Quoniam
QUANTITATIVE INVESTMENT ENGINEERING

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HOW ACTIVE ARE CREDIT PORTFOLIOS? **APPLYING ACTIVE SHARE.**

Active share, introduced by Cremers/Petajisto in 2009, measures how active portfolios are comparing with their benchmarks. It is becoming increasingly popular in the mutual fund industry. The combination of active share and tracking error can even help define the different types of active management. In this paper, we use active share to measure how active credit portfolios are.

Active share (AS) is a holdings-based measure defined as:

$$Active\ share_t = \frac{1}{2}\sum_{j=1}^{N}\left|w_{t,j}^{fund} - w_{t,j}^{BM}\right|$$

N is the total number of holdings in the fund and its benchmark. $w_{t,j}^{fund}$ / $w_{t,j}^{BM}$ is the weight of the holding 'j' in the fund/benchmark at time 't'. The economic interpretation of AS is the percentage of the fund's holding that differ from the benchmark's holdings. AS for portfolio can vary between zero and 100 per cent, given there is no leverage or short position in a fund. There is a special feature we should consider by applying AS to credit portfolios. Typically, a company issues different bonds with different characteristics. This leads to the difference between AS at bond level and at issuer level. AS at issuer level is generally lower than at bond level, because bonds from one issuer are considered to be equal, and the overweight of a certain bond from one issuer in the portfolio does not necessarily lead to an increase in AS. At bond level, active share treats each bond individually and considers differences in its characteristics. Both forms provide useful information about the "activeness" of the portfolio.

Difference between Active Share and Tracking Error

Tracking Error (TE) is a common measure of the activeness of portfolios. Looking at historical data, it is defined as the standard deviation of the return differences between a portfolio and benchmark – or in ex-ante terms, the vector of active weights, multiplied by the covariance matrix of returns. This shows that in principle, TE can be interpreted as a proxy for the extent of factor bets in a portfolio. In contrast to TE, AS considers each position equally; therefore, AS is a proxy for the degree of security selection within a portfolio.

Different Types of Active Portfolio Management

We apply the methodology of Cremers/Petajisto (2009) to classify four different types of active management, as shown in figure 1. Funds with low TE and high AS are defined as *Diversified Selection,* focusing on selection instead of factor bets. *Concentrated Selection* applies both selection and *factor bets,* therefore, we observe high AS and high TE. Factor Bets show high TE and low AS. These kind of portfolios do not apply security selection but bet on certain systematic factors. *Closet Indexing* funds do not engage in selection or factor bets. Therefore, they have low AS and low TE.

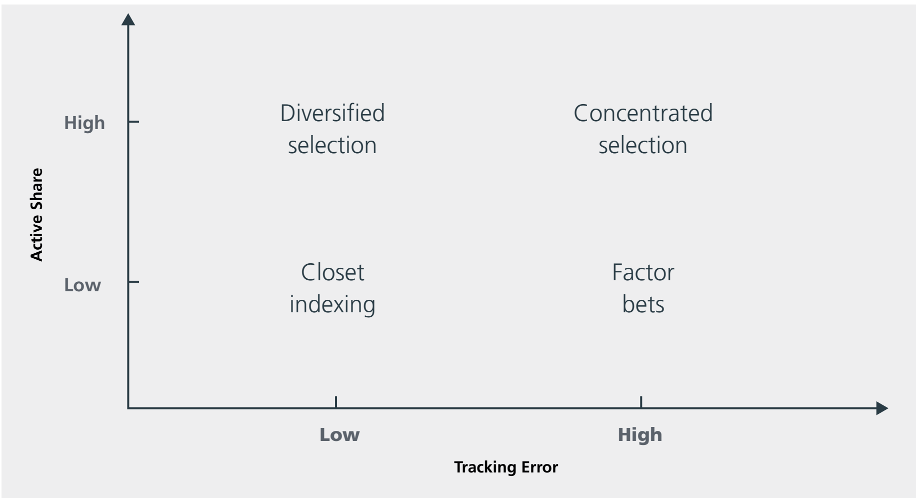

Figure1: Types of Active Portfolio Management. Source: Cremers and Petajisto (2009)

Active credit portfolio

Cremers/Petajisto (2009) defined the empirical cut-off point for the AS of equity portfolios as 60%. Considering the specific characters of credit portfolios and credit benchmarks, it is more difficult for credit portfolios to achieve a high AS compared to equity portfolios. In this paper, we conservatively define the cut-off point of AS as 60%. The cut-off point of the annualised TE is defined as 1.1% based on an empirical analysis of the peer group portfolios. 1.1% is the median TE of 300 credit portfolios in the Morningstar 'Euro Corporate Bonds' category as of 31st March 2017. The calculation of TE is based on 36 monthly returns.

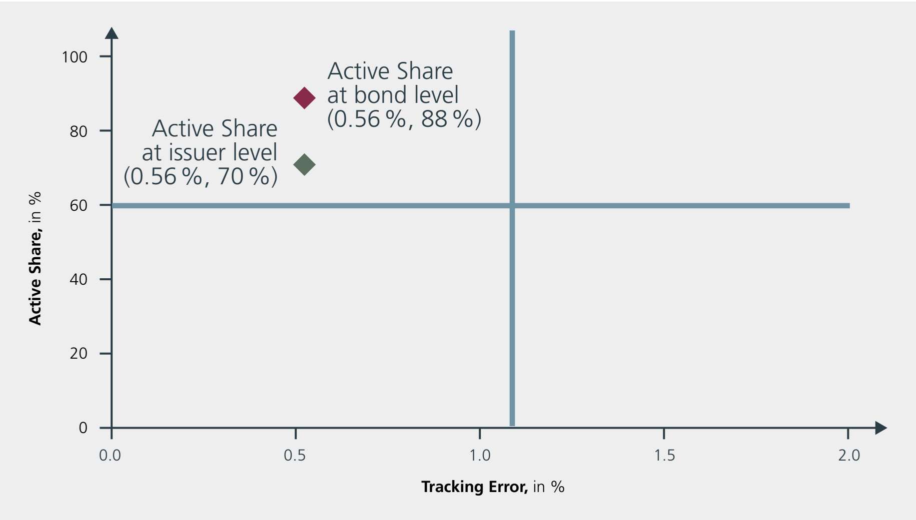

Figure 2: AS and TE of Quoniam Euro Credit EUR I. Source: internal data, Datastream, Morningstar

To illustrate the application of AS and TE, we look at the Quoniam Funds Selection SICAV Euro Credit EUR I, a mutual fund managed by Quoniam. The results are shown in Figure 2. The AS of this fund as of 31 March 2017 was 70% at issuer level, and as much as 88% at bond level – both significantly higher than 60 %. Annualised TE was 0.56% which is in the 15th percentile of peer funds. Given these characteristics, this fund managed by Quoniam is classified as 'Diversified Selection' – the focus is on security selection, leading to a high AS. Factor bets on systematic risk factors such as duration, quality and sector, which drive TE, is not a main focus of this fund.

The significance of AS is very well illustrated by this example: AS mainly captures the selection aspect of active portfolio management, while TE covers factor bets. Stand-alone application of TE might give us false information about the activeness of credit portfolios. The combination of both measures provides us with a more complete picture of how active credit portfolios really are.

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