

Illinois Public Retirement Systems

January 2017



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

Commission on Government Forecasting & Accountability

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January 2017

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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) 2015. The fiscal year ends December 31 for all systems, but 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 2015 there were 8,204 active employees and 7,991 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.743 billion and Total Actuarial Liabilities were \$3.267 billion.
- The Cook County Employees' Pension Fund covers all persons employed and paid by the County. At the end of 2015 there were 21,596 active employees and 14,922 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$8.991 billion and Total Actuarial Liabilities were \$16.232 billion.
- The Cook County Forest Preserve Employees' Retirement Fund covers all persons employed and paid by the Forest Preserve. At the end of 2015 there were 568 active employees and 383 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$193.7 million and Total Actuarial Liabilities were \$322.8 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 2015 there were 4,735 active employees and 3,044 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1,081.0 million and Total Actuarial Liabilities were \$4.666 billion.
- The Firemen's Annuity and Benefit Fund of Chicago lowered its actuarial assumption on the future investment rate of return from 8.00% to 7.50% annually as of the most recent valuation, i.e., FY 2015.
- The Illinois Municipal Retirement Fund covers employees hired by the following units of government: (1) All counties except Cook and 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 2015 there were 174,098 active employees and 104,817 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$34.913 billion and Total Actuarial Liabilities were \$39.487 billion.

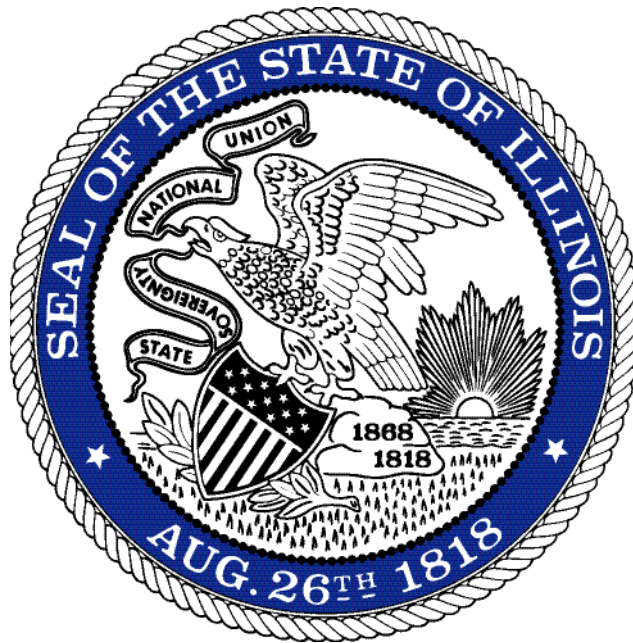
- The Laborers' Annuity and Benefit Fund of Chicago covers persons employed by the City of Chicago in a position classified as labor service by the employer; anyone employed by the Board, or anyone employed by the Retirement Board of any other Annuity and Benefit Fund. At the end of 2015 there were 2,816 active employees and 2,665 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.308 billion and Total Actuarial Liabilities were \$2.470 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 2015 there were 1,846 active employees and 1,760 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$1.308 billion and Total Actuarial Liabilities were \$2.371 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 2015 there were 30,683 active employees and 20,584 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$4.815 billion and Total Actuarial Liabilities were \$14.655 billion.
- The Park Employees' Annuity and Benefit Fund of Chicago covers all persons employed by the Chicago Park District. At the end of 2015 there were 3,063 active employees and 2,097 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$395.7 million and Total Actuarial Liabilities were \$910.3 million.
- 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 2015 there were 12,061 active employees and 9,385 employee annuitants. Total Actuarial Assets of the system at the end of that year were \$3.186 billion and Total Actuarial Liabilities were \$11.288 billion.
- Long-term projections for the Firemen's Annuity and Benefit Fund of Chicago and the Policemen's Annuity and Benefit Fund of Chicago are not reflected in this report. SB 777 (P.A. 99-0506) extends their funding schedule to 2055 from 2040 to achieve a 90% funding ratio, and an updated actuarial forecast is not available at this time. The long-term projections reflecting P.A. 99-0506 will be made available in the online version of this report when they become available.
- 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 2015 (June 30, 2015) there were 29,706 active employees and 24,594 employee annuitants. Total Actuarial Assets of the system on that date were \$10.344 billion and Total Actuarial Liabilities were \$19.951 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 system's Fiscal Year or Calendar Year 2015 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 following page contains 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 \$35.397 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 2015 (\$ in Millions)					
System	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
Chicago Transit Authority	573.5	3,267.1	1,743.2	1,523.9	53.4%
Firemen's Annuity & Benefit Fund	465.2	4,666.8	1,081.0	3,585.8	23.2%
Laborers' Annuity and Benefit Fund	204.8	2,469.9	1,308.7	1,161.2	53.0%
Metropolitan Water Fund	177.8	2,371.0	1,308.0	1,063.0	55.2%
Municipal Employees' Annuity and Benefit Fund	1,643.5	14,655.3	4,815.1	9,840.1	32.9%
Park Employees' Annuity and Benefit Fund	122.4	910.3	395.7	514.6	43.5%
Policemen's Annuity and Benefit Fund	1,086.6	11,288.2	3,186.4	8,101.8	28.2%
Public School Teachers' Pension Fund	2,273.6	19,951.3	10,344.4	9,606.9	51.8%
TOTAL	6,547.4	59,579.9	24,182.5	35,397.4	40.6%

I. Recent Pension Legislation



Public Act 96-0889

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 age is under 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 later 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

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 98-0622

Senate Bill 1523 – Cullerton (Madigan)

I. Overview of Key Provisions of Public Act 98-0622 (SB 1523)

Effective Date

- January 1, 2015

Systems Impacted

- Park Employees' Annuity and Benefit Fund of Chicago

Funding Schedule

- Employer contributions will be made according to a 30-year Actuarial Required Contribution (ARC) funding plan with a goal of achieving 90% funded status by the end of FY 2050.
- The employer contribution multiplier is increased on a graduated scale to 1.7 in FY 2015, 2.3 in FY 2017, and 2.9 in FY 2019. Once the Fund is 90% funded, the multiplier is the lesser of 2.9, or the amount needed maintain a 90% funded ratio.
- Additionally, there will be supplemental contributions of \$12.5 Million in FY 2015 and 2017, and \$50 Million in FY 2019. These supplemental contributions will not decrease the employer's Actuarially Required Contribution in the respective fiscal year.

Retirement Eligibility

- Tier 1 employees – For employees age 45 or younger on January 1, 2015, the minimum retirement age is increased from 50 to 58.
- Tier 2 employees – The age for normal retirement decreased from 67 to 65; and the age for early retirement decreased from 62 to 60.

Annual Increases in Annuity

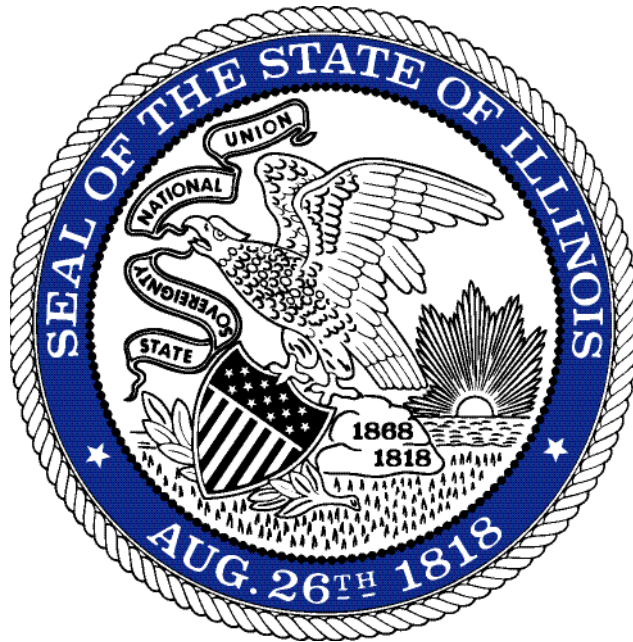
- Increases equal to the lesser of 3% of one-half the annual increase in the CPI-U during the preceding 12-month calendar year; if increase in CPI is zero or if there is a decrease in CPI, then no COLA is payable.
- Increase not compounded.
- Payment of annual increase suspended in FY 2015, 2017, and 2019.

Employee Contributions

- Currently, employee contributions are set at 9%.
 - Beginning January 1, 2015: employee contributions will increase to 10%.
 - Beginning January 1, 2017: employee contributions will increase to 11%.
 - Beginning January 1, 2019: employee contributions will increase to 12%.
 - For any duration of time that the funded ratio is over 90%, employee contribution rates will fall to 10.5%, but will increase back to 12% if the funded ratio falls below 90%.

II. Chicago Transit Authority Retirement Fund

- **Plan Summary**
- **Active Employees**
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- **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, 2015.

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

- 10.125% of salary (FY 2014-2040)

Employer Contributions

- 14.250% of salary (FY 2014-2040)

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

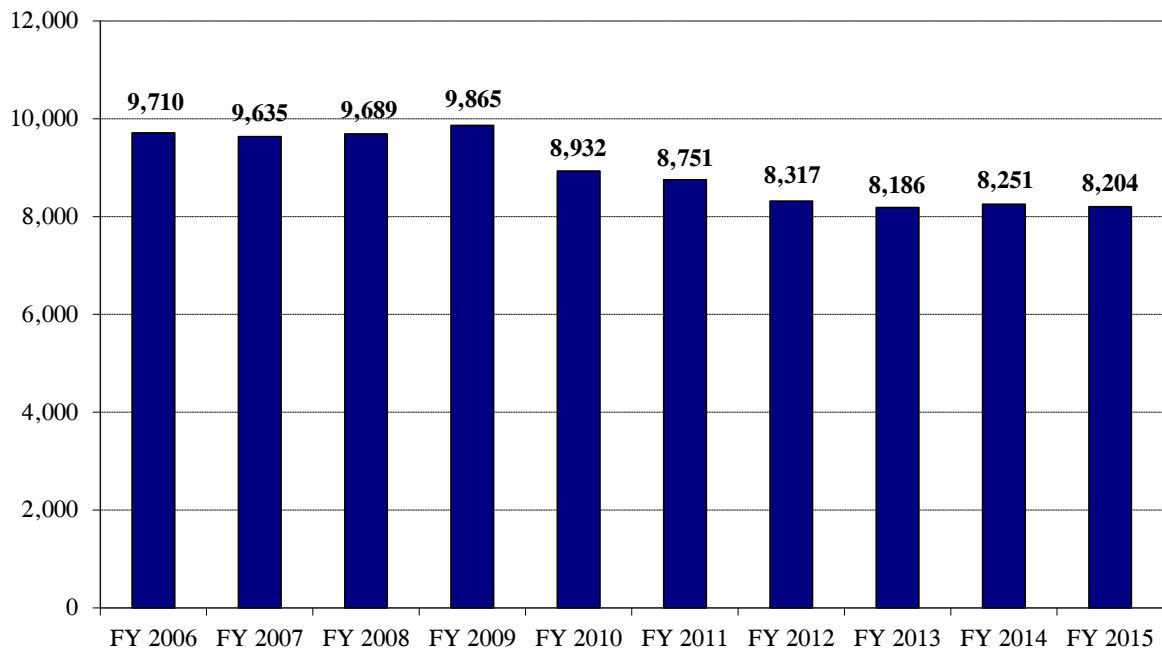


CHART 2

CHICAGO TRANSIT AUTHORITY PENSION FUND
Employee Annuitants

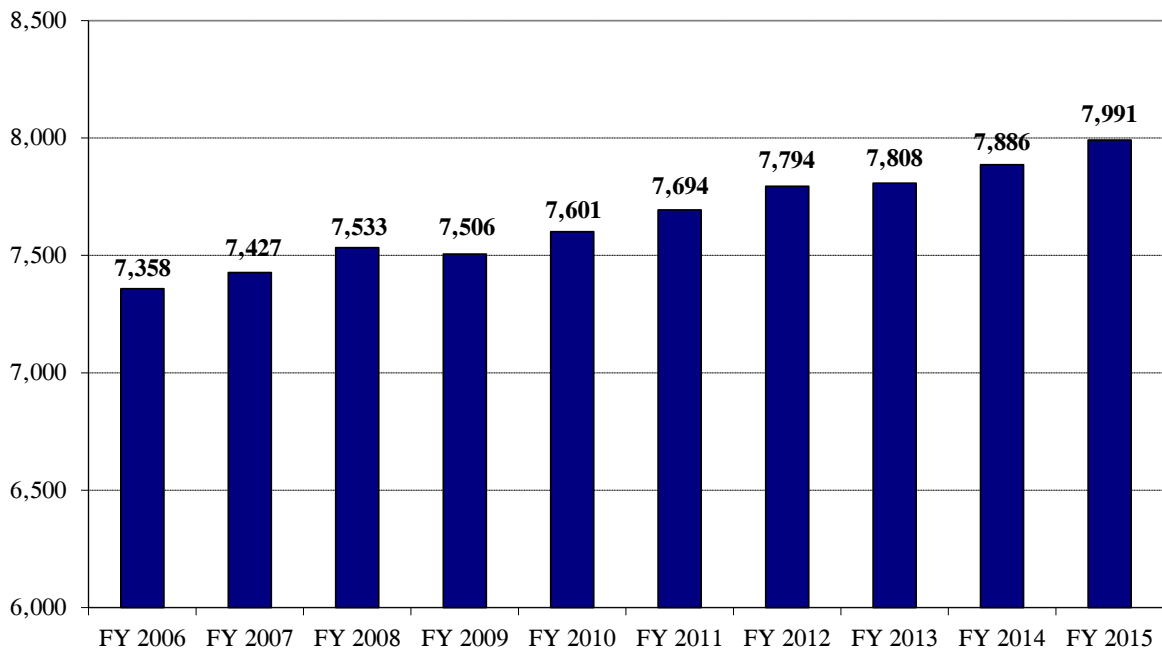
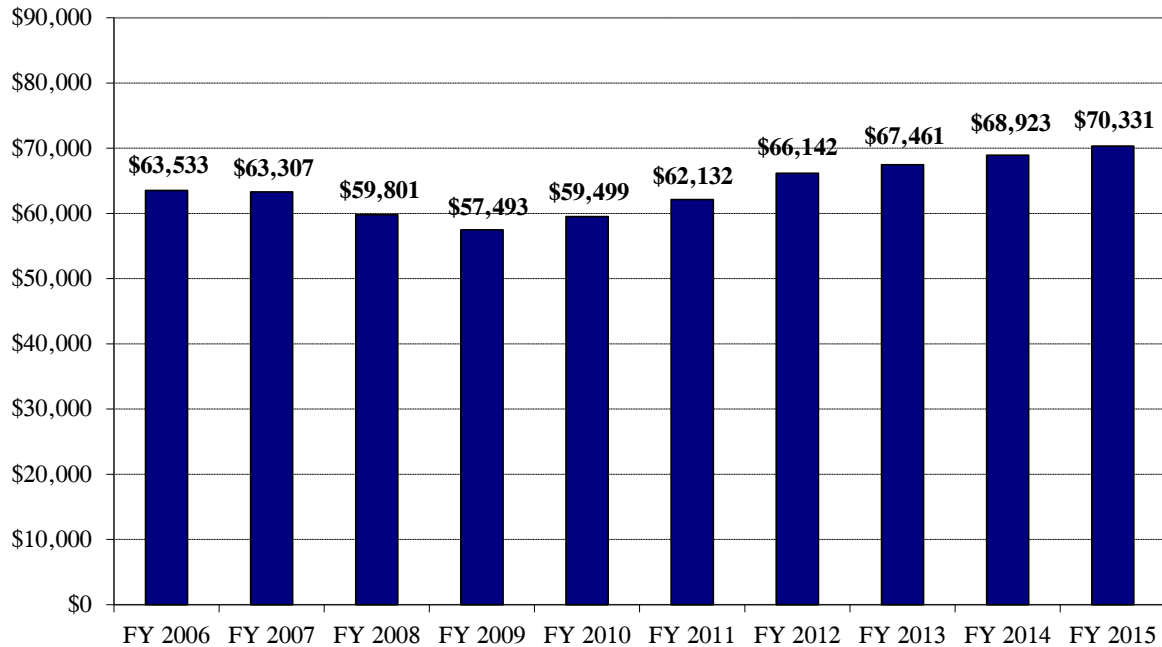


CHART 3

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

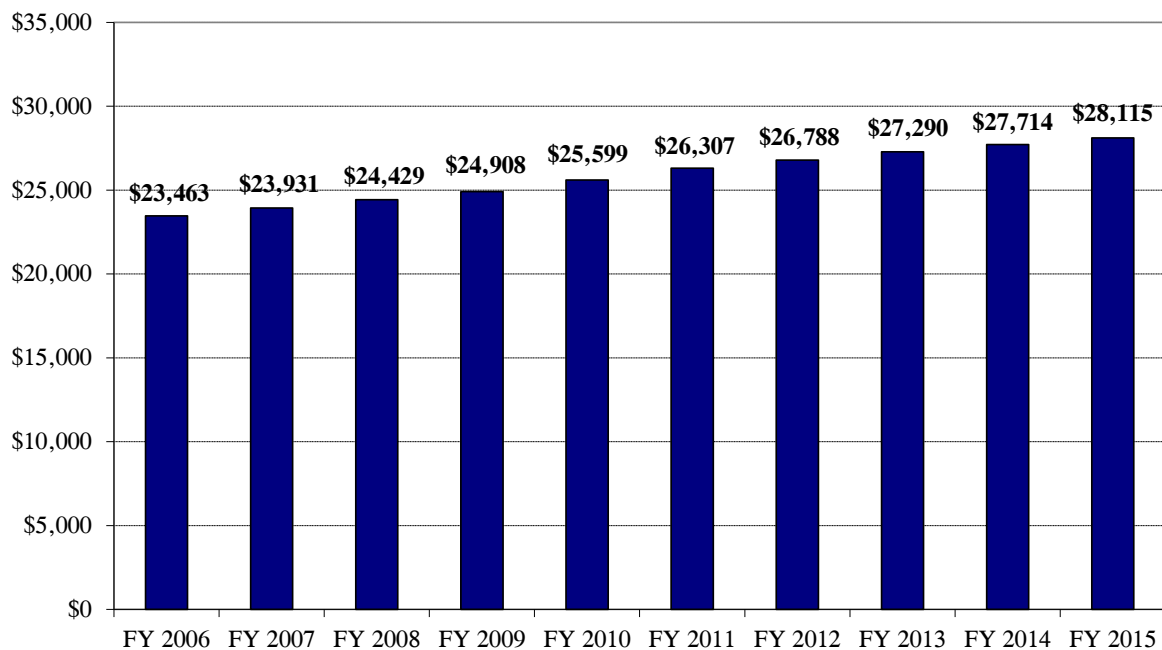


CHART 5

CHICAGO TRANSIT AUTHORITY PENSION FUND Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

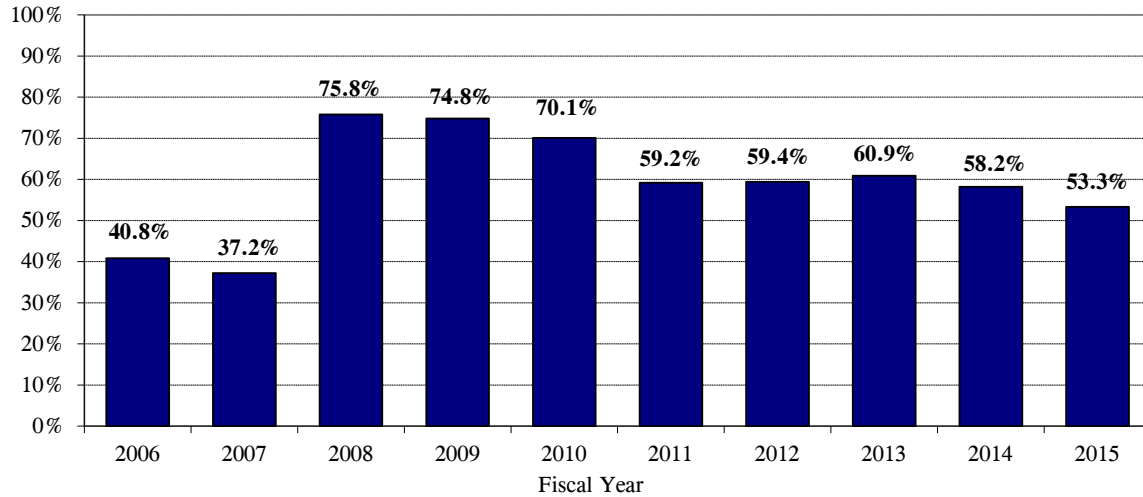
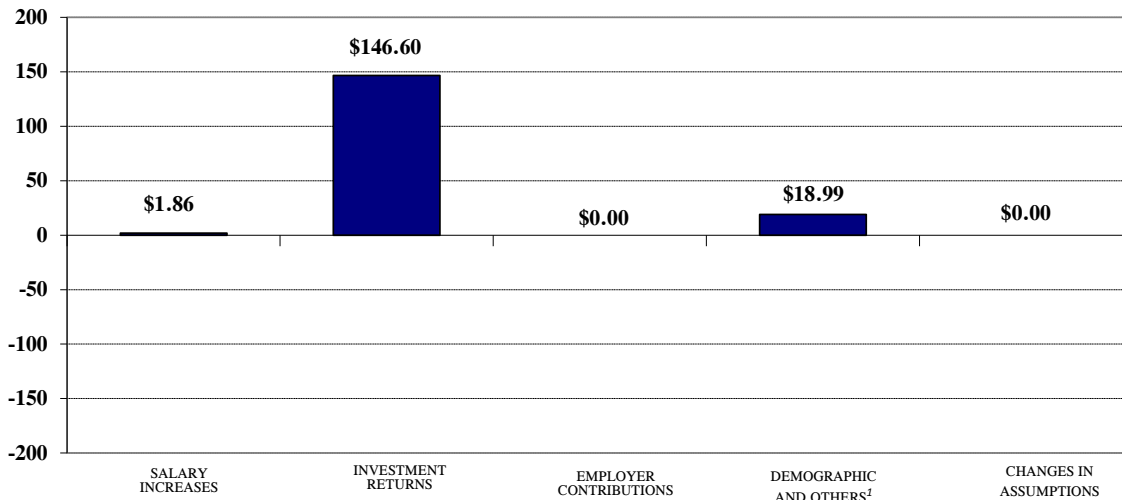


CHART 6

CHICAGO TRANSIT AUTHORITY PENSION FUND Analysis of Actuarial (Gains) and Losses Year ended December 31, 2015 (\$ in Millions)

TOTAL ACTUARIAL LOSSES
EQUALS \$167.46 MIL



¹ Unexpected participant pick-up, active decrement and new entrants caused most actuarial losses among other factors.

CHART 7

CHICAGO TRANSIT AUTHORITY PENSION FUND
Investment Income FY 2006 - FY 2015
Actuarially Assumed Rate of Return : 8.25%
(\$ in Millions)

All figures based upon the market value of assets.

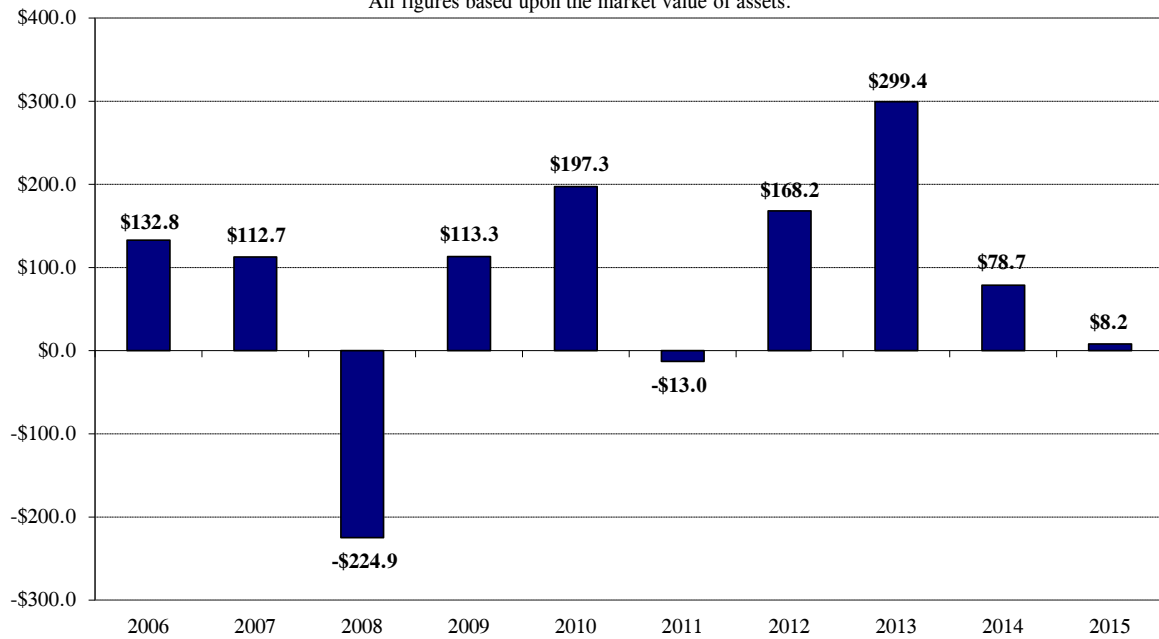


CHART 8

CHICAGO TRANSIT AUTHORITY PENSION FUND
Rate of Return FY 2006 - FY 2015
Actuarially Assumed Rate of Return : 8.25%

All figures based upon the market value of assets.

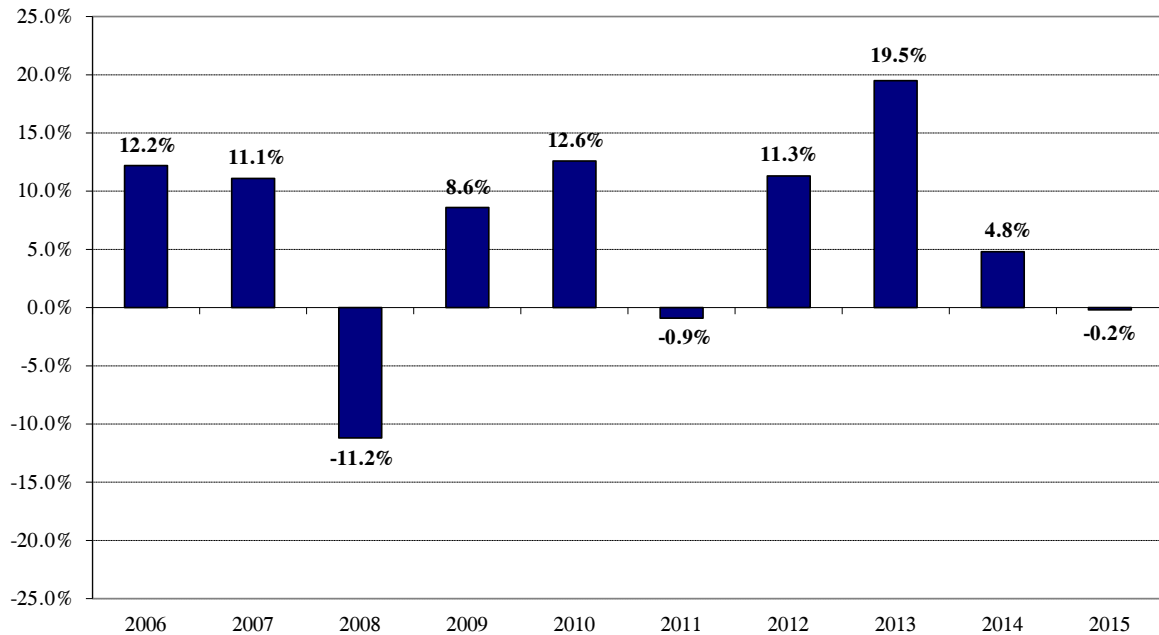


TABLE 1

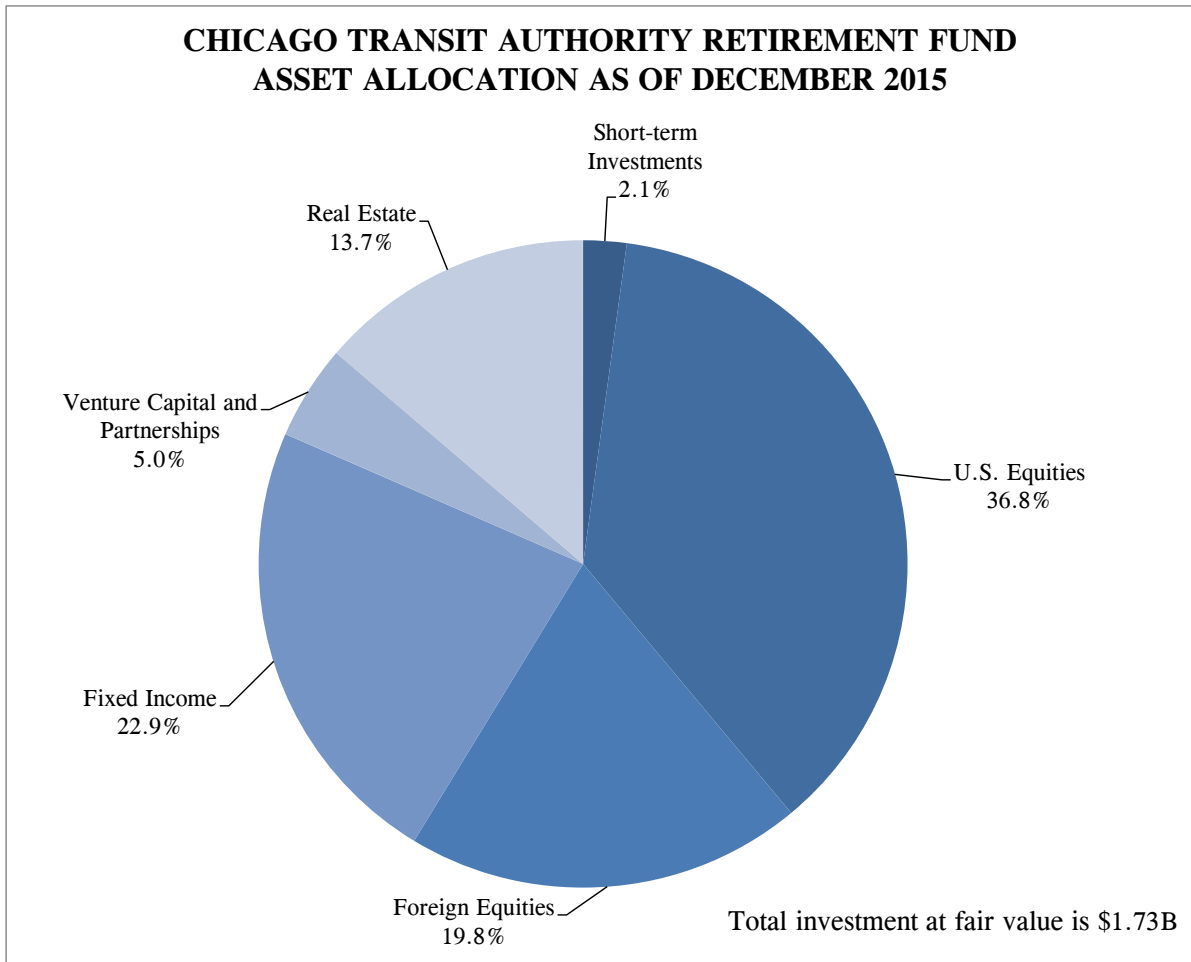
CHICAGO TRANSIT AUTHORITY PENSION FUND System Experience, FY 2003 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2015	573.5	3,267.1	1,743.2	1,523.9	53.4%
2014	564.8	3,186.2	1,855.9	1,330.3	58.2%
2013	550.6	3,105.6	1,892.7	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%
2007	571.3	2,531.4	941.9	1,589.5	37.2%
2006	562.5	2,466.1	1,007.3	1,458.8	40.8%
2005	547.5	2,354.1	810.3	1,543.8	34.4%
2004	544.4	2,291.2	902.1	1,389.1	39.4%
2003	486.6	2,189.7	1,062.4	1,127.3	48.5%

Note: The above figures do not include healthcare liabilities.

TABLE 2

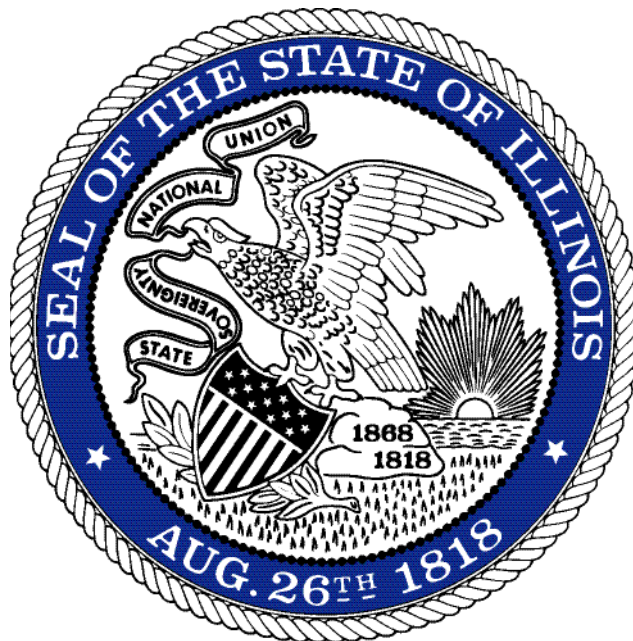
CHICAGO TRANSIT AUTHORITY PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	82.8	82.3	79.5	62.8	60.3	56.3	41.4	68.5	33.8	35.7
Employees	59.0	58.6	56.8	48.4	47.2	45.3	35.0	34.3	16.9	17.8
Net Investment Income	8.2	78.7	299.4	168.2	-13.0	197.2	113.3	-224.9	112.7	132.8
Other - Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,110.5	0.0	0.0
Total Asset Additions (A)	150.0	219.5	435.7	279.4	94.5	298.8	189.7	988.4	163.4	186.3
Deductions from Assets										
Benefits	253.8	246.0	238.7	232.7	222.2	216.2	212.6	263.5	256.9	246.2
Refunds	6.4	7.1	4.9	4.0	2.9	2.2	2.1	1.8	1.4	1.4
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	2.6	3.1	2.1	2.1	2.0	2.0	2.2	2.4	2.3	2.8
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)	262.7	256.3	245.7	238.8	227.1	220.4	216.9	267.7	260.6	250.4
Change in Net Assets (A-B=C)	-112.7	-36.8	190.0	40.6	-132.6	78.4	-27.2	720.7	-97.2	-64.1

CHART 9



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, 2015.

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.

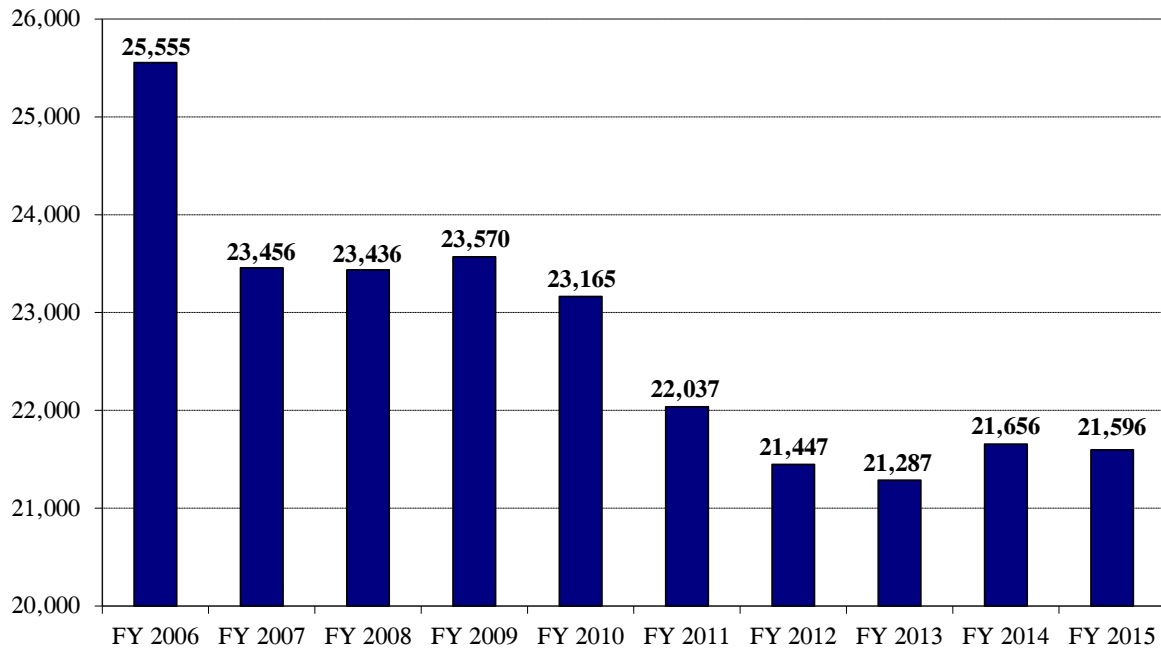
Employer Contributions

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



NOTE: The reduction of active employees from FY 2006 to FY 2007 can be attributed to the Alternative Retirement Cancellation Payment Option offered to Cook County Employees in 2007, pursuant to P.A. 95-0369.

CHART 11

COOK COUNTY EMPLOYEES' PENSION FUND
Employee Annuitants

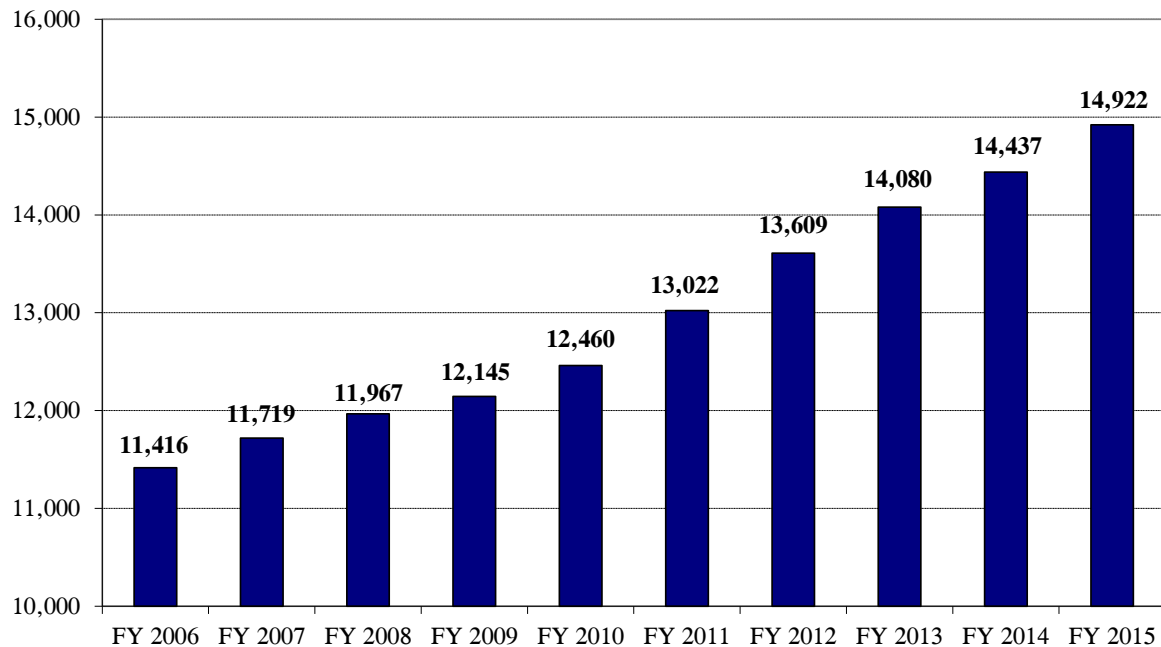


CHART 12

COOK COUNTY EMPLOYEES' PENSION FUND
Average Employee Salaries

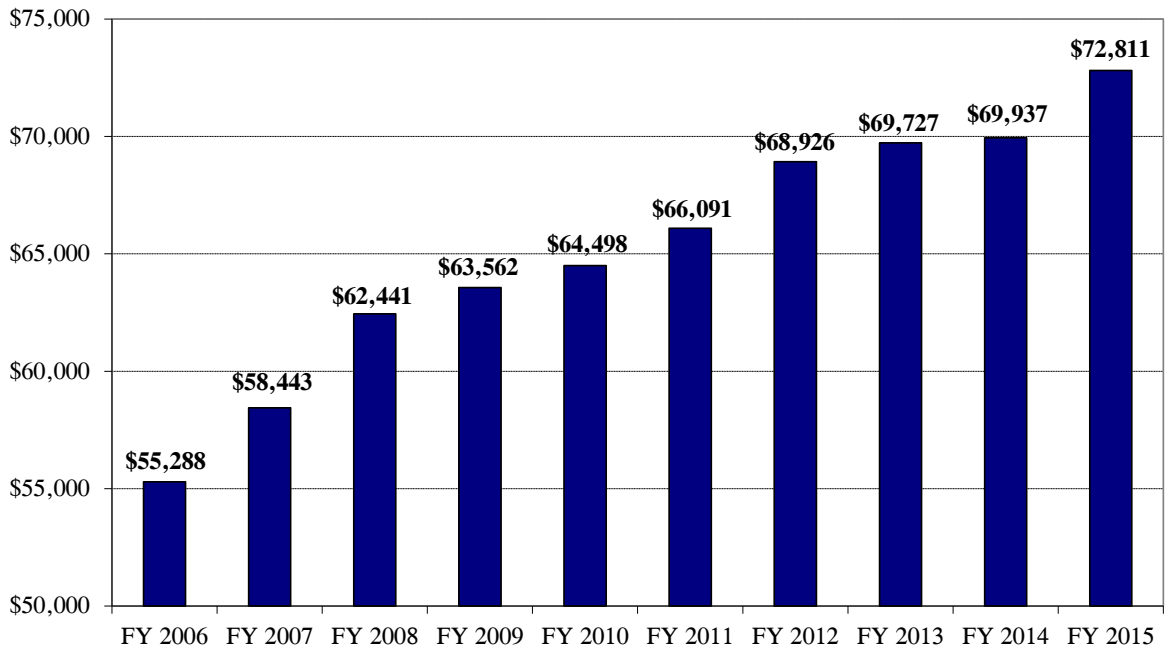


CHART 13

COOK COUNTY EMPLOYEES' PENSION FUND
Average Retirement Annuities

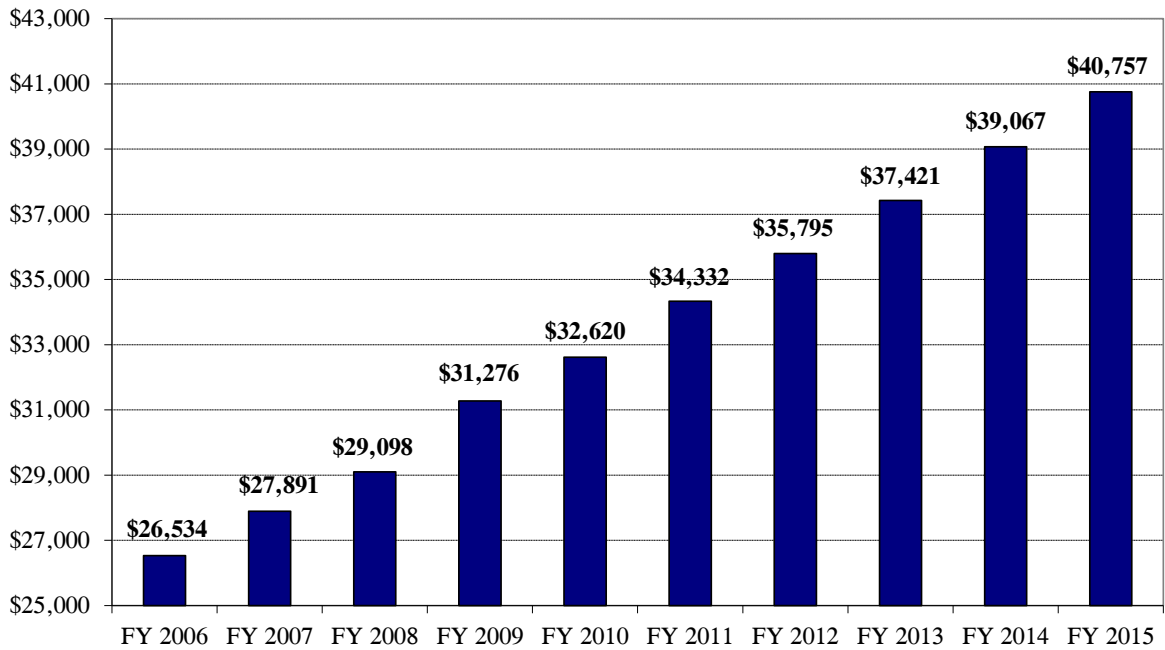


CHART 14

COOK COUNTY EMPLOYEES' PENSION FUND
Funded Ratio
FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

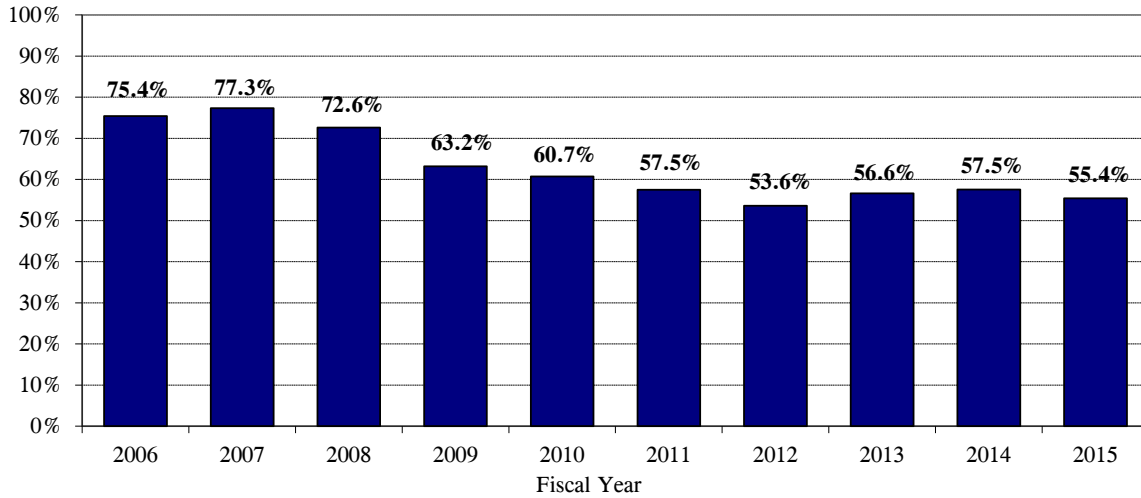
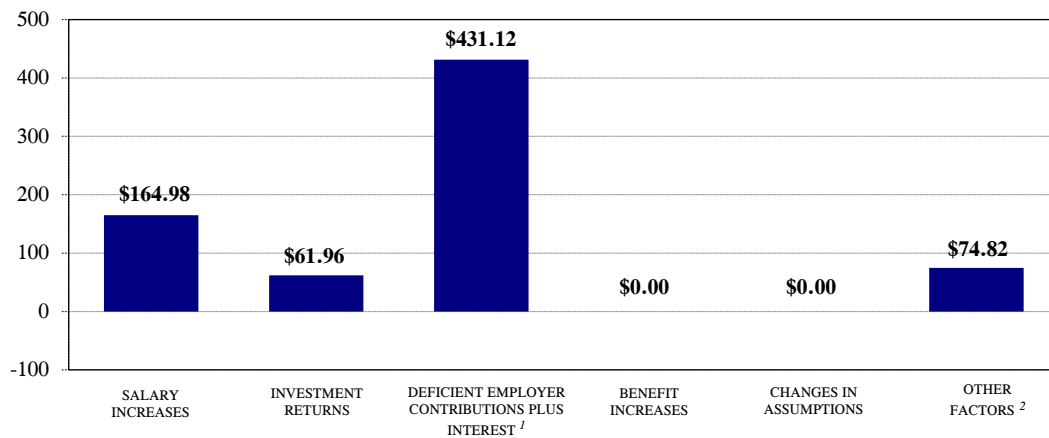


CHART 15

COOK COUNTY EMPLOYEES' PENSION FUND
Change in Unfunded Liabilities
Year ended December 31, 2015
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$732.88 MIL



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

² Other Factors include losses resulting from mortality, turnover and retirement.

CHART 16

COOK COUNTY EMPLOYEES' PENSION FUND

Investment Income FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.5%

(\$ in Millions)

All figures based upon the market value of assets.

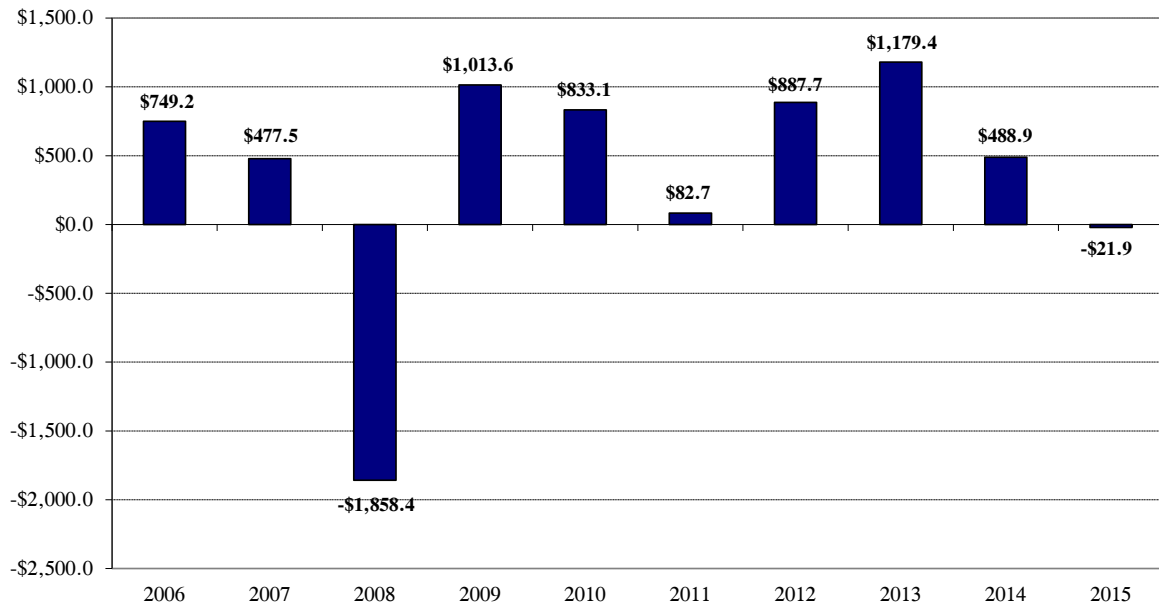


CHART 17

COOK COUNTY EMPLOYEES' PENSION FUND

Rate of Return FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.5%

All figures based upon the market value of assets.

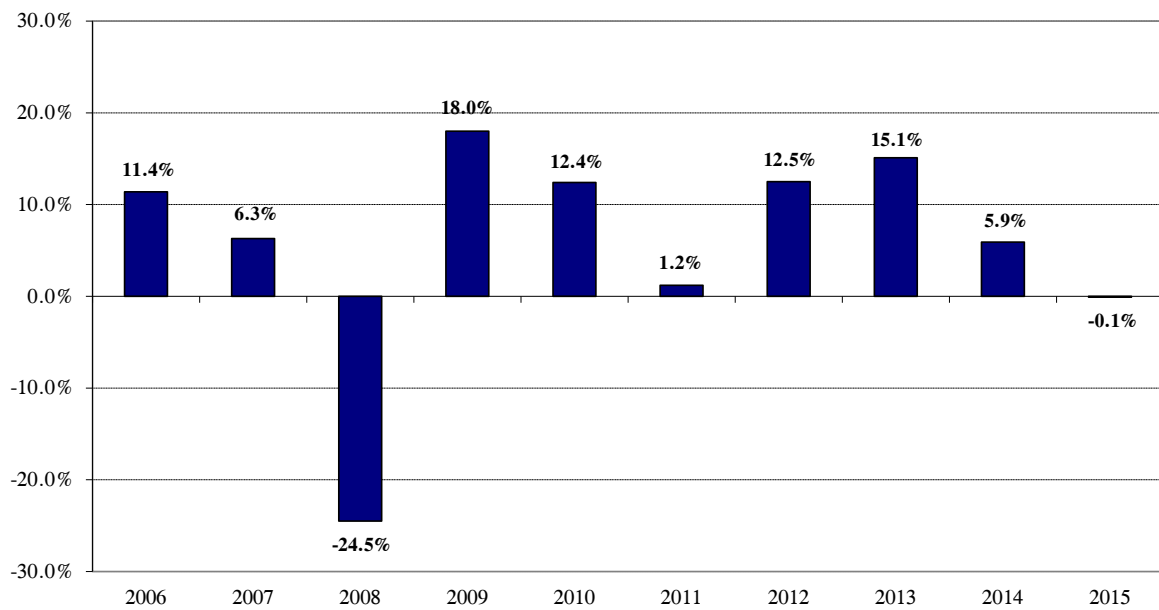


TABLE 3

COOK COUNTY EMPLOYEES' PENSION FUND System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	1,370.8	10,423.7	8,059.9	2,363.8	77.3%
2006	1,412.9	9,904.6	7,462.7	2,441.9	75.4%
2005	1,387.5	9,269.9	7,027.5	2,242.4	75.8%
2004	1,371.5	9,450.8	6,700.8	2,750.0	70.9%

NOTE: All figures above include healthcare assets/liabilities.

TABLE 4

COOK COUNTY EMPLOYEES' PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	186.8	190.0	187.8	190.7	195.3	181.5	183.7	183.9	258.1	221.2
Employees	137.7	129.3	127.6	130.6	127.6	129.4	127.8	123.8	123.1	121.7
Net Investment Income	-21.9	488.9	1,179.4	887.7	82.9	833.1	1,013.6	-1,858.4	477.5	749.2
Other	11.5	9.7	8.5	10.2	17.4	12.8	11.8	7.1	10.0	9.3
Total Asset Additions (A)	314.1	818.0	1,503.4	1,219.2	423.2	1,156.8	1,336.9	-1,543.7	868.7	1,101.4
Deductions from Assets										
Benefits	701.0	645.6	601.8	563.1	523.4	482.5	452.0	427.5	398.7	365.6
Refunds	33.3	26.3	29.873	33.1	29.1	25.0	20.4	24.7	66.6	24.9
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	5.2	5.0	4.3	4.3	4.1	4.1	4.3	4.6	4.5	4.0
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)	739.5	677.0	636.0	600.5	556.6	511.6	476.7	456.8	469.8	394.5
Change in Net Assets (A-B=C)	-425.4	141.0	867.4	618.7	-133.4	645.2	860.2	-2,000.4	398.9	706.9

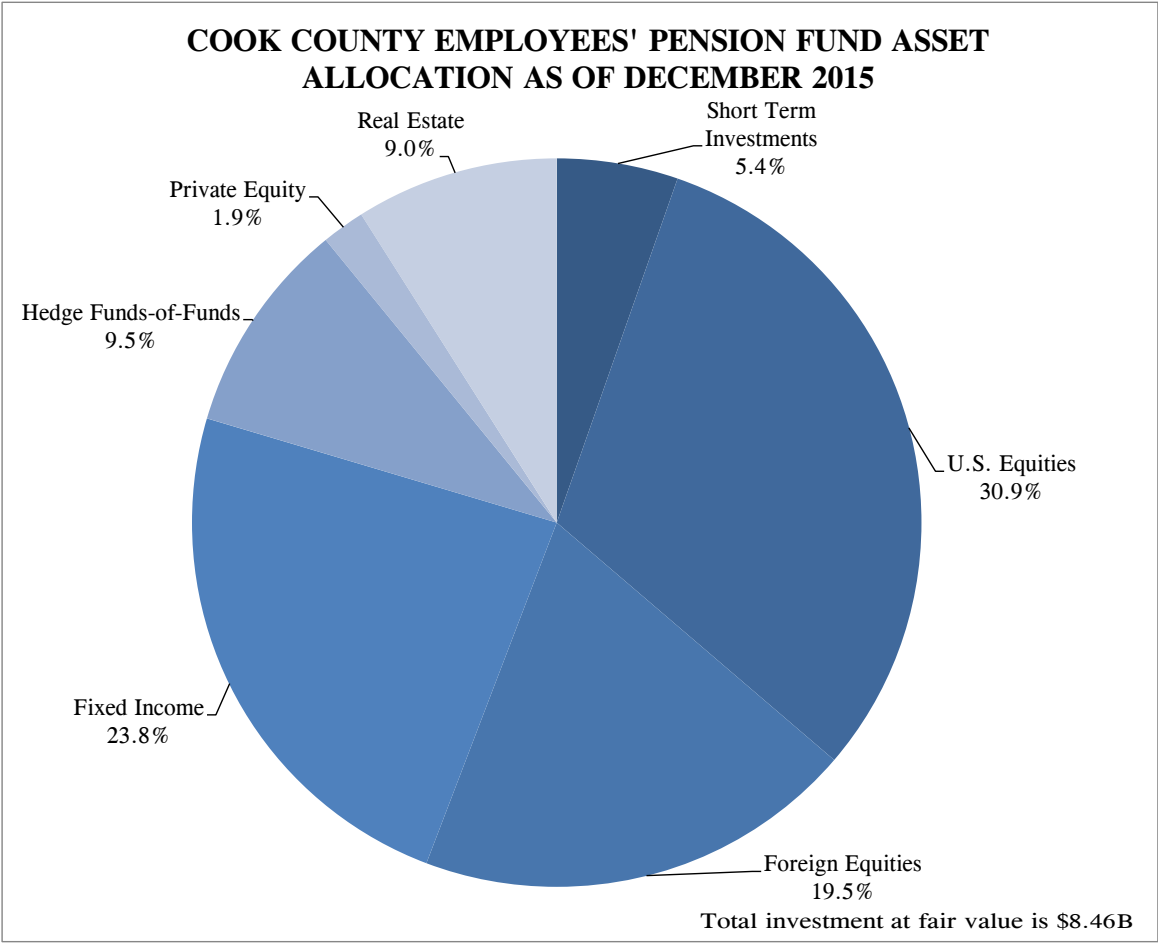
Table 5 below contains funding projections provided to CGFA by the Cook County Employees' Pension Fund based upon the December 31, 2015 actuarial valuation. As shown in the table below, under the current funding laws the Cook County Employees' Pension Fund is projected to run out of assets by 2041.

TABLE 5

Cook County Employees' Pension Fund Actuarial Valuation Projection Results as of December 31, 2015 (\$ 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
2016	1,639.0	460.6 *	28.1%	134.4	16,232.0	8,991.0	7,241.0	55.4%
2017	1,686.0	193.2	11.5%	138.2	16,911.0	9,446.0	7,465.0	55.9%
2018	1,731.0	205.7	11.9%	141.9	17,602.0	9,611.0	7,991.0	54.6%
2019	1,777.0	214.0	12.0%	145.7	18,293.0	9,640.0	8,653.0	52.7%
2020	1,826.0	219.8	12.0%	149.7	18,980.0	9,677.0	9,303.0	51.0%
2021	1,879.0	225.6	12.0%	154.0	19,659.0	9,813.0	9,846.0	49.9%
2022	1,932.0	231.9	12.0%	158.4	20,338.0	9,912.0	10,426.0	48.7%
2023	1,985.0	238.6	12.0%	162.7	21,015.0	9,973.0	11,042.0	47.5%
2024	2,039.0	245.3	12.0%	167.1	21,682.0	9,989.0	11,693.0	46.1%
2025	2,097.0	252.0	12.0%	171.9	22,336.0	9,955.0	12,381.0	44.6%
2026	2,160.0	258.8	12.0%	177.1	22,979.0	9,868.0	13,111.0	42.9%
2027	2,225.0	266.3	12.0%	182.4	23,620.0	9,728.0	13,892.0	41.2%
2028	2,290.0	274.3	12.0%	187.7	24,263.0	9,539.0	14,724.0	39.3%
2029	2,356.0	282.5	12.0%	193.2	24,897.0	9,289.0	15,608.0	37.3%
2030	2,427.0	290.7	12.0%	198.9	25,518.0	8,976.0	16,542.0	35.2%
2031	2,502.0	299.2	12.0%	205.1	26,131.0	8,591.0	17,540.0	32.9%
2032	2,579.0	308.1	11.9%	211.4	26,743.0	8,138.0	18,605.0	30.4%
2033	2,657.0	317.7	12.0%	217.8	27,353.0	7,614.0	19,739.0	27.8%
2034	2,737.0	327.5	12.0%	224.4	27,945.0	7,001.0	20,944.0	25.1%
2035	2,819.0	337.3	12.0%	231.1	28,528.0	6,302.0	22,226.0	22.1%
2036	2,903.0	347.5	12.0%	238.0	29,101.0	5,507.0	23,594.0	18.9%
2037	2,987.0	357.9	12.0%	244.9	29,672.0	4,618.0	25,054.0	15.6%
2038	3,070.0	368.6	12.0%	251.6	30,242.0	3,630.0	26,612.0	12.0%
2039	3,151.0	379.3	12.0%	258.4	30,798.0	2,523.0	28,275.0	8.2%
2040	3,233.0	389.7	12.1%	265.0	31,348.0	1,299.0	30,049.0	4.1%
2041	3,315.0	400.1	12.1%	271.8	31,897.0	-50.0	31,947.0	-0.2%
2042	3,398.0	410.4	12.1%	278.6	32,448.0	-1,528.0	33,976.0	-4.7%
2043	3,482.0	420.9	12.1%	285.4	33,000.0	-3,145.0	36,145.0	-9.5%
2044	3,565.0	431.5	12.1%	292.3	33,553.0	-4,912.0	38,465.0	-14.6%
2045	3,650.0	442.1	12.1%	299.2	34,113.0	-6,833.0	40,946.0	-20.0%
2046	3,737.0	452.7	12.1%	306.3	34,683.0	-8,921.0	43,604.0	-25.7%
2047	3,825.0	463.4	12.1%	313.6	35,261.0	-11,188.0	46,449.0	-31.7%
2048	3,916.0	474.4	12.1%	321.1	35,848.0	-13,649.0	49,497.0	-38.1%
2049	4,009.0	485.7	12.1%	328.7	36,441.0	-16,317.0	52,758.0	-44.8%
2050	4,104.0	497.2	12.1%	336.5	37,041.0	-19,210.0	56,251.0	-51.9%

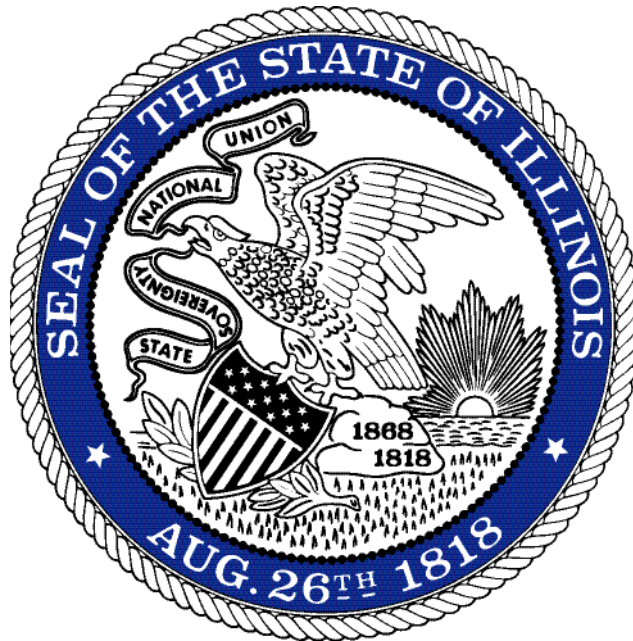
**As a result of an Intergovernmental Agreement (IGA) between the Employer and the Cook Employees' and Officers' Annuity and Benefit Fund (CEABF) in 2015, the Employer contributes an amount for 2016 more than the statutory contribution, but less than the Actuarially Required Contribution.*

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, 2015.

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

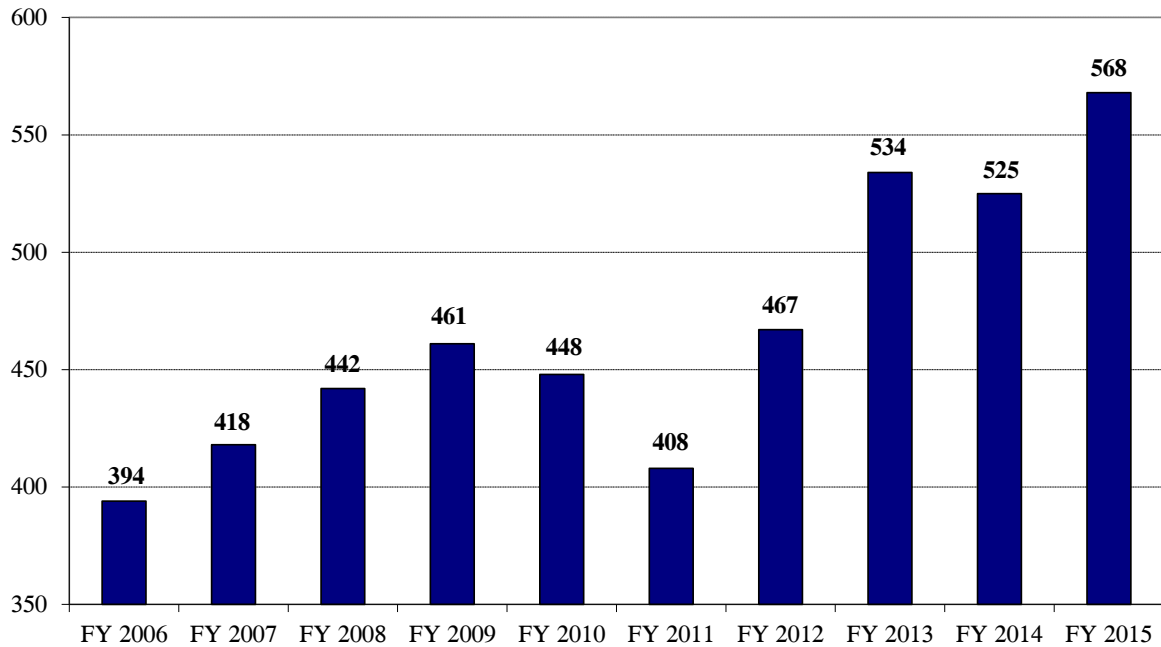


CHART 20

COOK COUNTY FOREST PRESERVE PENSION FUND
Employee Annuitants

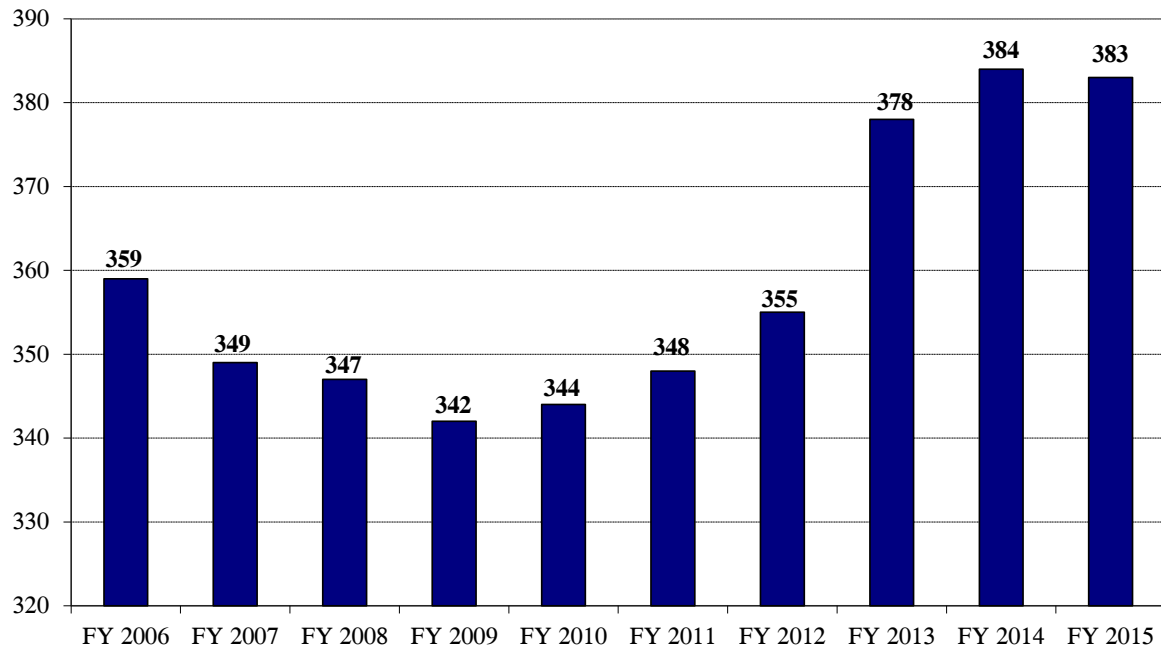


CHART 21

COOK COUNTY FOREST PRESERVE PENSION FUND
Average Employee Salaries

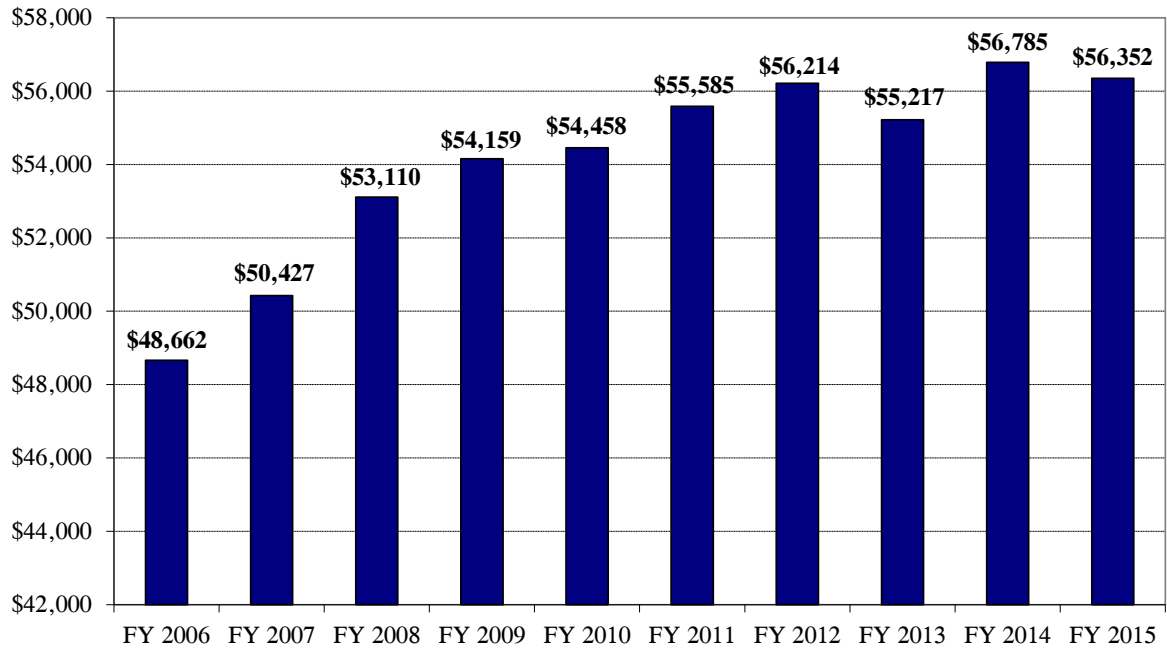


CHART 22

COOK COUNTY FOREST PRESERVE PENSION FUND
Average Retirement Annuities

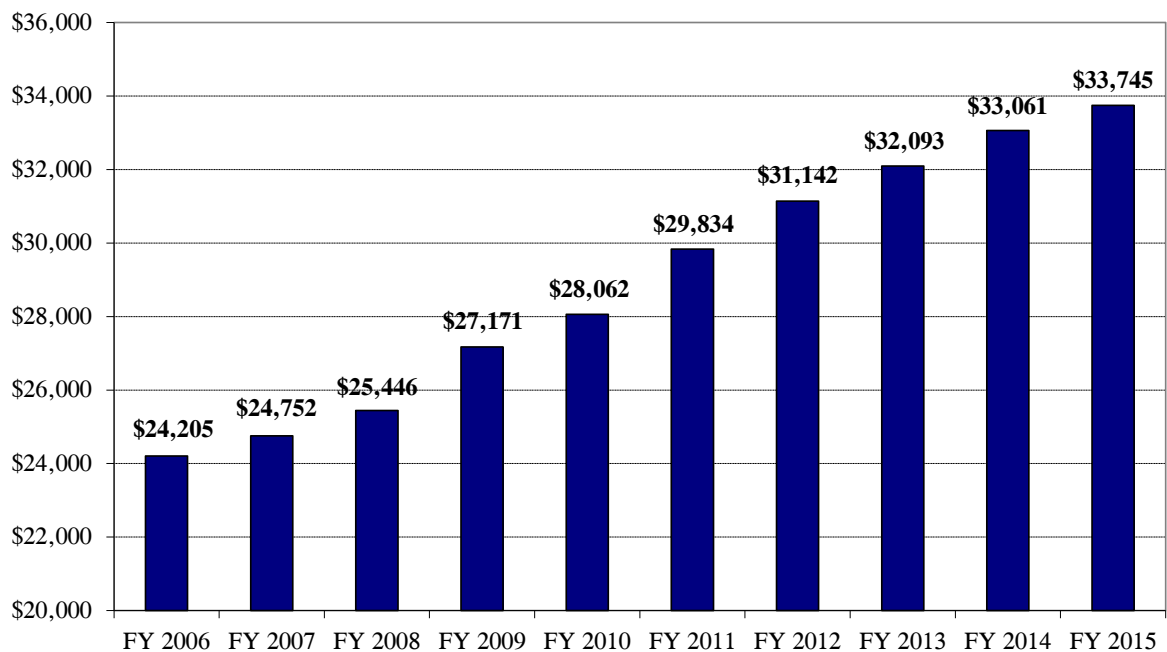


CHART 23

COOK COUNTY FOREST PRESERVE PENSION FUND
Funded Ratio
FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

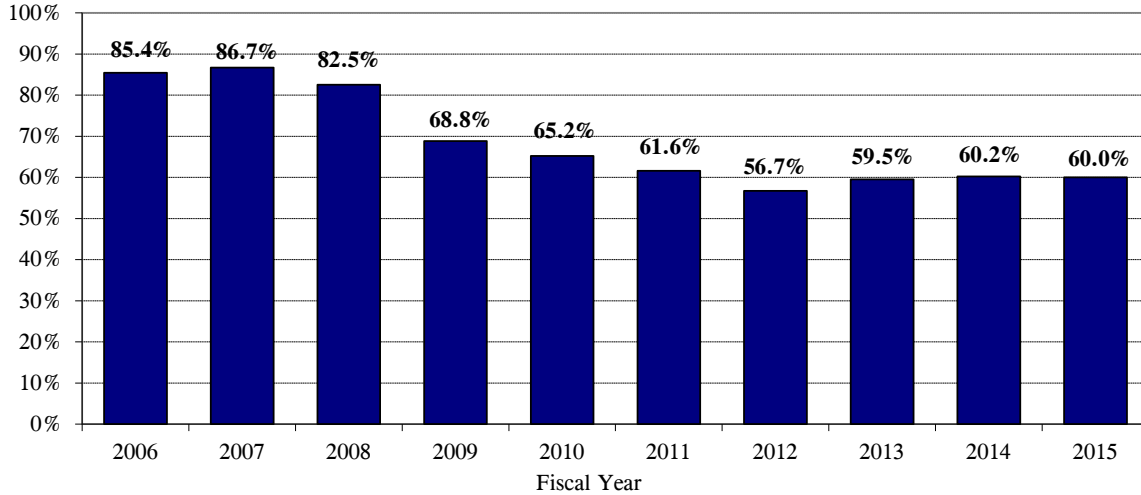
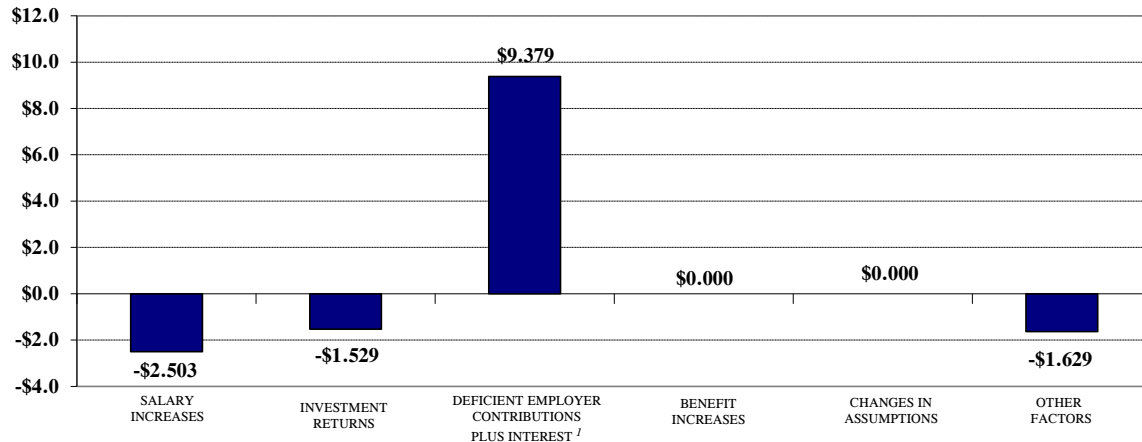


CHART 24

COOK COUNTY FOREST PRESERVE PENSION FUND
Change in Unfunded Liabilities
Year ended December 31, 2015
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$3.718 MIL



¹ "Deficient Employer Contributions plus Interest" is calculated from the sum of the difference between normal cost and employer contributions and interest cost.

CHART 25

COOK COUNTY FOREST PRESERVE PENSION FUND

Investment Income FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.5%

(\$ in Millions)

All figures based upon the market value of assets.

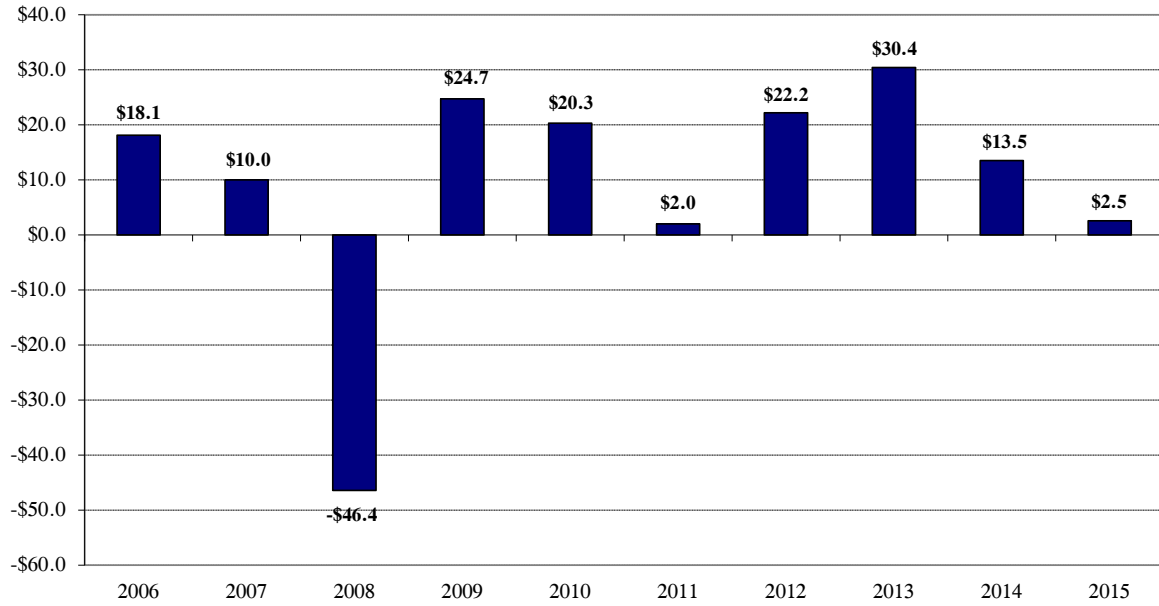


CHART 26

COOK COUNTY FOREST PRESERVE PENSION FUND

Rate of Return FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.5%

All figures based upon the market value of assets.

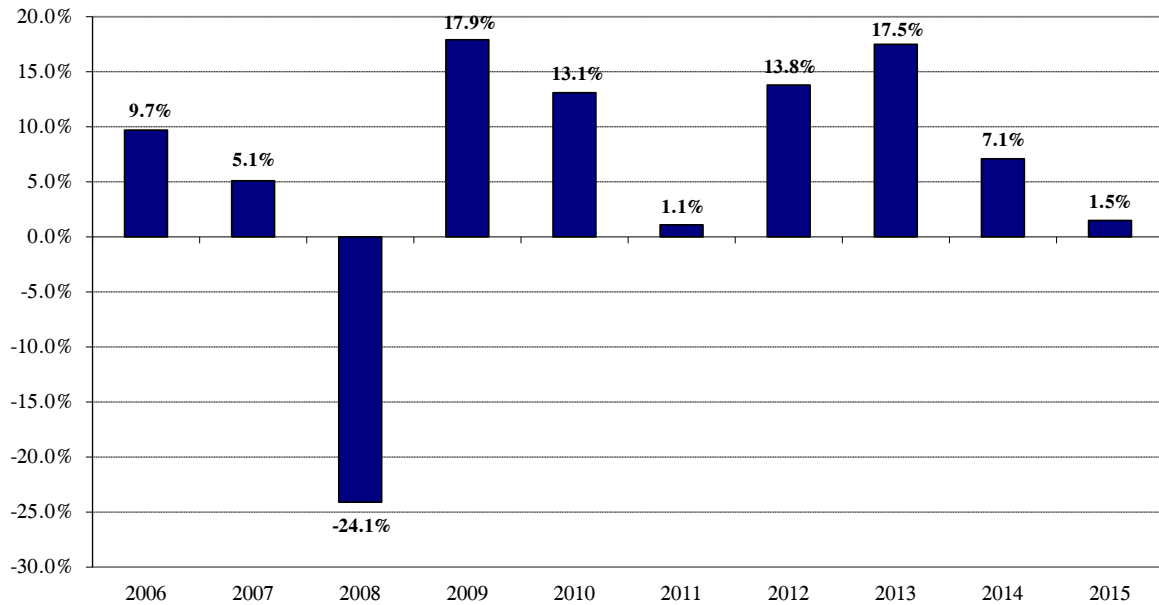


TABLE 6

COOK COUNTY FOREST PRESERVE PENSION FUND System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	21.1	234.1	203.0	31.1	86.7%
2006	19.2	226.6	193.5	33.1	85.4%
2005	18.1	217.6	189.1	28.5	86.9%
2004	16.6	245.3	186.6	58.7	76.1%

NOTE: All figures above include healthcare insurance assets/liabilities.

TABLE 7

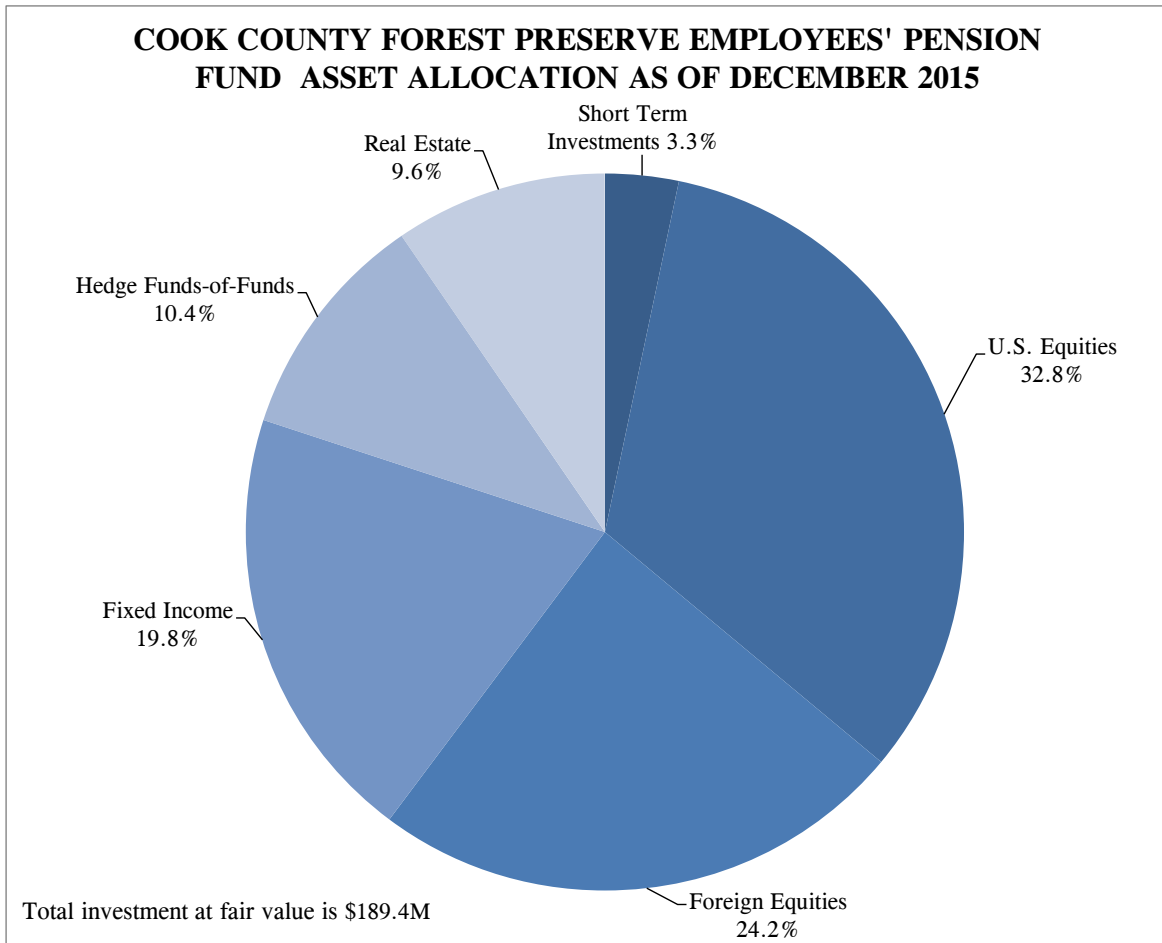
COOK COUNTY FOREST PRESERVE PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	3.5	3.1	2.9	3.1	3.3	2.7	2.6	2.0	3.3	2.7
Employees	2.8	2.6	2.7	2.5	2.3	2.4	2.4	2.1	2.0	1.7
Net Investment Income	2.5	13.5	30.4	22.2	2.0	20.3	24.7	-46.4	10.0	18.1
Other	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.1	0.2	0.2
Total Asset Additions (A)	9.0	19.5	36.1	28.0	8.1	25.6	29.9	-42.1	15.5	22.7
Deductions from Assets										
Benefits	17.2	16.7	15.7	14.2	13.6	13.0	12.4	12.2	11.9	11.5
Refunds	0.6	1.0	1.0	1.2	0.6	0.4	0.5	0.5	0.5	0.4
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other	0.0	0.2	-0.1	0.2	-0.3	0.3	0.1	-0.1	0.1	0.3
Total Asset Deductions (B)	18.0	17.9	16.6	15.7	14.0	13.8	13.1	12.7	12.6	12.3
Change in Net Assets (A-B=C)	-9.0	1.6	19.5	12.3	-5.9	11.8	16.8	-54.8	2.9	10.4

Table 8 below contains funding projections provided to CGFA by the Cook County Forest Preserve Pension Fund based upon the December 31, 2015 actuarial valuation. As shown in the table below, under the current funding laws the Cook County Forest Preserve Pension Fund is projected to run out of assets by 2040.

TABLE 8

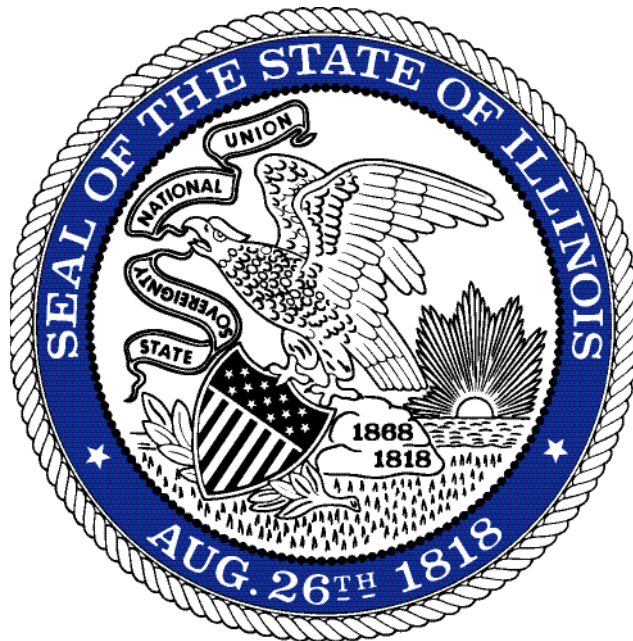
Cook County Forest Preserve Pension Fund Actuarial Valuation Projection Results as of December 31, 2015 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total County Contribution	County Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2016	33.5	3.3	10.0%	2.7	322.8	193.7	129.0	60.0%
2017	34.8	3.4	9.8%	2.8	333.0	198.4	134.6	59.6%
2018	36.1	3.6	9.9%	3.0	343.2	200.5	142.7	58.4%
2019	37.4	3.7	10.0%	3.1	353.4	198.7	154.7	56.2%
2020	38.7	3.9	10.0%	3.2	363.4	196.4	167.0	54.0%
2021	40.0	4.0	10.0%	3.3	373.4	195.8	177.6	52.4%
2022	41.3	4.2	10.1%	3.4	383.4	194.5	188.9	50.7%
2023	42.6	4.3	10.1%	3.5	393.3	192.3	201.0	48.9%
2024	44.0	4.4	10.1%	3.6	403.1	189.4	213.7	47.0%
2025	45.4	4.6	10.1%	3.7	412.9	185.6	227.2	45.0%
2026	46.9	4.7	10.1%	3.8	422.6	180.9	241.6	42.8%
2027	48.4	4.9	10.0%	4.0	432.4	175.4	257.0	40.6%
2028	50.0	5.0	10.1%	4.1	442.3	168.9	273.4	38.2%
2029	51.6	5.2	10.1%	4.2	452.2	161.3	290.9	35.7%
2030	53.3	5.4	10.1%	4.4	462.2	152.7	309.5	33.0%
2031	54.9	5.5	10.1%	4.5	472.3	143.0	329.4	30.3%
2032	56.7	5.7	10.1%	4.6	482.6	132.0	350.6	27.4%
2033	58.5	5.9	10.1%	4.8	493.1	119.8	373.3	24.3%
2034	60.3	6.1	10.1%	4.9	503.8	106.2	397.6	21.1%
2035	62.2	6.3	10.1%	5.1	514.8	91.1	423.7	17.7%
2036	64.2	6.5	10.1%	5.3	526.0	74.4	451.6	14.1%
2037	66.2	6.7	10.1%	5.4	537.4	56.0	481.4	10.4%
2038	68.3	6.9	10.1%	5.6	549.1	35.8	513.3	6.5%
2039	70.5	7.1	10.1%	5.8	560.9	13.5	547.4	2.4%
2040	72.7	7.3	10.1%	6.0	572.6	-11.1	583.7	-1.9%
2041	75.0	7.6	10.1%	6.1	584.4	-38.1	622.5	-6.5%
2042	77.4	7.8	10.1%	6.3	596.2	-67.7	663.9	-11.4%
2043	79.9	8.0	10.1%	6.6	608.0	-100.1	708.1	-16.5%
2044	82.4	8.3	10.1%	6.8	620.0	-135.3	755.3	-21.8%
2045	85.0	8.6	10.1%	7.0	631.7	-173.9	805.6	-27.5%
2046	87.6	8.8	10.1%	7.2	643.4	-215.9	859.3	-33.6%
2047	90.3	9.1	10.1%	7.4	655.1	-261.6	916.8	-39.9%
2048	93.2	9.4	10.1%	7.6	666.8	-311.5	978.3	-46.7%
2049	96.0	9.7	10.1%	7.9	678.4	-365.7	1,044.0	-53.9%
2050	99.0	10.0	10.1%	8.1	689.8	-424.6	1,114.4	-61.6%

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
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2015.

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).

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 60, or age 55 if born before 1/1/55.
- 1.5% non-compounded if born after 1/1/55 with 30% maximum.

Employee Contributions

- 9.125% of salary.

Required Employer Contributions

Pursuant to P.A. 96-1495, annual actuarially determined employer contributions will be calculated and required. Such actuarially determined contributions will be established with a funding goal of 90% by the end of FY 2040, based upon the actuarial value of fund assets and application of required actuarial assumptions and methodologies. Failure of the employer to remit the required contributions can result in withholding of certain grants owed by the State of Illinois.

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

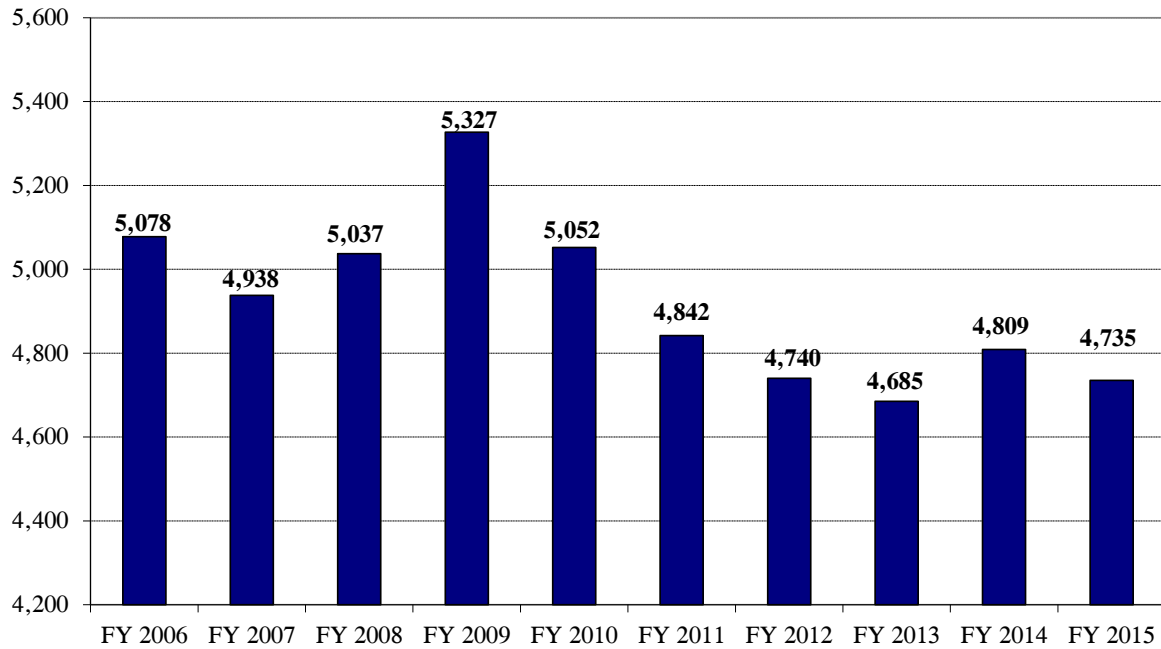


CHART 29

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO
Employee Annuitants

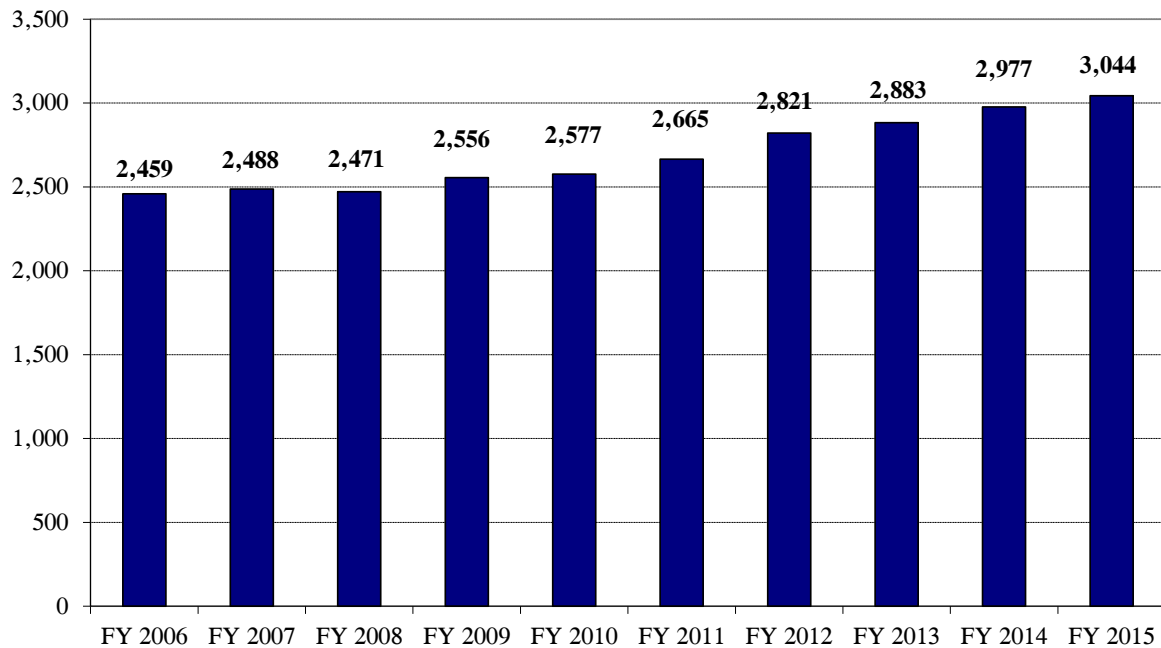


CHART 30

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

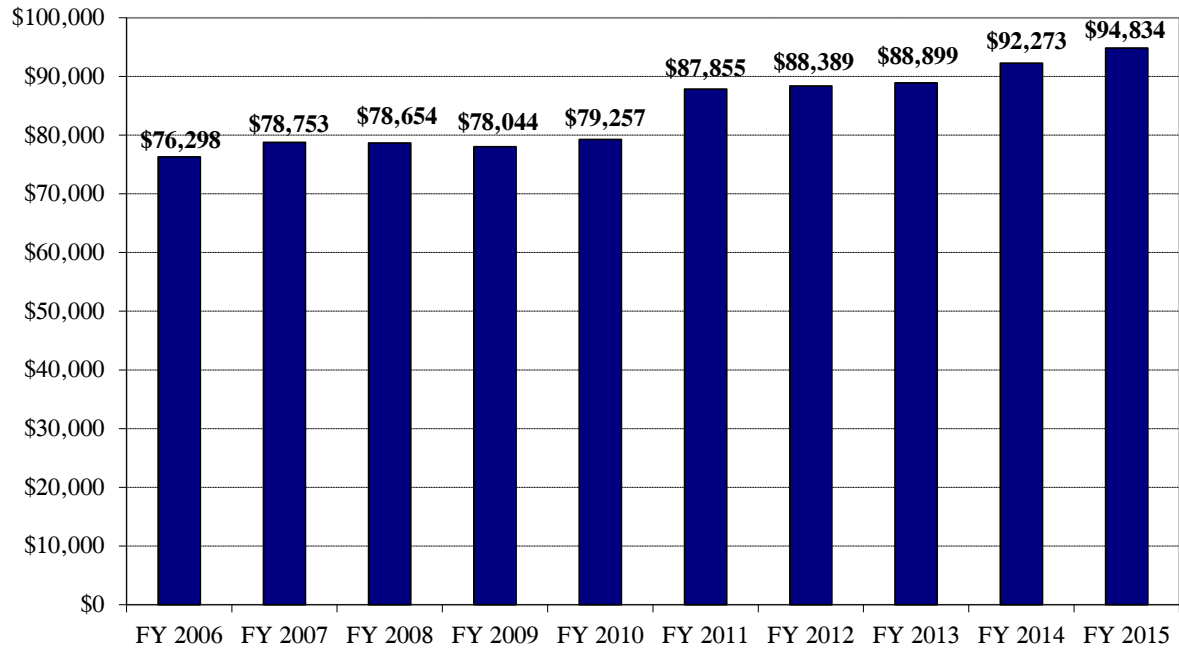


CHART 31

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

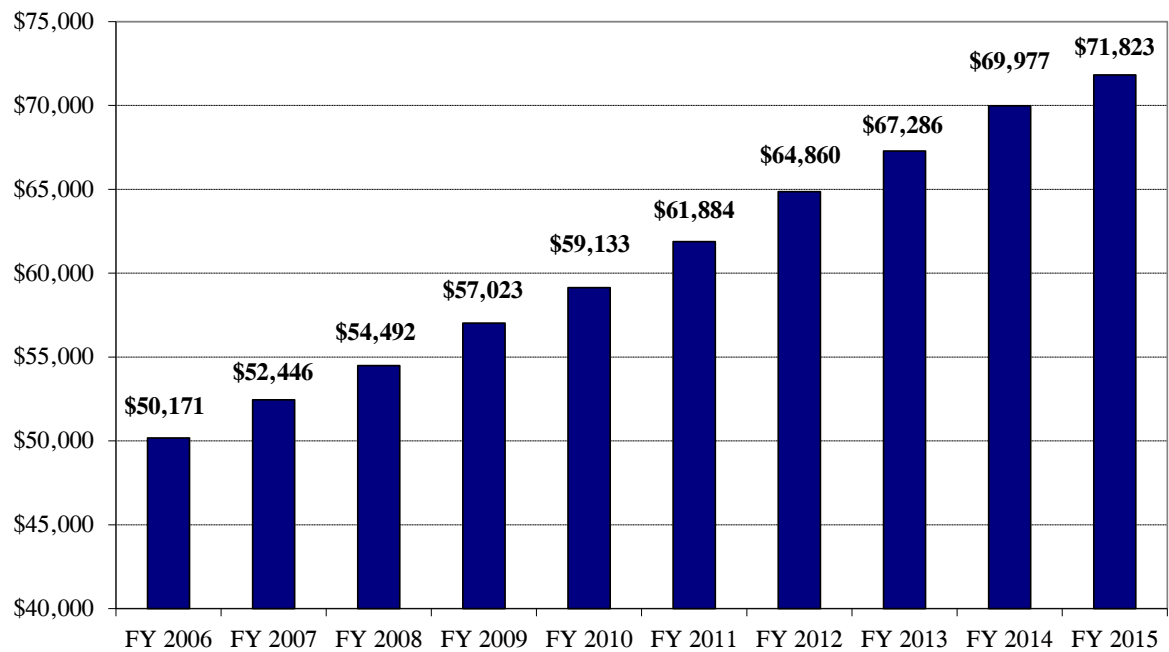


CHART 32

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

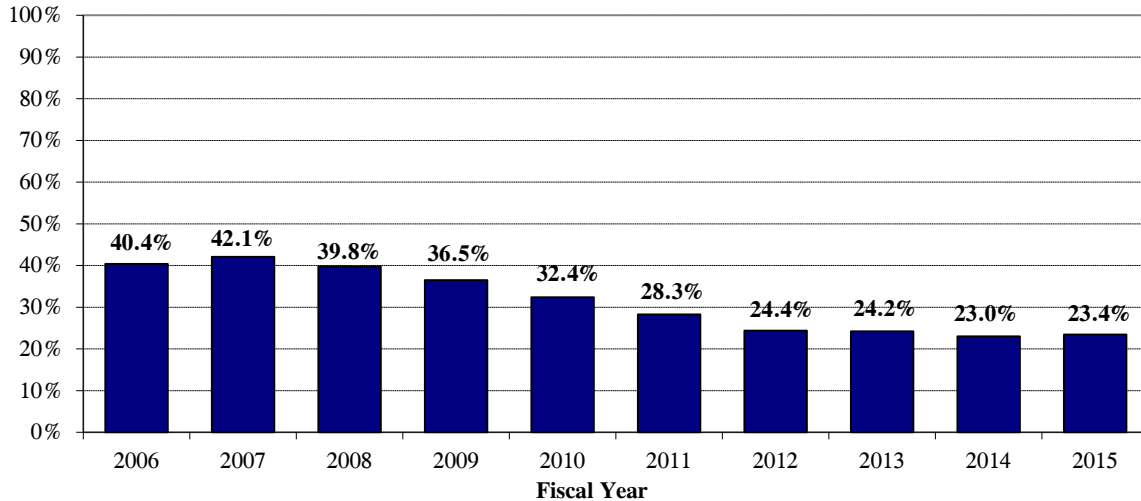
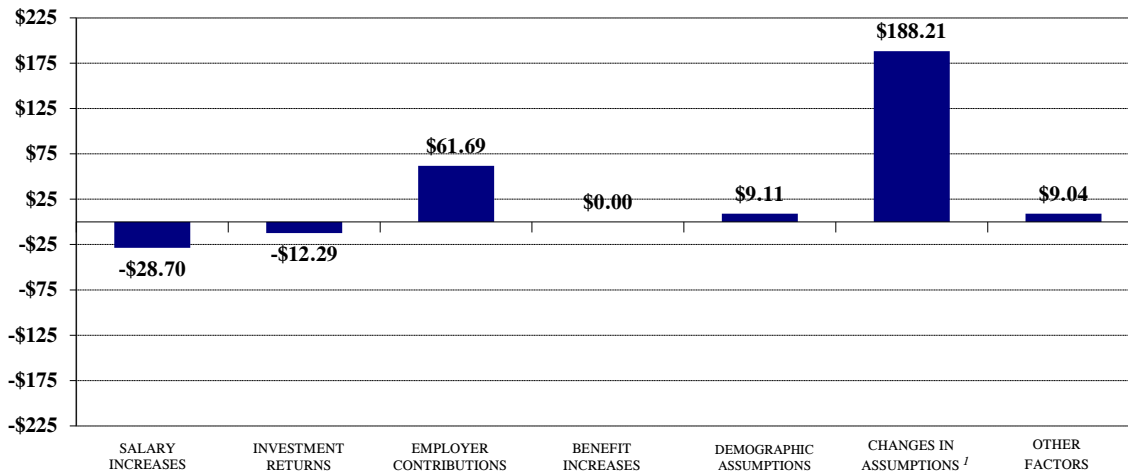


CHART 33

FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2015 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$227.05 MIL



¹ Effective December 31, 2015, the investment return assumption was decreased from 8.00 percent to 7.50 percent, the underlying inflation component was decreased from 3.0 percent to 2.5 percent, and the wage inflation assumption was decreased from 4.25 percent to 3.75 percent. All other assumptions are the same as the prior valuation which reflected the results of the experience study performed for the period from January 1, 2003, through December 31, 2010 and were first effective with the valuation as of December 31, 2011.

CHART 34

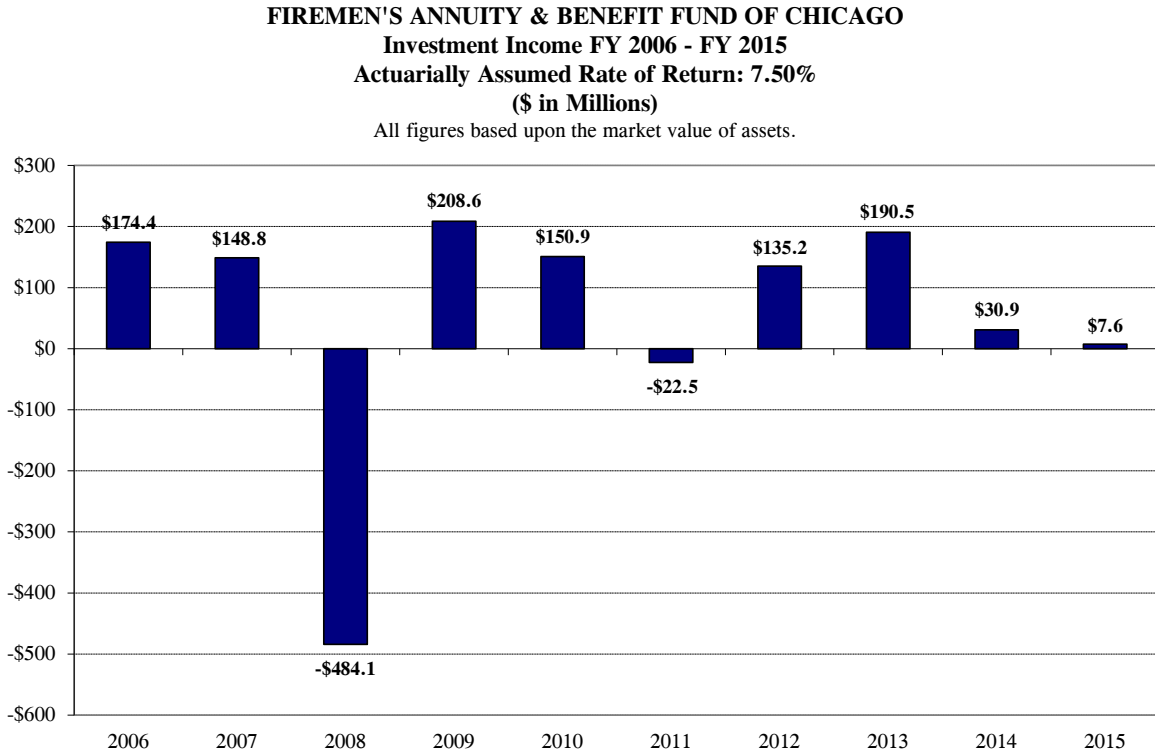


CHART 35

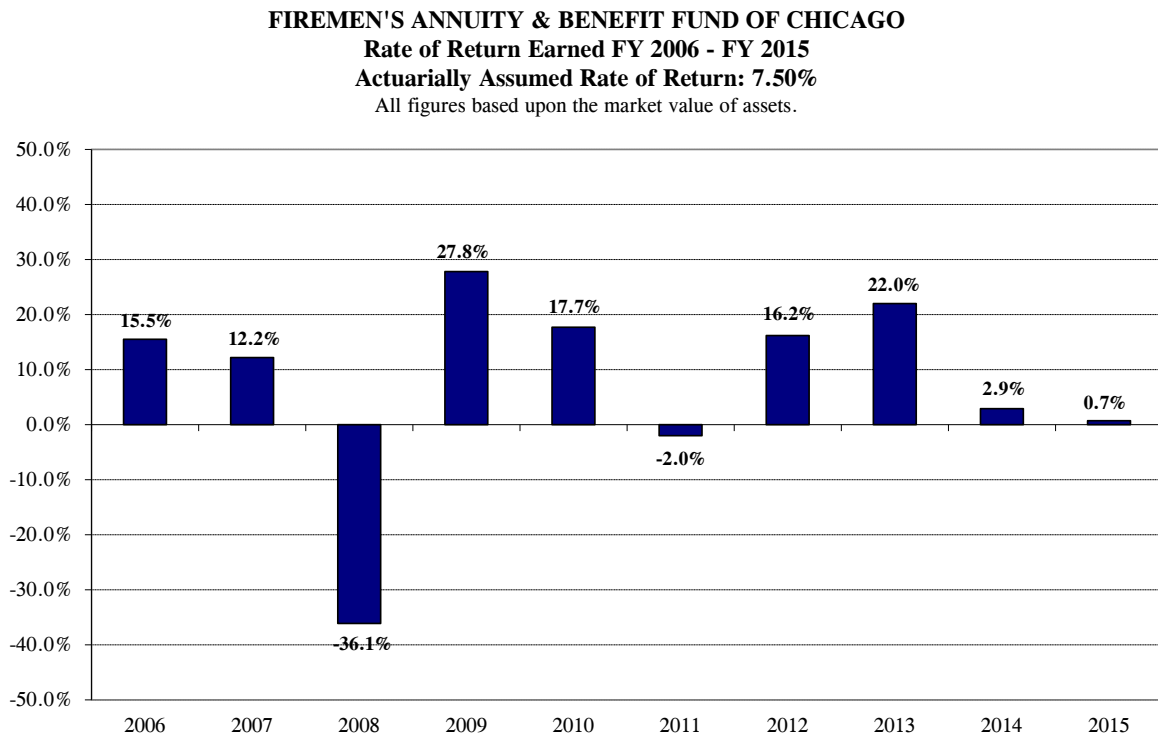


TABLE 9

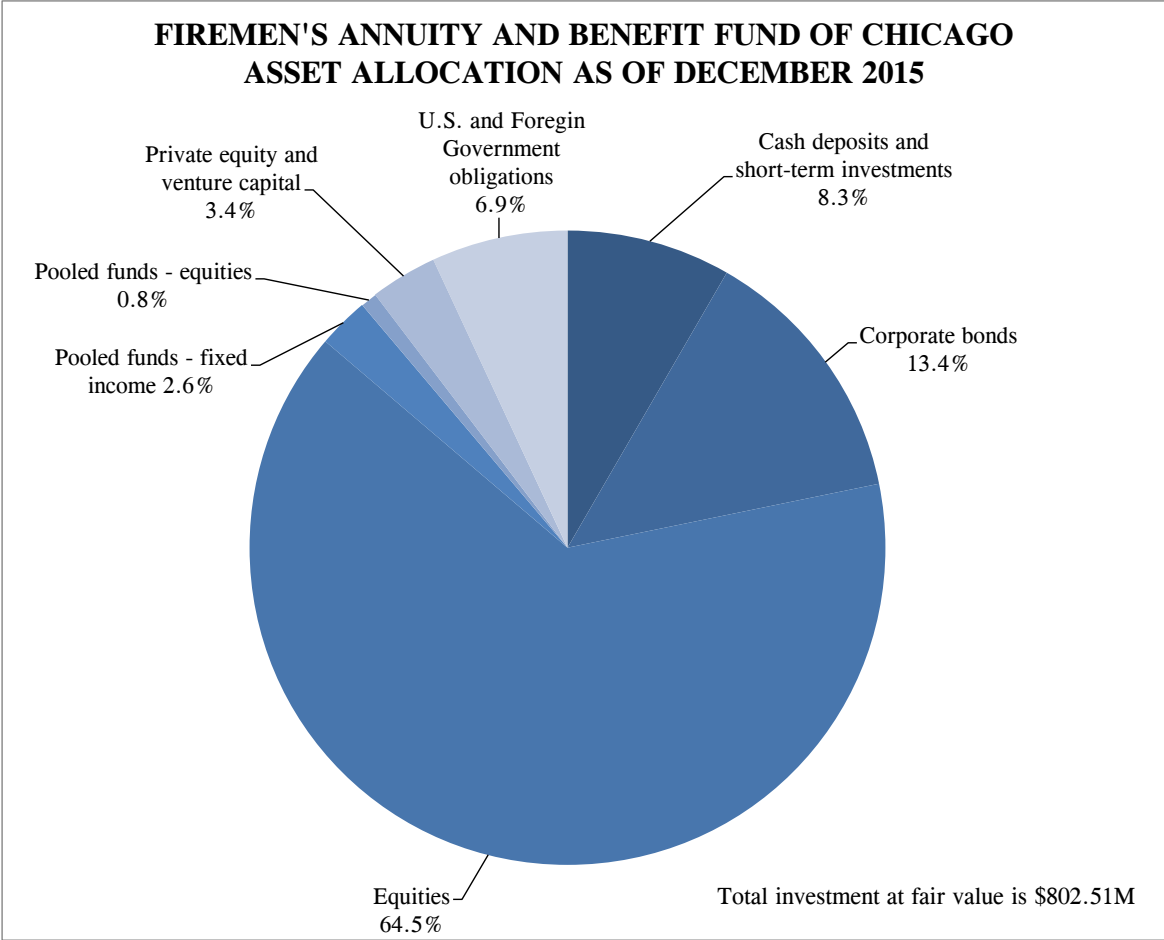
FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2015	465.2	4,666.8	1,081.0	3,585.8	23.2 %
2014	460.2	4,343.6	988.1	3,355.5	22.7 %
2013	416.5	4,136.4	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 %
2007	389.1	3,263.0	1,375.0	1,888.0	42.1 %
2006	387.4	3,133.1	1,264.5	1,868.6	40.4 %
2005	341.3	2,927.2	1,203.7	1,723.5	41.1 %
2004	334.4	2,793.5	1,182.6	1,610.9	42.3 %

NOTE: The above FY 2004 - FY 2015 figures include healthcare assets/liabilities.

TABLE 10

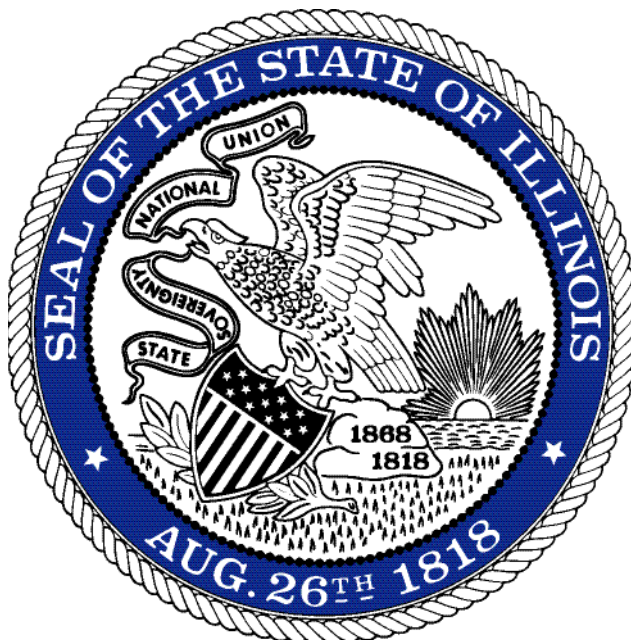
FIREMEN'S ANNUITY & BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	238.5	109.8	106.2	84.1	85.5	83.6	91.8	83.7	74.3	79.0
Employees	46.6	48.1	42.5	53.3	51.9	41.7	41.6	40.5	41.1	44.2
Net Investment Income	7.6	30.9	190.5	135.2	-22.4	150.9	208.6	-484.1	148.8	174.4
Other	0.0	0.0	-0.1	3.5	0.0	0.0	0.0	0.1	0.2	0.1
Total Asset Additions (A)	292.6	188.7	339.2	276.1	115.0	276.2	342.0	-359.8	264.4	297.7
Deductions from Assets										
Benefits	276.8	264.0	249.6	231.2	221.5	215.8	199.0	190.0	181.6	176.6
Refunds	3.6	2.3	2.2	2.6	2.1	1.8	2.1	2.7	1.7	1.6
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	3.1	3.1	3.1	2.5	2.5	3.1	3.0	2.9	3.1	2.7
Other	0.0	0.0	0.0	1.1	1.2	1.1	0.4	0.0	0.0	0.0
Total Asset Deductions (B)	283.5	269.4	254.9	237.4	227.3	221.8	204.5	195.6	186.4	180.9
Change in Net Assets (A-B=C)	9.1	-80.7	84.3	38.7	-112.3	54.4	137.5	-555.4	78.0	116.8

CHART 36



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, 2015.

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. In 2009, IMRF employers contributed, on average, 9.27% of payroll to fund regular IMRF benefits. In addition, they contribute to Social Security.

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. (Currently, there are 117 active members in ECO plan.)

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. In 2009, IMRF employers contributed, on average, 42.77% of payroll to fund ECO benefits.

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. In 2009, IMRF employers contributed, on average, 18.65% of payroll to fund SLEP benefits.

Note: Benefits shown are for employees hired prior to January 1, 2011, the effective date of P.A. 96-0889 and P.A. 06-1495. 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**

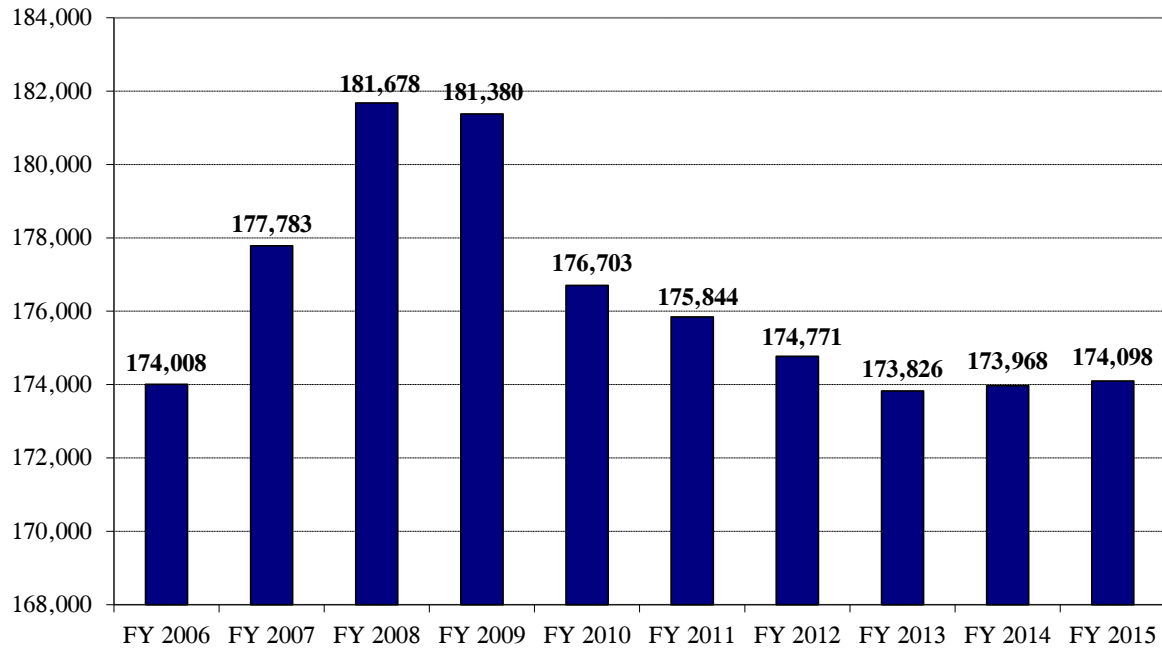


CHART 38

**ILLINOIS MUNICIPAL RETIREMENT FUND
Employee Annuitants**

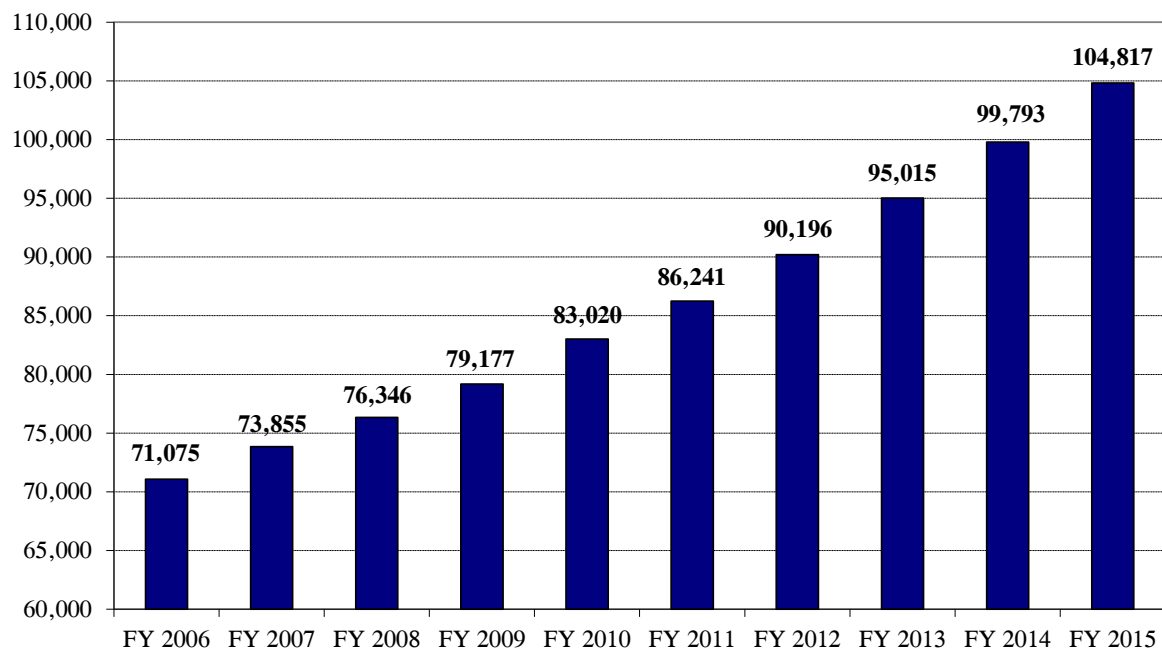


CHART 39

**ILLINOIS MUNICIPAL RETIREMENT FUND
Average Employee Salaries**

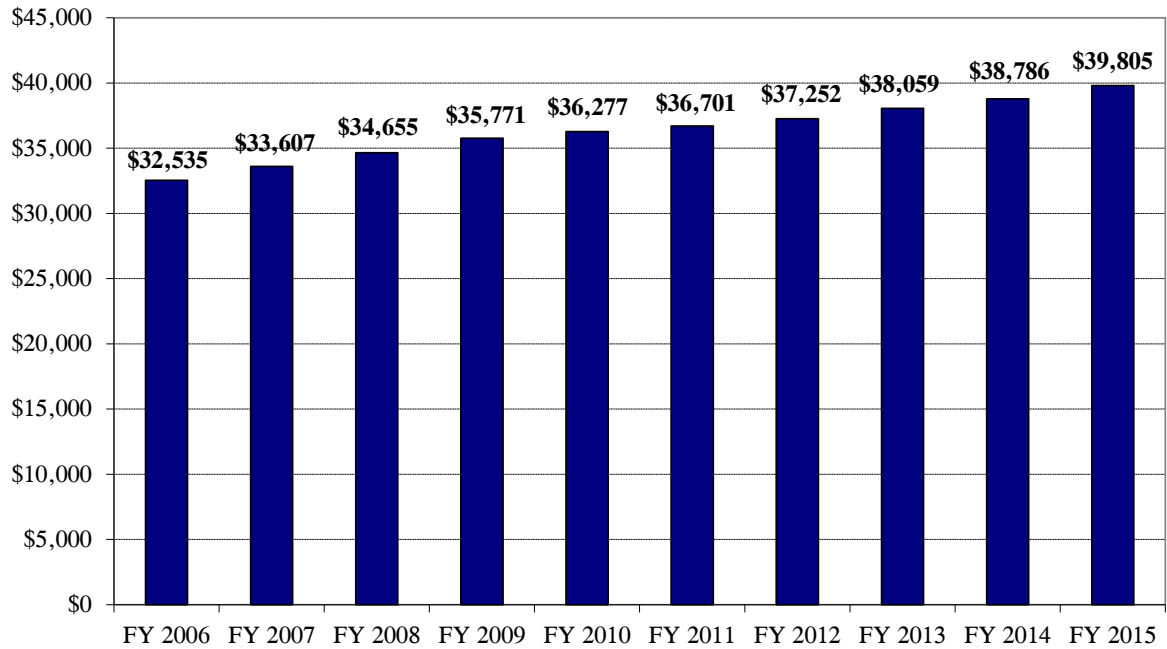


CHART 40

**ILLINOIS MUNICIPAL RETIREMENT FUND
Average Retirement Annuity**

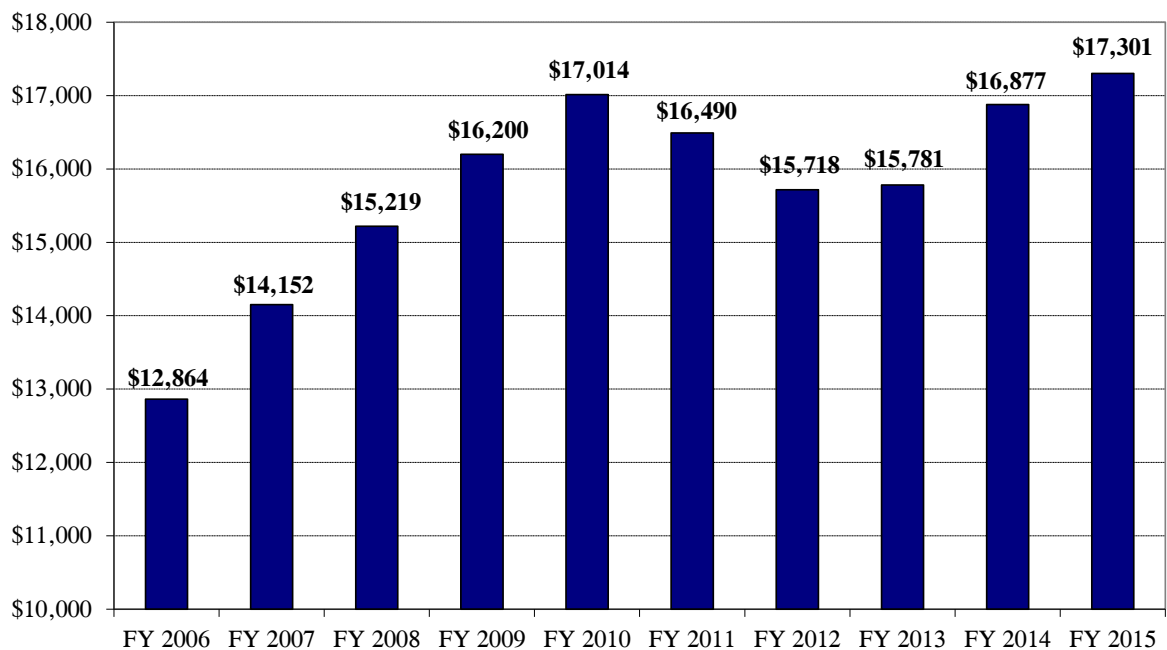


CHART 41

ILLINOIS MUNICIPAL RETIREMENT FUND

Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

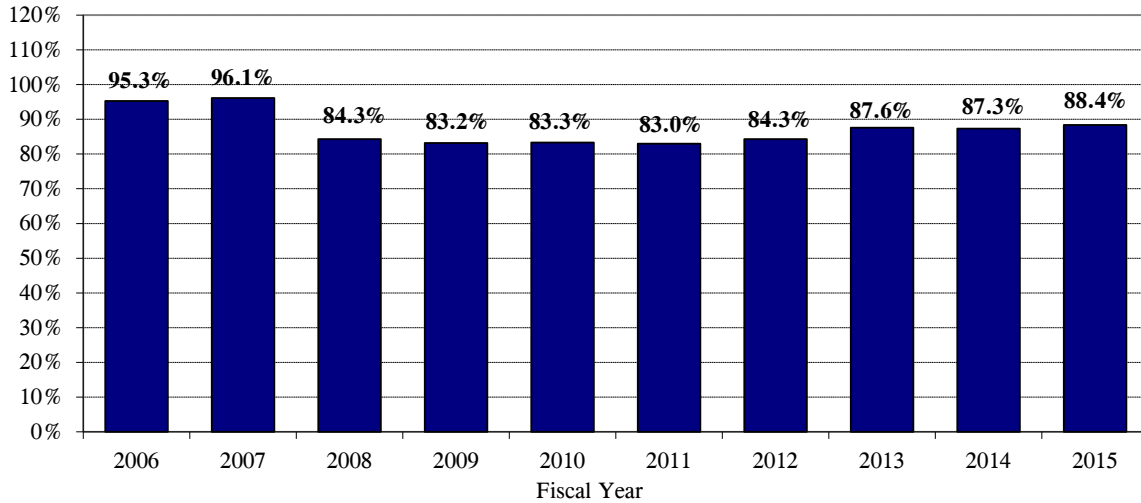


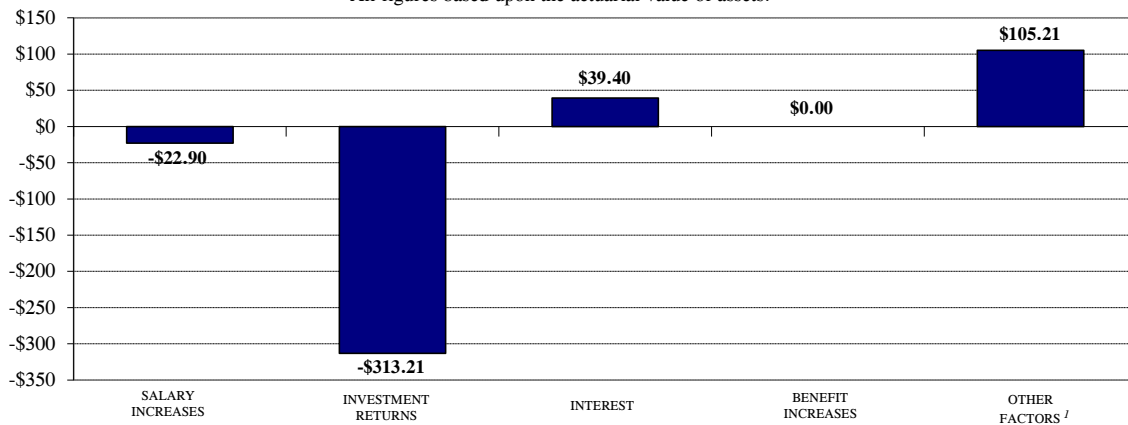
CHART 42

ILLINOIS MUNICIPAL RETIREMENT FUND

Change in Unfunded Liabilities Year ended December 31, 2015 (\$ in Millions)

TOTAL DECREASE EQUALS
\$191.49 MIL

All figures based upon the actuarial value of assets.



¹ "Other Factors" reflects actuarial losses from rehiring former employees and actual reserve transfers for retirees exceeding the projected reserve transfers.

CHART 43

ILLINOIS MUNICIPAL RETIREMENT FUND

Investment Income FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.50%

(\$ in Millions)

All figures based upon the market value of assets.

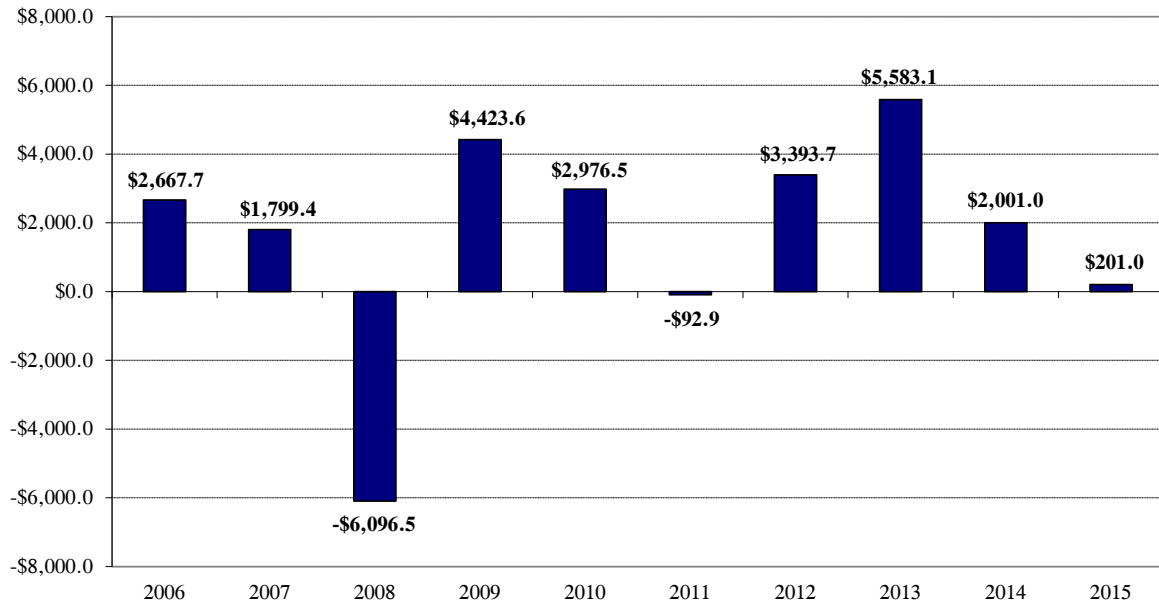


CHART 44

ILLINOIS MUNICIPAL RETIREMENT FUND

Rate of Return FY 2006 - FY 2015

Actuarially Assumed Rate of Return: 7.50%

All figures based upon the market value of assets.

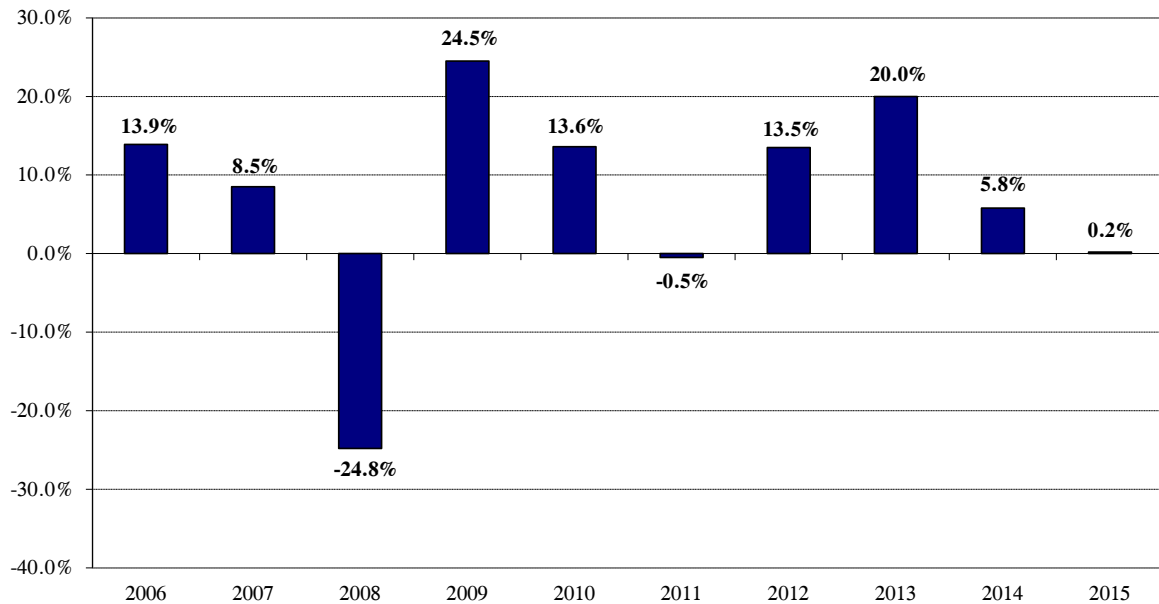


TABLE 11

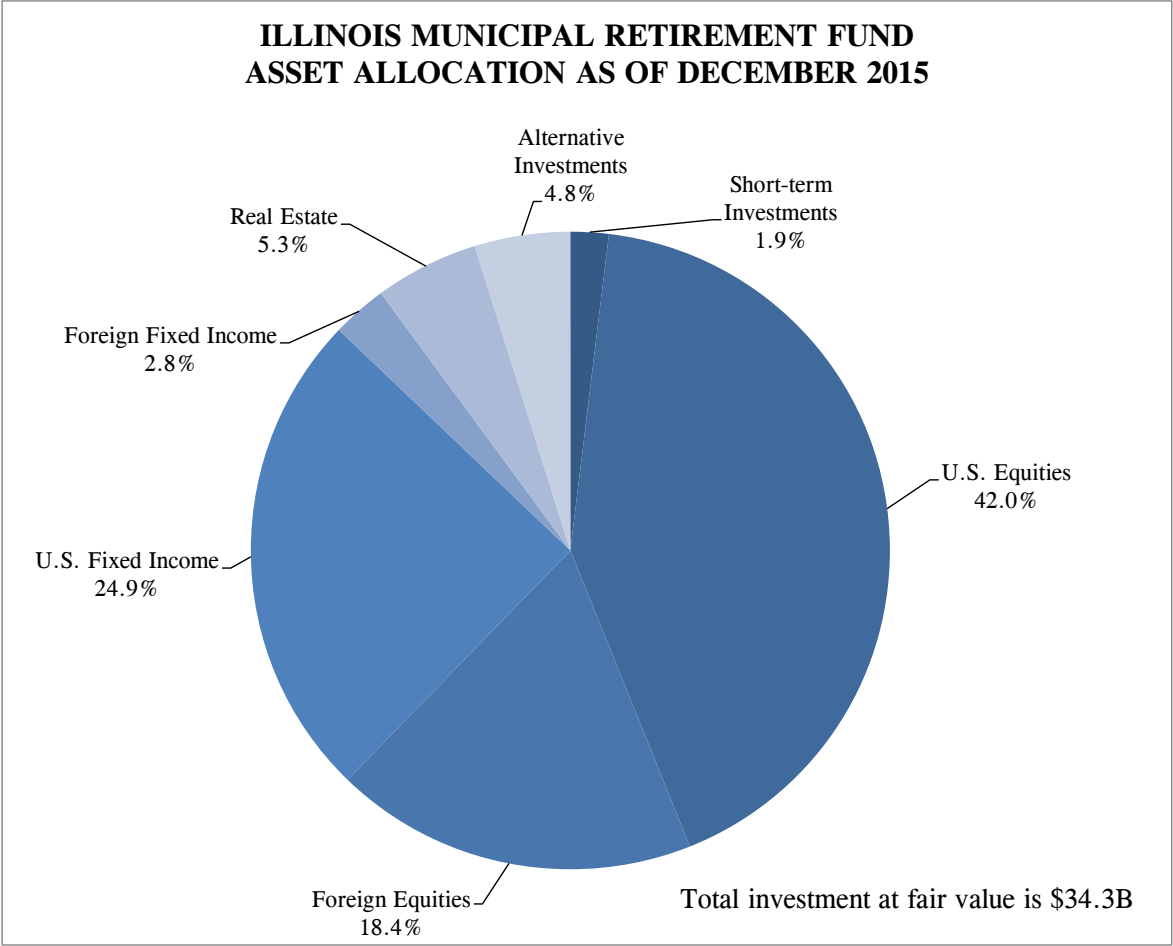
ILLINOIS MUNICIPAL RETIREMENT FUND System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2015	6,919.3	39,486.6	34,913.1	4,573.4	88.4 %
2014	6,732.5	37,465.1	32,700.2	4,764.9	87.3 %
2013	6,602.5	34,356.6	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 %
2007	5,931.4	24,221.5	23,274.4	947.1	96.1 %
2006	5,630.7	22,488.2	21,427.1	1,061.1	95.3 %
2005	5,374.6	20,815.1	19,698.4	1,108.7	94.6 %
2004	5,161.1	19,424.7	18,316.0	1,108.7	94.3 %

TABLE 12

ILLINOIS MUNICIPAL RETIREMENT FUND										
Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	900.5	923.4	931.0	883.2	800.8	770.2	660.4	631.1	600.8	602.8
Employees	368.0	351.1	338.9	330.8	327.7	324.9	324.1	314.0	296.7	281.0
Total Investment Income	200.7	2,001.4	5,583.1	3,393.7	-92.9	2,976.5	4,423.6	-6,096.5	1,799.4	2,667.7
Other	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Asset Additions (A)	1469.7	3,275.9	6,853.0	4,607.7	1,035.6	4,071.6	5,408.0	-5,151.4	2,696.9	3,551.5
Deductions from Assets										
Benefits	1758.2	1626.8	1,503.4	1,389.8	1,284.4	1,178.0	1,077.8	997.5	924.0	856.2
Refunds	36.7	39.2	36.9	34.1	32.9	32.2	27.4	31.9	36.2	40.1
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	28.7	26.4	25.5	24.5	23.1	22.3	22.0	20.7	20.8	20.3
Other	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Asset Deductions (B)	1823.6	1,692.4	1,565.8	1,448.4	1,340.4	1,232.5	1,127.2	1,050.1	981.0	916.6
Change in Net Assets (A-B=C)	-354.0	1,583.5	5,287.2	3,159.3	-304.8	2,839.1	4,280.8	-6,201.4	1,715.9	2,634.9

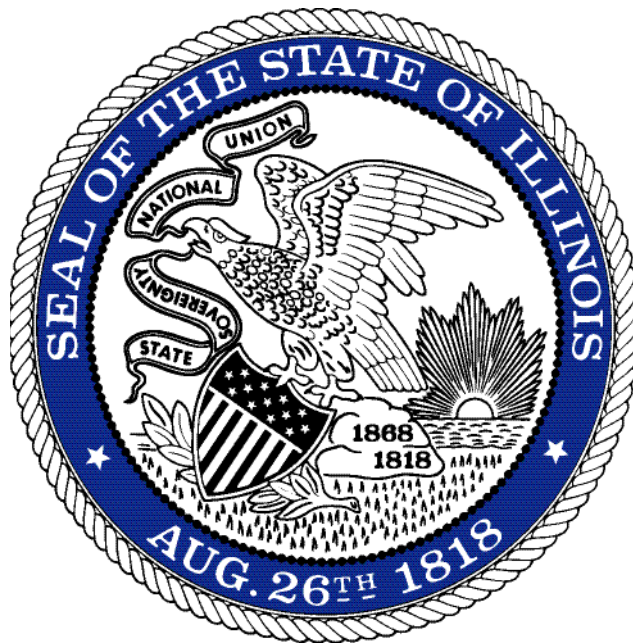
¹ Total investment income consists of gains from investment activity and security lending activity after taking off related expenses.

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, 2015.

Laborers' Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary

* P.A. 98-0641 was declared unconstitutional by the Cook County Circuit Court on July 24, 2015 and on March 24, 2016, the Illinois Supreme Court agreed with the Circuit Court's decision. Therefore, 2015 data on this report does not reflect provisions of P.A. 98-0641.

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

- The lesser of 3% simple or ½ the CPI-U.

Employee Contributions

- Currently 8.5% of salary. (Pursuant to the Illinois Supreme Court ruling on the unconstitutionality of P.A. 98-0641, Municipal and Laborer's employee contributions have reverted back to 8.5% of salary.)

Required Employer Contributions

Currently, the City of Chicago is required to contribute an amount equal to the employee contributions to the fund two years prior to the year in which the tax is levied, multiplied by 1.00. Beginning in 2016, this multiplier will increase to 1.6 and will increase by .3 per year, settling at 2.8 in 2020.

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

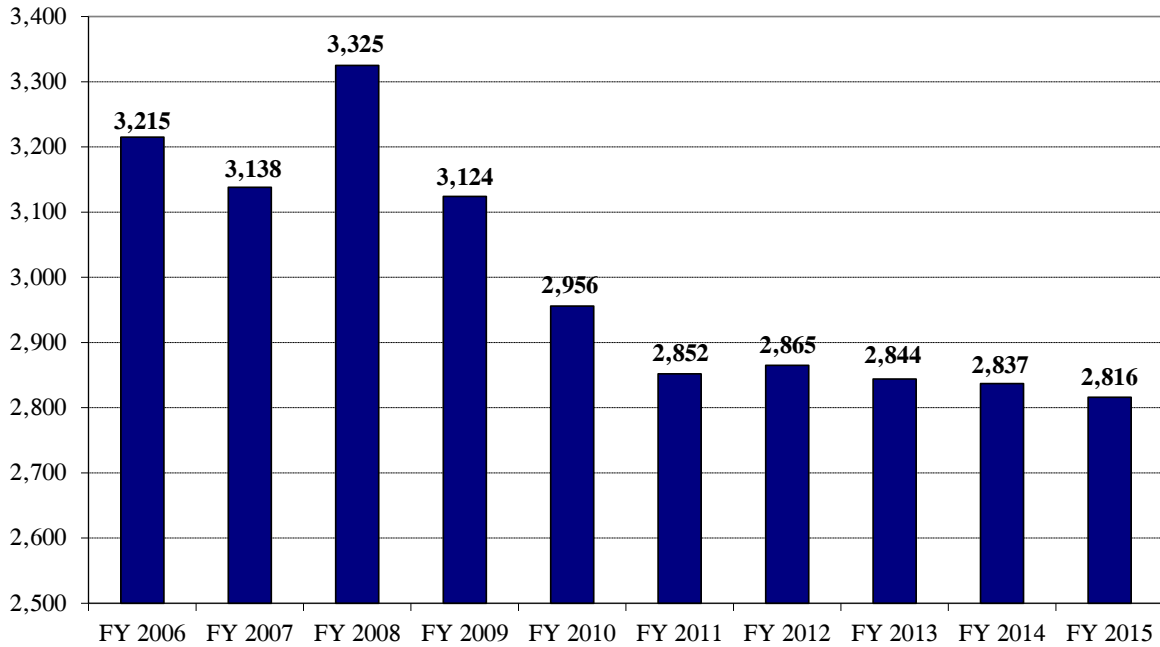


CHART 47

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

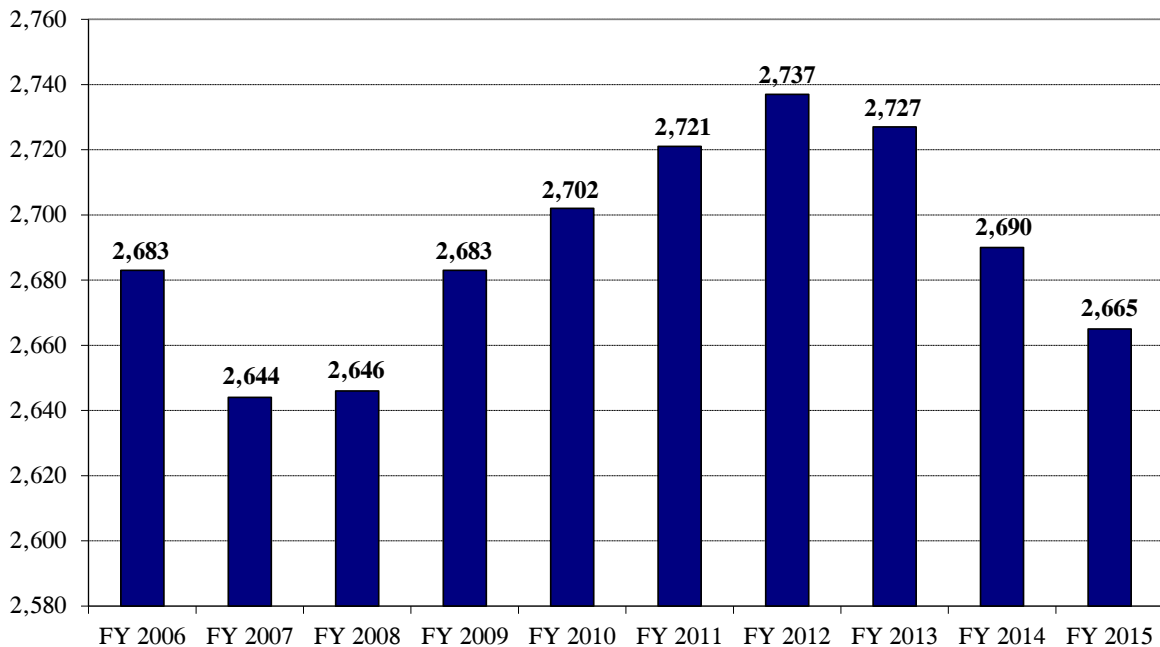


CHART 48

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Employee Salaries

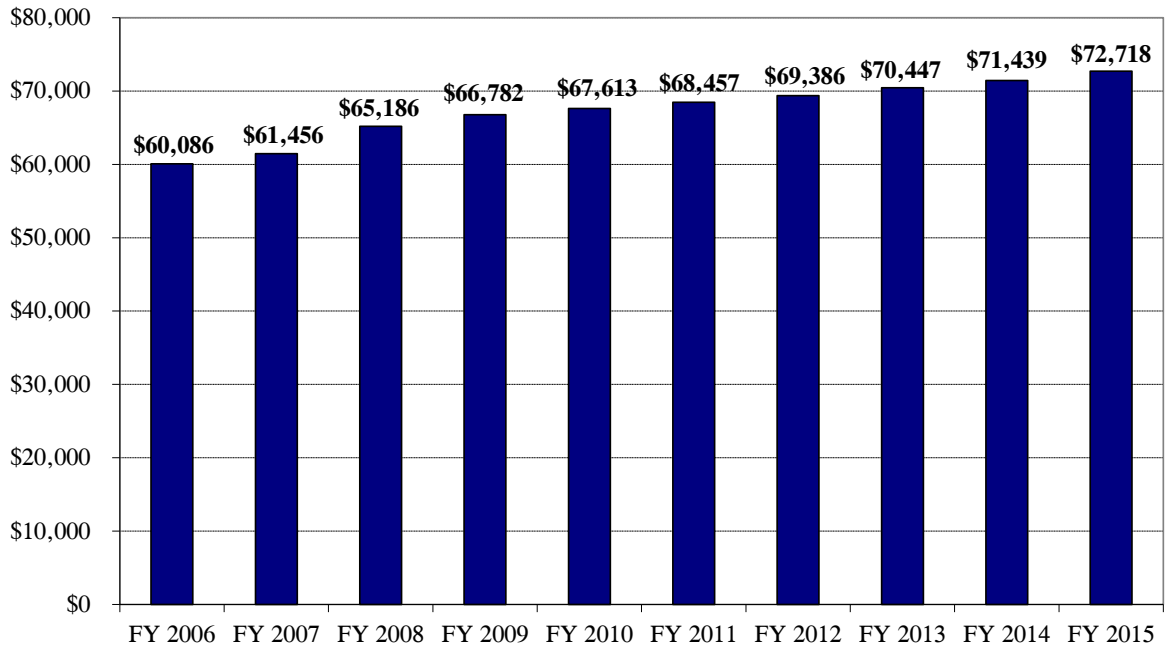


CHART 49

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Average Retirement Annuities

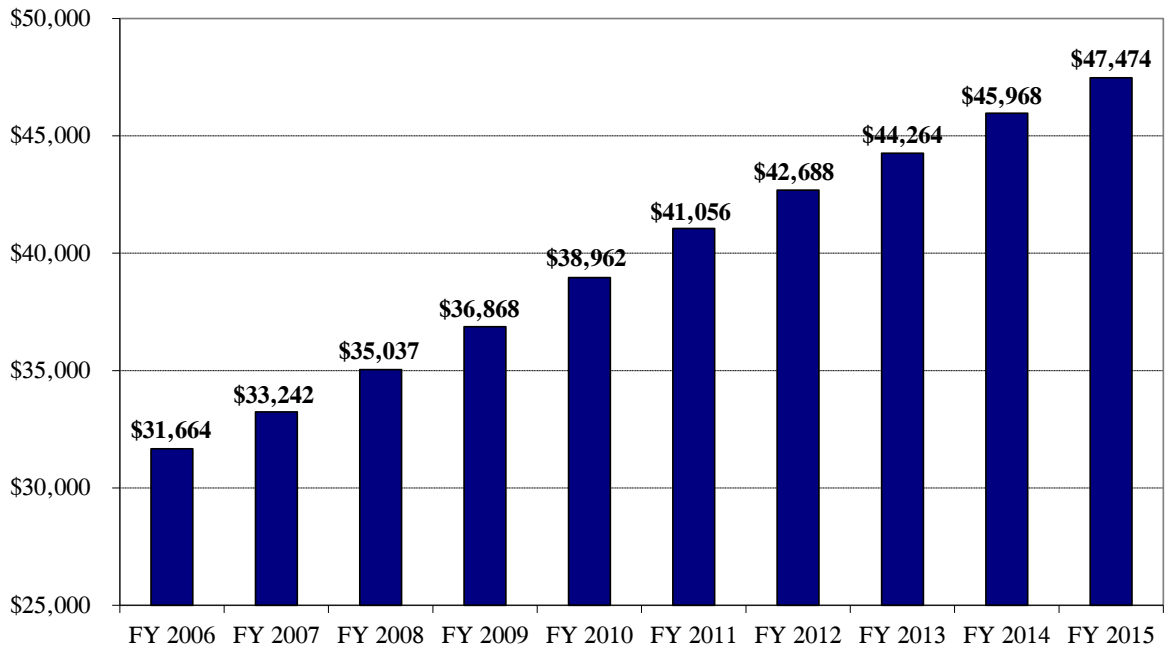
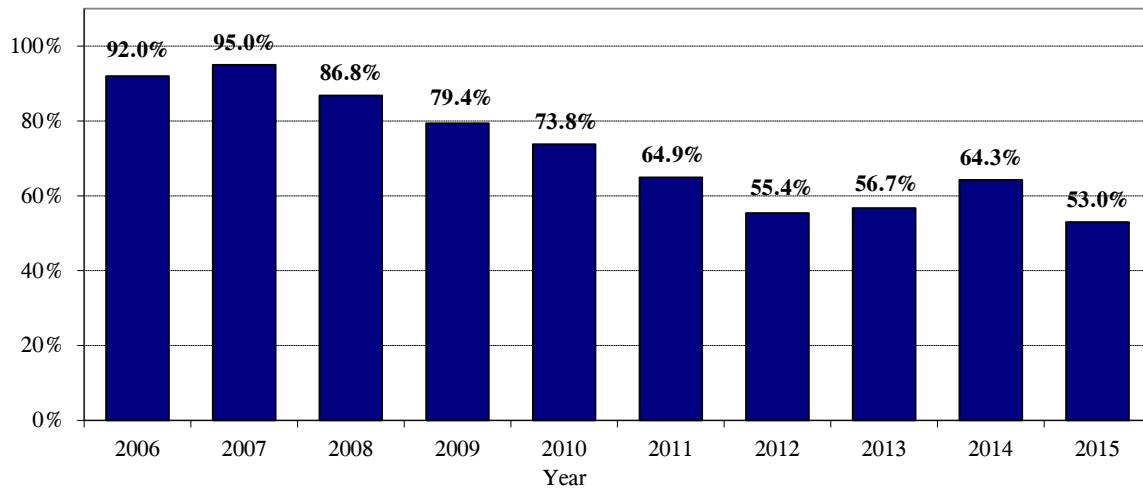


CHART 50

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Funded Ratio
FY 2005 - FY 2015

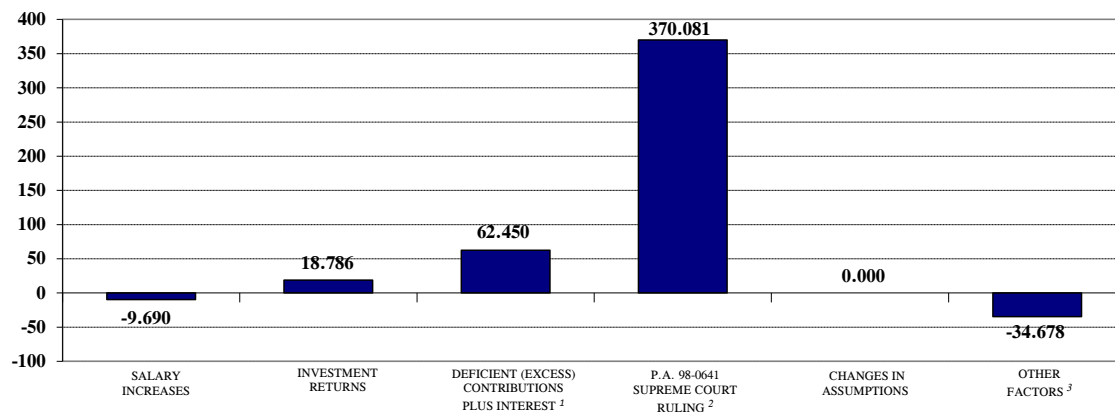
All figures based upon the actuarial value of assets.

**CHART 51**

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
Change in Unfunded Liabilities
Year ended December 31, 2015
(\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$406.95 MIL



¹ This amount is calculated by deducting contributions from the sum of normal cost and interest expenses. A positive number means an increase in unfunded liabilities and vice versa.

² A significant increase in actuarial liability is reflected due to the Supreme Court ruling that found P.A. 98-0641 unconstitutional. In their 2014 actuarial valuation report reflecting the funding policy changes and new benefit provisions by P.A. 98-0641, the Fund's actuarial liability was decreased by \$317.9 million.

³ Other Factors include gains resulting from actual retirement, termination, mortality experience, etc.

CHART 52

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income, 2006 - 2015
Actuarially Assumed Rate of Return: 7.50%
(\$ in Millions)

All figures based upon the market value of assets.

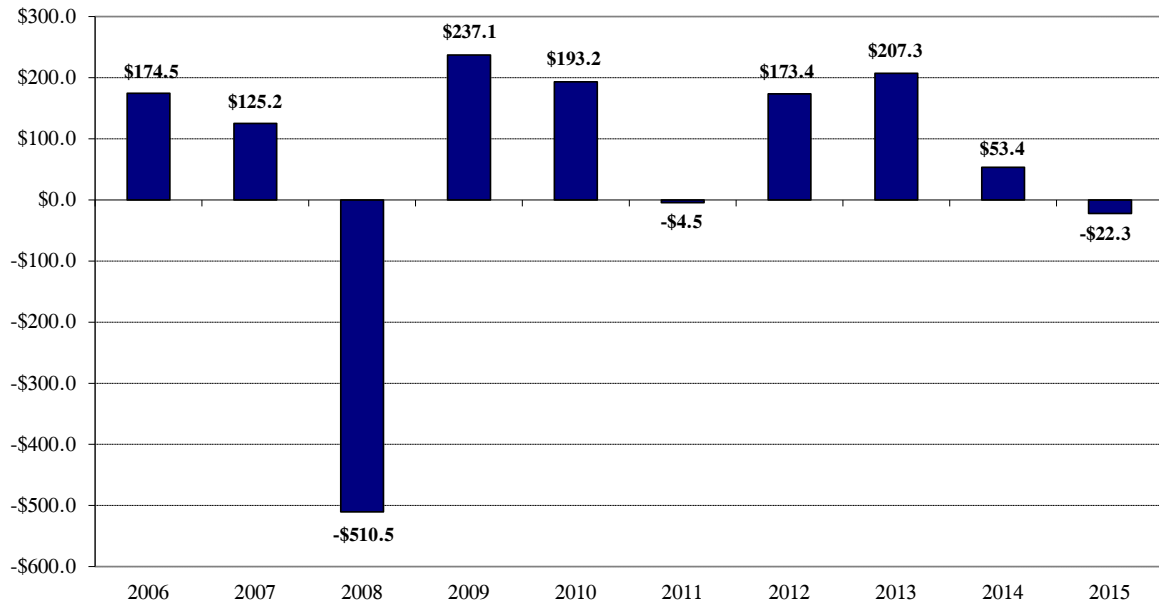


CHART 53

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return, 2006 - 2015
Actuarially Assumed Rate of Return: 7.50%
All figures based upon the market value of assets.

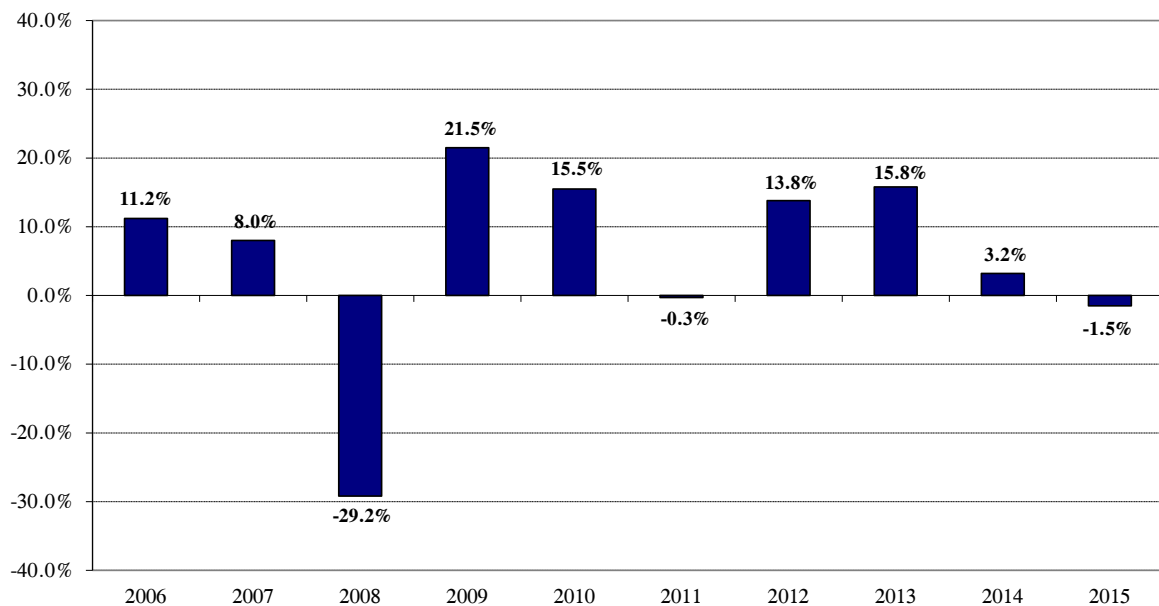


TABLE 13

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, 2004 - 2015 (\$ in Millions)					
Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	192.8	1,849.7	1,757.7	92.0	95.0%
2006	193.2	1,809.3	1,664.1	145.2	92.0%
2005	182.8	1,742.3	1,635.6	106.7	93.9%
2004	171.5	1,674.6	1,650.0	24.6	98.5%

NOTE: The above 2004 - 2015 figures include healthcare assets/liabilities.

TABLE 14

LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Year	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	14.6	14.5	14.1	14.4	15.3	18.0	17.2	17.6	15.5	0.1
Employees	16.8	16.4	16.4	16.6	16.1	16.3	17.5	19.4	18.4	18.8
Net Investment Income	-22.8	52.9	206.7	172.6	-5.1	193.2	237.1	-510.5	125.2	174.5
Other	0.4	0.5	0.6	0.8	0.6	0.0	0.0	0.0	0.0	0.0
Total Asset Additions (A)	9.1	84.3	237.8	204.4	26.9	227.5	271.8	-473.5	159.1	193.4
Deductions from Assets										
Benefits	152.2	147.9	144.3	139.7	133.5	127.0	121.0	113.7	108.8	106.9
Refunds	2.5	2.1	2.9	2.6	3.0	2.3	2.8	3.5	3.7	3.1
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	3.8	3.8	4.1	4.7	4.0	3.9	3.7	3.6	3.4	2.8
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)	158.5	153.9	151.3	147.0	140.5	133.2	127.5	120.8	115.9	112.8
Change in Net Assets (A-B=C)	-149.4	-69.6	86.5	57.4	-113.6	94.3	144.3	-594.3	43.2	80.6

Note: the benefits include health insurance supplement

Table 15 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, 2015 actuarial valuation. Table 15 and 16 do not reflect projections based on P.A. 98-0641.

TABLE 15

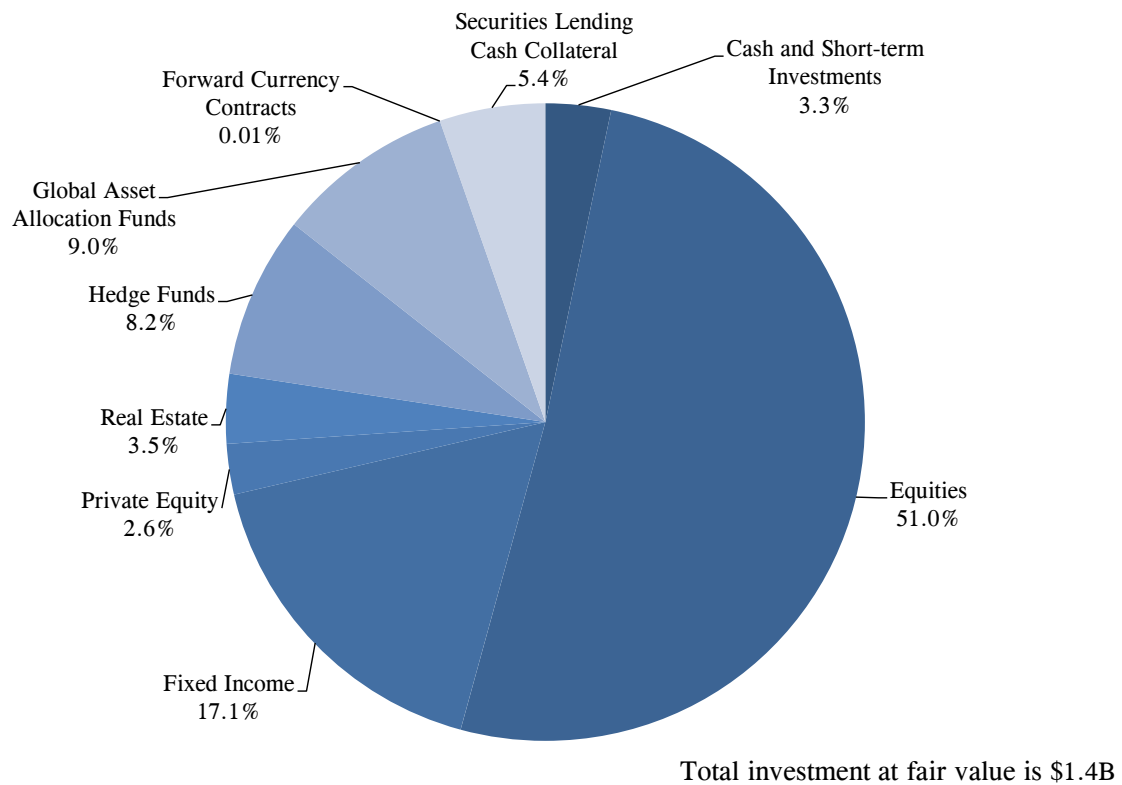
Laborers' Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2015 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total Employer Contribution*	Employer Contribution As % of Payroll	Employee Contribution	Total Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability	Funded Ratio
2015	204.8	14.6	7.1%	15.3	2,469.9	1,308.7	1,161.2	53.0%
2016	208.8	14.4	6.9%	16.4	2,527.1	1,267.4	1,259.7	50.2%
2017	214.3	14.4	6.7%	16.7	2,583.2	1,203.1	1,380.1	46.6%
2018	220.3	14.6	6.6%	17.1	2,636.8	1,106.9	1,529.8	42.0%
2019	226.8	15.7	6.9%	17.6	2,687.6	1,011.0	1,676.6	37.6%
2020	233.7	16.0	6.9%	18.1	2,735.2	927.6	1,807.6	33.9%
2021	241.2	16.5	6.8%	18.7	2,779.5	831.8	1,947.7	29.9%
2022	249.3	16.9	6.8%	19.3	2,820.4	722.8	2,097.6	25.6%
2023	257.5	17.4	6.8%	19.9	2,857.6	599.6	2,258.0	21.0%
2024	266.2	17.9	6.7%	20.6	2,890.6	461.0	2,429.6	15.9%
2025	275.3	18.5	6.7%	21.3	2,918.8	305.5	2,613.2	10.5%
2026	284.5	19.1	6.7%	22.0	2,943.0	133.2	2,809.7	4.5%
2027	293.9	75.5	25.7%	22.8	2,962.3	-	-	-
2028	303.4	219.7	72.4%	23.5	2,976.5	-	-	-
2029	312.8	225.4	72.1%	24.3	2,985.5	-	-	-
2030	322.3	230.8	71.6%	25.0	2,989.4	-	-	-
2031	331.9	235.3	70.9%	25.8	2,988.6	-	-	-
2032	341.5	239.0	70.0%	26.6	2,983.8	-	-	-
2033	351.3	242.0	68.9%	27.3	2,975.4	-	-	-
2034	361.1	243.8	67.5%	28.1	2,964.4	-	-	-
2035	369.9	244.9	66.2%	28.9	2,951.3	-	-	-
2036	378.4	245.3	64.8%	29.6	2,936.8	-	-	-
2037	386.7	245.1	63.4%	30.3	2,921.5	-	-	-
2038	394.9	244.3	61.9%	30.9	2,905.7	-	-	-
2039	403.2	243.1	60.3%	31.6	2,890.2	-	-	-
2040	411.6	241.1	58.6%	32.3	2,875.7	-	-	-
2041	420.2	238.3	56.7%	32.9	2,863.0	-	-	-
2042	428.9	235.0	54.8%	33.6	2,853.0	-	-	-
2043	437.8	231.4	52.9%	34.3	2,846.2	-	-	-
2044	446.8	227.5	50.9%	35.0	2,843.1	-	-	-
2045	455.8	223.5	49.0%	35.7	2,844.2	-	-	-
2046	465.1	219.6	47.2%	36.5	2,849.7	-	-	-
2047	474.6	215.7	45.5%	37.2	2,859.9	-	-	-
2048	484.3	212.1	43.8%	38.0	2,875.0	-	-	-
2049	494.2	208.6	42.2%	38.7	2,895.2	-	-	-
2050	504.4	205.6	40.8%	39.5	2,920.4	-	-	-
2051	514.7	203.4	39.5%	40.3	2,950.0	-	-	-
2052	525.1	202.2	38.5%	41.2	2,983.6	-	-	-
2053	535.7	201.4	37.6%	42.0	3,020.9	-	-	-
2054	546.2	201.1	36.8%	42.9	3,061.8	-	-	-
2055	555.9	201.1	36.2%	43.7	3,106.2	-	-	-
2056	565.2	201.7	35.7%	44.5	3,153.7	-	-	-
2057	574.5	203.4	35.4%	45.2	3,203.5	-	-	-
2058	583.8	205.6	35.2%	46.0	3,255.2	-	-	-
2059	593.2	208.2	35.1%	46.7	3,308.6	-	-	-
2060	602.5	211.2	35.1%	47.5	3,363.5	-	-	-
2061	612.0	214.6	35.1%	48.2	3,419.4	-	-	-
2062	621.5	218.3	35.1%	49.0	3,476.3	-	-	-
2063	631.1	222.3	35.2%	49.7	3,534.0	-	-	-
2064	640.8	226.5	35.3%	50.5	3,592.2	-	-	-

TABLE 16

Laborers' Annuity and Benefit Fund of Chicago Projected Normal Cost as of December 31, 2015 (\$ 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
2015	20.5	10.0%	15.3	7.5%	35.8	17.5%
2016	22.1	10.6%	16.4	7.8%	38.5	18.4%
2017	21.8	10.2%	16.7	7.8%	38.5	18.0%
2018	21.6	9.8%	17.1	7.8%	38.7	17.6%
2019	21.4	9.4%	17.6	7.8%	39.0	17.2%
2020	21.1	9.1%	18.1	7.8%	39.3	16.8%
2021	20.9	8.7%	18.7	7.7%	39.6	16.4%
2022	20.7	8.3%	19.3	7.7%	40.0	16.1%
2023	20.5	8.0%	19.9	7.7%	40.5	15.7%
2024	20.3	7.6%	20.6	7.7%	40.9	15.4%
2025	20.1	7.3%	21.3	7.7%	41.4	15.0%
2026	19.9	7.0%	22.0	7.7%	41.9	14.7%
2027	19.7	6.7%	22.8	7.7%	42.4	14.4%
2028	19.4	6.4%	23.5	7.7%	43.0	14.2%
2029	19.2	6.1%	24.3	7.8%	43.5	13.9%
2030	19.0	5.9%	25.0	7.8%	44.0	13.7%
2031	18.8	5.7%	25.8	7.8%	44.6	13.4%
2032	18.7	5.5%	26.6	7.8%	45.3	13.2%
2033	18.6	5.3%	27.3	7.8%	45.9	13.1%
2034	18.5	5.1%	28.1	7.8%	46.7	12.9%
2035	18.5	5.0%	28.9	7.8%	47.4	12.8%
2036	18.5	4.9%	29.6	7.8%	48.1	12.7%
2037	18.5	4.8%	30.3	7.8%	48.8	12.6%
2038	18.6	4.7%	30.9	7.8%	49.5	12.5%
2039	18.6	4.6%	31.6	7.8%	50.2	12.5%
2040	18.7	4.6%	32.3	7.8%	51.0	12.4%
2041	18.9	4.5%	32.9	7.8%	51.8	12.3%
2042	19.1	4.5%	33.6	7.8%	52.7	12.3%
2043	19.3	4.4%	34.3	7.8%	53.6	12.2%
2044	19.5	4.4%	35.0	7.8%	54.6	12.2%
2045	19.8	4.3%	35.7	7.8%	55.6	12.2%
2046	20.1	4.3%	36.5	7.8%	56.6	12.2%
2047	20.4	4.3%	37.2	7.8%	57.6	12.1%
2048	20.7	4.3%	38.0	7.8%	58.7	12.1%
2049	21.1	4.3%	38.7	7.8%	59.8	12.1%
2050	21.4	4.2%	39.5	7.8%	61.0	12.1%
2051	21.8	4.2%	40.3	7.8%	62.2	12.1%
2052	22.2	4.2%	41.2	7.8%	63.4	12.1%
2053	22.7	4.2%	42.0	7.8%	64.7	12.1%
2054	23.1	4.2%	42.9	7.8%	66.0	12.1%
2055	23.5	4.2%	43.7	7.9%	67.2	12.1%
2056	24.0	4.2%	44.5	7.9%	68.5	12.1%
2057	24.4	4.3%	45.2	7.9%	69.7	12.1%
2058	24.9	4.3%	46.0	7.9%	70.9	12.1%
2059	25.4	4.3%	46.7	7.9%	72.1	12.2%
2060	26.0	4.3%	47.5	7.9%	73.4	12.2%
2061	26.5	4.3%	48.2	7.9%	74.7	12.2%
2062	27.1	4.4%	49.0	7.9%	76.0	12.2%
2063	27.7	4.4%	49.7	7.9%	77.4	12.3%
2064	28.3	4.4%	50.5	7.9%	78.7	12.3%

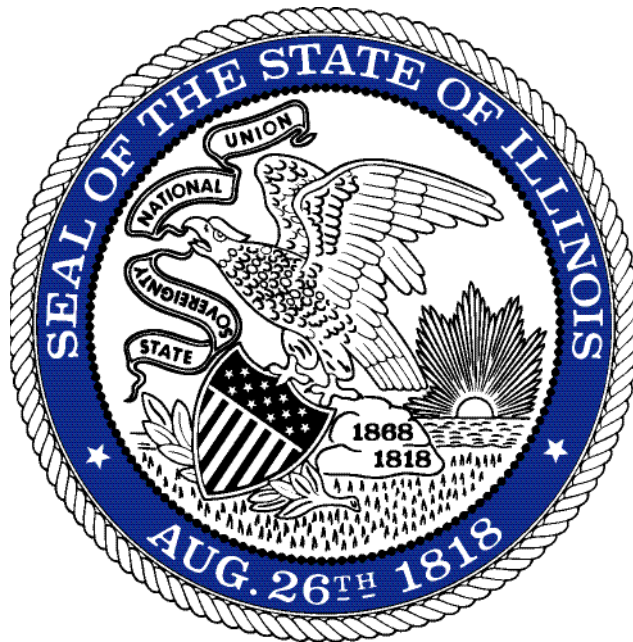
CHART 54

**LABORERS' ANNUITY AND BENEFIT FUND OF CHICAGO
ASSET ALLOCATION AS OF DECEMBER 2015**



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, 2015.

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)

- Tier 1 employees currently contribute 11% of their salary toward pension benefits. Beginning on January 1, 2015, the 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 FY2050. 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**

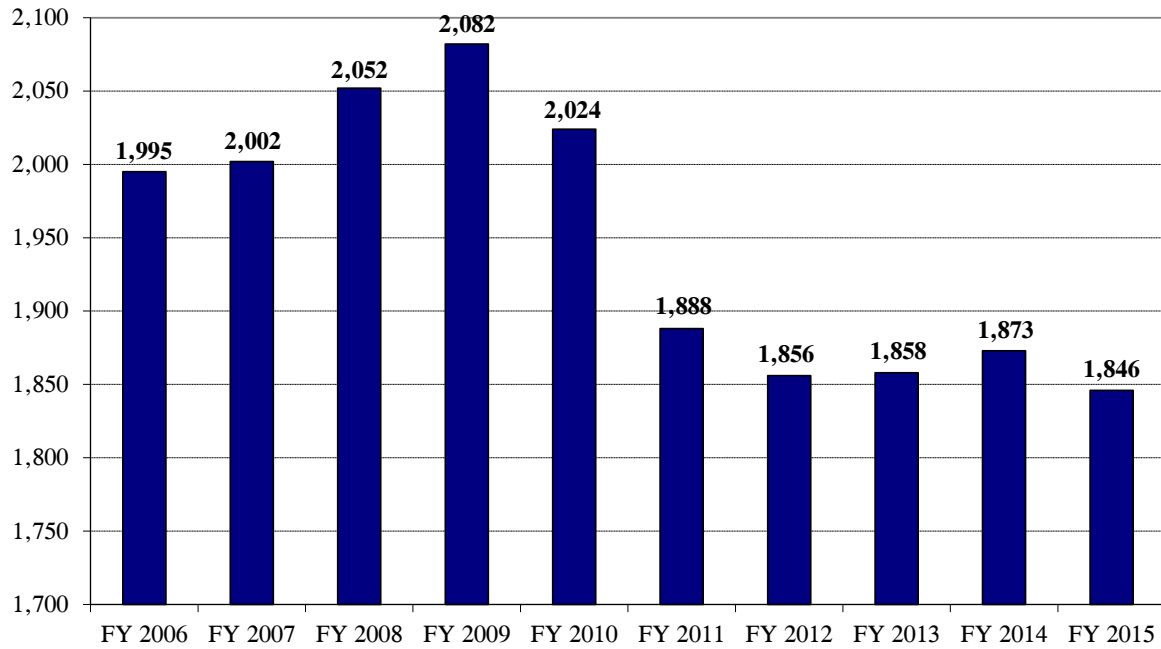


CHART 56

**METROPOLITAN WATER PENSION FUND
Employee Annuitants**

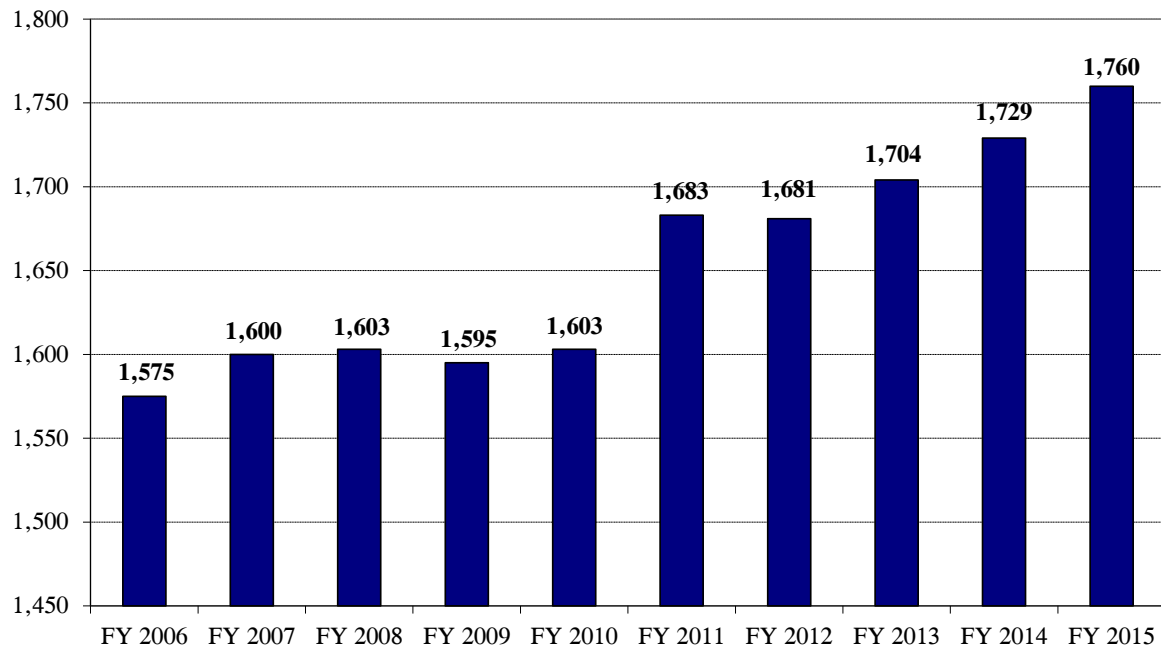


CHART 57

METROPOLITAN WATER PENSION FUND
Average Employee Salaries

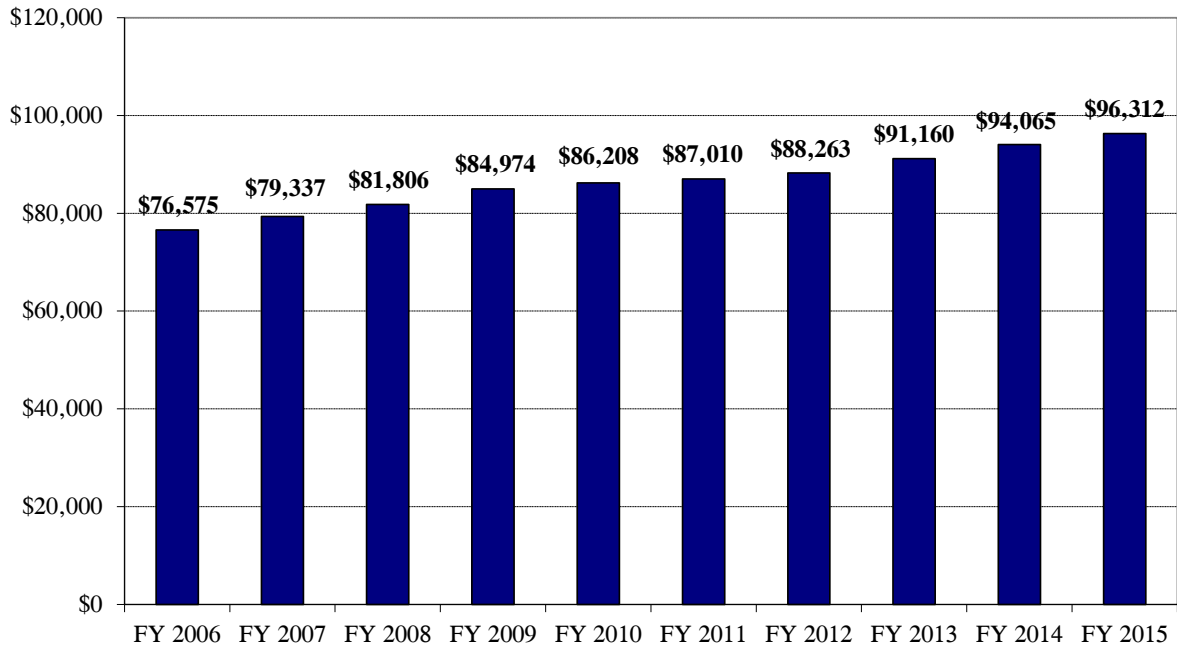


CHART 58

METROPOLITAN WATER PENSION FUND
Average Retirement Annuity

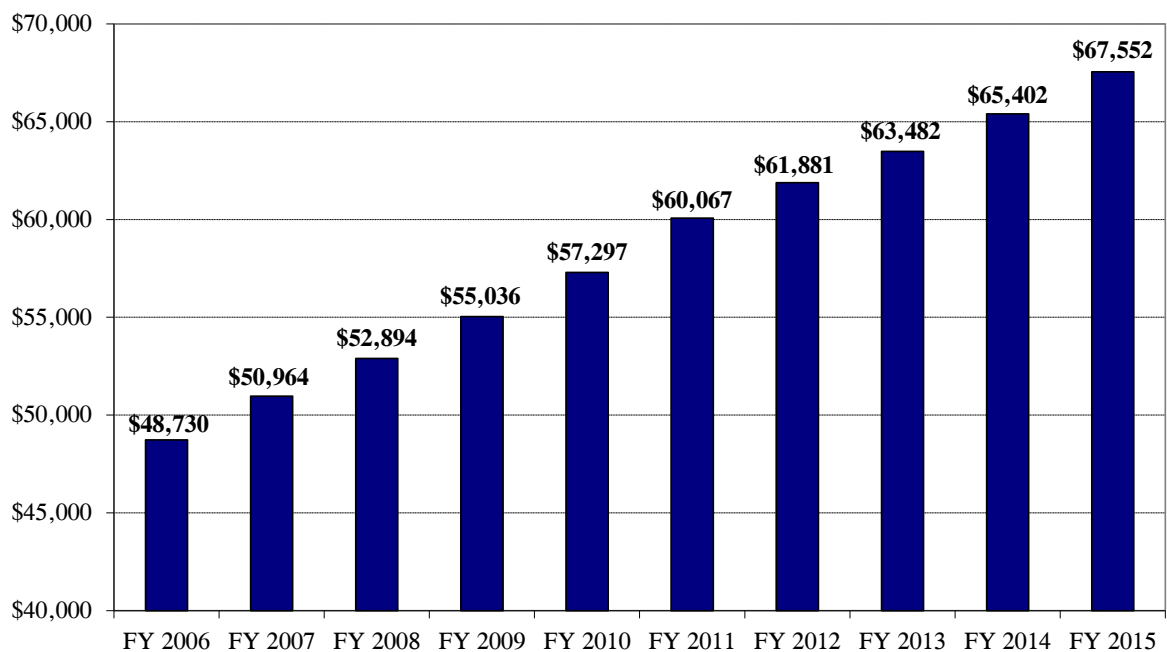


CHART 59

METROPOLITAN WATER PENSION FUND
Funded Ratio
FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

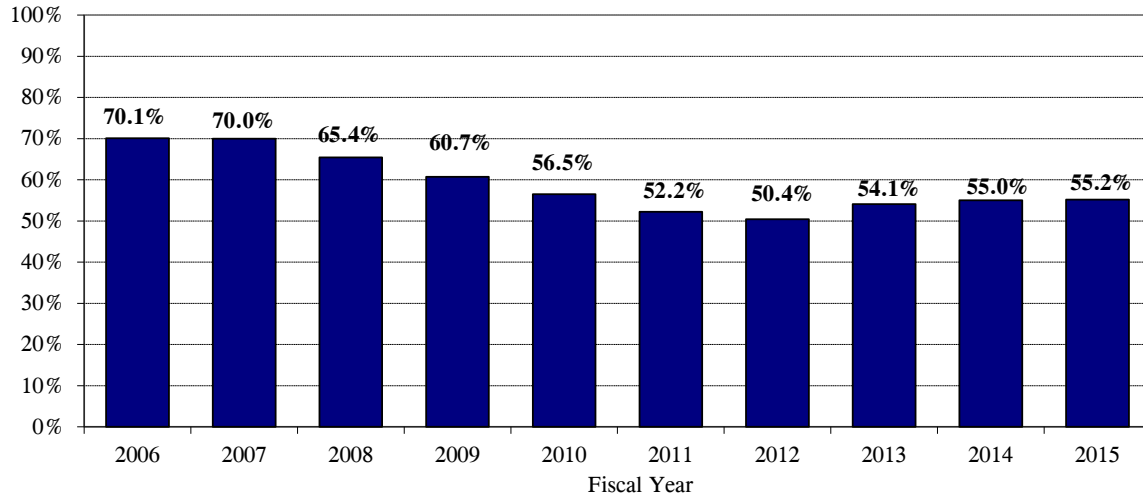
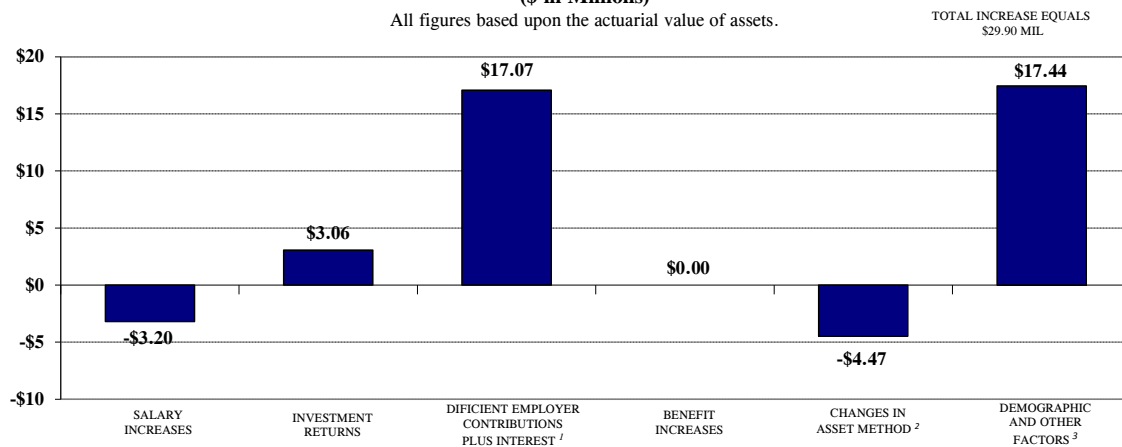


CHART 60

METROPOLITAN WATER PENSION FUND
Change in Unfunded Liabilities
Year ended December 31, 2015
(\$ in Millions)

All figures based upon the actuarial value of assets.



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

² The actuarial asset method is updated to specifically reflect the market value of assets.

³ "Demographic and Other Factors" increases UAAL by \$17.44 million primarily due to an actuarial loss from decrement experience such as retirements, terminations, etc.

CHART 61

METROPOLITAN WATER PENSION FUND
Investment Income 2006 - 2015
Actuarially Assumed Rate of Return: 7.5%
(\$ in Millions)

All figures based upon the market value of assets.

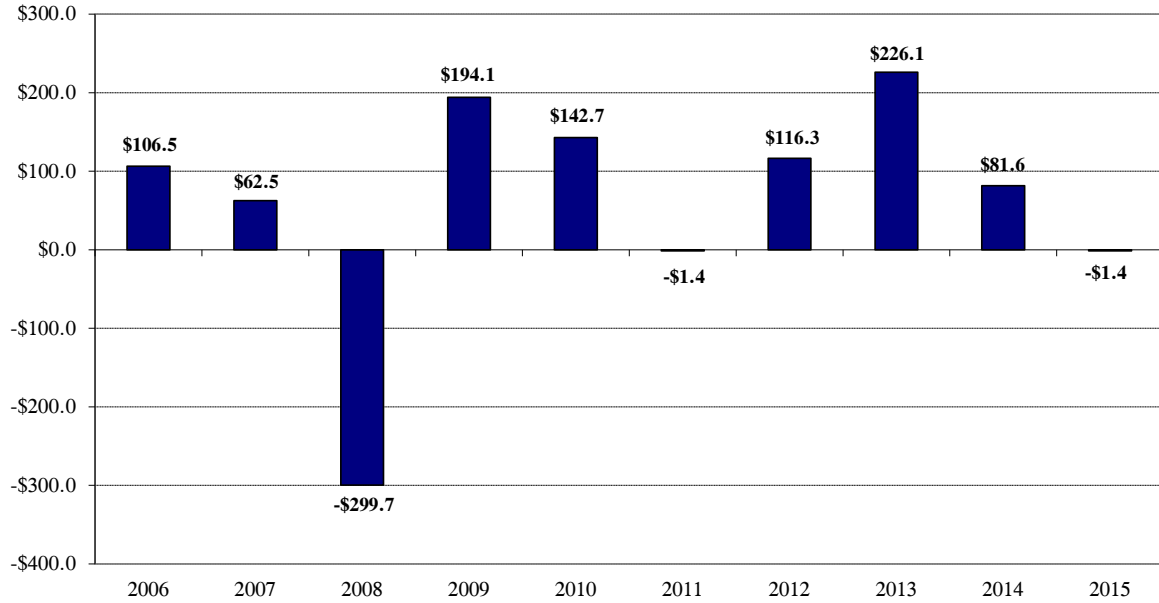


CHART 62

METROPOLITAN WATER PENSION FUND
Rate of Return FY 2006 - FY 2015
Actuarially Assumed Rate of Return: 7.5%

All figures based upon the market value of assets.

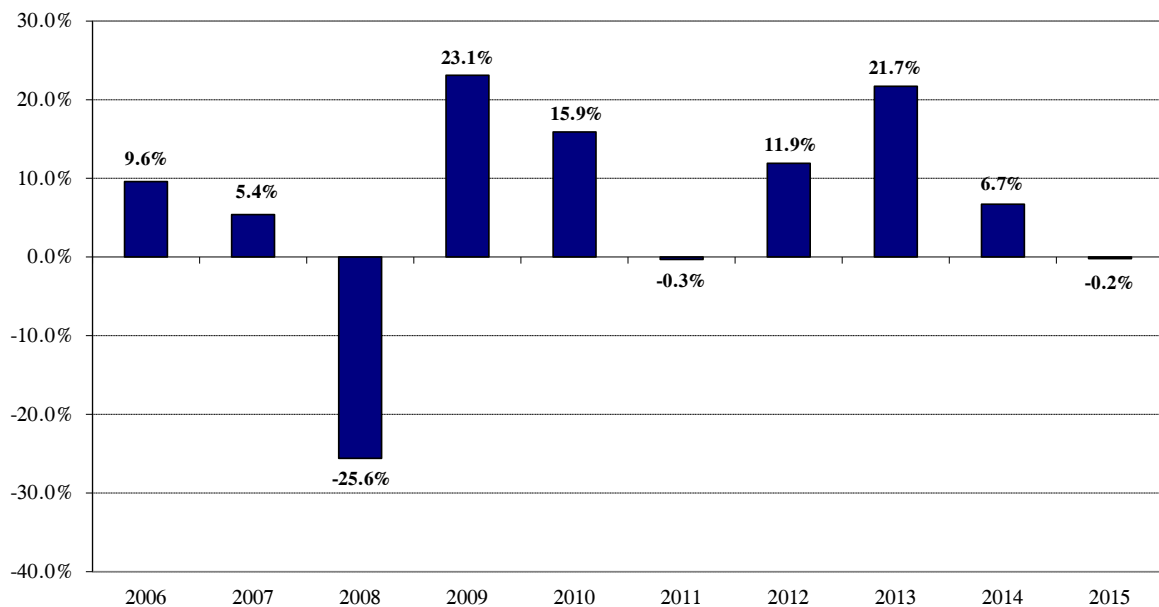


TABLE 17

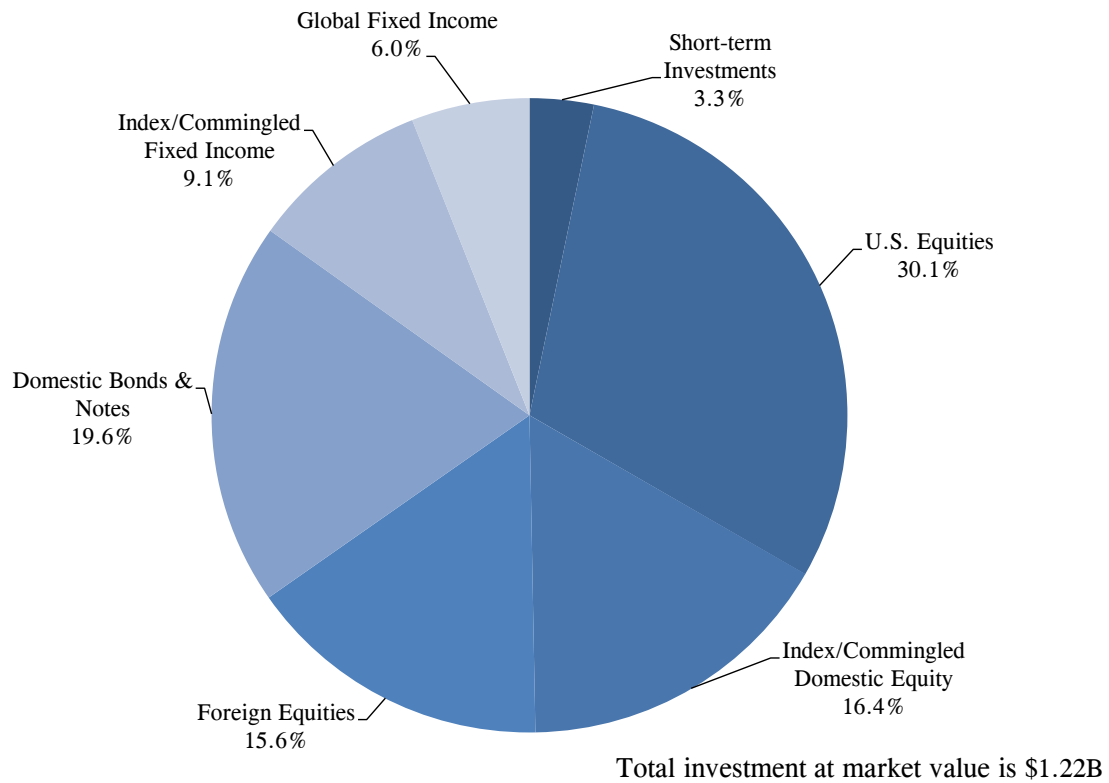
METROPOLITAN WATER PENSION FUND System Experience, 2004 - 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2015	177.8	2,371.0	1,308.0	1,063.0	55.2%
2014	176.2	2,296.4	1,263.3	1,033.1	55.0%
2013	169.4	2,194.9	1,188.5	1,006.4	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%
2007	158.8	1,795.2	1,256.9	538.3	70.0%
2006	152.8	1,724.7	1,209.6	515.1	70.1%
2005	149.2	1,654.2	1,171.8	482.4	70.8%
2004	146.4	1,578.4	1,161.8	416.6	73.6%

TABLE 18

METROPOLITAN WATER PENSION FUND Changes in Net Assets (\$ in Millions)										
Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	71.0	73.9	92.9	65.1	37.4	29.9	32.1	33.4	28.0	34.5
Employees	21.4	19.0	16.9	14.7	15.0	15.9	15.7	14.8	15.6	15.0
Net Investment Income	-1.4	81.6	226.1	116.3	-1.4	142.7	194.1	-299.7	62.5	106.5
Other	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.6	0.2	0.0
Total Asset Additions (A)	91.0	174.5	335.9	196.1	51.0	188.7	241.9	-251	106.3	156.0
Deductions from Assets										
Benefits	139.2	132.9	127.2	122.7	118.1	108.2	103.4	100.1	94.8	89.1
Refunds	1.3	1.0	1.1	1.2	2.7	1.4	1.2	1	1.2	1.4
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	1.4	1.4	1.3	1.4	1.3	1.3	1.3	1.5	1.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0
Total Asset Deductions (B)	142.2	135.3	129.7	125.2	122.2	110.9	105.9	102.4	97.5	92.0
Change in Net Assets (A-B=C)	-51.1	39.2	206.2	70.9	-71.2	77.8	136.0	-353.3	8.8	64.0

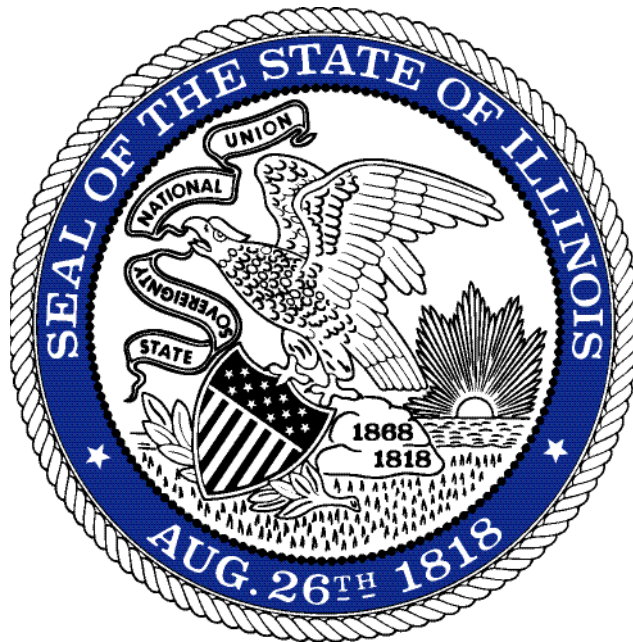
CHART 63

**METROPOLITAN WATER RECLAMATION DISTRICT RETIREMENT FUND
ASSET ALLOCATION AS OF DECEMBER 2015**



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
- Asset Allocation



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2015.

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

* P.A. 98-0641 was declared unconstitutional by the Cook County Circuit Court on July 24, 2015 and on March 24, 2016, the Illinois Supreme Court agreed with the Circuit Court's decision. Therefore, 2015 data on this report does not reflect provisions of P.A. 98-0641.

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

- The lesser of 3% simple or ½ the CPI-U.

Employee Contributions

- Currently 8.5% of salary. (Pursuant to the Illinois Supreme Court ruling on the unconstitutionality of P.A. 98-0641, Municipal and Laborer's employee contributions have reverted back to 8.5% of salary.)

Required Employer Contributions

The City of Chicago is required to contribute an amount equal to the employee contributions to the fund two years prior to the year in which the tax is levied, multiplied by 1.25. Beginning in 2016, this multiplier will increase to 1.85 and will increase by .3 per year, settling at 3.05 in 2020.

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

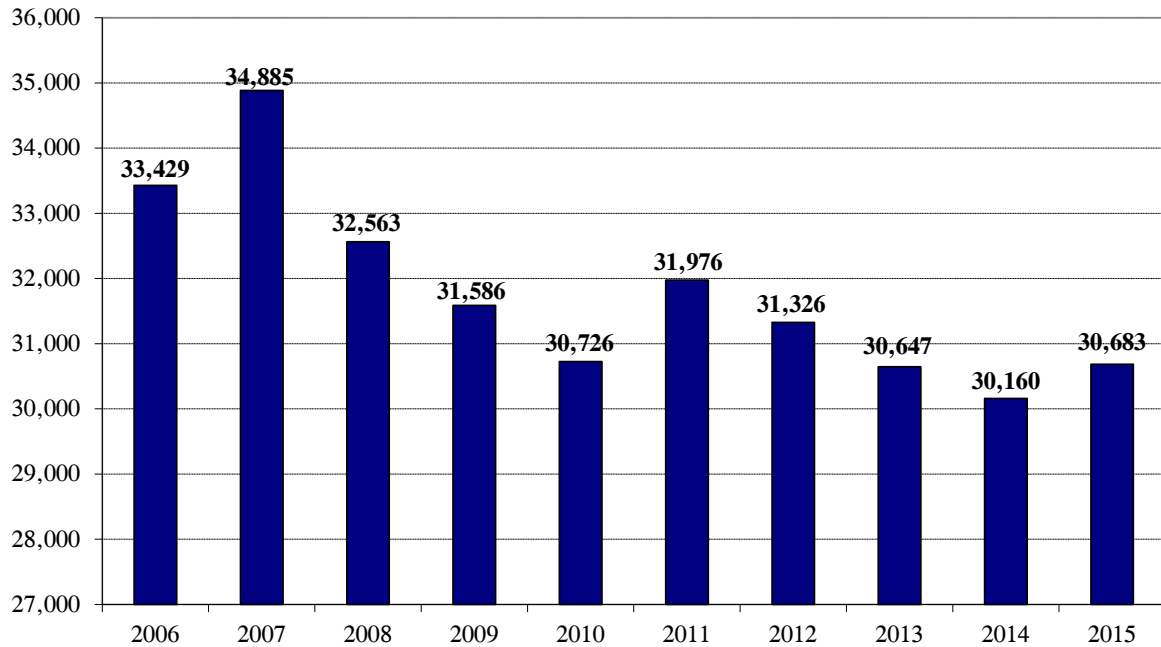


CHART 65

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Employee Annuitants

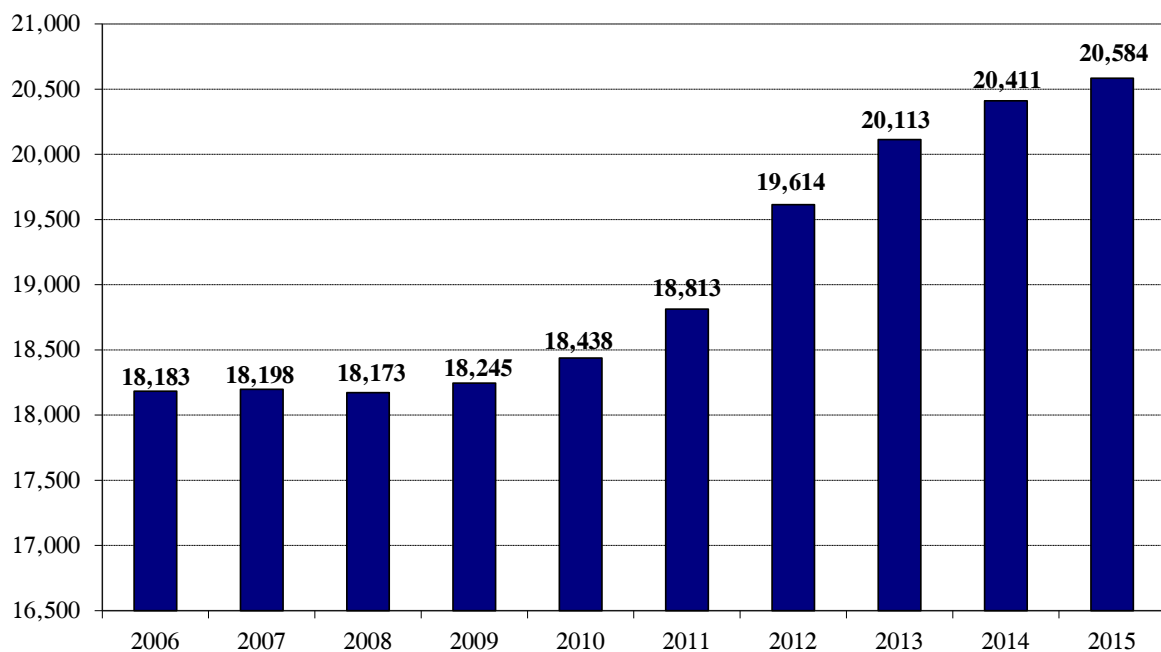


CHART 66

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

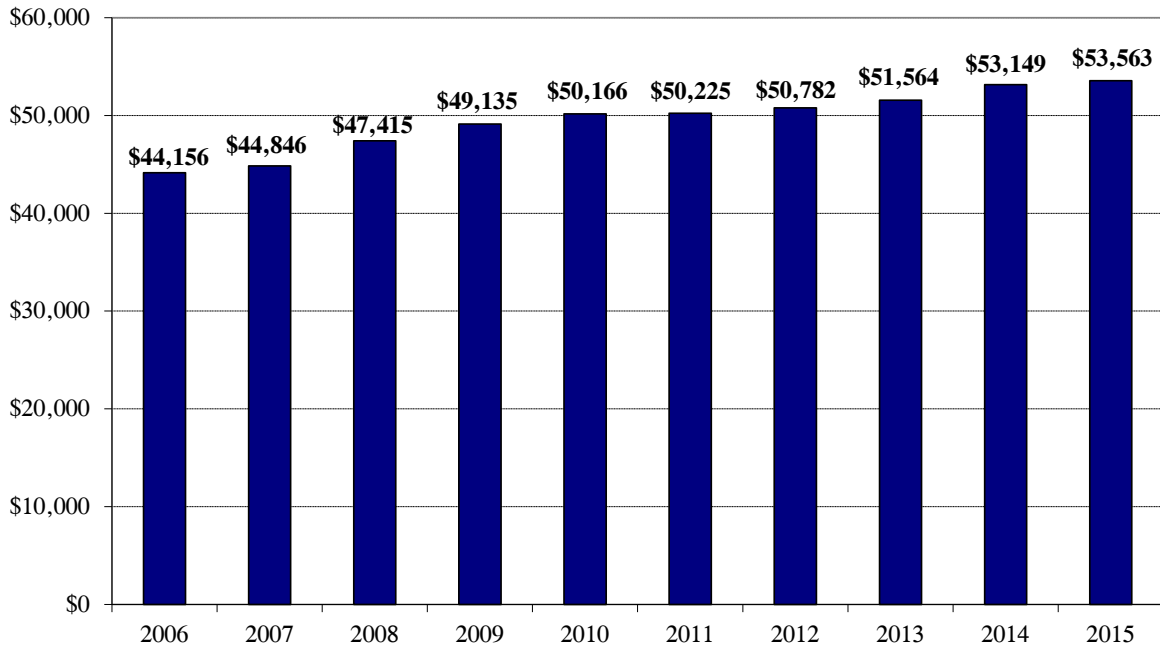


CHART 67

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

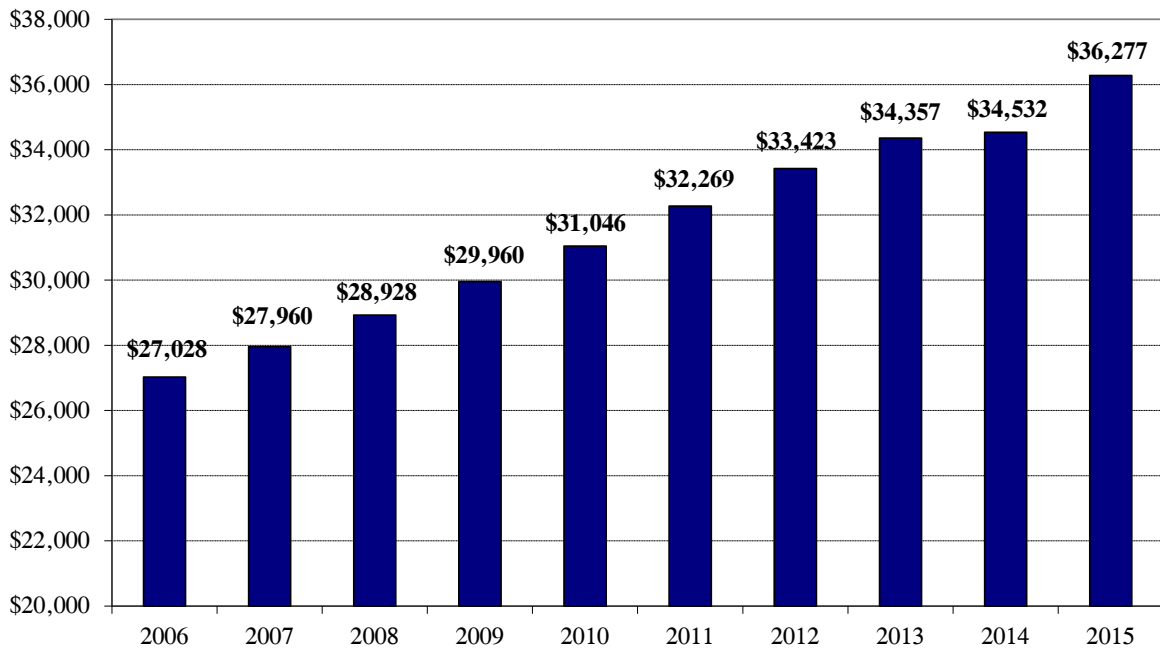
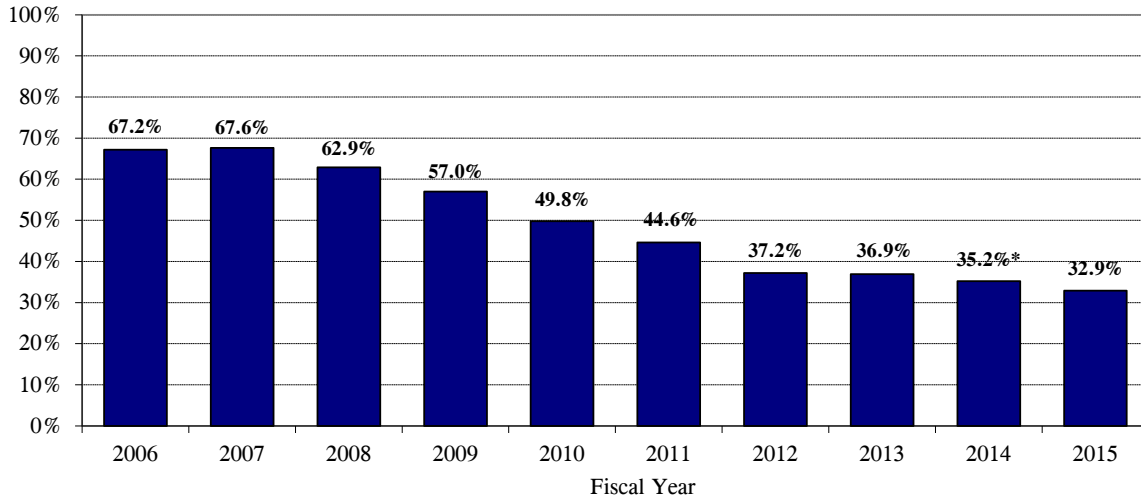


CHART 68

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.



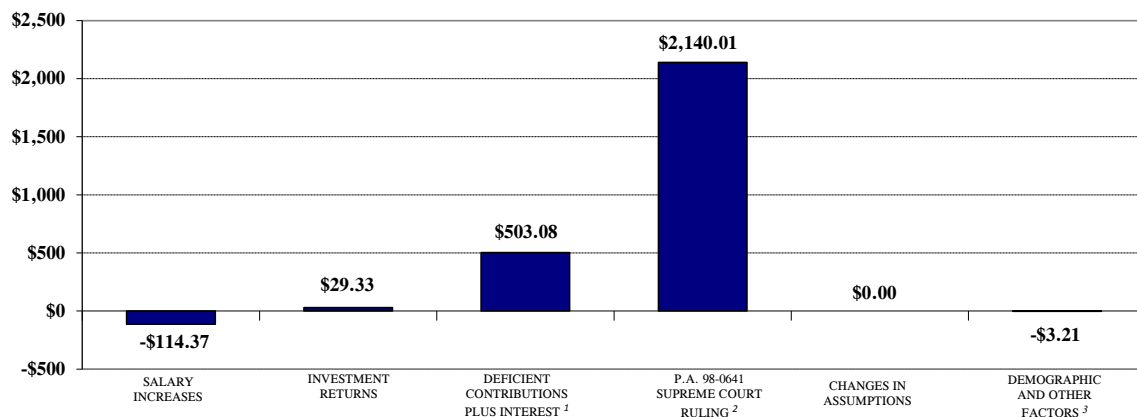
* The funded ratio was 40.9% on the 2014 actuarial valuation report which reflected the benefit provision changes by P.A. 98-0641. However, P.A. 98-0641 was ruled unconstitutional and the 2015 actuarial valuation report does not reflect the provisions of P.A. 98-0641. Prior to reflecting the provisions 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, 2015 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$2,554.84 MIL



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

² A significant increase in actuarial liabilities was realized due to the Supreme Court ruling that found P.A. 98-0641 unconstitutional.

³ "Demographics and Other Factors" consists of gains from turnover, salary/service increase, deaths among retirees and beneficiaries, and miscellaneous, as well as losses from Retirement and new entrants.

CHART 70

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income, 2006 - 2015

Actuarially Assumed Rate of Return: 7.50%

(\$ in Millions)

All figures based upon the market value of assets.

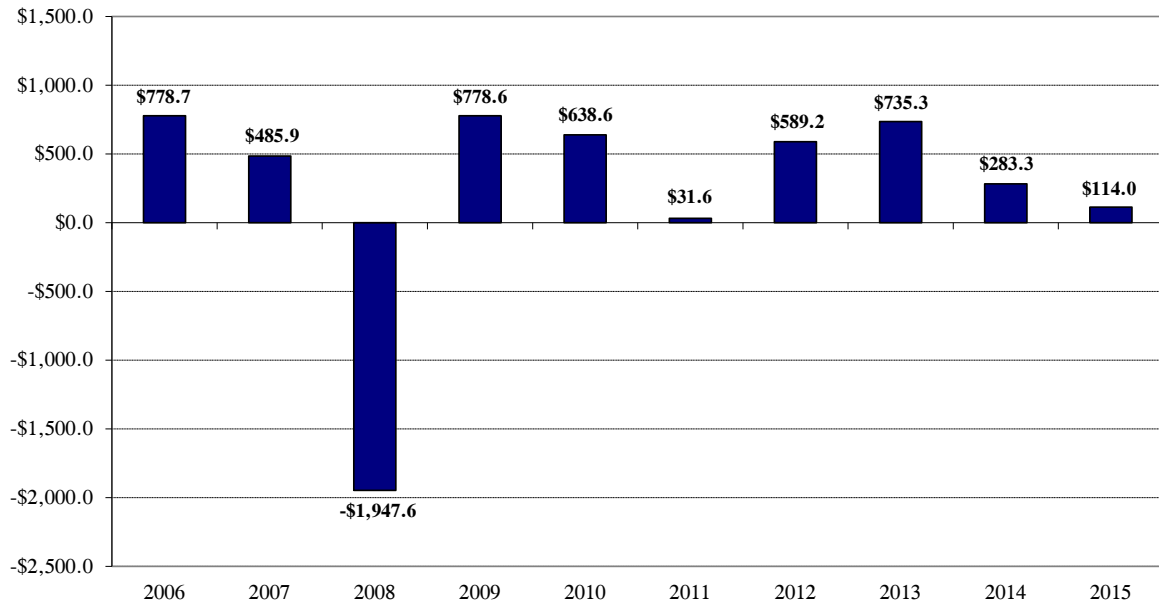


CHART 71

MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return, 2006 - 2015

Actuarially Assumed Rate of Return: 7.50%

All figures based upon the market value of assets.

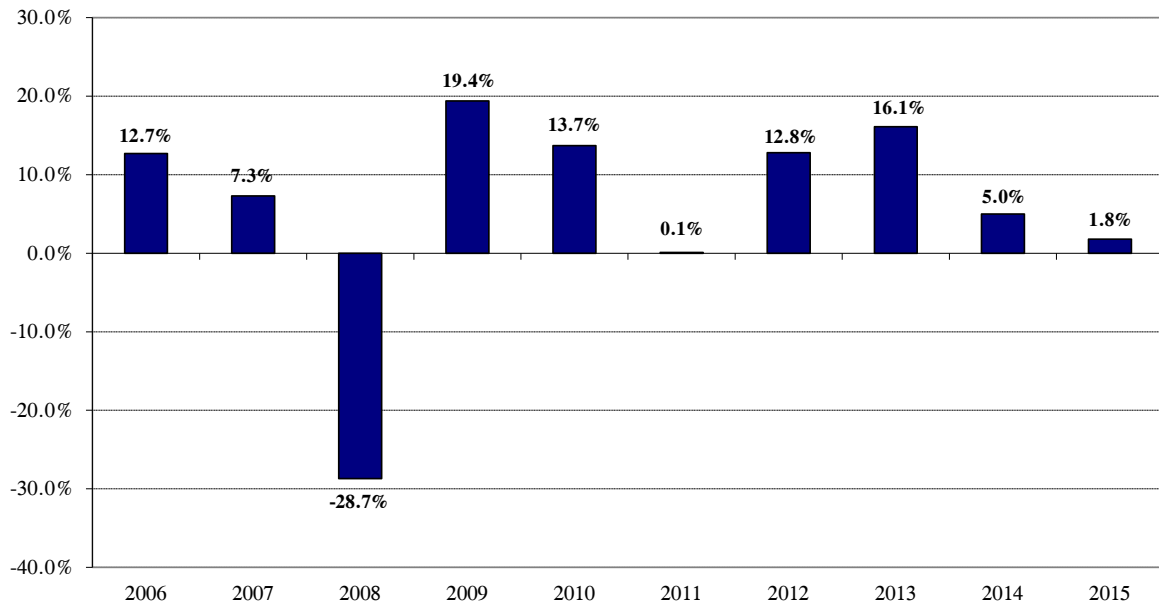


TABLE 19

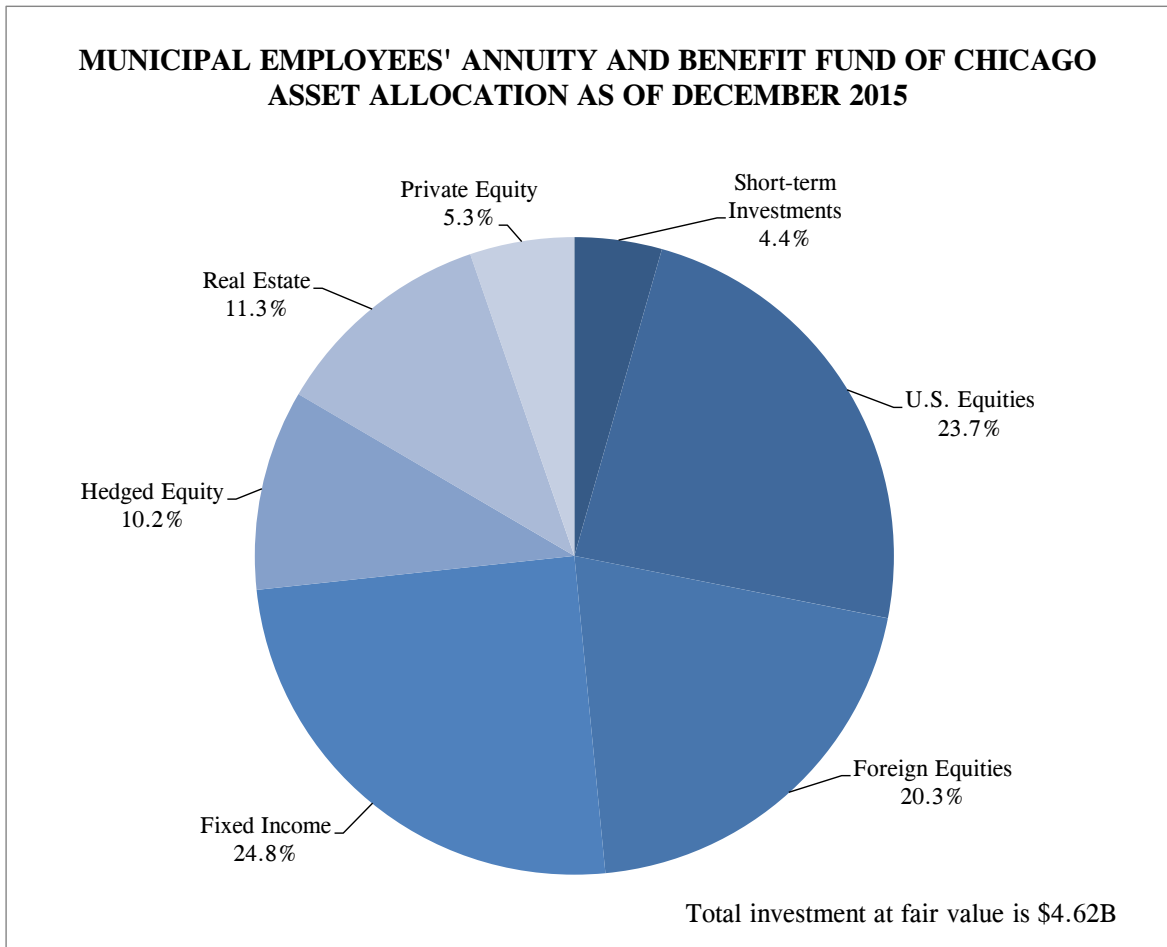
MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2004 - FY 2015 (\$ in Millions)					
End of Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
2015	1,643.5	14,655.3	4,815.1	9,840.1	32.9%
2014	1,603.0	14,315.3	5,039.3	7,285.3	35.2%*
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%
2007	1,564.5	10,186.6	6,890.5	3,296.1	67.6%
2006	1,475.9	9,692.0	6,509.1	3,182.9	67.2%
2005	1,407.3	9,250.2	6,332.4	2,917.8	68.5%
2004	1,303.1	8,808.5	6,343.1	2,465.4	72.0%

* 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 20

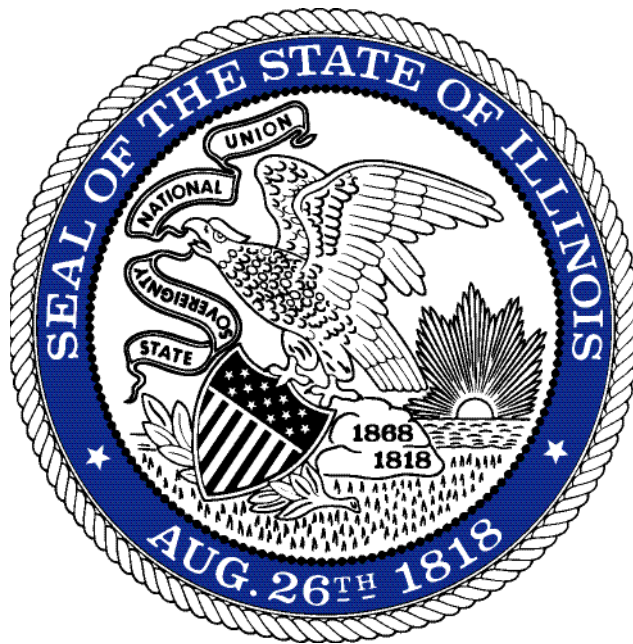
MUNICIPAL EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	157.7	158.8	157.7	158.4	156.5	164.3	157.7	155.8	148.1	157.1
Employees	131.4	130.0	131.5	130.2	132.6	133.3	131.0	137.7	132.5	129.5
Net Investment Income	114.0	283.3	735.3	589.2	31.6	638.6	778.6	-1,947.6	485.9	778.7
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Asset Additions (A)	403.2	572.1	1,024.5	877.8	320.7	936.2	1,067.3	-1,654.1	766.5	1,065.3
Deductions from Assets										
Benefits	802.8	775.4	745.5	704.7	663.5	630.1	604.8	582.7	562.5	547.4
Refunds	31.7	32.3	33.5	36.9	32.1	29.9	28.1	25.5	28.0	27.2
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	6.7	6.6	6.5	6.8	7.4	6.8	7.8	7.7	7.5	6.4
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Asset Deductions (B)	841.2	814.3	785.5	748.4	703.0	666.8	640.7	615.9	598.1	581.0
Change in Net Assets (A-B=C)	-438.1	-242.2	239.0	129.4	-382.3	269.4	426.6	-2,270.0	168.4	484.3

CHART 72



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, 2015.

Park Employees' Annuity and Benefit Fund of Chicago

Tier 1 Plan Summary (as modified by P.A. 98-0622)

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

Retirement Age

- Age 50 with 10 years of service. (If 45 years of age or older as of 1/1/15)
- Age 58 with 10 years of service. (If under 45 years of age as of 1/1/15)

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

- Lesser of 3% or ½ the CPI-U. COLA will be suspended in FY 2015, FY 2017, and FY 2019.

Employee Contributions

- Beginning 1/1/15: 10% of salary.
- Beginning 1/1/17: 11% of salary.
- Beginning 1/1/19: 12% of salary.
- For any duration of time that the funded ratio is over 90%, employees will pay 10.5% of salary as contributions. If under 90% funded, contributions will be 12%.

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.

- Beginning 1/1/15: multiplied by 1.70.
- Beginning 1/1/17: multiplied by 2.30.
- Beginning 1/1/19: multiplied by 2.90.
- Additionally, there will be supplemental contributions of \$12.5 million in FY 2015 & 2016, and \$50 million in 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.

CHART 73

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Active Employees

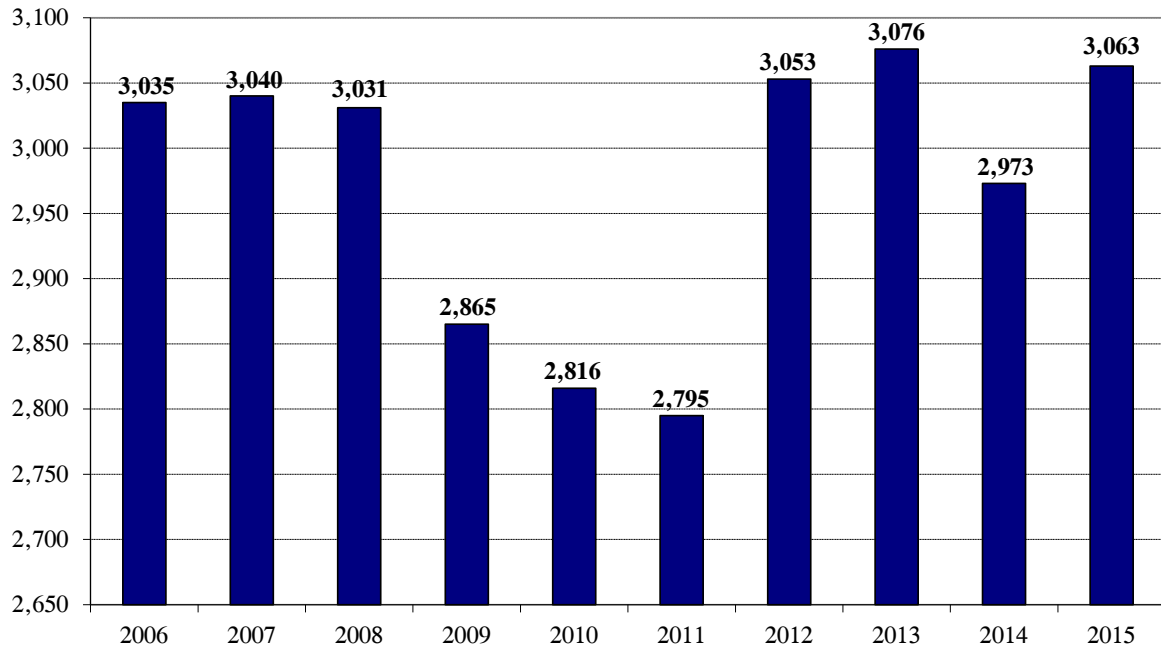


CHART 74

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

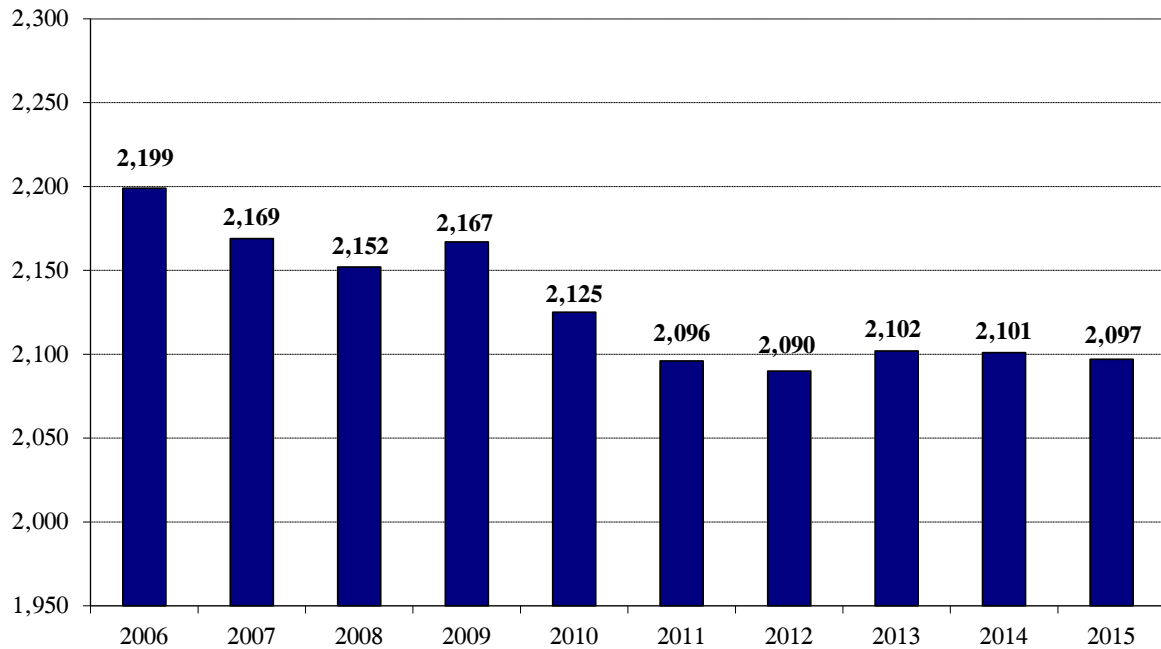


CHART 75

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

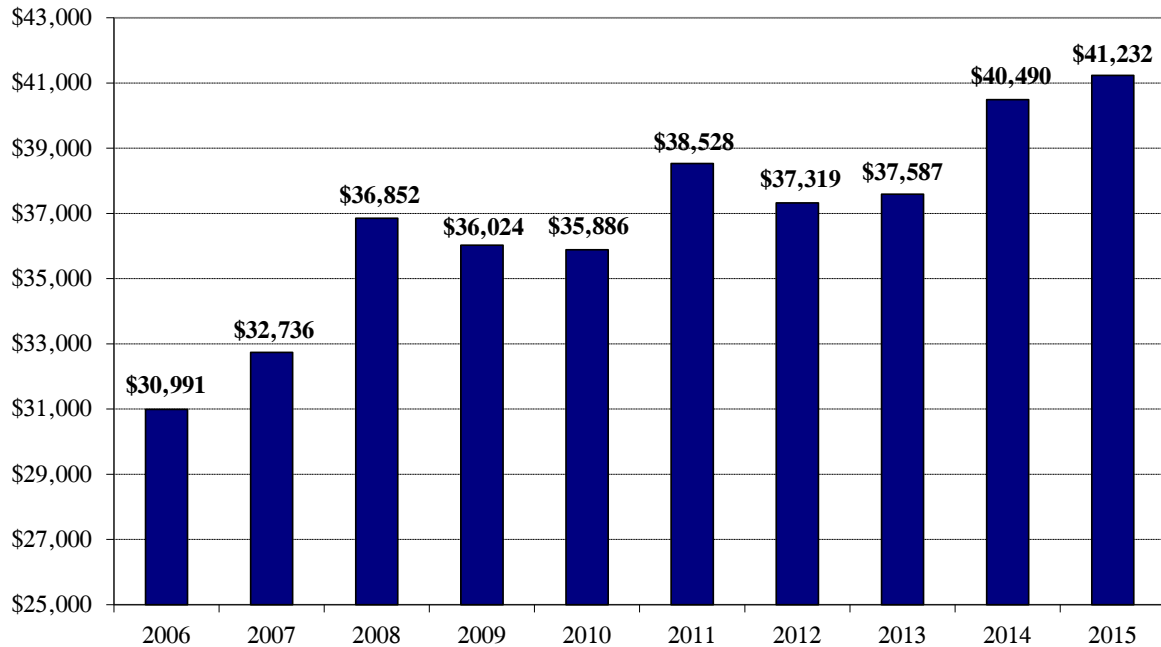


CHART 76

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

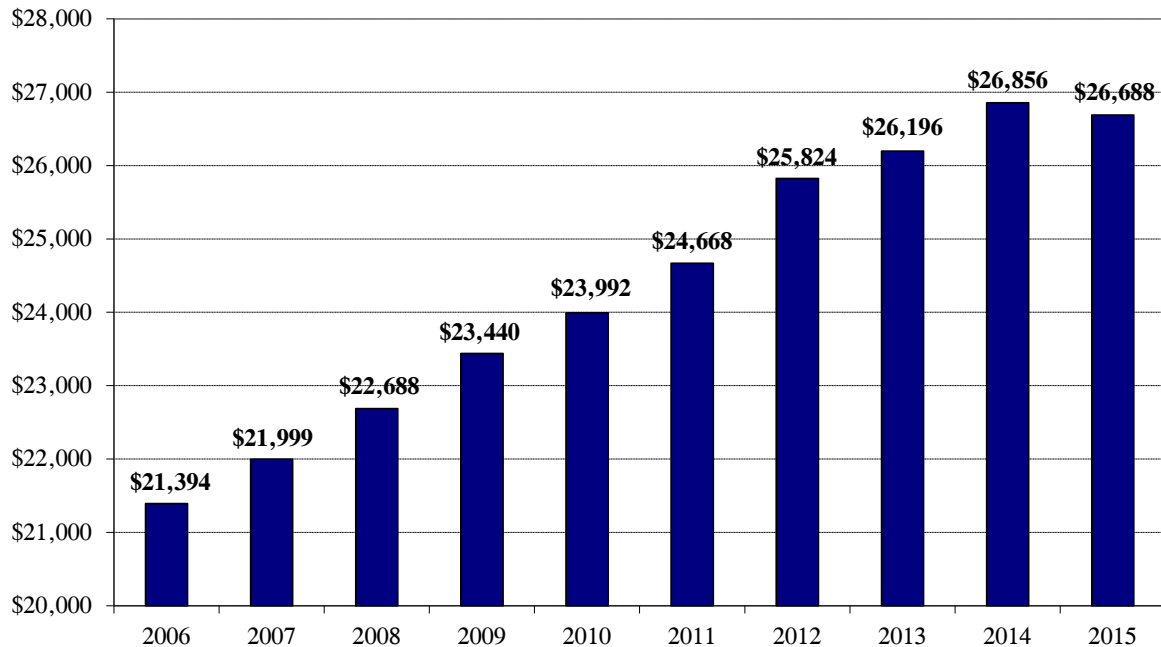


CHART 77

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

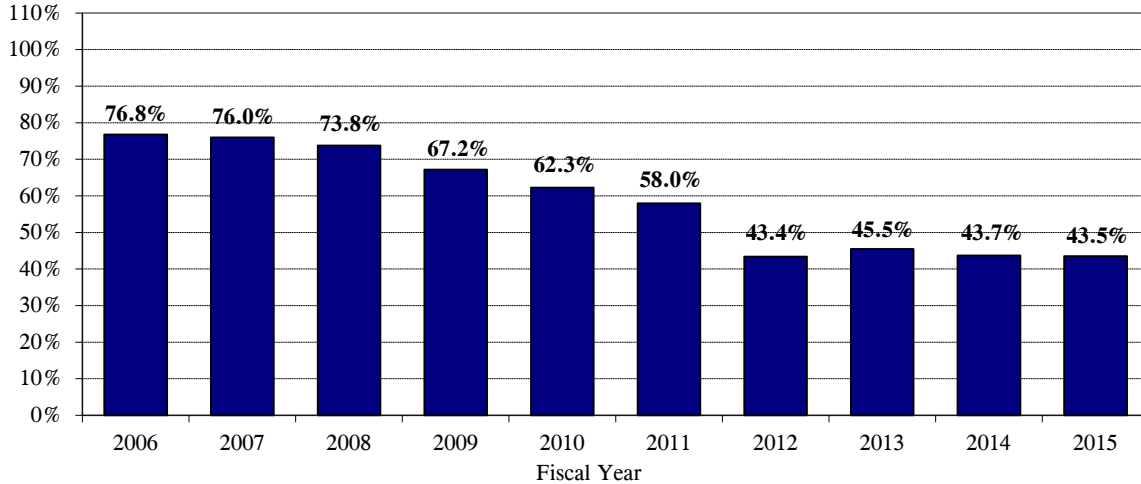
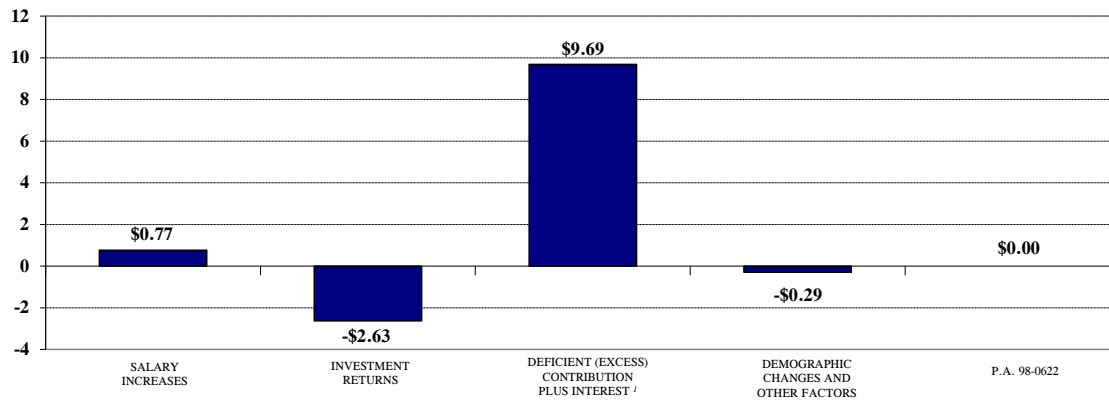


CHART 78

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2015 (\$ in Millions)

TOTAL INCREASE EQUALS
\$7.53 MILLION



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

CHART 79

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Investment Income, FY 2005 - FY 2015
Actuarially Assumed Rate of Return: 7.50%
(\$ in Millions)

All figures based upon the asset value of assets.

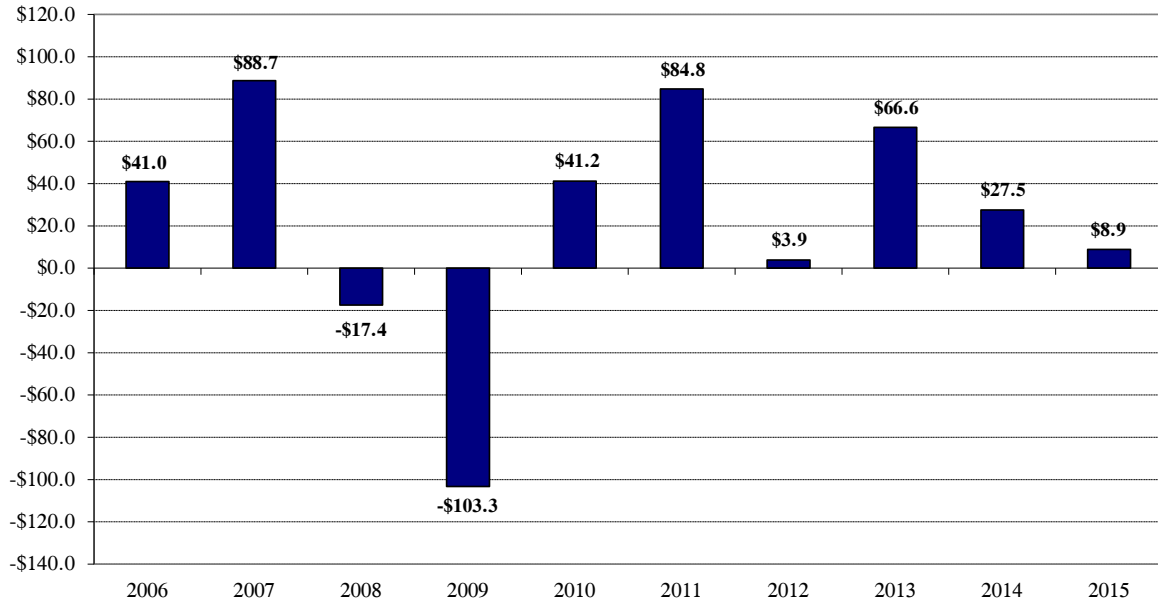


CHART 80

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return 2006 - 2015
Actuarially Assumed Rate of Return: 7.50%
All figures based upon the asset value of assets.

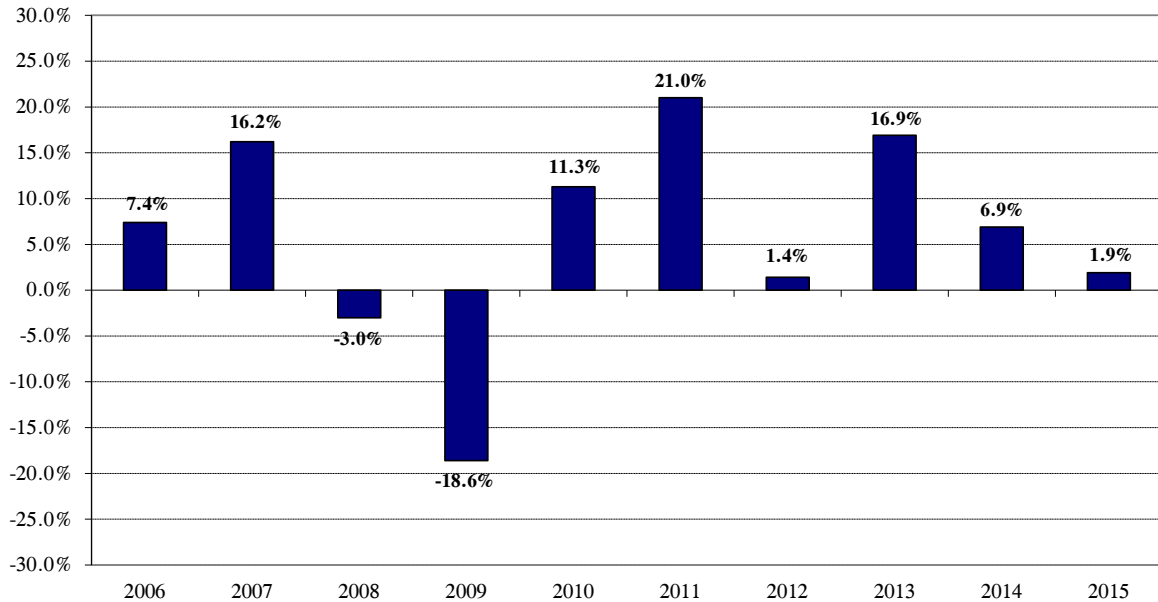


TABLE 21

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	106.6	767.9	583.3	184.6	76.0%
2006	101.1	745.3	572.7	172.6	76.8%
2005	95.7	734.4	587.8	146.6	80.0%
2004	87.8	738.6	610.3	128.3	82.6%

TABLE 22

PARK EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Calendar Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	30.6	11.2	15.8	10.8	11.0	10.8	9.7	9.0	9.6	5.2
Employees	12.4	10.8	10.7	10.4	9.8	9.8	10.1	10.3	9.7	9.1
Net Investment Income	8.9	27.6	66.6	3.8	84.8	41.5	-103.5	-17.4	88.7	41.0
Other	0	0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Asset Additions (A)	51.9	49.6	93.2	25.1	105.6	62.1	-83.7	1.9	108.0	55.3
Deductions from Assets										
Benefits	68.6	67.8	66.2	63.5	62.0	61.2	60.3	58.0	56.8	56.3
Refunds	2.0	2.7	2.1	2.0	1.7	1.4	2.7	2.0	1.8	2.1
Rebates	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	1.5	1.5	1.5	1.6	1.5	1.4	1.3	1.3	1.2	1.2
Other	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Asset Deductions (B)	72.1	72.0	69.8	67.1	65.2	64.0	64.3	61.2	59.8	59.6
Change in Net Assets (A-B=C)	-20.3	-22.3	23.4	-42.0	40.4	-1.9	-148.0	-59.4	48.2	-4.3

Table 23 below contains funding projections provided to CGFA by the Park Employees' Annuity and Benefit Fund of Chicago based upon the December 31, 2015 actuarial valuation.

TABLE 23

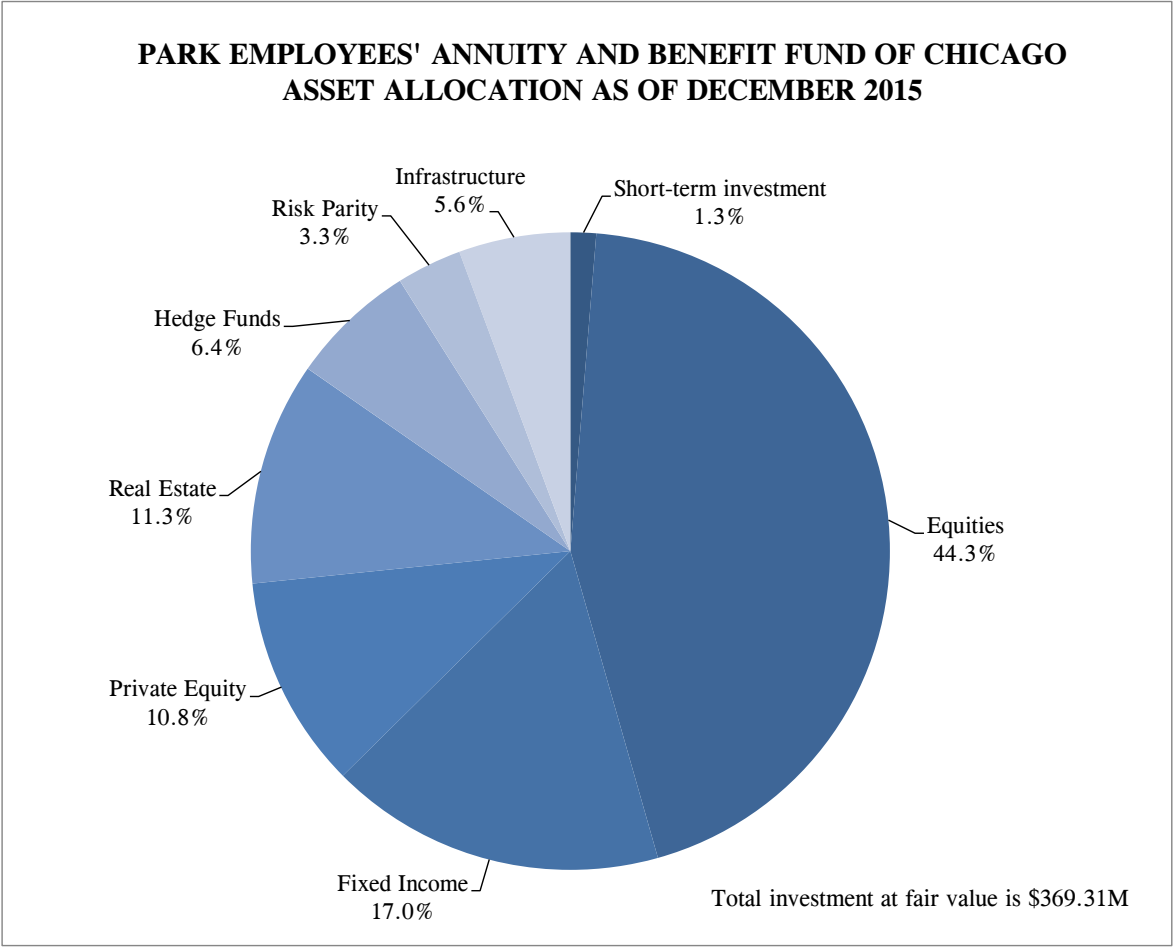
Park Employees' Annuity and Benefit Fund of Chicago Actuarial Valuation Projection Results as of December 31, 2015 Funding Impact of P.A. 98-0622 (\$ in Millions)								
Fiscal Year	Capped Payroll	Total City Contribution	Total City Contribution As % of Payroll	Total Employee Contribution	Accrued Liability	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2016	131.2	17.7	13.5%	13.3	917.7	394.6	523.1	43.0%
2017	128.6	27.6	21.5%	14.3	925.0	393.7	531.3	42.6%
2018	126.6	29.6	23.4%	14.1	932.9	386.3	546.6	41.4%
2019	125.0	40.2	32.2%	15.1	940.8	441.9	498.9	47.0%
2020	123.8	39.6	32.0%	15.0	949.2	452.7	496.5	47.7%
2021	122.9	42.6	34.7%	14.9	957.8	467.0	490.8	48.8%
2022	122.3	42.2	34.5%	14.8	966.6	481.4	485.3	49.8%
2023	121.9	41.9	34.4%	14.8	975.8	496.1	479.6	50.8%
2024	121.5	41.7	34.3%	14.7	985.0	511.2	473.9	51.9%
2025	121.2	41.6	34.3%	14.7	994.5	526.6	467.9	53.0%
2026	120.9	41.4	34.3%	14.6	1,004.1	542.4	461.7	54.0%
2027	120.6	41.3	34.3%	14.6	1,013.8	558.6	455.2	55.1%
2028	120.6	41.2	34.2%	14.6	1,023.8	575.4	448.4	56.2%
2029	120.7	41.1	34.1%	14.6	1,033.7	592.4	441.3	57.3%
2030	120.9	41.1	34.0%	14.6	1,043.5	609.7	433.8	58.4%
2031	121.1	41.2	34.0%	14.7	1,053.2	627.4	425.8	59.6%
2032	121.4	41.2	33.9%	14.7	1,062.8	645.5	417.3	60.7%
2033	121.8	41.3	33.9%	14.8	1,072.4	664.3	408.1	61.9%
2034	122.4	41.4	33.8%	14.8	1,082.2	684.0	398.3	63.2%
2035	123.0	41.5	33.8%	14.9	1,092.1	704.5	387.6	64.5%
2036	123.7	41.7	33.7%	15.0	1,104.3	728.2	376.1	65.9%
2037	124.4	41.9	33.7%	15.1	1,116.9	753.2	363.7	67.4%
2038	125.1	42.2	33.7%	15.1	1,130.0	779.8	350.2	69.0%
2039	126.2	42.4	33.6%	15.3	1,143.8	808.1	335.6	70.7%
2040	127.2	42.7	33.5%	15.4	1,158.3	838.4	319.9	72.4%
2041	128.3	43.0	33.5%	15.5	1,173.6	870.9	302.7	74.2%
2042	129.7	43.3	33.4%	15.7	1,190.0	905.9	284.0	76.1%
2043	131.1	43.7	33.4%	15.9	1,207.8	944.0	263.8	78.2%
2044	132.8	44.2	33.3%	16.1	1,227.3	985.6	241.7	80.3%
2045	134.6	44.7	33.2%	16.3	1,248.7	1,030.9	217.7	82.6%
2046	136.6	45.2	33.1%	16.5	1,272.3	1,080.7	191.6	84.9%
2047	138.7	45.9	33.1%	16.8	1,298.3	1,135.2	163.0	87.4%
2048	141.0	46.5	33.0%	17.1	1,327.2	1,195.2	132.0	90.1%
2049	143.5	13.1	9.1%	15.2	1,359.1	1,223.4	135.7	90.0%
2050	146.1	13.7	9.4%	15.5	1,394.4	1,254.9	139.4	90.0%
2051	148.9	14.1	9.5%	15.8	1,433.3	1,290.0	143.3	90.0%
2052	151.9	14.4	9.5%	16.1	1,475.9	1,328.3	147.6	90.0%
2053	155.1	14.7	9.5%	16.4	1,522.7	1,370.4	152.3	90.0%
2054	158.5	15.0	9.5%	16.8	1,573.9	1,416.6	157.4	90.0%

TABLE 24

Park Employees' Annuity and Benefit Fund of Chicago Projected Normal Cost Reflecting P.A. 98-0622 as of December 31, 2015 (\$ in Millions)						
Fiscal Year	Employer Normal Cost ¹	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
2016	2.1	0.0%	13.3	10.1%	15.4	10.1%
2017	1.0	0.0%	14.3	11.1%	15.3	11.1%
2018	1.2	0.0%	14.1	11.1%	15.3	11.1%
2019	0.2	0.0%	15.1	12.1%	15.3	12.1%
2020	0.4	0.0%	15.0	12.1%	15.4	12.1%
2021	0.5	0.0%	14.9	12.1%	15.4	12.1%
2022	0.7	0.0%	14.8	12.1%	15.5	12.1%
2023	0.8	0.0%	14.8	12.1%	15.6	12.1%
2024	0.9	0.0%	14.7	12.1%	15.7	12.1%
2025	1.1	0.0%	14.7	12.1%	15.7	12.1%
2026	1.1	0.0%	14.6	12.1%	15.8	12.1%
2027	1.2	0.0%	14.6	12.1%	15.8	12.1%
2028	1.3	0.0%	14.6	12.1%	15.9	12.1%
2029	1.4	0.0%	14.6	12.1%	16.0	12.1%
2030	1.5	0.0%	14.6	12.1%	16.1	12.1%
2031	1.6	0.0%	14.7	12.1%	16.3	12.1%
2032	1.7	0.0%	14.7	12.1%	16.4	12.1%
2033	1.8	0.0%	14.8	12.1%	16.6	12.1%
2034	1.9	0.0%	14.8	12.1%	16.7	12.1%
2035	2.0	0.0%	14.9	12.1%	16.9	12.1%
2036	2.2	0.0%	15.0	12.1%	17.1	12.1%
2037	2.3	0.0%	15.1	12.1%	17.3	12.1%
2038	2.4	0.0%	15.1	12.1%	17.6	12.1%
2039	2.6	0.0%	15.3	12.1%	17.8	12.1%
2040	2.7	0.0%	15.4	12.1%	18.1	12.1%
2041	2.9	0.0%	15.5	12.1%	18.4	12.1%
2042	3.0	0.0%	15.7	12.1%	18.7	12.1%
2043	3.2	0.0%	15.9	12.1%	19.1	12.1%
2044	3.4	0.0%	16.1	12.1%	19.5	12.1%
2045	3.6	0.0%	16.3	12.1%	19.9	12.1%
2046	3.8	0.0%	16.5	12.1%	20.3	12.1%
2047	4.0	0.0%	16.8	12.1%	20.8	12.1%
2048	4.3	0.0%	17.1	12.1%	21.3	12.1%
2049	6.7	0.0%	15.2	10.6%	21.9	10.6%
2050	7.0	0.0%	15.5	10.6%	22.4	10.6%
2051	7.3	0.0%	15.8	10.6%	23.1	10.6%
2052	7.6	0.0%	16.1	10.6%	23.7	10.6%
2053	8.0	0.0%	16.4	10.6%	24.4	10.6%
2054	8.4	0.0%	16.8	10.6%	25.2	10.6%

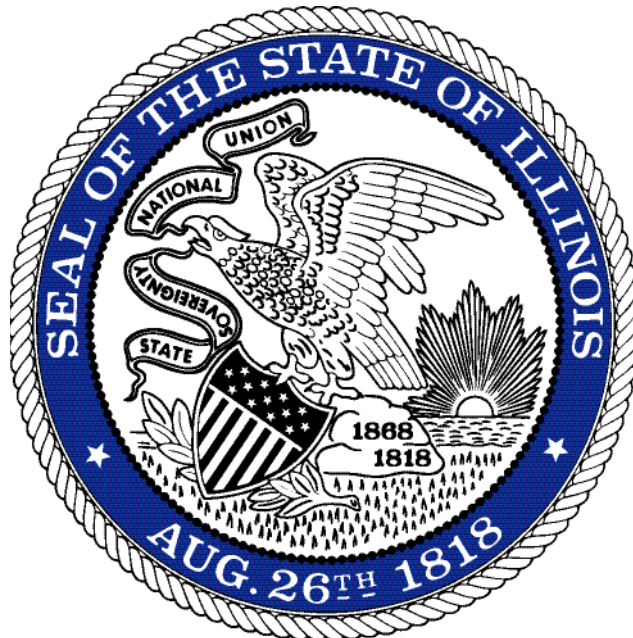
¹ Includes administrative expenses.

CHART 81



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**
- **Asset Allocation**



Note: All data shown in this section is based upon the system's Actuarial Valuation and CAFR as of December 31, 2015.

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 1/1/55.
- 1.5% non-compounded if born after 1/1/55, subject to 30% maximum.

Employee Contributions

- 9.0% of salary.

Employer Contributions

Pursuant to P.A. 96-1495, annual actuarially determined employer contributions will be calculated and required. Such actuarially determined contributions will be established with a funding goal of 90% by the end of FY 2040, based upon the actuarial value of fund assets and application of required actuarial assumptions and methodologies. Failure of the employer to remit the required contributions can result in withholding of certain grants owed by the State of Illinois.

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

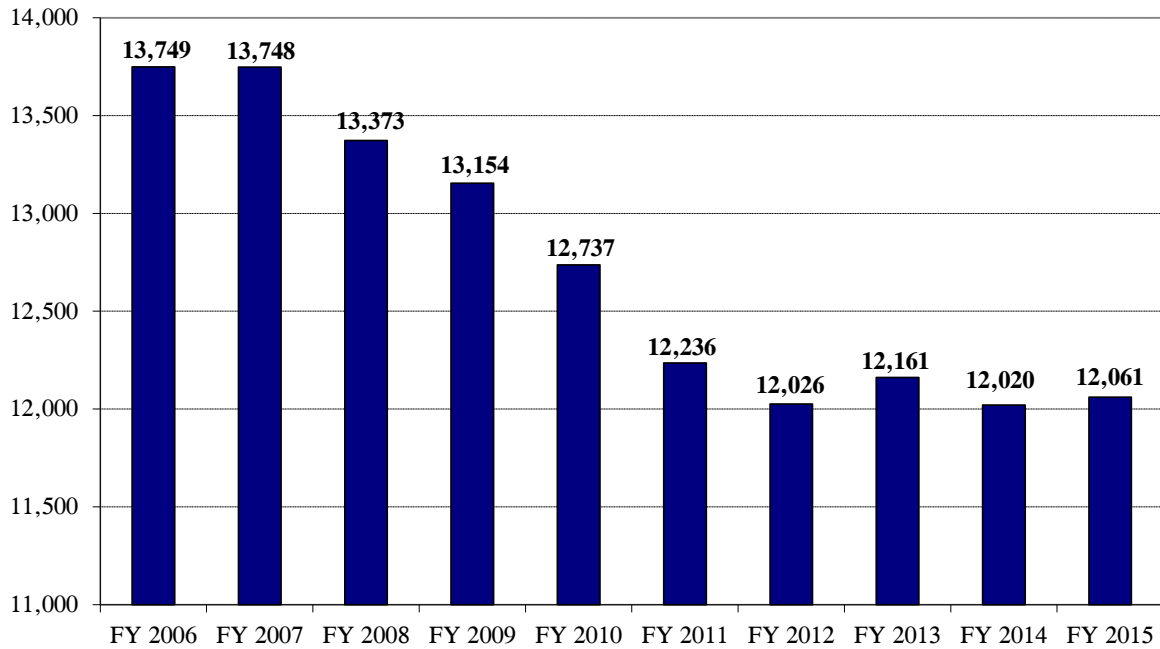


CHART 83

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO
Employee Annuitants

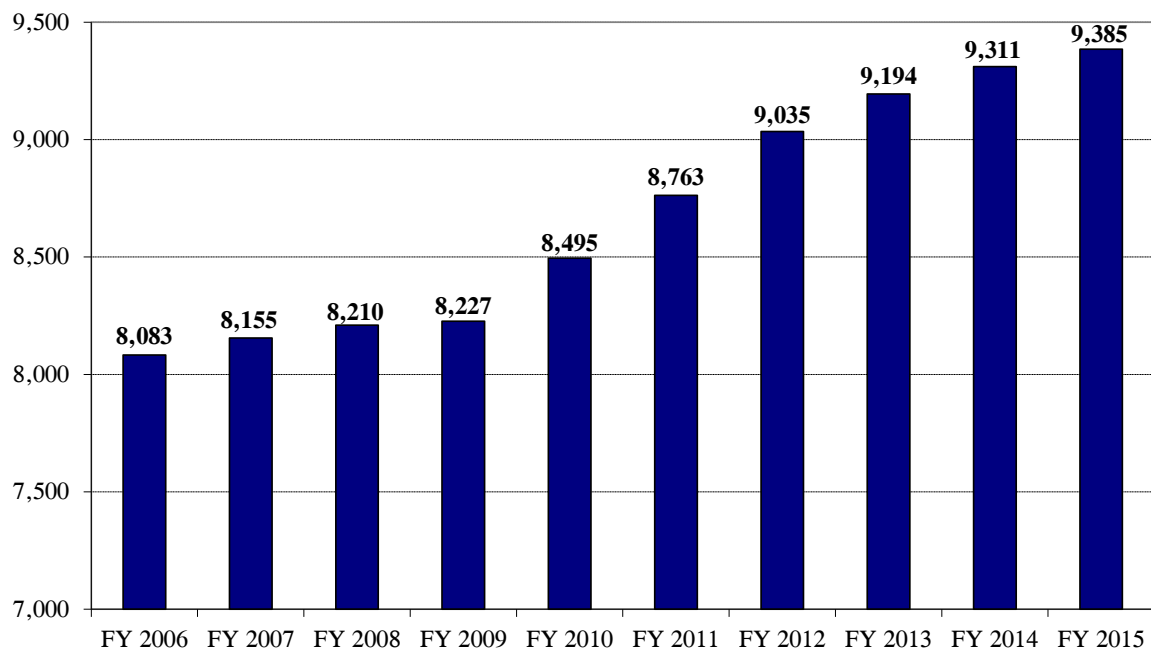


CHART 84

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

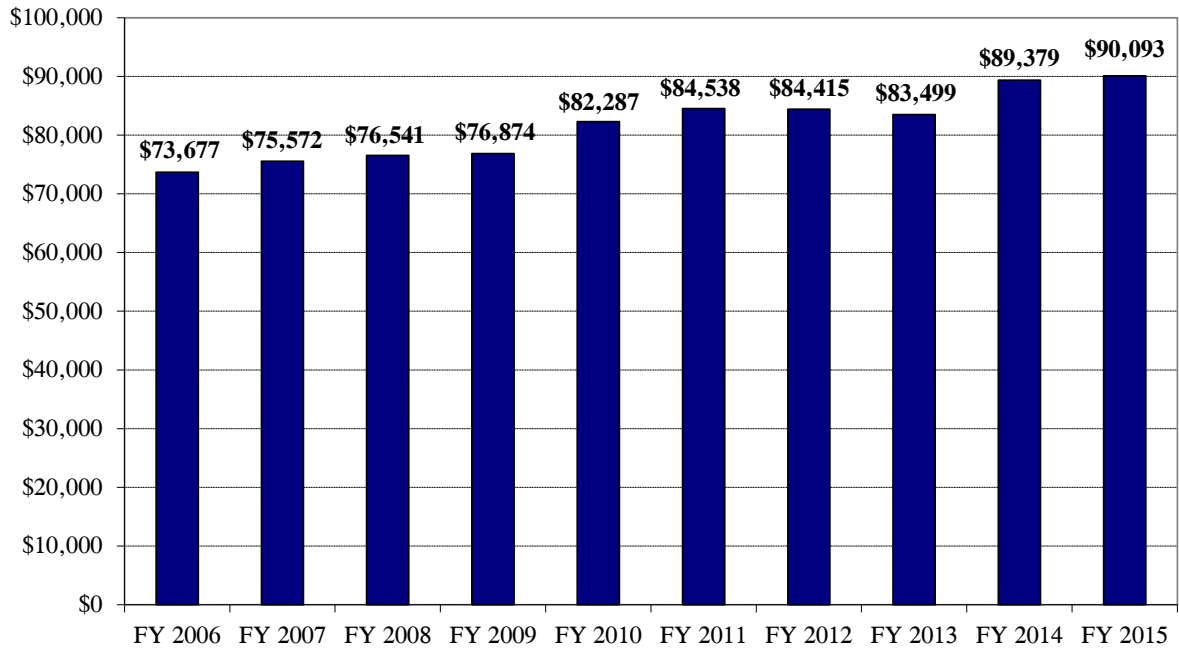


CHART 85

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

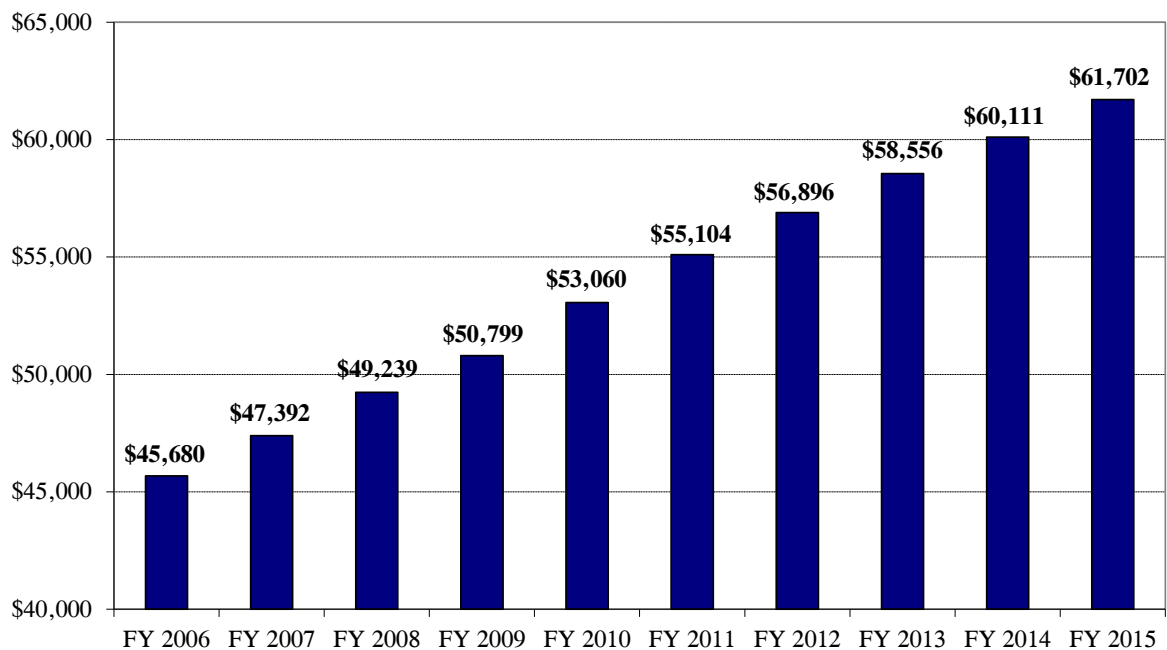


CHART 86

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Funded Ratio FY 2005 - FY 2015

All figures based upon the actuarial value of assets.

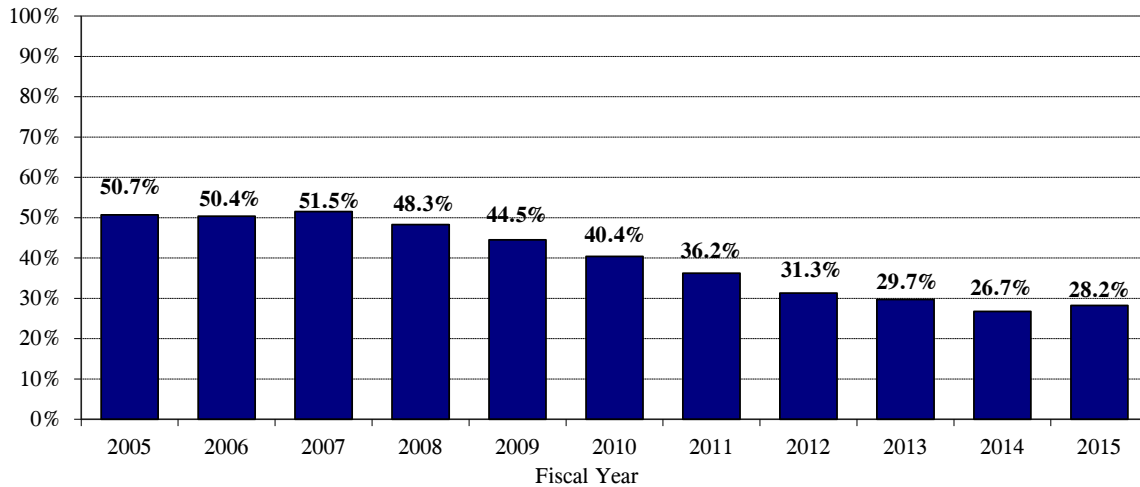
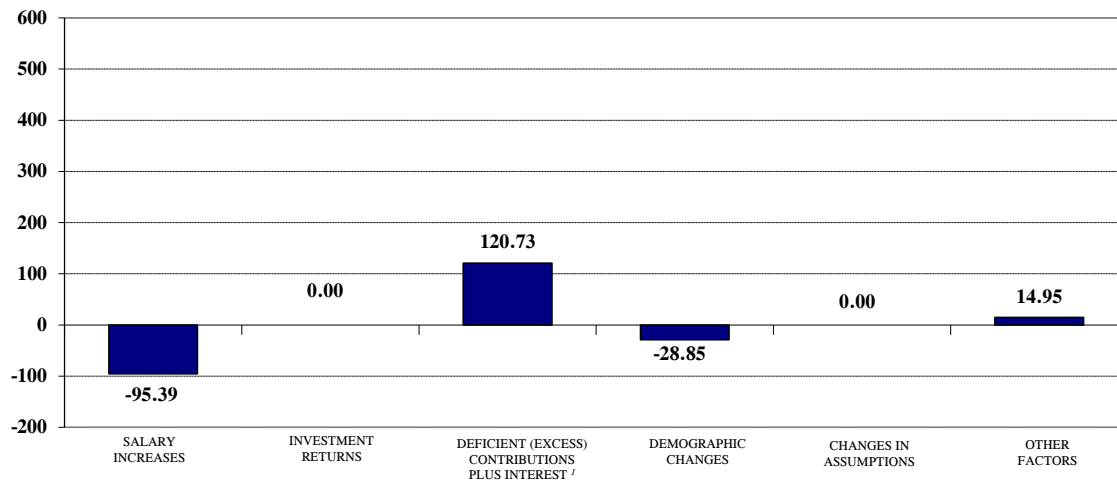


CHART 87

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Change in Unfunded Liabilities Year ended December 31, 2015 (\$ in Millions)

All figures based upon the actuarial value of assets.

TOTAL INCREASE EQUALS
\$7.94 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 2005 - FY 2015
Actuarially Assumed Rate of Return :7.5%
(\$ in Millions)

All figures based upon the market value of assets.

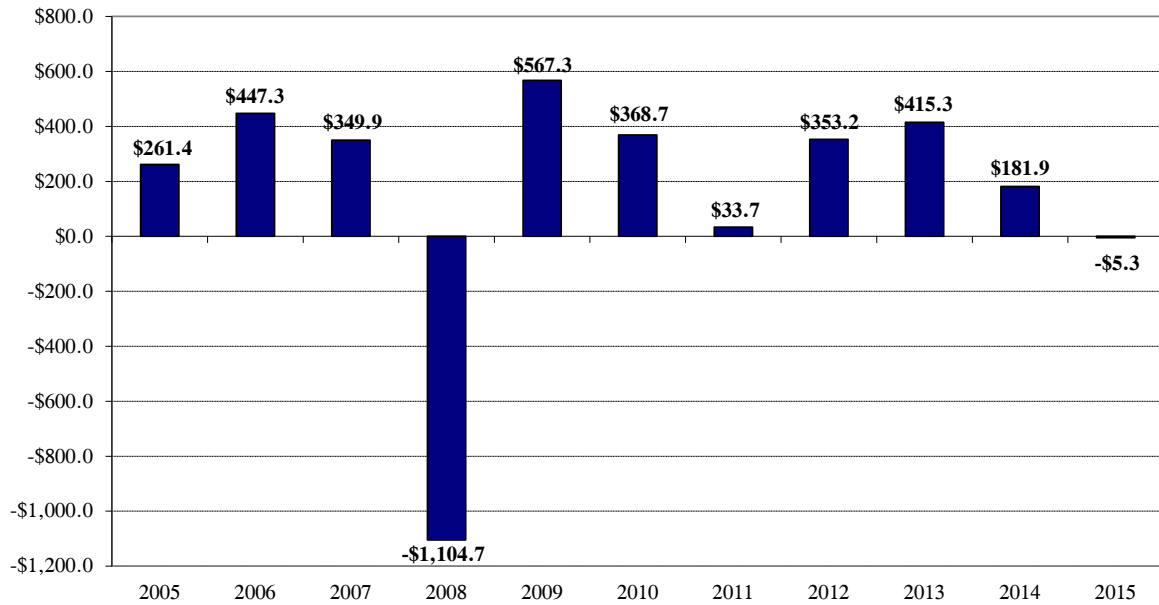


CHART 89

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO

Rate of Return FY 2005 - FY 2015
Actuarially Assumed Rate of Return :7.5%
All figures based upon the market value of assets.

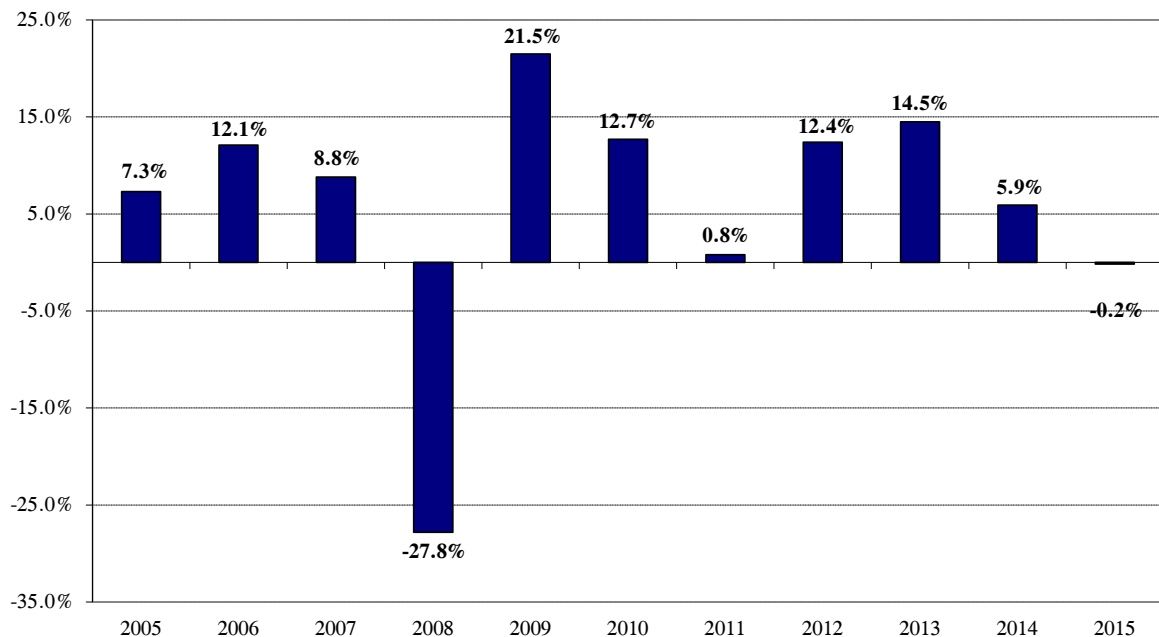


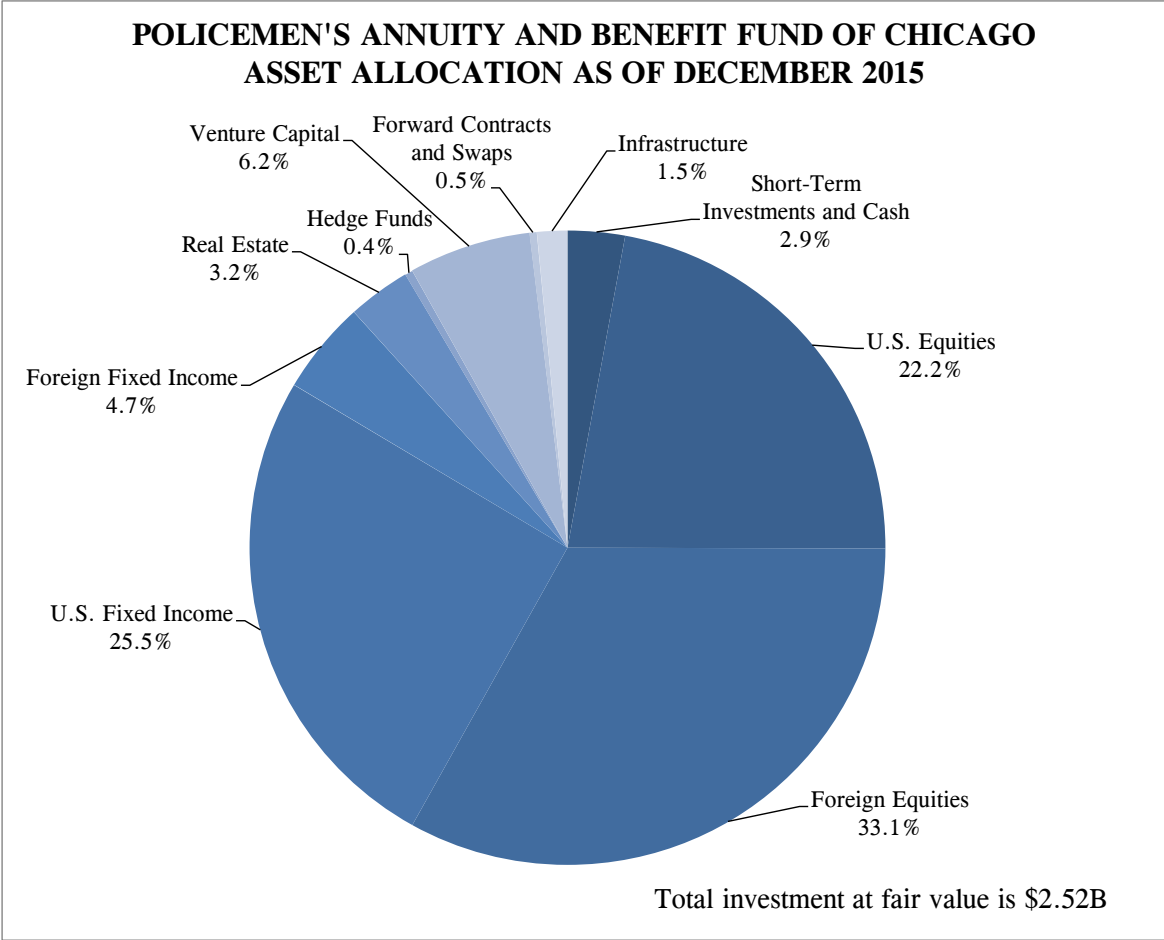
TABLE 25

POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO System Experience, FY 2003 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	1,039.0	8,399.4	4,231.7	4,167.7	50.4%
2006	1,013.0	7,939.6	3,998.0	3,941.6	49.3%
2005	949.0	7,722.7	3,914.4	3,808.3	50.7%
2004	874.3	7,034.3	3,933.0	3,101.3	55.9%
2003	887.6	6,581.4	4,039.7	2,541.7	61.4%

TABLE 26

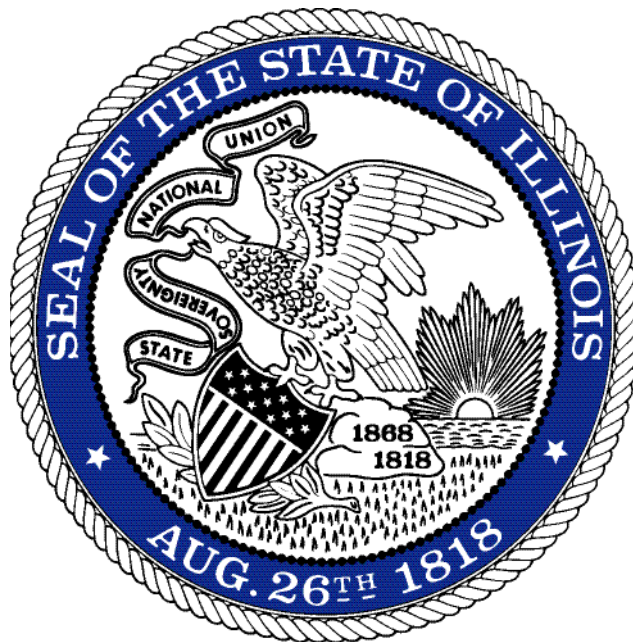
POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	582.3	187.1	188.9	207.2	183.5	183.8	180.5	181.5	178.7	158.7
Employees	107.6	95.7	93.3	95.9	98.2	108.4	95.6	93.2	93.3	92.0
Net Investment Income	-5.3	181.9	415.3	353.2	33.7	368.7	567.3	-1,104.9	349.9	447.3
Other	3.1	0.7	0.5	0.4	0.1	0.9	0.8	0.2	0.0	0.0
Total Asset Additions (A)	687.7	465.4	698.0	656.7	315.5	661.8	844.2	-830.0	621.9	698.0
Deductions from Assets										
Benefits	678.4	655.3	633.8	602.7	568.0	536.3	508.5	491.6	471.5	452.8
Refunds	7.8	9.0	8.1	11.2	7.3	8.0	6.4	6.4	6.2	5.3
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Administrative Expenses	4.5	4.2	4.3	4.9	4.4	3.9	4.3	4.2	3.1	2.7
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)	690.7	668.5	646.2	618.8	579.7	548.2	519.2	502.2	480.8	460.8
Change in Net Assets (A-B=C)	-3.1	-203.1	51.8	37.9	-264.2	113.6	325.0	-1,332.2	141.1	237.2

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, 2015.

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

- 2.2% of final average salary for each year of service.

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% compounded.

Employee Contributions

- 9.0% of salary.

Employer Contributions

For fiscal years 2014 through 2059 the employer 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 FY2059.

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

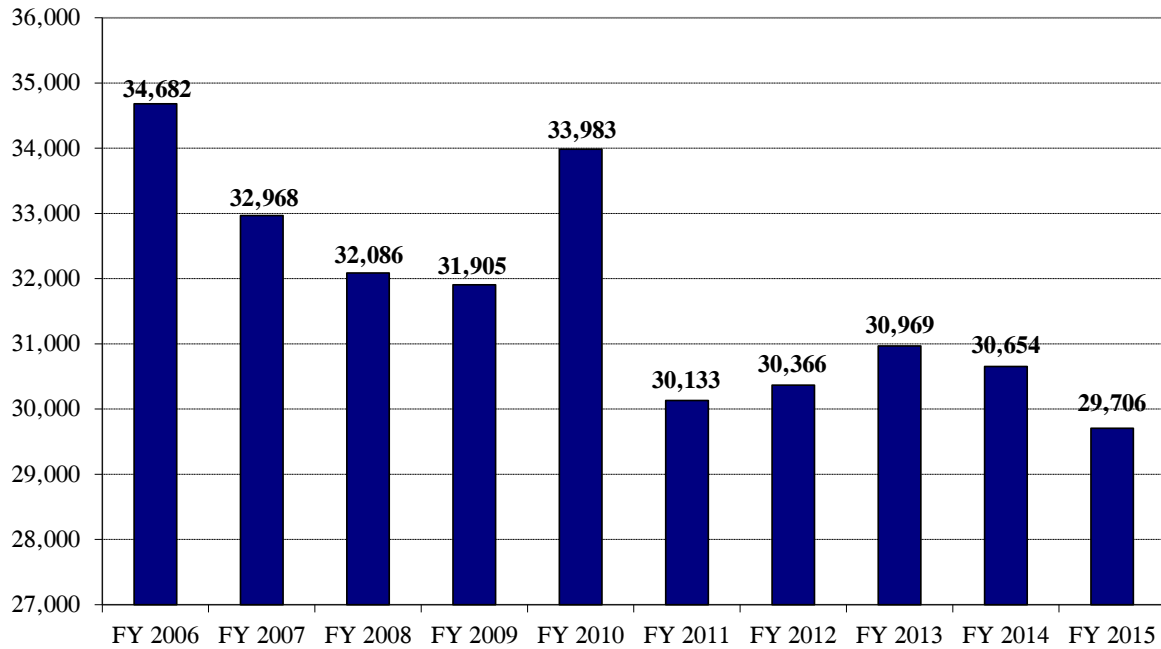


CHART 92

CHICAGO TEACHERS' PENSION FUND
Employee Annuitants

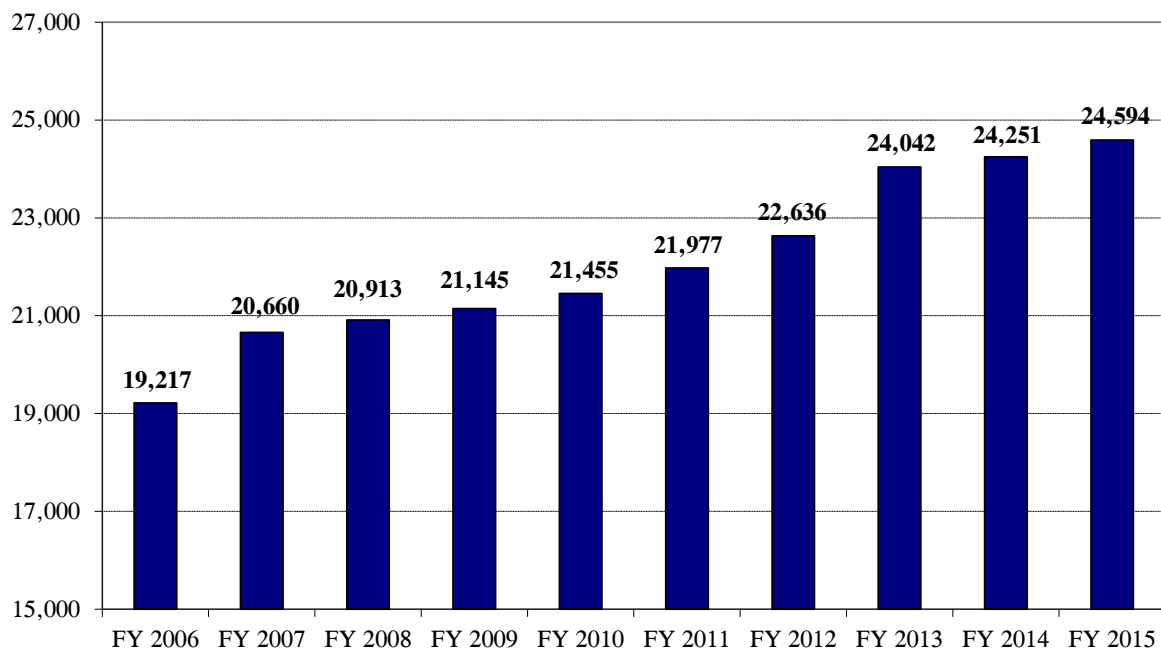


CHART 93

CHICAGO TEACHERS' PENSION FUND
Average Employee Salaries

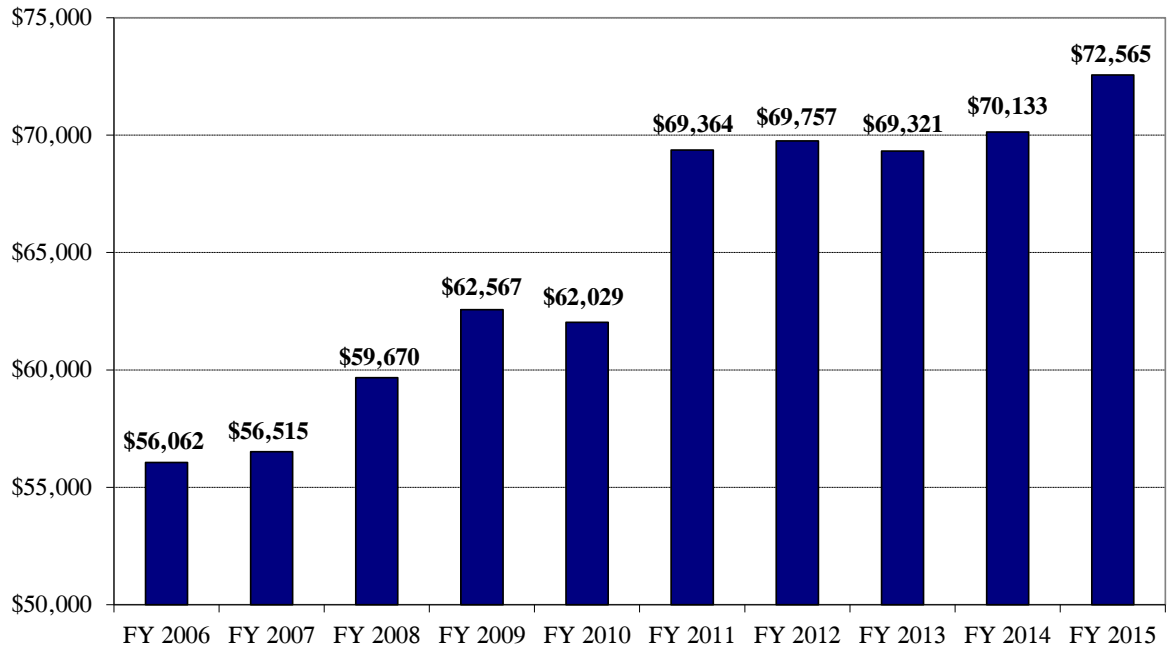


CHART 94

CHICAGO TEACHERS' PENSION FUND
Average Retirement Annuities

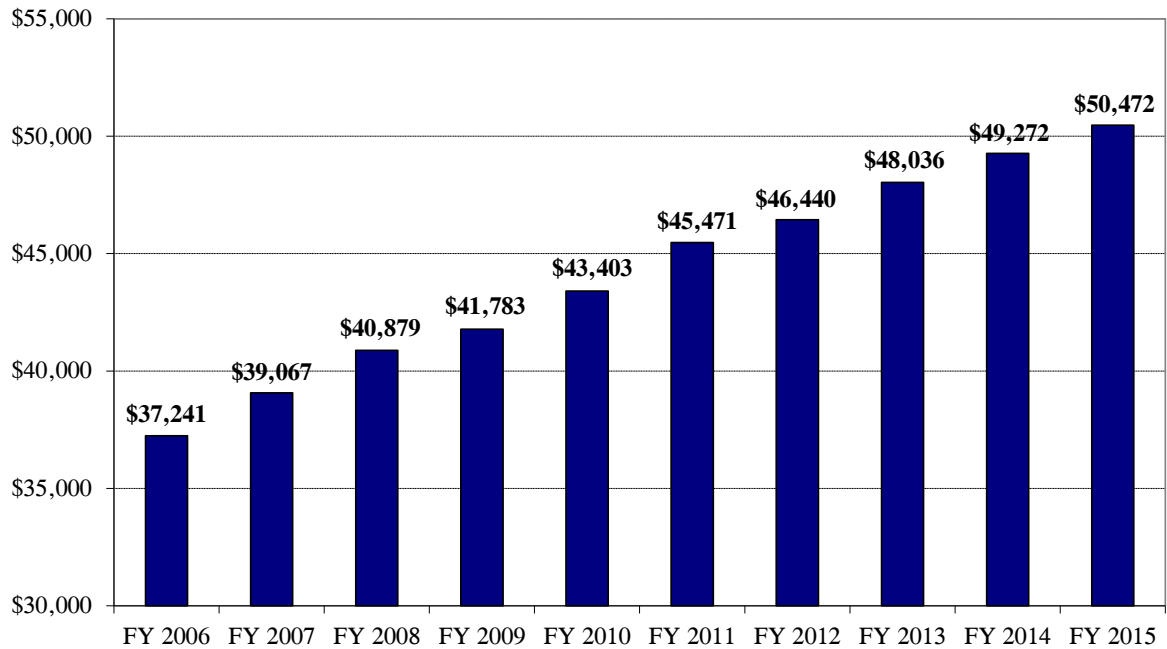


CHART 95

CHICAGO TEACHERS' PENSION FUND Funded Ratio FY 2006 - FY 2015

All figures based upon the actuarial value of assets.

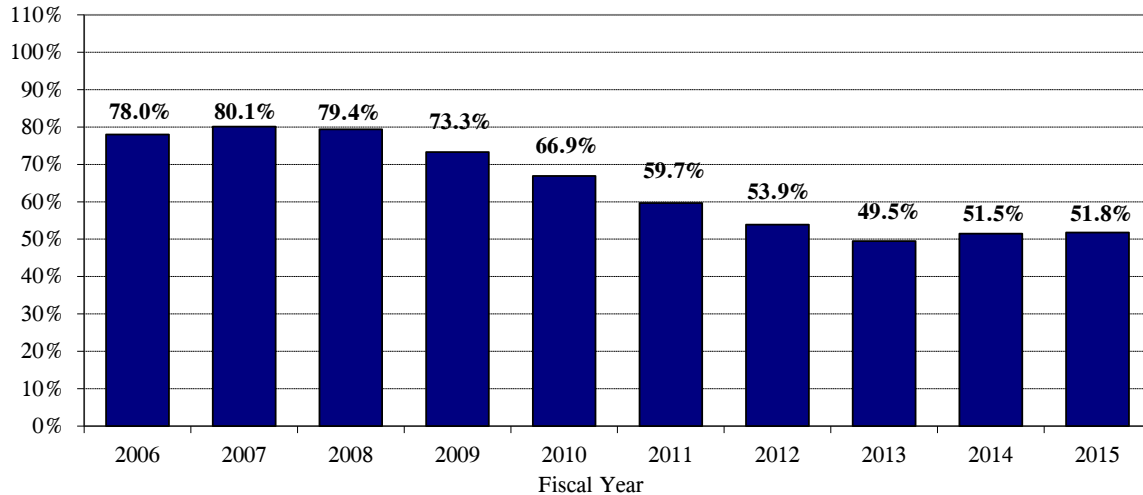
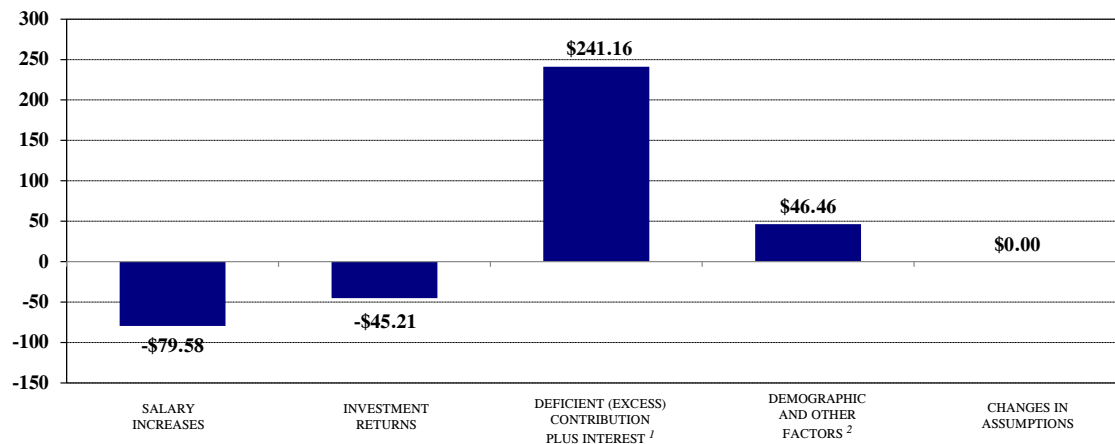


CHART 96

CHICAGO TEACHERS PENSION FUND Change in Unfunded Liabilities Year ended June 30, 2015 (\$ Millions)

TOTAL INCREASE EQUALS
\$ 162.83 MIL

All figures based upon the actuarial value of assets.



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

² Unfunded liability increases due to experience losses exceeding experience gains. "Demographic and other factors" includes experience losses mainly resulting from retirement, and experience gains resulting from termination and deaths among retired participants and beneficiaries.

CHART 97

CHICAGO TEACHERS' PENSION FUND
Investment Income FY 2006 - FY 2015
Actuarially Assumed Rate of Return : 7.75%
(\$ in Millions)

All figures based upon the market value of assets.

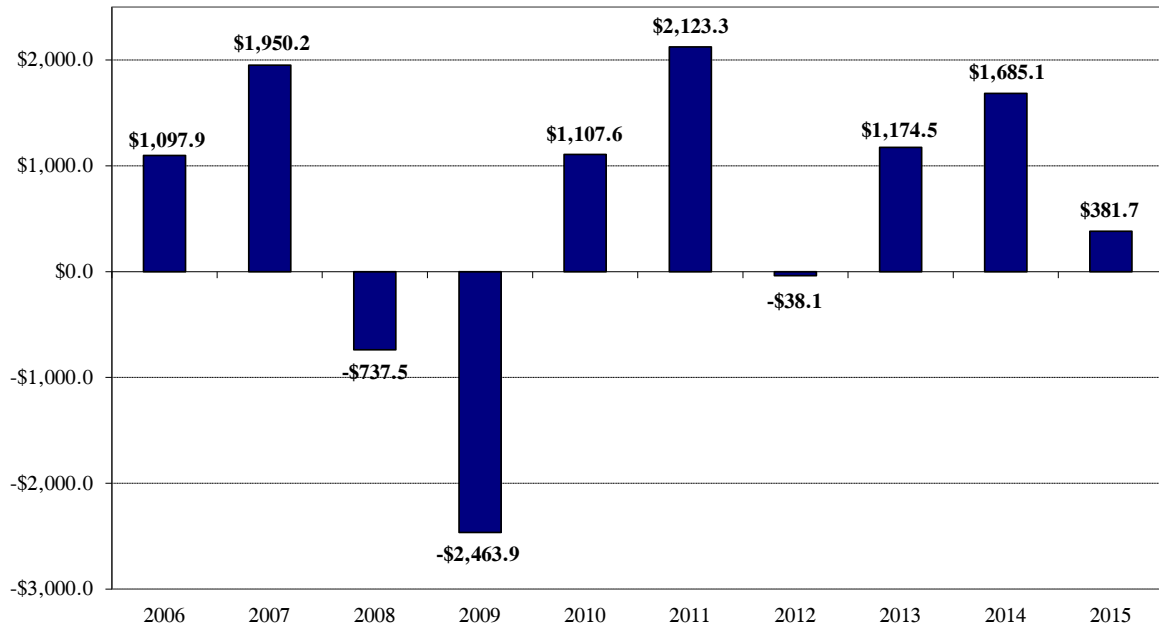


CHART 98

CHICAGO TEACHERS' PENSION FUND
Rate of Return FY 2006 - FY 2015
Actuarially Assumed Rate of Return : 7.75%

All figures based upon the market value of assets.

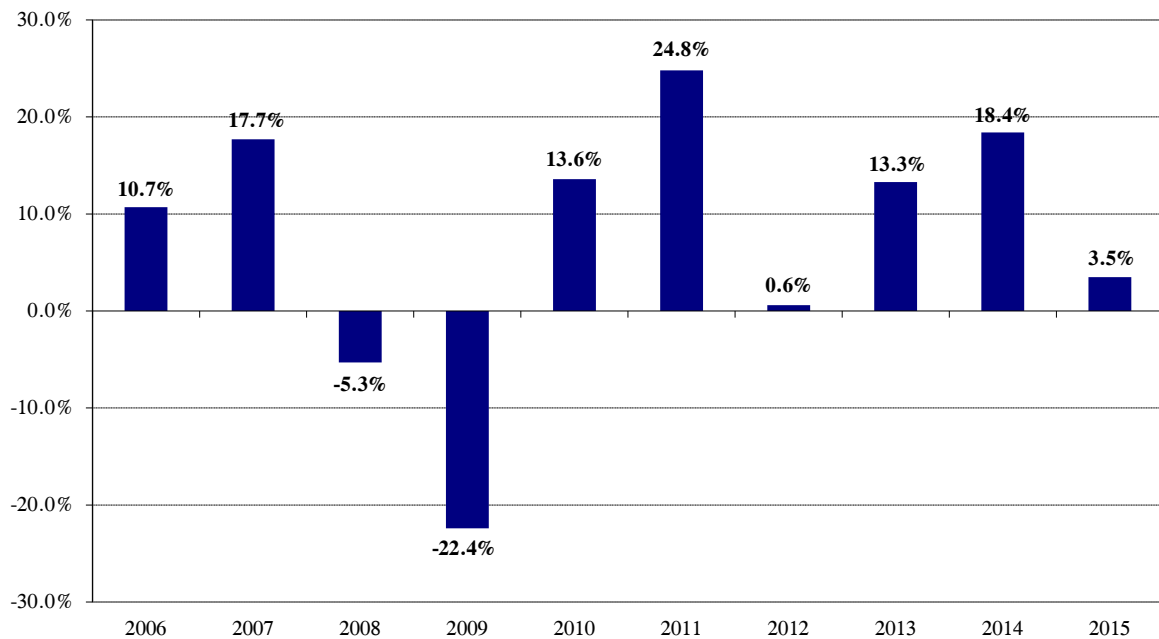


TABLE 27

CHICAGO TEACHERS PENSION FUND System Experience, FY 2004 - FY 2015 (\$ in Millions)					
Fiscal Year	Annual Payroll	Actuarial Liabilities	Actuarial Assets	Unfunded Liabilities	Funded Ratio
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%
2007	1,863.2	14,677.2	11,759.7	2,917.5	80.1%
2006	1,944.4	14,035.6	10,948.0 *	3,087.6	78.0%
2005	1,968.6	13,295.9	10,506.5 *	2,789.4	79.0%
2004	1,767.6	12,105.7	10,392.2 *	1,713.5	85.8%

**Includes Health Insurance Fund assets*

TABLE 28

CHICAGO TEACHERS PENSION FUND Changes in Net Assets (\$ in Millions)										
Fiscal Years	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Additions to Assets										
Employer	643.7	585.4	142.6	138.8	208.6 *	355.8 *	263.0 *	229.3 *	168.8 *	117.8 *
Employees	191.2	187.8	188.4	187.1	185.9	194.6	176.2	172.4	179.0	163.5
Net Investment Income	381.7	1,685.1	1,174.5	-38.1	2,123.3	1,107.6	-2,463.9	-737.5	1,950.2	1,097.9
Other	0.9	0.0	0.0	0.4	10.4	0.0	15.0	0.0	0.0	0.1
Total Asset Additions (A)	1,217.5	2,458.3	1,505.5	288.2	2,528.2	1,658.0	-2,009.7	-335.8	2,298.0	1,379.3
Deductions from Assets										
Benefits	1307.7	1273.5	1232.3	1,117.2	1,050.9	991.4	944.5	907.6	800.7	721.1
Refunds	23.9	32.8	24.8	36.3	27.1	21.1	19.0	16.7	36.4	30.7
Rebates	0.0	0.0	0.0	0.0	0.0	0.0	75.8	68.7	61.0	58.3
Administrative Expenses	11.7	10.5	11.5	10.1	9.5	8.8	8.8	7.8	8.4	8.3
Other	0.0	0.0	0.0	0.0	78.9	80.0	0.0	0.0	0.0	0.0
Total Asset Deductions (B)	1,343.3	1,316.8	1,268.6	1,163.6	1,166.4	1,101.3	1,048.1	1,000.8	906.5	818.4
Change in Net Assets (A-B=C)	-125.7	1,141.5	236.9	-875.4	1,361.8	556.7	-3,057.8	-1,336.6	1,391.5	560.9

* From year 2006 to year 2011, employer contribution for Health Insurance Fund is included.

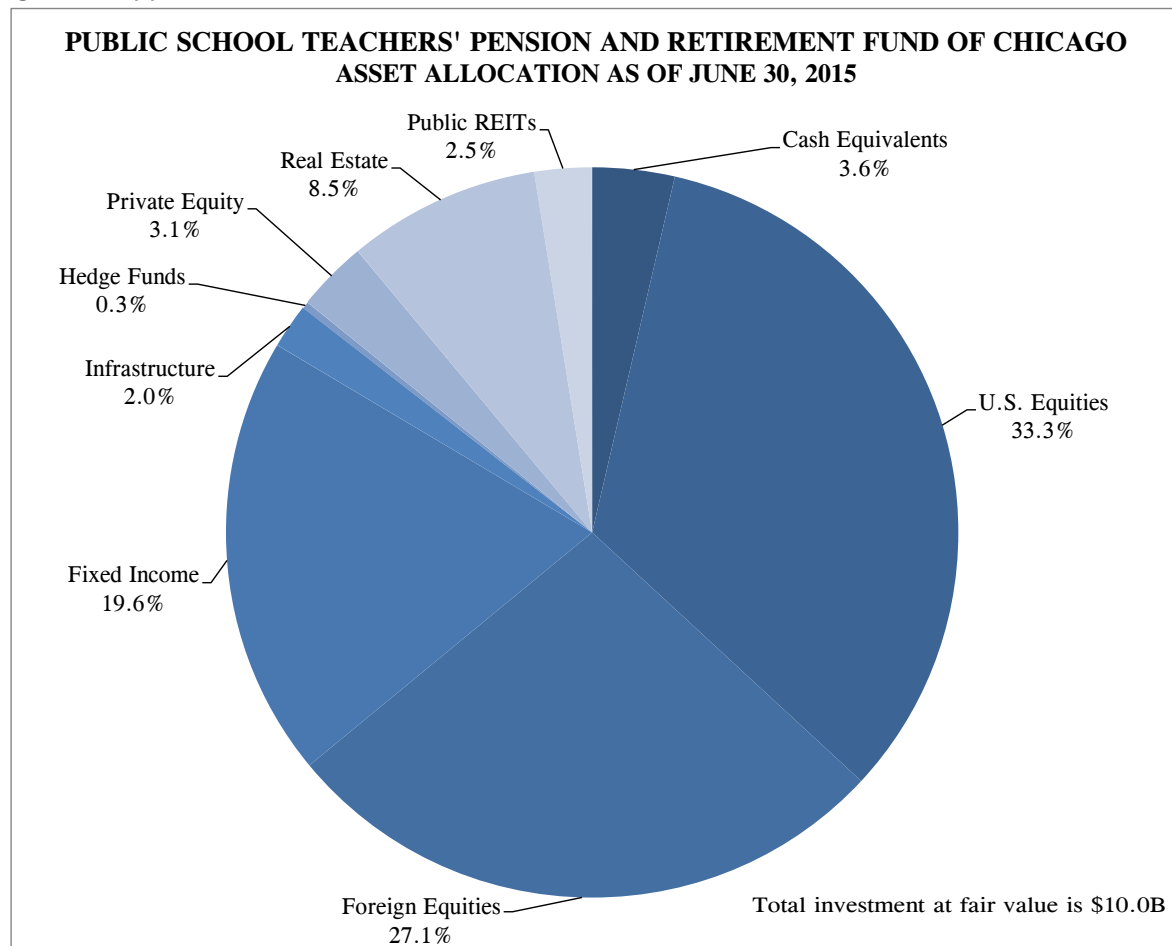
Table 29 below contains funding projections provided to CGFA by the Chicago Teachers' Pension Fund based upon the June 30, 2015 actuarial valuation.

TABLE 29

Chicago Teachers' Pension Fund Actuarial Valuation Projection Results as of June 30, 2015 Projections Based on P.A. 96-0889 (\$ 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
2016	2,322.2	700.1	30.1%	195.3	20,434.8	10,872.3	9,562.5	53.2%
2017	2,396.8	745.4	31.1%	201.6	20,935.3	11,329.7	9,605.6	54.1%
2018	2,474.6	769.6	31.1%	208.1	21,456.1	11,571.2	9,884.9	53.9%
2019	2,553.7	794.2	31.1%	214.8	21,997.3	11,918.4	10,078.9	54.2%
2020	2,633.6	819.0	31.1%	221.5	22,559.9	12,284.6	10,275.3	54.5%
2021	2,714.8	844.3	31.1%	228.3	23,144.4	12,675.6	10,468.8	54.8%
2022	2,795.8	869.5	31.1%	235.2	23,752.7	13,096.5	10,656.2	55.1%
2023	2,876.8	894.6	31.1%	242.0	24,386.6	13,548.2	10,838.4	55.6%
2024	2,957.7	919.8	31.1%	248.8	25,047.4	14,032.7	11,014.7	56.0%
2025	3,037.2	944.5	31.1%	255.5	25,734.7	14,550.0	11,184.7	56.5%
2026	3,112.6	968.0	31.1%	261.8	26,447.7	15,098.8	11,348.9	57.1%
2027	3,184.0	990.2	31.1%	267.8	27,185.8	15,678.0	11,507.8	57.7%
2028	3,252.5	1,011.5	31.1%	273.6	27,948.8	16,287.5	11,661.3	58.3%
2029	3,319.3	1,032.3	31.1%	279.2	28,734.6	16,926.2	11,808.4	58.9%
2030	3,383.8	1,052.3	31.1%	284.6	29,541.2	17,592.9	11,948.3	59.6%
2031	3,446.4	1,071.8	31.1%	289.9	30,366.9	18,286.6	12,080.3	60.2%
2032	3,507.7	1,090.9	31.1%	295.0	31,209.9	19,007.0	12,202.9	60.9%
2033	3,568.3	1,109.7	31.1%	300.1	32,067.0	19,752.4	12,314.6	61.6%
2034	3,626.6	1,127.8	31.1%	305.0	32,935.9	20,521.8	12,414.1	62.3%
2035	3,682.4	1,145.2	31.1%	309.7	33,811.3	21,311.7	12,499.6	63.0%
2036	3,735.0	1,161.5	31.1%	314.2	34,687.6	22,117.7	12,569.9	63.8%
2037	3,784.4	1,176.9	31.1%	318.3	35,559.1	22,936.4	12,622.7	64.5%
2038	3,830.3	1,191.2	31.1%	322.2	36,418.7	23,762.4	12,656.3	65.2%
2039	3,873.2	1,204.5	31.1%	325.8	37,258.1	24,589.5	12,668.6	66.0%
2040	3,912.2	1,216.6	31.1%	329.1	38,069.2	25,411.3	12,657.9	66.8%
2041	3,948.0	1,227.8	31.1%	332.1	38,844.6	26,222.3	12,622.3	67.5%
2042	3,981.4	1,238.1	31.1%	334.9	39,572.3	27,014.1	12,558.2	68.3%
2043	4,009.6	1,246.9	31.1%	337.3	40,245.7	27,781.0	12,464.7	69.0%
2044	4,036.2	1,255.2	31.1%	339.5	40,862.0	28,521.5	12,340.5	69.8%
2045	4,064.7	1,264.1	31.1%	341.9	41,414.4	29,232.5	12,181.9	70.6%
2046	4,094.1	1,273.2	31.1%	344.4	41,907.5	29,918.6	11,988.9	71.4%
2047	4,131.1	1,284.7	31.1%	347.5	42,342.8	30,585.1	11,757.7	72.2%
2048	4,174.0	1,298.0	31.1%	351.1	42,728.9	31,242.4	11,486.5	73.1%
2049	4,225.9	1,314.2	31.1%	355.4	43,073.1	31,901.5	11,171.6	74.1%
2050	4,286.4	1,333.0	31.1%	360.5	43,381.5	32,572.6	10,808.9	75.1%
2051	4,355.2	1,354.4	31.1%	366.3	43,660.0	33,266.2	10,393.8	76.2%
2052	4,431.1	1,378.0	31.1%	372.7	43,909.9	33,990.3	9,919.6	77.4%
2053	4,508.0	1,401.9	31.1%	379.2	44,133.1	34,750.4	9,382.7	78.7%
2054	4,589.8	1,427.4	31.1%	386.1	44,333.9	35,555.5	8,778.4	80.2%
2055	4,677.5	1,454.6	31.1%	393.4	44,513.8	36,413.2	8,100.6	81.8%
2056	4,770.8	1,483.6	31.1%	401.3	44,681.7	37,338.6	7,343.1	83.6%
2057	4,869.2	1,514.3	31.1%	409.6	44,843.7	38,345.5	6,498.2	85.5%
2058	4,969.3	1,545.4	31.1%	418.0	45,009.3	39,450.2	5,559.1	87.6%
2059	5,071.1	1,577.0	31.1%	426.5	45,188.6	40,669.7	4,518.9	90.0%

¹ Total employer contributions include required board of education contributions, additional board of education contributions, and additional state contributions.

CHART 99



BACKGROUND

The Commission on Government Forecasting and Accountability (CGFA), a bipartisan, joint legislative commission, provides the 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 appropriate bond funds or 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 several reports each year. 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 "Illinois Bond Watcher" report examines the State's debt position as well as other issues directly related to conditions in the financial markets. 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 also publishes each year special topic reports that have or could have an impact on the economic well-being of Illinois. All reports are available on the Commission's website.

These reports are available from:

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

<http://cgfa.ilga.gov>