

## Improving Public Pensions: Balancing Competing Priorities

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### EXECUTIVE SUMMARY

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Heightened focus on public spending at the state and local level, necessitated by the economic conditions of recent years, has brought pension funding practices into the political limelight. Pension systems' ballooning cost projections and an estimated \$2.7 trillion gap in funding nationwide have forced policymakers to act. The resulting policy changes, such as reductions in benefits or shifts to 401(k)-style defined-contribution plans, have been defended as necessary by reform proponents and attacked by public-sector employees and their unions as draconian and unfair. There is an element of truth in both narratives. The underfunding of too many defined-benefit pension systems by policy makers in the past has left current taxpayers holding the bag, and in some cases (such as Detroit), has put employees' retirement security at risk. But critics are right that simply moving to the 401(k)-type plans now popular in the private sector is unlikely to provide workers with adequate retirement security.

In this paper we lay out a clear framework to evaluate proposed reforms to public pension systems with the overarching goal of balancing the sometimes competing interests of public employees and taxpayers. It is clear that there is no one specific policy that will solve the problems of every state and local pension plan, as priorities and constraints vary widely, but we argue that any well-designed pension plan will strive to meet three goals: providing retirement



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security to workers, ensuring fiscal sustainability, and maintaining or improving the productivity of the public-sector workforce. We show how existing defined-benefit pension systems largely fail to meet these goals by providing retirement security to some workers but not others, creating incentives for underfunding that many states have failed to resist, and embedding incentives for workers to stay in or quit the workforce that are difficult to justify.

A frequent proposal is to replace defined-benefit pension plans with the kinds of defined-contribution plans that are common in the private sector. However, although these plans cannot be underfunded (by definition), they typically do not guarantee sufficient retirement savings and as a result are vehemently opposed by public-sector workers and their unions.

A superior alternative that combines many of the benefits of both defined-benefit and defined-contribution plans is a collective defined-contribution plan, where workers have individual, portable accounts that are professionally managed. The version of this plan we propose cannot be underfunded by short-sighted politicians, provides fair benefits to all employees (not just some, as current plans do), and protects employees from the market risks that plague retirement plans in the private sector.

Figure: How Do Different Pension Systems Meet Key Goals?

<u>Goal</u>		Provide Adequate Retirement Security	Ensure Fiscal Sustainability	Maintain Public-Sector Workforce Productivity
<b>Pension System</b>	Defined-Benefit System	+	-	+ / -
	Defined-Contribution System	-	+	+ / -
	Collective Defined-Contribution System	+	+	+ *

\* With the addition of vesting and using salary and personnel policies to recruit and retain productive workers.

## Introduction

State and local pension systems are at a crossroads. The Great Recession has brought pension funding practices into the political limelight due to the increased scrutiny and tightening of state and local budgets. Pension reform has been spurred by ballooning cost projections and an estimated \$2.7 trillion nationwide funding gap.<sup>1</sup> The recent Detroit bankruptcy ruling has left a sobering precedent that pension promises are not sacrosanct, but could possibly be reneged on if a local government falls too far behind its funding obligations.<sup>2</sup> Reforming failing pension systems has implications for most citizens - from taxpayers who want to keep costs down yet still receive high-quality public services, to public-sector teachers, police officers, and firefighters who want to preserve their retirement security.

The vast majority of public-sector pensions are defined-benefit plans. In these plans, once a worker reaches a specified age or amount of experience, he or she is entitled to a set benefit amount each year from retirement until death. The benefit amount is generally determined by an individual's salary and length of tenure. This type of plan has the distinct advantage of offering workers a certain, known amount of income during each year of retirement; however, the fact that these benefits are promises of future payouts makes them susceptible to the crises described above, such as underfunding and reneging on benefits.

The challenges of public pension reform are complex and varied. Some states have one pension system for all state and local employees, while others have distinct plans for certain localities. States also have different legal circumstances and collective bargaining agreements that guide the nature of possible reform. The pressure to cut costs and repay debt varies widely across states.<sup>3</sup> According to their own optimistic actuarial assumptions, only a handful of state pension systems were at least 95 percent funded in 2010, but even such (seemingly) well-funded states may still be looking for ways to improve their retirement systems.<sup>4</sup> The average funding ratio is around 78 percent, meaning most states have fallen short of their funding goals. Illinois and Rhode Island were in the worst shape in 2010, claiming to be less than 50 percent funded. Subsequently, Rhode Island introduced pension reform in 2011 and Illinois just passed new pension legislation in December of 2013; however, both actions were immediately taken to court by unions claiming the changes were unconstitutional.<sup>5</sup> Consideration of pension reform is likely present in every state across the nation; but there is no "one-size-fits-all" solution, as each state has specific objectives and constraints.

Additional states have also taken steps to shore up their funding problems. Thirty-six states have increased employee contributions, while a few have made more fundamental changes to the retirement plan itself.<sup>6</sup> Proponents of these reforms consider them to be necessary steps to avoid either massive increases in taxes or a degradation of public services necessitated to pay off public pension promises. A 2012 Republican Staff Commentary by the Joint Economic Committee argues that nothing short of a federal bailout would be necessary to pull states out of their funding hole - meaning individuals from even responsible states could be burdened with this responsibility.<sup>7</sup> Some public-sector employees view such statements as inflammatory red herrings and view any changes as draconian reforms that personally attack public-sector employees and their deserved compensation.<sup>8</sup>

Both sides of the debate generally agree that many states and local governments are not currently in a financial position to be able to fulfill the retirement promises to their employees. Taxpayers, public-sector workers and retirees, and future generations from across the nation will likely bear some burden for correcting this problem; however, the topic of who bears what is increasingly polarized and personal. Our contribution is to propose a framework that can be used to assess reform proposals and to move the discussion past incendiary arguments. Specifically, we describe three goals of a well-functioning public pension system. A primary complication is that the very same characteristic that makes a pension plan achieve one goal may cause it to fall short of another. For example, achieving what public employees and their unions would define as adequate retirement security may not be fiscally sustainable. Thus, these goals do not necessarily point reform in one clear direction, but they provide a structure within which interest groups might have a productive conversation and work toward a balanced reform plan.

## **Public Pension System Goals and the Current System**

We focus on three goals of public pension systems that are most closely related to the current discussions around reform. These include providing adequate financial security for retirees, having a system that is fiscally sustainable, and maintaining the productivity of the public-sector workforce. In this section we discuss how these goals are theoretically met and the ways in which the current defined-benefit pension systems advance or fall short of these goals.

## Goal 1. Provide adequate retirement security

There is growing concern that individuals may not save enough for retirement. This sentiment is so strong that President Obama has a new initiative to bolster retirement savings for individuals who do not have employer-provided retirement accounts.<sup>9</sup> The potential need for these plans highlights the lack of retirement security potentially triggered when employees do not have access to a sound employer-provided retirement plan. The 2013 Retirement Confidence Survey shows that many individuals do not choose to save much on their own; almost half of individuals 45 and older had less than \$25,000 in personal retirement savings (these are retirement savings in excess of defined-benefit plan promises, Social Security, and housing wealth).<sup>10</sup>

People may choose to not save for a number of reasons. Perhaps they are not aware of how much they need to save in order to retire comfortably. Maybe they know how much they need to put away, but have a hard time actually saving. The idea that people knowingly undersave may seem illogical but could occur if their income barely covers basic expenses, or they continually give in to the temptation of spending money today instead of saving it for the future.<sup>11</sup> Furthermore, some individuals might follow an appropriate savings plan, but still find their assets are well short of their goal because of stock and bond market variability, high inflation, or simply because they invested improperly.<sup>12</sup>

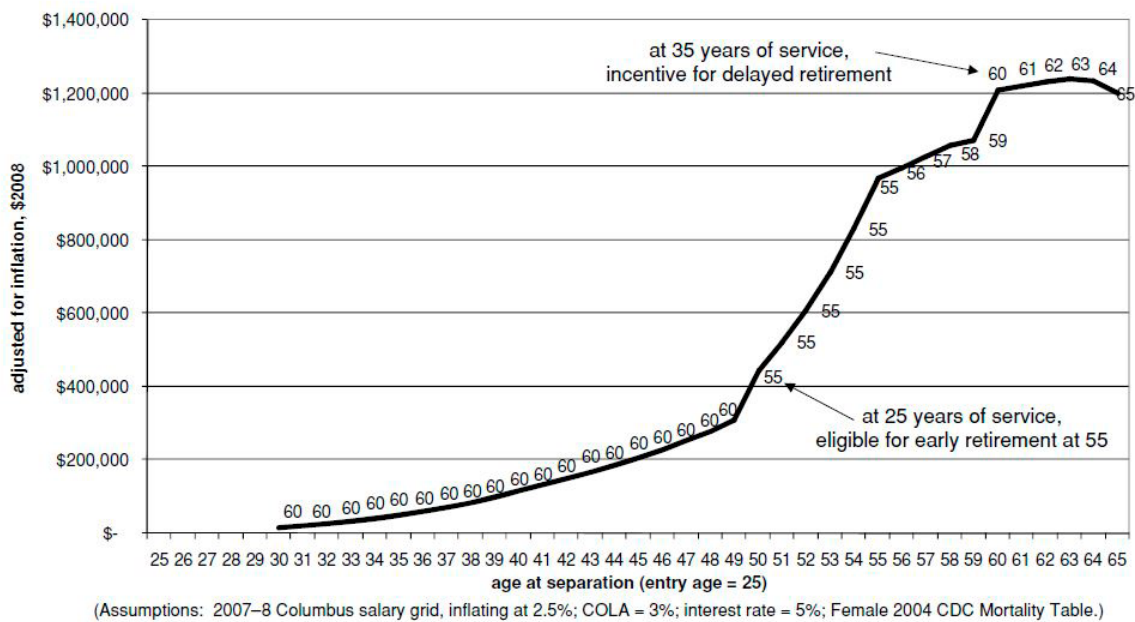
There are a number of risks that result in individuals lacking the assets they need for retirement. Pension systems can limit these risks in two ways: pooling risk across individuals or transferring risk entirely from the individual to the pension plan provider. Both policies are beneficial because they decrease the cost one must bear if something harmful happens unexpectedly - say, a flood destroys one's home. Risk pooling works by bringing together a group of people who could potentially be exposed to floods. Money is ultimately distributed from the entire pool to the ones whose houses actually flood. In the end, everyone pays an amount less than the total cost they would incur if their house flooded without such a policy. If more floods occur, then individuals participating in the risk pooling policy pay a larger amount. The provider administering a risk pooling policy bears no risk - they may charge a fee to policy holders simply for administration, but the policy provider's costs are not affected by more floods.

Current pension systems generally do not mitigate risk by pooling, but remove risk entirely from individuals by guaranteeing certain benefit amounts and conditions. This results in a subtly different scenario from risk pooling. The provider is responsible for

collecting enough money upfront from policy participants to cover any floods that might harm participants' homes. If a flood occurs, the policy pays for the damages as promised. In this case, once the participants pay for their policy, a flood affects the policy provider's cost but not the policy participants'. Some types of risk can be addressed with both mechanisms, while others with only the latter. Below, we explain how these two risk-reducing mechanisms work, and the mechanisms with which the current system handles different types of risk.

One of the most perilous types of risk is *sophistication risk*, the risk of not knowing how much to save, how to plan or invest, or not being able to follow through with savings goals.<sup>13</sup> This type of risk cannot be pooled. The only intervention is to educate individuals on how to achieve their savings goals or oblige them to save a set amount. Current public pension systems lessen this risk by requiring individuals to contribute to a pension system that promises an asset stream to employees upon retirement. The degree to which sophistication risk is lessened is determined by the generosity of that asset stream. The typical defined-benefit plan does not, however, eliminate sophistication risk for employees who leave mid-career. These mobile employees must wait a long time before they are eligible to start receiving their retirement annuity - often longer than they would need to wait if they had kept working for their pension provider. Furthermore, given the benefit formula, this annuity is much lower if you leave before normal retirement age.

Figure 1: Pension Wealth, in Dollars: Ohio (age of first pension draw indicated)



Source: Costrell, R. & Podgursky, M. (2009, April) *Education Finance and Policy* 4:2 pp. 175-211.

Figure 1 shows pension wealth of an individual who entered Ohio teaching at age 25, as displayed in Costrell and Podgursky's seminal paper on teacher pension incentives.<sup>14</sup> The horizontal axis is the age that she leaves teaching in Ohio, while the vertical axis is the present discounted value of the stream of annuity payments. In Ohio, unlike some other states, teachers are not part of Social Security; thus, in this example the teacher's retirement income is composed of her defined-benefit pension wealth from Ohio (described in Figure 1), her personal savings, and her retirement savings from another job (which may include Social Security). In her Ohio pension, she has no pension wealth until age 30 when she becomes vested.<sup>15</sup> If she decided to retire from Ohio public school teaching after 10 years (at age 35), she could begin to receive her annuity at age 60, 25 years later. Her annuity would be around \$10,858 a year or 19 percent of her final average salary.<sup>16</sup> Costrell and Podgursky argue that she would be indifferent between accepting this annuity and asking Ohio for a lump sum repayment of her contributions into the pension system (10 percent of her salary each year), meaning the Ohio school system has not increased the value of her retirement savings. If she retired at age 50 she could start receiving her annuity just five years later. Her annuity would be 41 percent of her final average salary - still well short of the recommended 70 to 80 percent target replacement rate recommended to maintain the same standard of living post-retirement.<sup>17</sup> She has to work until age 57 before her annuity equals 71 percent of her final average salary - after 32 years of work.

It should be noted that individuals who leave their jobs at age 35 and 50 may have other employment before their actual retirement from the labor force, which could shore up their retirement income. Additionally, if an individual had long since planned to change careers, she might be preparing for retirement with additional personal savings (yet, as noted above, individuals do not generally save a lot on their own). Conversely, some career changes could be unexpected, making saving for retirement more complicated. An individual who intends to stay in the public-sector for her entire career will likely set her personal retirement savings goals with the assumption that she will claim the pension benefits from her current plan when the replacement rate is relatively high. However, if she needs to quit her job all of a sudden (perhaps due to a family member's illness or a spouse getting employment elsewhere), she may find her retirement assets fall well short of her original goal because her public-sector pension wealth has not grown as much as she expected. Job changes are incredibly common among U.S. workers. According to a recent report by the U.S. Bureau of Labor Statistics, Americans currently between 50 and 57 years old have had an average of 11.3 jobs over their lifetime (as of 2010).<sup>18</sup> While many of these job changes occurred



before individuals were 25, only 3.7 percent of individuals starting a job in their late 20s still had that job in their 50s; and only 18 percent still had jobs they started in their 30s. Thus, public-sector pension systems do a good job protecting some workers from sophistication risk - the workers who spend their entire career in that public-sector employment - but the retirement security of the average worker is not as well shielded.

One retirement risk that can be pooled is *market risk*, the risk of investing one's savings in funds that lose value unexpectedly. If individuals use a risk pooling policy and invest all funds across a diverse portfolio, then the likelihood of losing a large portion of any one individual's retirement assets decreases. In the traditional defined-benefit pension system, market risk is not pooled across individuals, but completely borne by the local pension system. The state or locality promises that they will provide the retiree with a certain benefit amount regardless of the performance of the pension system's investments. In addition to eliminating market risk, further advantages of having retirement assets handled by the defined-benefit policy provider include: lower administrative costs, which help keep more money invested and increase the investment return; and lower sophistication risk borne by individuals because professionals manage investments.

*Inflation risk* is the loss of asset purchasing power due to changes in the value of currency. This can be lessened by having a broad portfolio of investments that includes international funds - similar to pooling market risk, but hedging inflation instead. Current pension systems address inflation risk using cost of living adjustments (COLAs) that increase retirement payments to counter inflation. For some pension plans, COLAs are automatically tied to economic indicators, relieving the individual of much of the risk, while others are enacted ad hoc through legislation, leaving retirees subject to political agendas.

The final risk is *longevity risk*, or outliving one's assets. While living a long life is generally considered a positive outcome, living for longer than you had planned can be troublesome if you run out of money. Longevity risk can be pooled across individuals just like other types of risk (individuals will live different lengths of life; money is transferred from those who live shorter lives to those who live longer), but current defined-benefit plans address this risk by delivering retirement assets in the form of an annuity. This protects against longevity risk because individuals receive the annuity for the rest of their lives - regardless of how long their lives are.



Current pension systems remove many risks from long-career individuals by transferring these risks to the pension plan provider; however, these plans do not provide nearly the same protection to individuals who change jobs before retirement eligibility. As discussed next, a tradeoff for placing all of the risk on the employer is the lack of fiscal sustainability.

## Goal 2. Ensure fiscal sustainability

The sustainability of a pension system relies on two mechanisms: government accountability and the balance of taxpayer costs and benefits.

Just like individuals have trouble following through with their savings goals, governments have short-term incentives that could hurt the pension system in the long-term.<sup>19</sup> For example, it is easier for the state or local government to offer increases in deferred compensation instead of current compensation because deferred compensation does not necessarily increase the costs included in the present budget. If the costs related to deferred compensation promises are not paid today, then future government officials (who may be entirely different people than the current ones) are left with the bill when the promises are due. It may even be that the residents who voted for an increase in benefits are different from those who actually assume the cost for it, making resident mobility a liability for stability.

Even within the pension system, some individuals may end up paying for increased compensation for others. An example of this is the widespread increase in pension benefits and decrease in contributions during the stock market boom of the 1990s – changes that contributed to the funding crisis many pension systems are facing today. Koedel, Ni and Podgursky show that such enhancements to Missouri pensions resulted in large monetary gains for those near retirement, but made future teachers worse off – the increase in contribution rates necessary to pay for more generous pension benefits ultimately makes teacher retirement compensation worth less today than before the enhancements.<sup>20</sup>

Another contributor to the current funding crisis is that some states put off paying the required employer contribution into pension plan accounts. Due to the limited legal ramifications, withholding payments is an attractive option in times of economic distress. But skipping payments today means the pension fund loses out on investment returns from those payments, leaving the pension fund at a deficit of more than just the original payment amount.

Fiscal sustainability is also related to taxpayers' preferences and the balance between costs and benefits. The costs to the system include both the generosity of the pension benefits and the expenses associated with the risks the pension system has borne. For instance, if the pension system bears the entirety of market risk and markets plummet, the taxpayers must pay the difference between the benefits promised and the fallen investment level. Thus, the ways that workers' risks are mitigated (the previous goal) are directly related to the risks that taxpayers bear. The taxpayers receive benefits from the pension system if the system improves the public services that are provided. These benefits would occur through the recruitment and retention of high-quality workers (discussed in the next goal). These benefits should offset the costs mentioned above. If they do not, then voters have an incentive to "vote with their feet" and leave a locality where costs outweigh benefits.<sup>21</sup> In reality this is only an option to the extent that alternative localities have a more attractive cost-benefit balance that outweighs the transition cost of moving, which could be the case for mobile individuals in states that have amassed a large amount of debt.

There is an additional condition that must be met in order for the taxpayers to continue to be willing to pay for the pension system. Taxes go toward a number of government services and taxpayers want their money distributed so they get the largest "bang for their buck." This implies that money invested in pension benefits cannot be spent better by expanding law enforcement, improving highways, or any of the other many services that local and state governments support. If taxpayers are not content with the relative costs and benefits the government provides, then they may elect lawmakers who alter the distribution of funds (including changing the pension system), or move to another locality.

Even if taxpayers demand changes to public pension systems, actual changes are complicated both legally and ethically. Retirement benefit promises are made well before they must be paid out. To alter these promises for current retirees is generally impossible, as that would entail reneging on contractual obligations. Even changing future retirement benefits for current workers can be legally infeasible and raises thorny ethical questions. For example, altering retirement benefits for someone mid-career changes their optimal personal savings responsibility. In the case of reducing benefits, it may take many years to recoup the deficit between an initial personal savings goal of \$100,000, and a new goal of \$200,000. Some who are very close to retirement may not be able to recoup this deficit at all. Thus, striking a balance between pension costs, taxpayer risks, and pension benefits is a complicated matter

that requires a great deal of long-term planning to get right. Mistakes in this delicate balance are difficult - if not impossible - to correct.

Both of these mechanisms, political accountability and taxpayers' knowledge and preferences, can make current pension systems fiscally unstable. Current employer contribution requirements are set based on projections of investment returns, rates that many say are set unreasonably high.<sup>22</sup> As these costs are not currently realized, it takes time for ramifications to be noticed by the taxpayers - at which point it may be too late to make changes to the retirement system. Many pension systems have been underfunded for years, yet the general public is just now becoming concerned. The lack of transparency and independent regulation makes it additionally difficult for governments to be held accountable. An earlier report from the Brown Center at Brookings discussed the skyrocketing pension costs over the past decade.<sup>23</sup> Government contributions to pension systems have almost doubled during this time period, straining the budgets of other important government responsibilities.

In a recent series of reports published by the Thomas B. Fordham Institute, Costrell and Maloney show examples of how escalating pension costs can impose gross redistribution of taxpayer dollars.<sup>24</sup> In the absence of pension reform, Milwaukee Public Schools would face a projected (almost) doubling of pension costs per pupil between now and 2020 (from \$1,860 to \$3,512). It is unknown how the district would cover these increased expenses, but the authors show many different scenarios playing out by 2020. For instance, a 24 percent drop in either the number of teachers or the same drop in average teacher salary and benefits. Both would likely have extreme consequences for the quality of instruction that Milwaukee taxpayers' children receive and upset the relative balance between pension costs and taxpayer benefits, leaving taxpayers wanting a change.

Defined-benefit pension systems have inherent characteristics that make them difficult to fiscally sustain. First, the time lag between pension plan promises and pay outs gives the pension plan provider a lot of room to "pass the buck." Second, pension plan providers must unwaveringly pay out pension promises, regardless of market variability, placing a great deal of risk on taxpayers to fill any funding gaps. Third, pension plan providers have a lot of freedom to regulate themselves, sometimes making unreasonable projections about future funding and liabilities and potentially leaving the public with uncertainty around the true cost. In thinking about how to rebuild pension systems, it is important to think long-term about how taxpayers will

evaluate benefits and costs in order to continuously support a retirement system. The next goal goes further into taxpayer preferences, including how pension plan type affects worker productivity and public services.

### Goal 3. Maintain or improve public-sector workforce productivity

In order to strike the appropriate balance between the costs and benefits of the pension system, one must calculate the benefits. These are related to the increased productivity of the public workforce due to the pension plan. Economists argue that individuals who are more productive should have greater compensation. As discussed below, this does not necessarily mean that one's productivity lines up with their compensation at every moment. He or she may be paid less in the early years and more in later years (or even vice versa). The structure of pay can create different types of incentives in terms of productivity and job retention. The question at hand is whether the current structure of pay creates incentives that engender a productive workforce.

Note that workers with an employer-provided retirement plan receive two types of compensation: current salary and deferred retirement benefits. A defined-benefit pension plan creates incentives that affect one's job retention by affecting the amount of deferred retirement benefits that the employee is entitled to at different points in his or her career. Costrell and Podgursky describe the retention "pull" and "push" embedded in the structure of defined-benefit pensions.<sup>25</sup> A mid-career employee may be willing to trade her current salary for one of a different job, but she would be giving up a potentially large portion of pension benefits by doing so. As seen in Figure 1, the value of pension benefits grows the longer one works due to the increasing benefit amount and increasing proximity to benefit receipt. After vesting, pension wealth grows by \$15,000 to \$25,000 per year until age 50. After age 50, pension wealth grows \$100,000 per year until age 55. Thus, because of these huge increases in deferred compensation, mid-career workers close to age 50 up to age 55 may feel "pulled" to stay with their current job, even if they could earn more salary in a different job (or would be happier in early retirement). Now, consider a worker over 55 years old. She has become eligible to receive her pension benefit immediately upon retirement from teaching. By choosing to continue to work another year she forfeits the benefit she would have received. Her pension wealth is not growing as fast as it was earlier and its growth may not offset the loss of the forfeited benefit. Thus, she may feel "pushed" to retire. Given that she is effectively losing retirement benefits by continuing to work, alternative careers where salaries are actually lower than her current salary

may be attractive. Researchers have shown that retirement behavior for those with a defined-benefit plan generally aligns with this “push” and “pull.”<sup>26</sup> When compared to workers who have a defined-contribution plan, which does not have these incentives, defined-benefit plan workers tend to retire two years earlier on average.<sup>27</sup> Thus, these incentives have clear impacts, but whether they are effective at promoting a productive workforce is a different question.

These embedded incentives make sense in certain circumstances. Lazear argues that defined-benefit pension systems have the ability to resolve a common problem for many employers: the inability to tell how much effort workers are putting toward their job.<sup>28</sup> Being fired is more costly for workers with a defined-benefit pension plan because so much of their total compensation is tied up in these deferred benefits – benefits which they only receive the full value of if they keep their job for a long time. In other words, for the same reason that the pension “pull” keeps mid-career individuals from wanting to quit their job, it theoretically keeps individuals working hard so they do not get fired. The purpose of the pension “push” is to give high-salary individuals incentives to quit. Note that the pay scale for most public-sector jobs rises with experience (giving workers another reason to want to keep their job), but if workers have relatively stagnant levels of productivity in later years (e.g., if someone with 30 years of experience is hardly more productive than he was with 20 years), then high-experience workers might be overpaid. This implies it would be beneficial to the company to have highly-experienced employees retire and be replaced by someone new at a lower salary.

Three assumptions must hold in order to argue that Lazear’s theory about defined-benefit pensions applies to the public-sector and makes its workers more productive. First, public employees must be concerned that they could get fired if they do not exert enough effort. This is generally not the case when one compares public and private layoffs. The Job Openings and Labor Turnover Survey shows that the 2012 rate of job layoffs and discharges was 17.3 percent for all private jobs, compared to 5.7 percent for state and local employment.<sup>29</sup> Second, in order for the pension “push” to be beneficial, high-salary workers must be overpaid. There is not a straightforward answer to this question.<sup>30</sup> Thus, while some workers may be overpaid, this could be true at any point in the salary scale. The idea that **all** are overpaid the moment they become eligible for their pension annuity is likely incorrect. Third, only individuals who are interested and willing to have long careers would be influenced by these pension incentives. A 15- to 20-year career is not long enough to reap the full benefit of a defined-benefit pension

plan. A different type of plan where medium-term career individuals are rewarded by the retirement system could result in productivity gains from attracting more individuals to public-sector work.

While there may be theoretical reasons that make defined-benefit pension systems productivity-enhancing, the theory laid out by Lazear is likely not relevant for the current public-sector work environment. Employees generally do not fear losing their jobs and, while the pension “pull” and “push” do a good job retaining mid-career teachers and pushing out late-career teachers, it is unclear that these incentives necessarily result in productivity gains. Furthermore, a defined-benefit retirement system only truly rewards individuals who intend to have long careers, potentially discouraging workers from exploring public-sector work.

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In summary, current public-sector pension plans meet some but not all of these goals. First, they promote retirement security by bearing all of the market and longevity risk by guaranteeing a retirement benefit of a set amount and countering inflation risk with COLAs. The risk of undersaving is well offset for long-term employees when annuity amounts are generous enough to provide an acceptable standard of living during retirement years. However, the median length of employment is less than 5 years (closer to 8 in the public-sector); thus, very few employees end up being “long-term.”<sup>31</sup> Therefore, although the current pension system has the capacity to provide financial security in retirement, it only does so for a portion of its workers and to the detriment of the average worker who switches jobs too quickly to realize the bulk of retirement benefits. Second, many defined-benefit pension plans have not been successful in maintaining fiscal sustainability. For some states, the political incentives to push funding responsibilities on to future generations were too tempting to withstand. The lack of transparency and the long lag between pension promises and benefit payouts make all pension plans potentially susceptible to a funding crisis. Third, the pension “pull” may keep some workers tied to their jobs, but this does not enhance current worker productivity unless workers fear a real threat of being fired – something current public-sector workers do not likely fear. The pension “push” may be productivity-enhancing if it successfully gets rid of overpaid employees; but the concept of overpayment – both which individuals are overpaid and why – needs further study and may be better addressed by policies other than pension plan incentives.

It is difficult to design a pension plan that meets all of these goals equally well. In some cases, the less risk the individual bears, the more risk the pension provider and, ultimately, the taxpayers bear; the more risk taxpayers bear, the more expensive and unsustainable the policy. The penalty for job mobility hurts retirement security for employees who switch jobs, but a high mobility penalty results in fewer costs related to job turnover and a less expensive pension system. Because of these tradeoffs, there is no “silver bullet” pension plan that can suit all political and economic circumstances; however, in the following section we focus on how one plan, a collective defined-contribution plan, makes great strides toward mitigating the current pension plan weaknesses while matching many of its strengths.

## An Ideal Pension Plan

In the previous section, we described three goals for public-sector pension plans: provide adequate retirement security, be fiscally sustainable, and maintain public-sector workforce productivity. Current defined-benefit pension plans provide financial security for long-term employees, but not for individuals who switch jobs mid-career and leave behind large amounts of retirement assets. Many defined-benefit plans are not fiscally sustainable due to the lack of political accountability and transparency making it easy to “pass the buck” to future taxpayers and legislations, leaving enormous deficits in funding levels. Although defined-benefit plans keep mid-career individuals amply attached to their jobs, these incentives are only productivity-enhancing because they limit the cost of turnover (as opposed to making individuals work harder in their jobs for fear of being let go). These pension plans also push out highly experienced workers, which likely lowers overall salary costs and allows openings for new workers who might bring innovation to the workplace; but many public-sector workers face a pension “push” as early as their mid-50s, when they likely have quite a few more years they could provide to public service.

Below we outline a collective defined-contribution plan that combines the strengths of a defined-contribution plan with the advantages of risk pooling and shared investment management, to strike a balance toward attaining the goals above. Before getting into the specifics of this plan, we describe a traditional defined-contribution plan and its ability to meet our pension plan goals.

### Defined-contribution plans

The private sector has overwhelmingly switched to offering retirement compensation in the form of a defined-contribution retirement plan. This plan, sometimes known



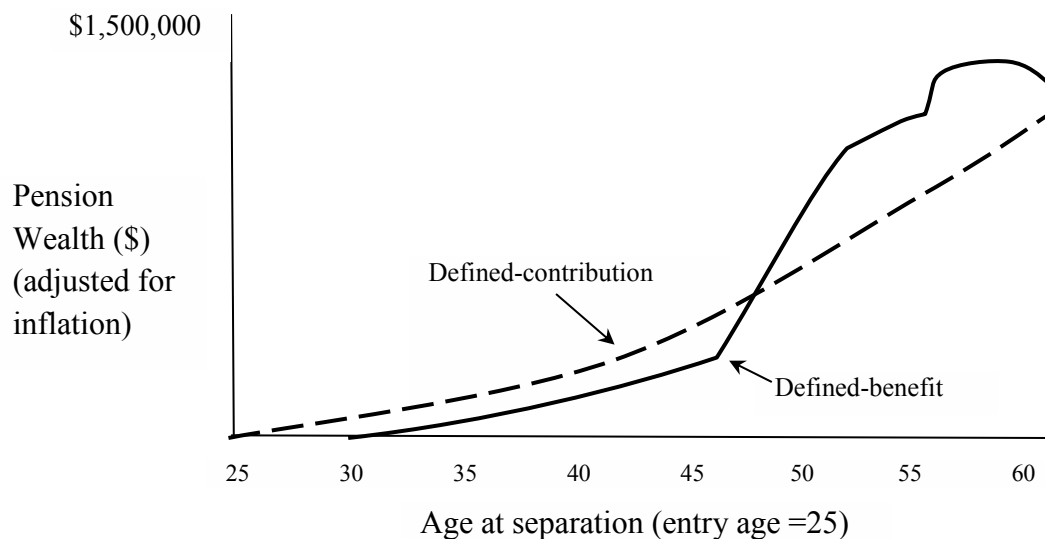
as a 401(k), 403(b), 457, or Thrift Savings Plan, sets up a retirement savings account for each employee. The money deposited in the account is not taxed until funds are withdrawn, presumably during retirement. In addition to the employee's contributions, the employer often contributes money as well. The account belongs to the individual who has control over how it is invested (to some degree, depending on the plan), and can usually roll the money into a new company's defined-contribution plan if he or she changes jobs. This portability, along with smoother asset growth (discussed below), decreases the penalty associated with changing jobs. At the same time, individually-controlled accounts result in higher administrative costs, which chip away at assets and leave individuals liable for sophistication risk.

In terms of meeting the first goal, providing retirement security, defined-contribution plans fall short in many respects. Individuals with more financial sophistication will likely end up with more retirement assets because they have a better understanding of how much they should be contributing and how best to invest it. Defined-contribution plan holders bear all market risk because the value of their assets is precisely the value of the cash, stock, and bonds that they chose to purchase with the account contributions. Generally, defined-contribution plans do not provide a great deal of protection against inflation risk either. Individuals might diversify their portfolio to include investments from other countries in order to be protected from a decrease in the value of the American dollar, but this is only useful for individuals who are still working. As individuals approach retirement, they generally switch their investments from volatile stocks to more conservative bonds, which could be easily outpaced by inflation. Lastly, defined-contribution plans give individuals access to their entire savings fund when they turn 59<sup>1/2</sup> years old, leaving it up to the individual to decide how to spend it over the course of his or her lifetime.<sup>32</sup> While one can always purchase an annuity to guard against longevity risk, individuals usually do not.<sup>33</sup> Having access to a large sum of money could be helpful to handle something like an unexpected medical expense, but it leaves the individual at risk of outliving his or her assets. Thus, defined-contribution plans force individuals to bear the entirety of sophistication risk, market risk, inflation risk, and longevity risk.

Defined-contribution plans provide more retirement security for mobile employees than defined-benefit plans. Figure 2 shows pension wealth accumulation for two retirement plans that are loosely based on Ohio's teacher retirement system as it existed in 2007-08, as described in Costrell and Podgursky (2009).<sup>34</sup> The defined-benefit plan mimics Figure 1, with suddenly increasing benefits for workers who retire after age

50. The defined-contribution plan assumes the employer and employee contribute a total of 23 percent of the worker's salary into the individual's retirement account each year (the same amount contributed to the defined-benefit plan). These investments grow at a constant rate of five percent. If this individual left her job before age 50, the defined-contribution plan would leave her with higher retirement savings than the defined-benefit plan.

Figure 2: Hypothetical Pension Wealth Under Different Plans, in Dollars<sup>35</sup>



Source: Authors' calculation. Adapted from Costrell, R. & Podgursky, M. (2009, April) *Education Finance and Policy* 4:2 pp. 175-211.

Defined-contribution plans generally succeed when it comes to the second goal, fiscal sustainability. Defined-contribution plans are (almost) by definition fiscally sustainable. Because employers are obligated to deposit money into individual accounts each pay period (or year), the cost of increasing retirement benefits is borne immediately by increasing employer contributions. Defined-contribution plans are quite transparent when it comes to their funding levels - employees would notice that they did not receive the contributions they are owed and likely make this known to the public very quickly. This is in contrast to the years and years of underpayments to defined-benefit plans that were not part of the public policy debate until recently.

The connection between the timing of contribution promises and contribution payouts is what holds governments more accountable. However, some of the same issues persist in terms of benefit promises being irrevocable. If taxpayers abruptly decide they want to spend less money on pensions, it may be legally impossible to do so, not to mention the ethical considerations discussed earlier around changing retirement

plan features for mid-career employees. In short, the claim that we would not be facing this underfunding crisis if we had defined-contribution plans is likely true; however, as discussed below, the claim that pensions would be less costly with defined-contribution plans is not necessarily so.

Defined-contribution plans do not fare any better or worse towards our third goal, maintaining workforce productivity - but definitely fare differently. As shown above, defined-contribution plans do not penalize job mobility to the same degree as defined-benefit plans. Short-term and medium-term employees do not feel the pension “pull” that keeps them tied to their jobs, which could result in more individuals leaving mid-career. This turnover is costly both because the public-sector system might lose productive employees or have to bear the cost of recruiting and assimilating new workers, but also because those mobile individuals walk away with more employer contributions to the retirement system (likely more than they would take away under a defined-benefit plan). These two pieces - that more individuals leave, and that leaving individuals have higher pensions - may lead to a more costly defined-contribution plan than the current defined-benefit plan. We do not know whether this is the case, as localities have only recently implemented defined-contribution plans, but it is incorrect to calculate the cost of a defined-contribution plan assuming the same worker behavior currently displayed under a defined-benefit plan.

There are two mechanisms that could possibly result in defined-contribution plans improving productivity, but research does not stand firmly behind either being true. Perhaps individuals who prefer defined-contribution plans are more productive than those who want a defined-benefit plan. Chingos and West show that some types of teachers actively prefer defined-contribution plans to defined-benefit (e.g., teachers with more advanced degrees); however, there was only a slight positive correlation between teacher quality (measured using student achievement score gains) and choosing a defined-contribution plan.<sup>36</sup> Thus, it is not yet clear that more productive individuals will enter the public-sector workforce if the retirement plan were changed.

The second mechanism that may increase productivity is the reduction of the pension “push.” This mechanism could actually help or hinder the appeal for moving to a defined-contribution plan. To the extent the pension “push” is encouraging productive workers to leave, switching to a defined-contribution plan where there is no “push” could increase productivity. However, both productive and non-productive individuals would have the same incentive to stay, meaning there may be no overall increase in

productivity. Furthermore, individuals working long past the “push” would increase salary costs and employer contributions to retirement savings. Ashenfelter and Card look at the effect of removing mandatory retirement for faculty in 1994.<sup>37</sup> Mandatory retirement was previously enforced at age 70, but after this policy more than half of faculty members working at age 70 were still teaching at age 72. While the pension “push” is far from mandatory retirement, this study shows that many long-term employees would work longer if there were no external incentives to leave. Evidence on early retirement incentives for teachers in Illinois (that “push” individuals out in a slightly different way) suggests that student test scores actually increase when teachers are induced to exit, particularly among students in lower socioeconomic schools.<sup>38</sup> Thus, the absence of the pension “pull” and “push” could have a variety of effects on workforce productivity as well as pension plan cost.

In summary, the strengths of defined-contribution plans correspond to many of the weaknesses in defined-benefit plans; however, the converse is true as well. Defined-contribution plans are more fiscally sustainable and decrease penalties for changing jobs and for working past normal retirement eligibility. Defined-benefit plans are superior in terms of providing adequate retirement security and minimizing employee savings risks, offering incentives that retain mid-career workers, and push highly paid individuals off payroll. As discussed next, collective defined-contribution plans have the capacity to combine the strengths of these two plans while mitigating their weaknesses.

### Collective defined-contribution plans

Similar to a defined-contribution plan, a collective defined-contribution plan provides each individual a retirement savings account where employer and employee contributions and investment accruals are held. Distinct from defined-contribution plans, all accounts are managed collectively, meaning that the pension provider chooses how money is invested, and how and when investment returns are divided among plan members. A collective defined-contribution plan capitalizes on risk pooling to lessen the risk borne by individuals without increasing the risk borne by employers.

The Center for American Progress has released a comprehensive proposal of a collective defined-contribution plan called the “SAFE Retirement Plan.”<sup>39</sup> Davis and Madland propose the SAFE plan as a way to improve retirement saving in the private sector, which is mostly made up of defined-contribution plans. Sophistication risk is mitigated in two ways. First, all workers’ accounts are managed collectively by a

professional, which cuts administrative costs and relieves individuals of investment decisions. Second, employees have amounts deducted from their paycheck and deposited directly in their account - an amount that could be set by the pension plan provider to ensure individuals are adequately saving for their retirement.

In a brief describing the Netherlands' pensions, Ponds and van Riel describe the tradeoffs of having a system based on set benefits with variable contributions or set contributions with variable benefits.<sup>40</sup> A collective defined-contribution plan is the latter (a defined-benefit, the former). Ponds and van Riel describe the Netherlands' hybrid plan where both contributions and benefits are variable. This is similar to Davis and Madland's SAFE proposal of having contributions increase over time (called auto-escalation), but in the Netherlands, contributions fluctuate depending on pension plan investment returns. The contribution level changes based on parameters related to the individuals' savings goal. We propose that employees have goals routinely set by the pension provider upon an individual's first entry and re-set every year. Employee contributions would automatically vary in order to meet this goal, but individuals could actively choose to limit contribution increases during years when they need money in the present (e.g., paying a child's college tuition, buying a new home, etc.). This would be an additional way to lessen sophistication risk and some market risk, improving the guarantee that individuals reach their savings goal.

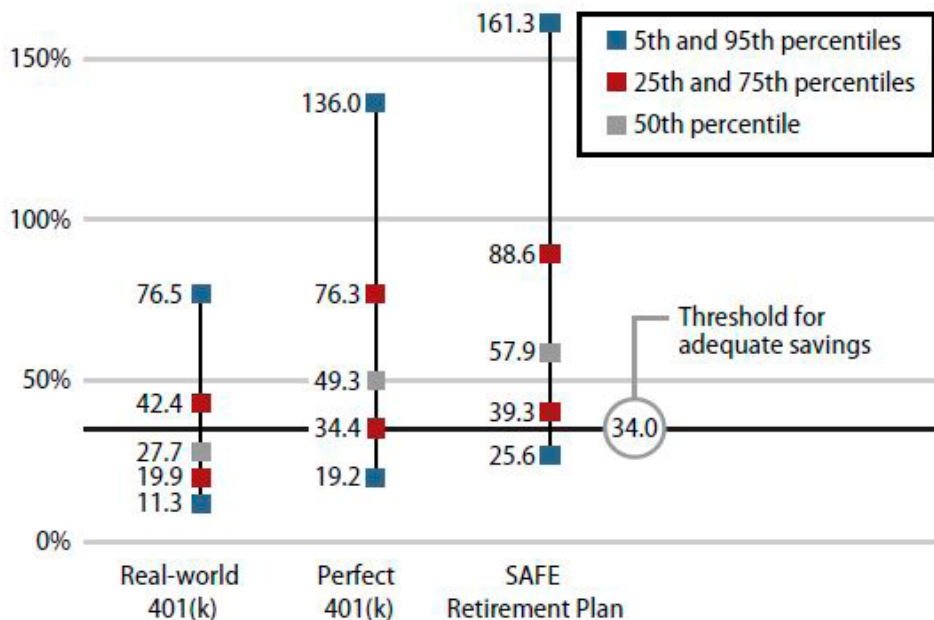
In a collective defined-contribution plan, all pension contributions are invested across a broad portfolio of stocks and bonds in order to pool market risk. If one investment decreases in value, no one individual will feel the full brunt of that loss; instead, the loss in value will be dispersed across all accounts. This is different from market risk mitigation in defined-benefit pensions where an investment loss would need to be made up with higher contributions from taxpayers; or a defined-contribution plan where any employee with that failed investment would find that their assets drop proportionally.

Market risk is not only pooled across worker accounts at any one specific time, but also pooled across time. During periods of particularly strong economic growth, individual accounts might not reflect the entirety of market gains. Instead, these gains will be saved separately and credited to accounts in particularly poor investment years. Thus, the good economic times provide insurance for the bad. A similar plan was put into place in New Brunswick in 2012, where base retirement benefits were guaranteed regardless of economic conditions, and ancillary benefits were added in particularly

good periods of investment growth.<sup>41</sup> This practice lessens the effect of market risk during bad years and provides workers with relatively smooth savings accruals.

The overall effect of these market risk pooling mechanisms, lower administrative costs and professional management, results in higher overall retirement replacement rates.<sup>42</sup> Figure 3 shows the results of a simulation comparing the outcomes of three different retirement plans: a “real-world” 401(k) with the assets and fees of a typical plan, a “perfect” 401(k) that represents the best possible management of funds with very low fees, and the SAFE plan described above. Under the assumption that most workers qualify for Social Security benefits that would cover around 36 percent of the income needed to retire comfortably, the target replacement rate for these retirement plans is 34 percent (to meet the 70 percent benchmark described earlier). This figure shows the returns on these plans under the same hypothetical market conditions.<sup>43</sup> The SAFE plan has a higher mean return and fewer than 25 percent of individuals with this plan would fall short of the 34 percent benchmark. The other two plans have 25 to over 50 percent of individuals not making their retirement savings target. Thus, these strategies to mitigate market risk and keep administrative costs low are likely to improve retirement security over the average defined-contribution plan.

Figure 3: Distribution of Retirement Replacement Rates



Source: Davis, R. & Madland, D. (2013, August) American Retirement Savings Could Be Much Better, Center for American Progress.

When an employee leaves the labor force (and is over 59<sup>1/2</sup>), SAFE offers an annuitized stream of payments. By offering an annuity instead of a lump sum, individuals are protected from longevity risk. These plans can hedge inflation risk because they hold assets for individuals at a variety of life stages - some are 30 years from retiring, others expect to retire next year, and many have already retired. Retirees receive COLAs funded by having some assets invested in more aggressive funds, without retirees themselves bearing the full brunt of the risk of owning these volatile accounts. In this way, risk is shared between different generations of workers.

With respect to our second goal, collective defined-contribution plans are fiscally sustainable to the same degree as traditional defined-contribution plans. In particular, the employer's (and, thus, the taxpayer's) obligations are simply to fulfill the contractual obligation to contribute to the worker's account. Again, the idea that employer contributions must be paid directly to the employee's account when they are promised makes these plans much less likely to accrue the type of debt present in today's defined-benefit pension plans when payouts lag behind payment promises. A recent reform in Illinois gives pension members the right to sue the state of Illinois if payments are not made in accordance with state law.<sup>44</sup> This statute gives needed teeth to government accountability that could be further sharpened in the case of collective defined-contribution plans if the plan provider were separate from the state and able to sanction the government for not fulfilling its contractual obligations.

A collective defined-contribution pension plan provider would be separate from the employer (and, thus, the taxpayer), but it is important to assess its obligations to make sure such a system is sustainable. Importantly, the pension provider bears no market risk, the most volatile type of risk, as this is completely pooled across its policy holders. With respect to longevity risk, the provider does bear some risk in that a number of retirees will live longer and receive their annuity longer than expected. At the same time, some retirees will not. With a large enough group of people, longevity risk is relatively easy to hedge and much less risky than market risk. Said differently, predicting market growth in the next 10 years is much harder than predicting how many retirees will be alive in 10 years. The pension plan provider also provides COLAs to ease inflation risk, but these COLA amounts are not guaranteed; instead, they correct for the rate of inflation but are funded to the extent that the pension plan assets can afford.

The SAFE Retirement Plan is distinct from a traditional defined-contribution plan in



that it is not associated with just one employer, but many employers can opt in. If all employers use this type of plan then employees can seamlessly switch from employer to employer without having to rollover funds, setup accounts, or drop accounts. This allows for further protection from administrative costs and potential retirement savings leakage that could reduce the total value of one's assets. The SAFE plan was intended for use in the private sector, where it is unlikely that all employers would opt in; however, a combined plan for all public-sector employees across the nation is potentially possible. Localities could decide the rules around employer contributions, and employees could switch from one public-sector job to another without having to switch retirement plans. This would increase retirement security for individuals who regularly change jobs within the public sector. Given that few jobs are held by both public- and private-sector workers (teachers, firefighters, and law enforcement are majority public-sector positions), this increased mobility within public-sector jobs that allows individuals to move across districts and states without penalty could make these positions more attractive and improve public-sector retention.

Just like a defined-contribution plan, a collective defined-contribution plan does not have any inherent incentives for workers to stay or leave at particular points in their career. However, this does not have to be the case. The benefit of a pension "pull" is the retention of experienced workers. This cuts down on turnover costs like recruiting, training, and assimilating new employees. Collective defined-contribution plans cut down on the mobility penalty, thereby increasing the incentive for employees to leave when compared to a defined-benefit plan. As discussed above, this could result in a more costly retirement plan than the current system. One way to avoid these turnover costs and additional retirement payouts is to continue to require vesting. For example, allow individuals to keep the employer contributions in their retirement accounts only once they have worked for five years (the employee's contributions always belong to the individual regardless of his or her employment status). This is the case in many defined-benefit systems currently, which keeps retirement costs low for short-term employees. While this may impact very mobile employees' ability to save for retirement, it is known to the individual at the time of employment and employees should consider their individual savings goals with this in mind.

This lump of employer contributions awarded after vesting may not be reason enough for a one-year employee who hates his or her job to continue working for an additional four years, but it might keep employees with three or four years of experience, many of whom have been trained and become proficient in their jobs. Research is inconclusive

on the ideal number of years required to vest, but five seems reasonable given that it is the national tenure average; thus, the average worker would be vested.<sup>45</sup> Requiring 10 years to vest would save money but is likely not going to alter worker behavior. Ten years is such a long horizon that individuals would have to work for many years before feeling any “pull” from vesting. Furthermore, it would mean that the average worker is not vested and may not have adequate retirement security.

In terms of additional “pulls” and “pushes,” it is likely more effective and salient to have worker retention guided by salary practices and personnel policies instead of deferred compensation. Linking employees’ performance to their pay and job security may be more likely to enhance workforce productivity (and reduce the number of workers who are overpaid or underpaid) than any incentives embedded in retirement plans. Additionally, as noted above, changing the deferred compensation mechanisms will likely alter worker behavior and could affect payroll costs. Consequently, deferred and current compensation need to be jointly considered by policymakers, which has the potential to not just maintain, but improve public-sector workforce productivity.

In summary, a collective defined-contribution plan protects individuals from risk through risk pooling, collective management, and low administrative costs, which greatly improve market returns. With the addition of variable contribution amounts, an individual is likely to reach his or her retirement savings goals. The SAFE plan lays out a sustainable way to offer retirees annuities and COLAs that hedge longevity and inflation risk. This type of plan is fiscally sustainable due to the contemporaneous funding of benefit promises and the separation of the employer and the pension plan provider. With the addition of vesting and a review of current salary practices, a collective defined-contribution plan has the potential to limit public-sector costs and retain productive workers. Furthermore, with a nationwide public-sector retirement plan, more individuals (and possibly more productive individuals) might be drawn to public-sector work after removing penalties for changing jobs across localities.

## Conclusion

We have identified three major goals of a public-sector pension system: retirement security, fiscal sustainability, and workforce productivity. Figure 4 below illustrates the relative strengths and weaknesses, for a given a level of spending on retirement benefits, of the three pension systems explored. Defined-benefit systems do well toward the first goal, falter considerably at the second, and fall somewhat short of the third. Defined-contribution plans leave workers exposed to many risks, but are fiscally

sustainable. They remove the “pull” and “push” of pensions, which could have various effects on public-sector productivity.

A collective defined-contribution plan has the great advantage of fiscal sustainability and uses risk pooling, low administrative costs, and collective oversight to mitigate many of the risks to which defined-contribution plans expose individuals. With slight modifications, a collective defined-contribution plan can be altered to provide soft nudges toward additional employee recruitment and retention with vesting requirements and a nationwide public-sector pension plan. Furthermore, a collective defined-contribution plan coupled with changes to salary and personnel policies has the potential to maintain and even increase workforce productivity.

Figure 4: How Do Different Pension Systems Meet Key Goals?

<u>Goal</u>		Provide Adequate Retirement Security	Ensure Fiscal Sustainability	Maintain Public-Sector Workforce Productivity
Pension System	Defined-Benefit System	+	-	+ / -
	Defined-Contribution System	-	+	+ / -
	Collective Defined-Contribution System	+	+	+ *

\* With the addition of vesting and using salary and personnel policies to recruit and retain productive workers

It is important to emphasize that this analysis considers the advantages and disadvantages of different types of pension systems for a given level of spending on retirement benefits. For example, of course it is possible for a generous defined-contribution plan to offer greater retirement security than a bare bones defined-benefit or collective defined-contribution plan. Dramatically reducing spending on retirement benefits could undermine any pension system’s ability to provide adequate retirement security. Likewise, providing overly generous benefits could make any system fiscally unsustainable. Policymakers need to carefully consider both the way pension benefits are structured as well as the overall benefit level, particularly as it relates to the balance between current and deferred compensation.

The transition to a different pension regime requires consideration of both the behavioral effects these changes induce as well as the proponents and opponents of

such changes. For example, if the mobility penalty is reduced, then more workers will leave with more retirement compensation than they have now. Although this works toward our first goal of increasing retirement security, it also means the system will be more expensive unless other changes are made. This change may benefit young, mobile workers, but perhaps at the expense of less generous retirement benefits for long-term employees. Similarly, if individuals are working for longer at the top of the pay scale, the total cost of public-sector work may increase. Older, continuing workers may benefit from no more pension “push,” perhaps at the expense of fewer public-sector workers being hired and retained due to high salary costs.

Outside of the public-sector employees themselves, there are a number of other powerful stakeholders whose interests will determine what reforms are actually put in place. A collective defined-contribution plan has the potential to benefit many different groups. This plan can provide retirement security for long-term employees similar to defined-benefit plans that are considered the gold standard by public-sector unions and other interest groups. At the same time, employers and taxpayers bear very little risk as these plans have few chances to become underfunded or face ballooning costs. From the standpoint of larger societal concerns as a whole, a nationwide pension plan with a lower mobility penalty allows individuals greater retirement security and fewer workers artificially locked in jobs when they could be more productive to society elsewhere.

A final imperative reform concern is, “How do we get there from here?” In a separate Brookings report, Patrick McGuinn discusses how four states have - and have not - successfully made changes to their pension systems.<sup>46</sup> This report details a number of lessons and recommendations for achieving successful reform. The recommendation most relevant to our discussion here is to avoid making pension reform an ideological debate. Our hope is that the broad public pension goals outlined above will prompt a productive conversation where proposals can be evaluated and politically feasible policies can be tweaked and improved.

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