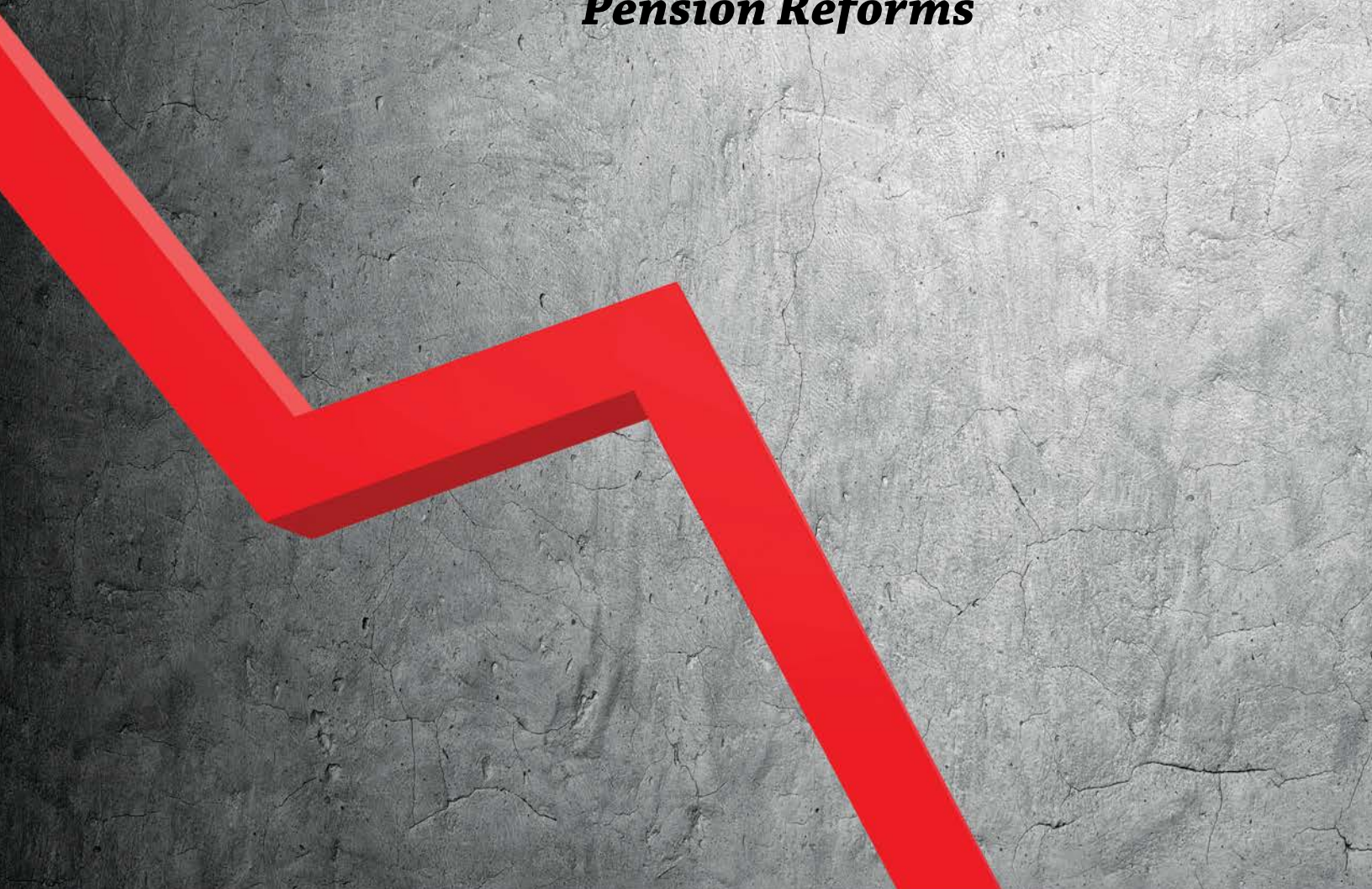


Economic Loss: *The Hidden Cost of Prevailing Pension Reforms*



National Conference on Public Employee Retirement Systems
The Voice for Public Pensions

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*The National Conference on Public Employee Retirement Systems (NCPERS)
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Economic Loss: The Hidden Cost of Prevailing Pension Reforms

EXECUTIVE SUMMARY

Public pensions are under constant attack by those who would like to dismantle them and replace them with do-it-yourself, 401(k)-style defined-contribution (DC) plans. Opponents, having little or no understanding of how public pensions are funded, promote misleading information about rate-of-return assumptions and huge unfunded liabilities to convince policymakers to dismantle public pensions. Some states are taking actions that are chipping away at public pensions without realizing the economic damage their actions will inflict on their states and our country's economic future.

The purpose of this study is to explore the following questions:

- How are public pensions funded?
- How much economic damage will occur in 2025 if the dismantling of public pensions continues?
- What can we do to address funding issues without dismantling public pensions?

We are hopeful that instead of getting caught in a web of misinformation, policymakers will find

answers to these questions useful in addressing pension funding issues without dismantling pensions.

Pensions play an important role in the economy

– Spending by retirees stimulates local economies, and pension assets are an important source of capital for businesses. America's mortgage market, its private equity and high-tech industries, and many of its start-ups rely on pension funds as a source of capital. A recent study titled *Pensionomics*¹ shows that defined-benefit (DB) pension plans stimulate \$1.2 trillion in economic output.

¹ Jennifer Erin Brown, *Pensionomics 2016* (Washington, DC: National Institute on Retirement Security, 2016).

The economy suffers when we undermine pensions – Our 2015 analysis² of empirical data from the 1980s, the 1990s, and the first decade of this century shows that when pension funds are dismantled, income inequality rises. Rising income inequality in turn drags the economy down. Moreover, the damage to the economy due to pension cuts is usually greater than the pensions' positive impact. Whereas the full positive impact of pensions on the economy may not be realized because recipients may spend only a part of their checks in local economies, the negative impact of pension cuts is realized in the economy dollar for dollar – and then is multiplied several times over as it ripples throughout the entire economy.

It is important to understand public pension funding – Opponents of public pensions apply rules to public-sector pensions, such as rate-of-return assumptions, that are designed for private-sector pensions. As Tom Sgouros³ notes, full funding of pensions might be a meaningless goal in the public-sector context. Whereas private companies could and do go out of business, state governments are here to stay. Does anyone really believe the Commonwealth of Kentucky – or any other state for that matter – will go out of business and find its assets sold to a foreign nation?

Public pensions are in better shape than portrayed by their opponents – The present study examines how public pensions are funded. We find that 76% of the money coming into public pensions comes from investment earnings. The same figure in 1940 was only 22%. The 2015 Census data show that state pensions are funded at a level of 76.3%. Similarly, National Conference on Public Employee Retirement Systems (NCPERS) annual survey of state and local pension plans shows that average funding

level has been steadily improving since 2014.⁴ We rarely hear this kind of positive information from opponents of public pensions.

We also found that states are exploring new ways to ensure adequate funding for pensions. Oklahoma, for example, has set up a pension stabilization fund to be used when any state pension fund's funding level falls below 90%. The City of Pittsburgh has dedicated a portion of revenues from parking assets to its pension fund. States like Wisconsin and Texas are recognizing the value of economies of scale by allowing small districts to join statewide pension plans. Our study also shows that in 41 states, state and local governments share the responsibility of funding pensions.

How large will the economic loss be in 2025 if dismantling of pensions continues? – Using models and parameters developed through our 2015 analysis of empirical data,⁵ we estimate that if dismantling of pensions continues, the economy will suffer \$3.3 trillion in damage in 2025. We measure economic growth in terms of median income rather than gross domestic product (GDP) because GDP hides improvements in the incomes of ordinary people. For example, the GDP may be growing, but all the income growth may be going only to the top 1% of the population. Similarly, we also measure the size of the economy by total personal income.

Our analysis shows that in 2025 the economy is likely to grow at 4.00%, the same rate predicted by the Congressional Budget Office.⁶ This rate, we project, will be dragged down to 3.29% if the dismantling of public pensions continues. The total size of the nation's economy, as measured by total personal income, is projected to be \$19

² NCPERS (National Conference on Public Employee Retirement Systems), *Income Inequality: Hidden Economic Cost of Prevailing Approaches to Pension Reforms* (Washington, DC, 2015).

³ Tom Sgouros, *Funding Public Pensions: Is Full Pension Funding a Misguided Goal?* (Berkeley, CA: Haas Institute for a Fair and Inclusive Society, UC Berkeley, 2017).

⁴ National Conference on Public Employee Retirement Systems, 2016 NCPERS Retirement Systems Study. Washington DC: NCPERS, December 2016

⁵ NCPERS, *Income Inequality*.

⁶ Congressional Budget Office, "An Update to the Budget and Economic Outlook: 2016 to 2026," CBO website, last modified August 23, 2016, <https://www.cbo.gov/publication/51908>.

trillion in 2025, and will be reduced by about \$3.3 trillion if dismantling of public pensions continues.

Strategies to adequately fund public pensions without dismantling them – Instead of staying on a path that will inflict significant damage to the economy, we must explore ways to address funding issues without dismantling public pensions. While the best way to adequately fund public pensions is through progressive tax reforms, the approaches explored in this study are less harmful than dismantling pensions. These approaches are discussed in Section III of the study and include the following:

- Asset monetization and dedicated revenue sources
- Well-designed pension obligation bonds

- Reform of revenue systems
- Closing of wasteful tax loopholes
- Management of risks in economic ups and downs
- Other options, including stabilization funds and economies of scale

We are hopeful that policymakers will find this report useful in understanding pension funding and will keep in mind the economic losses their constituents will suffer if they stay on the path toward dismantling public pensions. We are also hopeful that they will explore ways to address funding issues without dismantling public pensions.

Economic Loss: The Hidden Cost of Prevailing Pension Reforms

INTRODUCTION

Public pensions are under constant attack by those who would like to dismantle them and replace them with do-it-yourself, 401(k)-style defined-contribution (DC) plans. To make their case, opponents of public pensions often begin by comparing 30-year unfunded liability figures with 1-year state revenues. Such a comparison is not only misleading but based on a faulty premise: 30-year unfunded liability must be compared with 30-year state and local revenues. It seems as if opponents of public pensions have little or no understanding of how public pension funding works.

Public pensions are in much better shape than their opponents portray. As Tom Sgouros⁷ noted in his recent study, full funding of pensions might be a meaningless goal in the public-sector context. Accounting principles designed for private-sector pensions, such as rate-of-return assumptions, should not be applied to the public sector. Whereas private companies could and do go out of business, state governments are here to stay. Does anyone really believe the Commonwealth of Kentucky – or any other state, for that matter – will go out of business and see its assets sold to a foreign nation?

Yet states have given in, making adverse changes based on manufactured-crisis propaganda disseminated by opponents of public pensions. Policymakers have implemented pension reforms that have reduced benefits, increased employee

contributions, and converted defined-benefit (DB) pensions into DC or combination plans. These so-called reforms are slowly chipping away at public pensions. Our analysis of empirical data for the last 30 years shows that these measures have been harmful not only to public employees but also to the overall US economy. The purpose of this study is to explore the following questions:

- How are public pensions funded?
- How much economic damage will occur in 2025 if the dismantling of public pensions continues?
- What can we do to address funding issues without dismantling public pensions?

Answers to these questions will help policymakers make informed decisions instead of getting caught in the trap of misleading information.

Pensions Play an Important Role in the Economy

Spending by retirees stimulates local economies, and pension assets are an important source of capital for businesses. America's mortgage market, its private equity and high-tech industries, and many of its startups rely on pension funds as a source of capital. A recent study by The PFM Group⁸ suggests that spending by retirees

⁷ Sgouros, *Funding Public Pensions*.

⁸ The PFM Group, *Addressing the National Pension Crisis: It's Not a Math Problem* (Philadelphia, 2013).

accounts for 5.3% of our gross national product. This spending employs millions of Americans directly and tens of millions indirectly.

Similarly, other studies, such as the recent *Pensionomics*,⁹ have found that DB pension benefits have a significant positive impact on the economy. The study, conducted by the National Institute on Retirement Security, shows that DB plans stimulated \$1.2 trillion in economic output in 2014. The study also reveals that every dollar paid in pension benefits creates \$2.21 in economic output.

Pension funds are also great stabilizers of our economy. When individual investors run for the door during market downturns, pension funds, being long-term investors, remain in the market for the long haul, providing the financial and economic stability needed for economic prosperity. Pension funds are also great stabilizers of local economies. Pensioners keep receiving their pension checks in good as well as bad economic times. While incomes from jobs and investments decline during bad economic times, pension checks provide an economic cushion and keep local businesses afloat.

The Economy Suffers When We Undermine Pensions

Unfortunately, we have been steadily dismantling pensions. The National Conference of State Legislatures¹⁰ reports that all states have made changes to their pension plans – some more than once. These changes, in a nutshell, ask employees to pay more and get less, or to assume a greater risk of having little or no money in retirement. They have adverse effects on the economy. Our 2015 analysis¹¹ of empirical data from the 1980s,

the 1990s, and the first decade of this century shows that when pension funds are dismantled in this fashion, income inequality rises. Rising income inequality in turn drags the economy down. The economic impact of dismantling pensions is significant even when we control for other factors that contribute to income inequality and economic growth.

Apart from what our earlier analysis shows, it is common sense to conclude that when the incomes of some people are reduced through cuts in pensions and in take-home pay (resulting from increased employee contributions), and incomes of others are increased through cuts in marginal (top) tax rates, income inequality is bound to rise. Similarly, rising income inequality makes the economy inefficient due to consumption patterns that differ between the top income earners and the remaining consumers. In the end, inefficient economies do not grow at their full potential.

Missing in policy circles is any consideration of the negative consequences of prevailing pension reforms in terms of income inequality and economic growth. Our 2015 analysis¹² shows that with a single change that dismantles pensions in a state, income inequality in that state rises by 15%. This relationship holds even when other factors contributing to income inequality, such as lack of investment in education, are taken into account. The analysis also shows that states with rising income inequality had slower economic growth. We found that for each one-unit increase in income inequality in a state, the rate of economic growth in that state is reduced by about 18%. Again, this relationship holds even when other factors affecting economic growth, such as productivity, are taken into account.

⁹ Brown, *Pensionomics*.

¹⁰ Luke Martel (National Conference of State Legislatures), "State Retirement Reform Legislation," presented at National Conference on Public Employee Retirement Systems Public Pension Funding Forum, April 2014, <http://www.ncpers.org/Files/Conference%20Docs/PPFF/2014%20PPTs/Luke%20Martel.pdf>.

¹¹ NCPERS, *Income Inequality*.

¹² NCPERS, *Income Inequality*.

Furthermore, our earlier analysis shows that dismantling of public pensions increases economic volatility, for example, by contributing to the formation and bursting of asset bubbles. A *bubble* is an irrational rise in asset prices without growth in underlying economic indicators. When bubbles pop, they create economic volatility, and in the end, everyone suffers. Robert Shiller, Nobel Laureate in economics, notes in *Irrational Exuberance*¹³ that one of the causes of asset price bubbles is conversion of DB plans into DC plans. Such conversion has forced millions of Americans, who had little or no investment experience or knowledge of the stock market or electronically traded funds, to make investment decisions that led to irrational and unsustainable asset prices, or a bubble.

Conversion of DB into DC plans also exposes people to the economics of manipulation and deception, which in turn creates more uncertainty and instability in their lives. A free market confers not only freedom to choose but also freedom to be fooled and get trapped into buying financial products that one may not need or understand. George Akerlof and Robert Shiller, both Nobel Laureates, note in *Phishing for Phools: The Economics of Manipulation and Deception*¹⁴ that businesses are always trying to sell us products, financial and other, that may not be in our best interest. They explain that just as the free market has a tendency to reach equilibrium, so does “phishing for phools.” If we have a propensity to be fooled, someone will fish us.

In a 2016 analysis of empirical data,¹⁵ we examine the relationship between economic volatility and so-called pension reforms. This analysis covers the period 2000–2010 and focuses mainly on economic and revenue volatility in the 50 states. We found that for each action a state takes to

dismantle pensions, economic volatility in that state increases by 10% and revenue volatility increases by about 65%.

Opponents of Public Pensions Have Little Understanding of How Pensions Are Funded

Policymakers who intentionally or unintentionally buy into misleading information about unfunded pension liabilities, computed using rate-of-return assumptions designed for private-sector companies, overlook the economic damage that dismantling of public pensions inflicts on the economy. It seems that opponents of public pensions have little or no understanding of how pensions are funded. We rarely hear about the fact that an increasing proportion of pension fund money comes from investment earnings. For example, in 1940, 43% of pension fund money came from employee contributions, 35% from employer contributions, and 22% from investment earnings.¹⁶ In 2014, the same figures were about 7%, 17%, and 76%, respectively.¹⁷ Also, we rarely hear that funding status of pensions is steadily improving, approaching 76%.

We can do better. Instead of dismantling pensions, we need to strengthen them by understanding how they are funded, what the impact will be on our economy if we continue to dismantle them, and how we can fund them adequately without dismantling them. This study is divided into three sections. Section I examines how pensions are funded and which revenue sources and jurisdictions employer contributions come from. Section II estimates the damage to the economy in 2025 if the prevailing trend in dismantling pensions continues. Section III explores ways to improve funding levels without dismantling pensions.

¹³ Shiller, Robert. *Irrational Exuberance* (Princeton, NJ: Princeton University Press, 2015).

¹⁴ George Akerlof and Robert Shiller, *Phishing for Phools: The Economics of Manipulation and Deception* (Princeton, NJ: Princeton University Press, 2015).

¹⁵ NCPERS (National Conference on Public Employee Retirement Systems), *Economic Volatility: Hidden Societal Cost of Prevailing Approaches to Pension Reforms* (Washington, DC, 2016).

¹⁶ Sgouros, *Funding Public Pensions*.

¹⁷ US Census Bureau, https://www.census.gov/govs/retire/historical_data.html.

Section I

UNDERSTANDING PENSION FUNDING

The arguments of those opposed to public pensions are based on faulty assumptions and erroneous accounting. For example, some opponents have applied rate-of-return assumptions designed for the private sector to public pensions, generating large 30-year unfunded liability numbers. As Tom Sgouros points out in *Funding Public Pensions*,¹⁸ conservative assumptions are necessary in the private sector because private companies can and do go out of business. State governments, on the other hand, are here to stay. Worse, these 30-year estimates are sometimes set against 1-year state and local revenues in an apples-to-oranges comparison; 30-year liabilities should be compared with 30-year revenues.

Opponents rarely focus on the real issues in public pension funding, such as full and timely payment of required pension contributions, consisting of normal and amortization payments. They also overlook the bottom-line issue in funding – in the last 30 years, states have made their revenue systems increasingly regressive and volatile by cutting stable and growing revenue sources and increasing reliance on risky revenue schemes such as casinos, lotteries, and excise and sales taxes. If these revenue trends continue, states

won't be able to sustain the public services, such as education, police, fire, and infrastructure that Americans rely on.

How Are Public Pensions Funded?

It might be helpful to recap some basic concepts of pension funding. Public pensions are DB plans that are advance-funded by employer and employee contributions and investment earnings. The assets of these funds are accumulated during the working life of employees to pay them benefits at the time of their retirement. The composition of money coming into public pension funds has changed over time. In their early years, the 1940s, the majority of pension funds' income came from employee contributions. With the passage of time, an increasing proportion is coming from investment earnings.

Figure 1 shows historical changes in this composition. In 1940, 43% of public pension funds' income came from employee contributions, 35% from employer contributions, and only 22% from investment earnings.¹⁹ By 2014, the same figures were about 7%, 17%, and 76%, respectively.²⁰ In other words, more than \$3 out of every \$4 coming into public pension funds comes from investment earnings.

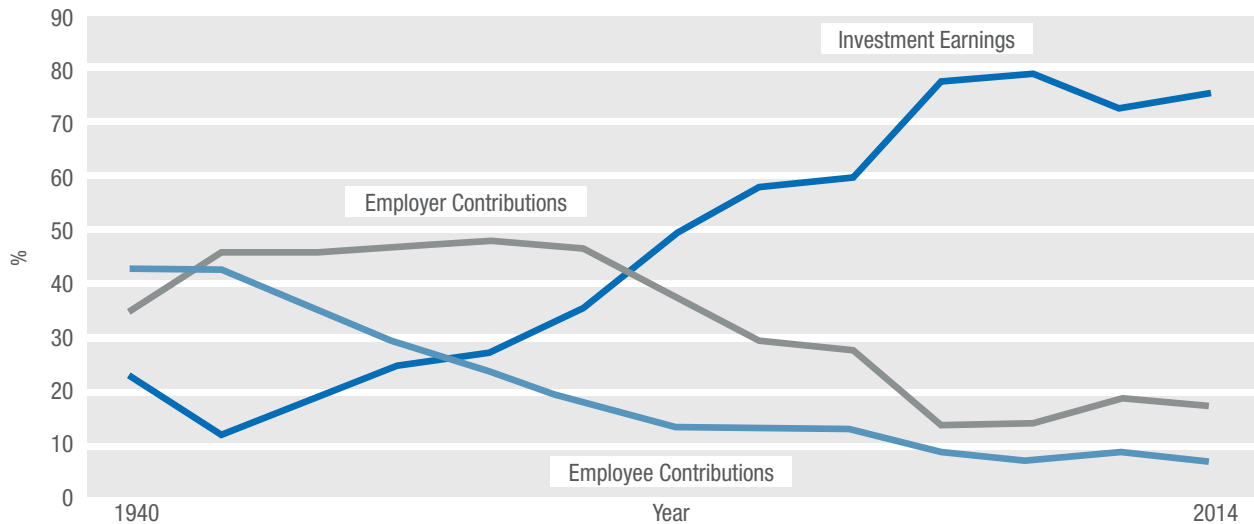
¹⁸ Sgouros, *Funding Public Pensions*.

¹⁹ Sgouros, *Funding Public Pensions*.

²⁰ US Census Bureau, https://www.census.gov/govs/retire/historical_data.html. We use 2014 census data because 2015 earning data is abnormal (market returns in 2015 were zero), such that the extreme situation in 2015 distorts the historical trend. While the Census Bureau has not yet published 2016 data, S&P results (12.2% growth for the year) show that the trend line has returned to its normal path.

Figure 1

Composition of Income of Public Pension Funds, 1940-2014



Although state and local entities (and their pension plans) are designed to exist in perpetuity, pension plans use a 30-year amortization period to accumulate the funding needed to meet their pension obligations, or liability.²¹ At any given time, *unfunded liability* is the liability for benefits earned for which assets have not yet been accrued. Figure 2 shows the funding status of 299 state-administered pension plans, using data from the 2015 US Census.²²

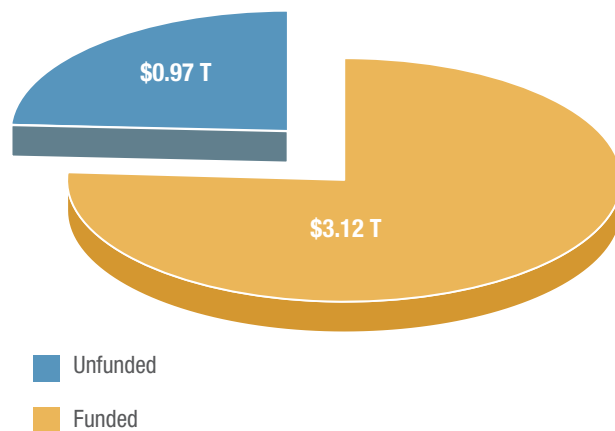
Figure 2 presents a very different picture than the one we are used to seeing from opponents of public pensions. Pension funds, it shows, are better funded than their opponents portray. Their obligations are \$4.09 trillion, and they have \$3.12 trillion in hand. In other words, they are 76.3% funded and need only to accumulate 23.7% in the next 30 years. Who would be unhappy with the mortgage pictured in Figure 2 and 30 years to pay it?

To accumulate enough assets over the working life of employees, public pensions conduct regular actuarial valuation. The purpose of this valuation is to determine the amount an employer needs

to contribute to accumulate the needed assets. This employer contribution consists of two parts: normal cost and amortization cost. Amortization cost is spread over the amortization period, usually 30 years. The valuation begins by estimating the

Figure 2

Funding Status of 299 State Pension Plans, 2015



²¹ The NCPERS annual survey shows that public pension funds continue to reduce amortization period to improve funding levels sooner - National Conference on Public Employee Retirement Systems, 2016 NCPERS Retirement Systems Study, Washington DC: NCPERS, December 2016

²² US Census Bureau, https://www.census.gov/govs/retire/historical_data.html.

actuarial value of assets, which equals their market value at the time of valuation, adjusted for the rate-of-return assumption and the actual rate of return. It is then smoothed over a three to five-year period to mitigate volatility in the rate of employer contributions.

Next, an actuarial cost method is used to determine how pension costs are allocated over employees' working lives. There are several actuarial cost methods, but almost all plans use the entry-age normal method. This method determines present value of the projected benefits of each individual included in an actuarial valuation and allocates it on

a level basis over the tenure of the individual from entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the Actuarial accrued liability.²³ The valuation relies on assumptions in two key areas – economic and demographic. Whereas economic assumptions pertain to the rate of return, inflation, and salary growth, demographic assumptions include the age at which employees will retire and how long they might live after they retire.²⁴

Table 1

Recent Developments in the Establishment of Dedicated Revenue Streams for Pension Funds

| | |
|---------------|---|
| Arizona | A portion of taxes paid on fire insurance policies in Arizona is used to fund firefighting services and the firefighters' relief and pension funds. |
| Hawaii | In 2016, Hawaii taxpayers approved a constitutional amendment that lists unfunded liability as one of the items that can receive surplus revenues from the general fund. |
| Kansas | In 2012, the Kansas legislature passed a law that allows gaming revenues from state-owned casinos (approximately \$30 million a year) to be directed to the Kansas Public Employees Retirement System, along with 80% of revenue from the sale of any surplus real estate. |
| Louisiana | In 2016, voters in Louisiana approved a revenue stabilization trust fund that will be funded by recurring mineral and corporate tax revenues. |
| Montana | In 2013, the Montana legislature approved a bill dedicating a portion of the coal extraction tax to the state's unfunded pension liabilities. |
| Oklahoma | In 2013, Oklahoma created the pension stabilization fund, to be used when any of the state pension funds' funding ratio falls below 90%. The stabilization fund is funded by a portion of sin taxes and lottery proceeds. |
| Pennsylvania | The City of Pittsburgh dedicates a portion of revenues from its parking assets to its pension fund. |
| West Virginia | In 2007, the state dedicated an \$807 million tobacco settlement to paying down unfunded liabilities in its teachers' retirement system. The state issued a tobacco settlement bond in the aforementioned amount, with the bond debt being paid down by annual payments from tobacco companies. |

²³ <http://www.actuarialstandardsboard.org/glossary/entry-age-normal-actuarial-cost-method/>

²⁴ For more information, see "Public Pension Funding 101" and "Pension Funding 201," in the April and May 2013 issues, respectively, of *Benefits Magazine*, published by the International Foundation of Employee Benefits Plans.

Where Do Employer Contributions Come From?

In more than 80% of situations, employer contributions to public employee pension funds come from general-fund revenues – that is, state and local own-source tax revenues that are not dedicated for any specific purpose, such as the transportation or highway fund. In recent years, however, state and local governments have established dedicated revenue sources to address pension funding issues. Unfortunately, there is no comprehensive database of these sources. Table 1 shows examples of the dedicated revenue streams states use to fund pensions, based on information from various secondary sources such as National Association of State Retirement Administrators.

Aside from the states listed in Table 1, a few others are now considering dedicated revenue sources. In **New Jersey**, for example, Governor Chris Christie has proposed dedicating revenues from the state lottery to public pensions. In addition, State Senator Joe Pennacchio (R-Passaic) is calling for a limited expansion of gaming at the state’s racetracks as an additional way to infuse needed funds into the state’s public employee pension funds.²⁵

Ideally, state and local governments need to reform their revenue structure to bring them in sync with our economic reality. However, faced with the choice of dismantling pensions or using a dedicated revenue streams based on regressive taxes, it would be less harmful to utilize an available revenue stream.

At the local level, pension funds are often funded with general-fund revenue as well as a portion of insurance premium taxes. For example, in **Oklahoma**, police and fire pension funds are funded by 41% of total insurance premium tax revenues. In some other states, such as **Colorado**, **Florida**, **Idaho**, and **Washington**, police and fire

pension systems are funded by a portion of the insurance premium tax. In **Florida**, there is a 1.85% excise tax on property insurance and a 0.85% excise tax on casualty insurance – proceeds of these taxes are used to pay for police and fire pensions.

Pennsylvania funds local pension funds with not only insurance premium taxes but also the sale or lease of assets. There is a 2% tax on casualty and fire insurance sold in the state by out-of-state insurance companies. These funds, among other things, go toward funding local police and fire pensions. Some localities in Pennsylvania are using the sale or lease of assets to fund local pensions. For example, **Scranton** approved the sale of its sewer system to a private company and injected a large portion of the proceeds into the pension fund. **Middletown** approved a lease agreement for its water and sewer systems with a private company. A large portion of the initial \$43 million payment was used to pay off its unfunded liability. Similarly, **Allentown** approved a lease agreement with a private company for its water and sewer system and used \$160 million of the \$211 million initial payment to pay down its unfunded pension liability.

Do State and Local Governments Co-Contribute to Their Pension Funds?

In the past, little information was available about contributions to state or locally administered pension plans by the various levels of government in individual states. Some states require local contributions along with the state’s own contribution to state-administered pension plans. Others contribute at the state level to subsidize locally administered plans, on top of the local contributions. Fortunately, the US Census now collects data on these contributions.²⁶ Table 2 shows which level of government contributed how much to each type of pension plan in 2015. It reveals that 41 states share the responsibility of funding state and local pension funds.

25 “Pennacchio: Racinos Would Provide Even More Revenue for Pensions,” Senator Joe Pennacchio website, March 1, 2017, <http://www.senatenj.com/index.php/pennacchio/pennacchio-racinos-would-provide-even-more-revenue-for-pensions/31622>.

26 US Census Bureau, https://www.census.gov/govs/retire/historical_data.html.

Table 2

State and Local Contributions to State and Locally Administered Pension Plans, 2015

| State | State-Administered Plans | | Locally Administered Plans | |
|---------------|--|--|--|--|
| | State Contribution (in thousands of dollars) | Local Contribution (in thousands of dollars) | State Contribution (in thousands of dollars) | Local Contribution (in thousands of dollars) |
| Alabama | 891,140 | 277,622 | 3,120 | 61,831 |
| Alaska | 2,808,725 | 127,333 | 216 | 9,628 |
| Arizona | 884,578 | 667,776 | 9,727 | 211,690 |
| Arkansas | 406,170 | 402,514 | 23,712 | 34,594 |
| California | 8,751,194 | 8,189,197 | 19,685 | 7,713,547 |
| Colorado | 552,203 | 786,174 | 8,729 | 126,225 |
| Delaware | 227,876 | 12,059 | 7,215 | 36,212 |
| Florida | 554,674 | 1,966,572 | 0 | 0 |
| Georgia | 1,262,919 | 756,737 | 6,415 | 517,779 |
| Hawaii | 538,345 | 179,448 | 0 | 0 |
| Idaho | 97,009 | 246,869 | 0 | 678 |
| Illinois | 6,860,420 | 1,068,975 | 147,073 | 1,929,659 |
| Indiana | 1,008,310 | 783,540 | 61,610 | 24,331 |
| Iowa | 141,659 | 622,232 | 211 | 2,476 |
| Kansas | 495,003 | 255,196 | 0 | 0 |
| Kentucky | 1,067,787 | 255,007 | 819 | 33,520 |
| Louisiana | 2,242,716 | 710,437 | 1,106 | 100,826 |
| Maine | 219,202 | 147,284 | 0 | 0 |
| Maryland | 1,895,180 | 1,793 | 11,632 | 726,964 |
| Massachusetts | 1,788,553 | 180,526 | 0 | 0 |
| Michigan | 988,171 | 2,334,242 | 12,270 | 791,446 |
| Minnesota | 306,065 | 918,718 | 81,456 | 39,520 |
| Mississippi | 386,647 | 643,381 | 0 | 0 |
| Missouri | 691,801 | 970,692 | 6,414 | 414,590 |
| Montana | 240,645 | 84,370 | 8,831 | 925 |
| Nebraska | 88,933 | 195,466 | 8,738 | 157,456 |
| Nevada | 208,971 | 1,227,838 | 0 | 0 |
| New Hampshire | 89,967 | 247,250 | 363 | 12,001 |
| New Jersey | 2,712,164 | 0 | 1,572 | 8,903 |
| New Mexico | 278,936 | 436,947 | 0 | 0 |
| New York | 4,427,309 | 4,007,035 | 35 | 10,042,288 |

Table 2 (continued)

State and Local Contributions to State and Locally Administered Pension Plans, 2015

| State | State-Administered Plans | | Locally Administered Plans | |
|----------------|--|--|--|--|
| | State Contribution (in thousands of dollars) | Local Contribution (in thousands of dollars) | State Contribution (in thousands of dollars) | Local Contribution (in thousands of dollars) |
| North Carolina | 1,287,976 | 423,396 | 4,110 | 24,329 |
| North Dakota | 73,594 | 188,087 | 1,717 | 11,508 |
| Ohio | 2,181,762 | 1,805,108 | 0 | 29,084 |
| Oklahoma | 736,763 | 521,551 | 1,020 | 35,435 |
| Oregon | 244,065 | 879,192 | 835 | 181,288 |
| Pennsylvania | 1,099,096 | 2,581,739 | 315,237 | 1,183,801 |
| Rhode Island | 294,250 | 132,984 | 4,597 | 158,216 |
| South Carolina | 517,758 | 685,555 | 401 | 4,713 |
| South Dakota | 41,049 | 68,463 | 370 | 16,328 |
| Tennessee | 397,681 | 613,764 | 2,159 | 309,385 |
| Texas | 2,315,491 | 2,268,461 | 22,061 | 1,066,594 |
| Utah | 824,478 | 165,340 | 0 | 15,367 |
| Vermont | 128,790 | 14,136 | 746 | 9,654 |
| Virginia | 895,870 | 1,561,522 | 0 | 0 |
| Washington | 1,676,257 | 0 | 3,400 | 136,961 |
| West Virginia | 570,131 | 147,651 | 64,088 | 44,834 |
| Wisconsin | 289,851 | 733,318 | 0 | 102,888 |
| Wyoming | 58,339 | 98,986 | 0 | 0 |

It is apparent that pension funding is not as simple as opponents of public pensions portray it to be. Focusing on rate-of-return assumptions and unfunded liabilities that are not even pertinent to the public sector misses how pensions are funded, where the money comes from, and what states are doing to address pension funding. The fact is that, as Figure 2 shows, public pensions are in much better shape than what is portrayed by those who want to dismantle them. Yet policymakers have bought into the fuzzy math of pension opponents

and continue to make changes to public pensions that are harmful to our collective economic future.

Neither these opponents nor, often, policymakers realize that public pensions play an important role in our economy. When these pensions are undermined, the economy suffers. How much economic damage will be inflicted in 2025 if we stay on the path of dismantling public pensions? We'll discuss this question next.

Section II

HOW MUCH DAMAGE WILL THE ECONOMY SUFFER IN 2025 IF DISMANTLING OF PUBLIC PENSIONS CONTINUES?

As mentioned earlier, pensions play an important role in the US economy. Spending by retirees stimulates local economies, and pension assets are an important source of capital for businesses. A recent study published by the National Institute on Retirement Security, titled *Pensionomics*,²⁷ finds that DB pension benefits have a significant positive impact on the economy, supporting \$1.2 trillion in economic output.

Unfortunately, intentionally or not, state policymakers have been steadily dismantling pensions. Our 2015 analysis of empirical data²⁸ shows that this dismantling damages our economy. Using models and parameters developed through that analysis, this section will estimate the damage to the economy in 2025 if dismantling of public pensions continues.

For the purposes of our analysis, we measure economic growth in terms of growth in median income rather than growth in gross domestic product (GDP) because GDP tends to hide any improvements in the incomes of ordinary people. That is, GDP may be growing, but all the income may be going to the top 1% of earners. For similar reasons, we measure the size of the economy in terms of total personal income.

The parameters of our analysis consist of measuring the impact on income inequality of dismantling pension reforms, and then estimating the impact of that change in income inequality on overall economic growth. Based on data from the 50 states over a 10-year period, our 2015 analysis²⁹ showed that the dismantling of pensions in a state increases income inequality in that state by 15%, and a one-unit change in income inequality reduces economic growth in the state by 18%. These parameters were derived by controlling for various other factors that impact income inequality and economic growth.

As a first step in the current study's projections, we estimated the rate of economic growth (measured as median income growth) for the decade 2006–2015 for the United States as a whole and for each of the 50 states. We then developed a best-fit regression line and extended it to 2025. Next, we developed projections of income inequality and total personal income in 2025 using the same methodology. Finally, we used the parameters from the 2015 analysis to adjust the rate of economic growth and estimate the magnitude of the economic damage dismantling of pensions will cause if it continues through 2025.

We know that pensions have a positive impact on the economy, and we expect that the negative

²⁷ Brown, *Pensionomics*.

²⁸ NCPERS, *Income Inequality*.

²⁹ NCPERS, *Income Inequality*.

Table 3

Estimates of Reduction in Rate of Economic Growth and Size of Economy in 2025 if the Dismantling of Public Pensions Continues

| State | Rate of Economic Growth | Rate of Economic Growth with Continued Dismantling of Pensions | Size of Total Economy in 2025 (in billions of dollars) | Economic Damage in 2025 due to Dismantling of Pensions (Reduction in Size of Economy) (in billions of dollars) |
|----------------------|-------------------------|--|--|--|
| United States | 4.00 | 3.29 | 19,200 | 3,386.88 |
| Alabama | 2.70 | 2.46 | 218 | 19.236 |
| Alaska | 7.65 | 6.96 | 55 | 4.99 |
| Arizona | 4.60 | 3.71 | 307 | 59.13 |
| Arkansas | 1.90 | 1.78 | 142 | 9.20 |
| California | 5.02 | 3.05 | 2720 | 1,067.33 |
| Colorado | 4.51 | 4.27 | 350 | 18.27 |
| Connecticut | 2.62 | 2.40 | 299 | 24.81 |
| Delaware | 2.11 | 1.92 | 51 | 4.59 |
| Florida | 1.98 | 1.64 | 1,040 | 179.71 |
| Georgia | 5.00 | 4.17 | 486 | 80.48 |
| Hawaii | 4.50 | 4.44 | 85 | 1.07 |
| Idaho | -0.80 | -0.95 | 78 | 14.32 |
| Illinois | 6.75 | 5.97 | 760 | 87.55 |
| Indiana | 4.00 | 3.86 | 341 | 11.66 |
| Iowa | 6.30 | 5.64 | 180 | 18.79 |
| Kansas | 2.10 | 1.87 | 180 | 19.76 |
| Kentucky | -1.40 | -1.49 | 208 | 13.85 |
| Louisiana | 5.70 | 4.64 | 234 | 43.38 |
| Maine | 1.76 | 1.43 | 66 | 12.35 |
| Maryland | 2.80 | 2.37 | 410 | 63.47 |
| Massachusetts | 4.20 | 3.32 | 514 | 108.25 |
| Michigan | 4.90 | 4.13 | 490 | 76.73 |
| Minnesota | 3.15 | 2.70 | 346 | 49.82 |
| Mississippi | 3.50 | 3.46 | 127 | 1.60 |
| Missouri | 7.90 | 6.90 | 309 | 38.93 |
| Montana | 4.68 | 4.00 | 55 | 8.02 |
| Nebraska | 1.50 | 1.32 | 122 | 14.27 |
| Nevada | 0.60 | 0.49 | 133 | 25.14 |
| New Hampshire | -0.40 | -0.47 | 89 | 14.74 |

Table 3 (continued)

Estimates of Reduction in Rate of Economic Growth and Size of Economy in 2025 if the Dismantling of Public Pensions Continues

| State | Rate of Economic Growth | Rate of Economic Growth with Continued Dismantling of Pensions | Size of Total Economy in 2025 (in billions of dollars) | Economic Damage in 2025 due to Dismantling of Pensions (Reduction in Size of Economy) (in billions of dollars) |
|-------------------------|-------------------------|--|--|--|
| New Jersey | 4.20 | 3.56 | 623 | 94.20 |
| New Mexico | -2.80 | -3.51 | 95 | 24.11 |
| New York | 3.75 | 2.99 | 1,440 | 290.30 |
| North Carolina | 6.40 | 5.65 | 489 | 57.21 |
| North Dakota | 0.30 | 0.26 | 67 | 7.96 |
| Ohio | 3.41 | 2.90 | 615 | 91.88 |
| Oklahoma | -1.25 | -1.32 | 232 | 13.78 |
| Oregon | 5.75 | 4.65 | 211 | 40.26 |
| Pennsylvania | 3.32 | 2.91 | 780 | 96.88 |
| Rhode Island | -0.20 | -0.24 | 62 | 13.39 |
| South Carolina | 2.56 | 2.37 | 232 | 17.12 |
| South Dakota | 2.90 | 2.64 | 53 | 4.77 |
| Tennessee | 5.52 | 5.37 | 342 | 9.23 |
| Texas | 2.40 | 2.18 | 1,720 | 160.99 |
| Utah | 3.62 | 3.10 | 148 | 21.31 |
| Vermont | 2.93 | 2.35 | 37 | 7.33 |
| Virginia | -0.50 | -0.61 | 430 | 98.30 |
| Washington | 4.71 | 3.91 | 463 | 78.34 |
| West Virginia | -0.40 | -0.44 | 83 | 7.47 |
| Wisconsin | 2.52 | 2.18 | 320 | 43.78 |
| Wyoming | 2.30 | 2.06 | 43 | 4.62 |
| Average or Total | 3.02 | 2.58 | 18,880 | 3,274.70 |

impact of dismantling them will be greater than the positive impact of keeping them. When people get money (a pension check), they may save some instead of spending it all, so the positive impact of that money on the economy is reduced by the amount not spent. On the other hand, if people stop

getting money or get less money due to elimination of or cuts in pensions, the negative impact is equal to the entire amount of money that has been taken out of the economy – dollar for dollar. And from there, the negative impact multiplies several times over as it ripples throughout the entire economy.

A similar argument is made by Joseph Stiglitz, Nobel Laureate in economics, and Peter Orszag, in various writings on the economic impact of spending cuts versus tax cuts.³⁰ Conservative politicians often support tax cuts to grow the economy and budget cuts to reduce the size of government. Stiglitz and Orszag argue that budget cuts hurt the economy more than tax cuts benefit it, because budget cuts take money out of the economy dollar for dollar. In contrast, tax cuts do not help the economy as much because people may save some of the extra money they realize as a result of the tax cuts. That is why the combined effect of these two actions is usually a net loss to the economy and a recession.

The results of the present analysis are shown in Table 3, which gives national as well as state-by-state figures for the projected rate of economic growth, the projected growth rate if dismantling of public pensions continues, the projected size of the economy, and the magnitude of the reduction in the economy due to dismantling of pensions.

Our analysis shows that in 2025, the national economy is likely to grow at 4.00% (column 1). This projection mirrors that of the Congressional Budget Office (CBO),³¹ even though CBO figures are based on GDP growth while ours, as mentioned earlier, represent median income growth. This growth rate will be dragged down to 3.29% (column 2) if the dismantling of public pensions continues. Our analysis also shows that total size

of the economy in 2025, as measured by total personal income, would be \$19.2 trillion (column 3), a reduction of about \$3.3 trillion (column 4) if dismantling of public pensions continues.

The same information is estimated for each state. The average rate of economic growth for the 50 states is about 3.03%, which will be reduced to 2.58% if dismantling of pensions continues at its current rate through 2025. The combined size of the 50 state economies is projected to be about \$18.9 trillion by 2025, and it will be reduced by about \$3.3 trillion if states continue to dismantle their pension plans between now and 2025.

To ascertain the validity of economic projections, it is important that national estimates and the sum of state-by-state estimates be not too far apart. Although we have used a simple model, the best-fit regression line, our national and combined state figures for the total size of the economy and the economic loss due to dismantling of pensions are nearly identical.

The foregoing analysis shows that if prevailing trends in so-called pension reforms continue, our economy will suffer a loss of about \$3.3 trillion in 2025. What can we do to address funding issues without causing such significant damage to our economy? We'll examine a few options in the next section.

³⁰ See, for example, Peter Orszag and Joseph Stiglitz, "Budget Cuts vs. Tax Increases at the State Level: Is One More Counter-Productive than the Other During a Recession?," Center on Budget and Policy Priorities website, last modified November 6, 2001, <http://www.cbpp.org/10-30-01sfp.htm>.

³¹ Congressional Budget Office, "An Update to the Budget."

Section III

STRATEGIES TO ADEQUATELY FUND PUBLIC PENSIONS WITHOUT DISMANTLING THEM

Clearly the prevailing approaches to fixing the pension funding gap, whether the gap is real or not, are harmful to our economy. If we stay on the path we are on, our economy will suffer about \$3.3 trillion in damage in 2025. What can we do to adequately address pension funding issues without causing damage to our economy, especially when the ideal option of reforming revenue structures is missing from the policy debate? Some options to consider follow.

Asset Monetization and Dedicated Revenue Sources

Public pension funds are generally funded through general-fund revenues. But in case of need, instead of dismantling pensions, governments can use asset monetization and dedicated revenue sources. Governments usually have significant assets that could provide cash flow to fund pensions. They may sell or lease these assets to match long-term cash flow with long-term pension liabilities. For example, Allentown, Pennsylvania, leased its water utility for 50 years in return for \$211.3 million, of which \$160.0 million was used to reduce the unfunded pension liability.³² Following are some other examples of the use of dedicated revenue sources to fund pensions:

- **City of Pittsburgh parking tax revenue** – Rather than sell or lease parking assets, the

city decided to dedicate annual revenue from parking as a supplement to pension contributions.

- **City of Philadelphia sales tax revenue** – The state legislature authorized Philadelphia to collect an additional 1% sales tax for five years to offset increased pension contributions. Later, the legislature made the sales tax permanent. A fixed amount was dedicated to school funding, with the remainder dedicated to pension funding.
- **City of Portland, Oregon, special property tax levy** – The City of Portland’s charter authorizes a special property tax levy to generate the amount of revenue required to pay all estimated expenses for its Fire & Police Disability, Retirement & Death Benefit Plan.

Additional examples of dedicated revenues and monetization are discussed in Section I of this report. In an article titled “Public Pensions and Assets That Could Sustain Them,” Jill Eicher³³ points out that private-sector pension plan sponsors have made in-kind contributions to fund their pensions. For example, U.S. Steel contributed 170,000 acres of timberland to meet its pension obligations. Similarly, before it went bankrupt, Pan American Airways transferred the lease for its terminal at New York’s Kennedy Airport to its pension fund.

³² Sean McNealey (The PFM Group), PowerPoint presentation at NCPERS Public Pension Funding Forum, New Haven, CT, August 22, 2016.

³³ Jill Eicher, “Public Pensions and Assets That Could Sustain Them,” *Governing*, March 14, 2017, <http://www.governing.com/gov-institute/voices/col-public-pensions-transferred-assets-dedicated-funding.html>.

Eicher cautions that it is important to understand the difference between a pension fund's buying an asset and its receiving one in lieu of a cash contribution: the former, she says, is "like a marriage for love, while the latter is more akin to an arranged marriage with a dowry of uncompensated risks. An asset such as a state lottery is much harder to value than stocks or bonds, less readily sold and much more complex to manage."³⁴

Another complicating factor may be that many pension funds are not authorized to own assets directly or to operate businesses. Yet there is a case to be made for in-kind contributions when the risks and rewards can be structured fairly and understood clearly by all parties.

Well-Designed Pension Obligation Bonds

Pension obligation bonds (POBs) are taxable bonds issued by state and local governments as a way to close the pension or other postemployment benefits funding gap. They are also known as limited bonds, meaning that they are paid off from a specified revenue stream. In the case of our analysis, this revenue stream consists of investment earnings on the proceeds of the bond. The theory is that governments can borrow money (issue POBs) at a relatively low rate and then invest the proceeds, earning a higher rate that enables them to pay off the bond and use the balance to close the pension funding gap. However, in practice, state and local governments have issued POBs with mixed results.

We believe that if POBs are designed right, they are likely to work. A well-designed POB would have the following characteristics:

- The POB should have at least a 20-year time horizon.

- Proceeds should be kept in a separate trust within the pension fund.
- This separate trust should preferably invest in a safe investment portfolio such as the S&P Index.
- The bonds should be paid off from investment earnings of the POB proceeds.
- Interest on the POBs should be paid on an annual basis.
- The principal should be paid at the end of the POB period.
- The employer should be the issuer and guarantor of the bonds.
- The employer should agree to continue to make actuarially determined annual contributions, including amortization payments.
- The timing of issuance must be carefully assessed. For example, it may be best to issue POBs at a time when the economy is just getting out of a recession, when borrowing costs are low and investment returns are likely to rise.
- If needed, the investment returns could be hedged, especially for downside risk (for example, through a collar).³⁵

Backtesting of a Hypothetical Pension Obligation Bond

Obviously, no one can predict the future, but the scenario that follows predicts a likely result: Suppose \$100 million in 20-year POBs are issued at 5% coupon by a plan sponsor in 1997 and proceeds are invested in the S&P Index. The backtesting analysis in Table 4 shows that by 2016, the earnings on the invested proceeds would have narrowed the funding gap by \$105 million after paying off the bonds.

If the POBs were issued using a 4% rate for the coupon, the fund would have \$148 million after paying off the bonds (principal and interest). But if the POBs were issued at 6%, the fund would have \$62 million after paying off the bond. Therefore,

³⁴ Jill Eicher, "Public Pensions and Assets That Could Sustain Them," *Governing*, March 14, 2017, <http://www.governing.com/gov-institute/voices/col-public-pensions-transferred-assets-dedicated-funding.html>

³⁵ There are many possible configurations of a collar, but here is a generic example. Assume a pension fund has sold POBs at 4.00% coupon. The fund executes a collar to limit its gains and losses by first selling a cap at 7% on the S&P 500 and then buying a floor at -15% on the S&P 500 using the money from selling the cap. The net cost of the collar is zero. As a result of the collar, the pension fund could realize a gain of up to 7% but also limits its potential losses to -15%. For more information, visit http://www.optionseducation.org/strategies_advanced_concepts/strategies/collar.html.

it is important to assess the coupon rate at which the fund will be able to pay off the bond and still make money or break even. Backtesting could be a useful technique in this regard.

Reform of Revenue Systems

State and local governments have made their revenue systems more regressive by cutting progressive and stable taxes such as income and property taxes, and replacing them with more risky revenue schemes such as casinos, lotteries,

cigarette taxes, and the like. Furthermore, state and local revenue systems are laden with tax loopholes and economic development subsidies. If this trend continues, state and local governments will not be able to maintain funding for the current level of vital public services, let alone fund pensions adequately.

An earlier study conducted by the Center on Budget and Policy Priorities³⁶ shows that after the 1991 recession and subsequent prosperity of the mid-1990s, states took actions that made their tax systems

Table 4
Backtesting of \$100 Million 20-Year POB Issued in 1997 with Proceeds Invested in S&P Index

| Year | Starting Balance (\$) | Interest Earnings (\$) | Ending Balance after Coupon (\$) | Balance after Paying Off Principal (\$) |
|------|-----------------------|------------------------|----------------------------------|---|
| 1997 | 100,000,000 | 33,360,000 | 128,360,000 | NA |
| 1998 | 128,360,000 | 28,983,688 | 152,343,688 | NA |
| 1999 | 152,343,688 | 32,053,112 | 179,396,800 | NA |
| 2000 | 179,396,800 | -16,325,109 | 158,071,691 | NA |
| 2001 | 158,071,691 | -18,794,724 | 134,276,967 | NA |
| 2002 | 134,276,967 | -29,675,210 | 99,601,757 | NA |
| 2003 | 99,601,757 | 28,565,784 | 123,167,541 | NA |
| 2004 | 123,167,541 | 13,400,629 | 131,568,170 | NA |
| 2005 | 131,568,170 | 6,459,997 | 133,028,167 | NA |
| 2006 | 133,028,167 | 21,005,148 | 149,033,315 | NA |
| 2007 | 149,033,315 | 8,181,929 | 152,215,244 | NA |
| 2008 | 152,215,244 | -56,319,640 | 90,895,603 | NA |
| 2009 | 90,895,603 | 24,050,977 | 109,946,580 | NA |
| 2010 | 109,946,580 | 16,557,955 | 121,504,535 | NA |
| 2011 | 121,504,535 | 2,563,746 | 119,068,281 | NA |
| 2012 | 119,068,281 | 19,050,925 | 133,119,206 | NA |
| 2013 | 133,119,206 | 43,117,311 | 171,236,516 | NA |
| 2014 | 171,236,516 | 24,041,607 | 190,278,123 | NA |
| 2015 | 190,278,123 | 2,264,310 | 187,542,433 | NA |
| 2016 | 187,542,433 | 22,973,948 | 205,516,381 | 105,516,381 |

NA = Not applicable.

more regressive. For example, state tax increases during the recession of the early 1990s hit lower-income families hardest, but state tax relief during the prosperous period from 1994 to early 2000 was primarily focused on upper-income families.

A recent study by the Institute on Taxation and Economic Policy³⁷ shows that this trend continues. For example, during the period 2000–2010, state and local governments decreased their reliance on progressive income taxes and increased their reliance on regressive sources such as user fees and casinos.

Another way to look at state and local revenue systems is to examine their elasticity. The *elasticity* of a tax system is its ability to grow with the economy. Currently, this elasticity is about 0.91 nationally, which means that if a state's economy grows by 1.00%, revenues will grow by 0.91%. In other words, the tax system will be deprived of nearly 9% of the revenue growth it should experience. Due to varying elasticity, there will always be a shortfall of state and local revenues, unless the system is reformed.

Closing of Wasteful Tax Loopholes

State and local governments give away billions of dollars in economic development subsidies and tax loopholes in the name of job creation and economic development. Both conservatives and progressives agree on the need for closing tax loopholes and eliminating economic development subsidies because these tactics simply do not work. Loopholes and subsidies given in the name of job creation to various out-of-state (sometimes foreign) companies usually end up siphoning

money to off-shore tax havens. They also hurt local businesses. Although estimates vary from state to state,³⁸ about a trillion dollars is lost nationally through loopholes and subsidies each year. Closing loopholes and subsidies might be a good first step toward funding pension obligations and vital programs such as education and public safety.

Table 5, based on a recent study of 10 states by Good Jobs First,³⁹ shows that on average states gave away twice as much in economic development subsidies and loopholes as they were required to pay in pension contributions.

Management of Risks in Economic Ups and Downs

Keep in mind the long-term focus – Pension funds have a long investment time horizon. A recent study by the International Monetary Fund⁴⁰ examined empirical evidence on the procyclical investment behavior of major institutional investors during the global financial crisis of 2008. The study identifies the main factors that could account for such behavior, discusses the implications of procyclical behavior, and proposes a framework for sound investment practices for long-term investors. It finds that behaving in a manner consistent with a long-term investing focus would lead to better long-term, risk-adjusted returns and could lessen the potential adverse effects of procyclical investment behavior of institutional investors on global financial stability.

Develop a risk management framework – A recent report by the Public Plans Task Force of the American Academy of Actuaries⁴¹ suggests that pension plans need to develop a sound framework for evaluating

³⁶ Center on Budget and Policy Priorities, <http://www.cbpp.org/cms/?fa=view&id=864>.

³⁷ Carl Davis, Kelly Davis, Matthew Gardner, Harley Heimovitz, Sebastian Johnson, Robert S. McIntyre, Richard Phillips, Alla Sapozhnikova, and Meg Wiehe, *Who Pays? A Distributional Analysis of the Tax Systems in All Fifty States* (Washington, DC: Institute on Taxation and Economic Policy, 2015), <http://www.itep.org/pdf/whopaysreport.pdf>.

³⁸ "Accountable USA," Good Jobs First website, accessed , <http://www.goodjobsfirst.org/accountable-usa>.

³⁹ See "Putting State Pension Costs in Context," Good Jobs First website, January 2014, <http://www.goodjobsfirst.org/statepensions>.

⁴⁰ Michael G. Papaioannou, Joonkyu Park, Jukka Pihlman, and Han van der Hoorn, *Procyclical Behavior of Institutional Investors During the Recent Financial Crisis: Causes, Impacts, and Challenges* (Working Paper WP/13/193, Washington, DC: International Monetary Fund, September 2013), <http://www.imf.org/external/pubs/ft/wp/2013/wp13193.pdf>.

⁴¹ Public Plans Task Force. "Risk Management and Public Plan Retirement Systems" (Washington, DC: American Academy of Actuaries, 2013). See also "2009 Public Pension Finance Symposium," American Academy of Actuaries website, 2009, <http://www.soa.org/library/monographs/retirement-systems/public-pension-finance/2010/june/mono-2010-mrs10-toc.aspx>.

Table 5

Annual Employer Normal Pension Costs Compared with Annual Cost of Taxpayer Money Given Away in Corporate Subsidies and Tax Loopholes in Selected States, 2015

| State | Annual Employer Normal Pension Costs (in Billions of Dollars) | Annual Cost of Corporate Subsidies (in Billions of Dollars) | Annual Pension Costs as a Percentage of Corporate Subsidies |
|-----------------|---|---|---|
| Arizona | 0.47 | 0.55 | 86 |
| California | 6.82 | 9.70 | 70 |
| Colorado | 0.18 | 0.59 | 30 |
| Florida | 0.91 | 3.81 | 24 |
| Illinois | 1.85 | 2.40 | 77 |
| Louisiana | 0.35 | 1.81 | 19 |
| Michigan | 0.59 | 1.86 | 32 |
| Missouri | 0.43 | 0.84 | 51 |
| Oklahoma | 0.22 | 0.48 | 46 |
| Pennsylvania | 1.39 | 3.89 | 36 |
| Total / Average | 13.22 | 25.94 | 51 |

and managing risk. According to the report, concerns about the potentially precarious financing of state governments and their pension plans need to be addressed through proactive risk management. Today there is, in many cases, a lack of aligned stakeholder incentives as well as a lack of reliable risk information. In addition, a gap exists between the funding information that actuaries provide for public retirement systems and the systems' need for a robust risk management framework so that public institutions can balance their commitments and future financing needs. This gap needs to be bridged to better understand and manage risks. Fiduciaries, lawmakers, the media, and the general public should be educated on assessing risks, identifying steps to avert future financial crises, and understanding how and when risk taking can add value. Since there is no regulatory or legal framework for such information sharing to happen, such a framework should be developed, the task force recommends.

Other Options to Close the Funding Gap

Various other options may be considered. These options may seem to be small steps, but they could be helpful in closing the funding gap:

- **Stabilization funds** – As mentioned in Section I, in 2013 Oklahoma created a pension stabilization fund to be used when any of the state pension funds' funding ratio falls below 90%. The stabilization fund is funded by a portion of sin taxes and lottery proceeds.
- **Economies of scale** – When small local plans are allowed to join larger statewide plans, they gain greater leverage and can benefit from economies of scale. Wisconsin recently began allowing small locals to join a statewide plan. Texas allows small locals to join state pension plans on a regular basis.

Conclusions

Opponents of public pensions use accounting rules designed for private-sector companies to attack public pensions. They apply to public-sector plans rate-of-return assumptions that are pertinent to private-sector plans, without recognizing the reasons behind private-sector plan rules. The rationale for private-sector pension plans to use relatively low rate-of-return assumptions is that private companies may and do go out of business. The rules for private plans should not be applied to public-sector entities because states are here to stay.

Opponents also point to huge unfunded liability figures generated by using private-sector rules and then compare these 30-year figures with 1-year state and local revenues. This misleading practice, perhaps based on a lack of understanding of how public pensions are funded, has been used to convince policymakers to dismantle public pensions. A 30-year unfunded liability figure must be compared with 30-year state and local revenues.

Based on this kind of misleading information, states have been slowly chipping away at state and local pension plans. They have increased employee contributions, reduced benefits, and converted DB plans into DC or combination plans. These changes, in a nutshell, ask employees to pay more and get less, or assume a greater risk of having little or no money in retirement. Since there is a lot of misinformation about pension

funding, we have examined how pensions are funded and where the money comes from. We believe it is important for policymakers to be aware of not only how pension funding works but also how much economic damage their actions will potentially cause.

We find that pension funding is in much better shape than what is portrayed and promoted by opponents of public pensions. Figure 1 in Section I shows changes in the composition of pension fund revenue sources over time. In 1940, 43% of public pension funds' revenues came from employee contributions, 35% from employer contributions, and only 22% from investment earnings. This composition has drastically changed. In 2014, for example, employee contributions, employer contributions, and investment earnings were 7%, 17%, and 76% of revenues, respectively. In other words, more than \$3 out of every \$4 of pension fund revenues comes from investment earnings. This is a great deal for taxpayers. They get the services of public employees by putting in a declining amount of money from their own pockets (in taxes).

Similarly, Figure 2 in Section I presents a very different picture than we are used to seeing from opponents of public pensions. It shows that pension funds are better funded than is generally perceived. Public pension obligations are \$4.09 trillion, and the pension funds have \$3.12 trillion in hand. In other words, the funding level of pensions

is approaching 76%, and they have 30 years to fill the remaining funding gap.

While public pensions have a positive impact on the economy, we expect that the negative economic impact of dismantling pensions will be greater. When people have money (pensions), they may save some and not spend it all. Thus the full positive impact of pension money is not realized in the economy. On the other hand, if people have less money due to reduction or elimination of their pensions, the full negative impact will be felt in the economy, dollar for dollar.

The results of our analysis are shown in Table 3, in Section II. We find that in 2025 the national economy is likely to be growing at a rate of 4.00%. This figure matches the predictions of the Congressional Budget Office,⁴² even though CBO figures are based on GDP growth while our figures represent median income growth. By our calculations, this growth rate will be dragged down to 3.29% if the dismantling of public pensions continues. The total size of the economy in 2025, as measured by total personal income, is projected to be about \$19 trillion, but our analysis shows that it will be reduced by about \$3.3 trillion if dismantling of public pensions continues.

Table 3 also reports the same information for each state, projecting that the combined size of the

50 states' economies in 2025 will be almost the same as that of the national economy – about \$19 trillion. And if dismantling of pensions continues, the combined state economies will be reduced by about \$3.3 trillion.

Instead of staying on a path to such a significant economic loss, we must explore ways to address the funding issues facing public pensions without dismantling them. These approaches, explored in Section III, include the following:

- Asset monetization and dedicated revenue sources
- Well-designed pension obligation bonds
- Reform of revenue systems
- Closing of wasteful tax loopholes
- Management of risks in economic ups and downs
- Other options, such as stabilization funds and economies of scale

We are hopeful that policymakers will find this report useful in understanding pension funding and will keep in mind the economic losses their constituents will suffer if governments stay on the path toward dismantling public pensions. We are also hopeful that they will explore ways to address funding issues without dismantling public pensions.



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