

Note: The following is a redacted version of the original report published March 9, 2020 [15 pgs].

Global Macroscope

Bear Essentials: a guide to navigating a bear market

The starting point matters: While we have seen a rapid and relatively sharp fall, this does not necessarily mean that expectations have adjusted sufficiently to reflect the growing risks of recession. Equities had a close to record year in 2019 with over 90% of the total returns coming from valuation expansion.

What are equities now discounting? We use three different approaches to benchmark what market action implies in terms of future growth in economic activity and corporate profits. On balance these show that there has been a sharp downgrading of growth expectations. Equities now imply flat earnings growth but not a sharp decline yet - associated with recession.

How much should equities fall in a bear market? We use our bear market framework to look at different types of bear markets. Historically, we categorise bear markets into 3 types, 'structural', 'cyclical' and 'event driven'. At this stage, this looks like an event-driven bear market (average declines have been 29% reaching a trough after roughly half a year and recovering on average within a year).

Balance sheet stress: Stress in the oil market, and with it the credit market, is likely to continue to benefit stronger balance sheet companies. In Europe, strong balance sheet basket (GSSTSBAL) vs. weak balance sheet basket (GSSTWBAL) or, in the US, GSTHSBAL vs. GSTHBAL.

What signals are we watching? We focus on our Global Risk Appetite Indicator (GSRAll) and Global Bear market indicator (GSBLBR). The former has reached levels from which recoveries over one year are very likely, while the latter is showing declining risks from an elevated level. Both suggest that the rebound is likely to be strong when it comes, albeit from lower levels.

Growth vs. Value: Defensive growth has outperformed cyclical and value parts of the equity markets since the financial crisis and the impact of the coronavirus, at least in the short term, further strengthens this trend. This is consistent with the falls in bond yields and heightened growth risk. This is likely to continue until inflation and growth expectations start to inflect higher. When that happens, we should expect a strong rotation in leadership.

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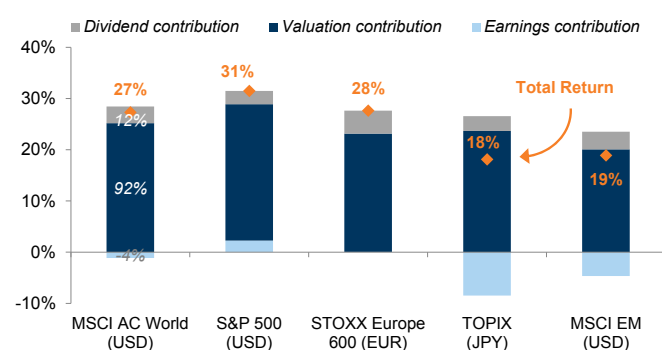
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A sharp fall – but context matters

The falls in equity markets that started on February 19th have been swift; SPX is down 17% in just 13 days. And the decline today - at the time of writing - is the largest in SPX since the Global Financial Crisis. **But a rapid and relatively sharp fall does not necessarily mean that expectations have adjusted sufficiently to reflect the growing risks of recession. The starting point matters.** Equity markets had been on a sharply rising trajectory since January 2019 triggered by the reversal of Fed interest rate policy following the sharp drawdown of end-2018. That correction took many markets down by over 20% (technically a bear market), although the S&P 500 managed to just avoid that threshold with falls of 19%. The shift in central banks' guidance and cuts in interest rates that followed (three rate cuts by the Fed in 2019) helped reverse the tightening of financial conditions that occurred in 2H-2018. But the striking returns in equities through 2019 came despite a stagnation of earnings growth globally. Over 90% of the total returns came from valuation expansion (see [Exhibit 1](#)). So the sharp expansion of PE multiples through 2019 was largely a function of policy easing (see [Exhibit 2](#)).

Exhibit 1: Equity returns in 2019 were driven mainly by multiples expansion



Source: Datastream, FactSet, Goldman Sachs Global Investment Research

Exhibit 2: The shift in central banks stance helped the easing of financial conditions



Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

At the start of this year, and even into February, equity markets shrugged off the impact of the coronavirus for three reasons, in our view. First, there was an assumption that this was predominantly a China problem - enough to disrupt supply chains globally – but not enough to cause a global downturn of significance. Second because many investors used the template of SARS in 2003, and H1N1 in 2009, and argued that the correction was likely to be short-lived. Third because investors came into the year optimistic about a recovery in the global manufacturing sector after the trade-related weakness of 2019 (and the data for January and February for the US and Europe before the impact of the virus really hit tend to suggest this optimism was not misplaced).

In [Correction Detection](#), we argued that the confidence in these comparisons was likely to be too sanguine. The Chinese economy has grown over sixfold since SARS hit, global

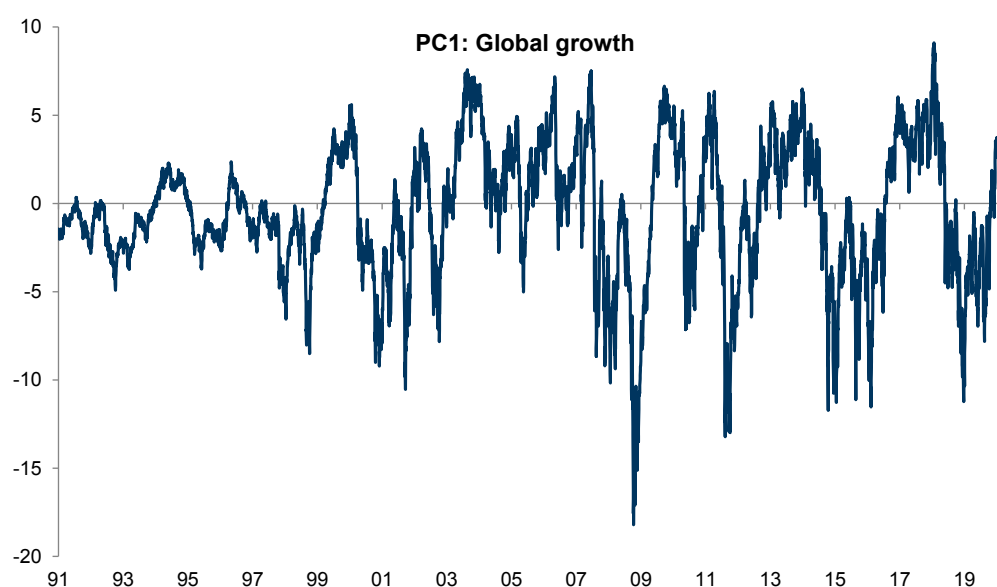
supply chains are more integrated now and, importantly, in both 2003 and 2009 equity markets and valuations were relatively depressed having recently de-rated.

What are the markets now discounting?

It is difficult to say with certainty what the market falls in recent weeks now imply for future earnings growth. There are three approaches that at least give a sense of the growth expectations adjustment that has taken place.

1) Our asset allocation team's Risk Appetite Indicator (GSRAII) is used to focus on the factors that are driving a shift in overall risk tolerance. By isolating the long/short pairs of assets that are most growth sensitive (using principal component analysis), it allows us to gauge how much of a deterioration in growth expectations has been reflected in risk assets. As [Exhibit 3](#) shows, growth expectations have now fallen sharply back to levels that we have seen during the European sovereign debt crisis or close to those during the financial crisis of 2008. This would suggest that a great deal of growth damage has been reflected in markets at this point.

Exhibit 3: Our Global growth factor (PC1 of the Risk Appetite Indicator) reflects the decline in growth expectations



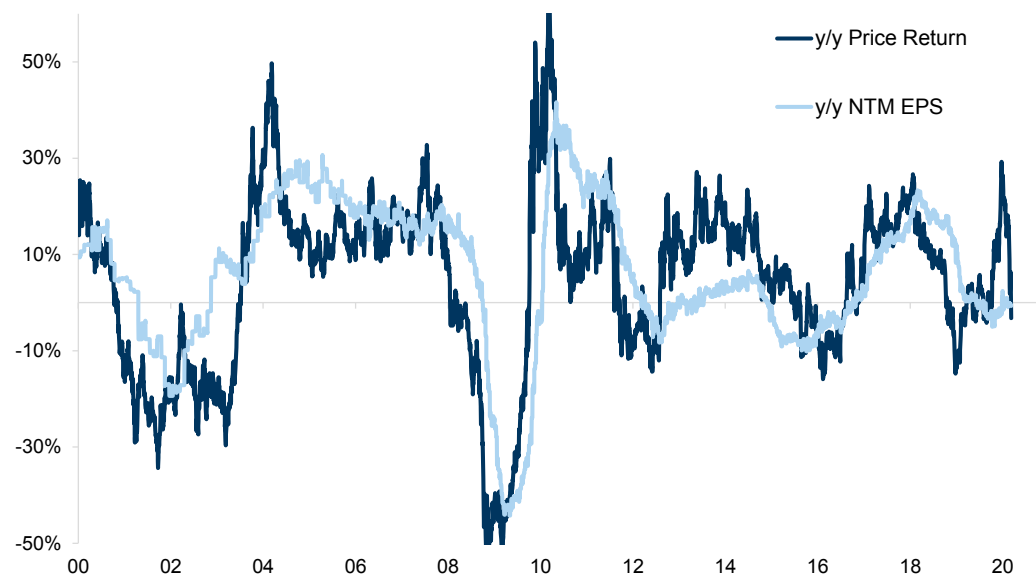
Intraday value at the time of publishing

Source: Goldman Sachs Global Investment Research

2) Second, we can simply compare changes in equity prices with changes in forward expected earnings per share. [Exhibit 4](#) does this for MSCI AC World index.

The relationship is not perfect but it is not bad; the peak correlation is a lag of around 4 months. In other words, price changes today reflect expected earnings in 4 months' time. The sharp rise in equities late last year and early this year implied an expectation that profit growth would accelerate in the region of 10% or more. The falls that we have now seen would seem to reflect an expectation that profits growth globally are now likely to be closer to zero. While this is clearly much more realistic, given the scale of the hit to supply chains and demand, it is by no means the worst case scenario.

Exhibit 4: The correction we have now seen would seem to reflect zero expected profits growth
 MSCI AC World



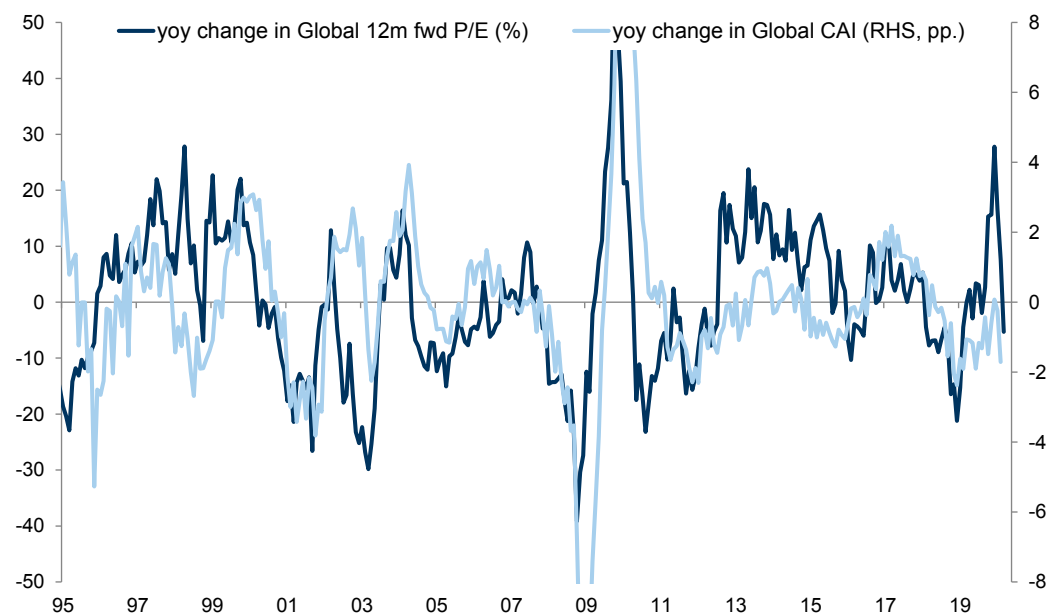
Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

We think there is still downside to these expectations. We already have zero earnings growth forecast in the US, -6% in Europe and +6% in Asia (albeit from negative earnings last year). These numbers are also based on our economists' central assumptions, NOT on the more bearish scenario. If we were to get a more bearish scenario in terms of length and depth of disruption, then profits would likely fall. In a recession, US corporate profits tend to fall 15% on average. In Europe, which is very levered to global trade and growth and has a higher weight in cyclical industries, sensitivity to growth is even more acute. We calculate that a 1% slowdown in sales-weighted GDP is sufficient to push European earnings down by 11%. We downgraded our forecast for 2020 EPS growth for SXXP from 0% to -6%. But a more negative scenario would likely see earnings fall by much more than this - see [*Strategy Matters - Europe: Yearnings for earnings as growth slows*](#), 16 November 2018.

3) Benchmarking Valuation moves with our current activity indicator (CAI). In exhibit [Exhibit 5](#), based on the recent falls in valuation we can see again this would suggest the market is pricing something close to a stagnation in growth rates, rather than a meaningful contraction.

Exhibit 5: Global equities are pricing a stagnation in growth rates

MSCI AC World. Current Activity Indicator (CAI)



Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

How much can we expect equity markets to fall?

To get a sense of how much markets are likely to fall, and for how long, we look at our Bear market framework first published in [Share Despair](#) (2002) and [Bear Repair](#) (2004).

Looking at the long-term history (based on US data), we find that there are different types of bear markets; each type 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 that follows.
- **Cyclical bear markets** - typically a function of 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 does not lead to a domestic recession (such as a war, oil price shock, EM crisis or technical market dislocation).

[Exhibit 6](#) shows the previous bear markets and their classification.

Exhibit 6: US Bear markets & Recoveries since the 1800s

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

S&P 500 - Bear Market					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	9	9
E	Dec-1961	Jun-1962	6	-28	14	18	15	9
E	Feb-1966	Oct-1966	8	-22	7	24	10	8
C	Nov-1968	May-1970	18	-36	21	270	9	10
S	Jan-1973	Oct-1974	21	-48	69	154	15	11
C	Nov-1980	Aug-1982	20	-27	3	8	12	20
E	Aug-1987	Dec-1987	3.3	-34	20	49	45	13
C	Jul-1990	Oct-1990	3	-20	4	6	17	14
S	Mar-2000	Oct-2002	30	-49	56	148	19	11
S	Oct-2007	Mar-2009	17	-57	49	55	32	16
Average			28	-38	60	90	16	13
Median			18	-32	39	49	14	11
Average Structural			42	-57	111	134	20	14
Average Cyclical			27	-31	50	73	14	13
Average Event Driven			9	-29	15	71	19	10

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

Important differences between different types of bear markets

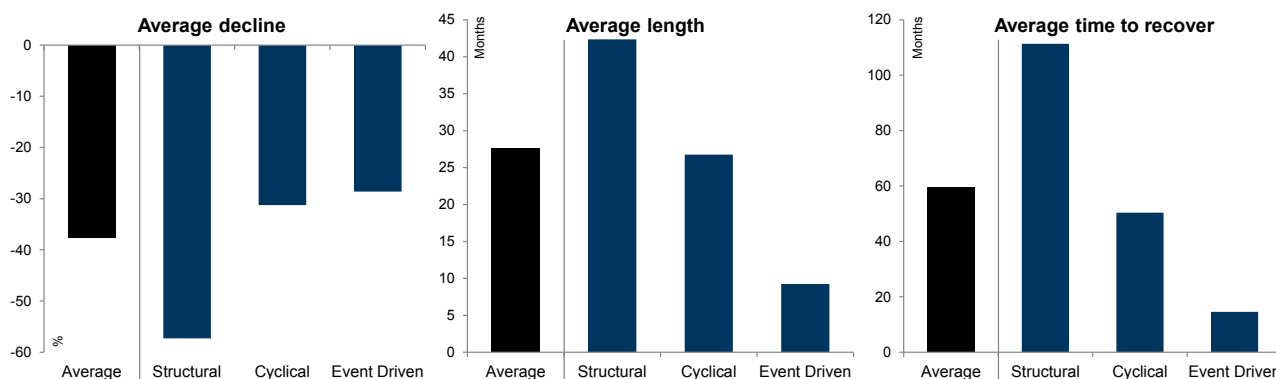
While all bear markets are painful, the different categories have very different profiles.

Importantly:

- **Structural bear markets on average see falls of 57%**, last 42 months and take 111 months to get back to starting point in nominal terms (134 months in real terms).
- **Cyclical bear markets on average see falls of 31%**, last 27 months and take 50 months to get back to starting point in nominal terms (73 months in real terms).
- **Event-driven bear markets on average see falls of 29%**, last 9 months and recover within 15 months in nominal terms (71 months in real terms).

Exhibit 7: US Bear markets & Recoveries since the 1800s

SPX down 17% since peak on February 19, 2020



Source: Goldman Sachs Global Investment Research

If we consider this to be an event-driven bear market – triggered by an exogenous shock - it is worth recapping some of the characteristics. As we wrote in [Share Despair](#) (2002):

“Event-driven bear markets have typically emerged with fairly modest inflation. When there has been deflation, it has been very modest. To some extent it was this more stable monetary environment that prevented the event from causing the stresses that would have turned it into a more sustained bear market. There have been no deflationary periods during event-driven bear markets.”

An event-driven bear market – with a risk that it becomes cyclical

The main difference between a ‘standard’ interest rate led cyclical bear market and an event-driven bear market is less the severity of the fall itself but more the speed of fall and the speed of recovery. These both tend to be faster in an event-driven downturn. Indeed, event-driven bear markets, on average, reach a low in around half a year compared with over two years for a cyclical bear market and nearly 4 years for a structural bear market. Also, event-driven are on average back to their starting point typically within a year, compared to 4 years for a cyclical bear market and nearly a decade for a structural bear market. **At this stage, this looks like an event-driven bear market but** there are three important caveats to make:

- None of the event-driven bear market examples from history were triggered by a virus or other disease outbreak. They’re all different but typically it has been internally market driven (sovereign crisis, LTCM default, program trading collapse or maybe political, etc.) and therefore a monetary response has often been more effective whereas this time it’s not clear that it will be. This is partly because interest rate cuts may not be very effective in an environment of fear where consumers are forced, or just inclined, to stay at home.
- None of the previous examples were in periods where the starting point of interest rates has been so low (and in some cases negative). This could raise the concern in markets that there is less room for an effective policy response.
- In previous periods when there have been viral shocks, such as SARS, the equity markets tended to rebound when the second derivative of infections started to

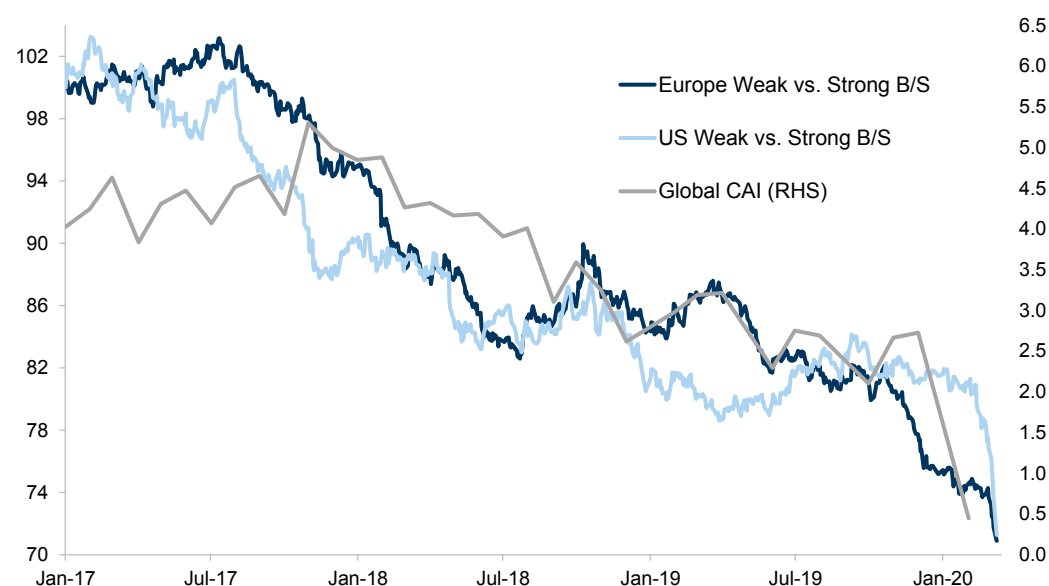
improve. While this may be true in China, it is clearly not true in many other parts of the world, so the fear factor around the economic shock from preventative measures may push markets further down in the meantime.

Credit markets and the risk to weak balance sheets

Given the risks to balance sheets in a recession, it has been surprising credit has, until recently, held up well. True there has been an up in quality trade but equity markets have been heavily punishing weak balance sheet companies for a while.

Exhibit 8: Sharp sell-off in credit-exposed equities

Performance: Europe Strong Balance Sheet (GSSTSBAL), Europe Weak Balance Sheet (GSSTWBAL), US Strong Balance Sheet (GSTHSBAL), US Weak Balance Sheet (GSTHWBAL)



Source: Goldman Sachs Global Investment Research

With the recent collapse in oil prices, the risks in the high yield credit market

increase. Furthermore, the growing risks of a global recession – or even the risks that this is priced as a likely scenario – make credit look very vulnerable. All of these things increase the chances of an event-driven shock morphing into a more entrenched cyclical bear market as investors price the probability of sharp falls in corporate profits into a recession. An example of this in history was the 1973 bear market. What started as an event shock – the oil spike of 1973 – triggered other related problems and a deep recession which resulted in a much deeper and prolonged equity downturn.

Our best guess is that equities see a peak to trough fall of around 20 – 25%. This would be the typical magnitude of a drawdown in an event-driven bear market (and similar to what we might expect if we end up with recession and a cyclical bear market). The difference between the two outcomes will be more about timing and spread of recovery than in the depth of the falls.

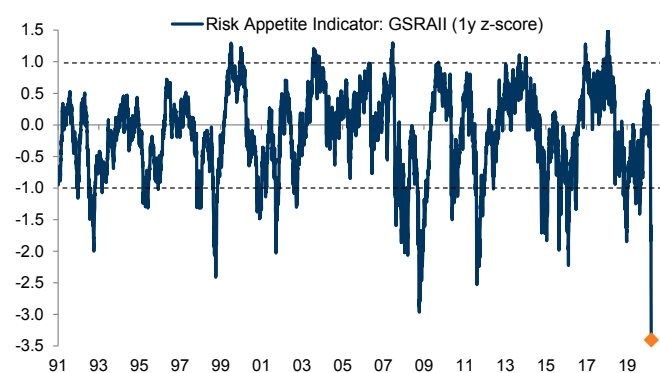
At this stage, we think the balance is still more in favor of this being an event-driven bear market, suggesting that the rebound in equity markets will be swift, but from a lower level - likely between 5% and 10% lower from today's level.

Signal to watch for:

There are two particular models that we are watching closely for signs that markets are approaching a buying point, particularly for longer-term investors.

1) Our Global Risk Appetite Indicator (GSRALI): This is calibrated such that levels below -2 historically indicated better asymmetry for taking risk over the 12m horizon (above-average S&P 500 returns and better hit ratios for positive returns). However, results for 3-6m horizons were more mixed and depend a lot on growth/ policy as we discussed [here](#) – in the GFC the RAI dropped to -2.96 before recovering. To cap negative tail risk near-term you usually required some perceived shift in growth momentum and/ or policy response. The recent sharp sell-off has resulted in the GSRALI falling below 2.0 suggesting that for longer-term investors the asymmetry is starting to look positive. As [Exhibit 10](#) shows, all of the main components of the index have also now moved sharply down together, pointing to a broad-based reflection of risk (until recently only volatility measures had fallen very sharply).

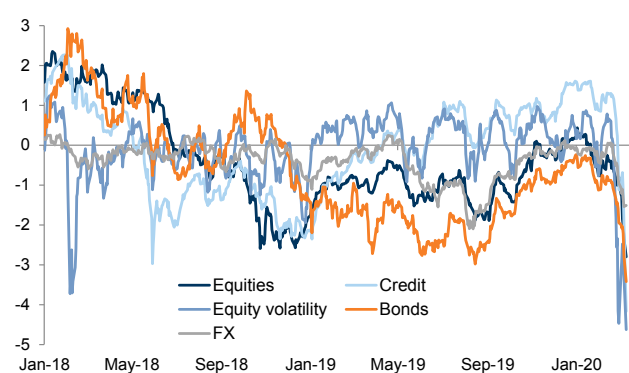
Exhibit 9: Our Risk Appetite Indicator has dropped below -2, which historically signalled better asymmetry to add risk
Risk Appetite Indicator (RAI)



Intraday value at the time of publishing

Source: Goldman Sachs Global Investment Research

Exhibit 10: The recent fall in RAI has been broad-based with a sharp decline in credit
RAI by asset classes



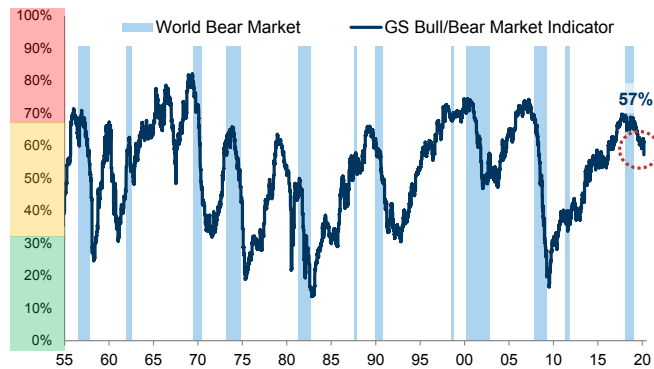
Intraday value at the time of publishing

Source: Goldman Sachs Global Investment Research

2) Our Global Bull/Bear Market Indicator (GSBLBR). This is based off an assessment of 6 major factors. Encouragingly, the recent measures have come down from the peak levels that we have seen. This both suggests less room for downside risk and higher likelihood of stronger, longer-term returns. That said, the factors underlying this model are showing conflicting signals at present. Generally low unemployment (a risk to margins), a flat yield curve and a high valuation are all pointing to vulnerability. On the other hand, low core inflation, a depressed level of the US ISM (growth momentum) and strong private sector balances are a structural support for the markets.

The biggest risk from here in terms of this model is probably in unemployment. Historically, every US recession has been preceded by a small rise in unemployment. If this were to happen, it would likely imply greater risk of recession and falling profits. On the other hand, an important support would come from a reasonable de-rating in valuation, particularly given that risk-free rates are now at a record low and our US economists forecast a further 100bp of fed funds rate cuts through to April.

Exhibit 11: Our Bear Market Indicator remains at elevated levels...
 Bear Market Indicator (GSBLBR Index), shading: MSCI World drawdown >20%, before 1969 S&P500 drawdown >20%



Source: Goldman Sachs Global Investment Research

Exhibit 12: ...driven by an inverted yield curve, low unemployment and high valuations

Current level of GS Bear Market Risk Indicator's sub-components

	Level	Percentile
Unemployment	3.5	95%
Shiller PE	25.6	80%
0-6 quarter yield curve	0.4	77%
Core Inflation	2.3	41%
ISM	50.1	30%
Private sector Financial Balance	5.2	21%
GS Bear Market Risk Indicator		57%

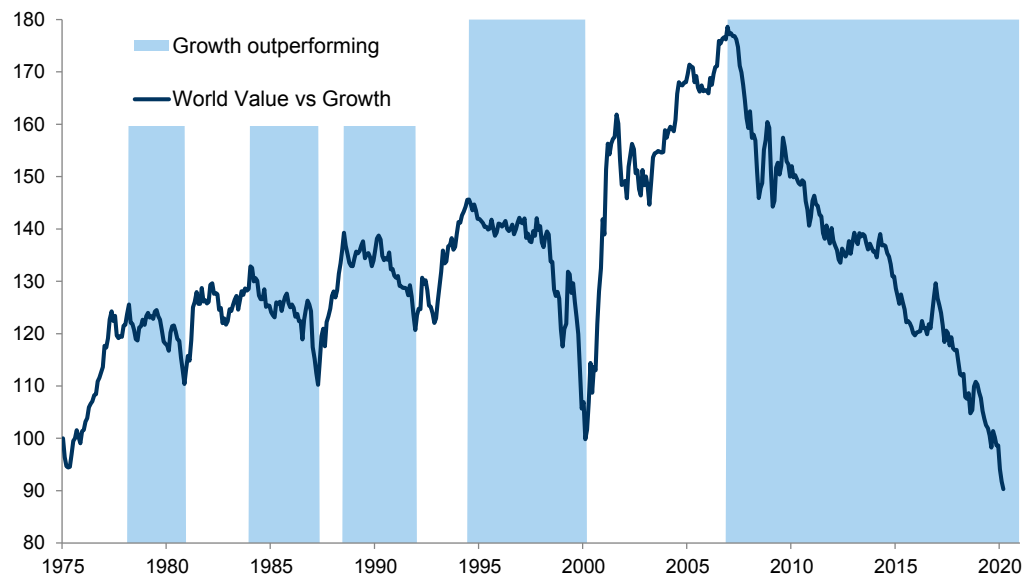
Note: 100th percentile means these variables are at their highest level, except for Private sector Financial Balance, yield curve and unemployment where 100% means they are at their lowest.

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

Growth versus Value: Not yet at a turn

Since the financial crisis, there has been an almost relentless underperformance of 'value' (cheap stocks) and 'Growth' (those with stronger growth expectations) (see [Exhibit 13](#)). In a similar vein, defensive stocks have outperformed more economically sensitive cyclical ones. The 'defensive growth' stocks - the ones that combine stronger growth but with low historical volatility of ROE - have performed very well.

Exhibit 13: MSCI World Value vs Growth
 Price performance in local currency



Source: Datastream, Goldman Sachs Global Investment Research

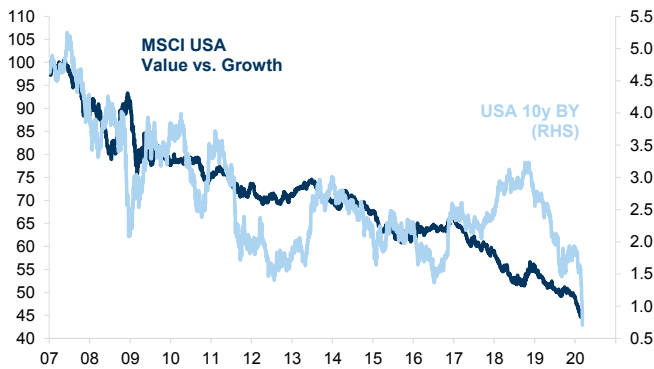
We have long argued that this is a function of three things:

1) Constant falls in bond yields.

This has been bad for cyclical and value stocks (as it reflects weaker short-term growth

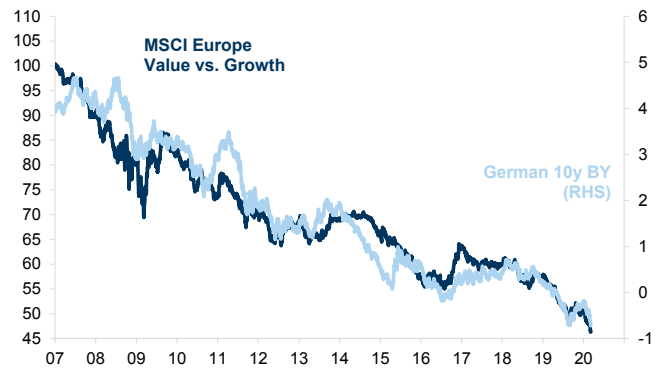
prospects) but better for growth given higher duration (see [Exhibit 14](#) and [Exhibit 15](#)).

Exhibit 14: US Growth has outperformed Value in price terms with decreasing bond yield
Indexed to 100 in 2007



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 15: The same holds for European equities
Indexed to 100 in 2007



Source: Datastream, Goldman Sachs Global Investment Research

2) The scarcity of growth.

This has resulted in investors paying a premium for the fewer companies that they consider able to generate growth, irrespective of the economic cycle. Globally, the proportion of higher top-line growing companies in equity markets has fallen since the financial crisis while the proportion of slower-growing ones has increased. This is particularly true in Europe ([Exhibit 16](#)).

Exhibit 16: The proportion of high top-line growth companies has fallen
STOXX Europe 600. Based on consensus FY3 growth



Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

3) Industry disruption.

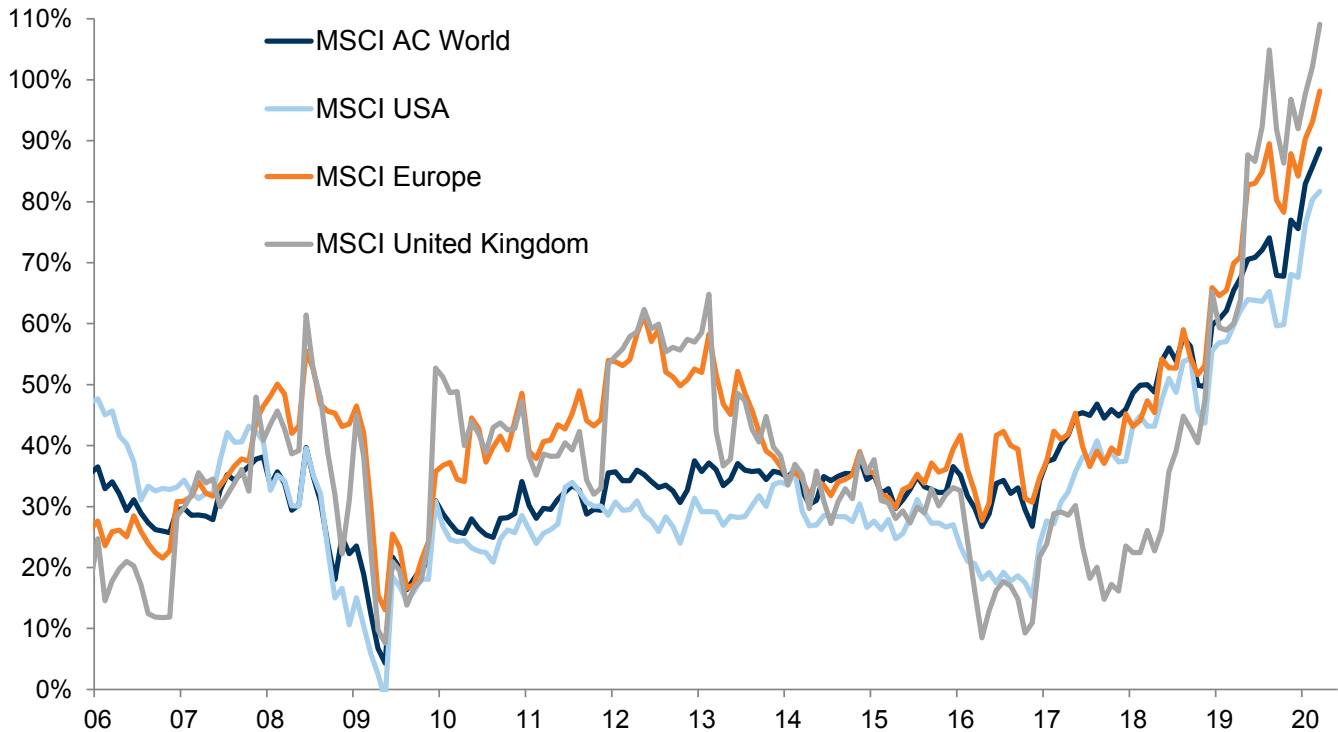
Many industries that are mature are seeing significant disruption of their business models because of environmental changes (oil companies for example), or technological

changes (financials for example), or both (autos, for example). The recent collapse in oil prices and yet lower bond yields have exacerbated this trend, particularly for the oil stocks and financials.

Our view remains that these trends continue unless, or until, bond yields and inflation expectations rise and investors start to price a strong cyclical rebound.

The valuation spreads between growth and value have become extreme ([Exhibit 17](#)).

Exhibit 17: The valuation spreads between growth and value have become extreme
 12m fwd P/E Premium of MSCI Growth vs Value indices



Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

This suggests that when the market reaches a trough, the recovery will likely be lead by the cyclical and value parts of the market. But we are not there yet.

Disclosure Appendix

Reg AC

We, Peter Oppenheimer, Sharon Bell, CFA, Lilia Peytavin and Guillaume Jaisson, 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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