

**“Money Attitudes” and Retirement Plan Design:
One Size Does Not Fit All**

Donna M. MacFarland

Carolyn D. Marconi

Stephen P. Utkus

PRC WP 2003-11

Pension Research Council Working Paper

Pension Research Council

The Wharton School, University of Pennsylvania
3641 Locust Walk, 304 CPC
Philadelphia, PA 19104-6218

Tel: 215.898.7620 • Fax: 215.898.0310 • Email: prc@wharton.upenn.edu
<http://prc.wharton.upenn.edu/prc/prc.html>

Pension Research Council Working Papers are intended to make research findings available to other researchers in preliminary form, to encourage discussion and suggestions for revision before final publication. Opinions are solely those of the authors. This paper is to appear in *Money Matters: Shaping Retirement Decisionmaking* (forthcoming). Edited by Olivia S. Mitchell and Stephen P. Utkus. Oxford: Oxford University Press.

©2003 Pension Research Council of the Wharton School of the University of Pennsylvania. All Rights Reserved.

**“Money Attitudes” and Retirement Plan Design:
One Size Does Not Fit All**

Donna M. MacFarland, Carolyn D. Marconi, and Stephen P. Utkus

Abstract

With the growth of defined contribution retirement plans, plan participants are increasingly expected to behave like financial planners, optimizing a series of saving, investment, tax, and spending decisions throughout their lives. Yet just as individuals have varying tastes in saving, we illustrate that participants in retirement plans have varying tastes for the types of financial planning activities needed to ensure success in those plans. Workers can be classified into five “money attitude” segments, with markedly different preferences for savings behavior, equity risk taking, and retirement planning.

Our analysis suggests that a significant group of workers lacks the psychological attitudes or interests needed to maximize retirement security. Our results have important implications for the degree of participant direction in retirement programs; the role of negative elections and default options in plans, and the design of programs to enhance worker financial literacy.

“Money Attitudes” and Retirement Plan Design: One Size Does Not Fit All

Donna M. MacFarland, Carolyn D. Marconi, and Stephen P. Utkus

Worker-directed defined contribution (DC) savings plans have become the dominant form of retirement plan in many countries. More than 40 percent of US private sector workers are DC participants, about twice the percentage covered by defined benefit (DB) plans. Most of these employees are in participant-directed 401(k) plans, in which workers make voluntary saving and investment choices, encouraged by federal tax benefits and employer matching contributions (Vanguard, 2002a).

As these plans have grown, so, too, have employer and policymaker expectations for worker behavior. In an ideal world, workers would be expected to join these plans and take full advantage of the tax and savings advantages they offer. In pursuit of retirement security, rational participants would be expected to calculate an adequate savings rate and construct an optimal investment portfolio. When they change jobs, participants would be expected to avoid tax penalties and not spend their assets. At retirement, with lump sum distributions being the common form of benefit payment, workers would be expected to generate a suitable income stream from their savings for their life, managing mortality risk and avoiding the premature depletion of assets.

This set of expectations regarding participant behavior we refer to here as the “planner model.” Workers in participant-directed retirement plans are supposed to exhibit many of the characteristics of a good financial planner. Perhaps symbolic of the “planner model” was the recent announcement of a new national coalition designed to promote “comprehensive financial planning” in the US (Business Wire, 2002). This new organization encourages Americans to undertake 10 tasks to “retire on your terms,” including calculating savings goals, learning about

Social Security and employer plans, and creating a retirement plan. Many analysts measure success of DC plans in precisely this way, by comparing actual participant behavior with what a good financial planner might recommend or do. For example, determining the adequacy of one's current savings rate is a critical financial planning task. Accordingly, in its annual survey of retirement readiness, the Employee Benefits Research Institute asks Americans whether they have calculate their retirement savings goal (EBRI, 2002). In the 2002 survey only, 32 percent had, and this was down from 39 percent in 2001.

Being well-informed about retirement plan design and investments is also an important characteristic of a financial planner. Education is therefore a cornerstone of the defined contribution plan services offered to employers; it is also a focus of public policy at the Department of Labor, the Securities and Exchange Commission, and now the new Office of Financial Education within the US Treasury.¹ To gauge progress along these lines, several well-publicized industry and academic studies surveys have documented the gap between what participants actually know and what a well-trained financial planner might know. For example, in terms of retirement benefit information, Gustman and Steinmeier (2001) report that “misinformation or lack of information about retirement benefits is the norm” among individuals near retirement. Meanwhile, Merrill Lynch (2002) reports that 54 percent of Americans over 30 think that a 401(k) plan is guaranteed, and this was also true of those expecting to rely on a 401(k) plan for retirement income. In terms of investment knowledge, Vanguard (2002a) and Merrill (2002) report that sizeable groups have no clear expectation of future stock market returns, or expect annual returns in excess of 20 percent. Also Vanguard (2002a) and John Hancock (2001) report that the typical participant rates his or her own company stock as safer

than a diversified stock fund. These reports attract headlines because they underscore the difference between the “planner model” and real-world participants.

It should be no surprise that all workers do not all conform to the planner model. Even a casual survey would suggest that individuals appear to differ markedly in their interest in money and retirement planning. Some individuals are saving and planning enthusiasts, motivated and excited about learning about whatever they need to know needed to make them successful in retirement. Others are indifferent or averse to saving, money matters, and discussion of retirement finances. The idea of heterogeneous saving preferences is, of course not, new. In classical literature, the idea surfaces in Aesop’s Fables, where an ant works ceaselessly to gather corn for the winter, while a grasshopper pursues a life of leisure. In 1834, the economist John Rae attempted to explain a country’s wealth in terms of its “effective desire for accumulation.”² In his *Principles of Economics*, Alfred Marshall (1920) spoke of heterogeneous savings preferences not among countries, but among individuals:

One will reckon a distant benefit at nearly the same value which it would have for him if it were present; while another who has less power of realizing the future, less patience and self-control, will care comparatively little for any benefit that is not near at hand.

Arthur Pigou wrote about the tendency of human beings to discount the future, but he could have just as well been describing the grasshopper’s dilemma: “our telescopic faculty is defective, and we, therefore, see future pleasures, as it were, on a diminished scale.”³ More recently, Laibson (1994, 1997) and others have utilized hyperbolic discounting models to explain people’s tendency to overvalue the present and undervalue the future.

This chapter attempts to apply this broad observation—that individuals have heterogeneous savings preferences—to the world of designing participant-directed retirement savings plans. Specifically, we examine how individual workers’ attitudes vary towards the topics or interests thought to be necessary for optimal behavior in defined contribution plans, including issues as saving for the future, taking equity market risk, and creating a retirement plan. We segment workers participating in or eligible for an employer-sponsored DC plan into five “money attitude” clusters: groupings of similar attitudes and expectations regarding various aspects of financial and retirement management. What we find, not surprisingly, is that people differ substantially in their enthusiasm for the types of planning activities needed to be successful in conventional DC plans. In other words, not all workers are planners; rather, they come in many attitudinal “sizes.”

Prior Research

Much of the existing economics literature explaining saving behavior in DC retirement plans focuses on how saving rates vary according to employer-provided incentives and participant demographics.⁴ Researchers have found a positive statistical relationship between 401(k) plan participation and employer matching contributions, though there is some debate as to whether it is the mere presence or the actual magnitude of the match that matters more.⁵ Plan saving rates have also been analyzed in terms of the demographic variables—income and age—at the heart of the neoclassical model of saving (i.e., that higher-income and/or older workers save more). Various researchers have also linked saving behavior to sex, race, education, job tenure, home ownership, and the presence of another retirement plan in the workplace.

Employer plan design is also thought to influence employee savings behavior—most notably the presence of 401(k) loans⁶ and workplace education. In terms of education, Bernheim

and Garrett (1996), Bayer, Bernheim and Scholz (1996) and Lusardi (this volume) report that education raises both participation and savings rates. Active use of financial training programs appears to boost participation rates and saving rates more than merely making information available. Education has its greatest impact among low- and middle-income households, probably because upper-income households are constrained by Internal Revenue Service contribution limits in their ability to boost saving. Of course, while education may successfully boost plan saving rates, this is distinct from saying that participants are well-educated about retirement plan decisions, given the results of the surveys cited in our introduction.

More recent research has sought to examine the non-economic or psychological factors that influence savings decisions. One notion is the importance of plan design “framing” effects, in which design choices by the sponsor influence participant decisions. Madrian and Shea (2001) report that automatic enrollment (in which newly eligible employees are enrolled at a default savings rate and in a default investment option) raises participation rates dramatically. It also eliminates differences in participation rates due to income, age, job tenure, sex, and race. Yet this research raises a provocative question—why does a saving decision framed in negative terms yield such dramatically different results than one framed in positive terms? The worker-as-planner would not be expected to vary saving behavior depending on how the question is asked by the employer.

Choi et al. (2002a, 2002b) document the role that inertia plays in automatic enrollment and in plan decisions generally. Not only do many participants exhibit inertia when automatically enrolled by staying at low default savings rates and in conservative default investment options; but also some participants who would have saved more or would have chosen different options decide to accept the default choices made for them. Perhaps if

participants were fully rational agents with well-formed preferences, their choices would not be as easily swayed by the default options established by their employer.

In the same vein, inertia can be used to induce participants to save more, especially when they would otherwise be reluctant to do so. Under the “Save More Tomorrow” (or SMarT) plan, by Thaler and Benartzi (forthcoming), workers agree to have their plan contributions increased regularly in the future (e.g., by 1 percent a year on their anniversary). They found that workers in one firm were more willing to use the SMarT feature than to agree to a one-time increase in saving rate recommended by a financial planner. Over time, these workers ended up saving more than the planner had originally recommended. In this way, higher saving was produced by a combination of a technique in which painful savings decisions were postponed into the future, and inertia thereafter.

Another vein of academic research has addressed the impact of social and peer group dynamics within an organization. Duflo and Saez (this volume) report that peer groups play an important role in helping individuals gather information and make informed decisions.

Finally, in a related vein, research by industry groups has sought to analyze participant savings behavior in terms of common outlooks or beliefs. The Employee Benefits Research Institute (EBRI) has classified Americans into several “personality types” based on their common beliefs or attitudes in the annual Retirement Confidence Survey. These groups are created based on statistical segmentation or clustering techniques that aggregate people according to their common responses to a battery of questions. In its 2002 survey, EBRI classified workers into Planners, who enjoy financial and retirement planning; Savers, who are disciplined about saving but risk-averse about investing in the capital markets; Strugglers, who while interested in saving are often beset by financial problems; Impulsives, who aren’t

disciplined in savings habits; and Deniers, who don't think about financial matters and deny that retirement security is possible.

Data and Methodology

The goal of present is to understand how attitudinal perceptions toward “money” and, more specifically, “retirement planning,” are linked to behavior around plan participation or non-participation, as well as participant equity holdings and account activity. Our current research, like the EBRI study before it, develops an attitudinal segmentation of retirement plan participants and eligible non-participants. Importantly, however, we augment our survey results with administrative records on saving behavior (including plan eligibility and plan participation), and account behavior (including equity investment holdings, the level of account interaction, and the use of loans). In this way, our findings are linked not only to psychological attitudes expressed in the survey portion of the study, but also to actual participant behavior. The analysis had in two phases: a qualitative phase, in which structured interviews were used to elicit possible attitudes regarding “money” and “retirement planning” from a small group of workers; and a quantitative phase, in which a much larger sample population was asked to respond to a battery of attitudinal statements regarding money and retirement planning.

Qualitative/Interview Phase. Working with an independent research organization researchers at The Vanguard Group conducted 40 one-hour, in-depth, one-on-one interviews with 16 participants in defined contribution plans for which Vanguard provides recordkeeping services; 14 participants in retirement plans administered by other organizations; five non-participants; and five retired participants.⁷ These interviews included participants employed full-time and participating in a 401(k) or 403(b) retirement saving program; non-participants were required to be full-time employees in an organization offering a 401(k) or 403(b) savings plan. Interview

candidates were selected to provide a mix of blue-collar and white-collar positions; within the limited sample, we attempted to include participants who varied by age, sex, and race.

The interviews, held in 1999, were organized around an unstructured interviewing technique, in which interviewees were asked a series of open-ended questions in a number of categories. These included general questions about the role of money and finances in their lives; the individuals or events in their lives that influenced their approach to money (which elicited many comments about savings role models); and a number of retirement topics, including the role of a workplace savings plan and reasons for use (or lack of use), savings goals, and expectations for retirement. Interviewees were also asked about the sources of information, advice, and education they used to make decisions. The interviews closed with some creative imagery around planning for retirement, the future, retirement and savings.⁸ A panel of observers was trained to take verbatim notes, which were used as input to the subsequent design of a questionnaire in the quantitative phase.

Following the interviews, a team of researchers synthesized the interview notes, from which three patterns emerged. One group of interviewees clearly had a strong interest and orientation toward money management and retirement planning: this group was tentatively named “planners” by the research team. A second set of interviewees seemed uninterested in money issues or retirement planning: these were given the name “avoiders.” And a third set of interviewees seemed somewhere in between: diligent and motivated about saving for the future, often out of a sense of responsibility for others, but at the same time, not particularly interested in retirement planning or financial matters *per se*. This third group the team referred to as the “doers”: individuals who “did what they’re supposed to” in terms of saving for the future (or for others).

An important output from the qualitative phase was a battery of 48 potential attitude statements that could be used to describe the feelings, emotions, and attitudes expressed by the interviewees regarding money and retirement planning.

Quantitative/Survey Phase. During the quantitative phase, we sought to verify the existence of distinct attitudinal segments in the population, quantify what portion of the retirement plan population they represented, and investigate differences that might emerge in terms of attitudes, behavioral variables (e.g., participation rate, equity allocation, account usage), and demographic variables. A questionnaire was designed to incorporate a series of attitudinal statements drawn from the interviews, and this survey was administered via telephone in 2000. A total of 1,141 respondents participated in the telephone survey, which averaged 20 minutes in length.

Respondents were a random sample drawn from a universe of participants and eligible non-participants among Vanguard recordkeeping plans. Participation and eligibility status was drawn from our administrative systems, not from the survey respondents. A summary of respondent's demographics can be found in Table 1.

Table 1 here

The survey included a variety of demographic, behavioral, and usage questions to reveal the types of information that respondents relied on when making financial decisions. After the survey, we added additional administrative data, including asset allocation to equities, transaction activity, "channel utilization" (the frequency of retirement plan transactions, whether via a telephone associate, an automated voice response unit, or the internet), and loan activity.

Survey attitudinal responses were then analyzed using a statistical procedure known as "cluster analysis." Cluster analysis is a multivariate statistical technique designed to group objects (in this case, retirement plan participants and eligible non-participants) based on similar

characteristics (their responses to the 26 attitudinal questions). The statistical technique defines a cluster or segment in such a way as to minimize differences among individual members within a cluster, while maximizing the differences across the clusters. In effect, it is a way of determining natural groupings within a data set, although researchers can influence these groupings by the statistical methods employed.

Cluster solutions were generated using an iterative, non-hierarchical k-means clustering procedure.⁹ For further analysis, we selected a five-segment clustering solution, chosen because it was easy to understand and communicate. Each cluster also represented a reasonably large subsegment of the retirement plan population, with the smallest segment accounting for 14 percent of the population and the largest for 26 percent. Finally, each cluster was given a name designed to evoke its attitudinal preferences.

Results: The Five “Money Attitudes” Segments

Table 2 provides a list of the 26 attitudinal statements used in the survey, as well as the corresponding mean scores for respondents in each cluster of the five “money attitude” clusters. Table 3 summarizes key features of each cluster, while Figure 1 provides a snapshot of the size of each attitudinal segment. About one-fifth (21 percent) of the retirement plan population (participants and eligible non-participants) may be characterized as *Successful Planners*. These individuals have a strong, goal-oriented vision of a successful retirement. They enjoy planning for the future and are optimistic that they are well-prepared for retirement. They are disciplined savers, and they derive a high level of personal satisfaction from the act of saving for the future. They are comfortable with equity risk-taking, and they rely on an extensive array of information sources to make decisions.

Table 2 and 3 here, Figure 1 here

Up & Coming Planners accounted for another quarter (26 percent) of the retirement plan population. They possess many of the attitudes and preferences of Successful Planners—a strong, goal-oriented vision of retirement; an abiding interest in retirement planning; a disciplined approach to savings; and an equity orientation in their investment strategy. Where they differ from Successful Planners is in the degree of confidence about their plans. They lack the degree of optimism, the feeling of assured success, that the Successful Planners have achieved—hence the “Up & Coming” designation.

The *Secure Doer* segment accounted for one-fifth (20 percent) of the retirement plan population. The term “Doer” originated from the original interviews, during which the research team observed a pattern of individuals having strong interest in savings, particularly out of a sense of responsibility or duty toward themselves or others. The term “Secure” originates from this segment’s relative aversion to stock market risk. Secure Doers appear to have a high level of interest in saving, but they are more security-conscious in their investment strategy and less willing to take on equity market risk. Their orientation to saving behavior, rather than retirement planning, is also reflected in a number of other attitudinal characteristics. Individuals in this segment are not particularly interested in money management, and retirement and financial planning; there would be few personal finance hobbyists in this segment. Unlike the two Planner categories, who have strong goal-oriented visions of retirement, Secure Doers do not appear to have a strong view of their retirement goals. In fact, they appear to be more willing to adjust their lifestyle to available resources rather than pursue a given set of goals with discipline.

The fourth segment is the *Stressed Avoiders*, which accounted one-fifth (19 percent) of the retirement plan population. Stressed Avoiders find financial matters to be a source of stress, anxiety, and confusion—all of which combine to create obstacles to planning a successful

financial future. They do not appear to be particularly goal-oriented in thinking about the future. Worry, concern, stress, and pessimism are the emotions which most often surface when they confront financial issues. Of all of the segments, this group is least confident in its investing skills.

The final segment is the *Live-for-Today Avoiders*, which represented 14 percent of the retirement plan population. This group is not necessarily overwhelmed by the emotional aspects of money and retirement planning, but instead is uninterested in the future at all. Since they live for the present, they derive little or no satisfaction from saving for the future; leisure time is more valuable than any time spent on planning efforts.

Demographic and Behavioral Characteristics. Besides differing in attitudes, the segments also differ in terms of certain demographic and behavioral characteristics (see Table 4). Plan participation rates, our primary metric of saving behavior, varied significantly across four of the five groups—from a high of 90 percent for Successful Planners to a low of 62 percent for Stressed Avoiders. (Participation rates for the two groups of Avoiders, at 62 percent for Stressed Avoiders and 64 percent for Live-for-Today Avoiders, were not statistically significantly different.) At the extremes, Successful Planners are more likely to be older, better paid, have better jobs or education, and have larger retirement savings than other segments. They are also the most likely to be active in managing and interacting with their accounts. These seem to include many of the characteristics of the “over-confident males” that Barber and O’Dean (2001) have analyzed (though in our survey, two thirds of the respondents were male and so it was not possible to differentiate the impact of gender on a statistically significant basis).

Table 4 here

At the other extreme, Live-for-Today Avoiders were more likely to be younger, lower paid, with manual or labor jobs and lower levels of education. Both Avoider categories were somewhat more likely to be minority rather than white; women were somewhat more prominent in the Stressed Avoider category.

In reviewing these results, several caveats should be kept in mind. First each segment is a statistical construct, and the boundaries are not precisely defined. Thus, individuals and typical demographic groups will not fit perfectly into a given category. Second, the results represent a snapshot in time, raising several interesting questions of whether attitudes change over time and what factors could influence those changes. These remain for future research.

An important question raised by these segments is causality: do psychological states determine financial outcomes, or is it the other way around? For example, in the data there is a rough correlation between assets, income, age, and “planner” status. Is this because people who are older or who accumulate more assets become more motivated around appropriate financial attitudes and behavior, and so become more planner-like? Or is it that planners are more likely to be richer, given their vision of retirement, disciplined savings approach, and equity market orientation? Another way to restate this question is that, perhaps with sufficient time and resources, both financial and educational, most people actually become planners. However, for some groups of people, there is never sufficient time and resources. They come to realize the importance of planner attributes too late in their lives (if at all).

One critique of attitudinal segmentation studies is that, in the end, it is behavior that is relevant, not personal beliefs and attitudes. As long as individuals end up saving something, whether they express an interest in saving or other financial activities *per se* maybe immaterial. Research on the adequacy of saving rates casts some doubt on the belief that workers are savings

adequately in the first place. Moore and Mitchell (2000) note that about 40 percent of pre-retirees appearing to be ill-prepared to achieve some reasonable measure of retirement security. Moreover, it is clear from the data we analyze that attitudes do matter and are linked to specific behavioral differences. Overall, participants with certain “desirable” sets of retirement saving attitudes do behave differently from other participants, in terms of plan participation, investment decisions, and engagement with their retirement plan account.

Implications of Money Attitudes

Our findings indicate that at least half of the plan population does not conform to a “planner” set of attitudes and expectations. Such a result has important implications for the ways in which retirement plans are designed. Here we highlight three: the degree of participant direction in retirement saving plans (and of employee choice in benefit packages broadly); the role of negative versus positive elections in plan design and public policy; and the design of financial education programs, both in the workplace and as part of a national campaign to promote financial literacy.

Degree of participant direction. Participant-directed pension plans are based on an implicit model of the “worker as planner”, with each employees seen as a pro-active, engaged agents making fully-informed decisions about their financial futures. But the “money attitudes” research suggests that the “planner” model does not fit all.

If a large subset of the working population fails to take an active interest in retirement planning, retirement plans that rely on participants’ voluntary decisions will be limited in their ability to assure retirement security. And unfortunately, a sizeable fraction of plan participants appears to have little or no interest in retirement planning or in plan participation. For instance, the average participation rate for participant-directed DC plans was approximately 75 percent in

2001. Using plan-weighted data; if participation is calculated across the entire DC system, participation rates are closer to 66 percent (Vanguard, 2002c). Defined contribution plans rely upon a well-intended incentives-based approach to promoting savings including federal 401(k) tax deductions, employer matching contributions, and workplace education programs.

Nevertheless such incentives fall on some deaf ears, with one out of three eligible participants failing to join their workplace saving plan. One way employers can address the problem of inadequate plan participation is to offer employer contributions that are not contingent on voluntary savings decisions by participants. Many large and medium-sized employers already do this, either through DB programs or other DC plans with employer contributions (e.g. money purchase and profit-sharing plans). For policy makers, the “money attitudes” research raises two questions: What incentives can be implemented to increase employer contributions which are not contingent on participant saving behavior? And to what extent should some baseline employer contributions be mandatory? Mandating employer contributions creates disincentives for employers to adopt plans, a concern that must be weighed against the sizeable population not voluntarily taking advantage of existing workplace plans.

Yet this research does not suggest a retreat from plans relying on voluntary participant contributions and a shift to solely employer-funded plans. This is because in our sample, at least half the population appears to have the attributes needed to optimize decisions in a participant-centric plan. Many others who are not classified as planners still do make voluntary contributions to a 401(k) plan. The question, it seems, is not whether public policy or employer plan design should take an “either-or” approach to participant- versus employer-direction in plan design. Rather, it is to what degree both types of plan designs should be encouraged in order to optimize the retirement system for workers with a variety of attitudinal types.

Our research also suggests that a limit on the number of choices offered to workers might make sense. Iyengar and Lepper (2000) raise questions about the demotivating effects of too much choice in the choice among consumer products, and Iyengar et al. (this volume) extend the choice research to retirement plans. This work underscores the fact that too much choice within a 401(k) plan can modestly reduce plan participation rates. While some choice is better than none, it is not at all clear that an ever-expanding set of choices is superior to a reasonable but small menu of choices. In the employee benefits world, choice is proliferating—in consumer-directed health care plans, in choice among types of retirement plan, and in proposed models for the reform of employee benefits law.¹⁰ These models all rely on the success of a participant-directed DC plan as their reference point. Our research suggests that not all individuals with have the appropriate attitudes thought necessary to make successful decisions in such programs.

Negative elections and default choices—the “auto-pilot 401(k).” The behavioral economics literature cited earlier suggests a possible course of action, both in terms of policy and plan design, for addressing workers’ varying “money attitudes.” To address the fact that large groups of workers do not conform to the planner model of behavior, both policy and plan design could seek to encourage negative, rather than, positive choices—default outcomes, rather than pro-active decision-making.

Consider a possible reformulation of the traditional 401(k) plan along negative-decision lines. First, all eligible participants would be automatically enrolled in the workplace plan. Because automatically enrolled participants remain at low savings rates, as Madrian and Shea (2001) have noted, participants’ deferral rates would need to be increased automatically over time, using the Thaler and Benartzi (forthcoming) Save More Tomorrow concept. For workers who “opted out” of a savings program, there could be a provision for re-enrollment after a

certain time in order to promote savings behavior on an ongoing basis. In terms of investment choices, fiduciary law might be amended to encourage sponsors to select diversified balanced portfolios, perhaps defined by current age, as default investment options. Alternatively, the law itself might include statutory definitions of default options, eliminating much of the employer decision-making and liability in the selection of investment defaults. We call this the “auto-pilot 401(k)” in which optimal savings and investment decisions occur by default, without the active engagement of the employee. Auto-pilot 401(k)s, in effect, attempt to reduce the degree of active decision-making in participant-directed plans for many workers, while preserving choice and flexibility for others.

Auto-pilot plan designs would come at some cost. Provider and employer administrative costs would rise, as many small accounts would be created through automatic enrollment. Absent any change in plan design, employers would face additional costs for matching contributions for the newly enrolled participants who were previously non-participating. One way to offset some of those costs might be to make these automatic features an alternative to nondiscrimination testing. Nondiscrimination testing is designed to ensure that plans are not created exclusively to benefit high-paid workers, and that low-paid workers participate in sufficient numbers. Since automatic enrollment, automatic savings increases and age-based default balanced funds would likely achieve these same public policy goals, such a set of features could be a “safe harbor” alternative to traditional nondiscrimination testing.

The idea is that when a sizeable group of workers is disinterested in retirement and financial planning, plan design can be rethought so that doing nothing—being non-proactive, demotivated or uninterested when it comes to money and finances—can result in a near-optimal (if not optimal) retirement outcome as well.

Financial Literacy and Education. Current financial education programs in the workplace seem designed to meet the needs of Planners. Implicit in the delivery of extensive financial education materials is the idea of a motivated, interested audience. But our attitudinal segments reveal that at least half of the audience has a low level of interest in the topics addressed by such programs. Paradoxically, while education seems targeted at the Planner attitudinal segments, workplace education is only one source of financial information for them. They also turn to the general media, the Internet, financial publications, advisers, and others to make financial decisions.

Our results suggest that financial literacy programs, whether in the workplace or some other venue be refocused away from Planners, who are more naturally inclined to seek out many sources of financial information, and toward other attitudinal segments, where reliance on employer education is greater. This seems particularly true of enrollment materials. Emphasizing the importance of retirement and providing extensive investment education in enrollment materials seem ideally suited to the interests of Successful or Up & Coming Planners (and possibly to sponsors and policymakers who are themselves Planners). Yet it runs exactly contrary to the present-day focus on Live-For-Today Avoiders, and it can even increase the level of financial complexity thought to be a hurdle to Stressed Avoiders.

Financial education could be redirected in three specific ways. First, education materials might increasingly focus on present-day benefits. Tangible benefits, such as matching contributions, or intangible benefits such as “making the most of your money today” or “avoiding financial confusion,” are techniques to appeal attitudinally to non-Planners (Selnow, this volume). Second, educational materials need to be vastly shortened simplified. Non-Planner audiences simply were not interested in an extensive tutorial on money management or

retirement planning. And finally, education must be explicit and directive. Avoiders and even Secure Doers are not seem particularly interested in conceptual training in personal finance, while Planners will relish it (Vanguard, 2002c). Indeed, for some participant segments, the “educational” model—in which educational activities result in specific attitudinal and behavioral changes—may no longer be suitable. For the non-Planer segments, a more suitable solution may be explicit savings and investment advice. Attitudinal segments may help improve the delivery of such advisory programs within defined contribution programs. Advice programs that require little effort or complex data-gathering are likely to appeal to Secure Doers and Avoiders. Perhaps the ideal approach for this audience would be a default fund or managed 401(k) account, in which investment decisions are fully delegated to a third party or service provider. Sophisticated advice capabilities on the internet, especially those that require active involvement, are probably better suited to Planners. Attitudinal issues may be one reason that complex internet tools have not been widely adopted by participants within retirement plans.

Conclusions

With the growth of voluntary, participant-directed DC saving plans, expectations for the types of decisions made by workers have also risen. Like experienced financial planners, workers are now expected to optimize a series of saving, investment, tax, and spending decisions throughout their working and retirement years. Yet participants’ interests and attitudes towards important planning activities, like saving for the future, taking equity market risk, or developing a retirement plan, are quite heterogeneous. Only half of the retirement saver population can be thought of as possessing the “planner” characteristics needed to optimize retirement results in defined contribution plans, so the planner model does not fit all. The other half of the retirement plan population diverges from this “planner model” in important ways. We have identified five

“money attitude” groups of workers—Successful Planners, Up & Coming Planners, Secure Doers, Stressed Avoiders, and Live-for-Today Avoiders—with distinct behavioral, demographic and attitudinal preferences toward money and retirement planning.

The existence of these attitudinal segments has important implications for public policy, retirement plan design and education and communications practices. First, it suggests a natural limit to the current model of participant direction, in which knowledgeable and motivated agents make well-informed choices about their future. A significant proportion of the population, it appears, is disinclined to be interested in the key activities or attitudes needed to make informed choices. While there may be educational or other techniques that will overcome this resistance, our research results suggest a tougher-than-anticipated road ahead for such efforts. Second, our research suggests that because not all participants are interested in making active and well-informed financial choices, there may be a greater role for negative elections, default choices, investment advice, and managed 401(k) accounts—i.e., techniques designed to increase the level of “non-participant-direction” (or “other-person-direction”) in participant-directed plans. Third, the results of this chapter suggest new approaches to financial education, with greater emphasis on simpler decisions, less information, reduced complexity and fewer choices. This new approach is applicable whether education is provided in the workplace or as part of a public campaign for financial literacy.

References

- Barber, Brad M. and Terrance O'Dean. 2001. "Boys Will be Boys: Gender, Overconfidence, and Common Stock Investment." *Quarterly Journal of Economics* 116(1): 261-292.
- Bassett, William F., Michael J. Fleming, and Anthony P. Rodrigues. 1998. "How Workers Use 401(k) Plans: The Participation, Contribution and Withdrawal Decisions," *National Tax Journal* 51(2): 263-289.
- Bayer, Patrick J., B. Douglas Bernheim, and J. Karl Scholtz. 1996. "The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers." NBER Working Paper 5655.
- Benartzi, Shlomo. 2001. "Excessive Extrapolation and the Allocation of 401(k) Accounts to Company Stock." *Journal of Finance* LVI(5): 1747-1764.
- Bernheim, B. Douglas and Daniel M. Garrett. 1996. "The Determinants and Consequences of Financial Education in the Workplace: Evidence from a Survey of Households." Stanford University Department of Economics Working Paper 96-007.
- Business Wire. 2002. "Senator Bob Dole to Inaugurate National Retirement Planning Week." November 18. (www.retireonyourterms.org).
- Choi, James, David Laibson, Brigitte Madrian and Andrew Metrick. 2002a. "For Better or For Worse: Default Effects and 401(k) Savings Behavior." NBER Working Paper 8651.
- _____. 2002b. "Defined Contribution Pensions: Plan Rules, Participant Decisions, and the Path of Least Resistance." NBER Working Paper 8655.
- Clark, Robert L. and Sylvester J. Schieber. 1998. "Factors Affecting Participation Rates and Contribution Levels in 401(k) Plans." In *Living with Defined Contribution Pensions*, eds. Olivia S. Mitchell and Sylvester J. Schieber. Philadelphia, PA: University of Pennsylvania Press: 69-97.

- Duflo, Esther and Emmanuel Saez. 2000. "Participation and Investment Decisions in a Retirement Plan: The Influence of Colleagues' Choices." NBER Working Paper 7735.
- _____. 2002. "The Role of Information and Social Interaction in Retirement Plan Decisions: Evidence from a Randomized Experiment." NBER Working Paper 8885.
- Employee Benefit Research Institute (EBRI). 2002. *Retirement Confidence Survey*.
<http://www.ebri.org/rcs/2002/02rcssof.pdf>
- Even, William E. and David A. Macpherson. 1999. "Employee Participation in 401(k) Plans." Pepper Institute Working Paper 99-54.
- Frederick, Shane, George Loewenstein, and Ted O'Donoghue. Forthcoming. "Time Discounting and Time Preference." *Journal of Economic Literature*.
- Gustman, Alan L. and Thomas L. Steinmeier. 2001. "Imperfect Knowledge, Retirement and Saving." NBER Working Paper 8406.
- Hinz, Richard P. and John A. Turner. 1998. "Pension Coverage Initiatives: Why Don't Workers Participate?" In *Living with Defined Contribution Pensions*, eds. Olivia S. Mitchell and Sylvester J. Schieber. Philadelphia, PA: University of Pennsylvania Press: 17-37.
- John Hancock Financial Services. 2001. *Insight into Participant Investment Knowledge and Behavior*. Seventh Defined Contribution Plan Survey. Boston.
- Iyengar, Sheena and Mark Lepper. 2000. "When Choice is Demotivating: Can One Desire too Much of a Good Thing?" *Journal of Personality and Social Psychology* 76: 995-1006.
- Lusardi, Annamaria. This volume. "Saving and the Effectiveness of Financial Education."
- Macey, Scott and Gretchen Young. 2002. "The Future of Employee Benefits: A Call for Reform." *Employee Benefit Plan Review* October: 25-30.

- Madrian, Brigitte C. and Dennis F. Shea. 2001. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics* 116(4): 1149-1187.
- Merrill Lynch. 2002. *The Merrill Lynch 2002 Retirement Survey: Examining America's Changing Attitudes, Expectations and Behavior.*
- Munnell, Alicia H., Annika Sundén, and Catherine Taylor. 2000. "What Determines 401(k) Participation and Contributions?" Center for Retirement Research (CRR) Working Paper 2000-12.
- Marshall, Alfred. 1920. *Principles of Economics.* Macmillan and Co., Ltd. Library of Economics and Liberty.
- Moore, James F. and Olivia S. Mitchell. 2000. "Projected Retirement Wealth and Saving Adequacy." In *Forecasting Retirement Needs and Retirement Wealth*, eds. Olivia S. Mitchell, P. Brett Hammond and Anna M. Rappaport. Philadelphia: University of Pennsylvania Press: 68-94.
- Papke, Leslie E. 1995. "Participation in and Contributions to 401(k) Pension Plans." *Journal of Human Resources* 30(2): 311-325.
- Papke, Leslie E. and James M. Poterba. 1995. "Survey Evidence on Employer Match Rates and Employee Savings Behavior in 401(k) Plans." *Economic Letters* 49 (3): 313-317.
- Pence, Karen M. 2002. "Nature or Nurture: Why do 401(k) Participants Save Differently than Other Workers?" Federal Reserve Board of Governors Working Paper. June.
- Plan Sponsor. 2002. "2002 Plan Sponsor DC Survey." *Plan Sponsor.* November: 38-78.
- Selnow, Gary. This volume. "Motivating Retirement Planning: Problems and Solutions."

Thaler, Richard H. and Shlomo Benartzi. Forthcoming. "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving." *Journal of Political Economy*.

Vanguard. 2002a. *Vanguard Participant Monitor: Expecting Lower Market Returns in the Near Term*. Vanguard Center for Retirement Research. Malvern, PA.

_____. 2002b. *How America Saves: A Report on Vanguard Defined Contribution Plans*. Vanguard Center for Retirement Research. Malvern, PA.

_____. 2002c. *Using "Money Attitudes" to Enhance Retirement Communications*. Vanguard Center for Retirement Research. Malvern, PA.

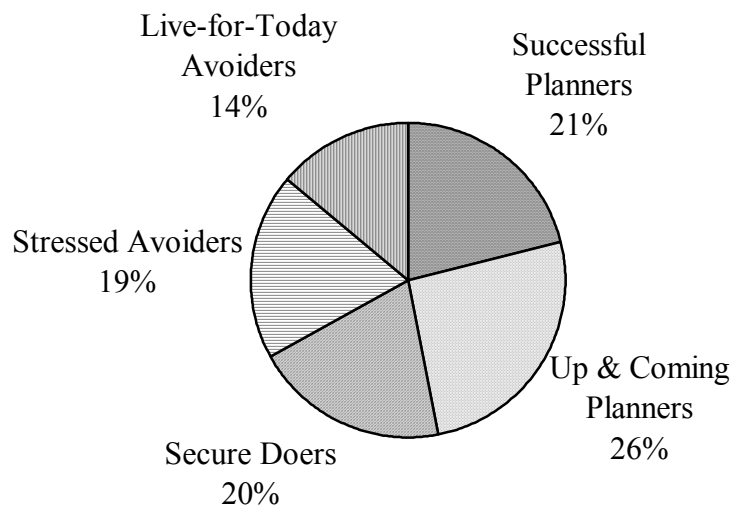


Figure 1. Five “Money Attitude” Segments

Source: The Vanguard Group, 2002

Table 1. Study Sample: Quantitative Phase**A. Sample Size**

	Participants	Non-participants	Total
401(k)	599	300	899
403(b)	216	26	242
Total	815	326	1,141

B. Sample Demographics

	Participants	Non-participants	Total
Median Age	↑45	40	44
Gender			
Male	67%	66%	67%
Female	33%	34%	33%
Household Income			
Under \$25,000	4%	12%	5%
\$25,000 - <\$45,000	18	29	21
\$45,000 - <\$75,000	34	37	36
\$75,000 or more	32	36	17
Race			
White	↑83%	77%	82%
African-American	6	↑10	7
Other	8	↑11	9
Marital Status			
Married	↑77%	60%	73%
Not married, living with partner			
Single	2	4	2
Divorce	11	↑19	13
Widowed	8	↑16	10
	1	2	2
Workstage*			
Beginning	12%	↑32%	17%
Middle	↑55	37	50
End	32	29	32
Education			
Some high school	2%	5%	2%
High school graduate	22	29	23
Some college or Associates degree	36	45	38
4 year College or higher	↑41	22	37
Occupation			
Clerical	7%	8%	7%
Blue collar	22	↑33	25
White collar / professional	↑58	37	52
Children Under Age 18	45%	52%	47%

* Workstage is defined as respondents' perception of the point they are in their working career. ↑/↓ indicates significantly higher or lower (participants versus non-participants) at the 95% confidence level.

Note: Plan participants had an account balance of at least \$100 in their Vanguard recordkeeping account. Non-participants were eligible for plan enrollment but non-participating.

Source: Authors' computations.

Table 2. Attitude Segments—Survey Responses

	Successful Planners	Up & Coming Planners	Secure Doers	Stressed Avoiders	Life-for- Today Avoiders
<i>Vision of retirement</i>					
I am generally optimistic about my financial future	8.4	7.0	7.4	5.9	6.2
It's pointless to plan for retirement, it's too far away	1.3	1.7	2.0	2.1	6.0
<i>Interest in retirement and financial planning</i>					
I make time to plan and review my finances	8.5	6.5	6.1	4.7	5.2
I enjoy managing my money	8.6	7.5	6.2	5.0	5.6
I don't like dealing with money and finances	1.8	3.4	4.5	6.2	5.1
I feel stressed out when I think about planning my future retirement	2.0	4.2	3.2	6.4	5.0
My leisure time is more important to me than taking out time to plan for retirement	3.4	4.1	4.9	4.8	5.5
I am more focused on day-to-day responsibilities than on planning my future retirement	4.4	5.3	6.0	7.5	6.6
Preparing for retirement takes too much time and effort	1.9	3.0	3.4	4.2	5.1
<i>Preparation for retirement</i>					
I'm in a position to meet all of my financial goals for retirement	8.4	5.5	6.6	3.9	4.6
I know the amount of money I will need to have saved up in order to retire well	7.8	6.0	5.9	3.5	4.8
I worry about having enough money for retirement	4.3	7.3	4.4	8.3	5.7
<i>Savings behavior / deferral of gratification</i>					
I'm disciplined at saving	8.4	6.2	6.8	4.6	4.6
I usually pay off credit cards at the end of every month	8.2	6.7	7.4	5.1	5.5
I'm not willing to make sacrifices to save more for retirement	3.1	3.6	4.1	4.3	4.9
I'd rather spend today than save for the future	2.2	3.1	3.1	3.9	5.2
I get a lot of satisfaction from saving for the future	8.6	7.8	7.1	6.3	5.3

Table 2. Attitude Segments—Survey Responses (continued)

	Successful Planners	Up & Coming Planners	Secure Doers	Stressed Avoiders	Life-for- Today Avoiders
<i>Equity risk-taking</i>					
I have made a lot of money in the last few years in the stock market	6.9	4.4	3.1	2.4	3.0
I am willing to take substantial financial risks if it could mean a higher return	6.7	7.3	4.3	5.5	5.8
To retire well you have to be willing to take substantial investment risks	5.7	6.5	4.0	5.7	5.5
I am not a risk taker when it comes to investing my money	4.2	4.4	7.3	6.6	5.3
<i>Financial knowledge / information / advice</i>					
A lot of financial information is confusing to me	3.0	5.2	5.3	7.7	5.6
I'm willing to tell a financial advisor all my financial details	6.5	6.6	5.5	7.1	4.9
I like to get financial advice from professional advisors but then make my own decision	7.7	7.5	6.4	7.1	6.5
I feel confident in my investment skills	7.7	5.7	5.	3.4	5.1
<i>Other</i>					
Social Security will provide most of my retirement needs	1.7	2.0	2.5	2.2	3.8
<i>Plan participants only</i>					
Joining the 401(k) / 403(b) plan was an easy decision	9.8	9.4	9.1	9.1	7.9
I find it easy to save with my 401(k) / 403(b) plan	9.3	9.0	8.6	8.7	7.5
I follow the progress of my 401(k) / 403(b) plan closely	8.6	7.7	6.5	5.8	6.0
I am willing to tap my 401(k) / 403(b) plan for needs other than retirement	3.0	3.5	3.1	4.1	4.5
I think 401(k) / 403(b) plans are too complicated to understand	1.9	3.0	3.7	4.4	4.7
<i>Non-participants only</i>					
Deciding not to join the 401(k) / 403(b) plan was an easy decision	5.6	4.5	5.7	4.8	5.3
I would find it easy to save if I had a 401(k) / 403(b) plan	6.4	7.2	6.0	7.0	5.7
I wish I had enrolled in a 401(k) / 403(b) plan	4.9	7.1	5.1	8.0	5.6
I think 401(k) / 403 (b) plans are too complicated to understand	1.9	3.6	3.6	3.9	4.7
N =	237	298	229	212	165

Table 2 continued.

Notes: Eligible non-participants and participants were asked to rank each of the following statements on a scale of “1” to “10” where “10” means “strongly agree” and “1” means “strongly disagree.” Statements were randomized; headings were for reference only and not read to the respondents. Shading illustrates highest response in each category.

Source: Authors’ computations

Table 3. Attitude Segments: Highlights of Attitudinal Characteristics

	Successful Planners	Up & Coming Planners	Secure Doers	Stressed Avoiders	Live-For-Today Avoiders
N =	237	298	229	212	165
%	21%	26%	20%	19%	14%
Vision of Retirement	Possess a strong vision with clear goals and aspirations	Similar to Successful Planners but with some uncertainty	Less goal-focused; willing to adjust lifestyle to resources	Worried about the future and money; not goal- or vision-oriented	Not focused on the future at all
Interest in retirement and financial planning	Enjoy planning and dealing with finances; derive satisfaction from managing money	Enjoy dealing with finances, planning, money management	Strong interest in saving for the future, not as concerned with planning or managing their money	Stressed out and confused by financial planning, money- but interested in learning more	Little interest in planning; not stressed; would rather “live for today” than “plan for tomorrow”
Preparation for retirement	Optimistic they will meet retirement goals; least concerned about having enough money	Not yet in a position to meet retirement goals but optimistic about the future	Optimistic about retirement; likely to save sufficiently for future	Pessimistic about having enough money for retirement	Have not considered retirement needs; have highest degree of confidence in Social Security
Savings behavior/ deferral of gratification	Disciplined savers; derive satisfaction from saving	Disciplined savers; enjoy savings process	Willing to save for future	Savings impeded by confusion, worry	Little satisfaction from saving; leisure time more valuable; retirement “too far away”
Equity risk-taking	Willing to take risks for higher return	Have made money in stocks, but are less confident than Successful Planners	Less willing to take equity market risk	Least confident of their investment skills	Middle-of-the-road attitudes toward risk taking
Sources of financial information	Many-plan provider, media, Internet, adviser, employer	Many, like Successful Planners	Employer, plan provider, or adviser	Employer, plan provider	Employer, plan provider
Other	Older and more affluent; more active with the Internet	Younger than Successful Planners	Older and more affluent	Nonparticipants regret not having joined plan; participants wish they had started sooner	Somewhat younger than all other groups

Source: Authors' computations

Table 4. Attitude Segments—Behavioral and Demographic Characteristics

	Successful Planners	Up & Coming Planners	Secure Doers	Stressed Avoiders	Live-For-Today Avoiders
N =	237	298	229	212	165
%	21%	26%	20%	19%	14%

Behavioral characteristics

Plan participation rate (1)	90%	81%	71%	62%	64%
Full participants (2)	51%	29%	26%	19%	26%
% invested in equities (3)	76%	72%	56%	55%	62%
Mean number of investment exchanges in 12 month period (4)	2.4	2.6	1.4	1.6	2.0
Mean number of contacts to Vanguard (5)	18.8	9.6	2.7	6.6	5.9
% who have taken a loan (6)	11%	20%	9%	17%	20%

Demographic characteristics

Age (7)	Older (45)	(42)	Older (45)	Younger (43)	Younger (43)
Income (8)	Higher income (\$93K)	- (\$61K)	- (\$67K)	Lower income (\$55K)	Lower income (\$47K)
Occupation (9)	More professional / managerial	-	-	More general labor	More general labor, skilled trades
Education (10)	More grad school	-	More grad school	-	More high school or less
Gender (11)	-	-	-	More female	-
Race (12)	Smaller minority	-	-	Higher minority	Higher minority
Married (13)	85%	73%	76%	↓63%	↓64%
Job/plan tenure (14)	-	-	-	-	-

Note: This table summarizes key behavioral and demographic characteristics of each segment. Major statistically significant differences in variables among the segments at a 95% confidence level are described in the footnotes. Behavioral characteristics were drawn from administrative systems; demographic characteristics, from survey responses. No entry under the demographic variables means that there were no statistically significant differences compared with all other groups.

(1) Participation rates among all segments are statistically significantly different, except for Stressed and Live-For-Today Avoiders.

(2) Participating at maximum allowed by plan (prior to 2001 pension reform). Successful Planner rate is statistically significant compared with all others; Up & Coming rate, compared with Stressed Avoiders; differences between Up & Coming Planners and two Avoider groups are not statistically significant.

- (3) Exposure to equities is significantly higher among Successful Planners and Up& Coming Planners compared with others than among other segments.
- (4) Both Planner segments are more likely to make exchanges within their accounts.
- (5) Successful Planners have the highest frequency of contact with Vanguard compared with all other segments; Secure Doers, the lowest.
- (6) Loan activity is significantly higher among Up & Coming Planners and Live-for-Today Avoiders.
- (7) Successful Planners and Secure Doers were more likely to be older, while Live-for-Today Avoiders were more likely to be younger.
- (8) Incomes of Successful Planners were statistically significantly higher than other segments, while incomes of Stressed Avoiders and Live-for-Today Avoiders were lower than the three other segments
- (9) While Successful Planners had a statistically significant higher proportion of professional or managerial employees, Stressed Avoiders and Live-for-Today Avoiders had higher proportions of general labor employees compared with most other segments.
- (10) Successful Planners and Secure Doers had a somewhat higher proportion of graduate school training, while Live-for-Today Avoiders had a statistically significant higher high school or less population.
- (11) While all segments were majority male, Stressed Avoiders was the only category with a statistically significant higher percentage of female gender.
- (12) Minorities have a statistically higher representation in the two Avoider segments, albeit small, than in any other segment.
- (13) Marriage rates among Successful Planners were statistically significantly higher; while both Avoiders had significantly lower rates of marriage.
- (14) There were no statistically significant differences in job or plan tenure, with the average person at their current company between 11 and 13 years, and the average participant in their employer's plan for 8-9 years.

Source: Authors' computations

Endnotes

¹ Plan Sponsor (2002) notes that both communication materials and participant education are key attributes in the evaluation of retirement plan service vendors. In the public arena, the Department of Labor has sponsored a Retirement Education Savings Campaign and has published a 20-page guide to financial fitness; see www.dol.gov/ebsa/savingsmatters.html. The SEC's investor education programs have a prominent location on their website—see www.sec.gov. Information on the US Treasury's new Office of Financial Education can be found at http://www.treas.gov/offices/domestic-finance/financial-institution/fin_ed.html.

² As cited in Frederick, Loewenstein and O'Donoghue (2002), p. 4.

³ As cited in Frederick, Loewenstein and O'Donoghue (2002), p. 6.

⁴ See for instance Papke (1995), Papke and Poterba (1995), Clark and Schieber (1998), Evan and MacPherson (1999) and Munnell, Sundén and Taylor (2000).

⁵ Papke (1995) and Bassett, Fleming and Rodrigues (1998) suggest that it may be only the existence of an employer match, rather than its size, that influences savings behavior.

⁶ See Munnell, Sundén and Taylor, 2000.

⁷ In addition, we interviewed 15 plan sponsors about participant attitudes regarding money and financial planning.

⁸ The interviewees were asked to select a Tarot card image representing their approach to money. Visualization techniques were also used earlier during the interviews: for example, interviewees were asked to close their eyes and visualize certain aspects of planning for retirement, such as the time when they first enrolled.

⁹ Before the surveys were analyzed using cluster analysis, mean substitution was applied, meaning that respondents who failed to respond to a particular attitudinal statement were

assigned the mean response. Attitude statements were also centered within a respondent, by subtracting the mean score for an attitude from each respondent's score. Centering the data removes the "yea-sayers" and "nay-sayers" from the sample—individuals who always respond at the extremes of a scale.

¹⁰ See Macey and Young (2002). In their reform proposals, workers might have far-reaching discretion to direct employer and employee benefits contributions among a wide array of retirement, health and wealth and other benefits choices.