

Precautionary Liquidity and Retirement Saving

By MARIE BRIERE, JAMES POTERBA AND ARIANE SZAFARZ*

* Briere, Amundi, Paris-Dauphine University and Université Libre de Bruxelles, marie.briere@amundi.com; Poterba, MIT and NBER, 77 Massachusetts Avenue, E52-444, Cambridge MA 02139, poterba@mit.edu; Szafarz, Université Libre de Bruxelles and New York University, aszafarz@ulb.ac.be. The authors thank Ilan Tojerow for helpful comments. The data underlying this study were compiled in the course of record keeping and account keeping for employee and pension savings accounts at Amundi ESR; they have been analyzed anonymously for scientific, statistical, or historical research purposes. Briere is an employee of Amundi. Poterba is a trustee of the College Retirement Equity Fund and TIAA-CREF Mutual Funds. This paper does not represent the views of any of the organizations that the authors are associated with.

How do restrictions on account access affect the attractiveness of employer-sponsored retirement saving plans? We study this question using data on workplace saving programs in France. “Precautionary liquidity” manifests itself as a preference for holding assets in an accessible form not because of any current liquidity need, but because of a possible future need. Just as a precautionary saver will forego current consumption to build up a buffer stock of savings to prepare for possible future needs, a precautionary liquidity demander will avoid investment options with limited access, such as accounts that cannot be tapped until retirement, in favor of more liquid alternatives.

Recent research on retirement plan design has considered the role of restrictions on pre-retirement withdrawals. Beshears et al.

(2020) suggest that a social planner designing mandatory retirement accounts for a population of present-biased households should create a saving program that combines an illiquid account, with no access until retirement, with a liquid account that can be tapped for financial needs at any time. When saving plan participation is voluntary, however, restricting liquidity could reduce contributions and employee participation. While limiting withdrawals can limit leakage of plan assets prior to retirement age, if it also lowers contributions, the impact on retirement security is ambiguous.

We explore the role of precautionary demand for liquidity in retirement saving plans using data on participation and withdrawals from France, where plans offer both medium-term and long-term saving options.

I. Context and Data

Voluntary retirement saving is less important in France than in the U.S. because most retirement income is provided through a public pay-as-you-go pension system. A program requiring employers to offer defined-contribution (DC) saving plans, launched in 1967, originally included only medium-term

(MT) savings options. Contributions could be withdrawn after five years. Long-term (LT) retirement saving opportunities came much later, in 2003. The 1967 mandate was part of a larger policy program that encouraged employers to offer variable compensation and company stock at below-market prices to their workers, and to match DC plan contributions.

Today, French firms with more than 50 employees are still required to offer MT investment options (in PEE, for *plan d'épargne d'entreprise*). They may also offer their employees LT investment options (in PERCO for *plan d'épargne retraite collective*) that restrict access to the invested assets until retirement. There are hardship withdrawal provisions; the contingencies that justify withdrawals of LT savings are more limited than those that justify withdrawals of MT savings. Holdings in LT accounts are thus less liquid than those in MT accounts. More than half of French employees – 56% in 2016, according to DARES (2018) -- participate in these savings plans.

We analyze an administrative data set from one of the largest providers of DC plans in France. It includes information collected in 2017 on the saving choices of 645,966 active employees who are younger than 67, reside in France, received variable remuneration during the year, and work at one of 1,583 firms with at

least 50 employees. In this sample, the average firm's workforce is 40% female, and the cross-firm average of the median worker's age is 45.6 years. The median variable remuneration for a worker is EUR 2,115. About one third of firms offer LT saving plans in addition to a mandatory MT plan, and roughly one quarter offer employees the chance to purchase company stock in their saving plans.

The firm selects a collection of investment funds – ranging between 1 and 50 at the firms in our sample - along with a default investment fund for MT, and, if offered, LT savings. The average number of funds offered on the MT menu is 7.2. The most common fund categories in the MT menu are balanced funds and diversified stock funds.

The default MT fund must be a relatively low-risk fund: a money market, bond, or balanced fund. If the employer offers an LT option, the default investment must be a balanced life-cycle fund. The employer may match contributions to different investment options at different rates. These rates can be as high as 300 percent. They may also offer company stock as an MT investment option. Unlike U.S. firms, French firms may condition their matching rates on the worker's asset allocation, as well as her contribution.

If the employee takes no action, their variable compensation is automatically

deposited in the firm's default investment option. The default may not include employer stock. If the firm offers variable compensation, as most do, and an LT plan, then then the default must include LT funds.

An employee has three options when the firm pays variable remuneration: 1) invest it all in the default option (the passive choice); 2) decline the default option and make an active investment choice among the funds offered by the employer; and (3) opt out of the saving plan, thereby receiving (and paying income tax on) the variable remuneration. The rich menu of options that are presented to employees in France makes it an attractive environment for studying the role of behavioral considerations in retirement saving choices.

II. Does Illiquidity Affect Participation?

Most of the saving plan participants in our sample – 75% -- opt out of the default and make an active choice. Beshears et al. (2019) show that the characteristics of the default option can affect the likelihood that plan participants make an active choice. We test whether the presence of an LT option in a plan affects workers' plan participation and default take-up decisions.

Plan attributes are chosen by employers, and there are some differences between MT and LT saving options other than their respective liquidity. Employees who are

offered an LT option are 9% more likely to be offered employer stock (69% versus 60%), and 45% more likely (90% versus 45%) to be offered an employer match. Plans with LT options also offer more investment possibilities, on average, in their MT menus.

Even though plans with LT options are more likely than firms without to offer attractive features, Figure 1 shows that employees are 6.4 percentage points more likely to take up MT-only plans than plans with both MT and LT options. The null hypothesis of equal take-up is rejected at the 99% confidence level when we cluster standard errors by firm and geographic region, and at the 89% level when we cluster by firm alone. Employees are 31.7 percentage points less likely to accept the default allocation when it includes an LT component; we reject the null hypothesis of equality at the 99% confidence level with both clustering strategies.

It appears that workers opt out of the default and reduce participation to avoid the LT option. We cannot exclude the possibility that the decision making is driven by unobservable factors making LT plans less attractive for reasons other than their limited liquidity. It should be noted that unlike many plan features, inclusion of the LT option in the default is not an employer choice. Once the employer decides to offer an LT option, that option must

be part of the default. Brière, Poterba, and Szafarz (2021) show that the result in Figure 1 is robust to including worker- and firm-level controls in discrete choice models for both participation and default acceptance. Choice overload when opting out of the default option, combined with precautionary liquidity demand on the part of some participants, could explain the observed reduction in plan participation when the employer offers an LT option.

To gauge the amount that workers are prepared to pay for liquidity, we consider the differential between the first-euro match rates offered on LT and MT options. We exclude matches that are offered on company stock, an asset class that is only available in MT plans. This match differential is a rough proxy for the financial compensation offered for holding LT savings. We stratify firms into three groups: those with an LT premium that is less than or equal to zero, those with an LT premium between 0 and 100%, and those with an LT premium above 100%.

Table 1 shows how the take-up of plans with an LT option varies with this match rate differential. The last column shows that for plans with a lower match rate on LT than on MT saving, only 38% take up the LT option. This share is 63% when the rate differential is positive and less than 100%, and 72% when the differential is larger than 100%. Summarizing

these data with a bivariate regression, a 10 percentage point increase in the LT match rate, holding the MT match constant, is associated with a 1.4 percentage point increase in the take-up rate for the LT account.

More than half of the workers who are offered an LT option are employed at firms that offer higher matches on LT than MT saving. This is consistent with some employees having a precautionary demand for liquidity and with employers recognizing that some additional incentive is needed to induce workers to take up the LT option.

III. Early Withdrawals: Evidence of Precautionary Liquidity Demand?

Early withdrawal patterns offer another potential source of evidence on precautionary liquidity demand. Such withdrawals are only possible when the participant experiences certain hardship conditions. We attempt to disentangle early withdrawals motivated by immediate consumption needs from those that could be motivated by participants taking advantage of the occurrence of hardship conditions to access otherwise illiquid assets.

We focus on the 481,163 workers in our dataset who had employer-sponsored savings accounts over the full year 2017. 38.1% of these savers were eligible to make regular withdrawals in 2017 from their MT

accounts, because at least some of their MT contributions had been made in 2012 or before. Within this group, 25.9% made a regular withdrawal, 4.4% took an early withdrawal associated with hardship, and 71.0% did not make any withdrawal. These percentages sum to more than 100 because some workers made more than one type of withdrawal.

Among workers who took an early withdrawal, more than two thirds had access to, *but did not take*, a regular withdrawal. This is consistent with these workers recognizing that their hardship offered a transitory opportunity to withdraw otherwise-restricted funds, while their unrestricted funds could be withdrawn at any time. The decision to withdraw illiquid funds, while preserving the balance in the liquid account, is consistent with a precautionary demand for liquidity.

We also consider the percentages of the account balance in MT accounts, or in MT and LT accounts, that was withdrawn. We split the sample depending on the funds held (MT, or both MT and LT), and we restrict our analysis to the 6,409 savers who either hold only MT savings or both MT and LT savings, and who experience a hardship condition in the limited list permitting withdrawals of both MT and LT savings (death, disability, over-indebtedness, buying a home, and end of unemployment rights).

Figure 2 reports the percentage of assets withdrawn. It uses workers who have only MT plans as a reference group. For workers with both MT and LT savings, the share of the account balance withdrawn is significantly larger for LT accounts (92%) than for MT accounts (68%); we reject the null hypothesis of equality at the 99% confidence level. This suggests that at least some workers with both MT and LT plans prioritize the liquidation of LT plans. This is consistent with the benefit of withdrawing assets from a restricted account, and thereby achieving liquidity, is greater if the term of the account restriction is longer.

IV. Next Steps

Our research has only begun to exploit the rich across-plan and within-plan variation in the choice architecture of French saving plans. Employers may match some but not all of the investment options on a plan menu, and they may offer match rates that vary with the amount of the participant's contribution. The resulting non-linear budget sets for retirement contributions present a new opportunity for studying how matching affects participant behavior. There is also significant variation in the number and composition of investment options across plans, and in the structure of the LT and MT option within plans.

There are important challenges in analyzing the observed relationship between plan attributes and participant choices, since most attributes reflect endogenous choices by the plan sponsor. Plans are designed by the employers, but they may be tailored in part to the preferences of the firm's workers. If anything, the link from worker preferences to plan features may be greater in France than elsewhere since plan attributes are often set through negotiations with unions.

These concerns notwithstanding, workplace saving plans offer a particularly attractive setting for studying the effects of illiquidity. In general, the liquidity properties of an asset depend on the opportunities for trading it, on the depth of its market, and in some cases on tax considerations. Ang, Papanikolaou, and Westerfield (2014) analyze portfolio choice with differential asset liquidity. Some of an asset's liquidity attributes may be difficult to measure. In pension plans, however, restrictions on account access over various horizons create variation in liquidity that is transparent and quantifiable. Our ongoing research explores how liquidity restrictions and other investment attributes, such as employer match rates, affect workplace saving decisions.

REFERENCES.

- Ang, Andrew, Dimitris Papanikolaou and Mark M. Westerfield. 2014. Portfolio Choice with Illiquid Assets, *Management Science*, 60(11), 2737-2761.
- Beshears, John, James J. Choi, Christopher Clayton, Christopher Harris, David Laibson, and Brigitte C. Madrian. 2021. Optimal Illiquidity. NBER Working Paper 27459. Cambridge, MA.
- Beshears, John, James J. Choi, David Laibson, and Brigitte C. Madrian. 2021. "Active Choice, Implied Defaults, and the Incentive to Choose." *Organizational Behavior and Human Decision Processes*, 163, 6-16.
- Briere, Marie, James Poterba, and Ariane Szafarz. 2021. "Choice Overload? Participation and Asset Allocation in French Employer-Sponsored Saving Plans." NBER Working Paper 29601, Cambridge, MA.
- Direction de l'Animation de la Recherche, des Etudes et des Statistiques (DARES) (2018). Participation, intéressement et épargne salariale en 2016 : Les sommes distribuées aux salariés progressent pour la troisième année consécutive, DARES Résultats 40, August.



FIGURE 1. SHARE OF WORKERS TAKING UP PLAN AND DEFAULT INVESTMENT ALLOCATION AT FIRMS WITH AND WITHOUT LT OPTIONS

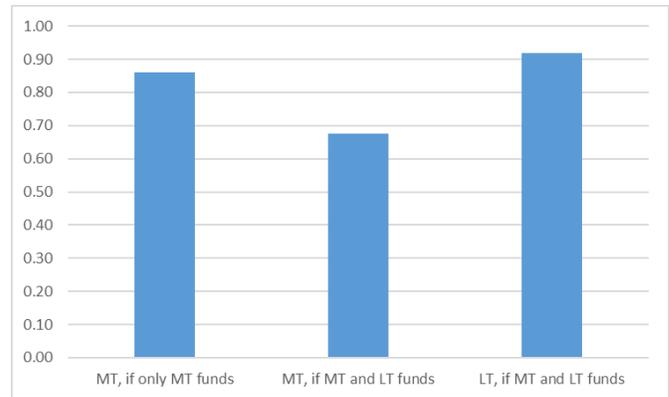


FIGURE 2. SHARE OF HOLDINGS WITHDRAWN FROM MT AND LT PLANS WHEN HARDSHIP CONDITIONS PERMIT WITHDRAWALS FROM BOTH

TABLE 1—LT PLAN TAKE-UP AND MATCH RATE DIFFERENTIAL BETWEEN LT AND MT PLANS

First-euro match rate differential (LT – MT) (%)	Number of workers	Average MT match rate (%)	Average LT take-up (%)
LT – MT ≤ 0	57,290	103	38
0 < LT-MT < 100	70,819	8	63
LT – MT ≥ 100	21,841	22	72