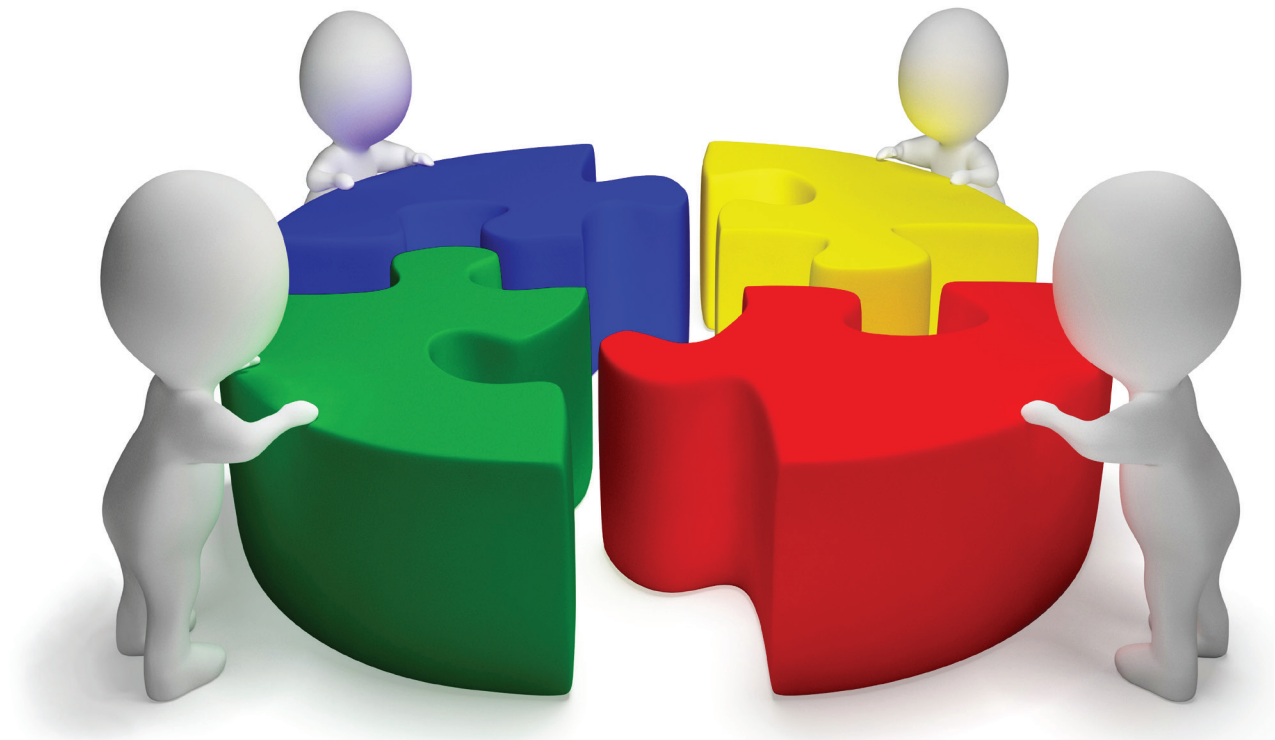


Securing a Reliable Income in Retirement

An Examination of the Benefits and Challenges of Pooled Funding and Risk-Sharing in Collective Defined Contribution (CDC) Plans

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I. INTRODUCTION

Over the past 30 years, both in the United States and globally, the traditional private sector defined benefit (DB) pension system has gradually been replaced by a defined contribution (DC) system of individual retirement accounts.

A traditional DB plan provides an employee a guaranteed income at retirement (i.e., a monthly payment), based on the employee's earnings history and length of service. DB plans are typically designed to provide a lifetime income for the retiree. In contrast, a DC plan establishes an individual retirement savings account for the employee. Upon retirement, the employee often receives a lump sum payout of their account balance.

The key difference between a DB plan and a DC plan is that most DC plans today are not designed to generate or protect lifetime income. The retiree is left to manage the savings to make sure they will last through retirement. Unfortunately, one individual in five spends most of their retirement account within the first five years after entering retirement, and only slightly more than one-half have enough money after five years of retirement to continue to maintain the same standard of living.¹

When traditional DB plans were more common, an employer would make regular payroll contributions on behalf of an employee to a retirement plan which, in turn, would use investment experts (often the pension's Chief Investment Officer and staff) to manage and invest the funds. These professionals would be responsible for generating a guaranteed retirement income for the employee by making strategic asset allocations based on actuarial advice; asset and liability matching; selecting a qualified investment manager; rebalancing the employee's investment portfolio to reflect different stages of their retirement planning; keeping financial fees low; and pooling shared financial risks such as investment performance and longevity, to provide the worker with a guaranteed retirement benefit.

As DC plans have replaced DB plans, millions of Americans have been left to figure out how to plan their own retirements and to perform many of the financial tasks previously handled by their employers and teams of pension investment experts. Put simply: Most Baby Boomers and future generations must be their own Chief Investment Officers. However, studies in behavioral economics research show that individuals often do not act in their own best interests and often make financial decisions based on imperfect information. Even when they try to manage on their own, too often they do not possess the skills or knowledge to make these important financial decisions.²

Many of the benefits of a DB plan can be integrated into the design of DC retirement plans more effectively to make them more robust and address the retirement crisis facing private sector workers in the United States and much of the world. For example, one of the most-important elements of a DB plan is the pooling of individuals' assets and their risks into one plan. This feature gives the plan the ability to invest those funds, manage risks effectively, and generate lifetime income for plan participants.

One model for introducing the pooling and sharing of risks into DC plans is the creation of a collective defined contribution (CDC) plan. A CDC plan is similar to a DB plan, but does not provide a guaranty from the employer. Like a DB plan, an effective CDC plan is overseen by a professional investment management team with targets to pay a percentage of final or average pay annually in retirement.³ While there are many types of pooled plans, the objective of this paper is not to distinguish among them but to discuss the advantages or benefits of pooling using CDC plans as an example, as well as to acknowledge some of the common pitfalls that need to be managed. Although there are various pooled plan designs — for example, the "Target Benefit" plans in Canada and pooled plans in Denmark⁴ — that are relevant, this paper primarily focuses on the lessons learned from the Netherlands and the United Kingdom (UK).

¹ MetLife (May 10, 2017). "The Risks of Taking a Lump Sum Payment in Retirement," MetLife Blog Post; and Consumer Financial Protection Bureau, Office of Financial Protection for Older Americans (May 2020). "Retirement Security and Financial Decision-making," Research Brief.

² Thaler, Richard H. (2015). *Misbehaving: The Making of Behavioral Economics*. New York: W.W. Norton.

³ For a detailed discussion, see The Pensions Institute (March 2016). "Independent Review of Retirement Income Report." Chapter 6, pp. 491–536.

⁴ Retirement plans differ between and within countries. They often involve different levels of guaranty being given by different pension providers. Some Canadian pension plans are collective, but should they face a funding shortfall, resolution may involve risk-sharing between employer and employee. In Denmark, ATP offers a collective pension but uses an investment policy that aims to hedge at least a minimum payment. The principal concern of this paper is not to compare different levels of employer or employee risk-sharing, or even different investment policies. Rather, it is to explore how a collective structure helps secure a better outcome. For this reason, and for simplicity and clarity, we have used the examples of the Netherlands and the UK to illustrate the operations of collective DC (CDC) plans — a system where there is no employer guaranty.

For clarity, **Table 1** compares some of the key attributes of the three key types of retirement plans discussed. There also are other designs, often hybrids of these three basic plan designs. However, the purpose of this paper also is not to examine the detail of every retirement plan design but to demonstrate how one model — CDC — generates lifetime income and allows the advantages of pooling to be maintained in the absence of a DB plan.

Table 1
How Does a CDC Plan Compare to a DB or DC Plan?

Type of Retirement Plan	What is the objective of the saving vehicle?	Are savings pooled or individual?	Is the final income outcome guaranteed?
Defined Benefit (DB)	Income in retirement	Pooled	Yes Employer takes risk.
Defined Contribution (DC)	A savings balance at retirement (that can be drawn down or used to purchase an annuity)	Individual	No Individual takes risk.
Collective Defined Contribution (CDC)	Income in retirement	Pooled	No All beneficiaries share risk.

This report outlines the benefits and the pitfalls of a CDC retirement plan with a particular reference to the experiences of the Netherlands and the UK. In the Netherlands, CDC-type structures have been central to providing employee pension benefits for many years. While the Dutch system is regarded as one of the best in the world, it was put under considerable pressure after the Global Financial Crisis, beginning in 2008. It provides an interesting example of the vulnerabilities of a CDC system and how they might best be managed.

The UK experience may be more like that in the US. Over the past generation, DB pensions in the private sector frequently have been abandoned. Where they were replaced, it was with DC plans. However, the inadequacy of a DC plan has become more apparent in the past few years, and the UK parliament recently passed legislation allowing the introduction of CDC plans.

Recent studies suggest that a CDC plan will generate a retirement income at least 30% higher than a typical DC plan.

This paper outlines the benefits of pooling and how these benefits can be achieved through a CDC plan design. The benefits are significant. Recent studies suggest that a CDC plan will generate a retirement income at least 30% higher than a typical DC plan. The paper acknowledges the challenges associated with administering a CDC system, and discusses how these challenges can be overcome based on the history and experience of such systems in the Netherlands and the UK. Finally, it concludes by considering how recent reforms in the United States offer a potential new opportunity for the greater adoption of pooling, the introduction of CDC plans, and other future plan design considerations for policymakers.

II. THE BENEFITS OF POOLING

From the first time actuaries combined or pooled the money paid by individuals to cover the financial obligations of life and other forms of insurance,⁵ the benefits have been powerful. The same can be said of retirement systems. Four key benefits of pooled funding exist in DB plans but are missing in DC plans in the United States. Fortunately, the pooled benefits associated with DB plans can be leveraged in a CDC system. Such a system would put assets, investments, individuals, and liabilities together to be able to:

- 1) Pool investment expertise, risk, and cost;
- 2) Pool longevity risk;
- 3) Pool the benefits of a long-term investment policy enabled through managing a permanent pool of capital (funds of the savers); and
- 4) Limit timing risk (the risk that the markets will be depressed when a person is on the threshold of retirement).

The following discussion explains how each of these benefits is important to achieving the goal of generating lifetime income.

A. Pooling Investment Expertise and Management

The first major advantage of pooled plans is that individuals can benefit from the expertise and knowledge of financial professionals, thus relieving themselves of the complicated and burdensome task of projecting their financial future.

In a DB retirement plan, a company makes a monetary contribution every year for each employee. The plan has a Chief Investment Officer (CIO) and staff who invest these funds based on complex formulas with specific outcomes in mind, such as the ability to guarantee each retiree a pre-determined pension based on a formula; for instance, 60% of average pay, starting at retirement and ending at death. These formulas account for factors such as how old the employee is when they retire and how many years they worked for the company. Although the formulas are complex, in the end, they come down to relatively simple mathematics. The investment team's goal is to invest in such a way that they will be able to pay out the annual benefits to retirees over actuarially predictable time frames.

To accomplish these goals, the in-house DB investment team uses actuaries and risk managers. Typically, they also employ external professionals and consultants who help them select external investment managers. When they select investment managers, the in-house team performs due diligence before making a hiring decision. Moreover, they monitor investment managers' performance against the investment managers' goals and against comparable industry benchmarks. Based on the pension plan's mission, objectives, and future liabilities, the team conducts an asset liability analysis as a basis for a strategic investment allocation.

Based on this strategic asset allocation, additional investment managers may be selected to execute mandates. When the company hires external investment managers, it transfers hundreds of millions or billions of dollars to the same investment manager and can negotiate correspondingly low fees. If the company's investment team later chooses to change outside investment managers, they can use a professional transition manager to make sure this trade is economically efficient.

In addition, professional DB staffs have access to numerous investment vehicles that are legally or practically unavailable to individuals for their own DC plans. For example, when investing for the long term, it is appropriate to account for "liquidity risk" — the risk that when it is time to sell the asset, there may not be an immediate accessible market for that asset. Investments that carry liquidity risk also pay an illiquidity premium, which can make them good long-term investments. Real estate, private equity, and infrastructure are the kinds of illiquid assets that any long-term

⁵ Insurance has taken many forms over the centuries, from distributing shipping loads over many ships to a form of Persian anti-extortion protection (see Insurance in Ancient Iran. "Insurance in Ancient Iran." *Ancient Persia: Manners and Customs*, Bible History, http://www.bible-history.com/links.php?cat=38&sub=398&cat_name=Ancient+Persia&subcat_name=Manners+and+Customs), to the first company to offer life insurance: the Amicable Society, created in 1706 (see Gilbert and Rivington (1854). "The charters acts of Parliament," London, England: Amicable Society; also, "Amicable Society," Aviva. <http://heritage.aviva.com/our-history/companies/a/amicable-society/>.)

investor should be able to include in a portfolio. Due to the size of their assets under management, professional CIOs with large pools of funds have access to these kinds of investments.

While it is not certain that professional staffs will outperform individual investors,⁶ numerous studies have shown that individuals generally make repeated and predictable errors in investing, such as overconfidence, lack of diversification, holding too much employer stock, etc.⁷ However, the CIO of a pooled system has a wide array of investable assets and relies on actuaries, risk managers, asset selection consultants, asset allocation consultants, and a professional staff to invest for the long term in a diversified and risk-managed way.

In a DC system, as illustrated in **Figure 1**, individuals are on their own to weigh all these decisions, without the benefit of a team of experts. They often must make decisions about the investment of their assets. If they bother to consider their own life expectancy, they may need to assume they will live to be 100 because they will not have access to an actuarial pool for calculating the time over which the pension income will be needed. They must select managers from the platform the employer has chosen and decipher marketing materials that barely explain what the manager is doing, which are often so dense that the individual would have to come out of retirement and find a job in the financial industry just to understand those materials.⁸ There are financial regulations that must be taken into account, such as minimum distribution rules requiring how much a person must take out every year after a certain age.⁹ Retirees also must decide whether to take more than that amount while doing their best not to outlive their savings. Indeed, given this complexity, some may underspend or spend down their retirement too quickly.

In the end, the reason to have a good financial intermediary is to relieve individuals from the burden of making these complex decisions on their own. Of course, individuals should still retain some choice in charting their financial futures, but studies show that most savers want to invest their money with someone they can trust, so they have an income in old age.¹⁰

Of course, individuals should still retain some choice in charting their financial futures, but studies show that most savers want to invest their money with someone they can trust, so they have an income in old age.

⁶ Professional management is no guarantee of excellent returns and presents two particular challenges beyond the scope of this paper. First, compensation is a very difficult issue for many public pension plans. Political factors play an outsized role in the determination of compensation for employees in these organizations. Frequently, the compensation is a fraction of what that person could be paid in the private sector. This leads to the possibility that the most-qualified people will choose more-highly remunerative roles. It also creates the likelihood of excessive turnover as private sector offers take people out of public plans. Second, no matter how excellent a pension investment staff may be, the governance and investment beliefs that underpin and provide the structure and goals for the investment process must be excellent, consistent, long-term-focused, and free from political constraints. For more about these challenges, see Ambachtsheer, Keith, Capelle, Ronald, and Lum, Hubert (2008). "The pension governance deficit: still with us," *Europe* 11: 32; Millard, Charles E.F. (Aug. 6, 2014). "Unlock Potential of Japan's Savings: Governance Reform and Diversification at Japan's Largest Pension Fund Will Benefit the Whole Economy," *Wall Street Journal*; Yermo, Juan (2008). "Pension fund governance: Challenges and potential solutions," *SSRN 1217266* (good governance can be worth "as much as 1–2% of additional return per annum"); and Clark, Gordon L. (2004). "Pension fund governance: expertise and organizational form," *Journal of Pension Economics and Finance* 3.02: 233–253.

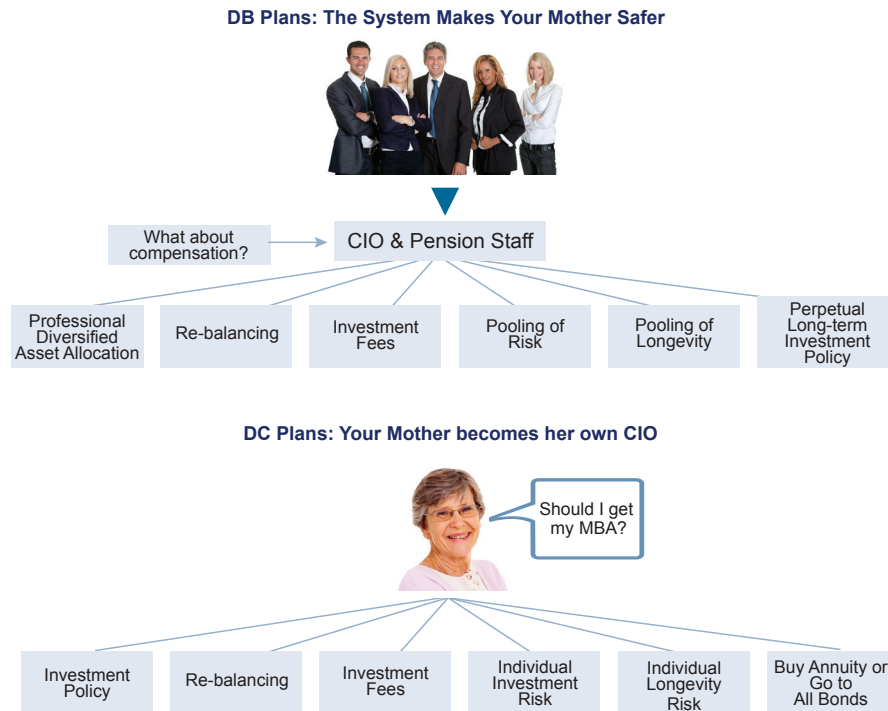
⁷ For insufficient diversification and portfolio adjustments, see Turner, John A. (2003). "Errors Workers Make In Managing 401(k) Investments," *Benefits Quarterly* 19:4, 75–82; Polkovnichenko, Valery (2005). "Household Portfolio Diversification: A Case for Rank-Dependent Preferences," *The Review of Financial Studies* 18:4, 1467–1502; "Too much company stock, 401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2008"; VanDerhei, Jack, EBRI; Sarah Holden, ICI; and Luis Alonso, EBRI (2009). Employee Benefit Research Institute. For a good overview of this topic, see Mitchell, Olivia S., and Utkus, Stephen P. (2003). "Lessons from behavioral finance for retirement plan design," Pension Council Working Paper, Working Papers Series. Philadelphia, PA: Wharton Financial Institutions Center, University of Pennsylvania. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=464640.

⁸ Keim, Donald B., and Mitchell, Olivia S. (2015). "Simplifying Choices in Defined Contribution Retirement Plan Design," Working paper no. 2015-07. Philadelphia, PA: Pension Research Council of the Wharton School, University of Pennsylvania.

⁹ Required Minimum Distributions (RMDs) are minimum amounts that a retirement plan account owner must withdraw on an annual basis, beginning from the year they reach 70½ years of age or the year in which they retire, whichever is later. See the RMD Comparison Chart for IRAs and Defined Contribution Plans.

¹⁰ See, for example, the outcomes of the Citizen Juries assembled by the Royal Society for Arts (RSA) in the UK as part of their Tomorrow's Investor program. One theme that emerged was that pension recipients were disengaged from the management of their money. One typical response was, "You sign up, you hand it over to someone who knows what they are doing with it, and you trust them to do a good job." Manthorpe, R. (2008). *Tomorrow's Investor*, RSA. pp. 13–15. <https://www.thersa.org/discover/publications-and-articles/reports/tomorrows-investor-report>.

Figure 1 Everyone Has to be Their Own Chief Investment Officer in a DC Retirement System



B. Pooling Longevity Risk

The second major benefit of pooled plans is that they respond to the risk that individuals may simply outlive their savings.

Individuals can address the risk of outliving their savings — longevity risk — if retirement assets are pooled together. Consider someone planning how much to save for retirement. She figures that she wants to retire on her 65th

...no one knows how long they may live and therefore, it is hard to know exactly how much to save — whether you are saving too much or too little — and how much to spend in retirement.

birthday, at which point, she will have a life expectancy of 20 years. If she expects to die at 85 and wants an income of \$25,000 a year until then, she will need savings of approximately \$400,000 (assuming a return of 2%). But what if she lives to be 100? That would require savings of approximately \$625,000. If she dies at 70, she will only need \$120,000.

These numbers help to illustrate the point that no one knows how long they may live and therefore, it is hard to know exactly how much to save — whether you are saving too much or too little — and how much to spend in retirement.¹¹ Financial managers can calculate the average life expectancy, and corresponding lifetime benefits, of a group of retirees with much greater accuracy than the degree to which they know the life expectancy of any single individual.

¹¹ A recent survey of Australians shows that more retirees are likely to underspend because they are afraid of outliving their retirement savings. <https://www.mercer.com.au/our-thinking/superannuation/expectations-vs-reality.html>.

While we all may want to live longer, we also want to manage our savings to last a lifetime. The best way to ensure a cost-effective retirement income is by saving with others to address longevity risk. With life insurance, where people who die late subsidize those who die early. With pensions, it is the other way around. When a CIO invests the assets of a DB plan, she is doing exactly this: calculating average lifespans using actuarial formulas. If her DB pension plan covers a large-enough number of people, she can confidently estimate how long individuals in the plan will live on average. She does not know who will live longer or die earlier, but she does know that for an 80-year-old man, there is about a 6.5% chance he will die within 12 months. This allows her to assess the need for liquid assets when payments are due and to invest in less-liquid, riskier assets that can be used to pay out future benefits. For example, if everyone retired at 70 and their average age of death were exactly 85, the CIO could invest with a target of 85. The funds that would have been used to pay the people who died before 85 would be invested and used to disburse funds to people who lived longer.¹²

The best way to ensure a cost-effective retirement income is by saving with others to address longevity risk.

Now consider our retiree again, but imagine that she only has access to an individual DC plan and, as noted in the earlier example, saved \$400,000. What is she to do? If she looked up the actuarial tables, she would see that the average life expectancy is 85. She makes a rational plan to spend down her funds, assuming she will die at age 85. But if she lives to 85 and is in good health, she will run out of assets. In this example, our retiree took the time to plan actuarially — but her reality is not actuarially determined.¹³ In her old age, she realizes that she should have planned to live to be 100. But if she lives to be 100, she should have planned to live to 110! A child born today could possibly live to be more than 120 years old. With today's continuing increases in life expectancy, longevity pooling is ever more important.¹⁴

Creating a DC pension system with this kind of pooling has complications. It can never be perfect. Even with large numbers, we cannot be certain about future life expectancies or investment returns, but calculating resources needed for retirement can be far more accurate using averages than individual circumstances. Pooling longevity risk collectively can address these issues and balance them in a system that creates retirement security for everyone.

C. Pooling Sequence of Payments or Timing Risk

In addition to hedging against longevity risk, pooled plans offer a third benefit to individuals: reducing the risks associated with the timing of retirement.

Some might argue that there is another way to hedge longevity risk: purchasing annuities. But that also creates another risk: When is the right time to buy the annuity? What if the markets crash right before that individual retires? Many individuals faced this very question at the end of 2008 and the beginning of 2009, when prospective retirees lost thousands overnight ("My 401(k) just became a 201(k)!") — many individuals' investments decreased by half in that crisis. According to the Employee Benefit Research Institute (EBRI), the average balance of those 55–64 years old with more than 20 years in their 401(k) plans decreased by 25% in 2008.¹⁵ Rising market volatility also ensures that the cost of purchasing an annuity will also change. What should an individual do?

¹² Projecting longevity is both art and science. Specific pensions and pension systems measure longevity risk in various ways. Some fail to do so entirely; some rely entirely on backward-looking longevity-improvement experience, which has regularly proven to be inadequate and inaccurate for predicting future mortality improvements. Interestingly, many experts now argue that (despite the underestimation of mortality improvement in past models) future improvements in mortality will be less than many models now predict. This creates uncertainty in demographic modeling for a DB plan or a CDC plan. See Antolin, P. (2007). "Longevity Risk and Private Pensions," OECD Working Papers on Insurance and Private Pensions, No. 3, OECD Publishing.

For a DB or CDC system, this presents a challenge. However, while the pure DC recipient need not deal with these stochastic modeling challenges, that is only because they are completely alone and can take no advantage of pooling. While demographic modeling is an uncertain task, the very fact that DB or CDC plans must deal with this challenge is indicative of their advantages over pure DC systems.

¹³ It has been estimated that the value of an actuarial situation over an individual situation can be as high as 40%. Mendelson, Millard, and Mees (2019). <https://www.aqr.com/Insights/Research/Chief-Investment-Quarterly/Who-Knew-Annuities-Could-Be-So-Exciting>.

¹⁴ Technically speaking, there are two kinds of longevity risk (both outside the scope of this paper). First is the "risk" that an individual will live past their actuarially anticipated lifespan. This risk is borne reasonably equally across populations. A second is that the actuarial life expectancy projections are themselves inaccurate, as they have often been.

¹⁵ VanDerhei, Jack (2009). "The Impact of the Recent Financial Crisis on 401(k) Account Balances," *EBRI Issue Brief*, no. 326.

Imagine it is the end of 2008. An individual had kept her 401(k) in a diversified portfolio of mostly equities and planned to invest in bonds or buy an annuity at retirement. At the beginning of 2008, she had \$500,000 in her 401(k) but, because the S&P dropped about 40% by January 2009, she probably would have had around \$300,000 in her account. Many experts would say to this prospective retiree, “Wait. Stick it out. You are only 70. You might live another 30 years. You’re still a long-term investor.” However, if she is 70, she might think, “I need this money to live on now, and things could get worse. I need to switch to bonds or buy an annuity now.” If she does purchase the annuity, she will have locked in her income for the rest of her life, but at what may turn out to be the bottom of the market.

How would a DB or CDC or any other pooled plan perform differently in this scenario?

First, the CIO responsible for her retirement funds probably would not have been as heavily weighted to equities in the first place. In 2008, the median DB plan’s assets went down by 25 percent.¹⁶ A “typical” asset allocation at that time would have been only 60% in equities.¹⁷ A CIO focused on long-term investments would have rebalanced periodically during 2008 and 2009. As equities became a smaller and smaller percentage of the overall portfolio, the fund would have rebalanced each quarter and in 2009, when equities rose, the fund would have been well-positioned for that growth (although with proper rebalancing, would not have ridden the equity bull market to its height). Throughout the financial crisis, a professional CIO and staff would have stayed focused on the long term, so they could pay benefits to this imaginary retiree and to the thousands of participants who were still decades away from retirement. In a pure DC system, timing is everything and individuals are on their own to determine the proper time to realize their investments.

In a pure DC system, timing is everything and individuals are on their own to determine the proper time to realize their investments.

D. Pooling for Long-Term Investment

Pooling of assets has another advantage because it allows for a more-diversified, less-volatile investment strategy.

Imagine an individual investor in a DC plan who retires at age 65 with \$500,000 in a 401(k) or IRA. She knows she is on her own and fears that she cannot afford to lose her principal, since this is going to be the source of income that she has to rely on in retirement. She buys an annuity, which is essentially an insurance company’s investment in bonds, to generate a predictable annual income in retirement.

Contrast the investment options available to this individual, who is invested in a DC plan with the benefits of pooled investments in a CDC plan. When she retires, she makes a claim on the investment portfolio designed by the CIO to meet the needs of all participants in the plan. Typically, this plan will include public and private equities, bonds, real estate holdings, infrastructure investments, and alternatives. After she retires, the investment mix will remain the same as long as the overall age profile of the pool of participants remains the same.

Instead of making the decision on her own to shift more of her assets to less-risky bonds when she retires, the participant in a CDC plan relies on the CIO, who is still investing for the long term on behalf of all employees, some of whom are 30 years old and others who may be near the end of their lives. The CIO of a permanent pooled plan with equal numbers entering and exiting is a *perpetual* long-term investor. Even though this one individual has retired, the CIO of the pooled funds keeps investing for the long term — and on behalf of all these individuals. In this example, the pooled investment portfolio looks like a better-diversified, and a better-matched, portfolio than was available to the individual. The portfolio would be likely to receive a better and less-volatile return.

Furthermore (provided there are new entrants to the plan), a CDC plan is a permanent portfolio. It is not forced to make any particular trades. The typical individual investor in a DC plan usually decides to “put the brakes on” the risks taken and moves toward less-risky bonds. This strategy is also reflected in the design of many typical target date funds (TDFs), which are now often the default investment in DC plans. A TDF can be an excellent tool to help an individual allocate resources across asset classes throughout their career. However, as discussed above, the

¹⁶ Willis Towers Watson (2009). “Defined Benefit vs. 401(k) Investment Returns: The 2006–2008 Update,” *Insider*.

¹⁷ Pew Charitable Trusts and the Laura and John Arnold Foundation (2014). “State Public Pension Investments Shift Over Past 30 Years.” <https://www.pewtrusts.org/en/research-and-analysis/reports/2014/06/03/state-public-pension-investments-shift-over-past-30-years>.

target date is the date of retirement — this type of plan does not take into consideration the potential lifespan of each individual — and the process of de-risking is not free because there are trading costs associated with changing funds.

A pooled portfolio is a better-balanced portfolio, with more opportunity for higher returns in illiquid investments.

A pooled portfolio is a better-balanced portfolio, with more opportunity for higher returns in illiquid investments. For example, there can be allocations to infrastructure and real estate. These investment options are far more difficult for individual investors to access. It is not just the investment expertise that gives a benefit to the pooled fund; it is also the nature of the risks and associated liability that allow more-productive investments to be made.

E. Can a CDC Arrangement Demonstrate the Benefits of Pooling?

Because a CDC arrangement uses pooling, it can offer great advantages. However, is it possible to quantify them? Recent studies suggest the answer is “yes” and demonstrate an “upside” of more than 30% over individual savings.¹⁸ That means that for the same cost, savers are likely to have a 30%+ higher income in retirement in a CDC arrangement than if they try to provide for themselves as they do in today’s DC plans. How is this possible?

... for the same cost, savers are likely to have a 30%+ higher income in retirement in a CDC arrangement than if they try to provide for themselves as they do in today’s DC plans.

Small differences in costs and/or returns can make an enormous difference, and pooling can produce such differences over time. Over 60 years, a charge of 1% per annum on total assets will absorb around 25% of the possible pension earnings; put another way, those who avoid such a charge would enjoy an income that was 33% higher.¹⁹ A 2% charge will take nearly half of the pension, so avoiding it will almost double the saver’s retirement income. The same is true in reverse for returns. If hiring a professional manager or investing in a more-appropriate portfolio can together give a 1% greater return, those who have done so will have a 33% higher pension.

Scholarly studies of the advantages of CDC plans offer more-sophisticated evidence than this simple math, and all of them suggest a much-better pension will be provided if pooling is used. A study for the National Institute for Retirement Security used a sample of 1,000 schoolteachers and shared their demographic characteristics. For the same cost, a pooled arrangement would deliver a pension that is 85% higher, with one-third coming from sharing longevity risk. The remainder stems from a more-balanced and better-performing investment portfolio. Even in the study’s model, one teacher in 10 who saves individually will run out of funds before they die, illustrating a further benefit of eliminating longevity risk.²⁰ (Note that those who save individually and who die young will leave an inheritance, but that is not the purpose of saving for retirement.)

Other studies have compared the benefits of pooled CDC plans against DC plans with individual savings followed by an annuity purchase. These examples represent some of the more recent rigorous studies.

UK Government Actuary: The UK Government Actuary modeled various scenarios of longevity, asset returns, etc., in a Monte Carlo simulation to evaluate the outcome of a CDC plan. They calculated that a CDC plan would pay a 39% higher pension compared to a DC plan plus an annuity. In their modeling, they noted

¹⁸ The main studies on this topic are discussed later in this paper and referenced.

¹⁹ Imagine a saver who saves \$1,000 per year into their plan from age 25 to age 65 and receives a 4% return. Upon retiring at age 65, they will have a portfolio worth \$95,026. If they buy an annuity that lasts 20 years, also giving a 4% return, that will provide an income of \$6,992. Now imagine a 1% charge reduces the return to 3%. The portfolio upon retirement will be worth \$75,401, and the annuity will be worth \$5,068, which is 27.5% less. If the return falls to 2%, the pension would be \$3,694, a drop of 47%.

²⁰ Almeida, B., and Forna, W. (2008). “A Better Bang for the Buck,” National Institute on Retirement Security (NIRS). In this model, even with the 85% upside, 10% of DC savers will run out of money. Using their longevity model and assuming a 2% real return, even setting aside differences in investment return, it will cost the DC saver 68% more to be sure, if they are the longest lived, that they do not run out of funds, compared to a pooled plan that can be based on average life expectancy. To be 97.5% sure of maintaining an income, 61% more savings will be needed. Of course, some may argue that it is unfair to make this comparison. If a retired saver dies young, any excess saving will be inherited, whereas in DB or CDC, the pension entitlement ceases when the beneficiary (or their dependents) dies. This is a fair criticism if it is aimed at pension provision for those who will never run out of funds no matter how long they live. In a sense, such people do not, strictly speaking, need a pension. But for anyone who might run out of funds, and indeed for others who want a guaranteed minimum income, pooled arrangements provide a much-better solution.

that if the CDC plan made guaranties, and hence fixed some of its liabilities, it could go bankrupt if things went wrong. Any such hard promises, of course, must not be part of a CDC design,²¹ since it must be possible to vary any payout to meet the assets available.

Royal Society for Arts: The UK's Royal Society for arts, manufactures, and commerce (RSA) conducted a simple "cost accounting" of CDC plans that looked at where the upside comes from. It noted the higher charges made to individual savers, and — from government statistics — the theoretical profit taken by providers of annuities over the bonds required to defray the cost of providing the annuity (it did not include any advantage from a more-productive underlying investment portfolio). Nevertheless, CDC plans had an upside of 37%.²²

AON Hewitt/RSA Joint Study: AON Hewitt undertook a study, published jointly with the RSA, that examined the outcomes that would have been achieved by retirees who had been saving over a 58-year period. It assumed these fictitious individuals saved for 25 years before retiring and invested in a simple equity/bond portfolio. It compared the outcome with savers who used a DC plan and purchased an annuity. The study shows an average upside of 33% and also noted that CDC plans provided a more-predictable outcome for the saver, particularly since these plans insure against timing risk.²³

Kings College, London University: The London University's Pensions Policy Institute undertook another study, commissioned by the UK government, that modeled different return and drawdown scenarios. Its base case comparison suggested that for a pooled/CDC pension, the upside was from 40% to over 100%.²⁴

In short, the pooling that characterizes a CDC plan arrangement provides better outcomes for retirees because it:

1. Leverages a team of investment professionals, rather than relying on one individual's financial acumen;
2. Eliminates almost all longevity risk by calculating the average lifespan of plan participants;
3. Is less exposed to timing risk; and
4. Accesses a better-matched and more-productive investment portfolio.

In answer to the question of whether a CDC arrangement demonstrates the value of pooling, the answer from these studies is that it does. A CDC plan has to be properly run and regulated if it is to achieve these advantages, but in every rigorous study we know of, on average, a CDC plan is a pooled fund that is found to be a more-productive way to save and generate retirement income, and the advantage is substantial.

III. WHAT ARE COMMON RISKS ASSOCIATED WITH A CDC PLAN?

There is no perfect retirement system.

There is no perfect retirement system. From the retiree's point of view, the best option is likely to be considered a DB system calculated to pay out a lifetime of benefits. This plan provides an income until death and is guaranteed by the employer. The problem with them lies with the guaranteed benefit, which generates unpredictable costs to the employer. Given these costs compared with providing DC plans, they are rarely available to private sector employees today.

By way of contrast, there is no benefit guaranty in either a CDC or a DC system. In both, it is possible that there will be a shortfall, in the sense that the retirement income will be less than originally anticipated. However, as is true with DB plans, the likelihood of a shortfall is significantly mitigated in a CDC plan by the pooling of investments, longevity, and sequencing of payments. However, a CDC plan, like a DC plan, places any risk on the beneficiaries, not the employer. These risks include the following:

In both [a CDC or DC system], it is possible that there will be a shortfall, in the sense that the retirement income will be less than originally anticipated.

²¹ *Modelling Collective Defined Contribution Schemes* (2009). Department for Work and Pensions/Government Actuary Department.

²² Pitt-Watson, D., and Mann, H. (2012). *Collective Pensions in the UK*, RSA. <https://www.thersa.org/reports/collective-pensions-in-the-uk.ii>.

²³ Pitt-Watson, D., and Mann, H. (2013). *Collective Pensions in the UK II*, RSA. https://www.thersa.org/reports/rsa_collective_pensions_in_the_uk.ii.

²⁴ Popat, S., Curry, C., Pike, T., and Elles, C. (2015). *Modelling Collective Defined Contribution Schemes*, Pensions Policy Institute, slide 30. <https://www.pensionspolicyinstitute.org.uk/>.

No Guaranteed Benefit — CDC plans are structured like DB plans, but without the employer guaranty. This means that, while the expected outcome from CDC plans may be similar to DB plans, any unexpected changes — for example, in returns or average life expectancy — must be borne by the members of the plan and shared fairly between them. In other words, as is the case with all DC plans, benefits can vary.

Therefore, any CDC plan has to have a fair and effective way of dealing with such variations, and members of the plan have to understand and accept what will happen in the event of (inevitable) unforeseen circumstances. The Dutch CDC system offers an instructive example of this risk; however, it also suggests that one should not exaggerate the likely scale of variations. Even after the Global Financial Crisis, when most Dutch pensions had to be reduced, the average fall in benefits was 1.9% in 2013 and 0.8% the following year.²⁵ The biggest reduction was 7%, which was staged over a period of years.²⁶ In comparison with a 30%+ upside over individual plans, this may be considered a relatively modest price to pay.

Variable Risks Across Age Groups — The second risk in the management of CDC systems is ensuring equity among the different generations within the plan. If the benefits paid are too great, then younger members will lose out. If they are too low, then the young will benefit at a cost to older people. Of course, some intergenerational transfer is inevitable because assumptions about the future can never be fully accurate. What is key is that there are no unintended design faults in calculating benefits, and that risk management and governance are appropriate.

It has been argued that since some, albeit unintended, intergenerational transfer is likely, this presents a significant flaw in the design of CDC plans. One should be careful about this argument. The central problem of intergenerational transfer is that one generation that has saved identically to another will receive a different benefit. Yet, the studies comparing CDCs to other ways of achieving a pension shows that the variability of a CDC income is less than that which would have occurred through individual savings.²⁷

Fiduciary Responsibility — The third important issue that must be addressed is the motivation of the sponsor of the CDC plan. Long-term savings, such as pensions, require a huge degree of trust that the way the money is managed, and the fees charged, will be determined only in the interests of the beneficiaries.

Even with these risks, however, it is important to understand that while there is no guaranteed outcome in a CDC system, neither is there any guaranteed income in a simple DC system. The real question is not whether a CDC is superior to a DB. The question is whether a CDC is superior to a simple DC in terms of risk as well as return. The evidence we have presented suggests it is.

This consideration of the risks moves now to how such challenges of CDCs should best be addressed.

IV. ADDRESSING THE CHALLENGES OF CDC SYSTEMS

The management of CDC plans is not without challenges. This section reviews some of the most-important ones and the best ways to address them.

A. Communicating How CDC Plans Are Different From DB Plans

Prospective retirees must understand that CDC systems do not provide an ironclad guarantee that a specific pension will be paid, nor should they assume that cost of living increases will always be accounted for in full. If they do not recognize these risks, problems are inevitable. The importance of communicating risks can be illustrated by the recent experience in the Netherlands. The Dutch CDC system had been consistently stable for a long-enough period that many participants may have thought the system was close to a guaranteed DB pension system.²⁸ After the

²⁵ De Nederlandsche Bank (DNB) (2013). “DNB assesses pension funds’ recovery plan evaluations”; DNB (2014). “DNB completes its assessment of pension funds’ recovery plan evaluations.”

²⁶ A review of the Dutch response to the Global Financial Crisis and the distribution of adjustments is discussed in “Risk Sharing Pension Plans: The Dutch Experience” (2014). *Pension Policy Institute Briefing Note 71*, p. 6. <https://www.bl.uk/collection-items/risk-sharing-pension-plans-the-dutch-experience>.

²⁷ For example, see studies by AON Hewitt and King’s College Pensions Policy Institute referenced.

²⁸ There had been adjustments to the pension promise before the Global Financial Crisis; for example, some pension funds had to forego indexation of pensions after the dotcom bubble.

Prospective retirees must understand that CDC systems do not provide an ironclad guarantee that a specific pension will be paid...

Global Financial Crisis, though, many Dutch pensioners had to forego cost of living adjustments, and others received reduced pensions.²⁹

The Dutch CDC plan benefit changes triggered by the Global Financial Crisis came as a surprise to many participants who had never understood that they were not covered by a DB system. As noted above, average pensions in payment fell by 1.9% in 2013 and 0.8% in 2014, with a maximum reduction of 7%, which might be considered modest, similar to wage rates. But rolling out those changes was painful. Pension plan members had not understood how adjustments were to be made, and the Global Financial Crisis subsequently created a “perfect storm,”³⁰ with a need to revise expectations for future

returns and hence, what was affordable. This took place over a period of years because legislation provided for “cooling off periods” while plans developed strategies to deal with any shortfalls. However, few in the Netherlands subsequently proposed abandoning collective pension pooling. Nevertheless, there is a strong feeling that the nature of CDC plans was not understood, it should have been communicated more effectively, and adjustment mechanisms should have been less cumbersome.³¹

As CDC pensions are introduced in the UK, it is likely that no cooling-off periods will be allowed. Beneficiaries will receive a statement that not only includes an estimate of their future pension, but also the value that has been attributed to that pension. Similar reforms have taken place in the Netherlands and have been established in Denmark.

B. Addressing Actuarial Design and Measuring Fairness

Some have argued that because a CDC system offers no guaranteed payout, it makes it possible to take advantage of the beneficiaries. While these arguments may occasionally appear in headlines, the alternative of investing only in low-risk securities such as government bonds is often worse for retirees. These investments reduce returns and may leave the retiree fully exposed to inflation. Still, these types of arguments also raise important technical questions: What should be the assumed future rate of return? How should any surplus or deficit be dealt with, and on what timescale?

Answers to these questions begin in the design of the plan itself, and how intergenerational transfer is managed. If the actuarial estimate is over-generous, benefits will be taken from the young to the old, and vice versa. This problem could be avoided by designing funds for different age cohorts — but that may be a clumsy solution. Some, such as pension fund expert Keith Ambachtsheer, advocate for two pooled funds: one for accumulation and one for decumulation.³² The logic is that the former should accept greater risk than the latter, which would be willing to sacrifice returns to seek a regular pension payment. As the saver ages, monies would be transferred from one fund to the other.

CDC plans also face the actuarial issues common to DB plans. For example, are plans unfair to those with lower life expectancies, or should greater benefits be expected by those who do not expect to live as long? Technically, for example, men might expect a higher pension for a similar payment, since their life expectancy is shorter — but that would present problems of its own. Young people, with many years to retirement during which their savings will earn a return, might ask for a greater expected pension payment. There are many actuarial issues to be addressed, but they are not unique to CDC systems.

²⁹ For a full review of the difficult and continuing adjustments made in the Netherlands, see “Risk Sharing Pension Plans: The Dutch Experience” (2014). Pension Policy Institute Briefing Note 71 (op cit).

³⁰ The adjustments resulted from a number of factors. One was the fall in asset values. Another related to rises in longevity. Because of longer life expectations, liabilities rose around 8% in the 2008–2009 period, and the debate over intergenerational fairness was further related to the discount rate for calculating the market value of liabilities. In 2007, a new regulatory framework based on market-based discount rates was introduced. During the financial crisis (and resulting bank and euro crisis), interest rates fell sharply (particularly in the Netherlands, which was regarded as a safe haven) with resulting sharp rises in the market value of liabilities. Part of the discussion of intergenerational fairness focused on the difference between the interest rate used to discount liabilities and the expected future returns on investments. Retirees saw repeated strong investment returns, but no living adjustments. Young participants were against changes to discount rates in fear that retirees would get “too much.”

³¹ See “Risk Sharing Pension Plans: The Dutch Experience,” *Pension Policy Institute Briefing Note 71*, 2014 (op cit).

³² See, for example, Ambachtsheer, Keith (2014). “Towards ‘individualised solidarity’ in pension design.”

Actuarial judgment also has to be exercised as circumstances change, and any costs and benefits must be distributed fairly among beneficiaries. These are sensitive issues, and ones that will be familiar to any actuary involved with a DB plan. It goes without saying that whatever judgments are made have to be well-explained.

Indeed, economists may want to think about this in terms of assigning property rights. Who “owns” “my” assets? If there is a “surplus,” who has what right to it? In a DC system, I own my assets. In a DB system, I own the right to a stream of income. Fortunately, these issues can be reconciled. For example, it is possible to tell a beneficiary what their expected pension will be, the value of the assets in the fund supporting that expectation, and the likely transfer value of those assets should the beneficiary want to move them to another provider.

To reiterate, there is no perfect retirement system. A CDC plan offers an effective way to balance risk and return, but members of such a plan have to feel confident about the basis on which costs and benefits are divided among them. Communication is an important part of this. Members should feel that benefits earned are actuarially equitable. They should know how much is saved on their behalf. Of course, actuarial judgments made before the event can never be entirely accurate. Therefore, the summary made by two managers of the largest pension fund in the Netherlands may be the best description of what can be achieved: “Everyone gains” from a CDC plan, “but some more than others.”³³

A CDC plan offers an effective way to balance risk and return, but members of such a plan have to feel confident about the basis on which costs and benefits are divided among them. Communication is an important part of this.

Although no system is perfect, the Melbourne Mercer Global Pension Index ranks the Dutch system, whose occupational pensions are based on CDC arrangements, to be the best in the world.³⁴

Nevertheless, criticisms of CDC plans should be anticipated, and these may not always take a balanced view. In particular, the Dutch system has come in for criticism because of its historic failure to be clear about the entitlements of savers. As an illustration, an article about the pension system in the Netherlands demonstrates that such criticisms can become quite unbalanced.³⁵

C. Ensuring Faith in Trustee Governance

Perhaps the greatest protection to the CDC beneficiary comes from the way in which any plan is governed. As noted, CDC systems give discretionary power to the executive of the plan about benefits paid. They also give discretionary power about other distributions. If those powers are perceived to be used against the beneficiary’s best interest, this will create serious problems.

Such problems are well known in the financial services industry. For example, in the UK, insurance companies used to offer “with profits” life policies. These guaranteed a certain minimum return, but the expectation was the return would be beaten, and the profits distributed to policyholders and the sponsors. However, the return to the sponsor was ill-defined, and policyholders did not know how much was taken from their accounts.

³³ See Aarssen, K., and Kuipers, B.J. (2007). *Costs and Benefits of Collective Pension Systems*, Steenbeek and van der Lecq, editors. Springer.

³⁴ Melbourne Mercer Global Pension Index (2019). <https://www.mercer.com.au/our-thinking/mmgpi-2019.html>.

³⁵ Here, for example, is a UK journalist reflecting on the Dutch system. Any country seeking to introduce CDC plans would have to recognize that, even if inaccurate, this sort of criticism is likely, especially from current pension providers:

“The collective nature of the Dutch system ... means ownership over the vast amount of capital is ill-defined. It is unclear who owns any funding gaps or excess capital in the fund. Who benefits from positive or negative developments depends on accounting standards and discrete decision-making by fund managers? This creates continuous tension between different groups of participants in the fund, in particular between younger and older generations.

“This tension played out in the aftermath of the financial crisis. As the funding levels of pension funds plummeted, losses needed to be dealt with. Unions, employer organizations and the government initially struck a deal to loosen accounting standards to improve the funding position on paper, so current pension pay-outs would not have to be cut. This would have shifted the burden of the losses onto younger generations, with a vague promise that future investments would make up for it, sparking a major debate that is still ongoing.

“Supporters of collective pension funds claim they add value by sharing risks across generations. Recent history in the Netherlands showed otherwise: when push came to shove, pressure from active older generations led to tinkering for short-term electoral advantage. This undermined the collective funds’ original intention: to create certainty for participants. In practice, arbitrary political decisions around accounting standards made them extremely risky to participants. This risk naturally fell on those least politically organized and interested in their pensions: the young.”

Welsh, T. (2014). “Britain Beware: How the Dutch pension system pits young against old,” City AM. <https://www.cityam.com/britain-beware-how-dutch-pension-system-pits-young-against-old/>.

Given the ample opportunity for the sponsor of a pooled CDC plan to enrich themselves at the expense of those saving, it is essential that the plan be governed by trustees, who owe a duty only to the plan's beneficiaries. However, there is a downside to trustee governance. Since the trustee can only direct the affairs of the plan in the interests of the beneficiary, there is no incentive — indeed, there is arguably a prohibition on spending money on marketing — to expand the customers of the plan. Without market incentives behind them, even if CDC plans offer a better mousetrap, it is perfectly possible that no one will find a path to their doors. This means that policymakers, company sponsors, and worker representatives must work together to construct and promote an effective CDC framework.

For this reason, pension expert Keith Ambachtsheer has noted that the best pension funds seem to have been established by what might be described as “entrepreneurial trustees.” These might be people who, like entrepreneurs, are business-like, motivated, and forward-looking, but who, like trustees, act only in the interest of beneficiaries, and may receive modest rewards. As Ambachtsheer notes, “the right ‘sponsorship’ is a huge ... success driver.”³⁶

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D. Other Challenges

It is beyond the scope of this paper to cover all the issues to be addressed in establishing CDC plans. However, some other challenges are worthy of mention.

One has to do with keeping the costs as low as possible. As noted above, costs make a big difference in retirement income outcomes. To achieve low costs requires adequate scale from the provider. This can be achieved by one single large employer, but also by several employers working together. Since there is no employer guaranty for a CDC plan, it should be possible to consolidate plans among employers. Of course, such consolidation is not straightforward. It involves consideration of fairness — for example, considering the life expectancies of the different participating groups. There will be questions about how trustee governance can effectively be preserved if a marketing budget is required. However, given the benefits of scale economies, these issues are worth tackling.

In establishing a market for CDC plans, policymakers will also need to consider how these plans will dovetail with other aspects of how such plans are offered and regulated. For example, in the UK, it was important that the value accrued for a pension could be cashed out or transferred to an alternative provider, since “pension freedoms” are an essential part of regulation in Britain. These allow transfer and (under certain circumstances) withdrawal of savings. In designing the new CDC legislation in the UK, care had to be taken to ensure pension freedoms were maintained.

Finally, it is important that CDC legislation enjoy deep political support, and that legislators are not tempted to change the nature of any historic understanding about how they operate. This has been a concern in the UK. Many employers had felt that the UK DB system offered certain flexibilities to sponsors when it was first established. However, over time, legislation had turned expectations into promises, which became too expensive to fulfill and ultimately resulted in the demise of DB plans.

The importance of these issues will become apparent as we review the current state of play for CDC plans in the Netherlands and the UK.

³⁶ Keith Ambachtsheer quotes are taken from his private comments to the authors in reviewing this paper.

V. EXPERIENCE IN THE NETHERLANDS AND THE UK, AND LESSONS FOR US REFORM EFFORTS

In the United States, federal policy has focused in recent years on improving the effectiveness of the DC system. The use of auto-enrollment and TDFs is making a significant difference, and the recent passage of the SECURE Act moves in the direction of acknowledging and pooling longevity risk. A closer examination of the history of CDCs in the Netherlands and the UK can be instructive when exploring potential additional reforms in the US.

A. Experience with CDC Plans in the Netherlands and the UK

Before considering the retirement system in the US, it is perhaps instructive to consider the history of pensions in the UK and the Netherlands. In the UK, legislation was passed in February 2021 to allow for the establishment of CDC plans. In the Netherlands, CDC plans form the backbone of the Dutch pension system but have recently encountered criticism, which has led to reforms, some of which have been previously discussed.

The Dutch and British pension systems appeared very similar 50 years ago. While the Dutch system included many large, industrywide providers, the British system operated on a company-by-company basis, so there were many more pension funds in the UK. All funds took contributions from individuals and employers based on a percentage of salary and targeted an income from retirement until death, also based on a proportion of the beneficiary's salary. But the target was not the same as offering a guaranteed pension "promise." If pensions were underfunded, a change in the income for each retiree would be adjusted through negotiations between employers and employees.

During the 1980s and 1990s, it appeared that these pension funds were more than fully funded. In the UK, this led to companies seeking "pension fund holidays." Often, these were agreed to with the understanding that the target pension had become a promise, which became enshrined in law. Thus, in the UK, what had been a flexible system became more rigid, with a contracted "defined benefit." Nevertheless, as far as beneficiaries were concerned, both the Dutch and British pensions continued for the time and continued to meet expectations.

However, as longevity rose higher than expected and returns were lower, the cost of supporting the DB system in the UK became too great for many employers. Over time, new employees were offered DC plans and forced to buy annuities with their savings. This worked for a time, but after the Global Financial Crisis, annuity prices rose, so the government introduced pension freedoms, which meant that pension savings did not have to be annuitized and an individual could take a lump sum and decide whether to use it for a pension. Indeed, Pension Minister Steve Webb famously quipped that if they wanted to, a retiree could buy a Lamborghini.³⁷ Today, remaining private sector DB plans continue to face funding shortfalls, and many are all but closed.

Recent UK reforms have focused on requiring employers to "auto-enroll" their employees into DC retirement savings plans, with a minimum expected contribution from employee, employer, and government. Employees must take specific action to withdraw from the plan. This has been supported by the creation of the National Employment Savings Trust (NEST)³⁸ as a default savings plan, together with several private providers. While auto-enrollment has been a success in expanding coverage and savings, it has not addressed the issue of how a saver converts a nest egg into an income for life.

Retirement and pension professionals have pointed out the inadequacy of this system, and the advantages of restoring the ability of people to pool their pension savings and save for a lifetime income. The more recent catalyst for achieving this, and for establishing CDC plans in the UK, came from the Royal Mail and its workforce. Faced with the closure of their DB plan, they recognized that a DC plan that was used to purchase an annuity would cost much more to produce a similar retirement benefit from a CDC plan.³⁹ Employers and union members, therefore, persuaded

³⁷ See "Minister fuels pension debate with Lamborghini comment." <https://www.bbc.com/news/uk-politics-26649162>.

³⁸ The National Employment Savings Trust (NEST) is a defined contribution workplace pension scheme in the United Kingdom. It was set up to facilitate automatic enrollment as part of the government's workplace pension reforms under the Pensions Act 2008. Due to its public service obligation, any UK employer can use NEST to meet its new workplace duties as set out in the Pensions Act 2008. https://en.wikipedia.org/wiki/National_Employment_Savings_Trust.

³⁹ See reporting of work by Simon Eagle, a consulting actuary who modeled various options for the Royal Mail. <https://www.personneltoday.com/hr/cdc-pensions-versus-db-dc/>.

the government to sponsor a Pensions Bill, which passed through Parliament with full cross-party support and gained Royal Assent in 2021. This bill will allow for pooled funding and risk-sharing, but without an employer guaranty. It will also allow for secondary legislation that will stipulate several conditions, such as communication, governance, actuarial oversight, and regulatory approval. The secondary legislation is currently being drafted. Once in place, it can be used by others who wish to follow the Royal Mail's example.

The Dutch pension system continued to operate well until the Global Financial Crisis in 2008. Before this, small adjustments were made to the system, including a regulatory change in 2004 to career average benefits. However, after the Global Financial Crisis, Dutch pensions were not funded adequately to meet expectations. As previously noted, pension payments were reduced on average by 1.9% in 2013 and 0.8% the following year. The well-intentioned mechanisms for making this adjustment were clumsy due to time delays and reserve buffering, and while the reductions may be considered small, the Dutch people naturally felt bitter due to communication failures; they had never previously been told how much had been saved on their behalf or were clear that pension benefits might be adjusted downward.

Delays in implementing adjustment raised issues of intergenerational fairness, followed by a period of reform. The new negotiated pension settlement in the Netherlands retains the benefits of low-cost, large, diversified investment portfolios, but with a more-explicit contract about personal accumulated capital. Risk-sharing of investment, mortality, and longevity remains part of that contract.⁴⁰

...beneficiaries must understand that the level of a pension is not guaranteed. They also need to trust that their savings are safe and well-governed, and that management of the plan does not favor one generation over another.

The lessons from the Netherlands are significant,⁴¹ but few have advocated abandoning the CDC system, or of a pension system that provides an income for life. Despite its problems, the Dutch pension system is still known as one of the best in the world.

What can be learned from the experience in the UK and the Netherlands? The first would be that pooled pension plans provide huge benefits *if* the aim of the plan is an income for life. However, as the UK DB system shows, any such system has to be affordable by the employer or it may be abandoned. A CDC plan provides that flexibility. However, beneficiaries must understand that the level of a pension is not guaranteed. They also need to trust that their savings are safe and well-governed, and that management of the plan does not favor one generation over another.

B. Current and Future Opportunities for Pooled CDC Arrangements in the US

How should policymakers, plan sponsors, unions, and others concerned about retirement in the United States respond to the opportunity offered by CDC plans, and learn from the international experiences?

Remember that about \$6 trillion is invested in DC retirement savings plans in the US. If studies of CDC plans are correct, pooling such pensions could offer a 30%-plus greater income. That would generate \$2 trillion in improved outcomes for retirees. The benefits of a well-designed CDC plan or similar pooled system are great.

The recently passed SECURE Act in the US took a positive step to encourage some degree of pooling. As we look to the future, Congress is considering another round of reforms, frequently referred to as "SECURE 2.0." While SECURE 2.0 does take additional steps to build and strengthen the initial SECURE Act reforms, there is more that future federal reforms can do to take advantage of the benefits of pooling and risk sharing, expand available plan design options, and improve retirement income outcomes.

Remember that about \$6 trillion is invested in DC retirement savings plans in the US. If studies of CDC plans are correct, pooling such pensions could offer a 30%-plus greater income. That would generate \$2 trillion in improved outcomes for retirees.

⁴⁰ Among the reforms now in place in the wake of the Global Financial Crisis, the retirement date was increased via an automatic mechanism based on longevity rises. The intergenerational debate focused on the discount rate and property rights. This has led to a major reform that will be finalized in 2026. In 2020, social partners (employees and employers) and the government agreed to an adjusted pension contract that, among other things, included clearer property rights, more pension freedom (including a 10% lump sum at retirement), and a slower rise in the retirement date.

⁴¹ See, for example, the critique by Bovenberg and Gradus, most of whose suggestions have now been adopted. <https://www.martenscentre.eu>.

1. SECURE Act: Recent Retirement Reforms Are Positive Incremental Steps to Encouraging Pooled Arrangements

At the end of 2019, Congress passed, and President Trump signed, the SECURE Act (P.L. 116-94), a bipartisan piece of legislation that advanced many important initiatives in US retirement policy. The SECURE Act moves retirement policy in the direction of pooling in several ways: creating Pooled Employer Plans (PEPs); encouraging ways to generate lifetime income, with more information and disclosure; and promoting the use of annuities in DC 401(k) plans.

PEPs allow small employers to come together and “pool” resources through a “pooled plan provider (PPP).” These are similar in many ways to what already existed as MEPs (Multiple Employer Plans).⁴² The differences between MEPs and PEPs are subtle. The U. S. Department of Labor (DOL) requires that employers joining a MEP share a commonality of interests, such as an association of businesses in the same field (e.g., lawyers, realtors, plumbers) or in the same locality (e.g., a particular state). PEPs are not covered by the commonality requirement that applies to MEPs. The provision allows businesses that are not in the same industry to create scale by coming together in one plan administered by a qualified PPP. In addition, the entities that administer PEPs are required to register with the DOL and the Treasury Department.

To encourage participants to focus on their DC plans not only as savings vehicles, but as sources of lifetime income, the SECURE Act required that DC plan participants receive an annual communication that lets them know what they can expect to receive as lifetime income based on their current savings. The other important lifetime income step taken by the SECURE Act is its encouragement of using annuities in 401(k) plans. By creating a “safe harbor” for the plan sponsor’s selection of the insurance carrier supporting the lifetime income benefit, the new law encourages the power of pooling inherent in most insurance solutions.

2. SECURE Act 2.0: How Future Proposed Legislative Reforms Can Do More to Improve the US Retirement System

While the SECURE Act is a good first step, there is still plenty of room for improvement, including additional policy changes that can further harness the power of pooling in retirement. Fortunately, the two principal sponsors of the SECURE Act of 2019, Representatives Richard Neal (D-MA) and Kevin Brady (R-TX), have proposed another round of bipartisan legislative reforms⁴³ that would make some important changes and, most recently, the House Ways and Means Committee of the new 117th Congress outlined its retirement security reform priorities.⁴⁴ Democrat Senator Ben Cardin (D-MD) and Republican Senator Rob Portman (R-OH) also have expressed bipartisan support for similar legislation,⁴⁵ and during the campaign, then-candidate Joe Biden released proposals that are similar to these latest legislative proposals.⁴⁶ Any future reform should consider the following:

Improve Lifetime Income Disclosures that Boost Demand for Solutions. The estimated lifetime income statement that plan sponsors must provide to participants should allow more useful, relevant information to facilitate smart savings decisions and drive participants’ demand for lifetime income options. As DOL has outlined in its regulation to implement this provision, the required disclosure is based on the participant’s current account value. This misses the whole point that participants should be thinking of their DC plan as a vehicle for long-term accumulation and lifetime income decumulation. This provision should be revised so the participant is shown (with assumptions made clear) an estimate or estimates of what kind of lifetime income would likely be available if the participant continues to save and invest within certain parameters (e.g., amount of time, type of investment, etc.) over time.

⁴² For more in-depth discussion of MEPs and PEPs, see Morse, David E., and Antonelli, Angela M. (2021). “State-Facilitated Retirement Savings Programs: A Policymakers’ Guide to ERISA and the Tax Code for IRAs and 401(k)s,” Georgetown University Center for Retirement Initiatives, *Policy Report* 21-02.

⁴³ H.R. 8696, Securing a Strong Retirement Act of 2020, introduced October 27, 2020.

⁴⁴ US House Committee on Ways and Means (2019). “A Bold Vision for a Legislative Pathway Toward Health and Economic Equity,” p. 9.

⁴⁵ S. 1431, Retirement Savings and Security Act of 2019, introduced May 13, 2019.

⁴⁶ The Biden Plan for Older Americans, <https://joebiden.com/older-americans/>, accessed April 1, 2021.

Encourage the Adoption and Use of Lifetime Income Solutions in DC Plans. With its obvious focus on lifetime income, Congress also should continue to consider how savers turn their savings into lifetime incomes. This argues for the consideration of the greater use of the benefits of pooling that are inherent in annuities and similar products. Guaranteed income options need to become more common in DC plans.

Research shows that the use of defaults and design features such as auto-enrollment have a dramatic impact on participation rates in retirement savings plans and result in significantly higher levels of savings. For this reason, Representatives Neal and Brady have proposed requiring that auto-enrollment (with opt-out) be available to everyone with access to a retirement plan (and it should be not just newly created retirement plans, but all retirement plans). In the same way, the use of such plan design features also could prove helpful in the decumulation phase and improve retirement income outcomes.

Make Pooled Employer Plans (PEPs) a More-Attractive Option. There are a few ways Congress could make the new PEPs even more attractive to both plan providers and plan sponsors. To help PEPs become a competitive, attractive option with the ability to grow and keep costs low, there are additional improvements to consider, for example:

- Encourage a provision that allows a worker, where practicable, to move between jobs and remain enrolled in the PEP.
- Make it clear that PEPs and PPPs may merge and consolidate, which will support growth, the benefit of pooling, and the ability to keep costs low.
- Require the use of auto-enrollment. If future reform requires retirement plans to use auto-enrollment, it should also apply to PEPs.

Allow the Creation of CDC Plans. The biggest step forward would be to allow the creation of CDC or similar pooled plans in the US, subject to the appropriate regulatory, governance, and actuarial oversight. If there is clear understanding of the significant benefits of auto-enrollment, pooling, and the need for lifetime income solutions, then plan designs that support these objectives should be encouraged. Any future federal reform proposals should amend the Employee Retirement Income Security Act (ERISA) to make it clear that CDC plans — with all the benefits of pooling, lifetime income, and better results than DC plans — are permitted in the US.

A CDC plan combines elements of DB systems and DC systems. Interestingly, Congress has understood this and indicated a desire to accomplish this goal in the past. A little-known provision of the 2006 Pension Protection Act (PPA) — Section 414(x) of the Internal Revenue Code — was amended to permit the use of what was informally called a DB(k) Plan (because it combined aspects of DB plans and 401(k) plans). More formally termed an “Eligible Combined Plan,” this is a hybrid of DB and DC models. Although the PPA provision does not go far enough to be used to create CDC plans, it shows a legislative commitment to providing and combining the benefits of DB and DC, which is what a CDC plan accomplishes.

VI. CONCLUSION

It would be ideal for workers if traditional DB plans could be revived as the default choice for the next generation of retirees. Unfortunately, employers and other plan providers are unable or unwilling to support these plans and their long-term costs and liabilities. As a result, the United States is left with a DC retirement system that requires each individual to think like an actuary and measure risk like an insurance company.

It is time for policymakers and politicians in the United States to look to the experiences of other countries, such as the Netherlands and the UK, to learn that there are better ways to share risk, and better systems that are designed to achieve far-superior lifetime income outcomes for retirees.

As Congress continues to consider additional retirement reforms in the months and years ahead, the power of pooling can be applied to DC plans through the creation of CDC plans, wider use of PEPs, and use of auto-enrollment in

DC plans that should include guaranteed lifetime income solutions. By doing so, Congress can help to strengthen the retirement income outcomes of today's DC plans and improve retirement security for millions of Americans.

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