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Article

Menu choices in defined contribution pension plans

NBER Reporter

Provided in Cooperation with:
National Bureau of Economic Research (NBER), Cambridge, Mass.

Suggested Citation: Sialm, Clemens (2015) : Menu choices in defined contribution pension plans, NBER Reporter, National Bureau of Economic Research (NBER), Cambridge, MA, Iss. 4, pp. 21-22

This Version is available at:
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these individuals. While the recent crisis focused public attention on retirement security in an age of defined contribution pension plans, it seems clear that the difficulties facing individuals who approach retirement at a time when the labor market is weak merit greater public attention.

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Return to text

Menu Choices in Defined Contribution Pension Plans

Clemens Sialm

Significant changes in the structure of retirement saving programs have occurred in recent decades in the United States and across the world. Defined Contribution (DC) pension plans, such as 401(k) and 403(b) plans, have become an important source of retirement funding, while the relative significance of Social Security and Defined Benefit (DB) pension plans has declined. As a result, more savings and investment decisions need to be taken by individuals, who might not have the time and knowledge to take optimal investment decisions. In addition, there are potential conflicts of interest between providers of the newer plans and retirement savers. Investment choices that maximize the profits of plan providers are not necessarily the optimal choices for retirement savers. It is therefore crucial to scrutinize the impact of DC plan design on savings and investment decisions.

I discuss here some key findings of two recent research projects that analyze the mutual fund investment options offered in DC pension plans. The structure of the retirement savings system affects the investment strategies, the money flows, and the performance of retirement savers. DC plan design needs to take into account behavioral biases and bounded rationality by retirement savers as well as conflicts of interests by service providers.

Mutual Fund Menu Options

Mutual fund holdings in employer-sponsored DC plans are an important and growing segment of today's financial markets. Figure 1 depicts the total value of mutual fund assets in the United States. Between 1992 and 2014, total mutual fund assets grew from $1.6 trillion to $15.9 trillion. Mutual funds can be held in DC pension plans, in Individual Retirement Accounts (IRAs), and in non-retirement environments. The growth of mutual fund assets has been particularly strong in DC plans. Currently, around 23.5 percent of mutual fund assets are held in DC plans, 22.4 percent in IRAs, and the remaining 54.1 percent in non-retirement accounts.[1] Thus, mutual funds have mixed clienteles that differ according to their distribution channels, their time horizons, and their tax implications.[2]

Whereas investors who own mutual funds in IRAs or in non-retirement accounts can choose from the universe of mutual funds, participants in employer-sponsored DC plans typically have limited choices. These choices arise through a two-stage process. In the first stage, the plan sponsor, typically the employer, together with the service providers, select the DC plan menu, which defines the set of investment options for participants. In the second stage, plan participants — the employees — allocate their individual DC account balances among the choices made available to them by the plan sponsor. Thus, final allocations in DC plans reflect decisions of the sponsor, the service providers, and the participants.

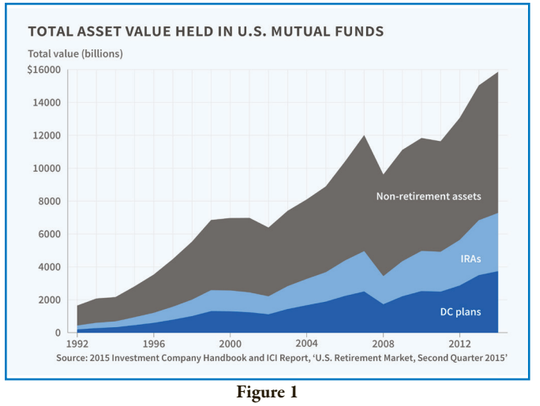

Figure 1

Clemens Sialm is a professor of finance and economics and director of the AIM Investment Center at the University of Texas at Austin. He is a research associate in the Asset Pricing and Public Economics programs of the NBER. He received an M.A. in economics from the University of St. Gallen in Switzerland and a Ph.D. in economics from Stanford University. Prior to joining the University of Texas, he taught at Stanford University and the University of Michigan in Ann Arbor. During the 2013–2014 academic year, he was the Mark and Sheila Wolfson Distinguished Visiting Associate Professor at the Stanford Institute for Economic Policy Research.

Sialm's research interests are in the areas of investments, asset pricing, and taxation. He analyzes the investment strategies, performance, and behaviors of institutional and individual investors. He also investigates investment decisions of retirement savers. His research has been published in the *American Economic Review*, the *Journal of Finance*, the *Review of Financial Studies*, *Management Science*, and the *Journal of Public Economics*, among others. Sialm's research frequently has been cited in *The Wall Street Journal*, *The New York Times*, and *The Economist*.

Sialm grew up in Disentis, a small Romansh town in the Swiss Alps. He lives with his wife, Wei, and their two sons, Daniel and Justin, in Austin.

Sticky vs. Discerning Money

Despite the importance of DC mutual fund holdings, little is known about the properties of money flows in DC pension plans. Conventional wisdom suggests that the DC plan assets in mutual funds are "sticky" and not discerning. Previous studies indicate that DC plan participants exhibit significant inertia, follow default options, and are reluctant to rebalance and readjust their portfolios.[3] In addition, DC plan participants make periodic retirement account contributions or withdrawals, which lead to persistence in money flows.

To test whether DC money flows are sticky, Laura Starks, Hanjiang Zhang, and I compare the flows of DC and non-DC mutual fund investors from 1997 to 2010.[4] In contrast to the conventional wisdom, we find that money flows into mutual funds by DC plan participants are more volatile and exhibit a lower serial correlation than the flows into mutual funds by other investors. Furthermore, we show that DC flows are more sensitive to prior fund performance than non-DC flows. In fact, the flow-performance sensitivity of DC flows is particularly pronounced for funds with extreme prior performance records.

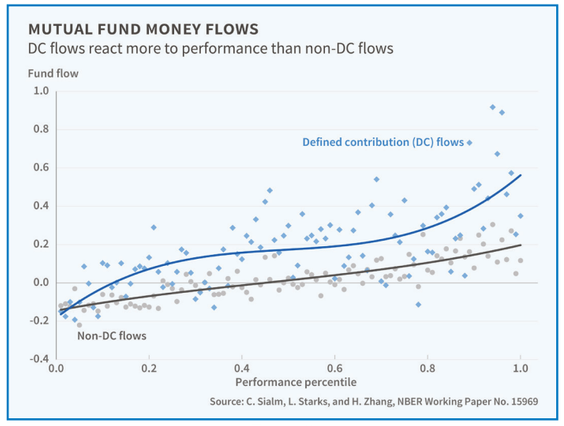

Figure 2

Figure 2 depicts the sensitivity of money flows to prior performance for DC and non-DC assets. We group all U.S. domestic equity funds into percentiles according to the fund performance over the prior year. Funds in the lowest percentile correspond to the one percent of mutual funds that exhibit the worst performance over the previous year, whereas funds in the highest percentile correspond to the one percent of funds that exhibit the best performance. The dots in the figure show the average money flows for the performance percentiles after controlling for other fund characteristics. The blue diamonds correspond to DC flows and the grey circles correspond to non-DC flows. The solid curves show the least-squares cubic relation for DC and non-DC flows.

On average, DC assets experience larger fund flows than non-DC assets due to the significant growth of tax-qualified retirement accounts over our sample period. Whereas the flow-performance relation is close to linear for non-DC assets, the relation is clearly nonlinear for DC assets. The flow-performance relation is particularly steep for DC assets corresponding to funds in the top and bottom performance groups. For example, funds in the bottom decile of performance experience an average outflow of 8.3 percent of their DC assets and funds in the top decile experience an average inflow of 53.6 percent of their DC assets. On the other hand, funds in the bottom decile experience an average outflow of 11.8 percent of their non-DC assets and funds in the top decile experience an average inflow of 17.9 percent of their non-DC assets.

This surprising result could be driven either by the actions of plan participants or by the actions of sponsors. Data from the U.S. Securities and Exchange Commission (SEC) allow us to decompose aggregate flows into flows resulting primarily from plan sponsor actions and flows resulting primarily from participant actions. This shows that flows are predominantly driven by the actions of plan sponsors and that plan participants exhibit inertia and do not react sensitively to prior fund performance. Our results indicate that the actions of plan sponsors in changing their menus counteract the inertia of plan participants.

Favoritism in DC Plans

Whereas DC plans can provide valuable assistance to retirement savers by adjusting their menu options, DC plan service providers often face conflicting incentives concerning the plan's design. Veronika Pool, Irina Stefanescu, and I examine whether mutual fund families acting as service providers (i.e., trustees, record keepers) of 401(k) plans display favoritism toward their own funds.[5]

Fund families involved in plan design work with plan sponsors to create menus that serve the interests of plan participants, but they also have an incentive to promote their own proprietary funds when more suitable options may be available from other fund families. Focusing on menu changes, we hypothesize that service providers may influence 401(k) sponsors to include and subsequently keep their own affiliated funds on the investment menu. Furthermore, due to this provider influence, fund addition and deletion decisions may be less sensitive to the prior performance of affiliated funds, as mutual fund families try to avoid the decline in inflows at poorly performing funds that might result if these funds were dropped from plan menus.

To investigate this favoritism hypothesis, we collect from annual filings of Form 11-K with the SEC information on the menus of mutual fund options offered in a large sample of DC pension plans for the period 1998 to 2009. Most 401(k) plans in our sample adopt an open architecture whereby investment options include not only funds from the family of the service provider but also funds from other mutual fund families as well.

Figure 3 depicts the mean annual deletion frequencies by affiliation for funds grouped into deciles according to their prior percentile performance. The figure shows that affiliated funds are less likely to be deleted from a 401(k) plan than unaffiliated funds regardless of past performance. More importantly, the difference in deletion rates widens significantly for poorly-performing funds. For example, funds in the lowest performance decile have a probability of deletion of 25.5 percent for unaffiliated funds and a probability of deletion of only 13.7 percent for affiliated funds. Indeed the deletion rate of affiliated funds in the lowest performance decile is lower than the deletion rates of affiliated funds in deciles two through four. On the other hand, we find that in the top decile, affiliated funds are almost as likely to be deleted as unaffiliated funds.

Although the investment opportunity set of the plan is limited to the available menu choices, participants can freely allocate their contributions among these options. If participants are aware of provider biases or are simply sensitive to poor performance, they can — at least partially — undo provider favoritism by not allocating capital to poorly-performing affiliated funds. We show that participants are generally not sensitive to poor performance and do not undo the menu's bias toward affiliated families. This in turn indicates that plan participants are affected by the affiliation bias.

While our evidence on favoritism is consistent with conflicts of interest, 401(k) plan sponsors and service providers may also have superior information about their own proprietary funds. Therefore, it is possible that they show a preference for these funds not because they are necessarily biased toward them, but rather due to positive information they possess about these funds. To investigate this possibility, we examine future fund performance. For instance, if the decision to keep poorly performing affiliated funds on the menu is information-driven, then these funds should perform better in the future. This is not the case. Affiliated funds that rank poorly based on past performance but are not delisted from the menu do not perform well in the subsequent year. On average, they underperform by approximately four percent annually on a risk-adjusted basis. Our results suggest that the favoritism we document could have important implications for the retirement income of employees.

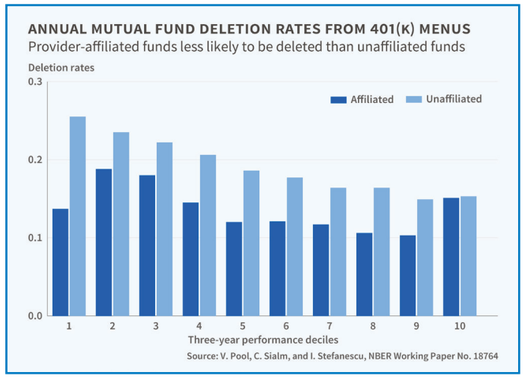

Figure 3

Conclusions

As individuals take more responsibility for managing their retirement savings, it becomes important to consider the two-stage process of asset allocation in retirement plans. This process, in which the sponsor selects the menu and the participants decide how much to invest in the separate options, has the advantage of mitigating the inertia of plan participants. Sponsors together with the service providers can monitor the available investment choices and decide whether to make adjustments to the lineup. On the other hand, the two-stage process also can create agency conflicts, as service providers have an incentive to attract and retain retirement contributions in their own proprietary funds. A systematic analysis of the advantages and disadvantages of different structures of retirement savings is crucial in an environment where retirement savers are subject to behavioral biases and bounded rationality and where financial intermediaries are subject to agency conflicts.

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