Strategic Asset - Liability Optimization with Alternative Investments – for Life Insurance Companies

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Abstract. Standard portfolio theory deals with the optimal asset allocation for an asset-only investor. But especially institutional investors - like life insurance companies - have to match their strategic asset allocation decisions with their liabilities. This matching gets more important the longer the investment horizon. The following paper analyzes these inter-temporal relations between assets and liabilities for a Swiss life insurer. I include the typically in practice relevant asset classes and use state variables to predict returns, which have been identified in academic literature as powerful predictors. To capture the dynamics over the investment horizon I make use of a VAR(1) model and further calculate conditional moments. Therefore I take out predictability from movements so that the dynamics alter across the investment horizon. This makes it possible to anticipate variations in investment opportunities and to analyze portfolio implications from this perspective. The results from this analysis show that return predictability drives portfolio decisions and further how significant the consideration of liabilities and of horizon effects for a long-term asset-liability investor is.