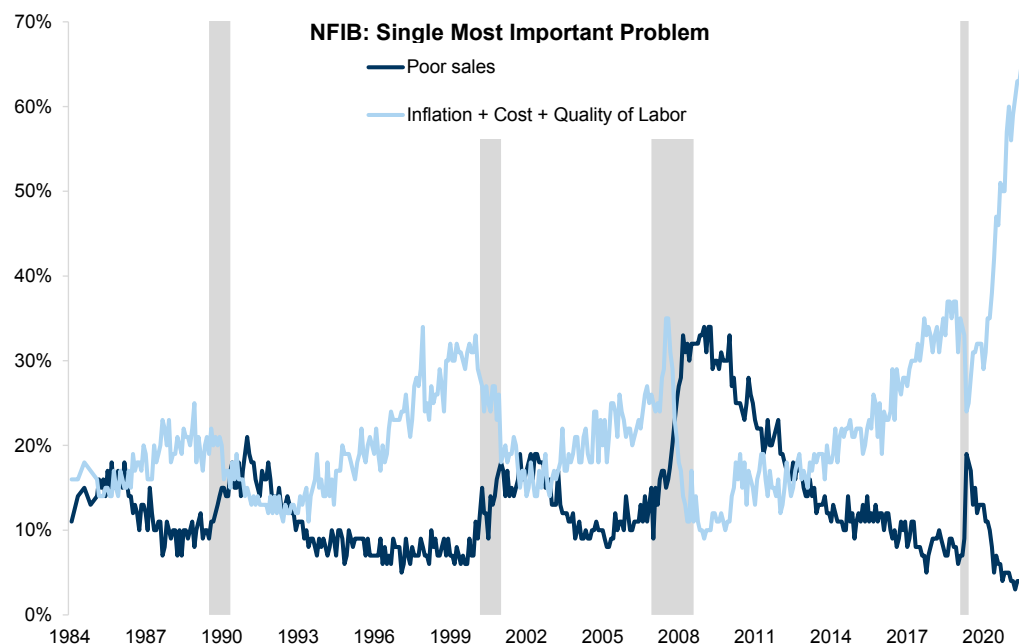


Source: Haver Analytics, Goldman Sachs Global Investment Research

As underlying costs move higher, recent surveys show a significant increase in corporate fears over higher costs ([Exhibit 54](#)).

**Exhibit 54: Recent surveys show a significant increase in corporate fears over higher costs**

NFIB: Single Most Important Problem, Poor Sales and Inflation + Cost + Quality of Labour



Source: Haver Analytics, Goldman Sachs Global Investment Research

Research starting with Habakkuk (1962) has argued that labour scarcity, and the ensuing high wages, led to the adoption of machinery in the 19th century and that the take-up was more rapid in the US than in the UK because of greater labour scarcity in the US. Scarcity of labour and commodities should incentivise more investment in technologies that help to make companies more efficient.

The shift in commodity and labour market dynamics has some interesting parallels with the 1970s. When US President Nixon removed the US dollar from the Gold Standard in 1971, the price of gold rose dramatically and the price of oil in dollar terms fell. Soon afterwards, the 1973 emergency aid for Israel during the Arab-Israeli war triggered the oil embargo and the first oil crisis of the 1970s.

President Nixon's response to this energy crisis was to start 'Project Independence' with the aim of the US becoming self-sufficient in meeting its own energy demands, a move that is being echoed across Western governments today. The programme also called on Americans to make sacrifices, including lowering thermostats in homes.

High energy costs generated significant investment and innovation in energy efficiency. In the US, a number of laws were adopted to increase fuel efficiency in the auto sector, for example the Energy Policy and Conservation Act (1975). By 1985 passenger cars were required to achieve fuel efficiency of 27.5 mpg and manufacturers would be required to pay a penalty of \$5 per vehicle for each 0.1 mpg in excess of the standards.

In a similar way, while higher labour and energy costs are likely to reduce aggregate corporate margins (thereby enhancing the attractiveness of those that can maintain high and stable margins), **corporates should be incentivised to invest more in both**

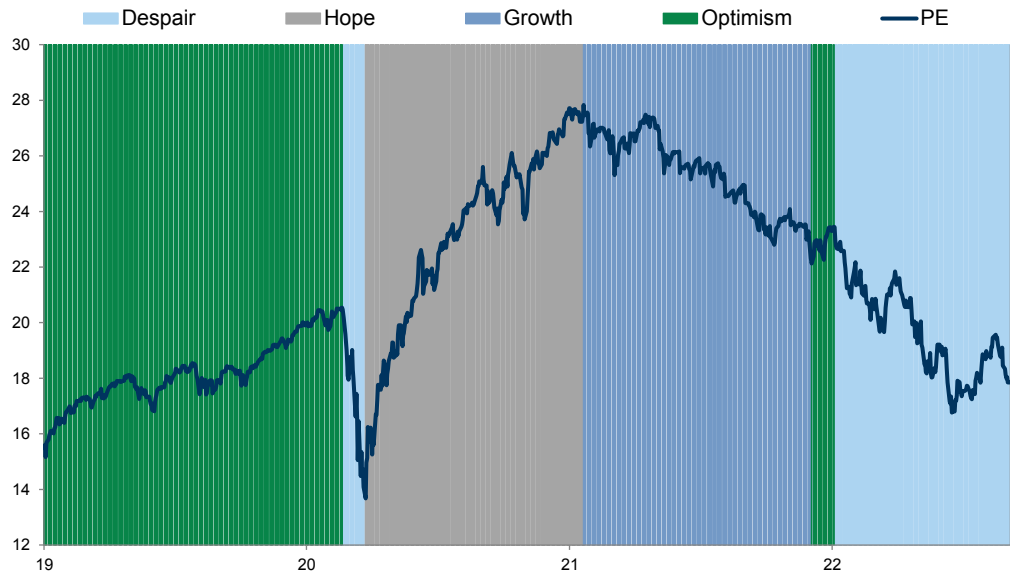
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**energy and labour efficiency. Companies that enable (see [Searching for IDEAs](#)) and help other companies to adapt, should prosper in this environment.**



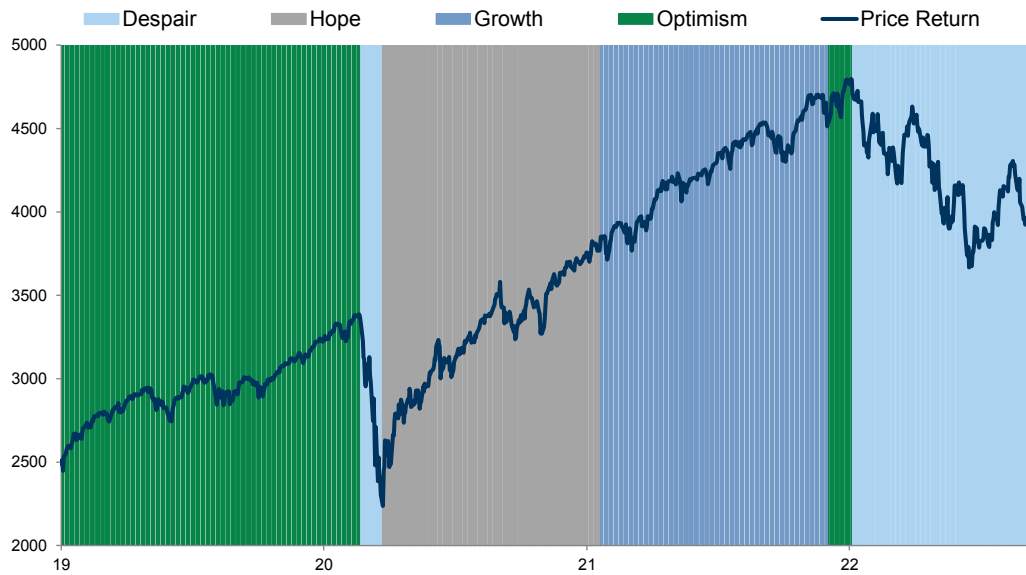
# Appendix

**Exhibit 55: 12m fwd Price/Earnings across phases**  
12m fwd Price/Earnings, S&P 500



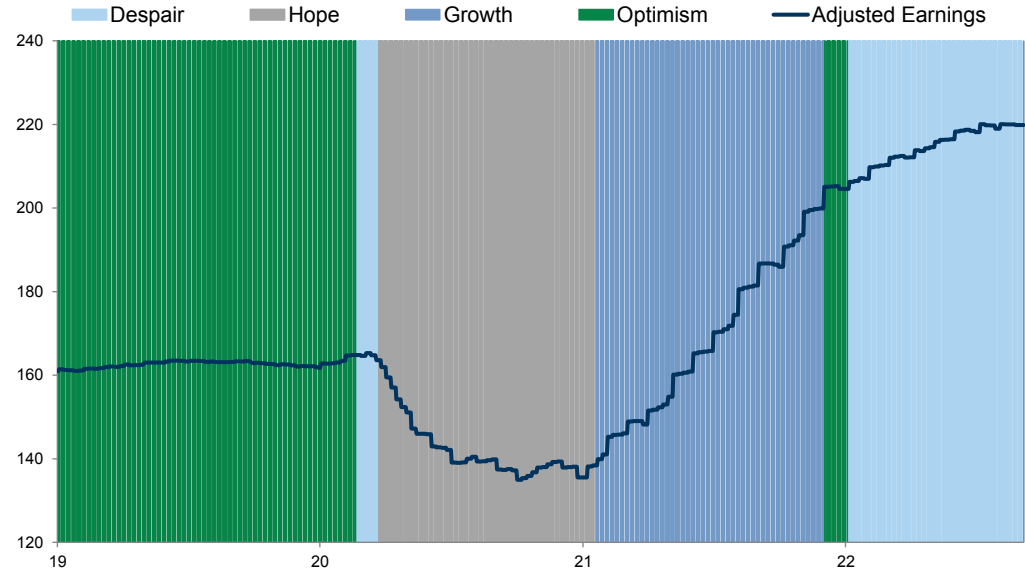
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 56: Price return across phases**  
Price Index, S&P 500



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 57: 12m trailing EPS across phases**  
12m trailing EPS, S&P 500



Source: Datastream, Goldman Sachs Global Investment Research

# Disclosure Appendix

## Reg AC

We, Peter Oppenheimer, Guillaume Jaisson, Sharon Bell and Lilia Peytavin, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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