



OPEN SESSION
NOTICE OF REGULAR BOARD MEETING
JOSEPH BRESS, CHAIRMAN

AGENDA

THURSDAY, MARCH 19, 2015
12:30 PM

12:30 PM ROLL CALL

APPROVAL OF MEETING MINUTES FOR JANUARY 22, 2015 **[TAB 1]**

CHAIRMAN'S COMMENTS **[TAB 2]**
ACTION ITEM: ELECTION OF BOARD OFFICERS

EXECUTIVE DIRECTOR'S REPORT **[TAB 2]**

INVESTMENT COMMITTEE REPORT

OPERATIONS COMMITTEE REPORT -- ACTION ITEM **[TAB 3]**

BENEFITS COMMITTEE REPORT **[TAB 4]**

LEGISLATIVE COMMITTEE REPORT **[TAB 4]**

AUDIT COMMITTEE REPORT

OTHER BUSINESS **[TAB 5]**

- PROCUREMENT CONTRACT LOG
- TRUSTEE CONFIDENTIAL DISCLOSURE FORM (DUE APRIL 30TH)
- TRUSTEE ACKNOWLEDGEMENT FORM

2:00 PM ADJOURNMENT

ADDITIONAL MEETING MATERIALS

- TRUSTEES' COMMITTEE ASSIGNMENTS
- CONFERENCES & MEETINGS LISTING
- TRUSTEES & STAFF TRAINING AND TRAVEL REPORT

ENROLLED ORIGINAL

A CEREMONIAL RESOLUTION

20-256

IN THE COUNCIL OF THE DISTRICT OF COLUMBIA

October 7, 2014

To posthumously recognize, honor, and express the District's overwhelming gratitude to Lasana K. Mack for his commitment to excellence as a public servant and for his numerous contributions to the government of the District of Columbia and her citizens.

WHEREAS, Lasana K. Mack served as Treasurer of the District of Columbia from 2005-2012;

WHEREAS, as Treasurer, Lasana K. Mack managed the District's financial assets and liabilities associated with its annual multibillion dollar operating and capital budgets as well as managed the District's cash, check, and electronic receipts and disbursements, its banking and investment activities, and its debt issuance and repayment activities;

WHEREAS, during the 25 years in which Lasana K. Mack served the District of Columbia, he worked extensively in the District's cash management and debt management operations, first as a debt manager;

WHEREAS, through positions of increasing responsibility during the Control Board era and afterward, Lasana K. Mack successfully managed the District's debt, resulting in numerous increases in the District's bond ratings from junk-bond status to its current AA- general obligation bond ratings and AAA income tax revenue bond rating; and

WHEREAS, Lasana K. Mack, upon retirement from the District government in 2012, served as the founder and executive director of Appeal, Inc., a non-profit financial company;

IT IS HEREBY RESOLVED, BY THE COUNCIL OF THE DISTRICT OF COLUMBIA, that the Council of the District of Columbia honors Lasana K. Mack for his commitment to excellence in public service. He served as a model of what a responsible and dedicated community and civic leader truly should be, and will be sorely missed.

Sec. 2. This resolution may be cited as the "Lasana K. Mack Posthumous Recognition Resolution of 2014".

Sec. 3. This resolution shall take effect immediately upon the first date of publication in the District of Columbia Register.



EXECUTIVE DIRECTOR REPORT
March 19, 2015

Activities	Updates
Annual Performance Testimony	<p>On March 10, 2015, DCRB appeared before the DC Council’s Committee of the Whole and provided testimony on its performance for Fiscal Year 2014, and its goals for Fiscal Year 2015 and beyond. Mr. Mendelson’s questions focused primarily on: 1) the increase in the FY 2016 District contribution to the Plans, 2) fossil fuel divestiture, and 3) the Max 80/COLA Lookback errors. At the end of the hearing, he complimented the Board on all it has done to make the Trust Fund the second most fully funded in the country.</p>
S&P Litigation Settlement	<p>On February 2, 2015, the District, the U.S. Department of Justice, and various states reached a \$1.375 billion settlement agreement with S&P.</p> <p>As a part of the agreement, S&P will pay the District \$21,535,714 to resolve the consumer protection and securities law violations alleged in the Complaint. In addition, S&P agreed to a detailed Statement of Facts regarding misconduct in rating Residential Mortgage Backed Securities (RMBS) and Collateralized Debt Obligations from 2004 to 2007.</p> <p>DCRB’s Investment and Legal Departments provided the OAG with several documents related to RMBS and a declaration statement in response to a subpoena. The declaration allowed the OAG to assert that S&P marketed its credit ratings business to District investors and misrepresented its independence and objectivity. The \$21,535,714 has been paid into the District’s General Fund.</p>
Board Portal Project	<p>The purpose of the Board Portal Project is to transition from hard copy (paper) Board materials to mostly digital documents. At its October meeting, the Board approved an award to Diligent Board Member Services (Diligent) to host and distribute DCRB’s meeting information through their portal application. DCRB’s contract with Diligent is now final and training for Trustees will be scheduled in the near future.</p>
Teacher Retirement Workshop	<p>As in the past, DCRB is joining with DCPS and the WTU in presenting a Retirement Workshop for teachers who are considering retirement. This year, however, the Workshop will be hosted by DCRB. The agenda will include presentations on March 30th by DCPS, DCRB, the WTU, and a guest speaker from the Social Security Administration, and on March 31st, information will be provided by representatives of the various 403(b) plans.</p>
Certificate of Achievement in Public Plan Policy	<p>On September 29-30 and October 27-28, 2014, DCRB hosted the Certificate of Achievement in Public Plan Policy (CAPPP®) in Employee Pensions program offered by the International Foundation of Employee Benefit Plans (IFEPP). During the course of the program, attendees were provided with information on</p>

<p>(CAPPP®) Program Training</p>	<p>Governance, Legislative/Regulatory Developments, the Legal Environment, Actuarial Principles, Plan Design, Investments, Business Improvement Strategies, and Emerging Issues.</p> <p>On January 30, 2015, the IFEBP advised DCRB that the 18 DCRB attendees, who took the examination for both parts of the CAPPP program, passed. This means that DCRB has 18 newly minted CAPPP credentials to boast about. All of those who earned the CAPPP designation are to be commended for their achievement.</p>
<p>Staff Travel Policy</p>	<p>Attached for your information is a copy of the new Staff Travel Policy, which was approved on February 11, 2015. You will find that the content of this Policy closely follows that of the new Trustee Education and Related Travel Policy that was approved by the Board in January.</p>
<p>Staffing</p>	<p>New Hires On January 5, 2015, Justin Baker joined DCRB’s IT Department as a Sr. Technical Writer/Analyst. He brings over 17 years of field experience as a technical writer and editor with several Federal agencies. Over the past 18 months, Justin has worked for DCRB as a contractor, standardizing the IT Department’s documentation, including policies, procedures and communication. Justin has a Bachelor of Individualized Studies in Business Writing from George Mason University, and is a member of the Society for Technical Communications.</p> <p>Sylvia Treadwell joined DCRB’s Benefits Department on February 10, 2015, as its Retirement Services Manager. Sylvia has over 20 years of experience managing and providing consulting services for pension plans in both the public and private sectors. She holds a Master of Business Administration degree and a Bachelor of Science in Business Administration, with a minor in Computer Science.</p> <p>Please join me in welcoming Justin and Sylvia to DCRB.</p> <p>Departures Mark Bojeun, Portfolio Manager, and Mark Kobylinski, Quality, Compliance and Project Analyst, left DCRB in February.</p> <p>Existing vacancies include: Sr. Financial Management and Budget Analyst (Finance); Member Services Manager, Benefits Systems Manager, and Quality, Compliance and Projects Manager (Benefits); and Applications Developer (IT).</p>
<p>Recent Retirement- Related Articles and Other Materials (attached)</p>	<p><i>“Panel Backs Allowing Pension Overpayments to Continue,” <u>Milwaukee Journal Sentinel</u>, January 29, 2015.</i></p> <p>Copies of Fact Sheets used by Chairman Bress in his February 5, 2015 meeting with Renzo Castro, Associate Director of the Mayor’s Office of Talent and Appointments.</p> <p><i>“The Annual Required Contribution Experience of State Retirement Plans, FY 01 to FY 13,” NASRA, March 2015.</i></p> <p><i>“Retirement Security 2015: Roadmap for Policy Makers, Americans’ Views of the Retirement Crisis,” NIRS, March 2015.</i></p>



**District of Columbia Retirement Board
Performance Oversight Hearing**

Before the

**Council of the District of Columbia
Committee of the Whole**

March 10, 2015

OPENING REMARKS

Good afternoon Chairman Mendelson and members of the Council of the District of Columbia Committee of the Whole. I am Eric Stanchfield, Executive Director of the District of Columbia Retirement Board (DCRB). I will testify on our recent performance and provide you with an overview of the Agency's goals and strategic initiatives for the future.

Joining me today to respond to the Committee's questions are Sheila Morgan-Johnson, Chief Investment and Chief Operations Officer; Johnetta Bond, Chief Benefits Officer; as well as Ed Koebel, of Cavanaugh Macdonald, our independent actuary. Other senior staff in attendance include Erie Sampson, General Counsel; Peter Dewar, Chief Technology Officer; Joan Passerino, Director of Stakeholder Communication and Outreach; and Anthony Shelborne, Controller.

DCRB is an independent agency of the District of Columbia government that was created by Congress in 1979 under the District of Columbia Retirement Reform Act. The Agency has exclusive authority and discretion to manage the assets of the District of Columbia Teachers' Retirement Fund and the District of Columbia Police Officers and Firefighters' Retirement Fund (collectively referred to as the "Fund") and to provide our members with a range of retirement administration services. Our mission is to provide these services to our members from their date of initial participation in the District of Columbia Teachers' Retirement Plan and the District of Columbia Police Officers and Firefighters' Retirement Plan (collectively referred to as the "Plans") throughout their lifetime and their survivors' lifetime, and to safeguard the integrity of the Fund.

DCRB manages and controls the Fund, which is held in trust for the exclusive benefit of all Plan participants, and their eligible survivors and beneficiaries. The Fund assets can be used only to pay benefits to Plan members and associated administrative expenses necessary to pay benefits and operate the retirement program.

DCRB's Board of Trustees (Board) has 12 members, consisting of six (6) individuals who are elected by the participant groups, three (3) who are appointed by the Mayor, and three (3) who are appointed by this Council. In addition, the DC Treasurer serves on the Board as an ex-officio (non-voting) member (*representing the District's CFO*). Trustees, who are fiduciaries, must act solely in the interest of all Plan members.

The District government, as the employer, is the Plan Sponsor and is responsible for the design of the Plans and for paying the required employer contributions into the Fund. DCRB, as Plan Administrator, is responsible for investing the assets of the Fund and for providing a range of administrative services to our members. DCRB also serves as third-party administrator for benefits for which the US Department of the Treasury is responsible.

As of September 30, 2014, the Plans had 23,982 active members, annuitants and survivors. Of this number, 13,932 were retirees and survivors who receive monthly pension

payments and 10,050 were active members. Our Fiscal Year 2015 operating budget is \$30.3 million, and includes a total of 57.6 FTEs.

As of September 30, 2014, the Fund was valued at \$6.3 billion, an increase of approximately \$540 million in the total asset value over the previous 12 months. I am pleased to report that as of October 1, 2014, the Plan's aggregate funded ratio was 101.4 percent. For the individual Funds, the ratios are as follows: Teachers' at 88.6 percent, and Police and Firefighters' at 107.3 percent.

DCRB'S FIVE OVERARCHING GOALS

We continue to move forward with a focus on achieving five overarching goals. These goals include:

1. Expanding and improving benefits administration capabilities while assuring benefits are paid to our members timely and accurately.
2. Prudently investing Fund assets to provide long-term sustainable risk-adjusted returns.
3. Refining DCRB's organizational structure to meet changing agency responsibilities and needs.
4. Fostering member and stakeholder trust through enhanced communications and collaborative outreach.
5. Safeguarding the integrity of the Fund.

Using these five goals as a guide, I would like to outline our accomplishments during Fiscal Year 2014, and conclude my testimony with an overview of our progress and plans for Fiscal Year 2015 and beyond.

DCRB'S FISCAL YEAR 2014 ACCOMPLISHMENTS

During Fiscal Year 2014, DCRB made significant progress toward achieving each of its five strategic goals. The following is a brief review of achievements and progress made toward each goal.

1. Expanding and improving benefits administration capabilities while assuring benefits are paid to our members timely and accurately.

In Fiscal Year 2014, we made progress on two critical projects aimed at expanding and improving benefits administration. These projects—Data Reclamation and Business Process Reengineering — help ensure that our members will benefit from business processes that reflect current industry practices.

Data Reclamation

One of the primary objectives of the Data Reclamation project is to establish a database of service, salary, and contribution history that will reduce the processing time required to pay initial pension payments. In addition, this database ultimately will enable the production of annual benefit statements for active members.

We continued our partnership on pension data integrity with key District stakeholder agencies, including: the District of Columbia Public Schools; the Metropolitan Police Department; the Office of the Chief Technology Officer; the Office of Pay and Retirement Services; and the District of Columbia Department of Human Resources (representing the Fire and Emergency Medical Services Department).

We made improvements to the management of annuitant data in a number of ways, including implementing new security policies, reclaiming missing service history, and performing a comprehensive gap analysis. There were approximately 10,000 active member records at the time the analysis began. We are pleased to report that, at this time in collaboration with the agencies indicated, we have reclaimed all records with gaps in service history (4,600) and we are currently in the process of auditing those records.

The data will be instrumental in DCRB's ability to provide new retirees with an initial benefit payment within 30 days of receiving completed application packages, instead of the current 60-day timeframe.

The ultimate result of this effort will be a system where pension-related information is housed in a single secure location, and where records are managed electronically, using a calculation system owned and maintained by DCRB. This approach will align DCRB, operationally, with other public pension funds nationwide.

Business Process Reengineering (BPR)

The primary objectives of the BPR project—which we began in Fiscal Year 2013—are to improve accuracy, promote greater efficiency, and increase the speed of pension transactions.

As part of the BPR process, our Benefits Department reconfigured existing workflows; restructured the department; redefined and developed new roles; performed staff skills assessments; and delivered targeted training through the District's Workforce Development Administration.

We implemented BPR project recommendations throughout Fiscal Year 2014, while focusing on cross-training staff, performing quality reviews, and conducting business continuity planning.

2. Prudently investing Fund assets to provide long-term sustainable risk-adjusted returns.

The Fund posted a return of 8.4 percent for the fiscal year ended September 30, 2014. Since inception in October 1982, the Fund has generated an annualized gross return of 9.1 percent, surpassing the actuarial return target of 6.5 percent. We continue to review the Fund's strategic asset allocation to ensure outperformance of the actuarial return objective and to provide liquidity to meet Fund obligations.

3. Refining DCRB's organizational structure to meet agency responsibilities and needs.

The Benefits Department implemented a Quality Compliance Unit, which is responsible for second and third level review of annuity calculations. This enhanced review was put into place to minimize errors prior to the payment of benefits. The Benefits Department, with the assistance of the Information Technology Department, also obtained access to active payroll systems, both the legacy systems and the District's current PeopleSoft system, which allows DCRB to begin a retirement case prior to final receipt of all documents. This reduces the time from our receipt of the initial retirement application to the first annuity payment.

Business continuity in the event of a disaster is a critical goal of our agency. In Fiscal Year 2014, DCRB completed a number of projects focused on security and infrastructure availability, including updating our disaster recovery plan and implementing an alternate disaster recovery site. This site includes the remote replication of the agency's enterprise architecture to ensure continuity of operations.

During this past fiscal year, DCRB also refined policies and best practices to protect the sensitive member information managed by our Agency. Data security continues to be a priority for us. We have implemented various data security measures to mitigate the risk of data loss and to keep sensitive, personally identifiable information (PII) confidential. Additionally, we conduct annual cyber security training for all employees and contractors.

During Fiscal Year 2014, we provided annual training for staff and Trustees on ethics and fiduciary principles, and we issued PII policies to all staff and contractors. Finally, DCRB conducts background checks and fingerprinting for new DCRB employees and contractors.

4. Fostering member and stakeholder trust through enhanced communications and collaborative outreach.

The DCRB reaches out to members and the public to provide information on current issues and Fund performance. DCRB distributes its newsletter to our members via e-mail

and hard copy. We also maintain a retirement calculator on our website so active members can enter their information and receive personalized retirement estimates.

DCRB continues to receive member feedback by issuing surveys to callers, and by monitoring phone calls and correspondence for quality and training purposes. In Fiscal Year 2014, we utilized our website to provide more user-friendly access to our comprehensive annual financial reports, Board meeting minutes, and additional member forms. We mailed updated Summary Plan Descriptions to all members in 2013. Hard copies of these plan documents are provided to human resources offices for distribution to new members, and digital copies are available for download on our website.

5. Safeguarding the integrity of the Fund.

The Board contracts for an annual actuarial valuation prepared by our independent actuary. DCRB ensures that its financial reporting is in accord with the law and industry best practices by undergoing an annual financial audit. For Fiscal Year 2014, we received a “clean” opinion from an independent audit firm. DCRB publishes its audited financial statements in its Comprehensive Annual Financial Report (CAFR).

In Fiscal Year 2013, we once again received the Government Finance Officers Association’s (GFOA) Certificate of Achievement Award for Excellence in Financial Reporting. We have received this prestigious award for six consecutive years. DCRB will complete the CAFR for the fiscal year ended September 30, 2014 and submit it to GFOA by March 31, 2015. DCRB maintains the professional standards required to continue receiving the Public Pension Standards Award for plan design and administration, as set forth by the Public Pension Coordinating Council.

DCRB'S STRATEGIC INITIATIVES FOR FISCAL YEARS 2015 AND BEYOND

Having summarized our recent accomplishments, I now would like to highlight our current and upcoming initiatives aimed at achieving our strategic goals during Fiscal Year 2015 and beyond.

1. Expanding and improving member benefits administration capabilities while assuring benefits are paid to our members timely and accurately.

In Fiscal Year 2013, DCRB launched a multi-year, Retirement Modernization Program focused on the areas of benefits administration and information technology. During Fiscal Years 2015 and 2016, that program will include three main projects, two of which, BPR and Data Reclamation, were discussed earlier in our FY 2014 progress report. I would now like to talk about additional initiatives for Fiscal Year 2015, specifically, activities that will lead up to our eventual acquisition of a Pension Information Management System ("PIMS").

The PIMS will enable DCRB to provide a full range of retirement services for members—including benefits statements, benefit estimates, member self-service, and the integration of pension data into systems designed to produce pension payments.

During Fiscal Year 2015, DCRB plans to implement an Enterprise Data Quality tool and a Master Data Management (MDM) system that will allow DCRB to collect Plan member information from multiple systems into a single data source. This MDM system will gather data from the District's PeopleSoft active member repository and from Treasury's STAR annuitant system, and aggregate the information in a database that will become a single source for maintaining the Plan. All of these efforts are intended to reduce reliance on paper documents and minimize the turnaround time to deliver initial pension payments to our members.

2. Prudently investing Fund assets to provide long-term sustainable risk adjusted returns.

DCRB's ongoing objective is to prudently manage the Fund assets, with the goal of earning a return that meets or exceeds DCRB's actuarial investment return assumption of 6.5% over the long-term. To complement the significant progress previously mentioned in building a solid foundation for achieving long-term, sustainable risk-adjusted returns, we routinely review investment manager performance against benchmark returns; and rebalance the portfolio when appropriate to maintain compliance with asset allocation targets. Further, we are moving forward with searches for investment consultants and a custodial bank, targeted for completion in 2015 and 2016.

3. Refining DCRB's organizational structure to meet agency responsibilities and needs.

In Fiscal Year 2014, an Audit Committee charter was formally established. One of the key responsibilities of this Committee is to provide independent review and oversight of

DCRB's financial reporting processes and internal controls. Committee initiatives will be refined during Fiscal Year 2015. In addition, DCRB will train and prepare its staff to use new applications and systems that will improve our operations, and we will continue our practice of filling any vacant positions on an as-needed basis. During the early months of Fiscal Year 2015, DCRB sponsored a pension training program, conducted by the International Foundation of Employee Benefit Plans (IFEBP), which included courses on Governance, Legislative and Regulatory Developments, the Legal Environment, Actuarial Principles, Pension Plan Design, Investments, Business Improvement Strategies, and Emerging Issues. Many DCRB staff as well as Trustees attended this program, which was also included partners from several other District agencies, as well as pension professionals from Arlington County and the City of Alexandria. As a result of their attending the training and completing the required examinations, 18 DCRB staff members received the IFEBP's Certificate of Achievement in Public Plan Policy (CAPPP).

4. Fostering member and stakeholder trust through enhanced communications and collaborative outreach.

In Fiscal Year 2015, we plan to enhance staff efficiency by developing intranet capabilities (an "employee portal") that will enhance collaboration through improved staff communication and information sharing. The employee portal will enable DCRB to migrate to a more secure information-sharing organization. In this future state, authorized staff will be able to access information in the event of a disaster.

DCRB will enhance its outreach and collaboration with stakeholder agencies and will also work with those agencies to streamline our processes.

5. Safeguarding the integrity of the Fund.

We will increase our protective capabilities to counter the threat of cyber-crime. The Agency continues to develop its security framework using current industry practices and technology, as well as knowledgeable resources.

Our governance of business processes in the information technology area will be enhanced by seeking the International Organization for Standardization (ISO) certification. This will allow us to standardize service delivery and project management.

Finally, in Fiscal Year 2015, we are undertaking an actuarial audit, which will be completed by an independent actuarial firm. This review provides an additional set of "eyes" and technical expertise to review our independent actuary's assumptions and calculations.

In summary, I am pleased to report that the Fund is in excellent shape. Our Board has maintained conservative investment assumptions, the Plan is in sound financial condition, and we pay members timely. We have a skilled Board and an experienced team managing our

strategic initiatives. And, most importantly, we continue to make strides toward creating a comprehensive retirement system to serve the needs of our members.

In closing, I'd like to thank the Committee for your support in helping us to carry out this vision. As we proceed, we may seek your assistance to help us accomplish our goals. We look forward to working with you and your staff.

This concludes DCRB's Performance Testimony. We look forward to answering your questions. Thank you.



**District of Columbia Retirement Board
Performance Oversight Hearing**

Statement of

**Lyle M. Blanchard, Trustee
District of Columbia Retirement Board**

Before the

**Council of the District of Columbia
Committee of the Whole**

March 10, 2015

Good afternoon, Chairman Mendelson and members of the Council of the District of Columbia Committee of the Whole. I am Lyle M. Blanchard, Trustee of the District of Columbia Retirement Board (DCRB).

As a Council appointed member of DCRB's Board of Trustees, I want to thank you, Chairman Mendelson, and this Committee for your continued support. We look forward to working with this Committee and the Council as DCRB works to fulfill its fiduciary and administrative responsibilities.

I'm pleased to report that as of October 1, 2014, the beginning of fiscal year 2015, DCRB is a fully funded retirement system. We continue to make progress in our efforts to create a comprehensive retirement system that serves the needs of our members.

I would also like to mention two awards DCRB continues to receive each year. During fiscal year 2014, DCRB was among a select number of public systems to receive the Public Pension Coordinating Council's Recognition Award for Funding, demonstrating the agency's "high level of plan design, funding, member communications and administrative practices."

DCRB was also awarded, for the sixth year in a row, the Government Finance Officers Association's Certificate of Achievement for Excellence in Financial Reporting for its fiscal year 2013 Comprehensive Annual Financial Report, the highest form of recognition in the area of governmental accounting and financial reporting.

Eric Stanchfield, DCRB's Executive Director, will now provide you with more detailed information about our recent accomplishments and our future goals.

Spotlight on

The Annual Required Contribution Experience of State Retirement Plans, FY 01 to FY 13

Keith Brainard and Alex Brown

National Association of State Retirement Administrators

March 2015

Executive Summary

After its creation in the 1990s, the annual required contribution (ARC) quickly became recognized as the unofficial measuring stick of the effort states and local governments are making to fund their pension plans. A government that has paid the ARC in full has made an appropriation to the pension trust to cover the benefits accrued that year and to pay down a portion of any liabilities that were not pre-funded in previous years. Assuming projections of actuarial experience hold true, an allocation short of the full ARC means the unfunded liability will grow and require greater contributions in future years.

This study evaluates the ARC that was received by 112 state public pension plans, including the District of Columbia, from fiscal years 2001 to 2013. This study finds that although variation exists in ARC effort among states and other pension plan sponsors, i.e., cities, school districts, etc., most governments made good-faith efforts to fund their pension plans, and only a few severely neglected their pension funding responsibilities. This ARC experience unfolded during a tumultuous period, as capital markets declined sharply in 2000-02 and again in 2008-09, and states and local governments twice experienced economic recessions. Combined with other factors, the market declines caused required pension contributions to rise significantly, while the economic recessions challenged the ability of states and local governments to respond.

States and their political subdivisions establish and maintain funding policies in the form of statutes, ordinances, board rules, and case law that prescribe how public pension benefits will be funded. While federal regulations governing private sector pension plans often are cited as onerous

and creating volatility and uncertainty,¹ funding policies for public plans typically are designed to establish contributions that will remain approximately level as a percent of payroll over time. This objective is intended to promote intergenerational cost equity and budget predictability.

Although many factors play a role in determining how a pension plan is financed, this study finds that plans with strong required contribution governance arrangements generally have received a significantly higher portion of their ARC during this study's measurement period. Some states, however, have consistently received a high portion of their ARC even without a statutory requirement to do so. Conversely, some of the plans that have received a small portion of their ARC, have statutory requirements but failed to receive their ARC. Nevertheless, even in the periods of recession during this study, most state and local governments increased pension contributions and continued to provide pension benefits for former, current and future employees.



Keith Brainard is research director at the National Association of State Retirement Administrators

Alex Brown is research manager at the National Association of State Retirement Administrators

NASRA gratefully acknowledges the financial support from AARP to undertake this research project

Introduction

About the Annual Required Contribution

The annual required contribution, or ARC, refers to the amount needed to be contributed by employers to adequately fund a public pension plan. The ARC is the sum of two factors: a) the cost of pension benefits being accrued in the current year (known as the normal cost), plus b) the cost to amortize, or pay off, the plan's unfunded liability. The ARC is the required employer contribution after accounting for other revenue, chiefly expected investment earnings and contributions from employee participants.

The ARC was introduced by the Governmental Accounting Standards Board (GASB) in 1994 in its Statements 25 and 27 and was intended to provide a measure of the extent to which employers were funding the pension benefits they were promising their workers. Although GASB standards do not have the force of law, they are an integral part of Generally Accepted Accounting Principles, with which the vast majority of pension plan sponsors (the entities that sponsor pension plans, such as states, cities, school districts, counties, etc.) seek to comply.

For many pension plan sponsors, public sector pension funding policies (in the form of statutes, ordinances, board rules, legal rulings, etc.) prescribe how pension benefits will be funded. Funding policies for many plan sponsors require pension contributions to be made in a manner consistent with the ARC, i.e., an amount to fund benefits accrued in the current year (the normal cost) and an amount to eliminate the unfunded liability over the course of the funding period. Funding policies generally do not specifically mention GASB or the ARC.

Countless studies document the importance of making consistent and adequate contributions to fund pension benefits.ⁱⁱ In general, these studies find that adequate contributions play a vital role in the long-term funding condition of public pension plans. Moreover, as a matter of simple mathematics, just as a failure to consistently and fully pay one's mortgage will increase its long-term cost, so also will a failure to pay the ARC increase the long-term cost of funding a pension plan.

New GASB statements governing public pensions (Statement 67) and the employers that sponsor them (Statement 68), supplant Statements 25 and 27 and eliminate the ARC as a required disclosure by public retirement systems and their sponsoring employers. Statements 67 and 68 were issued in 2012 and take effect in fiscal years 2014 and 2015, respectively. Public retirement systems are, nonetheless, expected to continue to calculate an actuarially determined contribution (ADC, which is a contribution amount, similar to the ARC, determined in compliance with professional actuarial practices and methods). Plans that do

calculate an ADC are required by the new GASB standards to report this amount, along with the assumptions used to make the calculation and a history of contributions paid by employers and received by the pension plan. Thus, public retirement systems and their employers beginning in FY 14 and FY 15, respectively, no longer will be required to report an ARC as defined by GASB. Instead, they must include in the required supplementary information of their financial reports detailed information regarding the calculation and payment of an ADC.

The new GASB Statements, 67 and 68, stipulate the calculation and disclosure of public pension liabilities on an accounting basis only and no longer serve as an indicator of a pension plan's funding condition.

Some pension plan sponsors issued pension obligation bonds (POBs) during the measurement period of this study and used the proceeds from those bonds to make contributions to their pension plan(s). A POB is a security, issued by a government that sponsors a pension plan, whose proceeds are used to fund the pension plan, typically to reduce the plan's unfunded liability, and sometimes to fund the cost of current contributions. POB proceeds typically are invested with other assets held in the pension trust fund. POB's are issued with the expectation that the return on the invested proceeds will exceed the cost of borrowing.

The addition of POB proceeds can cause an ARC payment to spike in the year in which the proceeds are received by the plan. This study treats POB proceeds as a normal employer contribution, and, for retirement systems that have considered POB proceeds as contributions and reported on them, incorporates the contribution into the calculations.

The ARC is affected by the many factors on which it is based, including actuarial methods and assumptions. Thus, as investment return assumptions, actuarial cost methods, mortality assumptions, amortization periods, etc., differ from one another, so will the ARC be different. As a result, the ARC for two hypothetical plans with identical financial and demographic compositions could differ. The discussion that follows includes examples of actuarial methods and assumptions that can affect the ARC.

About this study

NASRA compiled comprehensive information regarding the ARC experience of 112 state-sponsored and statewide public pension plans in the U.S. for fiscal years 2001 through 2013. Together, these plans account for more than 80 percent of all public pension assets and participants in the U.S. As the new GASB policies take effect, and the ARC as defined and prescribed in outgoing Statements 25 and 27 comes to a close, this effort to compile and review this information is intended to provide an assessment of the

ARC experience of individual states and for statewide plans in the aggregate.

The data in this study includes the ARC experience for each state, including the weighted average of the ARC paid to the statewide plans in each state for the fiscal year 2001-2013 period. In addition to covering much of the lifetime of the ARC, this period also was eventful due to the effects of two momentous market declines, in 2000-02 and again in 2008-09, and two economic recessions, in 2001 and 2007-09. The market declines inflicted significant investment losses on public pension portfolios, and the recessions, particularly the latter one, decimated state and local government revenues. Each of these events challenged the ability of state and local pension plan sponsors to pay their annual required contribution: the market declines increased the ARC, while the recessions impaired the ability of employers to make required contributions.

For each of the 112 plans for each fiscal year from 2001 to 2013, the information collected for this study includes the ARC, expressed in dollars, and the percentage of the ARC received. The data was aggregated by year and by plan, to identify a median and weighted average ARC effort, expressed as a percentage, for each FY and a weighted average for each state for each FY.

Key Findings

1. Policies (i.e., statutes, constitutional provisions, or retirement board requirements) that require payment of the ARC generally produce better pension funding outcomes than policies that do not require payment of the

ARC. Some plan sponsors, however, consistently pay their ARC without a requirement to do so, and some have challenged requirements to pay their ARC and underfunded their pension plans.

2. Only a few states have conspicuously failed to adequately fund their pension plans.
3. The few states that conspicuously failed to fund their pension plans have a disproportionate effect on the total ARC experience.
4. Most states made a good-faith effort to fund their pension plans; a good-faith effort is defined here as paying 95 percent or more of the ARC.
5. Failing to make even a good-faith effort to fund the ARC increases future costs of funding the pension.
6. Policy constraints that prevent payment of the ARC can negatively affect the ability of employers to fund the pension plan.

Review of Findings

As shown in Figure A, the actual ARC combined for all plans rose sharply during the measurement period from \$27.7 billion to \$93.7 billion. Other studies suggest that FY 2001 was at or near the low point of required pension contributions during the past 30 years.ⁱⁱⁱ The increase that began in FY 01 is due to several factors, including the fact that required costs of public pensions as a group were unusually low in FY 01 due to the strong investment returns enjoyed by public pension funds from 1995 to early 2000. In addition to reducing

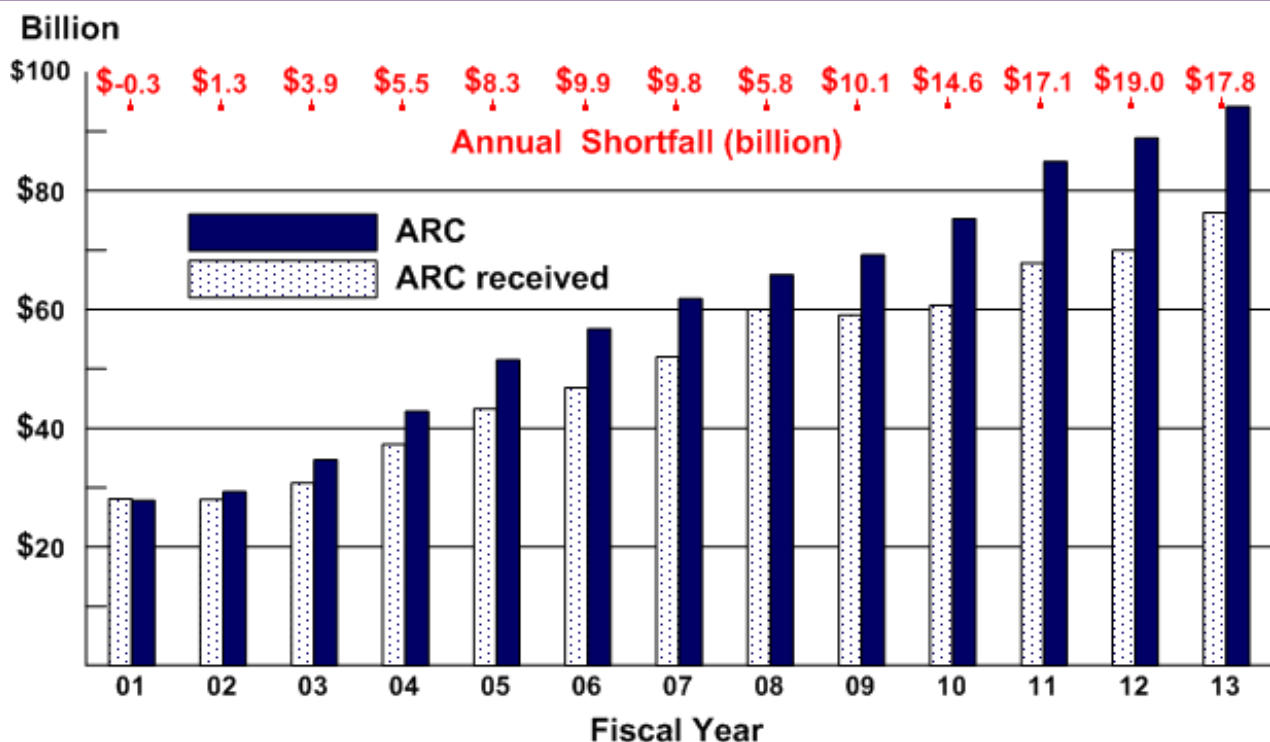


Figure A. Combined Annual Required Contribution and ARC received, for statewide plans

required contributions (including to as low as zero in some cases), these investment returns also strengthened pension funding levels, which created pressure in many states to increase pension benefit levels, resulting in higher required pension contributions. (Most employees are required to contribute to their pension plan, and these required contributions continued unabated, as employer contributions in many cases declined.)

In some states, the combination of the benefit increases approved in the late 1990s made at the end of the millennium, followed by the market losses in 2000-02 created what some have referred to as a “perfect storm” for public pensions and their sponsoring employers. Employers whose required pension costs reached unusually low levels, faced significant cost increases to counteract the effects of market

Most States are Making an Effort to Fund Their Plans

Figure C displays the weighted average ARC effort for each state for the FY 2001-2013 period. Despite perceptions that many states have fallen far short of their pension funding requirements, in fact, most states have made a reasonable effort to fund their share of pension contributions during the period covered by this study. Figure C 1 illustrates the distribution of states’ ARC experience on a weighted average basis and illustrates that on a weighted average basis for the measurement period:

- The median ARC experience is 95.1 percent, meaning that one-half of the plans received at least 95.1 percent of their required contributions.

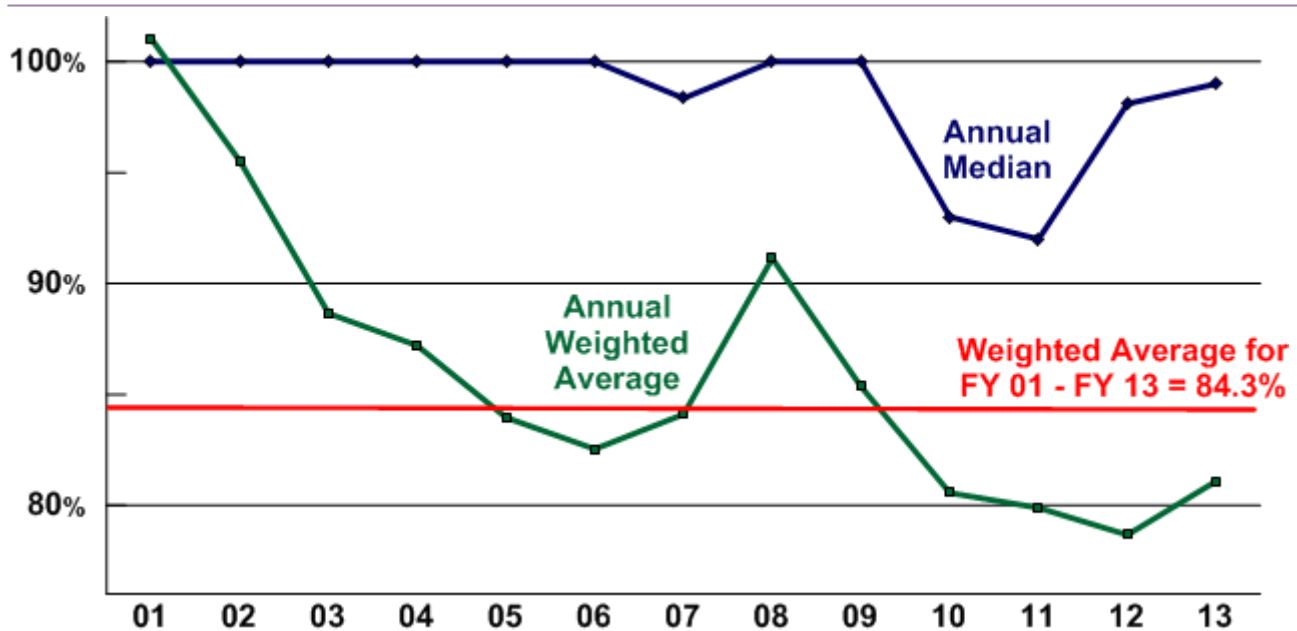


Figure B. Median and annual and weighted average contributed to statewide plans

losses and/or benefit increases at a time when economic conditions created fiscal struggles for state and local governments.

As shown in Figure B, on a weighted average basis, the ARC paid to statewide retirement systems declined sharply from above 100 percent in FY 01 to 83 percent in FY 06, reached its low point at 79 percent in FY 12, and recovered in FY 13 to 81 percent. This decline in ARC effort occurred even as employers were increasing their contributions, as shown in Figure A. The decline in the weighted average of ARC contributed is a result primarily of rising ARCs and a weakened capacity of state and local governments to meet higher contribution requirements amid a challenging fiscal environment. Appendix B provides the ARC experience during this timeframe for each state and plan in the study.

- All but two states paid at least one-half of their ARC.
- All but six states paid at least 75 percent of their ARC.
- The average plan received 89.3 percent of its ARC.
- The weighted average ARC received was 84.4 percent: of \$779 billion of combined ARC, plans received \$657 billion.

As an illustration of the effect that a few states have on the aggregate experience, excluding the two states with the lowest weighted average ARC experience increases the weighted average from 84.4 percent to 88.5 percent.

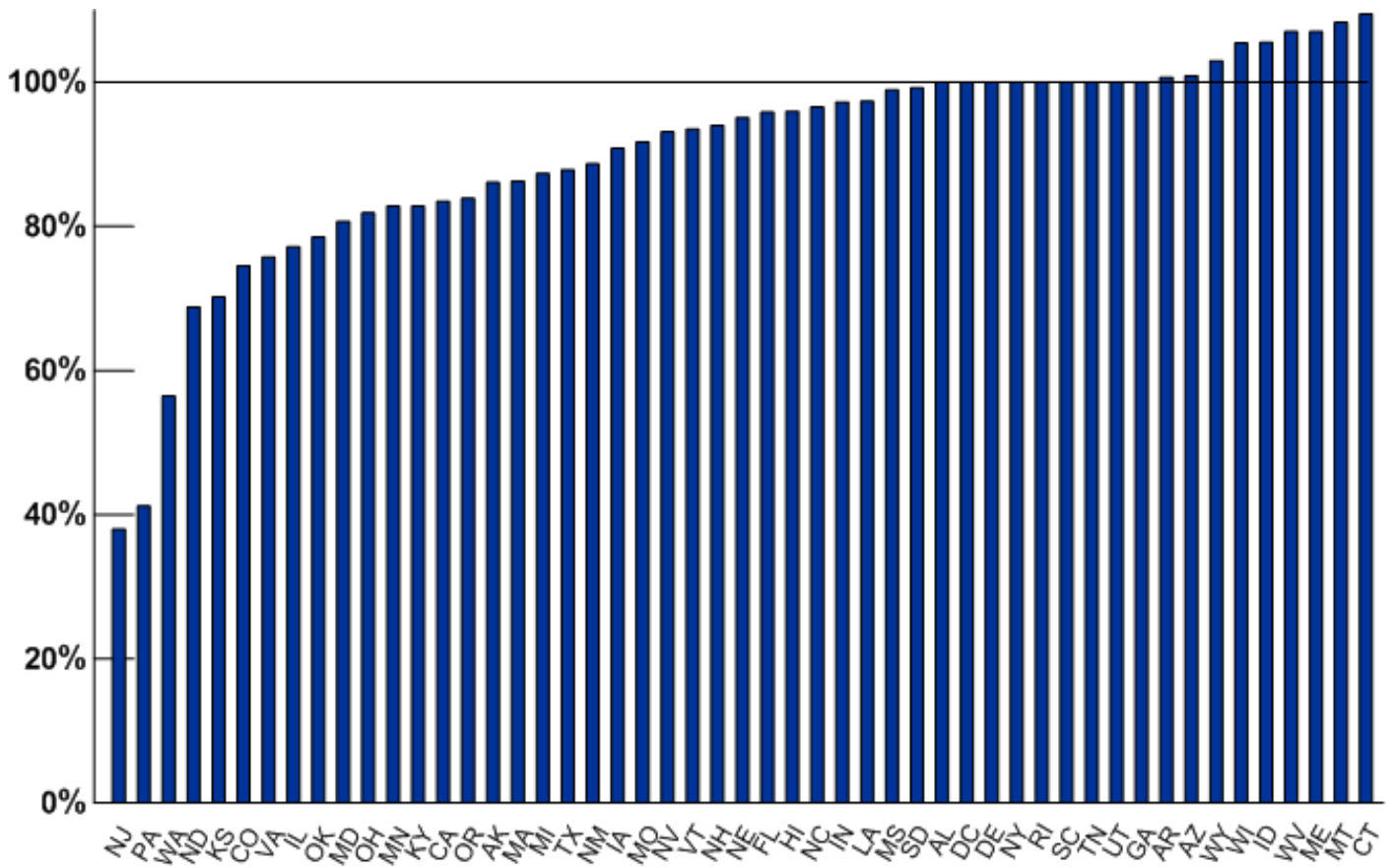


Figure C 1. Weighted average of Annual Required Contribution paid, by state

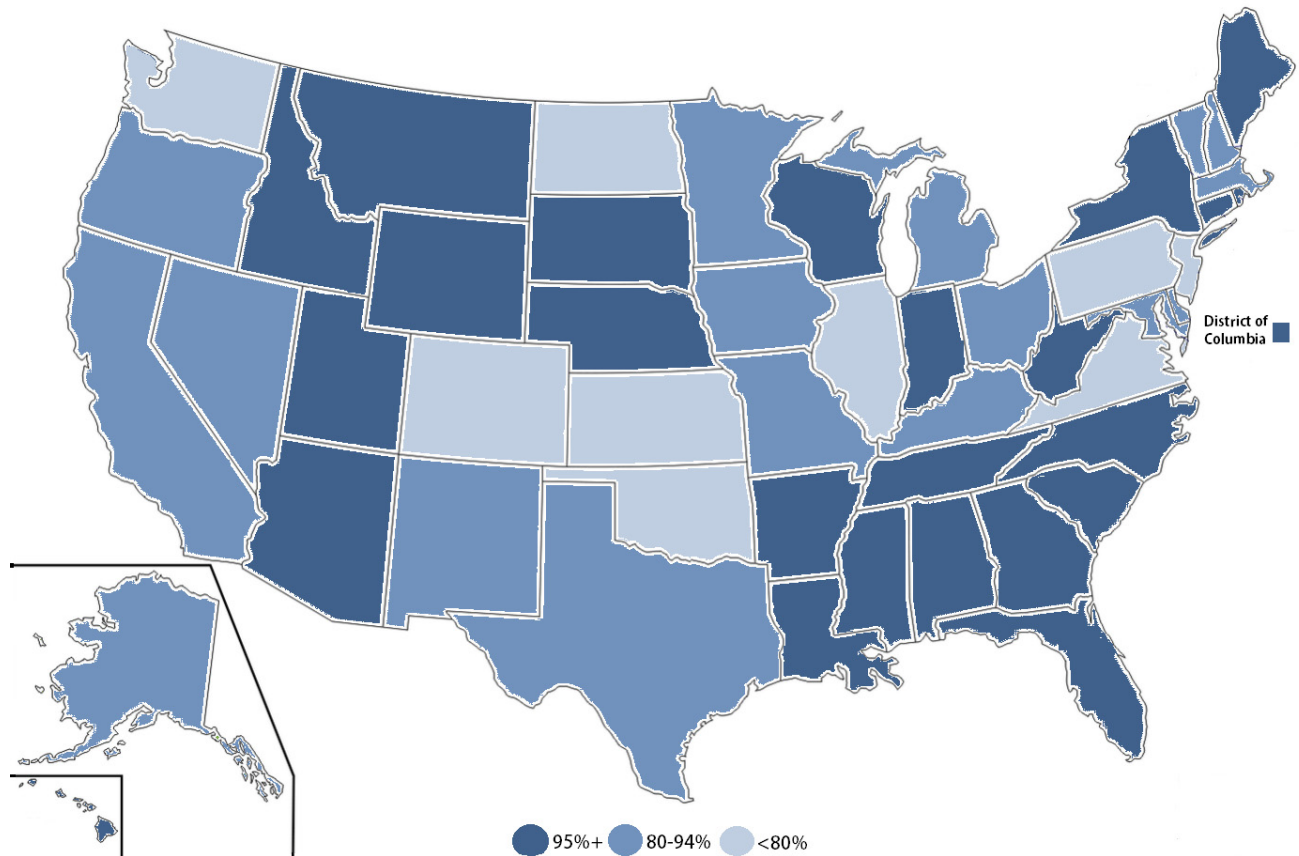


Figure C 2. Weighted average of Annual Required Contribution paid, by state

Notably, this effort to fund pension plans occurred as the ARC grew sharply during the period measured. From 2001 to 2013, the ARC grew by 239 percent, from \$27.7 billion to \$93.8 billion. Actual contributions grew more slowly, albeit significantly: by 174 percent, from \$27.8 billion to \$76.2 billion.

Measured as a percentage of total worker payroll, employer pension contributions declined steadily over the 20-year period from 1983 to 2002, reaching a low point in 2002 following the strong investment gains of 1995 to 1999.^{iv} Much of the increase in required contributions that followed 2002 was caused by some combination (depending on the plan) of a) the significant investment market declines in 2000-02 and 2008-09; b) higher benefit levels approved by many plans in the late 1990s; and c) the failure by some employers to make required contributions.

ARC Background

Key actuarial factors affect the ARC

Although the ARC is defined by GASB in its Statements 25 and 27 (now replaced by Statements 67 and 68), required contributions differ significantly for plans because of the actuarial factors a plan uses. Some of the factors that have the largest effect on the ARC include the investment return assumption, the amortization method and period, and the actuarial cost method. Other actuarial methods and assumptions also affect a plan's ARC, although to a lesser extent than these.

Actuarial Assumptions

The condition and cost of a pension plan is measured by a series of mathematical calculations known as an actuarial valuation. An actuarial valuation involves the use of numerous assumptions, which fall into one of two broad categories: demographic and economic. Demographic assumptions are those associated with the behavior of plan participants, e.g., the age when they will retire, life expectancy, etc. Economic assumptions are associated with such factors as the rate of salary growth and the expected return on invested assets. These assumptions affect the plan's cost and funding condition differently, as some assumptions have a larger effect than others.

Investment Return Assumption

Of all the factors used in actuarial assumptions, the investment return typically has the greatest effect on the plan's ARC (i.e., the contribution needed to fund the plan). This is because, for most public pension plans, actual investment earnings account for a majority of revenue over time; as a result, even a relatively minor change in the assumed rate of investment return can significantly affect the required contribution to the plan.

As an illustration, the Colorado Public Employees' Retirement Association (PERA) publishes in its annual financial report a sensitivity analysis showing the effect minor changes in the investment return assumption would have on the ARC of PERA's five pension plans. At the time of this study, PERA's investment return assumption is 7.5 percent. According to its FY 13 annual financial report, a reduction in the investment return assumption to 7.0 percent would result in an increase to the plans' ARC ranging from 11 percent for one PERA plan to more than 25 percent for another. Likewise, an increase in the investment return assumption would have a similar, but opposite, effect.

Amortization Policy

A plan's amortization policy is "the length of time and the structure selected for increasing or decreasing contributions to systematically eliminate any unfunded actuarial accrued liability or surplus."^v Funding a pension plan is analogous to paying off a home mortgage: just as home mortgages can be structured differently, such as fixed vs. variable rates, and paid over varying lengths of time, such as 15 or 30 years, so too are the amortization policies of public pension plans. One of the main factors that determine the ARC is the cost to amortize the plan's unfunded liability, so the ARC can be significantly affected by both the structure and the length of time used to eliminate the unfunded liability.

The amortization structure, or method, determines the amount and timing of paying down the plan's unfunded liability, which is the amount owed in future benefits for which assets have not been accumulated. As a result, the structure or method the plan chooses affects the ARC.

The two primary amortization methods are the *Level Dollar* and *Level Percent of Payroll*. Most plans, by far, use the level percent of payroll method. As its name implies, the Level Percent of Payroll method identifies an annual required payment, expressed as a *percentage of payroll*, that remains steady from one year to the next. Under this approach, the dollar amount typically increases each year to reflect salary growth. Typically, the Level Percent of Payroll method begins the amortization period with a lower annual payment that increases steadily throughout the amortization period. This is the most common amortization method used among public pension plans.^{vi}

The differing approaches of level percentage and level dollar result in different ARC outcomes, although both are intended to pay off a plan's unfunded liability within a designated amortization period.

Amortization Period

The period over which the obligation is amortized, or paid off, affects the annual cost to pay off the unfunded liability. Under its previous standards,^{vii} GASB established a maximum amortization period of 30 years, meaning that public

pension plans and their sponsoring employers wishing to comply with GASB standards would need to calculate the annual cost of amortizing their pension plan's unfunded liability on the basis of an amortization period not to exceed 30 years. Some plans used amortization periods shorter than 30 years.

Similar to a home mortgage, other factors held equal, the ARC for a plan using a 30-year amortization period is less than the ARC for a plan using a 15-year amortization period. Of course, the plan using the shorter amortization period would also be in a position to eliminate their unfunded liability more quickly than the plan using the longer amortization period, and the total cost of amortizing the ARC over a longer period will be higher. A pension plan may elect to use a longer amortization period to reduce the annual cost of the plan.

Investment returns and the ARC

Although the ARC is affected by multiple factors, actual returns on the plan's investment portfolio can have a major effect on the required contributions to a public pension plan. The ARC usually increases following periods of poor investment performance, and decreases following periods of strong investment performance. Similar to a credit card or a home mortgage, missing a payment will cause future payments and costs to be higher.

The payment of required contributions can have an effect on a plan's investment earnings. The typical public plan model is to invest accumulated contributions over time to grow the pension trust fund from which benefits are distributed. As a result, a shortfall in required contributions has a compounding effect on a fund's revenues. Since contributions form the basis for investments, a contributions shortfall reduces revenue both from the missed contributions and the foregone investment earnings those revenues would have otherwise generated.

As shown in Figure A, the aggregate ARC for the plans included in this study has been growing steadily throughout the measurement period. This increase in the ARC is due primarily to two factors: a) strong investment returns from 1995 to 1999 that reduced required contributions to low levels by historical standards; and b) the steep market losses of 2000-2002 and 2008-09. In some states, higher ARCs are attributable to the chronic failure to pay their full ARC, which increased unfunded liabilities and the cost associated with amortizing those liabilities.

Actuarial Cost Method

An actuarial cost method determines how pension costs are allocated during the portion of plan participants' lives. Outgoing GASB standards^{viii} permitted the use of one of six different cost methods, although the one used most often (by

far) was *Entry Age*, followed by *Projected Unit Credit*, then *Aggregate Cost*. The entry age and aggregate cost methods are designed to produce a pension contribution that is a level percent of pay throughout the working life of a plan participant. The aggregate cost method differs from entry age in that under the aggregate cost method, the actuarial value of assets and liabilities are always equal, so there is no unfunded liability. By contrast, the projected unit credit method produces lower costs in the early years of an employee's career, and increases those costs in the latter years of the employee's career. As a result, plan costs using the projected unit credit method are projected to rise, whereas costs for plans using the entry age and aggregate cost methods are projected to remain stable.

The Process for Approving Pension Contributions

Laws and practices governing payment of pension contributions vary widely among states: some states require that the amount recommended by the retirement system actuary be paid; some states consistently pay the amount recommended by the retirement system actuary, even if it is not legally required; other states appropriate pension contributions in amounts that are not linked to an actuarial calculation. Still other states base their contributions on a statutorily fixed rate, such as a percentage of employee payroll.

Because employer pension contributions generally are approved as part of a budgeting and legislative appropriations process, there is a delay between identification of the required contribution and the actual appropriation. Depending on the state's basis for determining and funding pension contributions, this delay can result in a delay in meeting the full ARC, as the budgeting and legislative appropriations process requires time to "catch up" with the pension plan's actuarial experience. (New GASB standards, effective in FY 14, require the use of the entry age method for purposes calculating the condition of the plan in compliance with GASB Statement 67.)

Pension Obligation Bonds

A pension obligation bond (POB) is a type of bond issued by the sponsoring employer of a governmental pension plan in exchange for periodic payments, typically over a 20- to 30-year period. Governments that issue POBs typically seek to invest borrowed funds that will produce investment earnings greater than the interest rate at which the funds are borrowed. POBs do not enjoy the tax-exempt status of other municipal bonds, such as those used to finance infrastructure and other public works. Some states and local governments issued POBs during the measurement period of this study, and the proceeds of these bonds are counted in the ARC experience.

Following are examples of three POB issuances that materially affected the plan's ARC:

- The State of Illinois issued \$10 billion in pension obligation bonds in 2004 and distributed the proceeds among five statewide pension funds, including the State Employees' Retirement System, the Teachers' Retirement System, and the State Universities Retirement System (SURS). Of these three plans, only the SURS counted their portion of the bond proceeds, in the amount of \$1.4 billion, toward their ARC.
- The State of Connecticut issued \$2.28 billion in FY 2008 to reduce the unfunded liability of the Teachers' Retirement System.
- The Denver Public Schools plan issued \$750 million in POBs in FY 2008 which was deposited into the pension fund and counted as employer contributions

The proceeds from a POB can cause the appearance of a spike in a retirement system's financial report, and is evident in Appendix B of this report, which details the ARC experience of plans included in this study. The Government Finance Officers Association (GFOA) has prepared a Best Practice on the use of POBs, in which GFOA recommends the use of caution in using POBs.^{ix} Also, a Center for State & Local Government Excellence issue brief on this topic suggests that POBs issued to-date generally have not fared well.^x

Of course, employers who issue POBs must pay for them, usually via annual debt amortization payments, over the life of the issuance. The cost of paying off these issuances is not always reflected in public retirement system financial reports.

States' Experiences

Outlier States

New Jersey and Pennsylvania have weighted average ARC experiences that are notably lower than those of other states. New Jersey's average is 38.0 percent and Pennsylvania's is 41.2 percent. For both states, the chronic underfunding began when required contributions had dropped to very low levels by historical standards, including to as low as zero for some plans, chiefly as a result of strong investment gains experienced from 1995 to 1999. When required contribution rates rose, chiefly as a result of the 2000-02 market decline, the states experienced great difficulty in restoring the stream of pension funding payments that had previously been in place.

The predictable result of this underfunding was a precipitous decline in the funding level of the plans in these states that are part of this analysis. The average percentage drop in funding level from FY 01 to FY 13 for the five total plans in New Jersey and Pennsylvania that are included in this study was 47 percent, which is nearly twice the size of the decline

in the funding level for the full group.

Unsurprisingly, the issue of how pensions in New Jersey and Pennsylvania are funded has become a prominent topic of discussion in these states. A 2010 budget agreement between the New Jersey governor and legislature provided that the state would fund at least one-seventh of its ARC in FY 11, growing by another one-seventh each year until reaching full funding of the ARC in FY 17. This agreement was not fulfilled in FY 2014.

Pennsylvania's pension funding effort began to show positive effects as the state began making progress toward restoring its pension funding effort. Employer contribution rates over the past three years (rising from 12 percent of pay to 21 percent) are higher than at any time over the past 20 years and are scheduled to increase to even higher levels over the coming years. Prior projections of employer contribution rates have declined from their original level over the last several years as a result of recent efforts made to fund the state's plans: employer contribution rates would have been higher were it not for actions taken by the Pennsylvania General Assembly to fund the plans.

Contribution Governance Arrangements

Laws and practices governing payment of pension contributions vary widely among states: some states require that the amount recommended by the retirement plan actuary (which usually is the ARC) be paid; some states consistently pay the amount recommended by the retirement system actuary, even though it is not required; other states appropriate pension contributions in amounts that are not linked to an actuarial calculation. Other states base their contributions on a statutory rate, such as a fixed percentage of employee payroll. Public plans generally adhere to the following objectives in establishing a funding policy:^{xi}

- **Payment of earned benefits:** Required contributions should be sufficient to ensure accumulation of assets to pay promised benefits to current plan participants. This objective should be inclusive of the benefits promised to current retirees, accrued benefits earned by active workers, as well as future benefits projected to be earned by current workers.
- **Contribution rate and budgetary predictability:** Plan funding policy should be developed in such a way that contributions, as a percent of payroll, are kept relatively level and free from year-to-year volatility.
- **Intergenerational equity:** Contributions by a given generation of taxpayers should be commensurate with the costs of the benefits for plan participants who provide essential government services to those taxpayers during their lifetime. Efforts should be made to ensure that current taxpayers are not under,

or overcharged at the expense, or to the advantage of future taxpayers.

Most states' contribution governance arrangement is established in state statute or constitutions, or both. For most states, the statutory language contains an implicit or explicit obligation to pay the full ARC amount as identified by its component parts, i.e., the normal cost and the amount required to pay down the unfunded liability over a specified timeframe. For those states subject to such requirements, it is generally required that these figures are to be determined and reported to the board by the plan's actuary. Some state laws require payment of the ARC while also placing a limit on increases in contributions by capping the amount by which the employer contribution may rise in subsequent years.

Kansas statutes, for example, impose a limit of 0.6 percent of the prior year's rate on increases to required contribution rates. This restriction is intended to protect public employers from the budgetary consequences of rising pension costs. This limitation also prevented the pension plan from receiving adequate contributions, resulting in a weighted average ARC received during the measurement period of 70.2 percent. (2011 legislation increased the annual rate caps gradually, beginning in FY14, eventually rising to 1.2% of the prior year's rate in FY17.)

Similar to Kansas, Iowa statutes impose a limit on changes to the required contribution rate of one-half percentage point in either direction from the prior year's rate. This restriction is also intended to shield public employers (and perhaps also employees, who pay a fixed percentage of the total rate) from the effects of volatile contribution rates. Iowa PERS has received 90.2 percent of its ARC, on a weighted average basis, during this study's measurement period.

Drivers of Contribution Shortfalls in States with ARC Requirements

Even though some states have a policy that requires payment of the ARC, other factors can affect those policies and the actual payment of the ARC. For example, in New Jersey, two separate legal rulings found that the state's ARC requirement, set in statute, did not constitute a "self-executing appropriation."^{xii, xiii} Agreements negotiated in 1995 and 1997 between the State of Connecticut and the State Employees Bargaining Agent Coalition (SEBAC) reduced the amount of the state's contributions to the State Employees Retirement System below the amounts recommended by the plan's actuaries.^{xiv} These are two examples of distinct causes for a state's pension contribution experience conflicting with statutory obligations. These examples illustrate that a strong funding requirement and weak funding discipline are not mutually exclusive.

Because employer pension contributions generally are approved as part of a budgeting and legislative appropriations process, often a delay exists between identification of the required contribution and the actual appropriation. Depending on the state's basis for determining and funding pension contributions, this delay can result in a delay in meeting the full ARC, as the budgeting and legislative appropriations process requires time to "catch up" with the pension plan's actuarial experience.

Experience of Plans with Different Contribution Rate Governance Arrangements

Figure D summarizes the weighted average ARC effort for

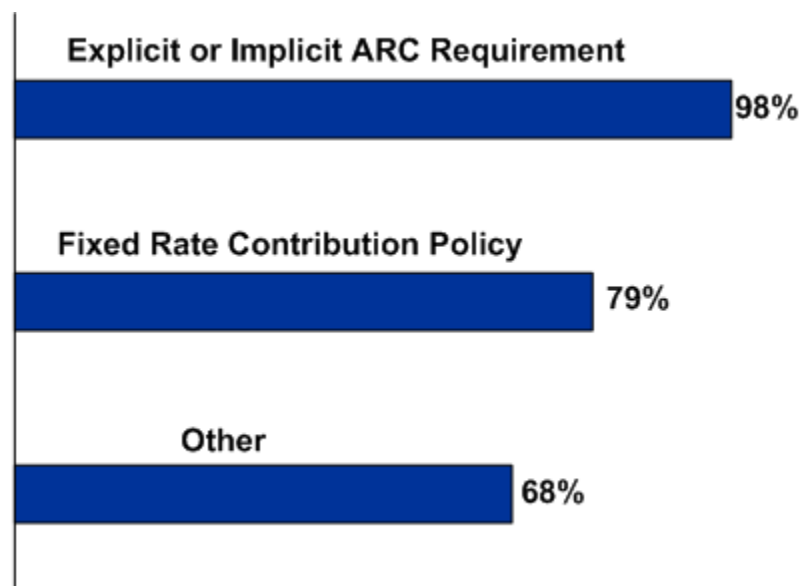


Figure D. Plan weighted ARC effort, FY 2001-2013, by contribution rate governance arrangement

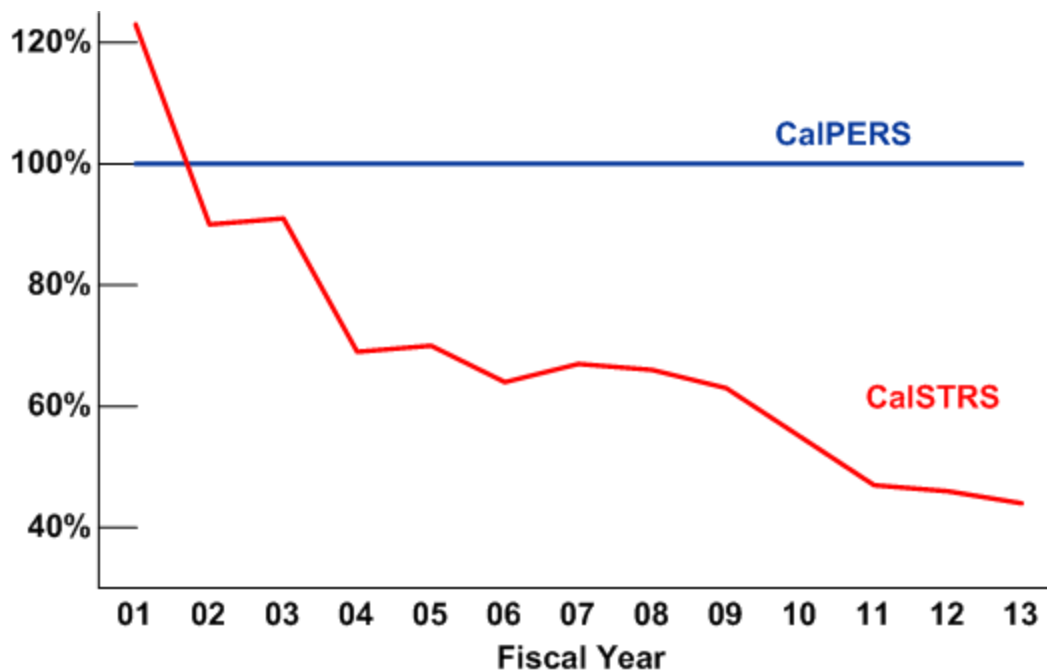


Figure E. Percent of ARC paid, California PERP & California State Teachers, FY 2001-2013

each plan for the FY 2001-2013 period, by plans' type of contribution rate governance arrangement as described above. To determine whether the statutory reference is a determinant in whether or not a plan is more likely to receive a higher percentage of its' ARC over the timeframe, plans were categorized as either having a) a law requiring payment of the ARC; b) having an ARC requirement that is subject to a cap (established by statute or other method); or c) having no ARC requirement. Of the 112 plans analyzed, 56 are governed under laws that contain an implicit or explicit ARC requirement, 25 plans have a fixed-rate contribution policy (in most cases set by statute),^{xv} and 31 plans are governed by other funding arrangements constrained by peripheral requirements such as cap on annual contribution rate increases or other state policy which supersedes an ARC requirement.

While not representing a guarantee that the ARC will be received, the plans in this study that have ARC requirements set in statute have, over the balance of the term, received a higher percentage of their ARC than those plans whose ARC statute is subject to a cap and those states with a fixed-rate contribution policy. The plan ARC experience on a weighted average basis for the FY 2001-2013 period is shown in Figure D.

Differing ARC experiences resulting from different contribution rate policies can be identified by focusing on the experience of individual plans. The two California statewide plans provide a clear example of the contrast in the effects of different funding governance arrangements, as illustrated in Figure E.

The contribution rate policy in place for the California Public Employees' Retirement Fund (which is the main plan administered by the California Public Employees' Retirement System (CalPERS)) resulted in the plan receiving 100 percent of their ARC for each year in period. By contrast, the fixed-rate policy in place for the California Teachers plan (CalSTRS), resulted in a contribution received by CalSTRS that exceeded the ARC at the beginning of the measurement period, but subsequently fell below the ARC for more than a decade. By FY 13, it was just above 40 percent. The result is a decline in the CalSTRS funding level that is much greater than it would have been had the full ARC been paid. In 2014, the California Legislature approved and the governor signed a bill establishing a path to restore the contribution rate to CalSTRS to full funding over a seven-year period.

One-Time and Dedicated Funding Sources

Some public plans receive funding from one-time or dedicated sources outside of the normal legislative appropriations process. These funding sources can be one-time appropriations or an ongoing source of revenue and provide an opportunity to pay off a portion of the plan's unfunded liability irrespective of the plan's amortization schedule. In some cases, these dedicated funding sources produce payment of a contribution in excess of the ARC. Examples of states that have used this strategy include:

- Alaska whose legislature passed a law in 2014 appropriating \$3 billion from the state's oil reserve fund to pay unfunded pension liabilities;
- Montana, whose legislature approved a bill in 2013 appropriating a portion of the state's coal severance

tax to the state's public employee defined benefit trust funds until such time as the funds are actuarially sound;

- Oklahoma, whose Teacher Retirement System receives 5 percent of the state's sales, use, and corporate and individual income taxes; 1 percent of cigarette taxes; and 5 percent of net lottery proceeds as an ongoing, dedicated funding source;
- Rhode Island, whose statutes require additional contributions from the state in any year in which the actuarially determined contribution rate for state employees and teachers is lower than the rate for the prior fiscal year. The additional contributions are specified in statute as equal to twenty percent of the rate reduction. Rhode Island statutes also require that any general fund surplus monies be used to pay down the state retirement plan's unfunded pension liability.

For states using a one-time or ongoing dedicated funding source, the additional funds affect plan funding in a way that examining the percentage of ARC received in a given year cannot identify.

The ARC and Political Culture

A review of states' collective ARC record shows that some states have statutes requiring payment of the ARC, yet somehow the ARC is not consistently funded. And other states have statutes that do not require payment of the ARC, yet the ARC is consistently paid in those places. One possible explanation for this paradox is that a state's political culture affects whether or not pensions are appropriately funded.

For example, despite the fact that Kentucky has long had a statute that required payment of the ARC, state policymakers also were able and willing to find reasons to not fund their pensions. By contrast, although South Dakota relies on a fixed rate to fund its pension plans, the state has consistently paid its full ARC. The difference may be simply a matter of different political climates, with different degrees of importance placed on funding pension benefits and on funding discipline.

Conclusion

Evidence strongly indicates that most states and local governments sponsoring pension plans in this study made a good-faith effort to fund all or most of their required contributions since 2001, and that the minority of states who fell well short of their ARC requirements disproportionately impact the overall average experience of public pensions receiving their annual required contributions. The ARC grew substantially during this study's measurement period, and

evidence suggests that plans operating under a legal structure in which the ARC must be paid are more likely to receive their required contribution, which is vital to the long-term success of a pension plan.

Whether a pension plan's sponsoring employer is governed by an ARC requirement is not the sole factor in determining whether the full ARC is received, although the findings in this study indicate that plans with ARC requirements generally received a higher percentage of their required contributions than those plans governed under less stringent funding arrangements. Other factors to consider when examining a plan's ARC history is whether or not extraneous agreements or legal rulings have bearing or whether the state has utilized dedicated funding sources to service the unfunded liability.

The onset of new accounting standards for public pensions and the employers that sponsor them herald the end of the ARC as defined by these statements. The closing of this chapter presents an opportunity to review and assess the public pension experience with a uniform reporting standard for required contributions.

In their paper, "The Miracle of Funding of State and Local Pension Plans," the Center for Retirement Research attributes the sharp improvement in public pension funding levels to the establishment of the ARC by the Governmental Accounting Standards Board:

The miraculous aspect of the funding of state and local pensions is that it occurred without any national legislation. Public plans were not in very good shape in the late 1970s. The 1978 Pension Task Force Report on Public Employee Retirement Systems noted a "high degree of pension cost blindness." But public officials responded and took action to manage their pensions on a business-like basis. Assets per worker increased markedly by the mid-1990s when GASB issued Statements No. 25 and No. 27. Since then, the funding status of public plans has looked very much like that of their private sector counterparts.^{xvi}

Even though the ARC as defined in previous GASB statements no longer will be included in government accounting standards, public pensions are expected to continue to calculate an actuarially determined annual contribution amount, and new GASB standards will require disclosure of the effort made to fund this amount. The previous standards resulted in a broad recognition and appreciation for the value of adequately and appropriately calculating and funding an annual public pension contribution. Indeed, many professional groups associated with the public pension community have acknowledged the importance of continuing to properly calculate and fund annual pension contributions, and have prepared guidance to how to do so.^{xvii}

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- ⁱ National Institute on Retirement Security, Issue Brief: “Who Killed the Private Sector DB Plan?”, March 2011
- ⁱⁱ For example, National Institute on Retirement Security, “Lessons from Well-Funded Public Pensions: An Analysis of Plans that Weathered the Financial Storm,” June 2011; Center for Retirement Research, “The Miracle of Funding by State and Local Pension Plans,” April 2008, etc.
- ⁱⁱⁱ National Association of State Retirement Administrators, “State and Local Government Spending on Public Employee Retirement Systems,” May 2014
- ^{iv} Ibid
- ^v Government Finance Officers Association, “Best Practice: Core Elements of a Funding Policy,” March 2013
- ^{vi} Texas Pension Review Board, “Understanding the Basics of Actuarial Methods,” April 2013
- ^{vii} Governmental Accounting Standards Board, “Statement 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and “Statement 27, Accounting for Pensions by State and Local Governmental Employers”
- ^{viii} Ibid
- ^{ix} Government Finance Officers Association, “Best Practice: Evaluating the Use of Pension Obligation Bonds,” March 2005
- ^x Center for State & Local Government Excellence, “Issue Brief: An Update on Pension Obligation Bonds,” July 2014
- ^{xi} For example, “Planning a Successful Pension Funding Policy,” Segal Public Sector Letter, November 2011; “Pension Funding: A Guide for Elected Officials,” Pension Funding Task Force, 2013; and Resolution 2011-01 – “Funding Discipline in Public Employee Retirement Systems,” National Association of State Retirement Administrators
- ^{xii} Camden v. Byrne, 82 N.J. 133 (1980) and Jersey Education Assoc. v. State, 412 N.J. Super. 192 (App. Div.) (March 4, 2010)
- ^{xiii} 1995 Memorandum of Agreement http://www.ct.gov/opm/lib/opm/pensioncommission/sebac_4.pdf/ 1997 Memorandum of Agreement http://www.ct.gov/opm/lib/opm/pensioncommission/sebac_5.pdf
- ^{xiv} In 2014, the California state legislature passed a law establishing a path to full funding for the California State Teachers Retirement System
- ^{xv} Center for Retirement Research, “Issue Brief: The Miracle of Funding of State and Local Pension Plans,” April 2008
- ^{xvi} See Funding Policies @NASRA.org, esp. Pension Funding Task Force, “Pension Funding: An Elected Official’s Guide,” 2013, and Multiple authors, “Understanding New Public Pension Funding Guidelines and Calculations,” 2013

Appendix A:

List of Plans Included in the Report

AK Alaska PERS	MN Minnesota PERF	TX Texas ERS
AK Alaska Teachers	MN Minnesota State Employees	TX Texas County & District
AL Alabama Teachers	MO Missouri Teachers	TX Texas Municipal
AL Alabama ERS	MO Missouri State Employees	UT Utah Noncontributory
AR Arkansas Teachers	MO Missouri Local	VA Virginia Retirement System
AR Arkansas PERS	MO Missouri PEERS	VT Vermont Teachers
AZ Arizona SRS	MO Missouri DOT and Highway Patrol	VT Vermont State Employees
AZ Arizona Public Safety Personnel	MS Mississippi PERS	WA Washington PERS 2/3
CA California PERF	MT Montana PERS	WA Washington PERS 1
CA California Teachers	MT Montana Teachers	WA Washington Teachers Plan 1
CO Colorado School	NC North Carolina Teachers and State Employees	WA Washington Teachers Plan 2/3
CO Colorado State	NC North Carolina Local Government	WA Washington LEOFF Plan 2
CO Colorado Municipal	ND North Dakota Teachers	WA Washington School Employees Plan 2/3
CO Denver Public Schools	ND North Dakota PERS	WI Wisconsin Retirement System
CO Colorado Affiliated Local	NE Nebraska County Cash Balance	WV West Virginia Teachers
CT Connecticut Teachers	NE Nebraska State Cash Balance	WV West Virginia PERS
CT Connecticut SERS	NE Nebraska State & School	WY Wyoming Public Employees
DC District of Columbia Police & Fire	NH New Hampshire Retirement System	
DC District of Columbia Teachers	NJ New Jersey Teachers	
DE Delaware State Employees	NJ New Jersey PERS - state	
FL Florida RS	NJ New Jersey PERS - local	
GA Georgia Teachers	NJ New Jersey Police & Fire - state	
GA Georgia ERS	NJ New Jersey Police & Fire - local	
HI Hawaii ERS	NM New Mexico PERF	
IA Iowa PERS	NM New Mexico Teachers	
ID Idaho PERS	NV Nevada Regular Employees	
IL Illinois Teachers	NV Nevada Police Officer and Firefighter	
IL Illinois Municipal	NY New York State & Local ERS	
IL Illinois Universities	NY New York State Teachers	
IL Illinois SERS	NY New York State & Local Police & Fire	
IN Indiana Teachers	OH Ohio Teachers	
IN Indiana PERF	OH Ohio PERS	
KS Kansas PERS	OH Ohio Police & Fire	
KY Kentucky Teachers	OH Ohio School Employees	
KY Kentucky County	OK Oklahoma Teachers	
KY Kentucky ERS	OK Oklahoma PERS	
LA Louisiana Teachers	OR Oregon PERS	
LA Louisiana SERS	PA Pennsylvania School Employees	
MA Massachusetts Teachers	PA Pennsylvania State ERS	
MA Massachusetts SERS	RI Rhode Island ERS	
MD Maryland Teachers	RI Rhode Island Municipal	
MD Maryland PERS	SC South Carolina RS	
ME Maine State and Teacher	SC South Carolina Police	
ME Maine Local	SD South Dakota PERS	
MI Michigan Public Schools	TN Tennessee State and Teachers	
MI Michigan SERS	TN Tennessee Political Subdivisions	
MI Michigan Municipal	TX Texas Teachers	
MN Minnesota Teachers		

Appendix B:

State ARC Experience FY 2001 to FY 2013

State	Weighted ARC Average %	(Shortfall) or Surplus \$
AK	86.3	(546,062)
AL	100.0	0
AR	100.7	41,431
AZ	100.9	83,185
CA	83.5	(20,554,750)
CO	74.5	(3,492,735)
CT	109.5	1,380,651
DC	100.0	0
DE	100.0	0
FL	95.8	(1,233,829)
GA	100.0	982
HI	96.0	(220,868)
IA	90.8	(834,152)
ID	105.4	173,380
IL	77.1	(13,841,151)
IN	97.2	(383,689)
KS	70.2	(2,039,080)
KY	83.9	(2,645,105)
LA	97.4	(404,929)
MA	87.3	(2,005,778)
MD	80.7	(2,812,082)
ME	107.0	266,619
MI	87.9	(2,590,386)
MN	82.8	(1,570,111)
MO	91.7	(1,183,997)

MS	98.9	(81,246)
MT	107.0	152,828
NC	96.6	(318,446)
ND	68.8	(362,897)
NE	95.1	(102,451)
NH	94.0	(127,938)
NJ	38.0	(23,282,274)
NM	82.8	(1,348,758)
NV	93.1	(998,656)
NY	100.0	0
OH	81.9	(8,229,977)
OK	78.5	(2,527,153)
OR	86.1	(1,311,784)
PA	41.2	(14,874,178)
RI	100.0	0
SC	100.0	0
SD	99.2	(8,482)
TN	100.0	0
TX	88.7	(5,150,802)
UT	100.0	0
VA	75.7	(3,583,405)
VT	93.5	(61,043)
WA	56.5	(6,935,317)
WI	103.0	239,970
WV	105.5	358,451
WY	108.3	104,506
Total	84.3	(122,861,509)

Appendix C:
Individual State and Plan
ARC Experiences

Alaska Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Alaska Public Employees' Retirement System (PERS)
- Alaska Teachers' Retirement System (TRS)

Employer Contribution Legal Framework

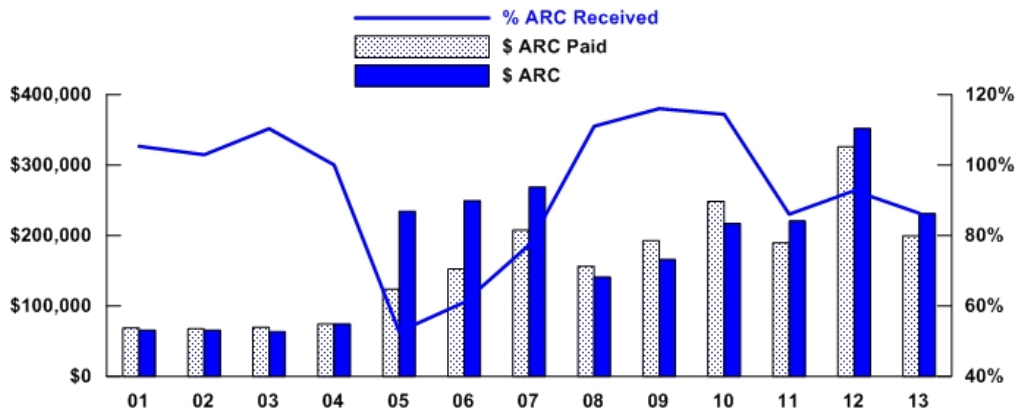
For both Alaska PERS and TRS, statutes require employers to fund the actuarially determined contribution. Both plans were closed to new hires effective July 1, 2006.

2014 legislation directed \$3 billion from the state's oil reserve fund for the purpose of reducing the state's unfunded pension liabilities.

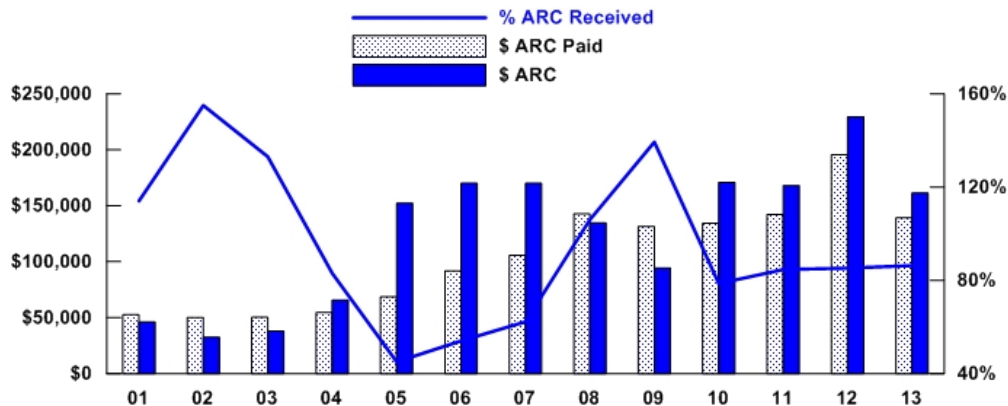
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Alaska PERS	88.4%	(\$272,172)	Entry age	8.0%
Alaska TRS	83.2%	(\$273,891)	Entry age	8.0%

AK PERS ARC Experience



AK TRS ARC Experience



Alabama Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Alabama Employees' Retirement System (ERS)
- Alabama Teachers' Retirement System (TRS)

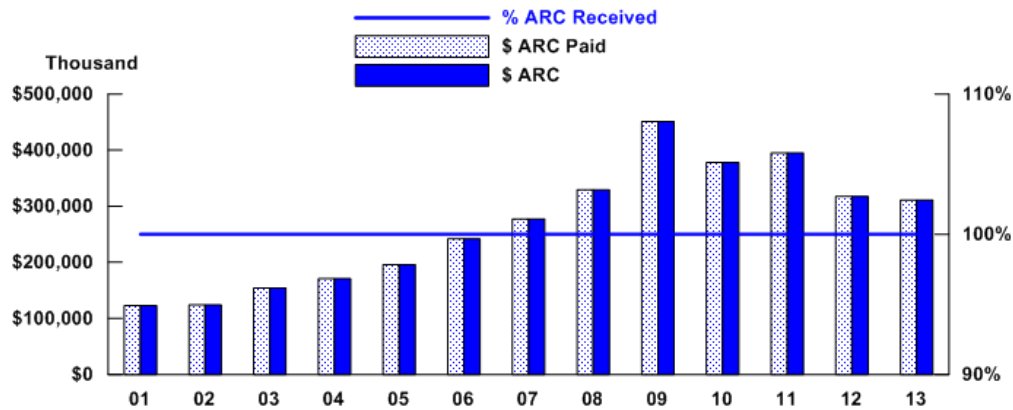
Employer Contribution Legal Framework

Alabama statute requires employers participating in the Retirement Systems of Alabama to fund the actuarially determined contribution.

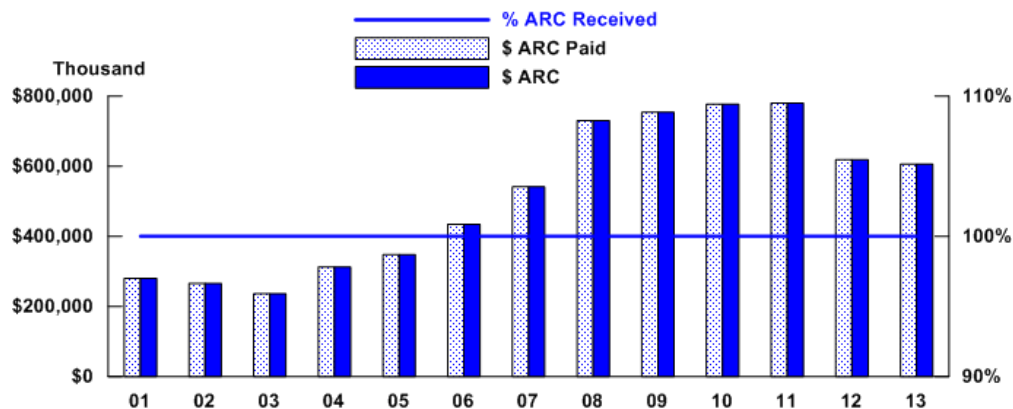
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Alabama ERS	100%	\$0	Entry age	8.0%
Alabama Teachers	100%	\$0	Entry age	8.0%

AL ERS ARC Experience



AL Teachers ARC Experience



Arkansas Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Arkansas Public Employees Retirement System (PERS)
- Arkansas Teacher Retirement System (TRS)

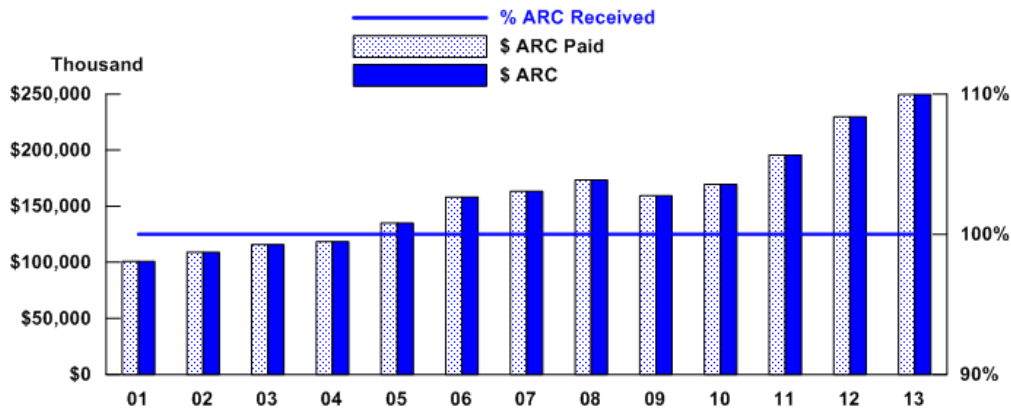
Employer Contribution Legal Framework

Arkansas PERS and TRS employers are statutorily required to fund the actuarially determined contribution, although for the TRS, statute also limits the employer contribution rate to 14% of compensation.

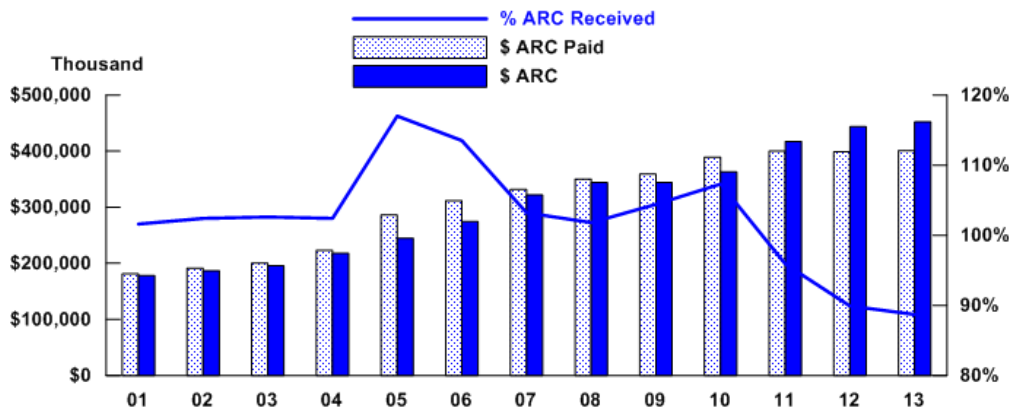
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Arkansas PERS	100%	\$0	Entry age	8.0%
Arkansas Teachers	101%	\$41,431	Entry age	8.0%

AR PERS ARC Experience



AR Teachers ARC Experience



Arizona Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Arizona State Retirement System (SRS)
- Arizona Public Safety Personnel Retirement System (PSPRS)

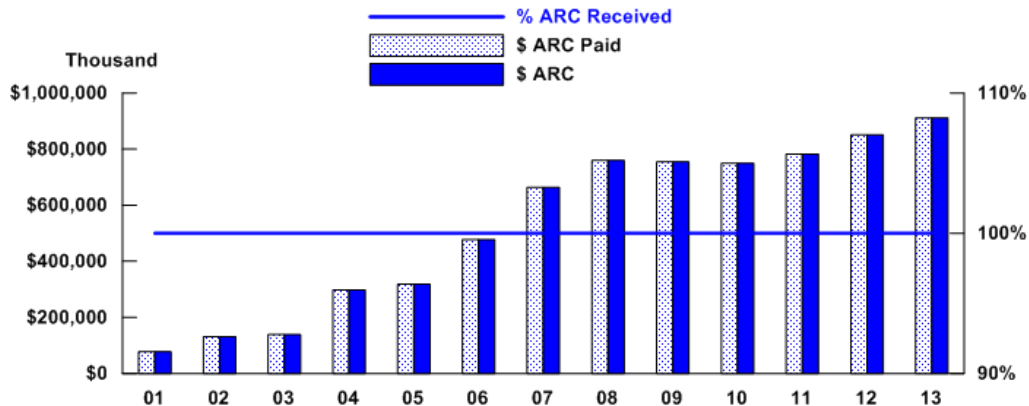
Employer Contribution Legal Framework

For both the Arizona SRS and the PSPRS, statutes require employers to fund the actuarially determined contribution.

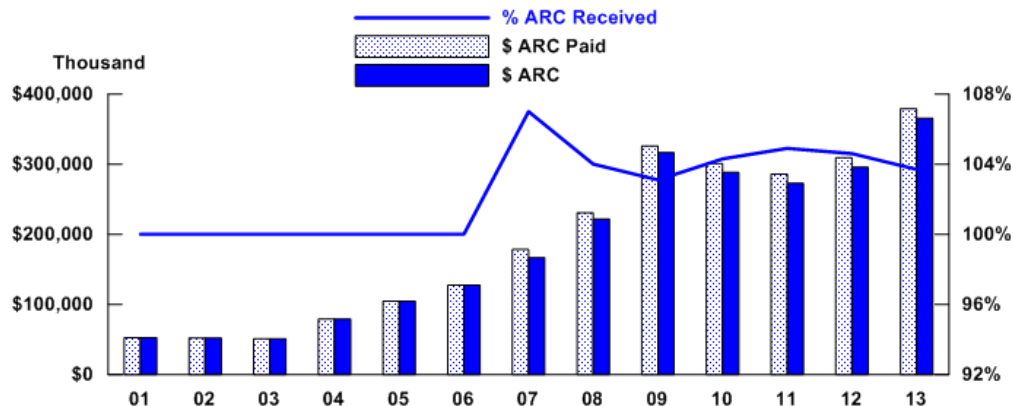
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Arizona State Retirement System	100%	\$0	Projected Unit Credit	8.0%
Arizona Public Safety Personnel	103.5%	\$83,185	Entry age	7.85%

AZ State Retirement System ARC Experience



AZ Public Safety Personnel ARC Experience



California Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- California Public Employees Retirement Fund (PERF)
- California State Teachers Retirement System (CalSTRS)

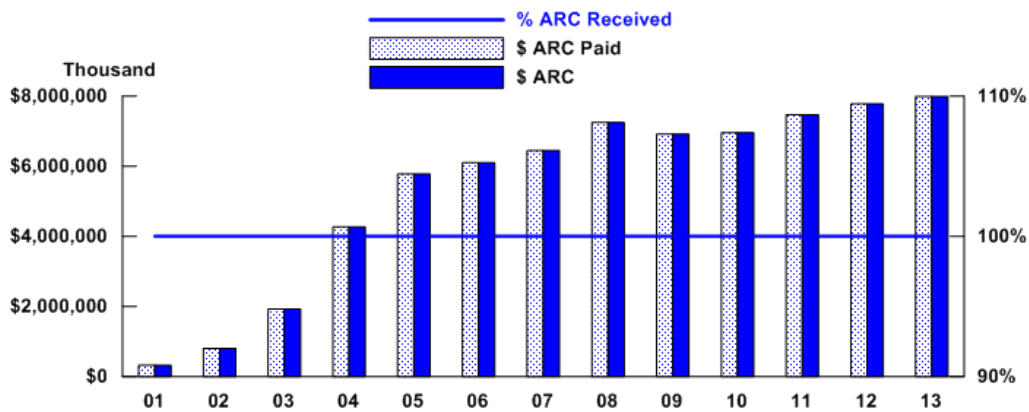
Employer Contribution Legal Framework

Employers participating in the California Public Employees Retirement System (for which PERF accounts for nearly all of total membership) are required by statute to fund the actuarially determined contribution. Beginning 7/1/14, employers participating in the California State Teachers Retirement System are required to make contributions that are projected to be sufficient to amortize the balance of unfunded liabilities by 6/30/2046. Prior to 7/1/14, CalSTRS employers were required to contribute a fixed percentage of compensation specified in statute; since FY 02, these rates were below the actuarially determined contribution.

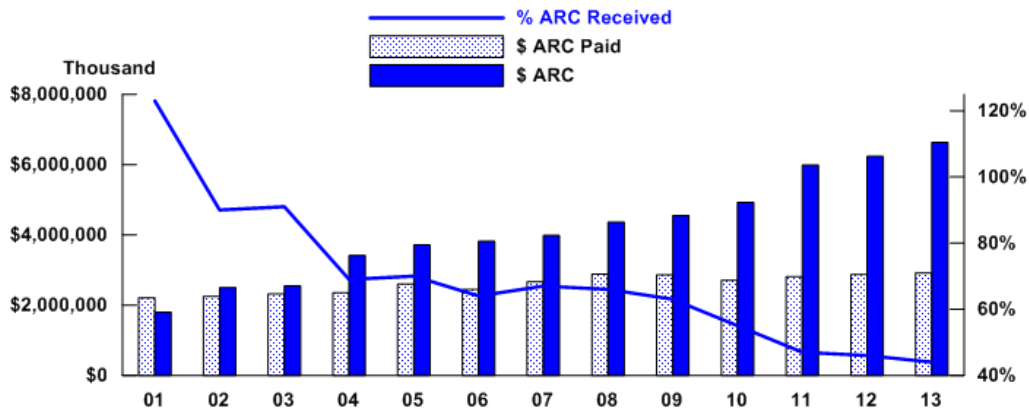
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
California PERF	100%	\$0	Entry age	7.50%
California Teachers	62.2%	(\$20,554,750)	Entry age	7.50%

CA PERF ARC Experience



CA Teachers ARC Experience



Colorado Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Colorado Affiliated Local
 - Colorado Municipal
 - Colorado School
- Colorado State
 - Denver Public Schools

Employer Contribution Legal Framework

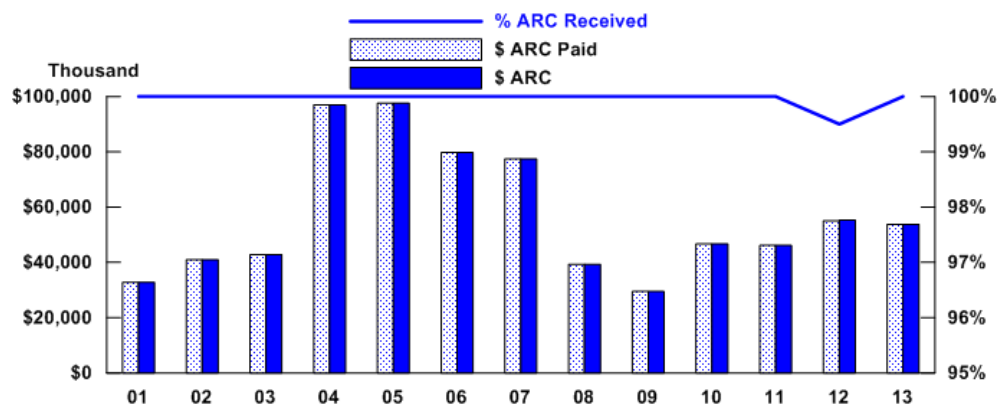
For the Colorado Affiliated Local plan, statutes require employers to fund the actuarially determined contribution. Employers who participate in the Municipal, School, State, and Denver Public Schools plans under the Colorado Public Employees' Retirement Association contribute a fixed percentage of compensation specified in statutes.

The State and School Divisions were merged July 1, 1997 and separated effective January 1, 2006. Prior to 2005, because separate calculations of actuarially required contributions were not reported, for the period FY01-FY04, the State and School Divisions are combined below, and separated for the period FY05-FY13.

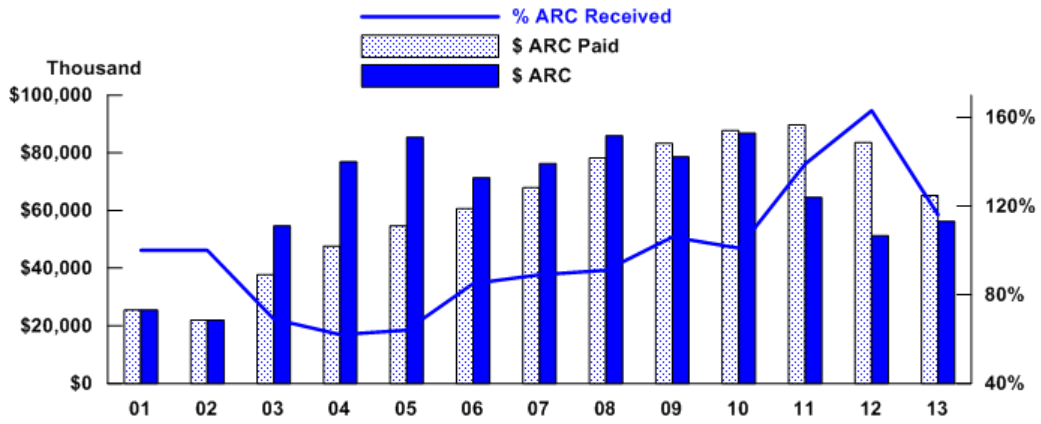
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Colorado Combined State and School (FY01-FY04)	70.4%	(\$626,891)	-	-
Colorado Affiliated Local	100%	(\$277)	Entry age	7.5%
Colorado Municipal	93.3%	(\$56,342)	Entry age	7.5%
Colorado School (FY05-FY13)	70.5%	(\$1,723,612)	Entry age	7.5%
Colorado State (FY05-FY13)	67.5%	(\$1,194,031)	Entry age	7.5%
Denver Public Schools	121.4%	\$108,417	Entry age	7.5%

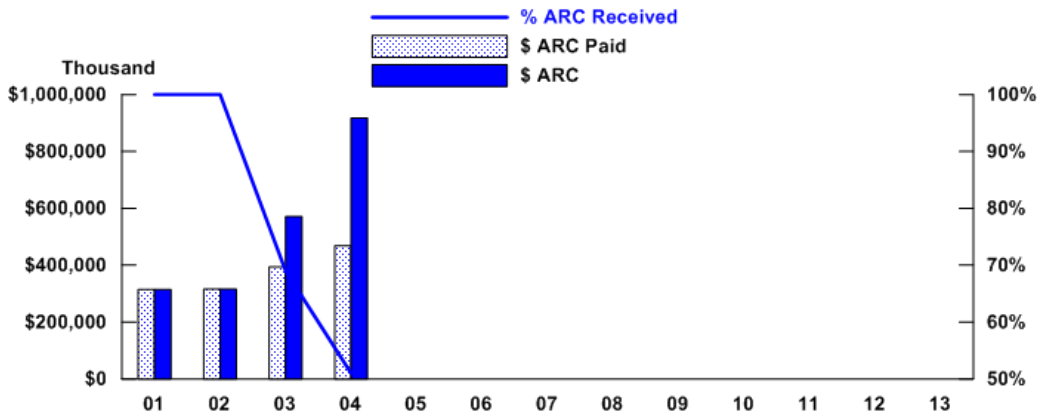
CO Affiliated Local ARC Experience



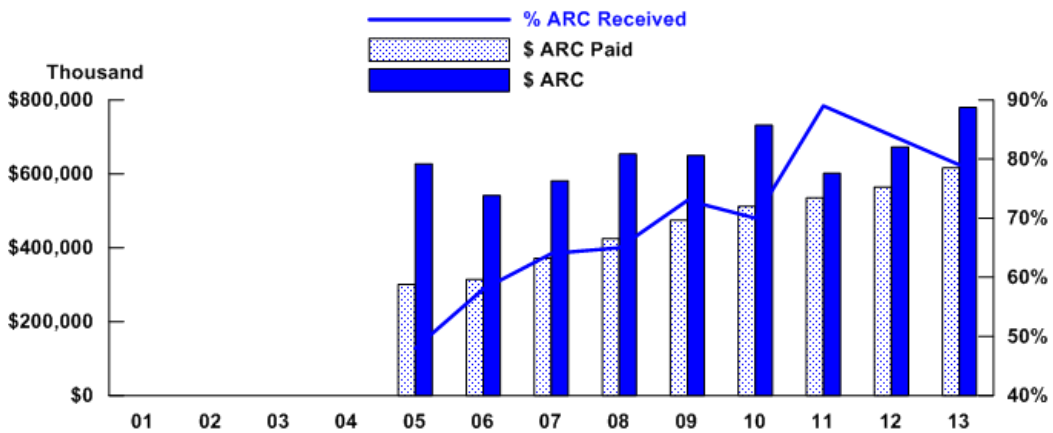
CO Municipal ARC Experience



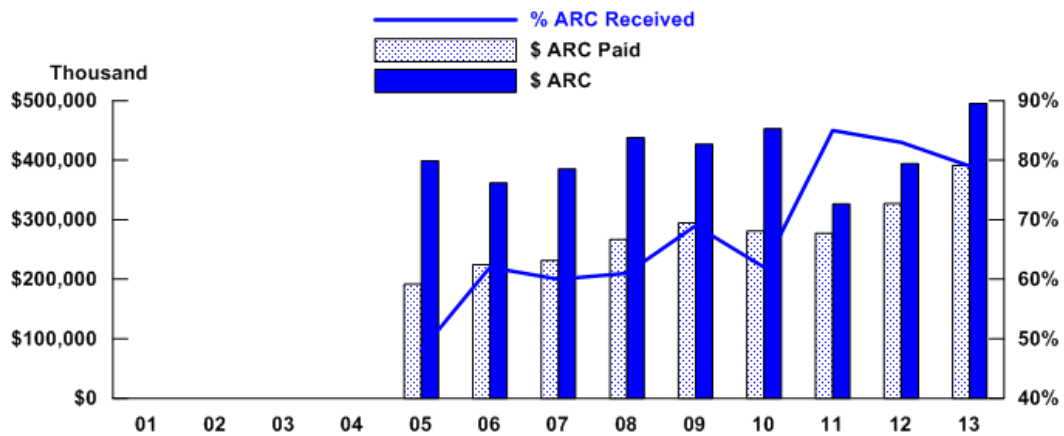
CO Combined State & School ARC Experience



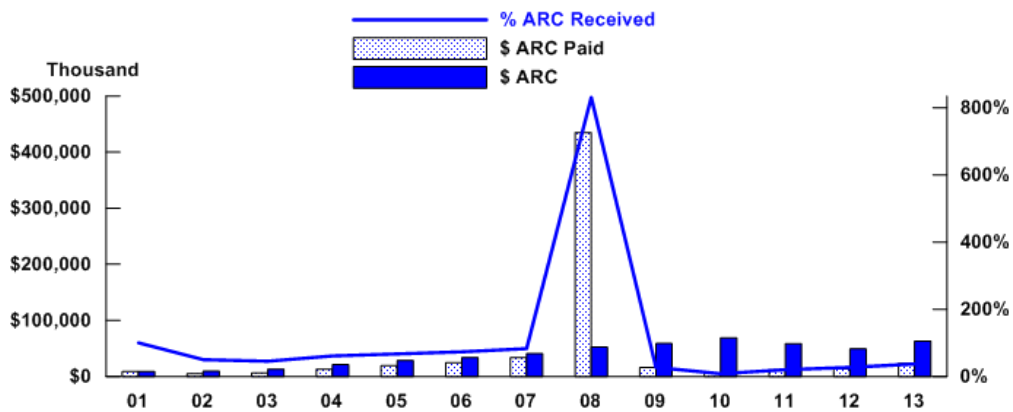
CO School ARC Experience



CO State ARC Experience



Denver Public Schools ARC Experience



Connecticut Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Connecticut State Employees Retirement System (SERS)
- Connecticut Teachers' Retirement Board (TRB)

Employer Contribution Legal Framework

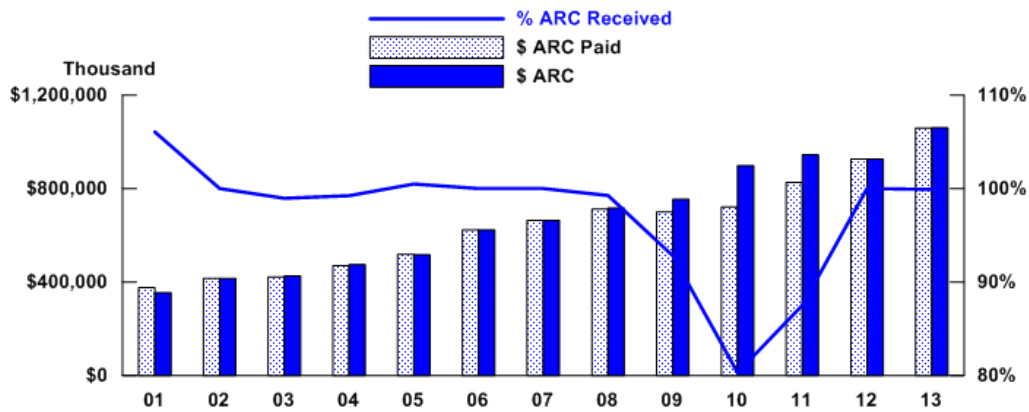
Connecticut SERS and TRB employers are required by statute to fund the actuarially determined contribution. Agreements negotiated in 1995 and 1997 between the State of Connecticut and the State Employees Bargaining Agent Coalition (SEBAC) reduced the state's required SERS contribution below the actuarially determined amount.

For the TRB the state has contributed 100 percent of the ARC since issuing \$2.28 billion in pension obligation bonds in 2008 to reduce the unfunded liability.

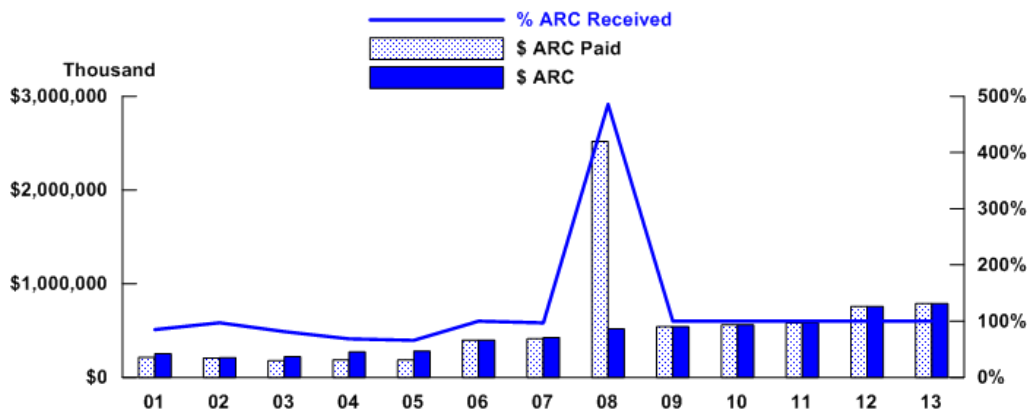
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Connecticut SERS	96.1%	(\$339,720)	Projected Unit Credit	8.0%
Connecticut Teachers	129.7%	\$1,720,371	Entry age	8.5%

CT SERS ARC Experience



CT Teachers ARC Experience



District of Columbia Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- District of Columbia Police & Fire Fighters' Retirement System
- District of Columbia Teachers Retirement System

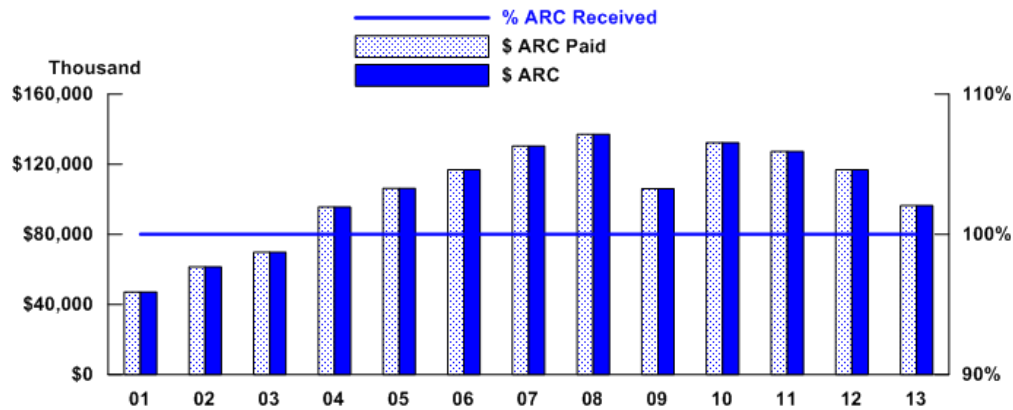
Employer Contribution Legal Framework

For the District of Columbia Police & Fire and Teachers Retirement Systems, employers are required by statute to fund the actuarially determined contribution.

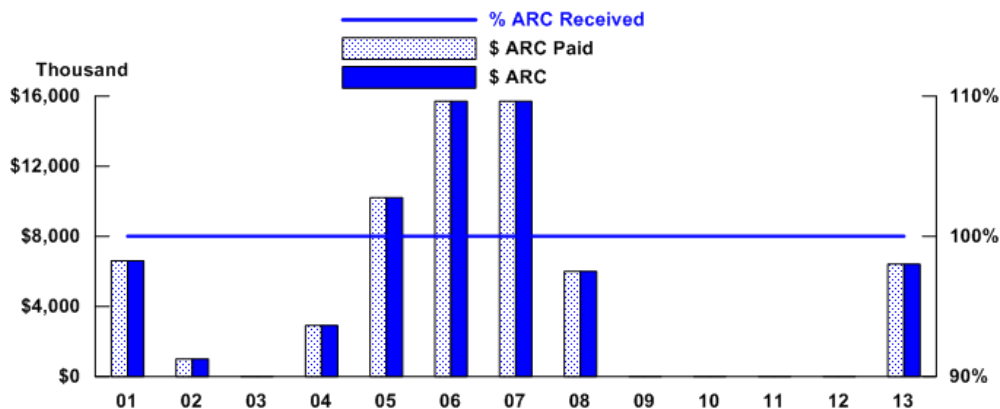
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
District of Columbia Police & Fire	100%	\$0	Entry age	6.5%
District of Columbia Teachers	100%	\$0	Entry age	6.5%

DC Police & Fire ARC Experience



DC Teachers ARC Experience



Delaware Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Delaware State Employees' Pension Plan

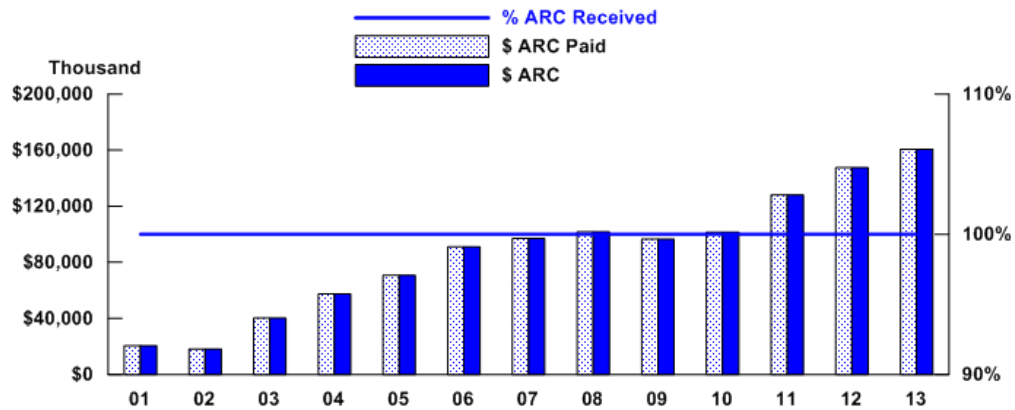
Employer Contribution Legal Framework

Employers participating in the Delaware Public Employees Retirement System are required by statute to fund the actuarially determined contribution.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Delaware State Employees	100%	\$0	Entry age	7.50%

DE State Employees ARC Experience



Florida Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Florida Retirement System (FRS)

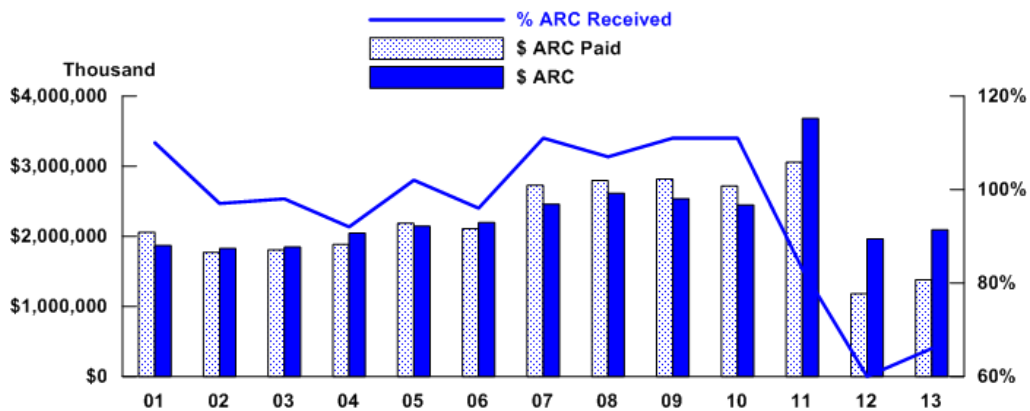
Employer Contribution Legal Framework

The Florida Legislature sets employer contribution rates each year.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Florida Retirement System	95.9%	(\$1,233,829)	Entry age	7.75%

FL RS ARC Experience



Georgia Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Georgia Employees' Retirement System (ERS)
- Georgia Teachers' Retirement System (TRS)

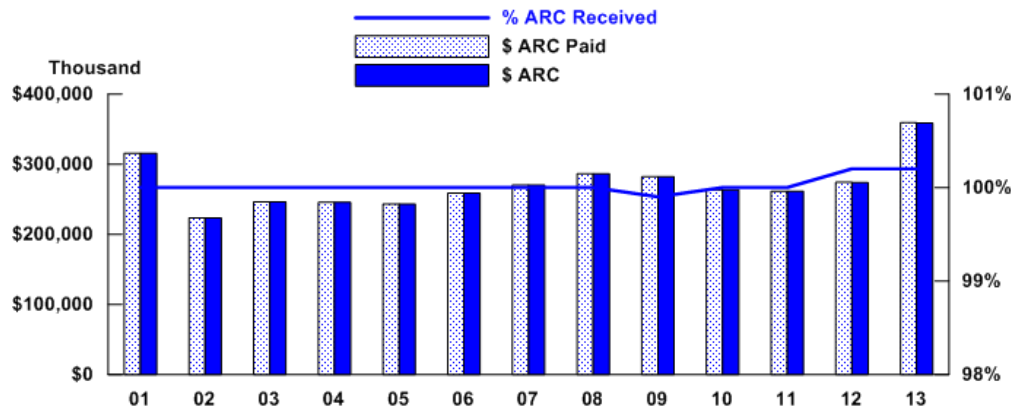
Employer Contribution Legal Framework

For the Georgia ERS and TRS, participating employers are required by statute to fund the actuarially determined contribution.

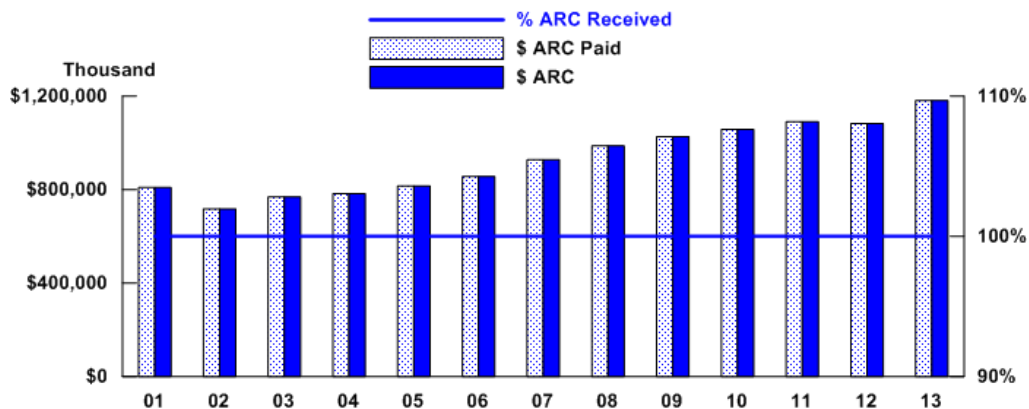
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Georgia ERS	100%	\$982	Entry age	7.50%
Georgia Teachers	100%	\$0	Entry age	7.50%

GA ERS ARC Experience



GA Teachers ARC Experience



Hawaii Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Hawaii Employees' Retirement System (ERS)

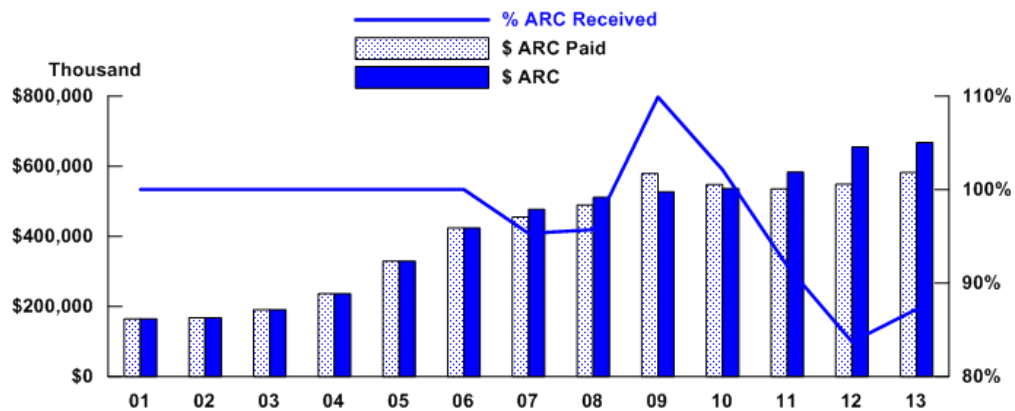
Employer Contribution Legal Framework

Employers participating in the Hawaii ERS are required to fund a fixed percentage of compensation specified in statute.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Hawaii ERS	96.0%	(\$220,868)	Entry age	7.75%

HI ERS ARC Experience



Iowa Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Iowa Public Employees' Retirement System (PERS)

Employer Contribution Legal Framework

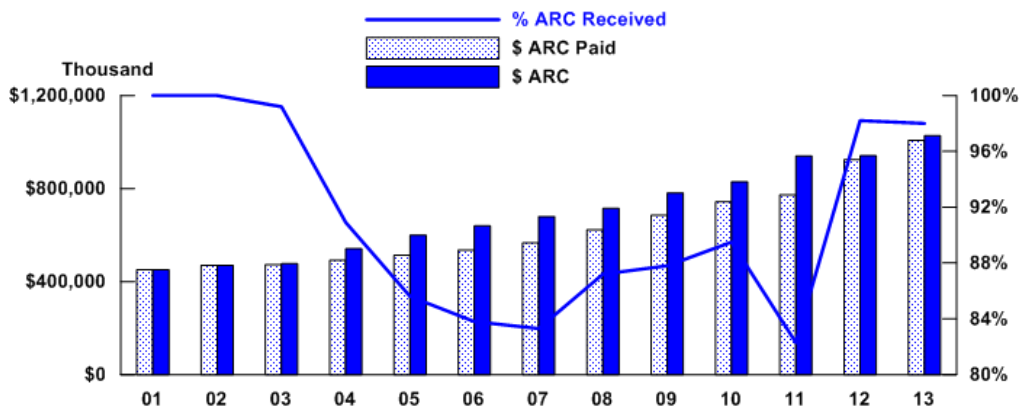
Employers who participate in the Iowa PERS are required by statute to fund the actuarially determined contribution. Statutes impose a limitation on changes to the required contribution rate of one-half percentage point in either direction from the prior year's rate.

Statute directs the amounts (expressed as a percentage of the combined rate) of the contribution to be paid by employees and employers. Because the proportionate amounts are not variable this analysis treats IPERS as having one ARC and ARC received for each year, inclusive of both employer and employee contributions.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Iowa PERS	90.8%	(\$834,152)	Entry age	7.50%

IA PERS ARC Experience



Idaho Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Idaho Public Employee Retirement System (PERSI)

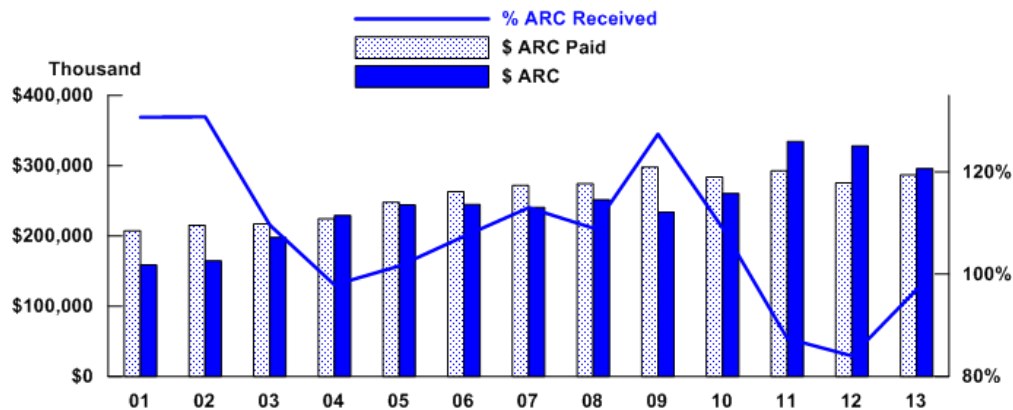
Employer Contribution Legal Framework

Employers participating in the PERSI are required by statute to fund the actuarially determined contribution. Because of a lag between the date of the actuarial valuation and the implementation of the approved contribution rate, the actual contribution does not always equal the ARC.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Idaho PERS	105.5%	\$173,380	Entry age	7.50%

ID PERS ARC Experience



Illinois Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Illinois Municipal Retirement Fund (IMRF)
- Illinois State Employees' Retirement System (SERS)
- Illinois Teachers' Retirement System (TRS)
- Illinois State Universities' Retirement System (SURS)

Employer Contribution Legal Framework

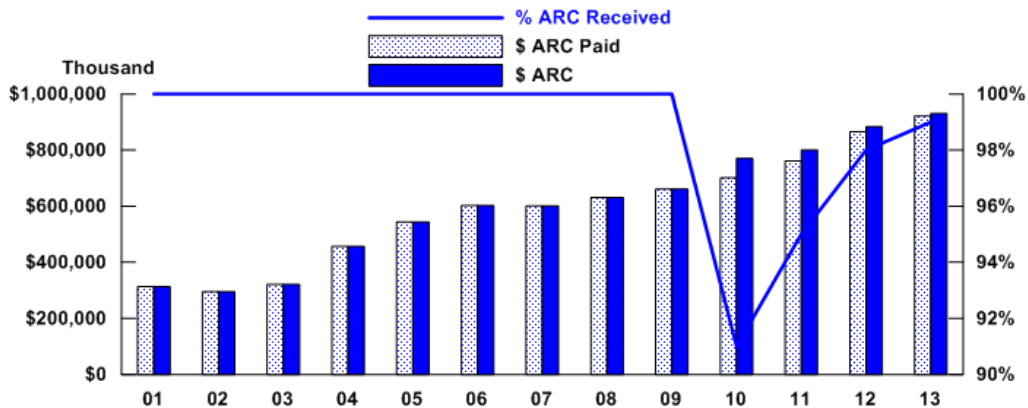
For the Illinois SERS, TRS, and SURS, employers are required to make contributions which are determined to be sufficient to bring the total system's assets up to 90 percent of the total plan's liabilities over a timeframe specified in statute. A 2014 law established a path to full funding by 2044 for the three plans, and provides for supplemental contributions of \$364 million in FY19 and \$1 billion annually thereafter through 2045, or until the plan is 100 percent funded. The law also states that if the State fails to fund the actuarially determined contribution, the retirement system may appeal to the Illinois Supreme Court to compel payment. The law currently is under legal challenge.

For the Illinois MRF, employers are required by statute to fund the actuarially determined contribution. Due to the investment losses related to the 2008 recession, employers were given the option to pay either a) the normal cost (for those employers which were previously overfunded and paying less than the normal cost); b) the normal cost plus a 10% increase (which was less than the ARC); or c) the full ARC.

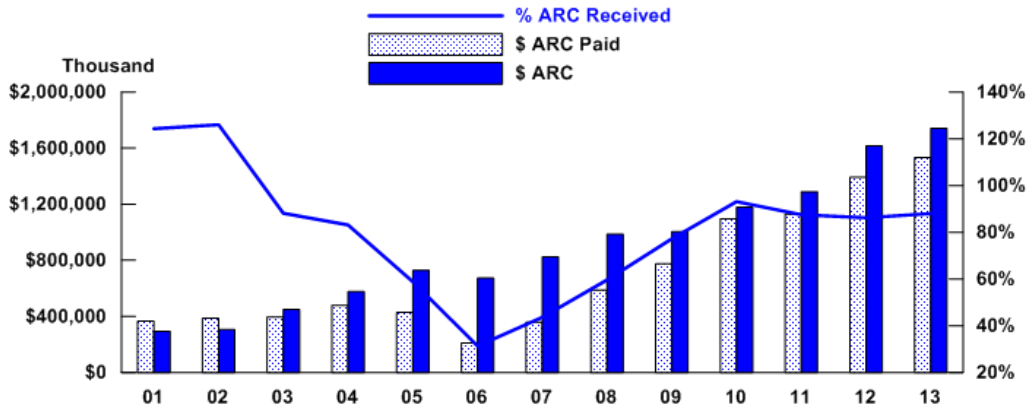
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Illinois Municipal	98.3%	(\$136,327)	Entry age	7.50%
Illinois SERS	78.3%	(\$2,527,458)	Projected unit credit	7.75%
Illinois Teachers	69.6%	(\$8,240,186)	Projected unit credit	7.50%
Illinois Universities	78.9%	(\$2,937,180)	Projected unit credit	7.75%

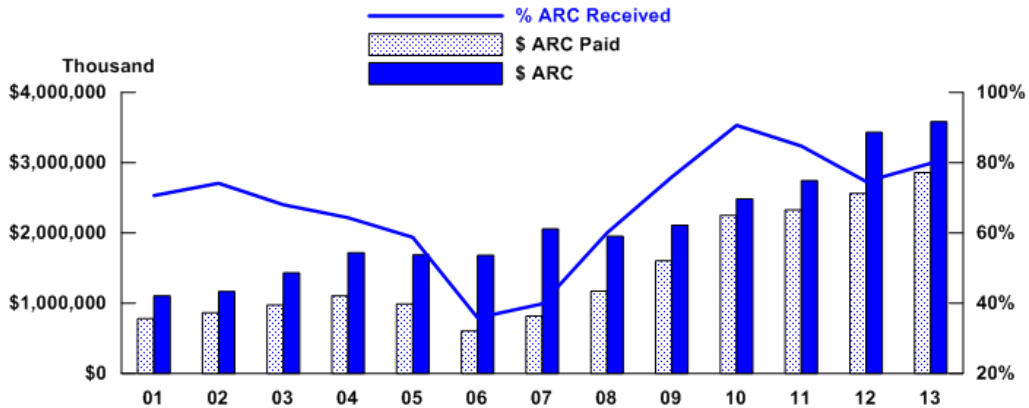
IL Municipal ARC Experience



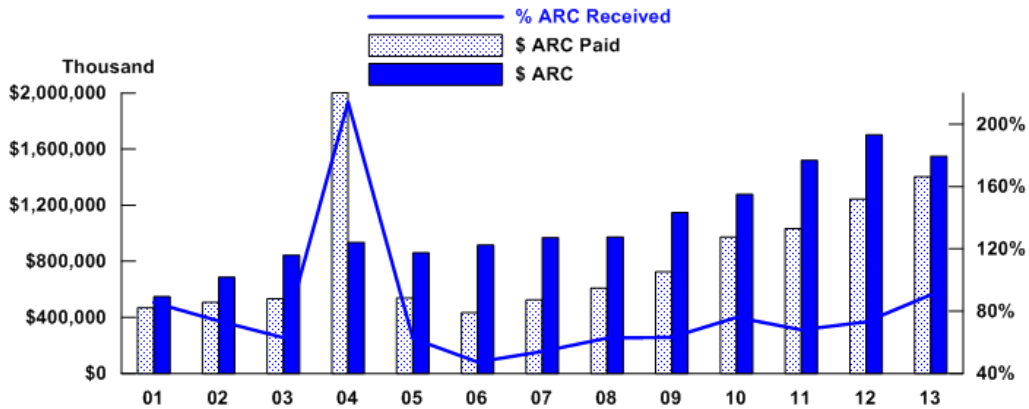
IL State Employees Retirement System ARC Experience



IL Teachers ARC Experience



IL State Universities ARC Experience



Indiana Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Indiana Public Employees' Retirement Fund (PERF)
- Indiana Teachers' Retirement Fund (TRF)

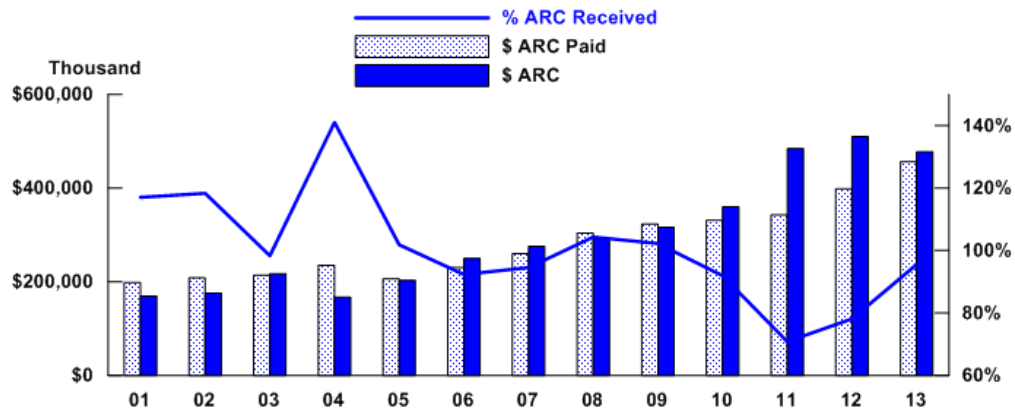
Employer Contribution Legal Framework

State statute directs the system's board to calculate and the legislature to fund the actuarially determined contribution.

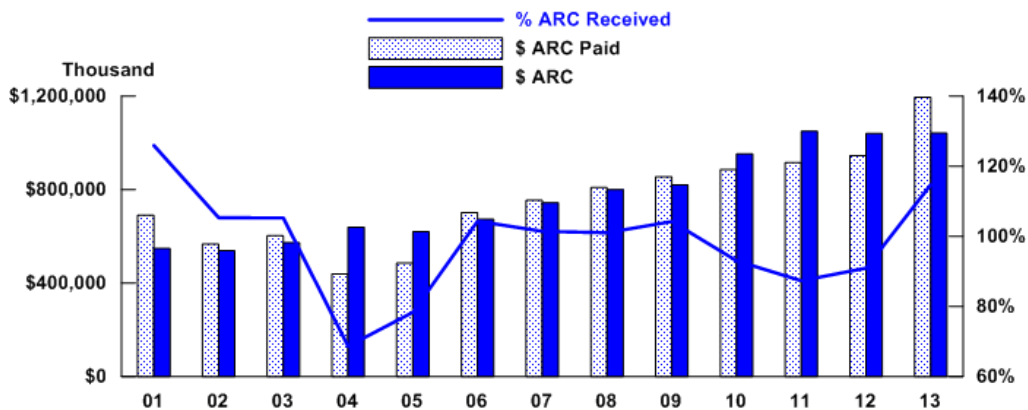
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Indiana PERF	95.1%	(\$189,221)	Entry age	6.75%
Indiana Teachers	98.1%	(\$194,468)	Entry age	6.75%

IN PERF ARC Experience



IN Teachers ARC Experience



Kansas Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Kansas Public Employees Retirement System (PERS)

Employer Contribution Legal Framework

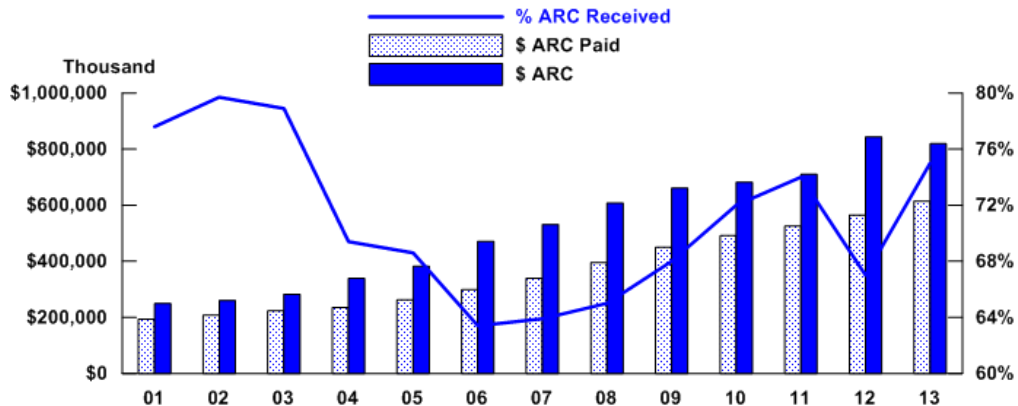
Employers participating in the Kansas PERS are required by statute to fund the actuarially determined contribution. Statute imposes a limit on increases to required contribution rates of not more than 0.6 percent of the prior year's rate. 2011 legislation increased the annual rate caps gradually, beginning in FY14, eventually rising to 1.2% of the prior years' rate in FY17.

2012 legislation directs, beginning in FY14, 50 percent of the annual revenues from the state's Expanded Lottery Reserve Fund (after a \$10.5 million annual commitment through 2021 has been met), for purposes of reducing KPERS unfunded liability. Additionally, the law directs 80 percent of the proceeds from any sale of state surplus real estate to KPERS until the system reaches an 80 percent funded level.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Kansas PERS	70.2%	(\$2,039,080)	Entry age	8.0%

Kansas PERS ARC Experience



Kentucky Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Kentucky County Employees Retirement System (CERS)
- Kentucky Employees Retirement System (ERS)
- Kentucky Teachers Retirement System (TRS)

Employer Contribution Legal Framework

For the Kentucky ERS and County, employers are required by statute to fund the actuarially determined contribution. For the TRS, employers are required to fund an amount equal to a fixed percentage of employee compensation specified in statute.

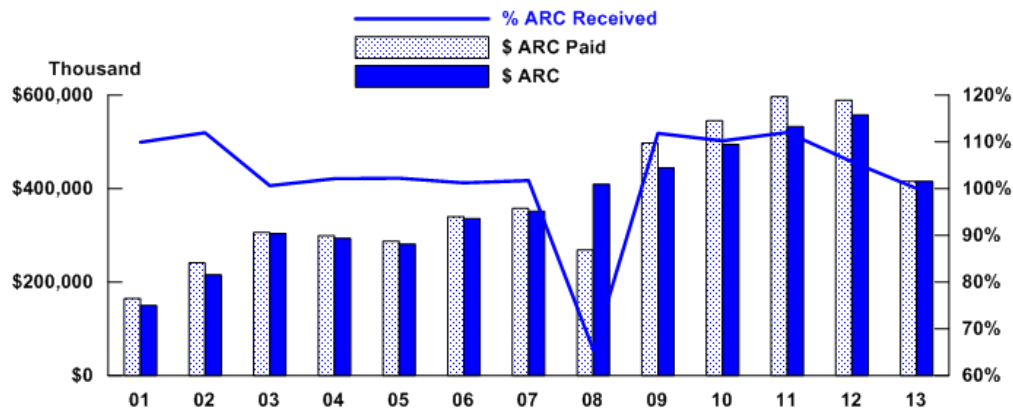
From FY04-FY10, a portion of the required contributions to the TRS were diverted to fund retiree health care benefits. As a result, TRS appears to have received contributions less than the required amount in some of the years covering the period. In FY11 the TRS fund received the proceeds of a \$456 million bond to offset the redirected contributions.

The state has not paid its share of the ARC to the Kentucky ERS for most of the past 20 years. In 1994 the KRS Board sued the Governor and the General Assembly in attempt to enforce the state’s ARC requirement as set in statute. The Court found that the state’s actions in declining to fund the ARC did not constitute an unlawful impairment of KERS members’ inviolable contract rights. This funding condition remains and the ruling has not been challenged. As a result of legislation passed in 2014 the state is paying the ADC for FY15, and has appropriated funds to pay the ADC for FY16. For future years the receipt of required contributions depends on the outcome of the biennial budget process.

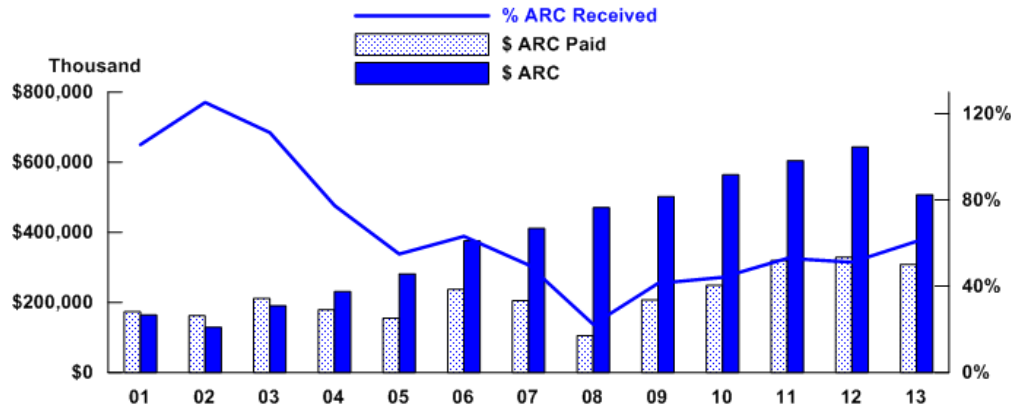
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Kentucky County	102.6%	\$121,892	Entry age	7.50%
Kentucky ERS	56.0%	(\$2,233,420)	Entry age	7.50%
Kentucky Teachers	91.9%	(\$533,577)	Entry age	7.50%

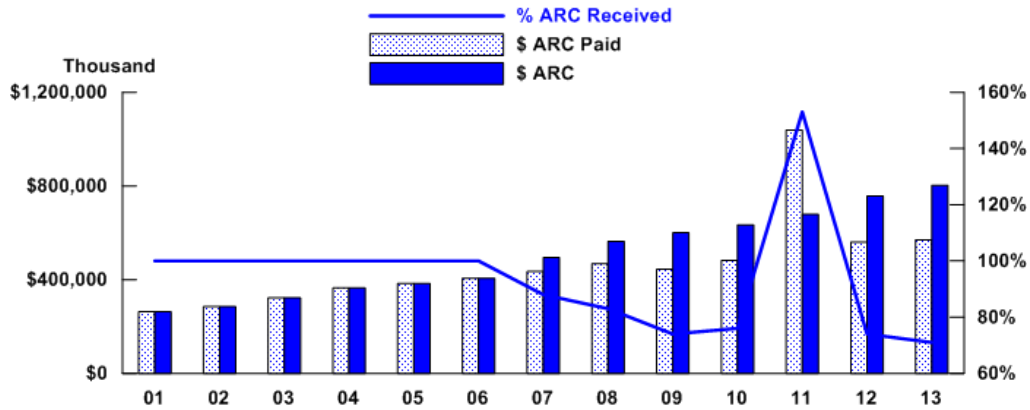
KY County ARC Experience



KY ERS ARC Experience



KY Teachers ARC Experience



Louisiana Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Louisiana State Employees' Retirement System (SERS)
- Louisiana Teachers' Retirement System (TRS)

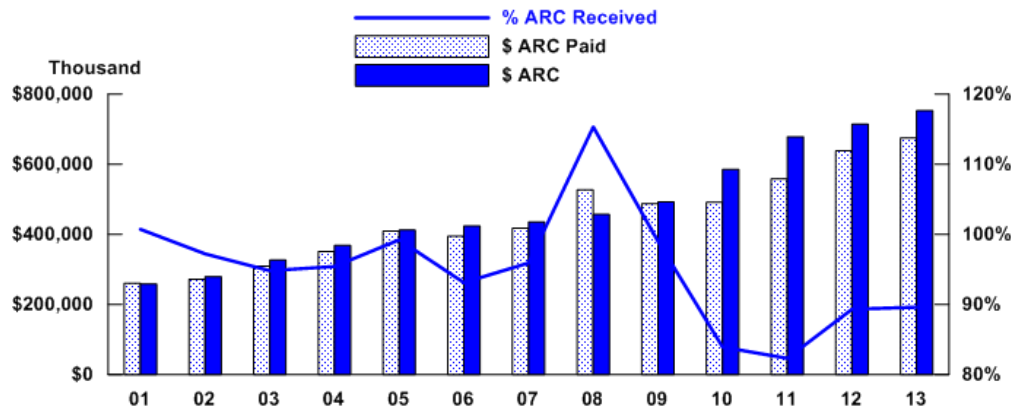
Employer Contribution Legal Framework

For the Louisiana SERS and TRS, the state constitution mandates payment of the actuarially determined contribution. Shortfalls in the ARC for the SERS and TRS are a result of timing differences between the date of actuarial valuations and the legislative appropriations process.

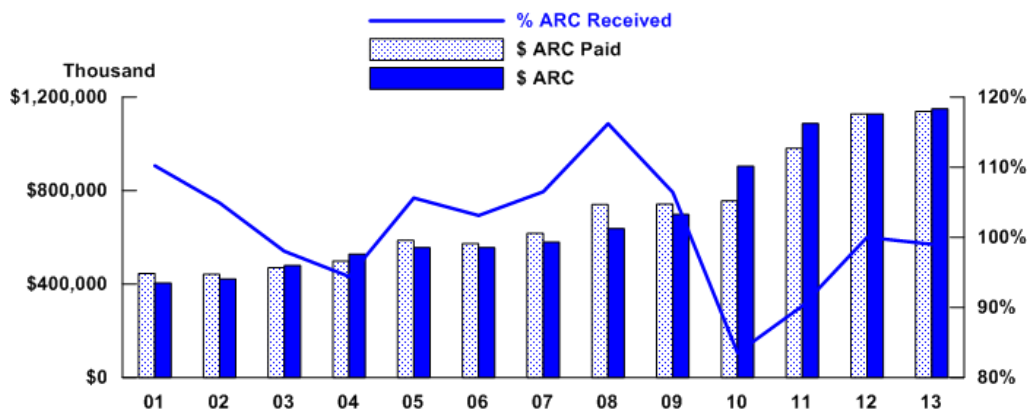
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Louisiana SERS	93.6%	(\$394,227)	Entry age	7.75%
Louisiana Teachers	99.9%	(\$10,702)	Entry age	7.75%

LA SERS ARC Experience



LA Teachers ARC Experience



Massachusetts Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Massachusetts State Employees' Retirement System (SERS)
- Massachusetts Teachers' Retirement System (TRS)

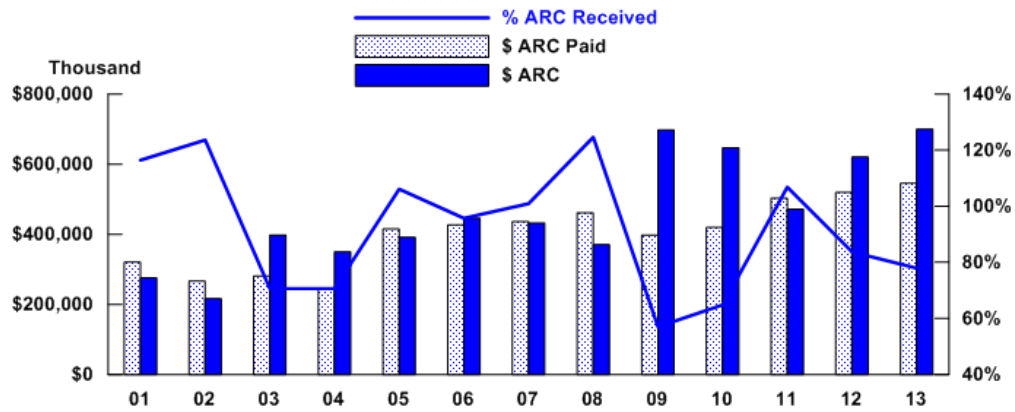
Employer Contribution Legal Framework

For the Massachusetts SERS and TRS, participating employers are required by statute to fund the actuarially required contribution. Statutes impose a limit on increases to the contribution rates of 7.5% in excess of the prior year's rate.

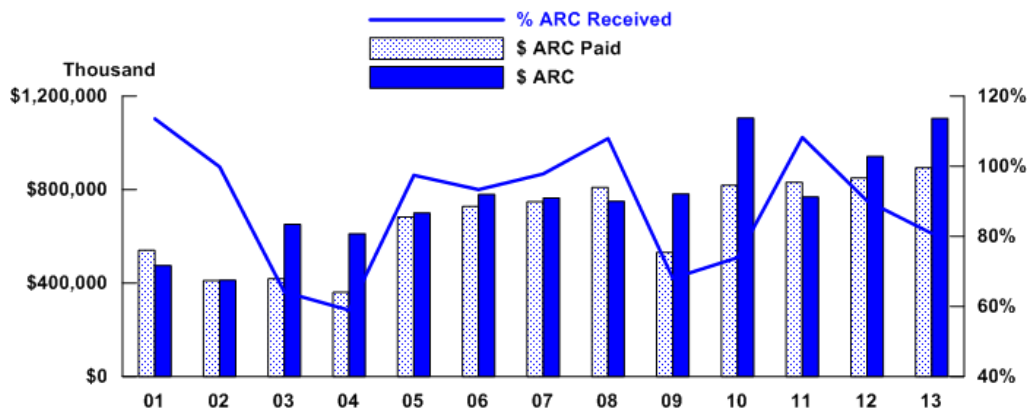
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Massachusetts SERS	87.1%	(\$775,408)	Entry age	8.0%
Massachusetts Teachers	87.5%	(\$1,230,370)	Entry age	8.0%

MA SERS ARC Experience



MA Teachers ARC Experience



Maryland Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Maryland State Public Employees' Retirement System (PERS)
- Maryland Teachers' Retirement System (TRS)

Employer Contribution Legal Framework

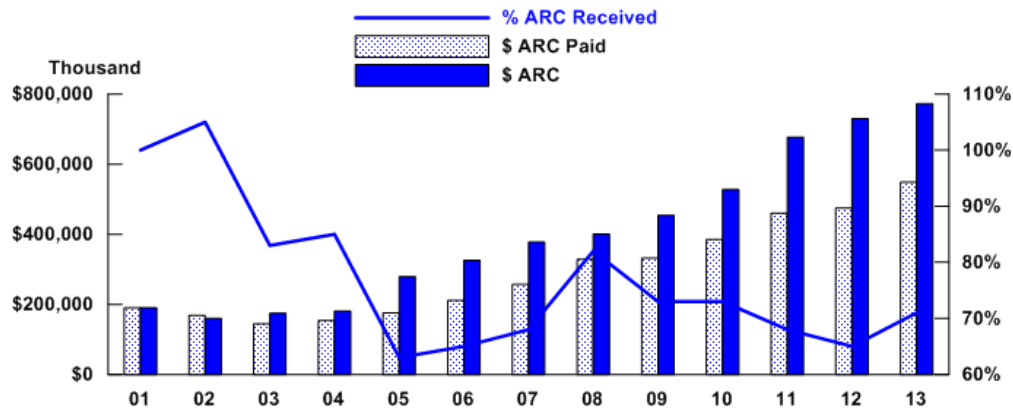
The two largest plans within the Maryland State Retirement & Pension System, the PERS and TRS, operate under a statutory provision that has permitted funding below the actuarially determined contribution rate since 2003. Employers who sponsor plans for state police, law enforcement officers, judges, and participating local governments are required by statute to fund the actuarially determined contribution.

2013 legislation restored the requirement to fund the full actuarially determined contribution for the PERS and Teachers plans.

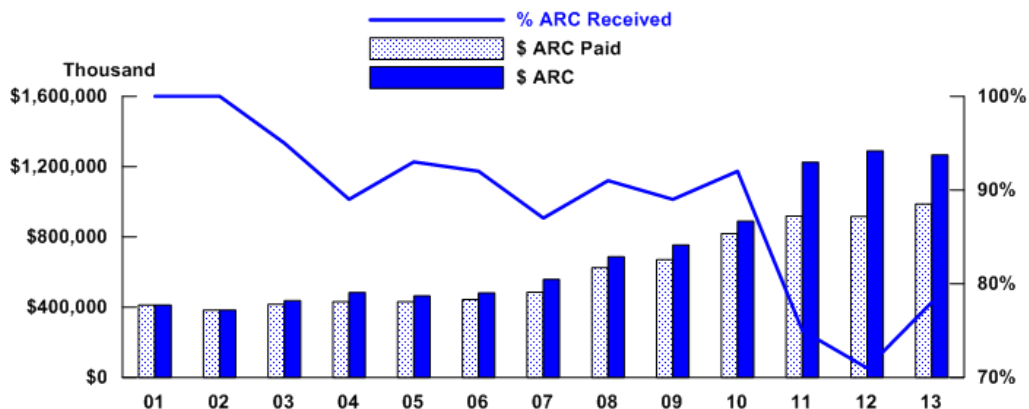
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Maryland PERS	73.0%	(\$1,419,706)	Entry age	7.65%
Maryland Teachers	85.1%	(\$1,392,376)	Entry age	7.65%

MD PERS ARC Experience



MD Teachers ARC Experience



Maine Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Maine Local
- Maine State and Teacher

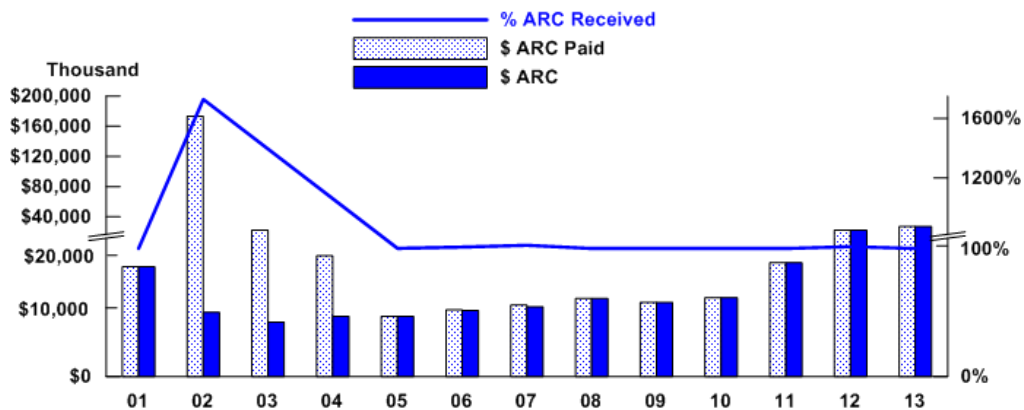
Employer Contribution Legal Framework

The Maine State Constitution establishes a requirement that participating employers in the Maine PERS fund the actuarially determined contribution.

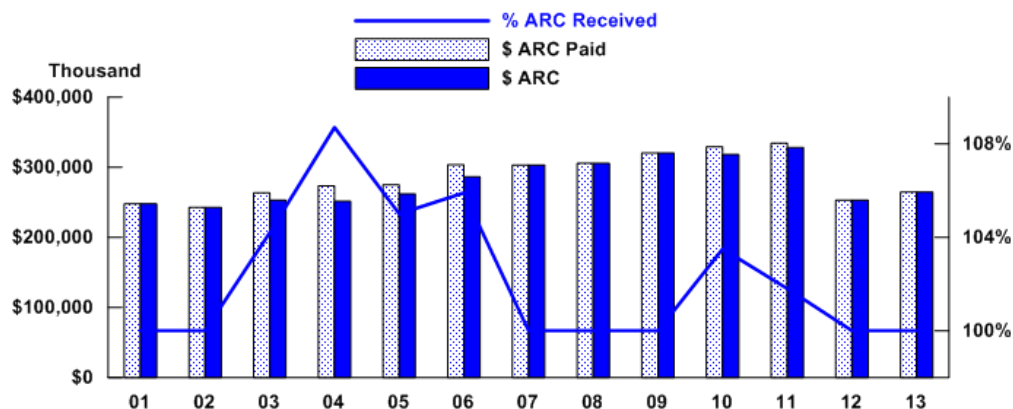
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Maine Local	204.7%	\$187,107	Entry age	7.125%
Maine State and Teacher	102.2%	\$79,513	Entry age	7.125%

ME Local ARC Experience



ME State and Teacher ARC Experience



Michigan Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Michigan Municipal Employees' Retirement System (MERS)
- Michigan Public Schools
- Michigan State Employees Retirement System (SERS)

Employer Contribution Legal Framework

For the Michigan MERS, Public Schools, and SERS, participating employers are required by statute to fund the actuarially determined contribution.

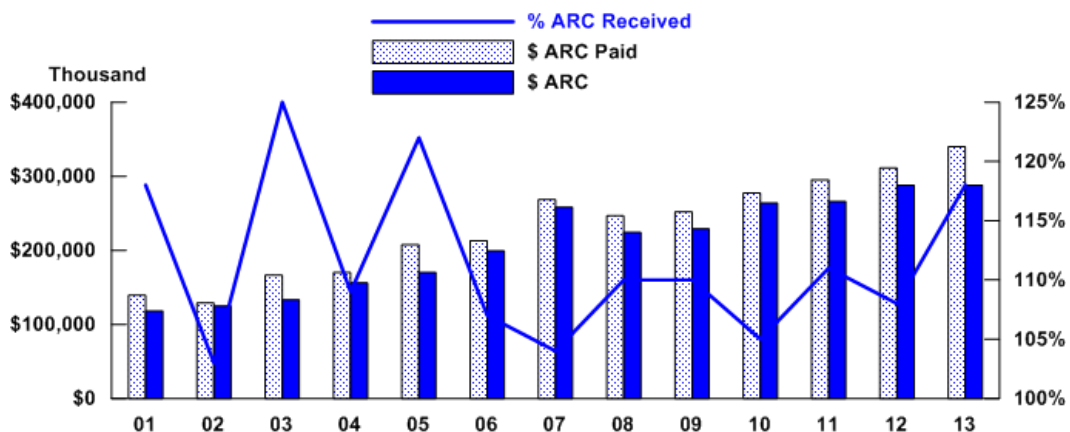
According to the FY 13 annual financial report of the Public Schools system, "Differences between the ARC and the actual contributions are the result of a timing difference between when the actuarial valuation is completed and the contributions are made. In addition, for fiscal years 2004, 2005, and 2006, transfers from the stabilization sub-account ... were made to intentionally stabilize the contribution rates."

The employer contribution to the State Employees Retirement System was diverted to fund retiree health care benefits in some years during the measurement period. The Michigan State Employees Retirement System was closed to new hires effective March 31, 1997.

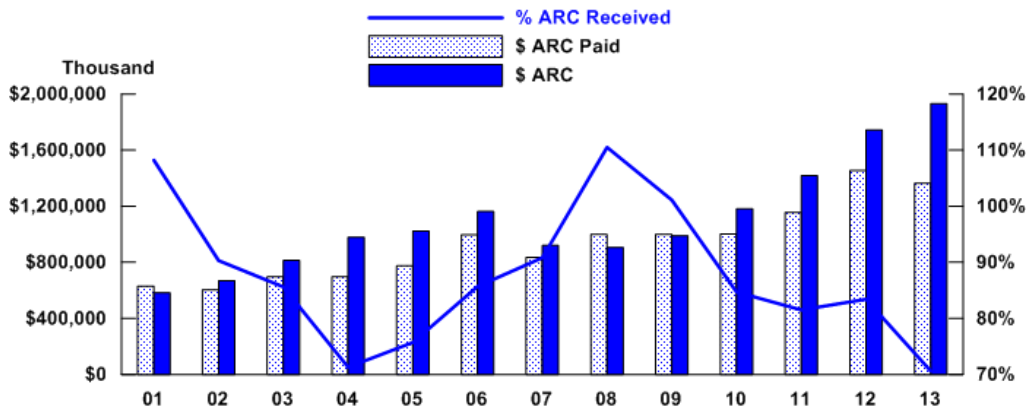
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Michigan Municipal	110.9%	\$296,570	Entry age	8.0%
Michigan Public Schools	85.3%	(\$2,109,287)	Entry age	8.0%
Michigan SERS	81.9%	(\$777,669)	Entry age	8.0%

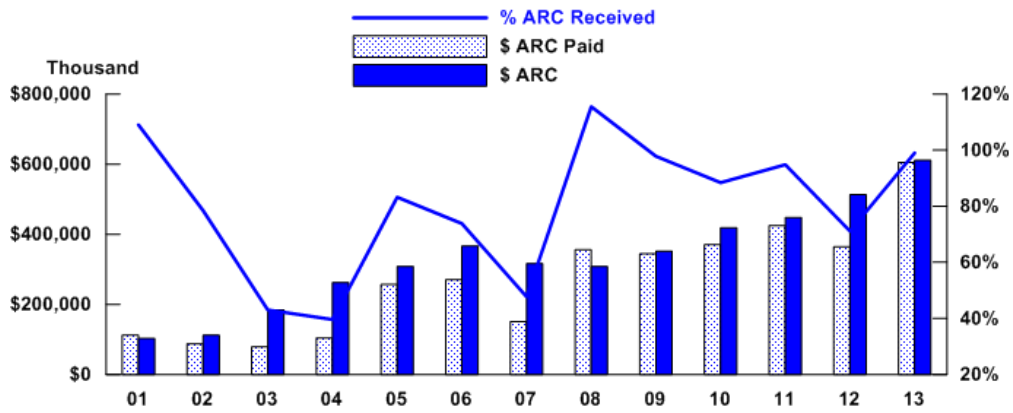
MI Municipal ARC Experience



MI Public Schools ARC Experience



MI SERS ARC Experience



Minnesota Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Minnesota Public Employees Retirement Fund (PERF)
- Minnesota State Employees Retirement System (SRS)
- Minnesota Teachers' Retirement Association (TRA)

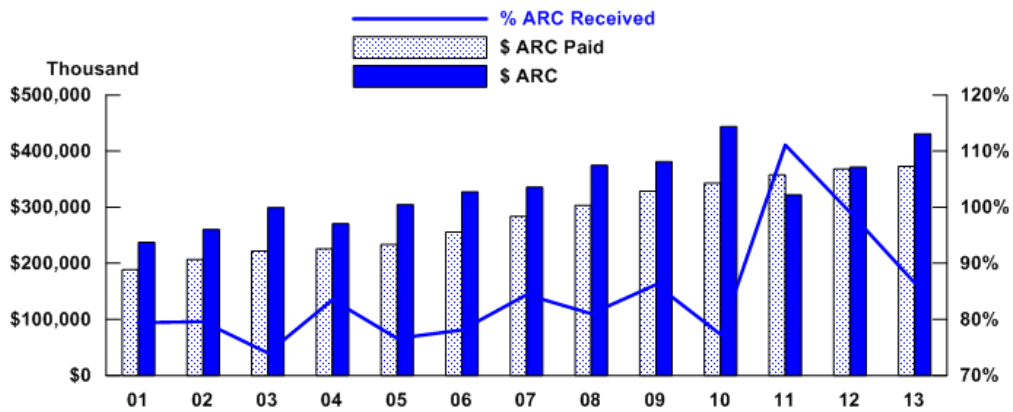
Employer Contribution Legal Framework

For the Minnesota PERF, SRS, and TRA, participating employers are required to contribute amounts based on a fixed percentage of employee compensation specified in statute.

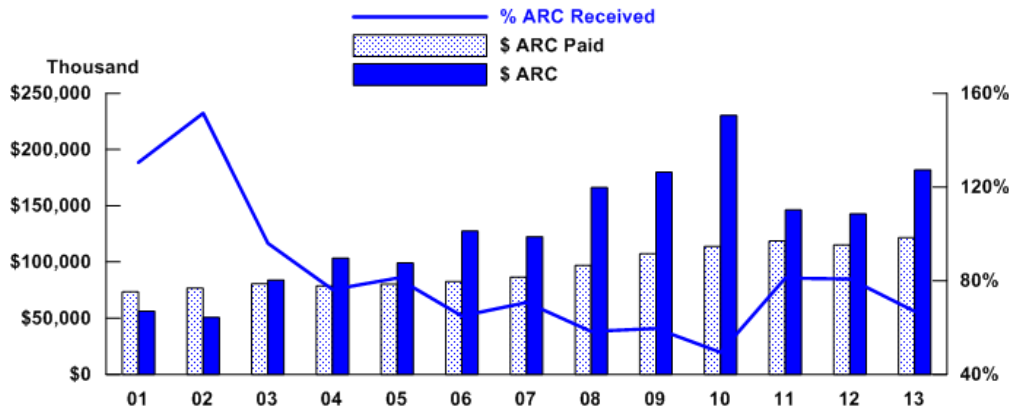
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Minnesota PERF	84.6%	(\$669,841)	Entry age	8.4%
Minnesota State	72.9%	(\$457,752)	Entry age	8.4%
Minnesota Teachers	85.7%	(\$442,518)	Entry age	8.4%

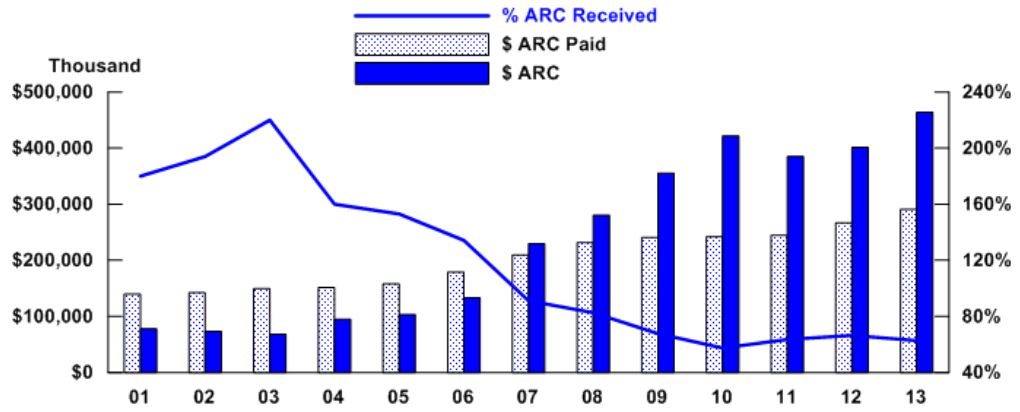
MN PERF ARC Experience



MN State Employees ARC Experience



MN Teachers ARC Experience



Missouri Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Missouri Department of Transportation and Highway Patrol Employees' Retirement System
 - Missouri Local Government Employees' Retirement System (LAGERS)
- Missouri Public Education Employee Retirement System (PEERS)
 - Missouri State Employees Retirement System (SERS)
 - Missouri Teachers

Employer Contribution Legal Framework

Employers participating in the Missouri SERS, PEERS, and DoT & Highway Patrol Retirement System are required by statute to fund the actuarially determined contribution. Statute imposes a limitation of one-half percent of the prior year's contribution rate on the increase of the required rate for PEERS employers.

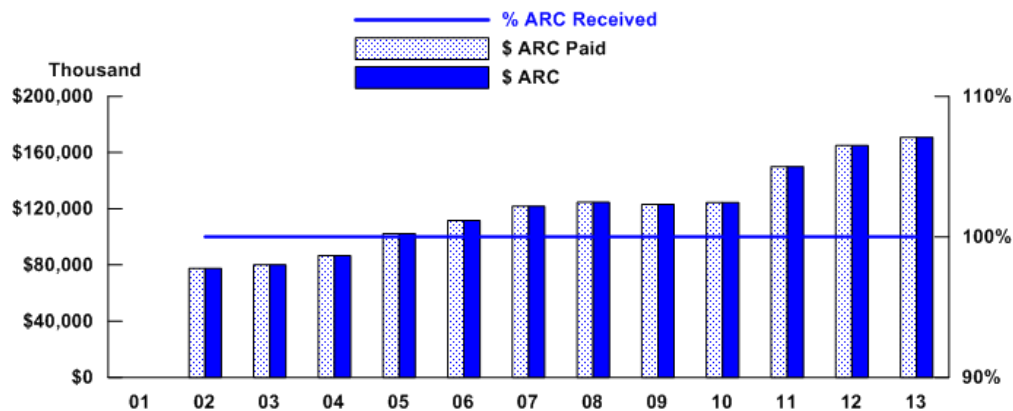
Employers participating in the Missouri LAGERS are required by statute to fund the actuarially determined contribution. Statute imposes a limitation of one percent of the prior year's contribution rate on the increase of the required rate for LAGERS employers.

Employers participating in the Missouri Teachers plan are required to fund an amount equal to a fixed percentage of employee compensation specified in statute.

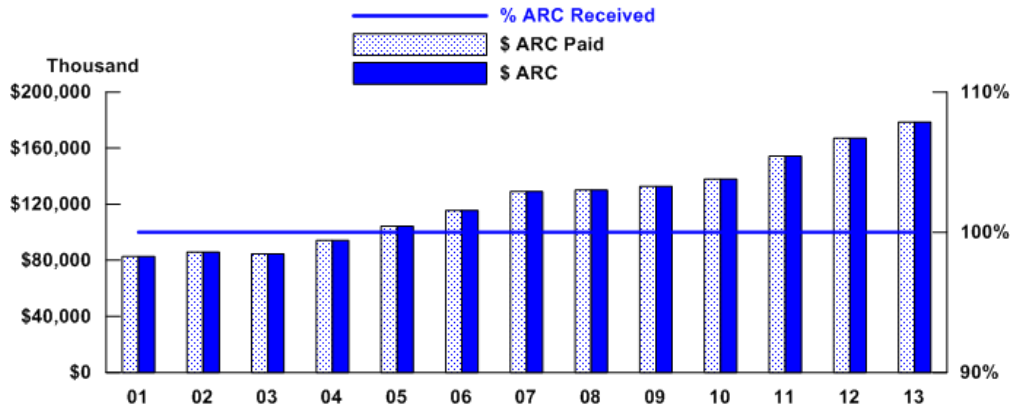
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Missouri DOT & Highway Patrol	100%	\$0	Entry age	7.75%
Missouri Local	100%	\$0	Entry age	7.25%
Missouri PEERS	90.6%	(\$93,571)	Entry age	8.0%
Missouri State Employees	100%	\$0	Entry age	8.0%
Missouri Teachers	85.0%	(\$1,090,426)	Entry age	8.0%

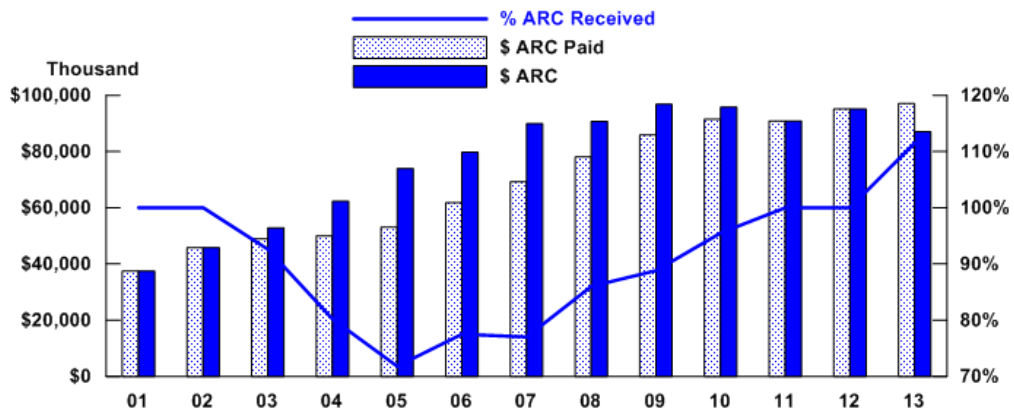
MO DoT & Highway Patrol ARC Experience



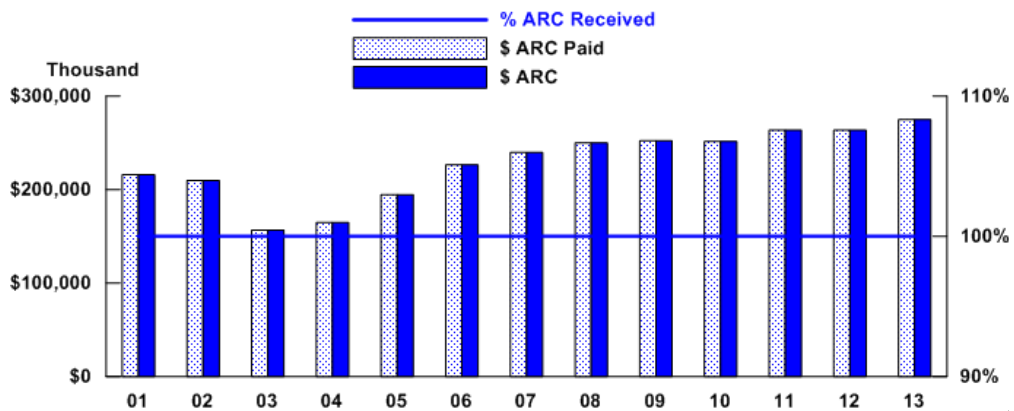
MO Local ARC Experience



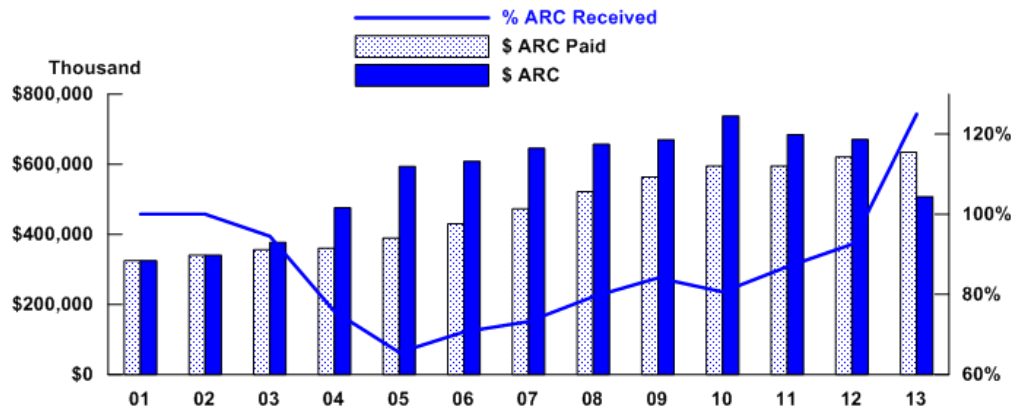
MO PEERS ARC Experience



MO State Employees ARC Experience



MO Teachers ARC Experience



Mississippi Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Mississippi Public Employees' Retirement System (PERS)

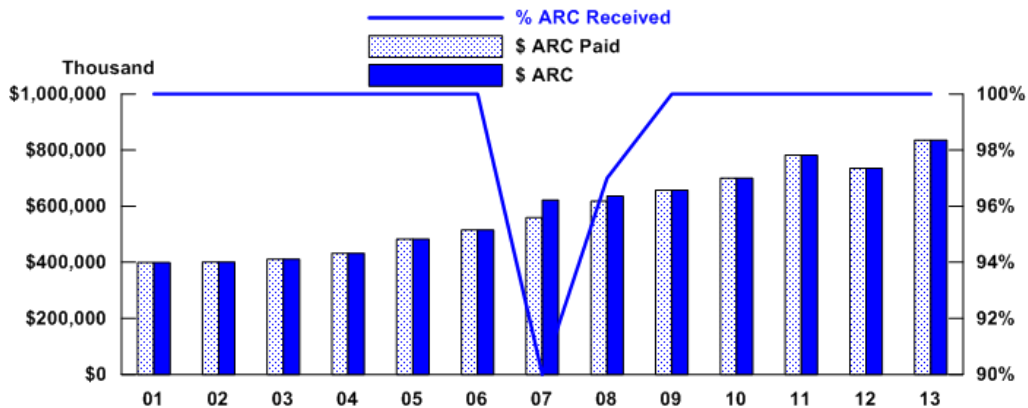
Employer Contribution Legal Framework

Employers participating in the Mississippi PERS are required by statute to pay the contribution rates as established by the PERS Board of Trustees. Statutes require that contribution rates be sufficient to fund the actuarially determined contribution. The PERS board, in conjunction with the state's legislative leadership, agreed to phase in the recommended actuarially determined contribution in FY07 and FY08, which resulted in an ARC payment of less than 100 percent.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Mississippi PERS	98.9%	(\$81,246)	Entry age	8.0%

MS PERS ARC Experience



Montana Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Montana Public Employees' Retirement System (PERS)
- Montana Teachers' Retirement System (TRS)

Employer Contribution Legal Framework

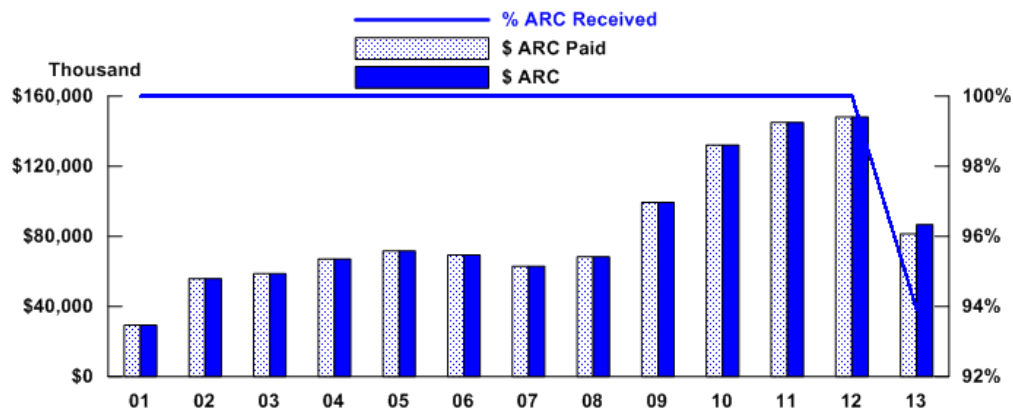
For the Montana PERS and TRS, participating employers are required to contribute an amount equal to a fixed percentage of employee compensation specified in statute. In FY 06, the legislature approved a one-time payment to the Teachers plan to reduced its unfunded liability.

2013 legislation directs a portion of the state's coal severance tax to reducing the state's unfunded pension liabilities.

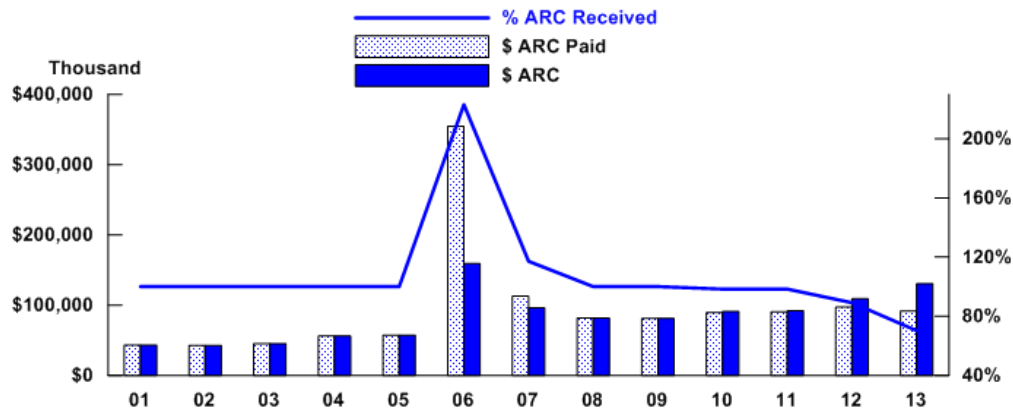
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Montana PERS	99.5%	(\$5,287)	Entry age	7.75%
Montana Teachers	114.6%	\$158,114	Entry age	7.75%

MT PERS ARC Experience



MT Teachers ARC Experience



North Carolina Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- North Carolina Local Government Employees' Retirement System
- North Carolina Teachers' and State Employees' Retirement System

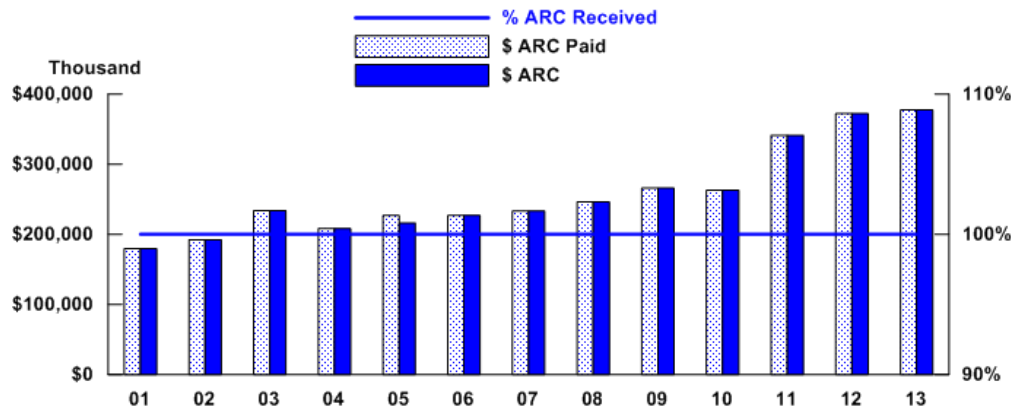
Employer Contribution Legal Framework

Employers participating in the North Carolina Retirement Systems are required by statute to fund the actuarially determined contribution. In FY 11, the legislature reduced the state contribution as a budget-balancing measure.

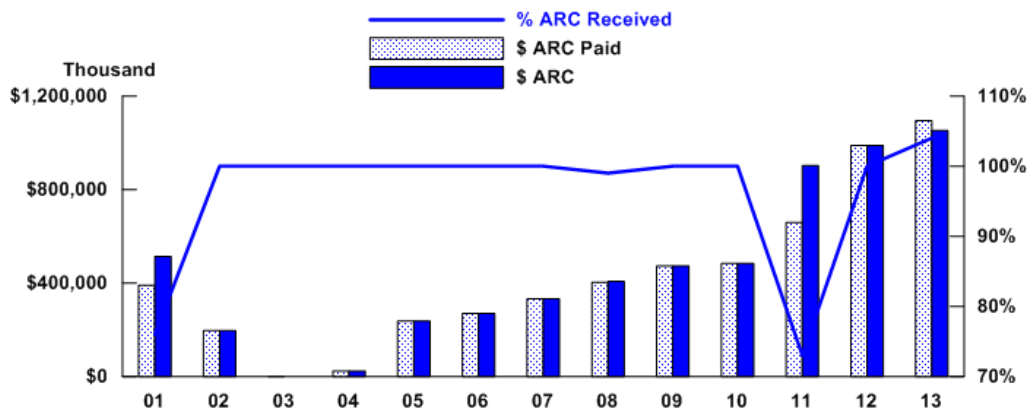
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
North Carolina Local	100.3%	\$10,568	Entry age	7.25%
North Carolina Teachers and State	94.4%	(\$329,014)	Entry age	7.25%

NC Local Government ARC Experience



NC Teachers and State Employees ARC Experience



North Dakota Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- North Dakota Public Employees' Retirement System (PERS)
- North Dakota Teachers' Fund for Retirement (TFR)

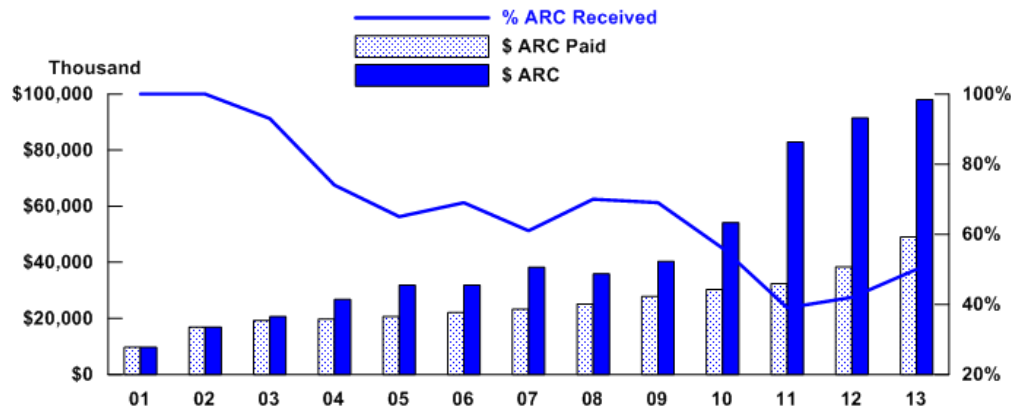
Employer Contribution Legal Framework

For the North Dakota PERS and TFR, participating employers are required to contribute an amount equal to a fixed percentage of employee compensation specified in statute.

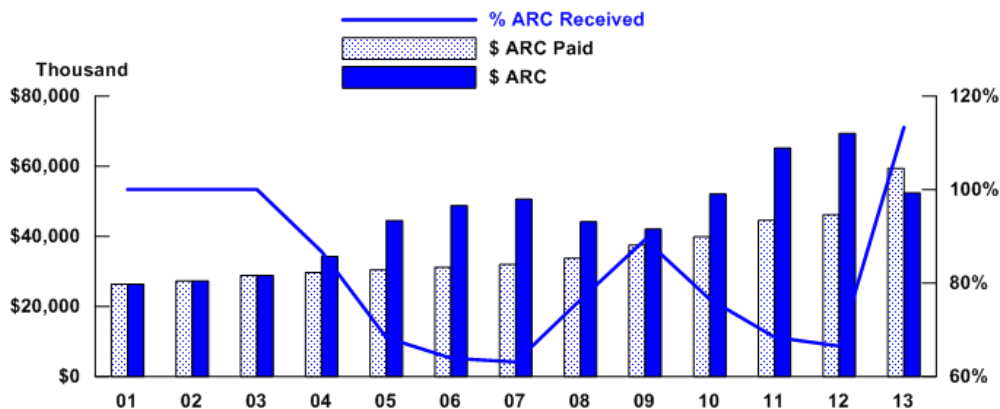
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
North Dakota PERS	57.8%	(\$244,025)	Entry age	8.0%
North Dakota Teachers	79.7%	(\$118,872)	Entry age	8.0%

ND PERS ARC Experience



ND Teachers ARC Experience



Nebraska Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Nebraska County Cash Balance
- Nebraska State Cash Balance
- Nebraska State & School

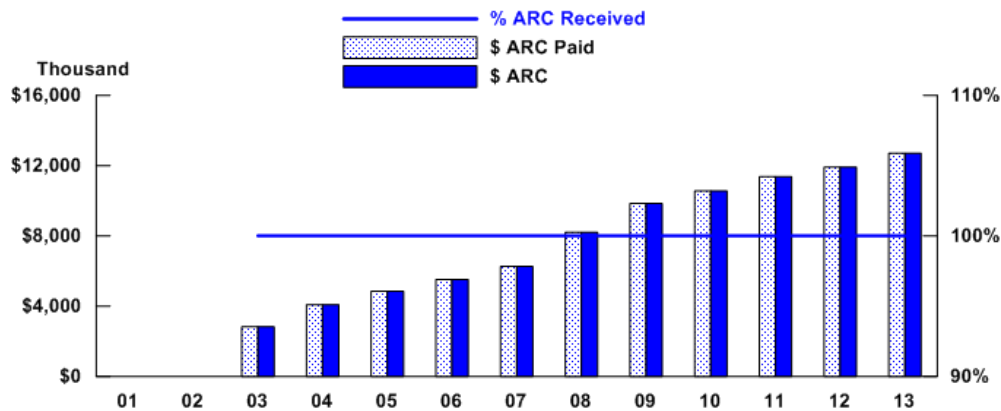
Employer Contribution Legal Framework

For the Nebraska State and County Cash Balance plans, participating employers are required by statute to fund the actuarially determined contribution. Employers participating in the Nebraska State & School defined benefit plan are required to contribute an amount equal to 100% of the contribution required of employees, as specified in statute.

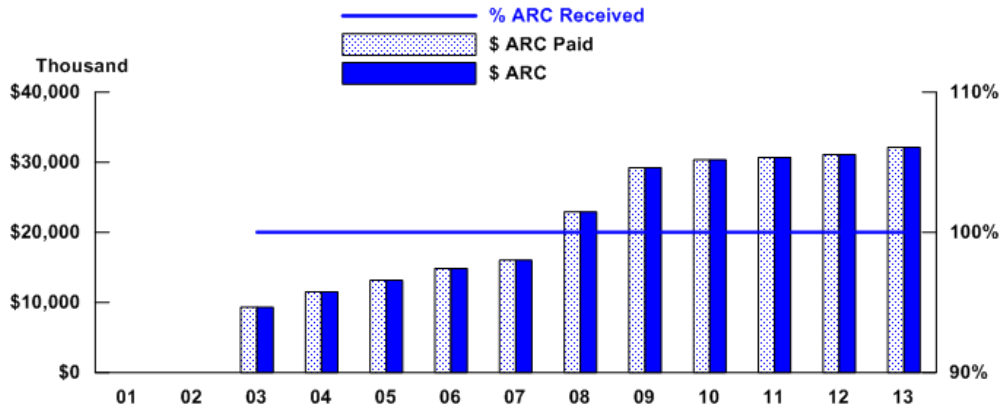
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Nebraska County Cash Balance	100%	\$0	Entry age	7.75%
Nebraska State Cash Balance	100%	\$0	Entry age	7.75%
Nebraska State & School	94.2%	(\$102,451)	Entry age	8.0%

NE County Cash Balance ARC Experience*

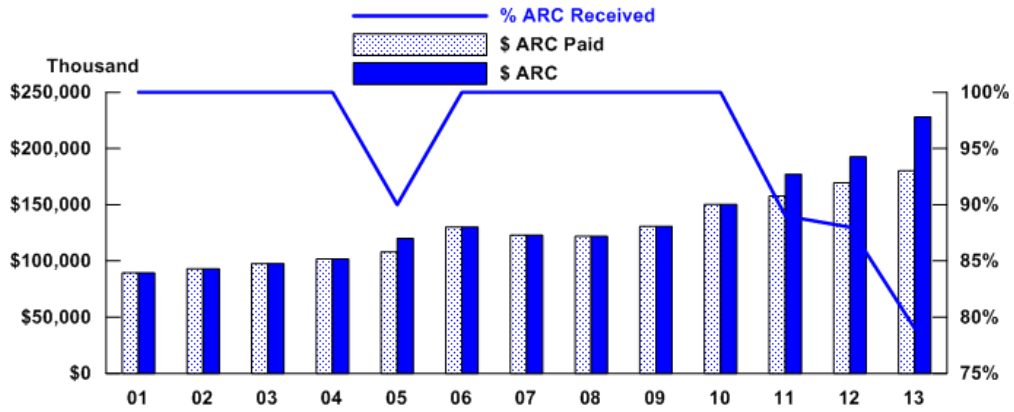


NE State Cash Balance ARC Experience*



*the inception date of the State and County cash balance plans is 1/1/03

NE State & School ARC Experience



New Hampshire Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- New Hampshire Retirement System

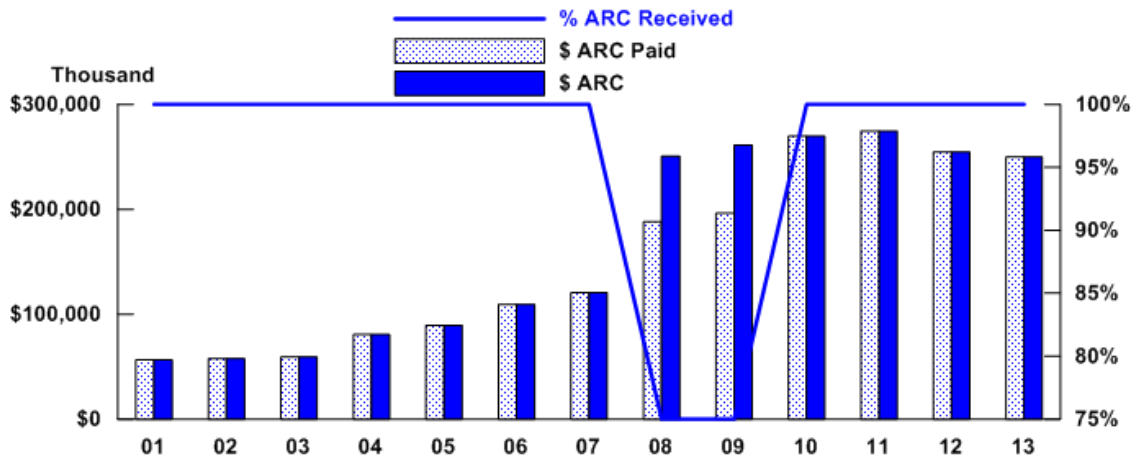
Employer Contribution Legal Framework

Employers participating in the New Hampshire Retirement System are required by statute to fund the actuarially determined contribution. New Hampshire law directs the payment of 25 percent of all employer pension contributions to state retiree health benefit plans. Prior to fiscal year 2008, the Medical Special Account would reimburse the pension plans for these transferred funds. This practice of reimbursement was eliminated, for tax compliance, beginning in FY08 and also affecting FY09, though employers made 100 percent of their actuarially determined contributions in those years. The resulting shortfalls are being recovered through future employer rates, which began in FY10.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
New Hampshire Retirement System	94.0%	(\$127,937)	Entry age	7.75%

NH RS ARC Experience



New Jersey Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- New Jersey Public Employees’ Retirement System (PERS) – local
 - New Jersey Public Employees’ Retirement System (PERS) - state
 - New Jersey Police & Fireman’s Retirement System - local
- New Jersey Police & Fireman’s Retirement System - state
 - New Jersey Teachers’ Pension and Annuity Fund (TPAF)

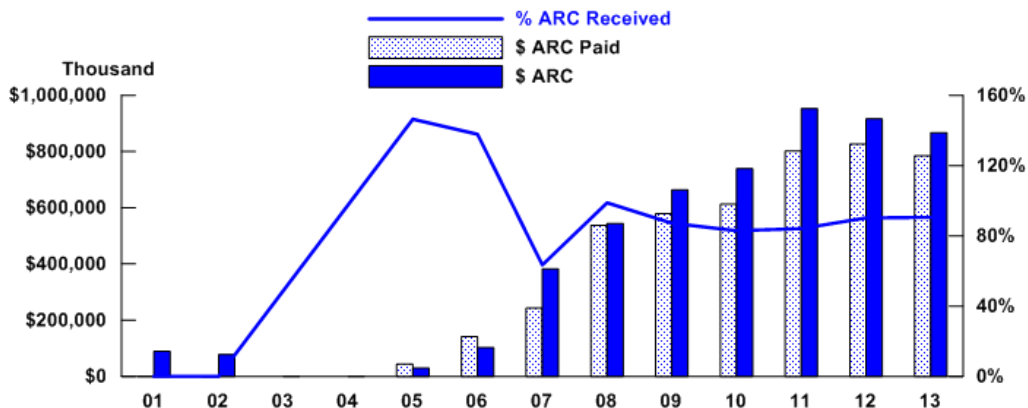
Employer Contribution Legal Framework

For the New Jersey PERS and TPAF, employers are required by statute to fund the actuarially determined contribution. Although statute directs payment of the ARC, full payment has typically not been received, especially from the state. Two separate legal rulings found that the state’s ARC requirement did not bind future state legislative bodies to a commitment to any particular funding level. The rulings also found that the contractual rights of PERS and TPAF members are not impaired by the state’s failure to adhere to actuarially recommended funding requirements. The governor and legislature agreed in 2011 on a plan to reach full funding of the ARC over a seven-year period; in 2014, the governor unilaterally violated this agreement by reducing the state contribution to the PERS, Police & Fire and Teachers plans as a budget-balancing measure.

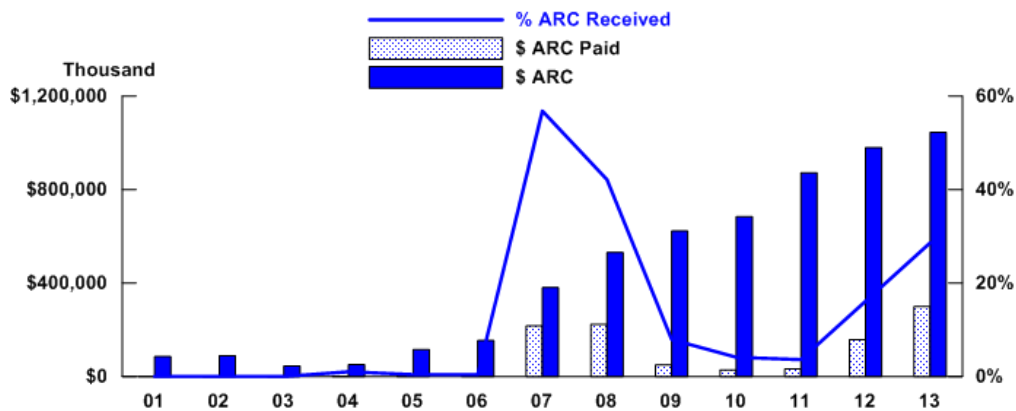
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
New Jersey PERS – local	85.2%	(\$794,790)	Projected unit credit	7.90%
New Jersey PERS – state	17.8%	(\$4,643,925)	Projected unit credit	7.90%
New Jersey Police & Fire – local	73.7%	(\$1,949,362)	Projected unit credit	7.90%
New Jersey Police & Fire – state	20.2%	(\$2,475,906)	Projected unit credit	7.90%
New Jersey Teachers	16.3%	(\$13,418,291)	Projected unit credit	7.90%

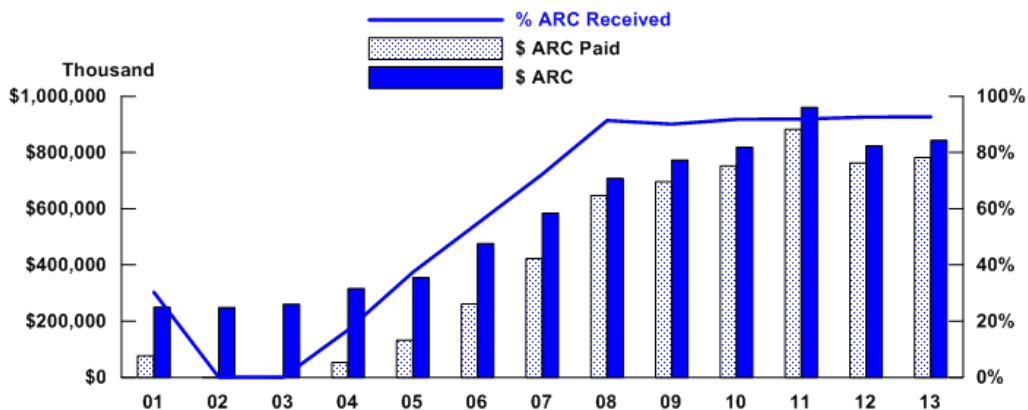
NJ PERS - local ARC Experience



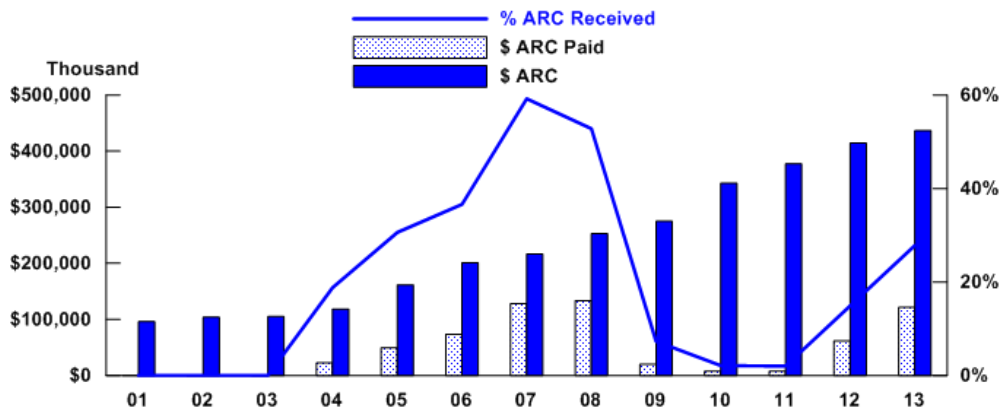
NJ PERS - state ARC Experience



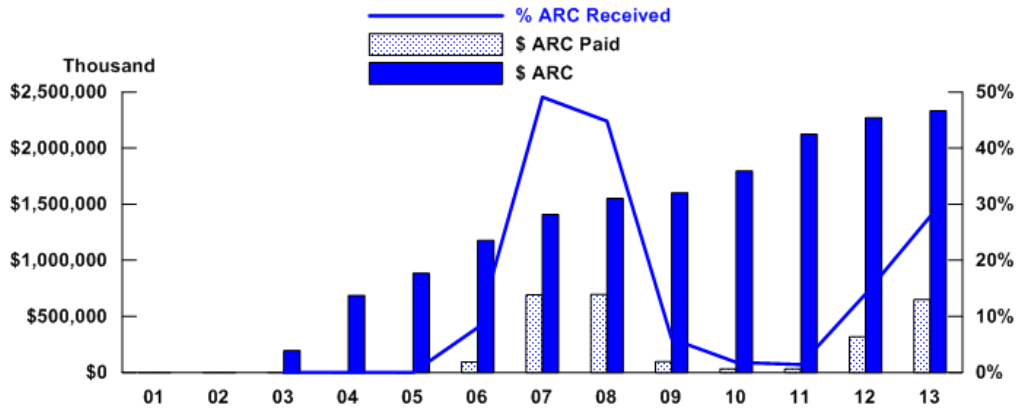
NJ Police & Fire - local ARC Experience



NJ Police & Fire - state ARC Experience



NJ Teachers ARC Experience



New Mexico Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- New Mexico Public Employees' Retirement Fund (PERF)
- New Mexico Educational Retirement Board (ERB)

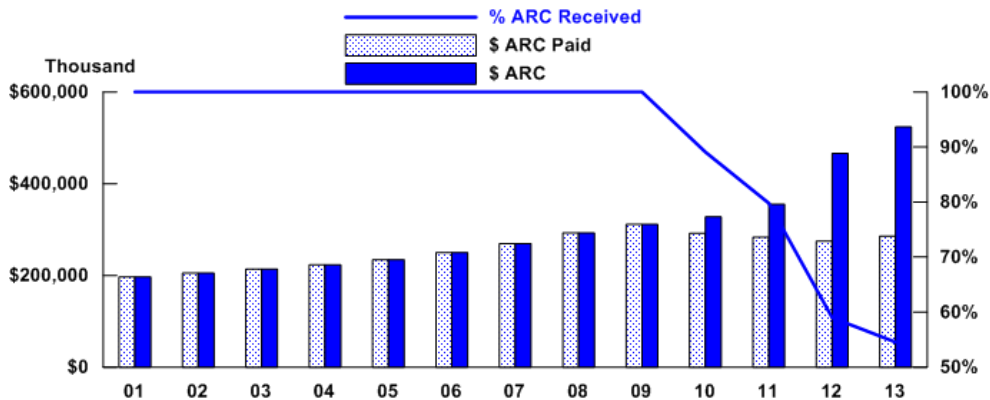
Employer Contribution Legal Framework

For the New Mexico PERF and ERB, participating employers are required to contribute an amount equal to a fixed percentage of employee compensation specified in statute.

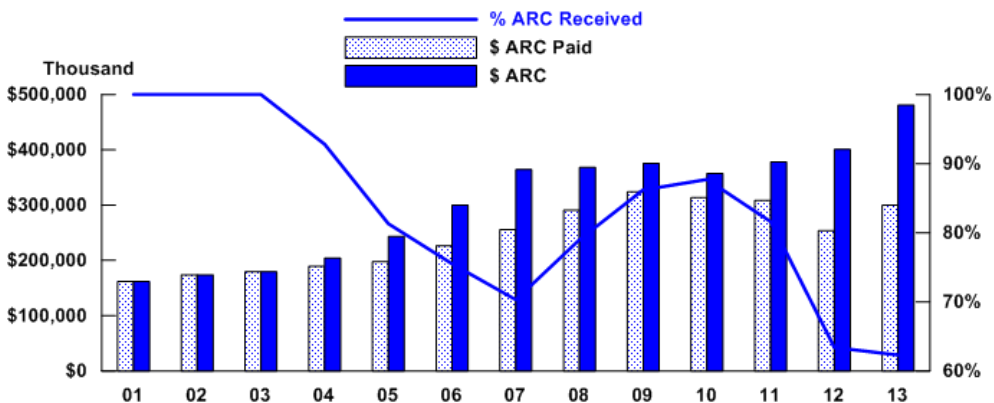
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
New Mexico PERF	86.1%	(\$536,789)	Entry age	7.75%
New Mexico Teachers	79.6%	(\$811,972)	Entry age	7.75%

NM PERF ARC Experience



NM Teachers ARC Experience



Nevada Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Nevada Police Officer and Firefighter
- Nevada Regular Employees

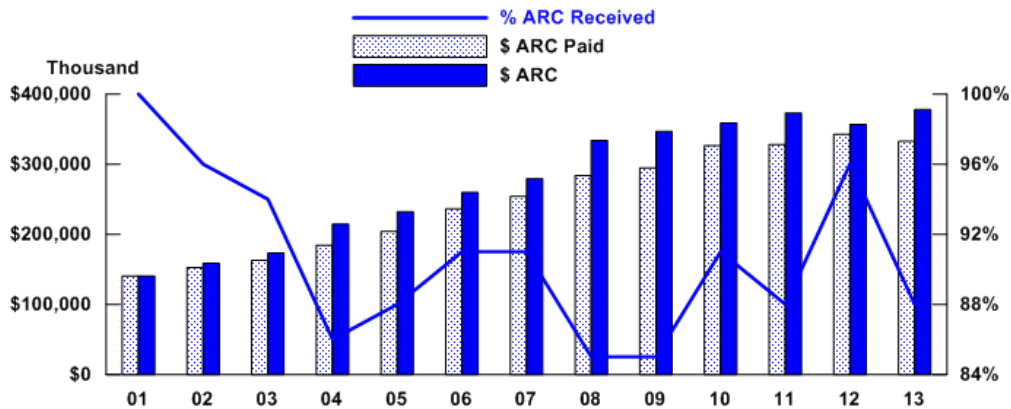
Employer Contribution Legal Framework

Employers participating in the Nevada Public Employees' Retirement System (PERS) are required by statute to fund the actuarially determined contribution. Differences between the ARC and amounts contributed are due to variations in the timing of the actuarial valuation and the legislative appropriations schedule.

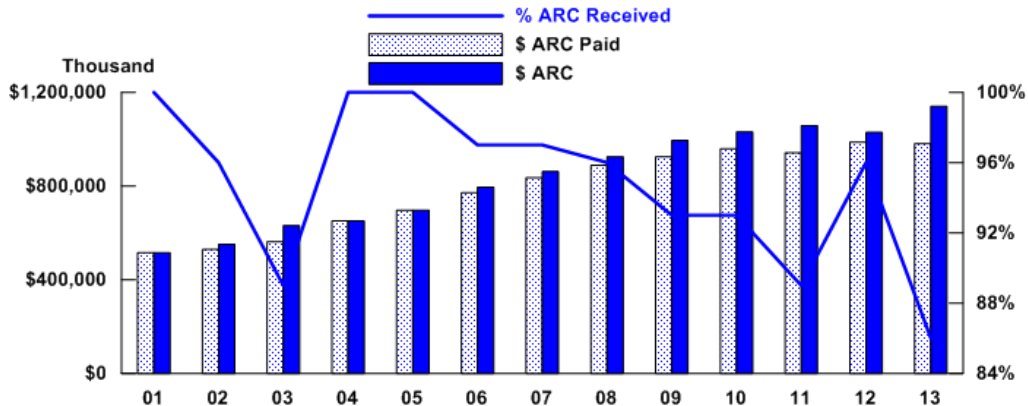
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Nevada Police Officer and Firefighter	90.0%	(\$361,778)	Entry age	8.0%
Nevada Regular Employees	94.1%	(\$636,878)	Entry age	8.0%

NV Police Officer and Firefighter ARC Experience



NV Regular Employees ARC Experience



New York Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- New York State & Local Employees' Retirement System
- New York State & Local Police & Fire Retirement System
- New York State Teachers Retirement System (TRS)

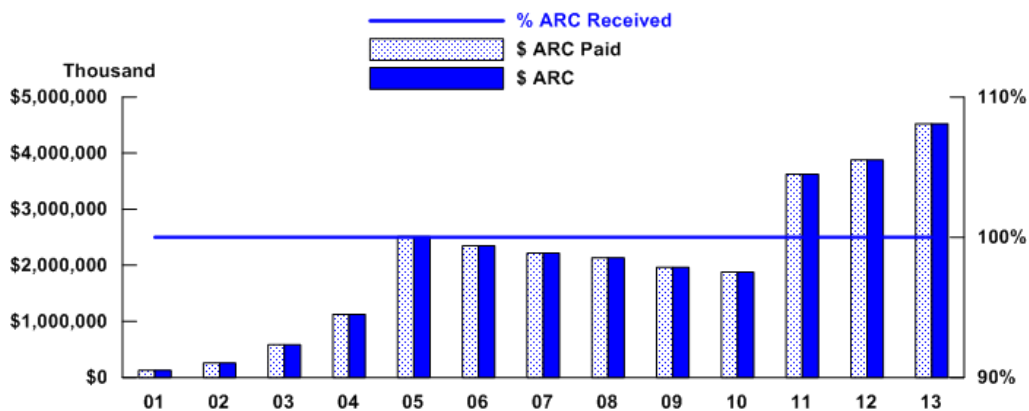
Employer Contribution Legal Framework

New York State & Local Retirement Systems and State Teachers Retirement System participating employers are required by statute to fund the actuarially determined contribution.

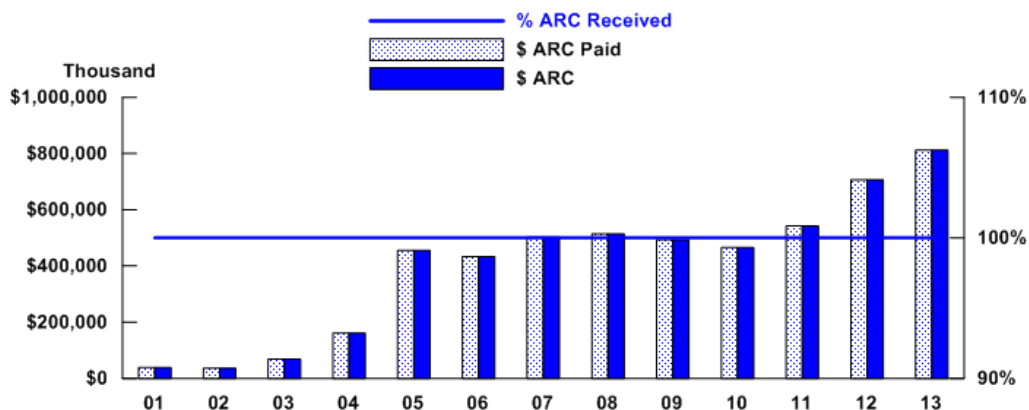
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
New York State & Local ERS	100%	\$0	Aggregate cost	7.50%
New York State & Local Police & Fire	100%	\$0	Aggregate cost	7.50%
New York State Teachers	100%	\$0	Aggregate cost	8.0%

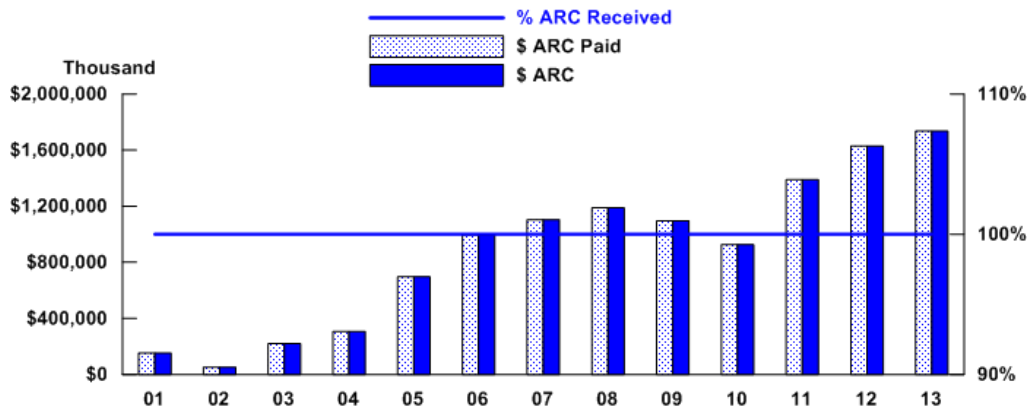
NY State & Local ERS ARC Experience



NY State & Local Police & Fire ARC Experience



NY State Teachers ARC Experience



Ohio Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Ohio Public Employees' Retirement System (PERS)
- Ohio Police & Fire Pension Fund
- Ohio School Employees' Retirement System (SERS)
- Ohio Teachers' Retirement System (TRS)

Employer Contribution Legal Framework

For the Ohio PERS, SERS, and TRS, participating employers are required by statute to fund the actuarially determined contribution. Statute imposes a limit on the employer contribution rate of 14% of employee compensation.

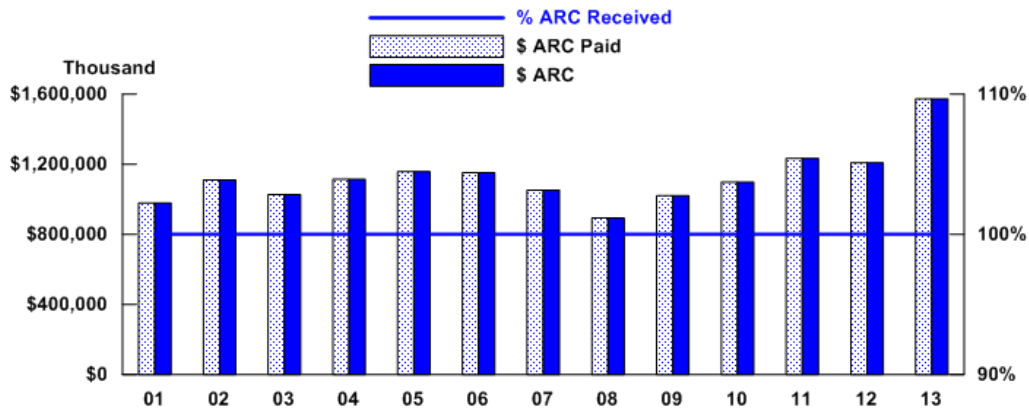
Participating employers in the Ohio Police & Fire Pension Fund are required by statute to contribute a fixed amount, expressed as a percentage of member compensation, specified in statute.

In 2005, an error was identified with regard to the allocation of investment income to pension and health care accounts for employers participating in the Ohio SERS. The SERS board chose to make the adjustment over the 2006-07 period, which resulted in the appearance of contributions received in amounts less than the ARC. The actual ARC was paid by employers for each year in the analysis.

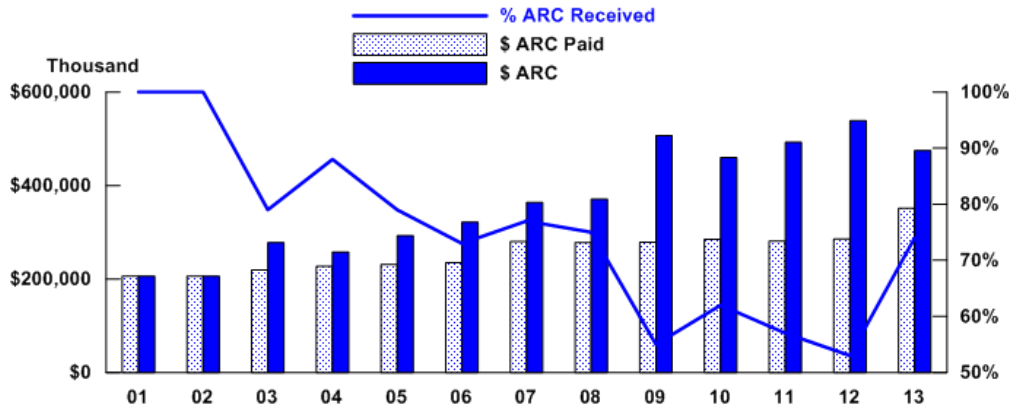
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Ohio PERS	100%	\$0	Entry age	8.0%
Ohio Police & Fire	70.5%	(\$1,404,832)	Entry age	8.25%
Ohio School Employees	99.0%	(\$34,899)	Entry age	7.75%
Ohio Teachers	70.0%	(\$6,790,246)	Entry age	7.75%

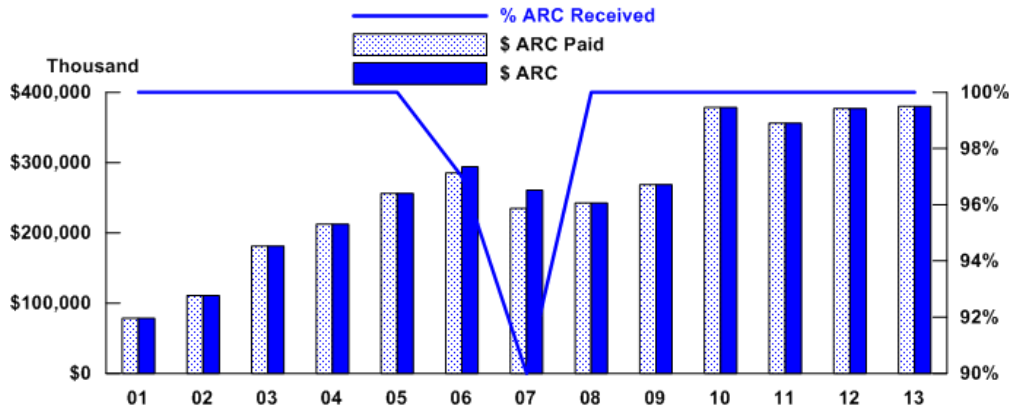
OH PERS ARC Experience



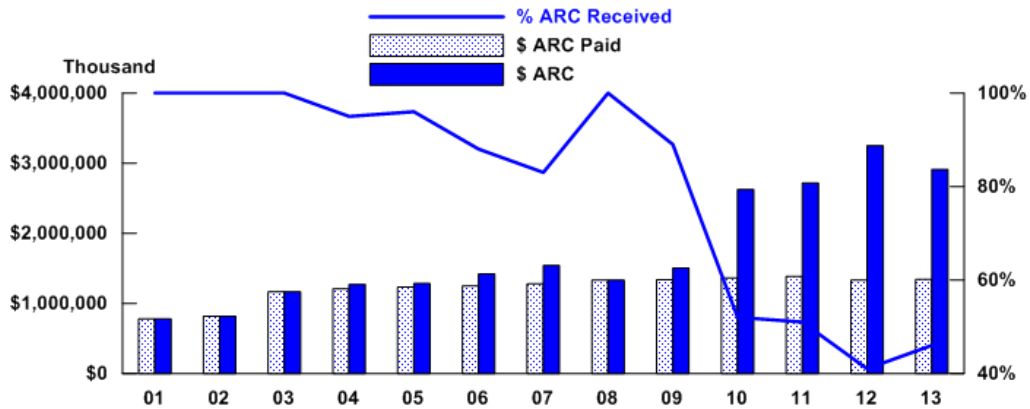
OH Police & Fire ARC Experience



OH School Employees ARC Experience



OH Teachers ARC Experience



Oklahoma Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Oklahoma Public Employees Retirement System (PERS)
- Oklahoma Teachers Retirement System (TRS)

Employer Contribution Legal Framework

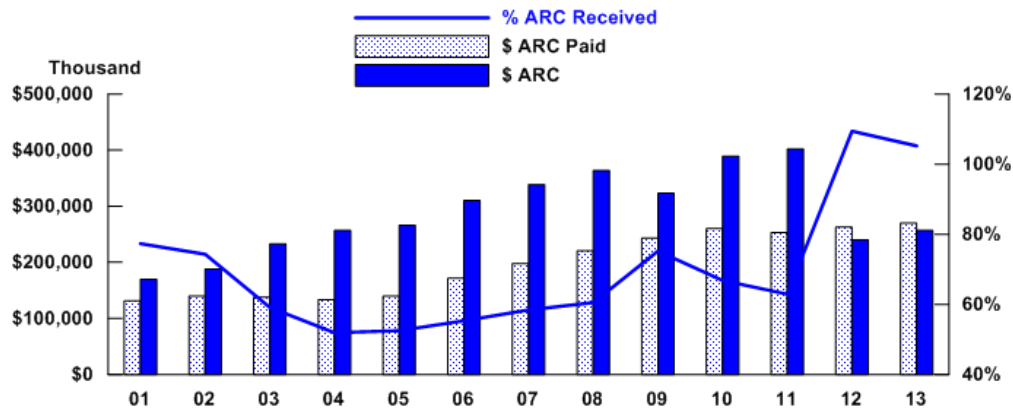
For the Oklahoma PERS and TRS, employers are required to fund an amount equal to a fixed percentage of employee compensation specified in statute.

The TRS receives an annual appropriation of five percent of the State’s sales, use and corporate and individual income taxes, as well as one percent of the cigarette taxes and five percent of the State’s net lottery proceeds. In 2013 the state established the Oklahoma Pension Stabilization Fund, to be funded with budget surplus monies, for the purpose of allocating funds to Oklahoma pension systems whose funding ratio is below ninety percent.

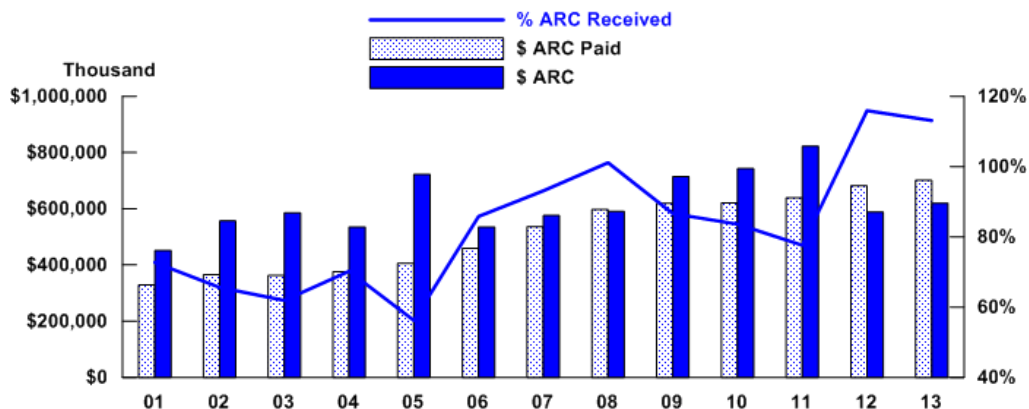
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Oklahoma PERS	68.5%	(\$1,177,786)	Entry age	7.5%
Oklahoma Teachers	83.2%	(\$1,349,367)	Entry age	8.0%

OK PERS ARC Experience



OK Teachers ARC Experience



Oregon Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Oregon Public Employees Retirement System (PERS)

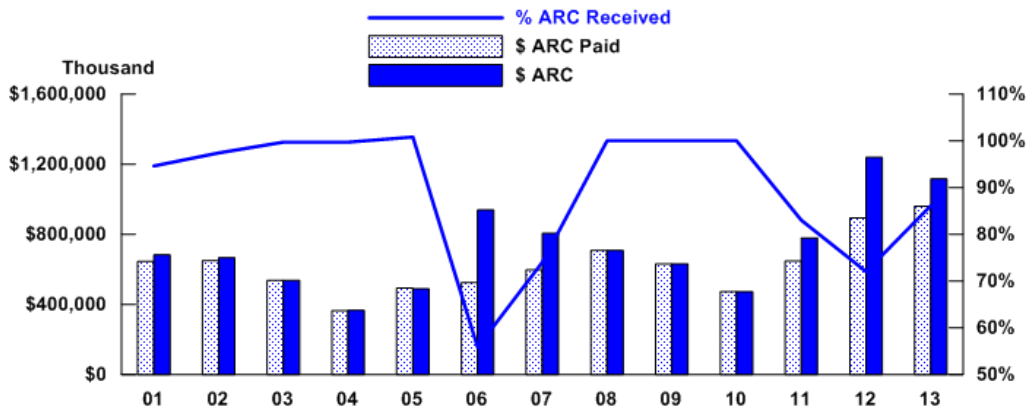
Employer Contribution Legal Framework

Employers participating in the Oregon PERS are required by statute to fund the actuarially determined contribution. Contributions below 100 percent are due chiefly to variations in timing between the actuarial valuation date and the legislative appropriations schedule, and to the presence of a rate collar, which restricts the annual change in the contribution rate.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Oregon PERS	86.1%	(\$1,311,784)	Entry age	7.75%

OR PERS ARC Experience



Pennsylvania Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Pennsylvania School Employees' Retirement System (PSERS)
- Pennsylvania State Employees' Retirement System (SERS)

Employer Contribution Legal Framework

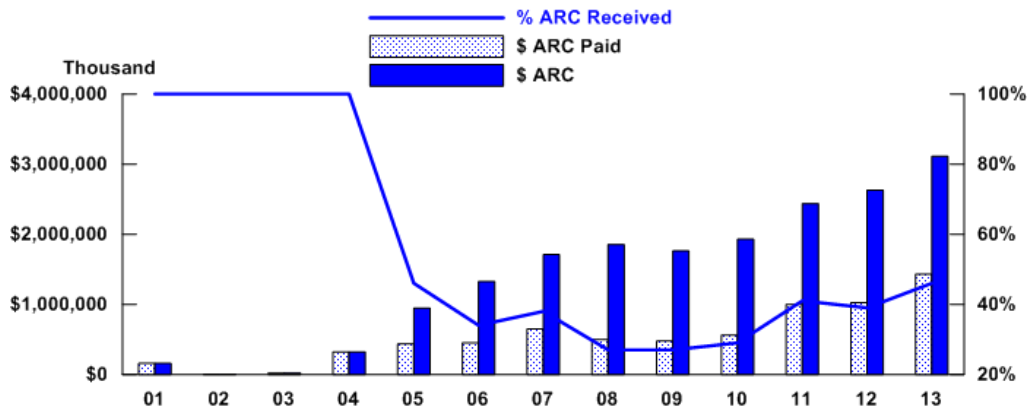
For the Pennsylvania PSERS and SERS, employers are required by statute to fund the actuarially determined contribution. Pennsylvania funding statutes specify different amortization periods for different portions of the unfunded liability, the resulting effect of which produced an equivalent single amortization period in excess of the maximum permitted by GASB accounting standards. This caused the state's contribution to fall short of the ARC beginning in FY05.

For PSERS and SERS, a 2010 law established "rate collars" which specify the amount the maximum increase, as a percentage, by which employer contributions may increase in a given year.

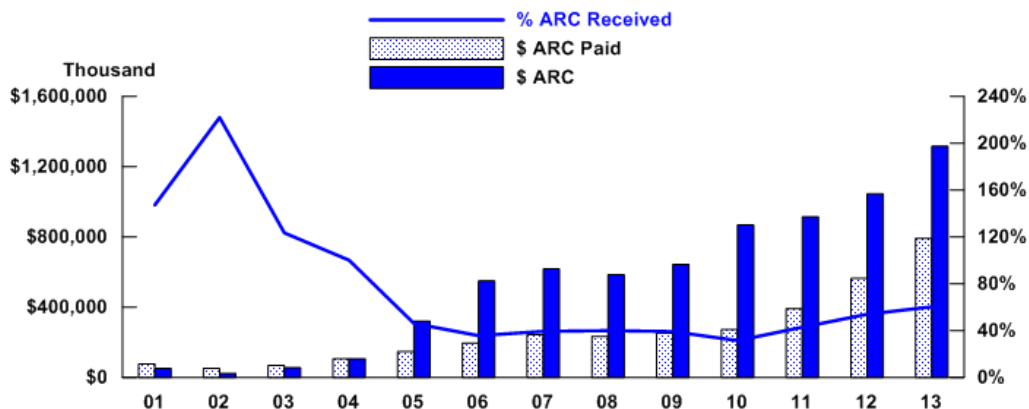
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Pennsylvania School Employees	38.6%	(\$11,174,575)	Entry age	7.50%
Pennsylvania State ERS	47.8%	(\$3,699,603)	Entry age	7.50%

PA School Employees ARC Experience



PA State ERS ARC Experience



Rhode Island Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Rhode Island Employees' Retirement System
- Rhode Island Municipal Employees' Retirement System

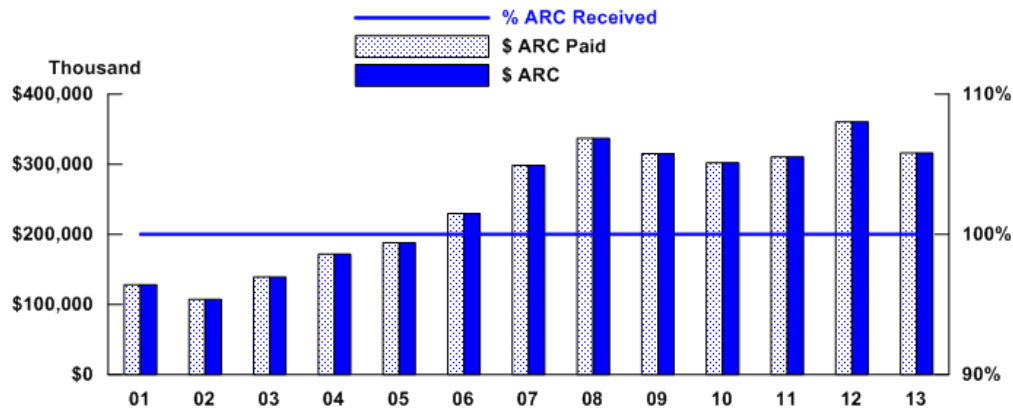
Employer Contribution Legal Framework

Participating employers in the Rhode Island Employees Retirement System are required by statute to fund the actuarially determined contribution.

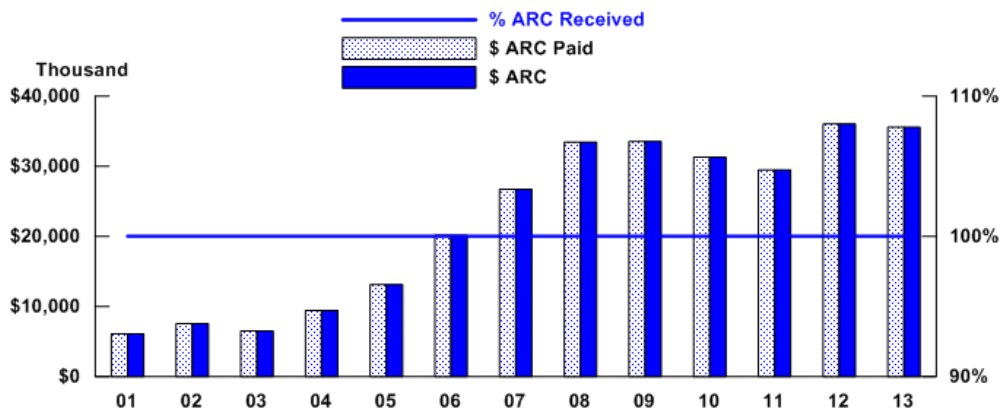
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Rhode Island ERS	100%	\$0	Entry age	7.50%
Rhode Island Municipal	100%	\$0	Entry age	7.50%

RI ERS ARC Experience



RI Municipal ARC Experience



South Carolina Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- South Carolina Police
- South Carolina Retirement System (RS)

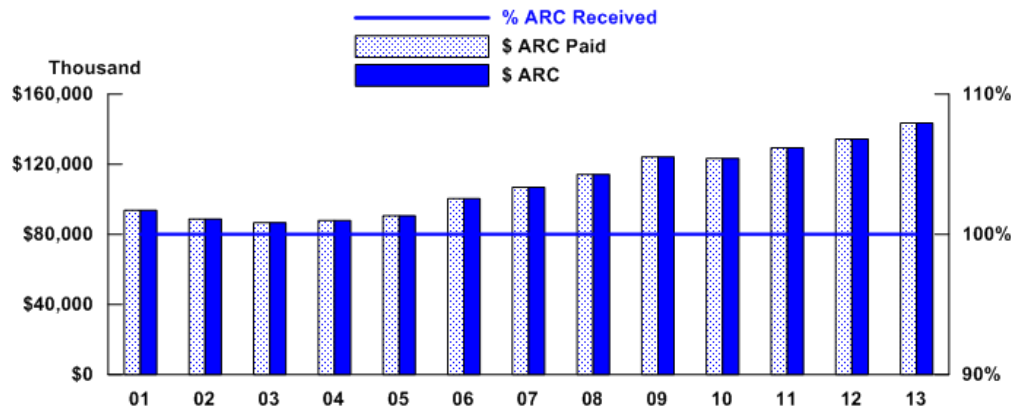
Employer Contribution Legal Framework

Employers participating in the South Carolina Retirement Systems are required by statute to fund the actuarially determined contribution.

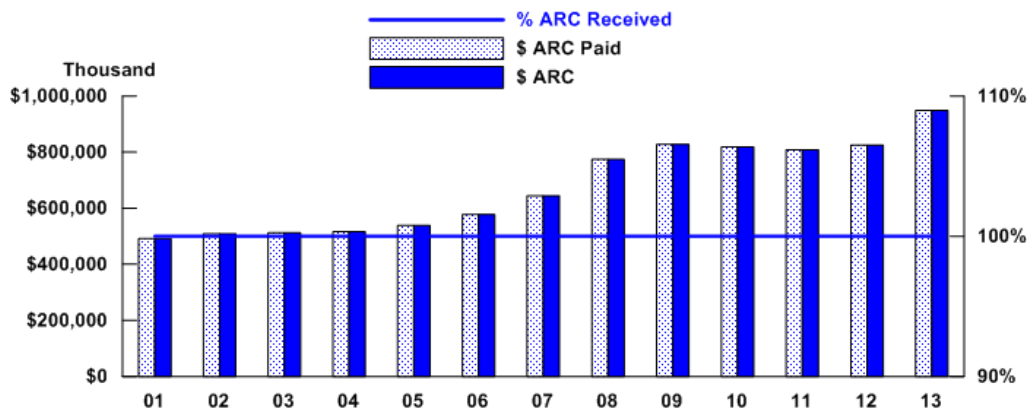
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
South Carolina Police	100%	\$0	Entry age	7.50%
South Carolina RS	100%	\$0	Entry age	7.50%

SC Police ARC Experience



SC RS ARC Experience



South Dakota Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- South Dakota Retirement System (RS)

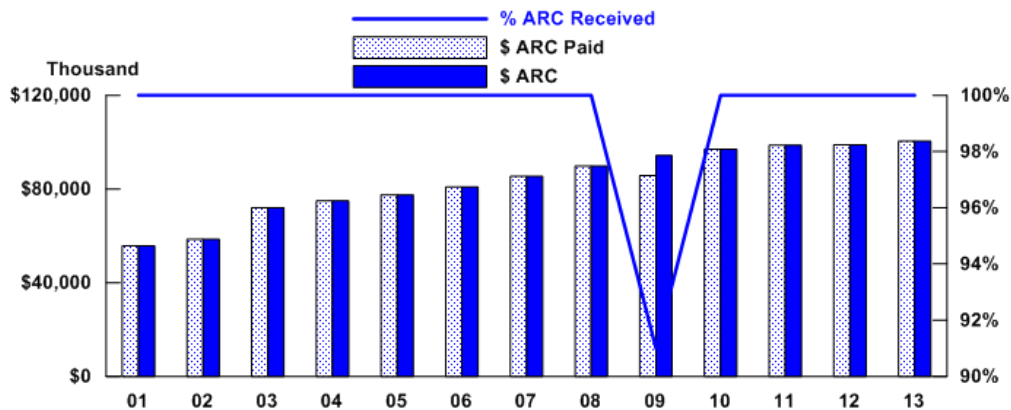
Employer Contribution Legal Framework

South Dakota statutes require employers participating in the South Dakota RS to make contributions to the retirement fund equal to those which are required of members. Presently, employers are required to make fixed rate contributions of 6% of compensation for general employees and teachers, 9% for judges, and 8% for public safety officers.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
South Dakota PERS	99.2%	(\$8,482)	Entry age	7.25%

SD PERS ARC Experience



Tennessee Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- TN State and Teachers
- TN Political Subdivisions

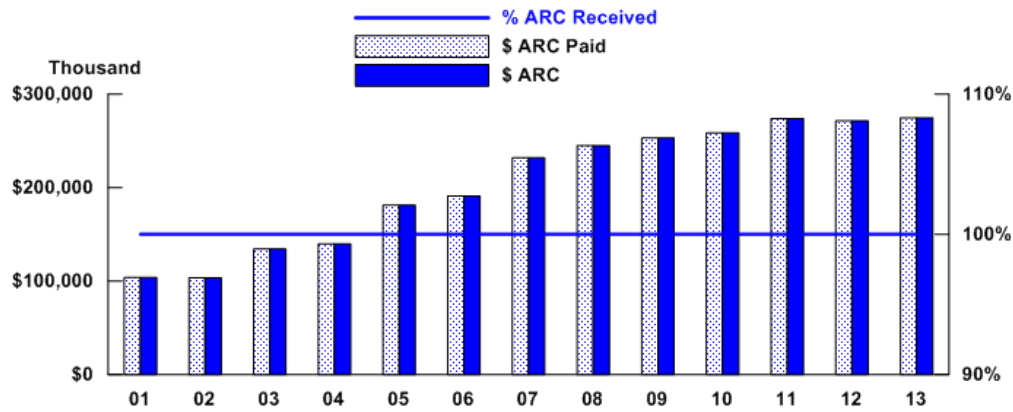
Employer Contribution Legal Framework

Employers participating in the Tennessee Consolidated Retirement System are required by statute to fund the actuarially determined contribution.

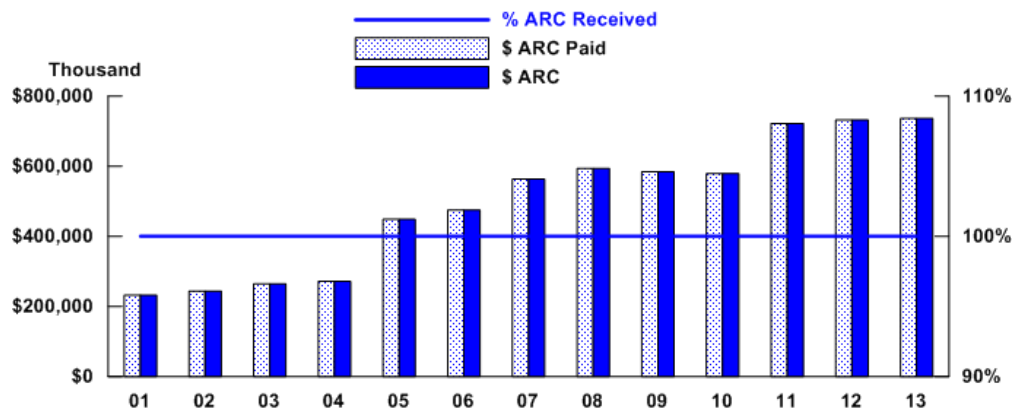
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
TN Political Subdivisions	100%	\$0	Entry age	7.50%
TN State and Teachers	100%	\$0	Entry age	7.50%

TN Political Subdivisions ARC Experience



TN State and Teachers ARC Experience



Texas Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Texas County & District Retirement System
- Texas Employees' Retirement System (ERS)
- Texas Municipal Retirement System (TMRS)
- Texas Teachers Retirement System (TRS)

Employer Contribution Legal Framework

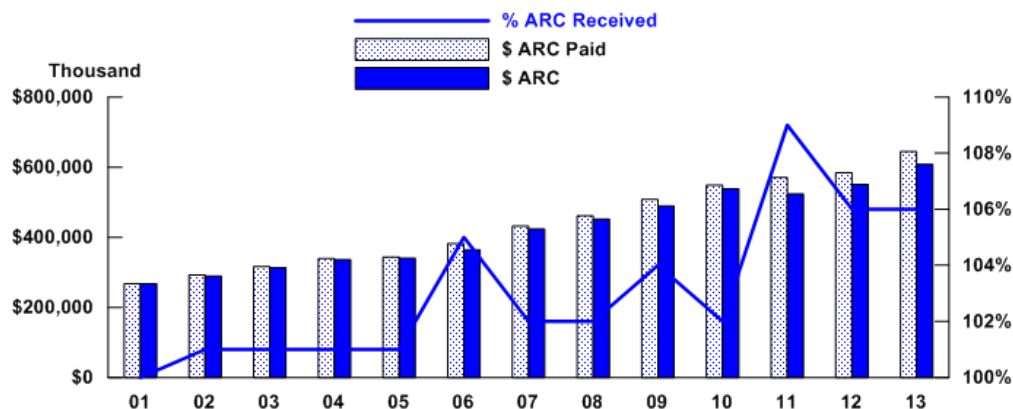
Statutes require employers of the Texas County & District and Texas Municipal Retirement systems to pay the actuarially determined contribution rate. Following a switch in its actuarial cost method that had the effect of increasing employer contribution rates, the TMRS permitted employers to elect to phase in the higher rates over an eight-year period beginning in FY 2009. For the TRS and Teacher Retirement System of Texas, participating employers are required to fund a fixed percentage of compensation specified in statute. Except in cases of emergency, the Texas constitution restricts employer contributions for the TRS and ERS to no less than six percent of pay and no more than ten percent of pay.

In 2013, the Texas legislature adopted contribution rate increases for employers and school districts participating in the ERS and TRS that will be phased in over a four-year period. For the TRS, the ultimate contribution rate (which includes increases to member contributions) is sufficient to amortize the remaining unfunded liability in less than 30 years.

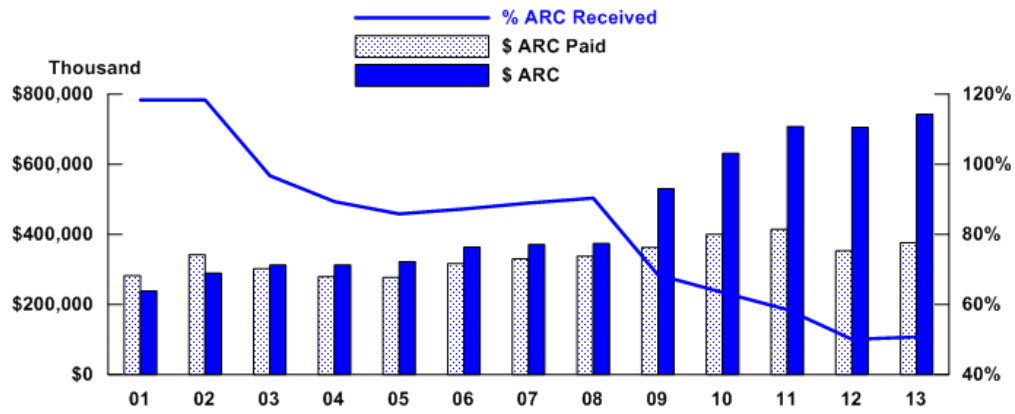
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Texas County & District	103.6%	\$195,380	Entry age	8.0%
Texas ERS	74.1%	(\$1,526,415)	Entry age	8.0%
Texas Municipal	96.4%	(\$256,022)	Entry age	7.0%
Texas Teachers	86.8%	(\$3,563,746)	Entry age	8.0%

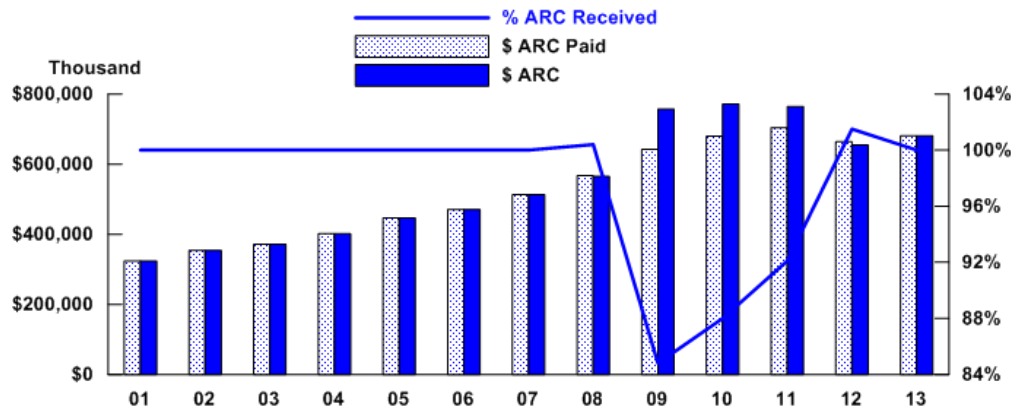
TX County & District ARC Experience



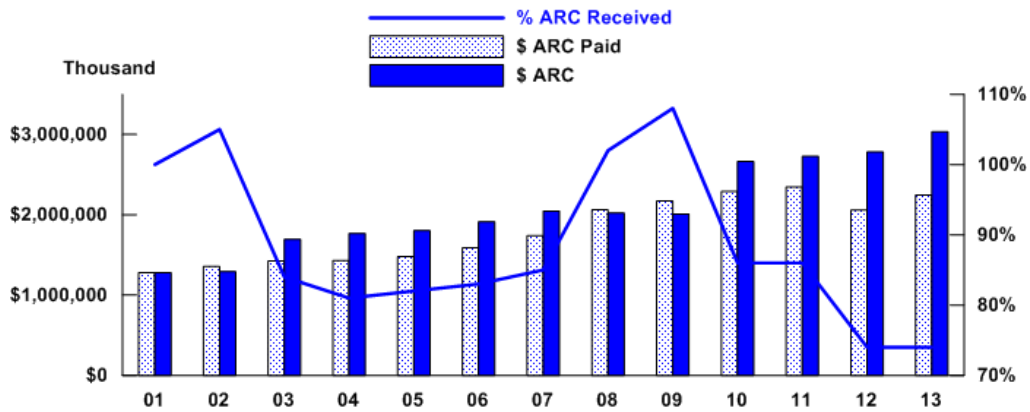
TX ERS ARC Experience



TX Municipal ARC Experience



TX Teachers ARC Experience



Utah Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Utah Noncontributory

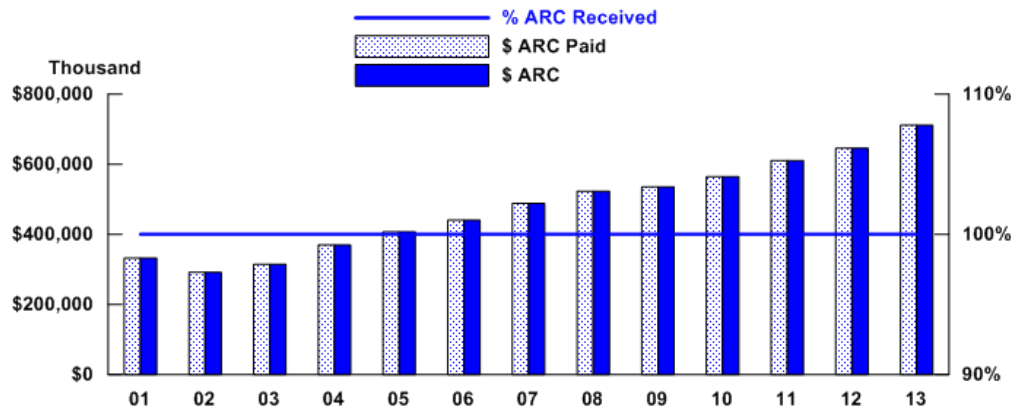
Employer Contribution Legal Framework

Utah statutes require employers participating in the Utah Retirement Systems to fund the actuarially determined contribution.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Utah Noncontributory	100%	\$0	Entry age	7.50%

Utah Noncontributory ARC Experience



Virginia Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Virginia Retirement System

Employer Contribution Legal Framework

Virginia statutes require employers participating in the Virginia Retirement System to fund the actuarially determined contribution.

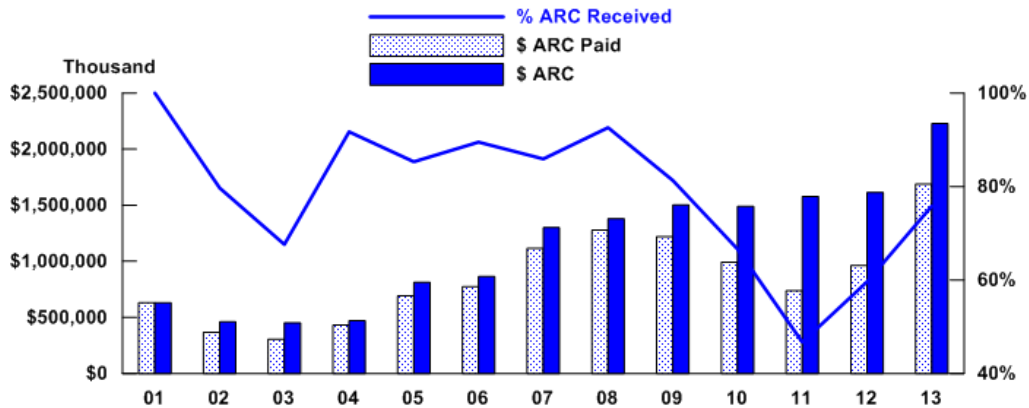
Until 2012, the legislature used its own actuarially determined contribution rates, calculated on the basis of a higher investment return assumption, in lieu of those based on assumptions adopted by the Virginia Retirement System board. In addition, in some years, the legislature adopted contribution rates below its own actuarially determined amount.

2012 legislation established a path to full funding of the actuarially determined rate based on actuarial assumptions used by the Virginia Retirement System. This path will grow the employer contribution gradually beginning with a minimum of 70 percent of the full rate for fiscal years 2013-2014, rising in 10 percent increments until reaching 100 percent in fiscal year 2018.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Virginia Retirement System	75.7%	(\$3,583,405)	Entry age	7.0%

Virginia Retirement System ARC Experience



Vermont Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Vermont State Employees Retirement System (SERS)
- Vermont Teachers Retirement System (TRS)

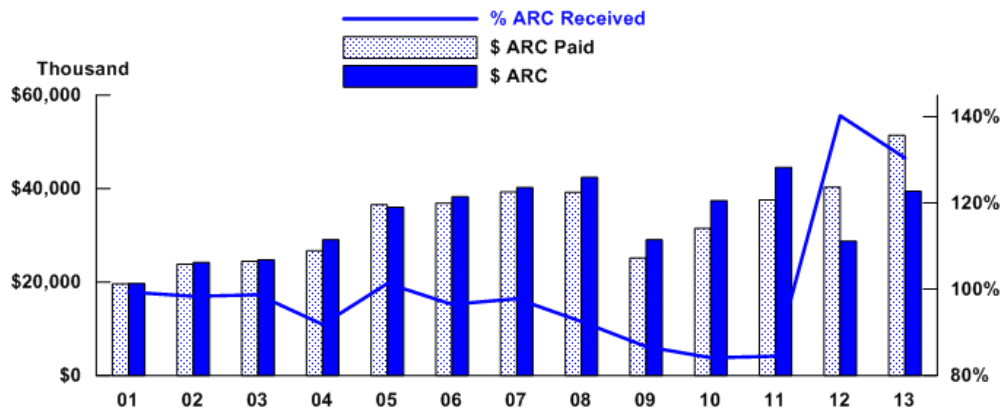
Employer Contribution Legal Framework

For both Vermont SERS and TRS, statutes require employers to fund the actuarially determined contribution. Prior to 2006, the TRS used an actuarial cost method that understated the ARC relative to cost method being used, resulting in insufficient employer contributions. 2006 legislation changed the actuarial cost method for the TRS to entry age and required a commitment to full funding of the actuarially determined contribution beginning in FY 2007.

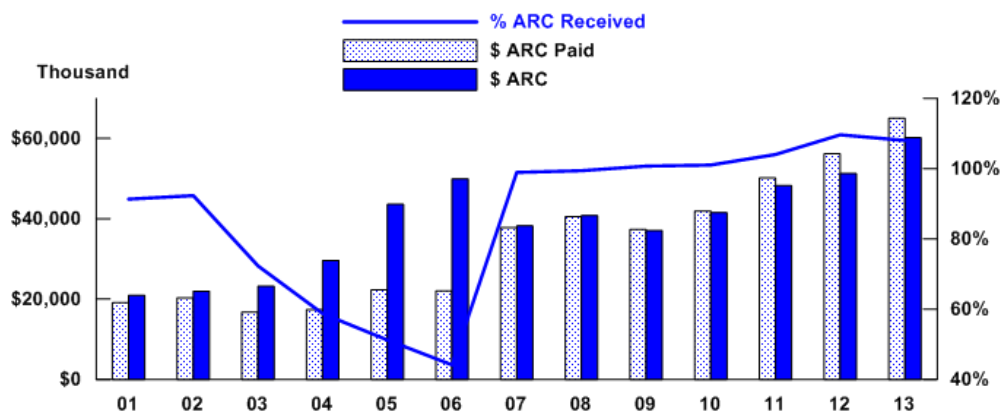
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Vermont State Employees	99.7%	(\$1,374)	Entry age	8.1%
Vermont Teachers	88.2%	(\$59,669)	Entry age	7.9%

VT State Employees ARC Experience



VT Teachers ARC Experience



Washington Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Washington Law Enforcement Officers’ and Fire Fighters’ (LEOFF) Plan 2
 - Washington Public Employees’ Retirement System (PERS) Plan 1
 - Washington Public Employees’ Retirement System (PERS) Plan 2/3
- Washington School Employees Retirement System (SERS) Plan 2/3
 - Washington Teachers Retirement System (TRS) Plan 1
 - Washington Teachers Retirement System (TRS) Plan 2/3

Employer Contribution Legal Framework

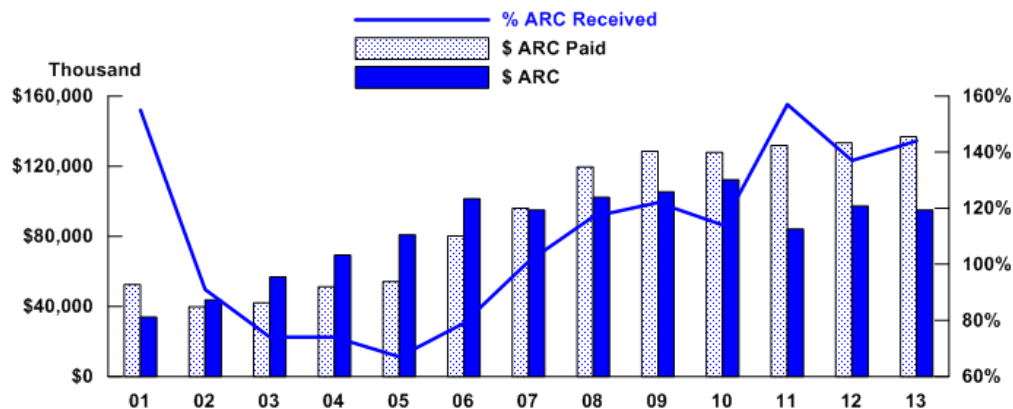
Contribution rates for most plans are approved by the Pension Funding Council, whose membership includes four legislators, the director of the Washington Department of Retirement Systems and the state office of financial management. The LEOFF Plan 2 board adopts rates for that plan.

PERS 1 and TRS 1 closed to new hires October 1, 1977.

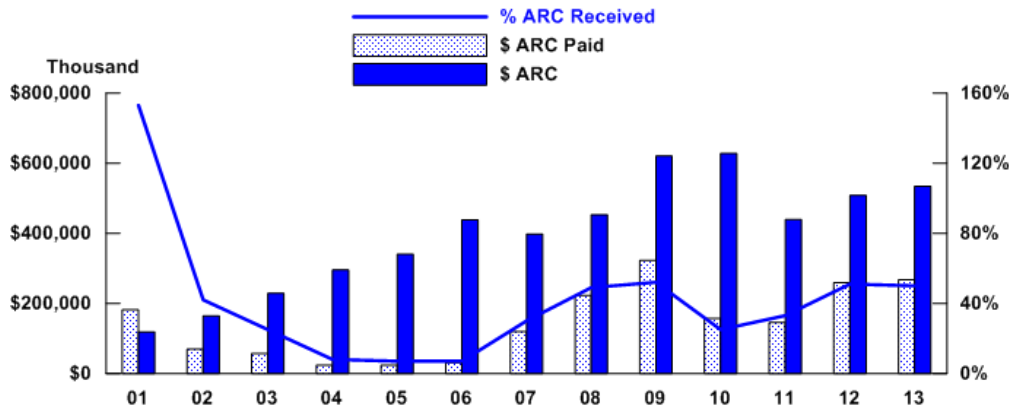
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Washington LEOFF Plan 2	110.9%	\$116,821	Aggregate cost	7.5%
Washington PERS 1	36.4%	(\$3,287,769)	Entry age	7.9%
Washington PERS 2/3	79.7%	(\$744,379)	Aggregate cost	7.9%
Washington School Employees Plan 2/3	63.4%	(\$303,701)	Aggregate cost	7.9%
Washington Teachers Plan 1	33.4%	(\$2,089,844)	Entry age	7.9%
Washington Teachers Plan 2/3	69.4%	(\$626,445)	Aggregate cost	7.9%

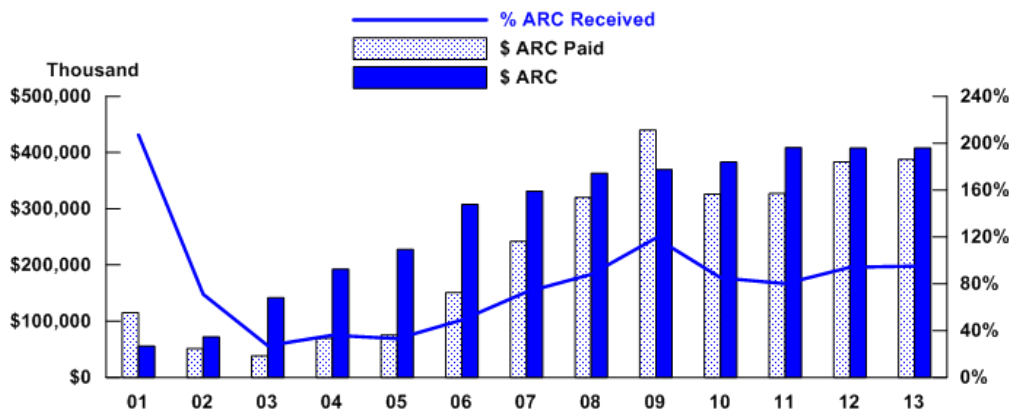
WA LEOFF Plan 2 ARC Experience



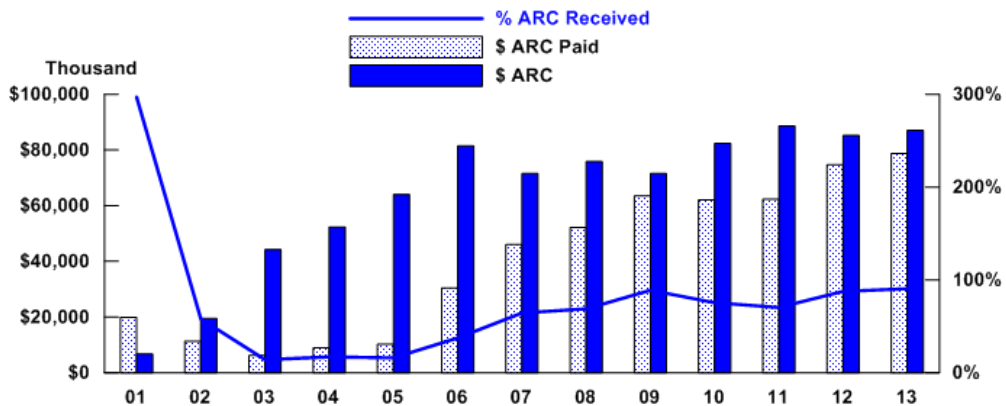
WA PERS 1 ARC Experience



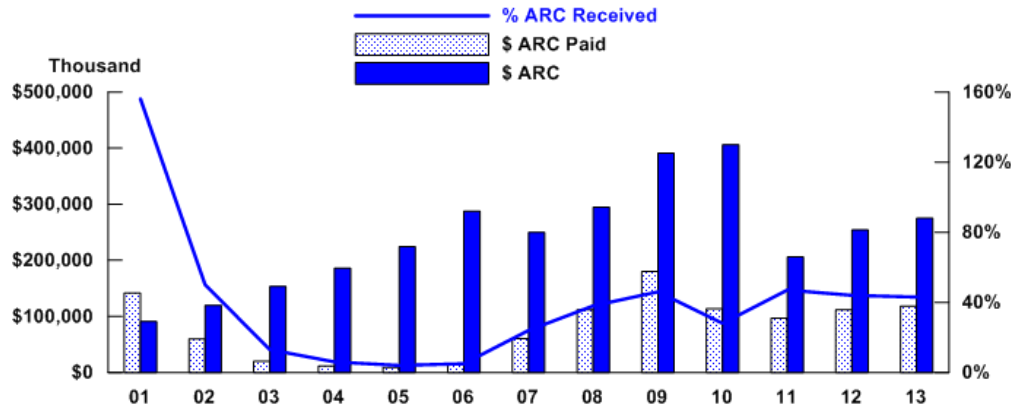
WA PERS 2 ARC Experience



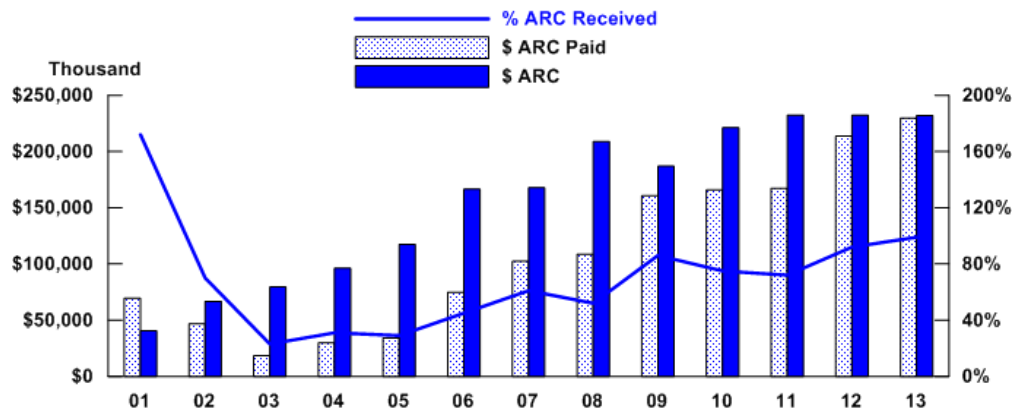
WA School Employees Plan 2/3 ARC Experience



WA Teachers Plan 1 ARC Experience



WA Teachers Plan 2/3 ARC Experience



Wisconsin Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Wisconsin Retirement System

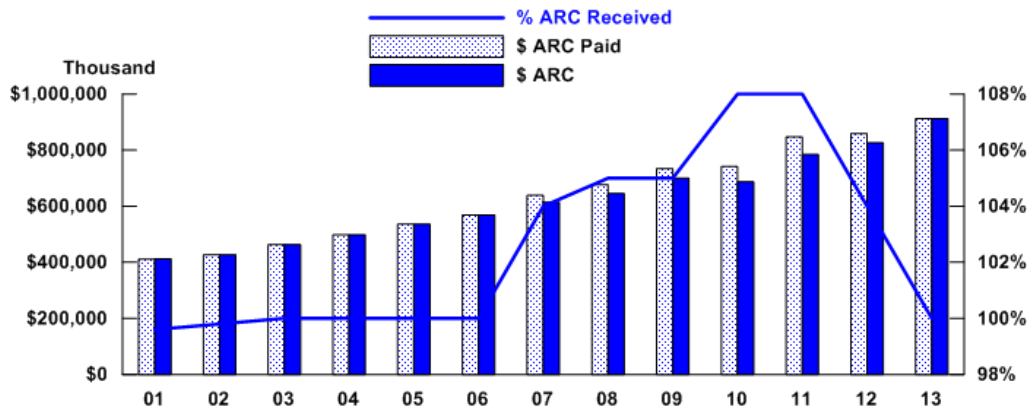
Employer Contribution Legal Framework

Wisconsin statutes require employers participating in the Wisconsin Retirement System to fund the actuarially determined contribution.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Wisconsin Retirement System	103.0%	\$239,970	Entry age	7.2%

Wisconsin Retirement System ARC Experience



West Virginia Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- West Virginia Public Employees' Retirement System (PERS)
- West Virginia Teachers Retirement System (TRS)

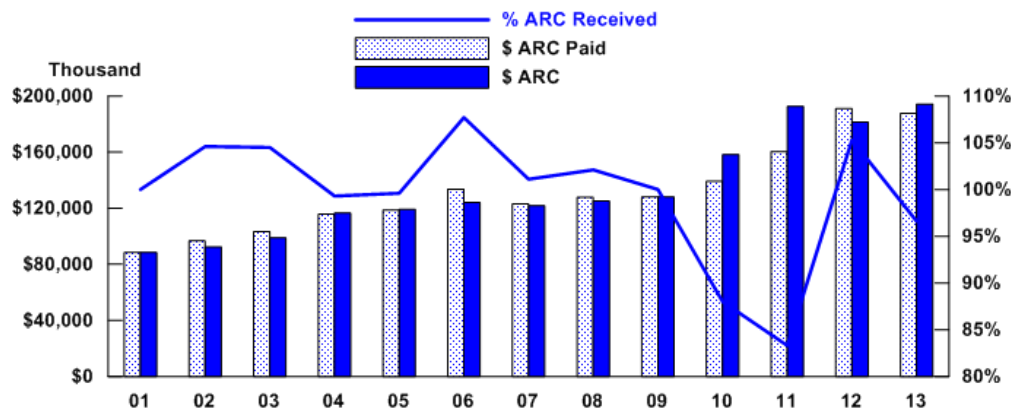
Employer Contribution Legal Framework

Employers who participate in the West Virginia PERS are required to pay contribution rates as established by the PERS board, which should be sufficient to fund the actuarially determined contribution. Contributions may fall short of required amounts in some years due to the timing of contribution rate changes. Employers who participate in the West Virginia TRS are required to fund a fixed percentage of compensation specified in statute. Contributions in excess of the statutory TRS rate are required of the State for purposes of eliminating the system's unfunded liability over a period of time specified in statute.

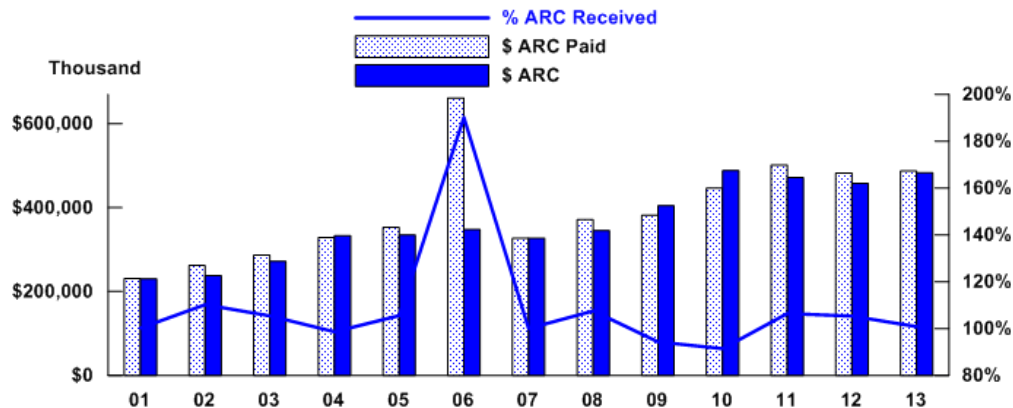
Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
West Virginia PERS	98.4%	(\$27,224)	Entry age	7.5%
West Virginia Teachers	108.2%	\$385,675	Entry age	7.5%

WV PERS ARC Experience



WV Teachers ARC Experience



Wyoming Statewide Retirement Plan ARC Experience

Systems/Plans measured:

- Wyoming Public Employees Retirement System (PERS)

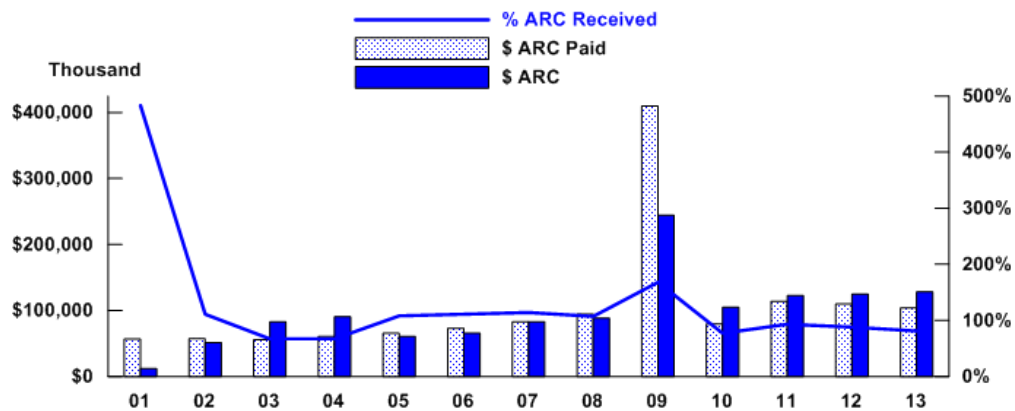
Employer Contribution Legal Framework

Contributions to the Wyoming PERS are based on rates approved by the Wyoming Legislature.

Key Results and ARC Parameters

Plan	Weighted Average ARC Experience, FY01-FY13	(Shortfall) or Surplus (in thousands)	Actuarial Cost Method	Investment Return Assumption
Wyoming Public Employees	108.3%	\$104,506	Entry age	7.75%

Wyoming Public Employees ARC Experience



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Retirement Security 2015: Roadmap for Policy Makers
Americans' Views of the Retirement Crisis

By Diane Oakley and Kelly Kenneally

March 2015

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Kelly Kenneally has provided communications counsel to the National Institute on Retirement Security since its founding in February 2007. On behalf of NIRS, she implements communications programs that provide accurate data and information on retirement policy issues. This includes NIRS reports she co-authored including the 2009, 2011 and 2013 opinion research studies. She has more than 20 years of public affairs experience with corporations, government, and non-profit organizations. Previously, Ms. Kenneally served in the White House as associate director of the President's Commission on White House Fellowships. She has held communications positions at Micron Electronics and MCI WorldCom, and began her career at the Maryland General Assembly. She holds a B.A. in Government and Politics from the University of Maryland and is a member of the National Press Club.

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We also extend our thanks to Doug Kincaid, senior research associate with Greenwald & Associates, for his valuable contributions to this project.

EXECUTIVE SUMMARY

The evidence is clear that United States is on the precipice of another financial threat—older Americans lacking sufficient income to be self-sufficient as they move out of the workforce. Despite improvements in the market, the typical working-age American household is far off-track toward accumulating ample savings to maintain their current living standard, and many will be challenged to have the resources to pay for their basic needs in retirement.

Looking back, there was a time when the U.S. had a stronger retirement infrastructure in place. Middle class Americans could maintain their standard of living in retirement with three key sources of income: Social Security, defined benefit (DB) pension plans and defined contribution (DC) individual savings accounts like 401(k) plans.

In recent years, however, this retirement infrastructure has degraded dramatically. A large portion of the workforce lacks access to or is not participating in retirement plans, making future retirement security prospects—especially for middle class employees—challenging at best.

This financial insecurity crisis for older Americans comes as no surprise to the experts who have been forecasting the problem for years. A wide and growing body of research shows that just as retirement income needs are growing because Americans are living longer and have higher costs in retirement, the weakened retirement system is providing less income when Americans need it most.

The retirement savings shortfall is particularly problematic because of U.S. demographics. The nation is experiencing a large wave of Americans entering retirement. Some 76 million Americans born between the years 1946 and 1964—Baby Boomers—are retiring. That translates to about ten thousand Boomers retiring daily.¹ Now, more Americans are starting to leave the workforce without pensions, with lower Social Security benefits, inadequate individual account balances and skyrocketing healthcare costs. It doesn't take an actuary to see that the numbers for many just don't add up.

Against this backdrop, the National Institute on Retirement Security (NIRS) commissioned its fourth nationwide public opinion research project. The survey is conducted on a biennial basis to monitor over time how Americans feel about their financial security in retirement and to assess their views on policies that could improve their retirement outlook. This research is intended to serve as a tool for policymakers, thought leaders and retirement service providers as they work to stem the retirement crisis and re-fortify the U.S. retirement infrastructure.

The key research findings are as follows:

1. **An overwhelming majority of Americans believe there is a retirement crisis.** Some 86 percent agree that the nation faces a retirement crisis, and 57 percent strongly agree there is a crisis. Surprisingly, the sentiment is highest among those with annual income above \$75,000 (92 percent); but not surprisingly is equally high among the Millennial generation (92 percent). Public and private sector workers are equally concerned about retirement (87 and 88 percent respectively) even though public employees are far more likely to have reliable retirement income from a pension. Some 86 percent agree that America's retirement system is under stress and needs reform, with women and Millennials having the highest levels of agreement, 91 and 93 percent respectively. Some 81 percent say that it is harder for future generations to prepare for retirement.
2. **Three in four Americans remain highly anxious about their retirement outlook, but the concern has dissipated slightly as the economy has recovered.** Some 74 percent of Americans say they are concerned, down from 85 percent as reported in the 2013 study. The high level of concern is consistent across gender, generational and economic lines. Some 73 percent agree that the average worker cannot save enough on their own to guarantee a secure retirement. More than half of Americans say they will seek employment after retirement to be financially secure, and 42 percent are concerned they will have to sell their home after retirement for financial security reasons.

3. **Even though Americans feel slightly less stressed about their retirement prospects, support for steady and reliable retirement income from a pension is high and growing.** In fact, 82 percent say a pension is worth having because it provides steady income that will not run out, while 67 percent of Americans indicate they would be willing to take less in pay increases in exchange for guaranteed income in retirement. Some 85 percent of Americans agree that all workers should have access to a pension plan so they can be independent and self-reliant in retirement, and 86 percent of Americans say that those with pensions are more likely to have a secure retirement. When it comes to pension confidence, 84 percent say they believe their pension will be there at retirement, up from 78 percent in 2013. Some 78 percent say the disappearance of pensions has made it harder to achieve the American dream, and 83 percent report favorable views of pensions. A substantially higher number this year (56 percent) strongly agree that those with pensions are more likely to have a secure retirement than those who do not.
4. **Americans continue to feel that leaders in Washington do not understand their struggle to save for retirement, and Americans strongly support efforts by states to set up retirement plans for those workers without access to an employer sponsored plan.** Some 87 percent of Americans say Washington policymakers do not understand how hard it is to prepare for retirement, while 84 percent say Washington needs to do more to help ensure retirement security. As for state efforts to set up retirement plans, 71 percent agree this is a good idea with three-fourths indicating they would consider participation. Some 86 percent say that government leaders should make it easier for employers to offer pensions, and this support has remained constant over time.
5. **Americans see retirement benefits as a job feature that is almost as important as salary.** Salary is viewed as important by 75 percent of Americans, and retirement benefits are close behind at 72 percent. Health insurance ranks highest, with 84 percent of Americans saying it is an important job feature. Two-thirds of Americans are willing to forgo salary increases in exchange for guaranteed retirement income.
6. **Americans express strong support for pensions for public employees. Few Americans realize that 75 percent of public pension costs are paid for with employee contributions and investment returns.** For police officers and firefighters, 88 percent of Americans say these employees deserve pensions because of job risks. For teachers, 75 percent of Americans say that pensions are deserved to compensate for low pay. The vast majority of Americans, 71 percent, support public pensions because employees fund a significant portion of these benefits. But, only one-fourth of Americans understood that public employers pay for 25 percent or less of public pension costs. More than 8 out of 10 Americans—a vast majority—say that all workers, not just public employees, should have a pension. Some 87 percent of Americans say pensions are a good way to recruit and retain qualified teachers, police officers and firefighters.
7. **Protecting Social Security benefits is increasingly important.** Some 73 percent of Americans say it's a mistake to cut government spending in such a way as to reduce Social Security benefits for current retirees, which is up from 67 percent in 2013. When it comes to benefits for future generations, 69 percent oppose cutting government spending that reduces Social Security benefits. Americans appear unaware of the benefits of delaying Social Security payments. They are divided when it comes to increasing the amount of Social Security benefits by delaying benefit withdrawals at an older age: 42 percent agree with a delay while 52 percent disagree.

INTRODUCTION

The evidence is clear that United States is on the precipice of another financial threat—older Americans lacking sufficient income to be self-sufficient as they move out of the workforce. The typical working-age American household is far off-track toward accumulating ample savings to be able to maintain their current living standard, and many will be challenged to have the resources to pay for their basic needs in retirement. Financial insecurity in retirement will reach beyond the walls of individual households and families. Inadequate retirement income harms the broader economy when spending declines. It puts pressure on strained government budgets when older Americans need financial assistance to meet their basic needs—food, housing and medicine.²

The Boston College Center for Retirement Research National Retirement Risk Index indicates that as of 2013, more than half of U.S. households lack sufficient retirement income to maintain their standard of living even if they work longer than the average retirement age of 65.³ NIRS research calculates that the typical working family has only a few thousand dollars saved for retirement. Four out of five families have retirement savings less than one times their annual income. This low level of savings translates into a U.S. retirement savings deficit of at least \$6.8 trillion based on total household net worth.⁴

The situation is especially dire for minority populations. While a typical white household near retirement has nearly \$30,000 saved in retirement accounts—clearly an insufficient amount—the typical black or Latino household near retirement fares even worse with zero dedicated retirement savings in a 401(k) or IRA. For working-age households, the average retirement savings is only about \$20,000 among blacks and \$18,000 for Latinos—a small fraction of the \$112,000 average among white households.⁵

Looking back, there was a time when the U.S. had a stronger retirement infrastructure in place. Middle class Americans could maintain their standard of living in retirement with three key sources of income: Social Security, defined benefit (DB) pension plans and defined contribution individual savings accounts like 401(k) plans. This infrastructure enabled Americans to be self-reliant after a lifetime of work, a critical

accomplishment in the U.S. given the impoverished conditions older Americans faced during the Great Depression.

In recent years, however, this retirement infrastructure has degraded dramatically. According to economist James Poterba, only about one-quarter of the elderly population draws substantial retirement income support from all three legs (Social Security, pensions and individual savings) of the “three-legged stool,” and Social Security is the primary source of income for elderly Americans in the bottom half of the income distribution.⁶

A large portion of the workforce lacks access to or does not participate in retirement plans. This makes future retirement security prospects challenging at best, especially for middle class workers.

Pensions for private sector workers continue to disappear under an unworkable regulatory environment.⁷ Social Security benefits have been cut, and Congress is said to be eyeing additional benefit reductions.⁸ Additionally, Americans just are not saving enough in their individual accounts at a time when their retirement income needs are increasing thanks to rising longevity and costs. Consider the following:

- Only 65 percent of private sector workers had access to a retirement plan through their employer, and just 48 percent participated in the plan as of 2014. For full-time employees, more than 25 percent lack access to an employer-sponsored retirement plan, and more than 40 percent did not participate in one. These numbers have declined substantially since 2000. Long-term analysis studies indicate that the share of private sector employees with access to workplace retirement plans is lower now than it was in the late 1980s.⁹
- Fewer private sector employees have access to traditional DB pension plans, which provide regular, monthly income that does not run out. In 1975, a full 88 percent of private sector workers with a workplace retirement plan had pension coverage.¹⁰ Among households covered by workplace retirement benefits in 2013, a majority (57

percent) of older households age 55-64 still are covered by a DB pension. In contrast, younger households are half as likely to have a DB pension—29 percent for those age 25-34 and 30 percent for those age 35-44.¹¹

- Americans continue to struggle to save enough in their IRAs or 401(k) plans. Initially designed to supplement pensions, many corporations have switched to these accounts that now are the central means for private sector employees to save for retirement. In 2013, the typical working household approaching retirement had only \$103,000 in 401(k)/IRA assets.¹² One reason for such modest balances is plan “leakage,” which occurs when individuals tap into their retirement savings during their working years for non-retirement purposes. Overall, such leakage reduces aggregate individual account retirement assets by about 25 percent.¹³ Other significant factors working against 401(k) accounts is the fee structure, lower investment returns and wage stagnation. For most Americans, wages after inflation have been flat or falling for decades, regardless of whether or not the economy has added or lost jobs.¹⁴ This means it is simply harder to save for the future when wages are not keeping up with day-to-day living expenses.
- Social Security is a central component of retirement security for Americans, but benefits are at risk. Nearly two-thirds of older Americans rely on Social Security benefits for most of their income.¹⁵ Scheduled increases in the Social Security retirement age mean lower benefits for many retirees—especially lower income workers who rely most heavily on Social Security to make ends meet and often cannot continue to work to age 66 or 67. The 2014 Social Security Trustees Report indicates that the program continues to face a long-term financing shortfall equal to about one percent of gross domestic product (GDP). Although this shortfall is considered manageable, it likely will be addressed by either further benefit cuts or by putting more money into the system.¹⁶
- Americans need to save more money to cover healthcare costs in retirement as life spans rise and more employers move away from retiree health insurance. Between 1988 and 2013, the share of large companies offering retiree healthcare plummeted from 66 percent to 29 percent. Simultaneously, these benefits have been reduced and employers are requiring higher retiree contributions.¹⁷

- The vast majority of public sector employees continue to have access to and participate in pensions. But in the aftermath of the financial crisis, nearly every state has modified plans either through reduced benefits, increased employee contributions and/or retirement ages to ensure these retirement plans are sustainable over the long term. In some cases, benefits have been reduced for current retirees¹⁸ and some changes to benefits are facing legal challenges. In a few cases, public employees have moved to DC accounts, which are more expensive and reduce financial security.¹⁹

This financial insecurity crisis for older Americans comes as no surprise to experts who have been forecasting the problem for years. A wide and growing body of research shows that just as retirement income needs are growing because Americans are living longer and have higher costs in retirement, the weak retirement system is providing less income when Americans need it most.

The retirement savings shortfall is particularly problematic given U.S. demographics. The nation is experiencing a large wave of Americans entering retirement. Some 76 million Americans born between the years 1946 and 1964—Baby Boomers—are retiring. That translates to about ten thousand Boomers retiring daily.²⁰ Now, Americans are starting to leave the workforce without pensions, with lower Social Security benefits, inadequate individual account balances and skyrocketing healthcare costs. It doesn’t take an actuary to see that the numbers for many just don’t add up.

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spending that reduces Social Security benefits. Americans are divided when it comes to increasing the amount of Social Security benefits by delaying benefit withdrawals at an older age: 42 percent agree with a delay while 52 percent disagree.

I. AN OVERWHELMING MAJORITY OF AMERICANS BELIEVE THERE IS A RETIREMENT CRISIS

The data is indisputable that Americans fall far short of the income needed to maintain their standard of living in retirement. The Boston College Center for Retirement Research National Retirement Risk Index indicates that as of 2013, more than half of U.S. households lack sufficient retirement income to maintain their standard of living even if they work longer than the average retirement age of 65.²¹ NIRS calculates that the U.S. retirement savings deficit of at least \$6.8 trillion based on the most generous measure of household assets net worth, which includes assets like home equity beyond financial assets.²²

Now it is clear that Americans are highly cognizant of the retirement crisis. Some 86 percent of Americans agree that the nation faces a crisis, and 57 percent strongly agree there is a crisis (Figure 1). Surprisingly, the sentiment is highest among those with annual income above \$75,000 (92 percent), a population that is more likely to have a retirement plan and financially able to save on a regular basis. Not surprisingly, 92 percent of the Millennial generation believes the nation faces a retirement crisis—a generation that has been hampered by a number of economic issues.

Despite the data and American sentiment on the retirement crisis, some organizations deny the crisis. For example, the American Enterprise Institute indicates that “there is no retirement crisis” and that “Americans have among the highest retirement incomes in the world, both in terms of absolute buying power and relative to the incomes of the working-age population.”²³ However, research indicates that retirement account ownership rates are closely correlated with income and wealth. More than 38 million working-age households did not

own any retirement account assets, whether in an employer-sponsored 401(k) type plan or an IRA in 2010. Households that do own retirement accounts have 2.4 times the income of households without retirement account assets.²⁴

This research reveals that awareness of the overall crisis in retirement readiness is broad based with both public and private sector workers, 87 and 88 percent respectively, agreeing that the nation faces a crisis—even though public employees are far more likely to have reliable income from pensions that substantially reduce retirement financial risk.²⁵

Some 86 percent of Americans agree that the nation's retirement system is under stress and needs reform (Figure 2). Women and the Millennial generation have the highest level of agreement that reform is needed, 91 and 93 percent respectively.

We wanted to understand how Americans are planning to help ensure financial security in retirement. About three-quarters plan to cut back spending in retirement (77 percent) or stay in their current job as long as possible (72 percent). About two-thirds of Americans plan to cut current spending (64 percent) and save one to four percent more than they are saving now (63 percent). These actions clearly have broader implications. Older workers staying on the job longer crowds out younger workers from employment opportunities and may result in employers losing promising young employees to other organizations with greater opportunities for advancement. Also, decreased spending by retirees and workers has negative economic implications (Figure 3).

Figure 1: 86 Percent Believe The Nation Faces a Retirement Crisis

Would you say you agree or disagree that America is facing a retirement crisis?

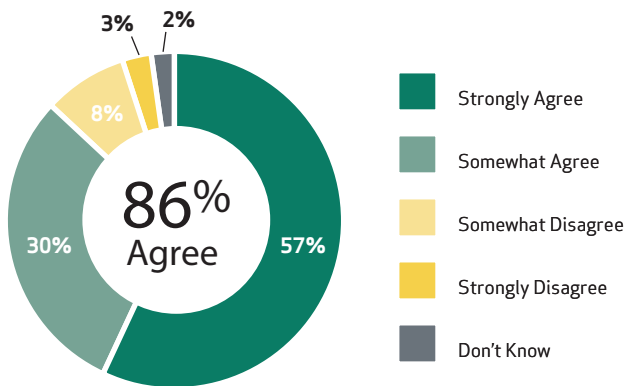


Figure 2: 86 Percent of Americans Believe the Retirement System is Under Stress, Needs Reform

To what extent do you agree or disagree that the retirement system in this country is under stress and needs to be reformed?

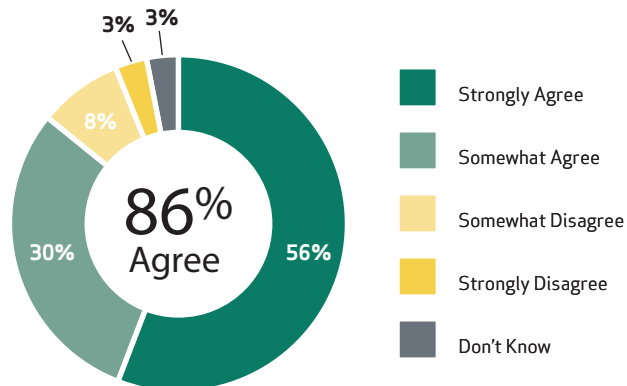
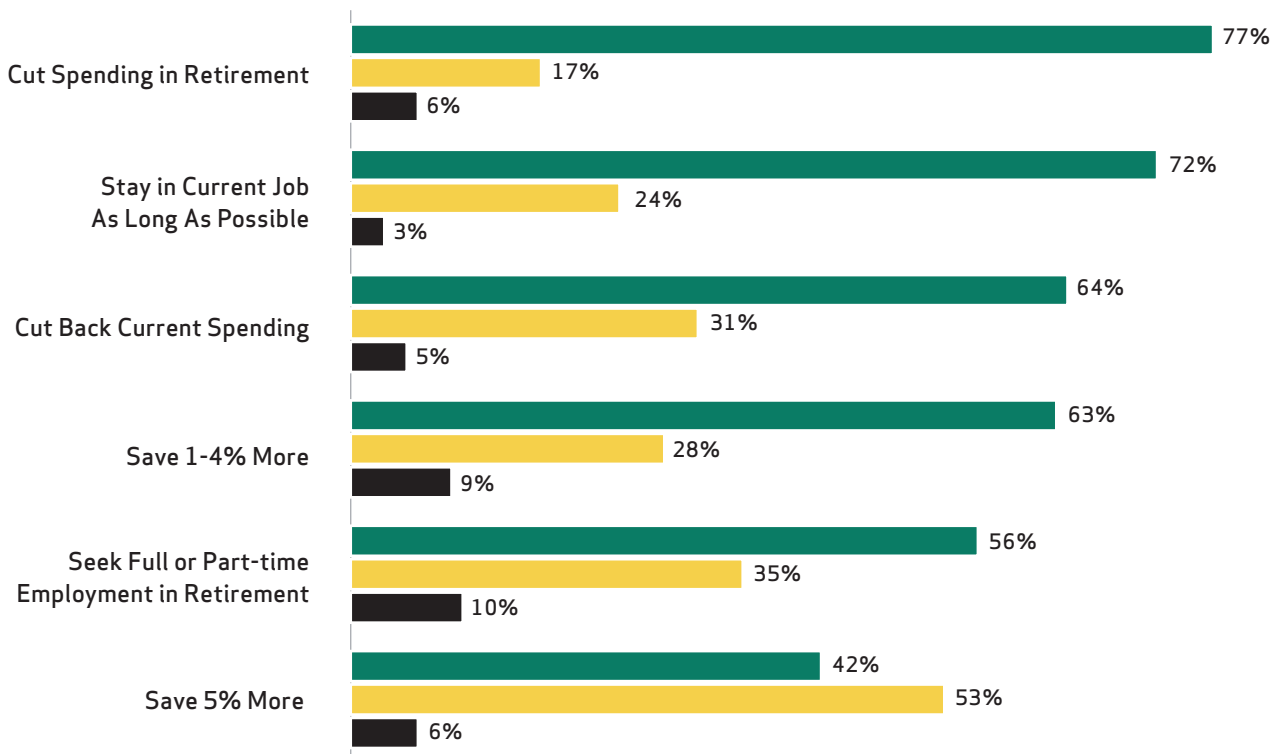


Figure 3: Americans Plan to Stay In Their Jobs, Cut Current Spending to Ensure Secure Retirement

Which of the following, if any, do you plan to do to help ensure a financially secure retirement? Will you...?

Yes No Don't Know



A majority of Americans plan to keep working in retirement (56 percent) to ensure financial security, which seems to substantiate claims that the retirement dream is out of reach for many Americans (Figure 4).

Additionally, a number of Americans (42 percent) are concerned that they will have to sell their home in order to

ensure financial security in retirement (Figure 5). This is in contrast to research indicating that most Americans prefer to stay in their homes as they age.²⁶

Americans also agree that preparing for retirement is not getting easier. Some 81 percent say it is hard for Americans to prepare for retirement in the future (Figure 6).

Figure 4: A Majority of Americans Will Seek Employment After Retirement to Be Financially Secure

Which of the following, if any, do you plan to do to help ensure a financially secure retirement? Will you seek full or part-time work in retirement?

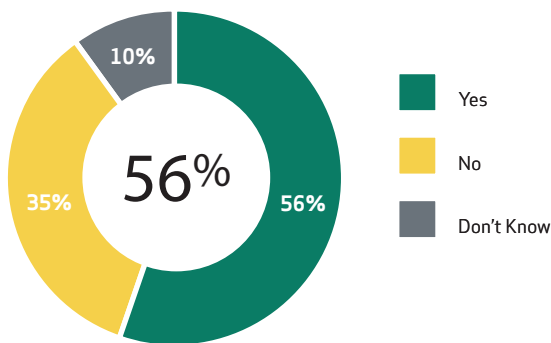


Figure 5: 42 Percent of Americans Are Worried They Will Have to Sell Their Homes to Be Financially Secure In Retirement

How concerned are you that someday you may have to sell your home in order to ensure a secure retirement?

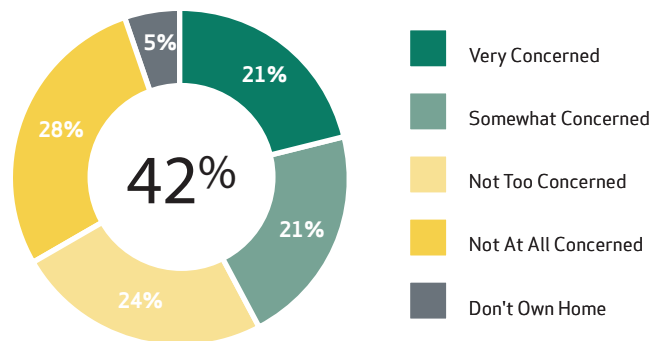
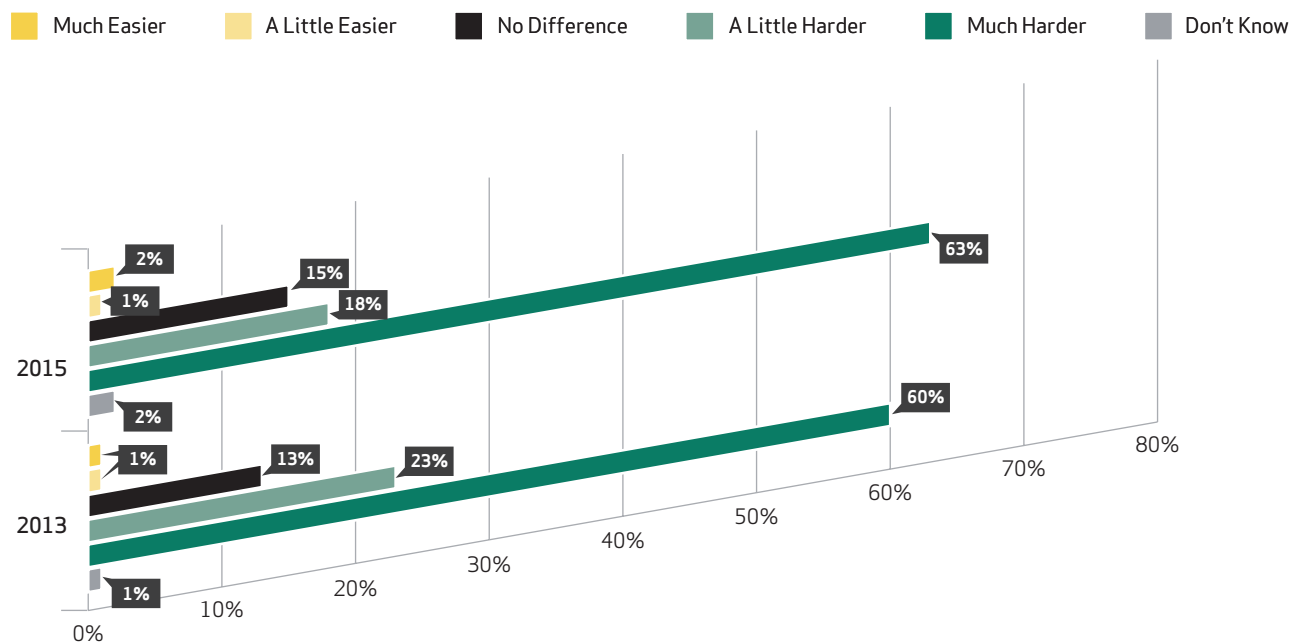


Figure 6: 81 Percent Say It Will Be Harder in Future to Prepare for Retirement

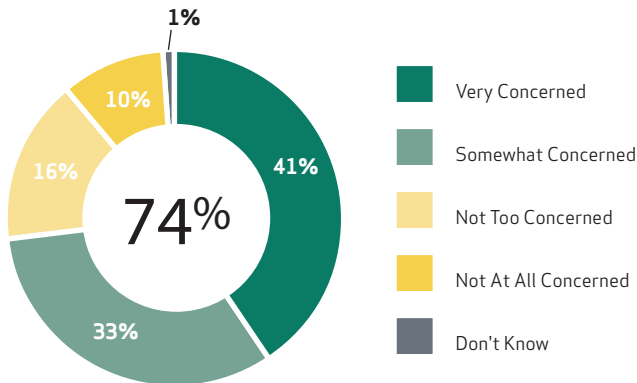
Do you feel that—compared to today—it will be easier or harder for Americans to prepare for retirement in the future, or will there be no difference?



II. AMERICANS REMAIN HIGHLY ANXIOUS ABOUT THEIR RETIREMENT OUTLOOK

Figure 7: 74 Percent Are Concerned About Their Ability to Achieve Secure Retirement

How concerned are you about current economic conditions affecting your ability to achieve a secure retirement?



Precisely how do Americans feel about their retirement prospects? Following the 2009, 2011 and 2013 opinion research, we again polled Americans regarding their level of concern about economic conditions impacting their ability to retire. We learned that about three in four Americans remain highly anxious about their retirement outlook (Figure 7), although the concern has dissipated slightly as the economy has recovered (Figure 8). More specifically, some 74 percent of Americans say they are concerned, down from 85 percent as reported in the 2013 results. While the intense level of anxiety about economic conditions affecting retirement security from earlier NIRS surveys appears to have eased slightly, the high level of overall concern is consistent across gender, generational and economic lines.

Figure 8: Retirement Anxiety Falls Slightly As Economy Recovers, With 74% Concerned

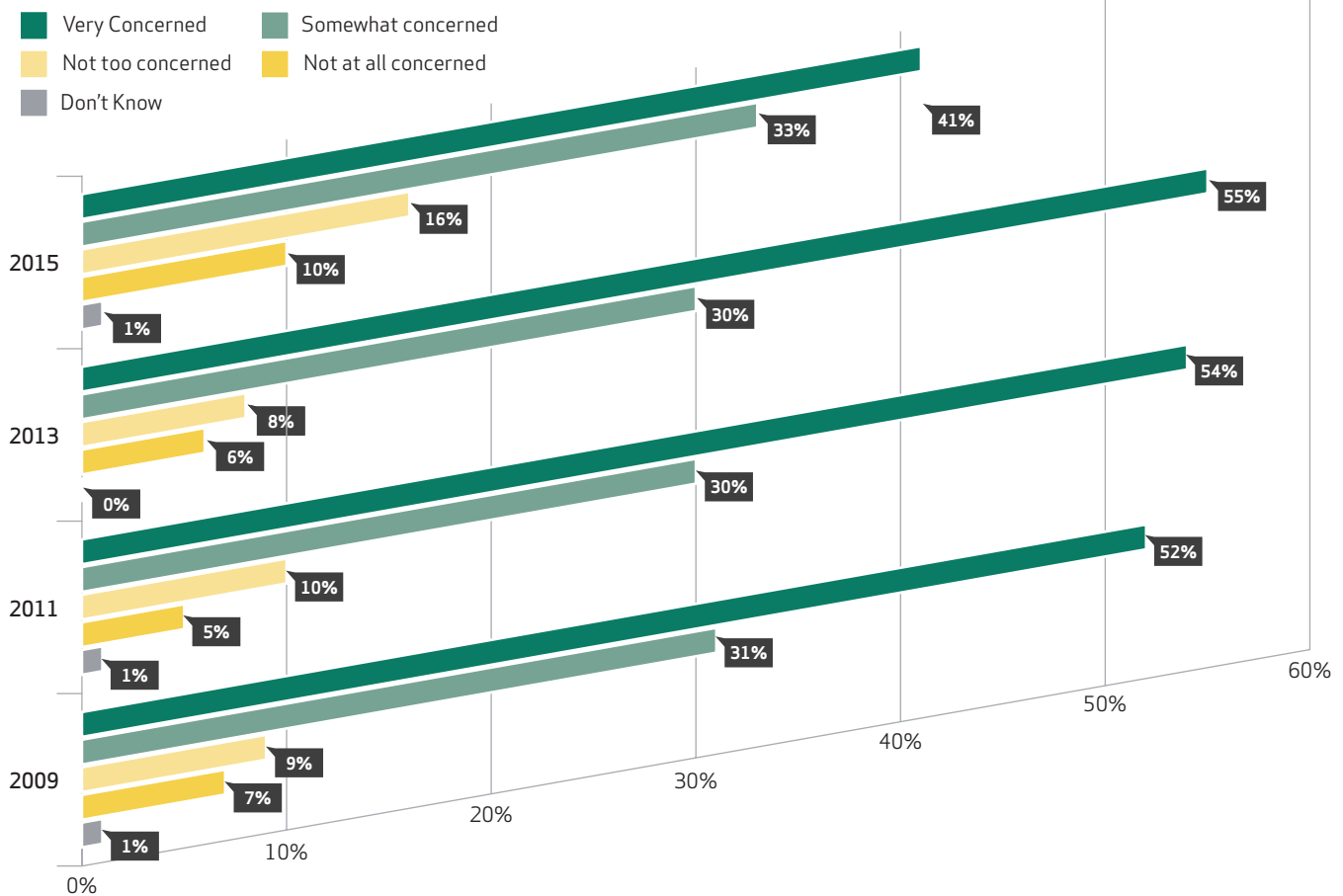
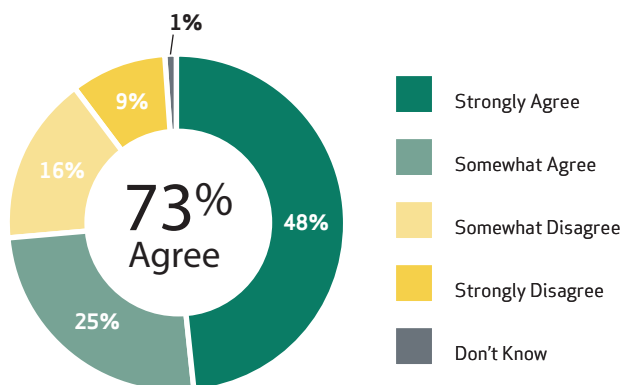


Figure 9: Americans Can't Do It Alone

To what extent do you agree or disagree that the average worker cannot save enough on their own to guarantee a secure retirement?

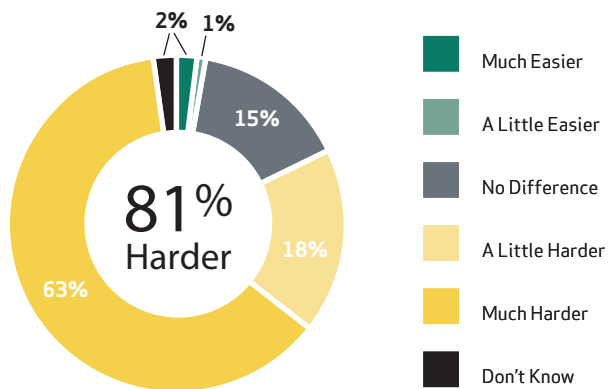


The results also reveal that some 73 percent agree that the average worker cannot save enough on their own to guarantee a secure retirement (Figure 9). This should not be surprising given the trend of wage stagnation. For most Americans, wages after inflation have been flat or falling for decades, regardless of whether the economy has added or lost jobs.²⁷

Perhaps the high level of anxiety can be tied to Americans' sentiment about the weakened retirement infrastructure. Fewer private sector employees have access to traditional pension plans in favor of "do-it-yourself" retirement accounts. In 1975, a full 88 percent of private sector workers with a workplace retirement plan had pension coverage. In the early 1990s, 35 percent of private industry employees were covered by a pension, and by 2011 coverage has fallen further to 18 percent.²⁸

Figure 10: 81 Percent Say It's Getting Harder to Prepare for Retirement

Do you feel that—compared to today—it will be easier or harder for Americans to prepare for retirement in the future, or will there be no difference?



Americans also do not see the outlook improving. Some 81 percent feel that compared to today, it is getting harder to prepare for retirement, and two percent say it will be easier (Figure 10).

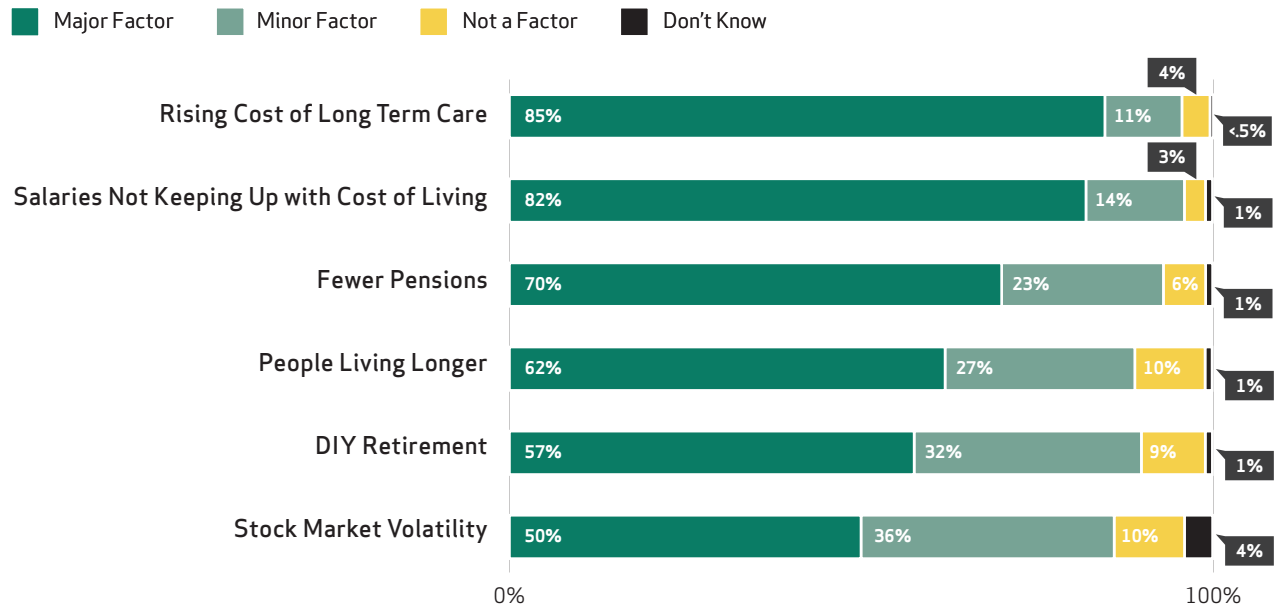
The research also examined why Americans feel it is more difficult now to prepare for retirement as compared to previous generations. We asked Americans to rank each of the following issues in terms of complicating retirement:

- The rising cost of long-term care.
- Middle class salaries are not keeping up with the cost of living.
- Fewer Americans have pensions through their employer.
- People are living longer.
- Workers now must fund and manage their retirement savings themselves.
- The stock market is more volatile.

Respondents indicated that rising long-term care costs are the primary factor, followed by stagnant salaries, fewer pensions, longer life expectancy, do-it-yourself retirement and stock market volatility making it harder to prepare for retirement (Figure 11).

Figure 11: Rising Healthcare Costs, Stagnant Wages, Fewer Pensions, Longer Lives and Do it On Your Own Plans Make Retirement More Difficult

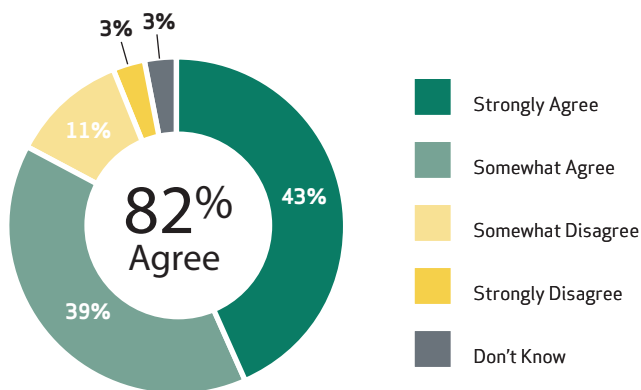
For each issue, do you believe it is a major factor, a minor factor, or not a factor making it harder for Americans to prepare for retirement?



III. SUPPORT FOR STEADY, RELIABLE RETIREMENT INCOME FROM PENSIONS IS HIGH AND GROWING

Figure 12: 82 Percent Agree A Pension is Worth Having For Steady Income That Lasts

To what extent do you agree or disagree that a pension is worth having because it provides steady income that won't run out—even if you didn't spend your full career at the company offering the pension plan.



Even though Americans feel slightly less anxious about their retirement outlook as the economy rebounds, they still are seeking steady income in retirement. Perhaps the pain of economic meltdown left an indelible reminder that individual DC account balances can quickly and dramatically crash, and offer no guarantee of adequate retirement income.

To illustrate, 82 percent say a pension is worth having because it provides steady income that lasts (Figure 12). In fact, 67 percent of Americans indicate that they would be willing to take less in pay increases in exchange for guaranteed income in retirement (Figure 13). Some 83 percent report favorable views of pensions, which provide a steady stream of retirement income (Figure 14).

Americans also seem to trust that pension income is safe and will be there when they reach retirement. In terms of

confidence in pensions, 84 percent say they believe pensions will be there at retirement, up from 78 percent in 2013 (Figure 15).

Americans also see the downside of the decline of pension coverage for private sector employees. In 1975, 88 percent of private sector workers with a workplace retirement plan had pension coverage, and by 2011 private pension coverage has fallen to 18 percent.²⁹ Also, some 78 percent say the disappearance of pensions has made it harder to achieve the American dream (Figure 16). And, 85 percent of Americans believe that all workers should have access to a pension plan to be self-reliant in retirement (Figure 17).

Figure 13: 67 Percent of Americans Indicate They Would Be Willing to Take Less in Pay Increases in Exchange for Guaranteed Income in Retirement.

I'd be [would have been] willing to take less in pay increases [while I was working] in exchange for guaranteed income in retirement.

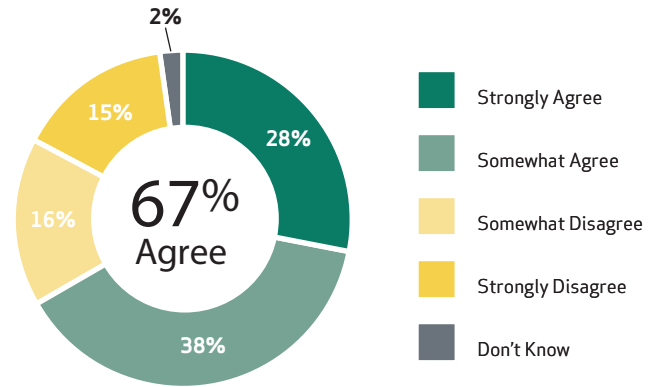


Figure 14: 83 Percent of Americans Have Favorable Views of Pensions

How would you describe your overall view of traditional pensions?

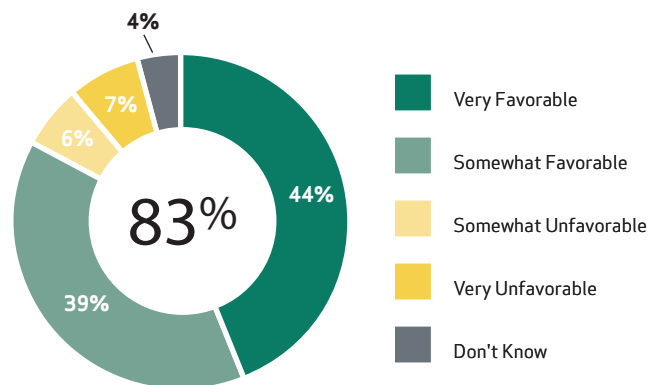


Figure 15: 84 Percent Confident Pensions Will Be There in Retirement

How confident are you that your pension will be there when it is time to retire?

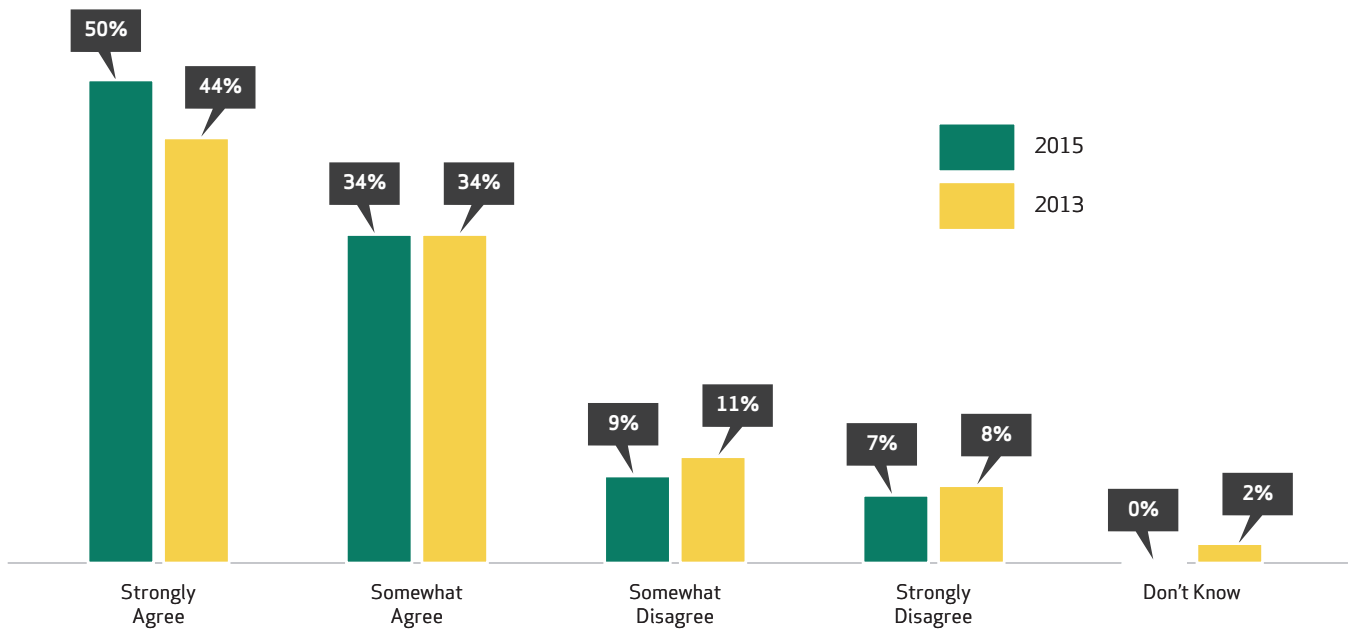


Figure 16: 78 Percent of Americans Say The Disappearance of Pensions Makes It Harder to Achieve the American Dream

To what extent do you agree or disagree that the disappearance of pensions has made it harder for workers to achieve the American dream?

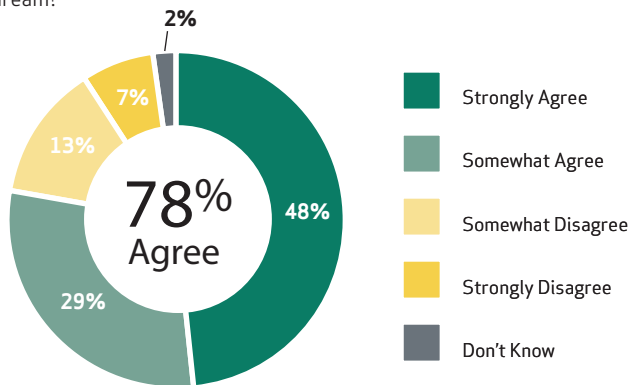
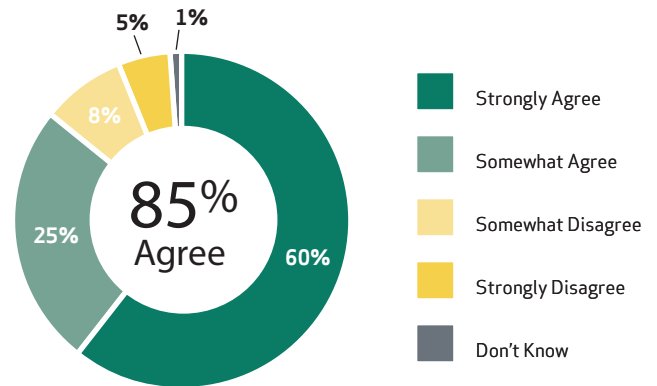


Figure 17: 85 Percent of Americans Say Everyone Should Have a Pension

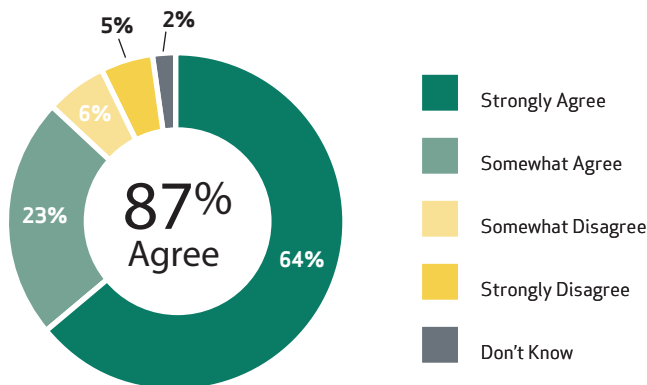
Please tell me whether you agree or disagree that all workers should have access to a pension plan so they can be independent and self-reliant in retirement.



IV. WASHINGTON LEADERS DON'T UNDERSTAND RETIREMENT STRUGGLES, AMERICANS SUPPORT STATE EFFORTS TO INCREASE RETIREMENT SAVINGS

Figure 18: 87 Percent of Americans Say Leaders in Washington Do Not Understand It's Difficult to Prepare for Retirement

To what extent do you agree or disagree that leaders in Washington do not understand how hard it is to prepare for retirement?



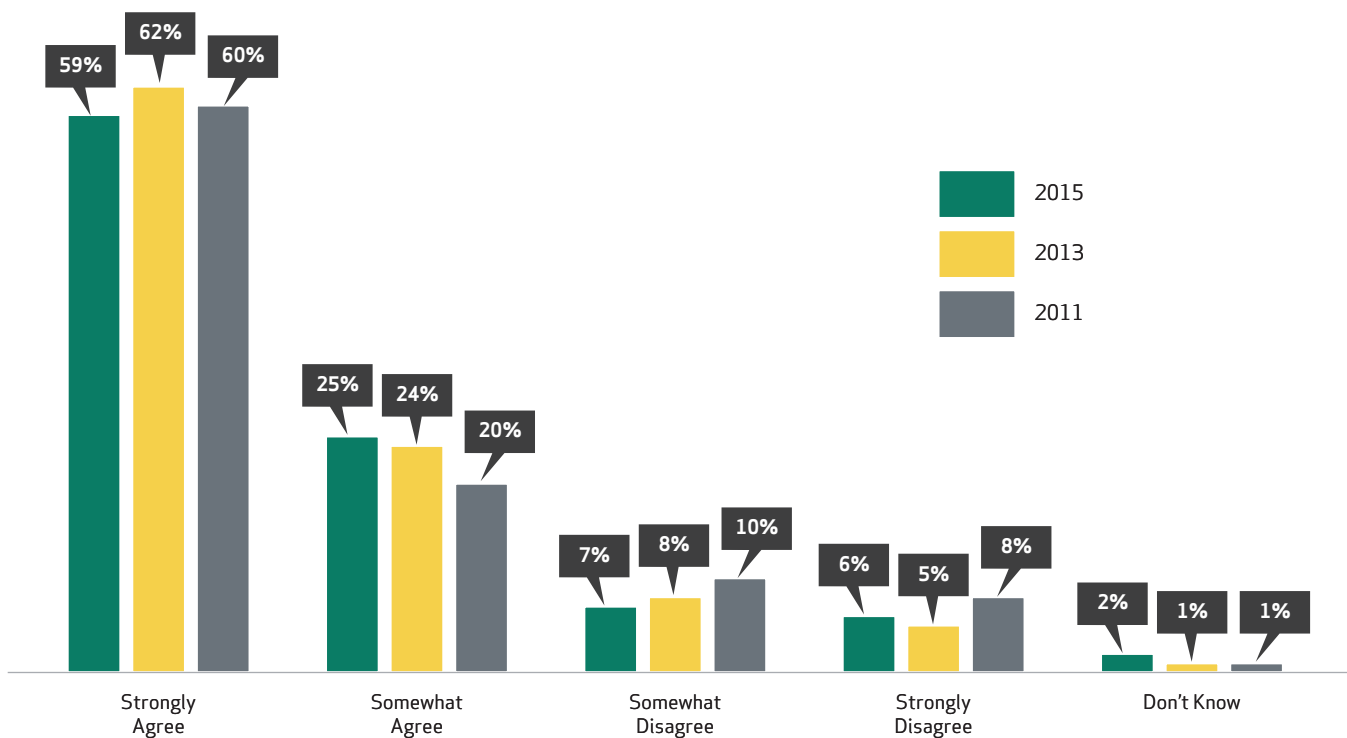
Confidence in Washington is at historic lows. Overall in 2014, Gallup found that only seven percent of Americans say they had confidence in Congress.³⁰ So it should not be surprising that Americans believe national leaders fail to understand and implement solutions to address their struggles to prepare for retirement.

This research finds that 87 percent of Americans say Washington policymakers do not understand how hard it is to prepare for retirement (Figure 18), while 84 percent say Washington needs to do more to help ensure retirement security (Figure 19).

On the federal level, the Obama Administration has proposed creation of auto-IRAs, and this year the

Figure 19: Leaders in Washington Need to Give Retirement Issues a Higher Priority

To what extent do you agree or disagree that leaders in Washington need to give a higher priority to ensuring more Americans can have a secure retirement?



administration kicks off the myRA initiative. This is a voluntary program aimed at helping employees at companies without retirement plans set aside small amounts of their paycheck into a savings bond-like account. On Capitol Hill, Congress has held hearings on the retirement crisis and introduced legislation on several issues, but there has not been enactment of any measures that will begin to re-fortify the retirement infrastructure.

In the absence of Congressional action, state governments are taking action to shore up retirement prospects for Americans. Perhaps this is because state leaders understand what is happening in their local jurisdictions, and they know that Americans without enough money to survive will turn to state and local government for assistance.

Almost 20 states have considered so-called “Secure Choice” legislation over the past several years. This legislation makes it easier for employers to give employees the option of payroll deduction for retirement savings. Research indicates that participation rates increase dramatically when employees have this option.³¹ Concerned about the retirement crisis, states like California, Connecticut, Illinois, Massachusetts, Minnesota and Oregon enacted legislation to implement or study increasing retirement security for all workers in their states. More states are examining this approach in 2015.

We asked Americans how they feel about these state efforts to improve retirement readiness given that about half of the U.S. workforce does not have access to a retirement plan through their employer. We explained that a state could set up a low-risk, low-cost automatic-enrollment retirement plan for employees without retirement plans at work. Private employers would provide their employees with access to these new retirement accounts through payroll deductions, and the plans would be overseen and administered by the state.

We further explained that workers in these states would have access to these retirement savings accounts, which likely would guarantee higher returns than a bank savings account—around a two to three percent return on the money invested.

With that explanation, 71 percent agree this these state plans are a good idea (Figure 20), with three-fourths indicating they would consider participating (Figure 21).

Figure 20: 71% Think That State Sponsored Retirement Plans Are a Good Idea.

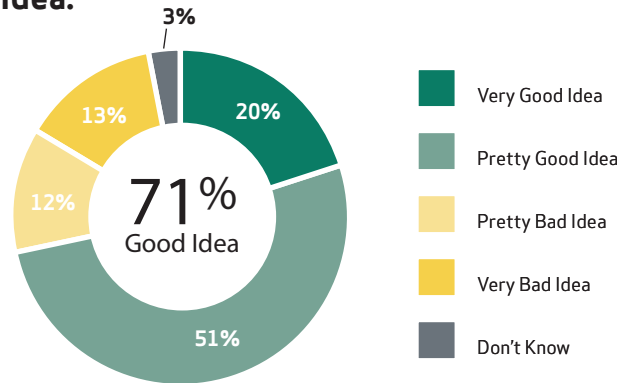
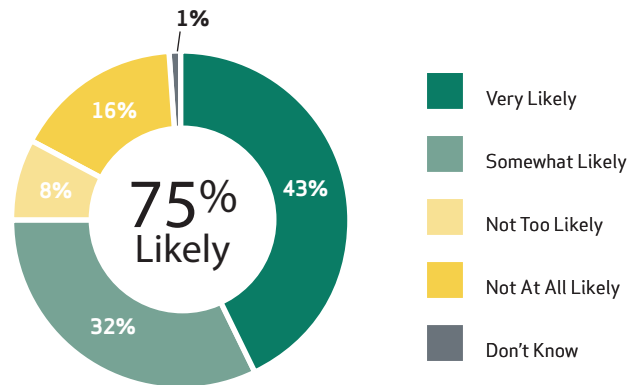


Figure 21: Three-fourths of Americans Would Participate in State Retirement Plans

Overall, based on the description read to you, how likely would you be/have been to consider participating in this plan if it were available?



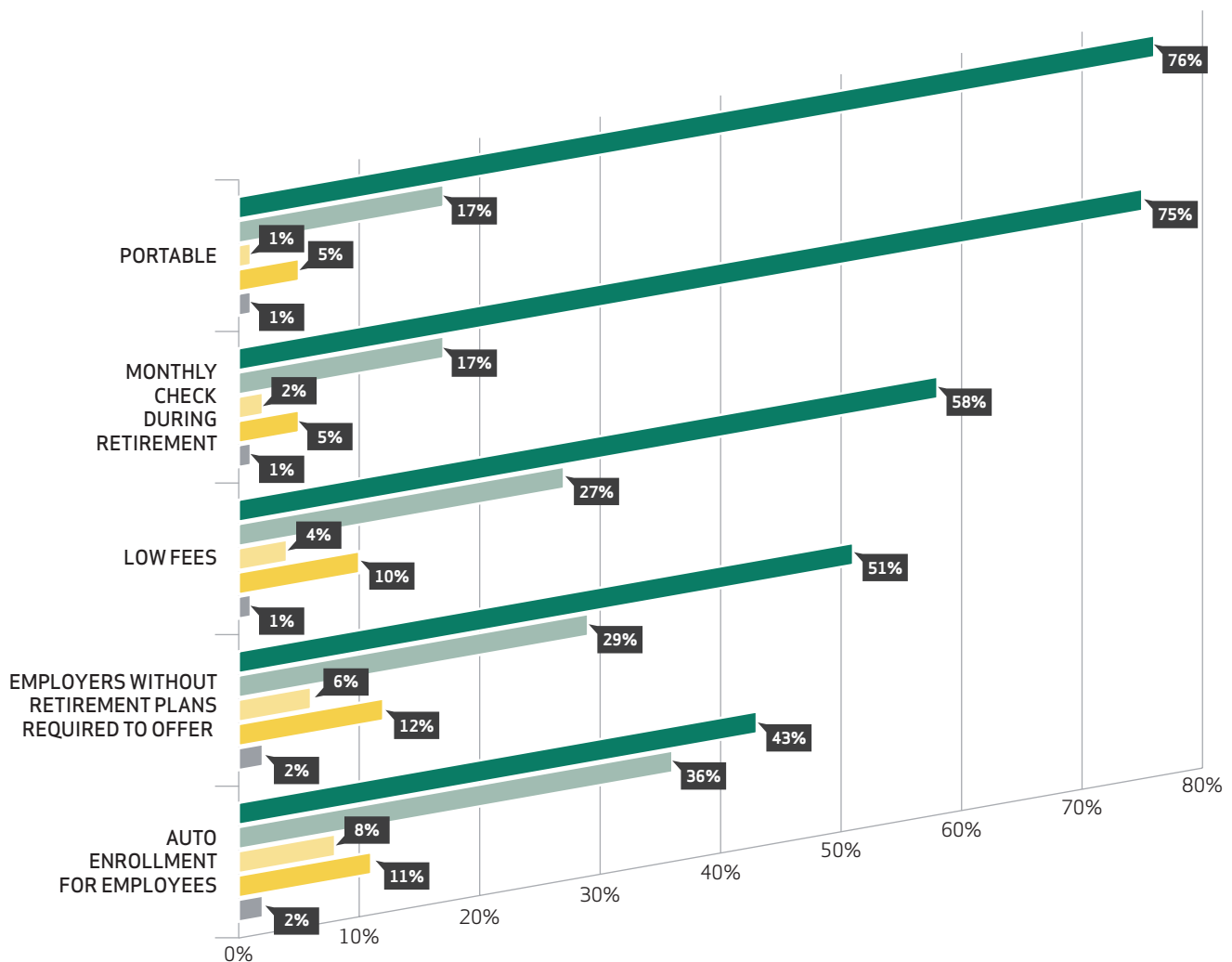
We asked about specific features that such retirement accounts would offer. Americans ranked both portability from job to job and receipt of monthly check as the most attractive features of these state plans (93 percent each), followed by

low fees for the plans (85 percent), employer requirements to offer the plans (80 percent), and the employee opt-out option (79 percent) (Figure 22).

Figure 22: Portability and Receipt of a Monthly Check are the Most Attractive Features of the State Plan

How appealing are each of the following aspects of this new type of retirement plan?

Very Appealing Somewhat Appealing Not Too Appealing Not At All Appealing Don't Know



V. AMERICANS PLACE A HIGH VALUE ON RETIREMENT BENEFITS

Historically, the U.S. had in place a strong retirement infrastructure whereby middle class Americans could maintain their standard of living after a lifetime of work. Over time, the three-tiered retirement system—Social Security, employer pension plans and individual savings—has degraded dramatically.

For private sector workers, a pension plan with regular monthly income that lasts has been replaced with individual accounts like 401(k) plans that were intended to supplement pensions. Among households covered by workplace retirement benefits in 2013, a majority (57 percent) of older households age 55-64 are covered by a DB pension. In contrast, younger households are half as likely to have a DB pension—29 percent for those age 25-34 and 30 percent for those age 35-44.³²

Also, Americans just are not saving enough in their individual accounts at a time when their retirement income needs are increasing due to rising longevity and costs. In 2013, the typical working household approaching retirement had only \$103,000 in 401(k)/IRA assets.³³ Part of the problem is referred to as plan “leakage” that occurs when individuals tap into their retirement savings while working for non-retirement purposes. Overall, such leakage reduces aggregate individual account retirement assets by about 25 percent.³⁴

Another significant factor harming Americans’ ability to save is wage stagnation. For most Americans, wages after inflation is taken into account have been flat or falling for decades, regardless of whether the economy has added or lost jobs.³⁵

The reality today is that Americans need to save more money because they are living longer and to cover healthcare costs in retirement as employers move away from offering retiree health insurance. Between 1988 and 2013, the share of large companies offering retiree healthcare plummeted from 66 percent to 29 percent. Simultaneously, those offering retiree healthcare benefits have reduced benefits and required higher retiree contributions for coverage.³⁶

Given financial pressures and changes to retirement benefits, it is not surprising that Americans highly value retirement benefits (Figure 23). In fact, it is a job feature that is almost as important as salary. Salary is viewed as important by 75 percent of Americans, and retirement benefits are close behind at 72 percent. Health insurance tops the list with 84 percent of Americans saying it is an important job feature.

Some interesting differences emerged between public and private sector when it comes to the importance of job features, in particular retirement benefits and salary.

The data indicate that retirement benefits are far more important to public sector workers as compared to private sector workers. While 88 percent of public employees rated retirement benefits as extremely or very important, only 65 percent of workers in the private sector gave retirement benefits the same level of importance. In fact, 45 percent of public workers rated retirement benefits as extremely important.

Moreover, salary considerations are far more important to private sector workers with 82 percent indicating that salary was an important feature as compared to the public workforce where salaries are lower. Only 57 percent of those working in the public sector rated salary as important (Figure 24).³⁷ This difference is important because pensions are more prevalent in the public sector (nearly all public workers still have an employer-sponsored pension) as compared to the private sector where pension benefits are dwindling rapidly.

The findings seem to support the notion that pensions are an important public sector workforce management tool whereby lower salaries are offset by retirement benefits. This is important because research indicates shifting away from pensions to DC retirement accounts may impact the make up of the public sector workforce.³⁸

Figure 23: Three-fourths of Americans Say Retirement Benefits are an Important Job Feature

When making job decisions, how important are the following job features to you?

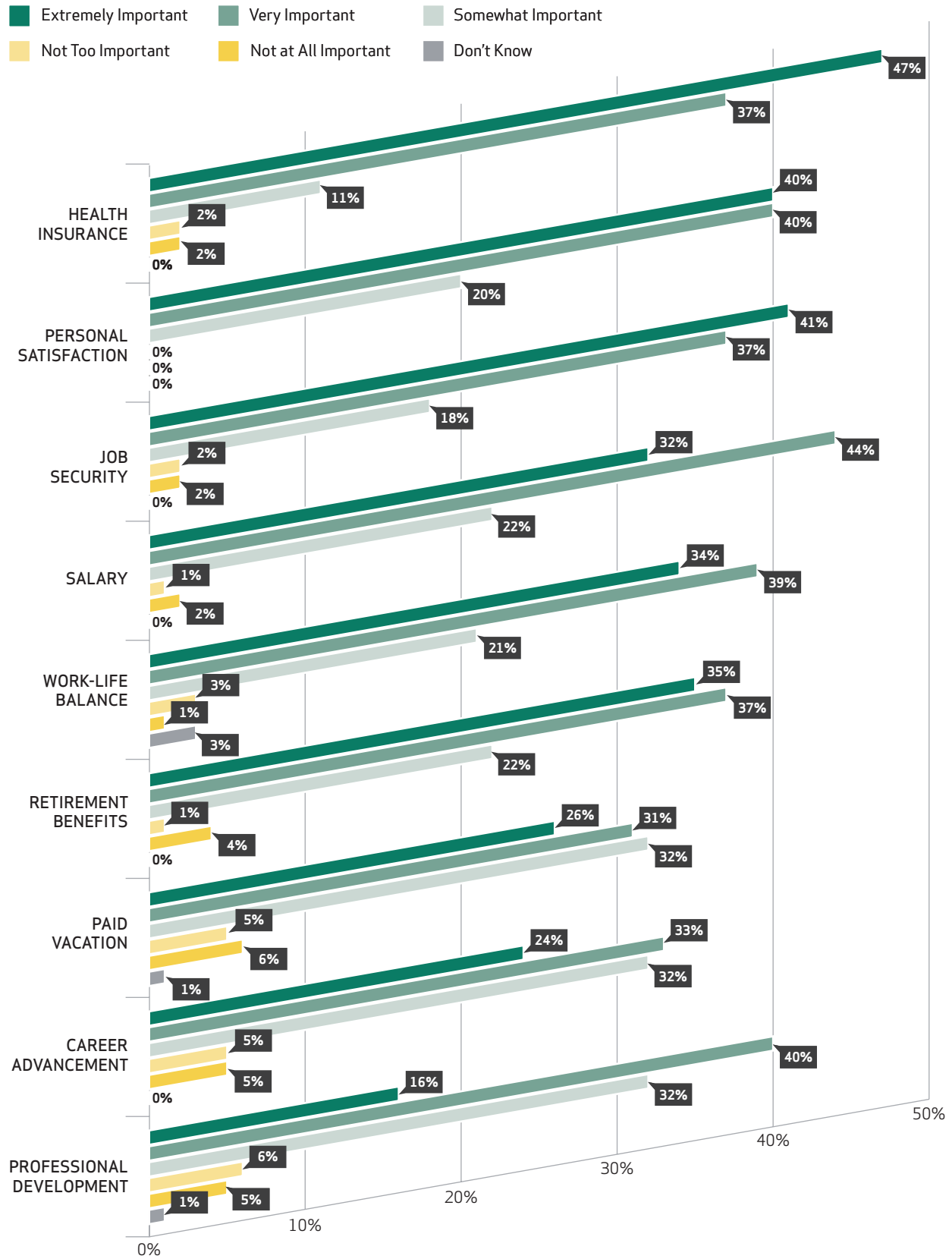


Figure 24: Retirement Benefits are Significantly More Important to Public Workers as Compared to Private Sector Workers

When making job decisions, how important are the following job features to you?



NIRS AND GREENWALD ASKED AMERICANS:

How would you personally define what a secure retirement means to you?



"Being able to have a house to live in and food to eat."

"To have the **relief of worrying about not having money** to pay bills, buy groceries or medicine in my old age."



"I sold my house and moved in with my son, and the responsibility is on him. **I could not afford to stay in my house.** I have been retired for 10 years."



"Being **able to retire** without seeking employment or additional income."



"Having enough financial wherewithal **to support myself**, and take care of all my needs without having to depend on the government."



"**Live at the same standard while I worked and not have to take another job.**"

"I would say **not a 401(k) because they are too unstable.**"



"That I can pay my bills and that I can have food and housing and heat and transportation. **Just the basics I guess.**"



"Having a good pension."



"Being able to pay your bills without going for government help. Being able to go where you want to and having gas in your car. **Being self-sufficient, I guess.**"



"**Where I can live month to month** with money coming in so I can afford the expenses that I have."



VI. AMERICANS SUPPORT PUBLIC EMPLOYEE PENSIONS, HAVE MISPERCEPTIONS ABOUT WHO PAYS FOR BENEFITS

In recent years, pension benefits for public employees have come under intense scrutiny. This attention can be attributed to several factors: the financial crisis that resulted in steep investment losses for all investors including pension funds; ideological organizations opposed to government programs; and “pension envy” as private sector employees continue to lose pension coverage.

Across the country, the debate has been charged and large amounts of dollars have been spent by ideological groups to strip away pension benefits for public employees like teachers and firefighters. It is estimated that one non-profit organization “has given over \$53 million to groups backing pension reform efforts in 17 states since 2008.”³⁹

Some argue that the real issue is that private sector workers have too little retirement security, rather than the public sector having overly generous benefits.⁴⁰ The typical monthly retirement benefit for public employees is \$2,100 and employees share the funding responsibility with substantial contributions from each paycheck.⁴¹ This is in contrast to private sector pensions. Private sector employees typically do not contribute to their pensions because of unfavorable tax treatment under the U.S. tax code.⁴²

Since the financial crisis, nearly every state has adopted reforms to their public pension plans rather than shifting to individual DC accounts, likely because the shift is expensive and undermines retirement security.⁴³ These reforms have come

Figure 25: 88 Percent Say That Police Officers and Firefighters Deserve a Secure Retirement With a Pension Because of Their Risky Jobs

Please tell me whether you agree or disagree that police and firefighters have agreed to take jobs that involve risks and therefore deserve pensions that will afford them a secure retirement.

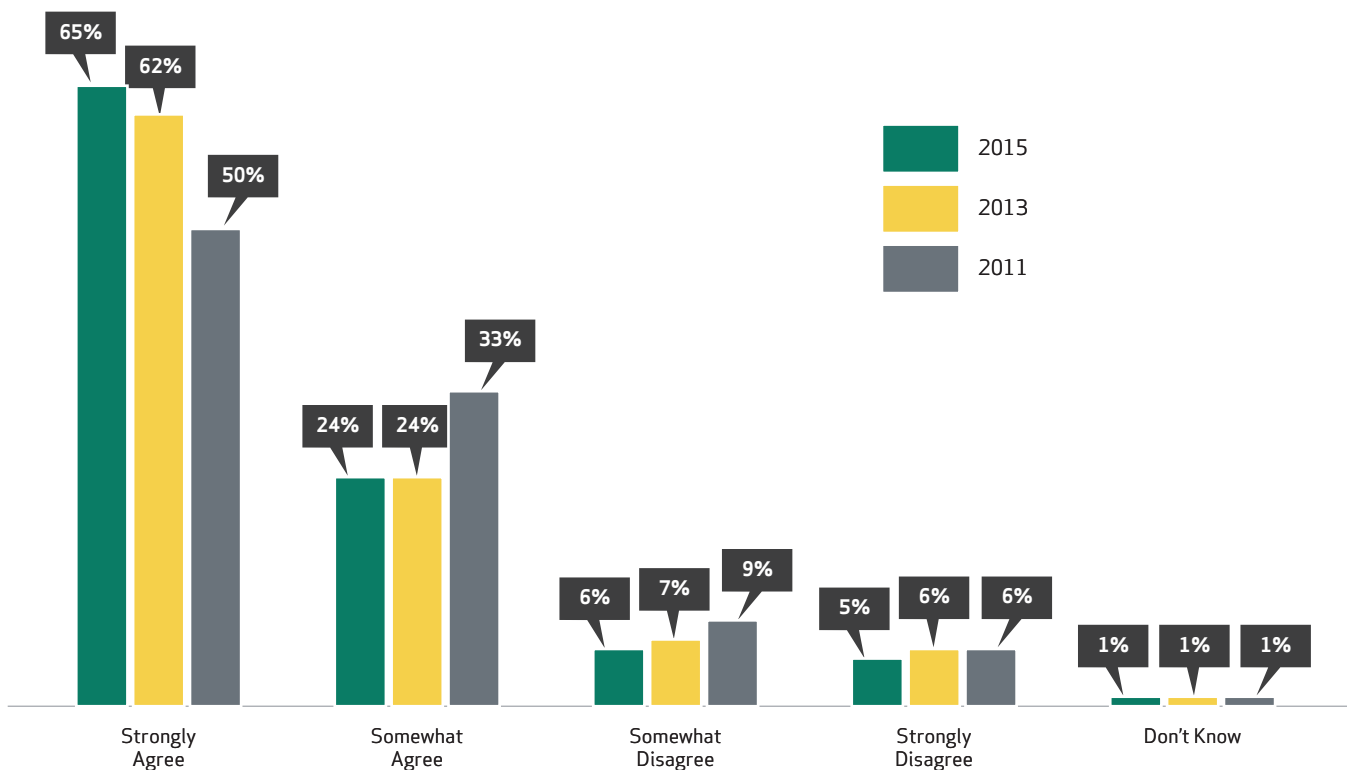
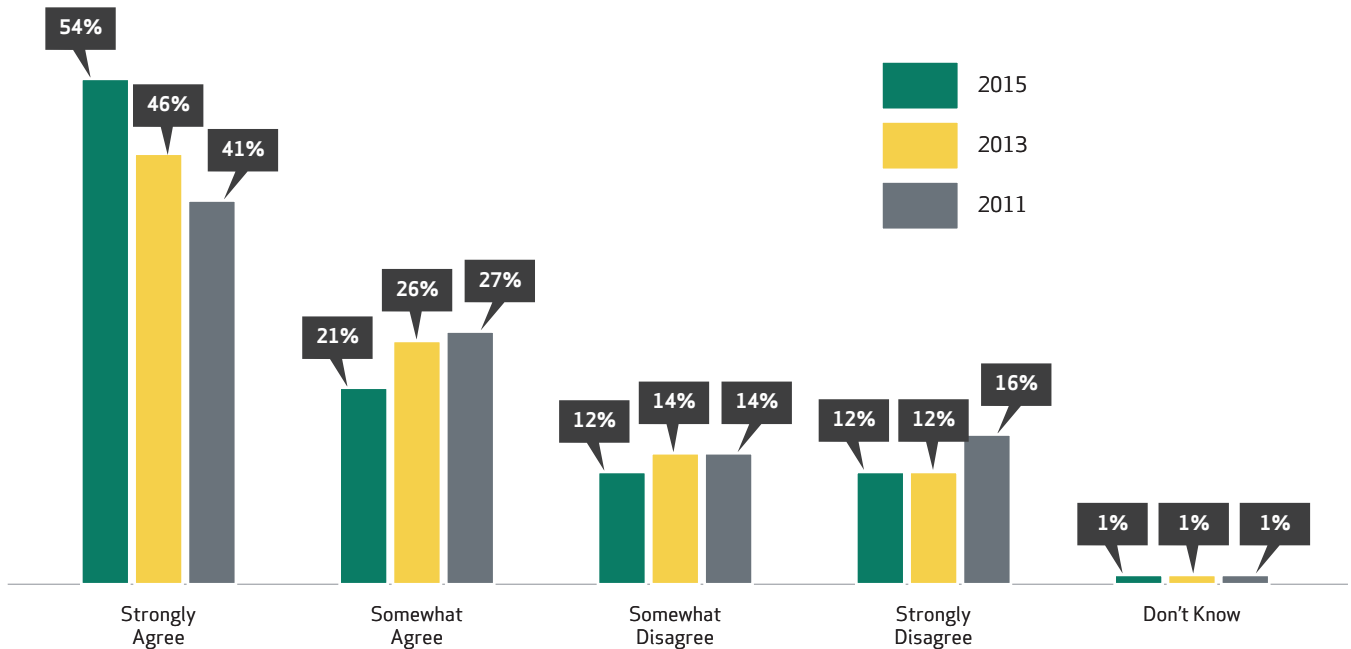


Figure 26: Three Quarters (75%) Say Public School Teachers Deserve Pensions Because of Their Low Pay

Please tell me whether you agree or disagree that public school teachers deserve pensions to compensate for lower pay.



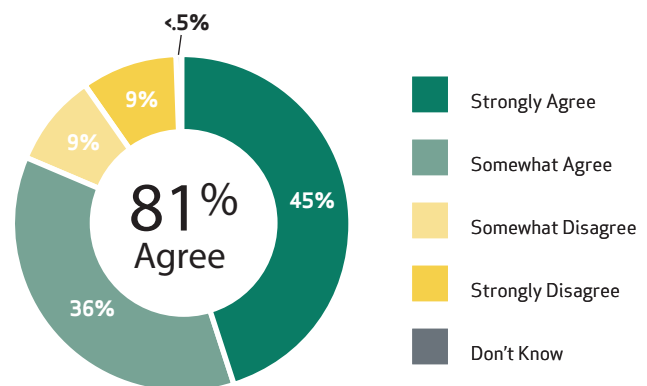
in the form of increased contributions from employees and employers, increases to the retirement age, cuts to current and future employee benefits, and modifications to retirement plan formulas.⁴⁴ With reform, most plans are on track to return to an appropriate funding level by 2017.⁴⁵

Against this backdrop, Americans were asked their views about public pensions. The data indicate that Americans express strong and growing support for public employee pensions because: segments of the public workforce have high-risk jobs; lower pay; funding of benefits is shared with employees; and pensions help recruit and retain skilled workers. Americans also think that pensions should be widely available to the entire workforce, not just those in the public sector.

For police officers and firefighters, 88 percent of Americans say these employees deserve pensions given their job risks. That support has increased over time: 88 percent in 2015; 86 percent in 2013; and 83 percent in 2011 (Figure 25).

Figure 27: 81 Percent of Private Sectors Workers Say All Workers Should Have a Pension

I would like to ask how you feel about the pensions that are sometimes given to state and local government employees. Please tell me whether you agree or disagree that all workers, not just those employed by state and local governments, should have access to this kind of pension.



For teachers, 75 percent of Americans say pensions are deserved to compensate for low pay. This support has increased over time: 75 percent in 2015; 72 percent in 2013; and 68 percent in 2011 (Figure 26).

The data seems to support the notion that Americans do not begrudge or want to take away pensions for public employees. Instead, private sector employees seem to “envy” public employee pensions because they want similar benefits for themselves to improve their financial security. Americans do not seem to want a “retirement race to the bottom” by taking away pensions for public employees.

Instead, it seems Americans would prefer to move back to retirement system whereby more Americans have a predictable pension income. Some 81 percent say that all workers should have access to pensions—not just those in the public sector. This support for pensions grew to 81 percent in 2015 from 68 percent in 2011 (Figure 28).

The research also shows that the vast majority of Americans, 71 percent, strongly support public pensions for police,

firefighters and municipal employees because these employees fund a significant portion of their benefits (Figure 29). Only six percent do not support these pension benefits.

And to go one step further on the funding of public pensions, the data indicate there is a significant misunderstanding about who pays for public pension costs. Only one-fourth of Americans understood that public employers pay for 25 percent or less of public pension costs.

Nearly half of Americans seem to feel comfortable with the level of benefits paid to public workers (\$2,100 per month is the national average), and almost four out of ten see the benefits as too low. Only nine percent say the benefits are too high (Figure 31). This holds true across public and private sector Americans: 49 percent and 47 percent, respectively, say the benefits are about right; 45 percent and 32 percent, respectively, say the benefits are too low.

As the public pension funding recovers, a majority of Americans increasingly agree that public pensions have made the changes needed to continue providing promised

Figure 28: 81 Percent of Americans Say All Workers Should Have a Pension

I would like to ask how you feel about the pensions that are sometimes given to state and local government employees. For each of the following statements, please tell me whether you agree or disagree that all workers, not just those employed by state and local governments, should have access to this kind of pension.

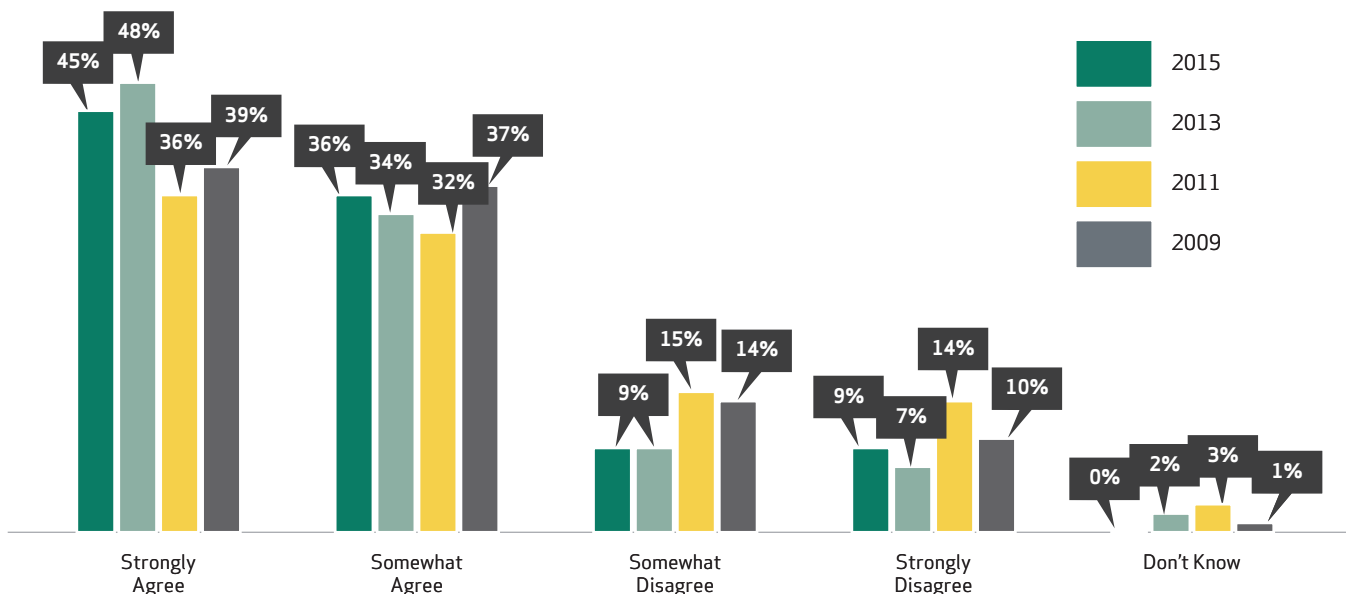


Figure 29: 71 Percent Strongly Support Local Pensions for Police, Fire, and Municipal Employees Because Workers Help Fund Pensions

Given that they fund a significant portion of their own pensions, how strongly do you support or oppose giving pensions to local firefighters, police, and municipal employees?

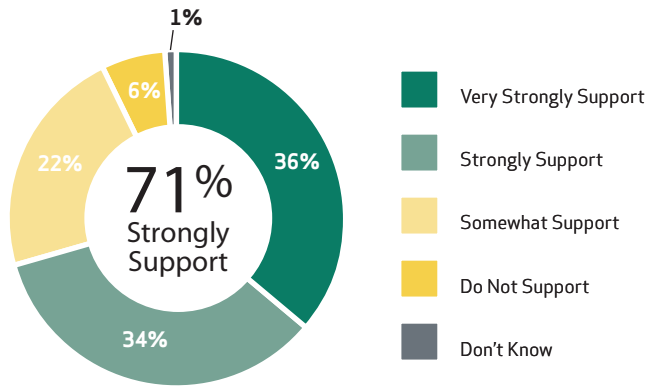
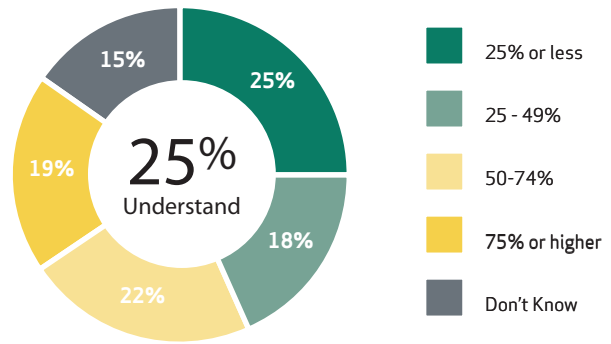


Figure 30: Only 25 Percent of Americans Understand that Taxpayers Pay for About One-Fourth of the Cost of Pensions

What percentage of public pensions do you think is paid for by taxpayers?



benefits—55 percent in 2015, 53 percent in 2013 and 45 percent in 2011 (Figure 32).

Also, some 87 percent of Americans say pensions are a good way to recruit and retain qualified teachers, police officers and firefighters with 61 percent strongly agreeing with the statement (Figure 33). This is consistent with the difference in retirement sentiment about benefits as an extremely important job factor among public employees in comparison to the private sector. Because pensions play an important role in public sector compensation, shifting from DB pension to DC accounts may negatively impact the ability of public employers to recruit and retain qualified workers.⁴⁶

Three-fourths of Americans say that public pensions are a good source of retirement income because they are managed by financial professionals who do not over-react to market swings. This strong support could stem from the fact that private sector employees find themselves now trying to manage their own investments in individual accounts (Figure 34).

Figure 31: Americans are Comfortable With the Level of Pension Benefits Paid to Public Workers or Think Benefits are too Low

The average retirement benefit for public workers is about \$2,100 a month, though some may receive more or less depending on their local cost of living. Judging based on what you think is reasonable, do you think that this amount of retirement income is:

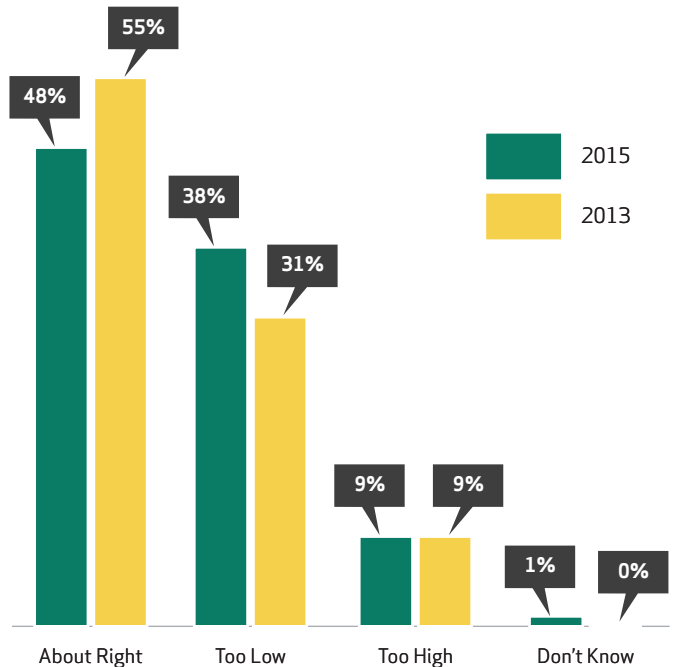


Figure 32: A Majority of Americans Feel the Public Pensions Have Made the Changes Needed to Continue Providing Benefits

How much do you agree or disagree with the following statements about public pensions, which are offered to state and local government workers? Public pensions have made the changes they need to in order to continue providing promised benefits.

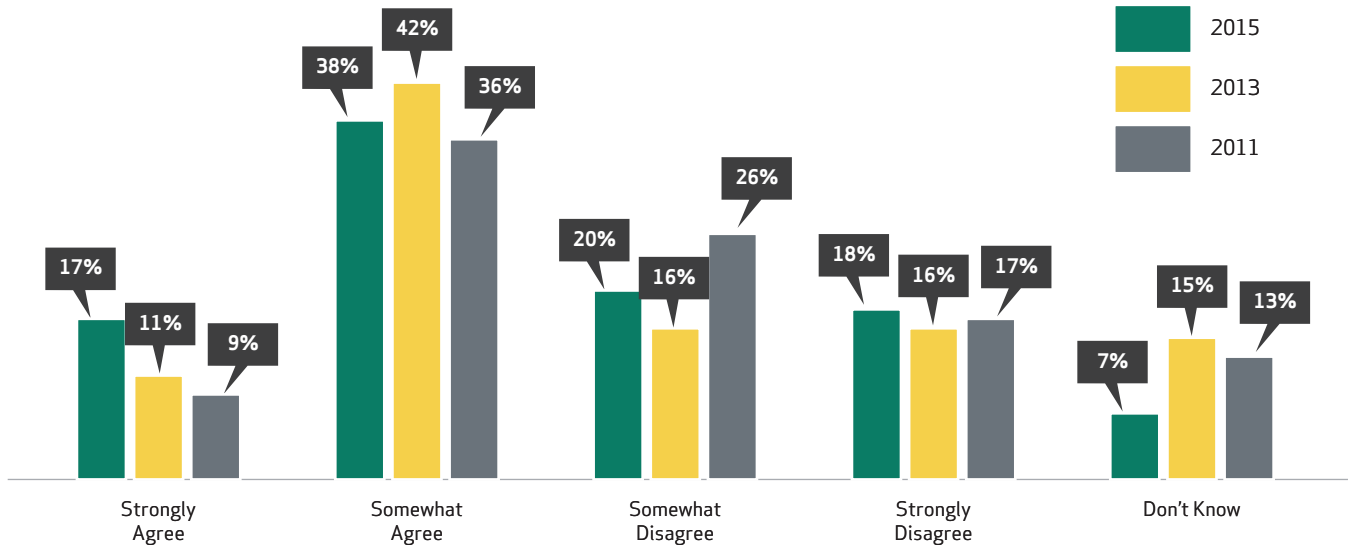


Figure 33: 87% of Americans Say Pensions Are Good Tool to Recruit Teachers, Police, Firefighters

Are pensions a good way to recruit and retain qualified teachers, police officers and firefighters?

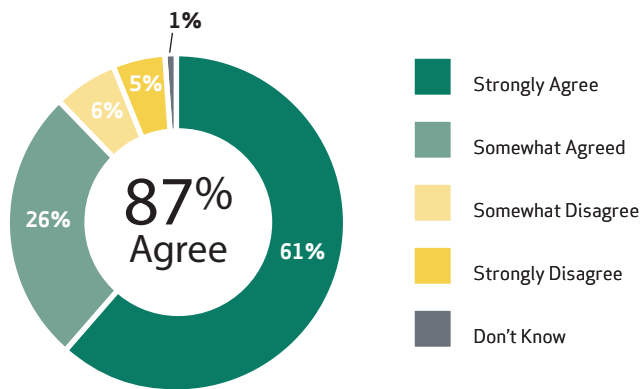
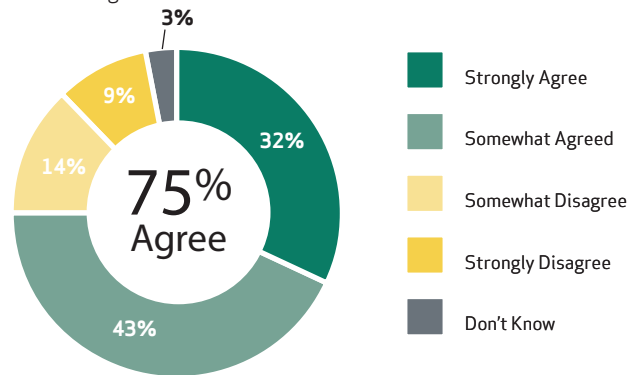


Figure 34: 75 Percent of Americans Say Pensions Are A Good Source of Retirement Due to Management by Financial Professionals

Public pensions are a good source of retirement income because they are managed by financial professionals who don't over-react to market swings.



VII. SOCIAL SECURITY BENEFITS INCREASINGLY IMPORTANT

Social Security is a central component of retirement security for Americans, but benefits are at risk. Nearly two-thirds of older Americans rely on Social Security benefits for most of their income.⁴⁷ Increases in the Social Security retirement age already have resulted in lower benefits—a particularly difficult development for lower income workers who rely most heavily on Social Security to make ends meet.

The 2014 Social Security Trustees Report indicates that the Social Security program continues to face a long-term financing shortfall equal to about one percent of gross domestic product. Although the shortfall is considered manageable, the shortfall likely will be addressed by either further benefit cuts or by putting more money into the system.⁴⁸

With this in mind, we wanted to learn how Americans feel about protecting Social Security. Some 73 percent of

Americans say it is a mistake to cut government spending in such a way as to reduce Social Security benefits for current retirees, which is up from 67 percent in 2013 (Figure 35).

When it comes to benefits for future generations, 69 percent oppose cutting government spending that reduces Social Security benefits (Figure 36).

Given that Social Security benefits are the primary source of income in retirement for most Americans, we wanted to explore how well individuals understood the value of delaying drawing benefits as a way to increase the monthly amounts received in the retirement. Americans are divided when it comes to delaying receipt of Social Security benefits to increase benefit levels even if it means dipping into retirement savings: 42 percent agree with a delay and 52 percent disagree (Figure 37).

Figure 35:
Americans Overwhelmingly Oppose Cuts to Social Security for Current Retirees

To what extent do you agree or disagree that government should cut spending in all areas, even if it means reducing Social Security benefits for CURRENT retirees.

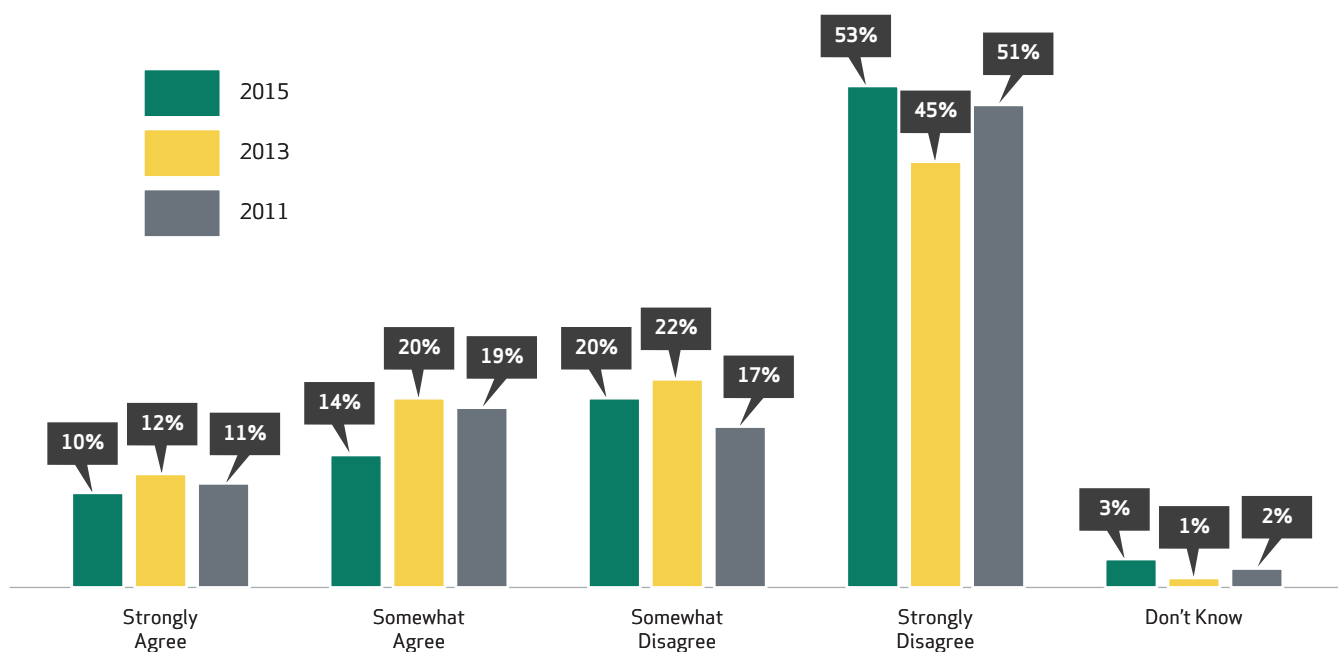


Figure 36:

Americans Overwhelmingly Oppose Cuts to Social Security for Future Retirees

To what extent do you agree or disagree that government should cut spending in all areas, even if it means reducing Social Security benefits for FUTURE retirees.

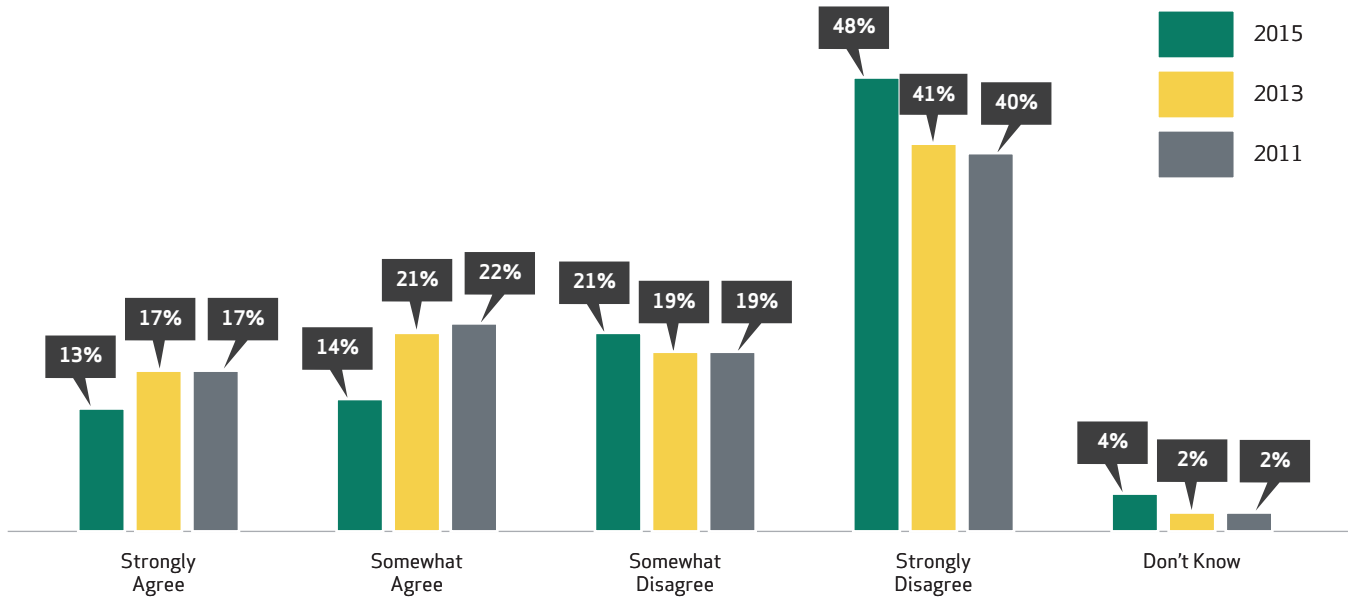
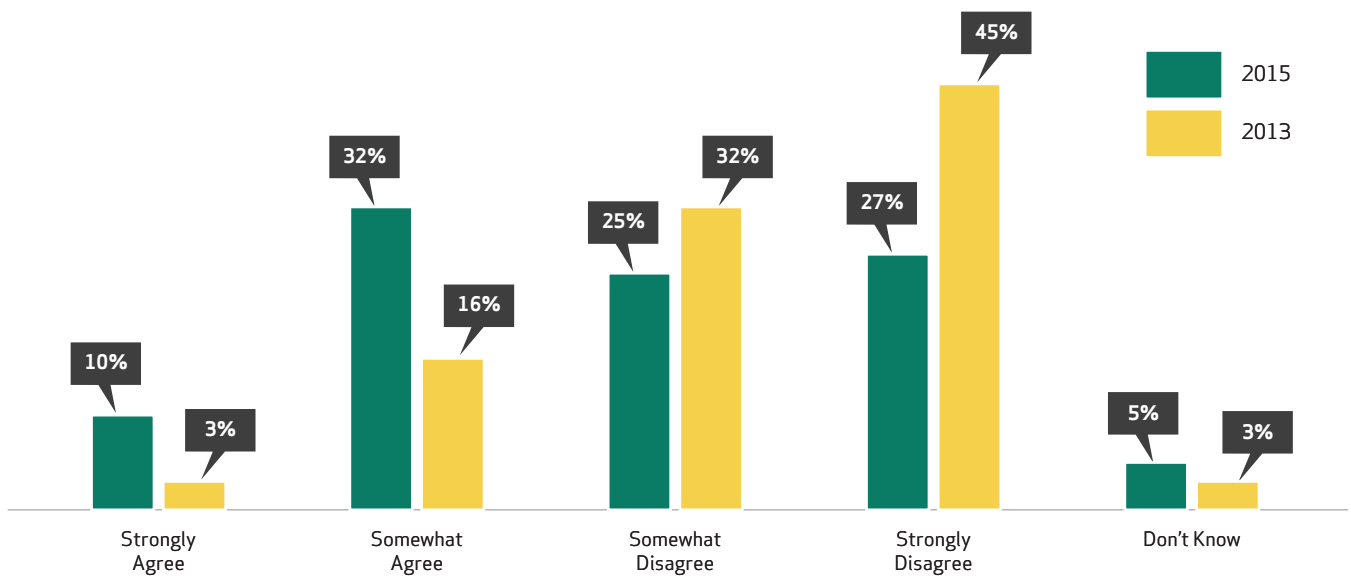


Figure 37: Americans Divided on Delaying Social Security

Given that Social Security benefits increase for every year you delay taking them, retirees should delay claiming Social Security even if it may mean spending down all of their savings first.



CONCLUSION

The evidence is clear that the United States is on the precipice of another financial threat—older Americans lacking sufficient income to be self-sufficient as they move out of the workforce. The typical working-age American household is far off-track toward accumulating ample savings to be able to maintain their current living standard and many will be challenged to have the resources to pay for their basic needs in retirement.

This financial insecurity crisis for older Americans comes as no surprise to experts who have been forecasting the problem for years. A wide and growing body of research shows that just as retirement income needs are growing because Americans are living longer and have higher costs in retirement, the weak U.S. retirement system is providing less income when Americans need it most.

This fourth biennial nationwide public opinion research project to measure how Americans feel about their financial security in retirement and to assess their views on policies that could improve their retirement outlook. It is intended to serve as a tool for policymakers, thought leaders and retirement service providers as they work to stem the retirement crisis and re-fortify the U.S. retirement infrastructure.

The research finds that:

1. **An overwhelming majority of Americans believe there is a retirement crisis.** Some 86 percent agree that the nation faces a retirement crisis, and 57 percent strongly agree there is a crisis.
2. **Three in four Americans remain highly anxious about their retirement outlook, but the concern has dissipated slightly as the economy has recovered.** Some 74 percent of Americans percent say they are concerned, down from 85 percent as reported in the 2013 study.
3. **Even though Americans feel slightly less stressed about their retirement prospects, support for steady and reliable retirement income from a pension is high and growing.** In fact, 82 percent say a pension is worth having because it provides steady income that won't run out, while 67 percent of Americans indicate they would be willing to take less in pay increases in exchange for guaranteed income in retirement.
4. **Americans continue to feel that leaders in Washington do not understand their struggle to save for retirement, and they strongly support efforts by states to set up retirement plans for those workers without access to an employer sponsored plan.** Some 87 percent of Americans say Washington policymakers do not understand how hard it is to prepare for retirement, while 84 percent say Washington needs to do more to help ensure retirement security.
5. **Americans see retirement benefits as a job feature that is almost as important as salary.** Salary is viewed as important by 75 percent of American, and retirement benefits are close behind at 72 percent.
6. **Americans express strong support for pensions for public employees. Few Americans realize that 75 percent of public pension costs are paid for with employee contributions and investment returns.** Some 87 percent of Americans say pensions are a good way to recruit and retain qualified teachers, police officers and firefighter. But, only one-fourth of Americans understood that public employers pay for 25 percent or less of public pension costs. More than eight out of ten—a vast majority of Americans—say that all employees, not just the public sector, should have a pension.
7. **Protecting Social Security benefits is increasingly important. Some 73 percent of Americans** say it's a mistake to cut government spending in such a way as to reduce Social Security benefits for current retirees, up from 67 percent in 2013. When it comes to benefits for future generations, 69 percent oppose cutting government spending that reduces Social Security benefits. Americans

are divided when it comes to increasing the amount of Social Security benefits by delaying the withdrawal of benefits at an older age: 42 percent agree with a delay while 52 percent disagree.

Clearly, Americans are highly cognizant of the retirement crisis, and they want solutions. While Americans are feeling slightly less anxious about their financial security in retirement, they remain highly supportive of solutions that will provide guaranteed income that will last. They also express growing

strong support for pensions—for both public and private sector employees—as these retirement plans are highly cost efficient and provide income that will not run out.

Americans continue to feel that policymakers need to do more, and are quite supportive of state initiatives to shore up retirement savings. As the policy debate continues, we hope that these research findings help inform deliberations and serve as a valuable tool for government officials, experts and the general public.

METHODOLOGY

The survey was conducted as a nationwide telephone interview of 801 Americans age 25 or older to assess their sentiment regarding retirement and actions policymakers could take. Greenwald & Associates balanced the data to reflect the demographics of the United States for age, gender, and income. The margin of error is plus or minus 3.5%. Sums of two or more figures may not equal an expected total due to rounding.

In this report, the following age groups were used for the generational definitions:

- Silent Generation: Born before 1946
- Baby Boomers: Born between 1946 and 1964
- Generation X: Born between 1965 and 1976
- Millennial: Born after 1977

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Our Mission

The National Institute on Retirement Security is a non-profit research and education organization established to contribute to informed policymaking by fostering a deep understanding of the value of retirement security to employees, employers, and the economy as a whole.

Our Vision

Through our activities, NIRS seeks to encourage the development of public policies that enhance retirement security in America. Our vision is one of a retirement system that simultaneously meets the needs of employers, employees, and the public interest. That is, one where:

- employers can offer affordable, high quality retirement benefits that help them achieve their human resources goals;
- employees can count on a secure source of retirement income that enables them to maintain a decent living standard after a lifetime of work; and
- the public interest is well-served by retirement systems that are managed in ways that promote fiscal responsibility, economic growth, and responsible stewardship of retirement assets.

Our Approach

- High-quality research that informs the public debate on retirement policy. The research program focuses on the role and value of defined benefit pension plans for employers, employees, and the public at large. We also conduct research on policy approaches and other innovative strategies to expand broad based retirement security.
- Education programs that disseminate our research findings broadly. NIRS disseminates its research findings to the public, policy makers, and the media by distributing reports, conducting briefings, and participating in conferences and other public forums.
- Outreach to partners and key stakeholders. By building partnerships with other experts in the field of retirement research and with stakeholders that support retirement security, we leverage the impact of our research and education efforts. Our outreach activities also improve the capacity of government agencies, non-profits, the private sector, and others working to promote and expand retirement security.



The **National Institute on Retirement Security** is a non-profit research institute established to contribute to informed policy making by fostering a deep understanding of the value of retirement security to employees, employers, and the economy as a whole. NIRS works to fulfill this mission through research, education, and outreach programs that are national in scope.



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TO: BOARD OF TRUSTEES
FROM: EDWARD SMITH, CHAIRMAN
DATE: MARCH 19, 2015
SUBJECT: BENEFITS COMMITTEE REPORT

The Benefits Committee did not meet in March. The following report reflects highlights of the Benefits Department activities since the January Board meeting.

Federal Max 80/Lookback COLA Benefit Correction Update (As of 3/6/15)

Effective March 2, 2015, the U.S. Department of the Treasury (Treasury) proceeded with updating the annuities of approximately 557 federal annuitants due to the correction project. The annuity payments of 501 were decreased and 51 annuities were increased. Treasury developed a technical data mover script for making the annuity adjustments in STAR so DCRB staff did not have to make these adjustments manually. Treasury's script was successful in making the adjustments; however, an error was detected in the script after processing that negatively impacted approximately 35 other annuitants. All 35 affected annuitants were teacher retirees and their annuities will be corrected for the April 1, 2015 payment. The Treasury Call Center, which is still active reported 643 contacts (phone calls, faxes, letters, and voicemails) from January 30, 2015 through March 6, 2015. Since DCRB added a menu item on its iCore phone system that directs callers to Treasury's Call Center, DCRB's Member Services Center's call volume on this issue has been very low.

2015 Cost-of-Living Adjustments (COLAs)

COLAs will be applied to police/fire and teacher retirees and survivors beginning with their April 1, 2015 benefit checks. The rates are as follows:

Teachers	-	.3%
Police/Fire	-	.8%

Individuals who retired after March 2014 will receive a pro-rated COLA amount.

Stakeholder Outreach

DCRB Benefits staff will be participating in the following retirement workshops:

March 30-31, 2015 – DC Public School Teachers' Retirement Workshop
Presented by DCPS, DCRB, and the WTU

**April (tbd) 2015 - Metropolitan Police Department Command Staff
Retirement Workshop**

Presented by MPD Human Resources Management Division

With Brief Presentations by:

DC Retirement Board Benefits Department

DC Department of Human Resources

Police/Firefighters Retirement and Relief Board [I think they will be there]

OCFO Office of Pay & Retirement Services

March 1, 2015 Checks - New Retirement Cases

In the month of January, DCRB processed* 37 Police/Fire Plan and 10 Teacher Plan new retirement cases.

*These statistics do not include other cases processed such as recalculations, one time payments, retroactive adjustments, health benefit adjustments, garnishment changes, pop-up calculations, and other informational requests.

Benefits Staffing

The Benefits Department is currently recruiting for the following positions: Member Services Manager; Benefits Systems Manager; Quality Analyst; and Retirement Specialist.

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TO: BOARD OF TRUSTEES
FROM: LYLE BLANCHARD, CHAIRMAN
DATE: MARCH 19, 2015
SUBJECT: LEGISLATIVE COMMITTEE REPORT

The following report reflects activities of interest since the January Board Meeting.

COUNCIL OF THE DISTRICT OF COLUMBIA

A20-0561 (B20-0890), “Firefighter Retirement While Under Disciplinary Investigation Amendment Act of 2014”

This act changes the retirement procedure for a member of Fire and Emergency Medical Services who retires from the Department when facing disciplinary charges.

Status: The bill, originally introduced by Councilmember Tommy Wells on July 14, 2014, was enacted with Act number A20-0561 on January 6, 2015. The Act was transmitted to Congress on January 27, 2015, and became law on March 11, 2015.

B21-0014, “Council Contract Review Repeal Act of 2015”

This legislation would amend the District of Columbia Home Rule Act (D.C. Code § 1-204.51) by repealing the requirement that contracts in excess of \$1 million during a 12-month period, as well as multi-year contracts, be subject to D.C. Council review. A conforming amendment would be made to the Procurement Practices Reform Act of 2011 (“PPRA”) (D.C. Code § 2-352.02). Thus, the District of Columbia Retirement Board, which is exempt from the PPRA except for the D.C. Council review requirement (D.C. Code § 2-351.05(c)), would not be required to submit its contracts to the D.C. Council.

The proposed legislation would not affect any contract that was required to be submitted to the Council prior to the bill’s final effective date and any contract pending Council review would be deemed approved as of the bill’s final effective date.

Status: The legislation was introduced January 6, 2015 by Councilmembers Jack Evans, Elissa Silverman, Anita Bonds, David Grosso, Yvette Alexander, and Charles Allen. The bill was referred to the Committee of the Whole on January 6, 2015. On January 9, 2015, a Notice of Intent to Act on the bill was published in the D.C. Register.

HEARINGS

DCRB’s annual agency budget oversight hearing is scheduled for April 17, 2015 at 2:00 p.m. before Chairman Phil Mendelson, Chair of the Committee of the Whole, 1350 Pennsylvania Ave., NW, Room 412, Washington, D.C.

DCRB's annual agency performance oversight hearing was held on March 10, 2015 before Chairman Phil Mendelson, Chair of the Committee of the Whole. The Legislative Committee thanks Trustee Blanchard for testifying on behalf of the Board, as well as Trustee Warren for his participation.



OPERATIONS COMMITTEE REPORT

MARCH 19, 2015

TOPIC	DETAIL
Actuarial Audit	<ul style="list-style-type: none"> • DCRB and Cheiron, the Actuary performing DCRB’s Actuarial Audit, met February 3 to kick off the project. • Below is the project milestones: <ul style="list-style-type: none"> ➤ Draft report – 5/14/15 (100 days from kickoff) ➤ Final report – 7/03/15 (150 days from kickoff) ➤ Board presentation – TBD sometime in the 4th Quarter
Cyber Crime Insurance	<ul style="list-style-type: none"> • Aon Risk Services Inc., DCRB’s insurance broker, is conducting a competitive bid process to select a Cyber Crime Insurance carrier. • This is the first policy of this type for DCRB.
Procurement	<p>Procurement Highlights:</p> <ul style="list-style-type: none"> • Contract log as of March 10, 2015 is included in your package for review. • We have successfully handed off the “FileNet Maintenance” contract from the incumbent (DAS) to the new vendor (Softech). The IT department is working closely with this vendor to ensure that the key areas of maintenance, support, and management of DCRB’s existing FileNet environment are met. • We are in the final stages of completing the Data Management contract. <p>Certified Small Business Enterprise (CSBE) Update:</p> <ul style="list-style-type: none"> • DCRB is in full compliance with the Department of Small and Local Business Development (DSLBD) reporting requirements. • DCRB’s expenditures with CSBEs in FY 2014 outperformed its goal of \$398,347.50 by more than \$100,000. • The agency has exceeded its FY 2015 goal of \$204,986 in the first quarter, primarily due to Information Technology expenditures under the Retirement Modernization Program.
April Committee Meeting	<ul style="list-style-type: none"> • There is a need for an April Committee meeting. The Operations staff asks the members to choose a day that accommodates everyone’s schedule.