“Building Retirement Security through Defined Contribution Plans”

Prof. Jeffrey R. Brown
University of Illinois at Urbana-Champaign

Prof. Scott J. Weisbenner
University of Illinois at Urbana-Champaign

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Abstract: This paper discusses why employer-sponsored defined contribution (DC) plans and individual retirement accounts (IRAs) are such an important part of the U.S. retirement system. We discuss the numerous positive strides taken by many plan sponsors to increase participation, provide more diversified portfolios, and provide immediate eligibility to cater to a mobile workforce. We argue that the DC system provides a strong foundation upon which to continue to strengthen the U.S. retirement system and is preferred to alternative proposals that seek to wholly or partially supplant the employer’s role with expanded government provision of retirement benefits. We recommend that policymakers and the employer community work together to continue to build on the substantial progress already made regarding coverage, participation, and contributions as well as in the promotion of guaranteed retirement income and other retirement risk management practices.

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Executive Summary

Over the last several decades, the defined contribution (DC) system in the United States has become the new foundation of the private retirement system in US. As the system has grown, it has also evolved to better meet the needs of employers and participants. Due to a number of policy changes, product innovations, and improved plan design decisions by plan sponsors, today's DC plans provide a much better retirement system than those of a decade or two ago. For example, more employers are offering immediate eligibility, thus further improving retirement outcomes for mobile employees. According to the U.S. Department of Labor's Bureau of Labor Statistics, almost 80% of full-time workers have access to employer-sponsored retirement plans, and more than 80% of workers with access to plans participate. When one includes all part-time and seasonal workers, 68% have access to employer-sponsored retirement plans, and 79% of workers with access participate. [1] DC plans now comprise the majority of these plans, and IRA solutions are available for those who do not have access to an employer-provided plan. The widespread adoption of automatic enrollment has substantially raised participation rates among eligible employees: this increase has been especially remarkable among younger and lower-income employees.

Moreover, median employer plus employee contribution rates are now approximately ten percent of income. Additionally, the widespread use of life cycle and target date funds as default investment option, as well as the decline in allocations to employer stock, has greatly improved the asset allocation of typical participants. As a result of these and other improvements, today's DC system is preparing millions of participants for a secure retirement.

This paper analyzes both the strengths and the shortcomings of the current DC system in comparison with the defined benefit (DB) system of past decades and with proposals for an

[1] Bureau of Labor Statistics, Employee Benefits in the United States – March 2012, Press Release, July 11, 2012, www.bls.gov/ncs/ebs/sp/ebnr0018.pdf, Table 1, p. 6.

expanded government role in providing retirement income. While some have suggested government administered alternatives to the employer-based DC system, overall these alternatives are inferior to building upon the current foundation. Our analysis highlights the many instances in which frequently-heard criticisms of the DC system are outdated or incorrect. However, we also identify two high priority areas where we believe the DC system needs further improvement: (1) to expand coverage and participation to even more households; and (2) to further improve the risk management aspects of the program, especially providing opportunities to convert DC account balances into guaranteed retirement income.

Among our suggestions for further improving the DC system are to:

- Improve the incentives for small employers to offer DC plans
- Remove barriers to including part-time and recently-hired employees in plans
- Update plan qualification rules to promote higher contribution rates
- Expand the use of Qualified Default Investment Options (QDIAs) and encourage continued QDIA innovation to provide further diversification to participants.
- Encourage guaranteed lifetime income options in DC plans

In essence, this paper provides a data and fact based analysis that strongly supports the view that the private DC system can and should continue to play a central role in providing a secure source of retirement income for current and future generations of workers. But to fully reach its potential, policymakers, plan sponsors, the retirement industry, and individuals need to work together to extend retirement saving and income opportunities to more households.

Furthermore, we need to “change the conversation” to be more focused on retirement outcomes: rather than focusing on DC plans as a tool for wealth accumulation, we need to move public policy, plan design and communication toward treating DC plans as a path to guaranteed retirement income.

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Overview

Policymakers, employers, and employees have a common interest in ensuring that workers have the capacity to enjoy lifelong financial security after they retire from the workforce. Whether and how this is best achieved, however, has long been the subject of much discussion and debate. At least since the passage of the Social Security Act of 1935, the retirement income landscape in the U.S. has been in a constant state of evolution and change. Although there have been a few instances where Congressional action has almost instantaneously re-shaped the landscape (e.g., the Social Security Act in 1935 and the Employee Retirement Income Security Act (ERISA) in 1974), many of the dramatic changes have occurred in a more evolutionary way. Although unfolding over many years, the growth in employer-sponsored retirement plans in the post-WWII period, the introduction and growth of Individual Retirement Accounts (IRAs), and the shift from defined benefit (DB) to defined contribution (DC) plans over the past few decades have had enormous effects on how retirement assets are accumulated and retirement income is provided to U.S. households.[2]

At virtually every stage of this evolution, there have been those who have questioned the adequacy of the retirement system. This is unsurprising, as there is no simple way to provide lifelong retirement security for the millions of individuals who enter into retirement each year. We view this continual analysis and criticism of the retirement system in a positive

[2] In this paper, we use the term defined contribution, or DC, to include a range of plans in which the plan sponsor provides contributions or facilitates employee contributions, rather than guaranteeing a monthly retirement benefit. Examples include 401(k) plans, 403(b) plans, 457 plans, Keoghs, SIMPLE plans, and several other plan types. Although not necessarily sponsored by an employer, we also consider IRA products to be an important part of the DC universe, both because of the role they play in providing tax-deferred savings opportunities for those without employer-provided plans and because of their important role in the rollover process.

light because it provides guideposts to policymakers and plan sponsors on how to continually improve the system. Today's system is no exception: although we view the DC system as a source of great strength and promise, the DC system has its critics. When measured against the theoretical ideal of a retirement system that provides optimal retirement benefits to all, we are among those that believe we can "do better," particularly in the areas of coverage, contribution levels, access to guaranteed retirement income, and risk management.

Nonetheless, we view the glass as being far *more* than half full: it is our view that the existing DC system in the U.S. is an essential and extraordinarily valuable part of the U.S. retirement landscape. In contrast to those who view the employer-based DC system as one that should be replaced, we believe that the improvements over the past decade have created a very strong foundation upon which to continue to build an even stronger retirement system. The goal of this paper is simple: to discuss why American workers are better off with a healthy employer-based defined contribution (DC) system than without one, and then to explain how this system can be made even better.

We begin by providing a brief overview of some of the basic facts about the DC system in place today. We underscore that the DC system is one of the primary sources of funds for sustaining consumption in retirement. We then turn to providing a brief historical perspective to remind readers that "the good old days" of the DB plan were not actually so good. In the pre-ERISA period, workers' retirement benefits were exposed to substantial funding risk, and short-tenure workers often received no benefit at all. In the post-ERISA period, many employers found that providing a DB plan to workers no longer passed the cost-benefit test in light of a changing economic environment. A key take-away from this brief historical overview is that comparisons of the current DC system to the historical DB system are less informative and less relevant than often portrayed.

Nonetheless, given the frequency with which the DC system is compared to the DB system, we compare the two types of systems. We specifically focus on which differences between DB and DC are fundamental, as opposed to the many differences that are simply artifacts of common design choices that can be changed if policymakers and plan sponsors decide to do so. A key point is that many of the perceived shortcomings of the DC system can be addressed through better plan design, as they are not necessary features of DC plans *per se*. Along the way, we will also address some of the criticisms of DC plans that we believe are simply unfounded.

When discussing the DC system in the U.S., it is very important to acknowledge the significant strides that have been made by plan sponsors and participants in terms of increased participation (particularly by lower-income workers), more diversified portfolios, and the provision of immediate eligibility by many plans to cater to a mobile workforce. Critics of 401(k) plans often cite a *perceived* lack of participation, low contribution rates, undiversified accounts loaded up with company stock holdings, and concerns about mobile workers losing out on participating in 401(k) plans their first year with a new employer (because firms are permitted to require a full year of service before an employee is eligible to participate in a 401(k) plan). As we will show, these criticisms simply do not paint an accurate picture of today's DC system.

Indeed, there are five facts are very useful to keep in mind when assessing the current system. First, about four out of every five full-time civilian workers have access to a retirement plan (DB or DC) through their employer,[3] and IRA solutions are available to those who do not. Second, several surveys report that 401(k) participation rates among eligible employees are 74-

[3] The U.S. Bureau of Labor Statistics reports that in March 2013, 78% of all full-time civilian employees were offered a retirement plan through work. This includes 74% of all full-time workers in private industry, and 99% of all full-time employees of state and local governments. http://www.bls.gov/news.release/pdf/ebs2.pdf

80% with especially sharp increases in participation among the lowest-income workers over the past decade.[4] Third, participants are generally contributing 5-7% of salary to these plans, and when employer contributions are added to employee contributions, the median contribution rates are around 10% of salary.[5] For perspective, this 10% contribution rate is more than double the proposed employee-plus-employer contribution rate suggested by Ghilarducci (2008) in her proposed government-run alternative to 401(k)s. Fourth, as we will discuss in more depth below, investments in company stock have significantly fallen over the past decade, while allocations to balanced funds (like target-date or life-cycle funds) have significantly risen. For example, in 2011, only one-quarter of recently hired participants in 401(k) plans that offered company stock actually hold company stock, and company stock represents only 10% of the portfolio of these recent hires.[6] Simply put, the typical 401(k) portfolio today is fairly-well diversified, especially when compared to portfolios of a decade ago. Finally, though not required to do so, a majority of plan sponsors allow immediate eligibility in their 401(k) plans with no service requirement for their workers (with this tendency increasing over time).[7] Thus, it is often the case that an individual can leave one firm for

[4] See Vanguard's *2013 How America Saves*, the Plan Sponsor Council of America's *55th Annual Survey*, and Aon Hewitt's 2012 report on defined contribution plans. All surveys report participation rates in DC plans between 74 and 80%. All figures reported from the Plan Sponsor Council of America's *55th Annual Survey* and cited in this paper are taken from http://www.psca.org/55th-annual-survey-highlights.

[5] Vanguard's *2013 How America Saves* reports an average employee contribution rate of 6.9% of salary (median of 6.0%) in 2011 among participants in plans for which it provides recordkeeping services, with an average employee-plus-employer contribution rate of 10.5% of salary (median of 9.8%). WorldatWork and the American Benefits Institute in their 2013 report on trends in 401(k) plans find that 53% of surveyed plan sponsors report average participation rates in their plan of 5-7% of salary, with 24% of plans reporting a higher contribution rate and 23% reporting a lower deferral rate.

[6] See 2012 EBRI Issue Brief No. 380 that documents 401(k) plan asset allocation in 2011. EBRI defines recent hires as those with two or fewer years of tenure.

[7] Vanguard's 2013 *How America Saves* reports that, in 2012, 54% of surveyed plans (plans for which it provides recordkeeping services) provide immediate eligibility with no service requirement to participate in their plan. Similarly, the Plan Sponsor Council of America's *55th Annual Survey*, finds that 60% of companies allow employees to begin contributing to the plan right after hire. Also, in the 2012 Edition of their Annual 401(k) Benchmarking Survey, Deloitte, the International Foundation of Employee Benefit Plans, and the International Society of Certified Employee Benefit Specialists report that 58% of surveyed plan sponsors provide immediate eligibility with no service requirement. Vanguard (2013) further reports that large plans are more likely to offer immediate eligibility

another and not lose any years of saving through a 401(k)-plan. These positive developments have resulted from a combination of provisions of the Pension Protection Act of 2006 (which, among other things, encouraged the use of automatic enrollment and designated several types of diversified funds as Qualified Default Investment Alternatives, or QDIAs) and good decisions on the part of plan sponsors and participants.

Although today's DC system is strong, we believe it can be further strengthened. We focus on two primary areas: (1) how to increase coverage and contributions even further, and (2) how to continue the improvement in risk management in the DC system, especially with regard to providing guaranteed retirement income. It is our view that these two issues are the "big fish": if we get these two items right, the retirement security of the average American would be well-served. Thus, we offer suggestions on how to continue to build upon the substantial progress has already been made on these fronts in recent years.

Despite the strengths of the DC system, a number of commentators have suggested that we ought to scrap the employer-based DC system and replace it with a government-administered program. In our penultimate section, we evaluate two of these alternatives – expanding the existing Social Security and introducing government-run accounts (e.g., Ghilarducci, 2008). Our overall assessment is that these alternatives are inferior to building upon the current employer-based foundation.

We then provide closing thoughts, including a summary of those areas that we think our most important for the government and plan sponsors to work cooperatively to address in order to improve the existing DC system.

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than small plans – while 54% of plans provide immediate eligibility, the participant-weighted average is 74% (i.e., 74% of participants are in plans that allow contributions to their DC plan right after hire).

A Brief Overview of the Existing Private Pension System and DC Plans

By nearly any measure, employer provided DC plans, which include 401(k) plans, 403(b) plans, and 457 plans (among others) are now the most common form of employer-provided retirement plan in the U.S. According to the U.S. Department of Labor's Abstract of 2010 Form 5500 Annual Reports, there are 73.4 million participants in defined contribution plans, of which 60.5 million are in 401(k) type plans.[8] This does not include the large number of participants in IRA plans, which in addition to serving as a vehicle through which individuals can rollover their DC balances upon leaving an employer, can also play the DC plan role for individuals that do not have access to an employer-provided plan.

According to the U.S. Bureau of Labor Statistics (BLS) data from March 2013, 74% of all full-time workers in private industry have access to an employer-provided retirement plan (either DB or DC) and 80% of those offered actually take-up the plan. Thus, the overall participation rate is about 59% among full-time workers. Access and take-up are much lower among part-time workers. Thus, just under half (49%) of all private industry workers were participating in some type of retirement plan at that time. This does not include participation in IRAs, which can serve the role of a DC plan for workers who do not have access to an employer provided plan.

In Figure 1, the total participation rate for all private-sector workers (which equals the coverage rate times the take-up rate) is shown for 1979 – 2011, decomposed by plan type.[9] Two observations are worth highlighting. First, this figure underscores the well-known trend away from DB and towards DC. Second, overall participation rates have not changed much

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[8] The number of total participants aggregated from Form 5500 filings may be a slight overestimate as it includes double counting of workers in more than one plan. EBRI estimates in their 2012 Issue Brief No. 380 on 401(k) plan activity in 2011 that there are 51 million participants in 401(k) plans.

[9] Figure based on data from U.S. Department of Labor Form 5500 Summaries 1979-1998, Current Population Survey 1999-2011, and EBRI estimates from 1999-2010. This figure is taken directly from: http://www.ebri.org/publications/benfaq/index.cfm?fa=retfaqt14fig1.

over this period, suggesting that the shift to DC has not been associated with a decrease in coverage.

These point-in-time snapshots of plan coverage, however, understate the importance of the employer-based system. Gustman, Steinmeier, and Tabatabai (2010) carefully examine data from the Health and Retirement Study and find an important distinction between coverage at a point in time versus coverage at some point in one's working life. They define a "live" pension as one from current jobs, dormant pensions, or those in payout status. As they note, however, this "live" pension concept misses some coverage over the lifetime of one's self or one's spouse: "There will be some respondents who at some time participated in a pension but who are not participating in a live pension by the time they retire. Still others will have cashed out, rolled over, or lost a pension but will still have another live pension at the time of the survey." They note that this broader measure of coverage is potentially very important because "Rollovers, annuitization, and cash-outs may have resulted in other forms of wealth that, while originating as a pension, are no longer held in the form of a live pension" (p. 90-91). For example, much IRA wealth arises from rollovers from DC plans, rather than from direct IRA contributions. Similarly, some non-qualified wealth may have been generated by qualified plan accumulations that were cashed-out. The authors also note the importance of measuring coverage at the household rather than the individual level. Putting these concepts together, Gustman *et al* (2010) find that by 2004, four-fifths of all HRS households in the early boomer cohort had been covered or were currently covered by a pension.

Another way to view the importance of DC plans is by looking at asset levels. As reported by the Investment Company Institute in their 2013 Fact Book, aggregate assets in DC plans have grown to $5.1 trillion in 2012 (with $3.6 trillion of that in 401(k) plans). When added to the $5.4 trillion held in IRAs (as discussed earlier, many IRAs are rollovers from DC plans) total wealth held in personal retirement accounts is $10.5 trillion. The assets held in personal retirement accounts represent just over half of all funded retirement assets and roughly one-fifth of all household financial assets in the U.S.[10] While assets in 401(k)s and other DC plans are clearly already very important components of household portfolios, Poterba, Venti, and Wise (2008) project that 401(k) plan assets should continue to grow in importance in providing for retirement security over the next several decades.

A Brief Historical Perspective: Were the "Good Old Days" Really That Good?

There is a sizable cottage industry among academics and analysts pointing out the shortcomings of the DC system in the U.S. For example, Munnell and Sundén (2004) highlighted many of the shortfalls of the 401(k) system that existed in the late 1990s and early 2000's, although many policy and product innovations (such as automatic enrollment, automatic escalation of contributions, and automatic diversification through the use of Qualified Default Investment Alternatives, or QDIAs) have improved the DC system in the years since the publication of their book. At least one scholar (Ghilarducci, 2008) has more recently gone so far as to label the 401(k) system as a "failed experiment."[11] She and others have called for a greater government role in directly providing a universal retirement system.[12] In the U.S. public sector – the one place where DB plans have (so far) maintained their role as the primary type of retirement plan – fervent defenders of the DB system frequently draw unfavorable comparisons between DB and DC systems, often focusing on the risks imposed on participants.

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[10] Investment Company Institute, "Retirement Assets Total $19.5 Trillion in Fourth Quarter 2012," News Release, March 27, 2013. Total financial assets of U.S. households at the end of 2012, measured at $55.6 trillion, is from the Board of Governors of the Federal Reserve System, *Financial Accounts of the United States*, June 6, 2013, Chart B.100, Balance Sheet of Households and Nonprofit Organizations, p. 109. http://www.federalreserve.gov/releases/z1/Current/z1r-5.pdf

[11] http://www.pbs.org/wgbh/pages/frontline/business-economy-financial-crisis/retirement-gamble/teresa-ghilarducci-why-the-401k-is-a-failed-experiment/

[12] http://www.nytimes.com/2012/07/22/opinion/sunday/our-ridiculous-approach-to-retirement.html?_r=0

Implicit in many of these criticisms is an unfounded belief that DC plans are more likely to fail their participants than DB plans. Indeed, those looking to criticize the DC system often point to Enron's spectacular failure in 2001 as an example of everything that is wrong with the 401(k) system. Enron employees were undiversified, unable to trade their employer match in company (Enron) stock at a time when it was rapidly dropping in value, and many lost their jobs and their retirement plans over the same few-month period.

There is no question that the Enron case (and other similar cases) starkly illustrates the negative consequences of a poorly designed plan. Although Enron was a colossal failure by nearly any measure, two points are worth noting. First, the Enron plan was extremely poorly designed by today's DC plan standards. Today's DC participants are much less exposed to employer stock and are generally much more diversified than in 2001. Second, the high profile failure of Enron is neither unprecedented nor unique to the DC world. Indeed, about four decades earlier, employees at the Studebaker-Packard plan in South Bend, Indiana experienced a similar, financially tragic fate in their DB plan. As the result of the plant closing, a large number of UAW workers lost their jobs and most of their DB retirement benefits as well. Although retirees and active employees over age 60 were largely held harmless, workers in their 40s and 50s with over ten years of service received only about 15 percent of their earned pension benefits. Others received nothing.

Rather than favoring DB or DC systems, what these and other unfortunate episodes illustrate is the importance of adequate risk management when designing a retirement plan of any kind, an issue to which we will return below. It is also notable that although both Studebaker and Enron were extreme events, they resulted in different legislative and regulatory responses. The ultimate response to Studebaker – the passage of ERISA in 1974 – fundamentally reshaped the retirement landscape in the U.S. It is also a case study in unintended consequences of well-meaning legislation, as we discuss below. In contrast, the response to Enron – such as requiring employers to allow individuals to diversify out of employer stock, and placing restrictions on management behavior during plan blackout periods – was more restrained, thus allowing the DC system to continue to strengthen over the subsequent decade.

Among many other things, ERISA sought to improve the funding status of plans and to provide a guarantee of benefits (up to a limit) if a plan sponsor went bankrupt with an under-funded plan. There is little question that the many provisions in ERISA made existing DB plans more secure for participants. However, in addition to these positive effects, the legislation and the regulatory framework it engendered also had a number of negative unintended consequences. For example, research has suggested that ERISA and subsequent regulations implemented in the early and mid-1980s increased the costs of administering a DB plan relative to a DC plan, particularly for small defined benefit plans (Hustead, 1998). This increase in costs led some employers, particularly those of small firms that are less well equipped to handle the costs and regulatory burden of offering a DB plan, to look for a "way out." A 1997 report on the merits of DC vs. DB plans prepared by a Working Group for the ERISA Advisory Council reports in its Executive Summary that "Perhaps the most difficult issue to assess is the extent to which regulatory changes may be responsible for the movement away from defined benefit plans. The Working Group agrees with the conclusion of a number of witnesses who testified that regulatory trends played a significant role."[13]

Another unintended consequence of ERISA is that the design of the Pension Benefit Guaranty Corporation (PBGC) insurance program has created new risks, such as the incentive for firms to increase the risk of their investment portfolio, thus imposing an expensive "put

[13] http://www.dol.gov/ebsa/publications/dbvsdc.htm

option" onto taxpayers. Commentators (e.g., Bodie, 1996; Wilcox, 2006; Brown, 2008) have also noted that the lack of risk-adjustment in PBGC premium setting may create an incentive for the healthiest plan sponsors to shift to DC plans and thus avoid cross-subsidizing less healthy plan sponsors. These and other flaws have led to a large increase in the deficits of the PBGC in recent years. The PBGC has run a deficit each year since 2002, with the annual deficit rising to a record $34 billion dollars in the 2012 fiscal year. The substantial underfunding, and the fact that PBGC insurance is capped below the benefits of some middle and upper income workers, means that today's DB benefits are anything but "risk free" to current and future retirees.

The increased complexity and cost of the regulatory environment helped to make fertile ground for the subsequent growth of the 401(k) system as an alternative. Of course, the causes of the seismic shift in the corporate sector away from DB and towards DC plans are many and varied. For example, Gustman and Steinmeier (1992) discuss how the transition from DB to DC plan coverage reflects both sectoral shifts in the economy (i.e., shift in employment to industries that are less likely to offer DB plans to begin with) as well as a simple time-series decline in DB coverage among all firms in all industries (that likely reflects regulatory changes made in the 1970s and 80s that would affect all firms). In other words, part of the decline in DB coverage in favor of DC plans would have happened without any of the sectoral shifts in the economy over the past few decades, but the shift away from manufacturing to services and information technology accelerated the change in pension plans offered.

Aaronson and Coronado (2005) also conclude that factors affecting all firms, such as regulatory issues, play an important role in explaining the shift away from traditional DB pensions. They further highlight the importance of various supply and demand factors in explaining trends in DB and DC pension coverage across different industries. On the demand side, they emphasize the importance of demographic trends that place more importance on portable pensions (such as 401(k) plans) as strong determinants of the shift from DB to DC plans. Aaronson and Coronado find that firms in industries that experienced a larger rise in the share of employees with low-tenure on the job (i.e., less than 5 years with the firm), in the share of female employees with children, and in the share of workers in dual-earner couples all had larger shifts away from DB coverage to DC coverage. These demographic factors are likely to continue demand for pensions with the features offered by DC plans.

Aaronson and Coronado highlight the role in changing technology over the past few decades in reducing the value of the long-term employment relations promoted by DB plans and thus explaining the shift in the type of pensions offered by firms. Firms in industries with higher multi-factor productivity growth (which they use as a proxy for changes in technology that leads to an increase in the return to workers' skills that are transferable across firms rather than specific to a given firm) shifted from DB to DC coverage at a higher rate. Abowd, Lengermann, and McKinney (2002), provide evidence that the return to transferable human capital has risen faster than the return to firm-specific human capital. Thus, as workers develop skills that can more easily be transferred from one firm to another, the desirability of a pension that provides "back-loaded" benefits (like DB plans) is further reduced.

A desire to avoid funding volatility also likely contributed to the demise of the DB plan. Although the exposure to funding volatility is effectively a choice on the part of plan sponsors (e.g., by choosing to invest in equities rather than to immunize their liabilities using an appropriately duration-matched fixed income portfolio), this choice was implicitly encouraged by both Generally Accepted Accounting Principles (GAAP, which allows firms to treat the *expected* return on plan assets as a reduction in their net periodic pension expense) and PBGC funding rules (which fail to adjust for risk, and thus implicitly subsidize risky portfolios at the expense of less risky portfolios).

A key takeaway from this discussion is that – even absent the rise of the 401(k) system – there were a myriad of forces encouraging employers to find alternatives to the DB system. We will never observe the counterfactual world in which these forces were at play but in which the 401(k) was not available as an escape valve. It is possible that in such a world plan sponsors would have taken actions that would have improved worker retirement security (e.g., de-risking their pension portfolios). However, we believe it is more likely that plan sponsors would have responded by *reducing* the generosity of their plans or getting out of retirement plan provision altogether. In a competitive labor market, these employers would have had to increase compensation in other ways to offset the loss of the DB pension as part of a compensation package. Although, theoretically, individuals could offset the decline or elimination of the DB plan by increasing personal saving, most research finds less than a one-for-one offset. This means that personal saving (absent the presence of DC plans) would probably not have increased sufficiently to offset the decline or elimination of DB plans. We refer readers to Engelhardt and Kumar (2011) for an excellent review of studies that examine the extent to which pensions substitute for other forms of wealth.

In short, the employer-provided DB system has been gradually disappearing for a variety of reasons, reflecting changes in the regulatory environment, labor force trends, and firm characteristics. Because these changes are still with us, it is naïve to think that if we were to end the "401(k) experiment," the DB system would rise again from the ashes to take its place and cover private-sector workouts. Thus, we are left with two questions:

(1) Are we better off with 401(k) system than without?

(2) Are there ways the 401(k) system can be improved?

As we discuss below, we believe the answer to both questions is a resounding "yes."

How are DB and DC Plans Truly Different?

Exactly as the names imply, the fundamental difference between a DC and a DB plan is whether it is the *contribution* or the retirement *benefit* that is being promised by the employer. In a world without any participant heterogeneity or any uncertainty, this would be a "distinction without a difference" because there would be a simple mathematical relationship between current contributions and future benefits. In other words, if it costs $X today to provide $Y of future income, then as long as this relationship is known with certainty and as long as this relationship is the same for all participants, then the DB/DC distinction is not particularly important.

There are, however, two distinctions that are inherent in the DB versus DC choice. First, U.S. law has determined that DC plans must provide equal contributions whereas DB plans must provide equal monthly benefits. Thus, for a given cost of a retirement plan, a DC plan is more favorable for individuals with shorter life expectancies, whereas DB plans are more favorable for individuals with longer life expectancies. The second *key distinction between DC and DB plans is who bears investment risk*. With either a DB or a DC plan, it is possible to invest in a fixed income securities (e.g., long-term bonds) that virtually guarantee the ability to convert a current contribution into a future income stream. However, once a plan or an individual chooses to accept risk in the pursuit higher expected returns, the plan sponsor bears this risk in a DB plan, whereas the participant bears this risk in a DC plan. There are many studies documenting the difficulty that the average DC plan participant has in making good investment decisions: for example, we know that overall financial literacy among participants is low (e.g., Lusardi and Mitchell, 2007) and that many individuals take a naïve approach to diversification (e.g., Benartzi and Thaler, 2001; Brown, Liang, and Weisbenner, 2007). Although market risk must be borne by someone, strong DC plan design can and has improved participant diversification in recent years.

For other sources of risk, the DB versus DC distinction is less fundamental and more the result of common plan design choices. For example, it is often noted that DB plans provide annuitized benefits that protect against longevity risk, whereas the typical 401(k) plan does not. Historically, this has been true in practice. But it is not a necessary distinction between the plan types: DB plans can (and increasingly do) offer lump-sum options, and DC plans can (although the vast majority do not) offer annuity options. Indeed, a key recommendation of this paper is that policymakers and plan sponsors work together to further promote the availability of guaranteed income options in the existing DC system.

The fact that most differences between DB and DC are a choice by policymakers or plan sponsors, rather than being a fundamental difference, is important because it suggests that DC plans are flexible enough to be designed to meet a wide range of policy objectives.

Evaluating the Merits of the DC System

In this section, we analyze the merits and shortcomings of the DC system, assess the extent to which these are important to retirement security, and discuss whether they can be addressed by policy changes or plan design while maintaining the basic DC infrastructure. Also important in this discussion, as we highlighted in the introduction, is providing an accurate depiction of the landscape of 401(k) plans today and noting the significant strides that have already been made by plan sponsors and participants in terms of increased participation, more diversified portfolios, and the provision of immediate eligibility by many plans to cater to a mobile workforce.

Plan Coverage

As noted above, estimates of coverage vary depending on whether one is looking at current or lifetime coverage, or on an individual or household basis. Nonetheless, the most common measure is the fraction of individuals covered at any given point in time. Although our primary focus is on DC plans, we start by presenting statistics on workers' access to any employer-sponsored pension plan (DB or DC) because an employer may not offer a DC plan in the presence of a DB plan. For full-time employees, the news on having access to an employer-provided plan is reasonably good. According to data released by the BLS referenced earlier, approximately 74 percent of full-time workers in private industry had access to some type of retirement plan in March 2013.[14] Among workers in medium and large private industry establishments, this number is significantly higher, at 82 percent. Coverage of full-time state and local public workers is nearly universal at 99%. Thus, when one considers the entire full-time civilian workforce, nearly 80 percent have access to a retirement plan.

There are two groups, however, that are substantially less likely to have coverage. First, among small employers, only 49 percent of workers have access to a workplace pensions. This is not altogether surprising given the fixed costs of providing any pension coverage, including the need for technical expertise (e.g., legal and actuarial), time spent on plan design and administration, the production of plan documents, and so forth. This could potentially be addressed through automatic IRAs or by allowing employers to join together in multiple-employer plans to bring their aggregate plan size up to an economical level.

Second, only 37 percent of part-time workers have access to a retirement plan. Thus, an important part of the coverage issue arises from part-time employees (as well as other groups, such as employees under age 21) being left out of existing plans, rather than employers not

[14] http://www.bls.gov/news.release/pdf/ebs2.pdf

offering them. In principle, this could be addressed through changes in plan qualification rules around employee eligibility. We also reiterate that many of these individuals currently have the option of contributing to an IRA, and would be even more likely to do so if they were automatically enrolled.

Although there is no definitive answer to what the optimal level of plan coverage ought to be in the U.S., the answer is almost surely not 100 percent. At the low end of the earnings distribution, Social Security's non-linear benefit formula has the effect of providing a much higher earnings replacement rate than for those at the higher end of the distribution. For some of these individuals – such as those with shorter life expectancies or strong preferences for earlier versus later consumption – it may be that Social Security is sufficient. Although there is a spirited debate in the academic literature over this point, at least one highly respected study (Scholz *et al*, 2006) has calculated that a large majority of U.S. households are saving optimally under the current system. Although resolving this debate is far beyond the scope of this paper, we suspect that the current level of coverage is lower than what is optimal. Of course, this issue is not unique to DC plans: in the late 1970s and early 1980s, before the real emergence of DC plans, DB plan coverage was actually lower than DC plan coverage is today (see Figure 1). Thus, to the extent there is too little retirement plan coverage in the U.S., this is an issue related to reliance on an employer-provided system, not related to DC plans *per se*.

Given this, some commentators suggest that we should remove the role of the employer and move to a government run system. We will analyze the downsides of this approach in much more detail below. For now, we simply highlight two key points about the role of the employer. First, the plan sponsor plays a very important role that is often underappreciated by analysts, although not by the plan sponsors themselves.[15] For example, Holden and Bass (2013) report that 51% of individuals surveyed that own a DC plan either strongly or somewhat agree with the statement "I probably wouldn't save for retirement if I didn't have a retirement plan at work." This number rises to almost 2/3 for participants with household income less than $50,000 a year. Fidelity, in a 2011 survey of 401(k) participants finds similar results – 55% of current workplace savings participants say they would not be saving for retirement if not for their retirement plan.[16] These studies support the notion that employers are important financial intermediaries, helping participants sort through the various investment options, providing information about how much to save, and so forth. Indeed, 90% of DC-owning households report that their employer-sponsored retirement account helps them think about the long term, and not just current financial needs (Holden and Bass, 2013). We also know that employees often act on the "implicit advice" that comes from an employer's intentional or unintentional endorsement of various approaches: a positive example of this is automatic enrollment, whereas a negative example is that employees invest more of their own 401(k) funds in employer stock if the employer match is also in that form (Benartzi, 2001; and Brown, Liang, and Weisbenner, 2007).

Second, we should not assume that the existing level of employer-provided DC plan coverage is fixed. There is a wide range of policies that would further encourage plan sponsorship by employers and self-employed individuals, including financial incentives and simplification of plan qualification rules. For example, as we will discuss further below, one could provide incentives for small firms to use their payroll infrastructure to support an

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[15] In the 2011 Edition of their Annual 401(k) Benchmarking Survey, Deloitte, the International Foundation of Employee Benefit Plans, and the International Society of Certified Employee Benefit Specialists report that 74% of surveyed plan sponsors feel that their 401(k) plan assists in retaining their existing employees and 80% believe that their 401(k) plan is an existing recruiting tool. These results suggest both existing and prospective employees value the 401(k) plans offered by firms.

[16] http://www.fidelity.com/inside-fidelity/employer-services/dc-sentiment-711

“automatic IRA” or a multiple-employer DC plan structure, thus allowing a larger number of workers to benefit from tax-advantaged savings opportunities. The bottom line is that while tweaks to the retirement plan landscape to provide better coverage to self-employed and part-time workers would be desirable, this does not mean that we should “throw the baby out with the bath water” and abandon a 401(k) system that is serving tens of millions of current participants well.

Plan Participation

Historically, participation in DB plans was mandatory for covered employees. In contrast, the 401(k) system is based upon the concept of “elective deferrals,” meaning it is up to each individual employee whether or not to participate. Setting aside ideological arguments about the desirability of compulsion versus choice, both systems make some people better off and some people worse off. A mandatory system might improve the well-being of an individual who might never get around to *voluntarily* enrolling. However, a mandatory system can also make some individuals worse off. For example, an individual in poor health who is unlikely to survive to retirement would be much better off being able to access higher current pay rather than have contributions made to a future retirement benefit that he or she may never receive.

In principle, either DB or DC plans can be mandatory or voluntary. In recent years – and especially after the passage of the Pension Protection Act of 2006 – public policy has found what might just be an optimal solution in the form of automatic enrollment. Academic research dating back to Madrian and Shea (2001) as well as many years of industry experience have proven that automatically enrolling individuals, but allowing them to opt out, has been successful at raising DC plan participation rates across nearly every age and income group.

Such an approach helps to overcome inertia and procrastination, and provides implicit guidance about the value of saving, while still preserving individual choice.

The Plan Sponsor Council of America's *55th Annual Survey*, Vanguard's *2013 How America Saves*, and Aon Hewitt's 2012 report on defined contribution plans all find participation rates in DC plans around three-quarters to four-fifths of eligible employees.[17] A likely important factor in these fairly high participation rates, particularly for lower-income individuals as we will discuss below, is the adoption of auto-enrollment by plan sponsors. The Plan Sponsor Council of America's *55th Annual Survey* finds that 46% of plans have an automatic enrollment feature in 2011, a gigantic increase from a decade earlier when auto-enrollment was very uncommon.[18]

These findings also suggests that there is still room to further boost participation rates with even more adoption of auto enrollment by the remaining half of plans that currently do not have it, and to increase the default saving rate among those that do. Qualitatively, it seems the two largest barriers to further adoption are perceived costs of providing a match and perceived fiduciary risks. On the cost issue, because evidence suggests that it is the existence of a match rather than the generosity of the match that has the most important effect on employee participation rates (see Munnell and Sundén, 2004, for a summary), plan sponsors should be encouraged to offer a lower match on a larger fraction of salary (e.g., a 25% match on 12% of salary, rather than a 50% match on 6% of salary).[19] The IRS and DOL could also provide

[17] The Plan Sponsor Council of America survey covers 840 DC plans with 10.3 million participants. The Vanguard survey covers about 2,000 plans with more than 3 million participants for which Vanguard provides recordkeeping services. The Aon Hewitt report analyzes participant behavior of more than 3.6 million employees eligible for DC plans.

[18] Munnell and Sundén (2004) report that report that 7% of plans sponsors offered automatic enrollment in 1999 and 14% of plans did in 2002.

[19] While the decision to participate in the DC plan is more related to the presence of the match than the amount of the match, Munnell and Sundén (2004) also report, summarizing research on the topic, that conditional on participating, employee contributions tend to contribute up to a the level at which matching contributions end.

fiduciary relief by providing safe harbors or “best practice” guidance which, if followed, would allow plan sponsors to avoid non-discrimination testing. More generally, regulators may wish to reduce or eliminate non-discrimination testing for plans that provide automatic enrollment.

Distributional Issues

Critics of the DC system often claim that the current DC system favors high-income individuals, both because the value of tax deductibility is greater for higher income individuals who face higher marginal tax rates and because higher income individuals are more likely to participate.

Economically, the cost of providing any retirement system is generally thought to be borne, at least in part, by the workers in the form of lower wages.[20] Thus, the value of being paid in the form of contributions to a DB plan in lieu of higher taxable wages is also more valuable for individuals facing higher marginal rates. Although this differential tax subsidy may be more transparent for DC plans, it is no less real in DB plans.

Indeed, a recent study (Toder and Smith, 2011) adds an additional dimension to this issue by documenting that the wage offset for providing additional employer contributions to 401(k) plans is smaller for low-income than for high-income workers. This differential wage offset is estimated to be large enough to more than offset the tax rate differential, leading the authors to conclude “These results imply that both low- and high-income workers benefit from employer DC contributions.”

Thus, a 25% match on 12% of salary could lead to more employee contributions to the 401(k) plan than would a 50% match on 6% of salary.

[20] Smith and Ehrenberg (1983) and Currie and Madrian (1999) both make the point that it is inherently difficult to uncover an tradeoff between wages and pensions without appropriately controlling for a worker’s ability, as good workers will have both higher wages and better pensions. Nonetheless, Schiller and Weiss (1980), Ehrenberg (1980), Gunderson *et al* (1992), Montgomery *et al* (1992), and Inkman (2006) all find evidence of compensating wage differentials across workers regarding defined benefit pension plans – more generous DB plans are associated with lower wages. Gruber (1997) further finds evidence of a tradeoff between worker wages and payroll taxes by examining the experience of Chile before and after the privatization of its Social Security system.

There is also survey evidence that providing tax incentives makes it more likely that plans will offer a plan in the first place, which in turn helps workers at all income levels. In a 2012 survey of 516 employers conducted by Matt Greenwald and Associates for the American Benefits Council, plan sponsors were asked how they would respond to three proposals that would limit the tax deductibility of pension contributions. In all three cases, a sizable fraction of employers reported that such changes would lead them to drop or consider dropping their DC plan.[21]

The other reason DC plans are sometimes argued to favor higher income employees is that, as noted in Figures 2 and 3, participation and contribution rates generally rise with income. Of course, this observation is also subject to several important caveats. First, Figure 2 illustrates that participation rates in the lowest two income groups have risen noticeably over the past few years, reflecting the increasing use of automatic enrollment. Indeed, Vanguard's *2013 How America Saves* (Figure 23 of its study) reports that auto-enrollment increases participation rates most among the lowest income workers. Second, it is worth remembering that higher income individuals face limits on deductibility, including dollar limits on contributions, a cap on compensation that can be used as a contribution base, and limits as a percent of salary. Third, the current system has a number of policies in place to link the limits on contributions by highly compensated employees to the contributions of non-highly compensated employees, such as Actual Deferral Percentage (ADP) testing. Finally, and perhaps most importantly, it should be noted that because Social Security replaces a much larger fraction of pre-retirement income for lower income individuals than it does for higher income individuals, higher earners must save a higher fraction of their earnings in order to generate the same replacement rate in retirement.

[21] http://www.americanbenefitscouncil.org/documents2012/retirement-tax_survey-greenwald121012.pdf

Of course, we also recognize that there is considerable heterogeneity. For example, while WorldatWork and the American Benefits Institute in their 2013 report on trends in 401(k) plans (Figure 5 of their report, based on responses from 476 plans) find that 53% of surveyed plan sponsors report average participation rates in their plan of 5-7% of salary, another 20% of plans report average employee contributions of 8-10% (4% of plans report greater than 10% contribution rate) and another 22% of plans report average contribution rates of 2-4% (1% of plans report average contribution rate of less than 2%). The presence of some plans with low contribution rates is an area for improvement in the system, which we discuss more below.

Investment Risk-Bearing and Risk Management

As noted above, in a world of uncertain investment returns, employers bear funding risk in a DB plan, whereas participants bear the risk in a DC plan. Large entities (such as an employer or a government) have additional tools available for spreading risk, such as the ability to spread risk across individuals within a cohort or even across cohorts. Thus, it is true that participants bear more risk in a DC plan.

However, it is important to remember that investment risk-taking in any plan, whether DB or DC, is a choice, not a requirement. Individuals and corporations choose to take on investment risk in order to pursue higher expected returns. In a DC plan, workers at least have the opportunity to choose how much risk to accept. In a DB plan, the employer bears much of this risk, but then some workers are exposed to the risk that the plan sponsor fails to fund adequately, experiences financial distress, and goes into bankruptcy with an underfunded plan that may not be fully insured by the PBGC (either due to program rules, or due to the political risk associated with an underfunded PBGC system).

It is also important to note that firms have revealed by their actions over the past few decades that they are unwilling to bear the funding risk associated with DB plans. Thus, the key question is *not* whether participants are better off in a DC plan than in a DB plan, but rather whether participants are better off in a DC plan than in whatever else might have supplanted the DB had the DC system not been created. At some level, this question is unknowable, as we can never observe the counterfactual world in which there was no creation of the 401(k) or other DC options. What we do know is that, despite the limitations of the DC system, it does provide employees with an infrastructure that can be used to educate and inform employees about the value of preparing for retirement, and provide employees with a set of tools that allow them to do so.

There is compelling evidence of low levels of financial literacy (e.g., Lusardi and Mitchell 2007) and a range of behavioral biases (Benartzi, 2001; Benartzi and Thaler, 2001; Brown, Liang, and Weisbenner, 2007) that manifest themselves in poor financial decision-making, such as an over-concentration in employer stock and naïve diversification, to name but two examples. This has led many observers to conclude that a DC system is problematic because it does not place sufficient controls on individual behavior causing participants to be invested in undiversified portfolios with too much risk.

However, in recent years, policymakers and the retirement industry have begun to respond to this issue. The leading example is the designation of various investment types as "Qualified Default Investment Alternatives," or QDIAs. These funds, which include life-cycle or target-date retirement funds, tend to offer highly diversified portfolios that are automatically rebalanced and which gradually reduce the risk of the portfolio as one ages. Although these products are still evolving, they have the potential to dramatically improve the risk management of DC plans. Another recent innovation is the "managed account" concept, through which individuals can agree to largely "turn over the keys" of their DC plan to investment professionals.

Figure 4 provides further evidence of the diminished role that company stock, with its inherit risk, plays in the portfolio of recently hired 401(k) participants. EBRI, in their 2012 Issue Brief No. 380 on 401(k) plans in 2011, report that while 61% of recently hired participants (tenure of two years or less) in 1998 who were offered company stock held company stock in their 401(k) plan, for new hires in 2011 this fraction had fallen by more than half.[22] At the same time, the fraction that hold balanced funds has more than doubled for all recently hired participants from 1998 to 2011 (Panel A) and has almost tripled (from 27% to 72%) for newly hired participants in their 20s (Panel B). Automatic enrollment, with balanced funds often selected as the default option, certainly plays a role in this change.

To provide further evidence on this sea change in the diversification of typical 401(k) portfolios, we note that there has also been a dramatic change in average 401(k) portfolio allocations over the past decade. EBRI, in their 2012 Issue Brief No. 380 on 401(k) plans in 2011, report the average asset allocation of 401(k) accounts among 401(k) participants with two or fewer years of tenure for both 1998 and 2011. Thus, these tabs essentially reveal any changes in the allocation of contributions made by new hires over the period 1998 to 2011. In Figure 5, we report average asset allocation across five broad asset groups (equity funds, balanced funds, bond funds, money funds, and company stock) for plans that include company stock as an investment option.[23] We report this for all 401(k) plan participants with two or

[22] The EBRI study analyzes over 64,000 401(k) plans with 24 million participants.

[23] EBRI provides two separate calculations of asset allocations in 401(k) plans that offer company stock as an investment option – one for those plans that offer company stock and not GICs/stable-value funds and one for those plans that offer both company stock and GICs/stable value funds. In our Figure 5, we report the asset allocations for the former group of 401(k) plans (i.e., those plans that offer company stock but not GICs/stable value funds). General average asset allocation patterns, namely the pronounced growth in balanced fund holdings and the fall in company stock holdings, are also evident in plans that offer both company stock and GICs/stable value funds (see the fifth group tabulated in Figure 39 of the 2012 EBRI Issue Brief No. 380).

fewer years of tenure (Panel A of Figure 5) as well as for the subset of those that are in their 20s (Panel B of Figure 5). Simply put, there has been a dramatic change in 401(k) portfolio allocation and thus the risks of the portfolio. For new participants in their 20s, the average allocation to balanced funds has risen from 6% back in 1998 to 51% today while at the same time the average allocation to company stocks has fallen from 30% to 10% (allocation to equity funds has also declined from 52% to 25%).

Finally, it is worth noting that institutional investors, including public and private pension funds, are not immune from investment biases or mistakes. For example, there is evidence that state and local pension funds in the U.S. tend to over-invest in in-state stocks (Brown, Pollet, and Weisbenner 2013), over-invest in local alternative investments (Rauh and Hochberg, 2013), and occasionally make even worse decisions – such as when the Ohio Worker's Compensation fund invested in rare coins and then "misplaced" them.[24]

Plan Expenses

Any retirement system – whether DB or DC and whether private or publicly administered – incurs investment expenses as well as expenses for record-keeping and plan administration (the sum of which is referred to as the "all-in" fee). We next compare the "all-in" costs of both retirement systems, starting with DC plans.

With respect to investment costs, DC critics sometimes make misleading statements about expenses by looking at the distribution of all mutual fund fees. It is important to distinguish the expenses of the universe of mutual funds from the expenses of the funds actually utilized by participants in DC plans. For example, it is true that a majority of 401(k) plan assets are held in mutual funds (60% in 2012), and that the average expense ratio on all equity

[24] http://news.heartland.org/newspaper-article/2005/07/01/rare-coins-scandal-rocks-ohio

funds offered for sale in the U.S. was 1.40%. Importantly, however, the evidence provided by Collins *et al* in ICI Research Perspective Vol. 19, No. 4 (2013) indicates that *the asset-weighted expense ratio paid by 401(k) participants in equity mutual funds was 0.63%* (which is down from the 0.74% average for 401(k) participants in 1998). Other evidence also suggests that 401(k) participants are invested in lower-cost funds than is the case for the whole mutual fund sector.[25] To complicate the analysis further, the Towers Watson May 2013 *Insider* reports that "roughly one-third of mutual fund fees are actually bundled administrative costs".[26] This suggests the actual asset-weighted equity mutual fund *investment* expenses are more like 42 basis points.

But investment expenses are only part of the story, and focusing only comparisons of investment expenses across funds or plans misses that there are other important expenses associated with the operations of a plan that need to be considered. A study by Deloitte and ICI (2011) provides an estimate of the "all-in" fee in 401(k) plans (i.e., total investment *and* administrative fees) and finds a <u>mean</u> *asset-weighted* "all-in" expense ratio of 0.66% of assets.[27] Their data also underscore the importance of plan design. The <u>median</u> "all-in" fee *across all 401(k) participants* is estimated to be somewhat higher at 0.78% of assets, with one-tenth of participants facing total expenses less than 0.28% with another tenth of participants facing expenses greater than 1.38%. The average expenses are 9 basis points smaller if the plan offers auto-enrollment (potentially reflecting lower administrative costs for plans that are anticipated to have higher participation rates and more assets under management). Thus, the continued

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[25] The asset-weighted expense ratio for equity funds held by 401(k) participants is also less than the industrywide asset-weighted expense ratio of 0.77% for equity funds, indicating that 401(k) participants are invested in lower-cost funds than is the case for the whole mutual fund sector. The ICI report finds similar differences for bond funds and hybrid funds as well.

[26] http://www.towerswatson.com/en/Insights/Newsletters/Americas/insider/2013/DB-Versus-DC-Investment-Returns-the-2009-2011-Update

[27] The Deloitte/ICI study surveys 525 plans and appropriately weights these plans to produce estimates representative of the universe of 401(k) plans.

adoption of auto-enrollment should further reduce expenses in 401(k) plans going forward. The study also indicates the importance of plan size, with larger plans better able to spread the fixed costs of plan provision more broadly.

To provide a comparison with DB plans, we conducted two analyses. First, we calculated administrative costs (that include "investment advisory and management fees") as a fraction of total DB assets for private plans with 100 or more participants. We do this using data provided in the U.S. Department of Labor's *Abstract of 2010 Form 5500 Annual Reviews*. We find an asset-weighted total fee ratio of 0.40% for all DB plans with 100 or more participants, this includes both single-employer and multiemployer plans.[28] As Mitchell (1998, p.431-432) cautions, however, "It is sometimes argued that pension costs are most reliably reported in the case of multiemployer pension plans since these plans are run by a joint union/management board that pays expenses centrally. … it must be kept in mind that single-employer pension plan expenses will tend to be underreported, inasmuch as the sponsoring companies absorb some portion of the plan's administrative costs rather than charging them directly to the pension plan." Consistent with this conjecture, we do indeed find that total costs are higher at multiemployer plans – the total fees are 0.66% of assets at multiemployer plans and 0.34% of assets at single-employer plans.[29] We view that these two numbers are providing upper and lower bounds for the "all-in" equivalent costs for private DB plans to be compared with the previously referenced 0.66% number for 401(k) plans. Overall, we thus find that the DB cost advantage is fairly small, and may be close to zero, for the most well-designed DC plans.

[28] In 2010, among private DB plans with 100 or more participants, four fifths of assets are held in single-employer DB plans and one fifth are held in multiemployer DB plans.
[29] Somewhat surprisingly, DB plan costs appear not to have changed much over time. Mitchell (1998) reports, for private DB plans with 100 or more participants in 1992, a total fee ratio of 0.30% of assets for single-employer DB plans and 0.65% of assets for multiemployer DB plans. Thus, these costs are little changed over 20 years.

Second, we conducted an analysis of the 126 state and local defined-benefit plans contained in the Public Plans Database (PPD) maintained by Boston College for the 2010 fiscal year.[30] Across the 120 plans that provided data on both expenses and the total market value of assets, the "all-in" asset-weighted expense ratio was 0.49% of assets (with 0.41% coming from investment fees and 0.08% administrative costs). Thus, the asset-weighted expenses in DC plans are within 17 basis points of the total costs associated with state and local defined benefit plans. It is important to point out that this is not exactly an apples-versus-apples comparison, however, in that the typical state/local DB plan is much larger in size than the typical 401(k) plan.

Overall, we view these data as being strongly supportive of the notion that DC plans can be administered in a cost effective manner. While "all in" costs appear marginally higher DC plans, perhaps 20 basis points or less, the continued adoption of automatic enrollment and other efforts to reduce costs by expanding the scale of DC plans should work to continue to reduce this gap even further.

Treatment of New and Mobile Workers

A benefit of DC plans is that they are highly portable for a very mobile workforce that does not stay very long with any one employer. The Bureau of Labor Statistics (2013) reports that, even for those workers aged 35 to 44 years, median job tenure is only 5.3 years with the current employer – a number that does not change very much by educational attainment.[31] Because DC plans tend to have shorter vesting periods than DB plans, and because a larger fraction of contributions in DC plans are legally deemed as employee rather than employer contributions, highly mobile workers are typically thought to be better off in a DC system.

[30] Data on public plans downloaded from http://pubplans.bc.edu/pls/apex/f?p=1988:3:14937404506908.
[31] http://www.bls.gov/news.release/pdf/tenure.pdf

Nonetheless, high worker mobility raises concerns about dollars either not entering (e.g., due to breaks in coverage) or leaking from (e.g., due to cash outs) the retirement system, leaving workers with smaller accumulations at retirement. Importantly, although leakage from the retirement system does reduce retirement accumulations, it can also serve as an important tool for smoothing consumption when individuals face income or expenditure shocks during their working lives. For example, Argento, Bryant, and Sabelhaus (2013) use tax data to show that early withdrawals "are strongly correlated with shocks to income and marital status," and that withdrawals associated with these shocks are more likely among lower income taxpayers. Thus, although leakage may be a concern from the perspective of retirement accumulations, some instances of leakage (e.g., hardship withdrawals or loans during periods of financial distress) may actually be beneficial from a lifetime perspective.

Even so, some authors have painted these issues in rather stark terms, suggesting that plan design features limit the ability of individuals to save adequately for retirement. For example, Calabrese (2011) writes that "the typical worker will change jobs seven or more times after age 25 and, even if they are fortunate enough to have pension coverage in every job, will face eight or more years of ineligibility for automatic savings and the incentive of matching deposits." We believe that this characterization substantially overstates the risk for DC plans: few firms require a full year of work before being eligible to participate (even though such a delay is permissible by regulation), the typical vesting policy from a DC plan is much shorter than that implied by Calabrese, and most firms have little if any delay for the start of their matching policy.

For example, Vanguard's most recent survey of plans for which it provides recordkeeping services finds that 54% of plans in 2012 provided employees with immediate eligibility with no service requirement (Figure 3 of its *2013 How America Saves* report), whereas only 16% of plans required one full year of work to become eligible.[32] Larger firms are more likely to offer immediate eligibility to their employees than smaller firms, as Vanguard reports that 74% of employees have immediate eligibility with no service requirement (i.e., the employee-weighted average is 74%) while only 13% of employees have to wait one full year. This 74% figure represents a substantial increase from the 54% reported by Vanguard for 2007. This substantial increase in immediate eligibility represents a very positive development for the retirement plan landscape.

With regard to employer-matching contributions, Vanguard reports that 45% of its plans (and 59% of employees) in 2012 allowed immediate eligibility for employer-matching contributions, which is also a significant increase from 2007.[33] They also note that 44% of plans (47% of all participants) have *immediate vesting* of employer contributions in 2012, whereas 65% of plans (77% of all participants) offer full vesting of employer contributions within three years.[34] Thus, even with very short job duration, employees will have the opportunity to leave the firm with both employee and employer contributions in many 401(k) plans.

One form of "leakage" from a DC system is people leaving a job and cashing out their accumulated plan balance. In their 2012 report on employee savings in DC plans (based on analysis of more than 3.6 million employees eligible for DC plans), Aon Hewitt finds that 40% of workers that leave their job access their retirement account via a cash distribution. However, on an *asset-weighted basis*, only 7% of assets left via a cash distribution (the remaining 93%

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[32] As discussed in the introduction, the Plan Sponsor Council of America's *55th Annual Survey* and the 2012 Edition of the Annual 401(k) Benchmarking Survey conducted by Deloitte, the International Foundation of Employee Benefit Plans, and the International Society of Certified Employee Benefit Specialists report a very similar number of companies allow employees to begin contributing to the plan right after hire.

[33] Very similar to the result from the Vanguard survey, the Plan Sponsor Council of America's *55th Annual Survey* reports that 46% of companies that provide a matching contribution provide immediate eligibility to receive the match in 2011.

[34] Similar to the result from the Vanguard survey, the Plan Sponsor Council of America's *55th Annual Survey* reports that 39% of companies that provide immediate vesting for matching contributions in 2011.

were either rolled over or remained in the plan).[35] Thus, while some leakage of assets from retirement accounts does occur when participants change jobs, the vast majority of leakage incidents relate to small accounts being cashed in. Safe harbor rules that permit plan sponsors to automatically roll small account balances over into an IRA rather than making a cash distribution is one way of limiting leakage that is due to factors such as inertia or procrastination (e.g., individuals never getting around to rolling their cash distribution into an IRA), while still preserving the cash option for individuals who need the money for consumption-smoothing purposes.

Another potential source of leakage from DC plans arises from loan activity. EBRI, in their 2012 Issue Brief No. 380 regarding details of 401(k) plans in 2011, found that 59% of 401(k) plans allow participants to take loans against the plan balance. Because loan availability is more common among larger plans, this accounts for 87% of participants. The percent of eligible 401(k) participants with outstanding loans was 21% in 2011, with these loans representing on average 14% of the 401(k) balance of the participant taking out the loan (Figure 46 of its report). EBRI further reports (based on their analysis of Form 5500 data) that in aggregate, loans represented only 1.7% of aggregate 401(k) plan assets with only a small fraction of the loans converted into deemed distributions in any given year.

For those that advocate DB plans, it is important to note that DB plans suffer from “leakage” too. Indeed, under current law, DB plans are permitted to require five years of service before being required to allow participants to cliff vest in a DB plan, whereas the maximum cliff vesting period for a DC plan is three years (and is immediate for employee contributions). Thus, an individual who changes jobs within 5 years is likely better off in a DC plan than in an unvested DB plan.

[35] Vanguard (*2013 Why America Saves*, Figure 96 of its study) reports similar participant-weighted and asset-weighted cash-out decisions for participants that leave their plans.

In either a DB or DC system, of course, leakage can be adjusted by policy and plan design. For example, in 2004, the Department of Labor issued a final safe harbor rule regarding the requirement that certain mandatory distributions be automatically rolled over into an IRA, unless the participant makes an active election to the contrary. Such automatic rollovers make it less likely that individuals will cash out their balances. Of course, although there are also more heavy-handed approaches that could be followed, such as prohibiting cash outs, care must be taken that any regulation does not do more harm than good. For example, a prohibition on loans or cash-outs, while desirable from the standpoint of reducing some leakage from the system, could have the unintended consequence of reducing initial participation if employees value the flexibility these provisions provide. Indeed, Hungerford (1999) finds that the ability to borrow from a 401(k) plan or make hardship withdrawals increases the participation rate and Munnell, Sundén, and Taylor (2002) find that the ability to borrow further increases contribution rates in 401(k) plans.

Contributions in DC Plans and Total Household Saving

Although there is a robust debate in the economics literature over whether most Americans are saving adequately for retirement or not (see Scholz *et al* (2006) and Munnell and Sundén (2004) for opposing views on this subject), there is little question that at least some sizable fraction of the population would be better off over their lifetimes if they saved more for retirement.

It would be disingenuous, however, to suggest that DC plans are the cause of this low saving. To the contrary, the ability to use payroll deductions to contribute to an employer-provided retirement plan has been found by many studies to have increased household savings rates (Poterba, Venti, and Wise (1995), Venti and Wise (1996), Gelber (2011)). There is a strand of research, such as that by Engen, Gale, and Scholz (1994, 1996) and Engen and Gale (2000), that suggests smaller effects of 401(k) eligibility on overall saving, but Gelber (2011) finds that workers respond to 401(k) plan eligibility by not only starting to save in their 401(k) plan, but also by saving more through IRAs. This raises the possibility of a "crowd-in" effect of 401(k) plans on household saving. That is, as Gelber reasons, "401(k) participation can also teach individuals about financial markets … Therefore, individuals could be encouraged by 401(k) eligibility to save in IRAs." Importantly, the increased saving in retirement accounts Gelber finds because of 401(k) eligibility is not offset by reductions in other financial wealth. Chetty *et al* (2012) find that, in particular, "policies that raise retirement contributions if individuals take no action – such as automatic employer contributions to retirement accounts – increase wealth accumulation substantially." This suggests, with the increased use of auto enrollment, the growing use of automatic escalation of contributions, and with possible changes to safe harbors to increase the default contribution rates, it is possible to significantly increase average contributions in 401(k) plans and total household savings in the future.

Longevity Risk

Even if a participant has saved adequately for retirement, a remaining challenge is how to allocate those resources effectively across a remaining lifespan of uncertain length. DB plans have traditionally provided benefits in the form of a life annuity, i.e., by paying benefits for the rest of one's life. In contrast, the typical 401(k) plan participant has no opportunity to convert their account into guaranteed lifetime income within the plan and is thus more exposed to longevity risk.[36] Of course, this is not an inherent feature of DB versus DC, as either can be offered in a form that does or does not offer guaranteed lifetime income.

DB plans can, and increasingly do, offer lump-sum options. It has recently been estimated that as much as 40-50% of DB plan distributions are taken as lump-sum (Benartzi, Previtero, and Thaler (2011, Table 1)). Consistent with this, Banerjee (2013, EBRI Issue Brief No. 381) finds that among a sample of 84 ERISA-qualified DB and cash balance plans, the average annuitization rate among those aged 50-75 with at least 5 years of tenure in the plan and an account balance of at least $5,000 is 66% over the period 2005-2010. However, some of these plans do not allow any lump-sum distributions or place restrictions on lump sums. Among the plans that allow both annuitization and lump-sum distributions without any restrictions, average annuitization rates are less than 30% over this period.

Similarly, DC plans can offer guaranteed lifetime income, as evidenced by high annuitization rates in some 403(b) plans.[37] In contrast, access to in-plan options for guaranteed lifetime income is much less prevalent in 401(k) plans. Indeed, it is estimated that fewer than 20 percent of 401(k) plans offer an in-plan annuity.[38] Although we agree that there are too few opportunities to convert DC plan wealth to guaranteed lifetime income, we believe this can be addressed within the DC framework: a DB plan is not a necessary condition for insuring against longevity risk. We discuss this further in the next section.

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[36] By guaranteed lifetime income, we mean a range of products that include a guarantee of some minimum income for the remainder of one's life. This includes traditional life annuities, as well as products such as guaranteed minimum withdrawal benefits (GMWB) and other related products.

[37] http://www.tiaa-crefinstitute.org/ucm/groups/content/@ap_ucm_p_tcp_docs/documents/document/tiaa04044738.pdf

[38] Helman *et al* (2013, EBRI Issue Brief No. 384) finds that "just 17 percent of plan participants report that their employer's retirement savings plan currently offers an annuity option."

How Can We Further Improve DC Plans?

In the previous section, we discussed many of the key comparisons between DC and DB plans. The existing DC system has many positive attributes that contribute favorably toward the retirement security of tens of millions of Americans. Along the way, however, we acknowledged areas in which the system can be further improved. Here we provide suggestions in two broad categories: (1) methods of increasing coverage and contributions, and (2) methods of improving risk management, especially with regard to longevity risk through improved access to guaranteed income options in DC plans.

Expanding Coverage and Increasing Contributions

A necessary condition for individuals to have a secure retirement is that resources be accumulated on their behalf in order to finance consumption during retirement. While progress has been made along many dimensions of DC plans, areas the existing system can continue to improve upon include increasing coverage, participation rates, and contribution rates.

Our recommendations are as follows:

(1) *Improve incentives for small employers to offer access to DC plans*. This could include tax credits for employers who offer qualified plans, simplifying the regulatory framework such as through the designation of a holistic safe harbor plan or other forms of fiduciary relief, and providing a simple and low cost mechanism through which small employers can utilize their payroll service to allow participation in automatic IRAs. It could also include providing opportunities for groups of small employers to join

together to offer multiple-employer DC plans to help improve the economics of plan administration.

(2) *Improve incentives to offer coverage to part-time and recently-hired employees.* As noted in an EBRI study (Copeland, 2011) many non-covered individuals are in firms that already offer a DC plan, but for which they are not eligible. Pairing financial incentives (e.g., tax credits for employers who cover these workers) with a regulatory framework that reduces the downside risks of including them (e.g., modifying non-discrimination rules that are easier to meet if certain employee groups are treated as being outside the plan) may be an effective way to leverage already-existing plans to increase coverage. It is also desirable to encourage the continuation of the trend already under way to provide immediate eligibility to participate in the 401(k) plan upon hire (and immediate eligibility to receive employer contributions starting at the hire date as well).

(3) Use plan qualification rules to promote higher contribution rates. The current safe harbor provides for a minimum contribution rate of only 3% through auto enrollment during the first year of participation in the 401(k) plan. We would suggest raising this and/or including an automatic escalation feature as part of the safe harbor plan design. Of course, more research is needed to find the point at which higher contribution rates might have the unintended consequence of discouraging plans from offering a plan at all, but we believe we are far from this point. A higher default saving rate could be accompanied by a cost neutral adjustment to the employer match rate, especially given research suggesting that it is the presence of a match, rather than the generosity of the

match, that is most important for encouraging participation.[39] Survey evidence presented in Helman *et al* (2013, EBRI Issue Brief No. 384, Figure 24) suggests that automatic enrollment at a 6% rate could be effective and would not lead to mass exodus from the plan relative to a 3% default. Among workers not currently offered a plan, if auto-enrolled in a plan with a default 6% contribution rate, 44% would continue contributing at that rate, while 16% would cancel the contribution altogether (11% would increase the contribution while 24% would continue contributing but would decrease the rate). If the default rate was 3% instead, 42% would leave the contribution as is and 11% would cancel the contribution all together (35% would increase the contribution while 7% would continue contributing but would decrease the rate). Thus, this survey raises the possibility that the overall saving rate in DC plans could be increased with a movement from a default 3% rate to a default 6% rate.

Improving Risk Management of DC Plans

Improving coverage, participation and contributions is not sufficient to ensure retirement security. It is also important that these contributions be managed in a way that ensures appropriate trade-offs between risk and reward. As Figures 4 and 5 illustrate, tremendous progress has already been made on this front. Nonetheless, in this area, we offer three recommendations:

(1) *Encourage the expanded use of Qualified Default Investment Options that provide automatic diversification and automatic rebalancing.* The shift toward diversified accounts, and the shift away from employer stock, has been quite notable over the

[39] http://www.ssa.gov/policy/docs/ssb/v64n3/v64n3p64.html

past decade. Even so, there remains room for improvement in this dimension. We would encourage more plan sponsors to adopt auto-enrollment into diversified portfolios, including automatic periodic rebalancing.

(2) *Encourage continued innovation in the QDIA space to provide further diversification to participants.* On average, large DB plans tend to invest in a broader array of asset classes than are available to many DC participants. Used in appropriate amounts, asset classes such as agriculture, real estate, and commodities provide important diversification to a portfolio that would otherwise consist only of equities and fixed income securities. The industry should be encouraged to continue to expand the investment opportunities available to participants through QDIA accounts.

(3) *Encourage plan sponsors to incorporate guaranteed lifetime income into their in-plan distribution options.* In recent years, the Departments of Treasury and Labor have taken initial steps to remove barriers to plans offering lifetime income options in their plans. These steps were important, both substantively and in terms of their signaling value to plan sponsors that had been conditioned for several decades into being averse to providing in-plan income options due in large part to the "safest annuity available" provision. However, much more work needs to be done to encourage the provision of income options in plans. As a starting point, we support the idea that DC plan sponsors report participant accounts in terms of retirement income rather than solely as an account balance, as a way of reframing the discussion of retirement preparedness (Brown *et al*, 2008; and Brown *et al* forthcoming). We would also support the creation of a safe harbor that provides

plan sponsors with a clear way to meet their fiduciary obligation when providing retirement income options. It would also be desirable to encourage the inclusion of guaranteed retirement income into the design of QDIAs and other DC plan investment options. Helman *et al* (2013, EBRI Issue Brief No. 384) report that there may be interest on the part of participants to an annuity option being available in their plan. While only 17% report that their employer plan currently provides an annuity option, 56% say would they think they would use such an option when they retire if it were provided to them.

The Advantages of an Employer-Based System over a Government-Run System

We believe it is both possible and desirable to continue to improve upon the existing DC system along the lines of the proposals mentioned in the previous section. Others, however, have suggested that we should instead supplant the employer-based system with a government run system. Here, we analyze two general proposals – one to expand Social Security and the other to create guaranteed government accounts – and explain why we believe these proposals are inferior to improving the DC system.

The first approach would be to expand the existing Social Security, a system that is a nearly-universal DB system with benefits paid as a life annuity, indexed to inflation, and which provides reasonable survivor benefits. From an individual perspective, there is much to value from the way the Social Security system's benefits are structured, and we believe it provides an important foundation for the nation's retirement system.

Despite its many virtues, however, we do not believe the Social Security system can or should be expanded to supplant the role of employer-provided plans. The first reason should be self-evident to those who track the system's financial status: there already exists a substantial mismatch between the system's projected benefit obligations and its projected income stream. According to the 2013 Social Security Trustees' Report, "under current projections, the annual cost of Social Security benefits expressed as a share of workers' taxable earnings will grow rapidly from 11.3 percent in 2007, the last pre-recession year, to roughly 17.0 percent in 2037, and will then decline slightly before slowly increasing after 2050."[40] Given the long-run fiscal challenges facing the U.S., it is extremely unlikely that we will expand what is already a large and underfunded program.

Further, the pay-as-you-go structure of the current U.S. Social Security system reduces national saving. This is because individuals save less, knowing that part of their retirement will be financed by Social Security, and this reduction is not offset by government saving because the program is pay-as-you-go rather than fully funded. Of course, it is possible that any expansion of benefits could be done on a pre-funded basis, in which case the incremental effect on saving could be positive (if people reduce private saving by less than dollar-for-dollar with the increase in taxes) or negative (if they reduce saving by more than dollar-for-dollar). This also assumes that the government does not itself adjust non-Social Security spending in response to the availability of new revenue. There is a view among some economists – though certainly not universally held – that other government spending is more likely to increase when the government tries build up Social Security surpluses. Although we do not offer any new evidence on this point, we are of the view that an expansion of Social Security, which would likely be done on a pay-as-you-go basis, could have a deleterious effect on an already low national saving rate and thus be harmful to long-run economic growth.

It is also known that Social Security can distort labor supply and retirement decisions (for a recent review and new evidence, see Liebman, Luttmer, and Seif, 2009). In contrast, one

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[40] http://www.ssa.gov/oact/TRSUM/tr13summary.pdf, page 5.

of the advantages of a fully-funded DC system is that it is largely neutral with respect to labor supply decisions. These issues are especially important in light of the fact that longer working lives may be the single most powerful tool for promoting retirement security.[41]

Recognizing both the economic disadvantages and the likely political infeasibility of expanding Social Security, other commentators have called upon the government to directly provide new DC accounts. A high-profile example of this approach is the proposal by Theresa Ghilarducci to mandate participation in a government-run savings plan. Workers would be required to have 2.5% of their earnings placed in account (with employers contributing an additional 2.5%), the rate of return of which would be guaranteed at 3% plus inflation. Under her proposal, this program would be run by the Social Security Administration.

The Ghilarducci proposal, however, suffers from at least seven fundamental flaws. First, the Ghilarducci proposal suggests a minimum return guarantee that is inappropriately high. The prevailing real interest rate on 30-year inflation-indexed securities is about 1.3 percent as of July 2013 (less than half the Ghilarducci guaranteed rate), which thus imposes a large and costly put option onto taxpayers (who are themselves future retirees). By ignoring the true economic cost of providing a high guaranteed return, she falsely creates "value" where none exists. The proposal is by no means risk-free, as a sustained period of poor returns either requires cutting promised benefits or a bailout from general tax revenue (which is indirectly paid by participants who are also taxpayers).

Second, the Ghilarducci proposal is, in some ways, the worst of all worlds in terms of the contribution level it chooses. A 5% total contribution (2.5% each from employee and employer) is likely too low to finance a reasonable retirement for most of the population, and yet may be just high enough to partially crowd-out some DC plan sponsorship. A plan sponsor that finds it

[41] http://news.stanford.edu/news/2012/july/social-security-qanda-071012.html

worth providing a safe harbor 401(k) plan with a 3% contribution rate may conclude that with a 2.5% government plan, it is not worth providing a 401(k) plan at all. Already, contribution rates in 401(k) plans surpass those proposed by Ghilarducci. As cited earlier, various surveys find average and median employee contribution rates by themselves rates are 5-7%. As shown in Figure 6, as reported by Vanguard, the combined average and median employee *plus* employer contribution rate has typically been around 10% (double that in the Ghilarducci proposal).

Third, it is not at all clear that such a plan is needed. The main benefit seems to be to provide universal participation. But something close to this can be attained in a much less disruptive way – while still maintaining some modicum of individual choice – by providing incentives for firms to allow access to automatic IRAs or to set up multiple-employer DC plans.

Fourth, the Ghilarducci plan would blunt incentives for innovation in the retirement income space. In the past decade, there has been tremendous innovation in the financial services industry as providers have competed to come up with better risk-managed retirement income solutions. Many of these products are still in their infancy, and having the government impose a "plain vanilla" solution on everyone is a sure way to kill further innovation.

Fifth, a larger government role raises concerns about the possible impact on U.S. capital markets. Currently, the more than $10 trillion of DC plan assets invested in capital markets play an important role in the financing of real investment, which in turn is the fuel for long-run economic growth. One direct concern about a greater role for government in the pension space is that it would likely lead to political interference in investment decisions. Political pressure to over- or under- invest in particular geographies, industries, or causes could lead to a large-scale misallocation of investment funds, an outcome that could harm not only the financial market returns to participants, but overall economic performance.

Sixth, Ghilarducci completely ignores the important role that many plan sponsors play in providing education and guidance with regard to retirement planning. For example, Gelber (2011) finds that workers respond to 401(k) plan eligibility by not only starting to save in their 401(k) plan, but also by saving more through IRAs. This raises the possibility of a "crowd-in" effect of the retirement-planning obtained from 401(k) plans on overall household saving. Although some might argue that this role could be done more cost effectively by Social Security, one need not look very far to see the many ways in which the Social Security Administration's communications with participants have led to bad outcomes. For example, research by Brown, Kapteyn, and Mitchell (forthcoming) has shown that the agency's decision to frame the claiming decision in terms of a "breakeven analysis" may have contributed to generations of retirees claiming benefits earlier than was individually optimal. Similarly, SSA's communications about the Windfall Elimination Provision have generated widespread misunderstanding about why it exists and how it works (Brown and Weisbenner, forthcoming).

Finally, public confidence in Social Security and many public pension plans is low, raising the possibility that participants in a publicly-run DC plan may not value the benefits as highly as they would a privately provided benefit. We recognize, of course, that a DC system – whether publicly or privately run – would likely be viewed as being less subject to political risk than a public DB system due to the fact that it is always fully-funded. But if the perceived political risk of public DB systems transferred to a government-run DC system, it could raise overall compensation costs and create a drag on economic efficiency.

In summary, although we believe that calls for government-run programs are well-intentioned, they are also highly flawed. We believe that building on the existing employer-based system is vastly superior to expanding the government role in the provision of retirement income. We already have a reasonably well-functioning employer-provided system in the U.S.

that, although imperfect, has undergone substantial improvement over the last decade. With a continued focus on improving coverage, savings rates, risk management, and guaranteed retirement income, the employer-based DC system can continue to improve the retirement security of American retirees.

Conclusions

The existing employer-sponsored DC system in the U.S. provides a very strong foundation upon which U.S. households can build a secure retirement. Like any retirement system, ours is imperfect. However, significant strides have been made by plan sponsors and participants in terms of increased participation rates (particularly among low-income workers), more diversified portfolios, and the provision of immediate eligibility by many plans to cater to a mobile workforce. Certainly the adoption of auto enrollment by plan sponsors combined with the selection sensible default investment options like balanced funds play big roles in these trends. The system can be further strengthened through continual improvement in plan design, aided by a policy and regulatory framework that encourages and enables employers and individuals to create better plans.

Although some observers would prefer to see us shift back to a world dominated by DB plans, we argue that this is a naïve and misguided view. Despite the strengths of the DB system, it was also far from perfect, with coverage rates even lower than what we see today in a DC-dominated world. Further, the many economic shifts that led to the demise of the DB system in the private sector are still with us. In an important sense, plan sponsors and participants have demonstrated by their actions that the net benefits of a DC system are greater than those of a DB system.

We also argue that calls for a greater government role as a direct provider of retirement income are unrealistic and undesirable. Given the enormous fiscal pressures facing the U.S. government that are arising in part because of the pay-as-you-go nature of the existing social insurance system, it is politically unrealistic and economically undesirable to suggest that the government should take on an even larger role in this sphere, particularly when there already exists a well-functioning private system in place upon which to build.

Going forward, we recommend that policy makers, plan sponsors, and participants focus their energy on continuing to improve the existing DC system. High on the list of priorities is taking steps to increase coverage, participation, and savings rates, and improving risk management in both the investment and the payout phases. These improvements will require changes to the policy and regulatory environment in order to encourage further adoption of "best practices," such as the more widespread use of automatic enrollment and automatic escalation, providing a richer selection of qualified default investments, and encouraging guaranteed lifetime income in retirement.

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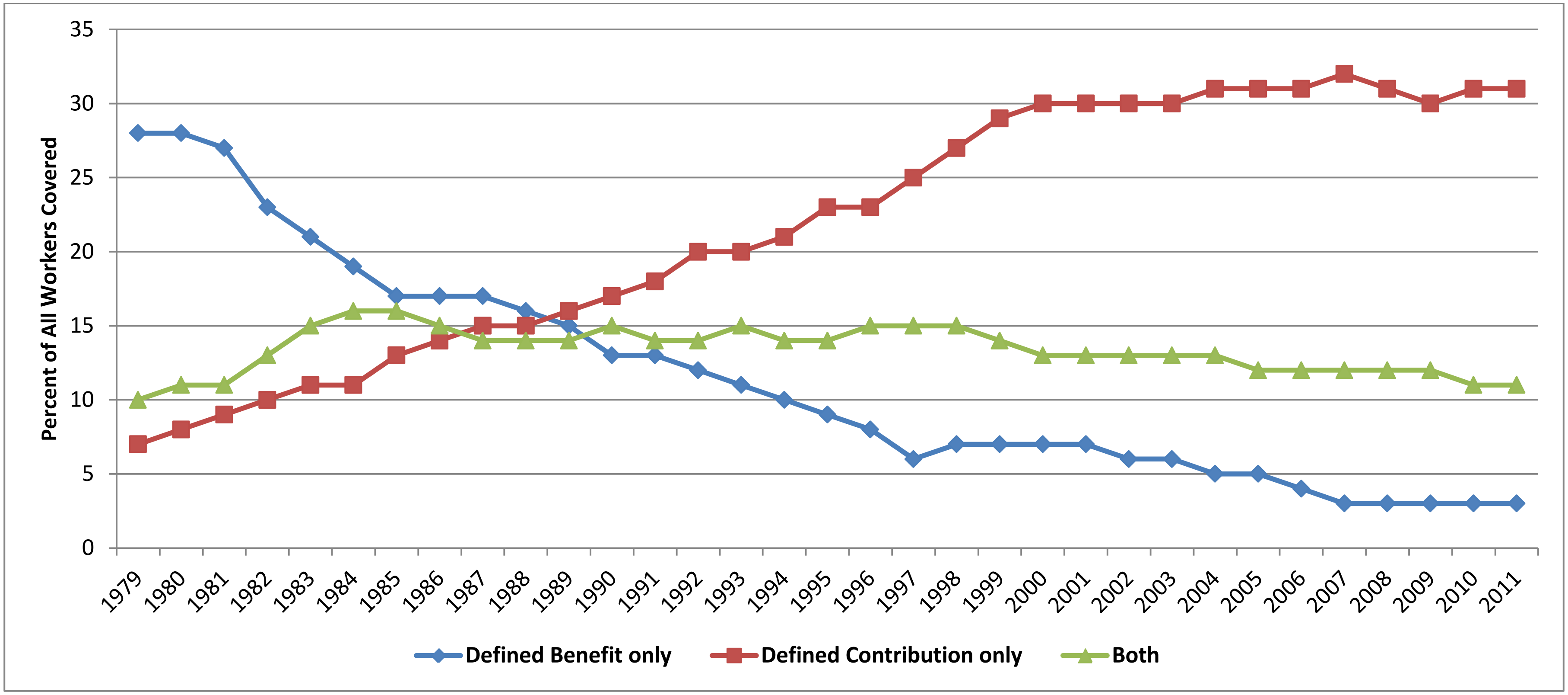
***About the Authors*:**

Dr. Jeffrey R. Brown is the William G. Karnes Professor of Finance and Director of the Center for Business and Public Policy at the University of Illinois' College of Business. He is a Research Associate of the National Bureau of Economic Research, where he also serves as Associate Director of the NBER Retirement Research Center and as Editor of *Tax Policy and the Economy*. Dr. Brown earned his B.A. from Miami University (Ohio), his M.P.P. from Harvard University, and his Ph.D. in economics from MIT. Dr. Brown has previously served on the faculty at Harvard's Kennedy School of Government, as a Senior Economist with the White House Council of Economic Advisers, and as an economist for the President's Commission to Strengthen Social Security. In 2006, he was nominated by the President and confirmed by the U.S. Senate as a Member of the Social Security Advisory Board, a position in which he served through September 2008. He is a Trustee for TIAA, a member of the Advisory Board for the Tax Policy Center, and a former Director of the American Risk and Insurance Association. Professor Brown has published extensively on topics related to annuities, insurance and retirement income security, and his work has been widely cited in the press. He is a past recipient of the Early Career Scholarly Achievement Award from the American Risk and Insurance Association, the TIAA-CREF Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security, the BlackRock Prize, and the Robert I Mehr Award for the *Journal of Risk and Insurance* paper that has "best stood the test of time." He is also a founding co-editor of the *Journal of Pension Economics and Finance*.

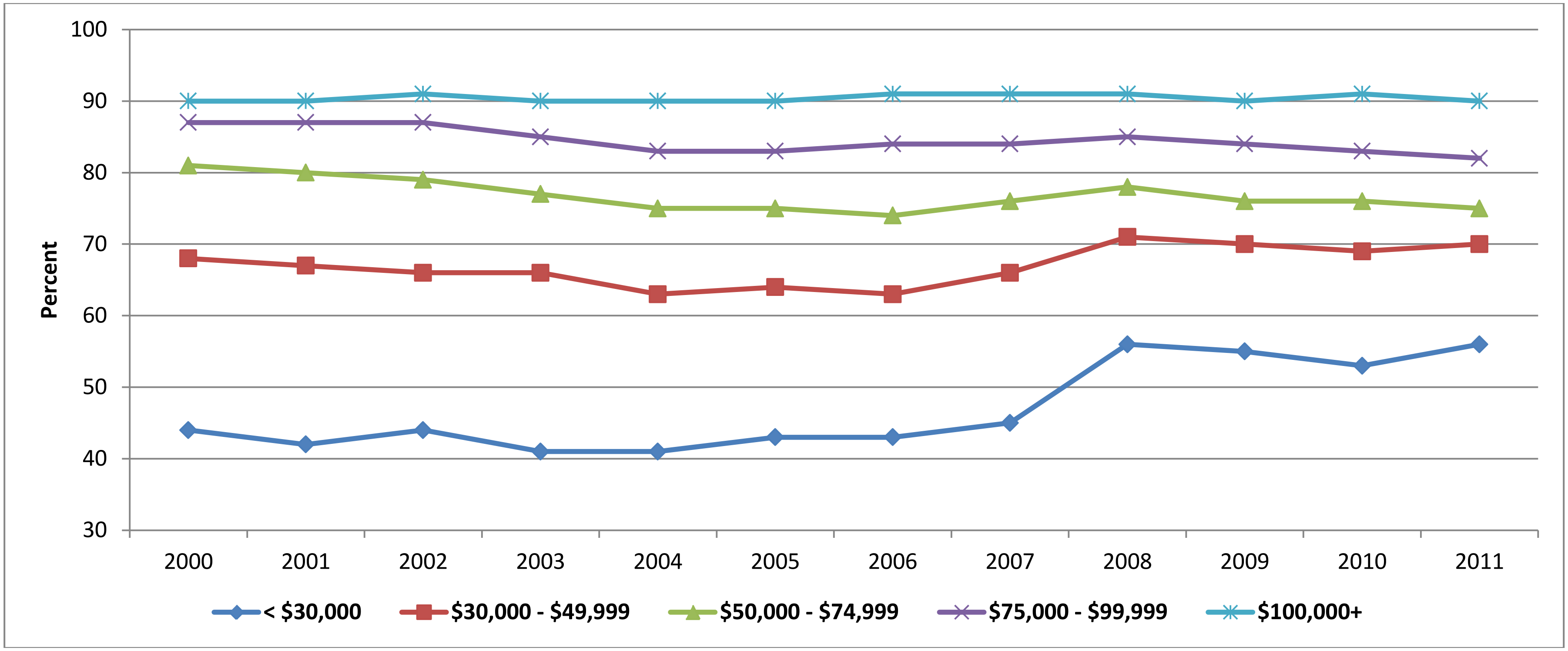
Dr. Scott J. Weisbenner is a Professor of Finance and the James F. Towey Faculty Fellow at the University of Illinois' College of Business. He earned his Ph.D. in economics from the Massachusetts Institute of Technology (MIT) and has been on the Illinois faculty since 2000. Before coming to Illinois, he worked as an economist for the Federal Reserve Board of Governors in the capital markets section. Professor Weisbenner is also a Research Associate at the National Bureau of Economic Research and has served as Editor of the *Journal of Pension Economics and Finance*. Dr. Weisbenner's extensive research has explored how geography, financial shocks, and changes to tax and other public policy parameters influence household and institutional decision-making. His work has been published in leading peer-reviewed journals in economics and finance, and has also been cited in numerous news publications including *Barron's*, *Business Week, Chicago Tribune, Forbes, Smart Money, The New York Times*, *The Wall Street Journal*, *The Washington Post*, and *The Washington Times*. His work has also been referenced in important government policy outlets, including the *Economic Report of the President* and briefings to the Chairman of the U.S. Federal Reserve Board and the U.S. Senate Joint Economic Committee.

Figure 1: Percent of Private-Sector Workers Participating in an Employment-Based Retirement Plan, by Plan Type, 1979-2011 (*Among* *__All Workers__*)



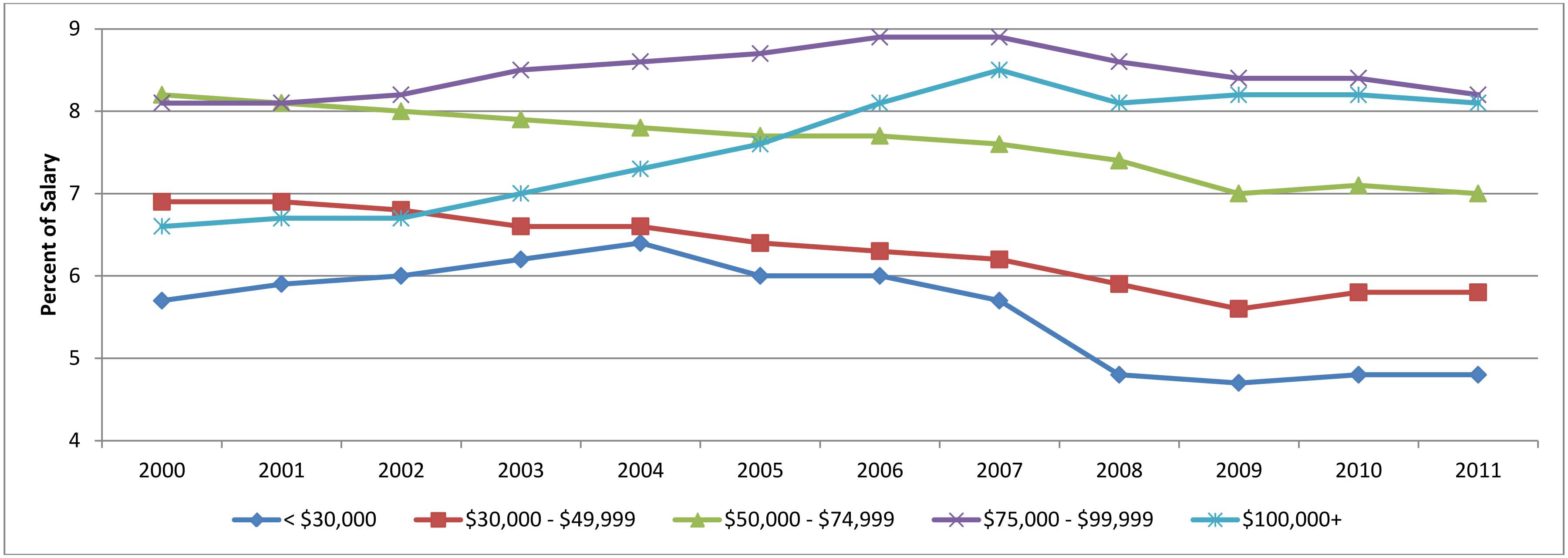
Sources: U.S. Department of Labor Form 5500 Summaries 1979-1998. Pension Benefit Guaranty Corporation. Current Population Survey 1999-2011. EBRI estimates 1999-2010.
This figure is taken directly from: http://www.ebri.org/publications/benfaq/index.cfm?fa=retfaqt14fig1

Figure 2: Defined Contribution Plan Participation Rates by Income Groups, 2000-2011



Participation rates are averages across participants in defined contribution plans for which Vanguard provides recordkeeping services and are taken from Vanguard's *How America Saves 2013* (Figure 20 of report) and *How America Saves 2008* (Figure 5 of report).

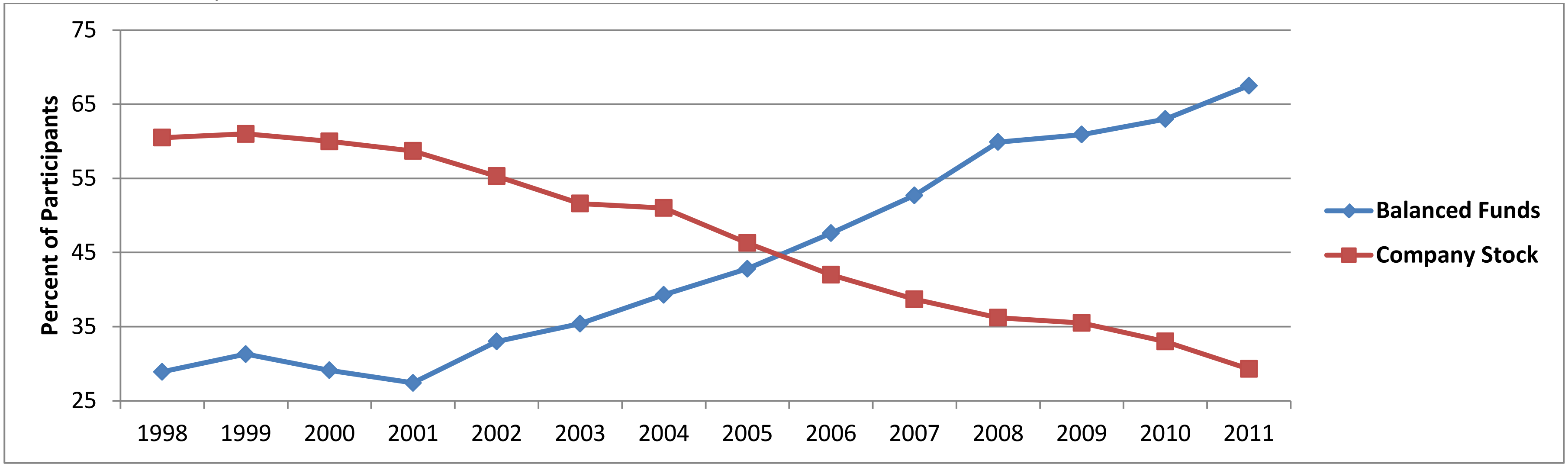
Figure 3: Defined Contribution Plan Employee Contribution Rates (% of Salary), by Income Groups, 2000-2011



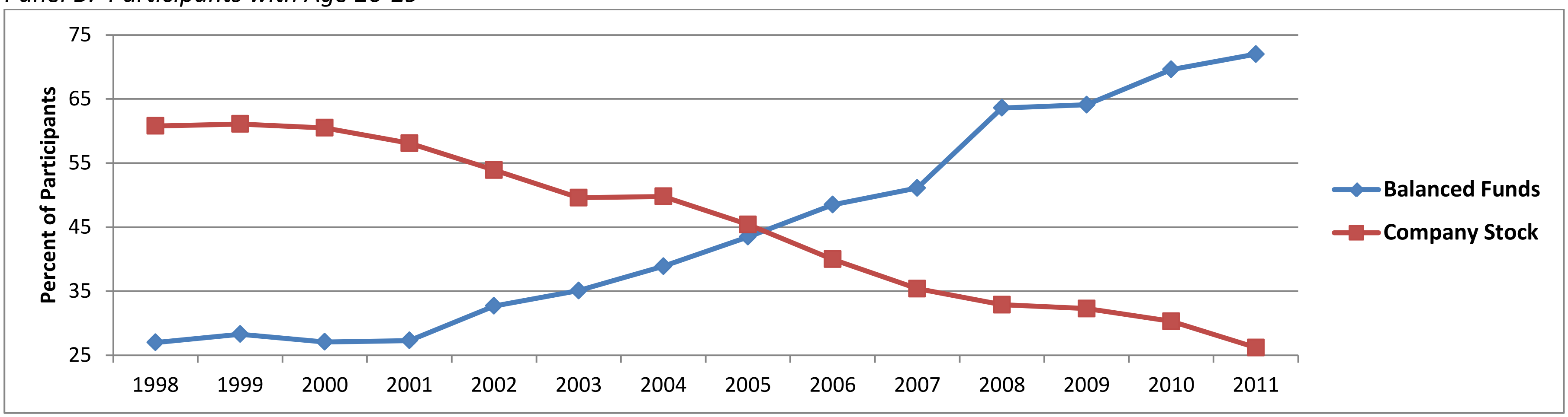
Contribution rates are averages across participants in defined contribution plans for which Vanguard provides recordkeeping services and are taken from Vanguard's *How America Saves 2013* (Figure 28 of report) and *How America Saves 2008* (Figure 11 of report).

Figure 4: Percent of Recently Hired 401(k) Participants Holding Balanced Funds and Company Stock, 1998-2011

Panel A: All Participants



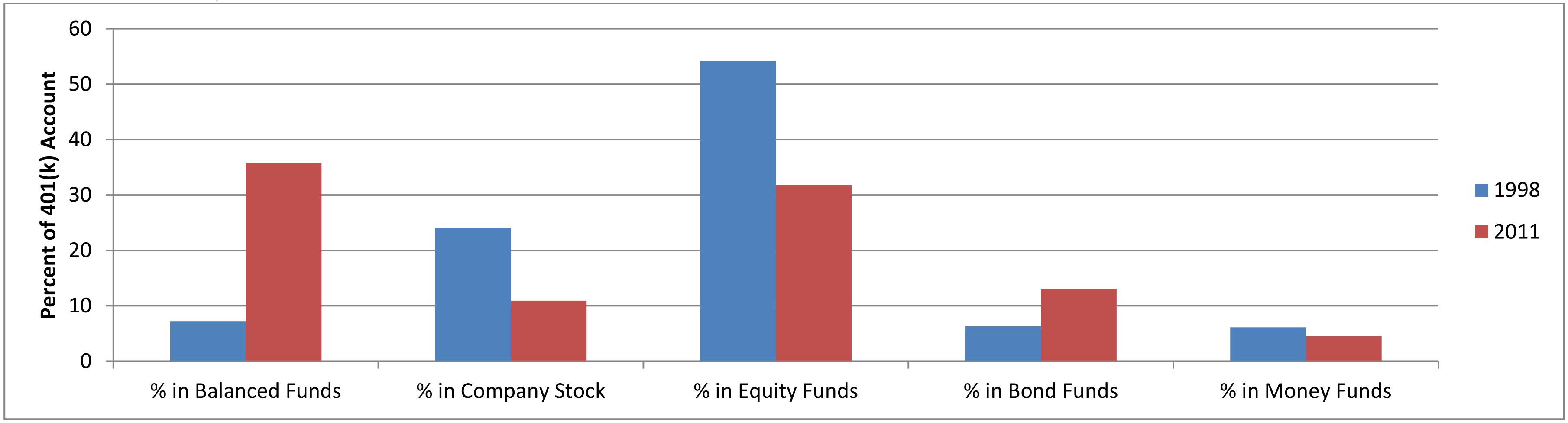
Panel B: Participants with Age 20-29



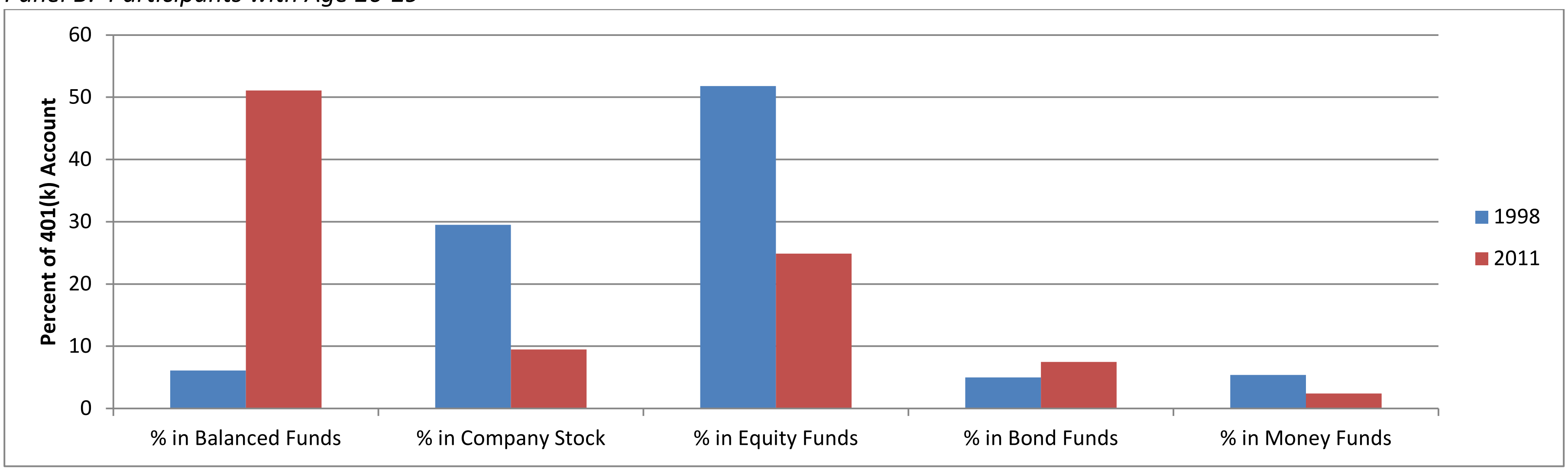
Recently hired participants are defined as those with two or fewer years of tenure in the year indicated. These figures are based on data from 2012 EBRI Issue Brief No. 380 (Figure 34 of report for balanced funds and Figure 40 of report for company stock). Company stock ownership rates in 401(k) plans is estimated for the group of participants that are offered company stock as an investment option.

Figure 5: Average Asset Allocation of 401(k) Accounts Among Recently Hired 401(k) Participants, 1998 and 2011

Panel A: All Participants

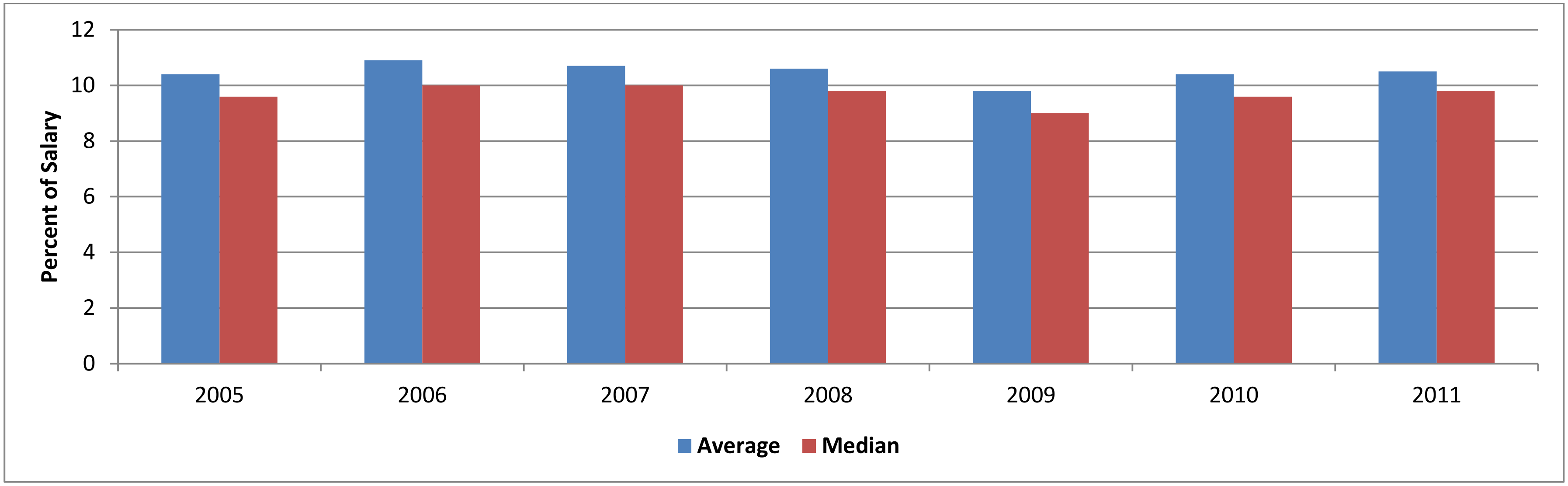


Panel B: Participants with Age 20-29



Recently hired participants are defined as those with two or fewer years of tenure in the year indicated. These figures are based on data from 2012 EBRI Issue Brief No. 380 (Figure 39 of report). This analysis focuses on plans that offer equity, bond, money market, and/or balanced funds as well as company stock as investment options (see the fourth group tabulated in Figure 39 of the EBRI Issue Brief).

Figure 6: Defined Contribution Plan <u>Total Employee and Employer</u> Contribution Rates (% of Salary), 2005-2011



Contribution rates are averages across participants in defined contribution plans for which Vanguard provides recordkeeping services and are taken from Vanguard's *How America Saves 2013* (Figure 37 of report).