Stanford University • February 2011

SIEPR policy brief

Stanford Institute for Economic Policy Research

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Retirement Security with a Primary Defined Contribution Pension Plan

By Dr. Jason Scott

The modern 401(k) plan, created in 1978 and popularized in the early 1980s, was originally envisioned as a secondary pension plan. The idea was to help employees augment their primary benefit available from an employer's defined benefit (DB) pension plan. In reality, however, the 401(k) and its close cousins, the 457 and 403(b) defined contribution (DC) pension plans, have increasingly become the primary pension plan for many Americans.[1] Compared with DB plans, 401(k) plans offer employers two main advantages — lower administrative costs and lower risk. Initially, these lower costs allowed many employers that did not have a DB pension plan to offer a 401(k) pension plan. Later, the balance sheet risk created by a large DB plan caused many companies to freeze or eliminate the DB plan in favor of offering a primary 401(k) plan. By 2010, assets in DC plans stood at $4.2 trillion, nearly twice the $2.2 trillion currently held in private employer DB plans.[2]

Newly created 401(k) plans, either primary or secondary, naturally focused on helping employees accumulate assets rather than generate retirement income. In the early days of the 401(k), this approach made sense. After all, near retirees had insufficient time to accumulate a meaningful balance, and many younger employees were decades away from needing retirement income. However, decades have now elapsed since the introduction of 401(k) plans, and tens of millions of baby boomers are now nearing retirement. Given the pension trends, an increasing number of these retirees will be reliant on their 401(k) for

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1 This policy brief focuses on 401(k) plans; however, the observations and arguments generally apply to all DC pension plans.

2 ICI (2010a).

About The Author

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a substantial portion of their retirement income. This policy brief describes some of the opportunities, challenges, and potential solutions to creating retirement income within a 401(k) plan.

401(k) versus Retail Income Options

Unlike DB plans, the 401(k) and other DC plans were not designed for generating retirement income. Before exploring ways to augment 401(k) plans, an important precursor question arises — why offer retirement income inside a 401(k)? Why not simply encourage individuals to roll assets out of the 401(k) and rely on the retail marketplace for retirement income solutions? The major advantages of retirement income within a 401(k) plan are cost, access, and efficacy.

Cost — More than two-thirds of all 401(k) assets are held in plans with a thousand or more participants.[3] Accordingly, large 401(k) plans are able to negotiate significant cost concessions from investment managers and plan providers. These concessions have resulted in substantial cost savings for employees in large 401(k) plans relative to retail investors. For example, the average annual all-in expense for retail equity mutual funds in 2009 was 99 basis points (bps) or 0.99 percent of assets. For retail bond funds the average expense was 75 bps.[4] For large 401(k) plans with assets in excess of $500 million, median all-in costs for all investments were estimated at 44 bps in 2009.[5] Today, many very large 401(k) plans have investment expenses that fall below 10 bps. There certainly appears to be room for cost savings in the retirement income phase as well. With retail annuity commissions ranging from 300 to 700 bps and annual fees that can exceed 200 bps, costs savings achievable by large 401(k) plans could be substantial.

Access — An important distinction between the retail market and a 401(k) plan is uniformity of access. Whereas wealthy retail investors often qualify for lower fee mutual fund share classes, any concessions negotiated by large 401(k) plans are available to all plan participants, regardless of account balance. Access consideration may be even more important for retirement income due to the inherent complexity of the problem. In the retail marketplace, access to an objective advisor to help with complex financial decisions often requires $250,000 or more in investable assets. Unfortunately, many retiring 401(k) participants will be unattractive candidates for retail financial advisors. In early 2010, median account balances for 401(k) participants between the ages of 60 and 65 stood at $51,100. The seventy-fifth percentile balance was $156,400.[6] While balances will likely increase as 401(k) plans continue to mature, many plan participants will fall well short of accumulating a nest egg of sufficient size to get access to high-quality help and/or low-cost solutions in the retail marketplace.

Efficacy — One of the reasons 401(k) plans are effective savings vehicles is ease of implementation. Having an automated way to save part of your paycheck each month helps many plan participants stick with a long-term savings program. A key insight over the past decade has been the power of simplicity and inertia in affecting participant behavior and retirement outcomes. To encourage employees to participate in the plan, many large employers now automatically enroll new employees into the 401(k) plan unless an employee proactively opts out of participation. Numerous studies have documented the significant positive impact automatic enrollment programs can have on plan participation.[7] With encouragement from the Pension Protection Act of 2006, many employers are extending automatic features to include automatic contribution rate escalation and automatic investment diversification. The premise of the automatic 401(k) is to create a plan design that allows plan participants to achieve success by default while still maintaining full individual choice with respect to participation, savings rate, and investment selection. Extending the automatic 401(k) framework to include retirement income creates an opportunity for widespread adoption and economies of scale, which could translate into very low-cost and highly effective solutions.

3 Cerrulli Associates (2010).

4 ICI (2010b).

5 Deloitte / ICI (2009).

6 Author's calculations based on the Financial Engines' database of 2.54 million plan participants in the first half of 2010.

7 See Beshears et al. (2006) for a discussion of the impact of defaults on behavior.

401(k) Retirement Income — Investments or Insurance?

The major difference between 401(k) plans and other retirement plans (including defined benefit plans and Social Security) is participant choice. In 401(k) plans, employees ultimately choose to participate, choose a contribution rate, and make an investment selection. Even if defaults are in place, participants still can choose to make changes along any of these dimensions. So what do participants want when it comes to retirement income? Answering this question is critical to formulating an income solution that people will actually choose. To begin answering this question, consider that there are really only two fundamental building blocks when it comes to retirement income – investments and insurance. Investments provide future resources independent of mortality, whereas insurance provides income only if a participant is alive. Insurance has the advantage of maximizing monthly income, but maximal income involves a loss of flexibility and a loss of any potential bequest. While there are only two fundamental building blocks, hybrid solutions combining investments and insurance can offer a myriad of possibilities. To illustrate the fundament choice, this brief focuses on bond investments and immediate fixed annuities although similar factors will influence the desirability of equity investments and variable annuities.

Annuities at retirement — Academic research and policymakers tend to focus on annuities as the natural way to create retirement income because annuities maximize the potential for lifetime income. Individuals, however, seem very reluctant to annuitize assets at retirement. Numerous research papers have been devoted to studying this "annuity puzzle," a term referring to the gap between predicted and actual annuity demand. One of the challenges with annuities is the idea of purchasing an *annuity at retirement.* Consider an individual nearing retirement. The prospect of retirement is likely daunting. What is life like without a paycheck? What are expenses likely to be? What is and is not covered by Medicare? Will I need to downsize my house? Should I defer Social Security? And the list goes on and on. Suppose this person has accumulated $200,000 in a 401(k) and is given the opportunity to purchase an immediate annuity resulting in a lifetime payout of $557 per month. Given the magnitude of uncertainty facing a retiring individual, it is not too surprising that he or she opts for the flexibility and security of a $200,000 investment fund rather than a fixed monthly payout.[8]

Numerous studies verify this intuition that lump sums are attractive relative to annuity payments. One study examined a group of 66,000 military personnel offered the option of a lump sum or an annuity payout. The study found that, even though the annuity payout was typically twice as valuable as the lump sum, 90 percent of enlisted personnel and 50 percent of officers opted for the lump-sum payout.[9] Perhaps more relevant, Mottola and Utkus (2007) analyzed the decisions of participants in defined benefit pension plans who were given the option of taking their pension annuity benefit as a lump sum. The results were striking. Even in a traditional defined benefit plan where the pension benefit had consistently been communicated as an income payout, fully 73 percent of participants over age 55 selected the lump-sum payout. For a cash balance type pension plan, where the annuity cash value was more salient, 83 percent of participants over 55 elected for the lump-sum payout option. This analysis also deals a significant blow to the idea that plan defaults will result in high levels of annuity utilization. The study reported the following:

"Less than one-quarter of married participants in our study chose an annuity, even though it is the federally mandated default option for married couples. Married participants worked actively to overcome the default annuity option by submitting a written, notarized waiver."

Seemingly, where annuities are concerned, even the power of a default is insufficient to overcome individual aversion to annuities.

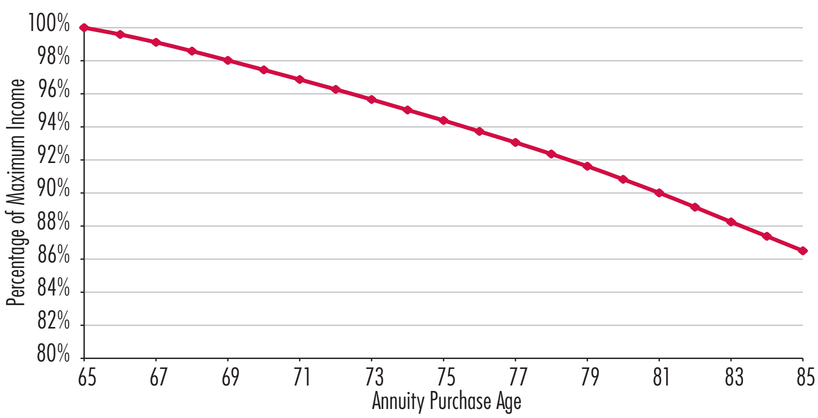
Annuities later — Most annuity research considers the annuity choice at retirement as a now or never decision. That is a valid characterization for the annuity or lump-sum option offered by a defined benefit pension plan, but when

8 See Figure 1 for description of annuity pricing assumptions.

9 See Warner and Pleeter (2001).

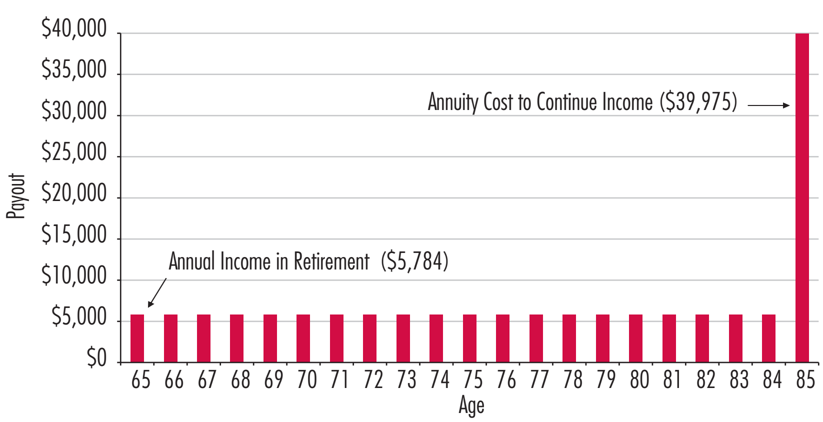
an individual has a defined contribution account balance, the annuity decision is not now or never, but rather now or later. The impact of delaying the annuity purchase is illustrated in Figure 1. All the strategies analyzed in Figure 1 generate constant lifetime income beginning at age 65. The strategies only differ in the age at which an annuity is purchased. Purchasing an annuity at age 65 maximizes the potential for monthly retirement income that lasts for life. However, investing in bonds initially and delaying the annuity purchase to age 75 has only a modest impact on income potential. Delaying to age 75 only lowers lifetime monthly income by 5 percent compared with annuitizing at age 65.

Figure 1. Income vs. Annuity Purchase Age



Source: Author calculations assuming 65 year old male annuitant, 4% interest rates, GAMS94 mortality table, and a 90% of money's worth annuity.

Figure 2. Cash Flows using Bonds + Age 85 Annuity $100,000 401(k) Balance



The relatively small impact of delaying the annuity purchase from 65 to 75 is attributable to two factors. First, the pricing advantage of an annuity comes from the fact that payouts are survival contingent. However, mortality for individuals in their late 60s and early 70s is fairly low, especially for an annuitant population.[10] Thus, an annuity's inherent advantage over a bond investment is low during these ages. Second, annuity contracts typically involve significant fees.[11] By delaying the annuity purchase, an individual pays annuity fees on a smaller portion of their accumulated wealth. Combined, these two factors mitigate the monthly income impact of delaying the annuity purchase decision.

The evidence strongly suggests that individuals prefer a liquid account balance over an annuity payout at least at younger ages. However, there is some support for the notion that individuals may consider purchasing an annuity at an older age. Returning to Mottola and Utkus, they found that for the cash balance plan only 16 percent of the participants between the ages of 60 and 65 took the annuity, but 28 percent between the ages of 65 and 70 opted for the annuity payout. And, although the sample size was small, 62 percent of the 70 and above age group annuitized. Looking directly at immediate annuity sales, a recent study of 55,000 immediate annuity contracts sold in 2008 and 2009 found that the average

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10 Annuities are typically priced using mortality tables that reflect a healthier than average population.

11 In this example, annuities are available at 90 percent of their actuarially fair cost, sometimes referred to as a 90 percent "money's worth." See Scott et al. for a survey of estimated "money's worth" values.

purchaser's age was 73.[12] Perhaps the desirability of an annuity is more a function of actual age rather than age at retirement.

Investments early/Annuity late — If individuals value liquid assets at retirement, but might consider an annuity later in life, the challenge for 401(k) retirement income solutions is to offer both these properties to participants. A theoretical solution to this problem is illustrated in Figure 2. The idea is to use bond investments to fund the cash flows detailed in Figure 2. Bonds provide income directly during the early years of retirement. In addition, bonds provide sufficient wealth to allow an optional annuity purchase at age 85. As shown in Figure 2, a $100,000 investment creates annual income of $5,784 assuming 4 percent interest rates. The price of an annuity purchased at age 85 to continue this income for life is $39,975, or roughly seven times the annual income.[13] This retirement strategy gives an individual both a spending level, $5,784, and proscribes the needed investments, namely a collection of zero-coupon bonds that generate the target cash flows. Importantly, this strategy provides both income in retirement and an option to increase income by purchasing an annuity at any point prior to age 85. Annuitizing at age 65 provides an income of $6,688. Waiting until age 85 to annuitize provides only $5,784, but does allow the individual 20 years of a fully liquid portfolio. If the individual still has not annuitized by age 85, then maintaining this spending level would exhaust the account by age 93.

Conclusion

Over the next decade, millions of Americans will leave employment and enter retirement with a pension portfolio rather than a pension income promise. Unfortunately, the overwhelming majority of 401(k) plans currently do not offer any retirement income options for individuals. Given the economies of scale achievable in many large 401(k) plans, the lack of income options squanders a significant opportunity to improve the retirement prospects for many individuals. Identifying and developing viable and desirable income options are a challenge for both policymakers and service providers. We do know, however, that when individuals can choose, they strongly prefer a liquid account balance over a pension income promise at retirement. In addition, some evidence suggests that individuals may warm to an annuity purchase later in retirement. Thus, viable income solutions will likely provide high levels of liquidity early in retirement while perhaps offering the ability to secure that income later in retirement. A simple strategy that accomplished this objective was sketched in this policy brief. Whether this strategy or more complex strategies, perhaps involving market risk or inflation protection, are required remains to be discovered. What is currently clear, however, is that 401(k) plans are sorely in need of retirement income solutions, designed to both capitalize on the scale and ease of use advantages of employer-based pensions while recognizing that the foundation of a 401(k) plan is individual choice.

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12 LIMRA (2010).

13 The actual price would depend on prevailing interest rates at the time of purchase. However, annuity prices at age 85 are not very sensitive to interest rates due to high levels of mortality discounting.

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