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Enhancing the toolbox of fixed income active portfolio management

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Abstract

Many central banks adopt an active investment style for reserve management. This paper discusses various possible enhancements to active management tools and processes to generate extra returns in an increasingly challenging environment. The proposed framework is based on an affine model, which includes macroeconomic and market sentiment indicators among the explanatory variables. Using estimates of expected excess returns drawn from the model, an operational indicator produces input highlighting the portfolio's exposure to duration risk. This indicator is incorporated within a broader framework, in which a scorecard considers a range of qualitative elements, including consensus figures on macroeconomic data, monetary policy and interest rates. These elements are then combined with the model output to produce a comprehensive indication with respect to portfolio deviation from the benchmark. It should be noted that the approach presented in this paper is experimental; it has not yet been used in an active portfolio. Finally, consideration is given to the governance of the central bank investment process in order to assess how the proposed enhancements could strengthen the decision-making process. The analysis suggests that the scorecard with model-based input may address some weaknesses inherent in tactical decision- making.

The views expressed herein are solely our own and do not necessarily reflect those of the Bank of Italy or the European System of Central Banks.

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1. Introduction

The current financial environment, characterised by very low yields and changes in market microstructure, has highlighted an imperative for active investors to optimise their assessment of market timing, and more generally their capacity to identify potential sources of additional return.

Many central banks adopt a moderately active investment style in managing their foreign reserves as they strive to achieve extra returns on benchmark allocation within parameters consistent with the traditional paradigm of safety, liquidity and return. Against this background, this paper discusses various possible enhancements to central banks' active management tools and processes.

First, we develop a linear affine model in line with a framework set out by Adrian et al (2013), testing a range of specifications in terms of explanatory variables, including macroeconomic, financial stress and sentiment indicators. The estimation is based on monthly data. The model shows statistically significant predictive power for a set of one-month expected excess returns of US bonds along a wide maturity spectrum. The content of information embodied in the estimated time-varying risk premia also includes a tangible value for a portfolio manager, in that the set of predictive variables (risk factors) can significantly expand the opportunity set of feasible risk-adjusted returns from trading US bonds. We go on to demonstrate how such estimates can be used to provide an operational signal – a multifactor quantitative indicator – to position portfolio exposures to certain risk factors, such as duration risk.

In the second step, this multifactor quantitative indicator is applied in conjunction with a scorecard approach. The signal drawn from a strictly empirical analysis of macroeconomic and sentiment indicators is combined with various qualitative indicators: market consensus figures on macroeconomic data, monetary policy, as well as expectations on interest rate developments. The scorecard supports active positioning by reducing subjectivity and supporting synthesis, and delivers a clear operational indication in terms of deviation from the benchmark.

Finally, we attempt to apply these enhancements to a governance framework usually associated with a central bank's active investment process, with the expectation that some adjustments may be necessary to accommodate certain enhancements. Consideration is accordingly given to a number of stylised governance paradigms, taking into account the different hierarchical levels and organisational structures typically involved in the active management process, the tools supporting decision-making and the time horizons. Our analysis shows that many central banks adopt a three-layer decision-making framework that includes an intermediate (tactical) level, which, due to its hybrid nature, may have specific weaknesses. Several features of the scorecard approach – which includes multifactor quantitative input – may effectively address some of these issues.

This paper is organised as follows: in Section 2, recent developments relevant to the context in which official reserve management activity are reviewed. Section 3 outlines the linear affine model and its results. Section 4 describes the scorecard approach. Section 5 moves from the broader theme of central bank investment governance, offering specific suggestions to improve decision-making at the tactical level.

2. A challenging environment for reserve managers

The current financial environment poses serious challenges to central banks acting in their capacity as investors of official reserves.

One particular issue confronting central banks' strategic and active investment decisions in recent years is the