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Style representation and portfolio choice ☆

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A B S T R A C T

We study the impact of style representation on portfolio choice using the choices of the Swedish population in their retirement accounts. We show that investor choice depends on how funds are grouped in the menu ("styles"). An exogenous increase in the style representation increases investment in the funds of the style. By using information on the performance of the funds that the investors choose, we show that the sensitivity to style exposure is negatively related to the investor's degree of informativeness. This suggests that style exposure represents a way of coping with limited (private) information.

1. Introduction

In most of the main financial choices (i.e., stock picking, mutual fund selection) investors are confronted with a very high number of options. How do they cope with it? One way the investor has to cope with a multiple-option problem is to resort to some categorization or grouping of the different alternatives. For example, it has been argued that investors have a tendency to classify risky assets into "styles" and to "invest according to styles" (Barberis and Shleifer, 2003; Barberis, Shleifer, and

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Wurgler, 2005). However, even if there is growing *indirect* evidence that investors classify risky assets into different styles, no *direct* evidence of style investing exists. In the presence of style investing, a key question is: Does the "representativeness" of a style affect investor behavior? In other words, are investors more likely to invest in a growth fund if more growth funds are offered?

In this paper we investigate how investment is affected by the way the available alternatives are groups into different categories ("styles") and whether one category is more represented in the menu of available options. We consider the unique experiment provided by the Swedish retirement scheme. Since 2000, Swedes have had to allocate a fraction of their yearly income ("the capital") to a fully funded retirement account. They can choose up to five investment vehicles ("the funds") out of more than 464 possibilities ("the menu"). No other choice is available and all the capital has to be invested. Each household receives a booklet containing a standardized description of all the available funds. Each fund belongs to a different grouping ("style," e.g., Asian funds, Europe funds) that has been chosen by the Swedish retirement account system (PPM) and is categorized and reported in the booklet according to such grouping. We use the way the PPM groups funds and with some abuse of the language we call them "styles."[1] All the funds charge uniform and low management fees. No other fees are charged. The choice can be altered every day with no search or switching costs. The cost structure characteristics of the financial firms determine the funds that are offered.

We show that investor choice is affected by the styles and by their representation in the menu. Styles (e.g., Asian funds) that offer more funds are chosen proportionally more. Moreover, if, for some exogenous reason, the number of funds of a specific style rises, investors can rebalance their portfolios, thereby increasing their investment in that style. This is the case for *both* the new funds being offered and the existing funds belonging to the style in which the number of funds has increased. For example, assume that investors already hold shares in the UBS U.S. fund and the Allianz Asian fund, and a new fund (e.g., HSBC U.S. fund) is offered. The mere addition of a new fund, by increasing the percentage of U.S. funds available in the menu, is enough to stimulate investment in the already existing UBS U.S. fund and to reduce the investment in the Allianz Asian fund.

We define this phenomenon – the tendency to invest in the stocks that are more heavily represented in the menu – "style exposure." It captures the main feature of style investing (i.e., the fact that investors choose according to styles) augmenting it with the role played by the size of the style. We posit that a bigger representation in the menu conveys the idea that the particular style is better, regardless of its intrinsic merit. One standard deviation higher over-representation (e.g., with respect to the market representation) of a style in the menu leads investors to over-invest in such a style by 4.8%, or by 27% of dependent variable's standard deviation. Moreover, an exogenous change in the number of funds of a style raises the investment in the funds already existing in the style. In particular, an increase of the weight of a style in the menu by 0.1% induces the investors to increase their investment in this style by 0.46%.

We propose an explanation based on information. We document a negative correlation between the sensitivity of the investors to the style and their degree of informativeness. In particular, investors who display an exposure to the over-represented styles one standard deviation greater than the average, invest in funds that deliver a yearly performance 0.54% lower than average. In the context of the PPM pension system, this can result in a 16% lower than expected pension income. We argue that this suggests that less-informed investors are affected by the way styles are represented in the menu, as this provides a source of information from which they infer the quality of the available choices.

Two features of our data make our contribution unique. First, we know exactly the menu each investor can choose from and the set of standardized information on the funds that is available to him. In the previous studies based on field data, the menu available to the investors was not known in its entirety, or the style classification was not clearly laid-out, or data on the information available to the investors on the different choices was severely restricted. Allocation constraints, as well as some unwritten rules not easily detectable by the econometrician, may limit investment ability. Moreover, even if the investors are aware of all the options, their completeness is in general doubtful. In our case, however, each investor is provided

[1] What is a "style"? It is common in finance to refer to a few different styles such as growth and value investing. Another dimension is small cap versus large cap investment. There certainly are others. In our experiment, we adopt the official classification. This is broad, and perhaps somewhat non-standard, view on what is a "style."