

Unintended Consequences:

How Scaling Back Public Pensions Puts Government Revenues at Risk



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Endorsement

“This is the first study of its kind that examines the impact of investment of pension fund assets and spending of pension checks by retirees on state and local economies and revenues. It shows that pension funds play an important role in our economy and are net revenue producers. If there were no public pensions, taxpayers will have to pay more to receive the same level of services. Legislators should think twice before they convert public pensions into do-it-yourself retirement plans.”

—Robert Reich, Chancellor’s Professor and
Carmel P. Friesen Chair in Public Policy, Goldman School of Public Policy, UC Berkeley.

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EXECUTIVE SUMMARY

The argument that taxpayers cannot afford public pensions has gained traction despite a woeful lack of empirical evidence to support it. Legislators across the nation are contemplating options for the future funding of public-sector worker retirement benefits at a time when competition for finite state and local resources is fierce. The reasons are familiar: the lingering effects of recession and misguided budget priorities have taken a toll. Time and again, defined-benefit pensions for firefighters, police officers, teachers, and other public servants have ended up on the chopping block, even though plan participants have consistently held up their end of the bargain.

Unintended consequences often flow from policy actions that are made with short-term pressures in mind. There is a real risk that reducing or even dismantling public pension benefits will ultimately backfire. In this installment of ongoing research on the impact of public pensions on the U.S. economy, NCPERS set out to quantify that risk.

The question we asked is this: How does the payment of defined pension benefits and the investment of pension assets impact state and local economies and revenue generation? It is common sense that consumer spending and investment grow

the economy, which in turn grows tax revenues. We hear this all the time in the context of tax cuts. Yet opponents of public pensions seem to believe that pension spending and investment do not grow the economy. True, the pension money comes from taxpayers, but it should be understood that it is part of the compensation of workers providing public services. If these services were privatized, they would cost taxpayers more. The goal of private companies is to make profit. The goal of a public service is to ensure the public good. Pensions play an important role in the recruitment and retention of a quality public workforce to ensure our collective good.¹

¹ http://crr.bc.edu/wp-content/uploads/2018/04/slp_59.pdf

Previous research has shown that pension beneficiaries bolster the economy by feeding resources back into local communities where they live, work, and spend their pension checks. However, research on how state economies and tax revenues grow when pension funds invest their assets does not currently exist. Our research fills this gap and is the first of its kind. We examine the broader question of state and local revenues generated by public pensions, and whether these revenues exceed taxpayer contributions.

Our original methodology draws on historical data from various public sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. These data span the years 1977 to 2016 in most instances. The analysis was done in three steps. First, we developed an econometric model to estimate the impact of investment of pension fund assets on state and local economies and revenues. Second, we estimated the impact of spending of pension checks by retirees on state and local economies and revenues. Third, we assessed whether revenues generated by public pensions exceed taxpayer contributions. If so, how much would taxpayers have to pay in additional taxes if public pensions were dismantled?

We measured the economy in terms of personal income. We found that the economy grows by \$1,088 with the investment of each \$1,000 of pension fund assets. This amount may seem small, but due to the size of the pension fund assets, \$3.7 trillion in 2016, the effect on the economy and revenues is significant. The results show that investment of pension fund assets contributed \$587.5 billion to the economy, which in turn yielded

\$125.7 billion in state and local revenues. Similarly, the results show that \$303.1 billion paid to retirees in pension checks during 2016 contributed \$757.8 billion to the economy and \$151.9 billion to state and local revenues. Overall, when we add the impact of investment of assets and spending of pension checks by retirees, public pensions in 2016 contributed \$1.3 trillion to the economy and \$277.6 billion to state and local revenues.

Are public pension funds net revenue generators?

The results show that in 2016 pension funds generated approximately \$277.6 billion in state and local revenues. The taxpayer contribution to pension plans in the same year was \$140.3 billion. In other words, pension funds generated \$137.3 billion more in revenues than the taxpayer contribution. The state-by-state results indicate that pensions in 38 states had a positive impact on net revenues. In the remaining 12 states, either pensions were revenue neutral or taxpayer contributions were greatly subsidized by state and local revenues generated by public pensions.

The data that underpin our conclusions are a powerful rebuke to the argument that taxpayers cannot afford public pensions. The evidence we present here shows that if public pensions did not exist, the burden on taxpayers would rise by about \$137.3 billion just to maintain the current level of services.

The implication of our findings is clear: Taxpayers cannot afford continued assaults on public pensions. Instead, policy makers must preserve and enhance public pensions, building on this time-honored method of ensuring a dignified retirement to provide retirement security for all.

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INTRODUCTION

The argument that taxpayers cannot afford public pensions has taken hold with an almost mythological force, seeping into public opinion as an accepted truth. Opponents of public pensions have advanced an us-versus-them storyline in their concerted efforts to undermine and ultimately dismantle public pensions. The fervor with which they argue their case underscores the ideological imperatives that drive them. Factual information, however, has been in short supply.

NCPERS has a long history of providing reliable and verifiable data and analysis on public pensions, which are fundamentally a long-term investment, not a short-term budget issue.

Using state and local data for the last quarter century, this study sets out to examine the following questions:

- How much state and local tax revenue is generated as a result of the mere existence of public pensions?
- Do these revenues exceed taxpayer contributions to public pensions?
- How much would taxpayers have to pay in additional taxes if public pensions were dismantled?

Our hypothesis is that public pensions are significant revenue generators. We also hypothesize that state and local revenues

generated by public pensions far exceed taxpayer contributions. If we continue to undermine public pensions, taxpayers will have to make up these revenues to maintain the current level of public services. The burden on taxpayers will increase if we make short-term decisions about these long-term investments.

Public pensions generate state and local revenues in two ways. First, when retirees spend their pension checks in local economies, the economy grows. When the economy grows, tax revenues grow. Second, when pension funds invest their assets in the economy, the economy and tax revenues grow. While invested assets flow into both national and international companies, significant economic and revenue impact accrues to individual states. It is logical to expect that the total state and local revenues generated by spending of retiree checks and investment of pension fund assets exceed taxpayer contributions in most states. In the remaining states, these revenues are likely to be almost the same as taxpayer contributions.

Policy makers are steadily seeking to undermine and even dismantle public pensions based on misleading information from opponents of public pensions. These opponents disseminate huge unfunded liability numbers by distorting various assumptions. They then compare the 30-year unfunded liability numbers with one-year state

and local revenues instead of 30-year state and local revenues. They overlook the positive role pensions play in economic and revenue growth. In the end, they argue that taxpayers cannot afford public pensions. They propose that public pensions should be converted into do-it-yourself retirement savings plans or that benefits should be cut and employee contributions increased. Policy makers do not recognize that dismantling public pensions would increase the tax burden on their constituents.

Policy makers' attacks on public pensions are also harming state and local economies. Our earlier study shows that dismantling public pensions increases economic inequities and slows down the

economy.² If public pensions were dismantled, our economy would suffer a loss of about \$3 trillion by 2025.³ Policy makers need to consider the positive role public pensions play in economic and revenue growth. This study examines the revenue impact of pensions for each of the 50 states so that policy makers can see how much additional revenue they would have to generate if they stayed on a path to dismantling public pensions.

The study is divided into four sections. Section I examines the existing literature on pensions and economic and revenue growth. Section II describes the data and methodology. Section III presents results, and Section IV offers conclusions.

² [http://www.ncpers.org/files/NCPERS%20Income%20Inequality%20Paper_Web\(1\).pdf](http://www.ncpers.org/files/NCPERS%20Income%20Inequality%20Paper_Web(1).pdf)

³ http://www.ncpers.org/files/NCPERS_2017%20Economic%20Loss.pdf

Section I

LITERATURE REVIEW

The main purpose of this study is to first estimate state and local revenues generated through spending of pension checks by retirees and investment of pension assets, and then compare these revenues with taxpayer contributions to public pensions. In the end, we want to determine whether public pensions are net revenue positive, revenue neutral, or revenue negative. In order to do this, as discussed further in Section II, we must first examine how much economic growth is attributable to spending by retirees and investment of pension assets. We can then determine how much revenue is generated by such economic growth by examining the relationship between economic growth and revenues.

Unfortunately, existing literature on whether public pensions in the United States are revenue positive, revenue neutral, or revenue negative is severely lacking. A few studies have partially explored the relationship between economic and revenue impact of public pensions, mainly by measuring revenues generated by spending of retiree checks. Studies on the impact of the investment of pension fund assets on the economy and revenues are practically nonexistent. In this section we'll review literature on the relationship between the economy and revenues, pension assets and the economy, and pension assets, the economy, and revenues.

The Economy and Revenues

Most of the literature in this area focuses on the debate about whether tax cuts grow the economy. Gale, Krupkin, and Rueben stated in their recent article, "The Relationship Between Taxes and Growth at the State Level: New Evidence," the effects of state tax policy on economic growth, entrepreneurship, and employment remain controversial.⁴ While conservatives argue that tax cuts do grow the economy, most of the literature and data do not support this finding.

It is common sense that when governments cut taxes, they will have less revenue. When they have less revenue, they must cut programs or borrow money. The expected positive impact of tax cuts on the economy is wiped out by the negative impact of spending cuts and/or borrowing. More often than not, the net effect of tax cuts on the economy is negative. Consider the fact that as president from 2001 to 2009, George W. Bush presided over two major tax cuts, yet the outcome was the Great Recession, which officially lasted from December 2007 to June 2009, though its ripple effects are still with us. The best way to grow the economy is through investment in education and infrastructure, as we did during the post-World War II period.

⁴ William Gale, Aaron Krupkin, and Kim Rueben, "The Relationship Between Taxes and Growth at the State Level: New Evidence," *National Tax Journal*, December 2015, 68 (4), 919-942.

On the question of what drives revenues, there is again a dearth of literature. A recent study by The Tax Foundation addresses this question.⁵ The study presents data from *The Economist*⁶ and implies that economic growth is a key driver of revenues. When the economy is doing well, tax revenues grow, and vice versa. For example, the study notes that during the mid-1980s to late 1990s the economy grew. So did tax revenues. On the other hand, during 2007 and 2009, the economy declined. So did the revenues.

Another study that looks at the question at the state level was conducted by the Oklahoma Council of Public Affairs.⁷ This study mainly focuses on income tax revenues. The study shows that economic growth, as measured by job growth, drives revenues.

Pension Assets and the Economy

Do pension fund assets contribute to economic growth? The literature on this subject is also in short supply. One study that has addressed this question focuses on 38 countries, including both European Union countries and emerging economies. This study, conducted by Davis and Hu,⁸ found a positive correlation between growth in pension fund assets and economic growth.

Another study that shows a positive correlation between pension assets and economic growth focuses on 69 industrial sectors in 34 Organisation for Economic Co-operation and Development (OECD) countries for the decade of 2001–2010.⁹ Bijlsma, van Ewijk, and Haaijen, authors of this study, conclude that a higher level of pension

assets has a significant impact on economic growth through growth in sectors dependent on external finance.

Studies focusing on individual countries and examining the relationship between pension fund assets and economic growth are even rarer. A study by W. C. Mungoma,¹⁰ which focuses on Kenya, takes an in-depth look at data on the growth of pension fund assets and economic growth during 2002–2011. The study finds a positive relationship between pension assets and economic growth.

Pensions Assets, the Economy, and Revenues

One of the best-known studies that regularly assesses the impact of pensions on the economy and revenues is conducted by the National Institute on Retirement Security (NIRS).¹¹ This study, popularly known as Pensionomics, assesses the economic and revenue impact of benefits paid to retirees by public and private defined-benefit pensions in the United States. In 2014, the NIRS study finds, about \$520 billion was paid in pension benefits to 24.3 million retirees, generating \$1.2 trillion in total economic activity. This economic activity in turn yielded \$189 billion in federal, state, and local revenues. The NIRS study also assesses this impact for public pensions on a state-by-state basis. However, it does not assess the economic and revenue impact of investment of pension assets.

Several individual pension plans conduct economic impact studies for their respective states. For example, Teacher Retirement System

5 <https://taxfoundation.org/economic-growth-drives-level-tax-revenue>

6 <https://www.economist.com/blogs/buttonwood/2014/10/tax-policy-and-economy>

7 <http://www.ocpathink.org/post/what-drives-income-tax-revenues-tax-rates-or-economic-growth-2>

8 <https://ideas.repec.org/p/bru/bruppp/04-23.html>

9 <http://www.cpb.nl/sites/default/files/publicaties/download/cpb-discussion-paper-279-economic-growth-and-funded-pension-systems.pdf>

10 <http://erepository.uonbi.ac.ke/bitstream/handle/11295/58501/The%20Relationship%20Between%20Pension%20Fund%20Assets%20And%20Economic%20Growth%20In%20Kenya?sequence=3>

11 <https://www.nirsonline.org/reports/pensionomics-2016/>

of Texas does such a study on a regular basis. The 2016 study shows that the system paid \$9.3 billion in retirement benefits to more than 393,000 retirees, which contributed \$6.1 billion to personal income growth and generated \$1.34 billion in state and local revenues.¹²

Similarly, a 2016 study conducted by the Colorado Public Employee Retirement Association (PERA) shows that the system provides significant economic benefit to Colorado. This economic benefit amounts to more than \$6 billion, which in turn generates \$271 million in tax revenue for state and local governments.¹³

The foregoing review of studies on the economic and revenue impact of public pensions suggests that these studies focus on part of the equation – benefits paid to retirees. They do not focus on

the economic and revenue impact of investment of pension fund assets. Yet there are two pension plans – the California Public Employees’ Retirement System (CalPERS) and the California State Teachers’ Retirement System (CalSTRS) – that have done studies on the economic impact of investment of their assets on the California economy. In an earlier Research Series paper, we used the economic impact data from the CalPERS and CalSTRS studies to estimate the revenue impact.¹⁴

In the absence of studies such as those done by CalPERS and CalSTRS, it is necessary to develop a methodology to assess the economic and revenue impact of investment of pension fund assets as well as pension benefits paid to retirees for all 50 states. The next section describes the methodology.

¹² https://www.trsx.texas.gov/TRS%20Documents/impact_annuity_payments_by_trsx.pdf

¹³ <https://www.copera.org/news/colorado-pera-economic-impact-grew-1-billion-two-years>

¹⁴ http://www.ncpers.org/files/NCPERS%20Research%20Series_2017%20Public%20Pensions%20Are%20A%20Good%20Deal%20for%20Taxpayers_Web.pdf

Section II

DATA AND METHODOLOGY

As the foregoing review suggests, there is a dearth of studies addressing the revenue and economic impact of pensions. Some studies, such as the NIRS and Texas and Colorado retirement systems studies, partially address the economic and revenue impact, as they only focus on the impact of the spending of retiree pension checks. We sought to fill this gap by conducting the first nationwide study to assess the economic and revenue impact of pension assets. We developed our methodology from scratch to study the total impact of public pensions, including pension checks plus assets, on the economy and revenue of all 50 states.

We drew together historical data from various public sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. These data span 1977 to 2016 in most instances. With each year's data constituting one observation, the total number of observations was 40. Our analysis was performed in three steps. First, we estimated the impact of investment of pension fund assets on state and local economies and revenues. Second, we estimated the impact of spending of pension checks by retirees on state and local economies and revenues. Third, we assessed whether revenues generated by public pensions exceed taxpayer contributions. If so, how much would taxpayers have to pay in additional taxes to maintain the current level of services if public pensions were dismantled?

Estimating the Impact of Pension Fund Assets on State and Local Economies and Revenues:

Pension fund assets constitute an important source of capital for startups and existing businesses. Growth in startups and businesses grows jobs, income, and consumer spending, which in turn grow the economy and revenues. We estimate the impact of pension fund assets on state and local economies and revenues as follows:

- Using historical data, we develop a model to examine the contribution of investment of public pension fund assets to the economy at the national level, controlling for other variables that also impact the economy. We measure the economy for the purposes of this study in terms of personal income (the dependent variable in the model). The other variables used in the model include the following:

- Education spending on K–12
- Education spending on higher education
- Multifactor productivity
- Infrastructure spending
- Pension fund assets
- Income inequality

All variables are measured in thousands of dollars except multifactor productivity and income inequality. Multifactor productivity is

measured as an index, and income inequality is measured as the ratio of income in the top quintile to that in the bottom quintile.

- Next, we apply the beta value for the pension assets variable in the model to the pension fund assets of each state to estimate their contribution to the state economy. The beta coefficient measures the change in the economy for a unit change in a variable used in the model.
- We then adjust this contribution to the state economy by taking into account the multiplier effect and the size of the local economy in relation to the national economy. We use the multiplier effect of 2.5 in our analysis.¹⁵ This figure should probably be higher, as most Americans spend 80 cents of every dollar of their income. However, we choose to use 2.5 in our analysis based on some of the studies cited in the literature review section. The adjustment for the size of the state economy is made by multiplying the contribution to the state economy by the ratio of the state and national economies.
- To convert the contribution of pension assets to the economy into state and local revenues, we have used historical data to develop a model to estimate a revenue quotient for each state by examining the relationship between the economy (personal income) and state and local revenues since 1977.
- We apply this revenue quotient to the adjusted contribution of pension assets to the economy to estimate state and local revenues attributable to pension assets.

Estimating the Impact of Pension Checks on State and Local Economies and Revenues

The impact of spending of retiree checks on state and local economies and revenues is estimated as follows:

- We consider the pension payments made by state and local pension plans as a direct contribution to the economy (personal income).
- We then adjust this contribution to the economy by using the multiplier effect specified above.
- To convert this adjusted contribution to the economy into state and local revenues, we use the revenue quotient specified above.

Assessing Whether Revenues Generated by Public Pensions Exceed Taxpayer Contributions

The assessment of whether revenues generated by public pensions exceed taxpayer contributions is done as follows:

- We estimate the total state and local revenues by adding the revenues generated through investment of pension fund assets and those generated through spending of pension checks by retirees.
- We then compare the total state and local revenues with taxpayer contributions to determine whether these revenues exceed taxpayer contributions.
- This comparison also allows us to determine how much additional revenues taxpayers would have to make up to receive the current level of services if public pensions were dismantled.

The data and analysis show that state and local revenues generated by the mere existence of public pensions far exceed taxpayer contributions. Taxpayers will have to pay additional taxes to receive the current level of services if public pensions are dismantled. Details of these findings are discussed in the next section.

¹⁵ The marginal propensity to consume (MPC) is equal to $\Delta C / \Delta Y$, where ΔC is change in consumption and ΔY is change in income. If consumption increases by 80 cents for each additional dollar of income, then MPC is equal to $0.8 / 1 = 0.8$. For example, if the MPC is equal to 0.8, then the multiplier can be calculated as follows: Multiplier = $1 / (1 - MPC) = 1 / (1 - 0.8) = 1 / 0.2 = 5$.

Section III

RESULTS

The discussion of results is organized as follows. First, we describe the results of the model to measure the economic impact of pension fund assets, taking into account other variables that also impact our economy. Second, we examine the impact of pension fund assets on the economy and revenues in each state. Third, we measure the impact of spending of pension checks by retirees on state economies and revenues. Fourth, we evaluate the total impact of pensions (pension assets and retiree spending) on state and local revenues. Finally, we compare state and local revenues with taxpayer contributions to examine whether pensions are net revenue generators.

The Economic Impact of Pension Assets

Due to lack of research focusing on the economic impact of public pension assets, we have developed a new model and methodology. The purpose of the model is to estimate the economic impact, as measured by personal income, of pension assets, controlling for other variables such as investment in education, infrastructure spending, multifactor productivity, and income inequality. All of these variables have significant impacts on the economy.

The results of our model are shown in Table 1. This table shows the beta coefficient for various variables used in the model. The model is highly predictive of economic impact, with an *R*-squared of 0.99. The *R*-squared of 0.99 means the model

explains 99 percent of the variations in the economy (personal income). Since we are using the entire population, 50 states, and all available data, we need not worry about sampling statistics such as the level of significance of the beta coefficient. Yet the beta coefficients of all variables in the model are significant, at 0.05 or better, and variables are normally distributed.

Table 1 shows that while investments in education and pension assets have a positive impact on the economy, productivity, infrastructure investment, and income inequality have a negative impact. Productivity and infrastructure used to have a positive impact on the economy when labor

Table 1
Coefficients of Variables Used in the Model to Estimate the Impact of Each Variable on the Economy, 2016

Variable	Coefficient
Intercept	6,023,230,805
Investment in Infrastructure	-16.49908533
Investment in K–12 Education	13.25939831
Investment in Higher Education	31.92719972
Multifactor Productivity	-41,525,904
Pension Assets	1.088119101
Income Inequality	-182,301,579

unions were strong and income inequality was low. With rising income inequality and declining labor unions, these relationships are reversed. Most of the economic growth resulting from productivity growth and infrastructure investment now goes to the top 1 percent. Another reason infrastructure investment may not have a positive impact is that a great deal of what is done now is merely glorified maintenance and doesn't really merit being called "investment."

The positive impact of pension fund assets on the economy, Table 1 shows, is relatively small compared with the impact of investment in education, especially higher education. The economy grows by \$1,088 for each \$1,000 of pension fund assets. Yet due to the size of the pension fund assets, \$3.7 trillion in 2016, the magnitude of the effect on the economy and revenues is significant. How much is this impact? We'll examine that next.

Table 2
Impact of Investment of Pension Assets on State and Local Economies and Revenues, 2016 (All Data Are in \$1,000)

State	Pension Assets	Contribution to State Economy (Personal Income)	S&L Revenues Attributable to Investment of Pension Assets
Alabama	\$35,734,586	\$1,157,559	\$221,900
Alaska	\$13,691,129	\$96,791	\$27,818
Arizona	\$45,029,742	\$2,160,052	\$376,545
Arkansas	\$25,574,432	\$519,840	\$100,529
California	\$761,443,651	\$288,522,119	\$64,866,087
Colorado	\$51,562,223	\$2,543,902	\$467,500
Connecticut	\$38,896,388	\$1,651,136	\$247,680
Delaware	\$9,648,772	\$75,303	\$15,662
Florida	\$177,360,518	\$28,768,856	\$5,138,812
Georgia	\$93,547,192	\$6,963,348	\$1,200,101
Hawaii	\$14,160,626	\$174,466	\$35,906
Idaho	\$14,368,152	\$163,459	\$29,749
Illinois	\$155,817,713	\$17,699,958	\$3,351,821
Indiana	\$31,467,696	\$1,540,439	\$290,284
Iowa	\$31,403,369	\$775,442	\$159,493
Kansas	\$18,928,321	\$445,062	\$82,044
Kentucky	\$28,514,597	\$843,364	\$159,547
Louisiana	\$44,656,295	\$1,514,340	\$278,979
Maine	\$12,408,641	\$124,639	\$23,585
Maryland	\$68,197,392	\$4,078,921	\$631,210
Massachusetts	\$74,135,018	\$5,554,858	\$944,040

Table 2 (continued)

Impact of Investment of Pension Assets on State and Local Economies and Revenues, 2016 (All Data Are in \$1,000)

State	Pension Assets	Contribution to State Economy (Personal Income)	S&L Revenues Attributable to Investment of Pension Assets
Michigan	\$83,458,541	\$6,279,330	\$1,200,883
Minnesota	\$59,363,817	\$2,920,129	\$573,477
Mississippi	\$25,257,079	\$458,697	\$98,473
Missouri	\$71,224,105	\$3,190,058	\$586,874
Montana	\$10,025,265	\$76,865	\$14,105
Nebraska	\$16,009,688	\$261,579	\$56,099
Nevada	\$34,931,255	\$766,2112	\$142,441
New Hampshire	\$7,735,542	\$98,936	\$14,151
New Jersey	\$73,173,395	\$6,889,802	\$1,197,423
New Mexico	\$25,777,278	\$353,427	\$76,257
New York	\$452,988,711	\$91,231,510	\$23,148,004
North Carolina	\$87,703,405	\$6,437,666	\$1,225,684
North Dakota	\$5,103,732	\$36,188	\$8,524
Ohio	\$175,253,319	\$15,543,469	\$3,475,963
Oklahoma	\$30,058,380	\$862,200	\$146,338
Oregon	\$70,564,979	\$2,245,681	\$499,949
Pennsylvania	\$99,906,853	\$11,098,288	\$2,001,879
Rhode Island	\$8,821,192	\$80,473	\$15,458
South Carolina	\$29,513,757	\$990,856	\$217,888
South Dakota	\$10,999,708	\$77,980	\$11,833
Tennessee	\$53,042,292	\$2,617,529	\$464,016
Texas	\$239,499,001	\$52,878,801	\$8,727,368
Utah	\$27,240,224	\$582,497	\$118,610
Vermont	\$4,096,541	\$21,901	\$4,147
Virginia	\$82,711,198	\$6,309,503	\$1,015,355
Washington	\$79,748,995	\$5,432,257	\$1,037,513
West Virginia	\$13,625,030	\$156,471	\$33,853
Wisconsin	\$98,152,527	\$4,542,021	\$903,294
Wyoming	\$7,403,669	\$40,914	\$10,453
United States	\$3,729,935,931	\$587,855,095	\$125,675,599

Contribution of Pension Fund Assets to the Economy and Revenues

Using the methodology outlined in Section II and the beta coefficients from Table 1, we have calculated the impact of pension assets on state economies and revenues. The results are shown in Table 2. Column 2 in this table shows state-by-state pension assets, column 3 the contribution of these assets to the economy, and column 4 revenues attributable to investment of pension

assets. The results in Table 2 show that overall, pension assets contribute \$587.5 billion to the economy, which results in about \$125.7 billion in state and local revenues.

State-by-state data in Table 2 show that the economic and revenue impacts of pension assets in states such as California, Florida, New York, and Texas are very significant. In California, state and local pension fund assets of \$761.4 billion result in a \$288.5 billion contribution to the economy and

Table 3
Impact of Spending of Pension Checks on the Economy and State and Local Revenues, 2016 (All Data Are in \$1,000)

State	Pension Checks	Contribution to Economy (Personal Income)	S&L Revenues Attributable to Pension Checks
Alabama	\$3,678,636	\$9,196,590	\$1,762,952
Alaska	\$1,267,543	\$3,168,858	\$910,742
Arizona	\$4,625,373	\$11,563,433	\$2,015,761
Arkansas	\$1,848,848	\$4,622,120	\$893,842
California	\$52,270,240	\$130,675,600	\$29,378,735
Colorado	\$5,291,653	\$13,229,133	\$2,431,152
Connecticut	\$4,797,555	\$11,993,888	\$1,799,153
Delaware	\$680,524	\$1,701,310	\$353,838
Florida	\$11,830,922	\$29,577,305	\$5,283,220
Georgia	\$7,132,093	\$17,830,233	\$3,072,958
Hawaii	\$1,297,563	\$3,243,908	\$667,610
Idaho	\$922,145	\$2,305,363	\$419,567
Illinois	\$18,658,398	\$46,645,995	\$8,833,299
Indiana	\$2,822,671	\$7,056,678	\$1,329,779
Iowa	\$2,181,584	\$5,453,960	\$1,121,771
Kansas	\$1,860,607	\$4,651,518	\$857,477
Kentucky	\$4,077,013	\$10,192,533	\$1,928,218
Louisiana	\$4,655,139	\$11,637,848	\$2,143,976
Maine	\$977,015	\$2,442,538	\$462,192
Maryland	\$5,210,842	\$13,027,105	\$2,015,935

Table 3 (continued)

Impact of Spending of Pension Checks on the Economy and State and Local Revenues, 2016 (All Data Are in \$1,000)

State	Pension Checks	Contribution to Economy (Personal Income)	S&L Revenues Attributable to Pension Checks
Massachusetts	\$6,953,546	\$17,383,865	\$2,954,363
Michigan	\$8,877,929	\$22,194,823	\$4,244,621
Minnesota	\$4,706,365	\$11,765,913	\$2,310,679
Mississippi	\$2,655,600	\$6,639,000	\$1,425,263
Missouri	\$5,588,421	\$13,971,053	\$2,570,251
Montana	\$833,798	\$2,084,495	\$382,502
Nebraska	\$1,106,087	\$2,765,218	\$593,035
Nevada	\$2,287,691	\$5,719,228	\$1,063,222
New Hampshire	\$752,570	\$1,881,425	\$269,102
New Jersey	\$10,435,636	\$26,089,090	\$4,534,191
New Mexico	\$2,182,503	\$5,456,258	\$1,177,264
New York	\$31,872,176	\$79,680,440	\$20,217,172
North Carolina	\$6,184,130	\$15,460,325	\$2,943,531
North Dakota	\$396,417	\$991,043	\$233,450
Ohio	\$15,886,846	\$39,717,115	\$8,881,881
Oklahoma	\$2,493,743	\$6,234,358	\$1,058,131
Oregon	\$5,343,496	\$13,358,740	\$2,974,012
Pennsylvania	\$12,812,898	\$32,032,245	\$5,777,890
Rhode Island	\$1,227,000	\$3,067,500	\$589,231
South Carolina	\$3,462,282	\$8,655,705	\$1,903,379
South Dakota	\$565,254	\$1,413,135	\$214,435
Tennessee	\$3,280,554	\$8,201,385	\$1,453,879
Texas	\$17,229,465	\$43,073,663	\$7,109,081
Utah	\$1,448,658	\$3,621,645	\$737,451
Vermont	\$341,806	\$854,515	\$161,812
Virginia	\$6,119,324	\$15,298,310	\$2,461,876
Washington	\$4,529,070	\$11,322,675	\$2,162,530
West Virginia	\$1,125,120	\$2,812,800	\$608,555
Wisconsin	\$5,796,298	\$14,490,745	\$2,881,844
Wyoming	\$539,986	\$1,349,965	\$344,882
United States	\$303,121,033	\$757,802,583	\$151,921,695

\$64.8 billion to state and local revenues. Similarly, in New York, state and local pension fund assets of \$452.9 billion contribute \$91.2 billion to the economy and \$23.1 billion to state and local revenues. The economies and revenues of even small states, such as Delaware, South Dakota, and Wyoming, benefit significantly from investment of their pension fund assets.

Contribution of the Spending of Pension Checks to the Economy and Revenues

The impact of spending by retirees has a much bigger impact on the economy and on state and local revenues than the investment of pension fund assets because of the dollar-for-dollar addition to personal income and the multiplier effect. Table 3 shows the state-by-state impact of

Table 4
State and Local Revenues Attributable to Spending of Pension Checks and Investment of Pension Fund Assets Compared with Taxpayer Contributions to Pension Funds, 2016
(All Data Are in \$1,000)

State	S&L Revenue from Investment of Pension Assets	S&L Revenue from Spending of Pension Checks	Total S&L Revenue	Taxpayer Contribution	Net S&L Revenues Attributable to Public Pensions
Alabama	\$221,900	\$1,762,952	\$1,984,852	\$1,252,248	\$732,604
Alaska	\$27,818	\$910,742	\$938,560	\$485,438	\$453,122
Arizona	\$376,545	\$2,015,761	\$2,392,306	\$1,914,757	\$477,549
Arkansas	\$100,529	\$893,842	\$994,371	\$846,815	\$147,556
California	\$64,866,087	\$29,378,735	\$94,244,821	\$27,414,268	\$66,830,553
Colorado	\$467,500	\$2,431,152	\$2,898,652	\$1,674,130	\$1,224,522
Connecticut	\$247,680	\$1,799,153	\$2,046,833	\$3,259,181	-\$1,212,348
Delaware	\$15,662	\$353,838	\$369,500	\$305,051	\$64,449
Florida	\$5,138,812	\$5,283,220	\$10,422,032	\$4,111,003	\$6,311,029
Georgia	\$1,200,101	\$3,072,958	\$4,273,059	\$2,920,850	\$1,352,209
Hawaii	\$35,906	\$667,610	\$703,516	\$756,558	-\$53,042
Idaho	\$29,749	\$419,567	\$449,316	\$346,861	\$102,455
Illinois	\$3,351,821	\$8,833,299	\$12,185,119	\$11,130,532	\$1,054,587
Indiana	\$290,284	\$1,329,779	\$1,620,063	\$1,964,478	-\$344,415
Iowa	\$159,493	\$1,121,771	\$1,281,264	\$805,668	\$475,596
Kansas	\$82,044	\$857,477	\$939,521	\$1,813,977	-\$874,456
Kentucky	\$159,547	\$1,928,218	\$2,087,765	\$1,576,796	\$510,969
Louisiana	\$278,979	\$2,143,976	\$2,422,955	\$2,690,618	-\$267,663
Maine	\$23,585	\$462,192	\$485,777	\$360,958	\$124,819
Maryland	\$631,210	\$2,015,935	\$2,647,145	\$2,843,185	-\$196,040
Massachusetts	\$944,040	\$2,954,363	\$3,898,403	\$3,679,844	\$218,559

Table 4 (continued)

State and Local Revenues Attributable to Spending of Pension Checks and Investment of Pension Fund Assets Compared with Taxpayer Contributions to Pension Funds, 2016
(All Data Are in \$1,000)

State	S&L Revenue from Investment of Pension Assets	S&L Revenue from Spending of Pension Checks	Total S&L Revenue	Taxpayer Contribution	Net S&L Revenues Attributable to Public Pensions
Michigan	\$1,200,883	\$4,244,621	\$5,445,504	\$4,608,223	\$837,281
Minnesota	\$573,477	\$2,310,679	\$2,884,156	\$1,313,534	\$1,570,622
Mississippi	\$98,473	\$1,425,262	\$1,523,735	\$1,055,072	\$468,663
Missouri	\$586,874	\$2,570,251	\$3,157,125	\$2,484,324	\$672,801
Montana	\$14,105	\$382,502	\$396,607	\$329,504	\$67,103
Nebraska	\$56,099	\$593,035	\$649,134	\$464,236	\$184,898
Nevada	\$142,441	\$1,063,222	\$1,205,664	\$1,575,639	-\$369,975
New Hampshire	\$14,151	\$269,102	\$283,253	\$393,575	-\$110,322
New Jersey	\$1,197,423	\$4,534,191	\$5,731,614	\$3,130,361	\$2,601,253
New Mexico	\$76,257	\$1,177,264	\$1,253,521	\$784,568	\$468,953
New York	\$23,148,004	\$20,217,172	\$43,365,176	\$18,185,275	\$25,179,901
North Carolina	\$1,225,684	\$2,943,531	\$4,169,215	\$1,767,606	\$2,401,609
North Dakota	\$8,524	\$233,450	\$241,975	\$235,024	\$6,951
Ohio	\$3,475,963	\$8,881,881	\$12,357,844	\$4,312,066	\$8,045,778
Oklahoma	\$146,338	\$1,058,131	\$1,204,469	\$1,353,815	-\$149,346
Oregon	\$499,949	\$2,974,012	\$3,473,960	\$1,169,411	\$2,304,549
Pennsylvania	\$2,001,879	\$5,777,890	\$7,779,769	\$5,976,958	\$1,802,811
Rhode Island	\$15,458	\$589,231	\$604,689	\$642,163	-\$37,474
South Carolina	\$217,888	\$1,903,379	\$2,121,267	\$1,280,792	\$840,475
South Dakota	\$11,833	\$214,435	\$226,268	\$130,639	\$95,629
Tennessee	\$464,016	\$1,453,879	\$1,917,895	\$1,416,722	\$501,173
Texas	\$8,727,368	\$7,109,081	\$15,836,449	\$6,513,808	\$9,322,641
Utah	\$118,610	\$737,451	\$856,061	\$1,153,467	-\$297,406
Vermont	\$4,147	\$161,812	\$165,959	\$153,590	\$12,369
Virginia	\$1,015,355	\$2,461,876	\$3,477,231	\$3,165,961	\$311,270
Washington	\$1,037,513	\$2,162,530	\$3,200,043	\$2,282,777	\$917,266
West Virginia	\$33,853	\$608,555	\$642,408	\$1,029,631	-\$387,223
Wisconsin	\$903,294	\$2,881,844	\$3,785,138	\$1,088,443	\$2,696,695
Wyoming	\$10,453	\$344,882	\$355,334	\$175,033	\$180,301
United States	\$125,675,599	\$151,921,695	\$277,597,294	\$140,325,433	\$137,271,861

the spending of pension checks on the economy and revenues. In 2016, about \$303.1 billion paid to retirees in pension checks contributed \$757.8 billion to the economy and \$151.9 billion to state and local revenues.

Column 2 in Table 3 shows the dollar amount of the pension checks paid to retirees in each state. Column 3 shows the contribution of spending of these checks to the economy, and column 4 shows state and local revenues attributable to pension checks. The results show that the economy and revenues in states such as California, New York, Ohio, and Texas benefit greatly from retirees' spending of their pension checks.

Overall, when we add the impact of investment of assets and spending of pension checks by retirees, public pensions in 2016 contributed \$1.3 trillion to the economy and \$277.6 billion to state and local revenues.

Are Public Pensions Net Revenue Positive?

Opponents of public pensions often argue that taxpayers cannot afford them. Common sense will tell us that investment of pension fund assets and spending of pension checks by retirees must have a positive impact on the economy and revenues. The results shown in Tables 2 and 3 support this commonsense contention. Next we examine whether public pensions are net revenue generators.

Column 4 in Table 4 shows the total state and local revenues generated by investment of pension assets and spending of pension checks, column 5 shows the taxpayer contribution, and column 6 shows the net revenues attributable to public pensions (column 6 = column 4 - column 5). The results in Table 4 show that in 2016, pension funds

generated approximately \$277.6 billion in state and local revenues. Taxpayer contributions to state and local pension plans in the same year totaled \$140.3 billion. In other words, pension funds generated \$137.3 billion more in revenues than taxpayers contributed. The state-by-state results indicate that state and local pensions in 38 states are net revenue positive. In the remaining 12 states, either pensions were revenue neutral or taxpayer contributions were more than 60 percent subsidized by state and local revenues generated by public pensions.

Overall, the data in Table 4 do not support the argument that taxpayers cannot afford public pensions. The data show that if public pensions were dismantled, the burden on taxpayers would rise by about \$137.3 billion.

Obviously, if there were no defined-benefit plans, some money would move to defined-contribution plans. This is unlikely to affect the findings of our study. Even original proponents of 401(k)-type defined-contribution plans now agree that defined contribution is a failed experiment.¹⁶ Our own analysis shows that the shift to defined-contribution plans increases income inequality and slows down the economy.¹⁷ Furthermore, the econometric model used in this study shows that a unit change in income inequality will shave off \$182 billion from the economy.

This is the first study of its kind that looks at the total impact of pensions on state and local economies and revenues. Since it is based on secondary data from public sources, it is not feasible to estimate the impact of in-state investments of a pension fund's portfolio as well as the impact of movements of retirees in and out of a state. Further research along these lines needs to continue.

¹⁶ <http://www.wsj.com/articles/thechampionsofthe401klamenttherevolutiontheystarted1483382348>

¹⁷ [http://www.ncpers.org/files/NCPERS%20Income%20Inequality%20Paper_Web\(1\).pdf](http://www.ncpers.org/files/NCPERS%20Income%20Inequality%20Paper_Web(1).pdf)

Section IV

CONCLUSIONS

Policy makers across the country are contemplating whether they reduce or dismantle public pensions by converting them into do-it-yourself retirement savings plans or by cutting benefits and increasing employee contributions. They have not fully reckoned with the ways that undermining public pensions would ultimately increase the tax burden on their constituents and would harm their state and local economies and revenues.

These harmful policy decisions have been advocated and supported by misguided information put forth by opponents of public pensions. Their weapons in this disinformation war include distorted data about unfunded liability and apples-to-oranges comparisons that grossly understate future funding sources.

Yet, in 2016, pension funds contributed \$1.3 trillion to the economy and \$277.6 billion to state and local revenues. Of the \$1.3 trillion contribution to the economy, \$587.5 billion came from investment of pension assets and \$757 billion from spending of pension checks by retirees. Similarly, of the \$277.6 billion contributed to state and local revenues, \$125.7 billion came from investment of assets and \$151.9 billion from spending of pension checks.

Is the argument that taxpayers cannot afford public pensions true? In 2016, pension funds generated \$277.6 billion in state and local revenues. During the same year, the taxpayer contribution to public pensions was \$140.3 billion. In other words, pension funds generated \$137.3 billion more in revenues than the taxpayer contribution ($\$277.6 - \$140.3 = \$137.3$). The state-by-state results indicate that state and local pensions in 38 states are net revenue generators. In the remaining 12 states, either pensions were revenue neutral or taxpayer contributions were more than 60 percent subsidized by state and local revenues generated by public pensions.

The data do not support the argument that taxpayers cannot afford public pensions. The fact is that dismantling public pensions carries a grave cost. Far from easing the perceived burdens on taxpayers, pursuing this path would actually increase the costs to taxpayers by \$137.3 billion. Taxpayers cannot afford continued dismantling of public pensions. Policy makers need to preserve and enhance public pensions. To address short-term budget problems, they should look at tax subsidies and loopholes. In the long run, they need to make their revenue structures progressive.



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