

Is factor-based allocation new?

Factor-based allocation may be theoretically interesting for Swiss pension funds but it is hard to implement in a practical way, according to Lukas Riesen and Diego Liechti

Asset Allocation Commentary

At present, many institutional investors are debating to what extent their strategic asset allocation should be structured around risk factors rather than using the traditional asset class-based approach. At first glance, the difference between the two approaches is quite obvious. The building blocks of a factor-based asset allocation are specific risk categories on which the investor expects a risk premium – such as credit, value, or small-cap. In contrast, asset class-based asset allocation is built around asset categories, such as corporate bonds, large cap equities and real estate.

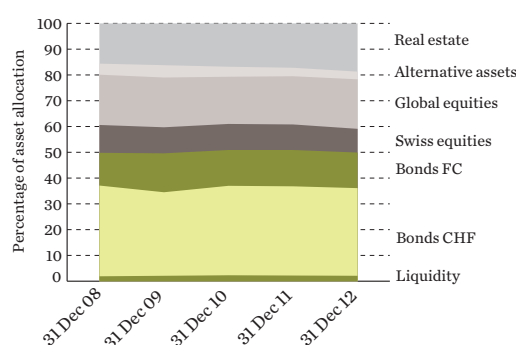
Experiences with hedge funds, convertible, and high yield bonds in particular have popularised such a factor-based approach, as these investments are heavily influenced by a number of risk factors. However, the same risk premia are already harvested through traditional investments. For example, the equity risk factor influences large cap equities as well as convertible or high yield bonds. As a consequence, the argument goes that a factor-based approach can lead to better diversification as well as to greater stability in the portfolio than a traditional asset class-based approach. This leads to the following questions for Swiss pension funds:

- To which extent are typical Swiss pension funds already exposed to those risk factors?
- Are there any untapped risk factors Swiss pension funds should be exposed to?
- Would the asset allocation change if the pension funds would structure its assets according to the factor-based approach?

Figure 1 shows the average asset allocation of Swiss pension funds, currently investing 34% in Swiss bonds, 15% in global bonds, 9% in domestic equity, a further 19% in global equities, and 18% in real estate. Only a small percentage, roughly 5%, is invested in alternative assets. The figure further shows that the asset allocation of Swiss pension funds has remained remarkably stable over time. But to which risk factors is a typical Swiss pension fund currently exposed?

A superficial examination could lead to the impression that such an asset allocation is exposed to the equity, term, and real estate risk factors. A more thorough examination, however, finds that several other risk premia are contained within such an allocation. Specifically, most Swiss pension funds invest in the aggregate bond

I. Average asset allocation of Swiss pension funds



Source: PPC Metrics

market which includes government-related, corporate, and securitised bonds. Therefore, they harvest not only the term premium, but also the credit and the illiquidity premium stemming from their less liquid nature compared to US Treasuries.

The situation is quite similar in the case of the equity portfolio. Swiss pension funds usually invest in the entire Swiss equity market and large pension funds complement their global equity exposure with global small cap holdings. Regardless of whether these mandates are actively or passively managed, they harvest the equity and the small cap premium and at least partly the value, the illiquidity, and the momentum premium. Usually, those pension funds are also exposed to the FX carry factor since most funds invest in unhedged emerging market equity and local currency emerging market debt.

Having illustrated that the typical Swiss pension fund is exposed to various kinds of risk factors, the question that remains unanswered is whether they have omitted any risk premia worth harvesting. To the best of our knowledge, a typical Swiss pension fund is exposed to all relevant risk factors. Yet experience shows that small pension funds are partially underweight in global small cap and global corporate bond exposure, potentially due to the costs associated with

smaller mandates.

Taking into account the liabilities of Swiss pension funds, it is obvious but still somewhat surprising that most Swiss pension funds short the term-risk factor. For these funds, the duration of liabilities is considerably longer than the duration of the assets. This could be beneficial under the current low interest rate environment – induced, among other things, through the unconventional monetary policy. Nevertheless, it is quite astonishing to find that this position has already been in place for a number of years.

Would the asset allocation of Swiss pension funds change if they used a factor-based asset allocation instead of an asset class-based asset allocation? This question can be answered with a definitive ‘no’ for most funds since every asset class should be clearly determined through specific risk premia or factors. As a result, those asset classes will be included in an asset and liability study if they offer a return or diversification benefit because of an exposure to an additional risk factor.

For example, global small caps are considered to be an asset class, as they are not only exposed to the equity factor but also to the small cap risk factor. This results in the same outcome regardless of whether global small caps are classified as an investable asset or a risk factor. Put differently, the traditional asset-class-based allocation should lead to the same strategy as the factor-based asset allocation if the various asset classes are defined properly.

A significant advantage of the traditional asset class-based approach is that it can be easily implemented, whereas the factor-based approach can prove challenging. How, for example, can a pension fund directly invest in the credit risk factor? Exposure to this factor can only be achieved through a long/short portfolio that acquires corporate bonds and sells treasuries with the same duration and without default risk. Alternatively, synthetic exposure can be gained through an investment in credit default swaps (selling protection). In addition to potentially higher implementation costs, such an approach also entails substantial operational risks.

The bottom line is that a factor-based asset allocation is theoretically the right approach to follow, but it neglects several practical caveats, such as the challenging implementation. Moreover, if the asset class-based asset allocation is done properly, the results should be the same as with a factor-based asset allocation.

In line with that argument, the vast majority of Swiss pension funds are already exposed to the relevant risk factors, even though a traditional asset class-based approach is used to structure their assets. More important than using the traditional asset class- or factor-based approach to structure the assets strategically is the appropriate consideration of the liabilities.

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