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Independent Thinking

IN DEPTH

$£€¥ Markets

Equity outlook: valuations through a macro lens

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Late last year we argued that, on a fundamentals basis, equity markets were overvalued by some 40%. Using the framework of a simple dividend discount model, we reached this figure by asserting that investors' expectations about the long-run real rate of interest would move into line with investors' expectations about trend growth across the major economies. The 'r-g gap', in short, would close, just as it always had in the past. Since we wrote that note, a resurgence in market volatility has jolted investors' confidence, and they seem to have finally dropped the hippy rose-tinted glasses in favour of the lens-less hipster model.

In this *In Depth* note, we propose a complementary, market-based framework to specifically to shed some light on the likely path for returns leading up to the closing of the 'r-g gap'. We find that, over the next 18 months, a major correction is unlikely to materialise. Volatility is likely to persist, but with prices trending higher. We recommend that clients keep an eye on any deterioration in the macroeconomic cycle, as flagged by our own ESI, for further evidence of a market top.

Lifting the CAPE of invincibility

Combining both the macroeconomic cycle and valuations provides a better predictor of expected returns than either indicator on its own. The cyclically adjusted PE (CAPE) for the US is the valuation indicator of choice. Although widely used, and sometimes abused, the raw CAPE has notable shortcomings when used in an investment context. A low degree of mean reversion is perhaps its major drawback — it has a half-life of 11.5 years. To illustrate the scale of the problem, using the whole distribution since 1881, CAPE has appeared in the most expensive quintile 50% of the time since 1950, and 85% of the time since 1990. Equally, it has featured in the cheapest quintile only 15% of the time since 1950, and not at all since 1990. As absurd as it might sound, not even the great financial crisis was enough to push CAPE within the cheapest 20% of its long-term sample. To derive more meaningful conclusions over our sample of interest, which broadly covers the past 30 years, we adjust CAPE by removing an expanding window quadratic trend.[1] All subsequent references to equities being 'cheap' or 'expensive' are based on this detrended measure of CAPE.

1. A full explanation of why we decided to remove a quadratic trend is beyond the scope of this note. For the more curious readers, we would point out that CAPE makes an implicit assumption about cycles being of a fixed ten-year length by construction. Removing a quadratic trend is a good proxy to relax this assumption without creating a new indicator. The presence of a (quadratic) trend in CAPE could also be the result of the Modigliani-Cohn inflation illusion leading to under/overvaluation during periods of high and low inflation.

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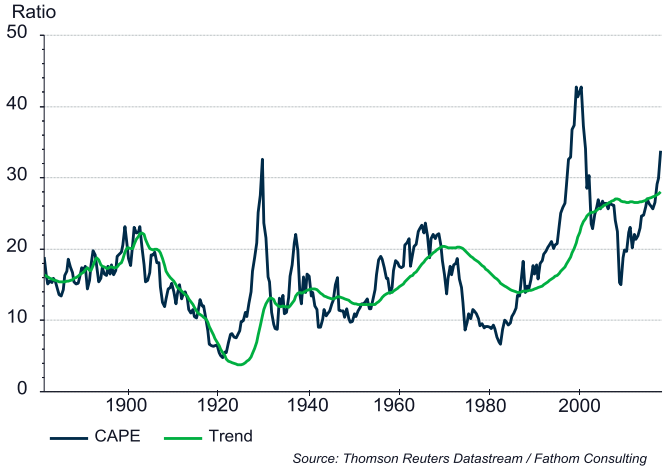
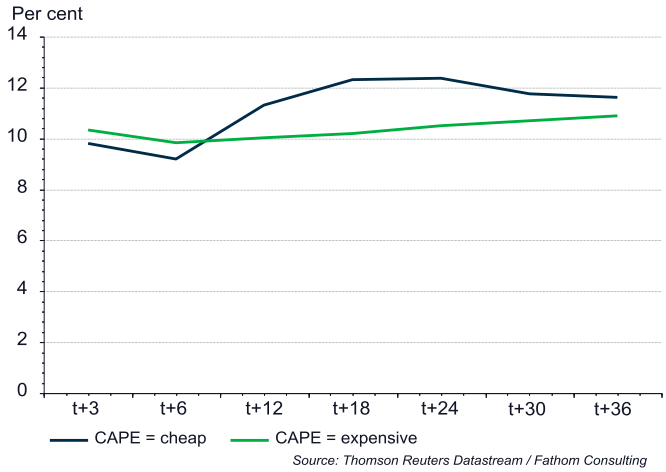
US CAPE



One greatly underappreciated feature of CAPE is its ability to detect evolving risks over different horizons. The charts below drive this point home. Since the mid-1980s there is hardly any difference between returns when CAPE is flagging either cheap or expensive (the bottom or top quintile, respectively) at all horizons up to three years forward. Conversely, the volatility of those returns clearly falls with longer horizons when valuations are cheap and rises when valuations are expensive. Moreover, we find that it is only at horizons greater than twelve months that returns during expensive periods are riskier than during cheap periods.

CAPE provides valuable signals for equity risks for different holding horizons

Expected returns at various horizons



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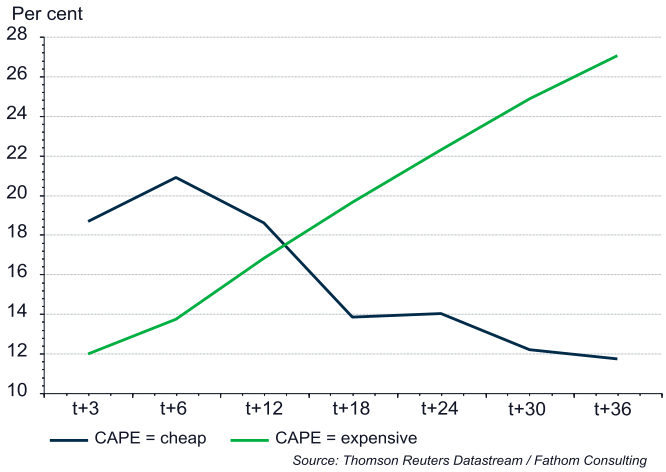
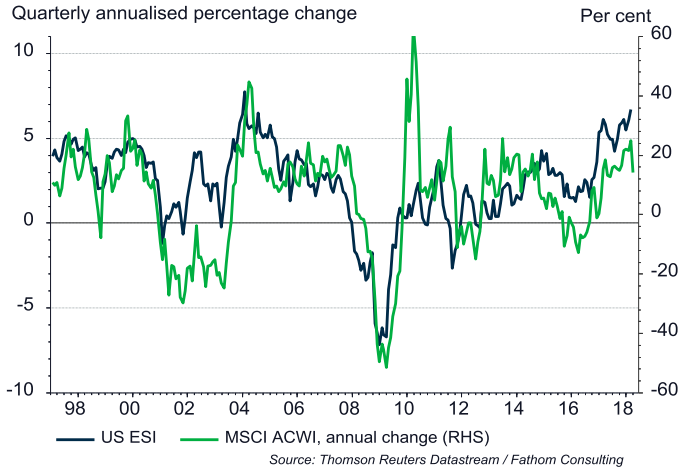
Volatility of returns at various horizons



Fathom's own US ESI provides a powerful summary of various economic sentiment measures gauging the health of the macroeconomic cycle as well as market gyrations (see chart below). Unlike valuations, the US ESI can also discriminate well between forward returns given different phases of the macro cycle. Since 1986, the difference in forward returns between periods of strong versus weak macro conditions (top versus bottom quintile of our US ESI) is almost 6 percentage points on average for horizons up to twelve months. Moreover, returns tend to be much more volatile during periods of weak versus strong ESI and these volatilities are also quite stable across horizons. As a result, we find strong pro-cyclicality in risk-adjusted returns due to trends in both returns and volatility over the macro cycle.

ESI peasy lemon squeezy: a good proxy for systemic risk

US ESI and equity returns



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Intuitively, we think that the macro cycle works well at discriminating forward returns across the cycle because, unlike valuations, it is a good proxy for systemic risk. At cyclical extremes, systemic risk tends to dominate asset returns for some time before mean reverting. Conversely, the impact of systemic risk on asset prices is drowned out by more idiosyncratic factors in periods between extremes (i.e. normal periods). Confirming this intuition, we find little difference between risk-adjusted returns in periods of normal and strong ESI.

When two become one: ESI and CAPE provide complementary signals

Overall, we see valuations and the macro cycle as broadly complementary. Valuations tell investors that stocks get less (more) risky the longer they are held when they are cheap (expensive). The macro cycle provides information on the attractiveness of the risk/return trade-off for a given horizon. An 18-month horizon is the sweet spot when combining the longer-term information from valuations with the shorter-term signals from the macro cycle.

The table below summarises our findings. It shows two major sell signals when valuations are either normal or expensive and the ESI is weak. It also shows that when the macro cycle is supportive, expensive valuations are not necessarily detrimental to returns, though higher-than-average volatility would suggest some caution. Similarly, cheap valuations on their own are not a clear slam dunk since they can always get cheaper. This intuition is borne out of the unattractive risk/return profile of the cheap valuations and weak ESI row. The only clear buy signal is given by cheap valuations and a normal ESI. Finally, normal valuations seem a generally unstable state of the world almost irrespectively of macro conditions.

Average conditional returns to S&P 500

Over 18 months, annualised

Val	ESI	Ret	Vol	Ret/Vol	Number of obs	T-value*
Cheap	Weak	11.2	17.3	0.6	41	1.0
Cheap	Normal	13.6	7.8	1.7	35	2.1
Cheap	Strong	na	na	na	0	na
Normal	Weak	-15.0	19.7	-0.8	6	-2.7
Normal	Normal	5.2	14.4	0.4	76	-0.8
Normal	Strong	6.0	5.6	1.1	32	-0.6
Expensive	Weak	0.3	17.8	0.0	24	-1.7
Expensive	Normal	12.6	18.9	0.7	72	1.5
Expensive	***Strong***	***11.8***	***19.2***	***0.6***	***36***	***1.0***
Sample average (1986-2017)		7.7	18.3	0.4	322	na

**relative to the average return of the whole sample*

Source: Fathom Consulting

Current signal suggests no impending major correction over the next 18 months

Going forward, we aim to integrate the above findings within a broader and more comprehensive asset allocation framework emphasising the importance of portfolio construction as much as the direction of any given signal. For the moment, and at the risk of leaving readers wanting more, the above information informs our market view that a major market correction is probably not imminent, though it becomes likely beyond a horizon of around two years.

The first piece of evidence for this is provided by the current expensive valuations and strong macro cycle (the row in bold in the above table). This state of the world is consistent with healthy but volatile returns over the next 18 months. Valuations provide a second piece of evidence as market risks increase the longer valuations stay expensive, this is particularly true for horizons beyond twelve months. Given that the market only became expensive, using our detrended CAPE, in December 2017, we should continue to experience a volatile but rising

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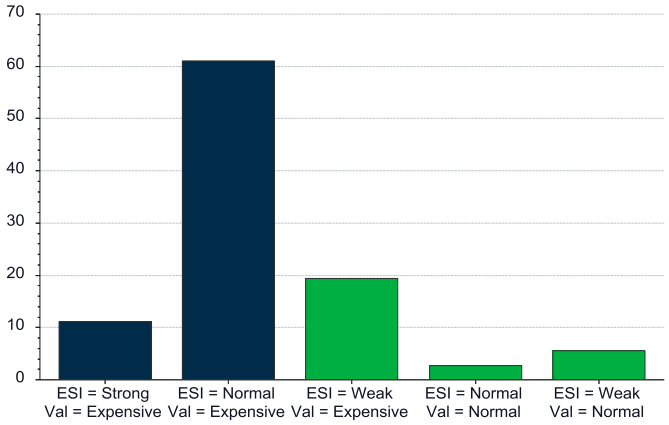
market in 2018 and the first half of 2019. A third piece of evidence comes from looking at the state of the world likely to prevail after the current 18-month horizon has expired. Equity markets supportive of healthy but volatile returns (either expensive/strong or expensive/normal states) tend to prevail 72% of times. However, there are also substantial risks (28% overall) of either a correction having already materialised (9% chance of a normal/normal or normal/weak state) or likely to begin soon (19% chance of the expensive/weak state).

Transition probabilities from current state

Per cent, over the next 18 months



Source: Thomson Reuters Datastream / Fathom Consulting

In our judgement, and on a fundamentals basis, equities are now more than 40% overvalued. Starting from this position, a correction is possible at any time. Nevertheless, in this note we have argued that the current combination of expensive valuations and strong macro data means that the correction is unlikely to occur within the next 18 months. In our central scenario, equity returns remain positive, in the low single digits, but volatile. Beyond the next 18 months, the odds of a meaningful correction increase substantially, with a deterioration in the macro cycle the most likely driving force. Fathom's own ESI is one indicator worth focusing on for those investors willing to swap the lens-less frames for the practical, though perhaps less fashionable, prescription model.

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