

Illinois Public Retirement Systems



January 2019

A Report on the Financial Condition of the Illinois Municipal, Chicago and Cook County Pension Funds of Illinois

Chicago Transit Authority Retirement Fund

Cook County Employees' Pension Fund

Cook County Forest Preserve Employees' Pension Fund

Firemen's Annuity and Benefit Fund of Chicago

Illinois Municipal Retirement Fund

Laborers' Annuity and Benefit Fund of Chicago

Metropolitan Water Reclamation District Retirement Fund

Municipal Employees' Annuity and Benefit Fund of Chicago

Park Employees' Annuity and Benefit Fund of Chicago

Policemen's Annuity and Benefit Fund of Chicago

Public School Teachers' Pension and Retirement Fund of Chicago

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Executive Summary

This report examines the financial status of various public employee retirement systems in Chicago and Cook County, along with the Illinois Municipal Retirement Fund, as of Fiscal Year (FY) 2017. The fiscal year ends December 31 for all systems, except for two systems, Chicago Transit Authority Pension Fund and Public School Teachers' Pension and Retirement Fund of Chicago. Chicago Transit Authority Pension Fund ends its fiscal year on January 1, and Public School Teachers' Pension and Retirement Fund of Chicago ends its fiscal year on June 30. The following is a summary of the findings:

- The Chicago Transit Authority Retirement Fund covers all employees of the Chicago Transit Authority. At the end of FY 2017 (January 1, 2018) there were 8,192 active employees and 8,032 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.802 billion and Total Actuarial Liabilities were \$3.423 billion.
- The Cook County Employees' Pension Fund covers all persons employed and paid by the County. At the end of 2017 there were 20,349 active employees and 15,488 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$10.148 billion and Total Actuarial Liabilities were \$16.889 billion.
- The Cook County Forest Preserve Employees' Retirement Fund covers all persons employed and paid by the Forest Preserve. At the end of 2017 there were 548 active employees and 381 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$204.3 million and Total Actuarial Liabilities were \$330.9 million.
- The Firemen's Annuity and Benefit Fund of Chicago covers anyone employed by the City of Chicago in its fire services whose duty it is to in any way participate in the work of controlling and extinguishing fires. At the end of 2017 there were 4,613 active employees and 3,257 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.123 billion and Total Actuarial Liabilities were \$5.582 billion.
- The Illinois Municipal Retirement Fund covers employees hired by the following units of government: (1) All counties except Cook and (for non-teachers) all school districts except Chicago, (2) Other units of government with general taxing powers, such as cities, villages, townships and special districts, (3) Units of government without general taxing powers, associations or cooperatives authorized to participate by State statute. At the end of 2017 there were 175,565 active employees and 114,517 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$39.188 billion and Total Actuarial Liabilities were \$42.179 billion.

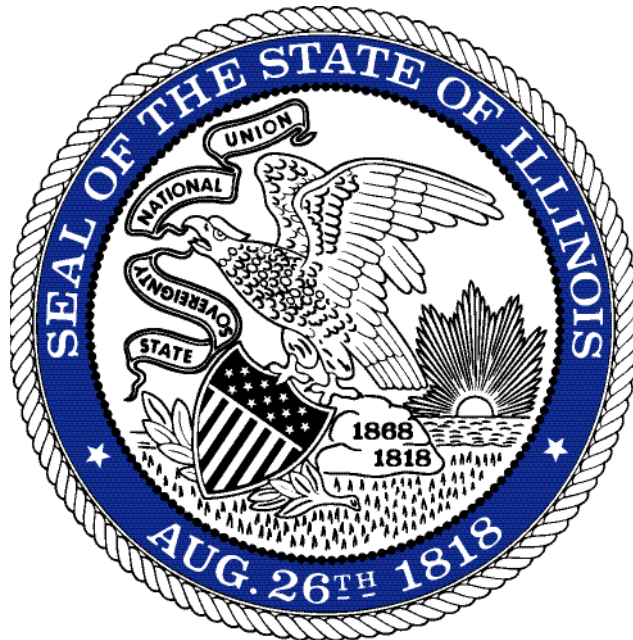
- The Laborers' Annuity and Benefit Fund of Chicago (LABF) covers persons employed by the City of Chicago in a position classified as labor service by the employer, persons employed by the Board of Education under the labor service classification, or anyone employed by a retirement board of any other annuity and benefit fund in the city. At the end of 2017 there were 2,794 active employees and 2,585 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.245 billion and Total Actuarial Liabilities were \$2.579 billion.
- The Metropolitan Water Reclamation District Retirement Fund covers any person employed by the District whose duties include service during a calendar year for a minimum of 120 days. At the end of 2017 there were 1,835 active employees and 1,809 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.456 billion and Total Actuarial Liabilities were \$2.498 billion.
- The Municipal Employees' Annuity and Benefit Fund of Chicago covers persons appointed under civil service rules who are employed by the City of Chicago and Board of Education of Chicago (except teachers), temporary and non-career service employees, aldermen and other officials of the City and the Board that make written application. At the end of 2017 there were 30,922 active employees and 21,137 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$4.457 billion and Total Actuarial Liabilities were \$16.282 billion.
- The Park Employees' Annuity and Benefit Fund of Chicago covers all persons employed by the Chicago Park District. At the end of 2017 there were 3,543 active employees and 2,115 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$385.4 million and Total Actuarial Liabilities were \$1.039 billion.
- The Policemen's Annuity and Benefit Fund of Chicago covers any employee in the Police Department of the City of Chicago sworn and designated by law as a police officer. At the end of 2017 there were 12,633 active employees and 9,899 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$3.104 billion and Total Actuarial Liabilities were \$13.094 billion.
- The Public School Teachers' Pension and Retirement Fund of Chicago covers certified teachers and employees of the Chicago public schools. At the end of FY 2017 (June 30, 2017) there were 28,855 active employees and 24,837 employee annuitants. Total Actuarial Assets of the system on that date were \$10.933 billion and Total Actuarial Liabilities were \$21.822 billion.
- Most of the retirement systems profiled in this report have provided CGFA staff with multi-year funding projections performed by the systems' actuaries. Unless otherwise noted, all long-term funding projections are based upon the retirement

systems' Fiscal Year or Calendar Year 2017 actuarial valuation. The statutory funding requirements differ for each system and are outlined at the beginning of each system's chapter under the heading "Required Employer Contributions". In cases where a recent legislative enactment has changed a particular system's funding requirement, the Public Act number is displayed in the tables showing multi-year funding projections.

- The table below shows a summary of the financial condition of the Chicago Retirement Systems. Based upon the actuarial value of assets, the total unfunded liabilities for the city of Chicago's retirement systems are \$41.814 billion. Please note that this amount does not include IMRF, Cook County Employees' Pension Fund, or Cook County Forest Preserve Pension Fund.

Summary of Financial Condition Chicago Retirement Systems Combined (Excludes IMRF and Cook County Funds) FY 2017 (\$ in Millions)					
System	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
Chicago Transit Authority	595.0	3,423.2	1,802.2	1,621.0	52.6%
Firemen's Annuity & Benefit Fund	469.4	5,582.4	1,123.4	4,459.0	20.1%
Laborers' Annuity and Benefit Fund	208.4	2,578.7	1,245.1	1,333.6	48.3%
Metropolitan Water Fund	184.4	2,497.9	1,456.2	1,041.7	58.3%
Municipal Employees' Annuity and Benefit Fund	1,686.5	16,282.4	4,456.8	11,825.6	27.4%
Park Employees' Annuity and Benefit Fund	135.3	1,039.3	385.4	653.9	37.1%
Policemen's Annuity and Benefit Fund	1,150.4	13,093.9	3,104.0	9,989.9	23.7%
Public School Teachers' Pension Fund	2,030.2	21,822.0	10,933.0	10,889.0	50.1%
TOTAL	6,459.6	66,319.8	24,506.1	41,813.7	37.0%

I. Recent Pension Legislation



Public Act 96-0889 (Creation of Tier II)

Senate Bill 1946 – Cullerton (Madigan)

I. Overview of Key Provisions of Public Act 96-0889 (SB 1946)

Effective Date

- January 1, 2011

Systems Impacted

- IMRF, Chicago Municipal, Cook County, Cook County Forest Preserve, Chicago Laborers, Chicago Park District, Metropolitan Water, SERS, SURS, TRS, Chicago Teachers (Judges and GA separate; CTA, Police, and Fire excluded)

Retirement Eligibility – Except State Policemen, Firefighters, and Correctional Guards

- Normal Retirement: 67 years old with 10 years of service
- Early Retirement: 62 years old with 10 years of service with a 6% per year reduction in benefits for each year under age 67
- Annuity based on highest 8 years out of last 10 years of service
- Annual Final Average Salary may not exceed \$106,800, as automatically increased by the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year.

Retirement Eligibility – State Policemen, Firefighters, and Correctional Guards

- Normal Retirement: 60 years old with 20 years of service
- State Policemen, Firefighters, DOC Guards are still eligible for Alternative Formula

Annual Increases in Annuity

- Increases begin at the latter of the first anniversary of retirement or at age 67
- Increases equal to the lesser of 3% or one-half the annual increase in the CPI-U during the preceding 12-month calendar year; if increase in CPI is zero or if there is a decrease in CPI, then no COLA is payable
- Increase not compounded

Survivor Benefits

- 66.7% of the earned retirement benefit at death
- Increased by the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year
- Increases not compounded

“Double Dipping” Prohibited

- Prohibition on simultaneously collecting a pension and a salary with public employer

Chicago Teachers’ Extension of Funding Plan

- Contributions specified in Fiscal Years 2011 – 2016
- New Goal: CTPF must reach 90% by 2059

Retirement Eligibility – Judges and General Assembly

- Normal Retirement: 67 years old with 8 years of service
- Early Retirement: 62 years old with 8 years of service

Change in Benefit Formula – Judges and General Assembly

- 3% of Final Average Salary for each year of service
- Maximum annuity 60% of Final Average Salary
- Retirement annuity based on highest 8 out of final 10 years of service

Annual Increase in Annuity – Judges and General Assembly

- Increases begin after attainment of age 67
- Increases equal to the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year
- Increases compounded

Annual Increase in Survivor’s Annuity – Judges and General Assembly

- 66.7% of the earned retirement benefit at death
- Increased by the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year
- Increases compounded

Public Act 96-1495 (Creation of Tier II)

Senate Bill 3538 – Link (McCarthy)

I. Overview of Key Provisions of Public Act 96-1495 (SB 3538)

Effective Date

- New employees beginning service after January 1, 2011

Systems Impacted

- IMRF (Sheriff's Law Enforcement Employees), Chicago Police, Chicago Firefighters, Downstate Police, Downstate Firefighters

Retirement Eligibility

- Normal Retirement: 55 years old with 10 years of service
- Early Retirement: 50 years old with 10 years of service with a 0.5% per month reduction in benefits for each month age is under 55
- Annuity based on highest 8 years out of last 10 years of service
- Annual Final Average Salary may not exceed \$106,800, as automatically increased by the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year.

Annual Increases in Annuity

- Increases begin at the later of the first anniversary of retirement or at age 60.
- Increases equal to the lesser of 3% or one-half the annual increase in the CPI-U during the preceding 12-month calendar year; if increase in CPI is zero or if there is a decrease in CPI, then no COLA is payable
- Increase not compounded

Survivor Benefits

- 66.7% of the earned retirement benefit at death
- Increased by the lesser of 3% or one-half of the annual increase in the CPI-U during the preceding 12-month calendar year
- Increases not compounded

Funding Requirements

- Downstate and Chicago municipal contributions must be sufficient to achieve a 90% funded ratio by FY 2040 using a level percentage of payroll contribution rate.
- Whenever city contributions are not sufficient to achieve this funding goal, the retirement system will notify the Illinois State Comptroller.
- Upon receiving this notification, the Comptroller will divert funds owed by the State to the City in a sufficient amount to eliminate the shortfall in contributions.

- The State may divert all of the funds owed to the city beginning in FY2018. The diversion limit in FY 2016 is 33.3% and is 66.7% in FY 2017.

Calculation of the Funded Ratio

- Asset Market Values equal Asset Actuarial Values on March 30, 2011.
- Thereafter, Asset Actuarial Values will be used for all funded ratios.
- Income smoothing will be used after March 30, 2011 to calculate Asset Actuarial Values. A 5 year period (20% per year rate) will be used to recognize all investment revenues and losses.

Pension Calculations

- Retirement annuities are calculated to equal 2.5% of final average salary times the total years of service.
- Total retirement annuities are limited to 75% of final average salary.

Public Act 99-0506

Senate Bill 0777 – Cullerton (Currie)

I. Overview of Key Provisions of Public Act 99-0506 (SB 0777)

Effective Date

- May 30, 2016

Systems Impacted

- Chicago Police and Chicago Fire

Annuity Payment

- Adjusted from \$1,050 to an amount calculated by the poverty guidelines of the United States Department of Health and Human Services

City Contribution

- Fixed contribution schedule for Chicago Police:
 - 2016: \$420,000,000
 - 2017: \$464,000,000
 - 2018: \$500,000,000
 - 2019: \$557,000,000
 - 2020: \$579,000,000
- Fixed contribution schedule for Chicago Fire:
 - 2016: \$199,000,000
 - 2017: \$208,000,000
 - 2018: \$227,000,000
 - 2019: \$235,000,000
 - 2020: \$245,000,000

Tax Levy

- Beginning in tax levy year 2020, the city shall levy a tax annually in a manner that will increase the funding ratio to 90% by 2055.

Minimum Employer Contribution

- Shall be determined using the entry age normal actuarial cost method

Video Gaming

- Proceeds collected from a Chicago casino shall be contributed to Police and Fire Funds.

Delinquent Payments

- The Funds may take legal action if the city does not make the required contributions by December 31st of that year.

Public Act 99-0905

Senate Bill 0440 – Mulroe (Burke)

I. Overview of Key Provisions of Public Act 99-0905 (SB 0440)

Effective Date

- November 29, 2016

Systems Impacted

- Chicago Police and Chicago Fire

Retirement Eligibility

- Tier 2 retirees are included when determining death benefit eligibility.
- Tier 2 members that withdraw before age 50 (or 57 with less than 10 service years) are eligible for a refund equal to the amount deducted from their salary.

Salary Deductions

- Salary deductions for present employees and future entrants will contribute to the Funds for Tier 2 monthly retirement annuity, in addition to age and service annuity and widow's annuity.

Annual Increases in Annuity

- Increases equal to 1.5% begin at the latter of the first anniversary of retirement or at age 55 for members who retire with at least 20 years of service and born before 1966.
- Subsequent increases will occur on January 1st of each year.
- Maximum total increase of 30%
- For members born between 1955 and 1966, the increase shall be equal to 3% non-compounded with no maximum.
- Starting in 2017, members who would have qualified for these increases prior to the effective date shall receive all increases retroactively.
- Starting in 2017, the minimum widow's annuity shall be no less than 125% of the Federal Poverty Level.

Tier 2 Surviving Spouses

- Qualified to receive a Tier 2 surviving spouse annuity in lieu of the standard widow's annuity
- If the deceased member was receiving a Tier 2 monthly retirement annuity at the date of his/her death, the Tier 2 surviving spouse's annuity shall be in the amount of 66 2/3% of the member's monthly annuity at the date of death.
- If the deceased member was not receiving a Tier 2 monthly retirement annuity at the time of death, the Tier 2 surviving spouse's annuity shall be the greater of:

- 30% of the annual maximum salary attached to the rank of a first class police officer or firefighter at the time of death.
 - 66 2/3% of the Tier 2 monthly retirement annuity that the deceased member would have been eligible to receive
- If the deceased member was in active service with at least 1½ but less than 10 years of service at the time of death, the Tier 2 surviving spouse's annuity shall be 30% of the annual maximum salary attached to the rank of a first class police officer or firefighter at the time of death.
 - If a member's death resulted from an act of duty or prevented him/her from resuming active service, then in addition to the Tier 2 surviving spouse's annuity, the spouse shall be qualified to receive compensation annuity or supplemental annuity, in order to bring the total benefit up to the applicable 75% salary limitation, but subject to the existing Tier 2 salary cap.
 - Tier 2 surviving spouse's annuities shall not be less than the amount of the minimum widow's annuity.

Tier 2 Surviving Children and Parents

- Tier 2 surviving children and parents are qualified to receive a Tier 2 annuity. The Tier 2 annuity is in lieu of, but equal to, the standard annuity.
- Any salary used for computing a Tier 2 annuity shall be subject to the existing Tier 2 salary cap.

Public Act 100-0023

Senate Bill 0042 – Trotter (Harris)

I. Overview of Key Provisions of Public Act 100-0023 (SB 0042)

Effective Date

- July 6, 2017

Systems Impacted

- GARS, Chicago Fire, Chicago Municipal, Cook County, Cook County Forest Preserve, Chicago Laborers, Chicago Park District, SERS, SURS, TRS, Chicago Teachers, and JRS

Optional Tier 3 Hybrid Plan

Tier 3 Availability

- SERS, SURS, and TRS:
 - Tier 3 benefits are available as soon as the board of that respective system authorizes members to begin participation.
 - Each of these systems shall endeavor to make participation available as soon as possible. This requirement is referred to as the “implementation date.”
 - Newly hired and existing Tier 2 members must make the election to participate in Tier 3 within 30 days of becoming a member or participant in the pertinent system.
- MEABF, Cook County Employees, Forest Preserve Employees, LABF, Park Employees, and CTPF
 - Tier 3 benefits are available beginning 6 months after the governing body of the unit of local government approves participation in the plan via adoption of a resolution or ordinance.
 - No later than 5 months after the resolution or ordinance approving participation in Tier 3, the affected system shall prepare and implement the defined contribution component of the Tier 3 hybrid plan.
 - Newly hired members must make the election to participate in the Tier 3 hybrid system within 30 days of becoming a member or participant in the pertinent system.

Tier 3 Benefit Summary

- Retirement Annuity: 1.25% for each year of service credit multiplied by final average salary
- Normal Retirement: determined by Social Security Administration, but no earlier than 67 years of age with at least 10 years of service
- COLA: Beginning 1 year after annuity start date and equal to 50% of the CPI-W
- Survivor's/Widow's Annuity: 66 2/3% of participant's retirement annuity
- Employee Contribution for the DB component: 6.2% of salary (cannot exceed normal cost)

- Employee Contribution for the DC component: 4% minimum
- Employer Contributions for the DC component: between 2% and 6% of salary
 - Employer contributions vest when they are paid into a participant's account.
 - Employee and employer contributions are transferrable into other qualified plans.
- For SURS and TRS
 - Employer Contribution: DB Normal Cost - Employee Contribution + 2% (expressed as a % of payroll)

MEABF and LABF Retirement Eligibility (New Tier 3 DB Schedule of Benefits)

- Between October 1, 2017 and November 15, 2017, existing Tier 2 members who began service prior to the effective date of this Act (July 6, 2017) shall make an irrevocable decision to be eligible for the new Tier 3 retirement options described below:
 - Those who elect to gain eligibility for the new Tier 3 schedule of benefits will be subject to the Tier 3 employee contribution rates.
- Tier 3 Employee Contribution Rates
 - After the effective date of this Act, but prior to January 1, 2018: 7.5%
 - January 1, 2018 and prior to January 1, 2019: 8.5%
 - January 1, 2019 and thereafter: the lesser of:
 - Normal Cost using the Entry Age Normal (EAN) actuarial method (no less than 6.5%)
 - 9.5%
 - This rate (the lesser of the normal cost or 9.5%) shall resume until the systems have reached a 90% funding ratio, at which point the employee contribution shall be reduced to 5.5% of salary.
 - If the funding ratio falls below 75%, then the employee contribution shall revert to the previous amount.
- Tier 3 Benefits
 - New hires that are at least 65 years of age with at least 10 years of service credit are entitled to a retirement annuity upon written application.
 - New hires who retire between the age of 60 and 65, with at least 10 years of service credit, shall have their annuity reduced by 0.5% for each month that he or she is under age 65.

Changes in State Contributions

- For SURS and TRS, in fiscal years 2018 through 2020, the State shall contribute an additional 2% of payroll of each Tier 3 employee.
- For SURS and TRS, if the amount of a participant's salary exceeds the amount of the Governor's salary, the employer shall pay to the System an amount equal to the employer normal cost multiplied by the excess amount of salary.
- State contribution-altering changes in actuarial or investment assumptions shall be implemented and smoothed over a 5-year period beginning in FY 18.
- State contribution-altering changes in actuarial or investment assumptions that first applied in fiscal year 2014, 2015, 2016, or 2017 shall be retroactively

smoothed over a 5-year period, beginning with and including the year in which the actuarial change first applied.

- By November 1, 2017, the amount of the State Contribution shall be recertified to include retroactive smoothing.

Chicago Fire COLA

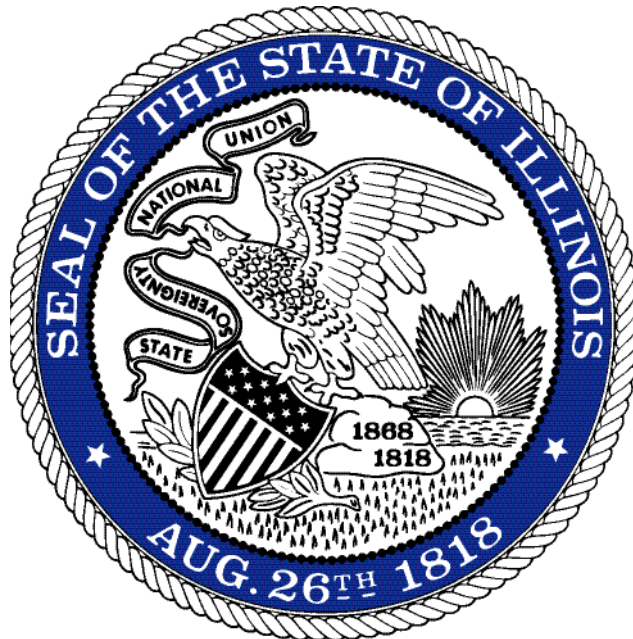
- Firefighters born after December 31, 1954 but before January 1, 1966 and retired after September 1, 1967 are entitled to a 3% noncompounded annuity increase upon:
 - The 1st of the month following the 1-year anniversary of retirement, and every 1st of January thereafter.
 - Or following the attainment of age 55 if they were not 55 after 1 year of retirement
- Firefighters that meet the aforementioned criteria prior to this Act will receive an increase to their annuity as if they had received a 3% increase each year rather than 1.5%.

Chicago Municipal and Laborers Tax Levy

- Beginning in 2017, the property tax levy cannot exceed the amount of the city's total required contribution for the following year.

II. Chicago Transit Authority Retirement Fund

- **Plan Summary**
- **Active Employees**
- **Employee Annuitants**
- **Average Salaries**
- **Average Retirement Annuity**
- **Funded Ratios**
- **Change in Unfunded Liabilities**
- **Investment Income**
- **Investment Rates of Return**
- **Systems Experience**
- **Changes in Net Assets**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of January 1, 2018.

Chicago Transit Authority Pension Fund

Plan Summary

Retirement Age

- Normal Retirement Age for CTA employees is 65.
- Employees hired before January 18, 2008 may retire early at age 55 with 3 years of continuous service, or after completion of 25 years of continuous service at any age. (Employees who have at least 25 years of service do not have their annuities reduced by 5% for each year younger than 65, regardless of age). Employees hired after September 5, 2001 may retire with unreduced benefits after attaining age 55 and completing 25 years of service.
- For employees hired after January 18, 2008, an employee may retire with unreduced benefits upon attainment of age 64 with 25 years of service. An employee may retire with a reduced benefit upon attainment of age 55 with 10 years of service (reduction of 5% for each year or fraction younger than age 65).

Retirement Formula

- 2.15% of final average salary for each year of service for employees retiring on or after January 1, 2001

Maximum Annuity

- 70% of final average salary

Salary Used to Calculate Pension

- Highest average compensation over any four calendar years out of the final 10 years of service prior to normal retirement

Annual COLA

- Made on an ad-hoc basis; most recent increase of \$40 per month for members who retired after 1/1/91 but before 1/1/00

Employee Contributions

- 12.010% of salary (FY 2019-2040)

Employer Contributions

- 18.019% of salary (FY 2019-2040)

Pursuant to P.A. 95-0708, the CTA Article of the Pension Code provides for a minimum contribution by the CTA, determined either by the CTA Pension Board of Trustees or the Auditor General, to bring the funded ratio of the Plan up to or no less than 90% by Dec. 31, 2059.

CHART 1

CHICAGO TRANSIT AUTHORITY PENSION FUND
Active Employees

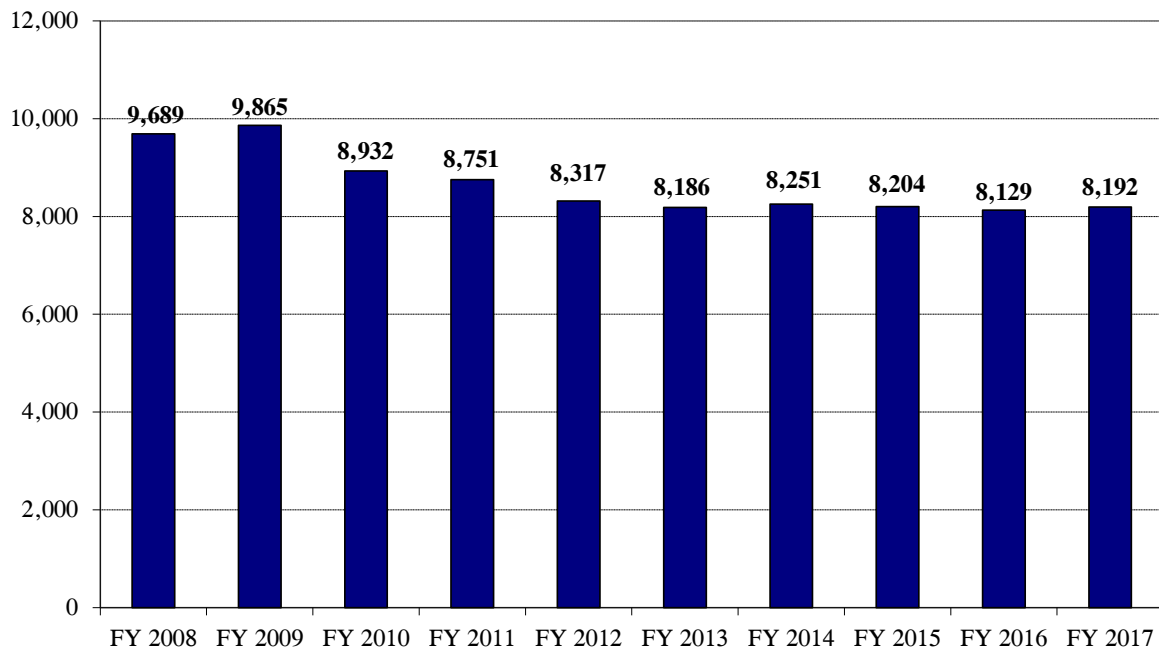


CHART 2

CHICAGO TRANSIT AUTHORITY PENSION FUND
Employee Annuitants

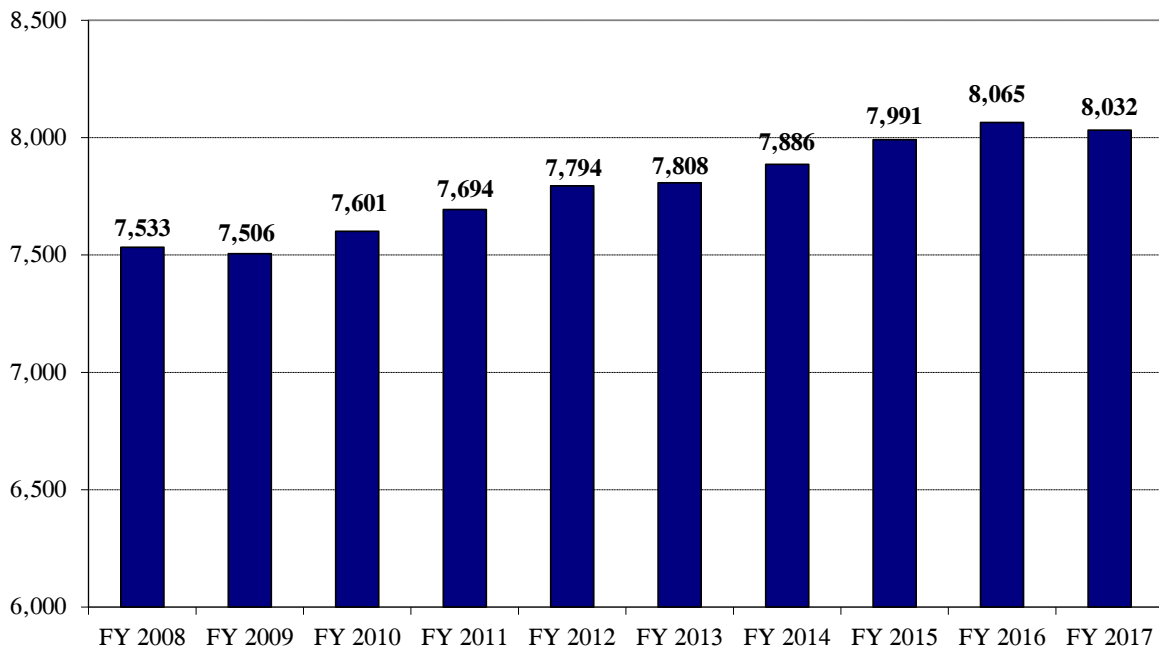
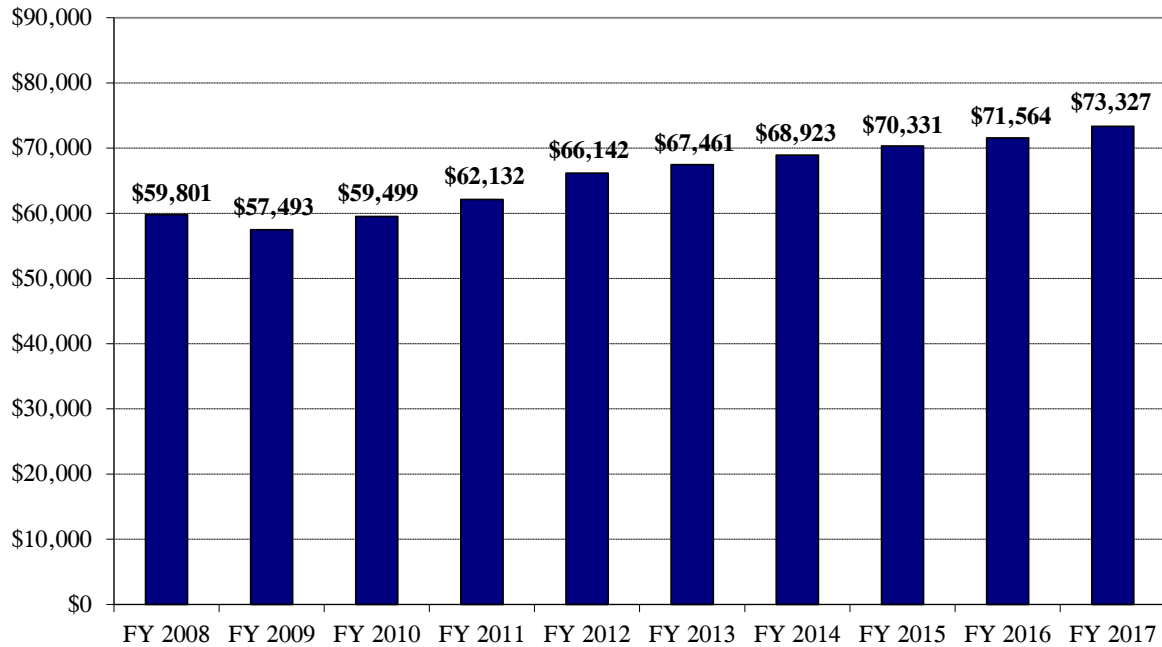


CHART 3

CHICAGO TRANSIT AUTHORITY PENSION FUND Average Employee Salaries



Note: Average Employee Salaries dropped in FY 2008 and FY 2009 following the financial crisis due to wage reductions and furlough days.

CHART 4

CHICAGO TRANSIT AUTHORITY PENSION FUND Average Retirement Annuities

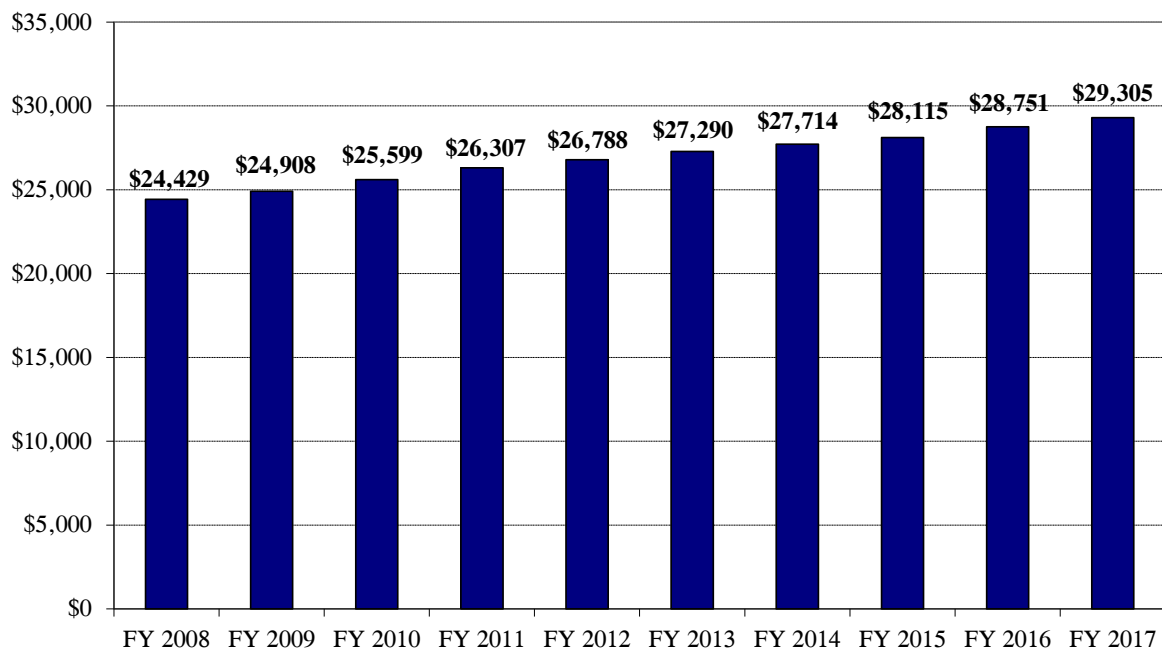


CHART 5

CHICAGO TRANSIT AUTHORITY PENSION FUND Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

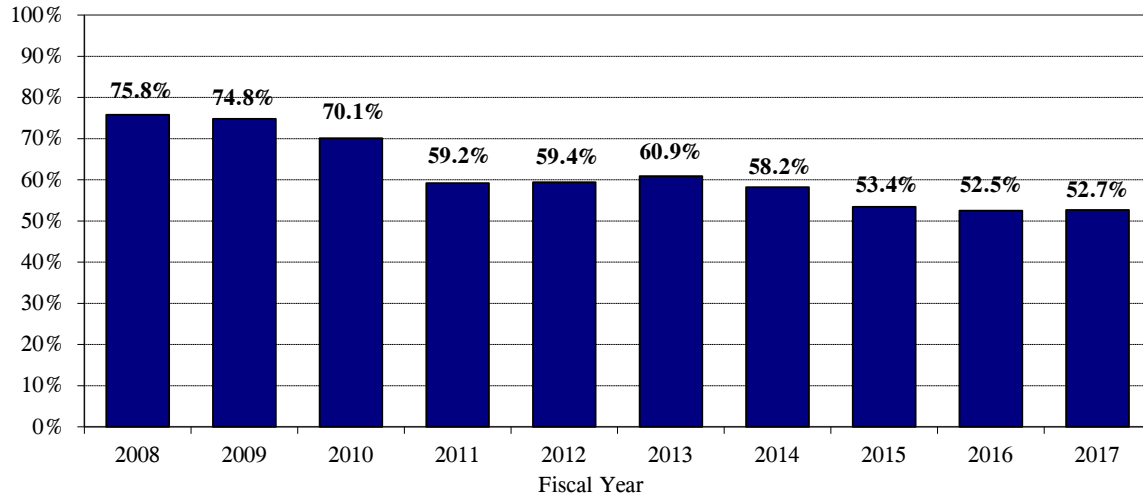
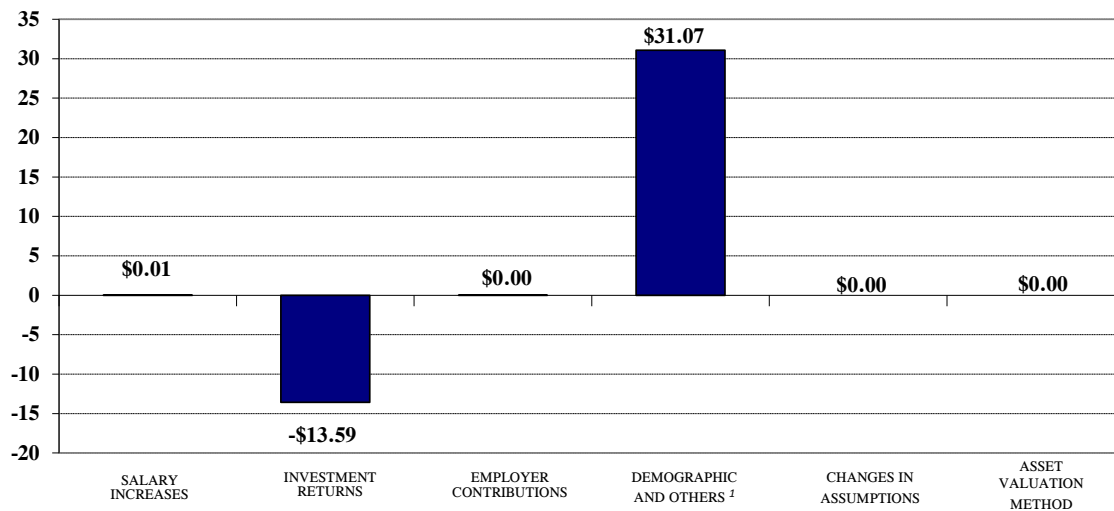


CHART 6

CHICAGO TRANSIT AUTHORITY PENSION FUND Analysis of Actuarial (Gains) and Losses Year ended December 31, 2017 (\$ in Millions)

TOTAL ACTUARIAL LOSSES
EQUALS \$17.50 MIL



¹ Actuarial losses occurred mostly due to unexpected participant pick-up and unexpected data change for decrementing actives, continuing actives, and continuing inactives.

CHART 7

CHICAGO TRANSIT AUTHORITY PENSION FUND
Investment Income FY 2008 - FY 2017
Actuarially Assumed Rate of Return : 8.25%
(\$ in Millions)

All figures based upon the market value of assets.

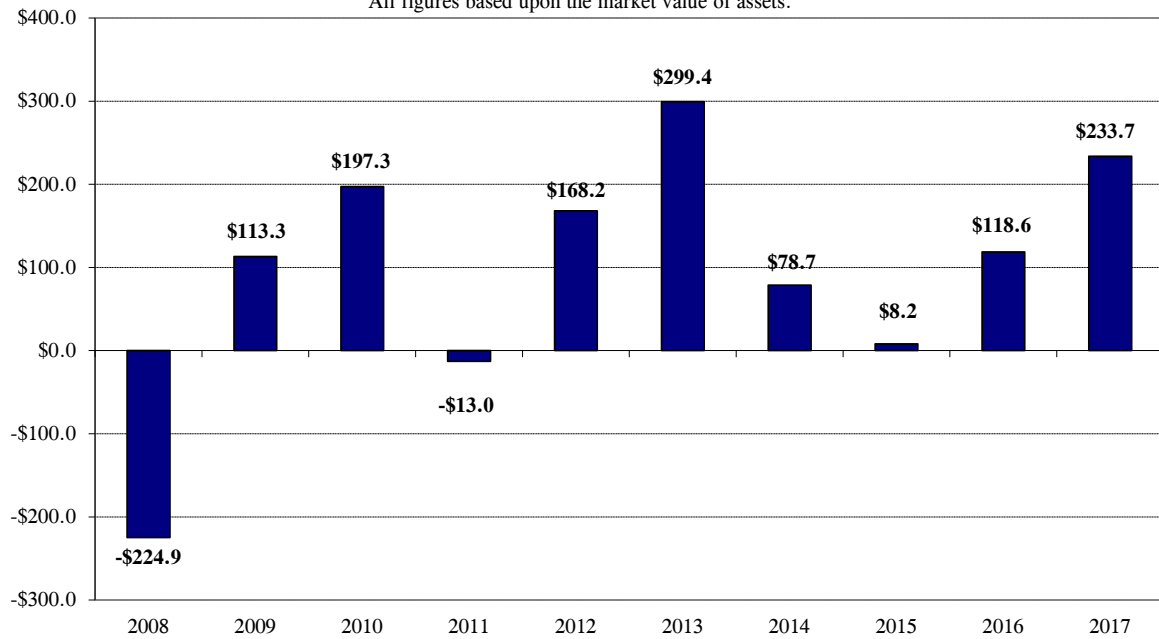


CHART 8

CHICAGO TRANSIT AUTHORITY PENSION FUND
Rate of Return FY 2008 - FY 2017
Actuarially Assumed Rate of Return : 8.25%
All figures based upon the market value of assets.

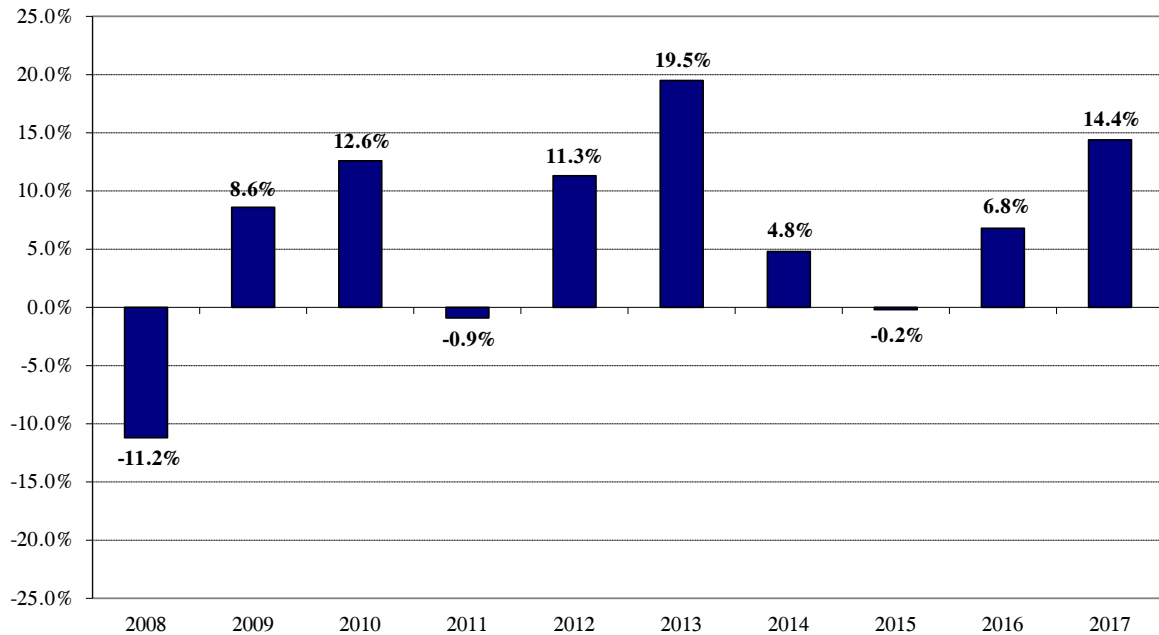


TABLE 1

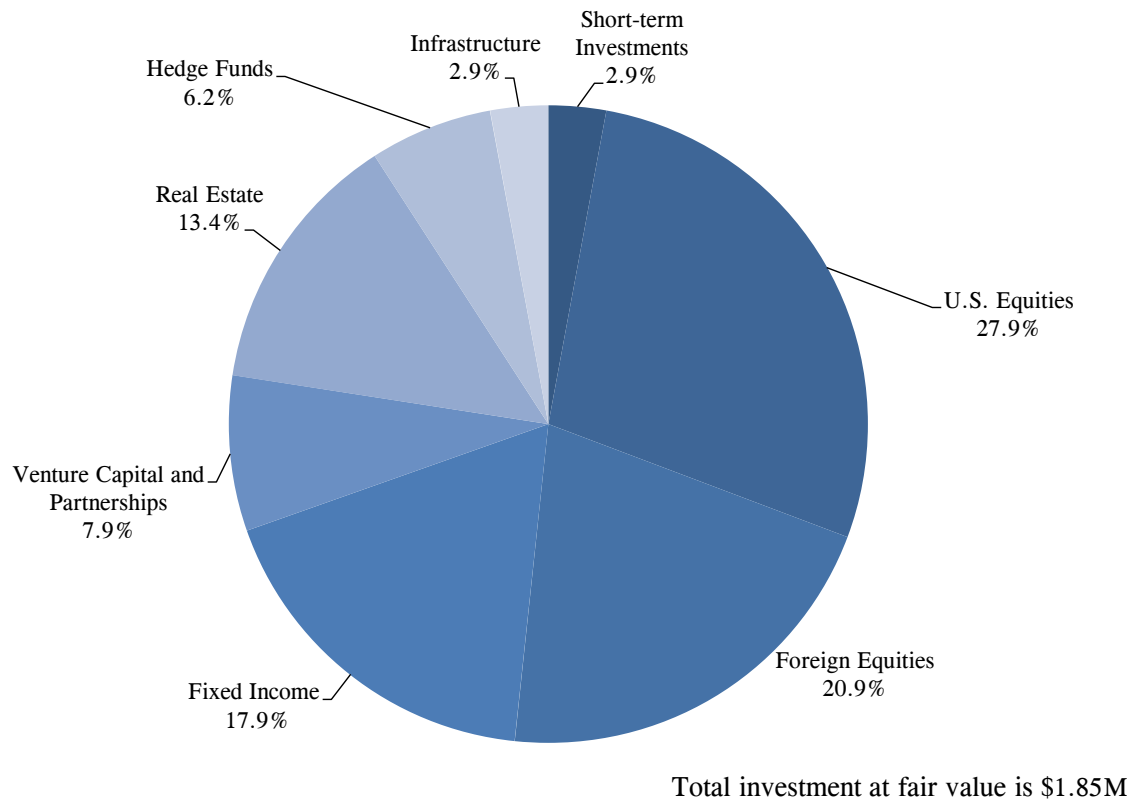
CHICAGO TRANSIT AUTHORITY PENSION FUND System Experience, FY 2008 - FY 2017 (\$ in Thousands)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	595.0	3,423.2	1,802.2	1,621.0	52.6%
2016	575.4	3,338.6	1,752.5	1,586.2	52.5%
2015	573.5	3,267.1	1,743.2	1,523.9	53.4%
2014	564.8	3,186.2	1,855.9	1,330.3	58.2%
2013	550.6	3,105.6	1,892.7	1,212.9	60.9%
2012	548.5	2,867.3	1,702.8	1,164.5	59.4%
2011	541.4	2,808.2	1,662.2	1,146.0	59.2%
2010	528.3	2,724.2	1,910.0	814.2	70.1%
2009	567.2	2,588.4	1,936.8	651.6	74.8%
2008	594.1	2,632.4	1,996.0	636.4	75.8%

TABLE 2

CHICAGO TRANSIT AUTHORITY PENSION FUND Changes in Net Assets (\$ in Thousands)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$104.5	\$83.9	\$82.8	\$82.3	\$79.5	\$62.8	\$60.3	\$56.3	\$41.4	\$68.5
Employees	\$70.3	\$59.6	\$59.0	\$58.6	\$56.8	\$48.4	\$47.2	\$45.3	\$35.0	\$34.3
Net Investment Income	\$233.7	\$118.6	\$8.2	\$78.7	\$299.4	\$168.2	-\$13.0	\$197.2	\$113.3	-\$224.9
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,110.5
Total Asset Additions (A)	\$408.5	\$262.0	\$150.0	\$219.5	\$435.7	\$279.4	\$94.5	\$298.8	\$189.7	\$988.4
Deductions from Assets										
Benefits	\$269.1	\$261.7	\$253.8	\$246.0	\$238.7	\$232.7	\$222.2	\$216.2	\$212.6	\$263.5
Refunds	\$7.3	\$4.8	\$6.4	\$7.1	\$4.9	\$4.0	\$2.9	\$2.2	\$2.1	\$1.8
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$2.5	\$2.3	\$2.6	\$3.1	\$2.1	\$2.1	\$2.0	\$2.0	\$2.2	\$2.4
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$279.0	\$268.9	\$262.7	\$256.3	\$245.7	\$238.8	\$227.1	\$220.4	\$216.9	\$267.7
Change in Net Assets (A-B=C)	\$129.5	-\$6.8	-\$112.7	-\$36.8	\$190.0	\$40.6	-\$132.6	\$78.4	-\$27.2	\$720.7

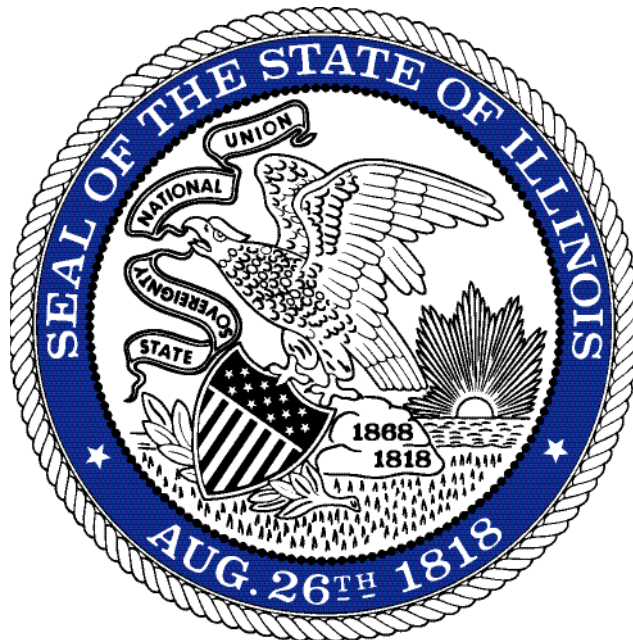
CHART 9

**CHICAGO TRANSIT AUTHORITY RETIREMENT FUND
ASSET ALLOCATION AS OF DECEMBER 2017**



III. Cook County Employees' Pension Fund

- **Plan Summary**
- **Active Employees**
- **Employee Annuitants**
- **Average Salaries**
- **Average Retirement Annuity**
- **Funded Ratios**
- **Change in Unfunded Liabilities**
- **Investment Income**
- **Investment Rates of Return**
- **Systems Experience**
- **Changes in Net Assets**
- **System Projections**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Cook County Employees' Pension Fund

Tier 1 Plan Summary

Retirement Age

- Age 50 with 10 years of service

Retirement Formula

- 2.4% of final average salary for each year of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Highest average monthly salary for any 48 consecutive months within the final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions

- 8.5% of salary

Employer Contributions

The County levies a tax annually equal to the total amount of contributions made by employees in the calendar year two years prior to the year of the levy, multiplied by 1.54.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 10

COOK COUNTY EMPLOYEES' PENSION FUND
Active Employees

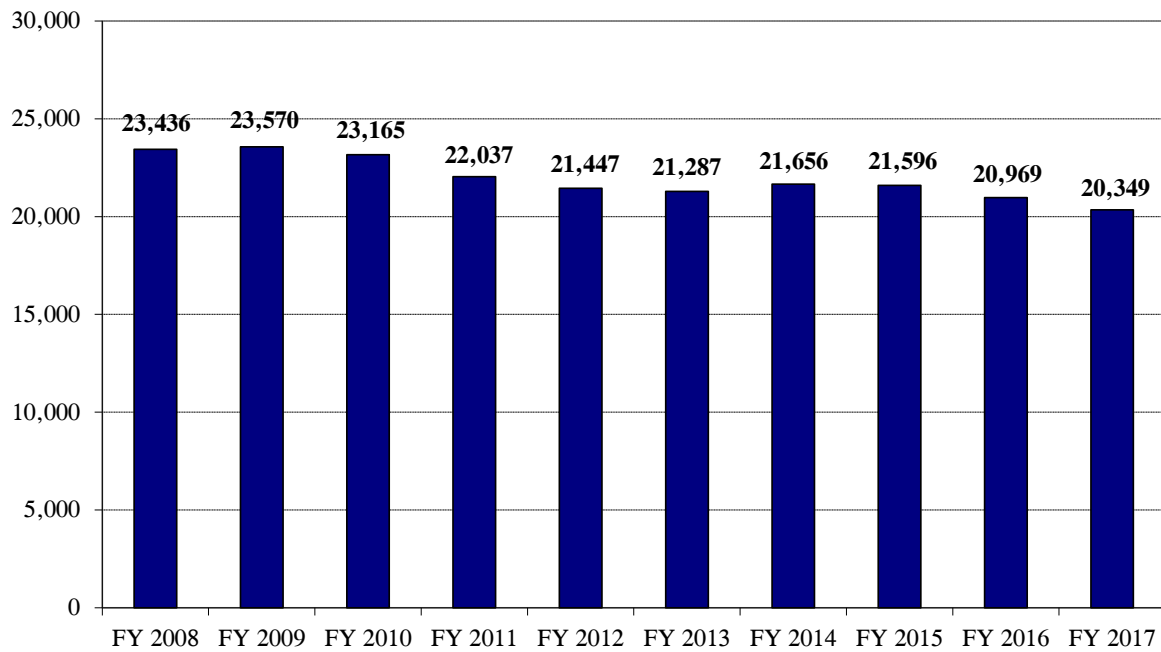


CHART 11

COOK COUNTY EMPLOYEES' PENSION FUND
Employee Annuitants

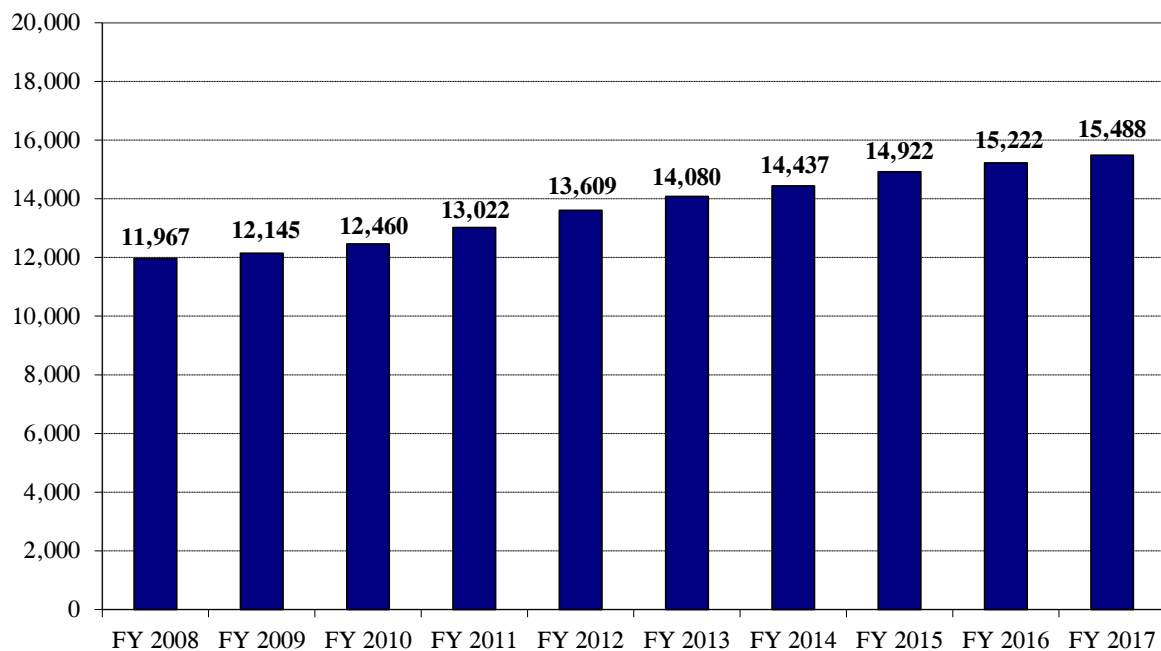


CHART 12

COOK COUNTY EMPLOYEES' PENSION FUND
Average Employee Salaries

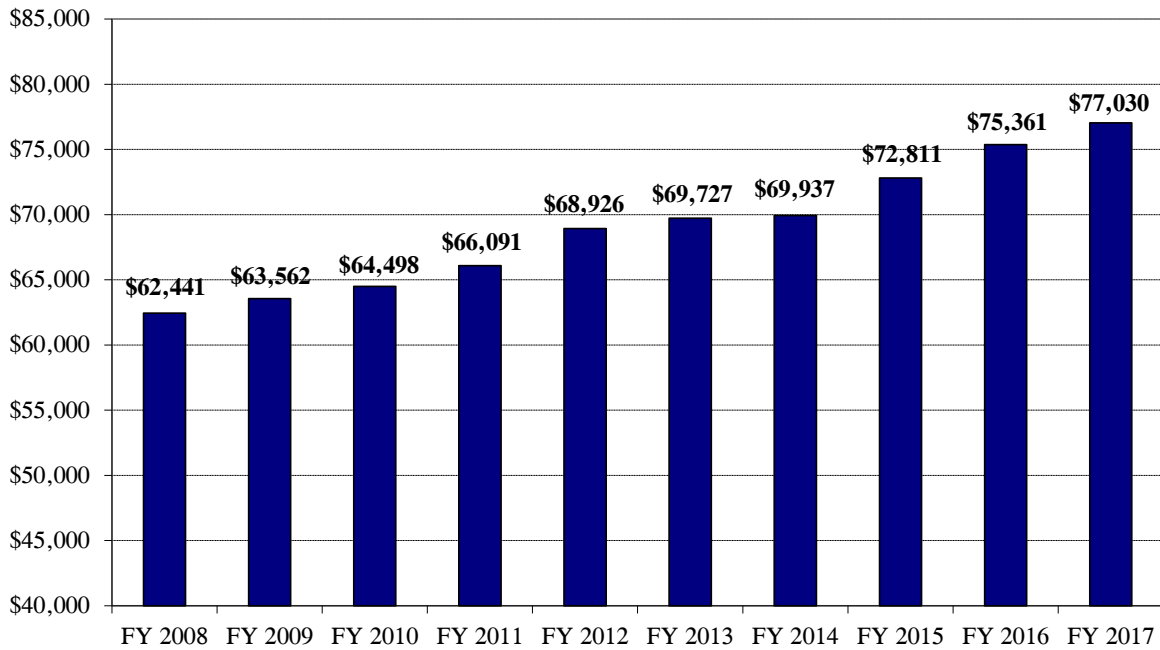


CHART 13

COOK COUNTY EMPLOYEES' PENSION FUND
Average Retirement Annuities

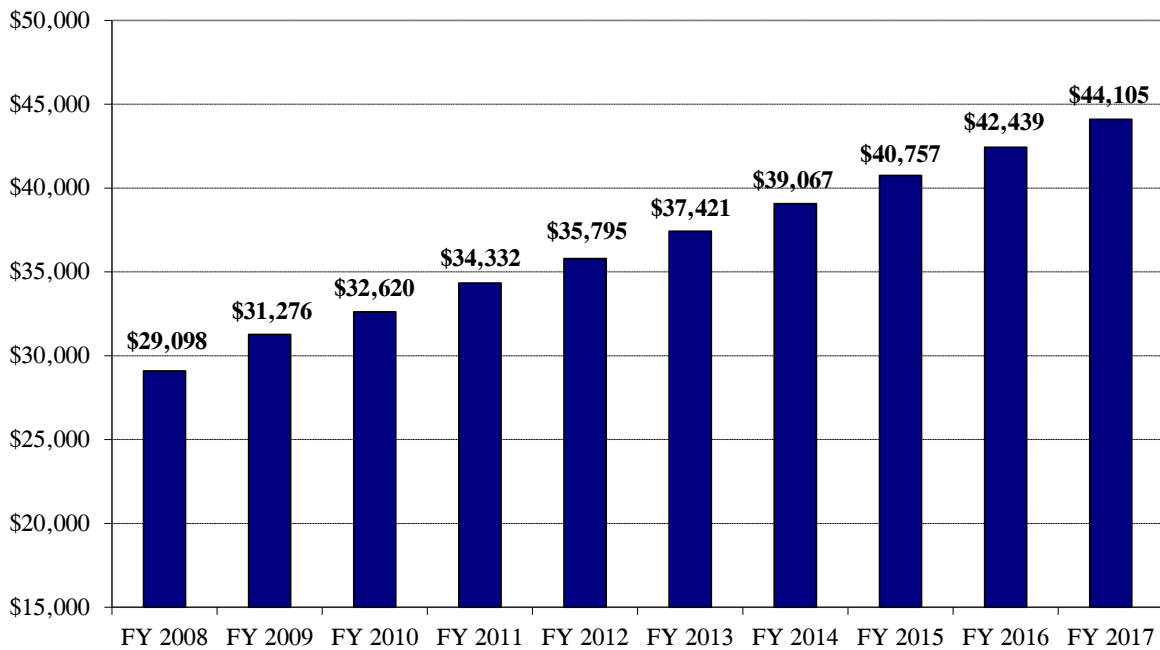
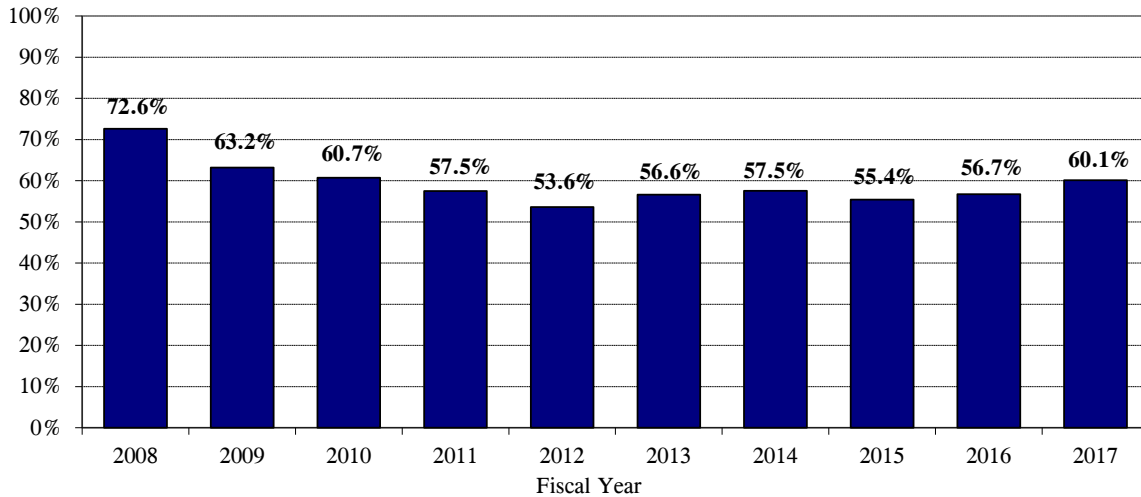


CHART 14

COOK COUNTY EMPLOYEES' PENSION FUND
Funded Ratio
FY 2008 - FY 2017

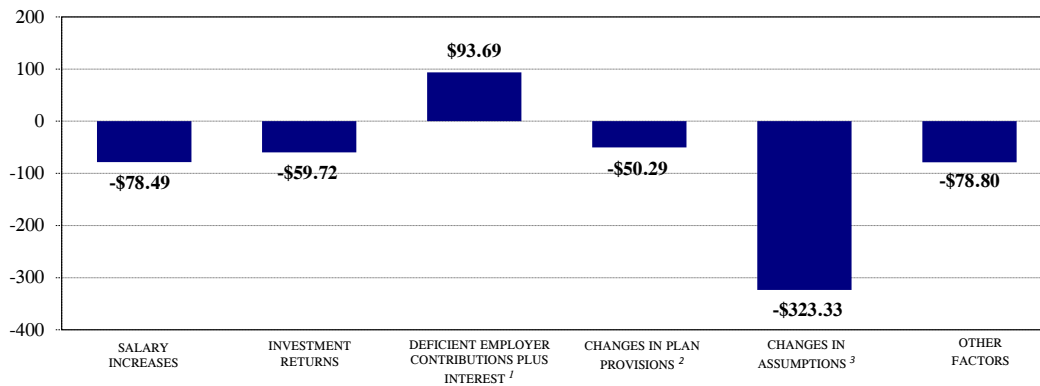
All figures based upon the actuarial value of assets.

**CHART 15**

COOK COUNTY EMPLOYEES' PENSION FUND
Change in Unfunded Liabilities
Year ended December 31, 2017
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL DECREASE EQUALS
\$496.4 MIL



¹ Unfunded liability increases due to employer contribution plus interest being less than normal cost plus interest. An additional supplemental employer contribution of \$353.8 million is included in the employer contribution.

² Decreases in unfunded liabilities came from provision changes in the postemployment health plan.

³ The unfunded liabilities decreased due to a net effect of changes in actuarial assumptions, including its assumed rate of return and mortality, marriage, and retirement rates.

CHART 16

COOK COUNTY EMPLOYEES' PENSION FUND

Investment Income FY 2008 - FY 2017

Actuarially Assumed Rate of Return: 7.25%

(\$ in Millions)

All figures based upon the market value of assets.

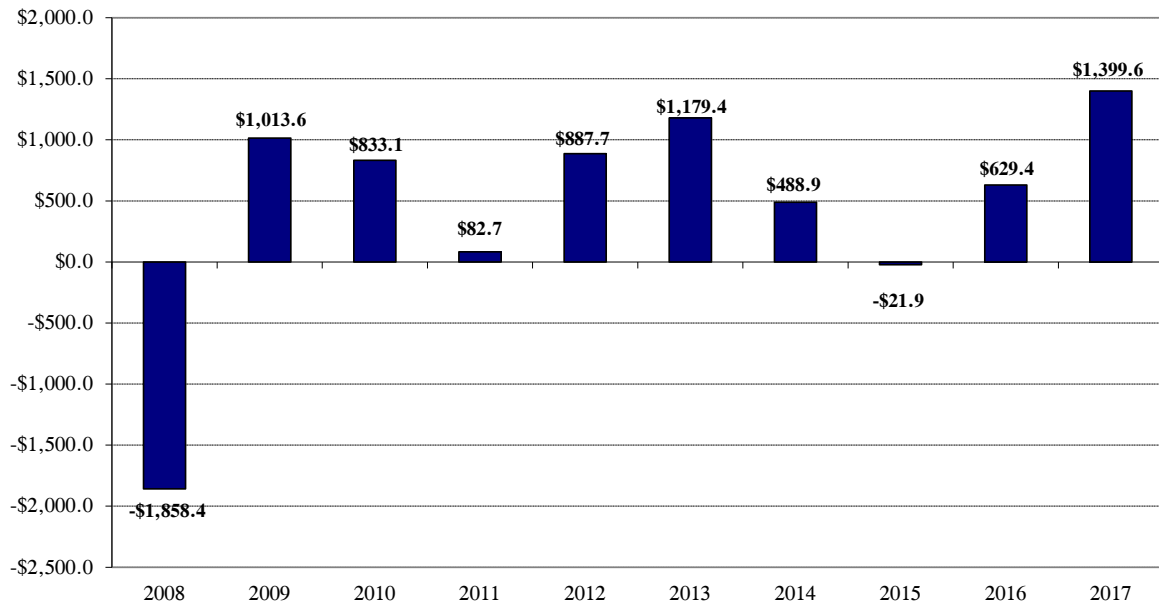


CHART 17

COOK COUNTY EMPLOYEES' PENSION FUND

Rate of Return FY 2008 - FY 2017

Actuarially Assumed Rate of Return: 7.25%

All figures based upon the market value of assets.

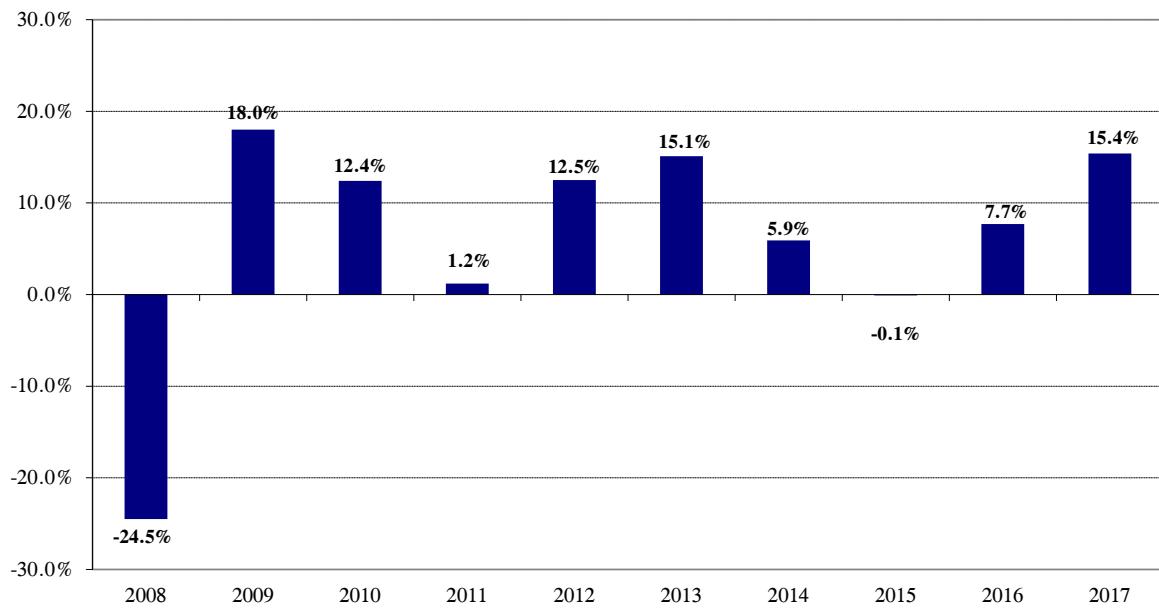


TABLE 3

COOK COUNTY EMPLOYEES' PENSION FUND System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	1,567.5	16,889.5	10,148.2	6,741.3	60.1 %
2016	1,580.3	16,726.5	9,488.2	7,238.2	56.7 %
2015	1,572.4	16,232.2	8,991.0	7,241.2	55.4 %
2014	1,514.6	15,318.8	8,810.5	6,508.3	57.5 %
2013	1,484.3	14,812.1	8,381.4	6,430.6	56.6 %
2012	1,478.3	14,630.3	7,833.9	6,796.4	53.6 %
2011	1,456.4	13,724.0	7,897.1	5,826.9	57.5 %
2010	1,494.1	13,142.1	7,982.3	5,159.8	60.7 %
2009	1,498.2	12,575.5	7,945.6	4,629.9	63.2 %
2008	1,463.4	11,073.2	8,036.1	3,037.1	72.6 %

TABLE 4

COOK COUNTY EMPLOYEES' PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$559.21	\$464.3	\$186.8	\$190.0	\$187.8	\$190.7	\$195.3	\$181.5	\$183.7	\$183.9
Employees	\$138.83	\$139.4	\$137.7	\$129.3	\$127.6	\$130.6	\$127.6	\$129.4	\$127.8	\$123.8
Net Investment Income	\$1,399.63	\$629.4	-\$21.9	\$488.9	\$1,179.4	\$887.7	\$82.9	\$833.1	\$1,013.6	-\$1,858.4
Other	\$23.27	\$13.9	\$11.5	\$9.7	\$8.5	\$10.2	\$17.4	\$12.8	\$11.8	\$7.1
Total Asset Additions (A)	\$2,120.98	\$1,247.0	\$314.1	\$818.0	\$1,503.4	\$1,219.2	\$423.2	\$1,156.8	\$1,336.9	-\$1,543.7
Deductions from Assets										
Benefits	\$790.35	\$742.4	\$701.0	\$645.6	\$601.8	\$563.1	\$523.4	\$482.5	\$452.0	\$427.5
Refunds	\$33.00	\$26.7	\$33.3	\$26.3	\$29.9	\$33.1	\$29.1	\$25.0	\$20.4	\$24.7
Rebates	\$0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$5.41	\$5.4	\$5.2	\$5.0	\$4.3	\$4.3	\$4.1	\$4.1	\$4.3	\$4.6
Other	\$0.00	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$828.75	\$774.5	\$739.5	\$677.0	\$636.0	\$600.5	\$556.6	\$511.6	\$476.7	\$456.8
Change in Net Assets (A-B=C)	\$1,292.23	\$472.6	-\$425.4	\$141.0	\$867.4	\$618.7	-\$133.4	\$645.2	\$860.2	-\$2,000.4

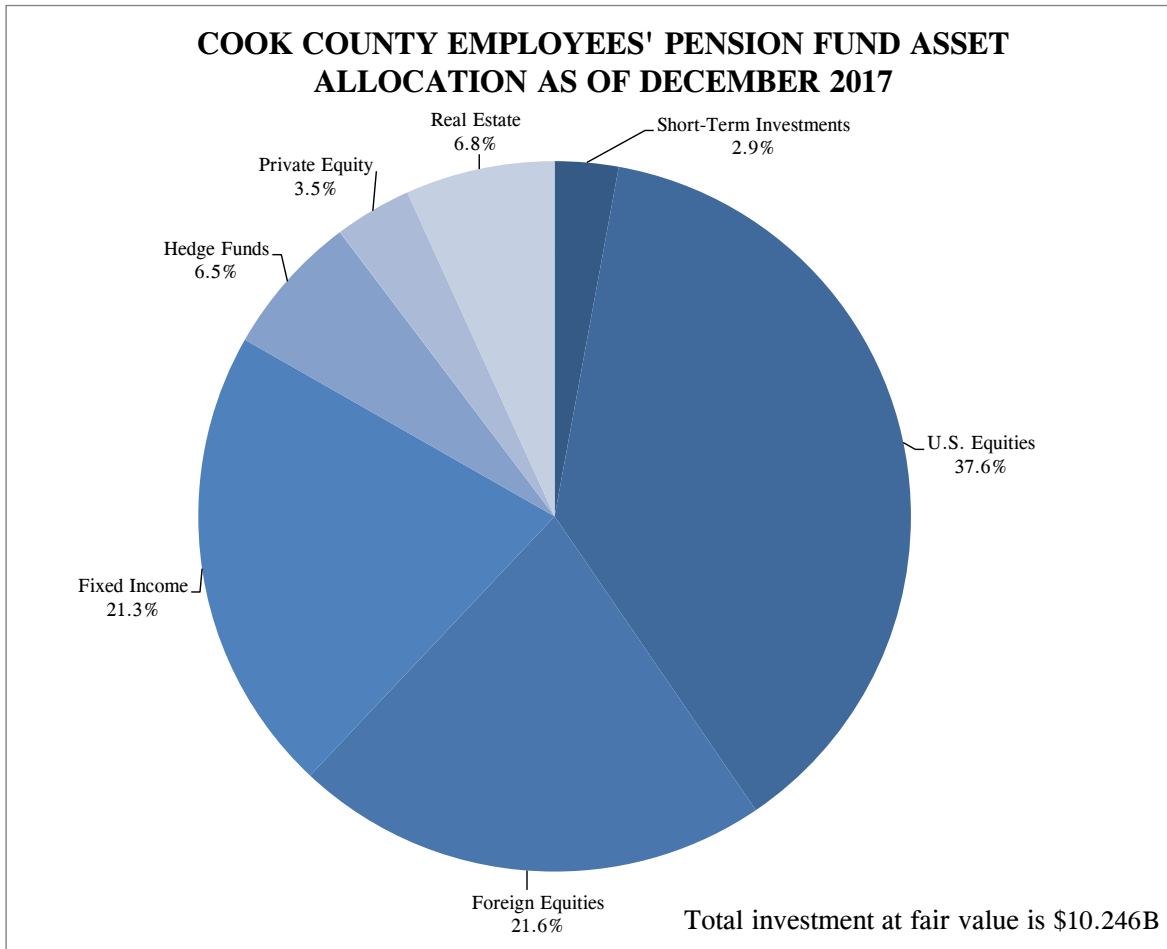
Table 5 below contains funding projections provided to CGFA by the Cook County Employees' Pension Fund based upon the December 31, 2017 actuarial valuation. As shown in the table below, under the current funding policy the Cook County Employees' Pension Fund is projected to run out of assets by 2042 if all future assumptions are met and no additional contributions are made.

TABLE 5

Cook County Employees' Pension Fund Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Calendar Year	Capped Payroll	Total County Contribution	County Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2018	1,585.0	559.1 *	35.3%	139.5	16,889.0	10,148.0	6,741.0	60.1%
2019	1,626.0	208.2	12.8%	143.1	17,477.0	10,683.0	6,793.0	61.1%
2020	1,666.0	207.4	12.5%	146.6	18,062.0	10,883.0	7,179.0	60.3%
2021	1,704.0	208.4	12.2%	150.0	18,632.0	11,177.0	7,455.0	60.0%
2022	1,743.0	213.8	12.3%	153.4	19,183.0	11,427.0	7,756.0	59.6%
2023	1,783.0	219.0	12.3%	157.0	19,707.0	11,478.0	8,230.0	58.2%
2024	1,828.0	224.0	12.3%	160.9	20,215.0	11,476.0	8,739.0	56.8%
2025	1,873.0	229.1	12.2%	164.9	20,700.0	11,419.0	9,281.0	55.2%
2026	1,916.0	234.5	12.2%	168.7	21,160.0	11,303.0	9,857.0	53.4%
2027	1,961.0	240.4	12.3%	172.6	21,589.0	11,121.0	10,468.0	51.5%
2028	2,011.0	246.3	12.3%	177.0	21,994.0	10,871.0	11,123.0	49.4%
2029	2,065.0	252.0	12.2%	181.8	22,381.0	10,555.0	11,827.0	47.2%
2030	2,119.0	257.9	12.2%	186.5	22,746.0	10,169.0	12,577.0	44.7%
2031	2,172.0	264.5	12.2%	191.2	23,085.0	9,707.0	13,379.0	42.0%
2032	2,227.0	271.6	12.2%	196.1	23,391.0	9,159.0	14,232.0	39.2%
2033	2,287.0	278.6	12.2%	201.3	23,675.0	8,530.0	15,145.0	36.0%
2034	2,350.0	285.6	12.2%	206.9	23,942.0	7,821.0	16,121.0	32.7%
2035	2,413.0	292.9	12.1%	212.4	24,189.0	7,026.0	17,164.0	29.0%
2036	2,478.0	300.8	12.1%	218.1	24,411.0	6,135.0	18,276.0	25.1%
2037	2,544.0	309.1	12.2%	224.0	24,604.0	5,141.0	19,463.0	20.9%
2038	2,613.0	317.3	12.1%	230.0	24,779.0	4,047.0	20,732.0	16.3%
2039	2,686.0	325.9	12.1%	236.5	24,943.0	2,853.0	22,090.0	11.4%
2040	2,761.0	334.6	12.1%	243.0	25,090.0	1,550.0	23,540.0	6.2%
2041	2,839.0	343.6	12.1%	249.9	25,222.0	132.0	25,090.0	0.5%
2042	2,920.0	353.2	12.1%	257.0	25,340.0	-1,408.0	26,747.0	-5.6%
2043	3,001.0	363.0	12.1%	264.2	25,448.0	-3,070.0	28,519.0	-12.1%
2044	3,087.0	373.3	12.1%	271.7	25,554.0	-4,860.0	30,414.0	-19.0%
2045	3,175.0	383.9	12.1%	279.5	25,655.0	-6,785.0	32,440.0	-26.4%
2046	3,268.0	394.6	12.1%	287.7	25,760.0	-8,848.0	34,608.0	-34.3%
2047	3,363.0	405.9	12.1%	296.0	25,868.0	-11,059.0	36,926.0	-42.8%
2048	3,456.0	417.5	12.1%	304.2	25,971.0	-13,435.0	39,406.0	-51.7%
2049	3,552.0	429.7	12.1%	312.7	26,074.0	-15,986.0	42,059.0	-61.3%
2050	3,652.0	442.2	12.1%	321.5	26,179.0	-18,720.0	44,899.0	-71.5%
2051	3,756.0	454.4	12.1%	330.6	26,287.0	-21,651.0	47,938.0	-82.4%
2052	3,862.0	467.1	12.1%	339.9	26,397.0	-24,795.0	51,192.0	-93.9%

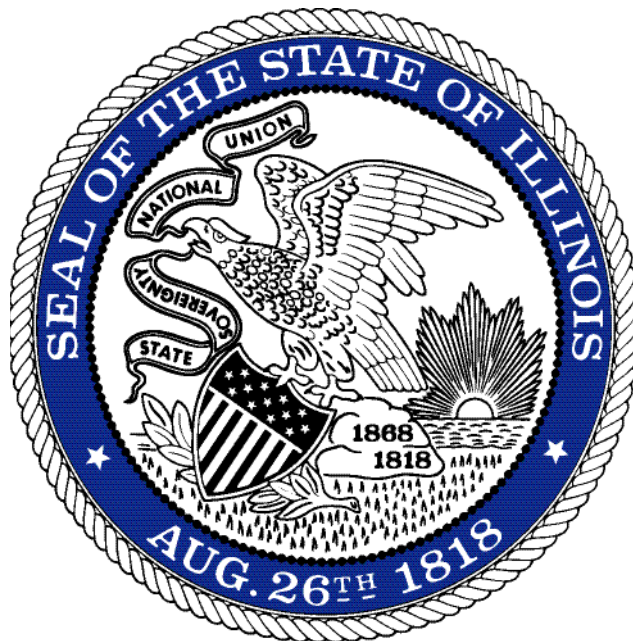
* County contribution for 2018 includes a \$353.4 million supplemental contribution.

CHART 18



IV. Cook County Forest Preserve Employees' Pension Fund

- **Plan Summary**
- **Active Employees**
- **Employee Annuitants**
- **Average Salaries**
- **Average Retirement Annuity**
- **Funded Ratios**
- **Change in Unfunded Liabilities**
- **Investment Income**
- **Investment Rates of Return**
- **Systems Experience**
- **Changes in Net Assets**
- **System Projections**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Cook County Forest Preserve Employees' Pension Fund Tier 1 Plan Summary

Retirement Age

- Age 50 with 10 years of service

Retirement Formula

- 2.4% of final average salary for each year of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Highest average monthly salary for any 48 consecutive months within the final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions

- 8.5% of salary

Employer Contributions

The Forest Preserve District levies a tax annually equal to the total amount of contributions made by employees in the calendar year two years prior to the year of the levy, multiplied by 1.30.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 19

COOK COUNTY FOREST PRESERVE PENSION FUND
Active Employees

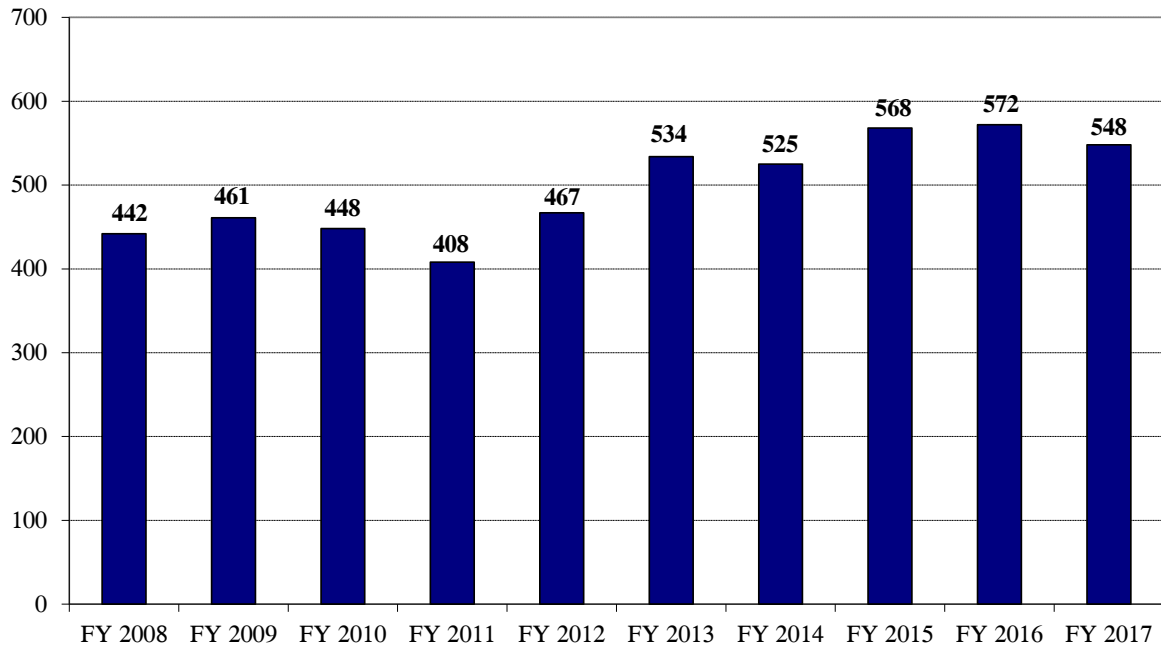


CHART 20

COOK COUNTY FOREST PRESERVE PENSION FUND
Employee Annuitants

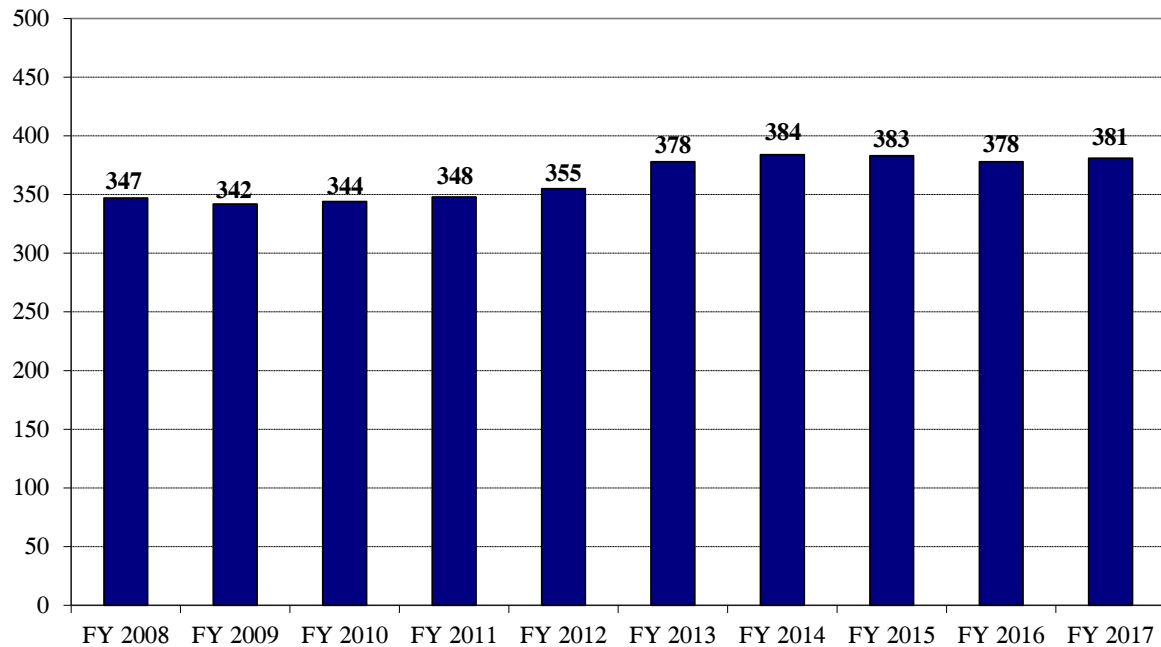


CHART 21

COOK COUNTY FOREST PRESERVE PENSION FUND
Average Employee Salaries

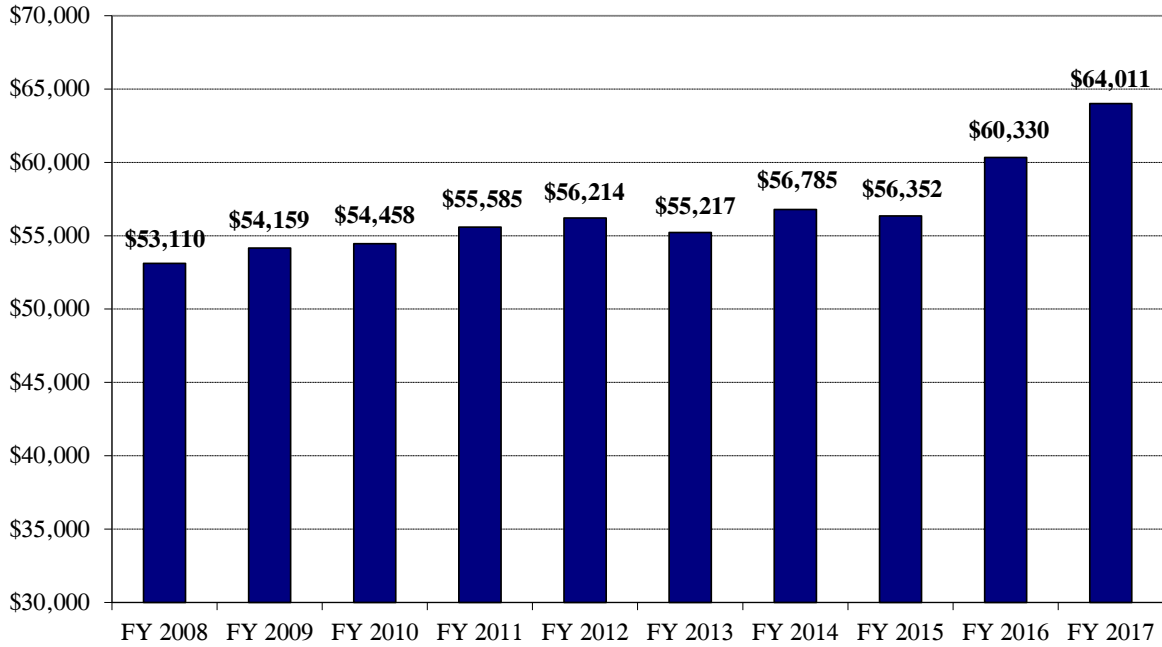


CHART 22

COOK COUNTY FOREST PRESERVE PENSION FUND
Average Retirement Annuities

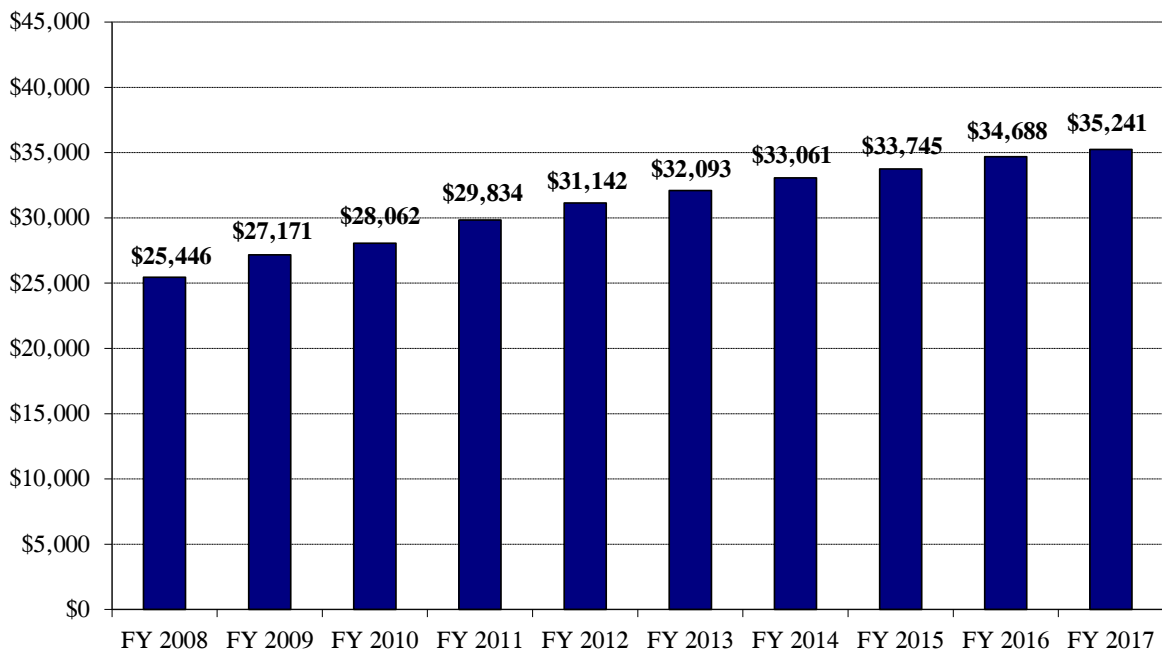


CHART 23

COOK COUNTY FOREST PRESERVE PENSION FUND Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

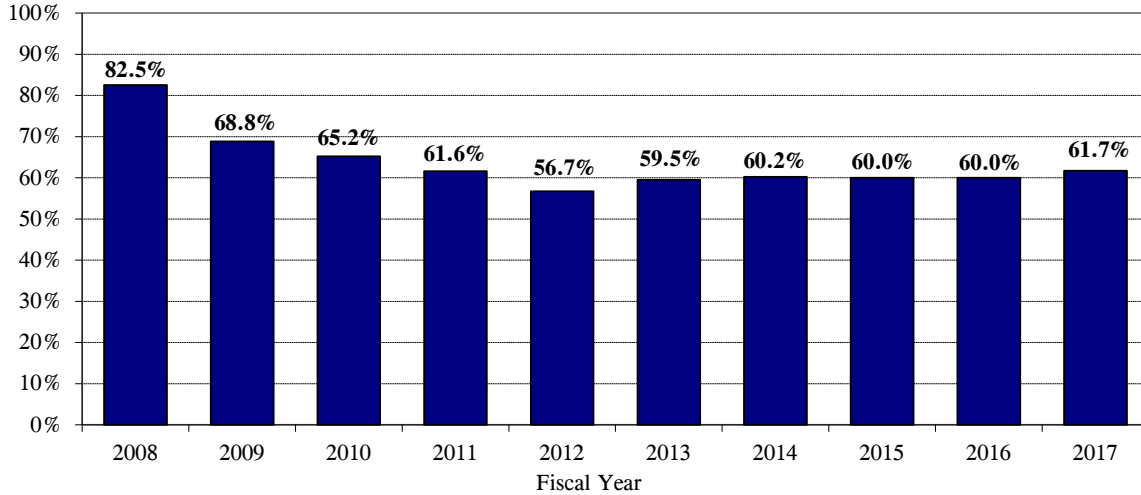
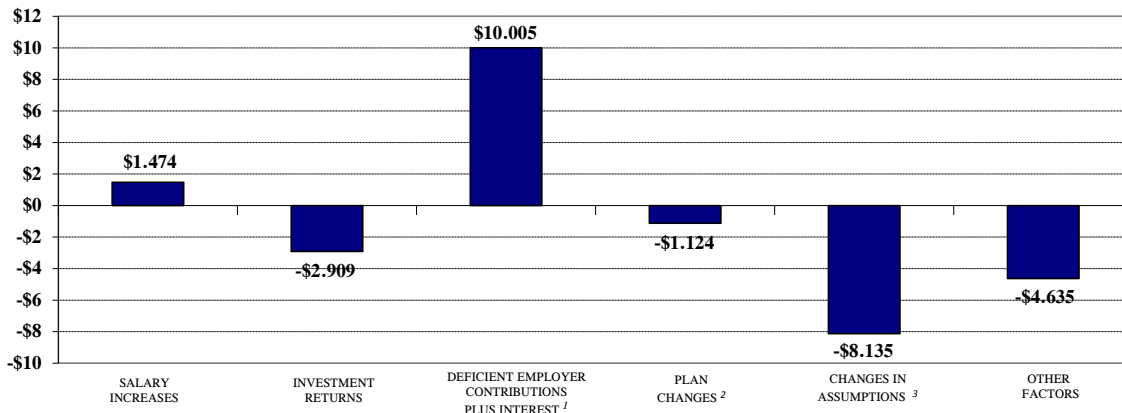


CHART 24

COOK COUNTY FOREST PRESERVE PENSION FUND Change in Unfunded Liabilities Year ended December 31, 2017 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL DECREASE EQUALS
\$5.323 MIL



¹ Unfunded liability increased due to employer contributions plus interest being less than normal cost plus interest.

² Decreases in unfunded liabilities came from provision changes in the postemployment health plan.

³ The unfunded liabilities decreased due to a net effect of changes in actuarial assumptions, including assumed rate of return, mortality and retirement rates.

CHART 25

COOK COUNTY FOREST PRESERVE PENSION FUND

Investment Income FY 2008 - FY 2017

Actuarially Assumed Rate of Return: 7.25%

(\$ in Millions)

All figures based upon the market value of assets.

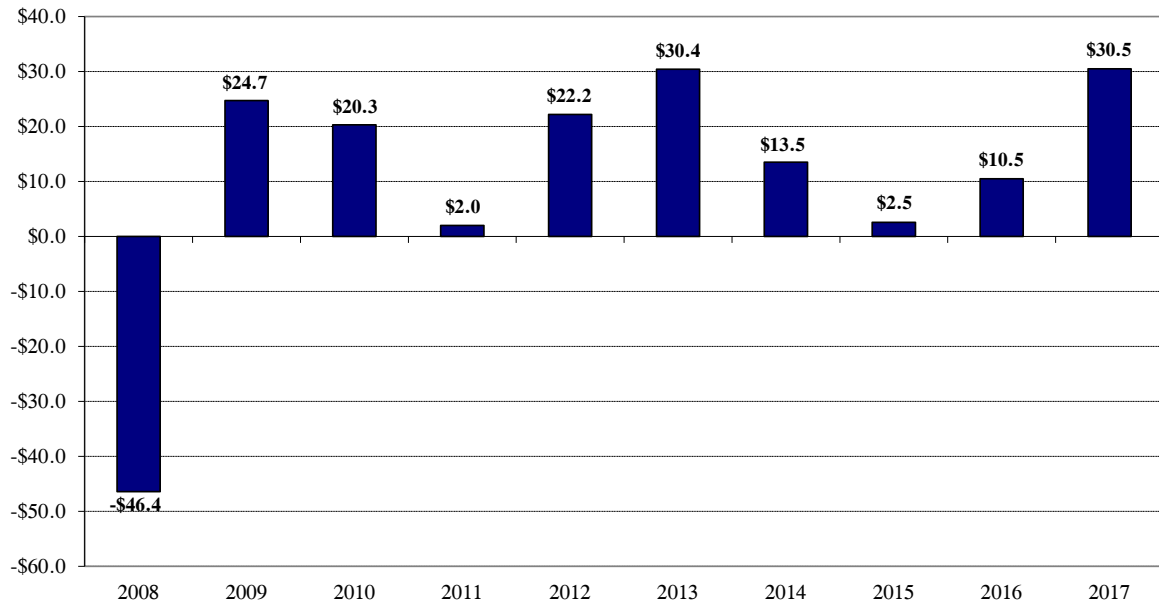


CHART 26

COOK COUNTY FOREST PRESERVE PENSION FUND

Rate of Return FY 2008 - FY 2017

Actuarially Assumed Rate of Return: 7.25%

All figures based upon the market value of assets.

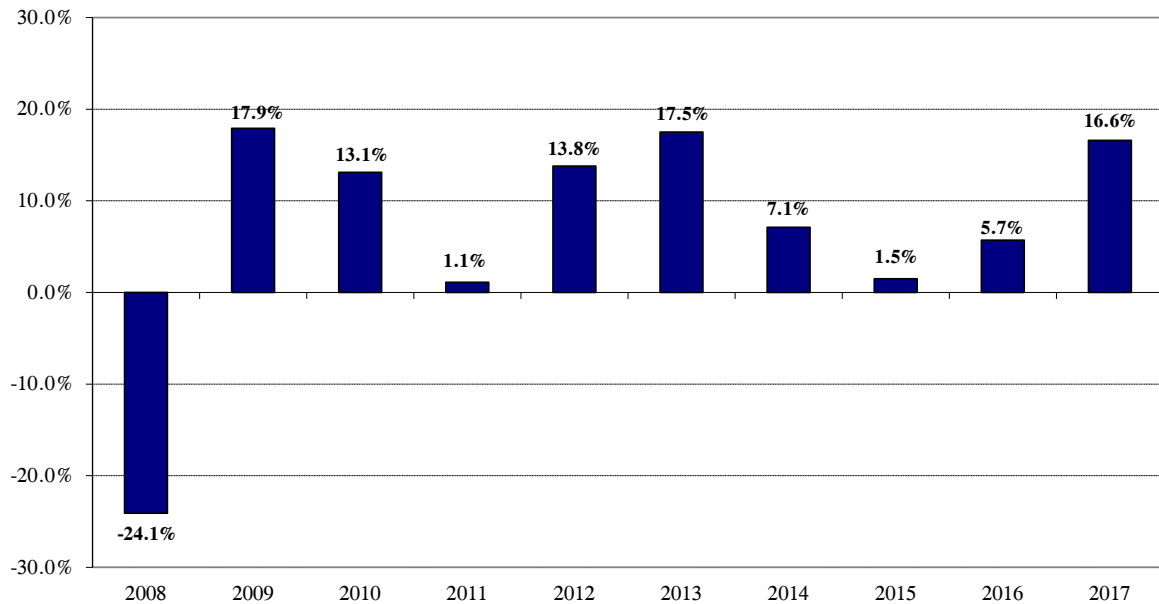


TABLE 6

COOK COUNTY FOREST PRESERVE PENSION FUND System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	35.1	330.9	204.3	126.6	61.7%
2016	34.5	330.2	198.2	132.0	60.0%
2015	32.0	322.8	193.7	129.0	60.0%
2014	29.7	315.2	189.9	125.3	60.2%
2013	26.3	306.9	182.6	124.4	59.5%
2012	26.3	304.5	172.6	131.9	56.7%
2011	22.7	289.3	178.1	111.2	61.6%
2010	24.4	282.4	184.1	98.3	65.2%
2009	25.0	274.0	188.4	85.6	68.8%
2008	23.5	237.9	196.3	41.6	82.5%

TABLE 7

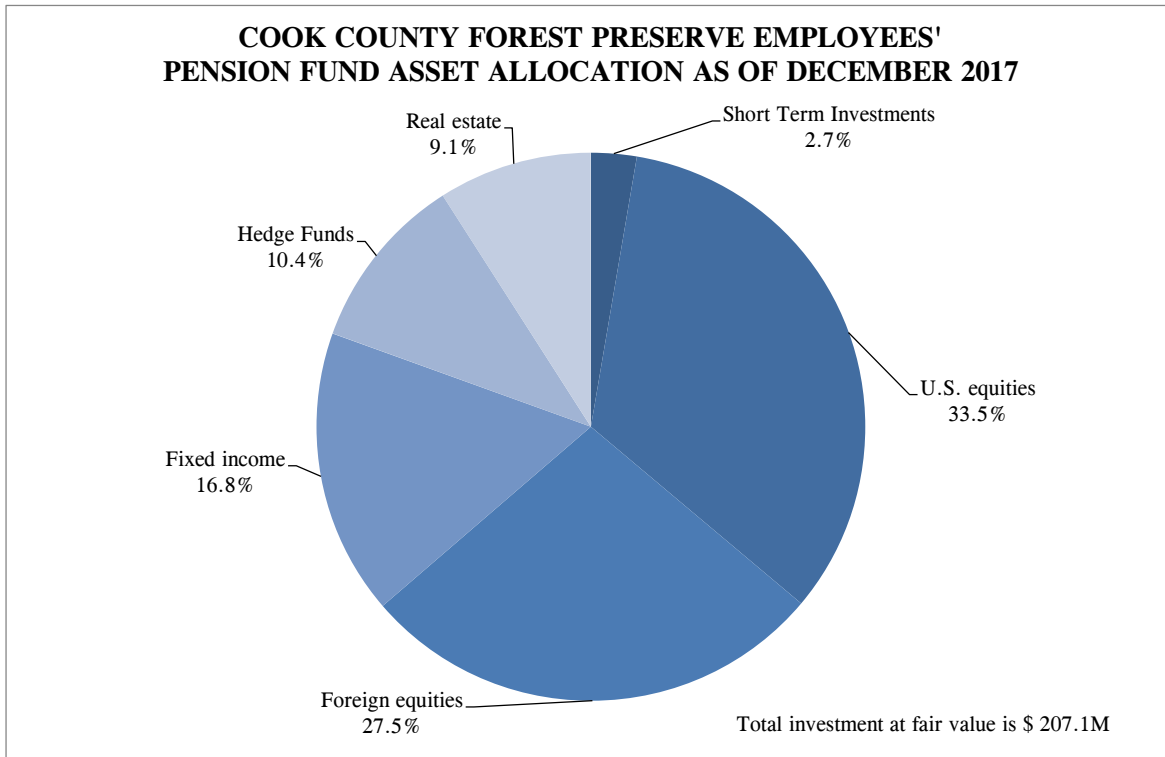
COOK COUNTY FOREST PRESERVE PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$3.5	\$3.4	\$3.5	\$3.1	\$2.9	\$3.1	\$3.3	\$2.7	\$2.6	\$2.0
Employees	\$3.3	\$3.2	\$2.8	\$2.6	\$2.7	\$2.5	\$2.3	\$2.4	\$2.4	\$2.1
Net Investment Income	\$30.5	\$10.5	\$2.5	\$13.5	\$30.4	\$22.2	\$2.0	\$20.3	\$24.7	-\$46.4
Other	\$0.6	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.5	\$0.2	\$0.2	\$0.1
Total Asset Additions (A)	\$37.9	\$17.4	\$9.0	\$19.5	\$36.1	\$28.0	\$8.1	\$25.6	\$29.9	-\$42.1
Deductions from Assets										
Benefits	\$18.0	\$17.5	\$17.2	\$16.7	\$15.7	\$14.2	\$13.6	\$13.0	\$12.4	\$12.2
Refunds	\$0.6	\$0.7	\$0.6	\$1.0	\$1.0	\$1.2	\$0.6	\$0.4	\$0.5	\$0.5
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1
Other	\$0.1	\$0.1	\$0.0	\$0.2	-\$0.1	\$0.2	-\$0.3	\$0.3	\$0.1	-\$0.1
Total Asset Deductions (B)	\$18.8	\$18.5	\$18.0	\$17.9	\$16.6	\$15.7	\$14.0	\$13.8	\$13.1	\$12.7
Change in Net Assets (A-B=C)	\$19.2	-\$1.1	-\$9.0	\$1.6	\$19.5	\$12.3	-\$5.9	\$11.8	\$16.8	-\$54.8

Table 8 below contains funding projections provided to CGFA by the Cook County Forest Preserve Pension Fund based upon the December 31, 2017 actuarial valuation. As shown in the table below, under the current funding policy the Cook County Forest Preserve Pension Fund is projected to run out of assets by 2040 if all future assumptions are met and no additional contributions are made.

TABLE 8

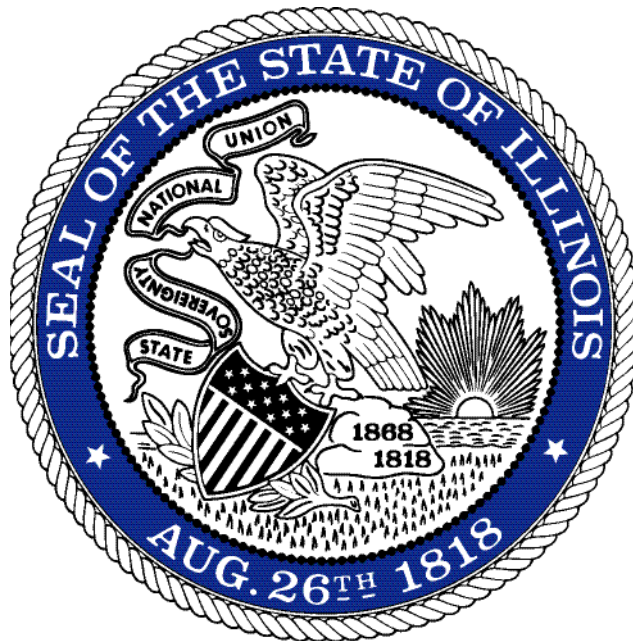
Cook County Forest Preserve Pension Fund Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total County Contribution	County Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2018	35.0	3.5	10.0%	0.0	331.0	204.0	127.0	61.7%
2019	35.5	4.0	11.3%	0.9	341.0	205.0	135.0	60.2%
2020	36.0	4.2	11.5%	1.7	350.0	206.0	144.0	58.9%
2021	36.7	3.9	10.6%	2.3	360.0	209.0	151.0	58.1%
2022	37.1	3.9	10.6%	3.0	369.0	212.0	158.0	57.3%
2023	37.6	4.0	10.6%	4.0	378.0	210.0	168.0	55.4%
2024	38.2	4.1	10.7%	5.1	386.0	206.0	180.0	53.4%
2025	38.8	4.1	10.6%	6.2	394.0	202.0	192.0	51.2%
2026	39.5	4.2	10.6%	7.4	402.0	197.0	206.0	48.9%
2027	40.3	4.2	10.5%	8.8	410.0	190.0	220.0	46.4%
2028	41.0	4.3	10.5%	10.2	418.0	183.0	235.0	43.8%
2029	41.8	4.4	10.5%	11.7	425.0	174.0	251.0	41.0%
2030	42.7	4.5	10.5%	13.4	432.0	164.0	268.0	38.0%
2031	43.6	4.6	10.4%	15.2	439.0	153.0	287.0	34.8%
2032	44.6	4.6	10.4%	17.2	447.0	140.0	306.0	31.4%
2033	45.6	4.7	10.4%	19.3	454.0	126.0	328.0	27.8%
2034	46.8	4.8	10.4%	21.6	461.0	111.0	350.0	24.0%
2035	48.0	4.9	10.3%	24.1	469.0	94.0	375.0	20.1%
2036	49.2	5.1	10.3%	26.7	477.0	76.0	401.0	15.9%
2037	50.3	5.2	10.3%	29.6	485.0	56.0	429.0	11.6%
2038	51.5	5.3	10.3%	32.7	493.0	35.0	459.0	7.1%
2039	52.8	5.5	10.3%	36.1	502.0	11.0	491.0	2.3%
2040	53.9	5.6	10.3%	39.7	511.0	-14.0	525.0	-2.8%
2041	55.2	5.7	10.4%	43.7	519.0	-42.0	562.0	-8.1%
2042	56.5	5.9	10.4%	47.9	528.0	-73.0	601.0	-13.7%
2043	58.0	6.0	10.3%	52.4	538.0	-106.0	643.0	-19.7%
2044	59.5	6.1	10.3%	57.3	547.0	-142.0	689.0	-25.9%
2045	61.1	6.3	10.3%	62.6	557.0	-180.0	737.0	-32.4%
2046	62.8	6.4	10.3%	68.2	567.0	-222.0	789.0	-39.2%
2047	64.4	6.6	10.3%	74.2	578.0	-267.0	846.0	-46.3%
2048	66.2	6.8	10.2%	80.6	590.0	-316.0	906.0	-53.6%
2049	68.0	7.0	10.3%	79.6	602.0	-368.0	970.0	-61.2%
2050	69.8	7.2	10.3%	78.9	615.0	-424.0	1,039.0	-69.0%
2051	71.6	7.3	10.3%	78.3	629.0	-485.0	1,114.0	-77.1%
2052	73.5	7.5	10.3%	77.6	644.0	-550.0	1,193.0	-85.4%

CHART 27



V. Firemen's Annuity and Benefit Fund of Chicago

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- System Projections
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Firemen's Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary

Retirement Age

- Age 50 with 20 years of service
- Age 50 with 10 years of service (accumulated annuity)
- Mandatory retirement at age 63, except for emergency medical technicians

Retirement Formula

- For employees with 20 or more years of service, 50% of final average salary plus 2.5% of final average salary for each year in excess of 20

Maximum Annuity

- 75% of final average salary

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% non-compounded with no limit at age 55, or the first anniversary of retirement if born before 1/1/66
- 1.5% non-compounded at age 60 or the first anniversary of retirement if born after 1/1/66 with 30% maximum

Employee Contributions

- 9.125% of salary

Required Employer Contributions

Pursuant to P.A. 99-0506, the employer contributions for payment year 2016 through 2020 are specified as follows: \$199 million in 2016, \$208 million in 2017, \$227 million in 2018, \$235 million in 2019, and \$245 million in 2020. After payment year 2020, the city (employer) is required to make an annual actuarially determined contribution as a level percentage of pay, with a funding goal of 90% by the end of 2055, based upon the actuarial value of fund assets and application of required actuarial assumptions and methodologies.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date for P.A. 96-1495. See P.A. 96-1495 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 28

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO
Active Employees

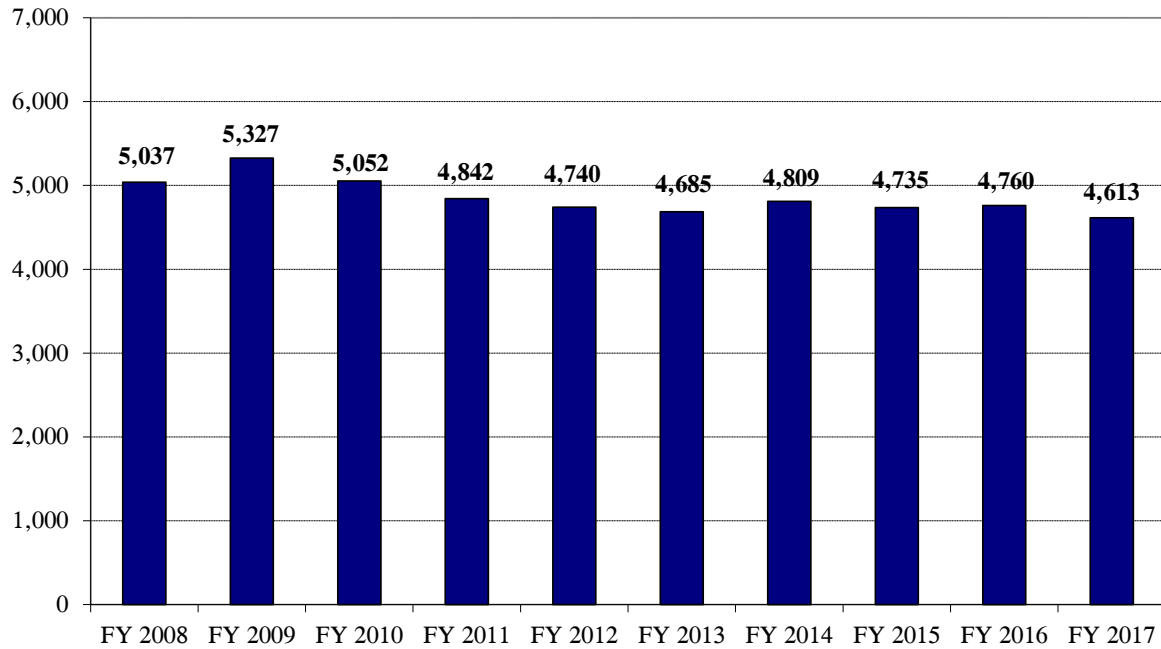


CHART 29

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO
Employee Annuitants

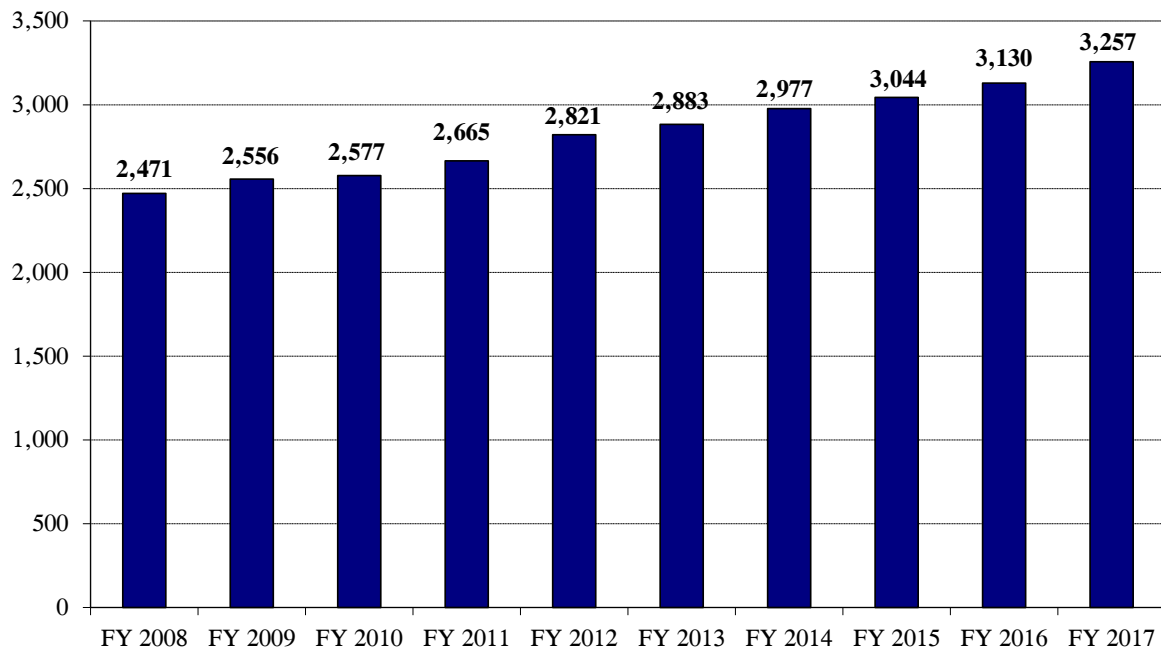


CHART 30

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO
Average Employee Salaries

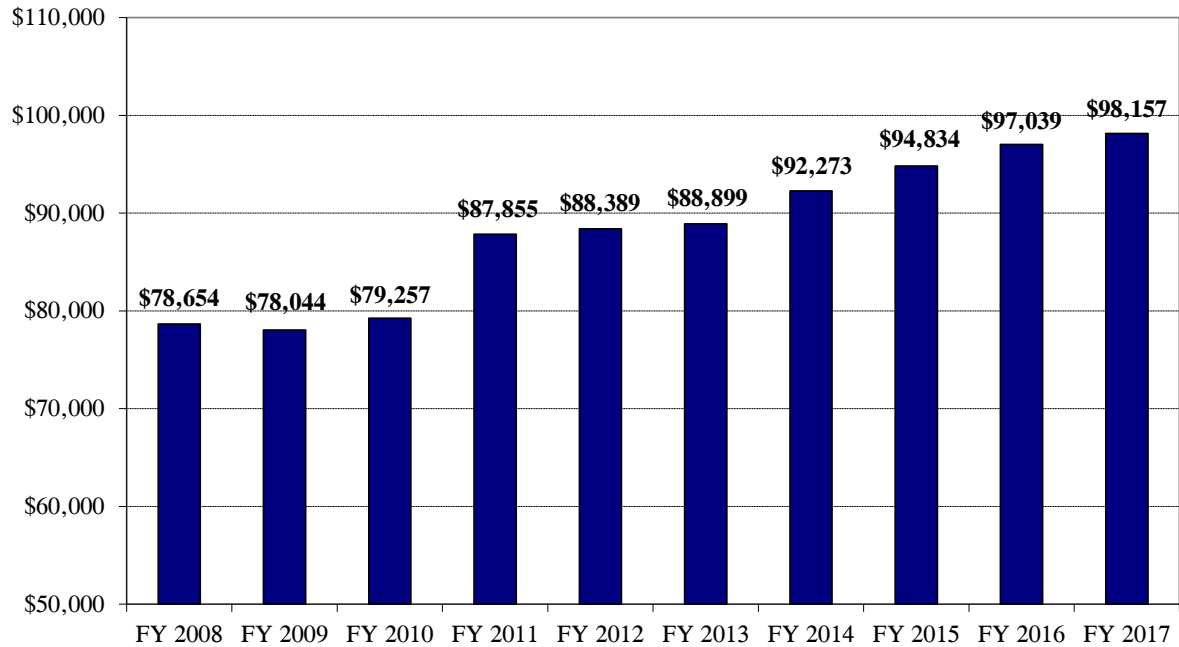


CHART 31

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO
Average Retirement Annuity

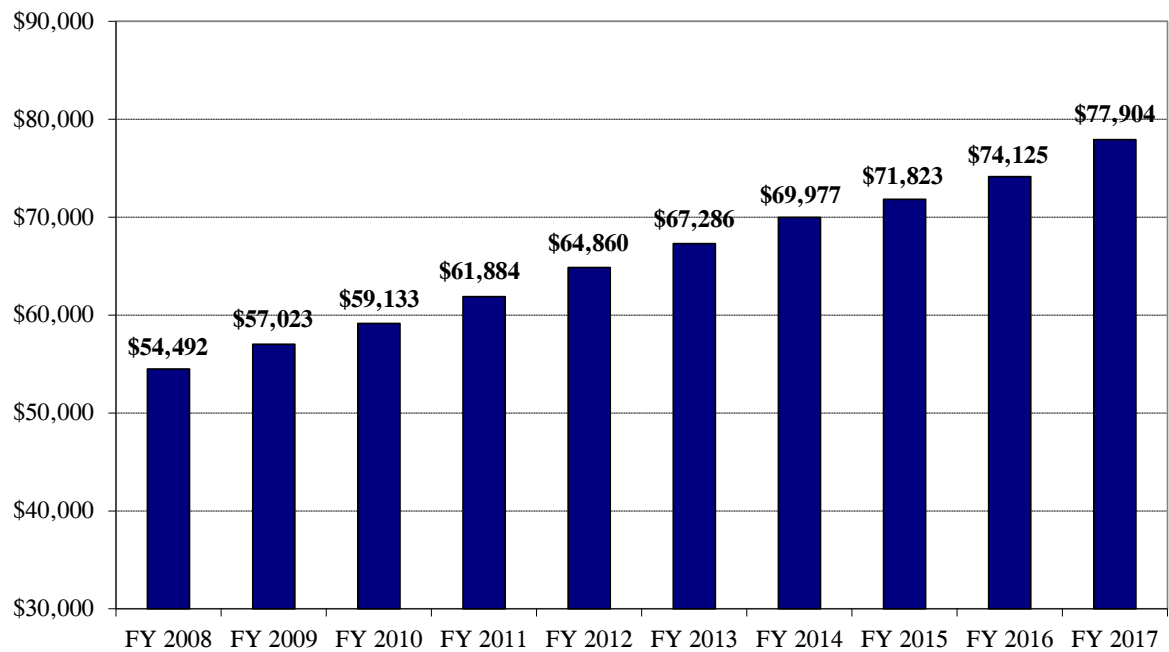


CHART 32

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

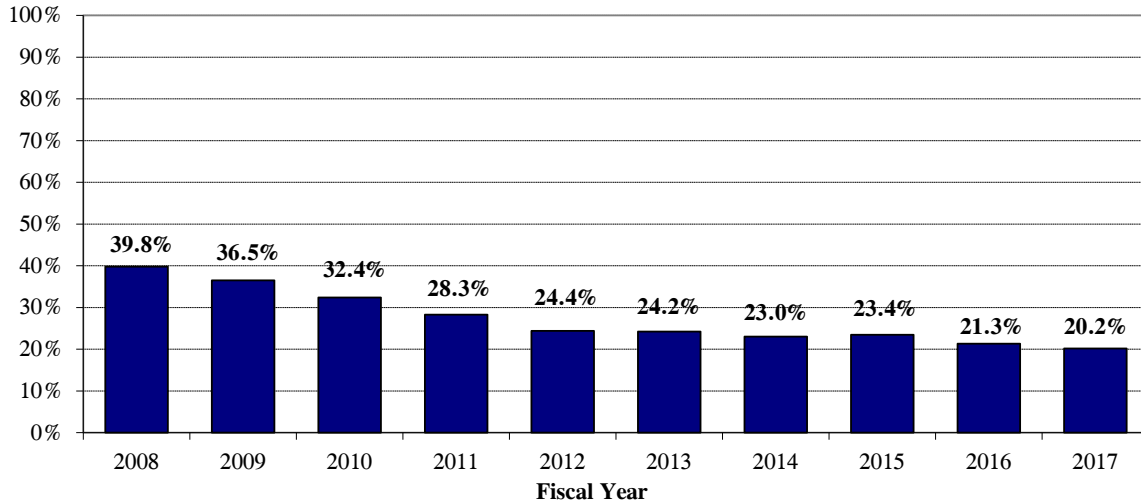
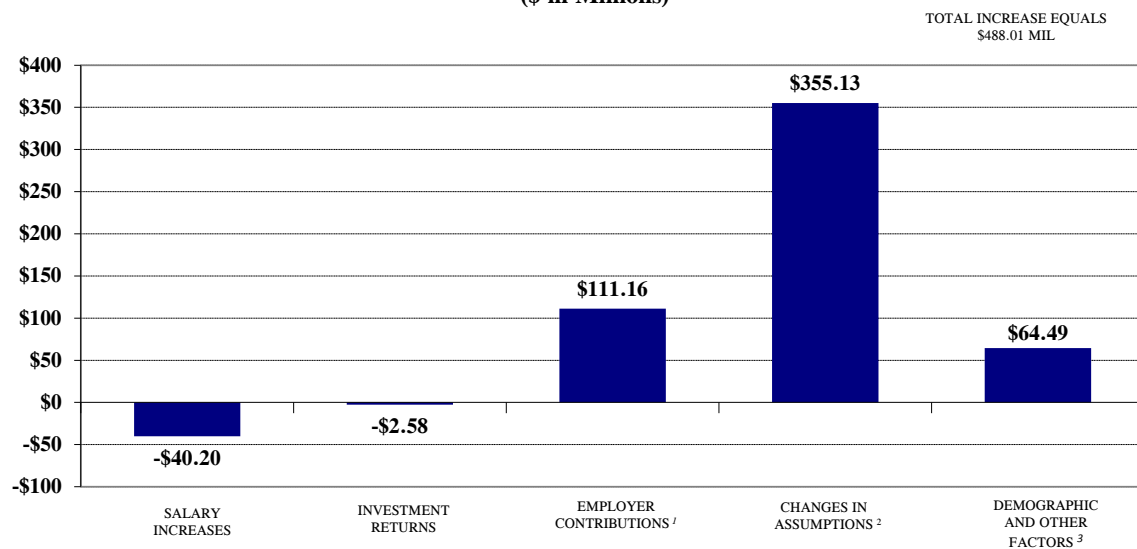


CHART 33

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2017 (\$ in Millions)



¹ Unfunded liability increases due to employer contributions plus interest being less than normal cost plus interest.

² Reflects actuarial assumption changes such as mortality assumptions and other demographic assumptions such as retirement, turnover, disability rates, etc.

³ Includes an actuarial loss of \$35.8 million from actual experience being different from the demographic assumptions and an actuarial loss of \$28.7 million from other factors, including new hires and data corrections.

CHART 34

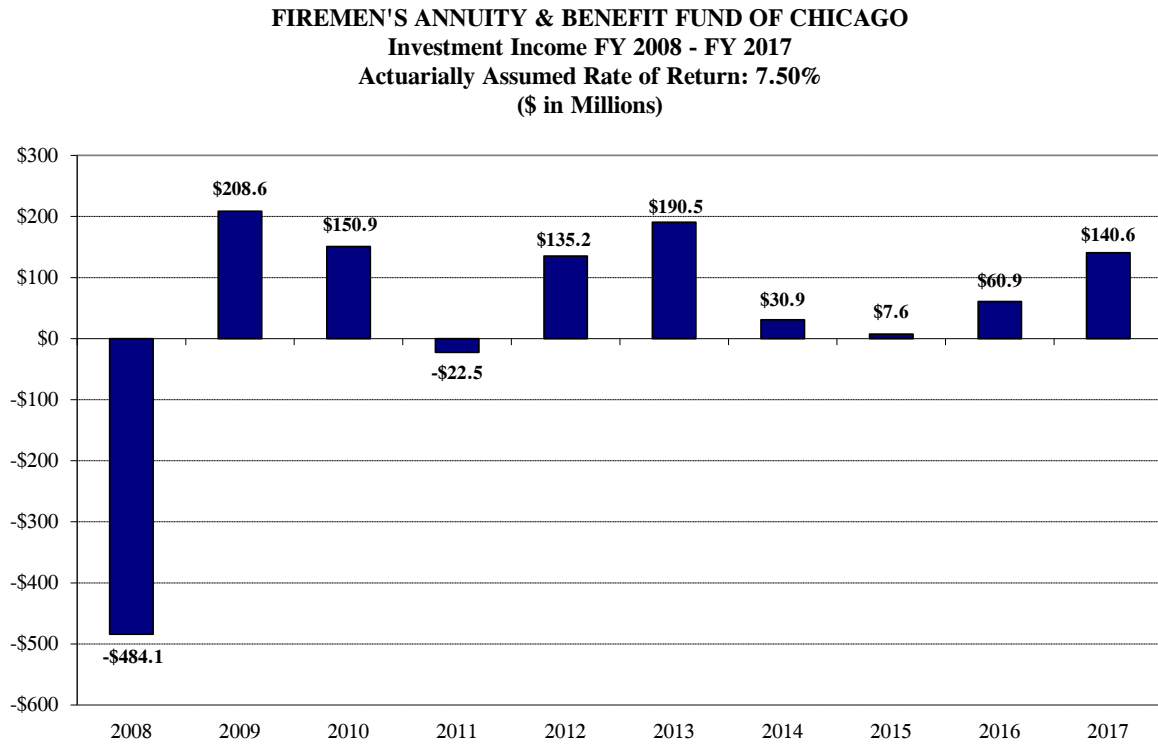


CHART 35

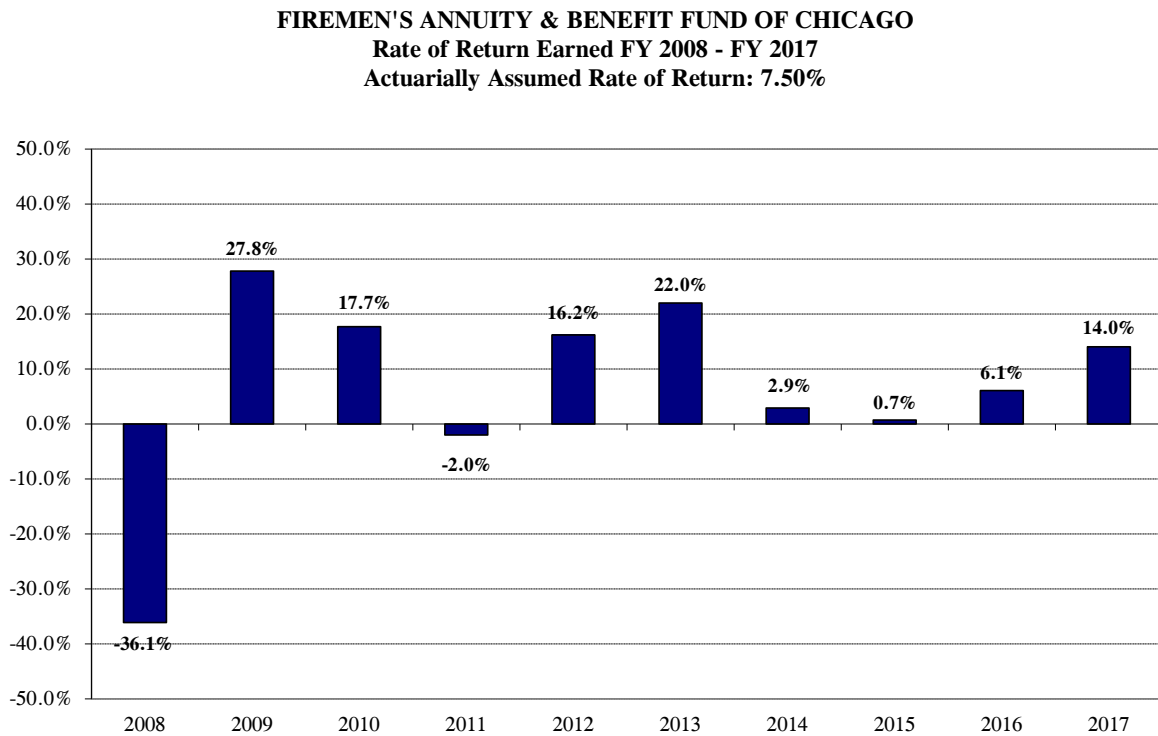


TABLE 9

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	469.4	5,582.4	1,123.4	4,459.0	20.1 %
2016	478.5	5,045.9	1,074.9	3,971.0	21.3 %
2015	465.2	4,666.8	1,081.0	3,585.8	23.2 %
2014	460.2	4,343.6	988.1	3,355.5	22.7 %
2013	416.5	4,136.4	991.2	3,145.2	24.0 %
2012	419.0	4,066.3	993.3	3,073.0	24.4 %
2011	425.4	3,898.9	1,101.7	2,797.2	28.3 %
2010	400.4	3,703.2	1,198.1	2,505.1	32.4 %
2009	400.9	3,476.8	1,269.2	2,207.6	36.5 %
2008	396.2	3,338.6	1,335.7	2,002.9	40.0 %

TABLE 10

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$228.5	\$156.2	\$238.5	\$109.8	\$106.2	\$84.1	\$85.5	\$83.6	\$91.8	\$83.7
Employees	\$47.4	\$49.0	\$46.6	\$48.1	\$42.5	\$53.3	\$51.9	\$41.7	\$41.6	\$40.5
Net Investment Income	\$140.6	\$60.9	\$7.6	\$30.9	\$190.5	\$135.2	-\$22.4	\$150.9	\$208.6	-\$484.1
Other	\$0.0	\$0.0	\$0.0	\$0.0	-\$0.1	\$3.5	\$0.0	\$0.0	\$0.0	\$0.1
Total Asset Additions (A)	\$416.4	\$266.0	\$292.6	\$188.7	\$339.2	\$276.1	\$115.0	\$276.2	\$342.0	-\$359.8
Deductions from Assets										
Benefits	\$302.5	\$285.2	\$276.8	\$264.0	\$249.6	\$231.2	\$221.5	\$215.8	\$199.0	\$190.0
Refunds	\$3.6	\$3.7	\$3.6	\$2.3	\$2.2	\$2.6	\$2.1	\$1.8	\$2.1	\$2.7
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$3.2	\$3.2	\$3.1	\$3.1	\$3.1	\$2.5	\$2.5	\$3.1	\$3.0	\$2.9
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.1	\$1.2	\$1.1	\$0.4	\$0.0
Total Asset Deductions (B)	\$309.3	\$292.1	\$283.5	\$269.4	\$254.9	\$237.4	\$227.3	\$221.8	\$204.5	\$195.6
Change in Net Assets (A-B=C)	\$107.1	-\$26.1	\$9.1	-\$80.7	\$84.3	\$38.7	-\$112.3	\$54.4	\$137.5	-\$555.4

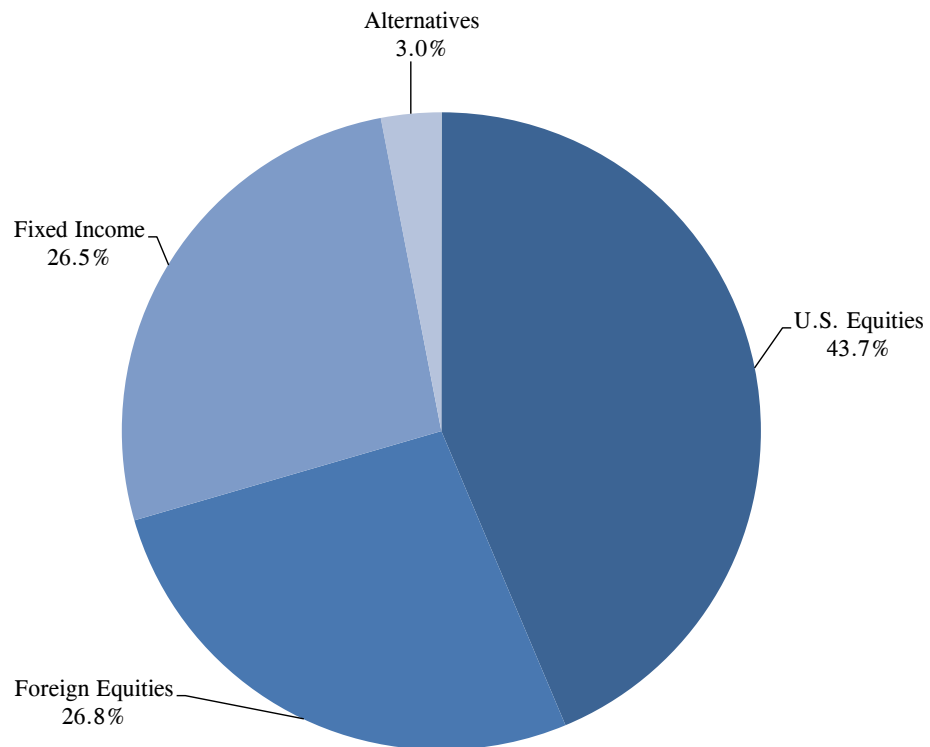
Table 11 below contains funding projections provided to CGFA by the Firemen's Annuity and Benefit Fund of Chicago based upon the December 31, 2017 actuarial valuation.

TABLE 11

Firemen's Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total City Contribution	Total City Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2017	469.4	228.5	48.7%	47.4	5,582.4	1,123.4	4,459.0	20.1%
2018	474.9	235.0	49.5%	43.8	5,758.2	1,127.3	4,630.8	19.6%
2019	484.4	245.0	50.6%	46.0	5,927.0	1,136.1	4,790.9	19.2%
2020	494.4	354.6	71.7%	46.9	6,091.5	1,251.6	4,839.9	20.5%
2021	504.9	362.2	71.7%	47.9	6,249.0	1,365.3	4,883.6	21.8%
2022	517.1	371.0	71.7%	49.0	6,401.5	1,465.5	4,936.0	22.9%
2023	532.4	381.9	71.7%	50.5	6,550.0	1,568.4	4,981.6	23.9%
2024	547.3	392.6	71.7%	51.9	6,694.1	1,673.8	5,020.3	25.0%
2025	561.4	402.7	71.7%	53.2	6,832.7	1,780.6	5,052.1	26.1%
2026	574.8	412.3	71.7%	54.5	6,964.8	1,888.0	5,076.8	27.1%
2027	588.8	422.3	71.7%	55.8	7,090.9	1,997.2	5,093.7	28.2%
2028	605.8	434.6	71.7%	57.4	7,212.7	2,112.5	5,100.2	29.3%
2029	621.8	446.0	71.7%	58.9	7,330.6	2,234.2	5,096.4	30.5%
2030	634.3	455.0	71.7%	60.0	7,444.2	2,360.5	5,083.7	31.7%
2031	643.6	461.6	71.7%	60.9	7,552.6	2,489.0	5,063.6	33.0%
2032	651.8	467.6	71.7%	61.6	7,655.8	2,619.7	5,036.1	34.2%
2033	660.1	473.5	71.7%	62.4	7,754.0	2,753.3	5,000.6	35.5%
2034	667.2	478.6	71.7%	63.0	7,847.4	2,890.0	4,957.5	36.8%
2035	673.9	483.4	71.7%	63.6	7,937.0	3,030.8	4,906.3	38.2%
2036	679.7	487.5	71.7%	64.1	8,023.3	3,176.2	4,847.1	39.6%
2037	685.7	491.9	71.7%	64.6	8,106.9	3,328.8	4,778.2	41.1%
2038	691.6	496.1	71.7%	65.1	8,188.4	3,486.5	4,702.0	42.6%
2039	697.7	500.5	71.7%	65.6	8,268.5	3,653.8	4,614.7	44.2%
2040	703.9	504.9	71.7%	66.1	8,347.6	3,830.9	4,516.7	45.9%
2041	710.0	509.3	71.7%	66.6	8,426.0	4,018.9	4,407.1	47.7%
2042	716.6	514.0	71.7%	67.1	8,503.7	4,218.7	4,285.0	49.6%
2043	723.3	518.9	71.7%	67.6	8,580.9	4,431.7	4,149.3	51.6%
2044	730.6	524.1	71.7%	68.1	8,657.7	4,659.0	3,998.7	53.8%
2045	737.6	529.1	71.7%	68.7	8,734.1	4,901.6	3,832.4	56.1%
2046	745.1	534.5	71.7%	69.3	8,810.2	5,161.1	3,649.2	58.6%
2047	753.0	540.1	71.7%	70.0	8,886.6	5,439.2	3,447.5	61.2%
2048	761.5	546.2	71.7%	70.7	8,963.9	5,738.2	3,225.8	64.0%
2049	770.6	552.8	71.7%	71.5	9,043.2	6,060.9	2,982.2	67.0%
2050	780.2	559.6	71.7%	72.4	9,125.2	6,410.1	2,715.1	70.2%
2051	789.9	566.6	71.7%	73.3	9,210.4	6,787.8	2,422.6	73.7%
2052	799.8	573.7	71.7%	74.2	9,299.2	7,196.4	2,102.9	77.4%
2053	809.8	580.9	71.7%	75.1	9,392.1	7,638.2	1,753.9	81.3%
2054	819.9	588.1	71.7%	76.0	9,489.8	8,116.2	1,373.6	85.5%
2055	830.1	595.5	71.7%	77.0	9,593.2	8,633.7	959.6	90.0%

CHART 36

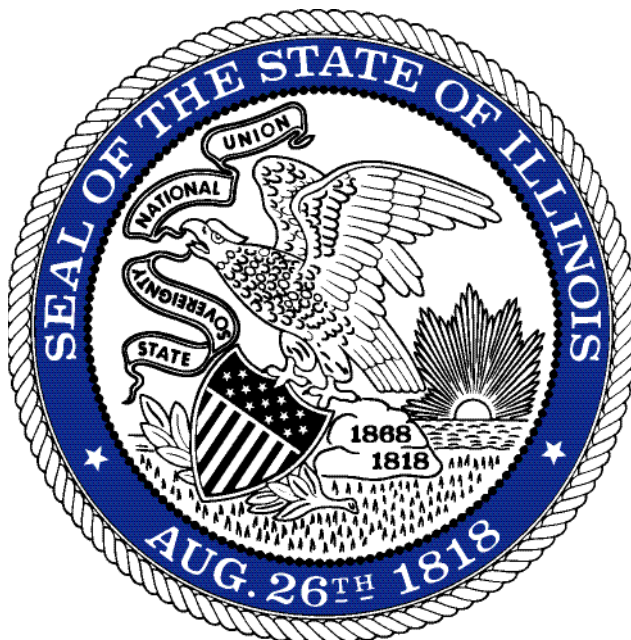
**FIREMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
ASSET ALLOCATION AS OF DECEMBER 31, 2017**



Total investment at gross value is \$894.8M

VI. Illinois Municipal Retirement Fund

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Illinois Municipal Retirement Fund – Regular Formula Tier 1 Plan Summary

Retirement Age

- Age 60 with 8 or more years of service
- Age 55 with 35 or more years of service

Retirement Formula

- 1.67% of final average salary for each of the first 15 years of service, plus
- 2.0% of final average salary for each year of service in excess of 15

Maximum Annuity

- 75% of final average salary

Salary Used to Calculate Pension

- Average of the 4 highest consecutive years within the final 10 years

Annual COLA

- 3% non-compounded

Employee Contributions

- 4.5% of salary. In addition, IMRF members contribute to Social Security.

Employer Contributions

Each IMRF employer makes contributions to individual accounts which, when combined with member contributions and investment income, will be sufficient to provide future benefits for its own employees.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P. A. 96-0889. See P. A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

Illinois Municipal Retirement Fund

Elected County Officers Plan (ECO)

Tier 1 Plan Summary

*The ECO Plan has been closed to new participants since August 8, 2011, the effective date of P.A. 97-0272.

Retirement Age

- Age 55 with 8 or more years of service

Retirement Formula

- 3% of final earnings for the first 8 years of service, plus
- 4% of final earnings for each of the next 4 years of service, plus
- 5% of final earnings for each year over 12 years of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Annual salary rate at the date of termination or retirement

Annual COLA

- 3% non-compounded

Employee Contributions

- 7.5% of salary

Employer Contributions

Each IMRF employer makes contributions to individual accounts which, when combined with member contributions and investment income, will be sufficient to provide future benefits for its own employees.

Illinois Municipal Retirement Fund

Sheriff's Law Enforcement Personnel Plan (SLEP)

Plan Summary

Retirement Age

- Age 50 with 20 or more years of service

Retirement Formula

- 2.5% of final rate of earnings for each year of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Average of the 4 highest consecutive years within the final 10 years

Annual COLA

- 3% non-compounded

Employee Contributions

- 7.5% of salary

Employer Contributions

Each IMRF employer makes contributions to individual accounts which, when combined with member contributions and investment income, will be sufficient to provide future benefits for its own employees.

Note: Benefits shown are for employees hired prior to January 1, 2011, the effective date of P.A. 96-0889 and P.A. 96-1495. See P.A. 96-0889 & P.A. 96-1495 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 37

**ILLINOIS MUNICIPAL RETIREMENT FUND
Active Employees**

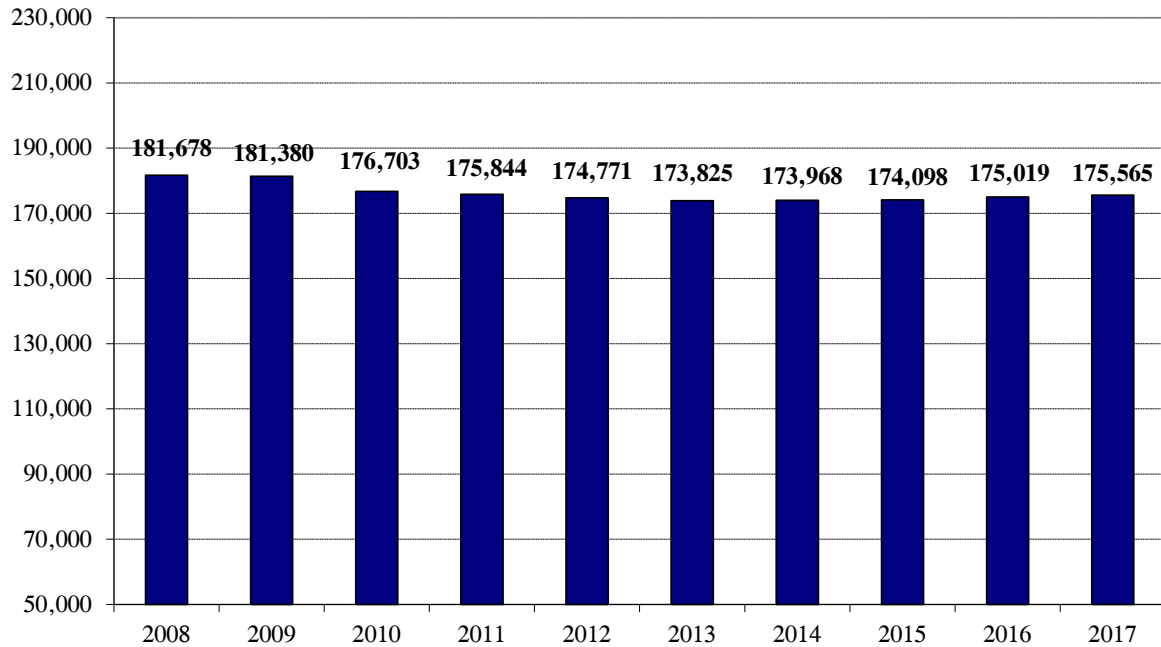


CHART 38

**ILLINOIS MUNICIPAL RETIREMENT FUND
Employee Annuitants**

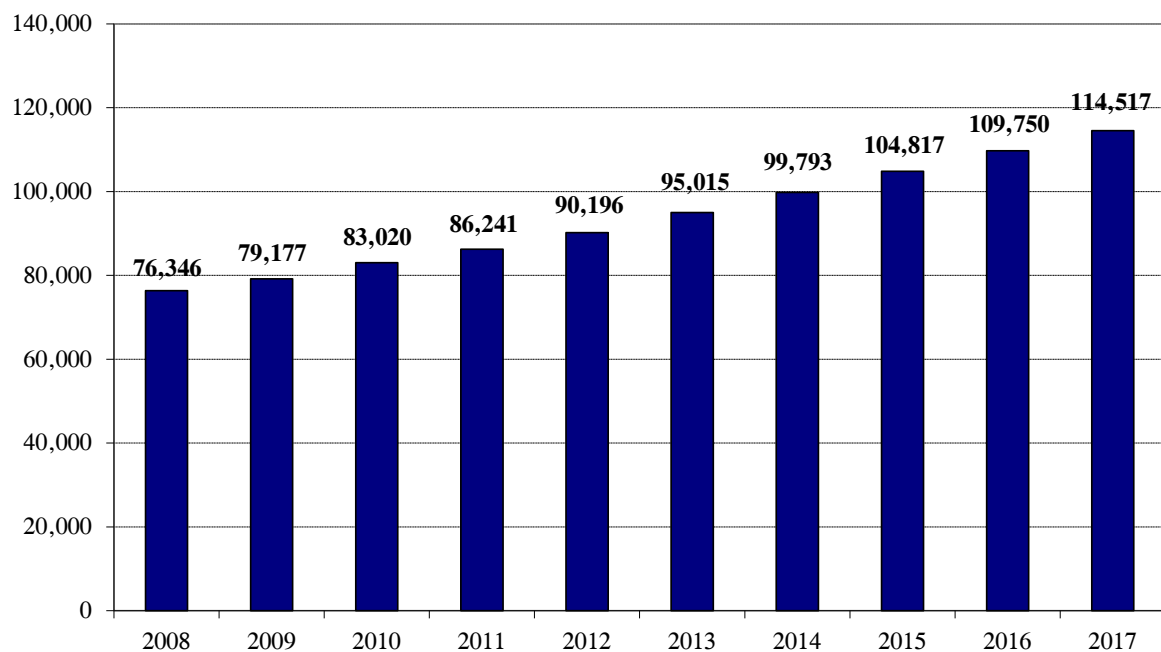


CHART 39

**ILLINOIS MUNICIPAL RETIREMENT FUND
Average Employee Salaries**

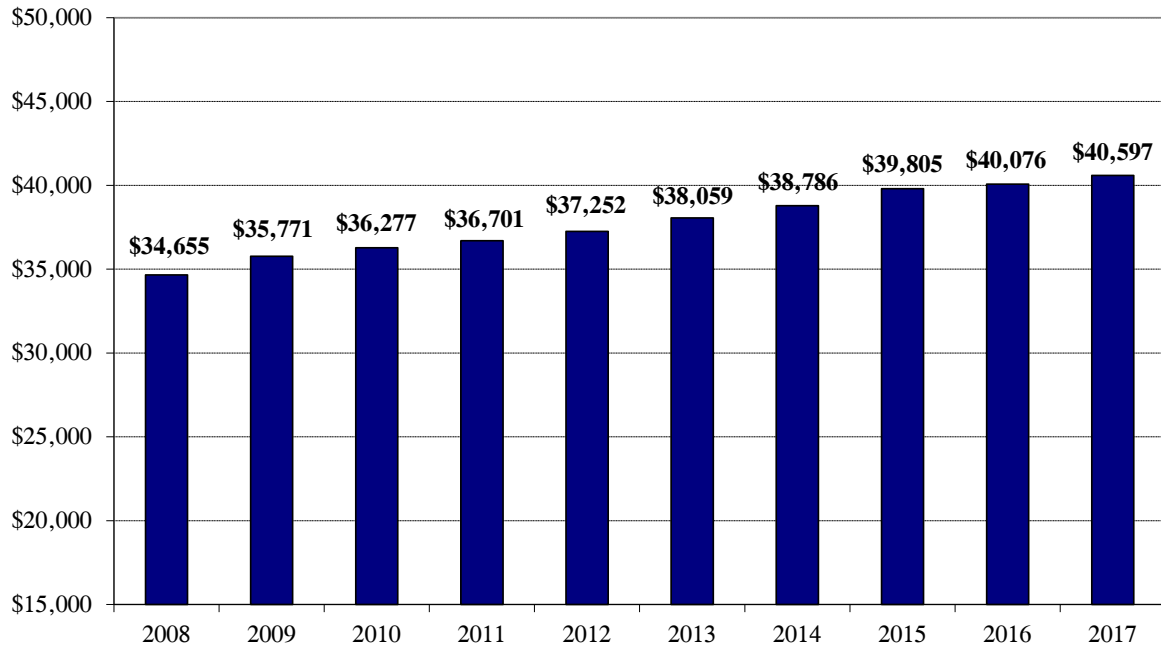


CHART 40

**ILLINOIS MUNICIPAL RETIREMENT FUND
Average Retirement Annuity**

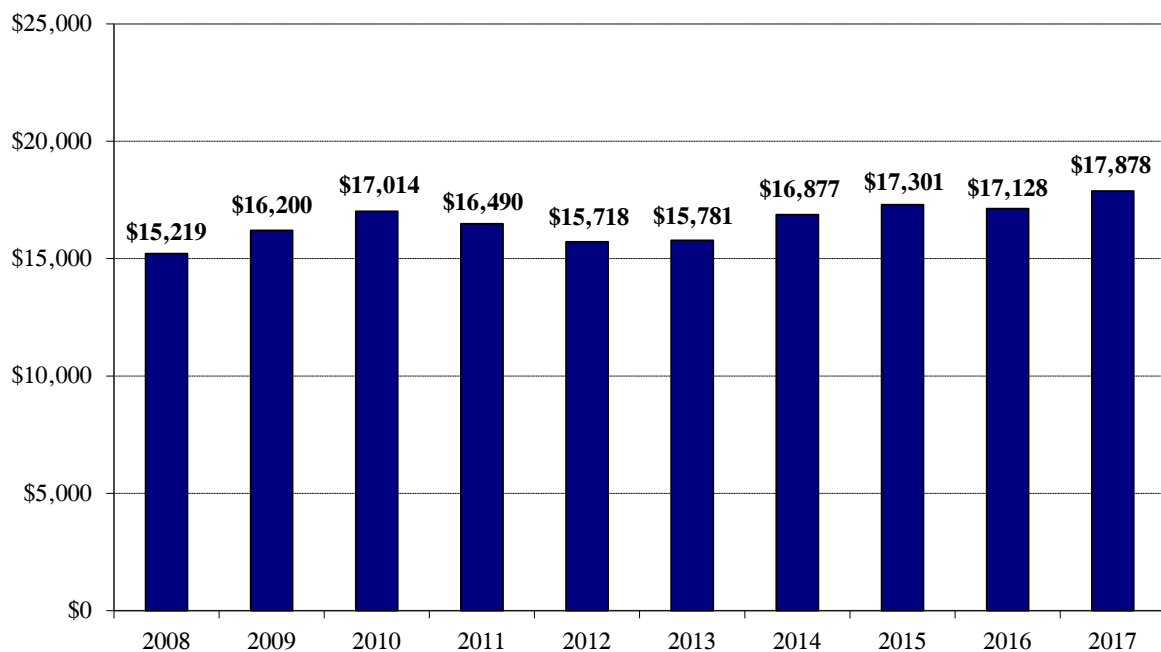


CHART 41

ILLINOIS MUNICIPAL RETIREMENT FUND
Funded Ratio
FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

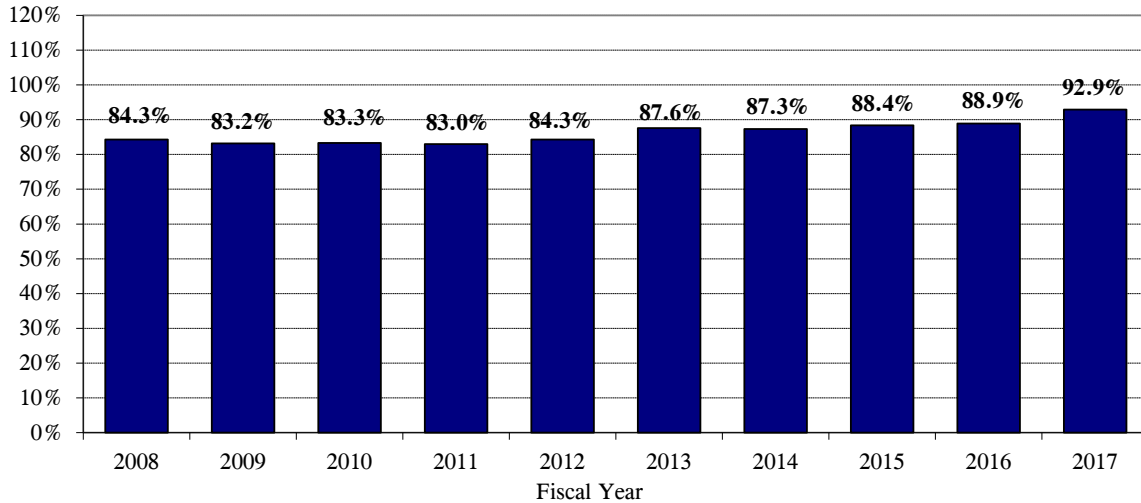
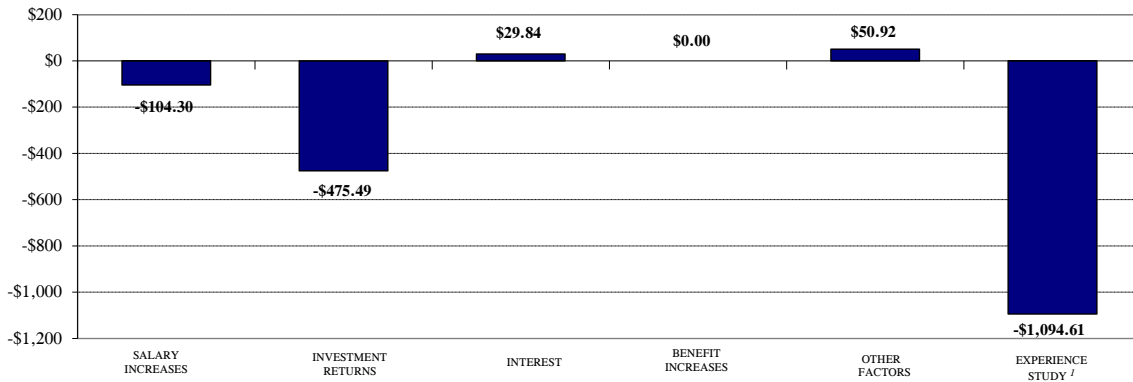


CHART 42

ILLINOIS MUNICIPAL RETIREMENT FUND
Change in Unfunded Liabilities
Year ended December 31, 2017
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL DECREASE EQUALS
\$1,593.63 MIL



¹ IMRF's actuary conducted the triennial experience study. A significant assumption change was a change in the mortality table.

CHART 43

ILLINOIS MUNICIPAL RETIREMENT FUND

Investment Income 2008 - 2017

Actuarially Assumed Rate of Return: 7.50%

(\$ in Millions)

All figures based upon the market value of assets.

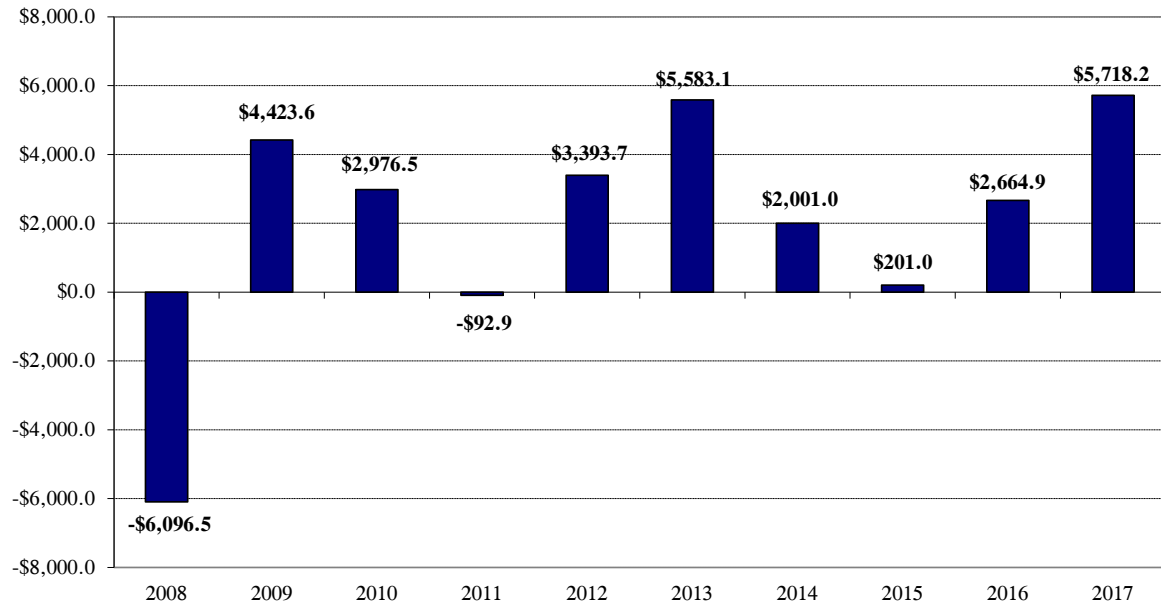


CHART 44

ILLINOIS MUNICIPAL RETIREMENT FUND

Rate of Return 2008 - 2017

Actuarially Assumed Rate of Return: 7.50%

All figures based upon the market value of assets.

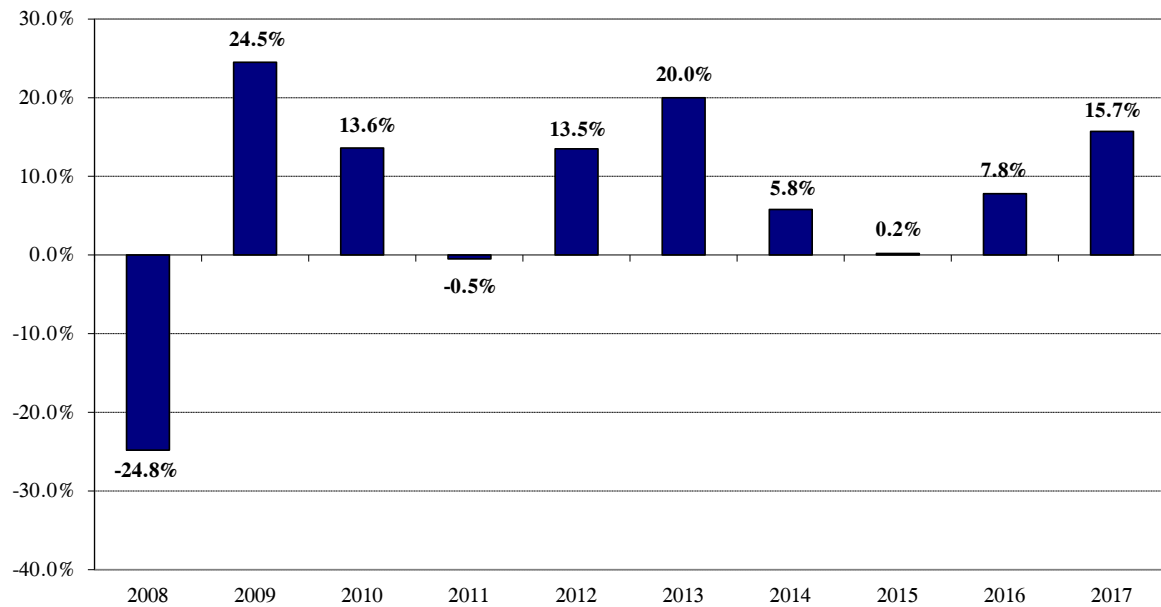


TABLE 12

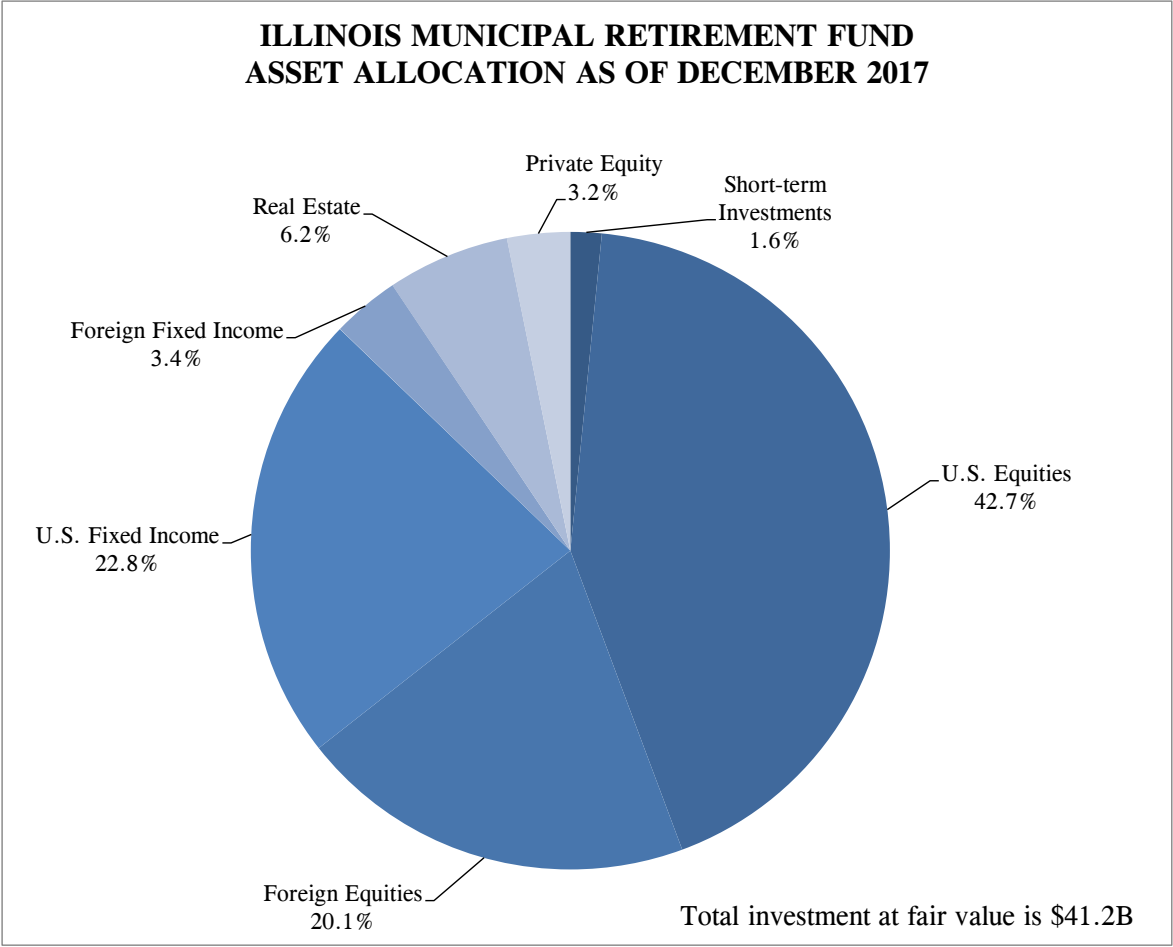
ILLINOIS MUNICIPAL RETIREMENT FUND System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	7,127.5	42,179.5	39,187.8	2,991.7	92.9%
2016	7,006.7	41,358.7	36,773.4	4,585.3	88.9%
2015	6,919.3	39,486.6	34,913.1	4,573.4	88.4%
2014	6,732.5	37,465.1	32,700.2	4,764.9	87.3%
2013	6,602.5	34,356.6	30,083.0	4,273.5	87.6%
2012	6,496.1	32,603.2	27,491.8	5,111.4	84.3%
2011	6,431.3	30,962.8	25,711.3	5,251.5	83.0%
2010	6,391.2	29,129.2	24,251.1	4,878.1	83.3%
2009	6,461.7	27,345.1	22,754.8	4,590.3	83.2%
2008	6,259.3	25,611.2	21,601.1	4,010.1	84.3%

TABLE 13

ILLINOIS MUNICIPAL RETIREMENT FUND										
Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$903.5	\$933.9	\$900.5	\$923.4	\$931.0	\$883.2	\$800.8	\$770.2	\$660.4	\$631.1
Employees	\$393.7	\$380.4	\$368.0	\$351.1	\$338.9	\$330.8	\$327.7	\$324.9	\$324.1	\$314.0
Total Investment Income	\$5,718.2	\$2,664.9	\$200.7	\$2,001.4	\$5,583.1	\$3,393.7	-\$92.9	\$2,976.5	\$4,423.6	-\$6,096.5
Other	\$0.0	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Additions (A)	\$7,015.5	\$3,979.2	\$1,469.7	\$3,275.9	\$6,853.0	\$4,607.7	\$1,035.6	\$4,071.6	\$5,408.0	-\$5,151.4
Deductions from Assets										
Benefits	\$2,043.6	\$1,902.1	\$1,758.2	\$1,626.8	\$1,503.4	\$1,389.8	\$1,284.4	\$1,178.0	\$1,077.8	\$997.5
Refunds	\$42.6	\$37.7	\$36.7	\$39.2	\$36.9	\$34.1	\$32.9	\$32.2	\$27.4	\$31.9
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$31.0	\$37.6	\$28.7	\$26.4	\$25.5	\$24.5	\$23.1	\$22.3	\$22.0	\$20.7
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$2,117.2	\$1,977.4	\$1,823.6	\$1,692.4	\$1,565.8	\$1,448.4	\$1,340.4	\$1,232.5	\$1,127.2	\$1,050.1
Change in Net Assets (A-B=C)	\$4,898.3	\$2,001.8	-\$354.0	\$1,583.5	\$5,287.2	\$3,159.3	-\$304.8	\$2,839.1	\$4,280.8	-\$6,201.4

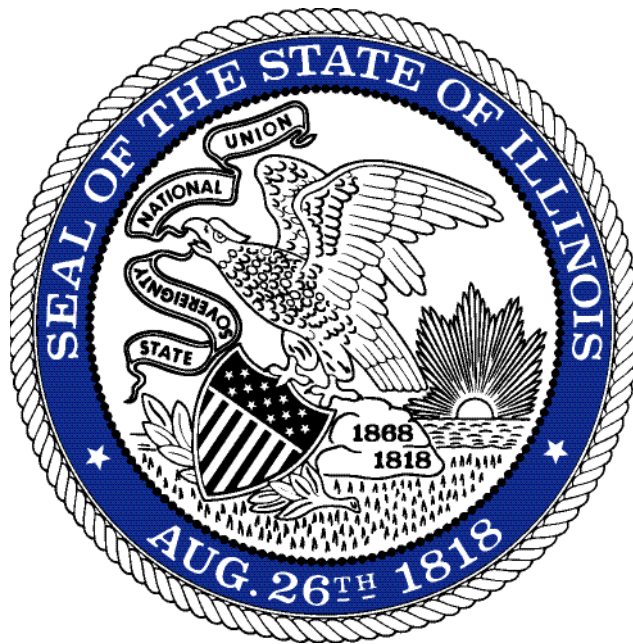
¹ Total investment income consists of gains from investment activity and security lending activity, excluding related expenses.

CHART 45



VII. Laborers' Annuity and Benefit Fund of Chicago

- **Plan Summary**
- **Active Employees**
- **Employee Annuitants**
- **Average Salaries**
- **Average Retirement Annuity**
- **Funded Ratios**
- **Change in Unfunded Liabilities**
- **Investment Income**
- **Investment Rates of Return**
- **Systems Experience**
- **Changes in Net Assets**
- **System Projections**
- **Normal Cost Projections**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Laborers' Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary

Retirement Age

- Age 60 with 10 years of service
- Age 55 with 20 years of service
- Age 50 with at least 30 years of service
- Age 55 with 10 years of service (money purchase)

Retirement Formula

- 2.4% of final average salary for each year of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions

- Currently 8.5% of salary

Required Employer Contributions

Pursuant to P.A. 100-0023, the required employer contributions for payment year 2018 through 2022 are specified as follows: \$36 million in 2018, \$48 million in 2019, \$60 million in 2020, \$72 million in 2021, and \$84 million in 2022. After the payment year 2022, the City of Chicago is required to contribute an amount equal to the sum of the net employer normal cost and an amortization of the unfunded liability as a level percent of payroll so that the funded ratio would reach 90% by 2058.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0899 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 46

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Active Employees

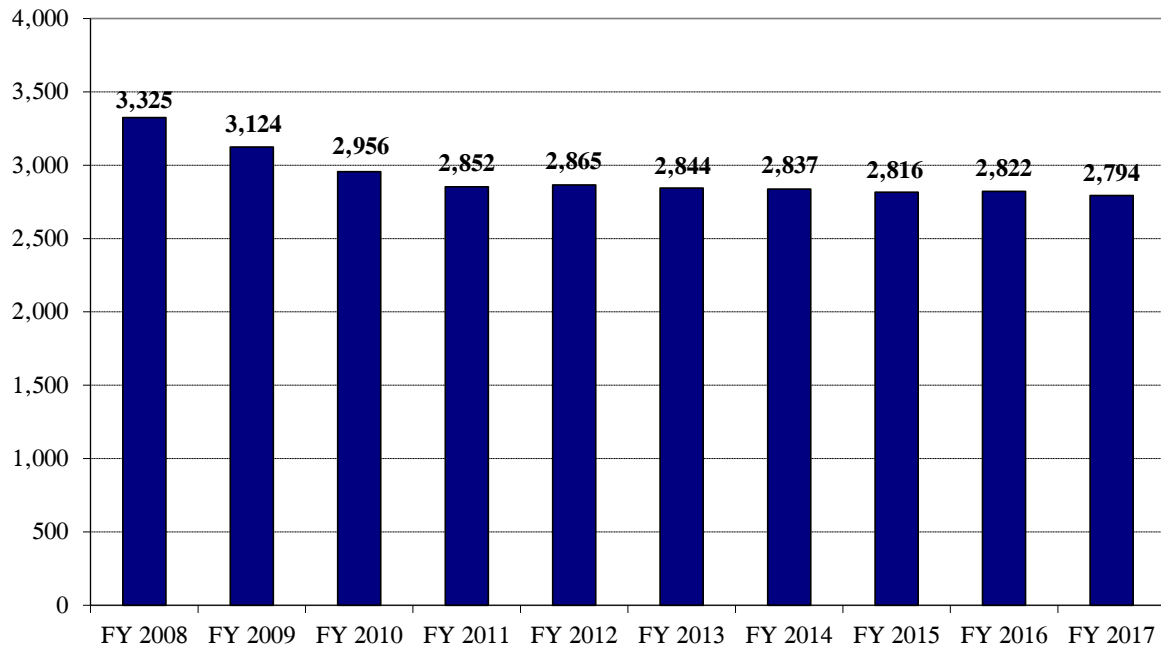


CHART 47

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

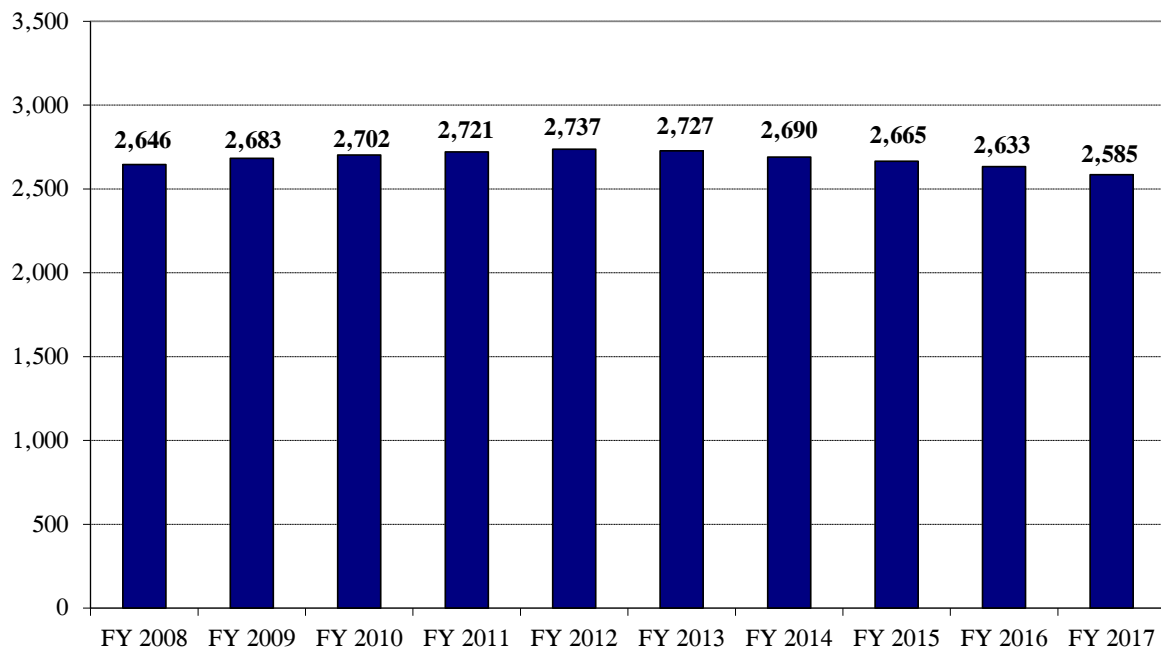


CHART 48

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Employee Salaries

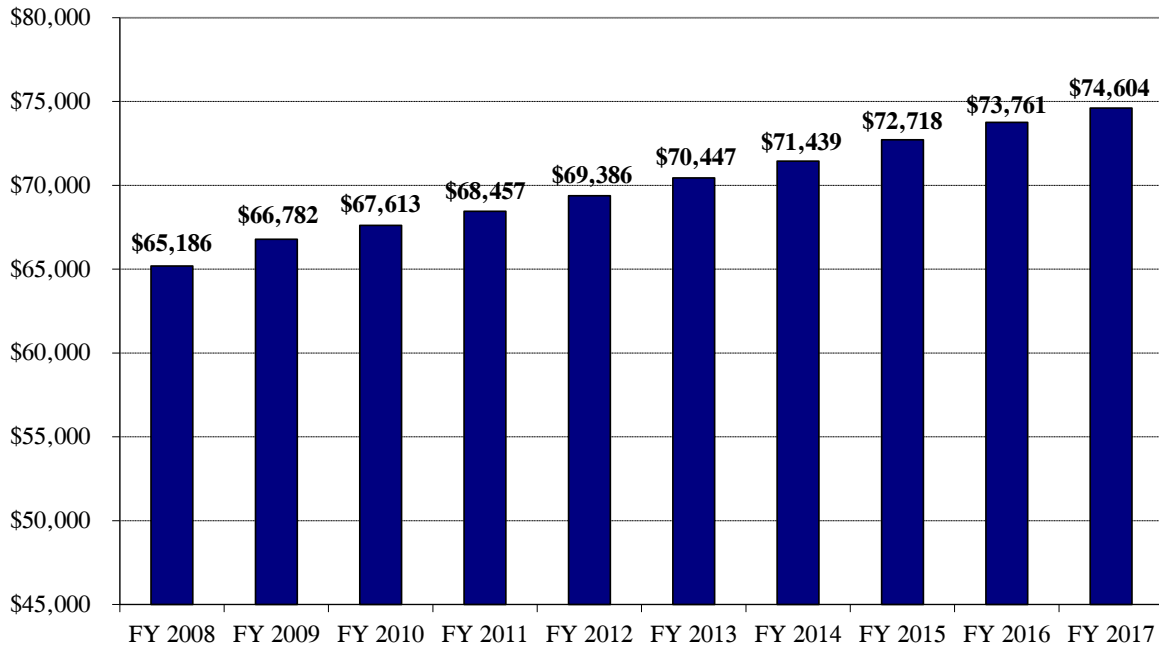


CHART 49

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Retirement Annuities

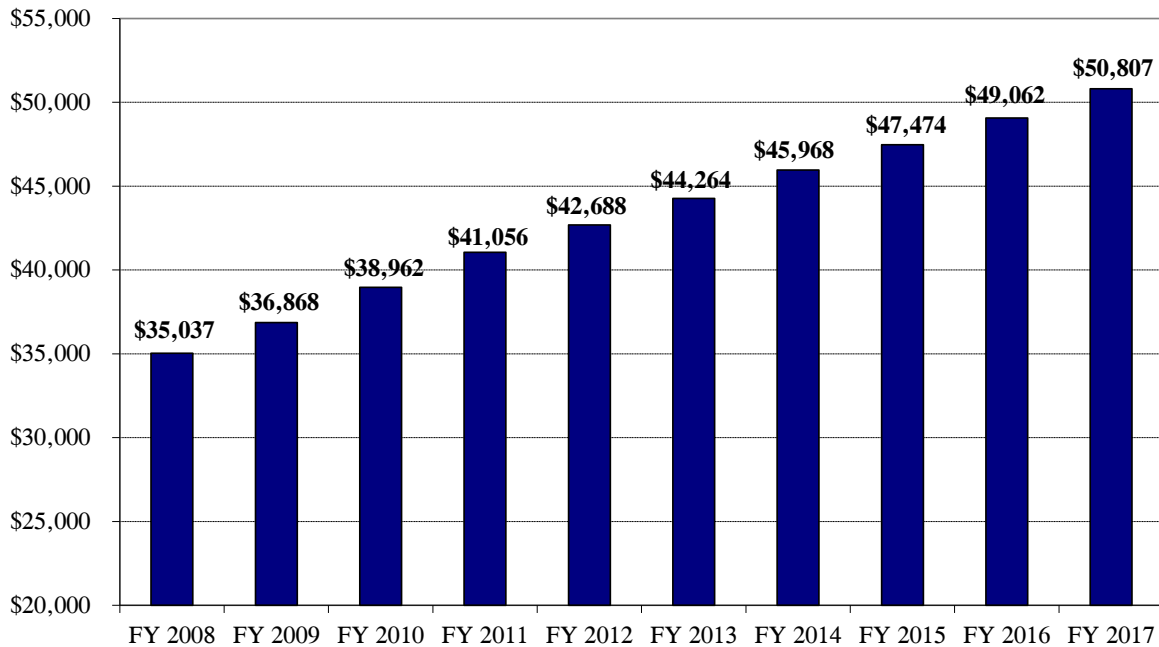


CHART 50

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Funded Ratio
FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

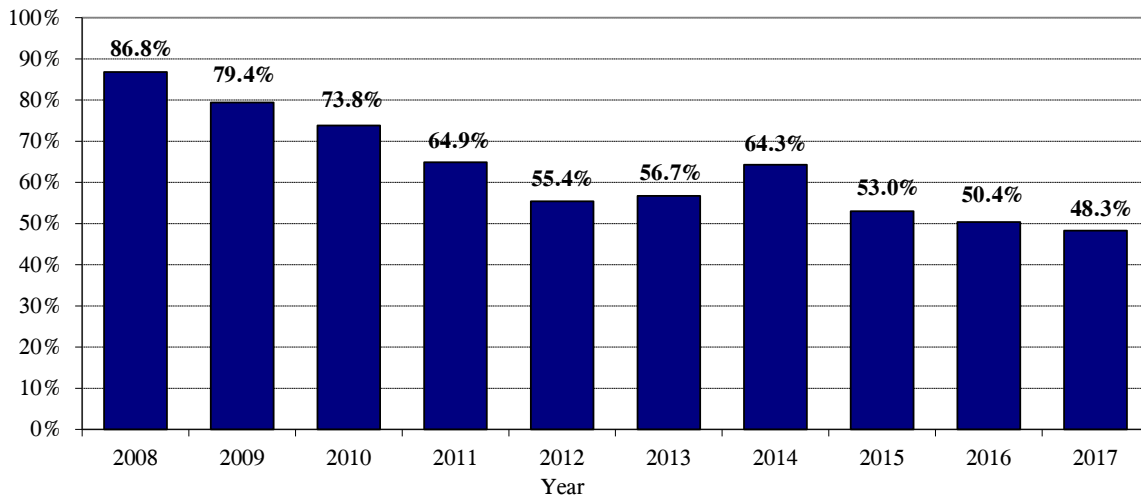
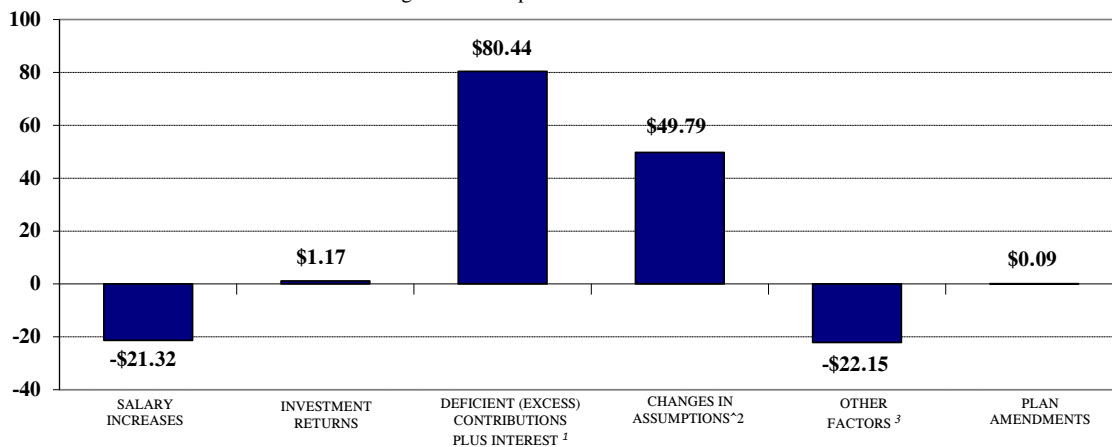


CHART 51

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Change in Unfunded Liabilities
Year ended December 31, 2017
(\$ in Millions)

TOTAL INCREASE EQUALS
\$88.02 MIL

All figures based upon the actuarial value of assets.



¹ Unfunded liability increases due to employer contributions plus interest being less than normal cost plus interest.

² Changes in assumptions reflect a 1) decrease in the investment return assumption from 7.5% to 7.25%, 2) decrease in other economic assumptions such as price inflation and wage inflation, 3) improved mortality assumption rates, and 4) updated other demographic assumptions such as retirement rates and disability rates, etc.

³ Includes an actuarial gain from retirement, termination, and mortality.

CHART 52

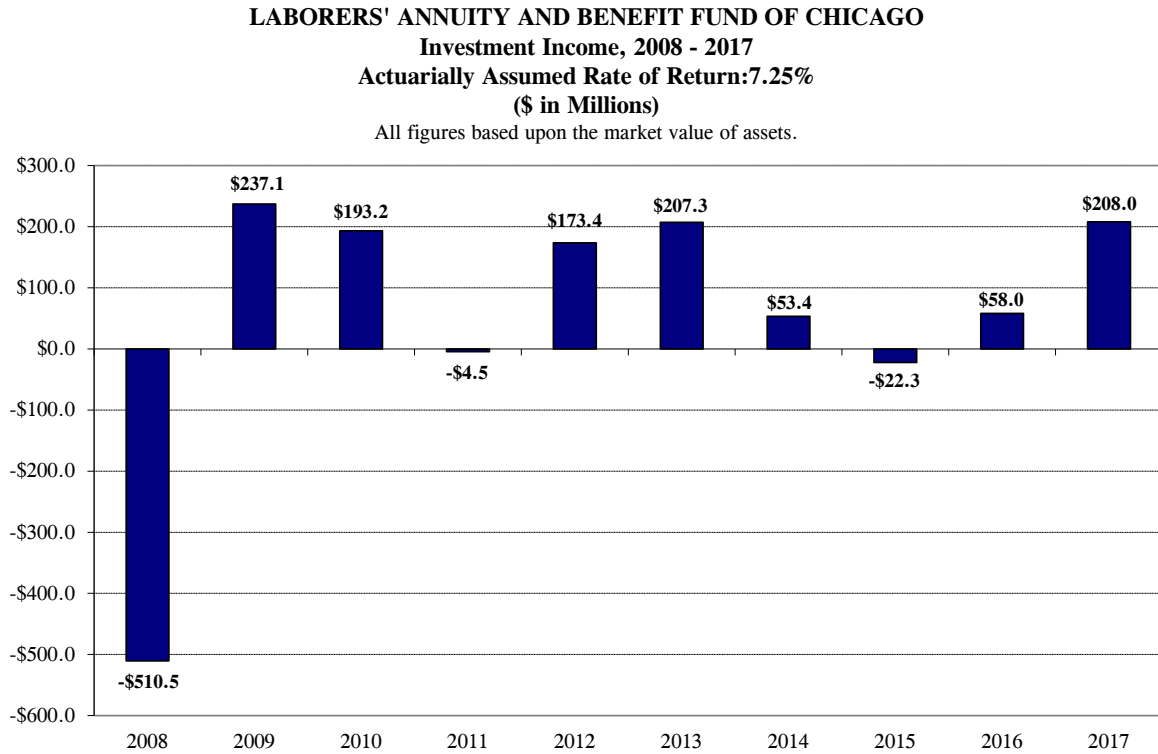


CHART 53

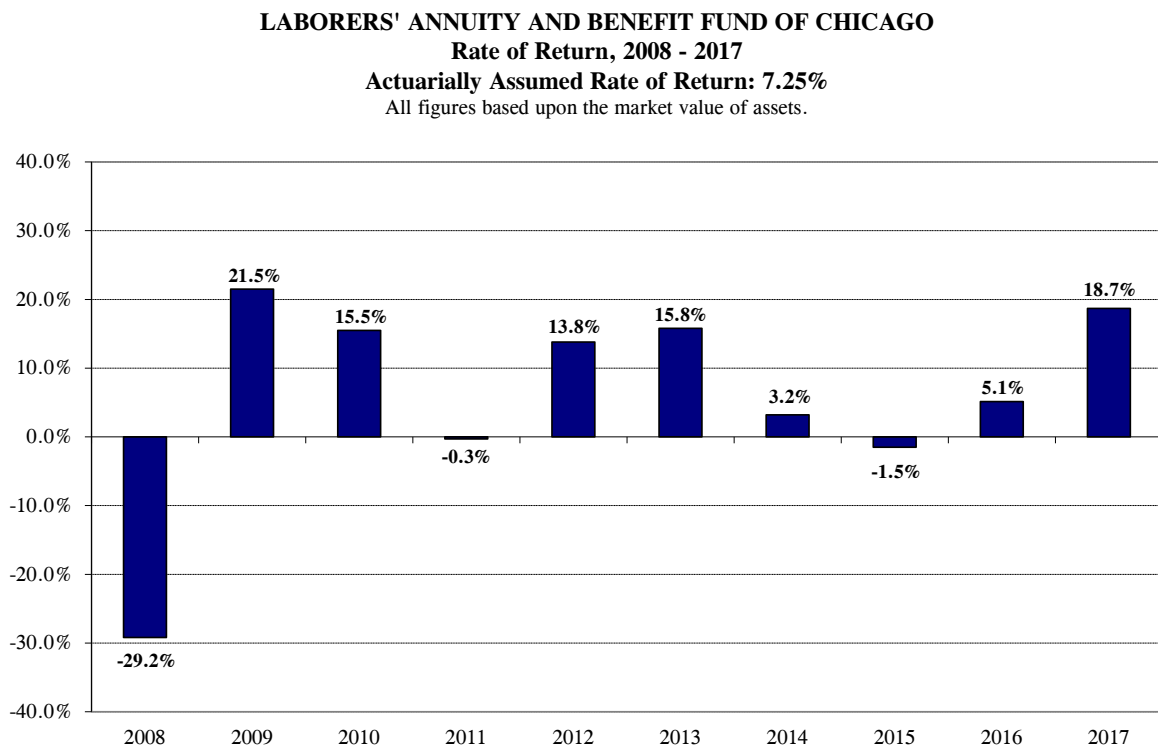


TABLE 14

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, 2008 - 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	208.4	2,578.7	1,245.1	1,333.6	48.3 %
2016	208.2	2,509.3	1,263.7	1,245.6	50.4 %
2015	204.8	2,469.9	1,308.7	1,161.2	53.0 %
2014	202.7	2,111.7	1,357.5	754.3	64.3 %
2013	200.4	2,390.6	1,354.3	1,036.3	56.7 %
2012	198.8	2,374.8	1,315.9	1,058.9	55.4 %
2011	195.2	2,191.2	1,422.4	768.8	64.9 %
2010	199.9	2,071.4	1,529.4	542.0	73.8 %
2009	208.6	2,017.5	1,601.4	416.1	79.4 %
2008	216.7	1,957.4	1,698.4	259.0	86.8 %

TABLE 15

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Year	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$35.5	\$14.4	\$14.6	\$14.5	\$14.1	\$14.4	\$15.3	\$18.0	\$17.2	\$17.6
Employees	\$17.4	\$17.2	\$16.8	\$16.4	\$16.4	\$16.6	\$16.1	\$16.3	\$17.5	\$19.4
Net Investment Income	\$207.7	\$57.7	-\$22.8	\$52.9	\$206.7	\$172.6	-\$5.1	\$193.2	\$237.1	-\$510.5
Other	\$0.2	\$0.3	\$0.4	\$0.5	\$0.6	\$0.8	\$0.6	\$0.0	\$0.0	\$0.0
Total Asset Additions (A)	\$260.8	\$89.7	\$9.1	\$84.3	\$237.8	\$204.4	\$26.9	\$227.5	\$271.8	-\$473.5
Deductions from Assets										
Benefits	\$154.8	\$153.8	\$152.2	\$147.9	\$144.3	\$139.7	\$133.5	\$127.0	\$121.0	\$113.7
Refunds	\$2.3	\$2.8	\$2.5	\$2.1	\$2.9	\$2.6	\$3.0	\$2.3	\$2.8	\$3.5
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$4.0	\$4.1	\$3.8	\$3.8	\$4.1	\$4.7	\$4.0	\$3.9	\$3.7	\$3.6
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$161.0	\$160.6	\$158.5	\$153.9	\$151.3	\$147.0	\$140.5	\$133.2	\$127.5	\$120.8
Change in Net Assets (A-B=C)	\$99.8	-\$70.9	-\$149.4	-\$69.6	\$86.5	\$57.4	-\$113.6	\$94.3	\$144.3	-\$594.3

Table 16 below contains funding projections provided to CGFA by the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago based upon the December 31, 2017 actuarial valuation.

TABLE 16

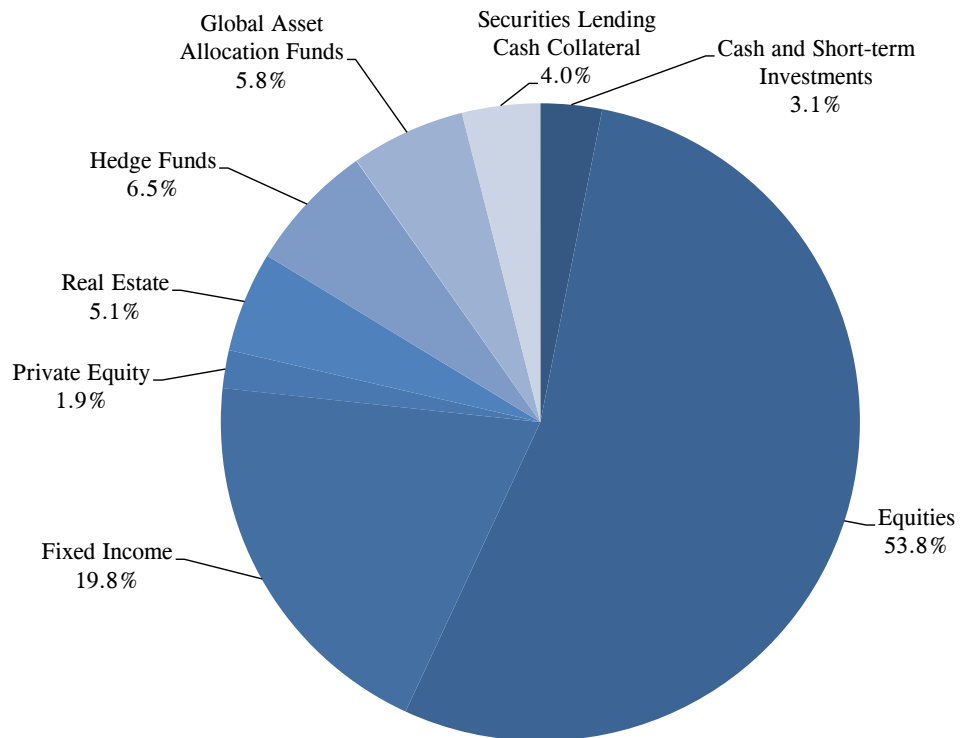
Laborers' Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total Employer Contribution	Employer Contribution As % of Payroll	Employee Contribution	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2017	208.4	35.5	17.0%	17.4	2,578.7	1,245.1	1,333.6	48.3%
2018	211.4	48.0	22.7%	18.1	2,635.4	1,214.8	1,420.6	46.1%
2019	215.4	60.0	27.9%	18.6	2,690.4	1,200.0	1,490.4	44.6%
2020	219.3	72.0	32.8%	19.2	2,743.7	1,215.2	1,528.6	44.3%
2021	223.9	84.0	37.5%	19.9	2,795.0	1,242.3	1,552.7	44.4%
2022	228.8	116.7	51.0%	20.6	2,844.3	1,271.7	1,572.6	44.7%
2023	233.8	118.5	50.7%	21.4	2,891.2	1,298.9	1,592.4	44.9%
2024	238.9	120.3	50.3%	22.2	2,935.2	1,323.7	1,611.5	45.1%
2025	244.6	122.3	50.0%	23.0	2,975.8	1,346.1	1,629.6	45.2%
2026	250.3	124.3	49.7%	23.9	3,012.7	1,365.9	1,646.8	45.3%
2027	256.3	126.4	49.3%	24.9	3,045.3	1,382.6	1,662.7	45.4%
2028	262.7	128.6	49.0%	25.8	3,074.1	1,396.9	1,677.1	45.4%
2029	269.1	130.8	48.6%	26.8	3,098.2	1,408.3	1,690.0	45.5%
2030	275.7	133.1	48.3%	27.9	3,117.5	1,416.4	1,701.1	45.4%
2031	282.6	135.6	48.0%	28.9	3,132.2	1,422.1	1,710.1	45.4%
2032	289.1	137.9	47.7%	30.0	3,142.6	1,425.5	1,717.1	45.4%
2033	295.7	140.2	47.4%	31.0	3,148.5	1,426.6	1,721.9	45.3%
2034	302.4	142.6	47.2%	32.0	3,150.4	1,426.1	1,724.3	45.3%
2035	309.2	145.1	46.9%	33.0	3,149.1	1,425.0	1,724.1	45.3%
2036	315.8	147.6	46.7%	34.0	3,145.1	1,423.9	1,721.2	45.3%
2037	322.6	150.2	46.6%	34.9	3,139.0	1,423.7	1,715.3	45.4%
2038	329.1	152.6	46.4%	35.9	3,131.0	1,424.8	1,706.2	45.5%
2039	335.6	155.1	46.2%	36.8	3,121.4	1,427.5	1,693.9	45.7%
2040	342.3	157.7	46.1%	37.7	3,111.2	1,433.3	1,677.9	46.1%
2041	349.0	160.4	45.9%	38.6	3,101.4	1,443.4	1,658.0	46.5%
2042	355.6	163.0	45.8%	39.5	3,092.7	1,458.7	1,634.0	47.2%
2043	362.3	165.7	45.7%	40.3	3,085.8	1,480.3	1,605.5	48.0%
2044	369.0	168.4	45.6%	41.2	3,081.1	1,508.9	1,572.2	49.0%
2045	375.4	171.0	45.6%	42.0	3,078.9	1,545.0	1,533.8	50.2%
2046	382.3	173.8	45.5%	42.9	3,079.4	1,589.5	1,489.9	51.6%
2047	389.1	176.7	45.4%	43.8	3,083.3	1,643.3	1,440.0	53.3%
2048	396.0	179.5	45.3%	44.6	3,090.7	1,707.0	1,383.7	55.2%
2049	403.0	182.5	45.3%	45.5	3,102.0	1,781.6	1,320.4	57.4%
2050	410.1	185.4	45.2%	46.4	3,117.0	1,867.4	1,249.7	59.9%
2051	417.1	188.4	45.2%	47.3	3,135.3	1,964.4	1,170.9	62.7%
2052	424.5	191.5	45.1%	48.2	3,156.6	2,073.1	1,083.5	65.7%
2053	431.8	194.7	45.1%	49.2	3,180.8	2,194.0	986.7	69.0%
2054	439.4	197.9	45.1%	50.2	3,207.8	2,327.9	879.9	72.6%
2055	447.1	201.3	45.0%	51.1	3,237.6	2,475.4	762.1	76.5%
2056	455.0	204.8	45.0%	52.1	3,270.1	2,637.5	632.6	80.7%
2057	463.1	208.4	45.0%	53.1	3,306.1	2,815.6	490.5	85.2%
2058	471.3	212.0	45.0%	54.1	3,345.1	3,010.5	334.6	90.0%
2059	479.7	60.9	12.7%	35.9	3,386.7	3,048.1	338.7	90.0%
2060	488.1	58.6	12.0%	36.5	3,430.8	3,087.7	343.1	90.0%
2061	496.7	59.3	11.9%	37.2	3,477.1	3,129.4	347.7	90.0%
2062	505.3	60.1	11.9%	37.8	3,525.5	3,173.0	352.6	90.0%
2063	513.3	60.8	11.9%	38.5	3,575.8	3,218.2	357.6	90.0%
2064	521.0	61.6	11.8%	39.1	3,627.8	3,265.0	362.8	90.0%
2065	528.2	62.4	11.8%	39.7	3,681.3	3,313.2	368.1	90.0%
2066	535.3	63.2	11.8%	40.2	3,736.1	3,362.5	373.6	90.0%

TABLE 17

Laborers' Annuity and Benefit Fund of Chicago Projected Normal Cost as of December 31, 2017 (\$ in Millions)						
Fiscal Year	Employer's Normal Cost	Employer's Normal Cost as a % of Payroll	Employee Contributions	Employee Contributions as a % of Payroll	Total Normal Cost	Total Normal Cost as a % of Payroll
2017	21.5	10.3%	17.4	8.4%	38.9	18.7%
2018	22.7	10.7%	18.1	8.5%	40.7	19.3%
2019	22.4	10.4%	18.6	8.6%	41.0	19.1%
2020	22.2	10.1%	19.2	8.8%	41.4	18.9%
2021	21.9	9.8%	19.9	8.9%	41.8	18.7%
2022	21.7	9.5%	20.6	9.0%	42.3	18.5%
2023	21.4	9.1%	21.4	9.1%	42.8	18.3%
2024	21.0	8.8%	22.2	9.3%	43.2	18.1%
2025	20.7	8.5%	23.0	9.4%	43.7	17.9%
2026	20.3	8.1%	23.9	9.6%	44.2	17.7%
2027	19.9	7.8%	24.9	9.7%	44.7	17.5%
2028	19.5	7.4%	25.8	9.8%	45.3	17.2%
2029	19.0	7.1%	26.8	10.0%	45.9	17.0%
2030	18.6	6.7%	27.9	10.1%	46.4	16.8%
2031	18.2	6.4%	28.9	10.2%	47.1	16.7%
2032	17.8	6.1%	30.0	10.4%	47.7	16.5%
2033	17.4	5.9%	31.0	10.5%	48.3	16.3%
2034	17.0	5.6%	32.0	10.6%	49.0	16.2%
2035	16.7	5.4%	33.0	10.7%	49.7	16.1%
2036	16.4	5.2%	34.0	10.8%	50.3	15.9%
2037	16.1	5.0%	34.9	10.8%	51.1	15.8%
2038	15.9	4.8%	35.9	10.9%	51.7	15.7%
2039	15.6	4.7%	36.8	11.0%	52.4	15.6%
2040	15.4	4.5%	37.7	11.0%	53.1	15.5%
2041	15.3	4.4%	38.6	11.1%	53.9	15.4%
2042	15.2	4.3%	39.5	11.1%	54.7	15.4%
2043	15.2	4.2%	40.3	11.1%	55.5	15.3%
2044	15.1	4.1%	41.2	11.2%	56.3	15.3%
2045	15.0	4.0%	42.0	11.2%	57.1	15.2%
2046	15.0	3.9%	42.9	11.2%	57.9	15.1%
2047	15.0	3.9%	43.8	11.2%	58.7	15.1%
2048	15.0	3.8%	44.6	11.3%	59.6	15.1%
2049	15.0	3.7%	45.5	11.3%	60.5	15.0%
2050	15.0	3.7%	46.4	11.3%	61.4	15.0%
2051	15.1	3.6%	47.3	11.3%	62.4	14.9%
2052	15.1	3.6%	48.2	11.4%	63.4	14.9%
2053	15.2	3.5%	49.2	11.4%	64.4	14.9%
2054	15.4	3.5%	50.2	11.4%	65.5	14.9%
2055	15.5	3.5%	51.1	11.4%	66.7	14.9%
2056	15.7	3.5%	52.1	11.5%	67.8	14.9%
2057	15.9	3.4%	53.1	11.5%	69.0	14.9%
2058	16.1	3.4%	54.1	11.5%	70.2	14.9%
2059	35.5	7.4%	35.9	7.5%	71.4	14.9%
2060	36.1	7.4%	36.5	7.5%	72.6	14.9%
2061	36.7	7.4%	37.2	7.5%	73.8	14.9%
2062	37.3	7.4%	37.8	7.5%	75.1	14.9%
2063	37.9	7.4%	38.5	7.5%	76.3	14.9%
2064	38.4	7.4%	39.1	7.5%	77.5	14.9%
2065	38.9	7.4%	39.7	7.5%	78.6	14.9%
2066	39.5	7.4%	40.2	7.5%	79.7	14.9%

CHART 54

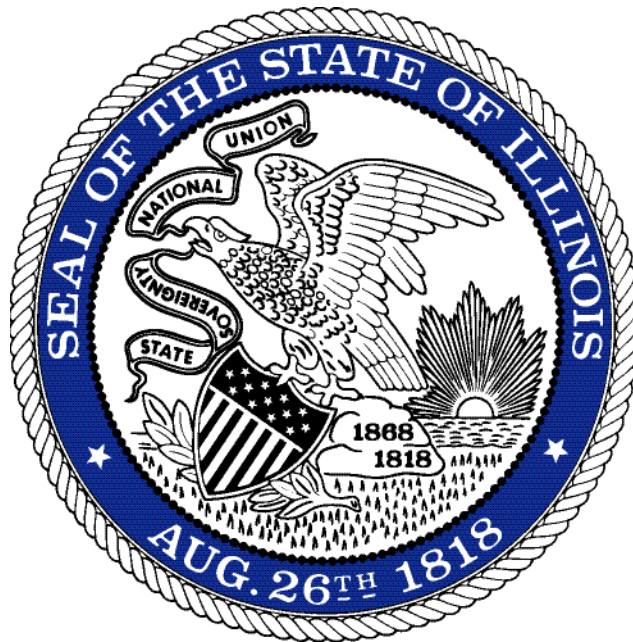
**LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
ASSET ALLOCATION AS OF DECEMBER 2017**



Total investment at fair value is \$1.3B

VIII. Metropolitan Water Reclamation District Retirement Fund

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Metropolitan Water Reclamation District Retirement Fund - Tier 1 Plan Summary

Retirement Age

- Age 60 with 5 years of service
- Age 50 with 10 years of service (Age 55 if hired after 6/13/97)

Retirement Formula

- 2.2% of final average salary for the first 20 years of service, plus
- 2.4% of final average salary for each year in excess of 20

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Any 52 consecutive pay periods within the final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions (as modified by P.A. 97-0894)

- Beginning on January 1, 2015, the Tier 1 employee contribution rate has increased to 12% of salary, where it will remain until the MWRD pension fund reaches a 90% funded ratio. Upon attainment of a 90% funding ratio, the member contribution rate will revert back to 9%. These changes to the Tier 1 employee contribution rate were made by HB 4513 (P.A. 97-0894), which became effective on August 3rd, 2012. Tier 2 employees contribute 9.0% of salary (unchanged by P.A. 97-0894).

Employer Contributions (as modified by P.A. 97-0894)

The District levies a tax annually that is the level percentage of payroll necessary to reach a 90% funding level by FY 2050. However, no annual levy shall exceed the total amount of contributions made by employees in the calendar year 2 years prior to the year of the levy, multiplied by 4.19.

Note: Benefits shown on this page are for employees hired prior to January 1, 2011 (Tier 1 employees). Tier 1 and Tier 2 employee contribution rates are shown here so as to distinguish the changes made to Tier 1 contribution rates as a result of P.A. 97-0894. For a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees), see P.A. 96-0889 in Section I.

CHART 55

METROPOLITAN WATER PENSION FUND
Active Employees

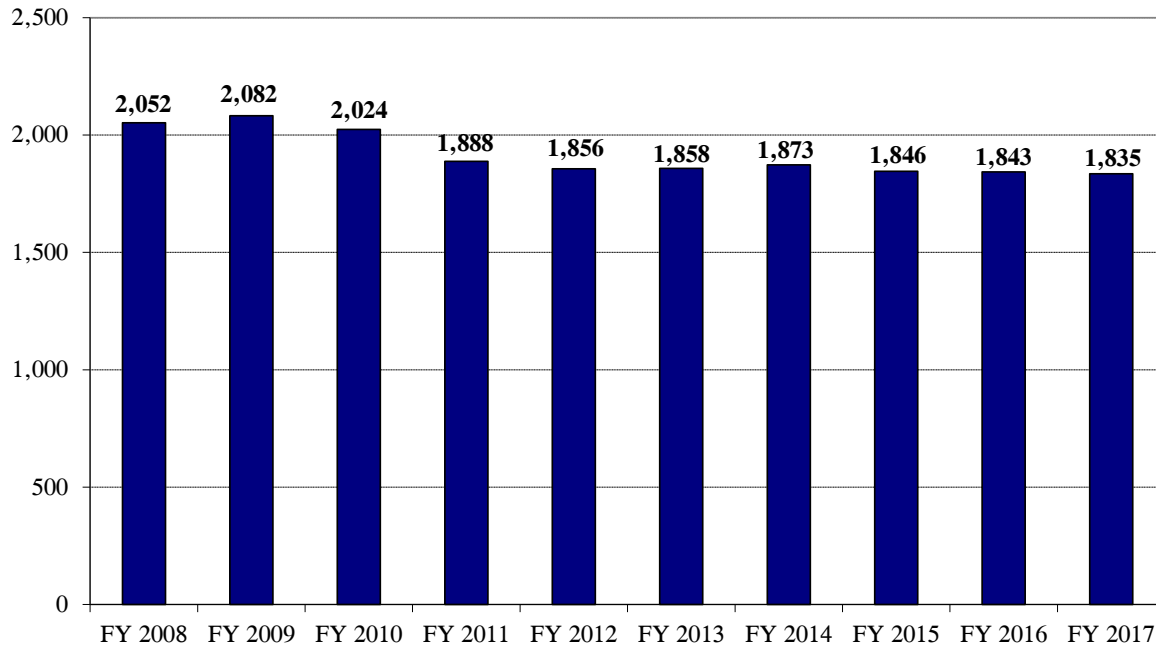


CHART 56

METROPOLITAN WATER PENSION FUND
Employee Annuitants

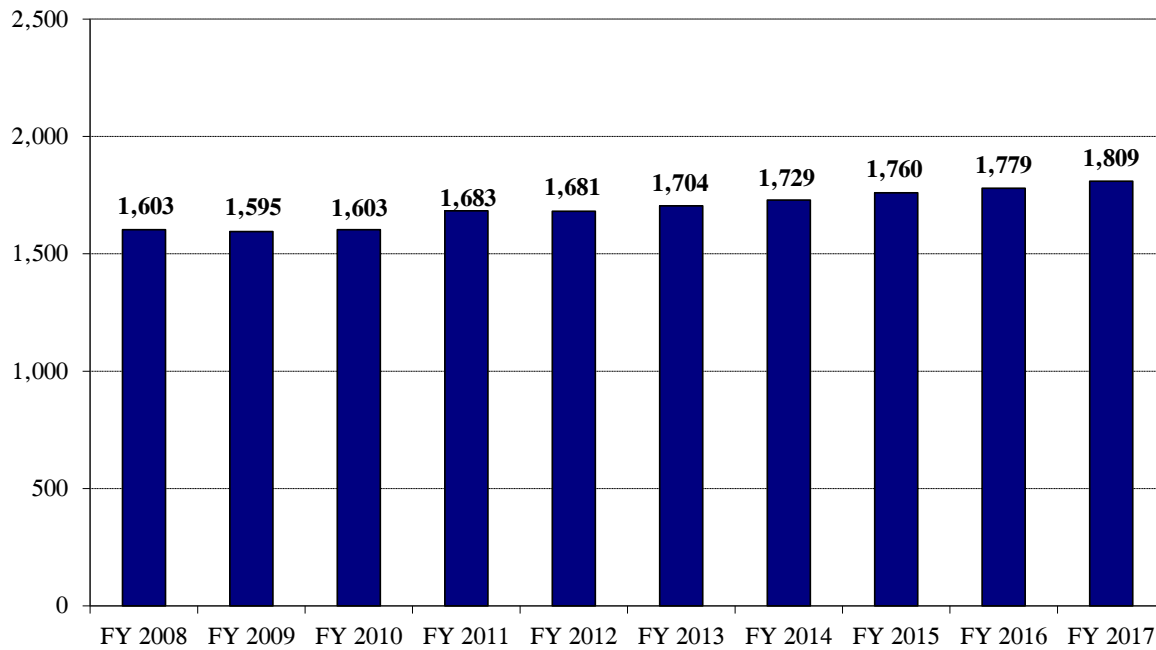


CHART 57

METROPOLITAN WATER PENSION FUND
Average Employee Salaries

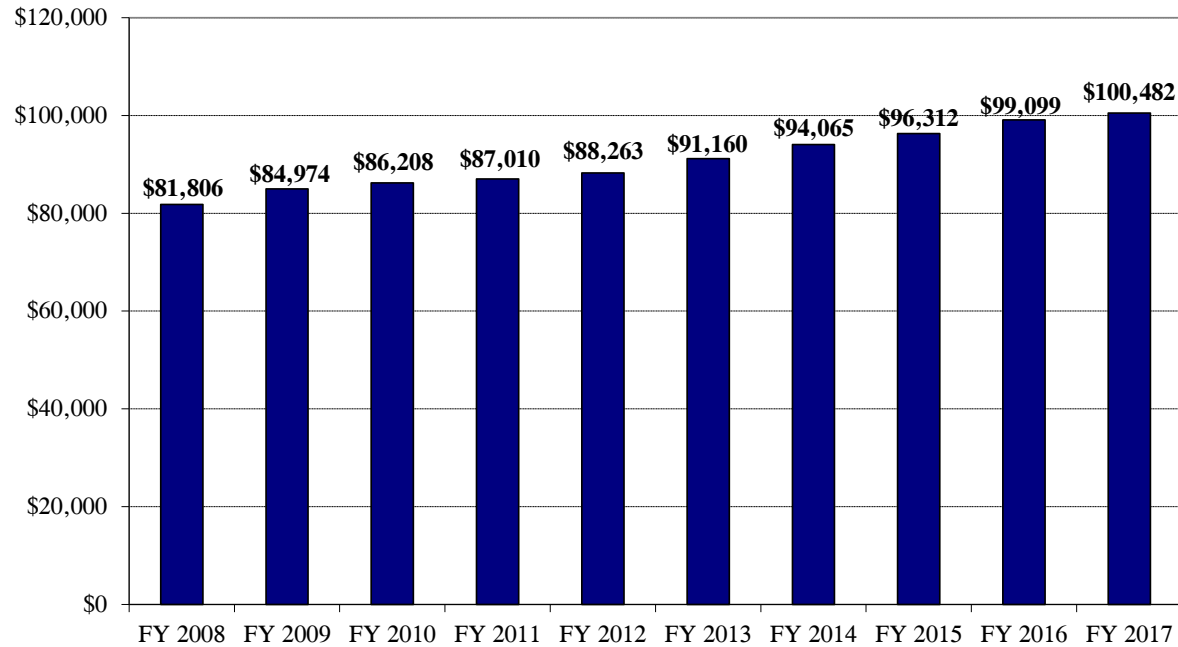


CHART 58

METROPOLITAN WATER PENSION FUND
Average Retirement Annuity

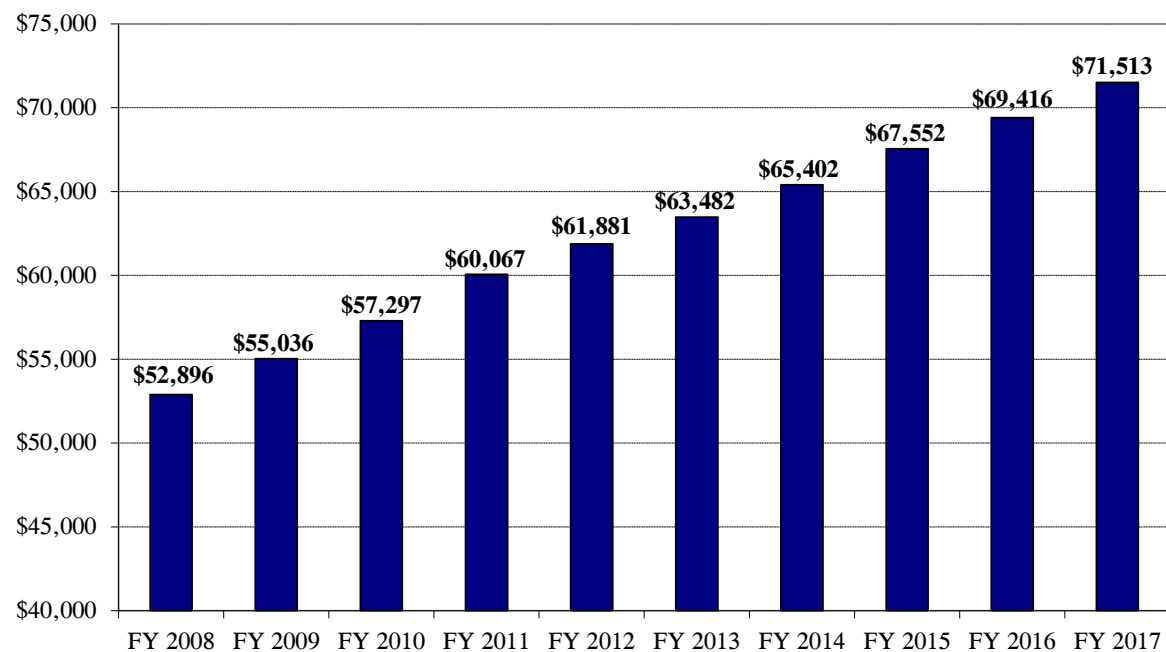


CHART 59

METROPOLITAN WATER PENSION FUND
Funded Ratio
FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

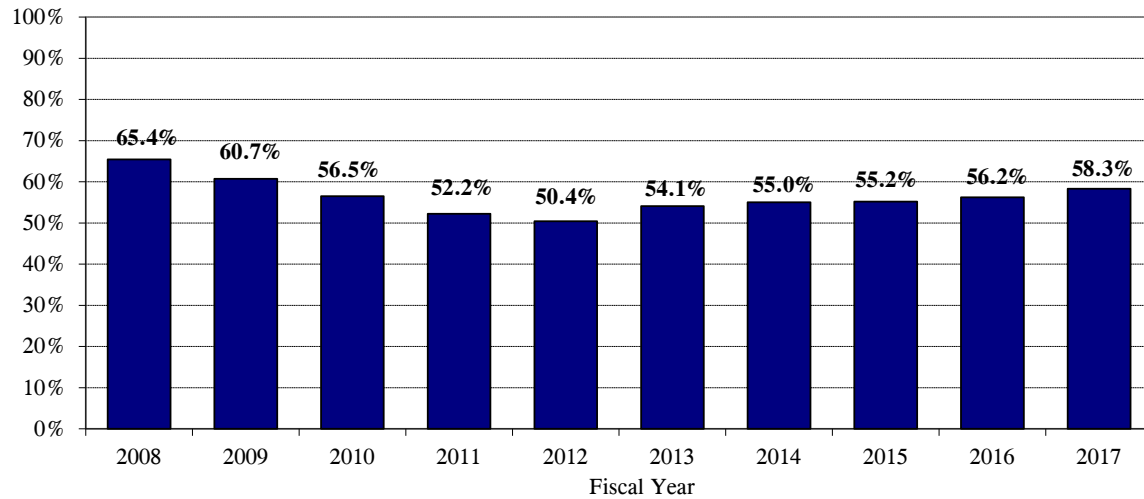
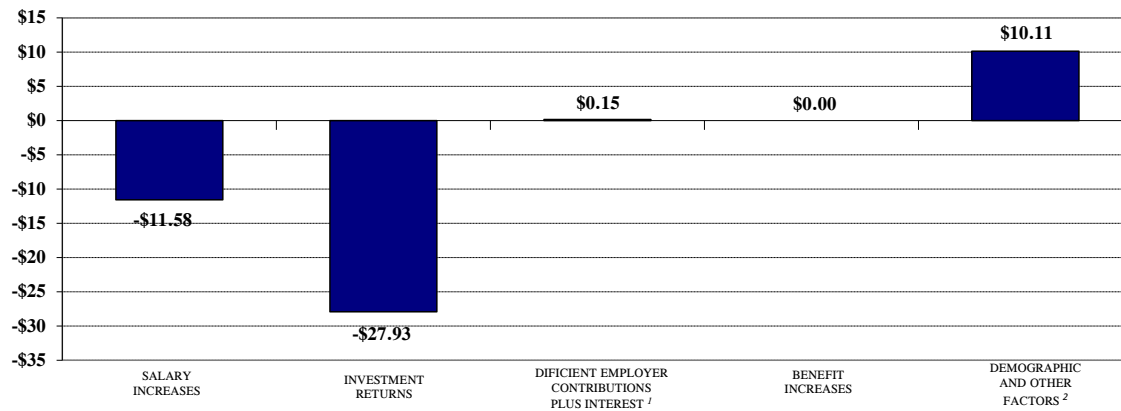


CHART 60

METROPOLITAN WATER PENSION FUND
Change in Unfunded Liabilities
Year ended December 31, 2017
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL DECREASE EQUALS
\$29.24 MIL



¹ Unfunded liabilities increase due to employer contributions less than normal cost plus interest.

² Includes an actuarial loss from decrement experience. Employee turnover, mortality, and retirement rates are examples of decrement assumptions.

CHART 61

METROPOLITAN WATER PENSION FUND
Investment Income 2008 - 2017
Actuarially Assumed Rate of Return: 7.5%
(\$ in Millions)
 All figures based upon the market value of assets.

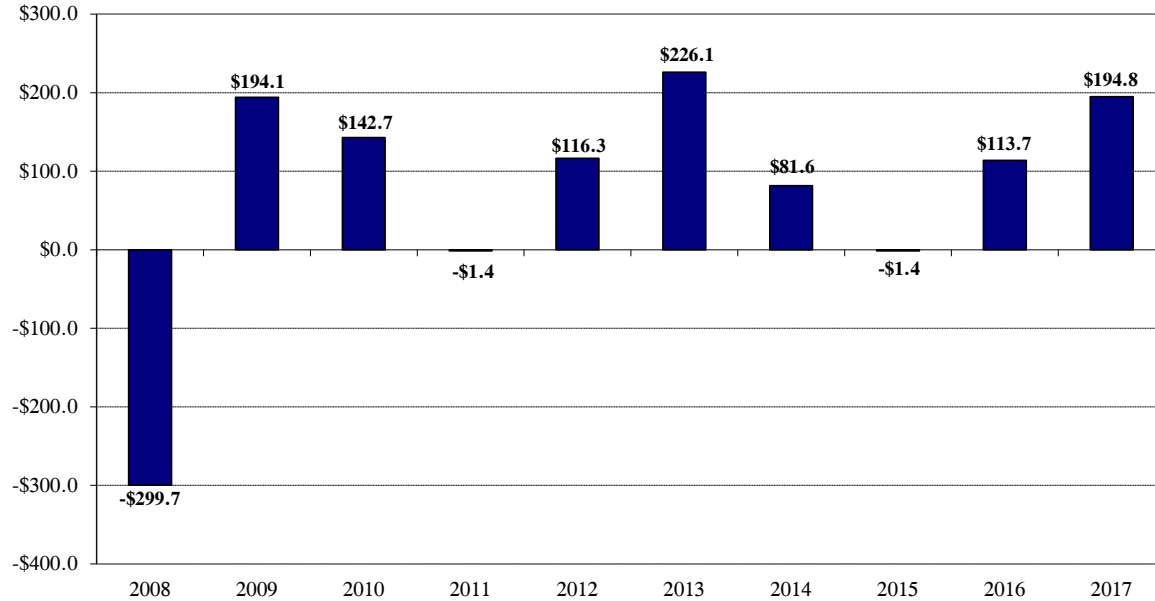


CHART 62

METROPOLITAN WATER PENSION FUND
Rate of Return FY 2008 - FY 2017
Actuarially Assumed Rate of Return: 7.5%
 All figures based upon the market value of assets.

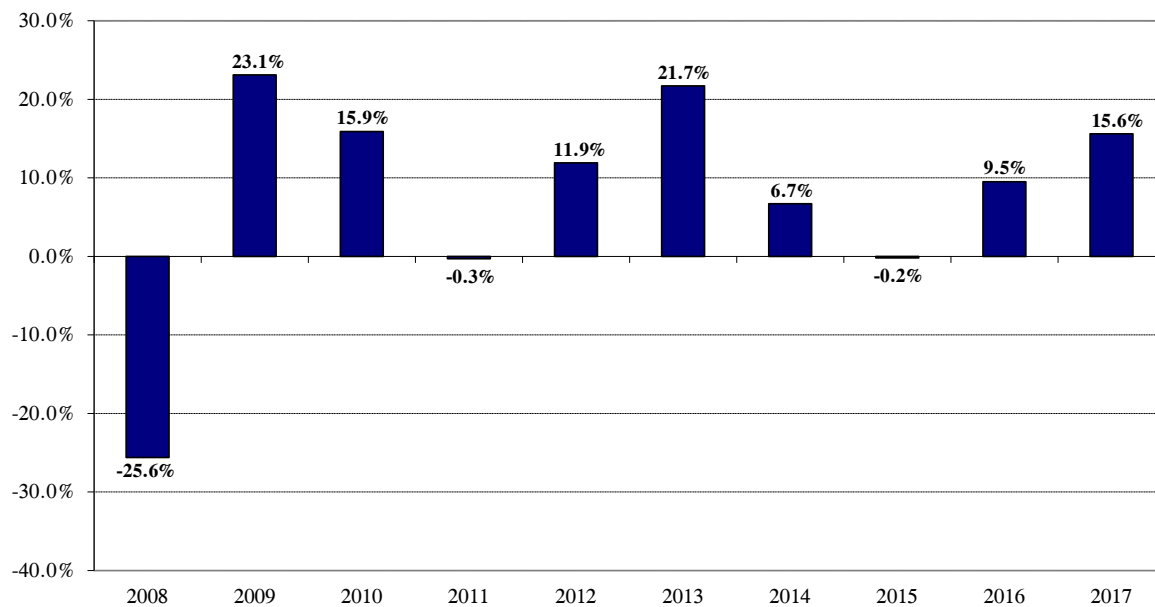


TABLE 18

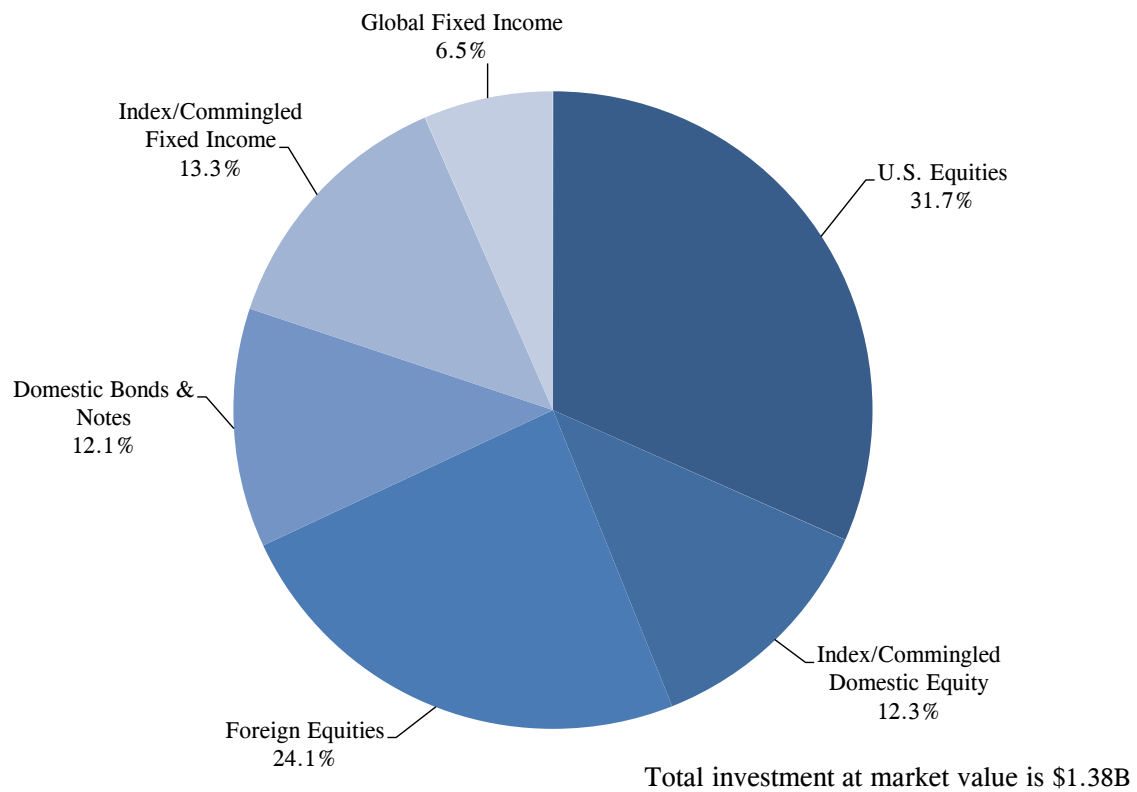
METROPOLITAN WATER PENSION FUND System Experience, 2008 - 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	184.4	2,497.9	1,456.2	1,041.7	58.3%
2016	182.6	2,443.3	1,372.4	1,070.9	56.2%
2015	177.8	2,371.0	1,308.0	1,063.0	55.2%
2014	176.2	2,296.4	1,263.3	1,033.1	55.0%
2013	169.4	2,194.9	1,188.5	1,006.4	54.1%
2012	163.8	2,136.5	1,076.7	1,059.8	50.4%
2011	164.3	2,101.3	1,097.4	1,003.9	52.2%
2010	174.5	2,036.7	1,151.6	885.1	56.5%
2009	176.9	1,939.2	1,177.8	761.4	60.7%
2008	167.9	1,852.3	1,211.8	640.5	65.4%

TABLE 19

METROPOLITAN WATER PENSION FUND Changes in Net Assets (\$ in Millions)										
Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$89.9	\$80.3	\$71.0	\$73.9	\$92.9	\$65.1	\$37.4	\$29.9	\$32.1	\$33.4
Employees	\$20.8	\$20.8	\$21.4	\$19.0	\$16.9	\$14.7	\$15.0	\$15.9	\$15.7	\$14.8
Net Investment Income	\$194.8	\$113.6	-\$1.4	\$81.6	\$226.1	\$116.3	-\$1.4	\$142.7	\$194.1	-\$299.7
Other	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.0	\$0.6
Total Asset Additions (A)	\$305.5	\$214.8	\$91.0	\$174.5	\$335.9	\$196.1	\$51.0	\$188.7	\$241.9	-\$251.0
Deductions from Assets										
Benefits	\$152.2	\$145.3	\$139.2	\$132.9	\$127.2	\$122.7	\$118.1	\$108.2	\$103.4	\$100.1
Refunds	\$2.6	\$2.0	\$1.3	\$1.0	\$1.1	\$1.2	\$2.7	\$1.4	\$1.2	\$1.0
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$1.6	\$1.5	\$1.7	\$1.4	\$1.4	\$1.3	\$1.4	\$1.3	\$1.3	\$1.3
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$156.3	\$148.8	\$142.2	\$135.3	\$129.7	\$125.2	\$122.2	\$110.9	\$105.9	\$102.4
Change in Net Assets (A-B=C)	\$149.2	\$65.9	-\$51.1	\$39.2	\$206.2	\$70.9	-\$71.2	\$77.8	\$136.0	-\$353.3

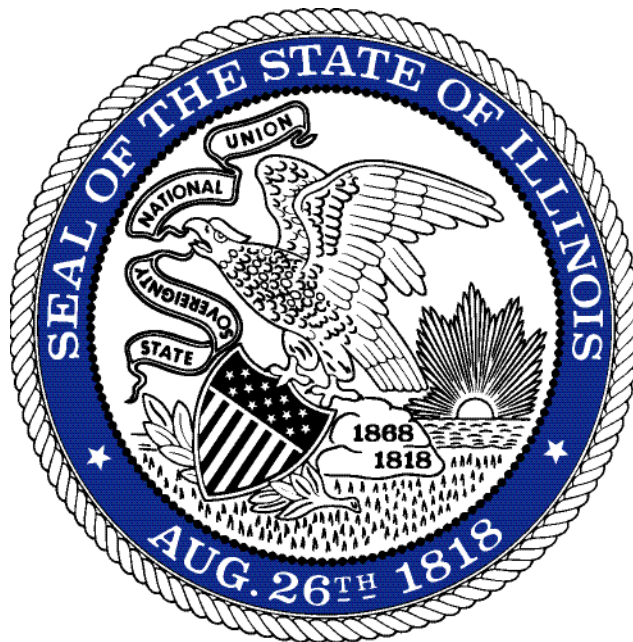
CHART 63

**METROPOLITAN WATER RECLAMATION DISTRICT RETIREMENT FUND
ASSET ALLOCATION AS OF DECEMBER 2017**



IX. Municipal Employees' Annuity and Benefit Fund of Chicago

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- Systems Projections
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Municipal Employees' Annuity and Benefit Fund of Chicago – Tier 1 Plan Summary

Retirement Age

- Age 60 with 10 years of service
- Age 55 with 20 years of service
- Age 50 with at least 30 years of service
- Age 55 with 10 years of service (money purchase)

Retirement Formula

- 2.4% of final average salary for each year of service

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions

- 8.5% of salary

Required Employer Contributions

Pursuant to P.A. 100-0023, the required employer contributions for payment year 2018 through 2022 are specified as follows: \$266 million in 2018, \$344 million in 2019, \$421 million in 2020, \$499 million in 2021, and \$576 million in 2022. After the payment year 2022, the required employer contributions are calculated as a level percent of payroll sufficient to bring the funded ratio up to 90% by 2058.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 64

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Active Employees

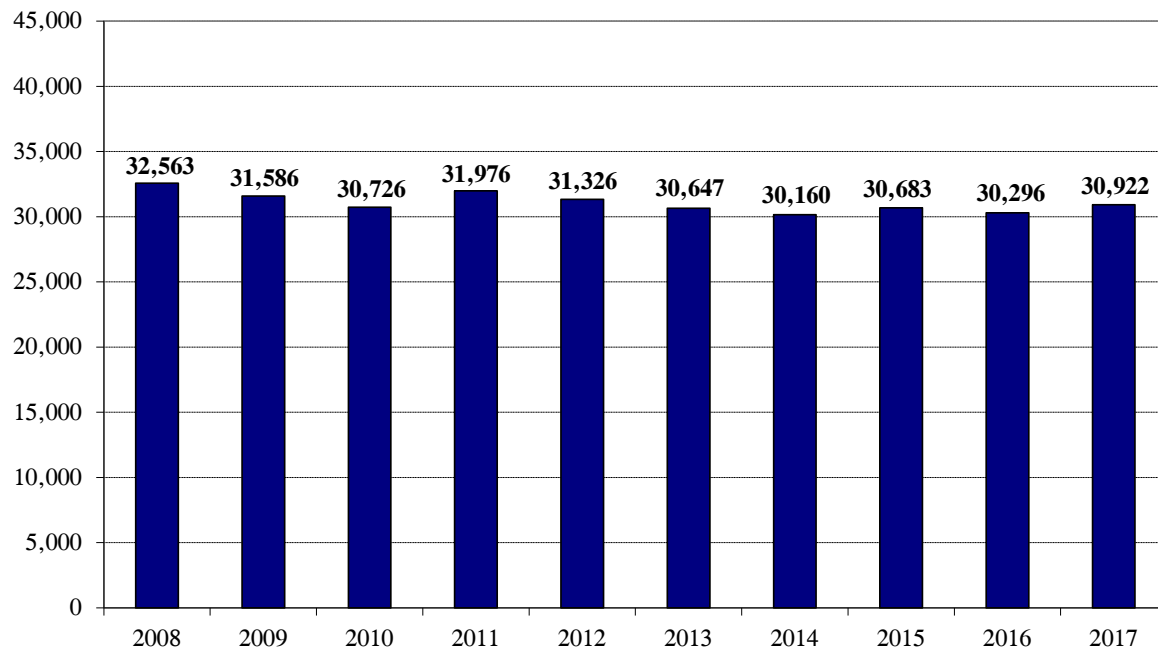


CHART 65

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Employee Annuitants

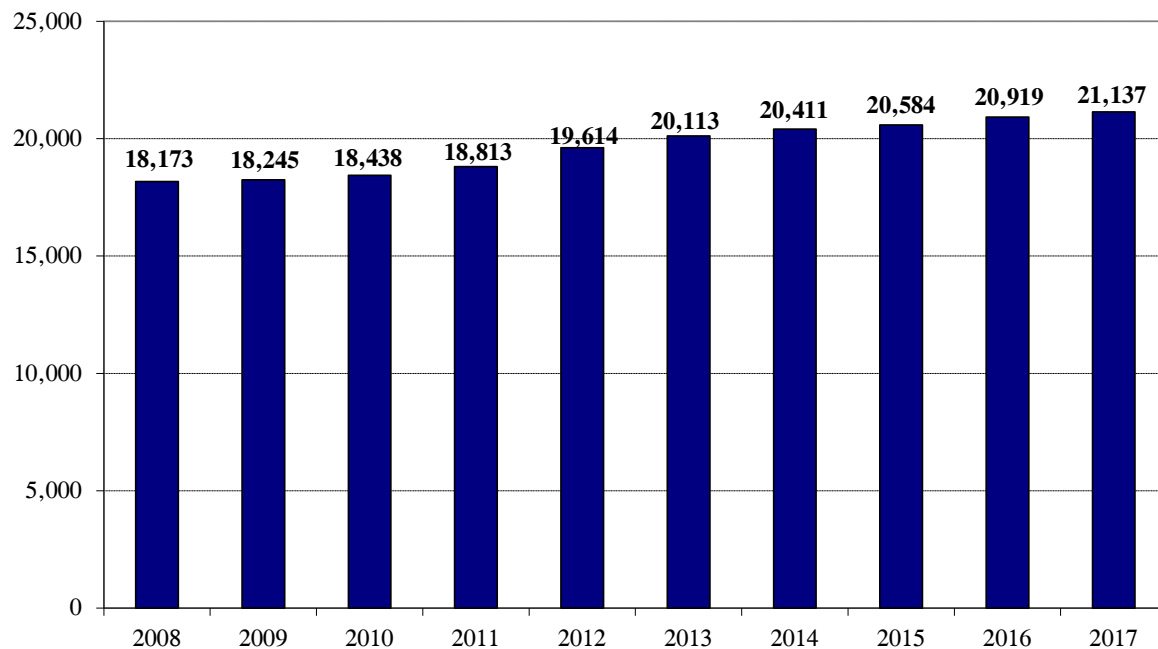


CHART 66

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Employee Salaries

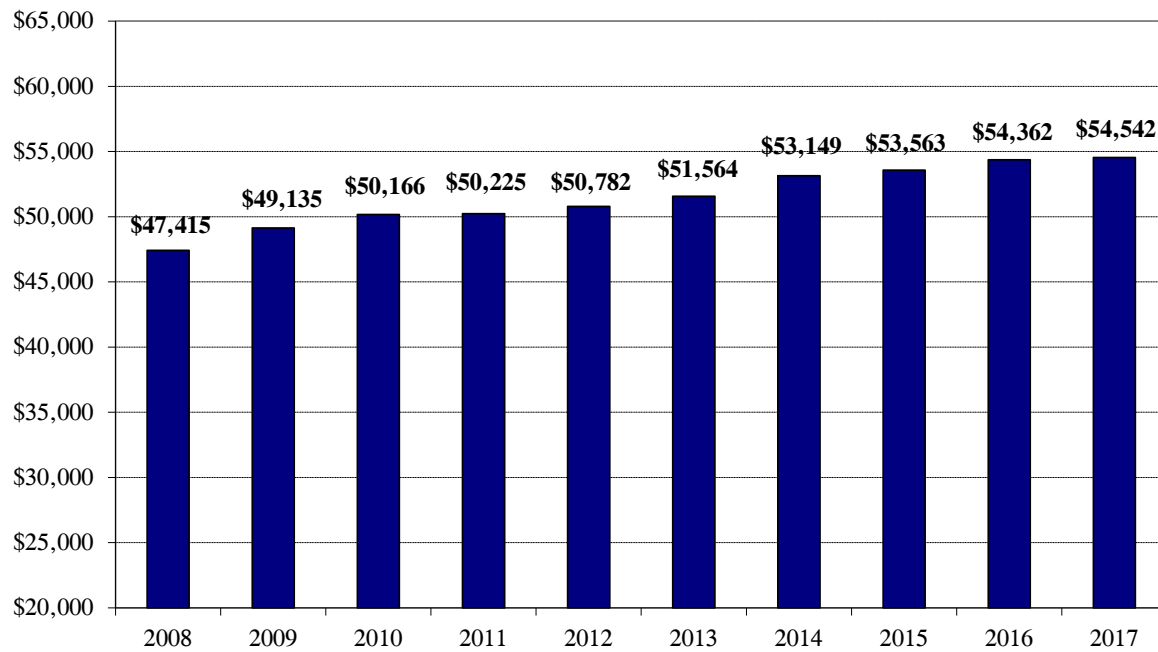


CHART 67

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Retirement Annuities

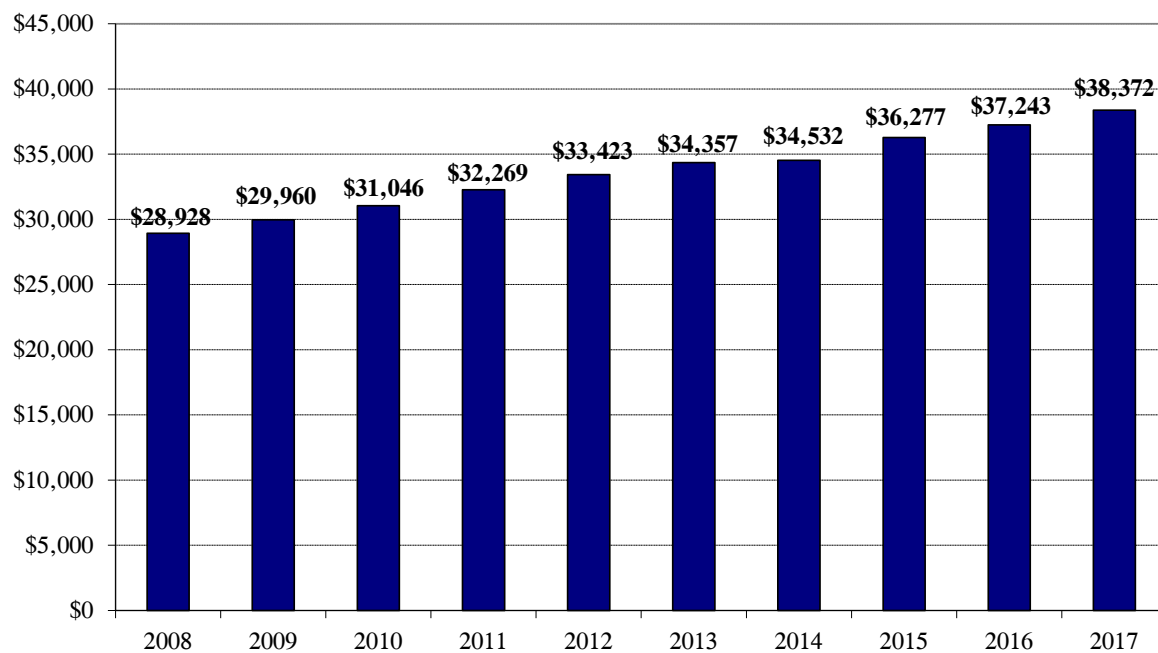
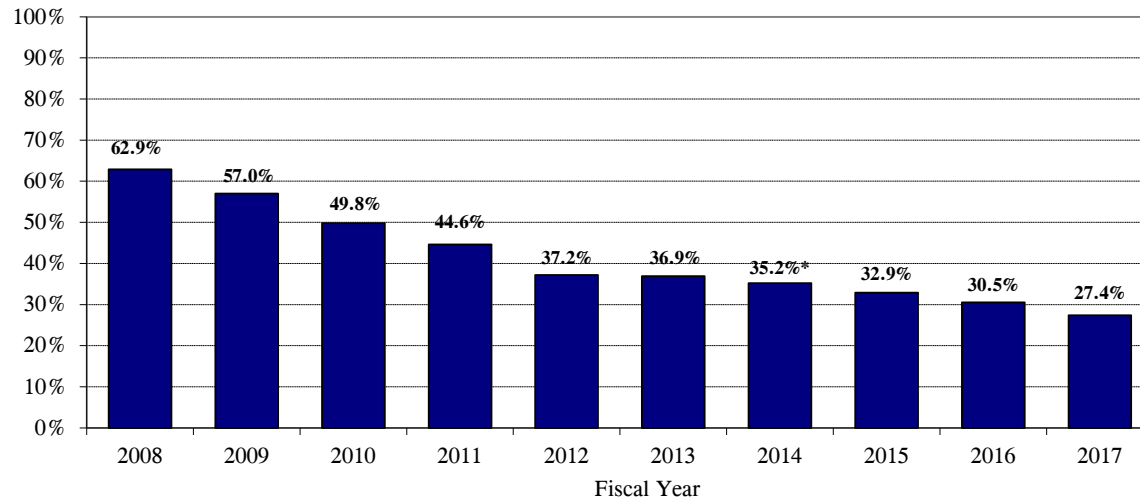


CHART 68

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.



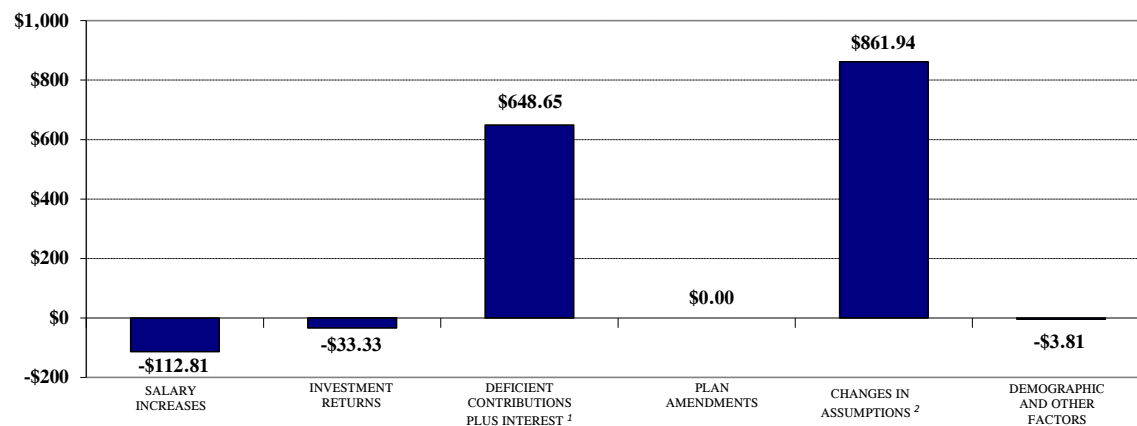
* The funded ratio was 40.9% on the 2014 actuarial valuation report which reflected the benefit provision changes by P.A. 98-0641. However, P.A. 98-0641 was ruled unconstitutional and the 2015 actuarial valuation report does not reflect the provisions of P.A. 98-0641. Prior to reflecting the provisions of P.A. 98-0641, the funded ratio as of December 31, 2014 is 35.2%.

CHART 69

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2017 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$1,360.64 MIL



¹ Unfunded liability increases due to contributions being less than normal cost plus interest cost.

² Changes in assumptions reflect a 1) decrease in the investment return assumption from 7.5% to 7.00%, 2) decrease in other economic assumptions such as price inflation and wage inflation, 3) improved mortality assumption rates, and 4) updated other demographic assumptions such as retirement rates and disability rates, etc.

CHART 70

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income, 2008 - 2017

Actuarially Assumed Rate of Return: 7.00%

(\$ in Millions)

All figures based upon the market value of assets.

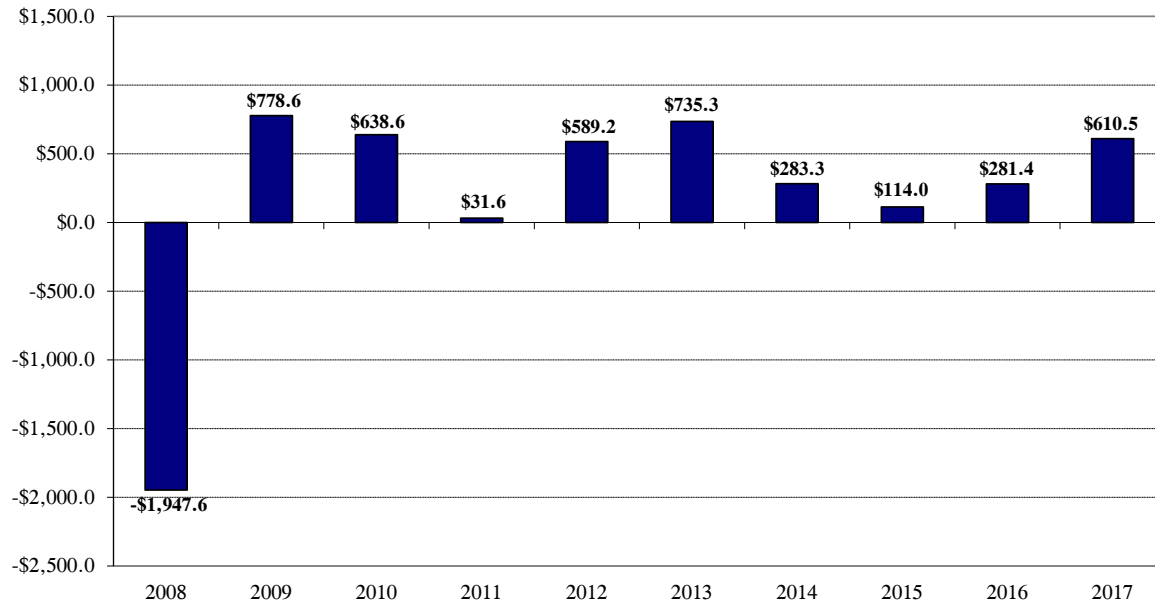


CHART 71

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return, 2008 - 2017

Actuarially Assumed Rate of Return: 7.00%

All figures based upon the market value of assets.

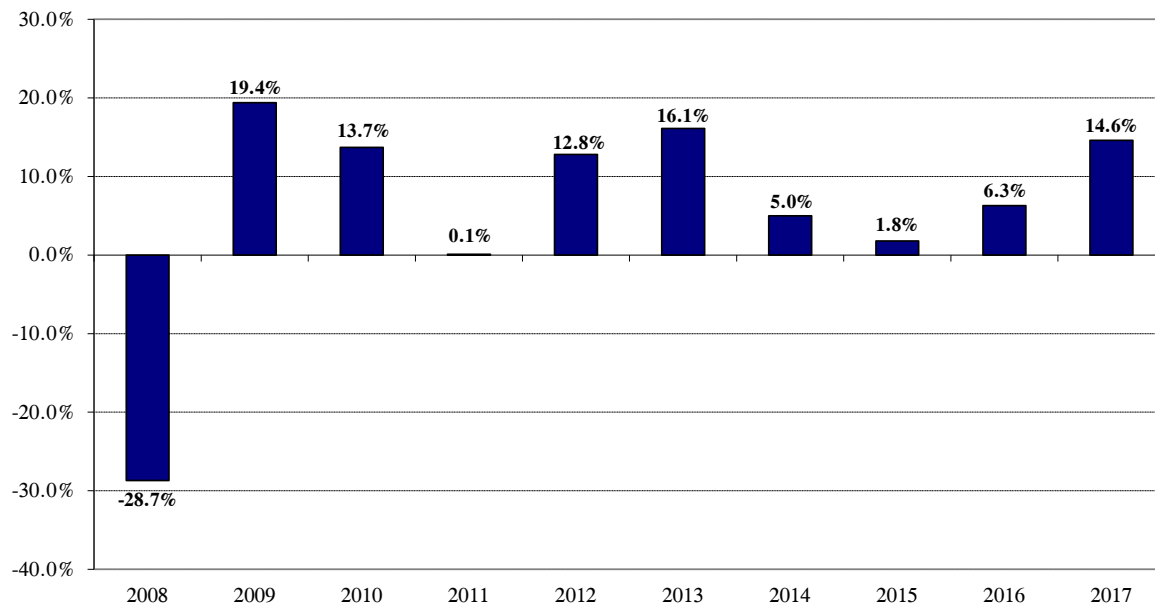


TABLE 20

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2008 - FY 2017 (\$ in Millions)					
End of Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	1,686.5	16,282.4	4,456.8	11,825.6	27.4%
2016	1,646.9	15,055.3	4,590.4	10,465.0	30.5%
2015	1,643.5	14,655.3	4,815.1	9,840.1	32.9%
2014	1,603.0	14,315.3	5,039.3	7,285.3	35.2% *
2013	1,580.3	13,856.5	5,114.2	8,742.3	36.9%
2012	1,590.8	13,637.5	5,073.3	8,564.2	37.2%
2011	1,606.0	12,456.2	5,552.3	6,903.9	44.6%
2010	1,541.4	12,052.2	6,003.4	6,048.8	49.8%
2009	1,552.0	11,054.3	6,295.8	4,758.5	57.0%
2008	1,544.0	10,605.8	6,669.5	3,936.3	62.9%

* The funded ratio was 40.9% on the 2014 actuarial valuation report which reflected the benefit provision changes by P.A. 98-0641. However, P.A. 98-0641 was ruled unconstitutional and the 2015 actuarial valuation report does not reflect the provisions of P.A. 98-0641. Prior to reflecting the provisions of P.A. 98-0641, the funded ratio as of December 31, 2014 is 35.2%.

TABLE 21

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$261.8	\$157.4	\$157.7	\$158.8	\$157.7	\$158.4	\$156.5	\$164.3	\$157.7	\$155.8
Employees	\$134.8	\$130.4	\$131.4	\$130.0	\$131.5	\$130.2	\$132.6	\$133.3	\$131.0	\$137.7
Net Investment Income	\$610.5	\$281.4	\$114.0	\$283.3	\$735.3	\$589.2	\$31.6	\$638.6	\$778.6	-\$1,947.6
Other	\$5.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Additions (A)	\$1,012.4	\$569.3	\$403.2	\$572.1	\$1,024.5	\$877.8	\$320.7	\$936.2	\$1,067.3	-\$1,654.1
Deductions from Assets										
Benefits	\$854.3	\$832.8	\$802.8	\$775.4	\$745.5	\$704.7	\$663.5	\$630.1	\$604.8	\$582.7
Refunds	\$33.8	\$34.6	\$31.7	\$32.3	\$33.5	\$36.9	\$32.1	\$29.9	\$28.1	\$25.5
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$6.5	\$7.1	\$6.7	\$6.6	\$6.5	\$6.8	\$7.4	\$6.8	\$7.8	\$7.7
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$894.6	\$874.5	\$841.2	\$814.3	\$785.5	\$748.4	\$703.0	\$666.8	\$640.7	\$615.9
Change in Net Assets (A-B=C)	\$117.8	-\$305.2	-\$438.1	-\$242.2	\$239.0	\$129.4	-\$382.3	\$269.4	\$426.6	-\$2,270.0

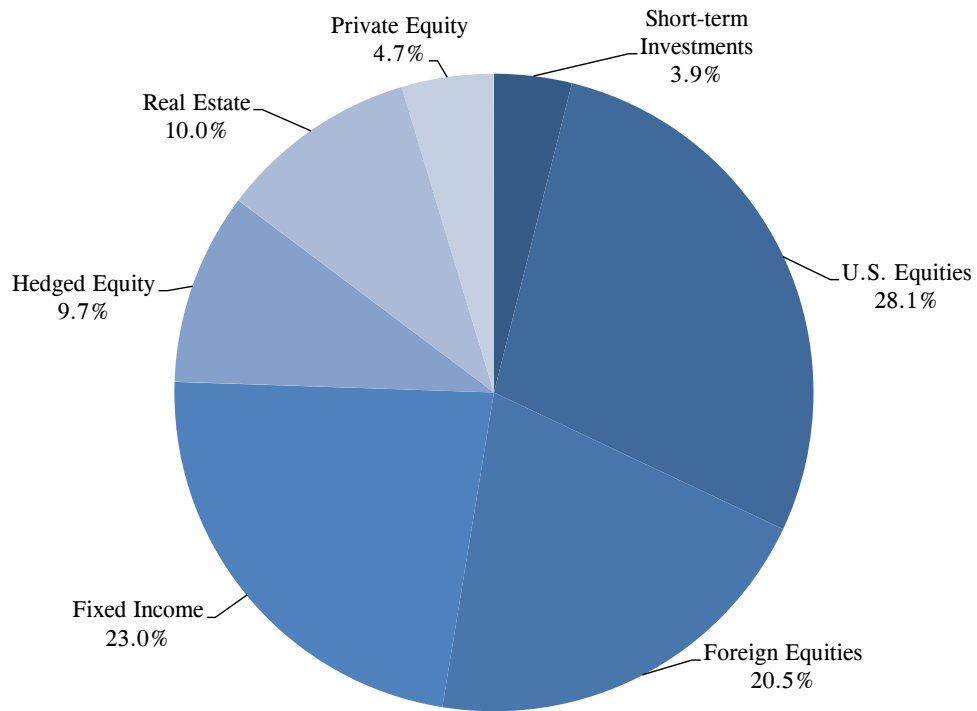
Table 22 below contains funding projections provided to CGFA by the Municipal Employees' Annuity and Benefit Fund of Chicago based upon the December 31, 2017 actuarial valuation.

TABLE 22

Municipal Employees' Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total Employer Contribution*	Employer Contribution As % of Payroll	Employee Contribution	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2017	1,686.53	161.46	9.6%	134.77	16,282.40	4,456.77	11,825.62	27.4%
2018	1,735.90	266.00	15.3%	143.99	16,688.13	4,270.62	12,417.50	25.6%
2019	1,744.62	344.00	19.7%	148.04	17,086.05	4,138.11	12,947.93	24.2%
2020	1,755.72	421.00	24.0%	151.89	17,470.53	4,085.91	13,384.62	23.4%
2021	1,768.19	499.00	28.2%	155.69	17,839.32	4,073.44	13,765.88	22.8%
2022	1,781.96	576.00	32.3%	159.47	18,190.27	4,231.68	13,958.59	23.3%
2023	1,818.50	853.49	46.9%	165.05	18,525.84	4,380.52	14,145.31	23.6%
2024	1,855.86	870.99	46.9%	170.69	18,844.53	4,519.22	14,325.31	24.0%
2025	1,892.99	888.88	47.0%	176.34	19,143.91	4,645.76	14,498.15	24.3%
2026	1,930.63	906.66	47.0%	182.04	19,422.75	4,759.67	14,663.08	24.5%
2027	1,968.84	924.69	47.0%	187.81	19,678.94	4,859.66	14,819.28	24.7%
2028	2,007.87	942.99	47.0%	193.69	19,912.07	4,946.35	14,965.73	24.8%
2029	2,048.39	961.69	46.9%	199.67	20,121.66	5,020.50	15,101.16	25.0%
2030	2,089.63	981.09	47.0%	205.70	20,305.99	5,081.53	15,224.46	25.0%
2031	2,131.86	1,000.84	46.9%	211.82	20,464.60	5,130.28	15,334.33	25.1%
2032	2,175.68	1,021.07	46.9%	218.06	20,597.85	5,168.70	15,429.15	25.1%
2033	2,222.20	1,042.06	46.9%	224.52	20,707.36	5,200.61	15,506.75	25.1%
2034	2,271.40	1,064.34	46.9%	231.19	20,793.08	5,228.25	15,564.83	25.1%
2035	2,321.51	1,087.91	46.9%	237.91	20,855.64	5,253.99	15,601.64	25.2%
2036	2,373.59	1,111.91	46.8%	244.80	20,896.84	5,282.00	15,614.84	25.3%
2037	2,428.06	1,136.85	46.8%	251.89	20,917.89	5,316.12	15,601.77	25.4%
2038	2,484.85	1,162.94	46.8%	259.17	20,933.65	5,374.05	15,559.60	25.7%
2039	2,544.61	1,190.14	46.8%	266.70	20,934.37	5,449.22	15,485.15	26.0%
2040	2,605.94	1,218.76	46.8%	274.35	20,921.61	5,546.10	15,375.50	26.5%
2041	2,669.48	1,248.14	46.8%	282.20	20,898.18	5,670.90	15,227.27	27.1%
2042	2,736.09	1,278.57	46.7%	290.29	20,867.27	5,830.75	15,036.52	27.9%
2043	2,805.62	1,310.47	46.7%	298.65	20,832.68	6,033.60	14,799.08	29.0%
2044	2,878.23	1,343.78	46.7%	307.27	20,795.35	6,284.87	14,510.49	30.2%
2045	2,951.57	1,378.55	46.7%	315.93	20,757.41	6,590.48	14,166.94	31.7%
2046	3,026.86	1,413.68	46.7%	324.76	20,720.58	6,956.82	13,763.77	33.6%
2047	3,104.24	1,449.74	46.7%	333.80	20,687.20	7,391.24	13,295.96	35.7%
2048	3,184.02	1,486.80	46.7%	343.07	20,659.09	7,901.10	12,757.98	38.2%
2049	3,266.01	1,525.01	46.7%	352.55	20,634.85	8,490.73	12,144.12	41.1%
2050	3,348.78	1,564.28	46.7%	362.08	20,615.78	9,166.95	11,448.83	44.5%
2051	3,433.34	1,603.93	46.7%	371.79	20,602.26	9,936.58	10,665.68	48.2%
2052	3,519.78	1,644.43	46.7%	381.69	20,596.11	10,808.33	9,787.79	52.5%
2053	3,608.84	1,685.83	46.7%	391.85	20,598.32	11,790.94	8,807.38	57.2%
2054	3,700.25	1,728.48	46.7%	402.23	20,605.11	12,888.78	7,716.33	62.6%
2055	3,792.37	1,772.26	46.7%	412.66	20,618.10	14,111.39	6,506.72	68.4%
2056	3,886.83	1,816.39	46.7%	423.30	20,637.59	15,468.36	5,169.22	75.0%
2057	3,983.64	1,861.63	46.7%	434.16	20,664.11	16,970.26	3,693.86	82.1%
2058	4,083.08	1,908.00	46.7%	445.25	20,697.79	18,628.01	2,069.78	90.0%
2059	4,185.08	1,955.63	46.7%	456.58	20,736.62	18,662.96	2,073.66	90.0%
2060	4,289.27	216.26	5.0%	468.12	20,780.78	18,702.70	2,078.08	90.0%
2061	4,396.00	218.40	5.0%	479.90	20,829.25	18,746.33	2,082.93	90.0%
2062	4,505.32	220.76	4.9%	491.95	20,881.11	18,792.99	2,088.11	90.0%
2063	4,617.42	223.33	4.8%	504.27	20,935.30	18,841.77	2,093.53	90.0%
2064	4,732.38	226.11	4.8%	516.89	20,990.55	18,891.50	2,099.06	90.0%
2065	4,850.19	229.11	4.7%	529.80	21,045.19	18,940.67	2,104.52	90.0%
2066	4,970.86	232.39	4.7%	543.02	21,097.49	18,987.74	2,109.75	90.0%

CHART 72

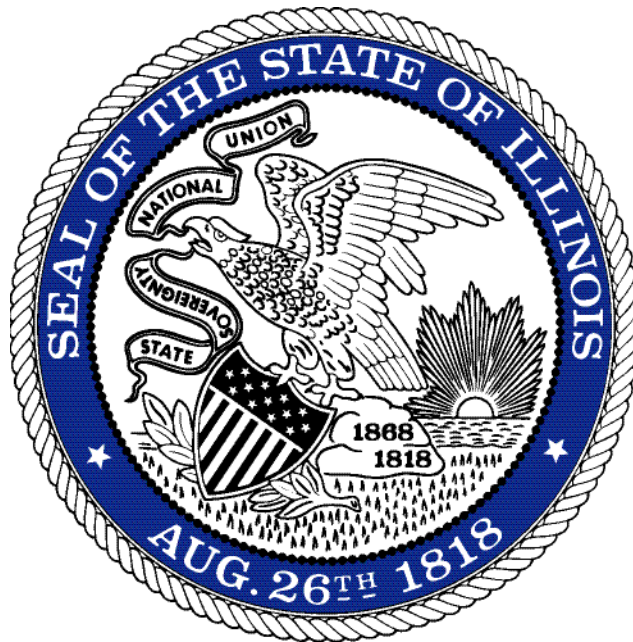
**MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
ASSET ALLOCATION AS OF DECEMBER 2017**



Total investment at fair value is \$4.30B

X. Park Employees' Annuity and Benefit Fund of Chicago

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- System Projections
- Normal Cost Projections
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Park Employees' Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary

**On March 1, 2018, P.A. 98-0622 was declared unconstitutional by the Circuit Court of Cook County. As a result, provisions of P.A. 98-0622 became void, and the plan summary described below does not take into account provisions of P.A. 98-0622.*

Retirement Age

- Age 60 with 4 years of service
- Age 50 with at least 10 years of service (reduced annuity)

Retirement Formula

- 2.4% of final average salary

Maximum Annuity

- 80% of final average salary

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% non-compounded

Employee Contributions

- 9.0% of salary

Employer Contributions

The Board of Park Commissioners is required to contribute an amount equal to the employee contributions during the fiscal year two years prior to the year the tax is levied, multiplied by 1.10.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011.

CHART 73

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Active Employees

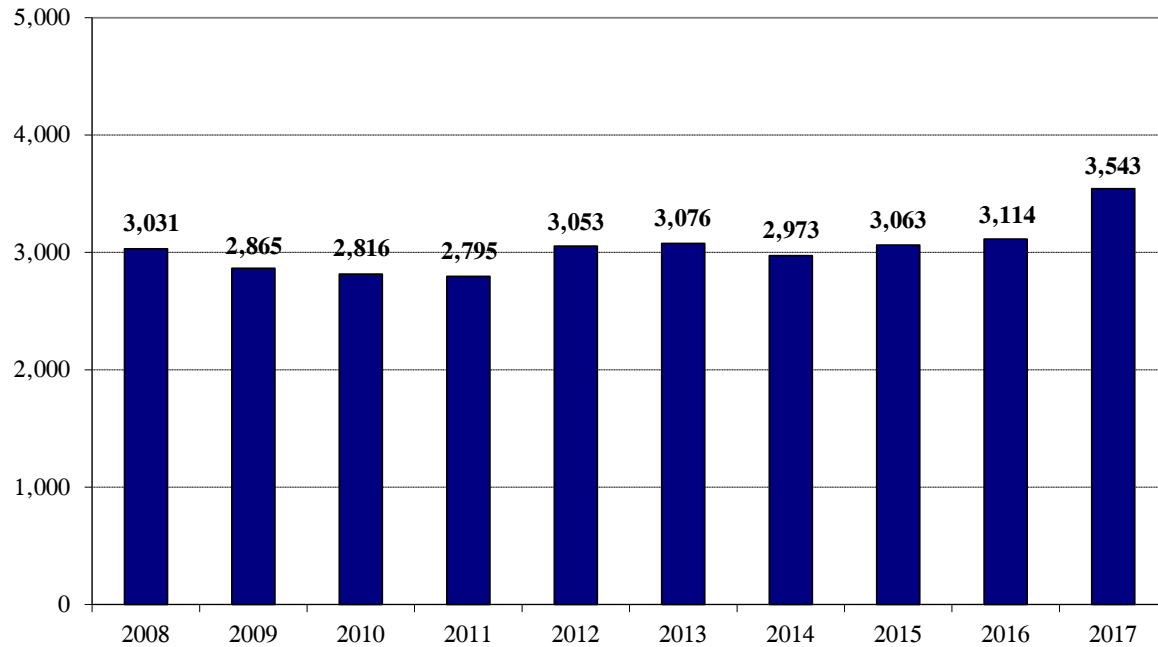


CHART 74

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

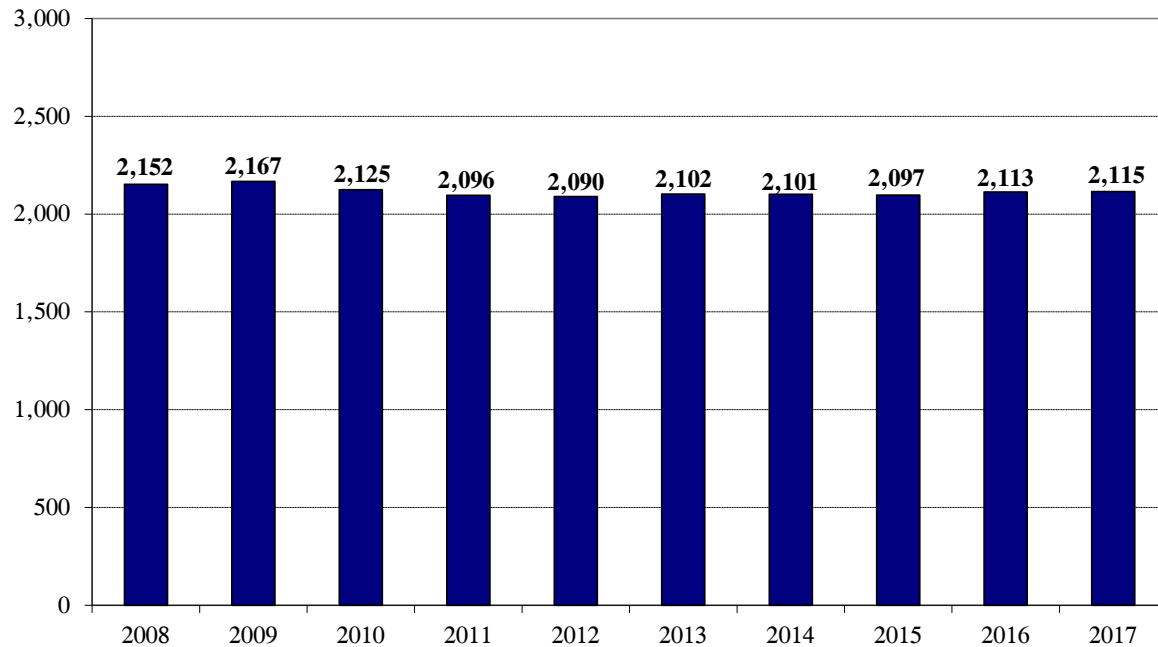


CHART 75

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Employee Salaries

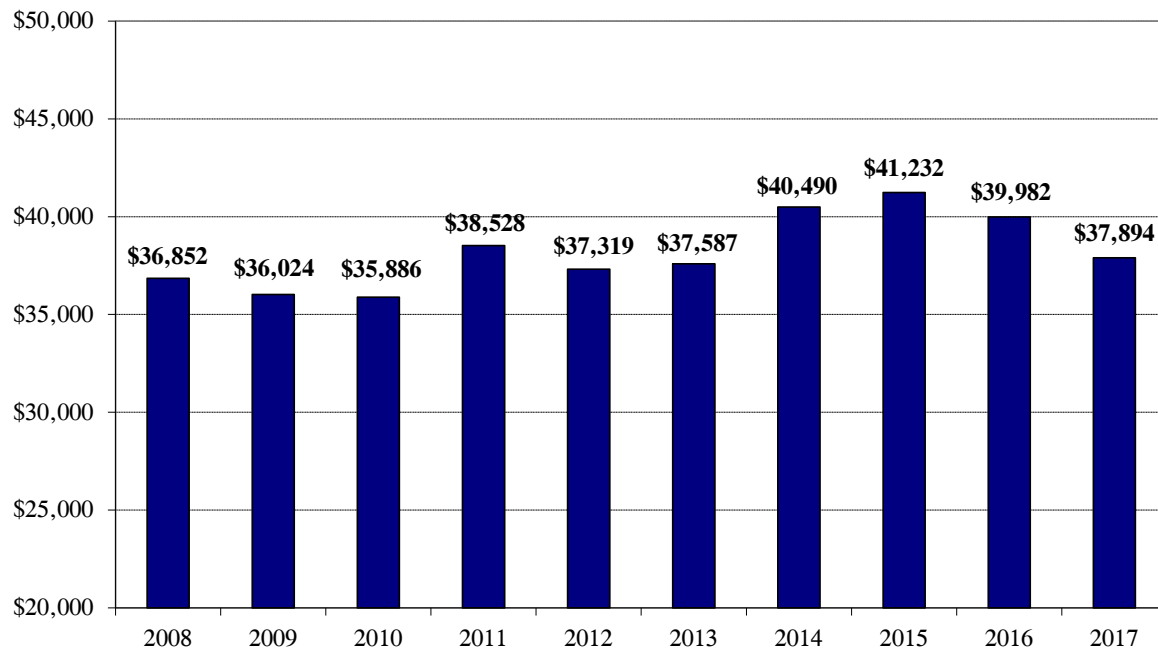


CHART 76

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Retirement Annuities

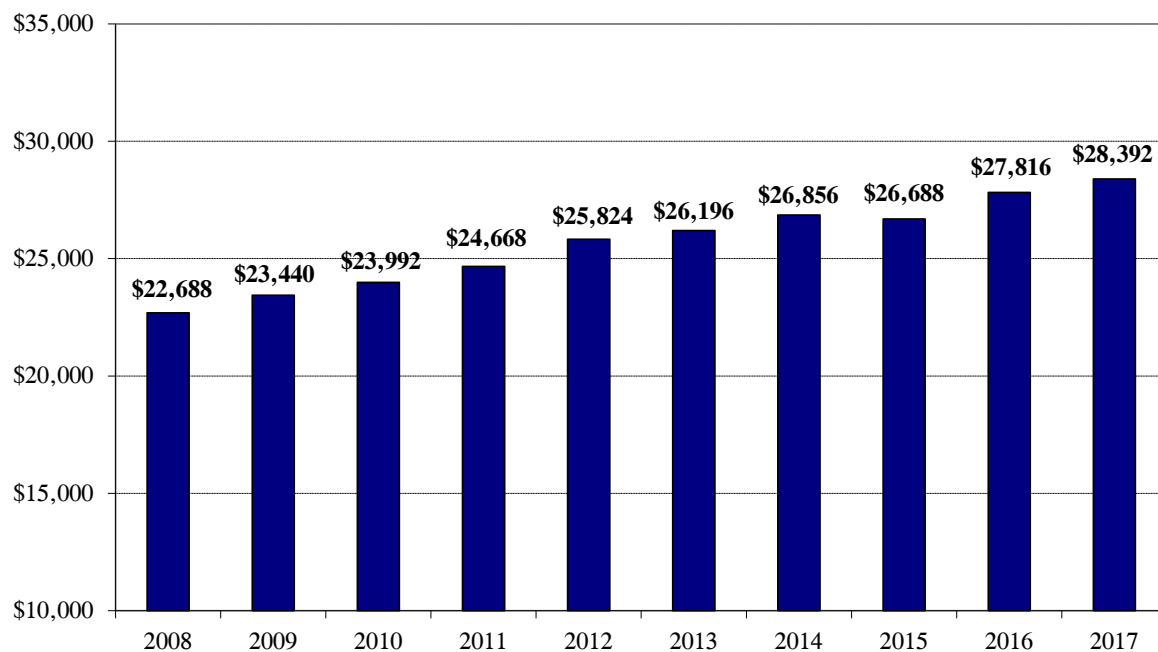
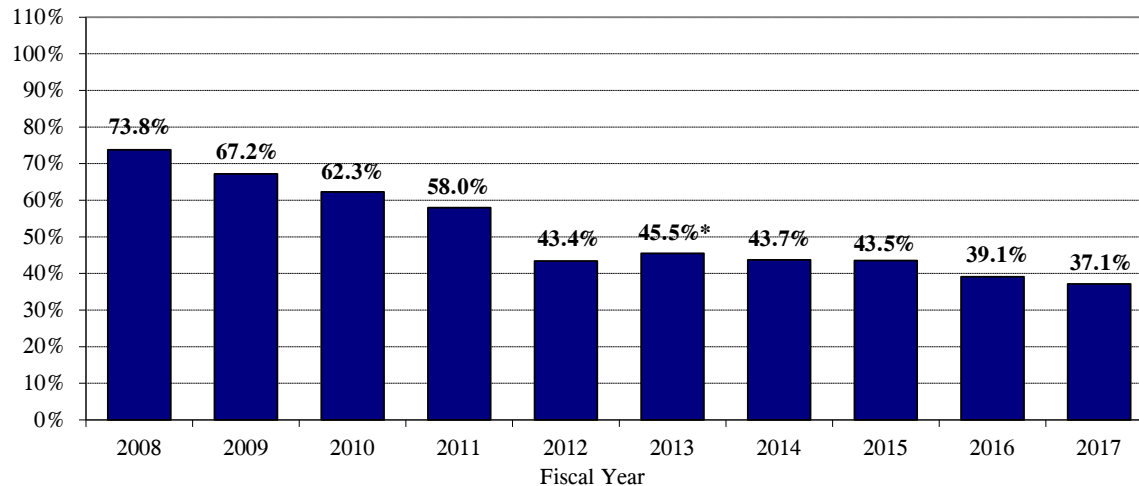


CHART 77

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2008 - FY 2017

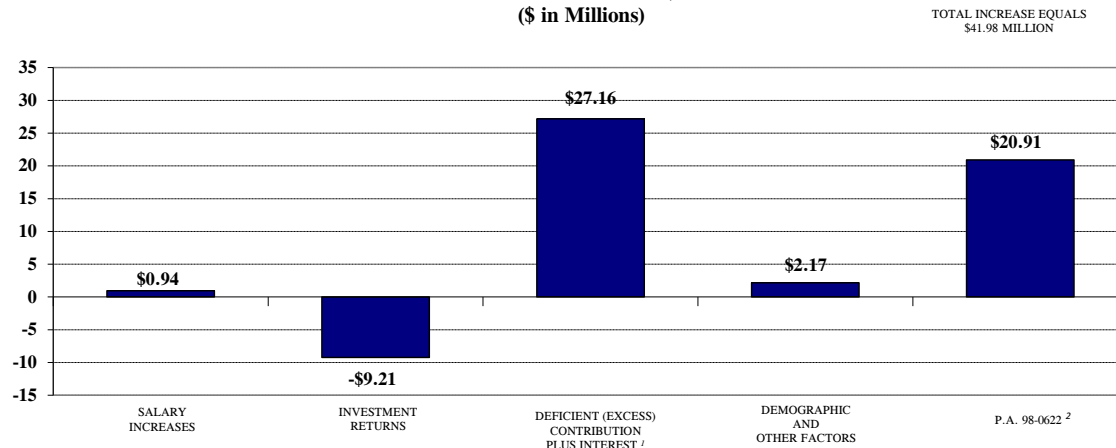
All figures based upon the actuarial value of assets.



* Public Act 97-0973, effective August 16, 2012, changed the Fund's year end to December 31 from June 30. As a result, from January 1, 2013, the Fund's fiscal year commences January 1 and ends December 31.

CHART 78

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2017 (\$ in Millions)



¹ Unfunded liability increases due to total contributions being less than normal cost plus interest cost.

² Public Act 098-0622 was ruled unconstitutional on March 1, 2018. The employee contribution increase of 1% will be refunded, and member contributions have been decreased back to 9%. The other provisions of P.A. 098-0622 regarding retirement ages, disability benefits, and the tax multiple also reverted to the previous plan provisions to reflect the court ruling.

CHART 79

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income, FY 2008 - FY 2017

Actuarially Assumed Rate of Return: 7.50%

(\$ in Millions)

All figures based upon the market value of assets.

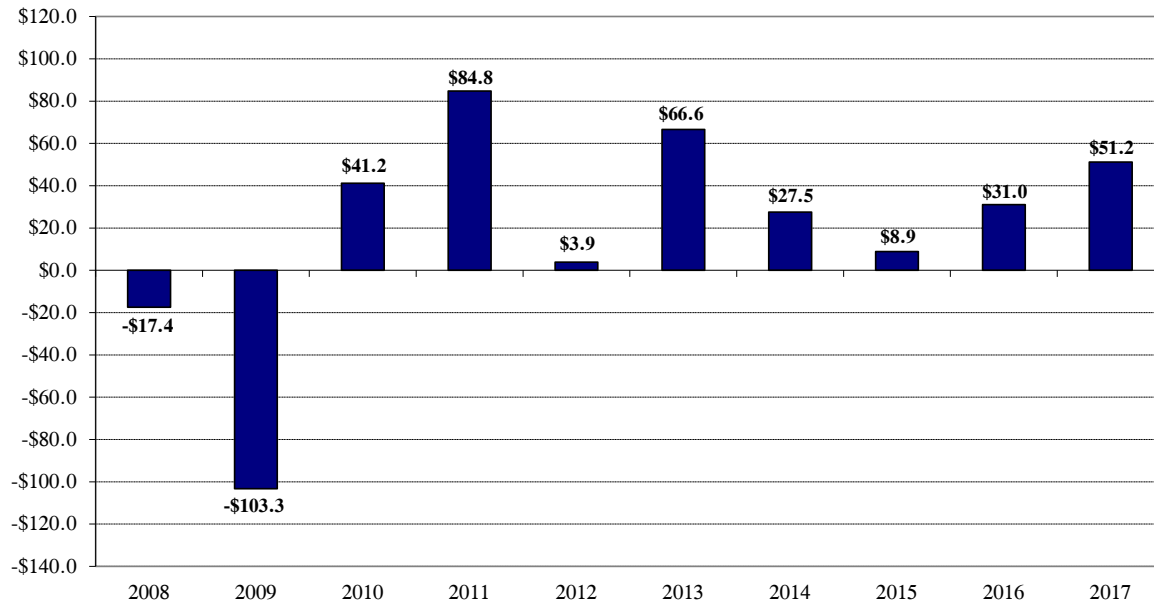


CHART 80

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return 2008 - 2017

Actuarially Assumed Rate of Return: 7.50%

All figures based upon the market value of assets.

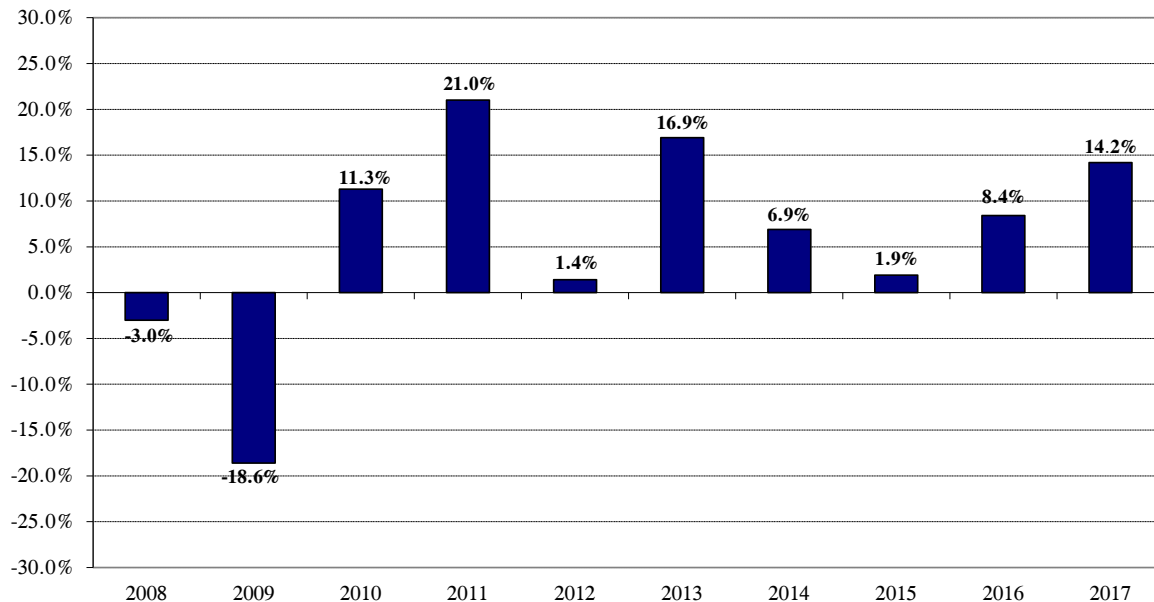


TABLE 23

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	135.3	1,039.3	385.4	653.9	37.1%
2016	121.1	1,005.5	393.6	611.9	39.1%
2015	122.4	910.3	395.7	514.6	43.5%
2014	119.0	900.8	393.8	507.0	43.7%
2013*	117.8	888.0	404.3	483.7	45.5%
2012	114.2	866.4	440.7	425.7	50.9%
2011	107.7	843.9	489.4	354.5	58.0%
2010	107.4	833.0	518.6	314.4	62.3%
2009	108.9	823.9	553.8	270.1	67.2%
2008	111.7	795.4	586.7	208.7	73.8%

* Public Act 97-0973, effective August 16, 2012, changed the Fund's year end to December 31 from June 30. As a result, from January 1, 2013, the Fund's fiscal year commences January 1 and ends December 31.

TABLE 24

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013*	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$20.9	\$30.9	\$30.6	\$11.2	\$15.8	\$10.8	\$11.0	\$10.8	\$9.7	\$9.0
Employees	\$13.7	\$12.2	\$12.4	\$10.8	\$10.7	\$10.4	\$9.8	\$9.8	\$10.1	\$10.3
Net Investment Income	\$51.2	\$31.0	\$8.9	\$27.6	\$66.6	\$3.8	\$84.8	\$41.5	-\$103.5	-\$17.4
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Additions (A)	\$85.8	\$74.2	\$51.9	\$49.6	\$93.2	\$25.1	\$105.6	\$62.1	-\$83.7	\$1.9
Deductions from Assets										
Benefits	\$72.3	\$71.6	\$68.6	\$67.8	\$66.2	\$63.5	\$62.0	\$61.2	\$60.3	\$58.0
Refunds	\$5.9 **	\$2.5	\$2.0	\$2.7	\$2.1	\$2.0	\$1.7	\$1.4	\$2.7	\$2.0
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$1.7	\$1.5	\$1.5	\$1.5	\$1.5	\$1.6	\$1.5	\$1.4	\$1.3	\$1.3
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$79.8	\$75.6	\$72.1	\$72.0	\$69.8	\$67.1	\$65.2	\$64.0	\$64.3	\$61.2
Change in Net Assets (A-B=C)	\$5.9	-\$1.5	-\$20.3	-\$22.3	\$23.4	-\$42.0	\$40.4	-\$1.9	-\$148.0	-\$59.4

* Public Act 97-0973, effective August 16, 2012, changed the Fund's year end to December 31 from June 30. As a result, from January 1, 2013, the Fund's fiscal year commences January 1 and ends December 31.

** Public Act 098-0622 was ruled unconstitutional on March 1, 2018. The employee contribution increase of 1% will be refunded, and member contributions have been decreased back to 9%. The other provisions of P.A. 098-0622 regarding retirement ages, disability benefits, and the tax multiple also reverted to the previous plan provisions to reflect the court ruling.

Table 25 below contains funding projections provided to CGFA by the Park Employees' Annuity and Benefit Fund of Chicago based upon the December 31, 2017 actuarial valuation. As shown in the table below, under the current funding policy the Park Employees' Annuity and Benefit Fund of Chicago is projected to run out of assets by 2027 if all future assumptions are met and no additional contributions are made.

TABLE 25

Park Employees' Annuity and Benefit Fund of Chicago Funding Policy under P.A. 98-0622 Actuarial Valuation Projection Results as of December 31, 2017 ¹ (\$ in Millions)								
Fiscal Year	Capped Payroll	Total City Contribution	Total City Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2018	140.3	12.8	9.1%	12.8	1,053.1	359.5	693.6	34.1%
2019	138.0	14.6	10.6%	12.6	1,066.7	332.6	734.1	31.2%
2020	136.6	13.6	10.0%	12.4	1,080.1	305.5	774.6	28.3%
2021	135.4	13.4	9.9%	12.3	1,093.4	274.5	818.8	25.1%
2022	134.5	13.3	9.9%	12.3	1,106.6	235.4	871.2	21.3%
2023	133.9	13.2	9.8%	12.2	1,119.5	191.7	927.8	17.1%
2024	133.4	13.1	9.8%	12.2	1,132.2	143.2	989.0	12.7%
2025	133.1	13.0	9.8%	12.1	1,144.5	89.6	1,054.9	7.8%
2026	132.9	13.0	9.8%	12.1	1,156.4	30.4	1,126.0	2.6%
2027	132.5	47.6	35.9%	12.1	1,167.7	0.0	1,167.7	0.0%
2028	132.2	79.4	60.1%	12.1	1,178.4	0.0	1,178.4	0.0%
2029	132.0	81.0	61.3%	12.0	1,188.2	0.0	1,188.2	0.0%
2030	131.9	82.6	62.6%	12.0	1,197.2	0.0	1,197.2	0.0%
2031	131.9	84.2	63.8%	12.0	1,205.1	0.0	1,205.1	0.0%
2032	131.9	85.7	64.9%	12.0	1,212.1	0.0	1,212.1	0.0%
2033	132.2	87.0	65.9%	12.0	1,218.3	0.0	1,218.3	0.0%
2034	132.6	88.4	66.7%	12.1	1,223.5	0.0	1,223.5	0.0%
2035	133.0	89.4	67.2%	12.1	1,228.1	0.0	1,228.1	0.0%
2036	133.7	90.7	67.8%	12.2	1,231.7	0.0	1,231.7	0.0%
2037	134.3	89.3	66.5%	12.2	1,237.1	0.0	1,237.1	0.0%
2038	135.1	90.1	66.7%	12.3	1,242.1	0.0	1,242.1	0.0%
2039	136.1	90.6	66.6%	12.4	1,247.0	0.0	1,247.0	0.0%
2040	137.2	90.8	66.2%	12.5	1,252.1	0.0	1,252.1	0.0%
2041	138.6	90.8	65.5%	12.6	1,257.7	0.0	1,257.7	0.0%
2042	140.2	90.5	64.6%	12.8	1,264.1	0.0	1,264.1	0.0%
2043	142.0	89.9	63.3%	12.9	1,271.8	0.0	1,271.8	0.0%
2044	144.1	89.1	61.8%	13.1	1,281.1	0.0	1,281.1	0.0%
2045	146.4	88.0	60.1%	13.3	1,292.4	0.0	1,292.4	0.0%
2046	149.0	86.7	58.2%	13.6	1,306.1	0.0	1,306.1	0.0%
2047	151.8	85.5	56.4%	13.8	1,322.3	0.0	1,322.3	0.0%
2048	154.6	84.3	54.5%	14.1	1,341.2	0.0	1,341.2	0.0%
2049	157.6	83.3	52.8%	14.3	1,363.0	0.0	1,363.0	0.0%
2050	160.7	82.1	51.1%	14.6	1,387.9	0.0	1,387.9	0.0%
2051	164.0	81.1	49.4%	14.9	1,416.1	0.0	1,416.1	0.0%
2052	167.5	80.2	47.9%	15.2	1,447.6	0.0	1,447.6	0.0%
2053	171.0	79.4	46.5%	15.5	1,482.8	0.0	1,482.8	0.0%
2054	174.7	79.1	45.3%	15.9	1,521.3	0.0	1,521.3	0.0%
2055	178.5	78.7	44.1%	16.2	1,563.6	0.0	1,563.6	0.0%
2056	182.6	78.3	42.9%	16.6	1,610.0	0.0	1,610.0	0.0%

¹ Public Act 098-0622 was ruled unconstitutional on March 1, 2018. The employee contribution increase of 1% will be refunded, and member contributions have been decreased back to 9%. The other provisions of P.A. 098-0622 regarding retirement ages, disability benefits, and the tax multiple also reverted to the previous plan provisions to reflect the court ruling.

TABLE 26

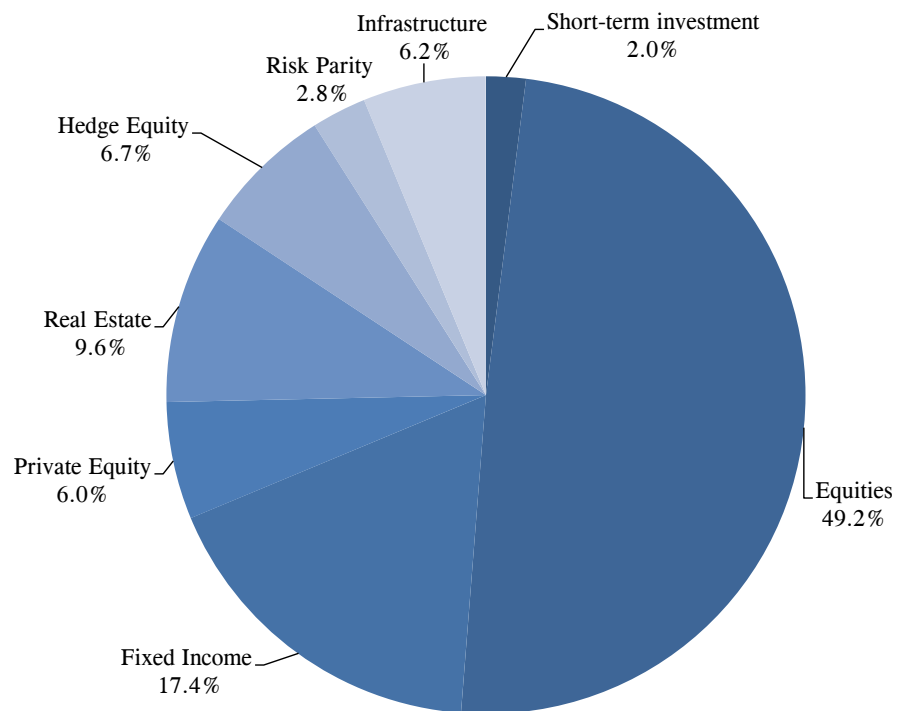
Park Employees' Annuity and Benefit Fund of Chicago Projected Normal Cost as of December 31, 2017 ¹ (\$ in Millions)						
Fiscal Year	Employer Normal Cost ²	Employer's Normal Cost as a % of Payroll	Employee Contributions	Employee Contributions as a % of Payroll	Total Normal Cost ²	Total Normal Cost as a % of Payroll
2018	4.5	3.2%	12.8	9.1%	17.3	12.3%
2019	4.5	3.3%	12.6	9.1%	17.1	12.4%
2020	4.6	3.3%	12.4	9.1%	17.0	12.5%
2021	4.6	3.4%	12.3	9.1%	16.9	12.5%
2022	4.7	3.5%	12.3	9.1%	16.9	12.6%
2023	4.7	3.5%	12.2	9.1%	16.9	12.6%
2024	4.7	3.5%	12.2	9.1%	16.9	12.7%
2025	4.8	3.6%	12.1	9.1%	16.9	12.7%
2026	4.8	3.6%	12.1	9.1%	16.9	12.7%
2027	4.8	3.6%	12.1	9.1%	16.8	12.7%
2028	4.8	3.6%	12.1	9.1%	16.8	12.7%
2029	4.8	3.6%	12.0	9.1%	16.8	12.7%
2030	4.8	3.6%	12.0	9.1%	16.8	12.8%
2031	4.8	3.7%	12.0	9.1%	16.8	12.8%
2032	4.8	3.7%	12.0	9.1%	16.9	12.8%
2033	4.9	3.7%	12.0	9.1%	16.9	12.8%
2034	4.9	3.7%	12.1	9.1%	17.0	12.8%
2035	4.9	3.7%	12.1	9.1%	17.0	12.8%
2036	5.0	3.7%	12.2	9.1%	17.1	12.8%
2037	5.0	3.7%	12.2	9.1%	17.2	12.8%
2038	5.0	3.7%	12.3	9.1%	17.3	12.8%
2039	5.1	3.7%	12.4	9.1%	17.5	12.8%
2040	5.2	3.8%	12.5	9.1%	17.7	12.9%
2041	5.2	3.8%	12.6	9.1%	17.9	12.9%
2042	5.3	3.8%	12.8	9.1%	18.1	12.9%
2043	5.5	3.9%	12.9	9.1%	18.4	13.0%
2044	5.6	3.9%	13.1	9.1%	18.8	13.0%
2045	5.8	4.0%	13.3	9.1%	19.2	13.1%
2046	6.0	4.1%	13.6	9.1%	19.6	13.2%
2047	6.3	4.1%	13.8	9.1%	20.1	13.2%
2048	6.5	4.2%	14.1	9.1%	20.6	13.3%
2049	6.8	4.3%	14.3	9.1%	21.2	13.4%
2050	7.1	4.4%	14.6	9.1%	21.7	13.5%
2051	7.4	4.5%	14.9	9.1%	22.3	13.6%
2052	7.8	4.6%	15.2	9.1%	23.0	13.7%
2053	8.1	4.8%	15.5	9.1%	23.7	13.8%
2054	8.5	4.9%	15.9	9.1%	24.4	14.0%
2055	8.9	5.0%	16.2	9.1%	25.2	14.1%
2056	9.4	5.1%	16.6	9.1%	26.0	14.2%

¹ Public Act 098-0622 was ruled unconstitutional on March 1, 2018. The employee contribution increase of 1% will be refunded, and member contributions have been decreased back to 9%. The provisions of P.A. 098-0622 regarding retirement ages, disability benefits, and the tax multiple also reverted to the previous plan provisions to reflect the court ruling.

² Includes estimated expenses.

CHART 81

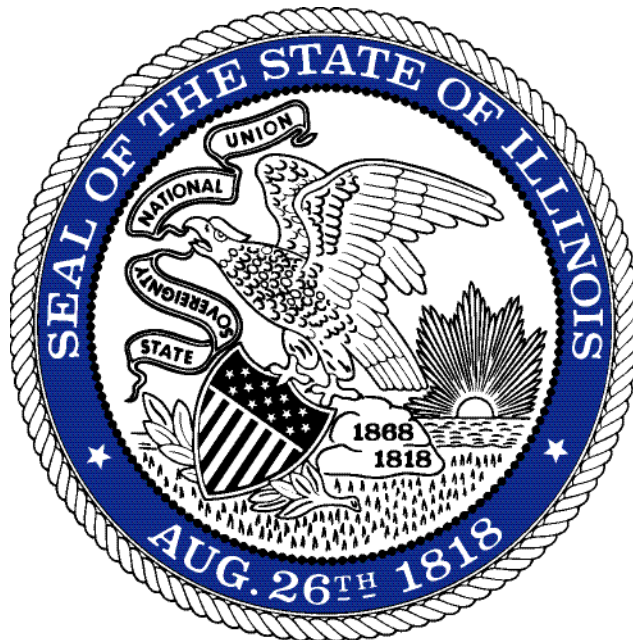
**PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
ASSET ALLOCATION AS OF DECEMBER 2017**



Total investment at fair value is \$376.3M

XI. Policemen's Annuity and Benefit Fund of Chicago

- **Plan Summary**
- **Active Employees**
- **Employee Annuitants**
- **Average Salaries**
- **Average Retirement Annuity**
- **Funded Ratios**
- **Change in Unfunded Liabilities**
- **Investment Income**
- **Investment Rates of Return**
- **Systems Experience**
- **Changes in Net Assets**
- **System Projections**
- **Normal Cost Projections**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2017.

Policemen's Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary

Retirement Age

- Age 50 with 20 years of service
- Age 50 with 10 years of service (accumulated annuity)
- Mandatory retirement at age 63

Retirement Formula

- For employees with 20 or more years of service, 50% of final average salary plus 2.5% of final average salary for each year in excess of 20
-

Maximum Annuity

- 75% of final average salary

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% non-compounded with no limit if born before 1/1/66
- 1.5% non-compounded if born after 1/1/66, subject to 30% maximum

Employee Contributions

- 9.0% of salary

Employer Contributions

Pursuant to P.A. 99-0506, the employer contributions for payment year 2016 through 2020 are specified as follows: \$420 million in 2016, \$464 million in 2017, \$500 million in 2018, \$557 million in 2019, and \$579 million in 2020. After payment year 2020, the city (employer) is required to make an annual actuarially determined contribution as a level percentage of pay, with a funding goal of 90% by the end of 2055, based upon the actuarial value of fund assets and application of required actuarial assumptions and methodologies.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-1495. See P.A. 96-1495 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 82

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
Active Employees

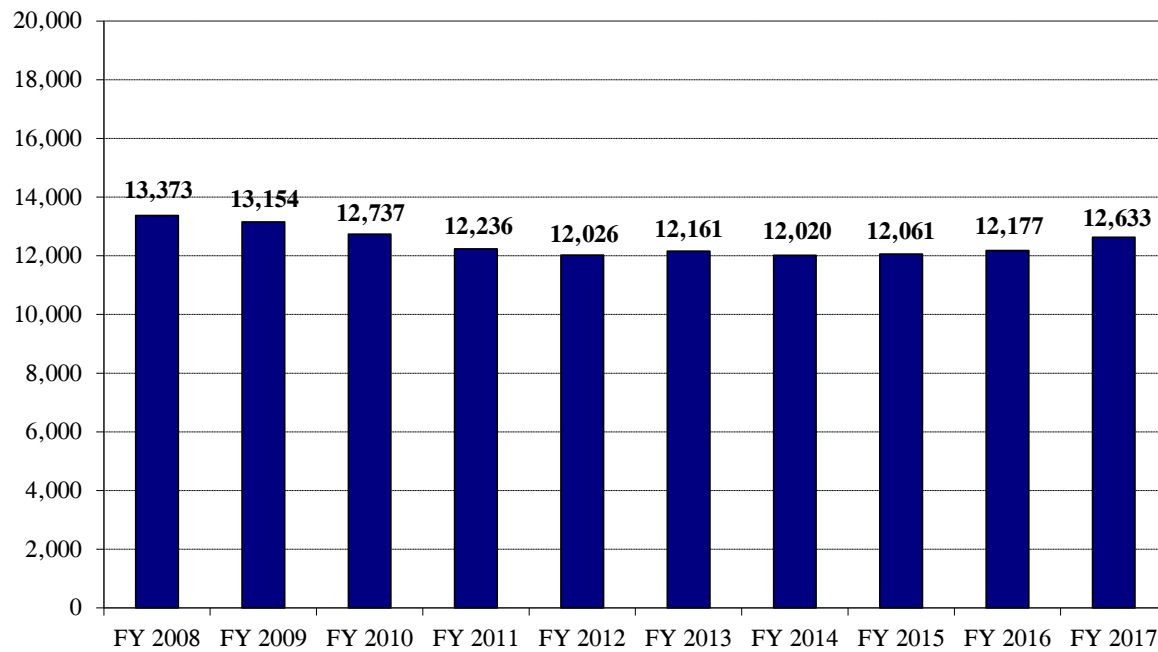


CHART 83

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

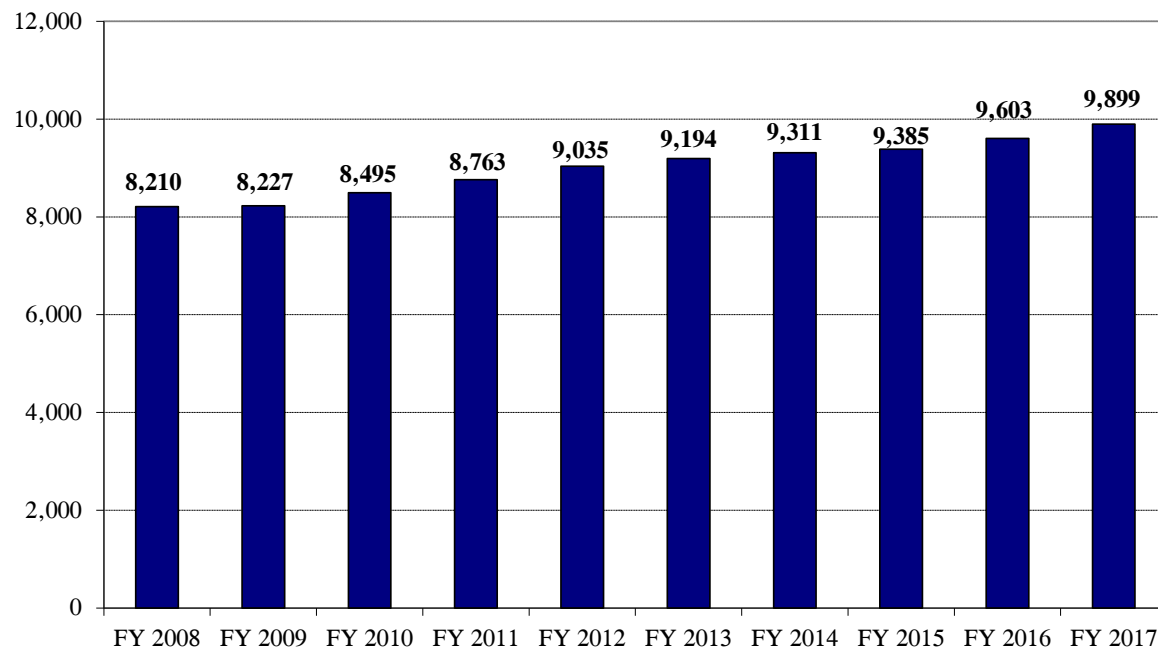


CHART 84

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
Average Employee Salaries

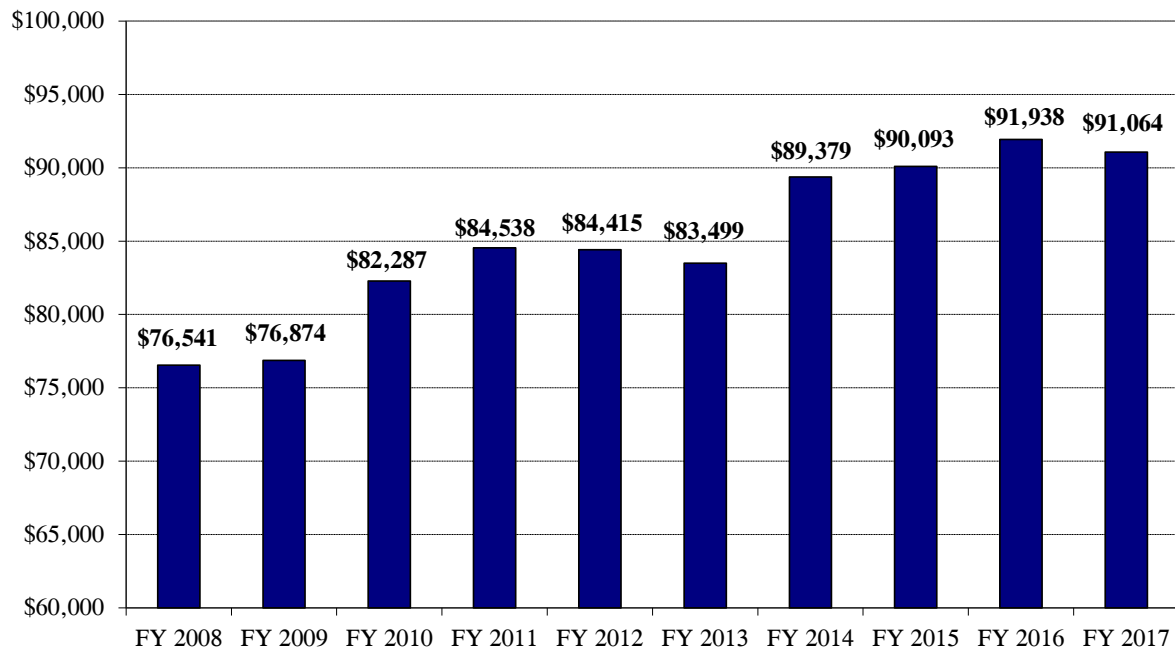


CHART 85

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
Average Retirement Annuity

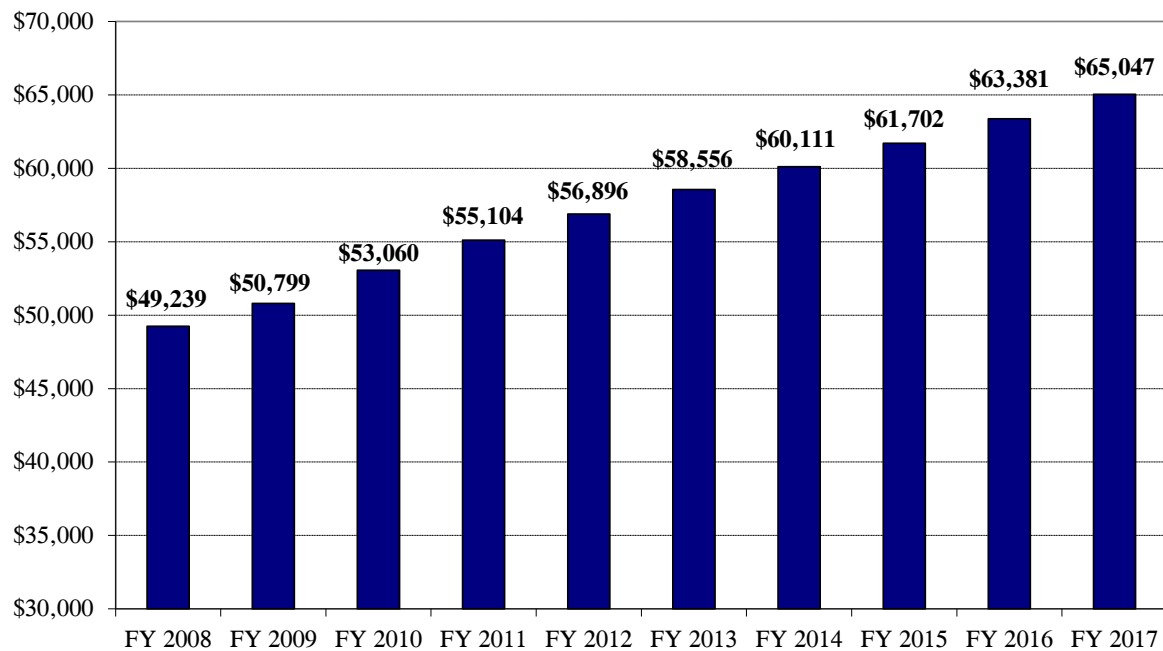


CHART 86

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

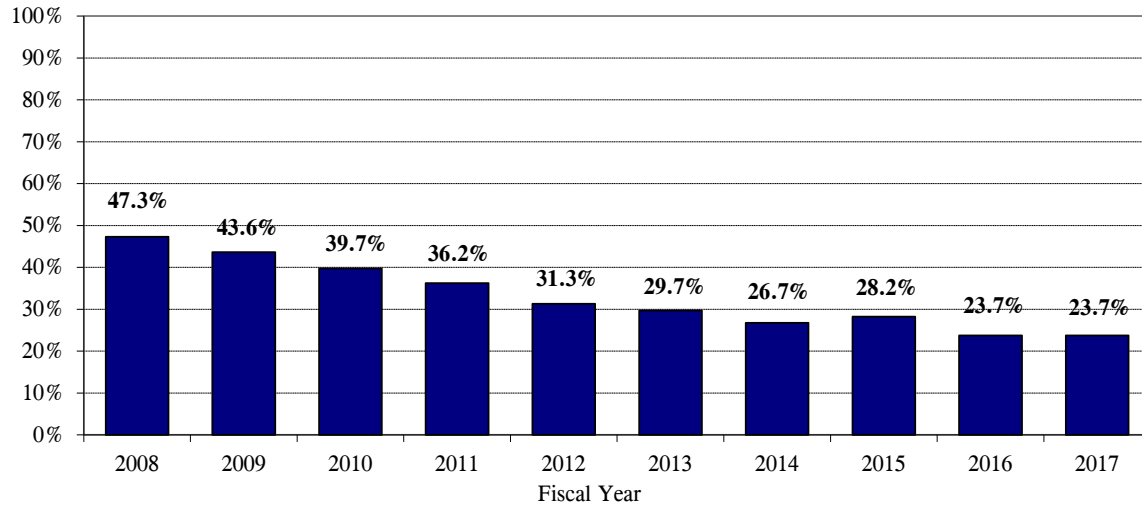
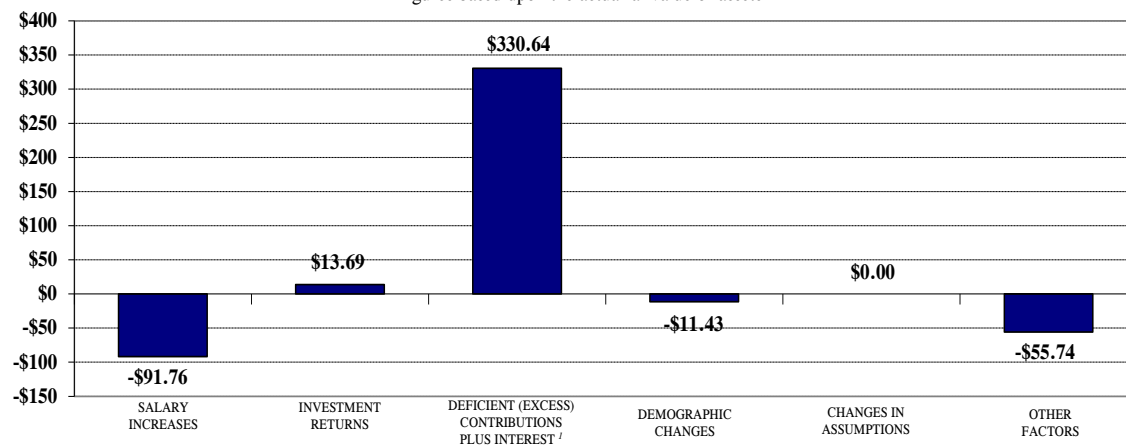


CHART 87

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2017 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$185.4 MIL



¹ Unfunded liability increases due to total contributions being less than normal cost plus interest cost.

CHART 88

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income FY 2008 - FY 2017

Actuarially Assumed Rate of Return :7.25%

(\$ in Millions)

All figures based upon the market value of assets.

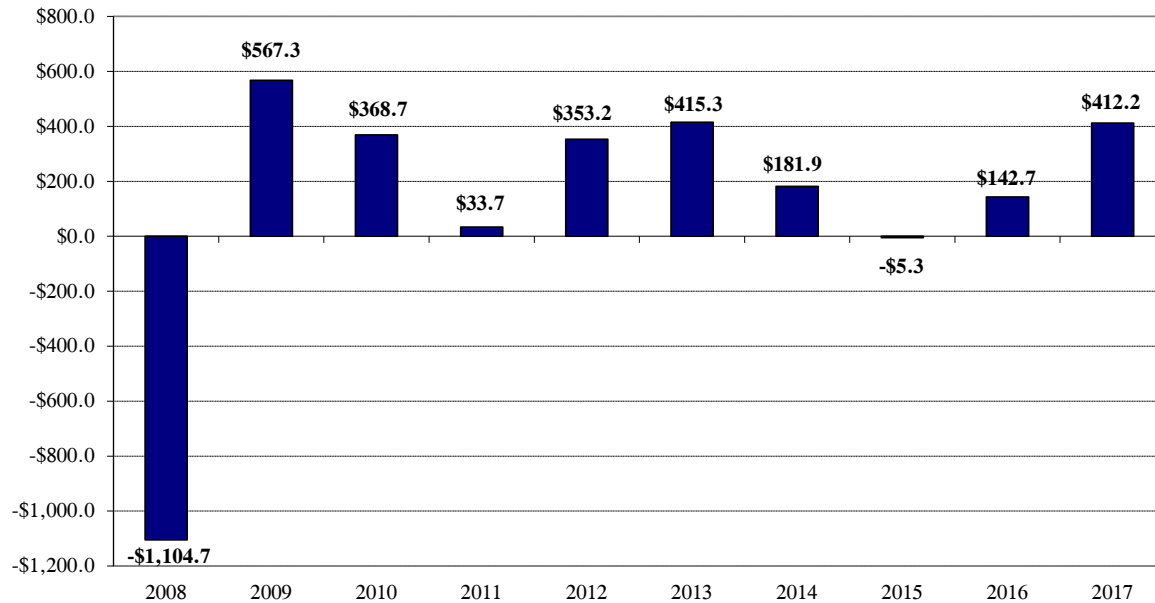


CHART 89

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return FY 2008 - FY 2017

Actuarially Assumed Rate of Return :7.25%

All figures based upon the market value of assets.

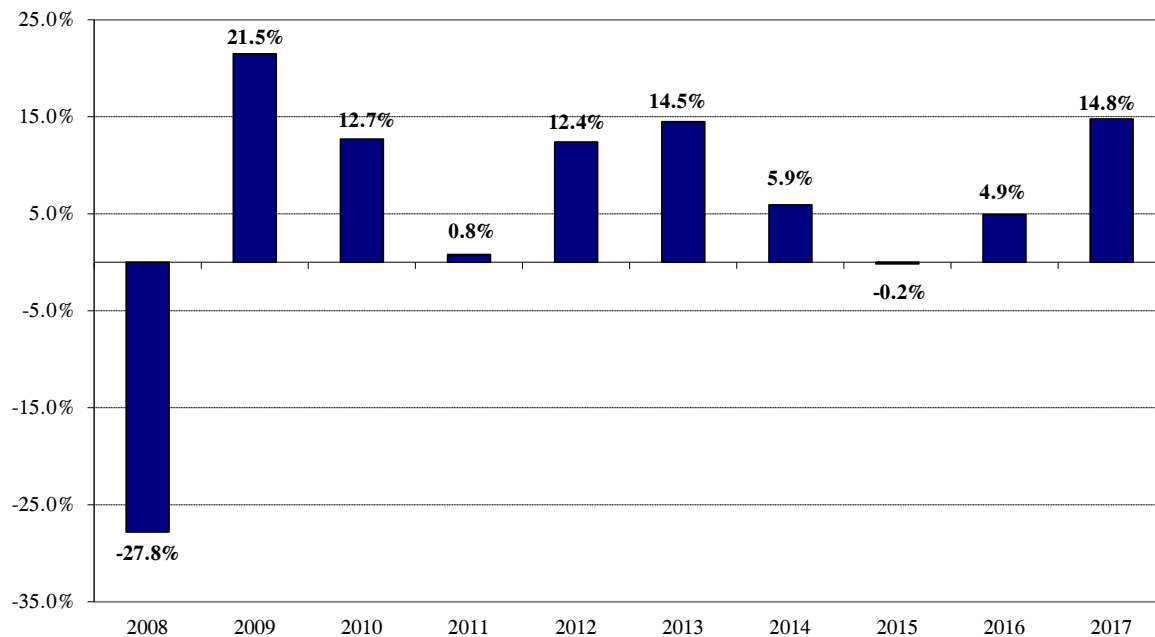


TABLE 27

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	1,150.4	13,093.9	3,104.0	9,989.9	23.7%
2016	1,119.5	12,856.6	3,052.1	9,804.5	23.7%
2015	1,086.6	11,288.2	3,186.4	8,101.8	28.2%
2014	1,074.3	11,048.2	2,954.3	8,093.9	26.7%
2013	1,015.4	10,282.3	3,053.9	7,228.5	29.7%
2012	1,015.2	10,051.8	3,148.9	6,902.9	31.3%
2011	1,034.4	9,522.4	3,444.7	6,077.7	36.2%
2010	1,048.1	9,374.9	3,719.0	5,655.9	39.7%
2009	1,011.2	8,900.9	3,885.0	5,015.9	43.6%
2008	1,023.6	8,652.6	4,093.7	4,558.9	47.3%

TABLE 28

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$494.5	\$281.6	\$582.3	\$187.1	\$188.9	\$207.2	\$183.5	\$183.8	\$180.5	\$181.5
Employees	\$103.0	\$101.5	\$107.6	\$95.7	\$93.3	\$95.9	\$98.2	\$108.4	\$95.6	\$93.2
Net Investment Income	\$412.2	\$142.7	-\$5.3	\$181.9	\$415.3	\$353.2	\$33.7	\$368.7	\$567.3	-\$1,104.9
Other	\$0.1	\$1.4	\$3.1	\$0.7	\$0.5	\$0.4	\$0.1	\$0.9	\$0.8	\$0.2
Total Asset Additions (A)	\$1,009.8	\$527.2	\$687.7	\$465.4	\$698.0	\$656.7	\$315.5	\$661.8	\$844.2	-\$830.0
Deductions from Assets										
Benefits	\$737.9	\$705.6	\$678.4	\$655.3	\$633.8	\$602.7	\$568.0	\$536.3	\$508.5	\$491.6
Refunds	\$10.0	\$10.7	\$7.8	\$9.0	\$8.1	\$11.2	\$7.3	\$8.0	\$6.4	\$6.4
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administrative Expenses	\$4.8	\$4.7	\$4.5	\$4.2	\$4.3	\$4.9	\$4.4	\$3.9	\$4.3	\$4.2
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$752.7	\$721.1	\$690.7	\$668.5	\$646.2	\$618.8	\$579.7	\$548.2	\$519.2	\$502.2
Change in Net Assets (A-B=C)	\$257.0	-\$193.9	-\$3.1	-\$203.1	\$51.8	\$37.9	-\$264.2	\$113.6	\$325.0	-\$1,332.2

Table 29 below contains funding projections provided to CGFA by the Policemen's Annuity and Benefit Fund of Chicago based upon the December 31, 2017 actuarial valuation.

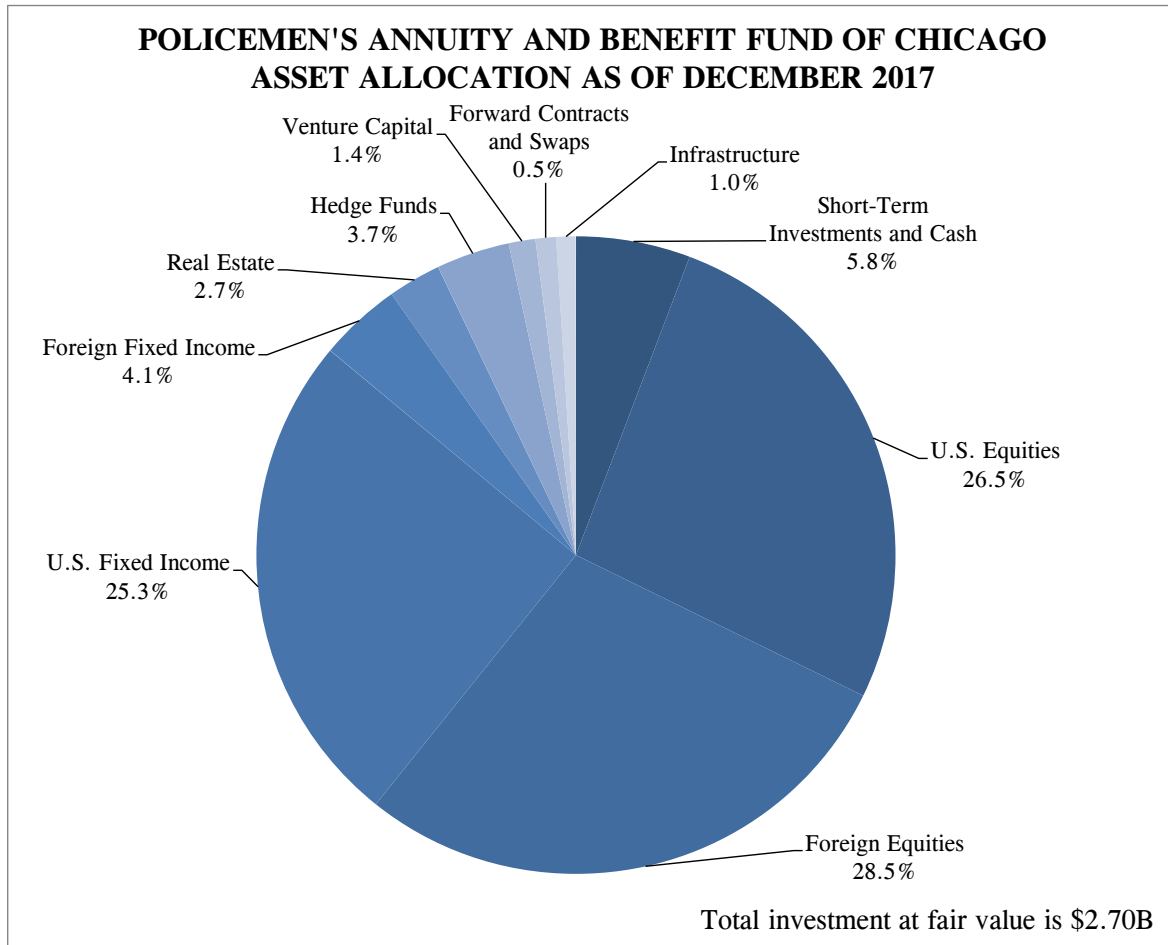
TABLE 29

Policemen's Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2017 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total City Contribution	Total City Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2017	1,150.4	494.6	43.0%	103.0	13,093.9	3,104.0	9,989.9	23.7%
2018	1,185.0	557.0	47.0%	105.8	13,488.4	3,156.2	10,332.1	23.4%
2019	1,224.3	579.0	47.3%	117.6	13,884.0	3,226.8	10,657.2	23.2%
2020	1,263.4	749.0	59.3%	121.3	14,279.4	3,491.4	10,788.0	24.5%
2021	1,297.1	769.0	59.3%	124.6	14,673.0	3,774.5	10,898.5	25.7%
2022	1,331.5	789.4	59.3%	127.9	15,063.1	4,021.1	11,042.0	26.7%
2023	1,365.8	809.7	59.3%	131.3	15,448.0	4,272.1	11,175.9	27.7%
2024	1,398.7	829.2	59.3%	134.5	15,825.7	4,525.6	11,300.2	28.6%
2025	1,431.4	848.6	59.3%	137.9	16,193.3	4,779.1	11,414.3	29.5%
2026	1,464.8	868.4	59.3%	141.1	16,548.2	5,031.7	11,516.6	30.4%
2027	1,498.0	888.1	59.3%	144.3	16,888.3	5,282.2	11,606.1	31.3%
2028	1,533.0	908.8	59.3%	147.5	17,212.7	5,531.8	11,680.8	32.1%
2029	1,568.2	929.7	59.3%	150.7	17,521.7	5,782.1	11,739.6	33.0%
2030	1,605.5	951.8	59.3%	154.2	17,816.3	6,036.1	11,780.3	33.9%
2031	1,645.3	975.4	59.3%	157.8	18,097.5	6,297.4	11,800.1	34.8%
2032	1,687.3	1,000.3	59.3%	161.7	18,366.3	6,569.7	11,796.6	35.8%
2033	1,730.3	1,025.8	59.3%	165.6	18,623.3	6,855.8	11,767.5	36.8%
2034	1,773.9	1,051.7	59.3%	169.6	18,869.9	7,159.4	11,710.6	37.9%
2035	1,814.3	1,075.6	59.3%	173.2	19,108.1	7,482.5	11,625.6	39.2%
2036	1,844.1	1,093.3	59.3%	175.9	19,338.2	7,822.1	11,516.2	40.4%
2037	1,868.5	1,107.8	59.3%	178.0	19,561.8	8,178.3	11,383.4	41.8%
2038	1,891.1	1,121.1	59.3%	180.0	19,780.1	8,553.3	11,226.8	43.2%
2039	1,913.1	1,134.2	59.3%	181.8	19,994.2	8,949.6	11,044.6	44.8%
2040	1,935.8	1,147.7	59.3%	183.7	20,205.3	9,370.3	10,835.0	46.4%
2041	1,960.3	1,162.2	59.3%	185.7	20,414.9	9,820.0	10,594.9	48.1%
2042	1,984.3	1,176.4	59.3%	187.8	20,624.4	10,301.7	10,322.7	49.9%
2043	2,008.7	1,190.9	59.3%	189.8	20,834.7	10,818.6	10,016.1	51.9%
2044	2,034.0	1,205.8	59.3%	192.0	21,046.5	11,374.3	9,672.2	54.0%
2045	2,060.5	1,221.6	59.3%	194.3	21,259.8	11,972.0	9,287.8	56.3%
2046	2,088.7	1,238.3	59.3%	196.7	21,475.3	12,616.0	8,859.3	58.7%
2047	2,117.8	1,255.5	59.3%	199.3	21,693.2	13,310.0	8,383.2	61.4%
2048	2,148.1	1,273.5	59.3%	201.9	21,913.6	14,058.0	7,855.5	64.2%
2049	2,179.2	1,291.9	59.3%	204.7	22,135.9	14,863.5	7,272.5	67.1%
2050	2,211.0	1,310.8	59.3%	207.5	22,359.9	15,730.1	6,629.8	70.3%
2051	2,243.5	1,330.1	59.3%	210.4	22,585.6	16,662.7	5,923.0	73.8%
2052	2,276.6	1,349.7	59.3%	213.3	22,813.8	17,666.6	5,147.2	77.4%
2053	2,310.2	1,369.6	59.3%	216.2	23,045.0	18,747.8	4,297.2	81.4%
2054	2,344.4	1,389.9	59.3%	219.2	23,280.3	19,912.6	3,367.7	85.5%
2055	2,379.2	1,410.5	59.3%	222.2	23,520.1	21,167.4	2,352.7	90.0%

TABLE 30

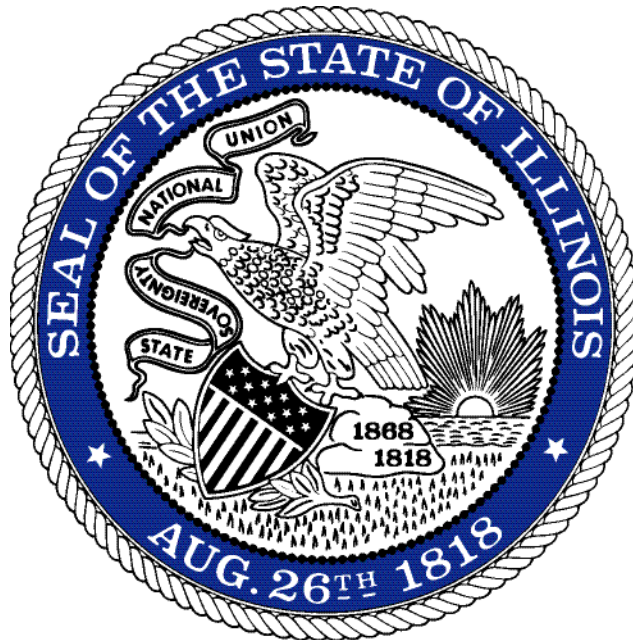
Policemen's Annuity and Benefit Fund of Chicago Projected Normal Cost as of December 31, 2017 (\$ in Millions)						
Fiscal Year	Employer's Normal Cost	Employer's Normal Cost as a % of Payroll	Employee Contributions	Employee Contributions as a % of Payroll	Total Normal Cost	Total Normal Cost as a % of Payroll
2017	119.5	10.4%	103.0	9.0%	222.6	19.3%
2018	118.4	10.0%	105.8	8.9%	224.2	18.9%
2019	110.6	9.0%	117.6	9.6%	228.2	18.6%
2020	110.7	8.8%	121.3	9.6%	232.0	18.4%
2021	110.3	8.5%	124.6	9.6%	235.0	18.1%
2022	110.0	8.3%	127.9	9.6%	237.9	17.9%
2023	109.7	8.0%	131.3	9.6%	241.0	17.6%
2024	109.3	7.8%	134.5	9.6%	243.8	17.4%
2025	108.8	7.6%	137.9	9.6%	246.7	17.2%
2026	108.0	7.4%	141.1	9.6%	249.1	17.0%
2027	106.9	7.1%	144.3	9.6%	251.2	16.8%
2028	105.7	6.9%	147.5	9.6%	253.3	16.5%
2029	104.6	6.7%	150.7	9.6%	255.3	16.3%
2030	103.7	6.5%	154.2	9.6%	257.9	16.1%
2031	102.9	6.3%	157.8	9.6%	260.7	15.8%
2032	102.3	6.1%	161.7	9.6%	264.0	15.6%
2033	101.6	5.9%	165.6	9.6%	267.3	15.4%
2034	101.0	5.7%	169.6	9.6%	270.5	15.3%
2035	100.2	5.5%	173.2	9.5%	273.4	15.1%
2036	99.0	5.4%	175.9	9.5%	274.8	14.9%
2037	97.5	5.2%	178.0	9.5%	275.5	14.7%
2038	96.1	5.1%	180.0	9.5%	276.0	14.6%
2039	94.6	4.9%	181.8	9.5%	276.4	14.4%
2040	93.3	4.8%	183.7	9.5%	277.0	14.3%
2041	92.1	4.7%	185.7	9.5%	277.8	14.2%
2042	91.1	4.6%	187.8	9.5%	278.9	14.1%
2043	90.2	4.5%	189.8	9.5%	280.1	13.9%
2044	89.6	4.4%	192.0	9.4%	281.6	13.8%
2045	89.2	4.3%	194.3	9.4%	283.5	13.8%
2046	89.0	4.3%	196.7	9.4%	285.7	13.7%
2047	89.0	4.2%	199.3	9.4%	288.3	13.6%
2048	89.2	4.2%	201.9	9.4%	291.1	13.6%
2049	89.7	4.1%	204.7	9.4%	294.4	13.5%
2050	90.3	4.1%	207.5	9.4%	297.9	13.5%
2051	91.2	4.1%	210.4	9.4%	301.6	13.4%
2052	92.2	4.0%	213.3	9.4%	305.5	13.4%
2053	93.4	4.0%	216.2	9.4%	309.6	13.4%
2054	94.7	4.0%	219.2	9.3%	313.9	13.4%
2055	96.2	4.0%	222.2	9.3%	318.4	13.4%

CHART 90



XII. Public School Teachers' Pension and Retirement Fund of Chicago

- Plan Summary
- Active Employees
- Employee Annuitants
- Average Salaries
- Average Retirement Annuity
- Funded Ratios
- Change in Unfunded Liabilities
- Investment Income
- Investment Rates of Return
- Systems Experience
- Changes in Net Assets
- System Projections
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of June 30, 2017.

Public School Teachers' Pension and Retirement Fund of Chicago - Tier 1 Plan Summary

Retirement Age

- Age 62 with 5 years of service
- Age 55 with 20 years of service

Retirement Formula

- For service earned before FY 1998:
 - 1.67% of final average salary for the first 10 years;
 - 1.90% of final average salary for the next 10 years;
 - 2.10% of final average salary for the following 10 years; and
 - 2.30% of final average salary for each year in excess of 30 years
- For service earned after FY 1998, 2.2% of final average salary for each year of service

Maximum Annuity

- 75% of final average salary or \$1,500 per month, whichever is greater

Salary Used to Calculate Pension

- Average of 4 highest consecutive years within final 10 years of service

Annual COLA

- 3% compounded

Employee Contributions

- 9.0% of salary

Employer Contributions

Pursuant to P.A. 98-0889, for fiscal years 2014 through 2059 the employer (the Board of Education) is required to make contributions calculated as a level percentage of payroll sufficient to bring the fund's total assets up to 90% of the fund's total liabilities by the end of FY 2059. In years where the funded ratio is above 90%, the employer is not required to make contributions.

P.A. 99-0521, effective June 1, 2017, allows the Board of Education to levy annually a property tax capped at 0.383% for purposes of making employer contributions.

P.A. 100-0465, effective August 31, 2017, increases the property tax cap from 0.383% to 0.567% beginning FY 2018. Also, the Act requires the State to pay \$221.3 million for FY 2018 and an amount equal to the employer normal cost portion of the required Board of Education contributions beginning FY 2019.

Note: Benefits shown are for employees hired prior to January 1, 2011 (Tier 1 employees), the effective date of P.A. 96-0889. See P.A. 96-0889 in Section I for a summary of benefits for employees hired after January 1, 2011 (Tier 2 employees).

CHART 91

CHICAGO TEACHERS' PENSION FUND
Active Employees

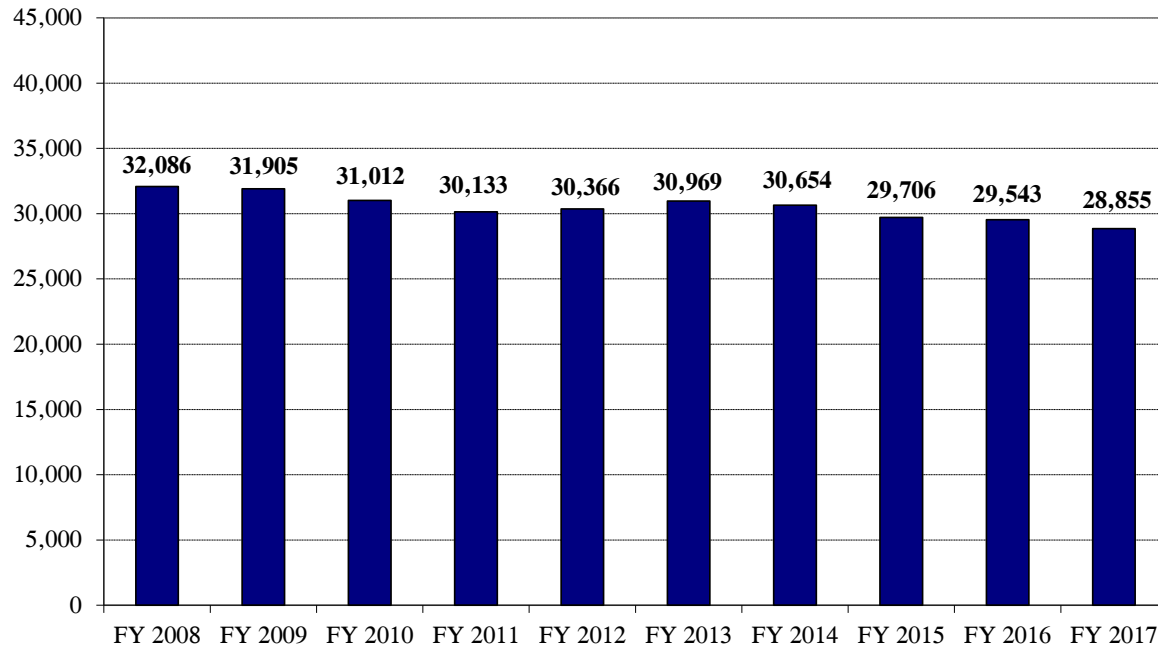


CHART 92

CHICAGO TEACHERS' PENSION FUND
Employee Annuitants

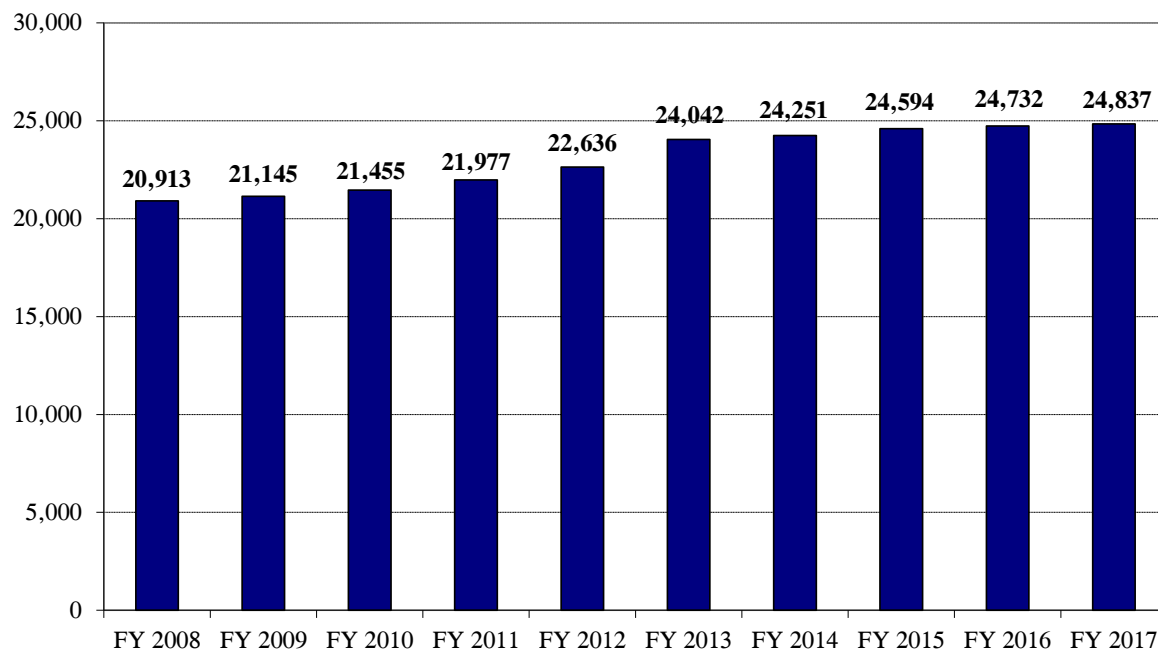


CHART 93

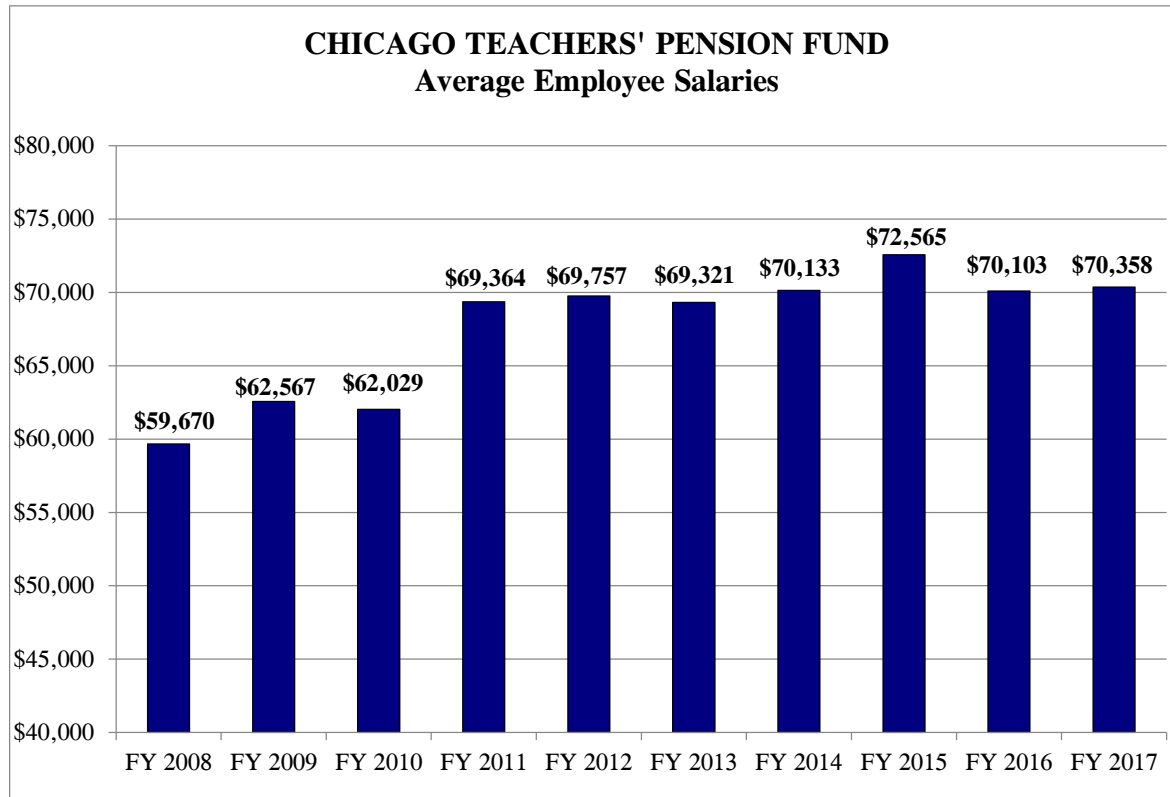


CHART 94

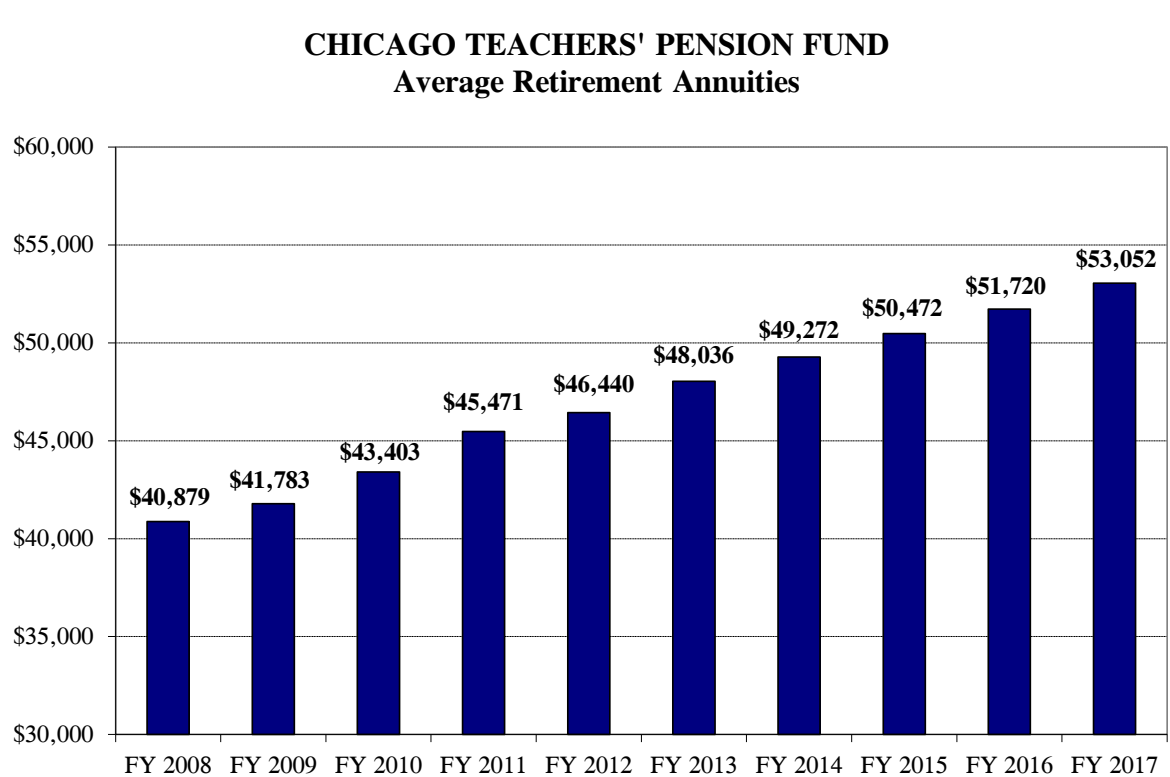


CHART 95

CHICAGO TEACHERS' PENSION FUND Funded Ratio FY 2008 - FY 2017

All figures based upon the actuarial value of assets.

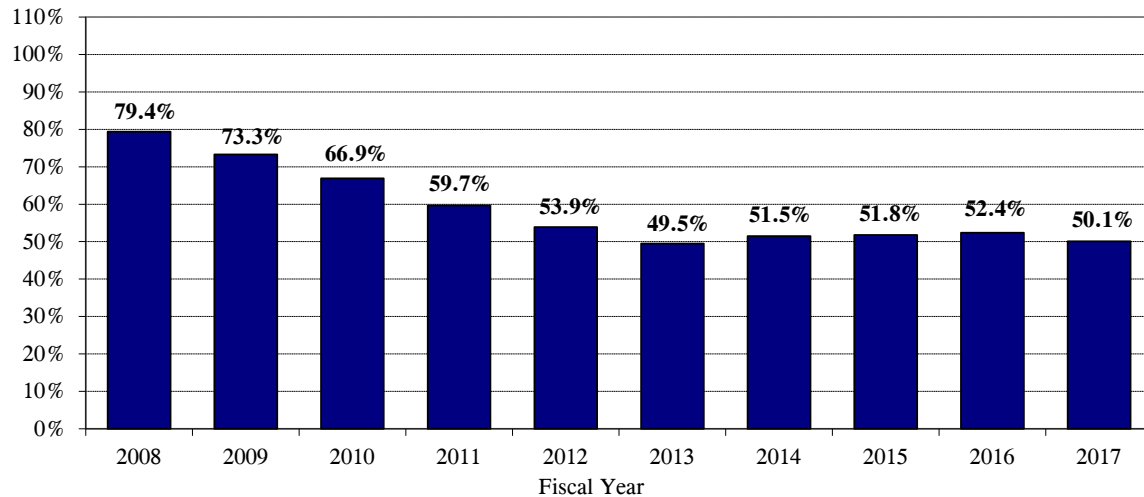
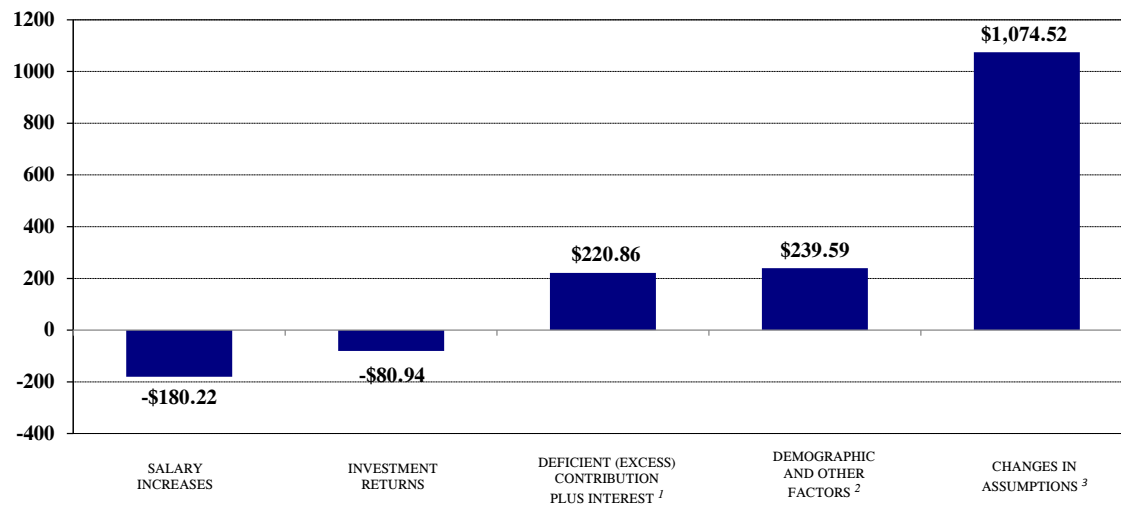


CHART 96

CHICAGO TEACHERS PENSION FUND Change in Unfunded Liabilities Year ended June 30, 2017 (\$ Millions)

TOTAL INCREASE EQUALS
\$1,273.81 MIL

All figures based upon the actuarial value of assets.



¹ Unfunded liability increased due to contributions being less than normal cost plus interest cost.

² Includes an actuarial loss of \$239 million from changes due to a new actuary and a net actuarial loss from demographic experiences.

³ Investment return assumption lowered from 7.75% to 7.25%, general inflation assumption lowered from 2.75% to 2.5%, and wage inflation lowered from 3.5% to 3.25%.

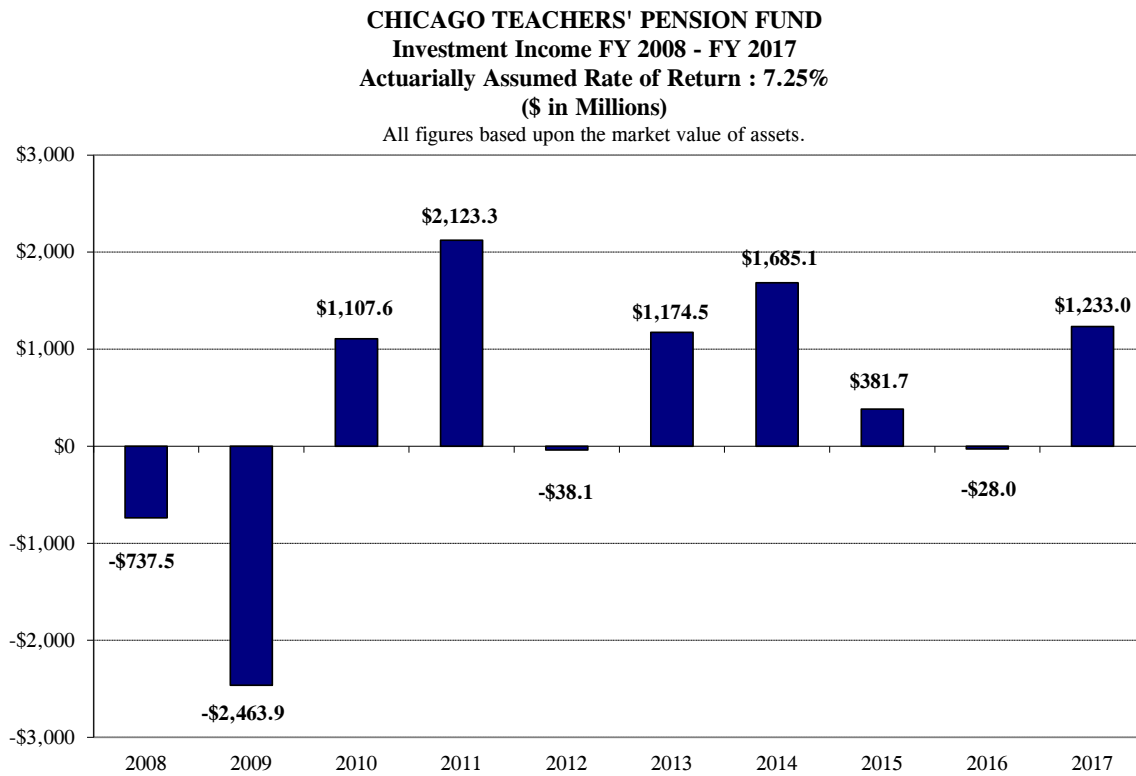
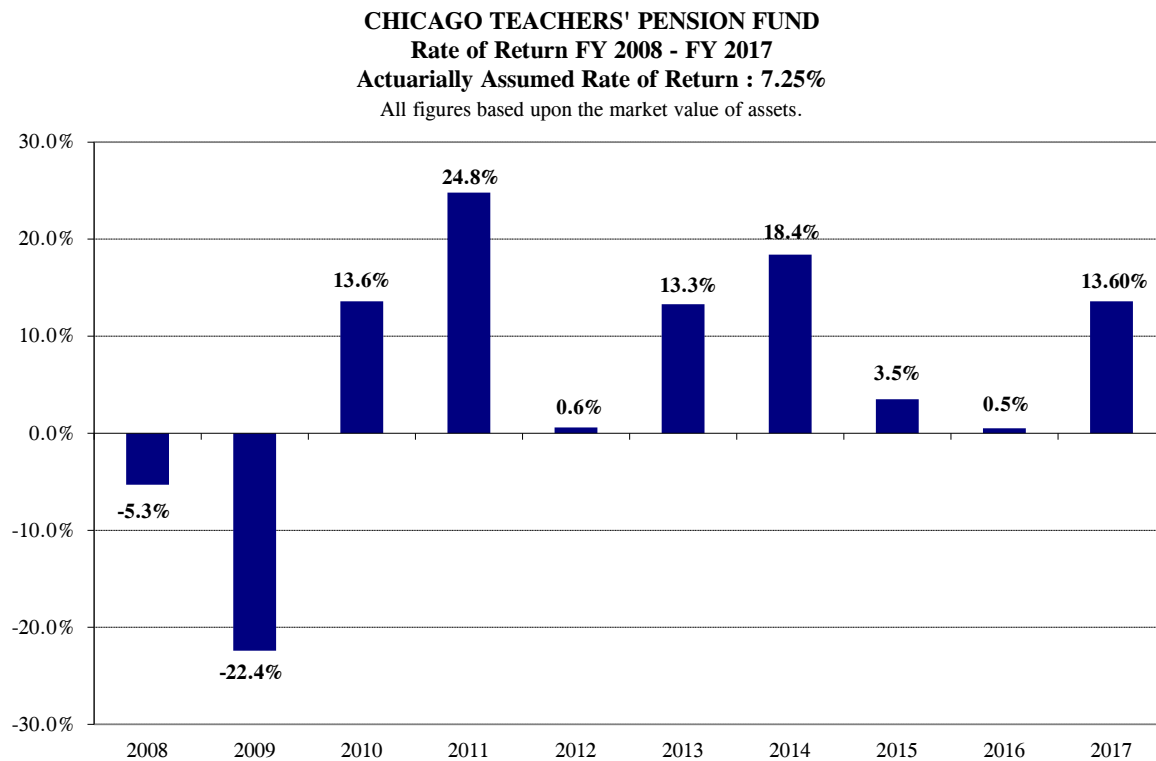
CHART 97**CHART 98**

TABLE 31

CHICAGO TEACHERS PENSION FUND System Experience, FY 2008 - FY 2017 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2017	2,030.2	21,822.0	10,933.0	10,889.0	50.1%
2016	2,281.3	20,246.1	10,610.7	9,635.4	52.4%
2015	2,273.6	19,951.3	10,344.4	9,606.9	51.8%
2014	2,233.3	19,503.9	10,045.5	9,458.4	51.5%
2013	2,239.3	19,044.5	9,422.5	9,622.0	49.5%
2012	2,224.9	17,375.7	9,364.1	8,011.6	53.9%
2011	2,090.1	16,940.3	10,109.3	6,831.0	59.7%
2010	2,107.9	16,319.7	10,917.4	5,402.3	66.9%
2009	1,996.2	15,683.2	11,493.3	4,189.9	73.3%
2008	1,914.6	15,203.7	12,069.4	3,134.3	79.4%

TABLE 32

CHICAGO TEACHERS PENSION FUND										
Changes in Net Assets										
(\$ in Millions)										
Fiscal Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Additions to Assets										
Employer	\$697.8	\$635.1	\$643.7	\$585.4	\$142.6	\$138.8	\$208.6 *	\$355.8 *	\$263.0 *	\$229.3 *
Employees	\$187.5	\$191.9	\$191.2	\$187.8	\$188.4	\$187.1	\$185.9	\$194.6	\$176.2	\$172.4
Net Investment Income	\$1,233.0	-\$28.2	\$381.7	\$1,685.1	\$1,174.5	-\$38.1	\$2,123.3	\$1,107.6	-\$2,463.9	-\$737.5
Other	\$0.2	\$1.5	\$0.9	\$0.0	\$0.0	\$0.4	\$10.4	\$0.0	\$15.0	\$0.0
Total Asset Additions (A)	\$2,118.5	\$800.2	\$1,217.5	\$2,458.3	\$1,505.5	\$288.2	\$2,528.2	\$1,658.0	-\$2,009.7	-\$335.8
Deductions from Assets										
Benefits	\$1,392.7	\$1,351.3	\$1,307.7	\$1,273.5	\$1,232.3	\$1,117.2	\$1,050.9	\$991.4	\$944.5	\$907.6
Refunds	\$32.2	\$33.6	\$23.9	\$32.8	\$24.8	\$36.3	\$27.1	\$21.1	\$19.0	\$16.7
Rebates	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$75.8	\$68.7
Administrative Expenses	\$13.8	\$12.3	\$11.7	\$10.5	\$11.5	\$10.1	\$9.5	\$8.8	\$8.8	\$7.8
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$78.9	\$80.0	\$0.0	\$0.0
Total Asset Deductions (B)	\$1,438.7	\$1,397.1	\$1,343.3	\$1,316.8	\$1,268.6	\$1,163.6	\$1,166.4	\$1,101.3	\$1,048.1	\$1,000.8
Change in Net Assets (A-B=C)	\$679.8	-\$596.9	-\$125.7	\$1,141.5	\$236.9	-\$875.4	\$1,361.8	\$556.7	-\$3,057.8	-\$1,336.6

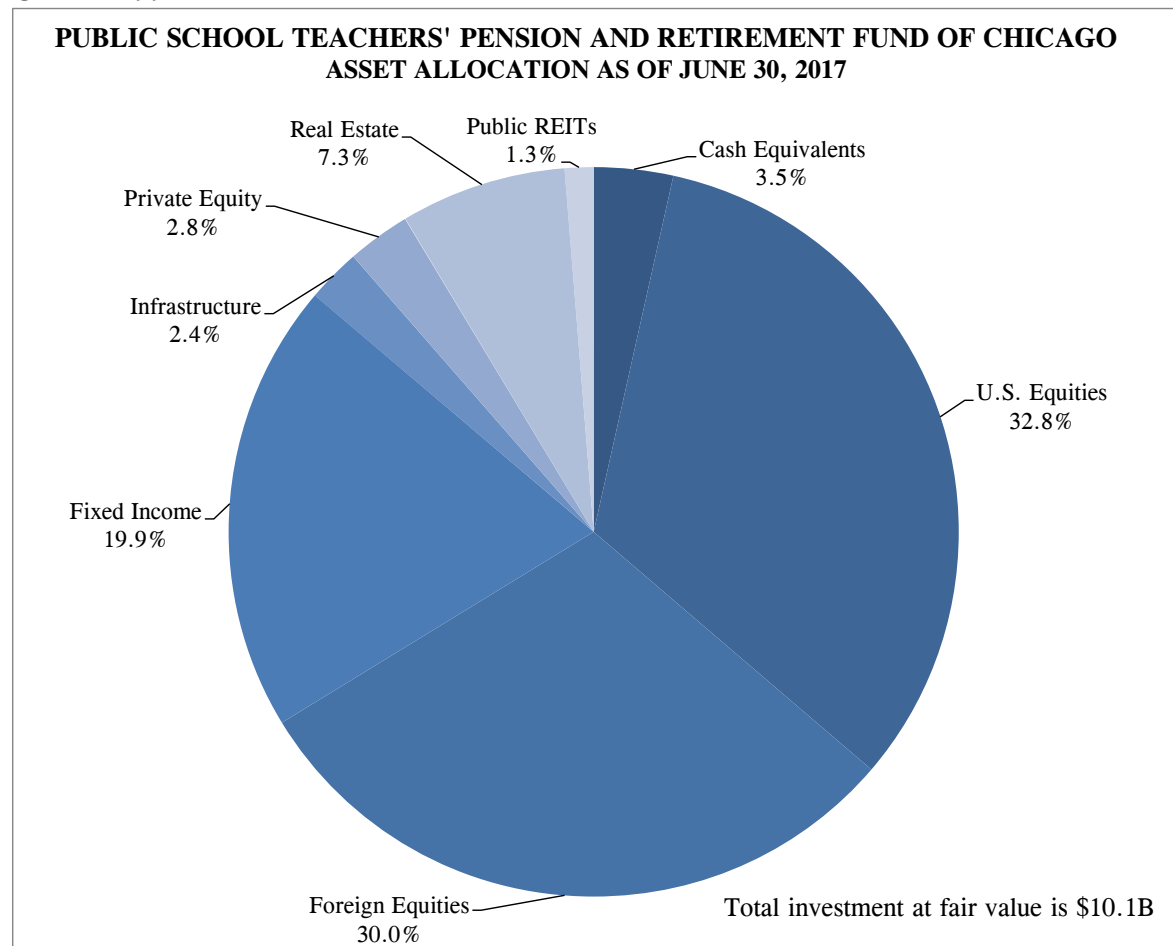
Table 33 below contains funding projections provided to CGFA by the Chicago Teachers' Pension Fund based upon the June 30, 2017 actuarial valuation.

TABLE 33

Chicago Teachers' Pension Fund Actuarial Valuation Projection Results as of June 30, 2017 Projections Based on P.A. 90-0655, P.A. 91-0357, P.A. 96-0889, P.A. 100-0465 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total Employer Contributions ¹	Employer Contribution As % of Payroll	Total Employee Contribution	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2018	2,145.2	784.4	36.6%	193.1	22,230.1	10,942.3	11,287.8	49.2%
2019	2,221.8	808.6	36.4%	200.0	22,651.5	11,048.1	11,603.4	48.8%
2020	2,295.9	835.5	36.4%	206.6	23,088.0	11,365.3	11,722.7	49.2%
2021	2,369.7	862.4	36.4%	213.3	23,540.5	11,597.2	11,943.3	49.3%
2022	2,444.5	889.6	36.4%	220.0	24,010.9	11,856.0	12,154.9	49.4%
2023	2,520.1	917.1	36.4%	226.8	24,500.4	12,141.2	12,359.2	49.6%
2024	2,596.6	945.0	36.4%	233.7	25,009.1	12,452.6	12,556.5	49.8%
2025	2,672.7	972.7	36.4%	240.5	25,536.0	12,792.3	12,743.7	50.1%
2026	2,747.6	999.9	36.4%	247.3	26,081.3	13,161.1	12,920.2	50.5%
2027	2,821.4	1,026.8	36.4%	253.9	26,643.1	13,558.6	13,084.5	50.9%
2028	2,892.8	1,052.8	36.4%	260.4	27,233.7	13,997.4	13,236.3	51.4%
2029	2,960.8	1,077.5	36.4%	266.5	27,838.8	14,463.7	13,375.1	52.0%
2030	3,023.7	1,100.4	36.4%	272.1	28,456.7	14,955.7	13,501.0	52.6%
2031	3,083.4	1,122.1	36.4%	277.5	29,086.1	15,471.8	13,614.3	53.2%
2032	3,141.2	1,143.2	36.4%	282.7	29,724.7	16,011.0	13,713.7	53.9%
2033	3,197.9	1,163.8	36.4%	287.8	30,369.5	16,571.6	13,797.9	54.6%
2034	3,253.1	1,183.8	36.4%	292.8	31,017.6	17,152.5	13,865.1	55.3%
2035	3,305.8	1,203.1	36.4%	297.5	31,665.7	17,751.6	13,914.1	56.1%
2036	3,356.4	1,221.5	36.4%	302.1	32,310.2	18,366.8	13,943.4	56.8%
2037	3,404.9	1,239.1	36.4%	306.4	32,947.8	18,996.5	13,951.3	57.7%
2038	3,451.5	1,256.1	36.4%	310.6	33,573.9	19,638.1	13,935.8	58.5%
2039	3,496.5	1,272.5	36.4%	314.7	34,182.0	20,287.3	13,894.7	59.4%
2040	3,539.0	1,287.9	36.4%	318.5	34,767.6	20,941.2	13,826.4	60.2%
2041	3,580.1	1,302.9	36.4%	322.2	35,325.5	21,596.5	13,729.0	61.1%
2042	3,619.6	1,317.3	36.4%	325.8	35,848.6	22,248.8	13,599.8	62.1%
2043	3,657.4	1,331.0	36.4%	329.2	36,333.8	22,896.4	13,437.4	63.0%
2044	3,695.5	1,344.9	36.4%	332.6	36,777.9	23,538.5	13,239.4	64.0%
2045	3,733.6	1,358.7	36.4%	336.0	37,178.2	24,174.2	13,004.0	65.0%
2046	3,773.3	1,373.2	36.4%	339.6	37,538.6	24,808.3	12,730.3	66.1%
2047	3,818.6	1,389.6	36.4%	343.7	37,862.0	25,446.7	12,415.3	67.2%
2048	3,869.1	1,408.0	36.4%	348.2	38,154.3	26,098.2	12,056.1	68.4%
2049	3,925.6	1,428.6	36.4%	353.3	38,417.9	26,769.1	11,648.8	69.7%
2050	3,985.5	1,450.4	36.4%	358.7	38,656.5	27,466.7	11,189.8	71.1%
2051	4,049.7	1,473.8	36.4%	364.5	38,870.9	28,196.1	10,674.8	72.5%
2052	4,116.5	1,498.1	36.4%	370.5	39,064.5	28,964.4	10,100.1	74.1%
2053	4,186.6	1,523.6	36.4%	376.8	39,238.4	29,776.8	9,461.6	75.9%
2054	4,260.6	1,550.5	36.4%	383.5	39,386.1	30,633.5	8,752.6	77.8%
2055	4,334.5	1,577.4	36.4%	390.1	39,506.0	31,537.0	7,969.0	79.8%
2056	4,411.0	1,605.2	36.4%	397.0	39,596.9	32,491.3	7,105.6	82.1%
2057	4,490.8	1,634.3	36.4%	404.2	39,661.5	33,505.3	6,156.2	84.5%
2058	4,573.8	1,664.5	36.4%	411.6	39,705.3	34,591.1	5,114.2	87.1%
2059	4,660.2	1,695.9	36.4%	419.4	39,723.7	35,752.4	3,971.3	90.0%

¹ Total employer contributions consist of the required Board of Education and State contributions and additional Board of Education and State contributions.

CHART 99



BACKGROUND

The Commission on Government Forecasting and Accountability (CGFA) is a not-for-profit, bipartisan, joint legislative research commission that provides the Illinois General Assembly with information relevant to the Illinois economy, taxes and other sources of revenue and debt obligations of the State. The Commission's specific responsibilities include:

- 1) Preparation of annual revenue estimates with periodic updates;
- 2) Analysis of the fiscal impact of revenue bills;
- 3) Preparation of State debt impact notes on legislation which would increase bond authorization;
- 4) Periodic assessment of capital facility plans;
- 5) Annual estimates of public pension funding requirements and preparation of pension impact notes;
- 6) Annual estimates of the liabilities of the State's group health insurance program and approval of contract renewals promulgated by the Department of Central Management Services;
- 7) Administration of the State Facility Closure Act.

The Commission also has a mandate to report to the General Assembly "...on economic trends in relation to long-range planning and budgeting; and to study and make such recommendations as it deems appropriate on local and regional economic and fiscal policies and on federal fiscal policy as it may affect Illinois..." This results in several reports on various economic issues throughout the year.

The Commission publishes research reports each year, a sample of which are listed below. In addition to a "Monthly Briefing", the Commission publishes the "Revenue Estimate and Economic Outlook" which describes and projects economic conditions and their impact on State revenues. The "Capital Plan Analysis" examines the State's capital appropriations plan and debt position. "The Financial Conditions of the Illinois Public Retirement Systems" provides an overview of the funding condition of the State's retirement systems. Also published are an Annual Fiscal Year "Budget Summary"; "Report on the Liabilities of the State Employees' Group Insurance Program"; and "Report of the Cost and Savings of the State Employees' Early Retirement Incentive Program". The Commission may publish special topic reports that have or could have an impact on the economic well-being of Illinois. For a listing of all reports published, visit the Commission's website.

These reports are available from:

Commission on Government Forecasting and Accountability
802 Stratton Office Building
Springfield, Illinois 62706
(217) 782-5320
(217) 782-3513 (FAX)

<http://cgfa.ilga.gov>