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Capitalizing on Inertia:

Automation Boosts Retirement Savings

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EXECUTIVE SUMMARY

In recent years, a number of academic researchers have conducted analyses of retirement plan designs to better understand features that promote greater participation and contribution rates. Renowned experts in behavioral finance have linked low participation and savings rates in defined contribution (DC) plans to such human behaviors as procrastination and inertia, which has been described as “the divergence between desire and effective action.”ⁱ With regards to saving for retirement, many workers simply don’t get around to enrolling in their employer’s retirement plan. Others, once they enroll and decide on an initial contribution rate, never take further steps to increase their contribution rates. And, in many instances where employers provide matching contributions, employees leave substantial amounts of free money on the table.

Researchers have examined such plan features as the employer match, the number and range of investment options, and loan availability to find out their impact on employee savings behavior. While there are links between these features and employee savings, they are not nearly as significant as the impact of automatic enrollment with automatic contribution rates. Automatic enrollment and contributions address the behavioral obstacles head-on as new employees automatically begin to reap the benefits of plan participation. Automatic enrollment may also be implemented for existing employees who have never enrolled. Although employees may choose to opt out of the plan, only a very small percentage tends to do so.ⁱⁱ

Another innovation that is proving to have powerful results on savings is automatic escalation in employee contribution rates. In their TIAA-CREF Samuelson Award-winning research, Richard Thaler of the University of Chicago and Shlomo Benartzi of UCLA documented enormous improvements in savings following the implementation of pre-selected annual increases in employee contribution rates. With an automatic contribution escalator, the behavioral tendency toward inertia begins to work in the employee’s favor. By doing nothing, he/she automatically adopts higher savings rates over time.

This paper provides a survey of academic research that explores the impact of certain plan features that lead to greater participation and contribution rates, and, ultimately, to greater financial security in retirement. Through the design of their DC plans, employers play a critical role in assisting their employees accumulate retirement assets. By understanding the relationship between plan design and observed savings outcomes, employers can alter their plans to help achieve desired results. After a brief overview of studies that have examined how a variety of plan features tend to affect participation and contribution rates, the essay will discuss in more depth the very powerful impact of automatic enrollment and contribution escalators.

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Overview of Research on Plan Features and Participation

Important findings from this body of research include the following:

- Some 20%-30% of employees whose employers provide defined contribution plans with an employer match do not participate.ⁱⁱⁱ
- Procrastination and lack of financial literacy appear to be important factors among non-participants. Those who do not participate tend to be less educated and have lower income levels than those who do participate.^{iv}
- Higher-income employees have not only higher participation rates but also higher contribution rates.^v
- The presence of an employer match has not proven to be as effective as hoped, but can influence savings positively if implemented carefully. In a very broad study of non-highly compensated employees (NHCE), the introduction of a match where one did not previously exist increased the participation rate from 60% to 70%.^{vi} For those already participating, the introduction of a match tends to provide mixed results: increasing the savings rates of lower-income employees but often lowering the savings rate of higher-income employees. The match threshold (the highest employee contribution rate that receives an employer match) needs to be considered carefully so that strong savers do not reduce their savings rates to the threshold level. Increasing the match threshold can raise the contribution rates of employees with relatively low savings rates.^{vii}
- The presence of a loan feature tends to increase contribution rates only modestly.^{viii}

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- The number of investment options has been shown to affect participation and contribution rates. Studies indicate that participants do appreciate having some choice of investments, but that they start feeling choice overload once the number of options exceeds a certain level. A broad-based study of 638 401(k) plans reported in the April 2006 issue of the *Journal of Finance* found that participants generally choose to invest their retirement savings in a small number of funds—usually no more than three or four—regardless of the number of funds offered. In the study, both the median and mode of participants’ choices were three funds. More than 95% of participants used no more than seven funds, even though 96% of the participants had access to seven or more funds.^{ix} In another study analyzing the number of investment options in plans, participation rates were found to drop from about 70% when 10-12 options were available to about 60% when the number options approached 60.^x Another study found that when the number of choices exceeds 30 and the proportion of *equity* funds increases relative to other choices, participation rates fall in a phenomenon referred to as “equity fund overload.”^{xi} In other findings, researchers have reported that information overload is significantly higher for individuals with low levels of financial knowledge. As a result, low-knowledge individuals are more likely to opt for default asset allocations than high-knowledge individuals.^{xii}
- The most effective plan design to increase overall participation rates, aside from mandatory participation, is proving to be automatic enrollment. Under auto enrollment, employees are defaulted into enrollment and must actively take steps to opt out.
- Automatic contribution escalators are proving to be powerful tools to increase employee savings. Typically, the increases in employee contributions occur annually at a pre-set rate of 1%, 2% or 3% of salary. For example, if an employee had been saving at a 4% rate of salary and agreed to a 1% annual escalator, his/her contribution rate would increase to 5% in the first year, 6% in the second year, and so on until it reached the maximum allowed. Like automatic enrollment, opting out requires the employee to take action.
- Investment default in a balanced portfolio of equity and fixed income provides significantly greater long-term accumulations than money market or stable-value funds that frequently have been used as defaults in the past. Increasingly, plan sponsors are using life-cycle or target-maturity funds--which are more growth-oriented for younger investors and more preservation-oriented for older investors--as the investment default. As with other defaults, employees may opt out and make other selections.

Background

In the for-profit world, most firms 25 years ago used defined benefit (DB) plans as their primary retirement benefit; however, because of administration costs and funding risks,^{xiii} the majority of them have since shifted to DC plans. Non-profits, on the other hand, typically have offered DC plans for

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decades and thus have not experienced the dramatic shift from DB to DC plans that has occurred among for-profits in recent years. Regardless of their tenure, the challenges of improving employee participation rates and savings are similar for both for-profit and non-profit organizations.

The general pattern within elective deferral plans is that participation and contribution rates are positively correlated with higher income, education and financial literacy. In a very broad study covering several hundred DC plans and about 740,000 employees, researchers Olivia Mitchell, Stephen Utkus and Tongxuan (Stella) Yang found that highly compensated employees (HCEs) participate at a much higher rate than non-highly compensated employees (NHCEs), 91% compared to 74%.^{xiv} In addition, participating HCEs contribute at much higher levels of their compensation than do NHCEs. In fact, 41% of HCEs in the study were contributing at the maximum-allowed level compared to only 3% of NHCEs.^{xv}

Within higher education, 403(b) plans are offered on the vast majority of campuses and are the dominant and frequently sole type of plan at private institutions. Public institutions, on the other hand, are more likely to offer multiple plans, with defined benefit plans typically offered as well as 403(b) and 457 plans. The average participation rate in 403(b) plans offered on campuses is estimated at 70%^{xvi}, with higher rates generally occurring at private institutions and lower rates at public institutions (perhaps partially explained by the greater likelihood of multiple plan types at public institutions). According to a broad survey by Spectrem Group, the average deferral or contribution rate of campus participants is 5.7%, although it is typically higher at institutions with more than 500 employees and typically lower at institutions with fewer than 500 employees.^{xvii}

Plans vary widely from institution to institution, with some employer contributions being contingent upon employee contributions and others not. A recent survey of faculty members on campuses across the country indicated they are significantly more confident about having a comfortable retirement than the average worker, not surprising since they are better educated and have higher incomes than the average employee.^{xviii} However, higher ed institutions also employ significant numbers of non-faculty personnel who are not saving at adequate levels for a comfortable retirement. Higher ed sponsors, like all sponsors, may have many reasons for wanting to consider changes in their plan to increase participation and savings rates:

- General concern about retirement security for all employees.
- Concern about specific employees who are not saving enough.
- Desire for their retirement plan to be competitive with those of peer institutions.
- Issues with nondiscrimination testing in which the sponsor needs to ensure that less highly compensated employees achieve certain levels of participation and employer benefits.

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After a brief overview of behavioral economic factors, this paper will examine DC plan design features that are proving to be most effective in increasing employee participation and contribution rates, and thus are most beneficial in improving employees' financial preparedness for retirement. As noted, research is indicating that defaults are extremely successful in increasing participation and contribution rates, especially among lower-income employees who traditionally are under-savers as a group. One default feature alone, however, does not suffice, and increasingly, innovators in plan design are combining several automatic features with far greater effectiveness. In short, it appears that the magic is in the mix.

Traditional vs. Behavioral Economics

Standard economic theory assumes that individuals optimize their consumption and savings behavior over their lifetimes. Indeed, the life-cycle theory of saving posits that individuals make spending and saving decisions so that they may smooth their consumption over their entire lifetimes.

In reality, the life-cycle theory of saving fails to explain why a sizable portion of the population is not financially prepared for retirement. The Employee Benefit Research Institute (EBRI) indicates in its 2006 Retirement Confidence Survey that 52% of workers ages 55 and older say that they and their spouses have accumulated less than \$50,000 in retirement savings.^{xix} According to new research by the Center for Retirement Research (CRR), the average (middle quintile) near-retiree (age 55-64) has household financial assets of about \$40,000 in DC plans, \$95,000 in DB plans and \$28,000 in other financial assets, not counting Social Security.^{xx} While certain segments of the population are well-prepared for retirement, the CRR points out that "35 percent of households have no pension whatsoever in retirement and must rely almost entirely on Social Security." As employers increasingly convert from DB to DC plans, the safety net of lifetime payouts based on years of service and salary levels is eliminated and employees must provide for themselves to a larger degree.

Behavioral economists, on the other hand, assume that several obstacles and behavioral challenges thwart the intention of many households to save enough for retirement. First of all, many individuals are not financially savvy and do not know how much they need to be saving. Many others are aware they are not saving enough but are unable to take action on that knowledge.^{xxi} Secondly, developing and following through on a savings plan typically requires a level of self-control and discipline that doesn't come easily for a segment of the population. In addition, the human tendency toward procrastination about unpleasant activities (such as foregoing current consumption) is a deterrent for many and often leads to inertia or "status quo bias," as sometimes referred to by behavioral economists. Lastly, a term called hyperbolic discounting explains how individuals value current consumption far more than future consumption, often resulting in inadequate savings.^{xxii}

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These behavioral tendencies play havoc with individual savings in traditional DC plans in a variety of ways:

- Employees with access to traditional DC plans need to sign up for the plan, meaning that they must take some initiative to complete and submit the necessary forms. While their intentions likely are good, many employees will procrastinate and never get around to enrolling.^{xxiii} Those feeling inadequate to make financial decisions may *intend* to seek advice but never do so.
- Enrollees in traditional DC plans also need to make decisions about how much to save and how to invest their savings. Many employees simply don't know how much they need to save and thus tend to under-save. In addition, many lack basic understanding of investing and asset classes and make inappropriate allocation decisions. Although financial education seminars help^{xxiv}, many employees who intend to take subsequent action fail to do so.^{xxv} As a result, many continue to invest too conservatively and others too aggressively with regards to their risk tolerance or future needs. Some DC plans offer so many investment options, and particularly equity choices, that participants suffer from “equity fund overload” and contribute less than if there were fewer choices.^{xxvi}
- A sizable percentage of participants in traditional DC plans stay with their initial contribution rates and investment selections for many years or until they terminate from the plan.^{xxvii} Thus, inertia often results in a failure to rebalance or reallocate their holdings: even if participants' original allocations were appropriate at the time, they likely haven't remained so. For example, a young employee may have made an equity-oriented allocation that was appropriate for many years but is possibly far too volatile as he/she nears retirement and will need to rely on predictable income. In addition, inertia tends to keep people from changing their savings rate, so if their contribution rate was inadequate at the time they enrolled, it likely remained so.

Making Inertia an Ally

For the reasons discussed above, inertia has tended to be an enemy to retirement planning. By failing to take the required steps, many employees can end up practically empty-handed by default. Innovators and early adopters in plan design, however, are finding that the concept of default is an important key to improvements. Instead of requiring employees to take action to get enrolled and invested, newer designs are enrolling employees and investing their savings automatically. In short, the defaults are flipped upside down: by doing nothing, employees' inertia becomes a friend in their retirement preparation. Using the powerful tool of automation, employers can now turn their attentions toward selecting the most appropriate defaults related to contribution and matching schemes, as well as to the investment portfolio.

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Automatic Enrollment

Researchers Brigitte Madrian and Dennis Shea examined the implementation of automatic enrollment into the defined contribution plan of a large financial services company and found that it increased the overall participation rate significantly. Before automatic enrollment was introduced, only 49% of new hires were participating in the plan. However, one year after the change became effective, 86% of new hires were participating in the plan.^{xxviii}

The Madrian-Shea study, which won the 2002 TIAA-CREF Paul. A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security, was significant for a number of reasons. Not only did it demonstrate the tremendous value of automatic enrollment in increasing participation rates but also its staying power, demonstrated by a low drop-out rate in the subsequent timeframe.

On the other hand, the Madrian-Shea study also illuminated the potential *negative* ramifications of automation if all of the needed defaults are not in place. In the implementation they studied, the plan sponsor chose a money market fund to be the automatic investment default. And while some degree of savings is better than none, a money market investment is inadequate as a long-term vehicle to provide inflation protection and growth for building retirement resources. In addition, the plan sponsor implemented a 3% contribution rate, which, of course, was an improvement for those who previously were saving less than 3%, but insufficient for most people to be able to maintain their standard of living after retiring. Unfortunately, the inertia factor proved its power once again: two years after automatic enrollment was introduced, 40% of the new participants were still using the default options of a 3% contribution rate and the money market fund. Those who opted out of the defaults and into greater savings tended to be older employees with higher incomes.

The availability of automatic enrollment is growing rapidly among sponsors of 401(k) plans, as reported in studies by Hewitt Associates and the Profit Sharing/401(k) Council of America, and particularly among large companies where its availability has been reported at about 20% in 2005.^{xxix}

Investment Default

Given the power of inertia, plan sponsors need to choose the investment default carefully since a significant percentage of employees likely will not change it throughout their years of participation. Sponsors need to balance the competing goals of helping their employees experience substantial financial growth while not exposing themselves to fiduciary risks associated with inappropriate investments. And while a mostly equity portfolio might be appropriate for the majority of young employees with a long investment horizon, it may not be appropriate as they approach retirement and cannot tolerate as much

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volatility in returns. Once again, plan sponsors need to account carefully for inertia since the employee's initial investment selection very likely will never be changed.

These factors point to the attractiveness of a type of managed portfolio that changes its asset allocation gradually over time to better meet employees' needs. Employers increasingly are adopting life-cycle or target-maturity funds that are more equity oriented in participants' younger years and are managed to become more stable and income-oriented in their later years. In essence, these funds provide automatic asset allocation which for many employees is a more suitable investment strategy than what may have occurred through their inertia.

Automatic Increases in Contribution Rates

Not surprisingly, the same human tendencies toward inertia and procrastination also affect individuals' behavior regarding contribution rates. In short, many participants fail to increase their contribution rates over time and so those who started out with low rates often wind up with insufficient accumulations at retirement. To address this challenge, researchers Richard Thaler of the University of Chicago and Shlomo Benartzi of UCLA developed a program called "Save More Tomorrow," or SMaRT, which incorporates an automatic contribution escalator designed to coincide with the timing of participants' annual salary increases. In the Thaler/Benartzi design, participants sign on to "Save More Tomorrow" by agreeing to *future* increases in their contribution rates. This approach, according to the researchers, addresses the concepts of loss aversion and money illusion since participants won't "feel" the loss (a reduction in potential take-home pay and consumption) if it occurs simultaneously with salary increases. This concept also addresses individuals' typical hyperbolic discounting that values current consumption more than future consumption.^{xxx}

The results of SMaRT plan implementations to date have been dramatic. In their TIAA-CREF Samuelson Award-winning paper, "Save more Tomorrow: Using Behavioral Economics to Increase Employee Saving," Thaler and Benartzi analyzed three early installations of SMaRT and found that participants with automatic savings escalators experienced much greater savings than those without the automatic escalators. In the first implementation that had an aggressive 3% annual escalator, the average contribution rate of SMaRT participants increased from 3.5% before the program took effect to 13.6% after the fourth increase.^{xxxii} Eighty percent of SMaRT savers were still in the program after the fourth increase, and those who ceased the escalations did not revert back to their pre-automation savings rate but rather stayed at the higher level they had attained.^{xxxii}

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SUMMARY: Putting It All Together

Researchers Alicia Munnell and Annika Sunden, in their recent report, “401(k) Plans Are Still Coming up Short,” summarized the retirement challenge as follows:

Policymakers and the business community have come to recognize that (defined contribution—editor’s insertion) plans must be easier and more automatic if they are to serve as an effective vehicle for retirement saving.A significant percent of eligible employees fail to join the plan, few contribute the maximum, most do not diversify their investments or re-balance their accounts over time.....Automatic enrollment, automatic increases in the deferral rate and automatic rollovers will all help workers accumulate larger balances...^{xxxiii}

Employers who want broad participation and adequate retirement savings for their employees are expected to adopt automation increasingly in their plan design. In PLANSPONSOR’ s “2005 Defined Contribution Survey,” about 14% of responding employers said they have “embraced” automatic enrollment.^{xxxiv} Observers believe that percentage will rise significantly once Congress and the Department of Labor provide certain clarifications, as expected this year. Critics of automation have referred to highly automated plans as paternalistic, and defenders have countered with the term “libertarian paternalism” since participants maintain their right to opt out of the defaults they do not want and make their own choices.^{xxxv}

Given the fact that employers’ previous hands-off experiment with traditional DC plans has left many workers ill-prepared for retirement, it appears as though a degree of paternalism may be in order, as long as individual decision-making remains an option. As discussed earlier, employees frequently make passive decisions by doing nothing. As described by researchers Choi, Laibson, Madrian and Metrick, many employees “are likely to do whatever requires the least current effort”...following “the path of least resistance.”^{xxxvi}

Before implementing automatic features, employers need to have a clear understanding about their goals and objectives, as well as projections about the costs of adopting automatic features. Automatic enrollment, automatic deferrals, and contribution escalators are powerful tools but may become counterproductive if deferral rates are set too low (insufficient savings) or too high (significant opting-out). The employer match rate and match threshold need to be considered carefully so that they provide incentives for higher savings rates. Lastly, the investment default is a critical factor since participants typically will not rebalance or reallocate; therefore, managed portfolios such as life-cycle or target-

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maturity funds make a lot of sense for many employees lacking investment understanding or discipline to make appropriate allocation decisions.

In sum, the trend toward defaults in DC plans is turning employees' former behavioral liabilities—namely procrastination and inertia—into assets. Employers concerned about their employees' welfare in retirement will help them capitalize on these behavioral tendencies by implementing plans with thoughtful automatic components.

About the Author

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- ^{xxxiii} Munnell and Sunden, p.7.
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