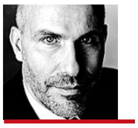
Le Temps
Monday 26th May 2014

Pension funds: Equity overlay strategy again proves its worth in 2013

By providing scope for increased exposure to equities without the need for taking on significantly higher risk, equity overlay enables to harness their outperformance to a greater degree - as attested to by market data for 2013.



René Sieber*

Equities from so-called developed markets performed strongly in 2013, but in the previous 15 years, Swiss pension funds were rather poorly rewarded for taking on risk.

Last year, research** showed that the systematic application of an equity overlay to stocks from developed markets, thanks to the asymmetry that is introduced, makes it possible to consider asset allocations with a higher equity exposure but without having to take on significantly higher risk.

Using strategic allocations of this kind, it was also highlighted that improved returns could be expected in the event of a normalisation in risk premiums. Data from 2013 have now been input into our research, clearly showing that this type of allocation has benefited more largely from equity outperformance.

In the 15-year period from 1998 to 2012, during which interest rates plunged and the Swiss franc gained sizeable ground against main foreign currencies, equity performance was much less attractive.

Foreign equities (without currency hedging) posted a gain of 2.2% p.a. in the benchmarks for occupational pension funds in Switzerland – the Pictet LPP indices – whereas foreign-currency bonds (with full currency hedging) gained 3.8% p.a.

While the attitude towards exchange-rate risk clearly explains part of this difference for assets denominated in foreign currency, there is also a noticeable difference between the gains made by Swiss equities (3.2% p.a.) and bonds issued in Swiss francs (3.6% p.a.).

Based on sharp gains by equities in 2013 coupled with the bond-market correction, the performance of equities improved substantially relative to the 1998-2013 period. As such, the average gain by foreign equities rose to 3.2% p.a. whereas the performance of foreign-currency bonds dropped to 3.5% p.a. The average rise on Swiss stocks even exceeded the average performance of bonds denominated in Swiss francs. With 4.5% p.a. vs. 3.3% p.a. 2013 contributed to send the risk premium back into positive territory.

Furthermore, if we bear in mind the spectacular recovery by the private equity index and the solid performance by hedge funds, it is not surprising that, when taking 2013 into account, risk-taking is again being rewarded to some extent under the various LPP profiles.

This is shown in the table below. In the 1998-2013 period, "LPP-25 plus" posted a gain of 3.9% p.a. – virtually unchanged relative to the 1998-2012 period – with a volatility of 4.5% (based on bimonthly data). Over the same period (1998-2013), "LPP-40 plus" paid a return of 4.1% p.a. – compared with 3.9% p.a. in the 1998-2012 period – with a volatility of 7.1%. Finally, "LPP-60 plus" gained 4.3% p.a. – versus 3.7% p.a. between 1998 and 2012 – with a volatility of 10.7%.

As pointed out last year, the dotcom bubble and its correction, then the 2008-2009 financial crisis, triggered such pronounced bear markets in equities that pension funds' risk can no longer be assessed solely in terms of the volatility to which a given strategic allocation exposes them. It is equally crucial to look at the maximum drawdowns of the various allocations and at the underfunding that may result from these.

This has led to a growing interest in different techniques for hedging risks. Among those techniques, approaches based on the Constant Proportion Portfolio Insurance (CPPI) concept have become popular. First, they are being applied more broadly, encompassing not only currency overlays to manage exchange-rate risk, but also equity overlays to manage stock-market risk. Secondly, they have evolved over time, with genuine asymmetry put in place in order to offer substantial downside protection, while leaving the participation to the upside potential as intact as possible.

To illustrate our remarks, the chart below shows the weekly performance of a long position on the S&P 500 index effectively managed with an equity overlay as described above, from mid-February 2005 to the end of April 2014. Apart from a maximum drawdown that is half that of the index (24.1% versus 52.8%), the position managed with an equity overlay posted a gain of 6.2% p.a. with a volatility of 10.4%, whereas the benchmark – a long position without equity overlay – gained 7.1% p.a. with a volatility of 17.5%.

The added value of asymmetrical management can be analysed by systematically applying a pro forma equity overlay to stock markets in Switzerland and in the main developed countries, within the framework of the two most risk-oriented LPP allocations: "LPP-40 plus" and "LPP-60 plus". The impact of the asymmetry becomes clear when we compare the results thus obtained for these profiles with the results of the lower-risk LPP profile without equity overlay in each case, namely "LPP-25 plus" and "LPP-40 plus".

While the findings on risk published last year, corresponding to the 1998-2012 period, unsurprisingly have barely changed with the inclusion of data from 2013, the increased exposure to equity outperformance, based on comparable risk profiles, can be verified.

Thus, in the 1998-2013 period, "LPP-40 plus with an equity overlay (EO)" gained 4.2% p.a. compared with 3.9% p.a. for "LPP-25 plus without EO", with a volatility less than one percentage point higher (5.3% versus 4.5%). More significantly, the maximum drawdown was limited to 20.1% – certainly higher than the 16.9% figure for "LPP-25 plus without EO" but well below the 28.9% for "LPP-40 plus without EO". Finally, during the worst year (2008), the drawdown was 13.5% compared with 11.6% for "LPP-25 plus without EO" and 20.8% for "LPP-40 plus without EO".

The results for "LPP-60 plus with EO" point in the same direction. At 4.4% p.a., performance exceeded the 4.1% p.a. yielded by "LPP-40 plus without EO", again with volatility less than one percentage point higher (7.9% versus 7.1%). The maximum drawdown, meanwhile, came to 30.3%. This is barely more than that of "LPP-40 plus without EO" (28.9%) and much less than that of "LPP-60 plus without EO" (41.8%). The 2008 loss was 21.3%, compared with 20.8% for "LPP-40 plus without EO" and 31.2% for "LPP-60 plus without EO".

The article published one year ago in this newspaper had shown that allocations with higher equity exposure did not necessarily come with the need to take on significantly higher risk thanks to the asymmetry arising from the use of portfolio insurance strategies. Inclusion of data from 2013, a year in which leading stock markets made considerable gains, substantiates the conclusions of that earlier article, namely that this type of strategic allocations will benefit from equity outperformance to a larger extent, and especially so if the major foreign currencies were also to regain some ground.

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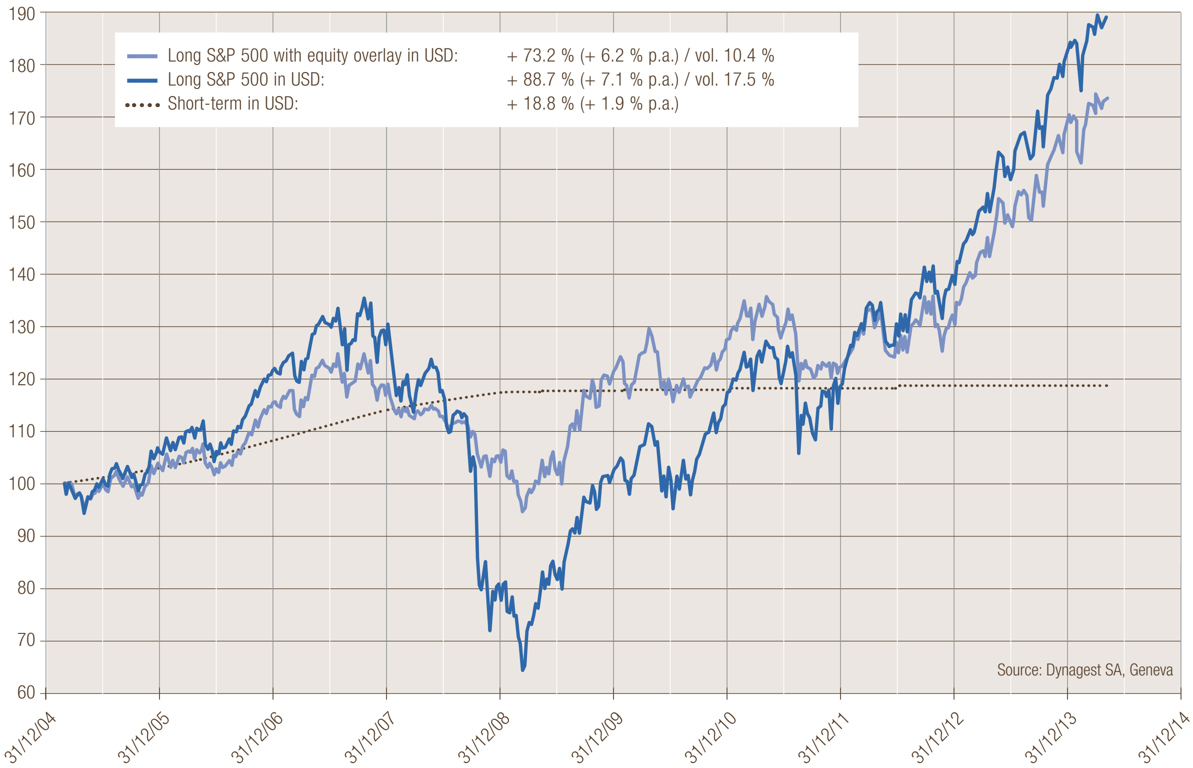
**Le Temps, Monday 27th May 2013.

Effective equity overlay on the S&P 500, 2005-2014



An approach that allows for greater equity exposure
LPP profiles, 1998-2013: impact of a pro-forma CPPI equity overlay on stock markets in the developed world

Bimonthly data	LPP-25 plus	LPP-40 plus	LPP-60 plus	LPP-25 plus	LPP-40 plus with EO	LPP-40 plus	LPP-60 plus with EO
Annual return of which 1998 - 2012 of which 2013	3.9% 3.9% 4.4%	4.1% 3.9% 7.7%	4.3% 3.7% 12.3%	3.9% 3.9% 4.4%	4.2% 4.0% 6.6%	4.1% 3.9% 7.7%	4.4% 4.0% 10.6%
Volatility	4.5%	7.1%	10.7%	4.5%	5.3%	7.1%	7.9%
Sharpe ratio	0.69	0.46	0.32	0.69	0.63	0.46	0.45
Sortino ratio (@ 3.5%)	0.75	0.49	0.33	0.75	0.73	0.49	0.51
Maximum drawdown	-16.9% 16.5.07-28.2.09	-28.9% 31.5.07-28.2.09	-41.8% 31.5.07-28.2.09	-16.9% 16.5.07-28.2.09	-20.1% 31.5.07-28.2.09	-28.9% 31.5.07-28.2.09	-30.3% 31.5.07-28.2.09
Worst year	-11.6% 2008	-20.8% 2008	-31.2% 2008	-11.6% 2008	-13.5% 2008	-20.8% 2008	-21.3% 2008
Best year	13.7% 2009	17.8% 1999 (& 2009)	28.3% 1999	13.7% 2009	15.8% 2009	17.8% 1999 (& 2009)	22.3% 1999

NB: Historical data in CHF:
(2013 performances in brackets)

foreign bonds : + 3.5% p.a. (- 0.3%)
CHF bonds : + 3.3% p.a. (- 1.3%)
foreign equities : + 3.2% p.a. (+ 20.6%)
Swiss equities : + 4.5% p.a. (+ 24.6%)
private equity : + 3.5% p.a. (+ 37.0%)
hedge funds : + 3.4% p.a. (+ 6.1%)
foreign real estate : + 5.2% p.a. (+ 0.5%)
Swiss real estate : + 4.1% p.a. (- 2.8%)

Sources: Datastream, Bloomberg
Calculation : Dynagest S.A.

This article has been translated from «2013 confirme les atouts de l'"equity overlay"», published in the daily newspaper *Le Temps*, dated 26 May 2014, in the section *Lundi Finance*. The French e-paper version of this article is available on www.letemps.ch