TIAA-CREF institute

TRENDS AND ISSUES

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RETHINKING DEFINED CONTRIBUTION RETIREMENT PLAN DESIGN

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EXECUTIVE SUMMARY

On December 3, 2010, the TIAA-CREF Institute convened a forum of experts in behavioral economics, actuarial science, decision-making, and financial education and advice to rethink defined contribution (DC) plan design to address the needs of a heterogeneous workforce. Key themes emerging from the discussion include:

- DC plans must be designed to provide a secure and adequate retirement income, not to serve as tax-sheltered savings vehicles. The view of DC plans as sources of retirement income must be ingrained into the mindset of workers.
- Defaults are an inherent part of plan design along all dimensions involving individual decision-making. The appropriate default outcome is rarely the same for all workers. Default outcomes tend to persist; especially for less educated workers. Defaults must be designed carefully and it may be best to target those least likely to choose.
- Asset allocation and contributions should be considered jointly. Appropriate decisions depend upon accumulations to date, time to retirement and risk preferences.
- The information necessary for contribution and investment decision-making is generally lacking for participants. Projections are needed for the likelihood of achieving a range of retirement income outcomes under current alternative contributions and investment allocations.
- Target date funds are an appropriate investment default, but can be flawed in design by their degree of equity exposure.
- Deferred annuities belong in the investment menu. They allow participants to lock investment gains into retirement income over time and address a psychological barrier to immediate annuities (an aversion to ceding control over large accumulations).

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- Investment menus should be designed from a focus on long-term investment horizons, but in a desire to counter the behavioral biases of participants, funds are being designed according to the behavioral biases of investment committees.
- Payout options should be designed with a focus on insuring retirement income throughout retirement. Annuitization should be an option in a DC plan. The payout decision should be framed in terms of consumption rather than income to help participants make appropriate choices.
- Low levels of financial literacy necessitate effective communication of relevant and useful (not complete) financial information. Advice is also needed in the context of DC plans. But expectations should be tempered given the reality of the cognitive decision-making process and competition for the limited attention of an individual.
- Most individuals will never be financial experts even though DC decisions require financial expertise. Education and advice should be integrated into a holistic DC plan design with carefully constructed options and defaults. Such a plan design will be more expensive than a simplistic tax-sheltered savings plan. But the latter will fail as a genuine retirement plan.

INTRODUCTION

On December 3, 2010, the TIAA-CREF Institute hosted a forum to rethink defined-contribution (DC) retirement plan design. The forum convened experts in behavioral economics, actuarial science, decision-making, and financial education and advice to examine creative uses and combinations of plan features, product designs and participant services to address the retirement income needs of a heterogeneous workforce.[1]

Many workers who have the opportunity to participate in a 401(k) plan make decisions about saving and investing that are unlikely to produce an adequate retirement income. This phenomenon frequently reflects a lack of information, understanding, interest and engagement. Individuals often intend to save, but for many reasons their intent does not translate into action.

Retirement plans can address this issue by providing education and advice. It can also be addressed through design features in the structure of DC plans, including the strategic use of plan defaults. However, no single strategy has proved to be a complete answer. Furthermore, absent from typical 401(k) plan design are elements focused on income generation during retirement. A significant accumulation itself is necessary but not sufficient for generating an adequate and secure retirement income. Savings must be managed and converted to income during retirement.

Heterogeneity exists in worker sophistication and knowledge regarding personal finance, in ability to save, in financial needs and priorities, and in level of engagement on such issues. Such differences occur with demographic differences across individuals; in addition, individuals will evolve in these regards as they progress through their careers. This *Trends and Issues* summarizes and synthesizes the forum's presentations and discussions.

UNDERSTANDING AND STRUCTURING DEFAULTS

As explained by Brigitte Madrian, Harvard University, defaults are an inherent element in DC design—a plan sponsor must decide what happens when a worker does not make a decision. In these situations, the outcome is specified by an explicit or implicit default in the plan's design. The obvious example is 401(k) participation—what happens if a worker does specify a decision? The historical default has been non-participation. But auto-enrollment, where the default is participation at a specified contribution rate, has become increasingly common with dramatic increases in plan participation rates as a result. Likewise, a DC plan will specify the investment of contributions and account balances in the absence of a participant's decision. There must also be defaults for the disposition of assets at the point of job change and retirement. Madrian emphasized that the optimal design of defaults must be considered over all phases of plan participation.

1 See Appendix A for the forum's agenda and Appendix B for a list of participants and their affiliations.

Plan defaults, especially participation and investment defaults, have been demonstrated to have a strong impact on outcomes. Madrian noted two commonly accepted reasons for this impact—inertia from procrastination and perceptions of endorsement. Procrastination implies continuation of the status quo. In DC plans, default outcomes persist since individuals procrastinate on a decision that would override the default. In addition, workers often perceive defaults as the plan sponsor's endorsement of a specific decision outcome. Madrian emphasized that the endorsement effect is particularly important to consider in designing plan defaults.

James Dulebohn, Michigan State University, discussed research demonstrating how outcomes can often be inconsistent with stated worker intentions regarding their choice. While the research examined choice of primary plan type, it supported the notion of an endorsement dynamic whereby the default's signal of the "right" choice outweighed preferences and intentions for a number of individuals. Forty-two percent of those who intended to choose the hybrid plan defaulted into the defined benefit plan, as did 39% of those who intended to choose the DC plan. Dulebohn also argued that acceptance of the default is an actual choice for many individuals. In the same study, 42% of those who intended to choose the defined benefit defaulted into it. In instances where the default outcome matches an individual's preferences, it may be quickest and easiest to simply allow the default to take effect.

Scott Weisbenner, University of Illinois, commented that individuals may default when they feel there is insufficient information to use in choosing. He argued that outcomes in such cases are more likely to be subsequently regretted. A question of interest is then whether that regret would motivate a subsequent choice different than the original.

Madrian noted that defaults work well when workers are relatively homogeneous since a given outcome will be good for most individuals in the group. In such a circumstance, the appropriate default can serve as a signal that "nudges" workers to the right outcome and save workers transactions costs. Madrian emphasized that "bad" defaults do not appear to be as persistent as "good" defaults. She also noted that default persistence tends to be stronger with younger, lower income workers, even with obviously bad defaults. This implies that a plan sponsor may want to design defaults to be most appropriate for younger and lower income employees given that others will tend to move from a default that is a bad outcome for them.

Similarly, Eric Johnson, Columbia University, raised the concept of "smart defaults." Given that employers often know quite a bit about their employees, there may be cases where defaults can be customized to employee segments. Target date funds are a simplistic version of smart defaults based on an individual's age. Beyond this, it may be possible to identify "segments" in an employer's workforce and create a set of plan defaults for each.

DEFAULT ALTERNATIVES

"Active choice" is a design rubric that "requires" individuals to decide. Madrian explained that outcomes under active choice differ from outcomes under a default regime. Active choice, however, is not mutually exclusive with defaults—when "forced" to choose, some individuals may not. So in practice, a default must still exist under an active choice model. Active choice would be appropriate in situations with greater worker heterogeneity since no single outcome will be best for most individuals. Madrian concluded that requiring an active choice makes sense when the cost of taking action is low, participants are well-informed, and there is a clear mapping of preferences to appropriate outcomes. In considering whether to force employees to choose along any of the margins in a DC plan, the underlying default could be designed to target what is most appropriate for least likely to make an (appropriate) active choice.

Paul Yakoboski, TIAA-CREF Institute, argued that the discussion led to a design model auto-enrolling individuals at a default contribution rate and asset allocation. Then after participation for a period of time (possibly years), individuals would be placed in an "active choice" situation forcing them to consider their contribution rate and asset allocation. Harry Klaristenfeld, TIAA-CREF, reinforced the potential value of active choice subsequent to automatic enrollment by noting that heterogeneity within a given cohort of individuals will greatly increase over time as they age through very different life experiences.

Mandates make defaults superfluous. For example, in the public sector, the norm with primary DC plans is to mandate worker participation at a non-discretionary contribution rate plus a non-contingent employer contribution. Madrian argued that this design model is worthy of serious consideration in the private sector. Larry Kotlikoff, Boston University, favored mandatory participation, arguing that it is most appropriate for an employer to view itself as a fiduciary regarding the retirement income security of its workers. He maintained that this implies combined contributions sufficient to provide a minimum floor to a worker's living standard throughout retirement, with contributions invested in inflation-indexed bonds and converted into an inflation-indexed annuity at retirement. Robert Clark, North Carolina State University argued that if plan participation is a condition of employment, then it seems that an employer has the obligation to monitor and ensure that specific investment options are appropriate, and to delist options that become inappropriate over time.

INVESTMENT MENU DESIGN

Ron Gebhardtsbauer, The Pennsylvania State University, and Luis Viceira, Harvard University, began the discussion on investment menu design and asset allocation by emphasizing that DC plans must be viewed as pension plans designed to provide retirement income. This view should drive design and allocation decisions, as well as decumulation strategies. Both also emphasized that asset allocation should be considered in conjunction with the contribution rate.

Gebhardtsbauer views appropriate asset allocation at a particular point in time as dependent on years until retirement, income replacement goals, accumulations to date, and an individual's risk tolerance. He considers it a given that an individual should not be over-invested in equities as retirement approaches, but he argued that lifecycle funds as typically structured have too much equity exposure at target retirement dates. He maintained that a DC participant's equity allocation should decrease quickly as the target retirement date approaches, accompanied by increased allocations to a fixed investment or fixed annuity. He used the United Methodist Church retirement plan as an example in this regard—75% of account balances must be annuitized and equity exposure quickly goes to zero starting at age 55. The allocation to bond funds should increase over time leading to the purchase of a fixed annuity in retirement, or alternatively, increased investment in Treasury Inflation-Protected Securities (TIPS) leading to the purchase of an inflation-indexed annuity in retirement. Once a person's basic expenses were covered, he felt variable annuities made sense (much more than Minimum Required Distributions).

Gebhardtsbauer proposed an "auto-actuary" concept to bring flexibility to the glide path construct. An "auto-actuary" would evaluate the funded status of a participant's account. If returns have exceeded expectations over an extended period, then the reallocation from equities to annuities should be accelerated to lock in resulting over-funding. This construct would assist with adjustments in contributions as well. He noted the desirability of contributions early in a career to allow flexibility later to lock-in retirement income through an annuity and to minimize the likelihood of underfunding to be amortized through increased contributions. James Poterba, MIT, later noted an additional margin of adjustment for DC participants—the funded status of a participant's account can be improved by delaying the planned date of retirement.

Viceira explained that target-date funds allow DC participants to outsource the Chief Investment Officer (CIO) function of their account, and other investment menu options are for participants who feel they can execute the CIO function. The funded status and risk of shortfall of the account are must-know information for a CIO, but Viceira argued that participants are not provided this type of information. He argued for industry-wide standards for projecting the funded status of a DC participant's account relative to an accepted benchmark and for projecting the risk of shortfall at retirement given current balances, contributions and asset allocations. He argued that little information is currently available to individuals regarding the likely distribution of retirement outcomes that can be expected from their accounts. Viceira argued that individuals need clear information about the trade-offs between risk in an investment portfolio, contribution rates and the range of likely retirement outcomes. Such information would help individuals better understand, and potentially reconsider, their investment risk tolerance. If underfunded, a participant would have a clear understanding of the shortfall's magnitude and options to address it.

Such information would also help foster something that Brett Hammond, TIAA-CREF, later emphasized—a liability-minded approach to managing a DC account that considers the liabilities in retirement that need to be matched by the account. The alternative is an investment-minded approach focused on building wealth and then learning to live off it.

TARGET DATE FUNDS

What should be the composition of target-date funds, and how should the composition change as the target-date nears? Viceira argued that standard portfolio theory provides the answer—if individuals need to live off their savings in retirement, the question becomes how to allocate assets between a risk-free investment and a risky portfolio, and how that allocation changes over the course of a work-life. Given that the risky portfolio is the one which maximizes the Sharpe ratio, there are only two options to consider and their optimal combination depends solely on an individual's risk tolerance.

Viceira then explained that the relationship between asset allocation and a worker's risk tolerance is complicated by changes over time in a worker's ability to make contributions. Effectively, a DC participant has two assets that matter—the accumulation to date and the ability to make contributions (i.e., the person's human capital). Low levels of human capital imply high variation in expected income and thus contributions over time; this means a greater dispersion in retirement outcomes for any asset allocation. Therefore, the riskiness of a participant's income should factor into the asset allocation decision.

Viceira argued that target-date funds have ignored the human capital dimension by assuming that participants will be able to contribute a fairly predictable dollar amount over the course of their work life; an assumption that is refuted by evidence from labor markets. The result is a bias toward a greater share of investments in equities. The design implication for target-date retirement funds is customized glide paths for different types of employment, where the glide path is dependent upon the distribution of the typical labor income profile. Participants in employment with riskier income profiles would have target-date funds with glide paths that consistently allocate a larger share to the risk-free investment.

Another design issue with target-date funds is the composition of the risky portfolio. In this regard, Viceira cautioned that in a desire to counter the behavioral biases of participants, funds are being designed according to the behavioral biases of investment committees. He pointed to the extreme bias of equity allocations in the U.S. towards U.S. equities despite evidence that an internationally diversified equity portfolio is best. One set of behavioral biases is being substituted for another. The same investment committee bias is affecting the overall design of investment menus according to Viceira. He also argued that an equity bias results from an industry desire to gather assets. Given that the price of equities tends to rise on average, a provider gathers more assets through greater allocations to equities; this creates an incentive for allocations that differ from those solely in the best interest of participants. Viceira also noted the non-existence of an accepted benchmark for comparing target-date funds which needs to be addressed. Simply comparing such funds based upon returns creates an incentive biasing for a greater equity allocation over the course of the glide path.

MORE INVESTMENT ISSUES

The risk-free investment must also be considered. Viceira argued that given the time horizons related to a retirement plan, the appropriate risk-free asset is some type of inflation-indexed fund or annuity. He noted, however, that inflation-indexed products are uncommon in DC plans. Furthermore, Viceira called for more innovative thinking about "risk-free" products. Currently, most inflation-indexed funds tend to be constant duration types of TIPS funds. He argued that matching the investment horizon of individuals saving for retirement might be more appropriate.

Finally, Viceira questioned whether investment options have become too limited in DC plans. From his perspective, plans tend to offer a limited set of options with a brokerage window attached, but typically at a relatively high expense. So without an inflation-indexed fund on the menu, a participant needs to use the brokerage window to invest in TIPS at a greater expense than it should probably cost. Viceira also maintained that a brokerage window is incongruous with the view that DC plans are pension plans; rather, brokerage windows are congruous with a view of these plans as tax-preferred savings accounts. He argued that a brokerage option is not in the best interest of lower income, less educated workers, and that better educated, more affluent workers can invest in individual stocks outside the construct of a DC plan, which is likely be more tax efficient.

Madrian raised the opposite issue of too many investment options noting that too many options tends to lower participation. Allocation choices are also likely impacted; evidence indicates that as the number of options increases, individuals restrict their focus to familiar investments, ignoring options that may have an appropriate role in their portfolio.

Madrian also raised the issue of appropriate liquidity for DC assets. She questioned whether the norm of daily liquidity is necessary and argued that illiquid investments are logical options for a retirement plan if an illiquidity premium exists. While agreeing in principle with Madrian's point, Kotlikoff noted that there is a need for a mechanism to monitor such investments if offered to plan participants. In the absence of such monitoring, he maintained it is likely better for participants to be able to readily transfer out of any given investment.

Madrian also questioned whether the investment of employee and employer contributions should be approached differently. In particular, the investment of employer contributions would be based on fiduciary considerations. For example, the investment of employer contributions could be restricted to a deferred annuity given that annuitization is valuable and people tend to under-annuitize.

Steve Zeldes, Columbia University, noted that a lack of consensus among experts on a number of key issues leads to advice that differs depending on the source. The result is a noisy process and reluctance among participants to revisit decisions once made. He noted three particular issues where consensus is missing—the expected excess return of stocks over bonds; the relationship between stock market risk and time horizon; and the interactions among relevant household risks, in particular, the correlation of salaries with stock returns over the long run.

ACCUMULATION TO INCOME

Jeffrey Brown, University of Illinois at Urbana-Champaign, began the discussion on converting accumulations to income by calling for a paradigm shift in retirement planning from the dominant mindset of investing to accumulate wealth to a focus on funding and insuring consumption in retirement . Brown views an almost complete lack of risk management in 401(k) plans as the Achilles' heel of the system and argued that the wealth accumulation culture has become self-reinforcing with the products produced by the industry as a whole. Brown maintained that a focus on consumption outcomes underlies individuals' concerns regarding retirement, but the financial planning environment is such that they don't have the information and tools that would allow them to think in those terms.

To address this issue Brown recommended that communications, such as quarterly and annual statements, begin including information regarding the monthly income that individuals can expect in retirement. This would help individuals begin to think in terms of the sustainability of their retirement income. He argued that the frame of reference used by individuals impacts their perceptions about the value of different financial products, such as annuities.

Brown also called for more effective communication of risk and uncertainty, even within a consumption framework. For example, he noted that the vast majority of financial planning tools assume a fixed length of life. But if individuals do not recognize the risk inherent with an uncertain age of death, then insurance products are solutions to a problem that they do not recognize. The problem must be defined correctly if individuals are to consider products that address it.

Finally, Brown called for a lifecycle product focus where contribution rates, investment allocation and payouts are treated as an integrated package. He argued for products holistically designed to move people from the beginning of their work-life to the end of life while maintaining throughout retirement the standard of living to which they are accustomed. Brown explained that an income-focused lifecycle product should protect against the effects of inflation through the use of variable and inflation-indexed annuities. He also noted that there should be protection against contingencies such as long term care expenses. This could be achieved through an annuity where payment levels depend upon an individual's ability to perform specified activities of daily living. He elaborated that a lifecycle product would address the mix of annuitized and non-annuitized resource-types in the plan, with participants converted into income streams prior to reaching retirement age. Such a plan recognizes that annuitization decisions do not have to be all at once decisions.

Annamaria Lusardi, The George Washington University, later reemphasized that once a wealth accumulation mindset takes hold, it will be difficult for an individual to refocus on income as retirement approaches. People with a wealth accumulation mindset will be more reluctant to insure income through annuitization; they will not want to cede control of a large accumulation if the large accumulation had been the primary objective. So it is important to frame DC plan participation through a lens of retirement income from the beginning.

Brown concluded by arguing that public policy needs to shift from an implicit endorsement of lump sum distributions to annuitization. For example, he maintained that minimum distribution requirements are driven by tax revenue considerations, not retirement security considerations, and thus they discourage annuitization in numerous ways. He explained that a maximum distribution requirement would allow individuals to consider the sustainability of their retirement income. Another policy issue is whether annuitization ought to be the default distribution option from qualified plans. He noted that such a policy would need to address complexities regarding the optimal degree and timing of annuitization in a population with diverse needs.

Yakoboski noted the large federal tax deferral for sponsored retirement plans, ostensibly with the objective of promoting retirement income security. Under that logic, a requirement for tax-qualification could be that a plan incorporates specific features designed to ensure an adequate and secure stream of income during retirement.

Madrian and Lusardi both raised an additional benefit of annuitization—protection from financial scams. They view this as an underappreciated issue that warrants more focus as the elderly are particularly vulnerable in this regard. Older individuals with large retirement accumulations actually have limited financial knowledge. In addition, a substantial fraction of the elderly will end up in some state of dementia or cognitive decline.

Madrian and Poterba both emphasized that annuitization is a “how much” and “when” decision. Poterba explained that while individuals likely share a desire to plan for contingencies and a desire to address bequest motives, the strength of these desires likely varies across the wealth distribution. Madrian argued that from a consumer perspective, the decision should be orientated around how much to annuitize, not whether to annuitize. This ties back to creating an income orientation in the mindset of the participant. Garth Bernard noted that advice science suggests that individuals annuitize that portion of their income needed to meet the gap between basic expenses and Social Security income.

Johnson explained that annuities could not be worse designed from a decision-making perspective—loss aversion works against an individual turning over a large sum of money, while hyperbolic discounting means that the resulting stream of income disappears to nothing in the individual’s mind. So in addition to framing the purchase in a consumption context, mental accounting concepts can be manipulated with partial annuitization and stressing the value of annuitized income sufficient to cover basic living expenses throughout retirement. Also, the option to purchase annuity units over time through a DC plan avoids the loss aversion accompanying the purchase of an immediate annuity with a sizeable lumps-sum.

Garth Bernard, President Sharper Financial Group LLC, raised the question—what portion of retirement income should be delivered through a sponsored retirement plan? This motivated his comments on converting assets to income, as well as considering new ways to deliver in-plan guarantees. He noted that while systematic withdrawals from accumulated wealth are popular, the strategy entails substantial risks. Alternatively, annuitization is not nearly as popular despite its efficiency in managing income-related risks. Bernard argued that while many perceived shortcomings of annuitization have been addressed by product design, fundamental misperceptions about annuities and annuitization remain common.

Bernard explained that lifetime withdrawal benefits provide an alternative to systematic withdrawals and annuitization that combines access to wealth with guaranteed lifetime income. In essence, an insurance company insures continued payments in the event that a systematic withdrawal-type program exhausts accumulated assets. While the concept is straightforward, Bernard noted challenges to incorporating it within the design of a DC plan. For example, the resulting complexity would likely result in fees that are arguably too high for a retirement plan, so the cost of the guarantee is not efficient.

Bernard also noted that the guarantor of any retirement income guarantees must be around for a long time to deliver on those guarantees which raises fiduciary issues in the design of retirement plan payouts. Later discussion touched on this issue from several vantages. Madrian questioned whether there's potential for a mutual fund analogue to annuities whereby individuals would receive a share of their annuitized income from a number of companies. Others noted that emergence of a reinsurance market to diversify longevity risk across insurers which decreases the likelihood of defaults. More fundamentally, Frank Todisco noted that most states have guarantee funds to back annuity contacts, but in many cases it's illegal at the point of sale to disclose that those protections exist. He pointed out that disclosing such information could have a significant impact on the consumer's decision. He also noted that some have suggested an analogue to the Federal Deposit Insurance Corporation (FDIC) for annuities.

In the context of DC design, Bernard argued that new product development is not necessarily the challenge; rather it is bringing together existing products in innovative ways to construct more effective plans. For example, if the problem is longevity risk, then longevity insurance designed to provide income contingent on an individual living to a specified advanced age should be considered. He noted that longevity insurance could be pre-funded in a DC plan during the accumulation period. Design would also have to address the decumulation of assets between the date of retirement and the effective date of longevity insurance payments; this could be done through basic asset allocation strategies, such as the use of TIPS. Bernard explained that such a framework combines investment and insurance strategies in a coordinated fashion.

Bernard concluded by observing that while research has focused on the financial decision-making behavior of individuals, there is a dearth of equivalent research regarding financial advisors. He argued that a better understanding of the biases held by financial advisors is necessary in order to educate the advisor community and impact the advice ultimately provided to individuals.

APPROPRIATE ROLES FOR EDUCATION AND ADVICE

Annamaria Lusardi, The George Washington University, began a discussion on education and advice by emphasizing that individuals can not function effectively in today's DC environment where decision-making responsibility resides with the rank-and-file, or more generally in managing their personal finances, without financial education and advice. Lusardi shared research documenting the very low level of financial literacy across the U.S. population. This is accompanied by unrealistically high self-assessments of financial knowledge, especially among people older than 65. Lusardi explained that financial literacy matters because knowledge impacts behavior. The problems associated with low knowledge perpetuate because of mistakenly high self-assessments. Individuals with such mistaken views of their knowledge are less likely to seek financial advice and more likely to engage in problematic behavior.

To this end, Lusardi sees value in financial education programs and views the workplace as an ideal venue, but not the only one, for effective financial education. She stressed that the challenge of making financial education effective requires evaluation of existing programs. While financial education programs may be viewed as relatively expensive, Lusardi maintained that the financial crisis has demonstrated the severe costs of financial illiteracy.

Lusardi maintained that literacy regarding debt management is as necessary as knowledge regarding asset accumulation. Debt appears to be a persistent behavior as evidenced by the tendency for people to carry credit card debt late into their lifecycle. She explained that most people are not proactive in a variety of financial decisions; in fact, many do not know how to execute basic financial calculations. This in turn generates debt with accompanying interest charges. In many cases, debtors are ignorant of the interest rates on their debt. In addition, there is little understanding of how compounding accelerates debt. She noted that high interest payments can readily offset the benefit of accumulating assets and that carrying such debt late into the lifecycle can have a negative impact on retirement preparations. For this reason, Lusardi questioned the wisdom of automatically enrolling individuals who carry credit card debt into a retirement savings plan.

In later comments, Gary Engelhardt, Syracuse University, placed the debt issue directly in the context of retirement savings by noting that approximately 20% of 401(k) participants have outstanding loans from their accounts; about 10% of those will default on their loan. He argued that policy regarding loan provisions should be considered in light of the potential impact on retirement income. Lusardi noted that 401(k) loans come due when workers leave employment with the employer sponsoring the plan. Depending upon the circumstances, this could be when the individual is least able to pay back the loan.

Conrad Ciccotello, Georgia State University, emphasized the value of affinity in an advisor-advisee relationship. He explained that when the university system of Georgia renegotiated its DC plan, the three remaining vendors (from the previous 72) were warned that anybody talking to any of the system's participants had to be an employee of the vendor. In response, the vendors wanted to charge a 50 basis point annual fee at every institution that doesn't have assets under management exceeding a specified minimum. Ciccotello explained that while the request made sense—there would now be extra work for the vendors—it did not go over well with the system.

He used this example to demonstrate that the "war on costs" in today's investment business environment has the spillover effect of squeezing out research and development, education and advice. He considers this the bane of small plans and small accounts, and worries that it is becoming less likely that most DC participants will receive the help needed to make good saving and investment decisions. He worries that they will not get any touch in an environment focused on driving down costs.

Ciccotello shared the view that increased financial literacy through education and advice is necessary for participant success in the DC environment, but he questioned who will step up and absorb the costs as a loss leader? He noted that while the profitability of investment management firms is generally good, wealth management firm profitability has shifted in the wrong direction and many now lose money. If a client base is not constructed properly, it's difficult to build scale. Ciccotello argued that in this environment providers will not focus on younger, lower earning employees because they will not be paid for working with them. While a long-term perspective would view serving such individuals today as a good investment given prospects for large account balances in the future, there is no ability to absorb the current losses due to pressures on expenses.

Ciccotello acknowledged the difficulty in creating entrepreneurial initiatives within a large financial advisory firm, but sees value in establishing affinity relationships with client groups by assigning advisors who know and understand them at particular points in their careers. He sees the potential for more effective working relationships in such a model, accompanied by better outcomes for the client. Ciccotello argued that establishing such relationships early in a career could lock in a client group for life and permit recouping the investment over the long term; he noted that there is little turnover in the industry as individuals don't tend to leave advisors with whom they've worked. He further noted that some of this affinity development could clearly involve technological innovation to create community.

Roger Ferguson, TIAA-CREF, commented that a challenge in providing advice is that some employers simply do not want it provided within the context of their retirement plan. Others are reluctant to pay for any of the products that can be used to support a free advice model for participants.

Ed Van Dolsen, TIAA-CREF, explained that high priority considerations among employers today regarding plan sponsorship include avoiding litigation, moving individuals out of the plan at the point of job change or retirement, minimizing costs, and using outside consultants to ensure these outcomes. With the exception of the higher education sector, he maintained that there is almost never a conversation regarding how to get employees to and through retirement with financial security. Instead employers operate from a premise of offering a tax sheltered savings plan to which they will contribute funding at the minimum risk possible. Annuitization is not attractive to offer because it means that individuals who annuitize will remain plan participants and the employer could somehow be viewed as responsible if something negative happens after retirement.

Van Dolsen also explained that the use of consultant firms to design DC plans can result in investment menu design by a group distinct from the group responsible for other aspects of the plan. In this case, the investment menu is typically not integrated with the rest of the plan structure and the investments offered are together inconsistent with an objective of generating a secure and adequate retirement income; rather, they are simply good accumulation funds in today's markets.

Van Dolsen reiterated that the prevailing mindset among sponsors is driving out advice. Providers can bundle the expense for individual advice sessions into plan pricing, but this places them at a competitive disadvantage with those that do offer advice and a matter of basis points will sway the sponsor choice of vendor. He argued that a paradigm shift is needed in the consensus view of the primary objective for plan sponsorship—the overriding objective of any employer sponsored retirement plan should be to provide participants with an adequate and secure income throughout retirement. With that objective, advice and education become natural components of plan design.

Mike Noetzel, TIAA-CREF, observed that many CFOs would not accept a situation where the majority of a $2 billion to $5 billion pool of funds was not appropriately invested. This is the situation with the typical, large, participant-directed DC plan, however. Pursuing the analogy, he maintained that institutions would be willing to pay a one basis point expense, if not more, for direct consultant advice regarding the investment of institutional assets. Noetzel noted that non-commissioned, objective allocation advice can be provided to DC participants at or below such cost.

Paul Van Heest, TIAA-CREF, explained that sponsor behavior is constrained and often driven by the regulatory framework. A number of recent regulatory changes have been motivated by a desire to promote transparency. But given the level of financial literacy among the general population, Van Heest cautioned that plan participants will be receiving fee information that they are ill-positioned to understand and which will likely create confusion rather than clarity, something that sponsors will subsequently need to address.

Engelhardt argued that it's probably best from a learning and retention perspective to provide financial education during the mid to late teens. Furthermore, if increased financial literacy benefits society as well as the individual, then the government should share the cost. Combined this argues for providing financial education through the school systems. Engelhardt wondered whether public policy should focus on developing financial literacy in middle and high school. Lusardi reiterated the point that schools are an ideal place to deliver financial education; the next generation will have DC plans and they should be financially literate before engaging in such financial contracts. She argued the importance of government involvement in establishing core competencies in financial literacy that can be the basis for financial education programs.

The question arises as to whether defaults are a second-best substitute for financially literate decision-making by individuals. Madrian noted research suggesting defaults are more effective than financial education at promoting savings in retirement plans. Lusardi responded that while defaults are effective at increasing participation in DC plans, it is not known whether defaults improve individual well-being or result in sufficient accumulation for an adequate retirement income. Lusardi maintained that it would be unrealistic to rely solely on financial education; rather appropriate plan design would combine financial education with the use of defaults and active choice.

Eldar Shafir explained that there is no conflict between choice architecture and education once one thinks in terms of intention and action. Intention precedes action, but intention does not always lead to action. So it's first necessary to create intention by communicating why a certain behavior matters and then to create a framework that enables and encourages the individual to act.

Johnson believes that choice architecture in plan design can be cost effective, relative to education and advice, in addressing some psychological issues related to retirement savings. Johnson explained that the concept of choice architecture is broader than simply plan defaults. For example, the use of appropriate metrics matters—useful information is better than complete information. Gas mileage and acceleration are metrics presented to car buyers as opposed to engine specifications. In the context of retirement saving, he explained that average annual rate of return may seem like an appropriate metric, but it is likely ineffective given that individuals can not generally conceptualize the effects of compounding. He also noted that people naturally think in terms of outputs, so its best to engage them in terms of outputs as opposed to inputs related to a decision. Preferences over a range of potential outcomes can be used to derive an appropriate asset allocation, for example.

DESIGNING THE PROCESS

Designing the process in which the workers function, as opposed to the plan in which they participate, requires an understanding of how decisions are made and not made. Eldar Shafir, Princeton University, explained that individuals have a mental life for thinking about various issues (such as personal finance) that differs from what subject matter experts on a given issue (such as economists and actuaries) would expect to observe. Furthermore, in decision-making situations, it can not be assumed that a given presentation of options results in an individual seeing the choices "as they are." An individual's cognitive system does not extract underlying reality; rather it works with information the way it is presented. Thus framing matters and presents a potentially enormous problem in terms of manipulation. Shafir noted the dilemma this presents for retirement plan sponsors and providers for whom a focus on the benefits and tradeoffs across various products and options is preferred to a focus on presentation, salesmanship and marketing. Using annuities as an example, he noted how changing the connotations that accompany the product (i.e., framing it in consumption terms rather than investment terms) results in a complete shift in people's attitudes without changing the product itself. Shafir maintained that a product will succeed or fail largely due to "silly marketing tricks."

Shafir next explained that additional complexity is added by the multiple identities of any given individual. For example, someone may simultaneously be a mother, an athlete, a Christian, a daughter and an American. As an identity is made more salient, some of the individual's attitudes and values will change in importance which can change the individual's preferences. So context induced weights of identities will characterize an individual in ways hard to resolve. Shafir explained that this leads to "manipulating" individuals at the point of decision-making in ways do little to assist with the decision, but rather that change the personality weights. Shafir explained that "automaticity" is yet another issue that work with behavioral tendencies in the context of decision-making must consider; automaticity refers to everything happening to an individual's mental life of which the individual is unaware.

Shafir concluded by explaining that individuals don't and won't perceive the relevance and importance of the details on any subject as do the "experts." Nor should they be expected to whether the subject is financial literacy, physical health or something else. As noted by Johnson, this is simply the result of competing demands on individuals' scarce time and attention. In the context of financial literacy, people understand that interest is good, but Shafir questioned whether it matters that they understand the implications of compounding at 2%. In fact Shafir questioned whether those promoting a high level of financial literacy could answer equivalent medical questions regarding the impact of sleep, exercise, and diet on personal health? People understand that too many calories are bad; walking is good, not sleeping enough is bad. In either context, it's necessary to grab people's attention quickly and offer something that's beneficial, that will last for a while and that's good enough, because everyone specializes in something very different in their own lives. This leads to trust issues and Shafir noted that people tend to turn to trusted experts. He maintained that this is particularly important for personal finance since it tends to be both hard and boring for the typical personal.

During later discussion, Julie Agnew, The College of William and Mary, reiterated the importance of keeping things easy for participants. She stressed that while not perfect, it should be remembered that target date funds were designed to make well-diversified investing simple. Nonetheless many participants do not use these "simple" investments correctly, which begs the question "why?" She noted research indicates that participants are bored and overwhelmed with the investment decision, so they fall back on personal heuristics. They cling to conventional wisdom like “don’t put all of your eggs in one basket” while viewing a target date fund as a single basket. She argued that legal constraints inhibit making communication sufficiently simple to be useful. Shafir picked up on this point and argued that behaviorally sophisticated regulators and government agencies that understand the psychology of decision-making in the context of personal finance are necessary for the creation of choice architecture that will work best.

KEY TAKEAWAYS

The forum concluded with James Poterba, MIT, summarizing several key points from the forum’s discussions. He reiterated that the focus in the 401(k) market has been on accumulation rather than retirement income, but he sensed broad agreement the emphasis belongs on income generation in the late-life phase. Poterba believes that the entry of baby boomers into traditional retirement age will shift the focus from accumulation to payout, with increased attention on lifetime income and annuities within DC plans.

Poterba views the challenges of DC plan design in an environment of heterogeneous workers as complex, but solvable. One size will not fit all, nor will one size necessarily fit one individual over time. He sensed a consensus that design has to consider individuals as readjusting and retargeting over time as their accumulations grow faster or slower than expected. He stressed the importance of developing metrics that allow individuals to better understand what they may be able to afford in retirement given current accumulations, rates of return, contribution levels and time to retirement. In addition, Poterba noted that little is known regarding the degree of flexibility that individuals have on margins like date of retirement and level of consumption and housing as they go through the retirement decision and retirement itself. He maintained that helping individuals evaluate their comfort level with different degrees of variance around a target replacement rate, while not typically done, would be highly informative to saving and investment decisions.

Poterba observed that while annuities are at the heart of considering plan design given a retirement income objective, there is no definitive answer regarding what fraction of private wealth accumulation should be annuitized. Since the answer likely depends on the amount of non-private annuity income, the level of Social Security benefits will matter, but this is an obvious area of uncertainty for planning.

Poterba noted that while defaults matter to people’s behavior, there is no agreement on what constitutes optimal defaults. He maintained that it is important to determine how to operationalize financial education so that it impacts behavior. He also noted the importance of incorporating planning into the context of DC plan participation. Adjustments in savings levels and investment allocations over time require planning and engagement, as well as monitoring.

This raises the issue of effective communication. Poterba stressed that the understanding of decision-making provided by psychology should be a wakeup call for those who think only in terms of product attributes and rational choice subject to available options. He opined that if target date funds had been marketed as “age-phased equity exposure funds,” they would not have captured the same market share that they have attracted. He emphasized a disturbing reality in this—a poor product that is well-named and effectively communicated might be very successful in terms of sales, while a good product may fail in terms of sales for analogous reasons.

In conclusion, Poterba argued that designing DC plans and accompanying services to ensure retirement income security for a heterogeneous workforce will require integrating expertise from multiple disciplines and schools of thought. The right products, services and options are necessary, but not sufficient. Individuals must use the products and options appropriate to their situation - which makes the task very challenging.

APPENDIX A—FORUM AGENDA

TIAA-CREF INSTITUTE PRESIDENT'S FORUM
DECEMBER 3, 2010

Rethinking Defined Contribution Plans

Welcome and Overview
Roger W. Ferguson, Jr., President and Chief Executive Officer, TIAA-CREF

Morning Session: Designing for Retirement Income Security
Facilitator—David P. Richardson, Principal Research Fellow, TIAA-CREF Institute

Just Auto It?
James H. Dulebohn, Associate Professor, Michigan State University
Brigitte C. Madrian, Aetna Professor of Public Policy and Corporate Management, Harvard University

Deciding the Investment Options
Ron Gebhardtsbauer, Faculty-in-Charge of the Actuarial Science Program, The Pennsylvania State University
Luis M. Viceira, George E. Bates Professor, Harvard University

Accumulation to Income
Garth A. Bernard, President and Chief Executive Officer, Sharper Financial Group LLC
Jeffrey R. Brown, Professor of Finance and William G. Karnes Professor of Finance and Director of Center for Business & Public Policy, University of Illinois at Urbana-Champaign

Afternoon Session: Thinking beyond Plan Design
Facilitator—Paul J. Yakoboski, Principal Research Fellow, TIAA-CREF Institute

Advise or Educate?
Conrad S. Ciccotello, Associate Professor of Risk Management and Insurance and Director, Personal Financial Planning Program, Georgia State University
Annamaria Lusardi, Professor of Accountancy and of Economics, The George Washington University

Designing the Process
Eric J. Johnson, The Norman Eig Professor of Business, Columbia University
Eldar Shafir, William Stewart Tod Professor of Psychology and Public Affairs, Princeton University

Key Takeaways
James M. Poterba, Mitsui Professor of Economics, Massachusetts Institute of Technology

Concluding Remarks
Stephanie Bell-Rose, TIAA-CREF Managing Director and Head, TIAA-CREF Institute

APPENDIX B—PARTICIPANT LIST

TIAA-CREF INSTITUTE PRESIDENT'S FORUM
DECEMBER 3, 2010

Rethinking Defined Contribution Plans

Julie R. Agnew	Associate Professor of Finance and Economics, The College of William & Mary
Stephanie Bell-Rose	Managing Director and Head of the TIAA-CREF Institute, TIAA-CREF
Garth A. Bernard	Chief Executive Officer, Sharper Financial Group
Jeffrey R. Brown	Professor of Finance and William G. Karnes Professor of Finance and Director of Center for Business & Public Policy, University of Illinois at Urbana-Champaign
Conrad S. Ciccotello	Associate Professor of Risk Management and Insurance, Director, Personal Financial Planning Program, Georgia State University
Robert L. Clark	Professor of Economics, Professor of Management, Innovation and Entrepreneurship, North Carolina State University
Courtney C. Coile	Class of 1966 Associate Professor of Economics, Wellesley College
James H. Dulebohn	Associate Professor, Michigan State University
Gary V. Engelhardt	Professor of Economics, Syracuse University
Roger W. Ferguson, Jr.	President and Chief Executive Officer, TIAA-CREF
Ron Gebhardtsbauer	Faculty-in-Charge of the Actuarial Science Program, The Pennsylvania State University
Matthew Halperin	Senior Managing Director, Risk Policy and Analytics, TIAA-CREF
P. Brett Hammond	Managing Director, Head of Investment Strategy, TIAA-CREF
Eric J. Johnson	Norman Eig Professor of Business, Columbia University
Harry Klaristenfeld	Senior Vice President, Chief Actuary, TIAA-CREF
Laurence J. Kotlikoff	William Fairfield Warren Professor, Professor of Economics, Boston University
Annamaria Lusardi	Professor of Accountancy and of Economics, The George Washington University
Brigitte Madrian	Aetna Professor of Public Policy and Corporate Management, Harvard University
Michael Noetzel	Managing Director, Institutional Relationships, TIAA-CREF
James M. Poterba	Mitsui Professor of Economics, MIT
Richard Pretty	Vice President, Actuary, TIAA-CREF
David P. Richardson	Principal Research Fellow, TIAA-CREF Institute
Eldar Shafir	William Stewart Tod Professor of Psychology and Public Affairs, Princeton University

Frank Todisco	unaffiliated at time of conference; currently Chief Actuary, Government Accountability Office
Jack VanDerhei	Director of Research, Employee Benefit Research Institute
Edward Van Dolsen	Executive Vice President, Chief Operating Officer, TIAA-CREF
Paul Van Heest	Senior Vice President, Institutional Product Management, TIAA-CREF
Luis M. Viceira	George E. Bates Professor, Harvard University
Anand Vijh	Professor, Marvin and Rose Lee Pomerantz Chair in Finance, The University of Iowa
Wiebke Wanner-Borchardt	Special Assistant to the CEO, TIAA-CREF
Connie K. Weaver	Executive Vice President, Chief Marketing and Communications Officer, TIAA-CREF
Scott Weisbenner	Associate Professor of Finance and James F. Towey Faculty Fellow, University of Illinois at Urbana-Champaign
Paul J. Yakoboski	Principal Research Fellow, TIAA-CREF Institute
Gal Zauberman	Associate Professor of Marketing, University of Pennsylvania
Stephen P. Zeldes	Benjamin M. Rosen Professor of Economics and Finance, Columbia University

ABOUT THE AUTHOR

Paul Yakoboski is a Principal Research Fellow with the TIAA-CREF Institute. He conducts, manages and communicates research on issues such as defined contribution plan design, income and asset management in retirement, individual decision-making and preparation for retirement, managing faculty retirement patterns, and topics relevant to strategic management in higher education. He is responsible for the development and execution of Institute symposiums on such issues. Yakoboski serves as director of the Institute's Fellows Program and editor of the Institute's *Trends and Issues* and *Advancing Higher Education* publication series.

Prior to joining the TIAA-CREF Institute, he held positions as Director of Research for the American Council of Life Insurers (2000 to 2004), Senior Research Associate with the Employee Benefit Research Institute (1991 to 2000) and Senior Economist with the U.S. Government Accountability Office (1989 to 1991). Yakoboski previously served as Director of Research for the American Savings Education Council (1995 to 2000). He served as an adjunct faculty member at Nazareth College (Rochester, NY) between 1986 and 1988.

Yakoboski is a member of the American Economic Association, the Gerontological Association of America, the Association for the Study of Higher Education and the National Academy of Social Insurance. He also serves on the editorial advisory board of *Benefits Quarterly*. Yakoboski earned his Ph.D. (1990) and M.A. (1987) in economics from the University of Rochester (Rochester, NY) and his B.S. (1984) in economics from Virginia Tech (Blacksburg, VA).