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The Long Good Buy; the Case for Equities

- After more than a decade of de-rating, equities are implying unrealistically large declines in growth and returns into the future.
- While future growth may be lower than experienced over the past decade in many parts of the world, we believe this is more than reflected in current valuations.
- Future returns in equities are heavily influenced by valuation. The prospects for moderating risk premium raise the probability that equities will embark on a steady upward trajectory over the next few years.
- The ex-post equity risk premium has been strikingly poor in recent years. Annualized 10 and 20 year relative returns have been at their most negative for over a century.
- The prospects for future returns in equities relative to bonds are as good as they have been in a generation.

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Summary: The Long Good Buy

One of the most important trends in financial markets over the past decade has been the significant de rating of equities and their historically poor real returns. At the same time government bonds have seen valuations rise dramatically over the same period, generating record real returns. **The ex-post risk premium has been strikingly poor with annualized 10 and 20 year relative returns between equities and bonds amongst their most negative for a century.**

Many have argued that the structural forces at play have brought an end to the post war, golden era of equities. A combination of regulatory change, high volatility, lower inflation, demographics, deleveraging and fiscal austerity have conspired to dramatically reduce growth expectations and limit the demand for equities as an asset class. **Given current valuations, we think its time to say a long good bye to bonds, and embrace the long good buy for equities as we expect them to embark on an upward trend over the next few years.** This paper is split into five main parts:

The ex-post equity risk premium has collapsed as long-term growth expectations have fallen

1. **A description of the Great De-Rating of equities**
2. **An examination of valuation and returns as a driver of future performance**
3. **Why equities offer an opportunity now; why growth expectations are too low**
4. **Prospects for ROE and margins**
5. **Risks of stagnation; the return of Fat & Flat**

The fall in the ex-post equity risk premium (ERP) is a function of various drivers: The high valuations of equities in the late 1990s, followed by the gradual decline in growth expectations in developed economies, the de-leveraging post the credit crunch and the Great Recession, which have raised the required ERP, pushing equity valuations lower. The sustained fall in bond yields started with the disinflation of the 1980s and 1990s. A cult of fixed income grew up in the wake of the Asian crisis, driven by EM countries with surplus savings. The move towards Asset Liability Management (ALM) in the fund management industry has further pushed large pools of DM capital towards fixed income.

Valuation matters for future returns. Periods following significant de ratings and low valuations tend to be followed by significantly higher returns. We find strong evidence that simple P/E ratios have an inverse relationship with real returns five-years forward, and these relationships are stronger for some other valuation metrics like the ERP. Relative measures of valuations across markets also provide strong indications of future returns. Unusually high dividend yields relative to bond yields, for example, are typically followed by outperformance of equities. **Higher bond yields may moderate the return in equities over time, but are unlikely to pose a major constraint in the initial stages of normalisation, and would not undermine the relative attractiveness of equities compared to bonds, in our view.**

Many arguments are put forward to justify lower growth expectations and, therefore, a continued high ERP. We discuss fears of a lack of policy options, the impact of de-leveraging on future growth, and the collapse in investment spending and demographics. While many fear that these, and other factors, will push down on the current high level of ROEs and margins, we think these risks are overstated. While margins may struggle to rise much from current levels, other factors (technology and compensation control) are likely to prevent margins falling, at least as much as current valuations imply. **We look at what could go wrong**. The onset of a sustained period of economic stagnation could result in a prolonged 'fat and flat' market—a wide trading range with little aggregate return. However, the risks to this seem to be fading and it is not clear that sub par growth will necessarily cap equity returns given current valuations.

1. Equities and the Great De-Rating

The last decade in particular has experienced one of the poorest aggregated return for equities and also, importantly, one of the biggest relative de-ratings in comparison to 'risk free' assets in many decades. This trend, which started after the collapse of the technology bubble and has been extended through the 'Great Recession', reflects a number of developments; in particular these include:

1. The overvaluation of equities at the outset

2. The downgrading of long-term growth expectations following the credit crunch and the Great Recession, reducing the value of long duration assets

3. The rise in the cult of fixed income in the aftermath of the Asian crisis as EM countries with surplus savings bought into US treasuries and other bond markets

4. Changes in regulations, and historical performance, fuelling the rise in demand for fixed income by pension funds and insurance companies. Most recently, the narrowing pool of government bonds still considered to be 'risk free', together with the onset of QE, have further boosted demand for some bonds.

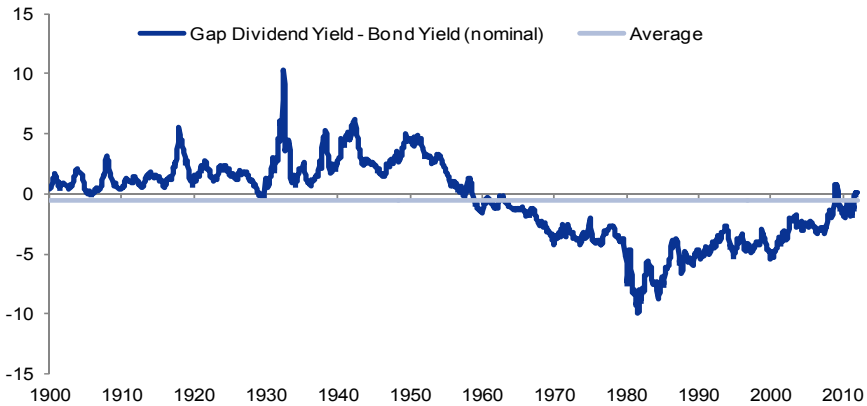
What comes around goes around

In 1956, George Ross Goobey, the general manager of the Imperial Tobacco pension fund in the UK made a controversial speech to the Association of Superannuation and Pension Funds (ASPF) arguing the merits of investing in equities to generate inflation linked growth for pension funds. He became famous for allocating the entirety of the funds investments to equities, a move that is often associated with the start of the so-called 'cult of the equity'.

Prior to this, equities were largely seen as volatile assets that achieved lower risk adjusted returns than government bonds and, consequently, required a higher yield. As more institutions warmed to the idea of shifting funds into equities, partly as a hedge against inflation, the yield on equities declined and the so-called 'reverse yield gap' was born. This refers to the fall in dividend yields to below government bond yields; a pattern that has continued, in most developed economies, until recently.

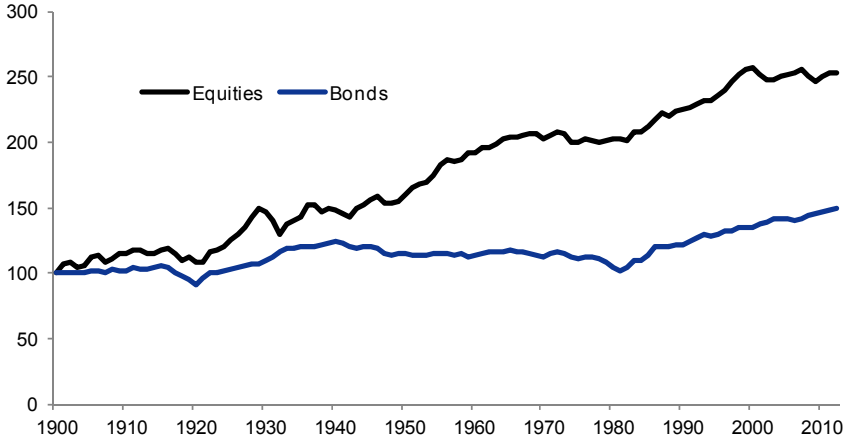
In his speech to the ASPF, Ross Goobey talked about the long-run historical evidence that the ex-post equity risk premium was positive and that investors ignored this at their own peril.

Exhibit 1: Yield gap
S&P 500



Source: Robert Shiller, Goldman Sachs Global ECS Research.

Exhibit 2: Total return performance of equities and bonds
Log-series indexed at 100



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

The long-run performance of equities was much greater than for bonds having adjusted for inflation. As he said: 'I know that people will say: 'Well, things are never going to be the same again', but … it has happened again, and again. I say to you that my views are that it is still going to happen yet again even though it may not be the steep rises which we have had in the past.'

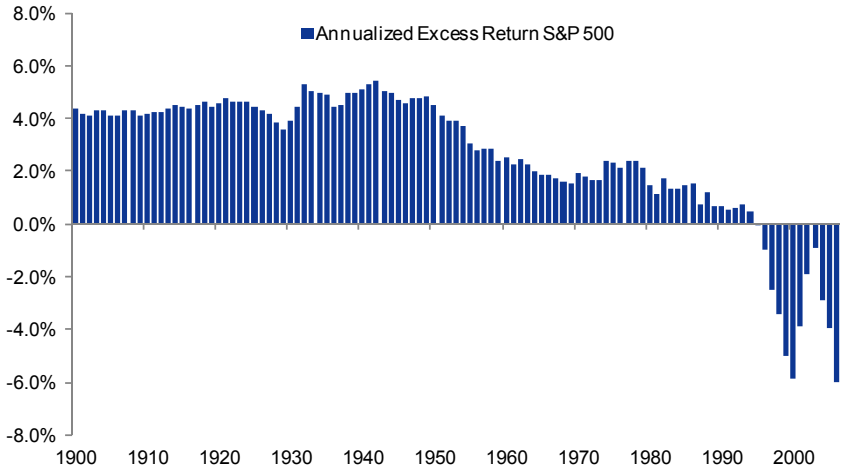
For nearly half a century bonds yielded more than equities

Over the 50 years that followed Mr. Ross Goobey's pitch, his predictions proved very successful. The annualized real return to US equities (as a proxy) between 1956 and 2000 were 7.4%.

But things have changed since the start of this century and the collapse of equity markets following the bursting of the technology bubble. In this post bubble world valuations fell from unrealistically high levels. But the decline of equity markets continued well after most equity markets returned to more 'normal' valuations. The onset of the credit crunch, and the deleveraging of balance sheets in many developed economies that followed this have punctured the confidence that once surrounded equities, and the pre-1960s skepticism about equity returns has returned. Dividend yields are once again above bond yields and both historical, and expected future returns have collapsed.

Exhibit 3 shows the ex-post equity risk premium in the US achieved from different starting dates. Seen against the long-run history, the experience post 2000 has been dismal. Of course, this picture exaggerates the problems of the

Exhibit 3: Ex-post risk premium S&P 500 over US treasury



Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

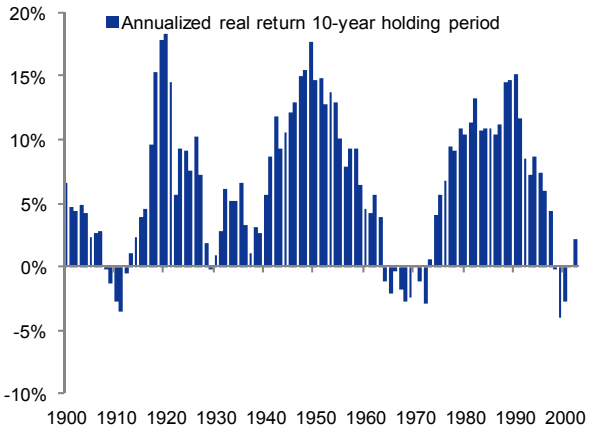
recent past given the varying duration of holding periods as one goes back over time. Even stocks bought in the late 1920s, for example, have managed to generate a reasonable long-run return, but they have had many decades to reverse the years of poor returns.

A more useful guide to the long-term patterns, and how they have changed over time, is to look at the returns over specific holding periods. Exhibit 4, for example, plots the returns to the US equity market over specific 10 year holding periods over time – 10 year forwards from each year. **This shows that the last decade has been truly striking in an historical context. The last few years have seen the worst real returns in US equities (along with the 1970s) in over 100 years.** Exhibit 5 shows equities bought and held over 20 year periods. On this basis, equities have not fared so badly relative to history.

While equities have achieved a strong premium for risk over long periods, this has not been true since the late 1990s

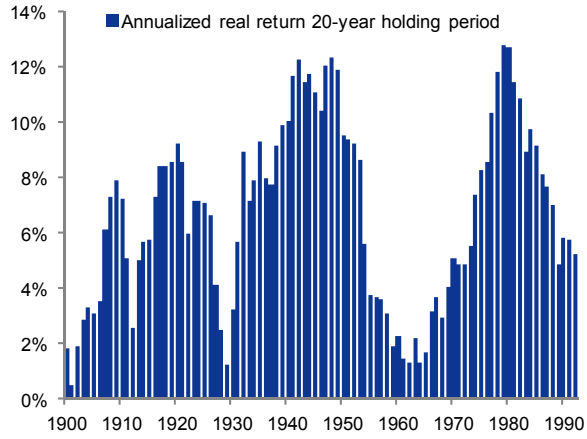
But while equities have done better over the longer term holding periods, it is the real returns in the bond market that have been really remarkable compared to most periods in history (see Exhibits 6 and 7). Understandably, US treasuries bought in the early 1980s, at the peak of the inflation cycle, have annualized real returns of over 7% for 20 years. But even those bonds bought in the early 1990s have annualized real returns of around 5% for 20 years – the kinds of real returns that investors used to hope for in equities.

Exhibit 4: Annualized real total return of S&P 500
Rolling 10-year



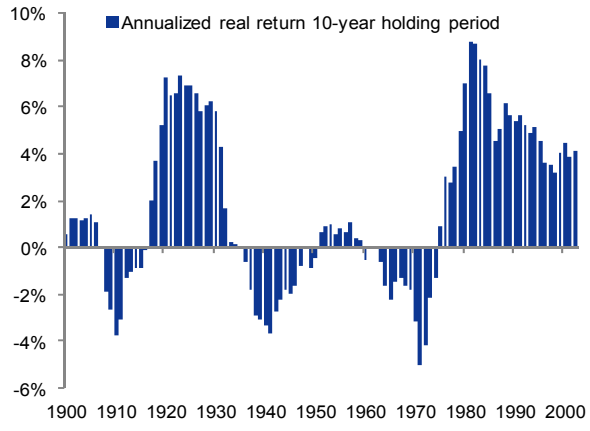
Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 5: Annualized real total return of S&P500
Rolling 20-year



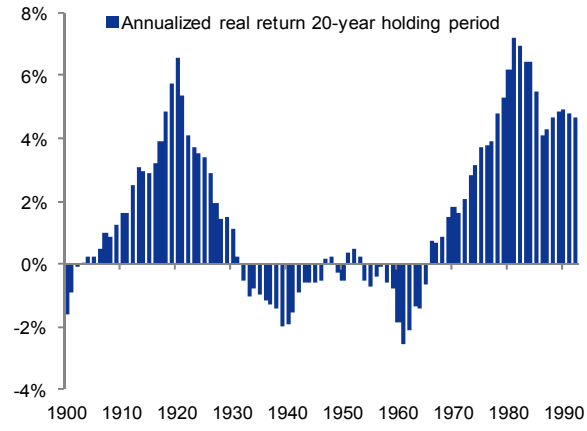
Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 6: US Bond annualized real return



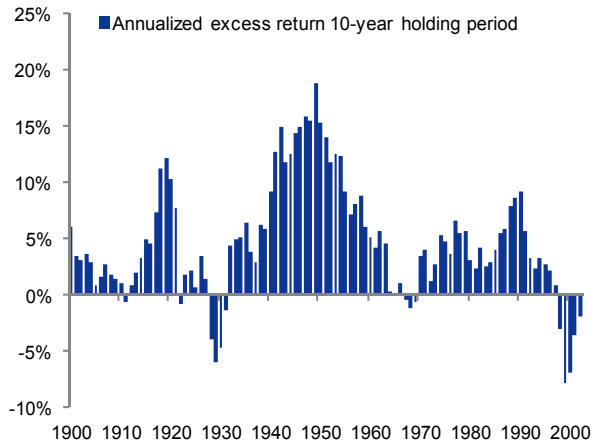
Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 7: US Bond annualized real return



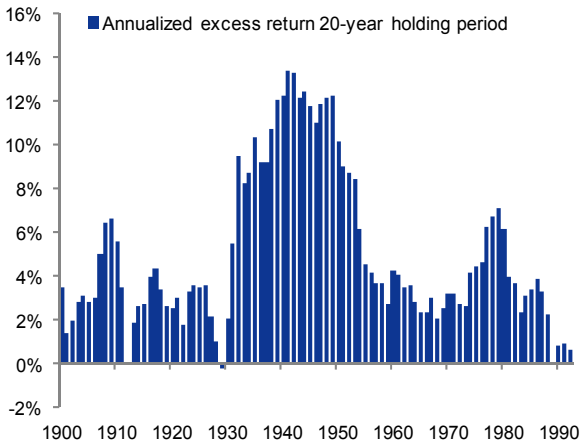
Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 8: Annualized excess return of S&P 500



Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 9: Annualized excess return of S&P 500



Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

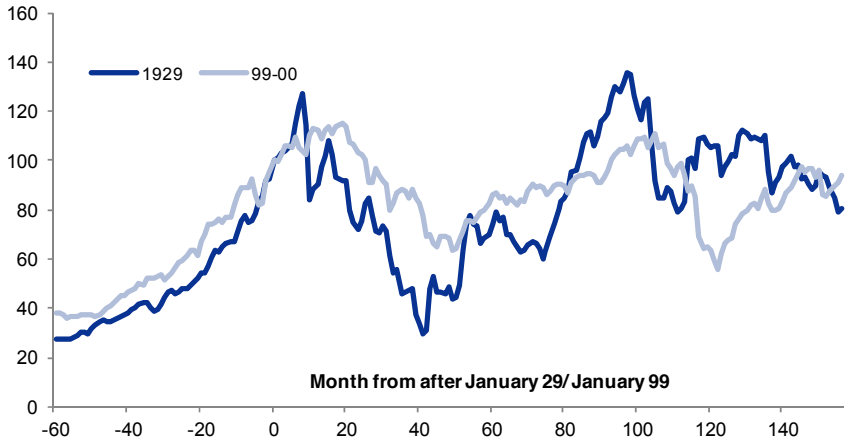
The demise of the ex-post ERP

As a consequence of the moves described above, the persistent and aggressive collapse of the ex-post equity risk premium is one of the most striking developments in financial markets over the last couple of decades. As Exhibits 8 and 9 demonstrate, **annualized excess returns in equities compared to government bonds have been the most negative over the past decade as in any period since the 1900s**. This has also been true for assets bought as long ago as the late 1980s, but equities bought at the start of the 1990s are now starting to show positive, albeit historically low, relative returns.

Of course there have been many bear markets over the past century, but few have been as deep or prolonged as the one that started after the 2000 peak. Exhibit 10 compares the monthly performance of the US equity market in real terms from the beginning of the year in 1929 and 1999. **The current cycle has mapped the 1929 pattern quite closely. The sharp dip in the current cycle at around 120 months after the peak represents the low in 2009 ¡ in relative terms a lower trough than an equivalent point 10 years after the 1929 collapse.**

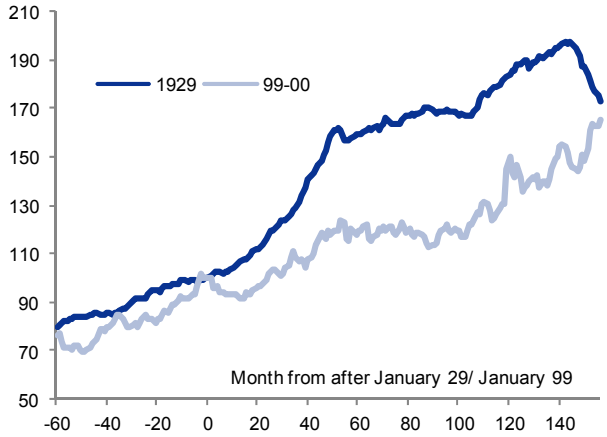
Perhaps even more remarkable is that the real return in US 10 year treasuries has been as strong as at similar points following the collapse in 1929. Given the deflation in the 1920s, this is quite striking, Indeed in nominal terms US bonds have risen far more than was the case following the 1929 collapse (see Exhibits 11 and 12).

Exhibit 10: US equity total real returns after January 1929/January 1999



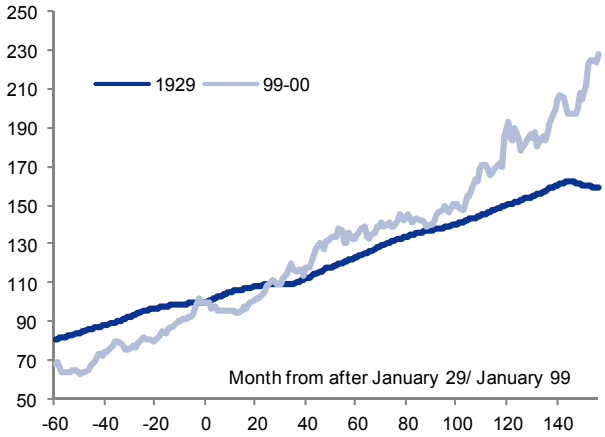
Source: Robert Shiller, Goldman Sachs Global ECS Research.

Exhibit 11: US bond real returns after Jan 1929/Jan 1999



Source: Robert Shiller, Goldman Sachs Global ECS Research.

Exhibit 12: US bond nominal returns after Jan 1929/Jan 1999



Source: Robert Shiller, Goldman Sachs Global ECS Research.

The demise of growth expectations

While long periods of low returns in equity markets are not unique, the scale and duration of poor real returns in equities experienced since the start of this century is unusual in an historical context and the poor relative returns that equities have experienced over the past couple of decades has been exceptional.

The obvious question is why have returns been so poor? Does this reflect a cyclical problem that can be explained by the high valuations at the end of the 1990s, or is it a function of much more deep seeded and structural problems that are likely to reduce future returns?

There are several main factors that have contributed to the ongoing de-rating of equity markets over recent years and, indeed, the relative re-rating of government bonds.

1. The overvaluation of equities at the outset

2. The downgrading of long-term growth expectations following the credit crunch and the Great Recession, reducing the value of long-duration assets

3. The rise in the cult of fixed income in the aftermath of the Asian crisis as EM countries with surplus savings bought into US treasuries and other bond markets

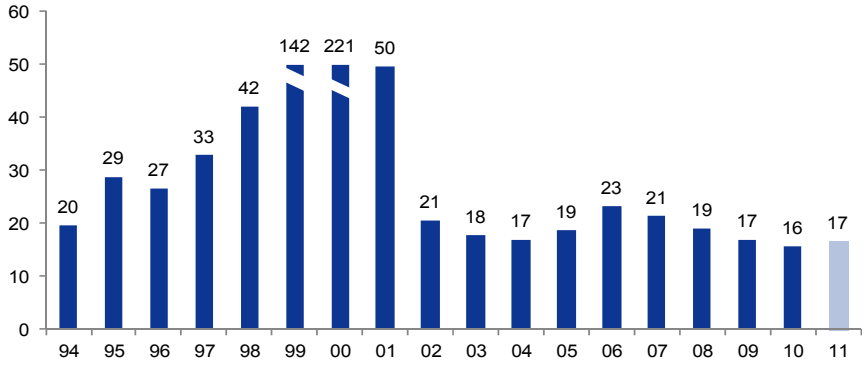
4. Changes in regulations, and historical performance, fuelling the rise in demand for fixed income by pension funds and insurance companies. Most recently, the narrowing pool of government bonds still considered to be 'risk free', together with the onset of QE, have further boosted demand for some bonds.

In absolute terms valuations of most equity markets have fallen sharply since their high levels a decade earlier, while at the same time, the value of 'risk free' assets – or at least the shrinking pool of those that are still considered to be risk free – have gone higher.

It is difficult to pinpoint precisely the drivers for this shift in relative valuation. Certainly equity valuations were unsustainably high at their peak in the late 1990s and bond valuations had not adequately priced in the extent of disinflation. But the ongoing de-rating in the last few years seems to go beyond these explanations.

The credit crunch has both raised the demand for risk-free assets while, at the same time, caused significant falls in bank lending as a combination of

Exhibit 13: Takeover recovery cost, Europe
The number of years it would take to acquire the equity market with retained cash flow



Source: Worldscope, I/B/E/S, Goldman Sachs Global ECS Research.

household and bank sector deleveraging are taking their toll. The sharp rally in equity markets that followed the post Lehman trough was short-lived and coincided with sharp improvements in profitability so that the valuation recovery was fairly limited. Since then, the combination of fiscal austerity and European sovereign risks have added to the level of uncertainty, and kept the required risk premium higher than would be justified purely on the basis of the macro data alone. This is particularly evident in Europe where the required ERP embedded in our GS Dividend Discount Model (DDM)[1] remains higher than the levels that we can justify from our macro forecasts alone.

The fall in duration value

One way or another, these falls in valuation reflect a significant decline in future growth expectations, or at the very least, the confidence in them. In essence, the market has reduced the value of duration. The value that investors have prepared to put on cash flows further into the future has declined, driven by lower confidence and lower expectations for growth.

Investors have voted with their feet, shifting assets towards government bonds and away from equities

There are at least five ways that we can observe this fall in duration value:

1) The fall in the takeover recovery ratio

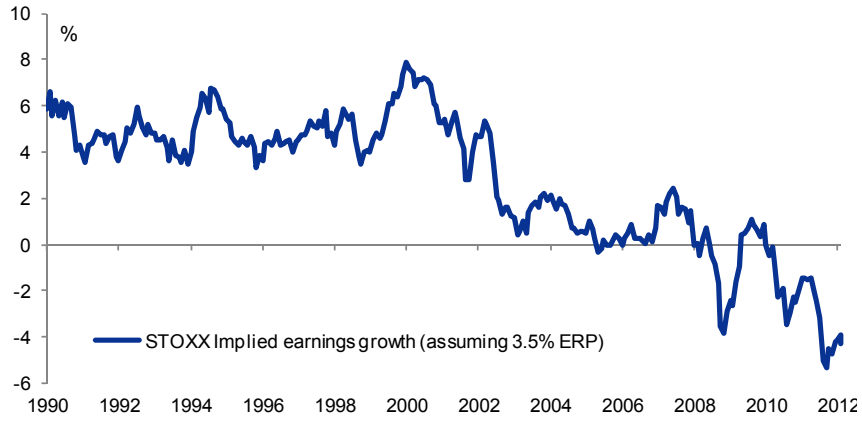
This is the ratio that calculates how many years of free cash flow at current levels would be required for the corporate sector to take over equity through the accumulation of cash flows through tim**e. On our calculations, in Europe, this has fallen from a high of 221 years in 2000 to a just 17 years today (Exhibit 13).**

2) Implied future growth has collapsed

The extent to which investors have reduced long-term real growth expectations can also be observed by re-arranging a Dividend Discount Model. To do this, we re-arrange the model to ask what future growth in earnings, in real terms, is implied by the market at each point in time, assuming that the ERP remained static. This has become most extreme in Europe, where future expectations have been most uncertain. As Exhibit 14 shows, on a 'normalised' long-run risk premium of 3.5%, this would appear to imply the market expects profits to fall in real terms every year for the next 20 years. Changing the level of the risk premium will mostly change where the line sits on the axis, rather than the shape – so even if it is unrealistic to assume that risk premia will fall back to

1. See *Global Economics Paper 179: Finding Fair Value in Global Equities, Part 1*, February 6, 2009).

Exhibit 14: Market implies negative real earnings growth annually for 20 years
Assuming a 3.5% ERP



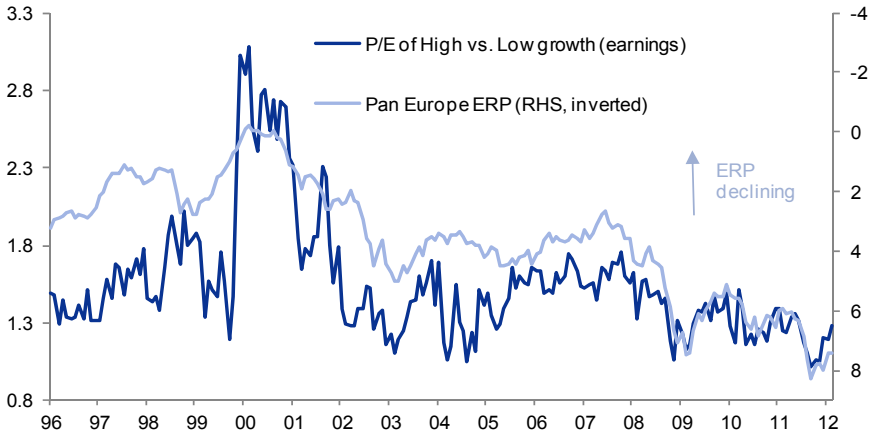
Source: Goldman Sachs Global ECS Research.

their previous long-run average over the next few years, and we use a higher number, the extent to which long-run growth expectations has fallen over the past decade is striking.

3) The collapse in the dispersion of valuations

The fall in duration value can also be observed within the market when looking at the dispersion of returns. Exhibit 15 shows the relationship between the cost of equity and the spread between the highest and lowest companies by P/E in the market. As the cost of equity rises (mainly driven by the ERP), the spread falls. Higher uncertainty simply reduces the willingness to pay a premium for cash flows further into the future. Growth stocks have been de-rated disproportionately relative to the market.[2]

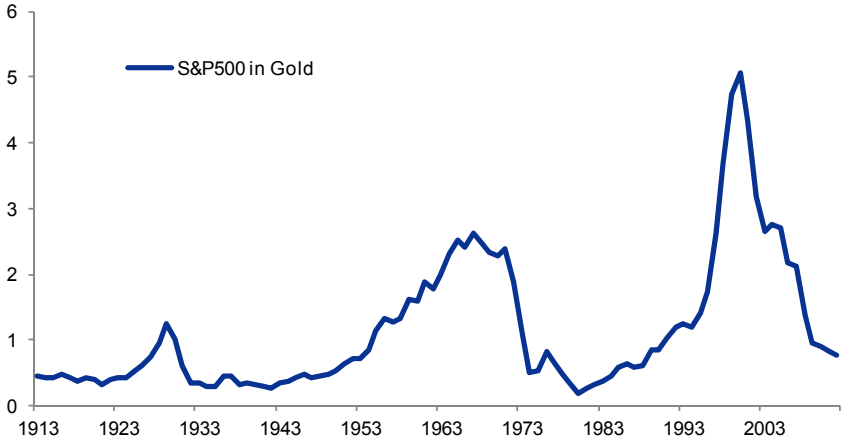
Exhibit 15: Europe cost of equity and P/E multiple spread



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

2. See *Strategy Matters, The curious incident of the growth that (still) isn t valued*, March 13, 2012).

Exhibit 16: Ratio of S&P 500 index level to gold price



Source: Robert Schiller, Goldman Sachs Global ECS Research.

4) The fall in the value of equities relative to gold

Another way of thinking about the shift in duration value is to look at equities priced in gold. Since equities are long duration, and gold very short duration, the relative shift again tells us something about the level of uncertainty about future growth and inflation.

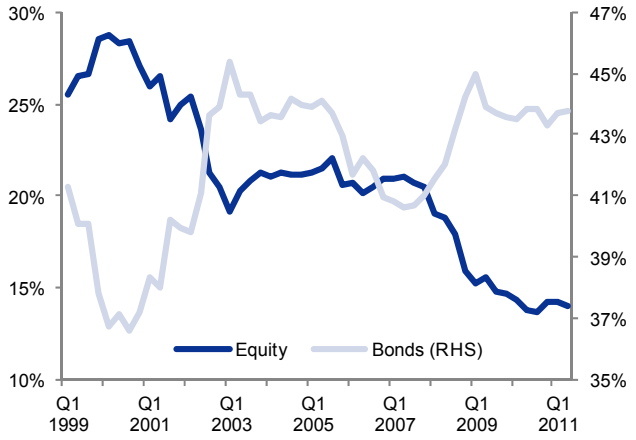
5) The end of an affair

Understandably, given these developments, investors have voted with their feet, shifting assets out of equities and into fixed income. In part this also reflects other factors; regulation and liability matching issues, exacerbated by the collapse in the discount rate and the long decline in inflation fears amongst investors. Nonetheless, part of it undoubtedly also reflects performance.

The starting valuation is crucial in driving future returns in the market

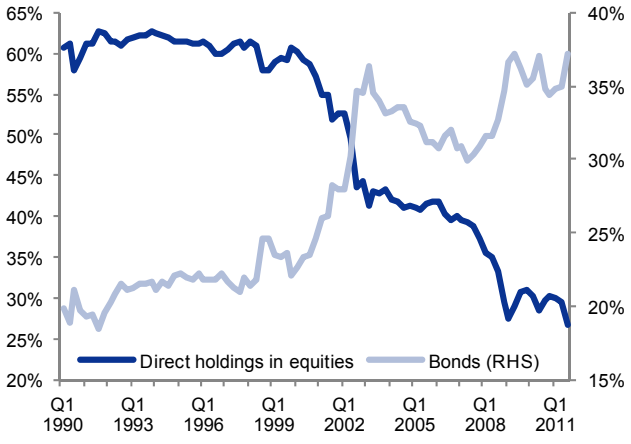
The aggregate pension and insurance company exposure to equities in Europe has roughly halved (from close to 30% at their peak in 2000), while fixed income has risen sharply. This trend has also been evident in the UK over the past decade (see Exhibits 17 and 18).

Exhibit 17: Eurozone pension funds and insurance companies asset allocation



Source: ECB, Goldman Sachs Global ECS Research.

Exhibit 18: UK pension funds and insurance companies asset allocation



Source: BoE, Goldman Sachs Global ECS Research.

2. Valuation as a Driver of Returns

While equities are, of course, risky – and long-term data shows the probability of making a loss over short-term holding periods is high, and that the starting point matters a great deal.

There are two important aspects to take into account when looking at the historical data:

1. The prospective return rises, and probability of loss falls, following periods when the starting valuation is low.

2. The prospective return rises and probability of loss falls following periods that have experienced prolonged losses already.

The importance of valuation in prospective returns

Most analysts and investors focus their attention, understandably, on 'fundamental' drivers of returns; what is the prospect for economic growth, profits growth, rates of returns on capital, margins and so on. The commonly held view is that these fundamental drivers are likely to deteriorate in the future as growth fades under the weight of fiscal austerity and deleveraging.

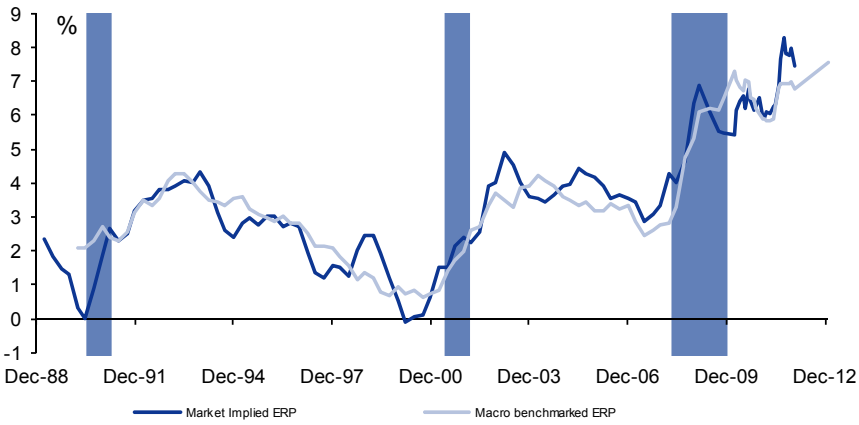
Valuation is one of the key drivers of both absolute and relative future returns

But in reality, the economic growth rate, and the return on capital, are not the only factors that can fully explain the returns to shareholders over specific periods of time. For example, **the last decade was one of unusually strong economic and profit growth in most regions. Inflation was generally low and stable and in the US and Europe, profit shares of GDP and ROE rose to record highs. By contrast, these fundamentals were much poorer during the 1980s, but equity returns were much higher.** How, then, can we explain this apparent paradox?

Much, in our view, can be explained by valuation. We find that extracting the markets implied equity risk premium best captures this point. While there is no perfect way of doing this, we base our ERP on a multi stage DDM, (GSDDM).

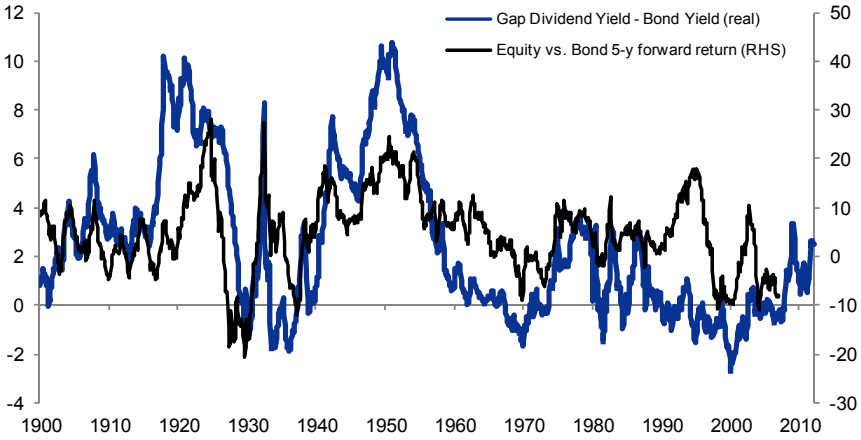
Exhibit 19 shows both the current estimated ERP as well as the 'predicted' ERP that we generate from an econometric model that relates historical required ERP with various macro variables (of which the output gap is a key part) which we then forecast to give us a sense of where the ERP may go in the future.

Exhibit 19: European market implied and macro benchmarked ERP



Source: Goldman Sachs Global ECS Research.

Exhibit 20: Equity/bond valuations have an impact on future relative (US)



Note on inflation: Real bond yields are computed using 10-year average inflation.

Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

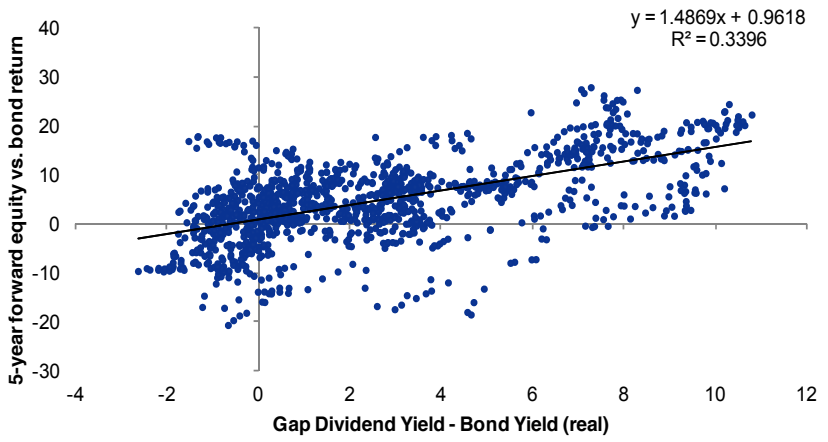
We know that, of course, when investors get more positive, their required rate of return – in effect the hurdle rate for taking on risk – falls. Twice over the past 25 years, investors have become so confident about the future that they drove valuations to levels which reduced the required risk premium close to zero. The first of these periods occurred around the collapse of communism in Europe when investors became confident about the future growth of capitalism. The second was during the technology bubble of the late 1990s, when new innovations were seen to be transformative to productivity and growth.

Arguably, the confidence of these two periods turned out to be justified in terms of the outcome for fundamentals. We entered the modern era of globalization, economic growth was highly successful, profit shares of GDP rose to record highs and so did rates of return on capital. The problem is that, at least following the second episode, the actual ex-post return for holders of risky assets was amongst the worst in modern history. **The explanation to this conundrum, we think, lies in valuation. In effect, all of the good news was already reflected in asset prices before it had occurred.**

Valuations and returns, equities versus bonds

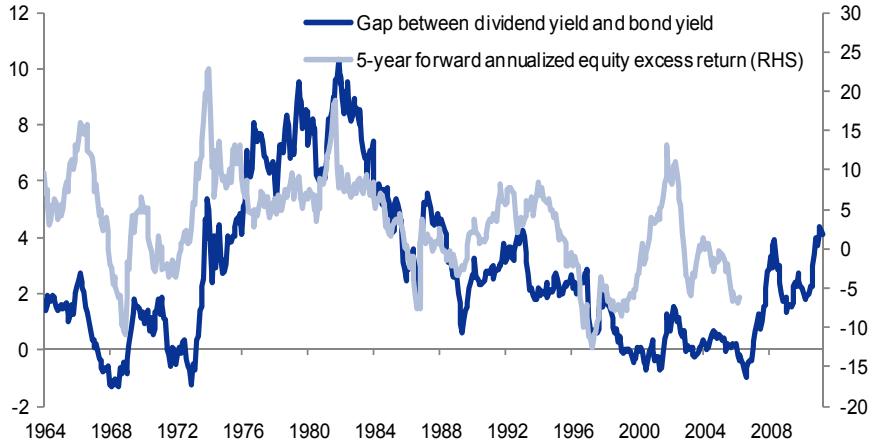
The impact of valuation on future returns is evident when we compare valuations between equities and bonds on a relative basis as well as when we look at equities in an absolute sense. Starting with relative valuations, there are,

Exhibit 21: US correlation; Equity/bond valuation and five-year forward relative returns



Source: Robert Shiller, Datastream, Goldman Sachs Global ECS Research.

Exhibit 22: UK five-year forward real equity return vs. gap between dividend yield and bond yield



Source: Datastream, Goldman Sachs Global ECS Research.

of course, various ways of demonstrating the relative attractiveness. In Exhibit 20 we use the real yield gap in the US as a proxy (the difference between the dividend yield and the real bond yield). When we compare the progression of valuation together with the relative performance five years later we find a reasonable relationship. The main period where it broke down was in the mid 1990s. Equities were not particularly cheap at this time versus bonds but over the following five years they significantly outperformed bonds. This impact on valuation can also be seen in Exhibit 21 which shows the relationship over time. While valuation is clearly not the only factor driving relative returns, it is nonetheless significant.

We find similar relative equity and bond patterns in other markets too. For example, taking data for the UK from 1964, Exhibit 22 also shows the average five-year forward ex-post risk premium (equities versus bonds total return) against the gap between the dividend yield and real gilt yield.

Exhibit 23: Cyclically adjusted European P/E and equity real return

Source: Datastream, Goldman Sachs Global ECS Research

Valuation and returns, equities in absolute terms

Another way of showing the relationship between valuations and future returns is to look at the so called Shiller P/E (the P/E based on trailing 10-year average real EPS) and to compare this with the 10-year rolling return in the equity market that follows. In Exhibit 23, the 10-year real return for Europe is inverted in the chart and, as can be seen, suggests a significantly higher rolling real return as we move forward in time.

The extent to which valuations impact future returns is evident across all markets can be seen from recent work that our Asian strategists have done.[3] They show that periods of lower P/Es have been associated with higher returns over longer-term periods. The range where we are currently has tended to be pretty good for markets. In these periods in the past returns have been 28% over a one-year holding period (with a standard deviation of 24%). Higher valuation ranges have been associated with similar volatility but falling returns over one, two, and in some cases five-year holding periods. What is also interesting (Exhibit 25) is that after 6-9 months, the average return differential between extreme high and low valuation periods widens significantly.

The important point here is that the fundamental drivers of profit growth, economic activity and return on equity are important components of returns but do not explain everything.

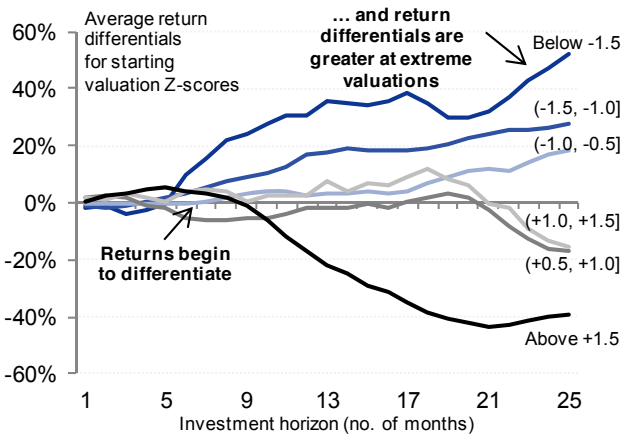
What is most important is how the market is pricing the expected future stream of cash flows. If prospective growth is strong, but expectations that preceded it were too high, then the returns will be low. Equally, if growth rates are low, but the market has assumed that the outcome will be even worse, then the returns can be high.

Exhibit 24: The link between valuations and returns has been strong and consistent for holding periods above six months
Valuation deciles and subsequent returns

Starting Price/Earnings and Forward Return								
When MXAPJ PE is... (X)	% of obs	Average Returns 1-mo	3-mo	6-mo	1-yr	2-yr	5-yr	Std. dev. 1-yr
Less than 9.1	1 %	(0)%	(2)%	24 %	**76 %**	100 %	NA	18 %
9.1 to 10.6	5	2 %	5 %	14 %	**41 %**	68 %	151 %	26 %
10.6 to 12.1	**22**	**1 %**	**4 %**	**9 %**	**28 %**	**53 %**	**98 %**	**24 %**
12.1 to 13.6	29	0 %	1 %	3 %	**10 %**	24 %	49 %	25 %
13.6 to 15.1	22	1 %	2 %	1 %	**1 %**	(5)%	9 %	23 %
15.1 to 16.6	14	(1)%	(3)%	(6)%	**(18)%**	(18)%	(8)%	25 %
16.6 to 18.1	4	3 %	6 %	6 %	**(1)%**	(19)%	15 %	36 %
18.1 to 19.6	1	2 %	12 %	11 %	**6 %**	(23)%	11 %	26 %
19.6 to 21.0	2	3 %	4 %	10 %	**0 %**	(25)%	(1)%	5 %
Greater than 21.0	1	(4)%	(6)%	7 %	**(3)%**	(30)%	(8)%	3 %

Source: FactSet, I/B/E/S, MSCI, Goldman Sachs Global ECS Research.

Exhibit 25: After 6-9 months, the average return differential between extreme high and low P/E valuation entry points widens significantly
MXAPJ: average return differentials for starting valuation Z-scores (five-year rolling)



Source: FactSet, I/B/E/S, MSCI, Goldman Sachs Global ECS Research.

3. See *GOAL Global Strategy Paper No. 3 AsiaPac Valuation: What works, and when,* March 12, 2012.

The importance of losses in explaining prospective returns

Following on from the point about valuation, past returns do have an impact on future returns too. Periods of sustained falls in the market are typically better times to buy for the long run than periods when the market has risen over a sustained period of time – partly, of course, this is also a function of valuations typically improving after a period of sustained losses in the market. Nonetheless, the key point is that in particularly bad economic periods, once the news is fully priced, investment outcomes tend to improve. Exhibit 26 shows from US data back to the start of the 20th century, that there have been only 17 years when the annualized real return has been negative.

The subsequent five-year annualized return was positive in all but one period, 1967, followed by the start of the high inflation of the 1970s, and in this case the annualized loss was around -0.2% in real terms. Of the 14 periods for which we have data, five experienced double digit annualized real returns.

We find that similar conclusions hold for other markets such as the UK and Germany, although data constraints restrict the comparisons over such long periods.

Bonds, time to get real

While the ERP is very high by historical standards, our measure of the risk premium in global government bonds is very low. To isolate a measure of the bond premium, our bond strategists make the assumption that bond yields in the US, Japan, Germany and the UK (the 'G-4') are roughly aligned with their respective one-year-ahead consensus expectations on growth, inflation and policy rates. They then identify the additional 'factor' that can explain the common variation in yields across these four markets, above and beyond cyclical fluctuations specific to each one of them. It is this factor that we refer to as the 'bond premium'.[4]

As Exhibit 27 shows, this premium of bonds relative to an intrinsic measure of 'fair value' based on inflation expectations and macro variables is very low by historical standards.

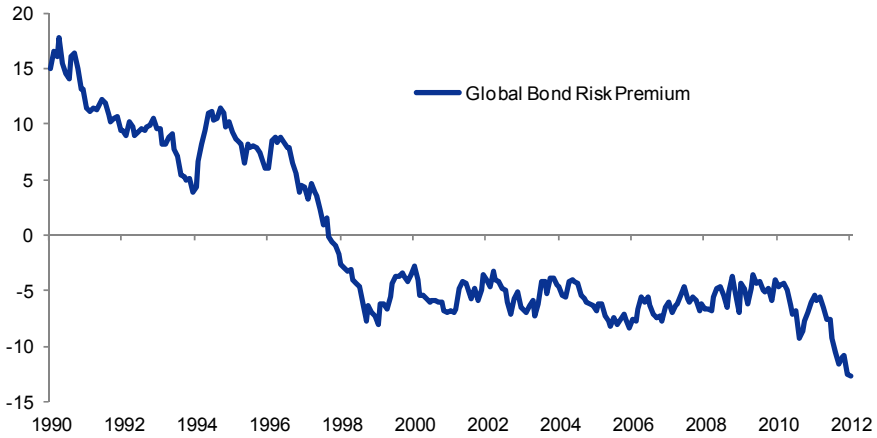
Exhibit 26: Returns are strong post a long period of weakness (US)

Investment period and real return			
Year invested	10y real return (annualized) from column 1	Date after 10 year period	5y real return (annualized) from column 3
1908	-0.2	1918	6.7
1909	-1.3	1919	7.4
1910	-2.8	1920	16.8
1911	-3.6	1921	19.9
1912	-0.5	1922	18.3
1929	-0.1	1939	2.1
1964	-1.2	1974	1.2
1965	-2.2	1975	2.6
1966	-0.4	1976	0.0
1967	-1.8	1977	-0.2
1968	-2.8	1978	7.2
1969	-2.4	1979	6.9
1971	-1.2	1981	14.0
1972	-2.9	1982	20.1
1998	0.0	2008	NA
1999	-4.1	2009	NA
2000	-2.7	2010	NA

Source: Robert Shiller Data, Goldman Sachs Global ECS Research.

4. For a full explanation see Fixed Income Monthly July 2008, 'Sorry… no bond bubble'.

Exhibit 27: Global bond risk premium



Source: Goldman Sachs Global ECS Research.

Given the high ERP, therefore, the longer-term prospects for returns from current levels in equities have a higher than normal probability of being good by historical standards. The very low risk premium in government bonds suggests a higher probability of poor future returns relative to history.

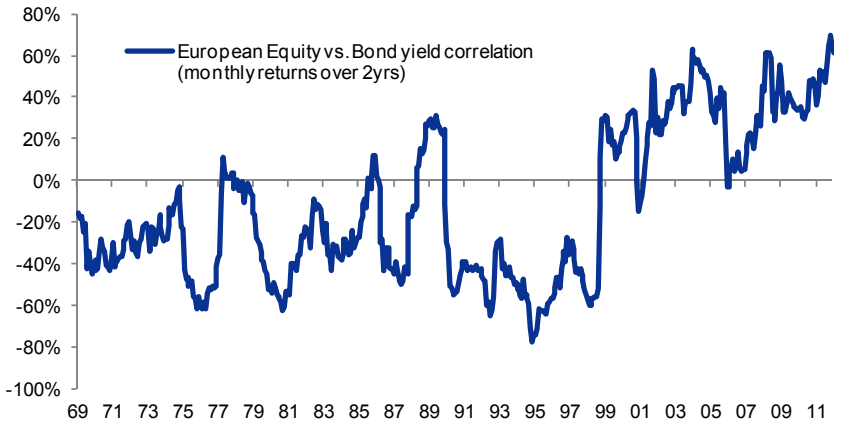
What happens if bond yields rise?

The equity market can withstand the impact of higher bond yields in the early stages of bond normalization, in our view

The above relationships suggest that equities are attractively valued in both absolute and relative terms. However, the main argument against this is that equities only look attractive because bonds are overvalued, in our view, and their yields are unsustainably low. If bond yields were to rise, so the argument goes, then equities may outperform in relative space but wouldn't rise in absolute terms. We do not think this is necessarily the case for two reasons:

- First, **the correlation between changes in bond yields and equity prices is not constant, but changes with different level of bond yields**. Initial rises in bond yields are likely to be accompanied by higher growth expectations and, possibly by higher equity valuations.
- Second, **rising bond yields are likely to be offset to some degree by lower required ERP**.

Exhibit 28: Rolling correlation between equities and bonds



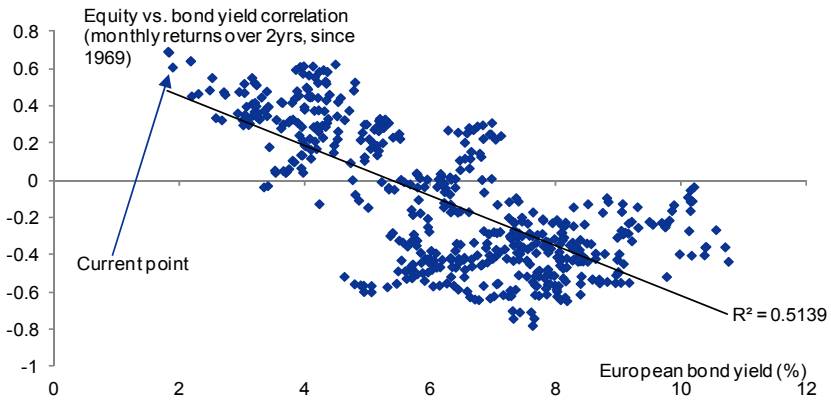
Source: Datastream, Goldman Sachs Global ECS Research.

Equity and bond correlations

While the relationships above suggest that equities are cheap versus bonds, this argument could have been made at any time over the past couple of years. One of the problems with these relationships, some would argue, is that bond yields are 'artificially low' as a result of central bank policy and the traditional relationships between bond yields and equity prices have broken down. In many ways, the shift in these cross asset relationships is once again a reflection of falling growth expectations into the future. Exhibit 28 shows the rolling correlation between European equities and bond yields; the recent correlation at +65% was at a 40-year high before starting to moderate at the start of this year. A high positive correlation means that rising bond yields are seen as a good for equities whereas falling yields are seen as bad, implying deteriorating nominal growth and growing chances of deflation.

We've shown before that the relationship between bonds and equities is a dynamic one and depends not just on the direction of bond yields but on the level. The scatter plot shows that when yields are above 4%-5% correlation between equities and bond yields tends to be negative; equities underperform when yields rise as it's a signal of inflationary problems and it raises the discount rate for equities. But this relationship typically flips the other way when bond yields fall below 4%-5%; at these levels rising bond yields are positive for equities as it signals growth and moves you further away from the poor outcomes deflation can involve. Indeed the correlation between bond

Exhibit 29: The correlation is not independent from the level of bond yield



Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 30: Stoxx 600, sensitivity to ERP and bond yield changes (current level 270)

Nominal risk-free rate \ Equity Risk Premium	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%	7.5%
1.0%	2541	1751	1305	1020	825	684	578	496	431	378	335
1.5%	1751	1305	1020	825	684	578	496	431	378	335	300
2.0%	1305	1020	825	684	578	496	431	378	335	300	270
2.5%	1020	825	684	578	496	431	378	335	300	270	244
3.0%	825	684	578	496	431	378	335	300	270	244	223
3.5%	684	578	496	431	378	335	300	270	244	223	204
4.0%	578	496	431	378	335	300	270	244	223	204	188
4.5%	496	431	378	335	300	270	244	223	204	188	174
5.0%	431	378	335	300	270	244	223	204	188	174	161
5.5%	378	335	300	270	244	223	204	188	174	161	150
6.0%	335	300	270	244	223	204	188	174	161	150	140

Source: Goldman Sachs Global ECS Research.

yields and equities has been high and positive in Japan since the mid 1990s. The current point on the scatter plot in Exhibit 29 is at the extreme top left. In a sense this is a reflection of how abnormal and fragile the current economic environment is seen to be. **For this reason we would expect the early rises in bond yields to be positive for equity prices as they both become a reflection of rising growth and inflationary expectations, and could expect some equity re rating in the initial stages of rising yields**.

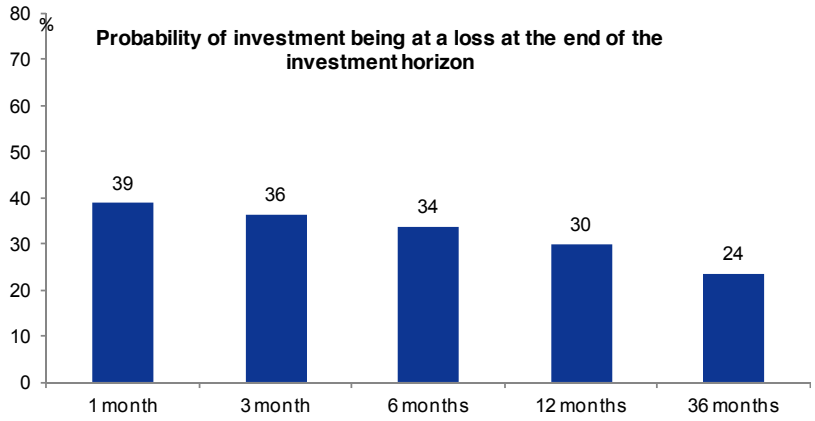
The trade off between bond yields and ERP

The balance between a lower ERP and higher bond yields in determining equity prices is likely to be crucial over the next years. Exhibit 30 for Europe shows the 'fair market' levels of the bond market as we vary the level of 10-year bond yields and the ERP. The box at the top right shows the area around the current 'fair value' Bund yields, as implied by our bond strategists' 'Sudoku' fair value bond model, and the current implied ERP. The lower box shows the area around a long-term 'normalized' level of bond yields and ERP. **Even if bond yields were to rise to 5%, and the required ERP were to normalize to its long-run average of 3.5%, the fair value on the SXXP would be 378, 40% above the current level.**

Risk and volatility have not changed

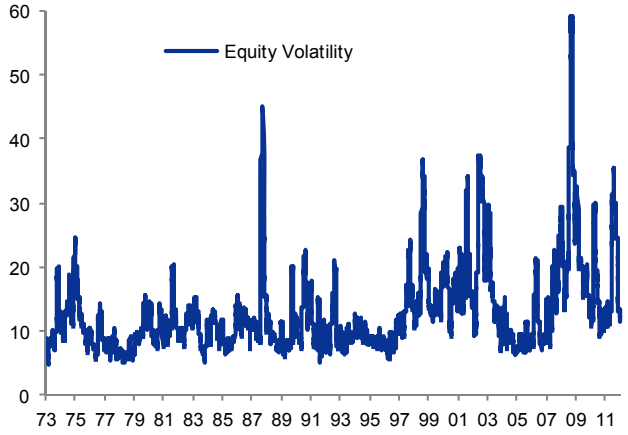
While valuations and starting point are important in determining future returns, investors often raise concerns about volatility of returns. In particular people often point to the risk of losing money over short periods in equities and the rising volatility of returns over time. Certainly, equities are not for the faint

Exhibit 31: Probability of investment being at a loss at the end of the investment horizon



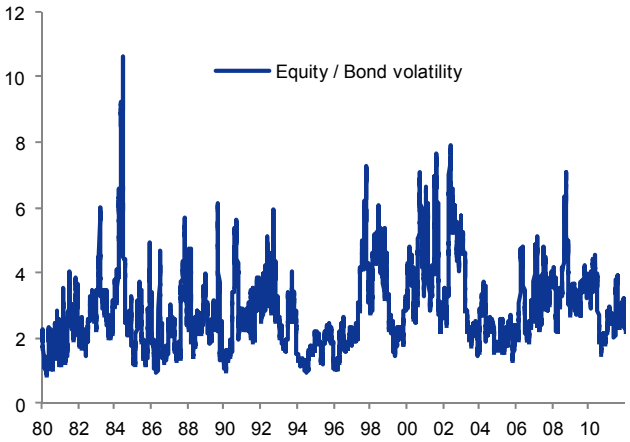
Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 32: European equity volatility over time (2m realised)



Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 33: European relative equity/bond volatility ratio



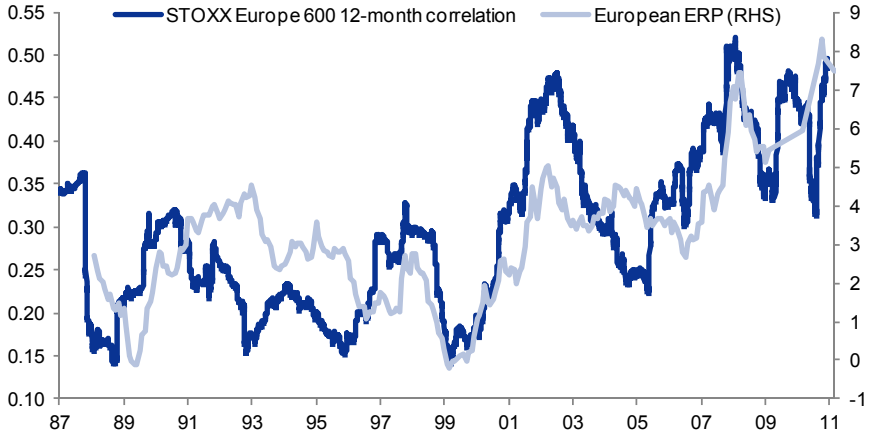
Source: Datastream, Goldman Sachs Global ECS Research.

hearted. Recent volatility has been very elevated, of course, and returns have been poor. But it is important not to lose sight of the fact that the risks of losing money has been high over anything other than fairly long-term holding periods in equity markets – this hasn't really changed. As Exhibit 31 shows, taking data since 1973, the probability of showing a loss on an equity index purchase has been close to 40% over a one-year holding period, only falling to a little less than a quarter over a three-year period.[5]

Investors are right to focus on this, and it is a good reason why it is important to view equities as a longer-term investment opportunity. But the case for holding equities as a longer-term investment should not have changed dramatically on the basis of loss profile alone. What about volatility?

Certainly equity volatility rose sharply around the start of the credit crisis and has remained higher than average ever since, (although has started to fall again recently, see Exhibit 32). But even in the period of heightened equity volatility, this was also true in other asset classes. Indeed, as Exhibit 33 shows, the ratio of equity to bond volatility has not trended upwards over the recent past and is not particularly unusual. Also the rise in equity volatility was largely a function of the rise in correlation which we have found to be heavily influenced by the ERP. If the ERP trends down over time, so would correlation and, hence volatility.

Exhibit 34: Correlations have increased alongside the ERP, which remains elevated
STOXX Europe 600 12-month correlation vs. European equity risk premium



Source: Goldman Sachs Global ECS Research.

5. See *GOAL Global Strategy Paper No. 1: Measuring risks: valuation vs. volatility Part 1,* October 17, 2011.)

3.Why Equities Offer an Opportunity Now

Ultimately if valuations are a key driver to future returns, the questions is whether the expectations embedded in current valuations are reasonable or not? While risks abound, and future earnings may be weaker than experienced over the past decade, there are growing reasons to believe they may not be as bad as markets are pricing. In this section we discuss several of the main factors that investors often point to as drivers of low returns, and explain why they are unlikely to be as bad as current prices imply. There are several arguments that encapsulate the skepticism that investors have of future returns:

1. Lack of policy options available to support growth

2. Deleveraging leading to lower growth – the Japan story

3. The collapse in investment spending leading to lower future growth

4. Demographics: Ageing populations will reduce long-term demand

Each of these have led to expectations that ROE and margins will decline given that they are currently at historically high levels. We discuss ROE and margin risks in section 4, on page 28.

The are several reasons why future growth may be lower, but some of the risks are exaggerated, in our view

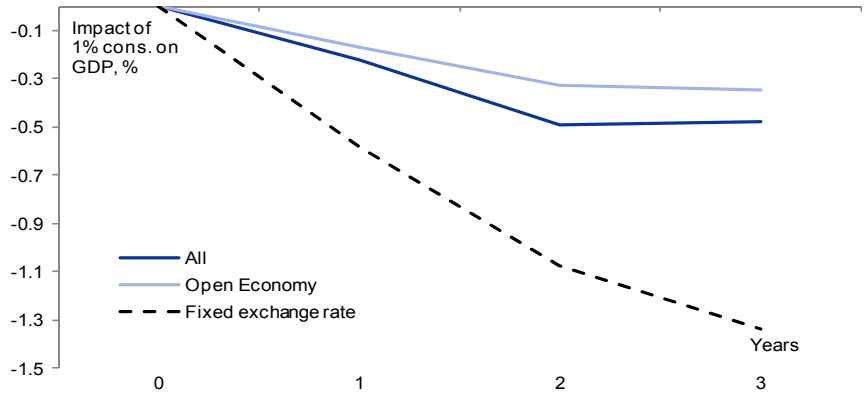
1. Lack of policy options

Many investors voice concern that the nature of the global economy has changed because of the lack of available tools to stimulate growth. With interest rates at the 'zero-bound' in the US, UK, Japan and Europe (at least close to it), and even flat or negative real interest rates at the long end of yield curves, there is little room left, at least in a conventional sense, to stimulate demand. The same could be said of fiscal policy. With risk transferred to the government sector and huge levels of debt, growth is likely to be weaker, all else equal. Our economists have argued that these effects are very real, particularly in a large closed economy like the US.[6]

As Exhibits 35 show, a 1% fiscal adjustment is likely to have a reasonable drag on growth over a 2 -3 year period.

Policy constraints combined with deleveraging are expected to reduce the long-term growth rates available in economies. Generally the impact of fiscal tightening, all things equal, is likely to be more significant in countries without

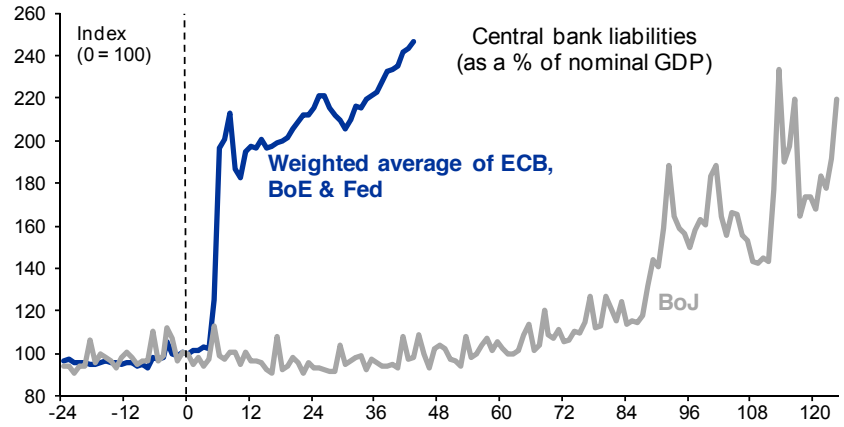
Exhibit 35: Effect of a 1% consolidation on GDP at the zero bound



Source: Goldman Sachs Global ECS Research.

6. Global Economics Paper 207 The Speed Limit of Fiscal Consolidation, August 19, 2011.

Exhibit 36: Monetary policy has been aggressive



Source: ECB, BoE, Fed, BoJ, Goldman Sachs Global ECS Research

flexible exchange rates. This would suggest the prognosis is less favourable for some of the economies that are going through rapid austerity measures in the Euro zone (with fixed exchange rates) and also in the US, (whose economy is very large and relatively closed).

While the fiscal tightening argument is relevant when considering why future economic growth may be sub-trend for some time. There are two counterbalancing factors that need to be accounted for:

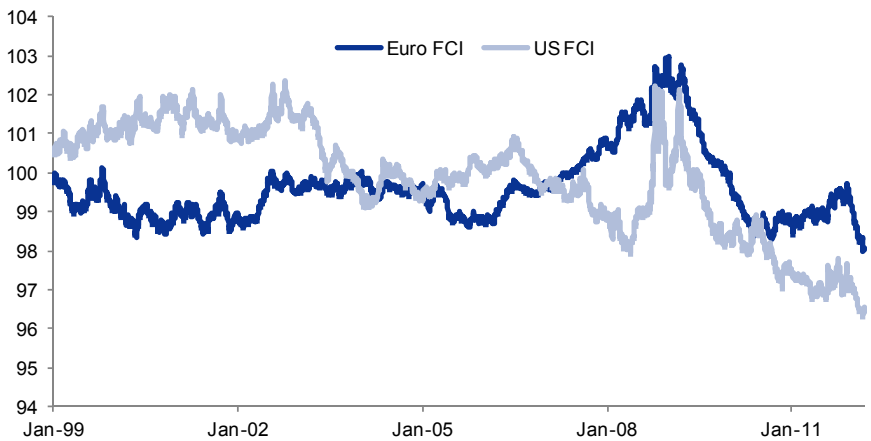
- Not all countries are tightening fiscal policy together. Indeed, many emerging economies have strong fiscal balances and foreign exchange reserves and have scope to ease fiscal policy and encourage the growth of credit in the household sector.

- While fiscal policy is being tightened in many developed economies, monetary policy is still being loosened. Central banks have been proactive in accelerating non-conventional monetary easing and expanding the size of their balance sheets (see Exhibit 36).

Not all countries are tightening fiscal policy together. Many EM countries provide an offset to DM

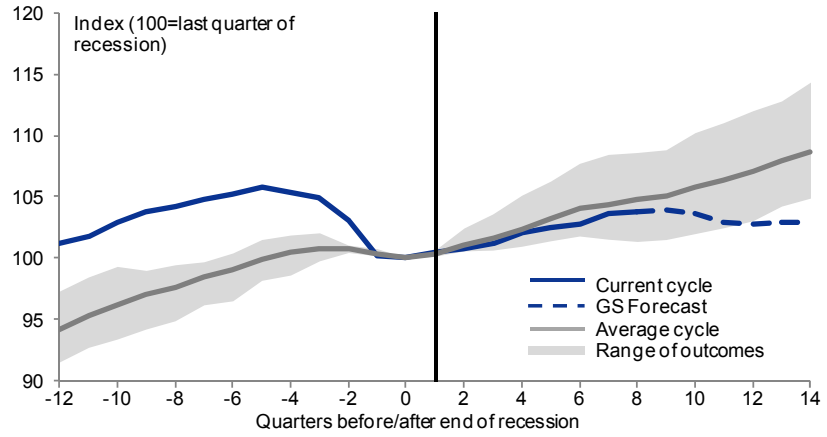
Monetary easing has accelerated again since the start of this year. The Feds pre commitment to low rates for the next three years, further asset purchases in Japan, the LTRO in Europe, and cuts in interest rates in a number of emerging economies, have all loosened policy. In addition further declines in the dollar and strength in equity prices have further eased financial conditions to record lows (see Exhibit 37).

Exhibit 37: US and EU Financial Condition Index



Source: Goldman Sachs Global ECS Research.

Exhibit 38: Current recovery in Europe tracking below average cycle



Source: Datastream, Goldman Sachs Global ECS Research.

2. Deleveraging

The credit crisis has accelerated the deleveraging of many economies, particularly in the developed world. The history of post 'financial' led crises would suggest that adjustments can take a long period of time. Excess capital needs to be worked off and savings need to rebuild. As consumers are the biggest part of most economies (particularly the US), then ongoing deleveraging, at a time of government budget constraint, is likely to lead to economic activity growing below trend.

Not all countries are deleveraging together. Again, many EM countries provide an offset to DM

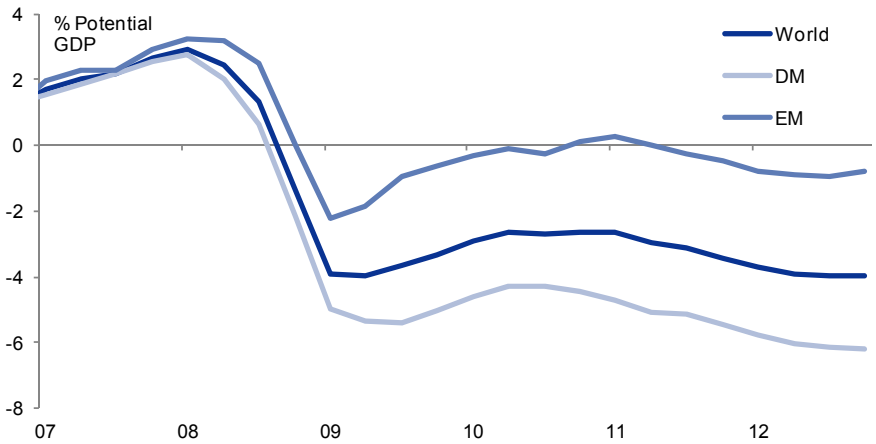
But, as with the issue of policy tightening, this is not true globally.

- While deleveraging has led to a deflationary bias in the developed world (owing to excess capacity, particularly in the US), there are few signs of excess capacity in the EM world. Arguably the opposite is the case. As Exhibit 39 shows, most EM countries do not have significant output gaps.

- The speed of deleveraging has been rapid.

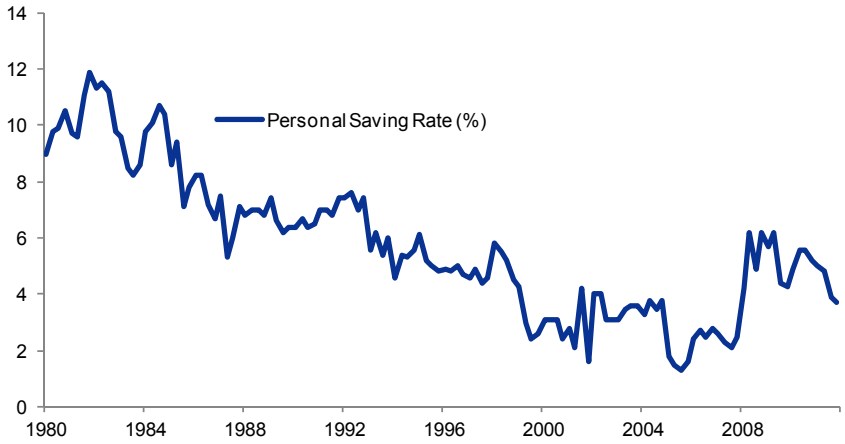
There are some encouraging signs about the speed of the adjustments of balance sheets – at least in the private sector. Furthermore, corporate balance sheets are in good health in the US and Europe, as well as much of Asia as Exhibits 41-44 show.

Exhibit 39: Percentage of potential GDP by regions



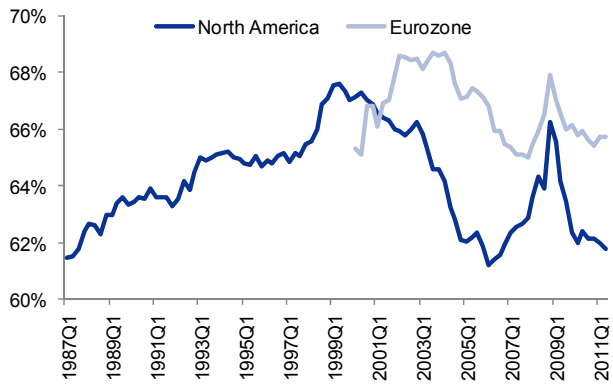
Source: Goldman Sachs Global ECS Research.

Exhibit 40: Personal Saving Rate (%)
Personal Saving Rate as a percentage of disposable income



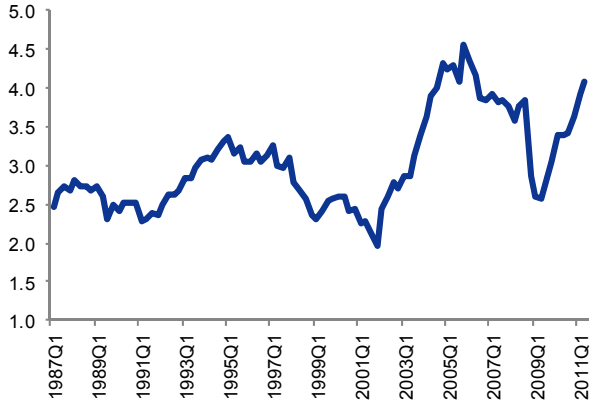
Source: Bureau of economic analysis, Haver Analytics.

Exhibit 41: Corporate balance sheets have recovered since the crisis
De-seasonalized median total liabilities as a percentage of total assets for non-financial firms



Source: Goldman Sachs Credit Strategy, Compustat, CapIQ.

Exhibit 42: US interest coverage ratio has substantially improved



Source: Goldman Sachs Credit Strategy, Compustat.

3. The collapse in investment spending

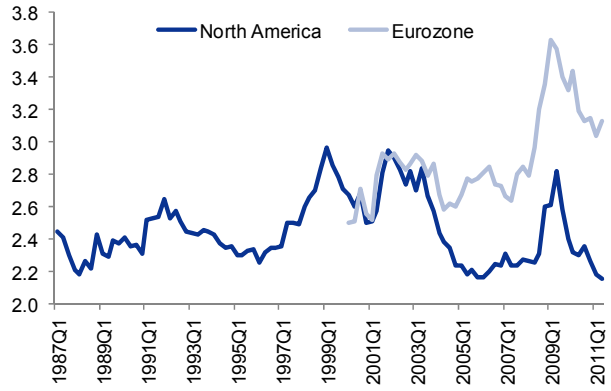
While the strength of corporate balance sheets is reassuring at one level, many point to this as a potential weakness. This argument is based on the idea that balance sheets are strong simply because companies are hording cash due to their lack of confidence, attractive investment opportunities, or both. The scarcity of investment spending, some argue, has made equities more 'bond – like', requiring a higher yield to compensate for their lower prospective growth and higher risk.

The corporate sector has unusually strong balance sheets

The fall in investment spending has impacted future expectations. Exhibit 45 shows that nearly one-third of companies in Europe are expected to cut capex spend over the next year according to analysts.

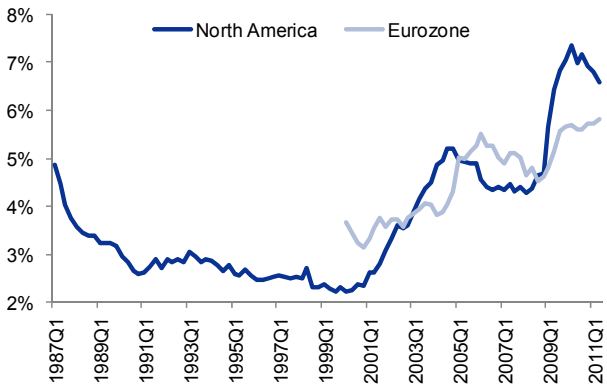
Part of this collapse in investment spending is precautionary. The deleveraging of banks balance sheets has reduced the amount of money being lent by the financial sector and, consequently, the more the corporate sector has to self help. Many companies want to keep higher levels of cash in order to cushion against the risks of a working capital squeeze if there is another downturn.

Exhibit 43: Leverage – most commonly measured as the debt-to-EBITDA ratio - has fully reverted back to pre-crisis lows in the US while only half-way in the Eurozone
De-seasonalized median total debt to EBITDA ratio for non-financial firms



Source: Goldman Sachs Credit Strategy, Compustat, CapIQ.

Exhibit 44: Corporates continues to hold a higher percentage of cash on their balance sheet
De-seasonalized median cash as percentage of assets for non-financial firms



Source: Goldman Sachs Credit Strategy, Compustat, CapIQ.

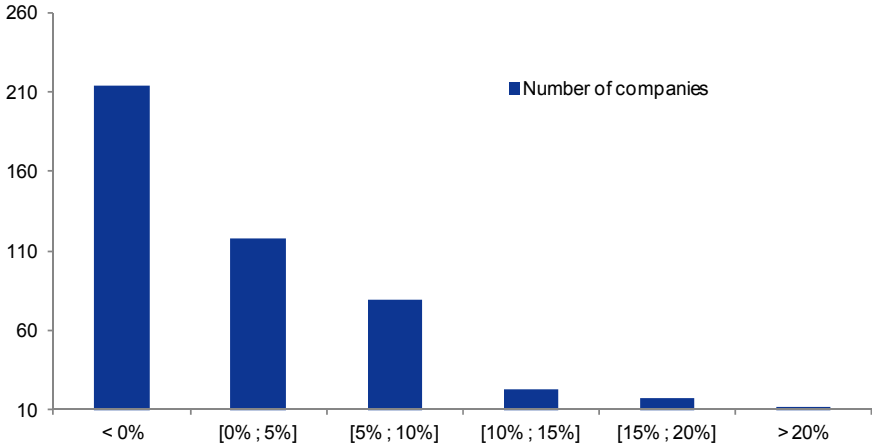
However, theoretically many companies should be in a position to increase investment. There are two reasons to believe that investment spending is likely to increase.

- Assets have aged and the ratio of inventories to sales has fallen to record lows in many industries. There is a good deal of pent up demand for capital spending that might be unleashed. As Exhibit 46 shows, the ratio of retail inventories to sales in the US has fallen to record lows. In part this reflects the advent of technology and better logistics experienced since the mid 1990s. But, as with many other industries, it may also reflect the fear of holding stock following the working capital problems endured during the post Lehman collapse.

  In Europe, the asset base is particularly old, at over 8.6 years, again indicating that managements are sitting on the sidelines across a wide range of industries.

- A growing proportion of investment spending is in growth economies – a factor that might enhance future returns (see Exhibit 48).

Exhibit 45: European analysts capex growth expectations for 2012

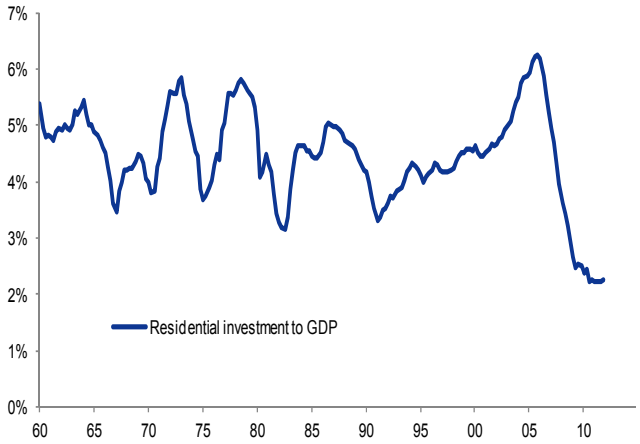


Source: I/B/E/S, Goldman Sachs Global ECS Research estimates.

Exhibit 46: US retail inventories at historic lows

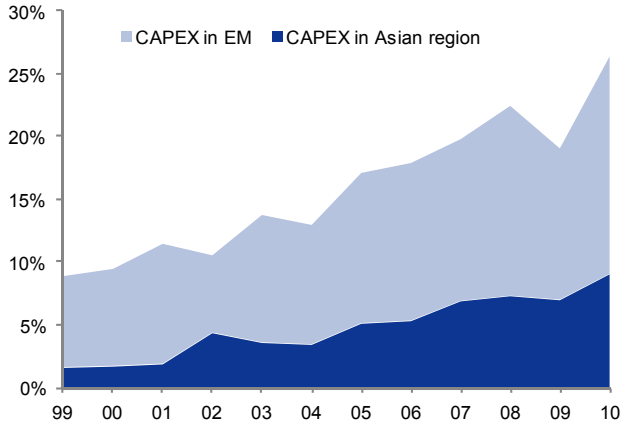
Source: Goldman Sachs Global ECS Research.

Exhibit 47: US residential investment to GDP



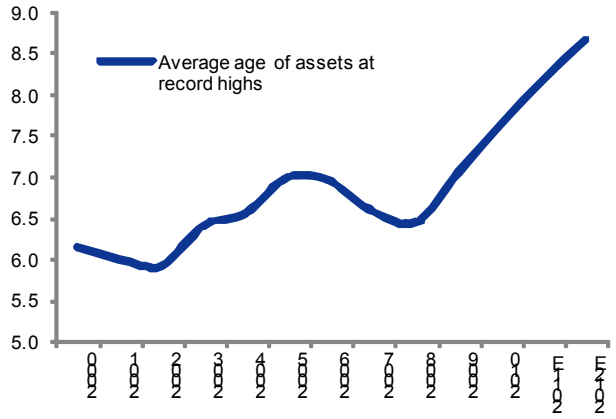
Source: Goldman Sachs Global ECS Research.

Exhibit 48: European capex shares by region



Source: Worldscope, Goldman Sachs Global ECS Research.

Exhibit 49: Average age of assets at record highs



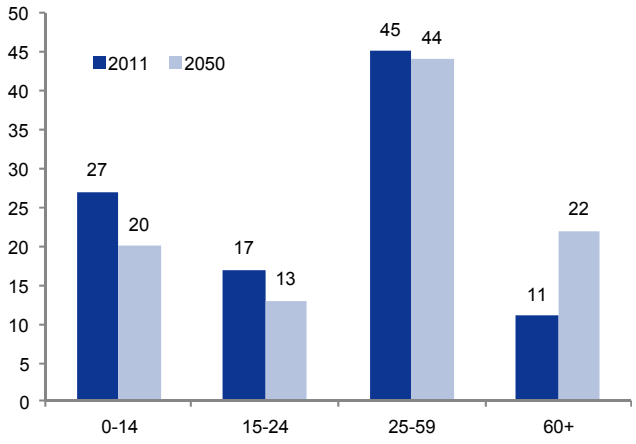
Source: Goldman Sachs Research estimates.

4. Demographics

The developed economies are, generally, experiencing ageing populations - Europe and Japan more than the US. Some, of course, are worse than others, but the general trend is very similar. In the US, the baby boomer generation (born between 1946 and 1964) is vitally important in driving the economy and demand for assets. There are several recent studies attributing the strong equity market of the 1980s and 1990s to the demand from baby boomers. Some of these, based on models, suggest that there is likely to be a negative path for equity prices as investors reduce holdings as a result of their age cohort. Is this an adequate explanation of falling demand for equities over time? We think not for the following reasons:

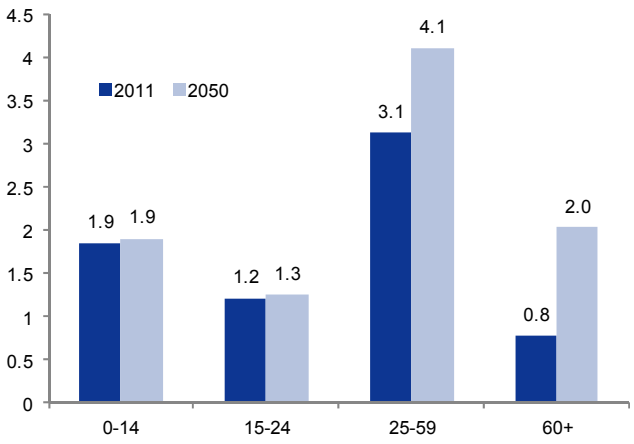
1) While populations are ageing in the developed economies, they are not on a global basis at the 25 to 59 cohort, the important one for saving (see Exhibits 50 and 51). Many of the populations in the faster growing emerging economies are still increasing and, with rising disposable incomes, they might reasonably be expected to increase demand for financial assets over time. If capital accounts open, some of this demand may flow into branded quality companies in developed markets as investors seek to increase their diversification. Of

Exhibit 50: Distribution of world population by age cohort
(in %)



Source: United Nations Department of Economic and Social Affairs Population Division (2011)

Exhibit 51: Global size of age cohorts
(in Bn)



Source: United Nations Department of Economic and Social Affairs Population Division (2011)

course, this may be offset to some extent by the 'home bias' of investing, but given that many of the home markets in growing populations have limited liquidity, this may not be so much of a constraint.

2) Baby boomers may want income, but ongoing low rates – and even negative real rates – may push them up the risk curve into corporate bonds and even higher yielding equities. There may also be a tendency for baby boomers to hold riskier assets for longer in order to generate capital for future generations.

3) Markets are arguably efficient and, given that the demographic profile is easy to forecast, they should have adjusted to reflect this already, to some extent. At any rate, the past 20 years have been positive for the demographics of investment in many economies but this has not stopped markets from performing badly.

4) Companies are flush with cash. Given the higher cost of equity than debt, many may decide to buy back equity to enhance the efficiency of their balance sheets. This could act as a counterbalance to any reduced demand from baby boomers.

All in all, we do not see demographic issues as sufficiently strong to provide a major headwind to equity markets given the current valuations.

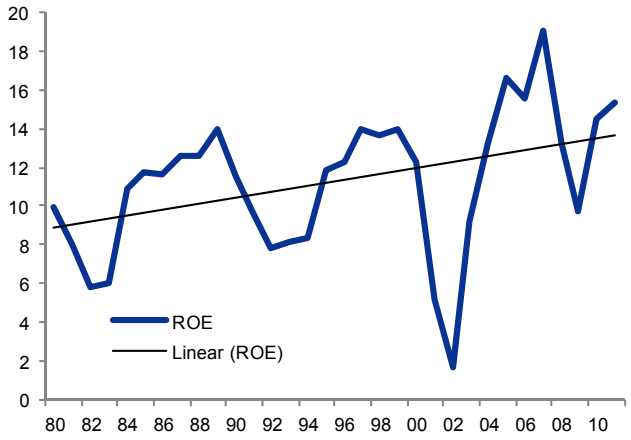
4. Expectations that ROE and Margins will Decline

In addition to the concerns about fiscal tightening and deleveraging, there are broader worries also about the prospects for longer-term profit growth. Many argue that the rise in ROE in recent years, is coming to an end.

Hardly surprising, therefore, is that the markets' P/B ratio, for example, is broadly consistent with a decline in the ROE over time (see Exhibit 54).

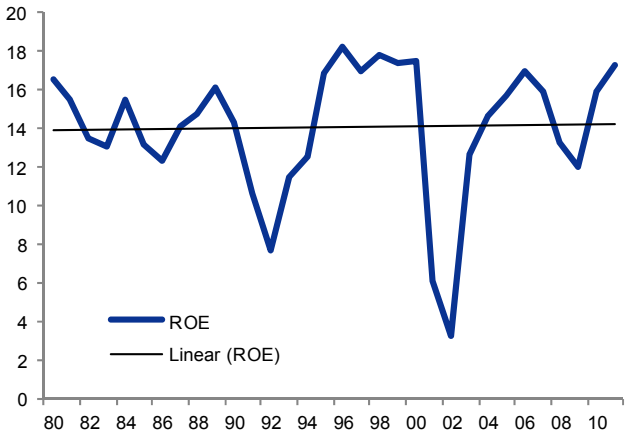
Another way to calibrate the forward expectations that current prices imply for ROE is to generate a sensitivity model as in Exhibit 55, based on the Stoxx 600 index in Europe. This allows us to see what level the market should trade at today as we change assumptions about ROE and earnings growth. To begin with we assume in the calculations a required ERP of 5%. Of course this is somewhat arbitrary, but it is lower than the current implied ERP of 7.3%, and well above the long-run average of c.3.5%. The current ROE is around 13% in Europe having peaked at around 17% in 2007. Meanwhile, the long-run average growth rate in earnings in real terms has been about 4% in Europe (2.9% in the US).

Exhibit 52: European ROE
European non-financials RoE



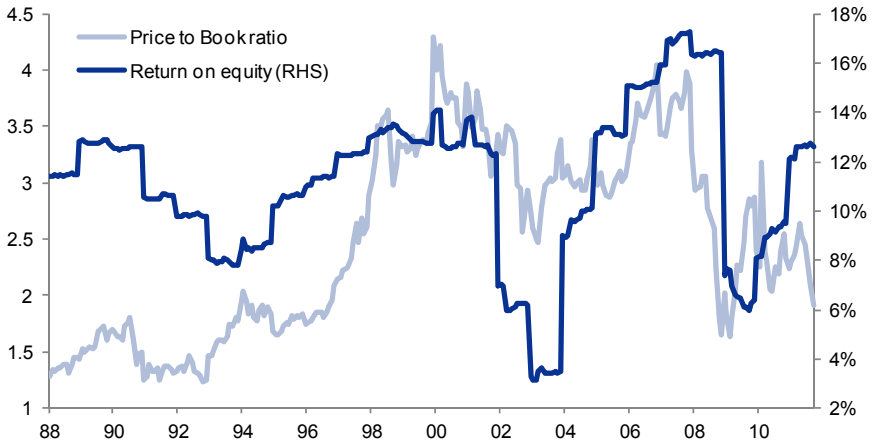
Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 53: US ROE
US non-financials RoE



Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 54: Price-to-book ratio and ROE over time
Europe



Source: Worldscope, Goldman Sachs Global ECS Research.

Exhibit 55: Fair-value sensitivity for STOXX 600
Fair value using a 5% ERP

Return on Equity (trend) \ Real Long Term Growth	0.0%	0.5%	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%
8.5%	200	213	226	240	255	**272**	290	309	329	352	375
9.5%	222	236	250	266	284	**302**	322	343	367	391	418
10.5%	245	260	276	294	313	**334**	356	380	406	433	463
11.5%	267	284	302	322	343	**366**	390	416	445	475	508
12.5%	288	306	326	347	370	**395**	421	450	481	514	550
13.5%	**310**	**330**	**351**	**374**	**399**	426	**455**	**486**	**519**	**555**	**594**
14.5%	332	353	376	401	428	**457**	488	521	557	596	637
15.5%	354	377	402	428	457	**488**	521	557	596	637	682
16.5%	377	401	428	456	487	**520**	555	594	635	679	727
17.5%	399	425	453	484	516	**552**	590	630	674	722	773
18.5%	423	451	480	513	547	**585**	625	669	715	766	820

Source: Goldman Sachs Global ECS Research.

If investors believed that the current rate of return on equity could be sustained over the next 20 years, even assuming long-term real earnings growth were to fall to 2.5% (rather than the historical average of 4%), then the market would be currently trading at around 420, around 55% higher than it is today!

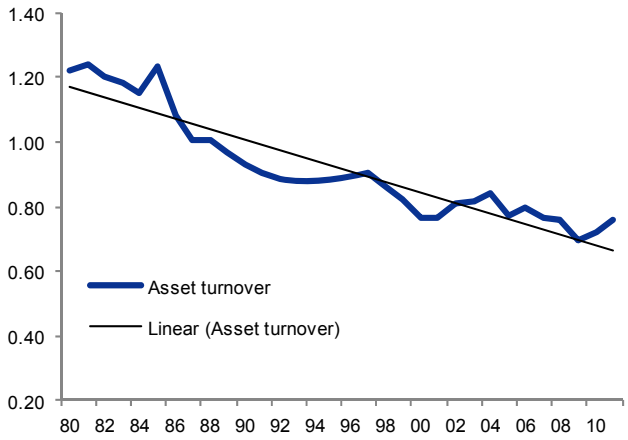
Put another way, for us to justify the current market price in Europe, investors must be expecting a collapse in the ROE to around 8.5%, with an annual real growth rate of just around 1% for 20 years.

But is the fear of collapsing ROE fair? Some argue that this will be driven by higher taxation or a fall in leverage. But these do not seem to be sufficient factors to drive ROE in a meaningful way. Indeed, the rise in ROE is even more remarkable given that both asset turnover and financial leverage have actually been falling in recent years (see Exhibits 56-57).

The trend lower in asset turn has largely been a function of lower inflation. This doesn't look likely to change any time soon.

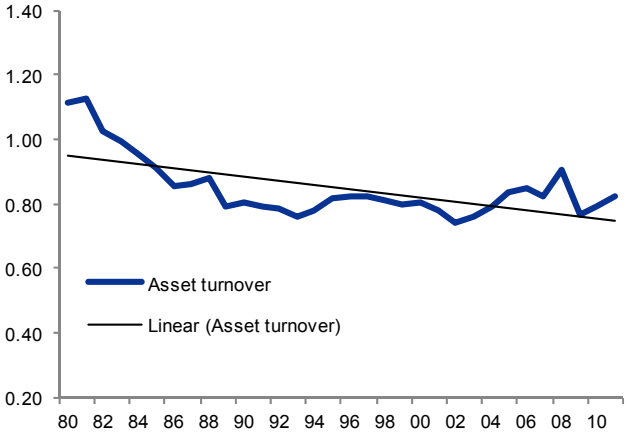
Despite the financial leverage boom of the 2000s, the overall level of financial leverage on the corporate sector balance sheet is actually fairly low relative to history.

Exhibit 56: Asset turnover in European companies
Excluding Financials



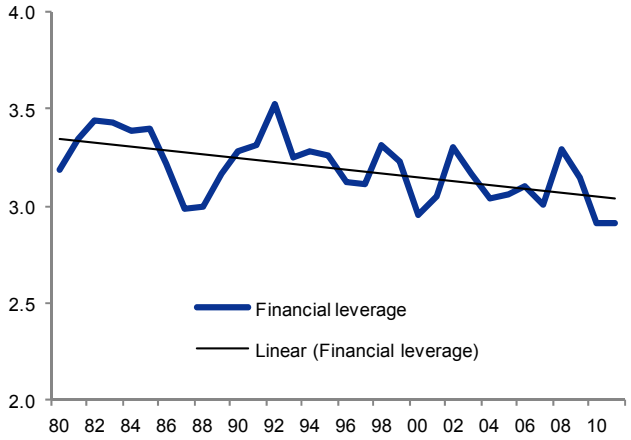
Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 57: Asset turnover in US companies
Excluding Financials



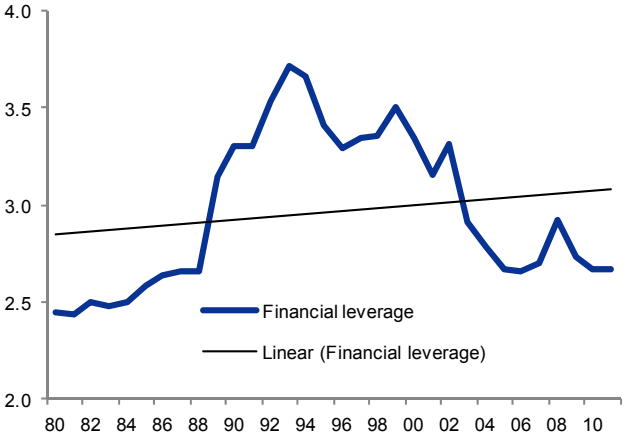
Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 58: Financial leverage in European companies
Excluding Financials



Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 59: Financial leverage in US companies
Excluding Financials



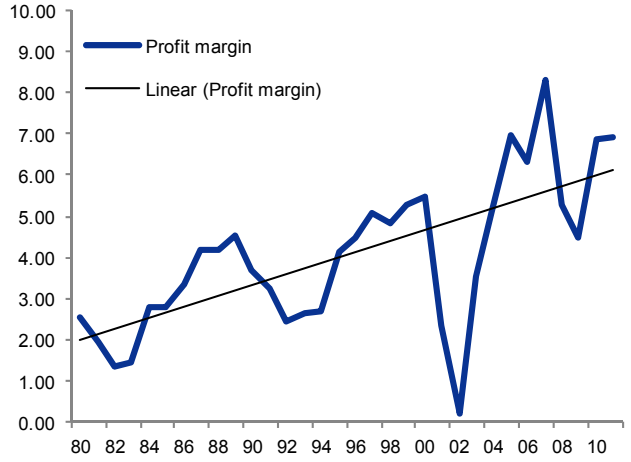
Source: Datastream, Goldman Sachs Global ECS Research.

The most important driver of ROE is margins

The secular rise in margins over the past decade can be largely attributed to a combination of technological advances and globalization – both helped to reduce costs. The marginal return from investment, it is argued, is falling while the disinflationary impact of cheap labour in many emerging markets (that also helped to boost profit margins) is reversing.

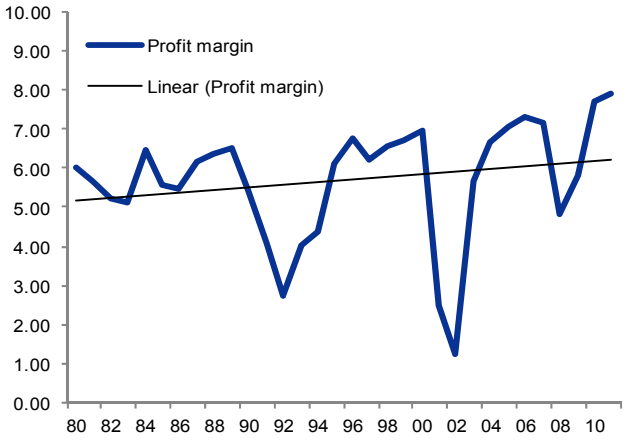
Even in the downturn post-2008, margins held up relatively well compared with other downturns – largely a reflection of the rapid cost cutting in the corporate sector. Since then margins have climbed back impressively and are now approaching their previous highs in Europe and have actually exceeded previous highs in the US. We have written extensively about margin prospects.[7] Structural factors have been a major factor behind the secular improvements over time. In particular, the combination of intense technological innovation and globalization has been instrumental. While concerns over margins are understandable, after all they cannot rise forever, it is by no means obvious that margins will fall meaningfully, at least in aggregate.

Exhibit 60: Profit margin in European companies
Excluding Financials



Source: Datastream, Goldman Sachs Global ECS Research.

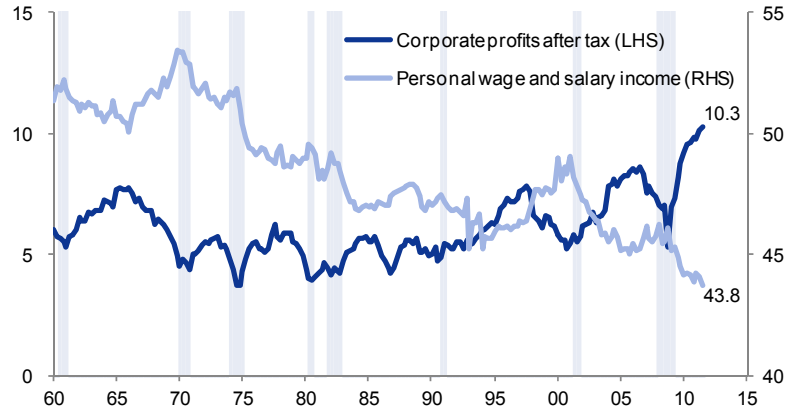
Exhibit 61: Profit margin in US companies
Excluding Financials



Source: Datastream, Goldman Sachs Global ECS Research.

7. See *Portfolio Strategy Research: The margin debate: cyclical risks vs. structural gains*, April 18, 2011)

Exhibit 62: US corporate profits after tax & personal wage and salary income



Source: Goldman Sachs Global ECS Research.

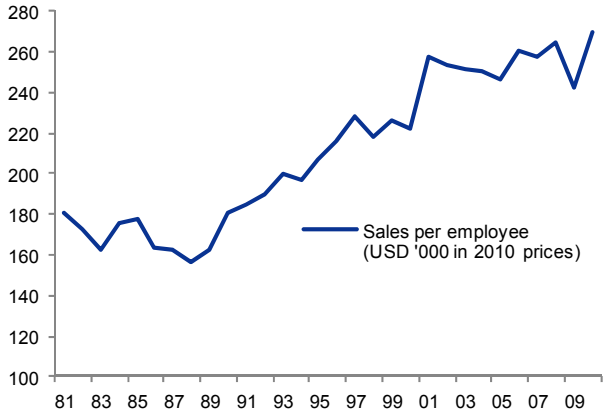
As Exhibit 62 shows, the long-run data in the US demonstrates that the rise in the profit share of GDP is largely a function of a secular fall in the labour share. With high unemployment and further substitution of technology for labour, it is unlikely that this will change dramatically any time soon.

Indeed, our US economists have modeled margins based on various factors, of which labour costs are the most important. Their models imply that real wage growth is lower at higher levels of slack in the labor market. Right now, they predict slightly *negative* real wage growth, which would mean that any productivity gain falls directly to the bottom line. While productivity has been a bit disappointing recently, our economists still expect it to grow at a rate of 1¼-1½% in 2012-13. These projections would translate into a further decline in labor's share, and a corresponding increase in domestic non-financial margins.

The productivity uplift from the capital deepening can be seen in the ratio of sales per employee (Exhibit 63) and the fall in staff costs to sales for European companies (Exhibit 64).

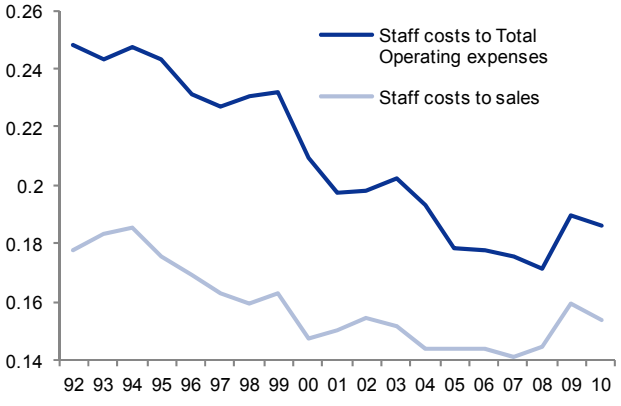
Another important contributor to higher margins has come from technology. The boost in margins from technology is both direct, through lower labour costs, but also indirect since technology is making up a higher share of the index in many cases. As Exhibit 65 shows, this is particularly relevant in the US where technology makes up around 15% of the index and where margins have risen very sharply relative to history.

Exhibit 63: Sales have risen faster than employee numbers
Europe



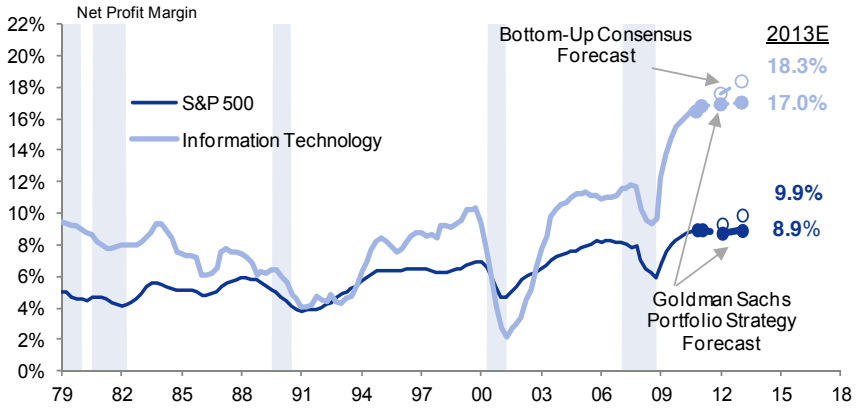
Source: Datastream, Worldscope, Goldman Sachs ECS Research.

Exhibit 64: Staff costs have fallen
Europe



Source: Datastream, Worldscope, Goldman Sachs ECS Research.

Exhibit 65: Information technology margins reach record highs
S&P 500



Source: Goldman Sachs Global ECS Research estimates.

On the basis of margins alone, therefore, we find it hard to believe that ROE is going to collapse to the low levels that, say, Japan has experienced over the past couple of decades.

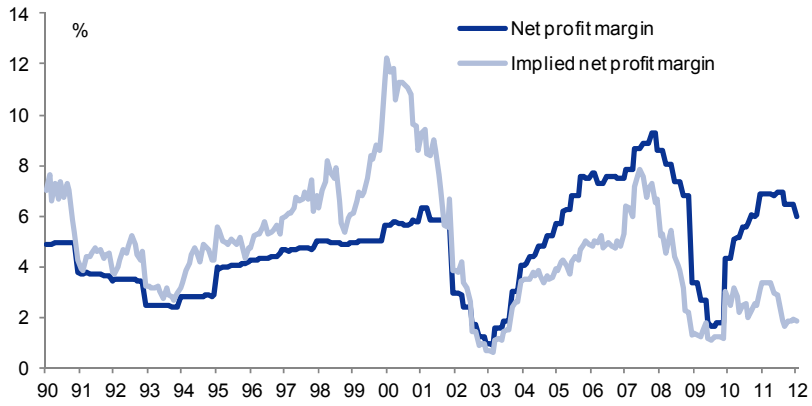
If margins are the key driver to ROE, what are the downside risks? Many investors argue that they expect margins to decline, but rarely is there agreement over how much. While this may be a difficult question to answer, it is at least instructive. As with our analysis for ROE, we can also look at a simple sensitivity analysis to back out what the market price is implying.

In Exhibit 66 we show both the current net profit margin in Europe and the market implied margin on the assumption that the ERP is at its long-run average of 3.5% and long-run sales growth is 2.5% per annum real, plus 12-month forward inflation expectations. This would suggest that on any normalized risk environment, the market is expecting margins to fall by over 400 bp from current levels.

Of course, this may be unrealistic as investor sentiment currently is not 'normal'. Calculating this in reverse, in Exhibit 68, **we find that a risk premium of 8%-8.5% is required to maintain the current margin, on an assumption of long-term real growth of 2.5%. We think that this risk premium is unrealistically high.**

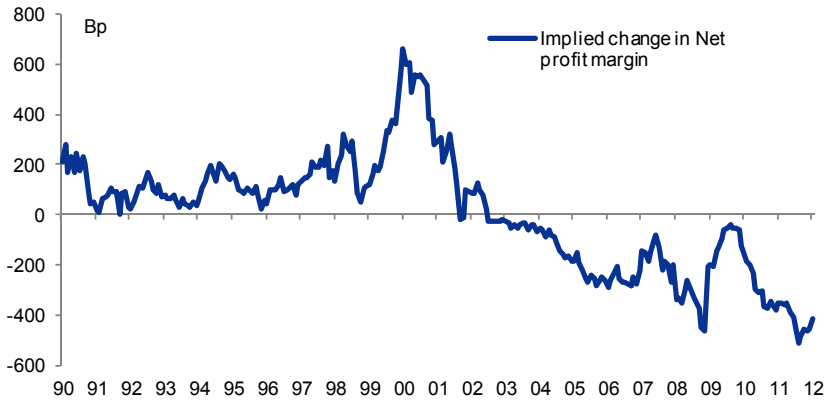
In reality, the market is probably implying a higher risk premium than the long-run average, AND a lower long-run trend growth rate. Exhibit 69 is based on a

Exhibit 66: European net profit margin and implied net profit margin



Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 67: Implied change in net profit margin (STOXX 600)



Source: Datastream, Goldman Sachs Global ECS Research.

long-run ERP of 5.5% (lower than the current ERP and significantly higher than the long-run average). The table allows us to combine the risk premia with different long-run growth rates to see what implied shift in margins is likely.

With real long-run growth of 1%, for example, and an ERP of 5.5%, the implied fall in margins over the next 10 years is 220 bp. This would push it down to slightly below its 10-year average.

As with the analysis on ROE, therefore, many would argue that this is very plausible. But, as with all of this analysis, the real swing factor is what happens

Exhibit 68: Implied change in margins in current prices assuming different ERPs (STOXX 600)

Stressing the ERP			
Real sales growth (%)	ERP (%)	Margin in 2022 (%)	Implied change in margin (Bp)
2.5	3.5	1.8	-416
2.5	4.0	2.1	-384
2.5	4.5	2.5	-349
2.5	5.0	2.9	-312
2.5	5.5	3.2	-272
2.5	6.0	3.7	-230
2.5	6.5	4.1	-185
2.5	7.0	4.6	-137
2.5	7.5	5.1	-85
2.5	8.0	5.7	-30
2.5	8.5	6.2	28

Source: Datastream, Goldman Sachs Global ECS Research.

Exhibit 69: Stress testing margin assumptions (STOXX 600)

Stressing both sales and the ERP			
Real sales growth (%)	ERP (%)	Margin in 2022 (%)	Implied change in margin (Bp)
2.5	5.5	3.2	-272
2.0	5.5	3.4	-256
1.5	5.5	3.6	-239
1.0	5.5	3.8	-221
0.5	5.5	4.0	-202
0.0	5.5	4.2	-181
-0.5	5.5	4.4	-160
-1.0	5.5	4.6	-137

Source: Datastream, Goldman Sachs Global ECS Research.

to the ERP? Is 5.5% the right number over the very long run, or is this too high?

On balance, it appears that the markets are placing a high probability of a sustained period of fading returns and sub trend real profit growth, akin to the outcome that Japan experienced through its 'lost decades'. In our view this is too negative and leaves room for some upside over the next few years as risk premia moderate to some degree.

What if we are wrong and growth does not recover? **The structural headwinds to growth may create a prolonged economic stagnation, similar**

5. Risks of Stagnation; the Return of 'Fat & Flat'

to the one experienced in Japan for much of the past 20 years. The concern is that a long economic stagnation, reflecting the forces of on-going deleveraging and fiscal austerity, will cap future returns in equities.

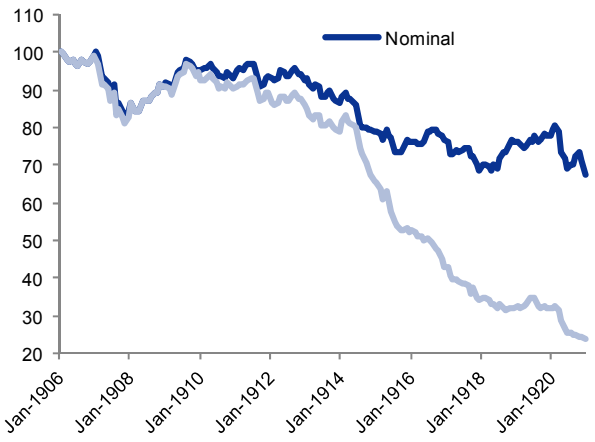
While equities have performed poorly over a prolonged period, many investors worry that we might be in for a further period of stagnation over the next several years as lower growth caps future returns and deflation limits the returns of nominal assets. **This kind of fat and flat return (the name we give to long-term stagnations in the market where the trading range is wide, but aggregate returns flat), has occurred in the past.** One such period was in the UK market from the early 20th century through to the end of the First World War as political turmoil and a collapse in worldwide trade reduced returns on capital. There was also, of course, the Japanese equity market following the bubble of the late 1980s.

In general the fat and flat, or stagnating periods, typically are associated with either periods of political turmoil/conflict (around the first and second World Wars), periods of extreme valuation (late 1960's, late 1980s (Japan), late 1990s) and periods of economic duress/stagnation (the 1970s).

This topic of market reactions to periods to economic stagnations has been covered in some detail by our economics team[8]. The main conclusions from their work is that long periods of well below trend economic activity are also matched by periods of weaker than average real equity returns**. However, long periods of negative returns are unusual without a valuation component.** This time around, valuation does not appear to be a major constraint for markets.

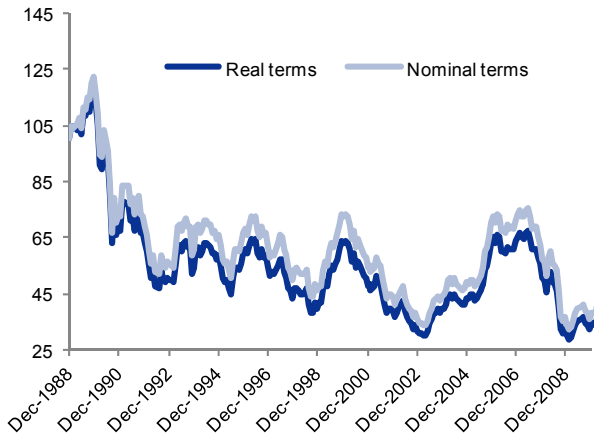
This importance of valuation in prolonged market stagnations is particularly clear when we compare the outcome in Japan post the bursting of its bubble in the late 1980s, with other periods of sub-par economic activity. Exhibit 72 shows the growth profile of different episodes of stagnation starting from five years prior to the start of the period[9] . The grey areas represent +1/-1 standard deviations away from the average. The Japanese example did follow the average stagnation profile. But while the economic stagnation in Japan was in many respects fairly typical of a number of stagnation episodes in terms of its

Exhibit 70: The UK equity market posted negative returns until the end of WW1 ...



Source: International Financial Data, Goldman Sachs Global ECS Research.

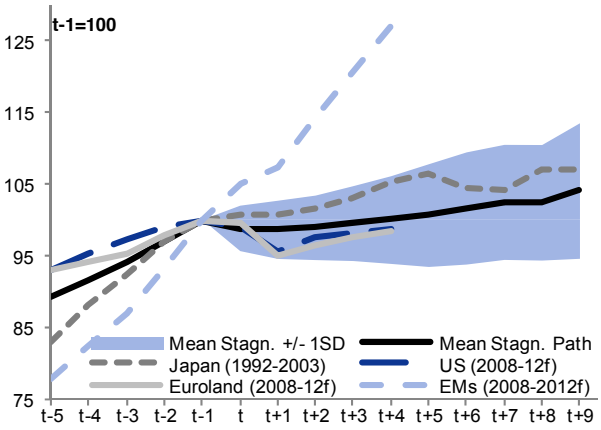
Exhibit 71: ... and so did the Japanese market after the bubble



Source: International Financial Data, Goldman Sachs Global ECS Research.

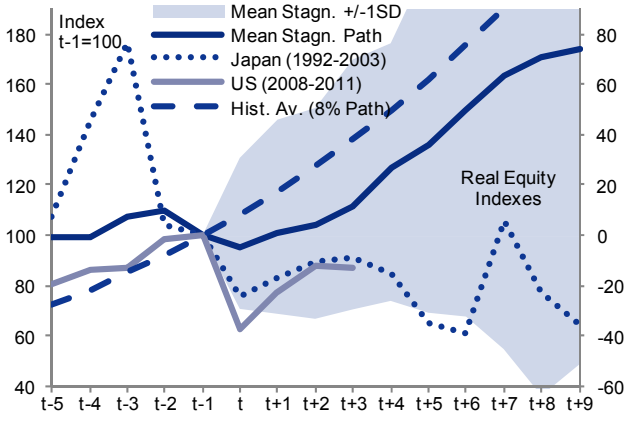
8. See *Global Economics Weekly: 11/33 ¡ A Markets View of Stagnations* October 19, 2011.
9. The data set includes more than 90 periods of stagnation since 1800, 60% of which were post WWII.

Exhibit 72: GDP per capita trends in Europe and US are not yet out of the typical stagnation path



Source: Goldman Sachs Global ECS Research, Barro-Ursua.

Exhibit 73: Typical path for stocks is lower than average but better than Japan



Source: Goldman Sachs Global ECS Research, Barro-Ursua.

duration and average growth experience, the recent equity market experience really has been an outlier, being much worse than the 'typical' stagnation. This can be seen in Exhibit 73 which, shows the evolution of equity returns during a typical stagnation.

Exhibit 73 also shows the area where the paths are more likely and compare the mean and medians to recent experiences across the world. In the case of Japan, the equity market fell sharply for a couple of years before entering its long stagnation, and then traces out the lower edge of the typical path of equity returns during these episodes for quite some time. So while many investors worry that we may be in for many years of a trendless, fat and flat market, there are three important reasons to be more hopeful:

1) The weak growth experiences being felt in many economies in the developed world are not universal and, by and large, are not being felt in many of the large emerging economies. While much of Europe and the US experiences the impact of deleveraging (whether it is of household, banks or government balance sheets), the opposite is true across many of the emerging economies, particularly the BRICs. Of course, this differential is part of the process of unwinding imbalances. Many of the emerging economies that have built up large savings surpluses are moving to increase leverage and generate higher domestic demand as an offset to the higher savings in Europe and the US.

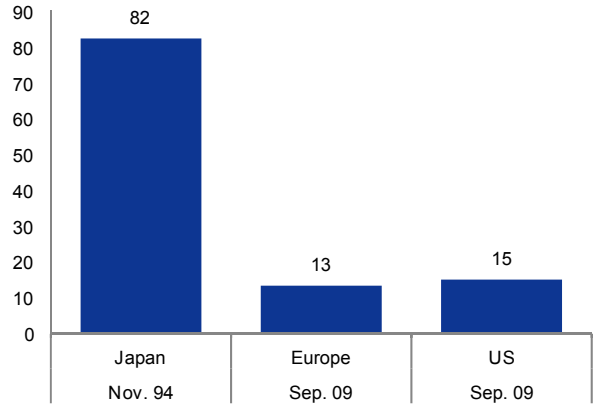
2) Valuation of risky assets into this period of sub-par growth is significantly lower than it was going into other weak periods of activity such as the 1970s, or Japan in the 1990s.

Japan is often used as the most obvious analogue to the current predicament of the developed world, but despite the obvious and tempting similarities (ageing populations, structural rigidities in the economy, high levels of debt and banks going through significant deleveraging), equity valuations are very different.

The Japanese market was trading at around 80x earnings when it peaked, and remained at these kinds of levels for many years after the bubble burst (see Exhibit 74) . In the current cycle, most markets were trading at much lower valuations going into the crisis, and have continued to de-rate ever since. Furthermore, the ROE in Japan was low even before the bubble burst in the late 1980s and has been low ever since, compared to the US and Europe (see Exhibit 75).

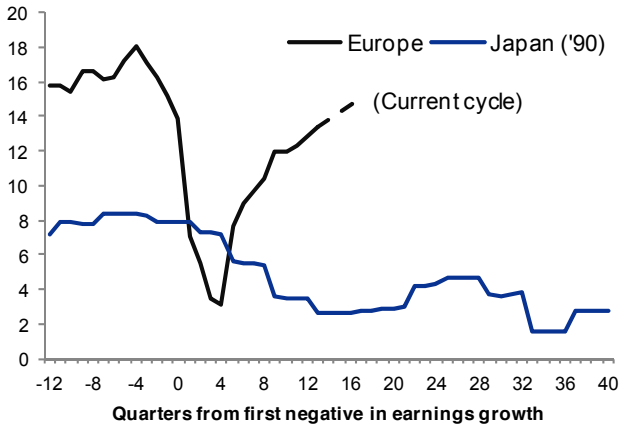
Exhibit 74: Peak equity valuations were far more stretched in Japan than in the US, Europe

12-month forward P/E, x



Source: MSCI, I/B/E/S, Goldman Sachs Global ECS Research.

Exhibit 75: Compared evolution of Europe and Japan RoE

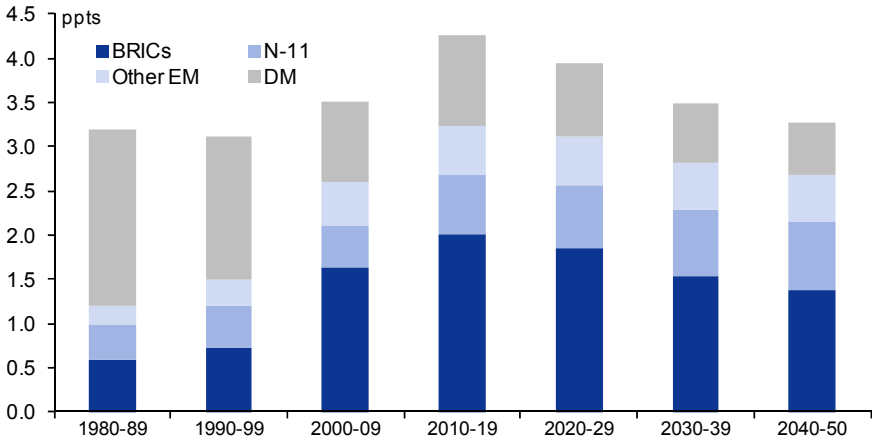


Source: Worldscope, Datastream, Goldman Sachs Global ECS Research.

3) Our global projections show that the next decade is likely to be a peak period for global growth

Our economists argue[10] that so long as actual demand tracks *potential*, faster-growing BRICs and N-11 will continue to increase their share of global activity. Our projections are for world growth to average around 4.3% in the 2010-19 decade, well above the average of the last decade or the previous one. Beyond that, global growth should slow gradually by decade end as demographics and diminishing returns outweigh the continuing rise in the EM share of overall activity (see Exhibit 76). **If future economic growth is, indeed, stronger, then again the lower expectations currently priced into equity markets is likely to prove too pessimistic**.

Exhibit 76: A peak decade for potential global growth*



**Calculated using PPP weights*

Source: IMF, Goldman Sachs Global ECS Research.

10. See *Global Economics Paper No. 208: The BRICs 10 Years On: Halfway through the Great Transformation*, December 7, 2011.

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Reg AC

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