

**SAN FRANCISCO CITY AND COUNTY
EMPLOYEES' RETIREMENT SYSTEM**

Financial Statements and
Required Supplementary Information
(With Independent Auditor's Report Thereon)

Years Ended June 30, 2019 and 2018



Certified
Public
Accountants

**SAN FRANCISCO CITY AND COUNTY
EMPLOYEES' RETIREMENT SYSTEM**
Years Ended June 30, 2019 and 2018

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Independent Auditor's Report

Retirement Board of San Francisco
City and County Employees' Retirement System
San Francisco, California

Report on the Financial Statements

We have audited the accompanying financial statements of the San Francisco City and County Employees' Retirement System (Retirement System), a pension trust fund of the City and County of San Francisco, California, as of and for the years ended June 30, 2019 and 2018, and the related notes to the financial statements, which collectively comprise the Retirement System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Retirement System as of June 30, 2019 and 2018, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matters

As described in Note 1, the financial statements present only the Retirement System and do not purport to, and do not, present fairly the financial position of the City and County of San Francisco as of June 30, 2019 and 2018, and the changes in its financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

As discussed in Note 9 to the financial statements, the total pension liability based on the actuarial valuation as of June 30, 2018, rolled forward to June 30, 2019, exceeded the pension plan fiduciary net position by \$4.5 billion. The actuarial valuation is very sensitive to the underlying assumptions, including the discount rate of 7.40%, which represents the long-term expected rate of return.

Our opinion is not modified with respect to these matters.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of changes in collective net pension liability and related ratios, the schedule of employer contributions, and the schedule of money-weighted rate of return, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 30, 2019, on our consideration of the Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters for the year ended June 30, 2019. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Retirement System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Retirement System's internal control over financial reporting and compliance.



San Francisco, California
December 30, 2019

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

The management of the City and County of San Francisco Employees' Retirement System (Retirement System) is pleased to provide this overview and analysis of the financial activities of its cost-sharing multiple-employer defined benefit pension plan (Plan) for the years ended June 30, 2019 and 2018. We encourage readers to consider the information presented here in conjunction with the *Basic Financial Statements and Required Supplementary Information*, which follow this discussion. All amounts, unless otherwise indicated, are expressed in thousands of dollars.

Financial Highlights

Fiscal Year 2019

- The assets and deferred outflows of resources of the Retirement System exceeded its liabilities and deferred inflows of resources at the close of the year ended June 30, 2019. The Plan held \$26,078,649 of net position restricted for pension benefits. All of the fiduciary net position is available to meet the Retirement System's ongoing obligations to plan participants and their beneficiaries.
- The Retirement System's funding objective is to meet long-term benefit obligations through contributions and investment income. The Retirement System's fiduciary net position as a percentage of the total pension liability should be considered when evaluating the Retirement System's financial health. Based on the June 30, 2019, measurement date, the fiduciary net position was 85.3% of the total pension liability.
- For the year ended June 30, 2019, the Retirement System's net investment income of \$1,970,312 represents 8.0% of fiduciary net position as of the beginning of the fiscal year.
- Total fiduciary net position held in trust for pension benefits increased by \$1,520,683, or 6.2%, primarily as a result of strong investment returns, which were slightly reduced by the net difference between contributions to the Plan and benefits, refunds, and administrative expenses incurred by the Plan.
- Members' contributions to the Plan totaled \$380,980, an increase of \$16,284 or 4.5% from the prior year. This increase is primarily a result of a 4.8% increase in covered payroll. Employee contribution rates in fiscal year 2018-19 ranged from 7.5% - 13.0%, same as in fiscal year 2017-18.
- In order to maintain the fiscal soundness of the Plan, required employer contributions to the Plan totaled \$645,056, an increase of \$25,989 or 4.2% from the prior year. This increase is mainly due to a 4.8% increase in covered payroll.
- Total deductions from the Plan were \$1,475,665, an increase of 6.7% from the prior year due to the increase in benefits paid during the current fiscal year, as a result of higher average retirement benefits and an increase in the cost of living (COLA) adjustments.

Fiscal Year 2018

- The assets and deferred outflows of resources of the Retirement System exceeded its liabilities and deferred inflows of resources at the close of the year ended June 30, 2018. The Plan held \$24,557,966 of net position restricted for pension benefits. All of the fiduciary net position is available to meet the Retirement System's ongoing obligations to plan participants and their beneficiaries.
- The Retirement System's funding objective is to meet long-term benefit obligations through contributions and investment income. The Retirement System's fiduciary net position as a percentage of the total pension liability should be considered when evaluating the Retirement System's financial health. Based on the June 30, 2018, measurement date, the fiduciary net position was 85.2% of the total pension liability.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

- For the year ended June 30, 2018, the Retirement System's net investment income of \$2,549,674 represents 11.4% of fiduciary net position as of the beginning of the fiscal year.
- Total fiduciary net position held in trust for pension benefits increased by \$2,147,616, or 9.6%, primarily as a result of strong investment returns, which were slightly reduced by the net difference between contributions to the Plan and benefits, refunds, and administrative expenses incurred by the Plan.
- Members' contributions to the Plan totaled \$364,696, an increase of \$47,852 or 15.1% from the prior year. This increase is primarily a result of higher employee contribution rates in fiscal year 2017-18 and also an increase in the number of active employees contributing to the Plan. Employee contribution rates in fiscal year 2017-18 ranged from 7.5% - 13.0%, while employee contribution rates in fiscal year 2016-17 ranged from 7.5% - 12.0%.
- In order to maintain the fiscal soundness of the Plan, required employer contributions to the Plan totaled \$619,067, an increase of \$67,258 or 12.2% from the prior year. This increase is mainly due to an average increase of 6.2% in required contribution rates and a 5.9% increase in covered payroll.
- Total deductions from the Plan were \$1,382,825, an increase of 6.7% from the prior year due to the increase in benefits paid during the current fiscal year, as a result of an increase in the number of retirees and cost of living (COLA) adjustments.

Overview of Financial Statements

The following discussion and analysis are intended to serve as an introduction to the Retirement System's financial statements, which are comprised of the following components:

1. ***Statements of Fiduciary Net Position*** are snapshots of account balances as of the close of the years – June 30, 2019 and 2018. They indicate the total assets, deferred outflows of resources, total liabilities, deferred inflows of resources, and the net position restricted for future payment of retirement benefits and operating expenses as of June 30, 2019 and 2018.
2. ***Statements of Changes in Fiduciary Net Position*** provide a view of additions to and deductions from the Plan during the years ended June 30, 2019 and 2018.
3. ***Notes to Financial Statements*** provide additional information that is essential to a full understanding of the data provided in the financial statements.

The statements of fiduciary net position and the statements of changes in fiduciary net position report information about the Retirement System's financial activities, prepared using the accrual basis of accounting. Contributions to the Plan are recognized when due pursuant to legal requirements and benefits and refunds are recognized when currently due and payable in accordance with the terms of the Plan.

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Securities that do not have an established market are reported at estimated fair value derived from third party pricing services. Purchases and sales of investments are recorded on a trade date basis. The fair values of the Retirement System's partnership interests, which include private equity, real assets, private credit, absolute return, and some public equity investments, are based on net asset values provided by the general partners and investment managers.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
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Investments in forward currency contract investments are commitments to purchase and sell stated amounts of foreign currency. Changes in fair value of open contracts are immediately recognized as gains or losses. The fair value of forward currency contracts is determined by quoted currency prices from national exchanges.

Additional information on the Retirement System's investments can be found in Notes 4, 5 and 6 of this report.

Financial Analysis

The Plan's net position may serve over time as a useful indication of the Plan's financial position. The assets and deferred outflows of resources of the Plan exceeded its liabilities and deferred inflows of resources at June 30, 2019 and 2018. All of the Plan's fiduciary net position is restricted to meet the Retirement System's ongoing obligation to Plan participants and their beneficiaries.

The Plan's fiduciary net position as of June 30, 2019, 2018, and 2017 are represented in the table below:

Fiduciary Net Position Summary – June 30, 2019, 2018, and 2017

	2019	2018	2017
Other assets	\$ 245,668	\$ 329,188	\$ 256,857
Investments at fair value	26,021,469	24,327,090	22,319,815
Total assets	26,267,137	24,656,278	22,576,672
Deferred outflows of resources	1,027	641	-
Total assets and deferred outflows of resources	26,268,164	24,656,919	22,576,672
 Total liabilities	 188,422	 98,934	 166,322
Deferred inflows of resources	1,093	19	-
Total liabilities and deferred inflows of resources	189,515	98,953	166,322
Fiduciary net position	\$ 26,078,649	\$ 24,557,966	\$ 22,410,350

As of June 30, 2019, the Plan's total fiduciary net position held in trust for pension benefits increased by \$1,520,683 or 6.2% for the year, primarily due to a continuation of the generally favorable market conditions in prior years. Payables to brokers increased by \$88,221 due to the timing of investments.

As of June 30, 2018, the Plan's total fiduciary net position held in trust for pension benefits increased by \$2,147,616 or 9.6% for the year, primarily due to strong investment returns as a result of the improvement in financial market conditions. Payables to brokers decreased by \$86,798 and payables to borrowers of securities decreased by \$106 due to the timing of investment trades and termination of the Securities Lending Program.

The Retirement Board believes that the Plan remains in a strong financial position to meet its obligations to the Plan members and beneficiaries. For fiscal year 2018-19, the U.S. economic expansion entered its tenth year, setting a record for duration, although total cumulative GDP growth trails other recoveries. The Federal Reserve Bank initially maintained its path of methodically normalizing monetary policy, raising interest rates twice, however, the Fed shifted its stance on monetary policy in early 2019 signaling potential interest rate cuts in the near future. US market volatility returned in late 2018 in response to concerns over

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
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the Fed's pace of interest rate increases, slowing global economic growth, and the U.S. – China trade tensions. Many of these concerns eased in the first half of 2019 and volatility dissipated through the end of the fiscal year. U.S. stocks, as a result, posted their tenth consecutive year of positive returns and outperformed international equities. Global capital markets continued to be largely driven by accommodative Central Bank policy from both the European Central Bank and Bank of Japan. Despite this, volatility increased in global markets in the year ended June 30, 2019 as concerns of slowing economic growth, historically low and broadly negative real interest rates and fears over U.S. trade policy caused uncertainty to impact investor sentiment. Despite these risks, U.S. equities posted a robust 10.4% return as measured by the S&P 500 Index. International developed-markets equities (1.1% for the year) performed positively but lagged domestic equities by 9.3%. Underperformance in international developed-markets was driven by uncertainty stemming from slowing economic growth and U.S. trade policy. Emerging markets equities underperformed U.S. and outperformed developed-international equities as markets reacted to U.S. Dollar strength and negative sentiment associated with the trade tensions between the U.S. and China. Driven by declining interest rates, U.S. high quality fixed income investments generated a positive return for the year, returning 7.9% as measured by the Bloomberg Barclays U.S. Aggregate Bond Index.

As fiduciaries to the Plan members and beneficiaries, the Retirement Board, Retirement System staff, and our investment consultants continuously monitor the Plan's investment strategies, which comply with a "prudent expert" standard, to secure and maintain the sustainability of the Plan.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
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Highlights of Changes in Fiduciary Net Position – Years ended June 30, 2019, 2018, and 2017

	2019	2018	2017
Additions:			
Member contributions	\$ 380,980	\$ 364,696	\$ 316,844
Employer contributions	645,056	619,067	551,809
Interest	95,100	132,988	159,065
Dividends	203,047	244,721	209,951
Net appreciation in fair value of investments	1,720,605	2,221,453	2,356,332
Securities lending income	-	393	9,004
Investment expenses	(48,440)	(49,881)	(47,395)
Securities lending borrower rebates and expenses	-	-	(3,489)
Total additions	<u>2,996,348</u>	<u>3,533,437</u>	<u>3,552,121</u>
Deductions:			
Benefits	1,438,935	1,350,009	1,264,633
Refunds of contributions	17,747	14,578	13,507
Administrative expenses	18,204	17,762	16,586
Other administrative expenses - OPEB	779	476	1,548
Total deductions	<u>1,475,665</u>	<u>1,382,825</u>	<u>1,296,274</u>
Net increase in fiduciary net position	1,520,683	2,150,612	2,255,847
Fiduciary net position – restricted for pension benefits:			
Beginning of year (as previously reported)	24,557,966	22,410,350	20,154,503
Cumulative effect of change in accounting principle due to adoption of GASB 75 ¹	-	(2,996)	-
Beginning of year (as restated)	<u>24,557,966</u>	<u>22,407,354</u>	<u>20,154,503</u>
End of the year	<u>\$ 26,078,649</u>	<u>\$ 24,557,966</u>	<u>\$ 22,410,350</u>

¹ Refer to Note 2 in the Notes to Financial Statements for discussion of the cumulative effect of change in accounting principle to beginning net position due to the adoption of GASB Statement No. 75.

Fiscal Year 2019

- Members' contributions to the Plan totaled \$380,980, an increase of \$16,284 or 4.5% from the prior year. This increase is primarily a result of a 4.8% increase in covered payroll. Employee contribution rates in fiscal year 2018-19 ranged from 7.5% - 13.0%, same as in fiscal year 2017-18.
- In order to maintain the fiscal soundness of the Plan, \$645,056 in required employer contributions were made during the year ended June 30, 2019. The increase of \$25,989 in required employer contributions reflects the increase in covered payroll. The employer contribution rates ranged from 18.81% to 23.31% in fiscal year 2018-19 and 18.96% to 23.46% in fiscal year 2017-18.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

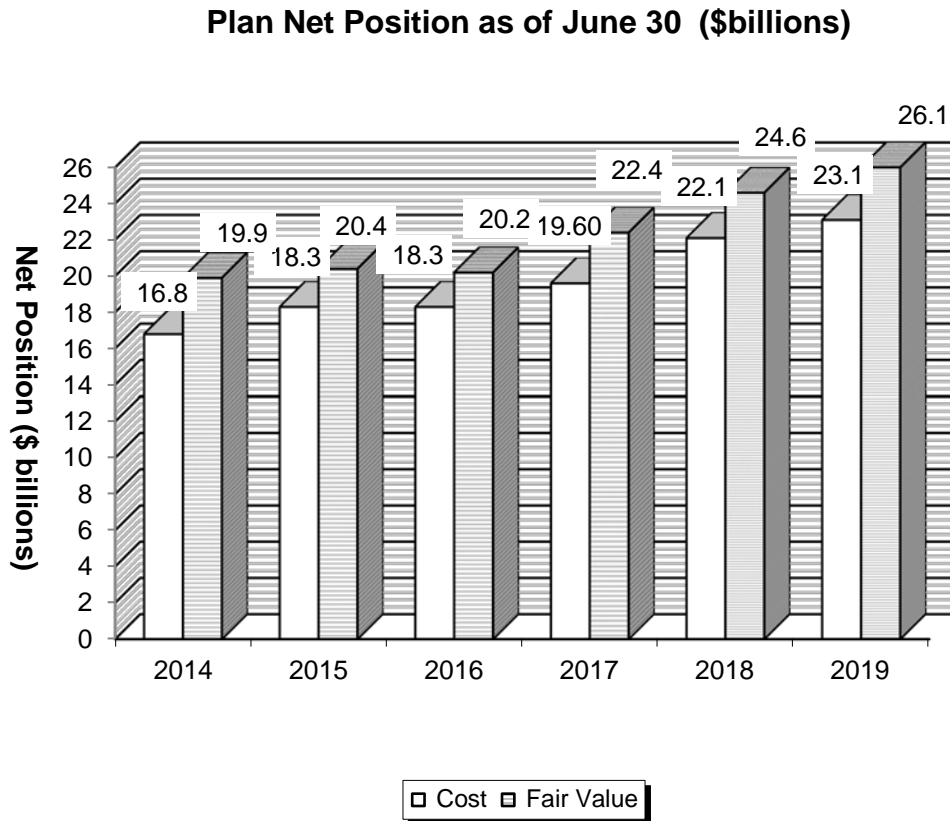
- Net investment income was \$1,970,312 for fiscal year 2018-19, with net appreciation in fair value of investments of \$1,720,605. This compares to net investment income of \$2,549,674 for fiscal year 2017-18, with net appreciation in fair value of investments of \$2,221,453. Net investment income was \$579,362 lower than the prior year; however, net appreciation in fair value of investments reflects positive investment returns in the majority of asset classes that the Retirement System invests in for both fiscal years. Interest income decreased by \$37,888, mainly due to the domestic fixed income markets.
- Benefit payments to Plan participants increased by \$88,926 or 6.6%. This increase was due to both a 2.9% increase in the number of payees and the Supplemental COLA and Basic COLA effective July 1, 2018.
- Accrued DROP retirement benefits decreased by \$268, reflecting the wind down of the program as a result of the program being closed to new participants on June 30, 2011.

Fiscal Year 2018

- Members' contributions to the Plan totaled \$364,696 for the year ended June 30, 2018, which is an increase of \$47,852 or 15.1% from the prior year. This increase is primarily a result of higher employee contribution rates in fiscal year 2017-18 and an increase in the number of active employees contributing to the Plan. Employee contribution rates in fiscal year 2017-18 ranged from 7.5% - 13.0%, while employee contribution rates in fiscal year 2016-17 ranged from 7.5% - 12.0%.
- In order to maintain the fiscal soundness of the Plan, \$619,067 in required employer contributions were made during the year ended June 30, 2018. The increase of \$67,258 in required employer contributions reflects the increase in active members and covered payroll and an increase in the employer contribution rates, which ranged from 18.96% to 23.46% in fiscal year 2017-18 and 17.90% to 21.40% in fiscal year 2016-17.
- Net investment income was \$2,549,674 for fiscal year 2017-18, with net appreciation in fair value of investments of \$2,221,453. This compares to net investment income of \$2,683,468 for fiscal year 2016-17, with net appreciation in fair value of investments of \$2,356,332. Net investment income was \$133,794 lower than the prior year; however, net appreciation in fair value of investments reflects positive investment returns in the majority of asset classes that the Retirement System invests in for both fiscal years. Interest income decreased by \$26,077, mainly due to the domestic fixed income markets.
- Benefit payments to Plan participants increased by \$85,376 or 6.8%, which is primarily due to an increase in service retirement benefits as a result of increased average benefit payments. This increase was mainly due to an approximate increase of 3.0% in the number of retirees and both a Supplemental and Basic COLA effective July 1, 2017.
- Accrued DROP retirement benefits did not change from fiscal year 2016-17 due to member's disability retirement applications were still under review and pending decision.

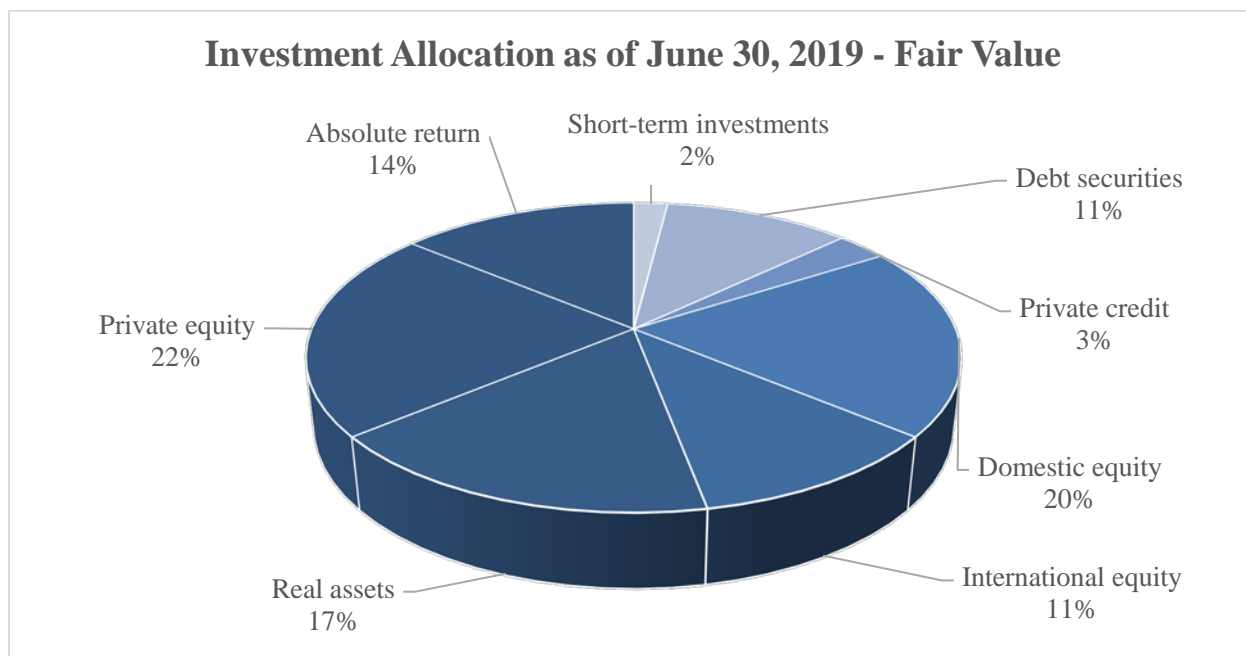
SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Fiduciary net position as of June 30, 2014 through 2019, expressed at cost and fair value of investments are represented in the chart below:

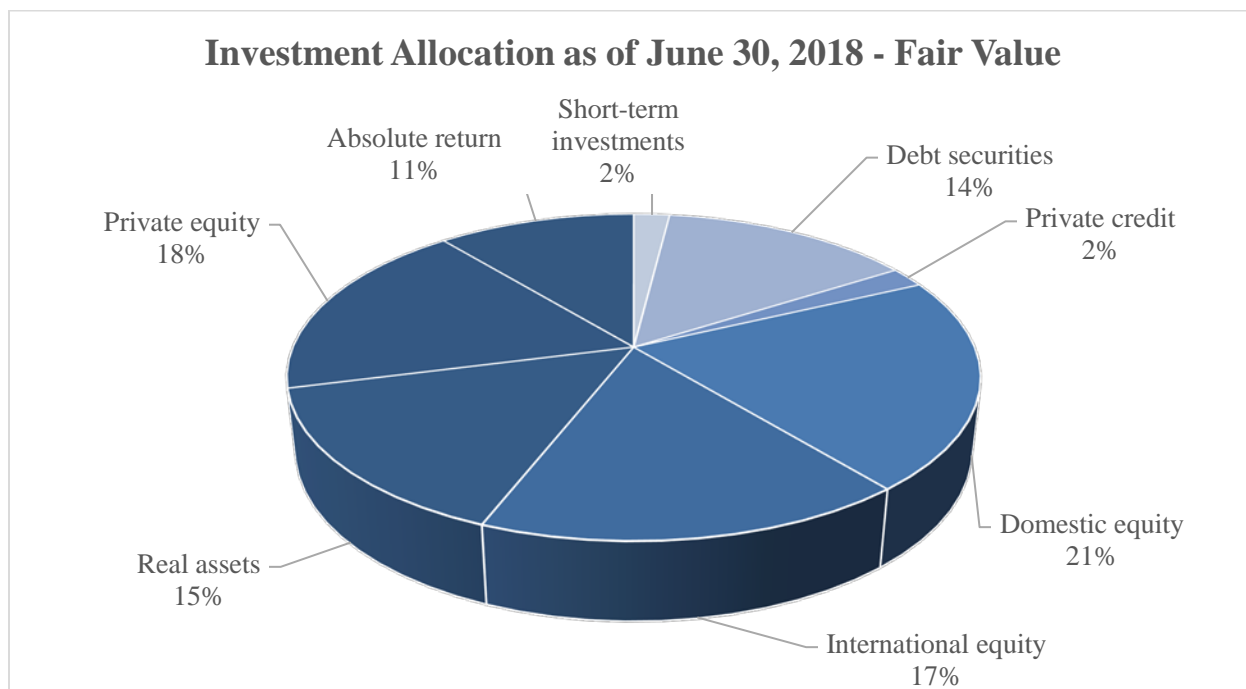


SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

The investment allocation at fair value based on investment category (excluding foreign currency contracts) as of June 30, 2019, is represented in the chart below:



The investment allocation at fair value based on investment category (excluding foreign currency contracts) as of June 30, 2018, is represented in the chart below:



SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Management's Discussion and Analysis – Unaudited (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Currently Known Facts and Events Affecting Next Year

The Retirement System's funding objective is to meet long-term benefit obligations through contributions and investment income. The Retirement Board believes that the Retirement System remains in a strong financial position to meet its obligations to Plan participants and beneficiaries.

Requests for information

This financial report is designed to provide a general overview of the Retirement System's finances for the years ended June 30, 2019 and 2018. Questions regarding any of the information provided in this report or requests for additional financial information should be addressed to:

Jay Huish, Executive Director
San Francisco City and County Employees' Retirement System
1145 Market Street – 5th floor
San Francisco, CA 94103

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Statements of Fiduciary Net Position
June 30, 2019 and 2018
(In thousands)

	2019	2018
Assets:		
Deposits	\$ 62,375	\$ 105,525
Contributions receivable - members	14,532	13,557
Investment income receivable:		
Interest	17,435	20,828
Dividends	5,497	10,342
Receivable from brokers, general partners, and others	145,829	178,936
Investments at fair value:		
Short-term investments	479,876	521,870
City investment pool	31,264	24,275
Debt securities:		
U.S. government and agency securities	1,461,178	1,593,955
Other debt securities	1,321,937	1,712,045
Equity securities:		
Domestic	5,585,777	5,233,524
International	2,869,805	4,240,318
Real assets	4,334,229	3,578,379
Private credit	758,662	454,199
Private equity	5,604,023	4,344,306
Absolute return	3,574,622	2,625,376
Foreign currency contracts, net	96	(1,157)
Total investments	<u>26,021,469</u>	<u>24,327,090</u>
Total assets	<u>26,267,137</u>	<u>24,656,278</u>
Deferred outflows of resources:		
Employer's contributions - other postemployment benefits	<u>1,027</u>	<u>641</u>
Total assets and deferred outflows of resources	<u>26,268,164</u>	<u>24,656,919</u>
Liabilities:		
Payable to brokers	148,518	60,297
Deferred retirement option program	45	313
Other	<u>39,859</u>	<u>38,324</u>
Total liabilities	<u>188,422</u>	<u>98,934</u>
Deferred inflows of resources:		
Net investment earnings - other postemployment benefits	<u>1,093</u>	<u>19</u>
Total liabilities and deferred inflows of resources	<u>189,515</u>	<u>98,953</u>
Fiduciary net position – restricted for pension benefits	<u>\$ 26,078,649</u>	<u>\$ 24,557,966</u>

See accompanying notes to financial statements.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2019 and 2018
(In thousands)

	<u>2019</u>	<u>2018</u>
Additions:		
Member contributions		
Miscellaneous	\$ 315,059	\$ 302,865
Police	38,418	35,791
Fire	27,503	26,040
Total member contributions	<u>380,980</u>	<u>364,696</u>
Employer contributions		
Miscellaneous	548,319	525,315
Police	55,533	54,150
Fire	41,204	39,602
Total employer contributions	<u>645,056</u>	<u>619,067</u>
Investment income (expenses)		
Interest	95,100	132,988
Dividends	203,047	244,721
Net appreciation in fair value of investments	1,720,605	2,221,453
Securities lending income	-	393
Investment expenses	(48,440)	(49,881)
Net investment income	<u>1,970,312</u>	<u>2,549,674</u>
Total additions	<u>2,996,348</u>	<u>3,533,437</u>
Deductions:		
Benefits	1,438,935	1,350,009
Refunds of contributions	17,747	14,578
Administrative expenses	18,204	17,762
Other administrative expenses - other postemployment benefits	779	476
Total deductions	<u>1,475,665</u>	<u>1,382,825</u>
Net increase in fiduciary net position	1,520,683	2,150,612
Fiduciary net position – restricted for pension benefits		
Beginning of year	24,557,966	22,407,354
End of year	<u>\$ 26,078,649</u>	<u>\$ 24,557,966</u>

See accompanying notes to financial statements.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(1) Plan Description

(a) General

The San Francisco City and County Employees' Retirement System (the Retirement System) administers a cost-sharing multiple-employer defined benefit pension plan (the Plan) established to provide pension benefits for substantially all employees of the City and County of San Francisco (the City and County), certain classified and certificated employees of the Community College and Unified School Districts, and San Francisco Trial Court employees other than judges. The Retirement System provides service retirement, disability, and death benefits based on specified percentages of defined final average monthly salary and annual cost of living adjustments after retirement. While the Plan is not subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), it is a tax-qualified plan under Internal Revenue Code provisions. The City and County Charter (the Charter) and the Administrative Code are the authorities that establish and amend the benefit provisions and employer and member obligations to the Plan.

The Retirement System is considered to be a part of the City and County's financial reporting entity and is included in the City and County's basic financial statements as a pension trust fund. The financial statements of the Retirement System are intended to present only the fiduciary net position and changes in fiduciary net position of the Retirement System. They do not purport to, and do not, present fairly the financial position of the City and County as of June 30, 2019 and 2018, and the changes in its financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America. The City and County's Comprehensive Annual Financial Report can be obtained from City Hall, Room 316, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

The Retirement System is administered by the Executive Director, an employee of the City and County, in accordance with the provisions of the Charter and Administrative Code, and the policies and regulations of the Retirement Board. The Retirement Board is composed of seven members: three members elected by the active and retired members of the Retirement System; three members appointed by the Mayor in accordance with Section 12.100 of the Charter; and one member of the Board of Supervisors appointed by the President of the Board of Supervisors.

The Retirement System pays benefits according to the category of employment and the type of benefit coverage provided by the City and County. The four main categories of Plan membership are:

- a. **Miscellaneous Non-Safety Members** – staff, operational, supervisory, and all other eligible employees who are not in special membership categories.
- b. **Sheriff's Department and Miscellaneous Safety Members** – sheriffs assuming office on and after January 7, 2012, and undersheriffs, deputized personnel of the sheriff's department, and miscellaneous safety employees hired on and after January 7, 2012.
- c. **Firefighter Members** – firefighters and other employees whose principal duties are in fire prevention and suppression work or who occupy positions designated by law as firefighter member positions.
- d. **Police Members** – police officers and other employees whose principal duties are in active law enforcement or who occupy positions designated by law as police member positions.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(b) Service Retirement

Miscellaneous Non-Safety Members who became members prior to July 1, 2010, qualify for a service retirement benefit if they are at least 50 years old and have at least 20 years of credited service or if they are at least 60 years old and have at least 10 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest one-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 75% of the member's final compensation.

Miscellaneous Non-Safety Members who became members on or after July 1, 2010, and prior to January 7, 2012, qualify for a service retirement benefit if they are at least 50 years old and have at least 20 years of credited service or if they are at least 60 years old and have at least 10 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest two-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 75% of the member's final compensation.

Miscellaneous Non-Safety Members who became members on or after January 7, 2012, qualify for a service retirement benefit if they are at least 53 years old and have at least 20 years of credited service or if they are at least 60 years old and have at least 10 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest three-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 75% of the member's final compensation.

Sheriff's Department Members and Miscellaneous Safety Members who were hired on or after January 7, 2012, qualify for a service retirement benefit if they are at least 50 years old and have at least 5 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest three-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 90% of the member's final compensation.

Firefighter Members and Police Members who became members of the Plan before November 2, 1976, qualify for a service retirement benefit if they are at least 50 years old and have at least 25 years of credited service. The service retirement benefit is calculated using the member's final compensation (monthly salary earnable at the rank or position the member held for at least one year immediately prior to retiring) multiplied by the member's years of credited service times the member's age factor up to a maximum of 90% of the member's final compensation.

Firefighter Members and Police Members who became members of the Plan on or after November 2, 1976, and prior to July 1, 2010, qualify for a service retirement benefit if they are at least 50 years old and have at least 5 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest one-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 90% of the member's final compensation.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Firefighter Members and Police Members who became members of the Plan on or after July 1, 2010, and prior to January 7, 2012, qualify for a service retirement benefit if they are at least 50 years old and have at least 5 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest two-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 90% of the member's final compensation.

Firefighter Members and Police Members who became members of the Plan on or after January 7, 2012, qualify for a service retirement benefit if they are at least 50 years old and have at least 5 years of credited service. The service retirement benefit is calculated using the member's final compensation (highest three-year average monthly compensation) multiplied by the member's years of credited service times the member's age factor up to a maximum of 90% of the member's final compensation.

(c) Disability Retirement

Miscellaneous Non-Safety Members are eligible to apply for a disability retirement benefit, regardless of age, when they have 10 or more years of credited service and they sustain an injury or illness that prevents them from performing their duties. The disability retirement benefit is calculated using the member's average final compensation multiplied by the member's years of credited service times the disability factor (1.8) up to a maximum of 75% of average final compensation.

Firefighter Members, Police Members, Sheriff Members, and Miscellaneous Safety Members are eligible to apply for an industrial disability retirement benefit from their first day on the job in firefighter or police service if their disability is caused by an illness or injury that they receive while performing their duties. The industrial disability retirement benefit is based on the member's average final compensation multiplied by the permanent disability rating (from 50% to 90%) or the member's service retirement benefit if the member is eligible for a service retirement.

Firefighter Members, Police Members, Sheriff Members, and Miscellaneous Safety Members are eligible to apply for an ordinary disability retirement benefit, regardless of age, when they have 10 or more years of credited service and they sustain an injury or illness that is not caused by their work, but that prevents them from performing their duties. The disability retirement benefit is calculated using 1.5% of the member's average final compensation multiplied by years of credited service subject to a minimum of 33.3% and a maximum (75% to 90%).

(d) Separation and Death Benefits

Separation from Employment

Upon separation from City employment, **Miscellaneous Non-Safety Members** may either elect to withdraw their accumulated contributions from the Plan or, if they have 5 or more years of credited service, elect to leave their accumulated contributions in the Plan and receive a vesting benefit that is first payable at or after age 50 for members hired prior to January 7, 2012, or at or after age 53 for members hired on or after January 7, 2012. Miscellaneous members hired before November 2, 1976, need 10 years of credited service to elect the vesting option.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Upon separation from City employment, **Firefighter Members, Police Members, Sheriff Members, and Miscellaneous Safety Members** may either elect to withdraw their accumulated contributions from the Plan or, if they have 5 or more years of credited service, elect to leave their accumulated contributions in the Plan and receive a deferred benefit that is first payable at or after age 50.

Death Benefits Prior to Retirement

Generally, upon the death of an active employee who is eligible for a service retirement, the Retirement System provides continuation benefits to a qualified surviving spouse or qualified domestic partner equal to 50% to 100% of the member's retirement allowance that the member would have received had he or she retired on the date of death.

For qualified surviving spouses and qualified domestic partners of **Firefighter Members, Police Members, Sheriff Members, and Miscellaneous Safety Members** who die prior to becoming eligible for service retirement and whose death is due to an injury received in or illness caused by the performance of duty, salary continuation is provided to the qualified survivor until such time as the member would have qualified for service retirement had he or she lived at which time a continuation benefit equal to 100% of the member's service retirement allowance is provided to the qualified survivor.

A lump sum death payment equal to 6 months' earnable salary plus the member's accumulated contributions is provided upon the death of an active employee not yet eligible for a service retirement to the member's named beneficiary or estate.

Death Benefits after Retirement

Generally, upon the death of a retired member, the Retirement System provides continuation benefits to a qualified surviving spouse or qualified domestic partner equal to 50% to 100% of the member's retirement allowance as of the date of death.

(e) Cost of Living Adjustments (COLA)

Basic COLA

Miscellaneous Non-Safety Members receive a benefit adjustment each July 1 equal to the percentage increase or decrease in the Consumer Price Index (CPI) rounded to the nearest 1%, to a maximum of 2% of the member's previous June 30 retirement benefit. If the CPI decreases in a particular year, however, the negative adjustment cannot reduce a member's monthly retirement benefit below the initial pension amount.

Firefighter Members and Police Members who became members of the Plan before November 2, 1976, receive a benefit adjustment each July 1 equal to 50% of the actual dollar or percentage increase or decrease in the salary of the rank or position on which the member's retirement benefit is based. Although decreases are possible in a given year, a negative adjustment cannot reduce a member's monthly benefit below the initial pension amount.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Firefighter Members and Police Members who became members of the Plan on or after November 2, 1976, and Sheriff Members and Miscellaneous Safety Members receive a benefit adjustment each July 1 equal to the percentage increase or decrease in the CPI rounded to the nearest 1%, to a maximum of 2% of the member's previous June 30 retirement benefit. If the CPI decreases in a particular year; however, the negative adjustment cannot reduce a member's monthly retirement benefit below the initial pension amount.

Supplemental COLA

The Plan provides for a Supplemental COLA in years when there are sufficient "excess" investment earnings in the Plan. Effective July 1, 2012, voters approved changes in the criteria for payment of the Supplemental COLA benefit. Certain provisions of the voter approved proposition (Prop C) were challenged in the courts. A decision by the California courts modified the interpretation of the proposition. Effective July 1, 2012, Retirement System members who retired before November 6, 1996, will receive a Supplemental COLA when there are sufficient "excess" investment earnings in the Plan and the Plan is also fully funded on a market value of assets basis. The "full funding" requirement does not apply to Retirement System members who retired after November 6, 1996, and were hired before January 7, 2012. For members who were hired before January 7, 2012, all Supplemental COLAs paid to them in retirement benefits will continue into the future even where an additional Supplemental COLA is not payable in any given year. For members who are hired on and after January 7, 2012, a Supplemental COLA will be paid to retirees when there are sufficient "excess" investment earnings in the Plan and the Plan is also fully funded on a market value of assets basis. For this group, Supplemental COLAs will not be permanent adjustments to retirement benefits. In years when a Supplemental COLA is not paid, all previously paid Supplemental COLAs will expire.

(f) Deferred Retirement Option Program

In February 2008, the voters of the City and County approved a Charter amendment to provide a Deferred Retirement Option Program (DROP) for certain Police members of the Plan to be effective July 1, 2008. An eligible police officer could elect to participate in DROP for a specified period of time up to a maximum of three years depending on the rank of the police officer. While participating in DROP, the police officer continued to work and receive pay as a police officer and accrued monthly DROP distributions posted to a nominal account maintained by the Retirement System. The monthly DROP distribution is equal to the participant's monthly service retirement allowance calculated as of the participant's entry into DROP. Interest at an annual effective rate of 4% and applicable COLAs were posted to the participant's DROP account during participation in DROP. Upon exiting from DROP, the participant receives a lump sum distribution from his or her DROP account and begins to receive a monthly service retirement allowance calculated using age, covered compensation, and service frozen as of the date of his or her entry into DROP. DROP was closed to new applicants on June 30, 2011. The Retirement System held \$45 and \$313 pursuant to the DROP as of June 30, 2019 and 2018, respectively.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(g) Membership

Membership of the Retirement System consisted of the following as of June 30, 2019:

	<u>Police¹</u>	<u>Fire</u>	<u>Miscellaneous</u>	<u>Total</u>
Retirees and beneficiaries				
currently receiving benefits	2,562	1,982	25,393	29,937
Active members	2,471	1,675	30,056	34,202
Terminated members entitled to				
but not yet receiving benefits	237	82	9,636	9,955
Total	<u>5,270</u>	<u>3,739</u>	<u>65,085</u>	<u>74,094</u>

¹ Police counts include Sheriff and Miscellaneous Safety.

Membership of the Retirement System consisted of the following as of June 30, 2018:

	<u>Police¹</u>	<u>Fire</u>	<u>Miscellaneous</u>	<u>Total</u>
Retirees and beneficiaries				
currently receiving benefits	2,680	2,117	25,168	29,965
Active members	2,394	1,642	29,910	33,946
Terminated members entitled to				
but not yet receiving benefits	214	71	8,898	9,183
Total	<u>5,288</u>	<u>3,830</u>	<u>63,976</u>	<u>73,094</u>

¹ Police counts include Sheriff and Miscellaneous Safety.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB).

Member contributions are recognized in the period in which the contributions are due. Employer contributions and member contributions made by the employer to the Plan are recognized when due pursuant to legal requirements. Benefits and refunds are recognized when currently due and payable in accordance with the terms of the Plan.

(b) Investments

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Securities that do not have an established market are reported at estimated fair value derived from third party pricing services. Purchases and sales of investments are recorded on a trade date basis.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

The fair values of the Retirement System's partnership interests, which include private equity, real assets, private credit, and some public equity investments, are based on net asset values provided by the general partners and investment managers. Partnership financial statements are audited annually as of December 31 and NAV is adjusted monthly or quarterly for cash flows to/from the Retirement System, investment earnings and changes in fair value. Such fair value estimates involve subjective judgments of unrealized gains and losses, and the actual market price of the investments can only be determined by negotiation between independent third parties in a purchase and sale transaction.

The Absolute Return Program invests in limited partnerships and other alternative investment vehicles. The most common investment strategies include, but are not limited to equity, credit, macro, emerging markets, quantitative, multi-strategy, special situations/other, and commodities. These investments are valued using their respective net asset value, and are audited annually. The most significant input into the NAV of such an entity is the fair value of its investment holdings. These holdings are typically valued on a monthly basis by each fund's independent administrator and for certain illiquid investments, where no market exists, the General Partner may provide pricing input. The management assumptions are based upon the nature of the investment and the underlying business. Investments have the potential to become illiquid under stressed market conditions and, in certain circumstances, investors may be subject to redemption restrictions which can impede the timely return of capital. The valuation techniques vary based upon underlying investment type, but are predominantly derived from observed market prices.

(c) Administrative Expenses

All costs to administer the Retirement System are borne by the Retirement System.

(d) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

(e) Other Postemployment Benefits Other Than Pensions

The Retirement System adopted GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. As prescribed under GASB Statement No. 75, net other postemployment benefits (OPEB) liability, deferred outflows/inflows of resources related to OPEB, and OPEB expense are actuarially determined on a citywide basis. Net OPEB liability is measured as the portion of the present value of projected benefit payments to be provided to current active and inactive employees attributed to those employees' past service, less the amount of the Retiree Healthcare Trust Fund investments measured at fair value.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(3) Deposits

Deposits are carried at cost, which approximates fair value. Deposits in bank accounts were \$62,375 and \$105,525 as of June 30, 2019 and 2018, respectively.

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government may not be able to recover its deposits or may not be able to recover collateral securities that are in the possession of an outside party. The Retirement System does not have a specific policy addressing custodial credit risk for deposits. As of June 30, 2019 and 2018, the Retirement System's deposits in bank accounts were not exposed to custodial credit risk.

(4) Investments

The Retirement System's investments are invested pursuant to investment policy guidelines as established by the Retirement Board. The objective of the policy is to maximize the expected return of the fund at an acceptable level of risk. The Retirement Board has established percentage guidelines for types of investments to ensure the portfolio is diversified.

Investment managers are required to diversify by issue, maturity, sector, coupon, and geography. Investment managers retained by the Retirement System follow specific investment guidelines and are evaluated against specific market benchmarks that represent their investment style. Any exemption from general guidelines requires approval from the Retirement Board. The Retirement System invests in securities with contractual cash flows, such as asset-backed securities, commercial mortgage-backed securities, and collateralized mortgage obligations. The value, liquidity, and related income of these securities are sensitive to changes in economic conditions, including real estate values, delinquencies or defaults, or both, and may be affected by shifts in the market's perception of the issuers and changes in interest rates.

The investment policy permits investments in domestic and international debt and equity securities, securities lending, foreign currency contracts, derivative instruments, private equity, real assets, private credit, and absolute return investments, which include investments in a variety of commingled partnership vehicles.

The Retirement Board's asset allocation policies for the years ended June 30, 2019 and 2018, are as follows:

Asset Class	Target Allocation since September 2017
Global Equity	31.0%
Treasuries	6.0%
Liquid Credit	3.0%
Private Credit	10.0%
Private Equity	18.0%
Real Assets	17.0%
Hedge Funds/Absolute Return	15.0%
	<u>100.0%</u>

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM**Notes to Financial Statements (Continued)**

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

<u>Asset Class</u>	<u>Target Allocation from February 2015 to August 2017</u>
Global Equity	40.0%
Fixed Income	20.0%
Private Equity	18.0%
Real Assets	17.0%
Hedge Funds/Absolute Return	5.0%
	<u>100.0%</u>

The Retirement System is not directly involved in repurchase or reverse repurchase agreements. However, external investment managers retained by the Retirement System may employ repurchase arrangements if the securities purchased or sold comply with the manager's investment guidelines. The Retirement System monitors the investment activity of its investment managers to ensure compliance with guidelines.

The Retirement System maintains its operating fund cash in the City and County's investment pool. The City and County's pool is invested pursuant to investment policy guidelines established by the City Treasurer, subject to review by the Treasury Oversight Committee. The Treasury Oversight Committee, established under California Government Code Sections 27130 to 27137, is composed of various City and County officials and representatives of agencies with large cash balances in the pool. The investment policy addresses soundness of financial institutions in which the City and County will deposit funds, types of investment instruments as permitted by the California Government Code, and the percentage of the portfolio which may be invested in certain instruments with longer terms to maturity. The provisions of the City and County's investment policy also address interest rate risk, credit risk, and concentration of credit risk and provide for additional restrictions related to investments. The notes to the basic financial statements of the City and County provide more detailed information concerning deposit and investment risks associated with the City and County's pool of cash and investments at June 30, 2019 and 2018.

(a) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates may adversely affect the fair value of an investment. The Retirement System does not have a specific policy to manage interest rate risk.

Below are tables depicting the segmented time distribution for fixed income investments based upon the expected maturity (in years) as of June 30, 2019 and 2018.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Investments at Fair Value as of June 30, 2019

Investment Type	Fair Value	Maturities			
		Less than 1 year	1-5 years	6-10 years	10+ years
Asset-Backed Securities	\$ 34,358	\$ -	\$ 9,360	\$ 1,600	\$ 23,398
Bank Loans	102,116	-	49,484	52,632	-
City Investment Pool	31,264	17,485	13,779	-	-
Commercial Mortgage-Backed Commingled and Other	104,576	444	1,289	2,646	100,197
Fixed Income Funds	391,318	6,136	-	185,119	200,063
Corporate Bonds	304,192	10,268	123,034	131,798	39,092
Corporate Convertible Bonds	229,370	3,882	145,410	64,476	15,602
Government Bonds	1,523,421	47,949	903,873	507,285	64,314
Government Mortgage- Backed Securities	40,154	-	-	4,554	35,600
Municipal/Provincial Bonds	3,580	-	-	124	3,456
Non-Government Backed Collateralized Mortgage Obligations	33,938	-	659	1,792	31,487
Options	(32)	(3)	(29)	-	-
Short-Term Investment Funds	492,830	492,830	-	-	-
Swaps	3,170	424	1,599	1,109	38
Total	\$ 3,294,255	\$ 579,415	\$ 1,248,458	\$ 953,135	\$ 513,247

Investments at Fair Value as of June 30, 2018

Investment Type	Fair Value	Maturities			
		Less than 1 year	1-5 years	6-10 years	10+ years
Asset-Backed Securities	\$ 43,499	\$ -	\$ 9,771	\$ 4,212	\$ 29,516
Bank Loans	93,935	378	34,210	59,347	-
City Investment Pool	24,275	13,333	10,942	-	-
Commercial Mortgage-Backed Commingled and Other	187,451	420	4,682	2,756	179,593
Fixed Income Funds	592,013	14,401	-	344,247	233,365
Corporate Bonds	442,037	21,175	146,323	204,160	70,379
Corporate Convertible Bonds	223,175	11,399	115,464	70,313	25,999
Government Bonds	1,611,076	14,064	1,044,367	479,202	73,443
Government Mortgage- Backed Securities	60,858	-	-	7,475	53,383
Municipal/Provincial Bonds	4,558	-	-	118	4,440
Non-Government Backed Collateralized Mortgage Obligations	48,725	-	579	-	48,146
Options	(2)	(2)	-	-	-
Short-Term Investment Funds	521,910	521,910	-	-	-
Swaps	(155)	(1,033)	897	(15)	(4)
Total	\$ 3,853,355	\$ 596,045	\$ 1,367,235	\$ 1,171,815	\$ 718,260

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM**Notes to Financial Statements (Continued)**

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

(b) Credit Risk – Investments

Credit risk is the risk that an issuer or other counterparty to an investment may not fulfill its obligations. Fixed income investment managers retained by the Retirement System follow specific investment guidelines and are evaluated against specific market benchmarks that represent their investment style. Fixed income managers typically are limited within their portfolios to no more than 5% exposure in any single security, with the exception of United States Treasury and government agency securities. The Retirement System's credit risk policy is embedded in the individual investment manager agreements as prescribed and approved by the Retirement Board.

Investments are classified and rated using the lower of (1) Standard & Poor's (S&P) rating or (2) Moody's Investors Service (Moody's) rating corresponding to the equivalent S&P rating. If only a Moody's rating is available, the rating equivalent to S&P is used for the purpose of this disclosure.

The credit rating of the United States remains a point of concern for some investors. In 2011, S&P lowered the credit rating for U.S. long-term debt to AA+ from AAA and continues to maintain that posture. Moody's and Fitch, the other two large credit rating agencies, continue to maintain a AAA rating for U.S. long-term debt. Additional ratings changes by the credit rating agencies would likely have a material impact on the credit risk and value of the Retirement System's investments in U.S. government agency securities, U.S. government bonds, and U.S. government mortgage-backed securities.

The following table illustrates the Retirement System's exposure to credit risk as of June 30, 2019. Investments issued or explicitly guaranteed by the U.S. government of \$1,419,563 as of June 30, 2019, are exempt from the credit rating disclosures and are excluded from the table below.

Credit Ratings of Fixed Income Investments as of June 30, 2019

Credit Rating	Fair Value	Fair Value as a Percentage of Total
AAA	\$ 37,988	2.0%
AA	49,415	2.6%
A	68,250	3.6%
BBB	192,051	10.2%
BB	135,911	7.2%
B	189,274	10.1%
CCC	30,643	1.6%
CC	65	0.0%
D	5,438	0.3%
Not Rated	1,165,658	62.4%
Total	<u>\$ 1,874,693</u>	<u>100.0%</u>

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

The following table illustrates the Retirement System's exposure to credit risk as of June 30, 2018. Investments issued or explicitly guaranteed by the U.S. government of \$1,533,534 as of June 30, 2018, are exempt from the credit rating disclosures and are excluded from the table below.

Credit Ratings of Fixed Income Investments as of June 30, 2018

Credit Rating	Fair Value	Fair Value as a Percentage of Total
AAA	\$ 47,859	2.1%
AA	77,040	3.3%
A	81,394	3.5%
BBB	295,078	12.7%
BB	175,659	7.6%
B	162,248	7.0%
CCC	35,781	1.5%
CC	1,318	0.1%
C	389	0.0%
D	5,502	0.2%
Not Rated	1,437,553	62.0%
Total	<u>\$ 2,319,821</u>	<u>100.0%</u>

The securities listed as "Not Rated" include short-term investment funds, government mortgage-backed securities, and investments that invest primarily in rated securities, such as commingled funds and money market funds, but do not themselves have a specific credit rating. Excluding these investments, the "not rated" component of credit would be approximately 8.0% for 2019 and 21.0% for 2018.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(c) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the Retirement System's investment in a single issuer. Securities issued or guaranteed by the U.S. government or its agencies are exempt from this limit.

As of June 30, 2019 and 2018, the Retirement System had no investments of a single issuer that equaled or exceeded 5% of total Retirement System's investments or net position.

(d) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government may not be able to recover the value of investment or collateral securities that are in the possession of an outside party. The Retirement System does not have a specific policy addressing custodial credit risk for investments, but investments are generally insured, registered, or held by the Retirement System or its agent in the Retirement System's name. As of June 30, 2019 and 2018, \$126,041 and \$157,077, respectively, of the Retirement System's investments were exposed to custodial credit risk because they were not insured or registered in the name of the Retirement System, and were held by the counterparty's trust department or agent but not in the Retirement System's name.

(e) Foreign Currency Risk

The Retirement System's exposure to foreign currency risk derives from its positions in foreign currency denominated cash, equity, fixed income, private equity, real assets, and private credit. The Retirement System's investment policy allows international managers to enter into foreign exchange contracts, which are limited to hedging currency exposure existing in the portfolio.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

The Retirement System's net exposures to foreign currency risk as of June 30, 2019, are as follows:

Foreign Currency Risk Analysis as of June 30, 2019

Currency	Cash	Equities	Fixed Income	Private Equities	Real Assets	Private Credit	Foreign Currency Contracts	Total
Argentina peso	\$ -	\$ -	\$ 1,452	\$ -	\$ -	\$ -	\$ 578	\$ 2,030
Australian dollar	-	36,373	(150)	1,803	-	-	68,768	106,794
Brazil real	-	17,584	12,401	-	-	-	2,707	32,692
Canadian dollar	-	24,015	-	-	-	-	51,145	75,160
Chilean peso	-	-	594	-	-	-	657	1,251
Chinese yuan renminbi	28,678	240,203	103	-	-	-	-	268,984
Colombian peso	-	-	6,008	-	-	-	4,287	10,295
Czech koruna	-	1,076	3,105	-	-	-	2,874	7,055
Danish krone	-	28,719	-	-	-	-	(3,628)	25,091
Dominican rep peso	-	-	1,484	-	-	-	-	1,484
Egyptian pound	-	-	-	-	-	-	5,339	5,339
Euro	-	413,076	40,484	118,202	293,032	38,431	(61,969)	841,256
Hong Kong dollar	-	86,355	-	-	-	-	634	86,989
Hungarian forint	-	2,064	13,622	-	-	-	(7,755)	7,931
Indonesian rupiah	-	3,120	12,184	-	-	-	1,788	17,092
Israeli shekel	-	3,917	195	-	-	-	2,941	7,053
Japanese yen	-	192,284	(44)	-	68,707	-	(7,026)	253,921
Kazakhstan tenge	-	-	277	-	-	-	1,027	1,304
Malaysian ringgit	-	1,469	7,233	-	-	-	307	9,009
Mexican peso	-	3,690	1,234	-	-	-	10,447	15,371
New Taiwan dollar	-	33,197	-	-	-	-	(2,710)	30,487
New Zealand dollar	-	463	-	-	-	-	41,041	41,504
Nigerian naira	3,948	-	-	-	-	-	1,623	5,571
Norwegian krone	-	2,450	-	-	-	-	(13,257)	(10,807)
Peruvian sol	-	-	15,327	-	-	-	(6,675)	8,652
Philippines peso	-	1,386	486	-	-	-	1,243	3,115
Polish zloty	-	-	16,035	-	-	-	(176)	15,859
Pound sterling	-	226,476	1,626	28,754	16,709	-	2,560	276,125
Romanian leu	-	-	1,186	-	-	-	(1,930)	(744)
New Russian ruble	-	-	12,454	-	-	-	(55)	12,399
Singapore dollar	-	6,305	-	-	-	-	2,560	8,865
South African rand	-	10,853	14,706	-	-	-	(3,013)	22,546
South Korean won	-	26,457	-	-	-	-	(1,380)	25,077
Swedish krona	-	26,736	(168)	-	-	-	(17,911)	8,657
Swiss franc	-	104,114	(14)	-	-	-	(89,647)	14,453
Thailand baht	-	3,358	2,858	-	-	-	8,982	15,198
Turkish lira	-	2,986	5,292	-	-	-	(2,413)	5,865
Ukraine hryvana	-	-	234	-	-	-	443	677
Uruguayan peso	-	-	332	-	-	-	-	332
Total	\$ 32,626	\$ 1,498,726	\$ 170,536	\$ 148,759	\$ 378,448	\$ 38,431	\$ (7,594)	\$ 2,259,932

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The Retirement System's net exposures to foreign currency risk as of June 30, 2018, are as follows:

Foreign Currency Risk Analysis as of June 30, 2018

Currency	Cash	Equities	Fixed Income	Private Equities	Real Assets	Private Credit	Foreign Currency Contracts	Total
Argentine peso	\$ 3,008	\$ -	\$ 2,543	\$ -	\$ -	\$ -	\$ (3,843)	\$ 1,708
Australian dollar	-	93,034	(344)	3,384	-	-	32,083	128,157
Brazil real	-	30,672	6,930	-	-	-	4,651	42,253
Canadian dollar	-	81,863	-	-	-	-	110,296	192,159
Chilean peso	-	-	2,718	-	-	-	205	2,923
Chinese yuan renminbi	27,377	231,085	991	-	-	-	-	259,453
Colombian peso	-	-	9,465	-	-	-	171	9,636
Czech koruna	-	1,504	876	-	-	-	5,768	8,148
Danish krone	-	29,746	-	-	-	-	(1,528)	28,218
Egyptian pound	-	-	-	-	-	-	2,805	2,805
Euro	-	697,571	38,262	130,278	201,576	31,870	(103,680)	995,877
Hong Kong dollar	-	170,960	76	-	-	-	1,533	172,569
Hungarian forint	-	2,129	454	-	-	-	649	3,232
Indian rupee	-	-	-	-	-	-	645	645
Indonesian rupiah	-	4,741	10,965	-	-	-	(480)	15,226
Israeli shekel	-	10,225	-	-	-	-	3,157	13,382
Japanese yen	-	558,795	(1,455)	-	63,266	-	79,314	699,920
Kazakhstan tenge	-	-	314	-	-	-	-	314
Malaysian ringgit	-	8,825	5,581	-	-	-	658	15,064
Mexican peso	-	6,981	1,078	-	-	-	12,300	20,359
New Taiwan dollar	-	47,126	-	-	-	-	(969)	46,157
New Zealand dollar	-	299	-	-	-	-	18,841	19,140
Norwegian krone	-	12,570	-	-	-	-	(48,471)	(35,901)
Peruvian sol	-	-	5,431	-	-	-	(1,891)	3,540
Philippines peso	-	1,979	456	-	-	-	(1,349)	1,086
Polish zloty	-	400	13,259	-	-	-	1,424	15,083
Pound sterling	-	507,461	3,034	17,374	12,221	-	35,695	575,785
Qatari riyal	-	3,156	-	-	-	-	-	3,156
Romanian leu	-	-	628	-	-	-	794	1,422
New Russian ruble	-	-	9,575	-	-	-	767	10,342
Singapore dollar	-	14,001	-	-	-	-	3,208	17,209
South African rand	-	16,345	14,790	-	-	-	(2,907)	28,228
South Korean won	-	86,791	-	-	-	-	34	86,825
Swedish krona	-	65,639	69	-	-	-	(66,631)	(923)
Swiss franc	-	166,744	452	-	-	-	(96,530)	70,666
Thailand baht	-	7,471	1,661	-	-	-	8,226	17,358
Turkish lira	-	10,301	7,135	-	-	-	964	18,400
United Arab Emirate dirham	-	4,967	-	-	-	-	-	4,967
Ukraine hryvna	-	-	230	-	-	-	-	230
Uruguayan Peso	-	-	373	-	-	-	-	373
Total	\$ 30,385	\$ 2,873,381	\$ 135,547	\$ 151,036	\$ 277,063	\$ 31,870	\$ (4,091)	\$ 3,495,191

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(f) Unfunded Investments Commitments

The Retirement System has unfunded commitments to contribute capital for real assets in the amount of \$2,939,311, private equity in the amount of \$3,477,504, private credit in the amount of \$1,164,757, and absolute return in the amount of \$207,103 totaling \$7,788,675 as of June 30, 2019.

(g) Derivative Instruments

The Retirement System reports its derivative instruments under the provisions of GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*. Pursuant to the requirements of this statement, the Retirement System has provided a summary of derivative instrument activities during the reporting periods presented and the related risks.

As of June 30, 2019 and 2018, the derivative instruments held by the Retirement System are considered investments and not hedges for accounting purposes. The gains and losses arising from this activity are recognized as incurred in the statement of changes in fiduciary net position. All investment derivatives discussed below are included within the investment risk schedules, which precede this subsection. Investment derivative instruments are disclosed separately to provide a comprehensive and distinct view of this activity and its impact on the overall investment portfolio.

Valuation methods used by the Retirement System are described in more detail in Note 2(b). The fair value of the exchange traded derivative instruments, such as futures, options, rights, and warrants are based on quoted market prices. The fair values of forward foreign currency contracts are determined using a pricing service, which uses published foreign exchange rates as the primary source. The fair values of swaps are determined by the Retirement System's investment managers based on quoted market prices of the underlying investment instruments.

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Notes to Financial Statements (Continued)
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The tables below present the notional amounts, the fair values, and the related net appreciation (depreciation) in the fair value of derivative instruments that were outstanding at June 30, 2019 and 2018:

As of and for the Year Ended June 30, 2019			
Derivative Type / Contracts	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Forwards			
Foreign Exchange Contracts	\$ 891,781	\$ 96	\$ 1,253
Futures			
Currency Futures Long	3,062	29	69
Equity Index Futures Long	214,700	3,073	6,897
Equity Index Futures Short	(43,024)	(410)	(854)
Treasury Futures Long	44,484	155	(236)
Options			
Foreign Exchange Contracts	(4,400)	(32)	110
Swaps			
Credit Contracts	7,867	(22)	64
Currency Contracts	2,031	(67)	(64)
Equity Index Contracts	120	(31)	1,530
Total Return Contracts	31,138	-	220
Interest Rate Contracts	314,416	3,257	2,548
Rights/Warrants			
Equity Contracts	51,613 shares	102,031	6,055
Total		<u>\$ 108,079</u>	<u>\$ 17,592</u>

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As of and for the Year Ended June 30, 2018

Derivative Type / Contracts	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Forwards			
Foreign Exchange Contracts	\$ 1,382,441	\$ (1,157)	\$ (1,321)
Futures			
Currency Futures Long	2,742	(39)	(39)
Equity Index Futures Long	201,613	(3,824)	1,169
Equity Index Futures Short	(99,762)	443	(1,444)
Treasury Futures Long	47,329	391	391
Options			
Foreign Exchange Contracts	(700)	(2)	(69)
Swaps			
Credit Contracts	3,100	(23)	12
Equity Index Contracts	27,438	(1,561)	(1,409)
Total Return Contracts	101	(220)	(1,453)
Interest Rate Contracts	64,646	88	(225)
Rights/Warrants			
Equity Contracts	45,291 shares	86,250	(11,268)
Total		<u>\$ 80,346</u>	<u>\$ (15,656)</u>

All investment derivatives are reported as investments at fair value in the statements of fiduciary net position. Rights and warrants are reported in equity securities. Foreign exchange contracts are reported in foreign currency contracts, which also include spot contracts that are not derivatives. All other derivative contracts are reported in other debt securities. All changes in fair value are reported as net appreciation (depreciation) in fair value of investments in the statements of changes in fiduciary net position.

Counterparty Credit Risk

The Retirement System is exposed to credit risk on non-exchange traded derivative instruments that are in asset positions. The tables below present those investments being classified and rated using the lower of (1) Standard & Poor's (S&P) rating or (2) Moody's Investors Service (Moody's) rating corresponding to the equivalent S&P rating. If only a Moody's rating is available, the rating equivalent to S&P is used for the purpose of this disclosure.

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Notes to Financial Statements (Continued)
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Derivative Instruments Subject to Counterparty Credit Risk as of June 30, 2019

Credit Rating	Fair Value
AA	\$ (5)
A	92
BBB	643
Not Rated	2,505
Total	<u>\$ 3,235</u>

Derivative Instruments Subject to Counterparty Credit Risk as of June 30, 2018

Credit Rating	Fair Value
A	\$ (2,417)
BBB	(541)
Not Rated	84
Total	<u>\$ (2,874)</u>

Custodial Credit Risk

The custodial credit risk disclosure for exchange traded derivative instruments is made in accordance with the custodial credit risk disclosure requirements of GASB Statement No. 40. At June 30, 2019 and 2018, all of the Retirement System's investments in derivative instruments are held in the Retirement System's name and are not exposed to custodial credit risk.

Interest Rate Risk

The tables below describe the maturity periods of the derivative instruments exposed to interest rate risk at June 30, 2019 and 2018.

Derivative Interest Rate Risk as of June 30, 2019

Derivative Type / Contracts	Fair Value	Maturities			
		Less than 1 year	1-5 years	6-10 years	10+ years
Forwards					
Foreign Exchange Contracts	\$ 96	\$ 168	\$ (72)	\$ -	\$ -
Options					
Foreign Exchange Contracts	(32)	(3)	(29)	-	-
Swaps					
Credit Contracts	(22)	(30)	8		
Currency Contracts	(67)	-	(60)	(7)	-
Interest Rate Contracts	3,257	454	1,650	1,115	38
Total	<u>\$ 3,232</u>	<u>\$ 589</u>	<u>\$ 1,497</u>	<u>\$ 1,108</u>	<u>\$ 38</u>

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Years Ended June 30, 2019 and 2018
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Derivative Interest Rate Risk as of June 30, 2018

Derivative Type / Contracts	Fair Value	Maturities			
		Less than 1 year	1-5 years	6-10 years	10+ years
Forwards					
Foreign Exchange Contracts	\$ (1,157)	\$ (1,157)	\$ -	\$ -	\$ -
Options					
Foreign Exchange Contracts	(2)	(2)	-	-	-
Swaps					
Credit Contracts	(23)	(5)	(18)		
Total Return Contracts	(220)	(220)	-	-	-
Interest Rate Contracts	88	(808)	915	(15)	(4)
Total	\$ (1,314)	\$ (2,192)	\$ 897	\$ (15)	\$ (4)

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The following table details the reference rate, notional amount, and fair value of interest rate swaps that are highly sensitive to changes in interest rates as of June 30, 2019 and 2018:

Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2019

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 1.04%, Pay Variable 3-Month TELBOR	\$ 3,084	\$ 42
Interest Rate Swap	Receive Fixed 1.05%, Pay Variable 3-Month TELBOR	2,832	42
Interest Rate Swap	Receive Fixed 1.50%, Pay Variable 6-Month BUBOR	439	7
Interest Rate Swap	Receive Fixed 1.78%, Pay Variable 6-Month PRIBOR	1,088	4
Interest Rate Swap	Receive Fixed 1.81%, Pay Variable 3-Month TELBOR	1,486	76
Interest Rate Swap	Receive Fixed 1.83%, Pay Variable 6-Month THB	717	2
Interest Rate Swap	Receive Fixed 1.83%, Pay Variable 6-Month WIBOR	134	-
Interest Rate Swap	Receive Fixed 1.90%, Pay Variable 3-Month TELBOR	897	51
Interest Rate Swap	Receive Fixed 1.92%, Pay Variable 6-Month THB	505	6
Interest Rate Swap	Receive Fixed 1.93%, Pay Variable 6-Month THB	344	2
Interest Rate Swap	Receive Fixed 1.93%, Pay Variable 6-Month THB	101	1
Interest Rate Swap	Receive Fixed 1.94%, Pay Variable 6-Month THB	489	6
Interest Rate Swap	Receive Fixed 1.94%, Pay Variable 6-Month WIBOR	2,360	10
Interest Rate Swap	Receive Fixed 1.95%, Pay Variable 6-Month THB	675	4
Interest Rate Swap	Receive Fixed 2.00%, Pay Variable 6-Month WIBOR	644	2
Interest Rate Swap	Receive Fixed 2.01%, Pay Variable 6-Month THB	1,164	16
Interest Rate Swap	Receive Fixed 2.02%, Pay Variable 6-Month THB	652	4
Interest Rate Swap	Receive Fixed 2.04%, Pay Variable 6-Month THB	515	8
Interest Rate Swap	Receive Fixed 2.12%, Pay Variable 6-Month THB	1,138	16
Interest Rate Swap	Receive Fixed 2.18%, Pay Variable 6-Month THB	82	2
Interest Rate Swap	Receive Fixed 2.19%, Pay Variable 6-Month THB	228	2
Interest Rate Swap	Receive Fixed 2.19%, Pay Variable 6-Month THB	610	17
Interest Rate Swap	Receive Fixed 2.22%, Pay Variable 6-Month THB	457	4
Interest Rate Swap	Receive Fixed 2.25%, Pay Variable 6-Month PRIBOR	1,535	36
Interest Rate Swap	Receive Fixed 2.25%, Pay Variable 6-Month PRIBOR	5,228	28
Interest Rate Swap	Receive Fixed 2.39%, Pay Variable 6-Month THB	624	29
Interest Rate Swap	Receive Fixed 2.42%, Pay Variable 6-Month THB	624	30
Interest Rate Swap	Receive Fixed 2.51%, Pay Variable 6-Month THB	355	15
Interest Rate Swap	Receive Fixed 2.56%, Pay Variable 6-Month THB	763	42
Interest Rate Swap	Receive Fixed 2.58%, Pay Variable 6-Month THB	248	12
Interest Rate Swap	Receive Fixed 2.58%, Pay Variable 6-Month THB	179	9
Interest Rate Swap	Receive Fixed 2.63%, Pay Variable 6-Month THB	714	37
Interest Rate Swap	Receive Fixed 2.78%, Pay Variable 6-Month THB	30	2
Interest Rate Swap	Receive Fixed 2.81%, Pay Variable 6-Month THB	600	38
Interest Rate Swap	Receive Fixed 3.27%, Pay Variable 6-Month CLP	287	5
Interest Rate Swap	Receive Fixed 3.27%, Pay Variable 6-Month CLP	382	(1)
Interest Rate Swap	Receive Fixed 3.33%, Pay Variable 3-Month KLIBOR	436	-
Interest Rate Swap	Receive Fixed 3.54%, Pay Variable 6-Month CLP	730	25
Interest Rate Swap	Receive Fixed 3.76%, Pay Variable 6-Month CLP	1,822	76
Interest Rate Swap	Receive Fixed 3.77%, Pay Variable 6-Month CLP	1,801	89

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Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2019
(continued)

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 4.26%, Pay Variable 1-Day COOVIBR	\$ 770	\$ 1
Interest Rate Swap	Receive Fixed 4.58%, Pay Variable 1-Day COOVIBR	604	1
Interest Rate Swap	Receive Fixed 4.61%, Pay Variable 1-Day COOVIBR	655	1
Interest Rate Swap	Receive Fixed 5.12%, Pay Variable 1-Day COOVIBR	496	12
Interest Rate Swap	Receive Fixed 5.17%, Pay Variable 1-Day COOVIBR	3,175	87
Interest Rate Swap	Receive Fixed 5.63%, Pay Variable 28-Day MXIBR	161	(6)
Interest Rate Swap	Receive Fixed 5.88%, Pay Variable 1-Day COOVIBR	970	48
Interest Rate Swap	Receive Fixed 6.12%, Pay Variable 1-Day COOVIBR	102	7
Interest Rate Swap	Receive Fixed 6.20%, Pay Variable 1-Day COOVIBR	94	7
Interest Rate Swap	Receive Fixed 6.26%, Pay Variable 1-Day BIDOR	1,305	1
Interest Rate Swap	Receive Fixed 6.41%, Pay Variable 1-Day COOVIBR	521	48
Interest Rate Swap	Receive Fixed 6.43%, Pay Variable 1-Day COOVIBR	30	(3)
Interest Rate Swap	Receive Fixed 6.71%, Pay Variable 28-Day MXIBR	682	(44)
Interest Rate Swap	Receive Fixed 6.80%, Pay Variable 28-Day MXIBR	125	(2)
Interest Rate Swap	Receive Fixed 6.89%, Pay Variable 1-Day BIDOR	3,027	43
Interest Rate Swap	Receive Fixed 7.05%, Pay Variable 1-Day BIDOR	2,087	35
Interest Rate Swap	Receive Fixed 7.10%, Pay Variable 1-Day BIDOR	2,922	53
Interest Rate Swap	Receive Fixed 7.18%, Pay Variable 1-Day BIDOR	1,800	36
Interest Rate Swap	Receive Fixed 7.19%, Pay Variable 1-Day BIDOR	704	14
Interest Rate Swap	Receive Fixed 7.22%, Pay Variable 1-Day BIDOR	1,383	27
Interest Rate Swap	Receive Fixed 7.25%, Pay Variable 3-Month JIBAR	525	6
Interest Rate Swap	Receive Fixed 7.38%, Pay Variable 28-Day MXIBR	822	(1)
Interest Rate Swap	Receive Fixed 7.42%, Pay Variable 1-Day BIDOR	2,792	71
Interest Rate Swap	Receive Fixed 7.48%, Pay Variable 1-Day BIDOR	2,061	41
Interest Rate Swap	Receive Fixed 7.65%, Pay Variable 28-Day MXIBR	2,983	36
Interest Rate Swap	Receive Fixed 7.68%, Pay Variable 28-Day MXIBR	203	2
Interest Rate Swap	Receive Fixed 7.80%, Pay Variable 1-Day BIDOR	1,696	43
Interest Rate Swap	Receive Fixed 7.83%, Pay Variable 1-Day BIDOR	3,731	123
Interest Rate Swap	Receive Fixed 7.88%, Pay Variable 28-Day MXIBR	88	2
Interest Rate Swap	Receive Fixed 7.89%, Pay Variable 28-Day MXIBR	1,301	3
Interest Rate Swap	Receive Fixed 7.92%, Pay Variable 28-Day MXIBR	2,061	52
Interest Rate Swap	Receive Fixed 7.98%, Pay Variable 28-Day MXIBR	2,759	89
Interest Rate Swap	Receive Fixed 7.99%, Pay Variable 28-Day MXIBR	385	13
Interest Rate Swap	Receive Fixed 8.04%, Pay Variable 28-Day MXIBR	2,129	44
Interest Rate Swap	Receive Fixed 8.28%, Pay Variable 28-Day MXIBR	203	9
Interest Rate Swap	Receive Fixed 8.31%, Pay Variable 28-Day MXIBR	83	4
Interest Rate Swap	Receive Fixed 8.32%, Pay Variable 28-Day MXIBR	422	23
Interest Rate Swap	Receive Fixed 8.39%, Pay Variable 28-Day MXIBR	1,645	99
Interest Rate Swap	Receive Fixed 8.64%, Pay Variable 1-Day BIDOR	157	10
Interest Rate Swap	Receive Fixed 8.82%, Pay Variable 28-Day MXIBR	4,482	264
Interest Rate Swap	Receive Fixed 8.98%, Pay Variable 28-Day MXIBR	521	34
Interest Rate Swap	Receive Fixed 9.65%, Pay Variable 1-Day BIDOR	626	77
Interest Rate Swap	Receive Fixed 9.76%, Pay Variable 1-Day BIDOR	26	3

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Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2019
(continued)

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 10.30%, Pay Variable 1-Day BIDOR	\$ 391	\$ 58
Interest Rate Swap	Receive Fixed 10.30%, Pay Variable 1-Day BIDOR	130	17
Interest Rate Swap	Receive Fixed 10.33%, Pay Variable 1-Day BIDOR	2,166	319
Interest Rate Swap	Receive Fixed 11.33%, Pay Variable 1-Day BIDOR	2,270	416
Interest Rate Swap	Receive Fixed 11.38%, Pay Variable 1-Day BIDOR	6,340	580
Interest Rate Swap	Receive Fixed 12.06%, Pay Variable 1-Day BIDOR	728	98
Interest Rate Swap	Receive Fixed 12.20%, Pay Variable 1-Day BIDOR	1,354	202
Interest Rate Swap	Receive Fixed 12.29%, Pay Variable 1-Day BIDOR	183	38
Interest Rate Swap	Receive Fixed 16.40%, Pay Variable 1-Day BIDOR	3,131	859
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 11.35%	1,226	(166)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.25%	24,944	(28)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.41%	59,463	-
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.93%	1,644	(24)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.93%	965	(14)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.98%	3,757	(63)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 7.26%	2,714	(55)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 7.29%	4,331	(90)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 8.79%	1,200	(66)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 9.60%	1,070	(123)
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 4.88%	1,580	(23)
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 4.88%	420	(6)
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 5.28%	432	14
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 6.39%	404	(37)
Interest Rate Swap	Receive Variable 1-Day COOVIBR, Pay Fixed 6.42%	65	(6)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 6.87%	661	8
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 7.72%	5,205	(76)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 7.73%	796	(12)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 8.11%	1,286	(51)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 8.29%	5,726	(10)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 9.09%	1,156	(126)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 9.10%	2,717	(299)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 9.21%	442	(52)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 9.33%	312	(39)
Interest Rate Swap	Receive Variable 3-Month JIBAR, Pay Fixed 7.75%	660	(6)
Interest Rate Swap	Receive Variable 3-Month KLIBOR, Pay Fixed 3.74%	581	(6)
Interest Rate Swap	Receive Variable 3-Month KLIBOR, Pay Fixed 3.75%	920	(10)
Interest Rate Swap	Receive Variable 3-Month LIBOR, Pay Fixed 2.50%	59,600	(71)
Interest Rate Swap	Receive Variable 3-Month TELBOR, Pay Fixed 0.70%	953	3
Interest Rate Swap	Receive Variable 3-Month TELBOR, Pay Fixed 0.95%	617	(6)
Interest Rate Swap	Receive Variable 3-Month TELBOR, Pay Fixed 0.95%	477	(5)
Interest Rate Swap	Receive Variable 3-Month TELBOR, Pay Fixed 0.96%	1,065	(11)
Interest Rate Swap	Receive Variable 6-Month BUBOR, Pay Fixed 0.46%	13,529	(16)
Interest Rate Swap	Receive Variable 6-Month PRIBOR, Pay Fixed 2.47%	1,477	(48)
Interest Rate Swap	Receive Variable 6-Month WIBOR, Pay Fixed 1.86%	4,559	(11)
Interest Rate Swap	Receive Variable 6-Month WIBOR, Pay Fixed 2.25%	456	(8)
Total Interest Rate Swaps		<u>\$ 314,416</u>	<u>\$ 3,257</u>

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
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Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2018

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 1.93%, Pay Variable 6-Month THB	\$ 319	\$ 2
Interest Rate Swap	Receive Fixed 10.30%, Pay Variable 1-Day BIDOR	390	(8)
Interest Rate Swap	Receive Fixed 10.33%, Pay Variable 1-Day BIDOR	2,157	(44)
Interest Rate Swap	Receive Fixed 11.33%, Pay Variable 1-Day BIDOR	2,261	36
Interest Rate Swap	Receive Fixed 11.35%, Pay Variable 1-Day BIDOR	2,729	185
Interest Rate Swap	Receive Fixed 11.38%, Pay Variable 1-Day BIDOR	182	11
Interest Rate Swap	Receive Fixed 12.06%, Pay Variable 1-Day BIDOR	725	49
Interest Rate Swap	Receive Fixed 12.20%, Pay Variable 1-Day BIDOR	1,349	110
Interest Rate Swap	Receive Fixed 12.29%, Pay Variable 1-Day BIDOR	182	8
Interest Rate Swap	Receive Fixed 15.96%, Pay Variable 1-Day BIDOR	4,237	(581)
Interest Rate Swap	Receive Fixed 16.40%, Pay Variable 1-Day BIDOR	3,119	634
Interest Rate Swap	Receive Fixed 2.00%, Pay Variable 6-Month WIBOR	641	-
Interest Rate Swap	Receive Fixed 2.01%, Pay Variable 6-Month THB	1,078	(5)
Interest Rate Swap	Receive Fixed 2.02%, Pay Variable 6-Month THB	604	5
Interest Rate Swap	Receive Fixed 2.12%, Pay Variable 6-Month THB	1,053	7
Interest Rate Swap	Receive Fixed 2.19%, Pay Variable 6-Month THB	211	2
Interest Rate Swap	Receive Fixed 2.22%, Pay Variable 6-Month THB	423	5
Interest Rate Swap	Receive Fixed 2.25%, Pay Variable 6-Month BUBOR	3,260	(11)
Interest Rate Swap	Receive Fixed 2.51%, Pay Variable 6-Month THB	329	4
Interest Rate Swap	Receive Fixed 2.56%, Pay Variable 6-Month THB	706	5
Interest Rate Swap	Receive Fixed 2.58%, Pay Variable 6-Month THB	395	6
Interest Rate Swap	Receive Fixed 2.63%, Pay Variable 6-Month THB	661	12
Interest Rate Swap	Receive Fixed 2.78%, Pay Variable 6-Month THB	28	1
Interest Rate Swap	Receive Fixed 2.81%, Pay Variable 6-Month THB	556	17
Interest Rate Swap	Receive Fixed 3.54%, Pay Variable 6-Month CLP	762	(7)
Interest Rate Swap	Receive Fixed 4.84%, Pay Variable 1-Day CIBR	876	(5)
Interest Rate Swap	Receive Fixed 4.91%, Pay Variable 1-Day CIBR	935	(2)
Interest Rate Swap	Receive Fixed 5.23%, Pay Variable 1-Day CIBR	123	1
Interest Rate Swap	Receive Fixed 5.31%, Pay Variable 1-Day CIBR	48	-
Interest Rate Swap	Receive Fixed 5.32%, Pay Variable 1-Day CIBR	562	5
Interest Rate Swap	Receive Fixed 5.33%, Pay Variable 1-Day CIBR	569	6
Interest Rate Swap	Receive Fixed 5.61%, Pay Variable 28-Day MXIBR	397	(26)
Interest Rate Swap	Receive Fixed 5.63%, Pay Variable 28-Day MXIBR	946	(64)
Interest Rate Swap	Receive Fixed 5.84%, Pay Variable 28-Day MXIBR	321	(19)
Interest Rate Swap	Receive Fixed 6.12%, Pay Variable 1-Day CIBR	111	2
Interest Rate Swap	Receive Fixed 6.20%, Pay Variable 1-Day CIBR	102	2
Interest Rate Swap	Receive Fixed 6.43%, Pay Variable 1-Day CIBR	32	(1)
Interest Rate Swap	Receive Fixed 6.49%, Pay Variable 28-Day MXIBR	290	(27)
Interest Rate Swap	Receive Fixed 6.80%, Pay Variable 28-Day MXIBR	122	(6)
Interest Rate Swap	Receive Fixed 7.25%, Pay Variable 3-Month JIBAR	540	(14)

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
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Derivative Instruments Highly Sensitive to Interest Rate Changes as of June 30, 2018
(continued)

Investment Type	Reference Rate	Notional Value	Fair Value
Interest Rate Swap	Receive Fixed 7.38%, Pay Variable 28-Day MXIBR	1,190	(45)
Interest Rate Swap	Receive Fixed 7.65%, Pay Variable 28-Day MXIBR	2,915	(27)
Interest Rate Swap	Receive Fixed 7.83%, Pay Variable 28-Day MXIBR	621	(1)
Interest Rate Swap	Receive Fixed 7.86%, Pay Variable 28-Day MXIBR	870	(1)
Interest Rate Swap	Receive Fixed 7.88%, Pay Variable 28-Day MXIBR	1,262	-
Interest Rate Swap	Receive Fixed 7.92%, Pay Variable 28-Day MXIBR	2,015	4
Interest Rate Swap	Receive Fixed 8.04%, Pay Variable 28-Day MXIBR	2,081	(54)
Interest Rate Swap	Receive Fixed 8.28%, Pay Variable 28-Day MXIBR	198	-
Interest Rate Swap	Receive Fixed 8.31%, Pay Variable 28-Day MXIBR	81	-
Interest Rate Swap	Receive Fixed 8.32%, Pay Variable 28-Day MXIBR	412	6
Interest Rate Swap	Receive Fixed 9.65%, Pay Variable 1-Day BIDOR	624	(28)
Interest Rate Swap	Receive Fixed 9.76%, Pay Variable 1-Day BIDOR	26	(1)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 12.44%	3,743	(229)
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 6.54%	6,444	1
Interest Rate Swap	Receive Variable 1-Day BIDOR, Pay Fixed 9.60%	1,066	81
Interest Rate Swap	Receive Variable 1-Day CIBR, Pay Fixed 5.28%	472	(6)
Interest Rate Swap	Receive Variable 1-Day CIBR, Pay Fixed 6.42%	72	(2)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 6.71%	148	16
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 6.87%	2,330	56
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 8.00%	580	(3)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 8.02%	376	(2)
Interest Rate Swap	Receive Variable 28-Day MXIBR, Pay Fixed 8.20%	575	(7)
Interest Rate Swap	Receive Variable 3-Month JIBAR, Pay Fixed 7.75%	679	28
Interest Rate Swap	Receive Variable 3-Month KLIBOR, Pay Fixed 3.74%	594	3
Interest Rate Swap	Receive Variable 3-Month KLIBOR, Pay Fixed 3.75%	941	4
Total Interest Rate Swaps		<u>\$ 64,646</u>	<u>\$ 88</u>

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
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Foreign Currency Risk

At June 30, 2019, the Retirement System is exposed to foreign currency risk on its investments in forwards, rights, warrants, swaps and futures denominated in foreign currencies.

Derivative Instruments Foreign Currency Risk Analysis as of June 30, 2019

<u>Currency</u>	<u>Forwards</u>	<u>Rights/ Warrants</u>	<u>Swaps</u>	<u>Futures</u>	<u>Total</u>
Argentina peso	\$ 578	\$ -	\$ (478)	\$ -	\$ 100
Australian dollar	68,768	-	(150)	(118)	68,500
Brazil real	2,707	-	2,535	-	5,242
Canadian dollar	51,145	-	-	17	51,162
Chilean peso	657	-	194	-	851
Colombian peso	4,287	-	152	-	4,439
Czech koruna	2,874	-	20	-	2,894
Danish krone	(3,628)	-	-	-	(3,628)
Egyptian pound	5,339	-	-	-	5,339
Euro	(61,969)	-	329	756	(60,884)
Hong Kong dollar	634	-	-	231	865
Hungarian forint	(7,755)	-	(9)	-	(7,764)
Indonesian rupiah	1,788	-	-	-	1,788
Israeli shekel	2,941	-	195	-	3,136
Japanese yen	(7,026)	-	(44)	-	(7,070)
Kazakhstan tenge	1,027	-	-	-	1,027
Malaysian ringgit	307	-	(16)	-	291
Mexican peso	10,447	-	(39)	-	10,408
New Taiwan dollar	(2,710)	-	-	-	(2,710)
New Zealand dollar	41,041	-	-	-	41,041
Nigerian naira	1,623	-	-	-	1,623
Norwegian krone	(13,257)	-	-	-	(13,257)
Peruvian sol	(6,675)	-	-	-	(6,675)
Philippines peso	1,243	-	-	-	1,243
Polish zloty	(176)	-	(7)	-	(183)
Pound sterling	2,560	-	-	54	2,614
Romanian leu	(1,930)	-	-	-	(1,930)
New Russian ruble	(55)	-	-	-	(55)
Singapore dollar	2,560	-	-	28	2,588
South African rand	(3,013)	-	-	-	(3,013)
South Korean won	(1,380)	-	-	-	(1,380)
Swedish krona	(17,911)	-	(168)	(69)	(18,148)
Swiss franc	(89,647)	-	(14)	-	(89,661)
Thailand baht	8,982	-	305	-	9,287
Turkish lira	(2,413)	-	(30)	-	(2,443)
Ukraine hryvana	443	-	-	-	443
Total	\$ (7,594)	\$ -	\$ 2,775	\$ 899	\$ (3,920)

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
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At June 30, 2018, the Retirement System is exposed to foreign currency risk on its investments in forwards, rights, warrants, swaps and futures denominated in foreign currencies.

Derivative Instruments Foreign Currency Risk Analysis as of June 30, 2018

<u>Currency</u>	<u>Forwards</u>	<u>Rights/ Warrants</u>	<u>Swaps</u>	<u>Futures</u>	<u>Total</u>
Argentina peso	\$ (3,843)	\$ -	\$ -	\$ -	\$ (3,843)
Australian dollar	32,083	-	(344)	(213)	31,526
Brazil real	4,651	-	224	-	4,875
Canadian dollar	110,296	-	-	23	110,319
Chilean peso	205	-	(7)	-	198
Colombian peso	171	-	1	-	172
Czech koruna	5,768	-	-	-	5,768
Danish krone	(1,528)	-	-	-	(1,528)
Egyptian pound	2,805	-	-	-	2,805
Euro	(103,680)	244	(171)	(390)	(103,997)
Hong Kong dollar	1,533	-	76	18	1,627
Hungarian forint	649	-	(11)	-	638
Indian rupee	645	-	-	-	645
Indonesian rupiah	(480)	-	-	-	(480)
Israeli shekel	3,157	-	-	-	3,157
Japanese yen	79,314	-	(1,455)	(427)	77,432
Malaysian ringgit	658	-	6	-	664
Mexican peso	12,300	-	(200)	-	12,100
New Taiwan dollar	(969)	-	-	-	(969)
New Zealand dollar	18,841	-	-	-	18,841
Norwegian krone	(48,471)	-	-	-	(48,471)
Peruvian sol	(1,891)	-	-	-	(1,891)
Philippines peso	(1,349)	-	-	-	(1,349)
Polish zloty	1,424	-	-	-	1,424
Pound sterling	35,695	-	-	263	35,958
Romanian leu	794	-	-	-	794
New Russian ruble	767	-	-	-	767
Singapore dollar	3,208	-	-	7	3,215
South African rand	(2,907)	-	14	-	(2,893)
South Korean won	34	-	-	-	34
Swedish krona	(66,631)	-	69	8	(66,554)
Swiss franc	(96,530)	-	44	-	(96,486)
Thailand baht	8,226	-	61	-	8,287
Turkish lira	964	-	-	-	964
Total	\$ (4,091)	\$ 244	\$ (1,693)	\$ (711)	\$ (6,251)

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Contingent Features

At June 30, 2019 and 2018, the Retirement System held no positions in derivatives containing contingent features.

(5) Fair Value Measurement of Investments

The Retirement System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles.

The Retirement System has the following recurring fair value measurements as of June 30, 2019:

As of June 30, 2019	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Investments by fair value level				
Short-term investments	\$ 479,220	\$ 29	\$ 3,948	\$ 475,243
Debt securities:				
U.S. government and agency securities	1,461,178	1,408,872	52,306	-
Other debt securities	935,020	156	832,051	102,813
Equity securities:				
Domestic	3,690,322	3,510,704	7,783	171,835
International	2,355,081	2,351,998	3,074	9
Foreign currency contracts, net	96	-	-	96
Total investments by fair value level	<u>8,920,917</u>	<u>\$ 7,271,759</u>	<u>\$ 899,162</u>	<u>\$ 749,996</u>
Investments measured at the net asset value (NAV)				
Short-term investments	656			
Fixed income funds invested in:				
Other debt securities	386,917			
Equity funds invested in:				
Domestic	1,895,455			
International	514,724			
Real assets	4,334,229			
Private credit	758,662			
Private equity	5,604,023			
Absolute return	3,574,622			
Total investments measured at the NAV	<u>17,069,288</u>			
Investments not subject to the fair value hierarchy				
City investment pool	31,264			
Total investments measured at fair value	<u>\$ 26,021,469</u>			

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

The Retirement System has the following recurring fair value measurements as of June 30, 2018:

As of June 30, 2018	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Investments by fair value level				
Short-term investments	\$ 499,570	\$ (39)	\$ 3,068	\$ 496,541
Debt securities:				
U.S. government and agency securities	1,593,955	1,519,716	74,239	-
Other debt securities	1,367,798	233,610	1,019,807	114,381
Equity securities:				
Domestic	4,342,015	4,334,396	7,371	248
International	4,237,691	4,234,440	3,242	9
Foreign currency contracts, net	(1,157)	-	-	(1,157)
Total investments by fair value level	<u>12,039,872</u>	<u>\$ 10,322,123</u>	<u>\$ 1,107,727</u>	<u>\$ 610,022</u>
Investments measured at the net asset value (NAV)				
Short-term investments	22,300			
Fixed income funds invested in:				
Other debt securities	344,247			
Equity funds invested in:				
Domestic	891,509			
International	2,627			
Real assets	3,578,379			
Private equity	4,344,306			
Private credit	454,199			
Absolute return	2,625,376			
Total investments measured at the NAV	<u>12,262,943</u>			
Investments not subject to the fair value hierarchy				
City investment pool	24,275			
Total investments measured at fair value	<u>\$ 24,327,090</u>			

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Investments at Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In some cases, a valuation technique may have multiple inputs used to measure fair value, and each input might fall into a different level of the fair value hierarchy. The level in the fair value hierarchy within which a fair value measurement falls in its entirety is determined based on the lowest level input that is significant to the measurement. The prices used in determining the fair value hierarchy are obtained from various pricing sources by the Retirement System's custodian bank.

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using prices determined by the use of matrix pricing techniques maintained by the various pricing vendors for these securities. Debt securities including short-term instruments are priced based on evaluated prices. Such evaluated prices may be determined by factors which include, but are not limited to, market quotations, yields, maturities, call features, ratings, institutional size trading in similar groups of securities and developments related to specific securities. For equity securities not traded on an active exchange, or if the closing price is not available, corroborated indicative quotes obtained from pricing vendors are generally used. Debt and equity securities classified in Level 3 of the fair value hierarchy are securities whose stated market prices are unobservable by the market place. Many of these securities are priced using uncorroborated indicative quotes, adjusted prices based on inputs from different sources, or evaluated prices using unobservable inputs, such as extrapolated data, proprietary models, and indicative quotes from pricing vendors.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Investments at Net Asset Value (NAV)

The equity and debt funds are commingled funds that are priced at net asset value by industry vendors and fund families. NAV is the fair value of all securities owned by a fund, minus its total liabilities, divided by the number of shares issued and outstanding. The NAV of an open-end fund is its price.

The fair value of the Retirement System's investments in private equity, real assets, private credit, absolute return, and some public equity investments are based on NAV provided by the investment managers and general partners (hereinafter collectively referred to as the "General Partners"). Such value generally represents the Retirement System's proportionate share of the net assets of the limited partnerships. The partnership financial statements are audited annually as of December 31 and the NAV is adjusted by additional contributions to and distributions from the partnership, the Retirement System's share of net earnings and losses, and unrealized gains and losses resulting from changes in fair value, as determined by the General Partners.

The General Partners may use one or more valuation methodologies outlined in FASB ASC 820, *Fair Value Measurement*. For some investments, little market activity may exist. The General Partners' determination of fair value is then based on the best information available in the circumstances and may involve subjective assumptions and estimates, including the General Partners' assessment of the information that market participants would use in valuing the investments. The General Partners may take into consideration a combination of internal and external factors, including but not limit to, appropriate risk adjustments for nonperformance and liquidity. Such fair value estimates involve subjective judgments of unrealized gains and losses.

The values provided by the General Partners may differ significantly from the values that would have been used had a ready market existed for these investments.

Private credit investments are held in commingled funds. These investments are mostly illiquid with distributions received over the life of the investments. They are typically not redeemed, nor do they have set redemption schedules. There are ten public equity investments held in commingled funds valued at NAV. Two investments, valued at \$1.5 million, are currently being liquidated with proceeds expected over the next 2-4 years. The remaining investments may be subject to varying lock-up provisions and redemption schedules. The real asset holdings are illiquid. Distributions are received over the life of the investments, which could equal or exceed ten years. They are not redeemed, nor do they have set redemption schedules. Private equity investment strategies include buyout, venture capital, growth capital, and special situations. Investments in the asset class are achieved primarily through commingled funds and separate account partnerships, but may also include direct and co-investment opportunities. Private equity investments are illiquid and distributions are received over the life of the investments, which could equal or exceed ten years. These investments are not typically redeemed, nor do they have set redemption schedules.

Absolute return investment strategies include equity, credit, macro, emerging markets, quantitative, multi-strategy, special situations/other, and commodities. Investments are achieved through limited partnerships. The table below provides a summary of the terms and conditions upon which the Retirement System may redeem its absolute return investments. Investments have the potential to become illiquid under stressed market conditions and, in certain circumstances, investors may be subject to redemption restrictions that differ from the standard terms and conditions summarized here, which can impede the return of capital according to those terms and conditions.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Absolute Return Investments Measured at NAV as of June 30, 2019

% of NAV	Redemption Frequency	Redemption Notice Period
51%	Monthly	95 Days
47%	Quarterly	45-180 Days
2%	Semi-annually	60-65 Days
<u>100%</u>		

% of NAV in Lock Up	As of Fiscal Year End
5%	2019-2020
10%	2020-2021
9%	2021-2022

(6) Investments in Real Assets

Real assets investments represent the Retirement System's interests in real assets limited partnerships and separate accounts. The changes in these investments during the years ended June 30, 2019 and 2018, are summarized as follows:

	<u>2019</u>	<u>2018</u>
Investments:		
Beginning of the year	\$ 3,578,379	\$ 2,975,974
Capital investments	902,896	748,528
Equity in net earnings	98,521	76,834
Net appreciation in fair value	241,048	391,107
Capital distributions	(486,615)	(614,064)
End of the year	<u>\$ 4,334,229</u>	<u>\$ 3,578,379</u>

(7) Benefits

Allowances and benefits incurred during the years are summarized as follows:

	<u>2019</u>	<u>2018</u>
Service retirement benefits	\$ 1,131,334	\$ 1,063,184
Disability retirement benefits	193,016	187,365
Death benefits	8,908	10,224
COLA benefit adjustments	105,945	89,236
Adjustment to accrued DROP benefits	(268)	-
Total	<u>\$ 1,438,935</u>	<u>\$ 1,350,009</u>

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

(8) Funding Policy

Contributions are made to the Plan by both the employers and the participating employees. The basic employer contributions are the amounts deemed necessary on an actuarial basis using the entry age normal cost method to provide the Retirement System with assets sufficient to pay the basic benefits that are not provided for by employees' contributions. Contribution rates used in fiscal years 2018-19 and 2017-18 are based on a schedule of rates determined from actuarial studies by the consulting actuary as of July 1, 2017 and 2016, respectively.

Required and actual employer contribution rates for the years ended June 30, 2019 and 2018 as a percentage of covered payrolls were as follows:

	Fiscal Year 2018-19	Fiscal Year 2017-18
Police members	18.81% - 19.81%	18.96% - 19.96%
Fire members	18.81% - 19.81%	18.96% - 19.96%
Miscellaneous Non-Safety members	19.31% - 23.31%	19.46% - 23.46%
Sheriff and Miscellaneous Safety members	19.31% - 19.81%	19.46% - 19.96%

Employee contributions are mandatory as required by the Charter. Employee contribution rates for fiscal years 2018-19 and 2017-18 as a percentage of gross covered salary were as follows:

	Fiscal Year 2018-19	Fiscal Year 2017-18
Participants entering the Retirement System prior to November 2, 1976		
Police and fire	11.5%	11.5%
Miscellaneous	8.0% - 12.0%	8.0% - 12.0%
Participants entering the Retirement System after November 2, 1976 and prior to July 1, 2010		
Police and fire	12.0%	12.0%
Miscellaneous	7.5% - 11.5%	7.5% - 11.5%
Participants entering the Retirement System on or after July 1, 2010		
Police and fire	12.5% - 13.0%	12.5% - 13.0%
Miscellaneous	7.5% - 11.5%	7.5% - 11.5%
Sheriff and Miscellaneous Safety hired on or after January 7, 2012	12.5% - 13.0%	12.5% - 13.0%

Beginning in the year ended June 30, 2006, most employee groups agreed through collective bargaining for employees to contribute all or a portion of the employee contributions, per memorandums of understanding (MOU's), on a pretax basis. As of July 1, 2011, substantially all employee groups have agreed through collective bargaining for employees to contribute all employee contributions on a pre-tax basis.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

Prior to the early 1950s, all Retirement System members were covered by the Federal Old-Age and Survivors Disability Insurance provisions of the Federal Social Security Act. In the early 1950s, the City and County agreed to exclude uniformed police officers and firefighters from Social Security coverage. Prior to 1990, miscellaneous members covered by Social Security were able to elect to reduce the above stated rate of employee contributions in consideration of their anticipated Social Security benefit payments. All participants who elected such reduction must repay the amount of unpaid employee contributions with interest or there will be an appropriate actuarial reduction in benefits.

Participants terminating service with the employers may withdraw employee contributions plus interest. The interest rate applied to accumulated employee contributions is determined by the Retirement System's consulting actuary and recommended to the Retirement Board. The Retirement Board reviews and sets the crediting interest rate for the Plan on an annual basis. Interest for the years ended June 30, 2019 and 2018, accumulated at 4.00%.

(9) Net Pension Liability of Employers

The components of the employers' net pension liability at June 30, 2019 and 2018, were as follows:

	June 30, 2019	June 30, 2018
Total pension liability	\$ 30,555,289	\$ 28,840,673
Fiduciary net position	\$ 26,078,649	\$ 24,557,966
Net pension liability	\$ 4,476,640	\$ 4,282,707
Fiduciary net position as a percentage of total pension liability	85.3%	85.2%

(a) Actuarial Assumptions

The total pension liabilities as of June 30, 2019 and 2018, were determined by actuarial valuations as of July 1, 2018 and 2017, respectively, which were rolled forward to June 30, 2019 and 2018, using standard roll forward procedures.

The following is a summary of actuarial methods and assumptions used at the June 30, 2019, measurement date:

Inflation	2.75%
Salary increases	3.50% plus merit component based on employee classification and years of service
Investment rate of return	7.40%, net of pension plan investment expense, including inflation

Mortality rates for active members and healthy annuitants were based upon adjusted Employee and Healthy Annuitant CalPERS mortality tables projected generationally from the 2009 base year using a modified version of the MP-2015 projection scale.

The actuarial assumptions used at the June 30, 2019, measurement date were based upon the results of a demographic experience study for the period July 1, 2009 through June 30, 2014, and an economic experience study as of July 1, 2018.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
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The Supplemental COLA assumption as of June 30, 2019, was developed based upon the probability and amount of Supplemental COLA for each future year. The tables below show the net assumed Supplemental COLA for members at sample years.

Assumed Future Supplemental COLA for Members Retiring Before 11/6/1996 or Hired After Prop C

<u>July 1,</u>	<u>Old Miscellaneous and all New Plans</u>	<u>Old Police & Fire, pre-7/1/75 Retirements</u>	<u>Old Police & Fire A8.595, A8.596, Retirements</u>
2019	0.000%	0.000%	0.000%
2020	0.200%	0.140%	0.050%
2021	0.270%	0.180%	0.070%
2022	0.310%	0.210%	0.080%
2028	0.370%	0.250%	0.100%
2031+	0.375%	0.250%	0.100%

Assumed Future Supplemental COLA for Members Retiring After 11/6/1996 and Hired Before Prop C

<u>July 1,</u>	<u>Old Miscellaneous and all New Plans</u>	<u>Old Police & Fire</u>
2019	1.000%	3.0% less assumed Basic COLA
2020+	0.750%	½ x (3.5% less assumed Basic COLA)

The long-term expected rate of return on pension plan investments was 7.40%. It was set by the Retirement Board after consideration of both expected future returns and historical returns experienced by the Retirement System. Expected future returns were determined by using a building-block method in which best-estimate ranges of expected future real rates of return were developed for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of geometric long-term expected real rates of return (expected returns, net of pension plan investment expense and inflation) for each major asset class as of June 30, 2019, are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Global Equity	31.0%	5.3%
Treasuries	6.0%	0.9%
Liquid Credit	3.0%	3.6%
Private Credit	10.0%	5.2%
Private Equity	18.0%	8.3%
Real Assets	17.0%	5.4%
Hedge Funds/Absolute Return	15.0%	3.9%
	<u>100.0%</u>	

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
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The following is a summary of actuarial methods and assumptions used at the June 30, 2018, measurement date:

Inflation	3.00%
Salary increases	3.50% plus merit component based on employee classification and years of service
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

Mortality rates for active members and healthy annuitants were based upon adjusted Employee and Healthy Annuitant CalPERS mortality tables projected generationally from the 2009 base year using a modified version of the MP-2015 projection scale.

The actuarial assumptions used at the June 30, 2018, measurement date were based upon the results of a demographic experience study for the period July 1, 2009 through June 30, 2014, and an economic experience study as of July 1, 2017.

The Supplemental COLA assumption as of June 30, 2018, was developed based upon the probability and amount of Supplemental COLA for each future year. The tables below show the net assumed Supplemental COLA for members at sample years.

Assumed Future Supplemental COLA for Members Retiring Before 11/6/1996 or Hired After Prop C

July 1,	Old Miscellaneous and all New Plans	Old Police & Fire, pre-7/1/75 Retirements	Old Police & Fire A8.595, A8.596, Retirements
2018	0.000%	0.000%	0.000%
2019	0.000%	0.000%	0.000%
2022	0.290%	0.190%	0.080%
2025	0.350%	0.230%	0.090%
2028	0.360%	0.240%	0.100%
2031+	0.375%	0.250%	0.100%

Assumed Future Supplemental COLA for Members Retiring After 11/6/1996 and Hired Before Prop C

July 1,	Old Miscellaneous and all New Plans	Old Police & Fire
2018	1.500%	3.5% less assumed Basic COLA
2019+	0.750%	½ x (3.5% less assumed Basic COLA)

The long-term expected rate of return on pension plan investments was 7.50%. It was set by the Retirement Board after consideration of both expected future returns and historical returns experienced by the Retirement System. Expected future returns were determined by using a building-block method in which best-estimate ranges of expected future real rates of return were developed for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
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The target allocation and best estimates of geometric long-term expected real rates of return (expected returns, net of pension plan investment expense and inflation) for each major asset class as of June 30, 2018, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	31.0%	5.4%
Treasuries	6.0%	0.5%
Liquid Credit	3.0%	3.3%
Private Credit	10.0%	4.6%
Private Equity	18.0%	6.6%
Real Assets	17.0%	4.5%
Hedge Funds/Absolute Return	15.0%	3.7%
	<u>100.0%</u>	

(b) Discount Rate

The discount rate used to measure the total pension liability at June 30, 2019, was 7.40%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will continue to be made at the rates specified in the Charter. Employer contributions were assumed to be made in accordance with the contribution policy in effect for the July 1, 2018, actuarial valuation. While the contributions and measure of actuarial liability in the funding valuation do not anticipate any future Supplemental COLAs, the projected contributions for the determination of the discount rate include the anticipated future amortization payments on future Supplemental COLAs for current members when they are expected to be granted. The projection of benefit payments to current members for determining the discount rate includes the payment of anticipated future Supplemental COLAs.

As of June 30, 2019, the System's fiduciary net position was projected to be available to make projected future benefit payments for current members for all future years. Projected benefit payments are discounted at the long-term expected return on assets of 7.40% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.50% to the extent that they are not available. The single equivalent rate used to determine the total pension liability as of June 30, 2019, rounded to two decimals is 7.40%.

The discount rate used to measure the total pension liability at June 30, 2018, was 7.50%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will continue to be made at the rates specified in the Charter. Employer contributions were assumed to be made in accordance with the contribution policy in effect for the July 1, 2017, actuarial valuation. While the contributions and measure of actuarial liability in the funding valuation do not anticipate any future Supplemental COLAs, the projected contributions for the determination of the discount rate include the anticipated future amortization payments on future Supplemental COLAs for current members when they are expected to be granted. The projection of benefit payments to current members for determining the discount rate includes the payment of anticipated future Supplemental COLAs.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
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As of June 30, 2018, the System's fiduciary net position was projected to be available to make projected future benefit payments for current members until FY 2096-97 when only a portion of the projected benefit payments are expected to be made from the projected fiduciary net position. Projected benefit payments are discounted at the long-term expected return on assets of 7.50% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.87% to the extent that they are not available. The single equivalent rate used to determine the total pension liability as of June 30, 2018, rounded to two decimals is 7.50%.

The municipal bond rates of 3.50% and 3.87% used to determine the above discount rates represent the yields available at June 30, 2019, and June 30, 2018, respectively, on the Bond Buyer 20-Bond GO Index.

(c) Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability as of June 30, 2019 and 2018, calculated using the discount rates of 7.40% and 7.50%, respectively, as well as what the total net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the discount rates:

	Net Pension Liability	
	June 30, 2019	June 30, 2018
1% Decrease	\$8,450,047	\$8,021,065
Current Discount Rate	\$4,476,640	\$4,282,707
1% Increase	\$1,193,728	\$1,191,402

(d) Money Weighted Rate of Returns

For the years ended June 30, 2019 and 2018, the annual money-weighted rates of return on pension plan investments, net of investment expenses, adjusted for the changing amounts actually invested, were 8.19% and 11.55%, respectively.

(10) Postemployment Healthcare Plan

(a) Other Postemployment Benefits (OPEB)

The Retirement System participates in the City's multiple-employer defined benefit other postemployment benefits plan (the Plan). The Plan is maintained by the City and is administered through the City's Health Service System. It provides postemployment medical, dental and vision insurance benefits to eligible employees, retired employees, surviving spouses, and domestic partners. Health benefit provisions are established and may be amended through negotiations between the City and the respective bargaining units. The City does not issue a separate report on its other postemployment benefit plan.

GASB Statement No. 75 requires that reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used.

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San Francisco Health Service System Retiree Plan – Multiple-Employer

Valuation Date (VD)	June 30, 2018
Measurement Date (MD)	June 30, 2018
Measurement Period (MP)	July 1, 2017 to June 30, 2018

The Retirement System's proportionate share percentage of the Plan was determined based on its percentage of citywide "pay-as-you-go" contributions for the year ended June 30, 2018. The Retirement System's net OPEB liability, deferred outflows/inflows of resources related to OPEB, amortization of deferred outflows/inflows and OPEB expense to each department is based on the Retirement System's allocated percentage. The Retirement System's proportionate share of the City's OPEB elements was 0.33% as of the measurement date.

(b) Benefits

Permanent full-time and elected employees are eligible to retire and receive postretirement health insurance benefits when they are eligible for retirement benefits from the City and County of San Francisco Employees' Retirement System. The eligibility requirements are as follows:

Normal Retirement	Miscellaneous	Age 50 with 20 years of credited service ¹ Age 60 with 10 years of credited service
	Safety	Age 50 with 5 years of credited service
Disabled Retirement ²	Any age with 10 years of credited service	
Terminated Vested ³	5 years of credited service at separation	

1. Age 53 with 20 years of credited service, age 60 with 10 years of credited service, or age 60 for Miscellaneous members hired on or after January 7, 2012.
2. No service requirement for Safety members retiring under the industrial disability benefit or for surviving spouses / domestic partners of those killed in the line of duty.
3. Effective with Proposition B, passed June 3, 2008, participants hired on or after January 10, 2009, must retire within 180 days of separation in order to be eligible for retiree healthcare benefits.

Retiree healthcare benefits are administered by the San Francisco Health Service System and include the following:

Medical:	PPO – City Health Plan (self-insured) and UHC Medicare Advantage (fully-insured) HMO – Kaiser (fully-insured) and Blue Shield (flex-funded)
Dental:	Delta Dental, DeltaCare USA and United Healthcare Dental
Vision:	Vision benefits are provided under the medical insurance plans and are administered by Vision Service Plan.

Projections of the sharing of benefit related costs are based on an established pattern of practice.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
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(c) Contributions

Benefits provided under the Plan are currently paid through “pay-as-you-go” funding. Additionally, under the City Charter, active officers and employees of the City who commenced employment on or after January 10, 2009, shall contribute to the Retiree Health Care Trust Fund (Trust Fund) a percentage of compensation not to exceed 2% of pre-tax compensation. The City shall contribute 1% of compensation for officers and employees who commenced employment on or after January 10, 2009, until the City’s GASB Actuary has determined that the City’s portion of the Trust Fund is fully funded. At that time, the City’s 1% contribution shall cease, and officers and employees will each contribute 50% of the maximum 2% of pre-tax compensation.

Starting July 1, 2016, active officers and employees of the City who commenced employment on or before January 9, 2009, shall contribute 0.25% of pre-tax compensation into the Trust Fund. Beginning on July 1st of each subsequent year, the active officers and employees of the City who commenced employment on or before January 9, 2009, shall contribute an additional 0.25% of pre-tax compensation up to a maximum of 1%. Starting July 1, 2016, the City shall contribute 0.25% of compensation into the Trust Fund for each officer and employee who commenced employment on or before January 9, 2009. Beginning on July 1st of each subsequent year, the City shall contribute an additional 0.25% of compensation, up to a maximum of 1% for each officer and employee who commenced employment on or before January 9, 2009. When the City’s GASB Actuary has determined that the City’s portion of the Trust Fund is fully funded, the City’s 1% contribution shall cease, and officers and employees will each contribute 50% of the maximum 1% of pre-tax compensation.

Additional or existing contribution requirements may be established or modified by amendment to the City’s Charter.

For the year ended June 30, 2019, the City’s funding was based on “pay-as-you-go” plus a contribution of \$32,786 to the Retiree Health Care Trust Fund. The “pay-as-you-go” portion paid by the City was \$185,839 for a total contribution of \$218,625 for the fiscal year ended June 30, 2019. The Retirement System’s proportionate share of the City’s contributions for fiscal year 2018-19 was \$716.

(d) Net OPEB Liability, OPEB Expense and Deferred Outflows/Inflows of Resources Related to OPEB

As of June 30, 2019, the City reported net OPEB liability related to the Plan of \$3.6 billion. The Retirement System’s proportionate share of the City’s net OPEB liability as of June 30, 2019 was \$11,785.

For the year ended June 30, 2019, the City’s recognized OPEB expense was \$320.3 million. Amortization of the City’s deferred outflows and inflows is included as a component of OPEB expense. The Retirement System’s proportionate share of the City’s OPEB expense was \$1,494.

As of June 30, 2019, the Retirement System reported its proportionate share of the City’s deferred outflows and inflows of resources related to OPEB from the following sources:

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Retirement System	Deferred Outflows of Resources	Deferred Inflows of Resources
Contributions subsequent to measurement date	\$ 716	\$ -
Differences between expected and actual experience	-	1,082
Changes in assumptions	311	-
Net difference between projected and actual earnings on plan investments	-	11
Total	<u>\$ 1,027</u>	<u>\$ 1,093</u>

Amounts reported as deferred outflows, exclusive of contributions made after the measurement date, and deferred inflows of resources will be amortized annually and recognized in OPEB expense as follows:

Year ending June 30:

2020	(132)
2021	(132)
2022	(132)
2023	(127)
2024	(128)
Thereafter	(131)

(e) Actuarial Assumptions

A summary of the actuarial assumptions and methods used to calculate the total OPEB liability as of June 30, 2018 (measurement date), is provided below:

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Financial Statements (Continued)
Years Ended June 30, 2019 and 2018
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Key Actuarial Assumptions

Valuation Date	June 30, 2018
Measurement Date	June 30, 2018
Actuarial Cost Method	The Entry Age Actuarial Cost Method is used to measure the Plan's Total OPEB Liability
Healthcare Cost Trend Rates	Pre-Medicare trend starts at 6.50% and trends down to ultimate rate of 3.93% in 2076 Medicare trend starts at 7.50% and trends down to ultimate rate of 3.93% in 2076 10-County average trend starts at 5.90% and trends down to ultimate rate of 3.93% in 2076 Vision and expenses trend remains a flat 3.50% for all years
Expected Rate of Return on Plan Assets	7.40%
Discount Rate	7.40%
Salary Increase Rate	Wage Inflation Component: 3.50% Additional Merit Component (dependent on years of service): Police: 1.50% - 8.00% Fire: 1.50% - 15.00% Muni Drivers: 0.00% - 15.00% Craft: 0.00% - 3.50% Misc: 0.00% - 5.25%
Inflation Rate	Wage Inflation: 3.50% compounded annually Consumer Price Inflation: 2.75% compounded annually
Mortality Tables	Base mortality tables are developed by multiplying a published table by an adjustment factor developed in SFERS experience study for the period ending June 30, 2014. Non-Annuitant - CalPERS employee mortality tables without scale BB projection

Gender	Adjustment Factor	Base Year
Female	0.918	2009
Male	0.948	2009

Healthy Annuitants - CalPERS healthy annuitant mortality table without scale BB projection

Gender	Adjustment Factor	Base Year
Female	1.014	2009
Male	0.909	2009

Miscellaneous Disabled Annuitants - RP-2014 Disabled Retiree Tables without MP-2014 projection

Gender	Adjustment Factor	Base Year
Female	1.066	2006
Male	0.942	2006

Safety Disabled Annuitants - CalPERS industrial disability mortality table without scale BB projection

Gender	Adjustment Factor	Base Year
Female	0.983	2009
Male	0.909	2009

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

The mortality rates in the base tables are projected generationally from the base year using the modified version of the MP-2015 projection scale. The scale was modified using the Society of Actuaries' model implementation tool with rates converging to the ultimate rate in 2017 (instead of 2029) and an ultimate rate of improvement of 0.85% (instead of 1.00%) up to age 85 decreasing to 0.70% (instead of 0.85%) at age 95.

(f) Sensitivity of Net OPEB Liability to Changes in the Healthcare Cost Trend Rate

The following presents the Retirement System's proportionate share of the City's net OPEB liability calculated using the healthcare cost trend rate, as well as what the Retirement System's allocation of the City's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1% lower or 1% higher than the current rate:

1% Decrease	Healthcare Trend	1% Increase
\$ 10,243	\$ 11,785	\$ 13,697

(g) Discount Rate

The discount rate used to measure the total OPEB liability as of June 30, 2018, was 7.4%. Based on the assumption that plan member contributions will continue to be made at the rates specified in the Charter, it was determined that the Plan's projected fiduciary net position will be greater than or equal to the benefit payments projected for each future period. As such, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The long-term expected rate of return on OPEB plan investments was 7.4% based on expected future returns and historical returns experienced by the Trust Fund. Expected future returns were determined based on 10-year and 20-year capital market assumptions for the Trust Fund's asset allocation. Target allocation for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
U.S. Equities	41.0%	7.3%
Developed Market Equity (non-U.S.)	20.0%	7.1%
Emerging Market Equity	16.0%	9.4%
High Yield Bonds	3.0%	5.4%
Bank Loans	3.0%	5.0%
Emerging Market Bonds	3.0%	4.9%
Treasury Inflation Protected Securities	5.0%	3.3%
Investment Grade Bonds	9.0%	3.6%
Total	100.0%	

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM

Notes to Financial Statements (Continued)

Years Ended June 30, 2019 and 2018

(Dollar amounts in thousands)

The asset allocation targets summarized above have a 20-year return estimate of 7.5%, which was weighted against a 10-year model estimating a 6.3% return, resulting in the ultimate long-term expected rate of return of 7.4%.

The following presents the Retirement System's proportionate share of the City's net OPEB liability calculated using the discount rate, as well as what the Retirement System's proportionate share of the City's net OPEB liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

1% Decrease	Discount Rate	1% Increase
6.40%	7.40%	8.40%
\$ 13,549	\$ 11,785	\$ 10,341

(11) Contingencies

Proposition C, a pension reform Charter amendment approved by voters in November 2011, included changes in the calculation of certain supplemental cost of living adjustments and was intended to reduce pension costs. These Proposition C changes in the calculation of certain supplemental cost of living adjustments were the subject of litigation and a decision of the California Court of Appeals. The California Court of Appeals held that the changes to the supplemental cost of living adjustments in Proposition C could not be applied to retirees who retired after November 1996. That decision was appealed to the California Supreme Court. The California Supreme Court denied review of the Court of Appeals decision. On October 25, 2015, the San Francisco Superior Court entered an amended judgment consistent with the Court of Appeals decision.

After due consideration and in consultation with Board legal counsel, at its July 2016 regular Board meeting, the Retirement Board determined, in light of the conclusions recited in the Court of Appeals decision, Proposition C should be interpreted to provide payment of the supplemental cost of living adjustments to pre-1996 retirees without a "fully funded" precondition to payment. On September 19, 2016, the City and County of San Francisco and the Controller filed an action against the Retirement Board and the Retirement System's Executive Director, seeking to permanently enjoin the Retirement System from paying supplemental COLA benefits to pre-1996 retirees on the same basis that those benefits have been paid to the post-1996 retirees in accordance with the Court's decision in *Protect Our Benefits v. City and County of San Francisco*. The San Francisco Superior Court granted the City's request for a permanent injunction. The Retirement Board and the Retirement System's Executive Director appealed that decision.

In May 2019, the California Court of Appeal affirmed the Superior Court decision granting the City's request for a permanent injunction prohibiting the Retirement System from paying supplemental COLA benefits to pre-1996 retirees on the same basis that those benefits have been paid to the post-1996 retirees. This case is now resolved and no additional benefits are payable to the retirees and beneficiaries.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Required Supplementary Information – Unaudited
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Schedule of Changes in Collective Net Pension Liability and Related Ratios

	Year Ended June 30, 2019	Year Ended June 30, 2018
Total pension liability:		
Service cost	\$ 675,065	\$ 632,118
Interest on total pension liability	2,131,847	2,041,110
Changes of benefit terms	-	-
Differences between expected and actual experience	12,484	(42,382)
Changes of assumptions	351,902	170,699
Benefit payments, including refunds of contributions	(1,456,682)	(1,364,587)
Net change in total pension liability	1,714,616	1,436,958
Total pension liability - beginning of year	28,840,673	27,403,715
Total pension liability - end of year (a)	30,555,289	28,840,673
Fiduciary net position:		
Contributions - member	380,980	364,696
Contributions - employer	645,056	619,067
Net investment income	1,970,312	2,549,674
Benefit payments, including refunds of contributions	(1,456,682)	(1,364,587)
Administrative expense	(18,983)	(18,238)
Net change in fiduciary net position	1,520,683	2,150,612
Fiduciary net position - beginning of year		
Beginning of year (as previously reported)	24,557,966	22,410,350
Restatement due to adoption of GASB75	-	(2,996)
Beginning of year (as restated)	24,557,966	22,407,354
Fiduciary net position - end of year (b)	26,078,649	24,557,966
Net pension liability - end of year (a) - (b)	\$ 4,476,640	\$ 4,282,707
Fiduciary net position as a percentage of total pension liability	85.3%	85.2%
Covered payroll	\$ 3,375,447	\$ 3,221,544
Net pension liability as a percentage of covered payroll	132.6%	132.9%

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Required Supplementary Information – Unaudited
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(Dollar amounts in thousands)

	Year Ended June 30, 2017	Year Ended June 30, 2016	Year Ended June 30, 2015	Year Ended June 30, 2014
Total pension liability:				
Service cost	\$ 644,277	\$ 567,576	\$ 523,644	\$ 509,200
Interest on total pension liability	1,924,206	1,669,996	1,621,582	1,542,266
Changes of benefit terms	-	1,293,714	-	-
Differences between expected and actual experience	57,911	(119,270)	(197,981)	-
Changes of assumptions	88,180	1,087,309	216,845	(73,315)
Benefit payments, including refunds of contributions	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Net change in total pension liability	1,436,434	3,243,179	1,033,060	905,625
Total pension liability - beginning of year	25,967,281	22,724,102	21,691,042	20,785,417
Total pension liability - end of year (a)	27,403,715	25,967,281	22,724,102	21,691,042
Fiduciary net position:				
Contributions - member	316,844	322,764	301,682	289,020
Contributions - employer	551,809	526,805	592,643	532,882
Net investment income	2,683,468	150,190	763,429	3,175,431
Benefit payments, including refunds of contributions	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Administrative expense	(18,134)	(17,179)	(19,262)	(15,745)
Net change in fiduciary net position	2,255,847	(273,566)	507,462	2,909,062
Fiduciary net position - beginning of year				
Beginning of year (as previously reported)	20,154,503	20,428,069	19,920,607	17,011,545
Restatement due to adoption of GASB75	-	-	-	-
Beginning of year (as restated)	20,154,503	20,428,069	19,920,607	17,011,545
Fiduciary net position - end of year (b)	22,410,350	20,154,503	20,428,069	19,920,607
Net pension liability - end of year (a) - (b)	\$ 4,993,365	\$ 5,812,778	\$ 2,296,033	\$ 1,770,435
Fiduciary net position as a percentage of total pension liability	81.8%	77.6%	89.9%	91.8%
Covered payroll	\$ 3,041,818	\$ 2,836,498	\$ 2,642,752	\$ 2,507,162
Net pension liability as a percentage of covered payroll	164.2%	204.9%	86.9%	70.6%

* This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Required Supplementary Information – Unaudited
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(Dollar amounts in thousands)

Schedule of Employer Contributions

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2019	\$ 645,056	\$ 645,056	\$ -	\$ 3,375,447	19.1%
2018	619,067	619,067	-	3,221,544	19.2%
2017	551,809	551,809	-	3,041,818	18.1%
2016	526,805	526,805	-	2,836,498	18.6%
2015	592,643	592,643	-	2,642,752	22.4%
2014	532,882	532,882	-	2,507,162	21.3%
2013	442,870	442,870	-	2,448,734	18.1%
2012	410,797	410,797	-	2,360,413 *	17.4%
2011	308,823	308,823	-	2,398,823 *	12.9%
2010	223,614	223,614	-	2,544,939 *	8.8%

* Covered compensation from actuarial projection.

Schedule of Money-Weighted Rate of Return

Year Ended June 30	Money-Weighted Rate of Return
2019	8.19%
2018	11.55%
2017	13.52%
2016	0.96%
2015	4.03%
2014	19.10%
2013	13.91%
2012	0.81%
2011	22.65%
2010	14.53%

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
Notes to Required Supplementary Information – Unaudited
Years Ended June 30, 2019 and 2018
(Dollar amounts in thousands)

Note to Schedule of Changes in Collective Net Pension Liability and Related Ratios

The total pension liability contained in the schedule was determined by the Retirement System's actuary, Cheiron, Inc. The collective net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Retirement System.

A summary of assumptions may be found in Note 9 to the financial statements. A complete description of methods and assumptions may be found in the Retirement System's *GASB 67/68 Report* for the corresponding fiscal years. The discount rates were as follows:

Year Ended June 30	Discount Rate for Total Pension Liability
2019	7.40%
2018	7.50%
2017	7.50%
2016	7.50%
2015	7.46%
2014	7.58%
2013	7.52%

SAN FRANCISCO CITY AND COUNTY EMPLOYEES' RETIREMENT SYSTEM
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Note to Schedule of Employer Contributions

Actuarially determined contribution rates are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year in which contributions are reported. Methods and assumptions used to determine contribution rates are:

Year Ended June 30	Valuation Date	Discount Rate	Salary Increase/Amortization Growth	Mortality	Significant Changes in Assumptions from Prior Year
2019	7/1/2017	7.50%	3.50%	Adj. 2009 CalPERS Mortality Tables projected generationally with mod. MP-2015	Wage inflation assumption
2018	7/1/2016	7.50%	3.75%		None
2017	7/1/2015	7.50%	3.75%		Demographic assumptions including rates of retirement, termination, refund, disability and mortality and salary merit based upon experience study
2016	7/1/2014	7.50%	3.75%	RP2000 Mortality projected with Scale AA	Investment return and wage inflation assumptions
2015	7/1/2013	7.58%	3.83%		None
2014	7/1/2012	7.58%	3.83%		Investment return and wage inflation assumptions
2013	7/1/2011	7.66%	3.91%		Investment return and wage inflation assumptions
2012	7/1/2010	7.75%	4.00%		Wage inflation and demographic assumptions including salary merit increases based upon experience study
2011	7/1/2009	7.75%	4.50%	1994 GAM	None
2010	7/1/2008	7.75%	4.50%		Investment return

A complete description of the methods and assumptions used to determine contribution rates can be found in the corresponding actuarial valuation reports.