contra costa county
Employees' Retirement Association
1355 willow way suite 221 concord ca 94520
925.521.3960 fax 925.646.5747

RETIREMENT BOARD MEETING
SPECIAL BOARD MEETING
9:00 a.m.
July 24, 2013

Retirement Board Conference Room
The Willows Office Park
1355 Willow Way, Suite 221
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.

2. Accept comments from the public.

3. Presentation from Segal regarding the December 31, 2012 Valuation Report.

4. Consider and take possible action to adopt the December 31, 2012 Valuation Report and contribution rates for the period July 1, 2014 – June 30, 2015.

5. Discussion with consultant and staff regarding managers scheduled to present.

6. Manager presentations:

   Small Cap Domestic Equity

   10:45 am - 11:15 am Ceredex Small Cap Value
   11:15 am - 11:45 am Emerald Small Cap Growth

7. Recommendation from staff for commitments to Distressed Real Estate Managers.

8. Distressed Real Estate Manager Presentations:

   12:45 pm - 1:20 pm Siguler Guff DREOF II
   1:25 pm - 2:00 pm Oaktree ROF VI

9. Consider and take possible action on staff recommendation for commitments to Distressed Real Estate Manager(s).

10. Consider and take possible action on Compensation Committee recommendation regarding unrepresented Retirement positions.

11. Miscellaneous
    a. Staff Report
    b. Outside Professionals' Report
    c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

Contra Costa County Employees' Retirement Association

Actuarial Valuation and Review as of December 31, 2012

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

SEGAL

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July 15, 2013

Board of Retirement
Contra Costa County Employees' Retirement Association
1335 Willow Way, Suite 221
Concord, CA 94520

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of December 31, 2012. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the fiscal year beginning July 1, 2014 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census information on which our calculations were based was prepared by CCCERA and the financial information was provided by the Association's staff. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

THE SEGAL COMPANY

By:

Paul Angelo, FSA, EA, MAAA, FCA	*John Monroe, ASA, EA, MAAA*
Senior Vice President and Actuary	*Vice President and Associate Actuary*

AW/hy

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTARY INFORMATION

SECTION 4

REPORTING INFORMATION

PURPOSE AND SCOPE

This report has been prepared by The Segal Company to present a valuation of the Contra Costa County Employees' Retirement Association (CCCERA) as of December 31, 2012. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution rate requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board;
- The characteristics of covered active members, terminated members, and retired members and beneficiaries as of December 31, 2012, provided by the Association's staff;
- The assets of the Plan as of December 31, 2012, provided by the Association's staff;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the system's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

The actuarial valuation required for the Contra Costa County Employees' Retirement Association has been prepared as of December 31, 2012 by The Segal Company. In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be reasonably consistent, both internally and with prior years' information.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. The remaining balance of the Association's unfunded actuarial accrued liability (UAAL) through December 31, 2007 is being amortized over a decreasing period with 10 years remaining as December 31, 2012. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period.

We recommend that the rates calculated in this report be adopted by the Board for the fiscal year that extends from July 1, 2014 through June 30, 2015.

SIGNIFICANT ISSUES IN VALUATION YEAR

The following key findings were the result of this actuarial valuation:

- The California Public Employees' Pension Reform Act (CalPEPRA) of 2013 (AB340) was passed on September 12, 2012 and became effective on January 1, 2013. In general, it affects new members who enter the plan on or after January 1, 2013. New plan provisions include new benefit formulas, a limit on pensionable income, 3-year final average salary, and new cost sharing by members. The impact of AB340 has been addressed in this report. We understand that CCCERA has created new PEPRA General Tiers 4 and 5 and PEPRA Safety Tiers D and E for members covered under AB340, and we have included in this report employee and employer rates for members who will be covered under those Tiers.

  The PEPRA Tiers' contribution rates have been developed based on generally the same methodology used to estimate the costs in our new tier reports dated January 2, 2013 and January 25, 2013. In particular, as the new tier formulas are only offered to new members, and since data for such members is not yet available, we have assumed in this valuation that their demographic profiles (e.g., entry age, composition of male versus female, etc.) can be approximated by the data profiles of current active members with membership dates on and after January 1, 2011[1]. With the exception of the service retirement assumptions and the elimination of terminal pay assumptions under the new tier formulas, the PEPRA rates in this report are based on the actuarial assumptions and methodologies adopted by the CCCERA Board of Retirement for use in the December 31, 2012 valuation.

Ref: Pg. 104

- The results of this valuation reflect changes in the economic and non-economic assumptions adopted by the Board for the December 31, 2012 valuation. These changes were documented in our Review of Economic Assumptions and our

[1] *Note that in preparing our original reports dated January 2, 2013 and January 25, 2013, we assumed that new entrants in the PEPRA tiers would be approximated by the data profiles of the active members with membership dates on and after January 1, 2011 as reported in the December 31, 2011 valuation.*

Actuarial Experience Study and are also outlined in Section 4, Exhibit V of this report. These assumption changes resulted in an increase in the average employer rate of 8.24% of payroll and an increase in the average member rate of 1.27% of payroll.

Ref: Pg. 102
Ref: Pg. 89

- The ratio of the valuation value of assets to actuarial accrued liabilities decreased from 78.5% to 70.6%. The Association's UAAL has increased from $1.5 billion to $2.3 billion. This increase is primarily due to changes in actuarial assumptions and an investment return on actuarial value (i.e. after smoothing) that fell short of the 7.75% assumed rate offset by lower than expected individual salary increases. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit I.

Ref: Pg. 65

- The average employer rate calculated in this valuation (excluding any employer subvention of member rates or member subvention of employer rates) has increased from 37.87% of payroll to 49.82% of payroll. This increase is primarily due to changes in actuarial assumptions and the investment loss mentioned above. A complete reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 16).

Ref: Pg. 66

- The average member rate calculated in this valuation has increased from 10.98% of payroll to 12.20% of payroll. This increase is primarily due to changes in actuarial assumptions. A complete reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D (see Chart 17).

  Separate employer contribution rates are shown in Charts 14 and 15 for members with membership dates before January 1, 2011, on or after January 1, 2011 and before January 1, 2013, and on or after January 1, 2013. However, the average employer contribution rates shown on page vi are based on all members regardless of their membership date.

Ref: Pg. 5

- The total unrecognized net investment gain as of December 31, 2012 is about $157 million as compared to an unrecognized net investment loss of $389 million in the previous valuation. This net investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This means that if the Association earns the assumed rate of investment return of 7.25% per year (net of expenses) on a **market value** basis, then the net deferred gains of $157 million would be recognized over the next few years as shown in the footnote in Chart 7.

- The net deferred gains of $157 million represent about 3% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $157 million market gains is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

  - If the net deferred gains were recognized immediately in the valuation value of assets, the funded percentage would increase from 70.6% to 72.7%.

- If the net deferred gains were recognized immediately in the valuation value of assets, the average employer contribution rate would decrease from 49.8% to about 48.0% of payroll.

➤ This is the second valuation that includes actual valuation data for members with membership dates on or after January 1, 2011 and before January 1, 2013. These members are subject to the amended policy that determines which pay items are considered compensation for retirement purposes. Cost groups #10 and #12 still do not contain any members with membership dates on or after January 1, 2011. Consistent with the methodology that was applied in the December 31, 2010 valuation for all cost groups, for those two cost groups we have continued to assume that the demographics of members with membership dates on or after January 1, 2011 are the same as the demographics of members with membership dates before January 1, 2011.

➤ The actuarial valuation report as of December 31, 2012 is based on financial information as of that date. Changes in the assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

➤ Subsequent to the valuation date, the First-5 Children & Families Commission made an additional payment towards their UAAL of $2 million. As adopted by the Board, this amount will be amortized as a level dollar amount over a period of eleven years beginning with the December 31, 2011 valuation. This employer's UAAL contribution rate will be reduced starting with the 2013/2014 fiscal year. The reduced rates for 2013/2014 are provided in a separate letter. Rates for 2014/2015 will also be provided separately.

Ref: Pg. 68

➤ In 2012, the California Actuarial Advisory Panel (CAAP) adopted a set of model disclosure elements recommended for actuarial valuation reports for public retirement systems in California. Information has been added to this valuation report consistent with the recommendations regarding basic disclosure elements. In particular, we are now including new information regarding measures of plan volatility.

➤ The Governmental Accounting Standards Board (GASB) recently approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. It is important to note that the new GASB rules only redefine pension expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices. While these new Statements are applicable for preparing the 2014 calendar year financial statement for the Plan's reporting and for the 2014/2015 fiscal year financial statement for the employer's reporting, the actual preparation of schedules in compliance with those Statements will depend upon GASB's issuance of detailed implementation guides for the Plan and the employer, anticipated around June 2013 and January 2014, respectively. As a result, we have continued to use Statements 25 and 27 in preparing the financial reporting information in this report.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board.

Summary of Key Valuation Results

	December 31, 2012		December 31, 2011	
Average Employer Contribution Rates[1]:		Estimated		Estimated
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1)	41.59%	$10,611,239	32.53%	$9,389,219
Cost Group #2 – County and Small Districts (Tier 3)	37.08%	168,815,252	28.78%	130,861,297
Cost Group #3 – Central Contra Costa Sanitary District	73.93%	17,620,915	58.36%	14,435,891
Cost Group #4 – Contra Costa Housing Authority	47.04%	2,377,319	35.26%	1,983,485
Cost Group #5 – Contra Costa County Fire Protection District	42.81%	1,522,178	30.75%	1,080,023
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	32.16%	240,133	24.88%	189,265
Safety				
Cost Group #7 – County (Tier A)	89.83%	59,805,301	66.42%	47,810,154
Cost Group #8 – Contra Costa and East Fire Protection Districts	89.79%	29,274,716	59.05%	22,204,573
Cost Group #9 – County (Tier C)	81.53%	11,166,934	59.19%	6,001,376
Cost Group #10 – Moraga-Orinda Fire District	80.03%	5,669,942	52.94%	3,979,298
Cost Group #11 – San Ramon Valley Fire District	95.39%	15,961,561	68.39%	12,968,849
Cost Group #12 – Rodeo-Hercules Fire Protection District	110.02%	1,865,548	72.53%	1,433,817
All Employers combined	49.82%	$324,931,038	37.87%	$252,337,247
Average Member Contribution Rates[1]:		Estimated		Estimated
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1)	10.90%	$2,781,559	9.55%	$2,756,922
Cost Group #2 – County and Small Districts (Tier 3)	10.81%	49,226,376	9.75%	44,337,350
Cost Group #3 – Central Contra Costa Sanitary District	11.26%	2,684,595	10.03%	2,481,328
Cost Group #4 – Contra Costa Housing Authority	11.59%	585,541	10.44%	587,382
Cost Group #5 – Contra Costa County Fire Protection District	11.14%	396,160	9.85%	345,958
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	12.86%	96,073	11.34%	86,275
Safety				
Cost Group #7 – County (Tier A)	17.80%	11,851,328	15.85%	11,411,285
Cost Group #8 – Contra Costa and East Fire Protection Districts	17.43%	5,681,658	15.26%	5,737,116
Cost Group #9 – County (Tier C)	14.06%	1,926,255	12.49%	1,265,845
Cost Group #10 – Moraga-Orinda Fire District	17.31%	1,226,374	15.34%	1,153,050
Cost Group #11 – San Ramon Valley Fire District	17.20%	2,878,150	14.54%	2,756,394
Cost Group #12 – Rodeo-Hercules Fire Protection District	16.36%	277,408	14.10%	278,737
All Categories Combined	12.20%	$79,611,477	10.98%	$73,197,642

(1) *Based on projected payroll as of each valuation date shown. These rates do not include any employer subvention of member contributions or any member subvention of employer contributions. The rates shown are averages based on all members regardless of their membership date.*

Note: Pages 19 and 20 contain a summary that shows which employers are in each cost group.

Summary of Key Valuation Results (continued)

	December 31, 2012	December 31, 2011
Refundability Factors		
General		
Cost Group #1 – County and Small Districts (Tier 1)	0.9845	0.9838
Cost Group #2 – County and Small Districts (Tier 3)	0.9360	0.9465
Cost Group #3 – Central Contra Costa Sanitary District	0.9486	0.9729
Cost Group #4 – Contra Costa Housing Authority	0.9811	0.9761
Cost Group #5 – Contra Costa County Fire Protection District	0.9602	0.9937
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	0.9338	0.9031
Safety		
Cost Group #7 – County (Tier A)	0.9924	0.9966
Cost Group #8 – Contra Costa and East Fire Protection Districts	0.9897	0.9596
Cost Group #9 – County (Tier C)	0.8718	0.8852
Cost Group #10 – Moraga-Orinda Fire District	0.9938	0.9813
Cost Group #11 – San Ramon Valley Fire District	0.9905	0.9894
Cost Group #12 – Rodeo-Hercules Fire Protection District	0.9860	0.9772
Funded Status:		
Actuarial accrued liability (AAL)	$7,761,315,535	$6,915,311,649
Valuation value of assets (VVA)	$5,482,257,062	$5,426,719,066
Market value of assets (MVA)	$5,654,581,124	$5,052,289,458
Funded percentage on VVA basis (VVA/AAL)	70.6%	78.5%
Funded percentage on MVA basis (MVA/AAL)	72.9%	73.1%
Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	$2,279,058,473	$1,488,592,583
Unfunded Actuarial Accrued Liability (UAAL) on MVA basis	$2,106,734,411	$1,863,022,191
Key Assumptions:		
Interest rate	7.25%	7.75%
Inflation rate	3.25%	3.50%
Across the board salary increase	0.75%	0.75%

Note: Pages 19 and 20 contain a summary that shows which employers are in each cost group.

Summary of Key Valuation Demographic and Financial Data

	December 31, 2012	December 31, 2011	Percentage Change
Active Members:			
Number of members	8,640	8,629	0.1%
Average age	45.9	46.22	N/A
Average service	10.2	10.7	N/A
Projected total payroll (compensation)	$652,312,178	$666,394,146	-2.1%
Average projected payroll	$75,499	$77,227	-2.2%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	6,375	5,960	7.0%
Disability retired	923	920	0.3%
Beneficiaries	1,219	1,205	1.2%
Total	8,517	8,085	5.3%
Average age	69.0	69.1	N/A
Average Monthly Benefit	$3,518	$3,381	4.1%
Vested Terminated Members:			
Number of terminated vested members[1]	2,288	2,214	3.3%
Average age	46.8	46.7	N/A
Summary of Financial Data:			
Market value of assets	$5,654,581,124	$5,052,289,458	11.9%
Return on market value of assets	13.31%	1.76%	N/A
Actuarial value of assets	$5,497,193,662	$5,441,119,691	1.0%
Return on actuarial value of assets	2.25%	2.78%	N/A
Valuation value of assets	$5,482,257,062	$5,426,719,066	1.0%
Return on valuation value of assets	2.24%	2.77%	N/A

(1) *Includes 888 terminated members with less than five years of service as of December 31, 2012 and 834 as of December 31, 2011.*

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, C and D.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2003 – 2012

Year Ended December 31	Active Members	Vested Terminated Members[1]	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2003	9,476	1,248	5,936	0.76
2004	9,358	1,517	6,118	0.82
2005	9,205	1,731	6,437	0.89
2006	9,210	1,919	6,646	0.93
2007	9,421	2,008	6,911	0.95
2008	9,385	2,153	7,012	0.98
2009	8,938	2,209	7,292	1.06
2010	8,811	2,231	7,559	1.11
2011	8,629	2,214	8,085	1.19
2012	8,640	2,288	8,517	1.25

(1) *Beginning in 2003, includes members who terminate with less than five years of service and leave accumulated contributions on deposit.*

Active Members
Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there are 8,640 active members with an average age of 45.9, average years of service of 10.2 years and average payroll of $75,499. The 8,629 active members in the prior valuation had an average age of 46.2, average service of 10.7 years and average payroll of $77,227.

Among the active members, there were none with unknown age or service information.

Inactive Members
In this year's valuation, there were 2,288 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their employee contributions versus 2,214 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of December 31, 2012

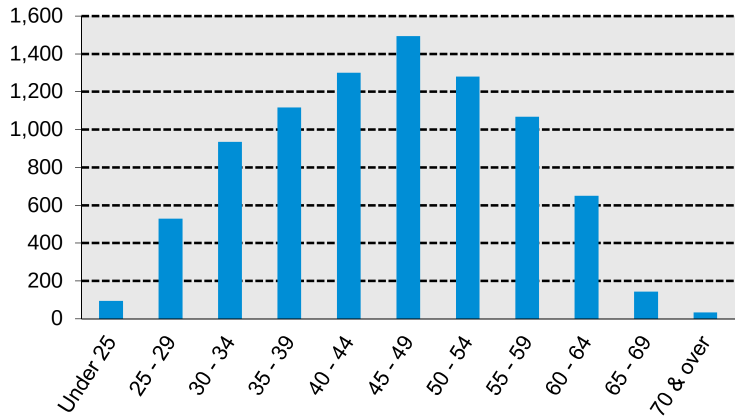
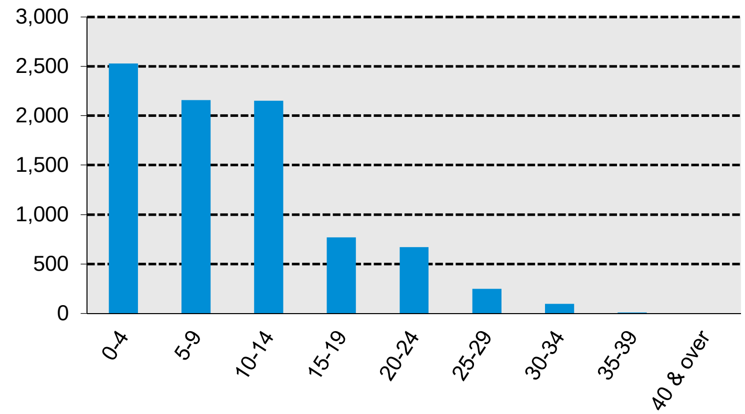


CHART 3

Distribution of Active Members by Years of Service as of December 31, 2012



Retired Members and Beneficiaries

As of December 31, 2012, 7,298 retired members and 1,219 beneficiaries were receiving total monthly benefits of $29,964,786. For comparison, in the previous valuation, there were 6,880 retired members and 1,205 beneficiaries receiving monthly benefits of $27,336,013.

These graphs show a distribution of the current retired members and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of December 31, 2012

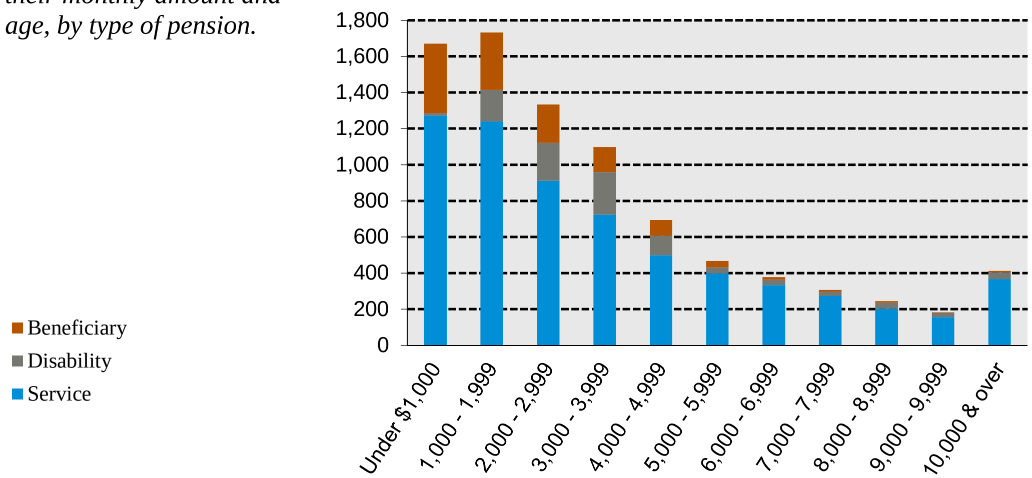
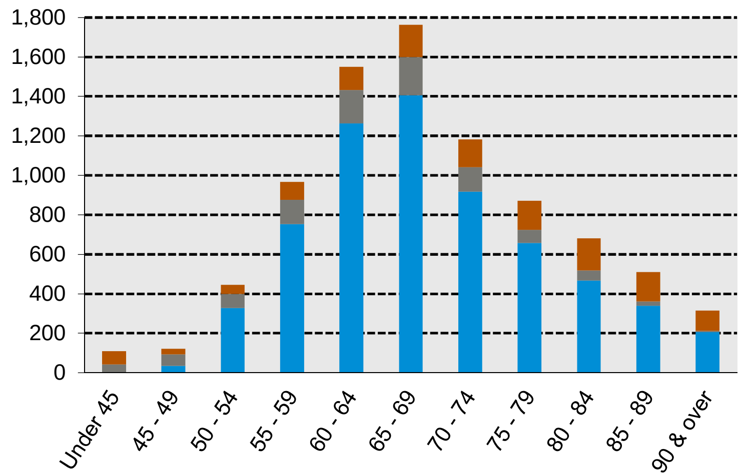


CHART 5

Distribution of Retired Members and Beneficiaries by Type and by Age as of December 31, 2012



B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment and administrative fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the "non-cash" earnings on investment implicitly included in the Actuarial Value of Assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits E and F.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuation is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Pension Obligation Bonds in the amount of $319 million for 2003, $153 million for 2005, and $11.7 million for 2006 are included in the contributions. Also included are UAAL prepayments of $8.6 million for 2006 and $3.0 million for 2007.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2003 - 2012

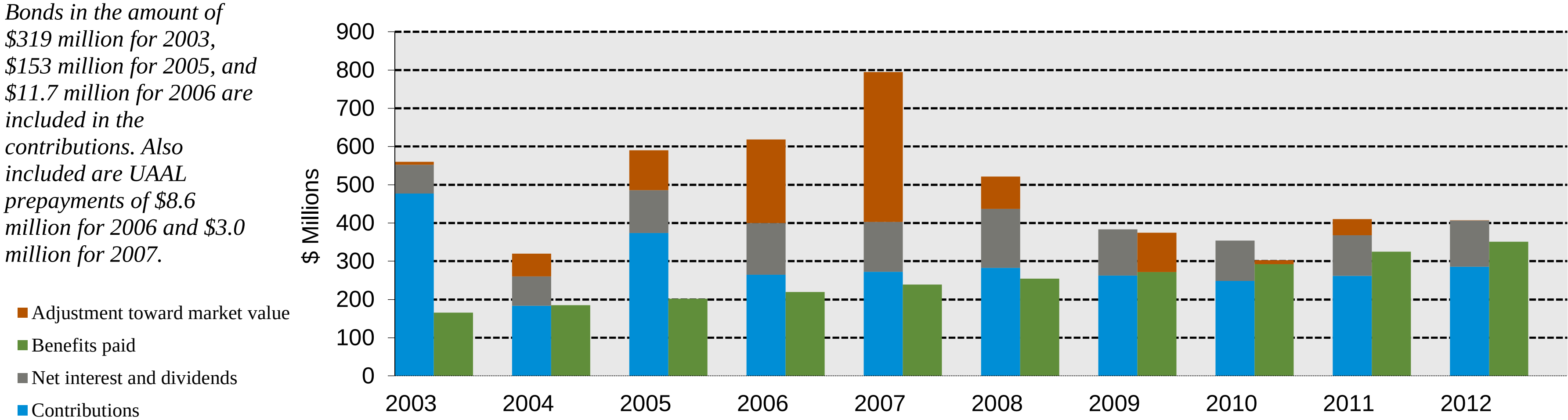


CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended December 31, 2012

The chart shows the determination of the actuarial and valuation value of assets as of the valuation date.

Six Month Period From	Six Month Period To	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain (Loss)	Deferred Factor	Deferred Return
7/2007	12/2007	$35,143,730	$203,536,876	$(168,393,146)	0.0	$0
1/2008	6/2008	(348,105,153)	205,702,885	(553,808,038)	0.0	0
7/2008	12/2008	(1,128,210,678)	189,989,366	(1,318,200,044)	0.1	(131,820,004)
1/2009	6/2009	106,872,212	146,385,892	(39,513,680)	0.2	(7,902,736)
7/2009	12/2009	628,870,712	150,326,140	478,544,572	0.3	143,563,372
1/2010	6/2010	(94,057,382)	174,278,387	(268,335,769)	0.4	(107,334,308)
7/2010	12/2010	687,503,854	169,679,293	517,824,561	0.5	258,912,280
1/2011	6/2011	292,872,483	195,544,414	97,328,069	0.6	58,396,841
7/2011	12/2011	(205,242,203)	204,284,793	(409,526,996)	0.7	(286,668,897)
1/2012	6/2012	296,675,568	195,294,521	101,381,047	0.8	81,104,838
7/2012	12/20/12	371,057,645	205,350,894	165,706,751	0.9	149,136,076

1.	Total Deferred Return[1]	$157,387,462
2.	Market Value of Assets	5,654,581,124
3.	Actuarial Value of Assets (Item 2 – Item 1)	5,497,193,662
4.	Actuarial Value as Percentage of Market Value (Item 3 / Item 2)	97.2%
5.	Non-valuation Reserves and Designations:	
	a. Post Retirement Death Benefit	$14,936,600
	b. Statutory Contingency	0
	c. Additional One Percent Contingency	0
	d. Unrestricted Designation	0
	e. Total	$14,936,600
6.	Valuation Value of Assets (Item 3 – Item 5e)	$5,482,257,062

[1] *Deferred Return Recognized in each of the next 5 years:*

(a)	*Amount Recognized during 2013*	*$(3,138,293)*
(b)	*Amount Recognized during 2014*	*88,729,988*
(c)	*Amount Recognized during 2015*	*42,760,231*
(d)	*Amount Recognized during 2016*	*12,464,860*
(e)	*Amount Recognized during 2017*	*16,570,676*
(f)	*Subtotal*	*$157,387,462*

Note: Results may not add due to rounding.

CHART 8

Allocation of Valuation Value of Assets as of December 31, 2012

The calculation of the valuation value of assets from December 31, 2011 to December 31, 2012 by cost groups is provided below.

		General				
		Cost Groups #1 and #2 County and Small Districts (Tier 1 & Tier 3)	Cost Group #3 Central Contra Costa Sanitary District	Cost Group #4 Contra Costa Housing Authority	Cost Group #5 Contra Costa County Fire Protection District	Cost Group #6 Small Districts (Tier 1 Non-Enhanced)
1	Allocated Valuation Value of Assets As of Beginning of Plan Year	$3,006,468,671	$181,915,145	$35,661,825	$36,683,955	$4,284,438
2	Contributions:					
	a. Total Member Contributions	43,435,866	972,678	369,219	360,191	58,288
	b. Employer Contributions - Excludes POB and other Special Contributions	122,597,704	12,869,979	1,867,426	795,928	213,284
	c. Employer Contributions - Special (POB, Termination, etc.)	3,309,064	0	0	0	0
	d. Total Contributions	169,342,634	13,842,657	2,236,645	1,156,119	271,572
3	Total Payments Excluding Post-Retirement Death	189,918,584	15,598,485	2,456,113	2,553,909	228,900
4	Total Transfers Into or Out of Valuation Assets	0	0	0	0	0
5	Subtotal (Item 1 + 2d - 3 + 4)	2,985,892,721	180,159,317	35,442,357	35,286,165	4,327,110
6	Weighted Average Fund Balance	2,996,180,696	181,037,231	35,552,091	35,985,060	4,305,774
7	Earnings Allocated in Proportion to Item 6	67,113,836	4,055,197	796,360	806,058	96,448
8	Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	$3,053,006,557	$184,214,514	$36,238,717	$36,092,223	$4,423,558

Note: Results may not add due to rounding.

CHART 8 (continued)

Allocation of Valuation Value of Assets as of December 31, 2012

		Safety					
		Cost Groups #7 & 9 County (Tier A & Tier C)	Cost Group #8 Contra Costa & East Fire Protection Districts	Cost Group #10 Moraga-Orinda Fire District	Cost Group #11 San Ramon Valley Fire District	Cost Group #12 Rodeo-Hercules Fire Protection District	**Total**
1	Allocated Valuation Value of Assets As of Beginning of Plan Year	$1,122,035,053	$679,842,188	$121,880,818	$217,205,902	$20,741,075	$5,426,719,066
2	Contributions:						
	a. Total Member Contributions	15,488,668	7,988,763	1,766,639	2,750,214	171,186	73,361,712
	b. Employer Contributions - Excludes POB and other Special Contributions	40,150,735	13,222,298	2,269,231	10,575,067	976,046	205,537,697
	c. Employer Contributions – Special (POB, Termination, etc.)	3,474,564	0	0	0	0	6,783,628
	d. Total Contributions	59,113,967	21,211,061	4,035,870	13,325,281	1,147,232	285,683,037
3	Total Payments Excluding Post-Retirement Death	72,559,464	46,482,817	8,700,749	10,820,658	1,651,540	350,971,218
4	Total Transfers Into or Out of Valuation Assets	0	0	0	0	0	0
5	Subtotal (Item 1 + 2d – 3 + 4)	1,108,589,556	654,570,432	117,215,939	219,710,525	20,236,767	5,361,430,885
6	Weighted Average Fund Balance	1,115,312,304	667,206,310	119,548,379	218,458,214	20,488,921	5,394,074,976
7	Earnings Allocated in Proportion to Item 6	24,982,768	14,945,285	2,677,859	4,893,419	458,948	120,826,177
8	Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	$1,133,572,324	$669,515,717	$119,893,798	$224,603,944	$20,695,715	$ 5,482,257,062

Note: Results may not add due to rounding.

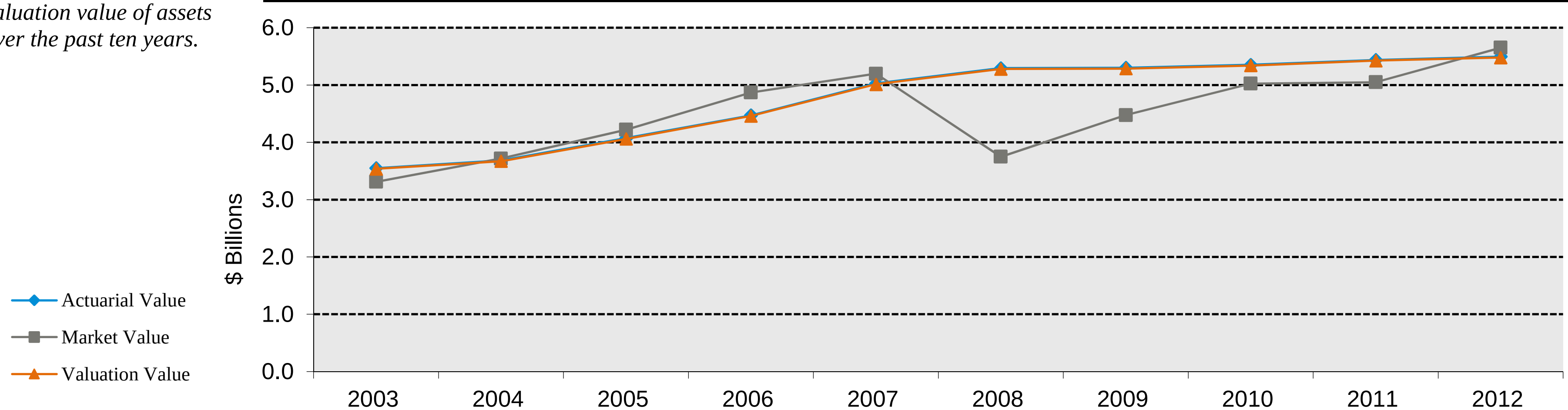
The market value, actuarial value and valuation value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves.

The valuation value of assets is significant because the Plan's liabilities are compared to this measure of its assets to determine what portion, if any, remains unfunded. Amortization of the unfunded liability is an important element in determining the contribution requirement.

This chart shows the change in the relative values of market value, actuarial value and valuation value of assets over the past ten years.

CHART 9

Relative Values of Market Value, Actuarial Value and Valuation Value of Assets for Years Ended December 31, 2003 – 2012



This chart provides a summary of the actuarial experience during the past year.

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is $245.3 million, $297.2 million loss from investments and $51.9 million gain from all other sources. The net experience variation from individual sources other than investments was 0.7% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

CHART 10

Actuarial Experience for Year Ended December 31, 2012

1.	Net gain/(loss) from investments*	$(297,214,634)
2.	Net gain/(loss) from other experience**	51,878,587
3.	Net experience gain/(loss): (1) + (2) + (3)	$(245,336,047)

* *Details in Chart 11*
** *See Section 3, Exhibit I. Does not include the effect of plan or assumption changes, if any.*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets during 2012 was 7.75%. The actual rate of return on Actuarial Value for the 2012 Plan Year was 2.25%.

The market value return reflects the entire impact of the investment performance during the current year and ignores returns from prior years.

The actuarial and valuation value returns reflect the fact that investment gains and losses are gradually taken into account. This is because these returns reflect only a portion of the investment gain or loss from the current year as well as portions of the gains and losses from prior years in accordance with the Board's asset valuation method.

Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss on the Actuarial and Valuation Value of Assets during the year ended December 31, 2012.

This chart shows the gain/(loss) due to investment experience.

CHART 11

Investment Experience for Year Ended December 31, 2012 – Market Value, Actuarial Value and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	$668,138,997	$121,921,302	$120,826,177
2. Average value of assets	5,019,365,793	5,408,196,026	5,394,074,976
3. Actual rate of return: (1) ÷ (2)	13.31%	2.25%	2.24%
4. Assumed rate of return	7.75%	7.75%	7.75%
5. Expected return: (2) x (4)	389,000,849	419,135,192	418,040,811
6. Actuarial gain/(loss): (1) – (5)	$279,138,148	$(297,213,890)	$(297,214,634)

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rates of return on an actuarial, valuation and market value basis for the last ten years.

CHART 12

Investment Return – Market Value, Actuarial Value, and Valuation Value: 2003 – 2012

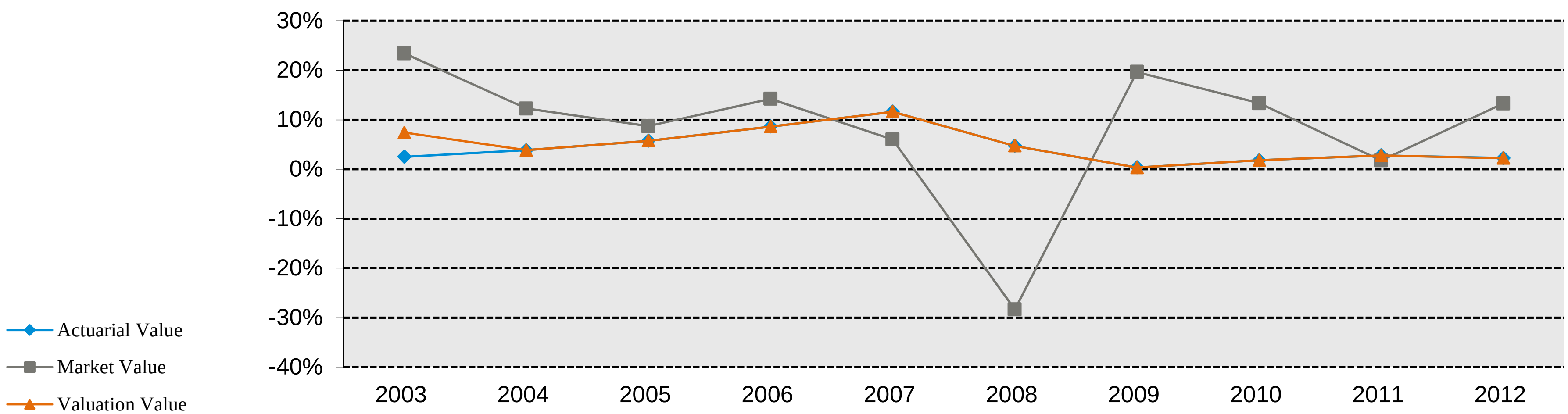
Year Ended December 31	Market Value Investment Return Amount	Market Value Investment Return Percent of Assets	Actuarial Value Investment Return Amount	Actuarial Value Investment Return Percent of Assets	Valuation Value Investment Return Amount	Valuation Value Investment Return Percent of Assets
2003	$599,528,120	23.44%	$83,420,012	2.52%	$244,215,190	7.41%
2004	406,427,237	12.27%	136,674,234	3.85%	135,741,405	3.84%
2005	331,400,271	8.71%	216,618,073	5.74%	215,737,484	5.74%
2006	603,899,378	14.23%	353,776,306	8.63%	352,838,472	8.64%
2007	294,694,885	6.03%	522,206,583	11.63%	521,211,436	11.64%
2008	(1,477,705,765)	(28.35%)	238,397,117	4.73%	237,402,129	4.72%
2009	736,956,891	19.68%	18,226,933	0.34%	17,021,116	0.32%
2010	594,637,090	13.35%	95,918,913	1.82%	94,835,030	1.80%
2011	88,042,268	1.76%	148,058,548	2.78%	146,988,614	2.77%
2012	668,138,997	13.31%	121,921,302	2.25%	120,826,177	2.24%
Total	$2,846,019,372		$1,935,218,021		$2,086,817,053	
Five-Year Average Return		2.60%		2.36%		2.34%
Ten-Year Average Return		6.74%		4.24%		4.59%

Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

CHART 13

Market, Actuarial and Valuation Value Rates of Return for Years Ended December 31, 2003 - 2012



Other Experience
There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

Please see Exhibit I in Section 3 for a detailed reconciliation of changes in the Unfunded Actuarial Accrued Liability.

D. RECOMMENDED CONTRIBUTION

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the combined annual inflation and "across the board" salary increase rate of 4.00% along with expected payroll. The remaining balance of the December 31, 2007 UAAL is being amortized over a 10-year declining period as of December 31, 2012. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period.

Employer Contribution Rates

The current employer contribution rates are shown in Chart 14-A for members with membership dates before January 1, 2011, Chart 14-B for members with membership dates on or after January 1, 2011 and before January 1, 2013, and Chart 14-C for members with membership dates on or after January 1, 2013. The recommended employer contributions are provided on Chart 15-A for members with membership dates before January 1, 2011, Chart 15-B for members with membership dates on or after January 1, 2011 and before January 1, 2013, and Chart 15-C for members with membership dates on or after January 1, 2013. County contribution rates also include the Superior Court.

For the December 31, 2010 valuation, the demographics of members with membership dates on or after January 1, 2011 were assumed to be the same as the demographics of members included in the December 31, 2010 valuation. For the December 31, 2012 valuation, a similar methodology was applied to cost groups #10 and #12 since those cost groups had no members with membership dates on or after January 1, 2011.

For the PEPRA Tiers, we have assumed in this valuation that their demographic profiles can be approximated by the data profiles of current active members with membership dates on or after January 1, 2011.

The amortization cost for the UAAL has been expressed as a percentage of total future payroll, including members with membership dates on or after January 1, 2012. This has been done in order to continue the open group level percent of payroll amortization methodology for the UAAL associated with members with membership dates before January 1, 2011. It is also consistent with the methodology applied when Safety Tier C was implemented.

Member Contributions

Non-PEPRA Members

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for non-PEPRA General and Safety members, respectively. The basic contribution rate is determined as that percentage of compensation which if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity.

The annuity is equal to:

- 1/120 of one year Final Average Salary per year of service at age 55 for General Tier 1 and Tier 3 Non-enhanced members
- 1/100 of one year Final Average Salary per year of service at age 50 for Safety Tier A Non-enhanced members
- 1/120 of one year Final Average Salary per year of service at age 60 for General Tier 1 and Tier 3 Enhanced members
- 1/100 of one year Final Average Salary per year of service at age 50 for Safety Tier A Enhanced

- 1/100 of three year Final Average Salary per year of service at age 50 for Safety Tier C Enhanced members

Member contributions are accumulated at an annual interest rate adopted annually by the Board. Note that recently negotiated MOU's for County General members no longer include the 50% employer subvention of the members' basic contributions. Districts pay varying portions, of the members' basic contributions on a nonrefundable basis. Members also pay 50% of the cost-of-living benefit. For most Safety Tier A employers, Safety members also subvent a portion of the employer rate, currently up to 9% of compensation (depending on their MOU). Charts 14 and 15 do not include any employer subvention of member contributions or any member subvention of employer contributions. The age specific contribution rates are provided in Appendix A for members with membership dates before January 1, 2011 and Appendix B for members with membership dates on or after January 1, 2011.

For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates. The terminal pay assumptions are only used in establishing cost-of-living member contributions.

PEPRA Members

Pursuant to Section 7522.30(a) of the Government Code, PEPRA members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the employee rates be rounded to the nearest one quarter of one percent and requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). We have also compared the total Normal Cost rates between the current and the prior valuation. Since the total Normal Cost rate increased by greater than 1% of payroll for all PEPRA Tiers, this results in changes to the member contribution rates for those tiers (reference: Section 7522.30(d)). The member contribution rates for PEPRA members are provided in Appendix C.

Cost Sharing Adjustments

Starting with the December 31, 2009 Actuarial Valuation, the Board took action to depool CCCERA's assets, liabilities and normal cost by employer when determining employer contribution rates. The Board action included a review of experience back to December 31, 2002. This did not involve recalculation of any employer rates prior to December 31, 2009. However, it did involve reflecting the separate experience of the employers in each individual cost group back from December 31, 2002 through December 31, 2009. The cost groups are detailed on pages 19 and 20. In addition, the Board action called for a discontinuation of certain cost sharing adjustments for both member and employer contribution rates for General Tier 1 and Safety Tier A. Even under the depooling structure, there are a few remaining cost sharing arrangements. Here is a summary of the cost sharing arrangements that were implemented in the December 31, 2009 Actuarial Valuation:

- Smaller employers (less than 50 active members as of December 31, 2009) were pooled with the applicable County tier. Safety members from the East Contra Costa Fire Protection District were pooled with Safety members of the Contra Costa County Fire Protection District.
- Due to a statutory requirement, the Superior Court was pooled with the County regardless of how many members the Court has.
- UAAL costs are pooled between Cost Group #1 and Cost Group #2 which represent General County and Small Districts for Tiers 1 and 3. UAAL costs are also pooled for Cost Groups #7 and #9 which are Safety County Tiers A and C.

Other Adjustments

Other adjustments made in the determination of rates are as follows:

- Adjustments are made to some UAAL amounts for the County, the Contra Costa County Fire Protection District (CCCFPD) and the Moraga-Orinda Fire District (Moraga) to account for Pension Obligation Bonds (POBs) and any other special contributions that they previously made. These adjustments serve to reduce the UAAL contribution rate for these employers. The outstanding balances of these adjustments as of December 31, 2012 are as follows:

	County General	Moraga General	CCCFPD Safety
Basic	$223,508,295	$393,605	$64,154,961
COL	$179,099,442	$228,444	$48,927,447

Summary of Cost Groups and Employers

GENERAL

Cost Group	Employer Name	Benefit Structure	POB Issuance
(1)	County General	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Local Agency Formation Commission	Tier 1 Enhanced/PEPRA Tier 4	
	Contra Costa Mosquito and Vector Control District	Tier 1 Enhanced/PEPRA Tier 4	
	Bethel Island Municipal District	Tier 1 Enhanced/PEPRA Tier 4	
	First 5-Children & Families Commission	Tier 1 Enhanced/PEPRA Tier 4	
	Contra Costa County Employees' Retirement Association	Tier 1 Enhanced/PEPRA Tier 4	
	Superior Court	Tier 1 Enhanced/PEPRA Tier 4	Yes
	East Contra Costa Fire Protection District	Tier 1 Enhanced/PEPRA Tier 4	
	Moraga-Orinda Fire District	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Rodeo-Hercules Fire Protection District	Tier 1 Enhanced/PEPRA Tier 4	
	San Ramon Valley Fire District	Tier 1 Enhanced/PEPRA Tier 4	
(2)	County General	Tier 3 Enhanced/PEPRA Tier 5	Yes
	In-Home Supportive Services Authority	Tier 3 Enhanced/PEPRA Tier 5	
	Contra Costa Mosquito and Vector Control District	Tier 3 Enhanced/PEPRA Tier 5	
	Superior Court	Tier 3 Enhanced/PEPRA Tier 5	Yes
(3)	Central Contra Costa Sanitary District	Tier 1 Enhanced/PEPRA Tier 4	
(4)	Contra Costa Housing Authority	Tier 1 Enhanced/PEPRA Tier 4	
(5)	Contra Costa County Fire Protection District	Tier 1 Enhanced/PEPRA Tier 4	Yes
(6)	Rodeo Sanitary District	Tier 1 Non-Enhanced/PEPRA Tier 4	
	Byron Brentwood Cemetery	Tier 1 Non-Enhanced/PEPRA Tier 4	

Summary of Cost Groups and Employers (continued)

SAFETY

Cost Group	Employer Name	Benefit Structure	POB Issuance
(7)	County Safety	Tier A Enhanced/PEPRA Tier D	Yes
(8)	Contra Costa County Fire Protection District	Tier A Enhanced/PEPRA Tier D	Yes
	East Contra Costa Fire Protection District	Tier A Enhanced/PEPRA Tier D	
(9)	County Safety	Tier C Enhanced/PEPRA Tier E (Deputy Sheriff members hired on or after January 1, 2007)	Yes
(10)	Moraga-Orinda Fire District	Tier A Enhanced/PEPRA Tier D	Yes
(11)	San Ramon Valley Fire District	Tier A Enhanced/PEPRA Tier D	
(12)	Rodeo-Hercules Fire Protection District	Tier A Non-Enhanced/PEPRA Tier D	

CHART 14-A
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			Enhanced Cost Group #1 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	11.90%	10.72%	22.62%	11.90%	16.19%	28.09%
COL	3.26%	3.77%	7.03%	3.26%	8.15%	11.41%
Total	15.16%	14.49%	29.65%	15.16%	24.34%	39.50%
General Tier 1 (Under $350)						
Basic	8.06%	7.26%	15.32%	8.06%	10.97%	19.03%
COL	2.21%	2.56%	4.77%	2.21%	5.52%	7.73%
Total	10.27%	9.82%	20.09%	10.27%	16.49%	26.76%
General Tier 1 (Over $350)						
Basic	12.09%	10.89%	22.98%	12.09%	16.46%	28.55%
COL	3.32%	3.84%	7.16%	3.32%	8.28%	11.60%
Total	15.41%	14.73%	30.14%	15.41%	24.74%	40.15%
		Payroll = $19,694,083			Payroll = $8,460,118	

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #1		
	Districts with POB (Moraga)		
	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)			
Basic	11.90%	5.10%	17.00%
COL	3.26%	1.71%	4.97%
Total	15.16%	6.81%	21.97%
General Tier 1 (Under $350)			
Basic	8.06%	3.46%	11.52%
COL	2.21%	1.16%	3.37%
Total	10.27%	4.62%	14.89%
General Tier 1 (Over $350)			
Basic	12.09%	5.19%	17.28%
COL	3.32%	1.74%	5.06%
Total	15.41%	6.93%	22.34%

Payroll = $409,247

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County					**Enhanced Cost Group #2 Districts without POB**				
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
General Tier 3 (Aggregate)										
Basic	11.12%		10.72%		21.84%	11.12%		16.19%		27.31%
COL	3.16%		3.77%		6.93%	3.16%		8.15%		11.31%
Total	14.28%		14.49%		28.77%	14.28%		24.34%		38.62%
General Tier 3 (Under $350)										
Basic	7.56%		7.29%		14.85%	7.56%		11.01%		18.57%
COL	2.15%		2.56%		4.71%	2.15%		5.54%		7.69%
Total	9.71%		9.85%		19.56%	9.71%		16.55%		26.26%
General Tier 3 (Over $350)										
Basic	11.34%		10.94%		22.28%	11.34%		16.51%		27.85%
COL	3.22%		3.84%		7.06%	3.22%		8.32%		11.54%
Total	14.56%		14.78%		29.34%	14.56%		24.83%		39.39%
			Payroll = $429,208,477					Payroll = $3,079,346		

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #3 Central Contra Costa Sanitary District			Enhanced Cost Group #4 Contra Costa Housing Authority		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	14.55%	27.30%	41.85%	12.33%	11.42%	23.75%
COL	4.30%	12.26%	16.56%	3.19%	8.31%	11.50%
Total	18.85%	39.56%	58.41%	15.52%	19.73%	35.25%
General Tier 1 (Under $350)						
Basic	9.83%	18.46%	28.29%	8.41%	7.79%	16.20%
COL	2.91%	8.29%	11.20%	2.18%	5.67%	7.85%
Total	12.74%	26.75%	39.49%	10.59%	13.46%	24.05%
General Tier 1 (Over $350)						
Basic	14.75%	27.69%	42.44%	12.61%	11.68%	24.29%
COL	4.36%	12.43%	16.79%	3.27%	8.51%	11.78%
Total	19.11%	40.12%	59.23%	15.88%	20.19%	36.07%
		Payroll = $23,956,936			Payroll = $5,539,507	

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			Non-enhanced		
	Cost Group #5			Cost Group #6		
	Contra Costa County Fire Protection District			Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	11.87%	10.41%	22.28%	11.88%	7.87%	19.75%
COL	3.15%	5.32%	8.47%	3.59%	1.72%	5.31%
Total	15.02%	15.73%	30.75%	15.47%	9.59%	25.06%
General Tier 1 (Under $350)						
Basic	8.06%	7.07%	15.13%	8.09%	5.37%	13.46%
COL	2.13%	3.61%	5.74%	2.44%	1.18%	3.62%
Total	10.19%	10.68%	20.87%	10.53%	6.55%	17.08%
General Tier 1 (Over $350)						
Basic	12.09%	10.60%	22.69%	12.13%	8.06%	20.19%
COL	3.20%	5.42%	8.62%	3.67%	1.77%	5.44%
Total	15.29%	16.02%	31.31%	15.80%	9.83%	25.63%
		Payroll = $3,512,267			Payroll = $670,838	

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #7 County		
	Normal Cost +	UAAL =	Total
Safety Tier A			
Basic	22.06%	22.25%	44.31%
COL	6.68%	15.42%	22.10%
Total	28.74%	37.67%	66.41%
	Payroll = $71,819,816		

	Enhanced Cost Group #8 Contra Costa County Fire Protection District			Enhanced Cost Group #8 East Contra Costa Fire Protection District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	21.33%	12.59%	33.92%	21.33%	34.12%	55.45%
COL	6.83%	15.17%	22.00%	6.83%	31.58%	38.41%
Total	28.16%	27.76%	55.92%	28.16%	65.70%	93.86%
	Payroll = $31,342,830			Payroll = $3,225,793		

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #9 County		
	Normal Cost +	UAAL =	Total
Safety Tier C			
Basic	18.51%	22.25%	40.76%
COL	3.57%	15.42%	18.99%
Total	22.08%	37.67%	59.75%
	Payroll = $8,106,818		

	Enhanced Cost Group #10 Moraga-Orinda Fire District			Enhanced Cost Group #11 San Ramon Valley Fire District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	21.50%	10.53%	32.03%	21.72%	25.51%	47.23%
COL	6.83%	14.08%	20.91%	7.03%	14.19%	21.22%
Total	28.33%	24.61%	52.94%	28.75%	39.70%	68.45%
	Payroll = $7,516,620			Payroll = $18,460,540		

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Non-enhanced
Cost Group #12
Rodeo-Hercules Fire Protection District

	Normal Cost	+	UAAL	=	Total
Safety Tier A					
Basic	16.86%		32.70%		49.56%
COL	5.33%		17.64%		22.97%
Total	22.19%		50.34%		72.53%

Payroll = $1,976,861

Total (Includes Both Enhanced and Non-enhanced – County and District)

	Normal Cost	+	UAAL	=	Total
Basic	13.63%		13.59%		27.22%
COL	3.97%		6.84%		10.81%
Total	17.60%		20.44%		38.04%

Payroll = $636,980,097

CHART 14-B
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			Enhanced Cost Group #1 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	11.89%	10.72%	22.61%	11.89%	16.19%	28.08%
COL	3.54%	3.77%	7.31%	3.54%	8.15%	11.69%
Total	15.43%	14.49%	29.92%	15.43%	24.34%	39.77%
General Tier 1 (Under $350)						
Basic	8.12%	7.26%	15.38%	8.12%	10.97%	19.09%
COL	2.41%	2.56%	4.97%	2.41%	5.52%	7.93%
Total	10.53%	9.82%	20.35%	10.53%	16.49%	27.02%
General Tier 1 (Over $350)						
Basic	12.18%	10.89%	23.07%	12.18%	16.46%	28.64%
COL	3.62%	3.84%	7.46%	3.62%	8.28%	11.90%
Total	15.80%	14.73%	30.53%	15.80%	24.74%	40.54%
		Payroll = $0			Payroll = $297,370	

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				
	Cost Group #1				
	Districts with POB (Moraga)				
	Normal Cost	+	UAAL	=	Total
General Tier 1 (Aggregate)					
Basic	11.89%		5.10%		16.99%
COL	3.54%		1.71%		5.25%
Total	15.43%		6.81%		22.24%
General Tier 1 (Under $350)					
Basic	8.12%		3.46%		11.58%
COL	2.41%		1.16%		3.57%
Total	10.53%		4.62%		15.15%
General Tier 1 (Over $350)					
Basic	12.18%		5.19%		17.37%
COL	3.62%		1.74%		5.36%
Total	15.80%		6.93%		22.73%
			Payroll = $0		

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County			Enhanced Cost Group #2 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 3 (Aggregate)						
Basic	10.18%	10.72%	20.90%	10.18%	16.19%	26.37%
COL	2.92%	3.77%	6.69%	2.92%	8.15%	11.07%
Total	13.10%	14.49%	27.59%	13.10%	24.34%	37.44%
General Tier 3 (Under $350)						
Basic	7.00%	7.29%	14.29%	7.00%	11.01%	18.01%
COL	2.01%	2.56%	4.57%	2.01%	5.54%	7.55%
Total	9.01%	9.85%	18.86%	9.01%	16.55%	25.56%
General Tier 3 (Over $350)						
Basic	10.50%	10.94%	21.44%	10.50%	16.51%	27.01%
COL	3.01%	3.84%	6.85%	3.01%	8.32%	11.33%
Total	13.51%	14.78%	28.29%	13.51%	24.83%	38.34%
		Payroll = $22,431,223			Payroll = $0	

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #3 Central Contra Costa Sanitary District			Enhanced Cost Group #4 Contra Costa Housing Authority		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	13.61%	27.30%	40.91%	12.60%	11.42%	24.02%
COL	3.73%	12.26%	15.99%	3.49%	8.31%	11.80%
Total	17.34%	39.56%	56.90%	16.09%	19.73%	35.82%
General Tier 1 (Under $350)						
Basic	9.31%	18.46%	27.77%	8.68%	7.79%	16.47%
COL	2.55%	8.29%	10.84%	2.41%	5.67%	8.08%
Total	11.86%	26.75%	38.61%	11.09%	13.46%	24.55%
General Tier 1 (Over $350)						
Basic	13.96%	27.69%	41.65%	13.02%	11.68%	24.70%
COL	3.83%	12.43%	16.26%	3.61%	8.51%	12.12%
Total	17.79%	40.12%	57.91%	16.63%	20.19%	36.82%
		Payroll = $777,935			Payroll = $86,009	

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			Non-enhanced		
	Cost Group #5			Cost Group #6		
	Contra Costa County Fire Protection District			Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	10.44%	10.41%	20.85%	10.80%	7.87%	18.67%
COL	2.91%	5.32%	8.23%	3.13%	1.72%	4.85%
Total	13.35%	15.73%	29.08%	13.93%	9.59%	23.52%
General Tier 1 (Under $350)						
Basic	7.09%	7.07%	14.16%	7.55%	5.37%	12.92%
COL	1.97%	3.61%	5.58%	2.19%	1.18%	3.37%
Total	9.06%	10.68%	19.74%	9.74%	6.55%	16.29%
General Tier 1 (Over $350)						
Basic	10.63%	10.60%	21.23%	11.33%	8.06%	19.39%
COL	2.96%	5.42%	8.38%	3.28%	1.77%	5.05%
Total	13.59%	16.02%	29.61%	14.61%	9.83%	24.44%
		Payroll = $0			Payroll = $89,934	

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #7		
	County		
	Normal Cost +	UAAL =	Total
Safety Tier A			
Basic	25.26%	22.25%	47.51%
COL	7.54%	15.42%	22.96%
Total	32.80%	37.67%	70.47%
	Payroll = $162,642		

	Enhanced			Enhanced		
	Cost Group #8			Cost Group #8		
	Contra Costa County Fire Protection District			East Contra Costa Fire Protection District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	20.06%	12.59%	32.65%	20.06%	34.12%	54.18%
COL	6.53%	15.17%	21.70%	6.53%	31.58%	38.11%
Total	26.59%	27.76%	54.35%	26.59%	65.70%	92.29%
	Payroll = $3,035,755			Payroll = $0		

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #9		
	County		
	Normal Cost +	UAAL =	Total
Safety Tier C			
Basic	16.09%	22.25%	38.34%
COL	3.22%	15.42%	18.64%
Total	19.31%	37.67%	56.98%
	Payroll = $2,031,507		

	Enhanced			Enhanced		
	Cost Group #10			Cost Group #11		
	Moraga-Orinda Fire District			San Ramon Valley Fire District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	18.28%	10.53%	28.81%	20.12%	25.51%	45.63%
COL	5.86%	14.08%	19.94%	6.48%	14.19%	20.67%
Total	24.14%	24.61%	48.75%	26.60%	39.70%	66.30%
	Payroll = $0			Payroll = $501,674		

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Non-enhanced
Cost Group #12
Rodeo-Hercules Fire Protection District

	Normal Cost	+	UAAL	=	Total
Safety Tier A					
Basic	15.10%		32.70%		47.80%
COL	4.97%		17.64%		22.61%
Total	20.07%		50.34%		70.41%

Payroll = $0

Total (Includes Both Enhanced and Non-enhanced – County and District)

	Normal Cost	+	UAAL	=	Total
Basic	11.98%		12.51%		24.49%
COL	3.43%		6.27%		9.70%
Total	15.41%		18.78%		34.19%

Payroll = $29,414,049

CHART 14-C
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			Enhanced Cost Group #1 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.53%	10.72%	18.25%	7.53%	16.19%	23.72%
COL	2.66%	3.77%	6.43%	2.66%	8.15%	10.81%
Total	10.19%	14.49%	24.68%	10.19%	24.34%	34.53%
		Payroll = $0			Payroll = $0	
PEPRA General Tier 4 (2% COLA)						
Basic	7.49%	10.72%	18.21%			
COL	1.62%	3.77%	5.39%			
Total	9.11%	14.49%	23.60%			
		Payroll = $0				

	Enhanced Cost Group #1 Districts with POB (Moraga)		
	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)			
Basic	7.53%	5.10%	12.63%
COL	2.66%	1.71%	4.37%
Total	10.19%	6.81%	17.00%
		Payroll = $0	

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County			Enhanced Cost Group #2 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 5 (3%/4% COLA)						
Basic	6.95%	10.72%	17.67%	6.95%	16.19%	23.14%
COL	2.38%	3.77%	6.15%	2.38%	8.15%	10.53%
Total	9.33%	14.49%	23.82%	9.33%	24.34%	33.67%
		Payroll = $0			Payroll = $0	
PEPRA General Tier 5 (2% COLA)						
Basic	7.00%	10.72%	17.72%			
COL	1.45%	3.77%	5.22%			
Total	8.45%	14.49%	22.94%			
		Payroll = $0				

	Enhanced Cost Group #3 Central Contra Costa Sanitary District			Enhanced Cost Group #4 Contra Costa Housing Authority		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.53%	27.30%	34.83%	7.53%	11.42%	18.95%
COL	2.66%	12.26%	14.92%	2.66%	8.31%	10.97%
Total	10.19%	39.56%	49.75%	10.19%	19.73%	29.92%
		Payroll = $0			Payroll = $0	

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			**Non-enhanced**		
	Cost Group #5			**Cost Group #6**		
	Contra Costa County Fire Protection District			**Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.53%	10.41%	17.94%	7.53%	7.87%	15.40%
COL	2.66%	5.32%	7.98%	2.66%	1.72%	4.38%
Total	10.19%	15.73%	25.92%	10.19%	9.59%	19.78%
		Payroll = $0			Payroll = $0	

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #7 County		
	Normal Cost +	UAAL =	Total
PEPRA Safety Tier D			
Basic	11.06%	22.25%	33.31%
COL	4.65%	15.42%	20.07%
Total	15.71%	37.67%	53.38%
	Payroll = $0		

	Enhanced Cost Group #8 Contra Costa County Fire Protection District			Enhanced Cost Group #8 East Contra Costa Fire Protection District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA Safety Tier D						
Basic	11.06%	12.59%	23.65%	11.06%	34.12%	45.18%
COL	4.65%	15.17%	19.82%	4.65%	31.58%	36.23%
Total	15.71%	27.76%	43.47%	15.71%	65.70%	81.41%
	Payroll = $0			Payroll = $0		

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #9 County		
	Normal Cost +	UAAL =	Total
PEPRA Safety Tier E			
Basic	10.30%	22.25%	32.55%
COL	2.60%	15.42%	18.02%
Total	12.90%	37.67%	50.57%
		Payroll = $0	

	Enhanced Cost Group #10 Moraga-Orinda Fire District			Enhanced Cost Group #11 San Ramon Valley Fire District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA Safety Tier D						
Basic	11.06%	10.53%	21.59%	11.06%	25.51%	36.57%
COL	4.65%	14.08%	18.73%	4.65%	14.19%	18.84%
Total	15.71%	24.61%	40.32%	15.71%	39.70%	55.41%
		Payroll = $0			Payroll = $0	

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced				
	Cost Group #12				
	Rodeo-Hercules Fire Protection District				
	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D					
Basic	11.06%		32.70%		43.76%
COL	4.65%		17.64%		22.29%
Total	15.71%		50.34%		66.05%

Payroll = $0

CHART 15-A
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			Enhanced Cost Group #1 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	13.17%	15.00%	28.17%	13.17%	20.67%	33.84%
COL	3.73%	6.25%	9.98%	3.73%	10.79%	14.52%
Total	16.90%	21.25%	38.15%	16.90%	31.46%	48.36%
General Tier 1 (Under $350)						
Basic	8.92%	10.16%	19.08%	8.92%	14.01%	22.93%
COL	2.53%	4.23%	6.76%	2.53%	7.30%	9.83%
Total	11.45%	14.39%	25.84%	11.45%	21.31%	32.76%
General Tier 1 (Over $350)						
Basic	13.38%	15.24%	28.62%	13.38%	21.01%	34.39%
COL	3.79%	6.35%	10.14%	3.79%	10.96%	14.75%
Total	17.17%	21.59%	38.76%	17.17%	31.97%	49.14%
		Payroll = $16,198,127			Payroll = $8,042,664	

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #1		
	Districts with POB (Moraga)		
	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)			
Basic	13.17%	11.89%	25.06%
COL	3.73%	5.69%	9.42%
Total	16.90%	17.58%	34.48%
General Tier 1 (Under $350)			
Basic	8.92%	8.05%	16.97%
COL	2.53%	3.86%	6.39%
Total	11.45%	11.91%	23.36%
General Tier 1 (Over $350)			
Basic	13.38%	12.08%	25.46%
COL	3.79%	5.78%	9.57%
Total	17.17%	17.86%	35.03%

Payroll = $483,695

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County			**Enhanced Cost Group #2 Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 3 (Aggregate)						
Basic	12.21%	15.00%	27.21%	12.21%	20.67%	32.88%
COL	3.64%	6.25%	9.89%	3.64%	10.79%	14.43%
Total	15.85%	21.25%	37.10%	15.85%	31.46%	47.31%
General Tier 3 (Under $350)						
Basic	8.30%	10.21%	18.51%	8.30%	14.05%	22.35%
COL	2.47%	4.25%	6.72%	2.47%	7.34%	9.81%
Total	10.77%	14.46%	25.23%	10.77%	21.39%	32.16%
General Tier 3 (Over $350)						
Basic	12.45%	15.31%	27.76%	12.45%	21.08%	33.53%
COL	3.71%	6.38%	10.09%	3.71%	11.01%	14.72%
Total	16.16%	21.69%	37.85%	16.16%	32.09%	48.25%
		Payroll = $395,158,990			Payroll = $2,968,951	

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #3 Central Contra Costa Sanitary District			Enhanced Cost Group #4 Contra Costa Housing Authority		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	16.11%	35.10%	51.21%	12.84%	18.03%	30.87%
COL	5.12%	17.92%	23.04%	3.38%	12.81%	16.19%
Total	21.23%	53.02%	74.25%	16.22%	30.84%	47.06%
General Tier 1 (Under $350)						
Basic	10.89%	23.75%	34.64%	8.76%	12.30%	21.06%
COL	3.46%	12.14%	15.60%	2.31%	8.75%	11.06%
Total	14.35%	35.89%	50.24%	11.07%	21.05%	32.12%
General Tier 1 (Over $350)						
Basic	16.34%	35.63%	51.97%	13.14%	18.45%	31.59%
COL	5.19%	18.20%	23.39%	3.46%	13.12%	16.58%
Total	21.53%	53.83%	75.36%	16.60%	31.57%	48.17%
		Payroll = $20,732,893			Payroll = $4,917,280	

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			**Non-enhanced**		
	Cost Group #5			**Cost Group #6**		
	Contra Costa County Fire Protection District			**Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	12.79%	16.48%	29.27%	14.11%	11.22%	25.33%
COL	3.67%	9.77%	13.44%	4.29%	2.86%	7.15%
Total	16.46%	26.25%	42.71%	18.40%	14.08%	32.48%
General Tier 1 (Under $350)						
Basic	8.69%	11.20%	19.89%	9.59%	7.64%	17.23%
COL	2.49%	6.64%	9.13%	2.91%	1.95%	4.86%
Total	11.18%	17.84%	29.02%	12.50%	9.59%	22.09%
General Tier 1 (Over $350)						
Basic	13.03%	16.80%	29.83%	14.38%	11.46%	25.84%
COL	3.74%	9.96%	13.70%	4.37%	2.92%	7.29%
Total	16.77%	26.76%	43.53%	18.75%	14.38%	33.13%
		Payroll = $3,282,084			Payroll = $602,465	

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #7		
	County		
	Normal Cost +	UAAL =	Total
Safety Tier A			
Basic	24.24%	32.80%	57.04%
COL	8.07%	24.66%	32.73%
Total	32.31%	57.46%	89.77%
	Payroll = $65,063,235		

	Enhanced			Enhanced		
	Cost Group #8			Cost Group #8		
	Contra Costa County Fire Protection District			East Contra Costa Fire Protection District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	23.08%	26.63%	49.71%	23.08%	52.02%	75.10%
COL	7.72%	29.09%	36.81%	7.72%	48.45%	56.17%
Total	30.80%	55.72%	86.52%	30.80%	100.47%	131.27%
	Payroll = $27,255,258			Payroll = $2,577,443		

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #9 County		
	Normal Cost +	UAAL =	Total
Safety Tier C			
Basic	20.82%	32.80%	53.62%
COL	4.23%	24.66%	28.89%
Total	25.05%	57.46%	82.51%
	Payroll = $7,656,292		

	Enhanced Cost Group #10 Moraga-Orinda Fire District			Enhanced Cost Group #11 San Ramon Valley Fire District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	23.29%	23.16%	46.45%	23.10%	39.60%	62.70%
COL	8.00%	25.58%	33.58%	7.95%	24.93%	32.88%
Total	31.29%	48.74%	80.03%	31.05%	64.53%	95.58%
	Payroll = $7,084,771			Payroll = $15,491,569		

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Non-enhanced

Cost Group #12

Rodeo-Hercules Fire Protection District

	Normal Cost	+	UAAL	=	Total
Safety Tier A					
Basic	20.19%		51.45%		71.64%
COL	6.60%		31.78%		38.38%
Total	26.79%		83.23%		110.02%

Payroll = $1,695,645

Total (Includes Both Enhanced and Non-enhanced – County and District)

	Normal Cost	+	UAAL	=	Total
Basic	14.88%		19.67%		34.54%
COL	4.59%		11.21%		15.80%
Total	19.46%		30.88%		50.34%

Payroll = $579,211,362

CHART 15-B
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			**Enhanced Cost Group #1 Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	13.73%	15.00%	28.73%	13.73%	20.67%	34.40%
COL	4.18%	6.25%	10.43%	4.18%	10.79%	14.97%
Total	17.91%	21.25%	39.16%	17.91%	31.46%	49.37%
General Tier 1 (Under $350)						
Basic	9.33%	10.16%	19.49%	9.33%	14.01%	23.34%
COL	2.85%	4.23%	7.08%	2.85%	7.30%	10.15%
Total	12.18%	14.39%	26.57%	12.18%	21.31%	33.49%
General Tier 1 (Over $350)						
Basic	14.00%	15.24%	29.24%	14.00%	21.01%	35.01%
COL	4.27%	6.35%	10.62%	4.27%	10.96%	15.23%
Total	18.27%	21.59%	39.86%	18.27%	31.97%	50.24%
		Payroll = $71,847			Payroll = $668,281	

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #1		
	Districts with POB (Moraga)		
	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)			
Basic	13.73%	11.89%	25.62%
COL	4.18%	5.69%	9.87%
Total	17.91%	17.58%	35.49%
General Tier 1 (Under $350)			
Basic	9.33%	8.05%	17.38%
COL	2.85%	3.86%	6.71%
Total	12.18%	11.91%	24.09%
General Tier 1 (Over $350)			
Basic	14.00%	12.08%	26.08%
COL	4.27%	5.78%	10.05%
Total	18.27%	17.86%	36.13%

Payroll = $48,968

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County			**Enhanced Cost Group #2 Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 3 (Aggregate)						
Basic	11.71%	15.00%	26.71%	11.71%	20.67%	32.38%
COL	3.48%	6.25%	9.73%	3.48%	10.79%	14.27%
Total	15.19%	21.25%	36.44%	15.19%	31.46%	46.65%
General Tier 3 (Under $350)						
Basic	8.02%	10.21%	18.23%	8.02%	14.05%	22.07%
COL	2.39%	4.25%	6.64%	2.39%	7.34%	9.73%
Total	10.41%	14.46%	24.87%	10.41%	21.39%	31.80%
General Tier 3 (Over $350)						
Basic	12.03%	15.31%	27.34%	12.03%	21.08%	33.11%
COL	3.58%	6.38%	9.96%	3.58%	11.01%	14.59%
Total	15.61%	21.69%	37.30%	15.61%	32.09%	47.70%
		Payroll = $57,055,426			Payroll = $33,566	

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #3 Central Contra Costa Sanitary District					**Enhanced Cost Group #4 Contra Costa Housing Authority**				
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
General Tier 1 (Aggregate)										
Basic	14.43%		35.10%		49.53%	12.56%		18.03%		30.59%
COL	4.36%		17.92%		22.28%	2.82%		12.81%		15.63%
Total	18.79%		53.02%		71.81%	15.38%		30.84%		46.22%
General Tier 1 (Under $350)										
Basic	9.84%		23.75%		33.59%	8.64%		12.30%		20.94%
COL	2.97%		12.14%		15.11%	1.94%		8.75%		10.69%
Total	12.81%		35.89%		48.70%	10.58%		21.05%		31.63%
General Tier 1 (Over $350)										
Basic	14.76%		35.63%		50.39%	12.96%		18.45%		31.41%
COL	4.46%		18.20%		22.66%	2.91%		13.12%		16.03%
Total	19.22%		53.83%		73.05%	15.87%		31.57%		47.44%
			Payroll = $3,100,880					Payroll = $136,837		

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			**Non-enhanced**		
	Cost Group #5			**Cost Group #6**		
	Contra Costa County Fire Protection District			**Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
General Tier 1 (Aggregate)						
Basic	14.07%	16.48%	30.55%	12.82%	11.22%	24.04%
COL	3.72%	9.77%	13.49%	3.90%	2.86%	6.76%
Total	17.79%	26.25%	44.04%	16.72%	14.08%	30.80%
General Tier 1 (Under $350)						
Basic	9.63%	11.20%	20.83%	8.80%	7.64%	16.44%
COL	2.54%	6.64%	9.18%	2.68%	1.95%	4.63%
Total	12.17%	17.84%	30.01%	11.48%	9.59%	21.07%
General Tier 1 (Over $350)						
Basic	14.44%	16.80%	31.24%	13.20%	11.46%	24.66%
COL	3.82%	9.96%	13.78%	4.02%	2.92%	6.94%
Total	18.26%	26.76%	45.02%	17.22%	14.38%	31.60%
		Payroll = $273,387			Payroll = $144,322	

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced		
	Cost Group #7		
	County		
	Normal Cost +	UAAL =	Total
Safety Tier A			
Basic	26.44%	32.80%	59.24%
COL	8.55%	24.66%	33.21%
Total	34.99%	57.46%	92.45%
		Payroll = $1,512,206	

	Enhanced			**Enhanced**		
	Cost Group #8			**Cost Group #8**		
	Contra Costa County Fire Protection District			**East Contra Costa Fire Protection District**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
Safety Tier A						
Basic	20.53%	26.63%	47.16%	20.53%	52.02%	72.55%
COL	7.08%	29.09%	36.17%	7.08%	48.45%	55.53%
Total	27.61%	55.72%	83.33%	27.61%	100.47%	128.08%
		Payroll = $2,772,180			Payroll = $0	

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				
	Cost Group #9				
	County				
	Normal Cost	+	UAAL	=	Total
Safety Tier C					
Basic	18.87%		32.80%		51.67%
COL	3.95%		24.66%		28.61%
Total	22.82%		57.46%		80.28%
	Payroll = $6,041,016				

	Enhanced					Enhanced				
	Cost Group #10					Cost Group #11				
	Moraga-Orinda Fire District					San Ramon Valley Fire District				
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	19.93%		23.16%		43.09%	20.99%		39.60%		60.59%
COL	6.92%		25.58%		32.50%	7.46%		24.93%		32.39%
Total	26.85%		48.74%		75.59%	28.45%		64.53%		92.98%
	Payroll = $0					Payroll = $1,241,902				

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Non-enhanced

Cost Group #12

Rodeo-Hercules Fire Protection District

	Normal Cost	+	UAAL	=	Total
Safety Tier A					
Basic	17.78%		51.45%		69.23%
COL	6.07%		31.78%		37.85%
Total	23.85%		83.23%		107.08%

Payroll = $0

Total (Includes Both Enhanced and Non-enhanced – County and District)

	Normal Cost	+	UAAL	=	Total
Basic	13.25%		18.61%		31.86%
COL	3.87%		9.89%		13.77%
Total	17.12%		28.50%		45.62%

Payroll = $73,100,818

CHART 15-C
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #1 County			Enhanced Cost Group #1 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.97%	15.00%	22.97%	7.97%	20.67%	28.64%
COL	2.95%	6.25%	9.20%	2.95%	10.79%	13.74%
Total	10.92%	21.25%	32.17%	10.92%	31.46%	42.38%
		Payroll = $0			Payroll = $0	
PEPRA General Tier 4 (2% COLA)						
Basic	8.04%	15.00%	23.04%			
COL	1.81%	6.25%	8.06%			
Total	9.85%	21.25%	31.10%			
		Payroll = $0				

	Enhanced Cost Group #1 Districts with POB (Moraga)		
	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)			
Basic	7.97%	11.89%	19.86%
COL	2.95%	5.69%	8.64%
Total	10.92%	17.58%	28.50%
		Payroll = $0	

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #2 County			Enhanced Cost Group #2 Districts without POB		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 5 (3%/4% COLA)						
Basic	7.61%	15.00%	22.61%	7.61%	20.67%	28.28%
COL	2.69%	6.25%	8.94%	2.69%	10.79%	13.48%
Total	10.30%	21.25%	31.55%	10.30%	31.46%	41.76%
		Payroll = $0			Payroll = $0	
PEPRA General Tier 5 (2% COLA)						
Basic	7.75%	15.00%	22.75%			
COL	1.66%	6.25%	7.91%			
Total	9.41%	21.25%	30.66%			
		Payroll = $0				

	Enhanced Cost Group #3 Central Contra Costa Sanitary District			Enhanced Cost Group #4 Contra Costa Housing Authority		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.97%	35.10%	43.07%	7.97%	18.03%	26.00%
COL	2.95%	17.92%	20.87%	2.95%	12.81%	15.76%
Total	10.92%	53.02%	63.94%	10.92%	30.84%	41.76%
		Payroll = $0			Payroll = $0	

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			**Non-enhanced**		
	Cost Group #5			**Cost Group #6**		
	Contra Costa County Fire Protection District			**Districts without POB**		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA General Tier 4 (3% COLA)						
Basic	7.97%	16.48%	24.45%	7.97%	11.22%	19.19%
COL	2.95%	9.77%	12.72%	2.95%	2.86%	5.81%
Total	10.92%	26.25%	37.17%	10.92%	14.08%	25.00%
		Payroll = $0			Payroll = $0	

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #7 County		
	Normal Cost +	UAAL =	Total
PEPRA Safety Tier D			
Basic	11.88%	32.80%	44.68%
COL	5.21%	24.66%	29.87%
Total	17.09%	57.46%	74.55%
		Payroll = $0	

	Enhanced Cost Group #8 Contra Costa County Fire Protection District			Enhanced Cost Group #8 East Contra Costa Fire Protection District		
	Normal Cost +	UAAL =	Total	Normal Cost +	UAAL =	Total
PEPRA Safety Tier D						
Basic	11.88%	26.63%	38.51%	11.88%	52.02%	63.90%
COL	5.21%	29.09%	34.30%	5.21%	48.45%	53.66%
Total	17.09%	55.72%	72.81%	17.09%	100.47%	117.56%
		Payroll = $0			Payroll = $0	

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced Cost Group #9 County				
	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier E					
Basic	11.54%		32.80%		44.34%
COL	3.05%		24.66%		27.71%
Total	14.59%		57.46%		72.05%
			Payroll = $0		

	Enhanced Cost Group #10 Moraga-Orinda Fire District					Enhanced Cost Group #11 San Ramon Valley Fire District				
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D										
Basic	11.88%		23.16%		35.04%	11.88%		39.60%		51.48%
COL	5.21%		25.58%		30.79%	5.21%		24.93%		30.14%
Total	17.09%		48.74%		65.83%	17.09%		64.53%		81.62%
			Payroll = $0					Payroll = $0		

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced				
	Cost Group #12				
	Rodeo-Hercules Fire Protection District				
	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D					
Basic	11.88%		51.45%		63.33%
COL	5.21%		31.78%		36.99%
Total	17.09%		83.23%		100.32%
			Payroll = $0		

The employer contribution rates as of December 31, 2012 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Employer Contribution Rate

The chart below details the changes in the recommended employer contribution rate from the prior valuation to the current year's valuation.

CHART 16
Reconciliation of Recommended Average Employer Contribution from December 31, 2011 to December 31, 2012 Valuation

	Contribution Rate*	Estimated Annual Dollar Cost**
Recommended Average Employer Contribution Rate in December 31, 2011 Valuation	37.87%	$252,337,247
Effect of investment (gain)/loss[1]	3.44%	22,439,539
Effect of difference in actual versus expected contributions due to delay in implementation of contribution rates calculated in 12/31/2011 valuation	0.42%	2,739,711
Effect of lower than expected individual salary increases [2]	(1.19%)	(7,762,515)
Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll[3]	1.25%	5,748,030[4]
Effect of net other experience (gains)/losses[5]	(0.21%)	(4,321,498)
Effect of changes in actuarial assumptions[6]	8.24%	53,750,524
Total change	11.95%	$72,593,791
Recommended Average Employer Contribution Rate in December 31, 2012 Valuation	49.82%	$324,931,038

* *These rates do not include any employer subvention of member contributions, or member subvention of employer contributions.*

** *Based on projected total payroll for each valuation date shown.*

(1) *Return on the valuation value of assets of 2.24% was less than the 7.75% assumed in the 2011 valuation.*

(2) *Lower individual salary increases decrease costs.*

(3) *Lower total payroll growth increases the UAAL contribution rate, since the remaining UAAL is amortized over a lower payroll.*

(4) *Actual dollar increase in existing amortization bases.*

(5) *Other differences in actual versus expected experience including (but not limited to) mortality, disability, withdrawal, retirement and terminal pay experience. Estimated annual dollar cost also reflects change in payroll from prior valuation.*

(6) *The Board approved changes in actuarial assumptions.*

The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.

The member contribution rates as of December 31, 2012 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Member Contribution Rate

The chart below details the changes in the recommended member contribution rate from the prior valuation to the current year's valuation.

CHART 17
Reconciliation of Recommended Average Member Contribution from December 31, 2011 to December 31, 2012 Valuation

	Contribution Rate*	Estimated Annual Dollar Cost**
Recommended Average Member Contribution Rate in December 31, 2011 Valuation	10.98%	$73,197,642
Effect of changes in actuarial assumptions[(1)]	1.27%	8,284,365
Effect of other experience (gains)/losses[(2)]	(0.05%)	(1,870,530)
Total change	1.22%	$6,413,835
Recommended Average Member Contribution Rate in December 31, 2012 Valuation	12.20%	$79,611,477

* *These rates do not include any employer subvention of member contributions, or member subvention of employer contributions.*

** *Based on projected total payroll for each valuation date shown.*

(1) *The Board approved changes in actuarial assumptions.*

(2) *Other differences in actual versus expected experience. Estimated annual dollar cost also reflects change in payroll from prior valuation.*

E. INFORMATION REQUIRED BY GASB

Government Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contributions to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Chart 18 below presents a graphical representation of this information for the Plan

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the valuation value of assets of the plan to the liabilities of the plan as calculated under GASB requirements. High ratios indicate a well-funded plan with assets sufficient to cover the Plan's liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 18

Required Versus Actual Contributions

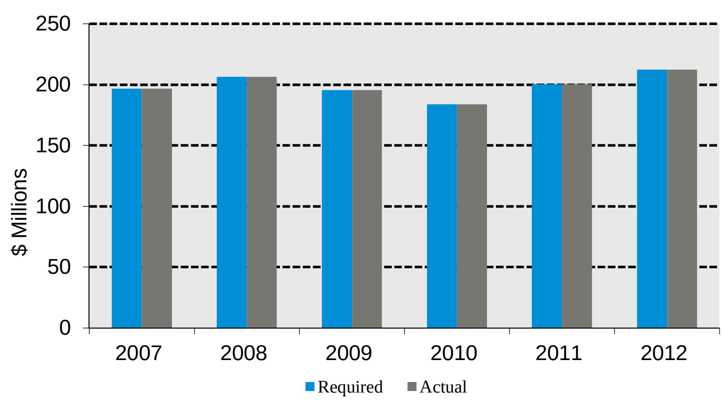
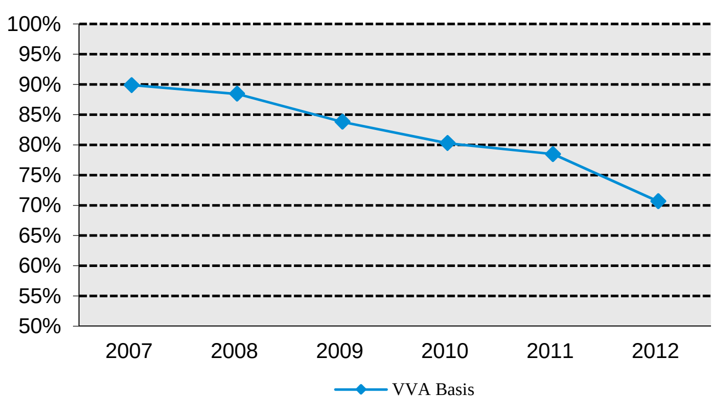


CHART 19

Funded Ratio



F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For CCCERA, the current AVR is about 8.7. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 8.7% of one-year's payroll. Since CCCERA amortizes actuarial gains and losses over a 18-year period, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For CCCERA, the current LVR is about 11.9. This is about 37% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 20

Volatility Ratios for Years Ended December 31, 2008 – 2012

Year Ended December 31	Asset Volatility Ratio	Liability Volatility Ratio
2008	5.3	8.5
2009	6.4	9.1
2010	7.3	9.7
2011	7.6	10.4
2012	8.7	11.9

EXHIBIT A

Table of Plan Coverage

i. General Tier 1

Category	Year Ended December 31: 2012	2011	Change From Prior Year
Active members in valuation			
Number	686	726	-5.5%
Average age	48.2	49.1	N/A
Average service	13.6	14.9	N/A
Projected total payroll[1]	$58,703,729	$63,333,022	-7.3%
Projected average payroll	$85,574	$87,236	-1.9%
Account balances	$46,348,419	$51,097,289	-9.3%
Total active members with at least five years of service	544	597	-8.9%
Vested terminated members	267	279	-4.3%
Retired members			
Number in pay status	2,726	2,719	0.3%
Average age	73.6	73.4	N/A
Average monthly benefit	$3,634	$3,485	4.3%
Disabled members			
Number in pay status[2]	307	314	-2.2%
Average age	69.6	69.1	N/A
Average monthly benefit	$2,534	$2,455	3.2%
Beneficiaries			
Number in pay status	690	705	-2.1%
Average age	76.6	76.2	N/A
Average monthly benefit	$1,915	$1,867	2.6%

(1) *Calculated by increasing actual calendar year salaries by the assumed salary scale.*

(2) *For 2012, includes 230 members receiving a service-connected disability and 77 members receiving an ordinary disability.*

EXHIBIT A (continued)

Table of Plan Coverage

ii. General Tier 2

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number[1]	0	0	N/A
Average age	N/A	N/A	N/A
Average service	N/A	N/A	N/A
Projected total payroll[2]	N/A	N/A	N/A
Projected average payroll	N/A	N/A	N/A
Account balances	N/A	N/A	N/A
Total active members with at least five years of service	N/A	N/A	N/A
Vested terminated members	266	276	-3.6%
Retired members			
Number in pay status	428	432	-0.9%
Average age	72.6	72.0	N/A
Average monthly benefit	$800	$781	2.4%
Disabled members			
Number in pay status[3]	46	50	-8.0%
Average age	68.8	68.2	N/A
Average monthly benefit	$1,982	$1,921	3.2%
Beneficiaries			
Number in pay status	97	93	4.3%
Average age	63.5	62.0	N/A
Average monthly benefit	$849	$840	1.1%

(1) *As of the December 31, 2005 valuation, there are no longer any Tier 2 Active Members since they have all transferred to Tier 3.*

(2) *Calculated by increasing actual calendar year salaries by the assumed salary scale.*

(3) *For 2012, includes 25 members receiving a service-connected disability and 21 members receiving an ordinary disability.*

EXHIBIT A (continued)

Table of Plan Coverage

iii. General Tier 3

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	6,558	6,457	1.6%
Average age	46.8	47.1	N/A
Average service	9.7	10.0	N/A
Projected total payroll(1)	$455,216,933	$454,880,268	0.1%
Projected average payroll	$69,414	$70,448	-1.5%
Account balances	$334,502,172	$317,284,200	5.4%
Total active members with at least five years of service	4,562	4,522	0.9%
Vested terminated members	1,435	1,357	5.7%
Retired members			
Number in pay status	2,054	1,730	18.7%
Average age	65.2	65.0	N/A
Average monthly benefit	$2,527	$2,395	5.5%
Disabled members			
Number in pay status(2)	78	73	6.8%
Average age	61.5	60.8	N/A
Average monthly benefit	$2,174	$2,125	2.3%
Beneficiaries			
Number in pay status	101	92	9.8%
Average age	58.5	57.6	N/A
Average monthly benefit	$1,475	$1,383	6.7%

(1) *Calculated by increasing actual calendar year salaries by the assumed salary scale.*

(2) *For 2012, includes 26 members receiving a service-connected disability and 52 members receiving an ordinary disability.*

EXHIBIT A (continued)

Table of Plan Coverage

iv. Safety Tier A

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	1,209	1,315	-8.1%
Average age	41.9	41.9	N/A
Average service	12.6	12.5	N/A
Projected total payroll[1]	$124,694,208	$138,042,530	-9.7%
Projected average payroll	$103,138	$104,975	-1.7%
Account balances	$268,197,775	$266,690,587	0.6%
Total active members with at least five years of service	1,086	1,315	-17.4%
Vested terminated members	304	289	5.2%
Retired members			
Number in pay status	1,167	1,079	8.2%
Average age	64.7	65.0	N/A
Average monthly benefit	$7,122	$6,897	3.3%
Disabled members			
Number in pay status[2]	492	483	1.9%
Average age	61.6	61.0	N/A
Average monthly benefit	$5,209	$5,008	4.0%
Beneficiaries			
Number in pay status	331	315	5.1%
Average age	68.1	67.8	N/A
Average monthly benefit	$3,204	$3,101	3.3%

(1) *Calculated by increasing actual calendar year salaries by the assumed salary scale.*
(2) *For 2012, includes 472 members receiving a service-connected disability and 20 members receiving an ordinary disability.*

EXHIBIT A (continued)

Table of Plan Coverage

v. Safety Tier C

Category	Year Ended December 31 2012	Year Ended December 31 2011	Change From Prior Year
Active members in valuation			
Number	187	131	42.7%
Average age	31.8	32.3	N/A
Average service	2.7	2.8	N/A
Projected total payroll[1]	$13,697,308	$10,138,325	35.1%
Projected average payroll	$73,248	$77,392	-5.4%
Account balances	$4,188,009	$2,542,182	64.7%
Total active members with at least five years of service	26	4	550.0%
Vested terminated members	16	13	23.1%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

(1) *Calculated by increasing actual calendar year salaries by the assumed salary scale.*

EXHIBIT B

Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

i. General Tier 1 Non-Enhanced

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	$59,020	$59,020	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	3	- -	2	1	- -	- -	- -	- -	- -	- -
	91,579	- -	$102,801	$69,135	- -	- -	- -	- -	- -	- -
45 - 49	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	4	3	1	- -	- -	- -	- -	- -	- -	- -
	62,447	56,887	$79,127	- -	- -	- -	- -	- -	- -	- -
55 - 59	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	2	- -	1	- -	- -	- -	- -	1	- -	- -
	58,261	- -	37,673	- -	- -	- -	- -	$78,848	- -	- -
65 & over	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	46,718	- -	46,718	- -	- -	- -	- -	- -	- -	- -
Total	11	4	5	1	- -	- -	- -	1	- -	- -
	$67,890	$57,421	$73,824	$69,135	- -	- -	- -	$78,848	- -	- -

EXHIBIT B (continued)
Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

ii. General Tier 1 Enhanced

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	8	8	- -	- -	- -	- -	- -	- -	- -	- -
	$55,404	$55,404	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	24	21	3	- -	- -	- -	- -	- -	- -	- -
	66,407	68,811	$49,574	- -	- -	- -	- -	- -	- -	- -
30 - 34	54	32	15	7	- -	- -	- -	- -	- -	- -
	70,961	60,796	84,603	$88,197	- -	- -	- -	- -	- -	- -
35 - 39	59	19	16	20	4	- -	- -	- -	- -	- -
	78,664	69,426	81,578	85,761	$75,410	- -	- -	- -	- -	- -
40 - 44	86	22	14	38	10	2	- -	- -	- -	- -
	83,907	84,382	75,252	84,190	88,229	$112,286	- -	- -	- -	- -
45 - 49	126	14	26	47	15	20	4	- -	- -	- -
	92,380	84,563	93,213	96,800	80,284	91,519	$112,057	- -	- -	- -
50 - 54	133	19	18	38	20	22	8	7	1	- -
	90,587	85,881	77,673	94,610	93,177	97,906	105,326	$69,942	$73,340	- -
55 - 59	115	15	16	32	14	19	6	8	5	- -
	89,918	82,403	94,591	91,687	81,928	99,289	88,661	101,482	55,953	- -
60 - 64	60	3	15	23	6	7	- -	3	3	- -
	92,019	82,362	86,068	101,192	73,579	80,399	- -	118,094	99,039	- -
65 - 69	6	- -	2	2	2	- -	- -	- -	- -	- -
	81,335	- -	72,118	97,187	74,701	- -	- -	- -	- -	- -
70 & over	4	2	- -	1	1	- -	- -	- -	- -	- -
	48,289	33,284	- -	77,860	48,729	- -	- -	- -	- -	- -
Total	675	155	125	208	72	70	18	18	9	- -
	$85,862	$73,384	$84,375	$92,357	$83,865	$95,117	$101,267	$91,985	$72,247	- -

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

iii. General Tier 3 Enhanced

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	55	55	- -	- -	- -	- -	- -	- -	- -	- -
	$35,733	$35,733	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	358	299	57	2	- -	- -	- -	- -	- -	- -
	49,048	46,829	$59,865	$72,616	- -	- -	- -	- -	- -	- -
30 - 34	678	382	245	51	- -	- -	- -	- -	- -	- -
	61,868	57,710	68,582	$60,760	- -	- -	- -	- -	- -	- -
35 - 39	793	307	276	195	15	- -	- -	- -	- -	- -
	69,007	63,211	74,772	69,888	$70,112	- -	- -	- -	- -	- -
40 - 44	893	262	251	277	81	21	1	- -	- -	- -
	73,212	65,916	71,624	79,860	80,399	$69,622	$35,118	- -	- -	- -
45 - 49	1,086	249	237	299	148	124	29	- -	- -	- -
	73,014	58,602	67,470	77,148	82,049	89,676	82,084	- -	- -	- -
50 - 54	1,053	210	223	259	121	143	67	29	1	- -
	73,561	59,671	71,739	73,209	83,013	86,441	81,426	$70,487	$64,168	- -
55 - 59	908	160	182	252	104	105	72	33	- -	- -
	72,017	59,213	68,482	71,785	77,119	79,917	87,992	79,281	- -	- -
60 - 64	574	99	159	147	80	57	21	10	- -	1
	71,266	63,408	68,689	72,582	76,707	81,964	68,957	68,437	- -	$97,507
65 - 69	131	21	36	43	13	11	2	4	1	- -
	67,931	75,856	67,237	60,606	71,684	66,809	72,383	92,489	97,836	- -
70 & over	29	3	10	12	- -	4	- -	- -	- -	- -
	58,467	88,474	46,031	65,224	- -	46,778	- -	- -	- -	- -
Total	6,558	2,047	1,676	1,537	562	465	192	76	2	1
	$69,414	$58,339	$69,859	$73,631	$79,788	$83,717	$82,289	$75,193	$81,002	$97,507

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

iv. Safety Tier A Non-Enhanced

		Years of Service						
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	3	- -	- -	3	- -	- -	- -	- -
	$117,199	- -	- -	$117,199	- -	- -	- -	- -
40 - 44	2	- -	- -	1	- -	1	- -	- -
	119,326	- -	- -	124,395	- -	$114,257	- -	- -
45 - 49	4	- -	- -	- -	- -	4	- -	- -
	124,720	- -	- -	- -	- -	124,720	- -	- -
50 - 54	3	1	- -	- -	- -	1	1	- -
	159,717	211,537	- -	- -	- -	137,362	$130,252	- -
55 - 59	1	- -	- -	- -	1	- -	- -	- -
	127,364	- -	- -	- -	127,364	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
65 & over	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
Total	13	1	- -	4	1	6	1	- -
	$130,434	$211,537	- -	$118,998	$127,364	$125,083	$130,252	- -

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

v. Safety Tier A Enhanced

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	$78,061	$78,061	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	78	56	22	- -	- -	- -	- -	- -	- -	- -
	89,222	84,879	$100,278	- -	- -	- -	- -	- -	- -	- -
30 - 34	158	47	89	22	- -	- -	- -	- -	- -	- -
	96,547	87,752	98,819	$106,149	- -	- -	- -	- -	- -	- -
35 - 39	239	16	94	123	6	- -	- -	- -	- -	- -
	97,259	93,708	100,330	94,843	$108,140	- -	- -	- -	- -	- -
40 - 44	303	17	62	144	58	22	- -	- -	- -	- -
	104,328	92,808	104,204	101,034	107,839	$125,892	- -	- -	- -	- -
45 - 49	272	6	32	75	47	87	25	- -	- -	- -
	111,021	99,678	95,753	103,177	103,783	124,751	$122,646	- -	- -	- -
50 - 54	84	7	10	24	15	17	8	3	- -	- -
	109,172	88,598	96,649	93,960	$120,214	123,629	145,887	$85,569	- -	- -
55 - 59	39	5	13	10	5	3	3	- -	- -	- -
	112,991	131,258	112,521	86,254	120,402	143,967	130,381	- -	- -	- -
60 - 64	14	- -	6	3	4	- -	1	- -	- -	- -
	98,286	- -	91,561	107,161	105,981	- -	81,230	- -	- -	- -
65 - 69	5	- -	1	2	1	- -	1	- -	- -	- -
	92,582	- -	127,434	86,466	58,694	- -	103,851	- -	- -	- -
70 & over	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	80,425	80,425	- -	- -	- -	- -	- -	- -	- -	- -
Total	1,196	158	329	403	136	129	38	3	- -	- -
	$102,842	$89,517	$100,495	$99,008	$107,861	$125,245	$126,565	$85,569	- -	- -

EXHIBIT B (continued)
Members in Active Service and Projected Payroll as of December 31, 2012
By Age and Years of Service

vi. Safety Tier C Enhanced

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	28	28	- -	- -	- -	- -	- -	- -	- -	- -
	$60,042	$60,042	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	69	65	4	- -	- -	- -	- -	- -	- -	- -
	70,226	69,029	$89,676	- -	- -	- -	- -	- -	- -	- -
30 - 34	44	37	7	- -	- -	- -	- -	- -	- -	- -
	73,673	70,301	91,495	- -	- -	- -	- -	- -	- -	- -
35 - 39	22	14	8	- -	- -	- -	- -	- -	- -	- -
	82,516	78,372	89,767	- -	- -	- -	- -	- -	- -	- -
40 - 44	12	9	3	- -	- -	- -	- -	- -	- -	- -
	78,608	73,567	93,731	- -	- -	- -	- -	- -	- -	- -
45 - 49	6	6	- -	- -	- -	- -	- -	- -	- -	- -
	107,264	107,264	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	2	1	1	- -	- -	- -	- -	- -	- -	- -
	78,425	66,065	90,785	- -	- -	- -	- -	- -	- -	- -
55 - 59	4	4	- -	- -	- -	- -	- -	- -	- -	- -
	92,466	92,466	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	187	164	23	- -	- -	- -	- -	- -	- -	- -
	$73,248	$70,781	$90,838	- -	- -	- -	- -	- -	- -	- -

EXHIBIT C

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries
i. General Tier 1 as of December 31, 2012

		Years of Retirement								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	1	- -	- -	1	- -	- -	- -	- -	- -
	$643	$904	- -	- -	$382	- -	- -	- -	- -	- -
25 - 29	5	2	- -	- -	3	- -	- -	- -	- -	- -
	755	904	- -	- -	655	- -	- -	- -	- -	- -
30 - 34	2	- -	1	- -	1	- -	- -	- -	- -	- -
	557	- -	$590	- -	525	- -	- -	- -	- -	- -
35 - 39	5	- -	1	- -	2	1	1	- -	- -	- -
	1,008	- -	2,151	- -	555	$899	$880	- -	- -	- -
40 - 44	4	- -	- -	1	2	1	- -	- -	- -	- -
	1,203	- -	- -	$2,049	929	905	- -	- -	- -	- -
45 - 49	13	1	1	3	4	3	1	- -	- -	- -
	992	1,921	498	930	949	1,044	759	- -	- -	- -
50 - 54	50	32	6	4	4	2	2	- -	- -	- -
	1,976	2,086	1,579	2,529	1,335	2,715	864	- -	- -	- -
55 - 59	267	175	50	16	10	7	5	1	3	- -
	3,581	4,420	2,086	1,744	2,583	1,993	1,578	$1,601	$396	- -
60 - 64	538	221	191	82	16	15	4	6	1	2
	3,952	5,389	3,571	2,020	2,180	2,122	1,860	1,604	960	$1,339
65 - 69	649	90	279	152	76	23	15	6	8	- -
	3,933	4,789	4,909	3,295	1,913	1,888	2,670	2,023	1,264	- -
70 – 74	513	10	81	185	128	71	18	14	5	1
	3,463	3,875	4,884	4,466	2,472	1,643	2,148	2,524	1,660	742
75 – 80	505	2	14	116	152	124	74	17	4	2
	3,110	2,817	4,597	4,738	3,277	2,433	1,351	2,495	1,136	1,956
80 – 84	475	1	3	26	92	157	117	55	15	9
	2,701	1,753	1,368	2,914	3,956	3,213	1,755	1,581	1,741	1,633
85 – 89	407	- -	3	7	16	97	138	103	41	2
	2,483	- -	5,938	3,682	2,938	3,030	2,650	1,872	1,517	2,563
90 & over	288	- -	1	2	3	13	59	122	64	24
	2,089	- -	1,113	3,589	3,069	2,244	2,092	2,151	2,134	1,352
Total	3,723	535	631	594	510	514	434	324	141	40
	$3,224	$4,697	$4,202	$3,693	$2,854	$2,618	$2,055	$1,986	$1,773	$1,490

Note: Total retired benefit $12,004,433, average age 73.8 and average years retired 17.1.

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries
ii. General Tier 2 as of December 31, 2012

		Years of Retirement								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	- -	- -	- -	- -	2	- -	- -	- -	- -
	$1,290	- -	- -	- -	- -	$1,290	- -	- -	- -	- -
25 - 29	2	- -	- -	2	- -	- -	- -	- -	- -	- -
	724	- -	- -	$724	- -	- -	- -	- -	- -	- -
30 - 34	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	8	- -	- -	3	3	2	- -	- -	- -	- -
	752	- -	- -	788	$550	1,002	- -	- -	- -	- -
40 - 44	8	- -	- -	2	3	3	- -	- -	- -	- -
	904	- -	- -	380	1,486	672	- -	- -	- -	- -
45 - 49	4	- -	1	- -	2	1	- -	- -	- -	- -
	1,408	- -	$563	- -	1,666	1,738	- -	- -	- -	- -
50 - 54	14	10	1	1	2	- -	- -	- -	- -	- -
	774	$208	157	2,955	2,823	- -	- -	- -	- -	- -
55 - 59	37	9	17	4	6	1	- -	- -	- -	- -
	773	670	504	1,342	1,023	2,498	- -	- -	- -	- -
60 - 64	65	14	23	19	5	4	- -	- -	- -	- -
	780	687	601	693	1,678	1,421	- -	- -	- -	- -
65 - 69	118	15	23	38	36	2	4	- -	- -	- -
	795	726	585	765	915	1,514	$1,105	- -	- -	- -
70 – 74	93	7	12	34	32	8	- -	- -	- -	- -
	990	395	932	1,151	947	1,089	- -	- -	- -	- -
75 – 80	111	3	- -	45	40	19	4	- -	- -	- -
	995	1,174	- -	1,046	1,010	772	1,188	- -	- -	- -
80 – 84	71	- -	1	11	40	15	2	2	- -	- -
	1,054	- -	53	786	1,083	1,398	395	$517	- -	- -
85 – 89	30	- -	- -	2	14	13	1	- -	- -	- -
	949	- -	- -	869	761	1,200	500	- -	- -	- -
90 & over	8	- -	- -	- -	3	5	- -	- -	- -	- -
	423	- -	- -	- -	576	332	- -	- -	- -	- -
Total	571	58	78	161	186	75	11	2	- -	- -
	$904	$602	$613	$943	$1,016	$1,082	$951	$517	- -	- -

Note: Total retired benefit $516,035, average age 70.7 and average years retired 14.0.

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries
iii. General Tier 3 as of December 31, 2012

		Years of Retirement								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	$987	$987	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	4	- -	1	2	1	- -	- -	- -	- -	- -
	1,328	- -	$1,247	$1,692	$680	- -	- -	- -	- -	- -
30 - 34	4	1	3	- -	- -	- -	- -	- -	- -	- -
	858	1,680	584	- -	- -	- -	- -	- -	- -	- -
35 - 39	2	1	1	- -	- -	- -	- -	- -	- -	- -
	1,827	2,263	1,391	- -	- -	- -	- -	- -	- -	- -
40 - 44	6	- -	3	3	- -	- -	- -	- -	- -	- -
	1,013	- -	1,005	1,021	- -	- -	- -	- -	- -	- -
45 - 49	19	9	7	3	- -	- -	- -	- -	- -	- -
	1,937	2,147	1,970	1,232	- -	- -	- -	- -	- -	- -
50 - 54	114	109	4	1	- -	- -	- -	- -	- -	- -
	1,544	1,511	2,473	1,446	- -	- -	- -	- -	- -	- -
55 - 59	359	275	77	7	- -	- -	- -	- -	- -	- -
	2,612	2,942	1,465	2,268	- -	- -	- -	- -	- -	- -
60 - 64	608	417	161	30	- -	- -	- -	- -	- -	- -
	2,754	3,062	2,288	976	- -	- -	- -	- -	- -	- -
65 - 69	629	343	237	48	- -	1	- -	- -	- -	- -
	2,709	2,998	2,572	1,336	- -	$1,798	- -	- -	- -	- -
70 – 74	344	103	167	73	- -	1	- -	- -	- -	- -
	2,126	2,282	2,276	1,572	- -	1,328	- -	- -	- -	- -
75 – 80	123	22	55	46	- -	- -	- -	- -	- -	- -
	1,536	2,070	1,556	1,256	- -	- -	- -	- -	- -	- -
80 – 84	15	2	7	6	- -	- -	- -	- -	- -	- -
	1,804	4,402	960	1,922	- -	- -	- -	- -	- -	- -
85 – 89	4	2	1	1	- -	- -	- -	- -	- -	- -
	3,273	2,527	5,689	2,349	- -	- -	- -	- -	- -	- -
90 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	2,233	1,286	724	220	1	2	- -	- -	- -	- -
	$2,467	$2,798	$2,210	$1,397	$680	$1,563	- -	- -	- -	- -

Note: Total retired benefit $5,509,852, average age 64.7 and average years retired 4.7.

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries
iv. Safety Tier A as of December 31, 2012

		Years of Retirement								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	5	- -	5	- -	- -	- -	- -	- -	- -	- -
	$1,620	- -	$1,620	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	6	4	- -	- -	2	- -	- -	- -	- -	- -
	2,767	$3,608	- -	- -	$1,085	- -	- -	- -	- -	- -
35 - 39	11	5	5	- -	- -	1	- -	- -	- -	- -
	3,422	3,204	4,167	- -	- -	$787	- -	- -	- -	- -
40 - 44	32	11	15	5	- -	1	- -	- -	- -	- -
	3,552	3,482	3,911	$3,184	- -	787	- -	- -	- -	- -
45 - 49	86	47	16	14	6	3	- -	- -	- -	- -
	5,277	6,756	3,895	3,715	3,240	856	- -	- -	- -	- -
50 - 54	267	212	23	20	7	5	- -	- -	- -	- -
	6,427	7,151	3,688	3,805	3,470	2,952	- -	- -	- -	- -
55 - 59	304	121	135	24	10	8	5	1	- -	- -
	7,150	7,832	7,853	3,767	2,941	3,061	$3,788	$2,482	- -	- -
60 - 64	339	58	164	54	32	16	10	3	1	1
	6,587	7,017	8,330	4,845	3,152	3,288	3,009	3,303	$3,307	$1,253
65 - 69	367	18	88	161	42	21	22	13	1	1
	5,913	5,295	6,786	7,022	3,952	3,662	2,602	3,172	2,539	3,092
70 – 74	233	9	18	74	65	34	15	8	8	2
	5,953	2,621	4,890	7,600	6,761	4,853	3,031	3,432	3,648	3,303
75 – 80	132	2	2	10	31	49	21	12	4	1
	5,275	3,420	2,002	4,601	6,168	6,341	3,874	3,309	3,361	3,091
80 – 84	119	- -	- -	2	10	19	44	25	16	3
	4,527	- -	- -	4,564	5,688	4,935	4,900	4,232	3,057	2,871
85 – 89	70	- -	- -	- -	- -	1	8	29	18	14
	4,415	- -	- -	- -	- -	6,292	5,645	5,076	3,479	3,414
90 & over	19	- -	- -	- -	- -	- -	- -	- -	13	6
	4,247	- -	- -	- -	- -	- -	- -	- -	4,580	3,527
Total	1,990	487	471	364	205	158	125	91	61	28
	$5,997	$6,946	$7,113	$6,165	$5,023	$4,738	$3,951	$4,108	$3,599	$3,272

Note: Total retired benefit $11,934,466, average age 64.5 and average years retired 13.3.

EXHIBIT D

Reconciliation of Member Data – December 31, 2011 to December 31, 2012

	Active Participants	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of December 31, 2011	8,629	2,214	5,960	920	1,205	18,928
New participants	802	56	0	0	77	935
Terminations – with vested rights	-198	198	0	0	0	0
Contributions Refunds	-109	-86	0	0	0	-195
Retirements	-495	-56	551	0	0	0
New disabilities	-20	0	-7	27	0	0
Return to work	40	-36	-4	0	0	0
Died with or without beneficiary	-9	-2	-131	-25	-51	-218
Data adjustments	` 0	0	6	1	-12	-5
Number as of December 31, 2012	8,640	2,288	6,375	923	1,219	19,445

EXHIBIT E

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended December 31, 2012		Year Ended December 31, 2011	
Contribution income:				
Employer contributions	$212,321,325		$200,388,994	
Employee contributions	73,361,712		61,575,376	
Net contribution income		$285,683,037		$261,964,370
Investment income:				
Interest, dividends and other income	$161,163,771		$143,174,944	
Adjustment toward market value[1]	1,151,230		41,866,888	
Less investment and administrative fees	(40,393,699)		(36,983,284)	
Net investment income		121,921,302		148,058,548
Total income available for benefits		$407,604,339		$410,022,918
Less benefit payments:				
Benefits paid	$(347,569,044)		$(320,297,817)	
Refunds of contributions	(3,275,968)		(3,909,122)	
Adjustments/transfers	(685,356)		(667,440)	
Net benefit payments		$(351,530,368)		$(324,874,379)
Change in reserve for future benefits		$56,073,971		$85,148,539

(1) *Equals the "non-cash" earnings on investments implicitly included in the Actuarial Value of Assets.*

EXHIBIT F

Summary Statement of Assets

	Year Ended December 31, 2012		Year Ended December 31, 2011	
Cash equivalents		$375,051,326		$538,622,465
Other Assets		1,682,574		1,712,327
Accounts receivable:				
Investment trades	$349,375,172		$380,827,659	
Investment income	19,631,875		15,247,814	
Employee and employer contributions	8,105,409		7,069,451	
Additional contributions[1]	21,048,104		22,092,843	
Total accounts receivable		398,160,560		425,237,767
Investments:				
Stocks	$2,733,435,352		$2,185,882,788	
Bonds	1,688,952,924		1,826,834,166	
Real estate	741,660,064		588,704,762	
Alternative investments	396,452,549		367,414,250	
Total investments at market value		5,560,500,889		4,968,835,966
Total assets		$6,335,395,349		$5,934,408,525
Less accounts payable:				
Investment trades	$(429,062,199)		$(482,507,139)	
Security lending	(145,423,087)		(289,850,840)	
Employer contributions unearned	(92,762,859)		(95,371,345)	
Other	(13,566,080)		(14,389,743)	
Total accounts payable		$(680,814,225)		$(882,119,067)
Net assets at market value		$5,654,581,124		$5,052,289,458
Net assets at actuarial value		$5,497,193,662		$5,441,119,691
Net assets at valuation value		$5,482,257,062		$5,426,719,066

(1) *Equals the sum of additional contribution receivables for the final Paulson Settlement.*

EXHIBIT G

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that are projected/anticipated to be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments.

Assets	Basic	COLA	Total
1. Total valuation value of assets	$3,495,525,297	$1,986,731,765	$5,482,257,062
2. Present value of future contributions by members	$391,400,864	$230,871,323	$622,272,187
3. Present value of future employer contributions for:			
(a) entry age normal cost	$737,856,312	$219,305,149	$957,161,461
(b) unfunded actuarial accrued liability	$1,464,225,511	$814,832,962	$2,279,058,473
4. Total actuarial assets	$6,089,007,984	$3,251,741,199	$9,340,749,183
Liabilities			
5. Present value of benefits for retirees and beneficiaries	$2,986,481,142	$2,004,279,244	$4,990,760,386
6. Present value of benefits for vested terminated members[1]	$148,308,201	$58,368,449	$206,676,650
7. Present value of benefits for active members	$2,954,218,641	$1,189,093,506	$4,143,312,147
8. Total present value of benefits	$6,089,007,984	$3,251,741,199	$9,340,749,183

(1) *Includes nonvested terminated members.*

EXHIBIT H

Summary of Total Allocated Reserves

Reserves	December 31, 2012	December 31, 2011
Member Deposits [1]	$698,208,398	$619,225,584
Member Cost of Living [1]	334,087,401	291,620,624
Employer Advance [1]	2,370,879,309	2,066,274,507
Employer Cost of Living [1]	1,454,610,666	1,289,966,298
Retired Members [1]	1,332,381,216	1,496,424,250
Retired Cost of Living [1]	698,157,521	722,344,492
Smoothed Market Value Valuation [1]	270,149,422	250,369,816
Dollar Power Cost of Living Supplement Pre-Funding [1]	12,253,103	14,280,696
Post Retirement Death Benefit [2]	14,936,600	14,400,625
Statutory Contingency (one percent) [2]	0	0
Additional One Percent Contingency Designation [2]	0	0
Contra Tracking Account [1]	(1,688,469,971)	(1,323,787,201)
Total Allocated Reserves	$5,497,193,662	$5,441,119,691
Market Stabilization Account	157,387,462	(388,830,233)
Net Market Value	$5,654,581,124	$5,052,289,458

Note: Results may not add due to rounding.

(1) *Included in valuation value of assets.*

(2) *Not included in valuation value of assets.*

EXHIBIT I

Development of Unfunded Actuarial Accrued Liability

			Year Ended December 31, 2012
1.	Unfunded actuarial accrued liability at beginning of year		$1,488,592,583
2.	Gross Normal cost at middle of year		185,865,203
3.	Expected employer and member contributions		(321,018,836)
4.	Interest (whole year on (1) plus half year on (2) - (3))		110,128,722
5.	Expected unfunded actuarial accrued liability at end of year		$1,463,567,672
6.	Actuarial (gain)/loss due to all changes:		
	(a) Investment return	$297,214,634	
	(b) Actual contributions less than expected	36,679,512	
	(c) Salary increases	(102,697,220)	
	(d) Other experience (gain)/loss[1]	14,139,121	
	(e) Changes in actuarial assumptions	$570,154,754	
	(f) Total changes		$815,490,801
7.	Unfunded actuarial accrued liability at end of year		$2,279,058,473

Note: The "net gain from other experience" of $51,878,587 shown in Section 2, Chart 10 is equal to the sum of items 6(b), (c) and (d).

[1] *Other differences in actual versus expected experience including (but not limited to) mortality, disability, withdrawal, retirement and terminal pay experience.*

EXHIBIT J
Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
General						
Cost Groups #1 and #2	December 31, 2007	Restart of Amortization	$789,616,678	$700,276,533	10	$80,114,739
County and Small Districts	December 31, 2008	Actuarial (Gain)/Loss	80,496,792	78,557,623	14	6,801,269
(Tiers 1 and 3)	December 31, 2009	Actuarial (Gain)/Loss	165,997,327	163,951,746	15	13,438,202
	December 31, 2009	Assumption Change[2]	39,793,000	39,302,632	15	3,221,416
	December 31, 2009	Depooling Implementation	-75,134,625	-74,208,743	15	-6,082,473
	December 31, 2010	Actuarial (Gain)/Loss	153,957,206	153,251,970	16	11,944,151
	December 31, 2011	Actuarial (Gain)/Loss	95,298,919	95,241,066	17	7,085,386
	December 31, 2012	Actuarial (Gain)/Loss	117,707,008	117,707,008	18	8,386,932
	December 31, 2012	Assumption Change[2]	290,475,776	290,475,776	18	20,697,159
Subtotal				$1,564,555,611		$145,606,780
Cost Group #3	December 31, 2007	Restart of Amortization	$36,185,000	$32,090,896	10	$3,671,341
Central Contra Costa	December 31, 2008	Actuarial (Gain)/Loss	3,709,835	3,620,465	14	313,448
Sanitary District	December 31, 2009	Actuarial (Gain)/Loss	10,118,261	9,993,574	15	819,117
	December 31, 2009	Assumption Change[2]	2,003,000	1,978,317	15	162,152
	December 31, 2009	Depooling Implementation	20,037,235	19,790,317	15	1,622,101
	December 31, 2010	Actuarial (Gain)/Loss	18,178,489	18,095,219	16	1,410,305
	December 31, 2010	Assumption Change[3]	11,479,648	11,427,063	16	890,602
	December 31, 2011	Actuarial (Gain)/Loss	10,514,535	10,508,152	17	781,746
	December 31, 2012	Actuarial (Gain)/Loss	12,564,241	12,564,241	18	895,235
	December 31, 2012	Assumption Change[2]	22,455,342	22,455,342	18	1,600,002
Subtotal				$142,523,585		$12,166,049

Note: Results may not add due to rounding.

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
General						
Cost Group #4	December 31, 2007	Restart of Amortization	$7,770,000	$6,890,874	10	$788,346
Contra Costa Housing	December 31, 2008	Actuarial (Gain)/Loss	1,573,513	1,535,607	14	132,948
Authority	December 31, 2009	Actuarial (Gain)/Loss	1,277,079	1,261,341	15	103,385
	December 31, 2009	Assumption Change[2]	425,000	419,763	15	34,406
	December 31, 2009	Depooling Implementation	-189,275	-186,943	15	-15,323
	December 31, 2010	Actuarial (Gain)/Loss	619,697	616,858	16	48,077
	December 31, 2010	Assumption Change[3]	-920,656	-916,439	16	-71,425
	December 31, 2011	Actuarial (Gain)/Loss	1,059,328	1,058,685	17	78,760
	December 31, 2012	Actuarial (Gain)/Loss	1,912,999	1,912,999	18	136,306
	December 31, 2012	Assumption Change[2]	3,722,862	3,722,862	18	265,264
Subtotal				$16,315,608		$1,500,744
Cost Group #5	December 31, 2007	Restart of Amortization	-$1,011,000	-$896,612	10	-$102,576
Contra Costa County Fire	December 31, 2008	Actuarial (Gain)/Loss	45,963	44,855	14	3,883
Protection District	December 31, 2009	Actuarial (Gain)/Loss	1,614,180	1,594,288	15	130,675
	December 31, 2009	Assumption Change[2]	336,000	331,859	15	27,201
	December 31, 2009	Depooling Implementation	2,142,538	2,116,136	15	173,448
	December 31, 2010	Actuarial (Gain)/Loss	2,722,306	2,709,836	16	211,199
	December 31, 2011	Actuarial (Gain)/Loss	1,350,620	1,349,800	17	100,417
	December 31, 2012	Actuarial (Gain)/Loss	1,787,426	1,787,426	18	127,359
	December 31, 2012	Assumption Change[2]	3,184,172	3,184,172	18	226,881
Subtotal				$12,221,761		$898,486

Note: Results may not add due to rounding.

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
General						
Cost Group #6	December 31, 2007	Restart of Amortization	$1,028,000	$911,688	10	$104,301
Small Districts	December 31, 2008	Actuarial (Gain)/Loss	61,240	59,765	14	5,174
(Tier 1 Non-enhanced)	December 31, 2009	Actuarial (Gain)/Loss	385,148	380,402	15	31,179
	December 31, 2009	Assumption Change[2]	126,000	124,447	15	10,200
	December 31, 2009	Depooling Implementation	-1,028,581	-1,015,906	15	-83,268
	December 31, 2010	Actuarial (Gain)/Loss	194,488	193,597	16	15,089
	December 31, 2011	Actuarial (Gain)/Loss	-137,086	-137,003	17	-10,192
	December 31, 2012	Actuarial (Gain)/Loss	177,439	177,439	18	12,643
	December 31, 2012	Assumption Change[2]	225,958	225,958	18	16,100
Subtotal				$920,387		$101,226
Safety						
Cost Group #7 and #9	December 31, 2007	Restart of Amortization	$129,233,744	$114,611,761	10	$13,112,093
County Tiers A and C	December 31, 2008	Actuarial (Gain)/Loss	25,934,594	25,309,829	14	2,191,245
	December 31, 2009	Actuarial (Gain)/Loss	55,813,557	55,125,768	15	4,518,349
	December 31, 2009	Assumption Change[2]	11,213,000	11,074,822	15	907,741
	December 31, 2009	Depooling Implementation	24,145,656	23,848,110	15	1,954,695
	December 31, 2010	Actuarial (Gain)/Loss	57,993,092	57,727,442	16	4,499,161
	December 31, 2011	Actuarial (Gain)/Loss	45,765,799	45,738,016	17	3,402,644
	December 31, 2012	Actuarial (Gain)/Loss	53,914,024	53,914,024	18	3,841,515
	December 31, 2012	Assumption Change[2]	140,056,457	140,056,457	18	9,979,389
Subtotal				$527,406,230		$44,406,833

Note: Results may not add due to rounding.

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Safety						
Cost Group #8	December 31, 2007	Restart of Amortization	$124,138,710	$110,093,198	10	$12,595,150
Contra Costa and East Fire	December 31, 2008	Actuarial (Gain)/Loss	6,780,436	6,617,096	14	572,887
Protection Districts	December 31, 2009	Actuarial (Gain)/Loss	27,018,706	26,685,755	15	2,187,281
	December 31, 2009	Assumption Change[2]	4,945,000	4,884,063	15	400,319
	December 31, 2009	Depooling Implementation	47,818,666	47,229,398	15	3,871,128
	December 31, 2010	Actuarial (Gain)/Loss	38,165,445	37,990,619	16	2,960,913
	December 31, 2010	Assumption Change[3]	-1,599,051	-1,591,726	16	-124,056
	December 31, 2011	Actuarial (Gain)/Loss	26,533,166	26,517,059	17	1,972,716
	December 31, 2012	Actuarial (Gain)/Loss	31,501,440	31,501,440	18	2,244,560
	December 31, 2012	Assumption Change[2]	68,193,356	68,193,356	18	4,858,955
Subtotal				$358,120,258		$31,539,853
Cost Group #10	December 31, 2007	Restart of Amortization	-$2,591,000	-$2,297,845	10	-$262,884
Moraga-Orinda Fire District	December 31, 2008	Actuarial (Gain)/Loss	2,002,150	1,953,919	14	169,164
	December 31, 2009	Actuarial (Gain)/Loss	5,671,684	5,601,792	15	459,147
	December 31, 2009	Assumption Change[2]	1,012,000	999,529	15	81,926
	December 31, 2009	Depooling Implementation	4,873,631	4,813,573	15	394,542
	December 31, 2010	Actuarial (Gain)/Loss	5,334,964	5,310,526	16	413,892
	December 31, 2010	Assumption Change[3]	806,018	802,326	16	62,532
	December 31, 2011	Actuarial (Gain)/Loss	6,791,005	6,786,882	17	504,905
	December 31, 2012	Actuarial (Gain)/Loss	8,924,598	8,924,598	18	635,901
	December 31, 2012	Assumption Change[2]	12,149,892	12,149,892	18	865,712
Subtotal				$45,045,193		$3,324,836

Note: Results may not add due to rounding.

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Safety						
Cost Group #11	December 31, 2007	Restart of Amortization	$58,766,000	$52,116,998	10	$5,962,416
San Ramon Valley	December 31, 2008	Actuarial (Gain)/Loss	10,216,694	9,970,574	14	863,221
Fire District	December 31, 2009	Actuarial (Gain)/Loss	9,262,105	9,147,968	15	749,807
	December 31, 2009	Assumption Change[2]	2,453,000	2,422,772	15	198,581
	December 31, 2009	Depooling Implementation	-20,174,500	-19,925,890	15	-1,633,213
	December 31, 2010	Actuarial (Gain)/Loss	6,585,812	6,555,644	16	510,934
	December 31, 2010	Assumption Change[3]	5,093,420	5,070,088	16	395,153
	December 31, 2011	Actuarial (Gain)/Loss	5,513,071	5,509,724	17	409,892
	December 31, 2012	Actuarial (Gain)/Loss	14,600,741	14,600,741	18	1,040,341
	December 31, 2012	Assumption Change[2]	26,672,143	26,672,143	18	1,900,460
Subtotal				$112,140,763		$10,397,590
Cost Group #12	December 31, 2007	Restart of Amortization	$3,960,000	$3,511,951	10	$401,783
Rodeo-Hercules Fire	December 31, 2008	Actuarial (Gain)/Loss	957,150	934,092	14	80,871
Protection District	December 31, 2009	Actuarial (Gain)/Loss	2,872,360	2,836,964	15	232,530
	December 31, 2009	Assumption Change[2]	1,154,000	1,139,779	15	93,421
	December 31, 2009	Depooling Implementation	-1,809,374	-1,787,077	15	-146,477
	December 31, 2010	Actuarial (Gain)/Loss	1,502,503	1,495,621	16	116,566
	December 31, 2010	Assumption Change[3]	662,085	659,052	16	51,365
	December 31, 2011	Actuarial (Gain)/Loss	2,067,217	2,065,962	17	153,696
	December 31, 2012	Actuarial (Gain)/Loss	2,246,131	2,246,131	18	160,043
	December 31, 2012	Assumption Change[2]	3,018,796	3,018,796	18	215,097
Subtotal				$16,121,271		$1,358,894

Note: Results may not add due to rounding.

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Both General and Safety						
Special Adjustments[4]	December 31, 2007	County General POBs	-$453,973,319	-$402,607,737	10	-$46,060,109
Subtotal	December 31, 2007	Moraga General POBs	-701,412	-622,049	10	-71,165
	December 31, 2007	CCCFPD Safety POBs	-127,509,711	-113,082,408	10	-12,937,129
Subtotal				-$516,312,194		-$59,068,403
Grand Total				$2,279,058,473		$192,232,889

(1) *As of beginning of year. The annual payment amounts shown for the Special Adjustments represent the credit allocated to the employer to reflect the receipt of the proceeds for Pension Obligation Bonds (POBs) or any other special contributions. These adjustments serve to reduce the UAAL contribution rate for these employers. The cost of debt service associated with the POBs is not reflected in this report.*

(2) *Changes in actuarial assumptions and methods from actuarial experience study.*

(3) *The Board approved changes in actuarial assumptions. Terminal pay assumptions are now based on cost groups.*

(4) *Includes remaining balance of POBs and any other special contributions made by the County (including Courts) or Moraga-Orinda Fire District that have been allocated to the County General cost groups or for Contra Costa Fire Protection District that have been allocated to their Safety cost group.*

Note: Results may not add due to rounding.

EXHIBIT K
Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $205,000 for 2013. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must generally be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Limits are also affected by the "grandfather" election under Section 415(b)(10).

For non-PEPRA members, benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in actuarial gains as they occur.

EXHIBIT L

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age; and

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the level cost allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners: The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and of the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan.

Amortization of the Unfunded Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the market gains and losses to avoid significant swings in the value of assets from one year to the next.
Payroll or Compensation:	Payroll for pension purposes expected to be paid to active members during the twelve months following the valuation date. Only pay that would possibly go into the determination of retirement benefits is included.
Asset Volatility Ratio:	Equal to the market value of assets divided by total projected payroll. This provides an indication of the potential contribution volatility for any given level of investment volatility.
Liability Volatility Ratio:	Equal to the Actuarial Accrued Liability divided by total projected payroll. This provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. It also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired members as of the valuation date (including 1,219 beneficiaries in pay status)		8,517
2.	Members inactive during year ended December 31, 2012 with vested rights		2,288
3.	Members active during the year ended December 31, 2012		8,640

The actuarial factors as of the valuation date are as follows (amounts in 000s):

1.	Normal cost		$204,848
2.	Present value of future benefits		9,340,749
3.	Present value of future normal costs		1,579,434
4.	Actuarial accrued liability*		7,761,315
	Retired members and beneficiaries	$4,990,760	
	Inactive members with vested rights	206,677	
	Active members	2,563,878	
5.	Valuation value of assets** ($5,654,581 at market value as reported by Retirement Association)		5,482,257
6.	Unfunded actuarial accrued liability		$2,279,058

* *Excludes liabilities for non-valuation reserves*

** *Excludes assets for non-valuation reserves*

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows (amounts in 000s):	Dollar Amount	% of Payroll
1. Total normal cost	$204,848	31.40%
2. Expected employee contributions	-79,611	-12.20%
3. Employer normal cost: (1) + (2)	$125,237	19.20%
4. Amortization of unfunded actuarial accrued liability	199,694	30.62%
5. Total recommended average employer contribution: (3) + (4)	$324,931	49.82%
6. Projected payroll	$652,312	

EXHIBIT II

Supplementary Information Required by GASB – Schedule of Employer Contributions

Plan Year Ended December 31	Annual Required Contributions	Actual Contributions	Percentage Contributed
2007	$196,929,570	$196,929,570	100.0%
2008	206,518,693	206,518,693	100.0%
2009	195,613,673	195,613,673	100.0%
2010	183,950,930	183,950,930	100.0%
2011	200,388,994	200,388,994	100.0%
2012	212,321,325	212,321,325	100.0%

EXHIBIT III

Supplementary Information Required by GASB – Schedule of Funding Progress

Actuarial Valuation Date	Valuation Value of Assets[1] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
12/31/2007	$5,016,136,535	$5,581,048,225	$564,911,690	89.88%	$671,617,932	84.11%
12/31/2008	5,282,505,159	5,972,471,074	689,965,915	88.45%	704,947,668	97.87%
12/31/2009	5,290,114,102	6,314,787,187	1,024,673,085	83.77%	694,443,999	147.55%
12/31/2010	5,341,821,711	6,654,036,801	1,312,215,090	80.28%	687,443,206	190.88%
12/31/2011	5,426,719,066	6,915,311,649	1,488,592,583	78.47%	666,394,146	223.38%
12/31/2012	5,482,257,062	7,761,315,535	2,279,058,473	70.64%	652,312,180	349.38%

(1) *Excludes assets for non-valuation reserves.*

(2) *Excludes liabilities for non-valuation reserves.*

EXHIBIT IV

Supplementary Information Required by GASB

Valuation date	December 31, 2012
Actuarial cost method	Entry Age Normal Actuarial Cost Method
Amortization method	Level percent of payroll for total unfunded liability (4.00% payroll growth assumed)
Remaining amortization period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 10 years remaining as of December 31, 2012. Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation.
Asset valuation method	Market value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Actuarial assumptions:	
Investment rate of return	7.25%
Inflation rate	3.25%
Projected salary increases[1]	General: 4.75% to 13.50%; Safety: 4.75% to 14.00%
Cost of living adjustments	3% per year except for Tier 3 disability benefits and Tier 2 benefits that are valued as a 3.25% increase per year. Safety Tier C benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.
Plan membership:	
Retired members and beneficiaries receiving benefits	8,517
Terminated members entitled to, but not yet receiving benefits	2,288
Active members	8,640
Total	19,445

(1) *Includes inflation at 3.25%, plus "across the board" salary increases of 0.75%, plus merit and promotional increases. See Exhibit V for these increases. The average total assumed salary increase for active members in the December 31, 2012 valuation is 5.4%.*

EXHIBIT V
Actuarial Assumptions and Methods

Actuarial Assumptions

Post – Retirement Mortality Rates:

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back one year. For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set forward six years for males and set forward seven years for females. For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set forward three years.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement. The mortality tables projected with Scale AA to 2015 and adjusted by the applicable set backs and set forwards shown above reasonably reflect the projected mortality experience as of the measurement date. The additional projection to 2030 is a provision for future mortality improvement.
Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back one year, weighted 30% male and 70% female. For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years, weighted 85% male and weighted 15% female.

Termination Rates Before Retirement:

	Rate (%) Mortality			
	General		Safety	
Age	Male	Female	Male	Female
25	0.03	0.01	0.02	0.01
30	0.04	0.02	0.03	0.02
35	0.06	0.03	0.05	0.03
40	0.08	0.04	0.08	0.04
45	0.10	0.07	0.09	0.06
50	0.12	0.09	0.11	0.08
55	0.17	0.18	0.16	0.15
60	0.37	0.38	0.33	0.34
65	0.74	0.74	0.66	0.66

All pre-retirement deaths are assumed to be non-service connected.

Termination Rates Before Retirement (continued):

	Rate (%) Disability		
Age	General Tier 1[1]	General Tier 3[2]	Safety[3]
20	0.01	0.01	0.02
25	0.02	0.02	0.22
30	0.04	0.03	0.42
35	0.08	0.05	0.56
40	0.16	0.08	0.66
45	0.32	0.13	0.94
50	0.52	0.17	2.54
55	0.66	0.21	4.10
60	0.70	0.27	4.80
65	0.70	0.36	5.00
70	0.70	0.44	5.00

(1) 70% of General Tier 1 disabilities are assumed to be duty disabilities. The other 30% are assumed to be ordinary disabilities.

(2) 35% of General Tier 3 disabilities are assumed to be duty disabilities. The other 65% are assumed to be ordinary disabilities.

(3) 100% of Safety disabilities are assumed to be duty disabilities.

Termination Rates Before Retirement (continued):

	Rate (%) Withdrawal*	
Years of Service	**General**	**Safety**
Less than 1	13.50	11.50
1	9.00	6.50
2	9.00	5.00
3	6.00	4.00
4	4.50	3.50
5	4.00	3.00
6	3.75	2.75
7	3.50	2.50
8	3.25	2.25
9	3.00	2.00
10	2.75	1.90
11	2.50	1.80
12	2.40	1.70
13	2.30	1.60
14	2.20	1.50
15	2.10	1.40
16	2.00	1.30
17	2.00	1.20
18	2.00	1.10
19	2.00	1.00
20 or more	2.00	1.00

* The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates (General):

Age	Rate (%) General Tier 1 (Enhanced)	General Tier 3 (Enhanced)	General Tier 1 (Non-enhanced)	PEPRA General Tiers 4 and 5
50	5.00	4.00	3.00	0.00
51	4.00	3.00	3.00	0.00
52	6.00	3.00	3.00	2.00
53	6.00	5.00	3.00	3.00
54	12.00	5.00	3.00	3.00
55	20.00	10.00	10.00	5.00
56	20.00	10.00	10.00	5.00
57	20.00	10.00	10.00	6.00
58	22.00	12.00	10.00	8.00
59	25.00	12.00	10.00	9.00
60	30.00	15.00	25.00	10.00
61	35.00	20.00	15.00	14.00
62	35.00	27.00	40.00	21.00
63	35.00	27.00	25.00	21.00
64	35.00	30.00	30.00	21.00
65	40.00	40.00	40.00	27.00
66	40.00	40.00	35.00	33.00
67	40.00	40.00	35.00	33.00
68	40.00	40.00	35.00	33.00
69	40.00	40.00	35.00	33.00
70	100.00	40.00	100.00	50.00
71	100.00	40.00	100.00	50.00
72	100.00	40.00	100.00	50.00
73	100.00	40.00	100.00	50.00
74	100.00	40.00	100.00	50.00
75	100.00	100.00	100.00	100.00

Retirement Rates (Safety):

	Rate (%)			
Age	Safety Tier A (Enhanced)	Safety Tier C (Enhanced)	Safety Tier A (Non-enhanced)	PEPRA Safety Tiers D and E
45	2.00	1.00	0.00	0.00
46	2.00	1.00	0.00	0.00
47	7.00	3.00	0.00	0.00
48	7.00	3.00	0.00	0.00
49	20.00	10.00	0.00	0.00
50	25.00	15.00	5.00	5.00
51	25.00	15.00	4.00	4.00
52	25.00	15.00	4.00	4.00
53	25.00	15.00	5.00	5.00
54	25.00	15.00	5.00	5.00
55	30.00	20.00	6.00	6.00
56	25.00	15.00	8.00	8.00
57	25.00	15.00	12.00	12.00
58	35.00	25.00	18.00	18.00
59	35.00	25.00	20.00	20.00
60	40.00	35.00	20.00	20.00
61	40.00	35.00	20.00	20.00
62	40.00	35.00	20.00	20.00
63	40.00	35.00	20.00	20.00
64	40.00	35.00	100.00	100.00
65	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members:	For deferred vested benefits, we make the following retirement assumption: General: Age 59 Safety: Age 54 We assume that 40% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 5.25% compensation increases per annum.
Future Benefit Accruals:	1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Percent Married:	75% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.
Age of Spouse:	Females are 3 years younger than their spouses.
Offsets by Other Plans of the Employer for Disability Benefits:	The Plan requires members who retire because of disability from General Tier 3 and PEPRA General Tier 5 to offset the Plan's disability benefits with other Plans of the employer. We have not assumed any offsets in this valuation.

Terminal Pay Assumptions: The following assumptions for terminal pay as a percentage of final average pay are used:

General Tiers 1, 2 and 3
Safety Tiers A and C

	Membership Date before January 1, 2011	Membership Date on or after January 1, 2011
Cost Group 1:	12.50%	3.00%
Cost Group 2:	4.00% for Tier 2 8.00% for Tier 3	1.00%
Cost Group 3:	24.00%	8.75%
Cost Group 4:	5.75%	0.75%
Cost Group 5:	11.50%	2.75%
Cost Group 6:	9.00%	2.25%
Cost Group 7:	12.00%	1.50%
Cost Group 8:	10.50%	1.25%
Cost Group 9:	4.00%	0.50%
Cost Group 10:	13.00%	1.50%
Cost Group 11	14.00%	3.50%
Cost Group 12:	15.50%	6.25%

For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

These assumptions do not reflect any potential changes due to AB 197 pending a decision by the Contra Costa County Superior Court.

PEPRA General Tiers 4 and 5
PEPRA Safety Tiers D and E None

Service From Accumulated Sick Leave:	The following assumptions for additional service due to accumulated sick leave as a percentage of service at retirement are used: All Retirements Excluding Disability: General: 1.25% Safety: 2.00% Disability Retirements: General: 0.10% Safety: 1.25% Pursuant to Section 31641.01, the cost of this benefit for the non-PEPRA tiers will be charged only to employers and will not affect member contribution rates.
Net Investment Return:	7.25%, net of administration and investment expenses.
Employee Contribution Crediting Rate:	7.25%, compounded semi-annually.
Consumer Price Index:	Increase of 3.25% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year except for Tier 3 and PEPRA Tier 5 disability benefits and Tier 2 benefits which are subject to a 4.00% maximum change per year (valued as a 3.25% increase). Safety Tier C benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are subject to a 2.00% maximum change per year.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year, plus "across the board" salary increases of 0.75% per year, plus the following merit and promotional increases.

Years of Service	General	Safety
Less than 1	9.50%	10.00%
1	6.50	6.50
2	4.75	5.25
3	3.25	4.00
4	2.25	2.25
5	1.50	1.00
6	1.25	0.75
7	1.00	0.75
8	0.75	0.75
9	0.75	0.75
10	0.75	0.75
11	0.75	0.75
12	0.75	0.75
13	0.75	0.75
14	0.75	0.75
15	0.75	0.75
16	0.75	0.75
17	0.75	0.75
18	0.75	0.75
19	0.75	0.75
20 & over	0.75	0.75

Actuarial Methods

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is calculated as age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percent of compensation, as if the current benefit formulas have always been in effect (i.e., "replacement life").
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period.
Valuation Value of Assets:	Actuarial Value of Assets reduced by the value of the non-valuation reserves and designations.
Amortization Policy:	The remaining balance of the December 31, 2007 UAAL is being amortized over a 10-year declining period as of December 31, 2012. Any new UAAL identified in the annual valuation as of December 31 will be amortized over a period of 18 years. UAAL shall be amortized over "closed" amortization periods so that the amortization periods for each layer decreases by one year with each acturial valuation. UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.
Changes in Actuarial Assumptions and Methods:	Based on the Actuarial Experience Study and Review of Economic Assumptions, the following assumptions and methods were changed. Previously, these assumptions and methods were as follows:

<u>Changes in Actuarial Assumptions and Methods – Prior Assumptions</u>:

Post – Retirement Mortality Rates:

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table set forward four years.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.
Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females weighted 30% male and 70% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females weighted 85% male and 15% female.

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement:

	Rate (%) Mortality			
	General		Safety	
Age	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.06	0.04	0.06	0.04
40	0.09	0.06	0.09	0.06
45	0.12	0.09	0.12	0.09
50	0.17	0.14	0.17	0.14
55	0.27	0.22	0.27	0.22
60	0.47	0.39	0.47	0.39
65	0.88	0.76	0.88	0.76

All pre-retirement deaths are assumed to be non-service connected.

<u>Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued)</u>:

Termination Rates Before Retirement (continued):

	Rate (%)		
	Disability		
Age	General Tier 1[1]	General Tier 3[2]	Safety[3]
20	0.02	0.00	0.02
25	0.04	0.02	0.22
30	0.11	0.04	0.42
35	0.18	0.06	0.65
40	0.26	0.09	0.90
45	0.42	0.13	1.15
50	0.56	0.18	2.60
55	0.69	0.23	4.40
60	0.75	0.28	5.00
65	0.75	0.42	5.00
70	0.75	0.58	5.00

(1) 70% of General Tier 1 disabilities are assumed to be duty disabilities. The other 30% are assumed to be ordinary disabilities.
(2) 25% of General Tier 3 disabilities are assumed to be duty disabilities. The other 75% are assumed to be ordinary disabilities.
(3) 100% of Safety disabilities are assumed to be duty disabilities.

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement (continued):

Rate (%)

Withdrawal (Less than Five Years of Service)

Years of Service	General	Safety
0	15.00	11.00
1	9.00	7.00
2	9.00	5.00
3	6.00	4.00
4	5.00	4.00

Withdrawal (Five or More Years of Service) *

Age	General	Safety
20	5.00	4.00
25	5.00	4.00
30	5.00	4.00
35	5.00	3.14
40	4.73	2.39
45	3.05	1.80
50	2.42	1.24
55	1.68	0.81
60	0.00	0.00

* The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Retirement Rates (General):

Age	General Tier 1 (Enhanced)	General Tier 3 (Enhanced)	General Tier 1 (Non-enhanced)	PEPRA General Tiers 4 and 5
	Rate (%)			
50	4.00	4.00	3.00	0.00
51	4.00	3.00	3.00	0.00
52	4.00	3.00	3.00	2.00
53	5.00	3.00	3.00	2.00
54	10.00	5.00	3.00	3.00
55	15.00	10.00	10.00	5.00
56	15.00	10.00	10.00	5.00
57	17.00	10.00	10.00	6.00
58	20.00	10.00	10.00	7.00
59	20.00	10.00	10.00	8.00
60	20.00	15.00	25.00	10.00
61	30.00	17.00	15.00	12.50
62	30.00	25.00	40.00	20.00
63	30.00	25.00	25.00	20.00
64	30.00	27.00	30.00	20.00
65	35.00	35.00	40.00	25.00
66	35.00	35.00	35.00	30.00
67	35.00	35.00	35.00	30.00
68	35.00	35.00	35.00	30.00
69	35.00	35.00	35.00	30.00
70	100.00	40.00	100.00	50.00
71	100.00	40.00	100.00	50.00
72	100.00	40.00	100.00	50.00
73	100.00	40.00	100.00	50.00
74	100.00	40.00	100.00	50.00
75	100.00	100.00	100.00	100.00

<u>Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued)</u>:

Retirement Rates (Safety):

	Rate (%)			
Age	**Safety Tier A (Enhanced)**	**Safety Tier C (Enhanced)**	**Safety Tier A (Non-enhanced)**	**PEPRA Safety Tiers D and E**
45	2.00	1.00	0.00	0.00
46	2.00	1.00	0.00	0.00
47	2.00	1.00	0.00	0.00
48	2.00	1.00	0.00	0.00
49	10.00	5.00	0.00	0.00
50	25.00	15.00	1.00	5.00
51	17.00	10.00	1.00	3.00
52	20.00	12.00	1.00	3.00
53	20.00	12.00	1.00	4.00
54	20.00	12.00	1.00	4.00
55	30.00	20.00	2.00	6.00
56	25.00	15.00	2.00	8.00
57	25.00	15.00	3.00	12.00
58	30.00	20.00	4.00	18.00
59	30.00	20.00	20.00	20.00
60	40.00	30.00	17.00	17.00
61	40.00	30.00	17.00	17.00
62	40.00	30.00	18.00	18.00
63	40.00	30.00	20.00	20.00
64	40.00	30.00	100.00	100.00
65	100.00	100.00	100.00	100.00

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested benefits, we make the following retirement assumption:

General:	Age 58
Safety:	Age 55

We assume that 40% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 5.50% compensation increases per annum.

Terminal Pay Assumptions:

General Tiers 1, 2 and 3
Safety Tiers A and C

The following assumptions for terminal pay as a percentage of final average pay are used:

	Membership Date before January 1, 2011	Membership Date on or after January 1, 2011
Cost Group 1:	12.00%	3.00%
Cost Group 2:	3.50% for Tier 2 7.50% for Tier 3	1.00%
Cost Group 3:	24.00%	8.00%
Cost Group 4:	6.00%	0.75%
Cost Group 5:	12.00%	3.00%
Cost Group 6:	12.00%	3.00%
Cost Group 7:	11.25%	1.50%
Cost Group 8:	10.50%	1.25%
Cost Group 9:	3.75%	0.50%
Cost Group 10:	14.00%	1.75%
Cost Group 11	15.00%	3.50%
Cost Group 12:	16.00%	8.00%

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

	For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.
Service From Accumulated Sick Leave:	The following assumptions for additional service due to accumulated sick leave as a percentage of service at retirement are used: Service Retirements: General: 1.25% Safety: 2.25% Disability Retirements: General: 0.25% Safety: 1.25% Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.
Net Investment Return:	7.75%, net of administration and investment expenses.
Employee Contribution Crediting Rate:	7.75%, compounded semi-annually.
Consumer Price Index:	Increase of 3.50% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year except for Tier 3 disability benefits and Tier 2 benefits which are subject to a 4.00% (valued as 3.50% increase) maximum change per year. Safety Tier C benefits are subject to a 2.00% maximum change per year.

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.50% per year, plus "across the board" salary increases of 0.75% per year, plus the following merit and promotional increases.

Years of Service	General	Safety
Less than 1	9.00%	9.50%
21	6.00%	6.25%
22	4.75%	5.25%
23	3.25%	4.00%
24	2.25%	2.00%
25	1.50%	0.75%
26	1.25%	0.75%
27	1.00%	0.75%
28	0.75%	0.75%
29	0.75%	0.75%
30	0.75%	0.75%
31	0.75%	0.75%
32	0.75%	0.75%
33	0.75%	0.75%
34	0.75%	0.75%
35	0.75%	0.75%
36	0.75%	0.75%
37	0.75%	0.75%
38	0.75%	0.75%
39	0.75%	0.75%
40 & over	0.75%	0.75%

EXHIBIT VI
Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:

General Tier 1	General members hired before July 1, 1980 and electing not to transfer to Tier 2 Plan. Certain General members with membership dates before January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 1.
General Tier 2	Most General members hired on or after August 1, 1980 and all General members hired before July 1, 1980 electing to transfer to the Tier 2 Plan. Effective October 1, 2002, for the County, Tier 2 was eliminated and all County employees (excluding CNA employees) in Tier 2 were placed in Tier 3. Effective January 1, 2005, all CNA employees in Tier 2 were placed in Tier 3.
General Tier 3	General members with membership dates before January 1, 2013 who are not placed in Tier 1 are placed in Tier 3.
PEPRA General Tier 4	General members with membership dates on or after January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 4.
PEPRA General Tier 5	General members with membership dates on or after January 1, 2013 who are not placed in Tier 4 are placed in Tier 5.
Safety Tiers A and C	Safety members with membership dates before January 1, 2013. County Sheriff's Department Safety members hired on or after January 1, 2007, but before January 1, 2013 are placed in Safety Tier C Enhanced.
PEPRA Safety Tiers D and E	Safety members with membership dates on or after January 1, 2013. County Sheriff's Department Safety members are placed in Safety Tier E.

Final Compensation for Benefit Determination:	
General Tier 1, Tier 3 (non-disability), and Safety Tier A	Highest consecutive twelve months of compensation earnable. (FAS1) (§31462.1)
General Tier 2, Tier 3 (disability), and Safety Tier C	Highest consecutive thirty-six months of compensation earnable. (FAS3) (§31462)
	Note: For members with membership dates on or after January 1, 2011, certain terminal pay elements are no longer included in the determination of compensation for retirement purposes.
PEPRA General Tiers 4 and 5 *PEPRA Safety Tiers D and E*	Highest consecutive thirty-six months of pensionable compensation. (FAS3) (§7522.10(c), §7522.32 and §7522.34)
Social Security Primary Insurance Amount:	
General Tier 2	Estimated Social Security award at age 62 assuming level future earnings. (PIA)
Service:	
All tiers	Years of service*. (Yrs)
General Tier 2	Years of service up to a maximum of 30 years*. (Yrs30)
	*Includes accumulated sick leave as of the date of retirement (§31641.01).
Service Retirement Eligibility:	
General Tiers 1, 2 and 3	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age. (§31672)
PEPRA General Tiers 4 and 5	Age 52 with 5 years of service. (§7522.20(a))
Safety Tiers A and C	Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years of service, regardless of age. (§31663.25)
PEPRA Safety Tiers D and E	Age 50 with 5 years of service. (§7522.25(d))

Benefit Formula:

	Retirement Age	Benefit Formula
General Tiers 1 and 3 (Non-enhanced)(§31676.11)		
	50	(1.24%xFAS1 – 1/3x1.24%x$350x12)xYrs
	55	(1.67%xFAS1 – 1/3x1.67%x$350x12)xYrs
	60	(2.18%xFAS1 – 1/3x2.18%x$350x12)xYrs
	62	(2.35%xFAS1 – 1/3x2.35%x$350x12)xYrs
	65 or later	(2.61%xFAS1 – 1/3x2.61%x$350x12)xYrs
General Tier 1 and Tier 3 (Enhanced) (§31676.16)	50	(1.43%xFAS1 – 1/3x1.43%x$350x12)xYrs
	55	(2.00%xFAS1 – 1/3x2.00%x$350x12)xYrs
	60	(2.26%xFAS1 – 1/3x2.26%x$350x12)xYrs
	62	(2.37%xFAS1 – 1/3x2.37%x$350x12)xYrs
	65 or later	(2.42%xFAS1 – 1/3x2.42%x$350x12)xYrs

For members previously covered under the non-enhanced §31676.11 formula, they are entitled to at least the benefits they could have received under §31676.11.

General Tier 2 (§31752)	50	0.83%xFAS3xYrs – 0.57%xYrs30xPIA
	55	1.13%xFAS3xYrs – 0.87%xYrs30xPIA
	60	1.43%xFAS3xYrs – 1.37%xYrs30xPIA
	62	1.55%xFAS3xYrs – 1.67%xYrs30xPIA
	65 or later	1.73%xFAS3xYrs – 1.67%xYrs30xPIA

Benefit Formula:

	Retirement Age	Benefit Formula
PEPRA General Tiers 4 and 5 (§7522.20(a))		
	52	1.00%xFAS3xYrs
	55	1.30%xFAS3xYrs
	60	1.80%xFAS3xYrs
	62	2.00%xFAS3xYrs
	65	2.30%xFAS3xYrs
	67 or later	2.50%xFAS3xYrs
Safety Tier A (Non-enhanced)(§31664)	50	2.00%xFAS1xYrs
	55 or later	2.62%xFAS1xYrs
Safety Tier A (Enhanced)(§31664.1)	50 or later	3.00%xFAS1xYrs
Safety Tier C (Enhanced)(§31664.1)	50 or later	3.00%xFAS3xYrs
PEPRA Safety Tiers D and E (§7522.25(d))	50	2.00%xFAS3xYrs
	55	2.50%xFAS3xYrs
	57 or later	2.70%xFAS3xYrs

Maximum Benefit:

General Tiers 1 and 3 *Safety Tiers A and C*	100% of Final Compensation (§31676.11, §31676.16, §31664, §31664.1)
General Tier 2 *PEPRA General Tiers 4 and 5* *PEPRA Safety Tiers D and E*	None

Ordinary Disability:

<u>*General Tiers 1 and 4*</u>	
Eligibility	Five years of service (§31720).
Benefit Formula	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but total benefit cannot be more than one-third of Final Compensation (§31727).
<u>*General Tiers 2, 3 and 5*</u>	
Eligibility	Ten years of service (definition of disability is more strict than Tier 1 Plan) (§31720.1).
Benefit Formula	40% of Final Compensation plus 10% of Final Compensation used in the benefit determination for each minor child (maximum of three) (§31727.01).
Offset	Disability benefits are offset by other plans of the employer except Workers Compensation and Social Security.
<u>*Safety*</u>	
Eligibility	Five years of service (§31720).
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but total benefit cannot be more than one-third of Final Compensation (§31727.2).

Line-of-Duty Disability:

<u>*General Tiers 1 and 4, and Safety*</u>	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of the Final Compensation (§31727.4).
<u>*General Tiers 2, 3 and 5*</u>	
Eligibility	No age or service requirements (§31720).
Benefit Formula	40% of Final Compensation plus 10% of Final Compensation for each minor child (maximum of three) (§31727.01).
Offset	Disability benefits are offset by other plans of the Employer except Workers Compensation and Social Security.

Pre-Retirement Death:

<u>*Non-General Tier 2*</u>	
Eligibility - *A*	None.
Benefit - *A*	Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation (§31781); 50% of Final Compensation payable to spouse if Line of Duty death (§31787).
	OR
Eligibility - *B*	Five years of service (Ten years for Tiers 3 and 5).
Benefit - *B*	Option 2 (100% continuation) of Service Retirement or Ordinary Disability benefit payable to designated beneficiary.
Death in line of duty	50% of Final compensation.
<u>*General Tier 2*</u>	
Eligibility - *A*	None.
Benefit - *A*	Refund of employee contributions with interest plus $2,000 lump sum benefit offset by any Social Security payment. (§31781.01); If a Line of Duty death, then 60% of Service or Disability Retirement Benefit (minimum benefit is 24% of Final Compensation) plus, for each minor child, 10% of the allowance otherwise paid to the member. Minimum family benefit is 60% of the member's allowance. Maximum family benefit is 100% of member's allowance.
	OR
Eligibility - *B*	Ten years of service.
Benefit - *B*	Option 2 (100% continuation) of Service Retirement or Ordinary Disability benefit payable to designated beneficiary.

Death After Retirement:

<u>*Non-General Tier 2*</u>	
Service or Ordinary Disability Retirement	60% of member's unmodified allowance continued to eligible spouse. An eligible spouse is a surviving spouse who was married to the member one year prior to member's retirement or at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31760.2). An additional lump sum benefit of $5,000 is payable to the member's beneficiary (§31789.12).
Line-of-Duty Disability	100% of members allowance continued to eligible spouse (§31786). An additional lump sum benefit of $5,000 is payable to the member's beneficiary (§31789.12).
<u>*General Tier 2*</u>	
Service or Disability Retirement	60% of member's unmodified allowance continued to eligible spouse plus 10% of allowance to each minor child. Minimum benefit is 60% of allowance. Maximum benefit is 100% of allowance. $7,000 lump sum benefit, less any Social Security Lump sum payment payable to member's beneficiary.

Withdrawal Benefits:

Less than Five Years of Service	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628).
Five or More Years of Service	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).

Post-Retirement Cost-of-Living Benefits:	
General Tiers 1, 3, 4 and 5 *Safety Tiers A and D*	Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked." Tier 3 and PEPRA Tier 5 disability benefits have a maximum of 4% per year, excess "banked." Benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding have a maximum of 2% per year, excess "banked".
General Tier 2	Future changes based on Consumer Price Index to a maximum of 4% per year, excess "banked."
Safety Tiers C and E	Future changes based on Consumer Price Index to a maximum of 2% per year, excess "banked."

Member Contributions:	Please refer to Appendices A and B for the specific rates.
General Tiers 1 and 3 (Non-enhanced)	
Basic	Provide for one-half of the §31676.11 benefit payable at age 55.
Cost-of-Living	Provide for one-half of future Cost-of-Living costs.
General Tiers 1 and 3 (Enhanced)	
Basic	Provide for an average annuity at age 60 equal to 1/120 of FAS1.
Cost-of-Living	Provide for one-half of future Cost-of-Living costs.
PEPRA General Tiers 4 and 5	50% of the total Normal Cost rate.
Safety Tier A (Non-enhanced)	
Basic	Provide for one-half of the §31664 benefit payable at age 50.
Cost-of-Living	Provide for one-half of future Cost-of-Living costs.

Member Contributions (continued):	
Safety Tier A (Enhanced)	
Basic	Provide for an average annuity at age 50 equal to 1/100 of FAS1.
Cost-of-Living	Provide for one-half of future Cost-of-Living costs.
Safety Tier C (Enhanced)	
Basic	Provide for an average annuity at age 50 equal to 1/100 of FAS3.
Cost-of-Living	Provide for one-half of future Cost-of-Living costs.
PEPRA Safety Tiers D and E	50% of the total Normal Cost rate.
Other Information:	Transfers from the Tier 1 Plan to the Tier 2 Plan were made on an individual voluntary irrevocable basis. Credit is given under the Tier 2 Plan for future service only. The Cost-of-Living maximum is 4% only for the credit under the Tier 2 Plan. Transferred Tier 2 Plan members keep the five-year requirement for nonservice-connected disability. Those who were members on or before March 7, 1973 and Safety members under the enhanced benefit formula with membership dates on or before January 1, 2013 will be exempt from paying member contributions after 30 years of service.
Plan Amendments:	All members with membership dates on or after January 1, 2013 enter either PEPRA General Tier 4, General Tier 5, Safety Tier D or Safety Tier E.
Plan Provisions Not Valued:	Additional $5,000 lump sum post-retirement death benefit payable to a member's beneficiary. This benefit is paid from a reserve that is not included in the Valuation Value of Assets and is subject at all times to the availability of funds.

NOTE: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary so that both can be sure the proper provisions are valued.

Appendix A

Member Contribution Rates for Members with Membership Dates before January 1, 2011

General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 2% at 55 Formula (Expressed as a Percentage of Monthly Payroll) For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	4.05%	6.07%	2.15%	3.23%	6.20%	9.30%
16	4.10%	6.15%	2.18%	3.27%	6.28%	9.42%
17	4.16%	6.24%	2.21%	3.32%	6.37%	9.56%
18	4.22%	6.33%	2.25%	3.37%	6.47%	9.70%
19	4.27%	6.41%	2.27%	3.41%	6.54%	9.82%
20	4.33%	6.50%	2.31%	3.46%	6.64%	9.96%
21	4.39%	6.59%	2.34%	3.51%	6.73%	10.10%
22	4.46%	6.69%	2.37%	3.56%	6.83%	10.25%
23	4.52%	6.78%	2.41%	3.61%	6.93%	10.39%
24	4.58%	6.87%	2.44%	3.66%	7.02%	10.53%
25	4.65%	6.97%	2.47%	3.71%	7.12%	10.68%
26	4.71%	7.06%	2.51%	3.76%	7.22%	10.82%
27	4.77%	7.16%	2.54%	3.81%	7.31%	10.97%
28	4.84%	7.26%	2.57%	3.86%	7.41%	11.12%
29	4.91%	7.36%	2.61%	3.92%	7.52%	11.28%
30	4.97%	7.46%	2.65%	3.97%	7.62%	11.43%
31	5.04%	7.56%	2.68%	4.02%	7.72%	11.58%
32	5.11%	7.67%	2.72%	4.08%	7.83%	11.75%
33	5.18%	7.77%	2.76%	4.14%	7.94%	11.91%
34	5.25%	7.88%	2.79%	4.19%	8.04%	12.07%
35	5.33%	8.00%	2.84%	4.26%	8.17%	12.26%
36	5.41%	8.11%	2.88%	4.32%	8.29%	12.43%
37	5.49%	8.23%	2.92%	4.38%	8.41%	12.61%

General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
38	5.56%	8.34%	2.96%	4.44%	8.52%	12.78%
39	5.64%	8.46%	3.00%	4.50%	8.64%	12.96%
40	5.73%	8.59%	3.05%	4.57%	8.78%	13.16%
41	5.81%	8.72%	3.09%	4.64%	8.90%	13.36%
42	5.90%	8.85%	3.14%	4.71%	9.04%	13.56%
43	5.99%	8.99%	3.19%	4.79%	9.18%	13.78%
44	6.09%	9.13%	3.24%	4.86%	9.33%	13.99%
45	6.19%	9.29%	3.30%	4.95%	9.49%	14.24%
46	6.31%	9.47%	3.36%	5.04%	9.67%	14.51%
47	6.41%	9.62%	3.41%	5.12%	9.82%	14.74%
48	6.53%	9.80%	3.48%	5.22%	10.01%	15.02%
49	6.63%	9.94%	3.53%	5.29%	10.16%	15.23%
50	6.74%	10.11%	3.59%	5.38%	10.33%	15.49%
51	6.76%	10.14%	3.60%	5.40%	10.36%	15.54%
52	6.80%	10.20%	3.62%	5.43%	10.42%	15.63%
53	6.71%	10.07%	3.57%	5.36%	10.28%	15.43%
54	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
55	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
56	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
57	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
58	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
59	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
60	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 53.23%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.54%	5.31%	2.23%	3.34%	5.77%	8.65%
16	3.59%	5.39%	2.26%	3.39%	5.85%	8.78%
17	3.65%	5.47%	2.29%	3.44%	5.94%	8.91%
18	3.69%	5.54%	2.33%	3.49%	6.02%	9.03%
19	3.75%	5.62%	2.36%	3.54%	6.11%	9.16%
20	3.80%	5.70%	2.39%	3.59%	6.19%	9.29%
21	3.85%	5.78%	2.43%	3.64%	6.28%	9.42%
22	3.91%	5.86%	2.46%	3.69%	6.37%	9.55%
23	3.96%	5.94%	2.49%	3.74%	6.45%	9.68%
24	4.01%	6.02%	2.53%	3.79%	6.54%	9.81%
25	4.07%	6.11%	2.57%	3.85%	6.64%	9.96%
26	4.13%	6.19%	2.60%	3.90%	6.73%	10.09%
27	4.19%	6.28%	2.63%	3.95%	6.82%	10.23%
28	4.25%	6.37%	2.67%	4.01%	6.92%	10.38%
29	4.30%	6.45%	2.71%	4.06%	7.01%	10.51%
30	4.36%	6.54%	2.75%	4.12%	7.11%	10.66%
31	4.42%	6.63%	2.78%	4.17%	7.20%	10.80%
32	4.48%	6.72%	2.82%	4.23%	7.30%	10.95%
33	4.55%	6.82%	2.86%	4.29%	7.41%	11.11%
34	4.61%	6.91%	2.90%	4.35%	7.51%	11.26%
35	4.67%	7.01%	2.94%	4.41%	7.61%	11.42%
36	4.73%	7.10%	2.98%	4.47%	7.71%	11.57%
37	4.80%	7.20%	3.02%	4.53%	7.82%	11.73%
38	4.87%	7.30%	3.06%	4.59%	7.93%	11.89%
39	4.93%	7.40%	3.11%	4.66%	8.04%	12.06%
40	5.01%	7.51%	3.15%	4.73%	8.16%	12.24%

General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
41	5.07%	7.61%	3.19%	4.79%	8.26%	12.40%
42	5.15%	7.73%	3.24%	4.86%	8.39%	12.59%
43	5.22%	7.83%	3.29%	4.93%	8.51%	12.76%
44	5.30%	7.95%	3.33%	5.00%	8.63%	12.95%
45	5.38%	8.07%	3.39%	5.08%	8.77%	13.15%
46	5.46%	8.19%	3.43%	5.15%	8.89%	13.34%
47	5.54%	8.31%	3.49%	5.23%	9.03%	13.54%
48	5.63%	8.44%	3.54%	5.31%	9.17%	13.75%
49	5.72%	8.58%	3.60%	5.40%	9.32%	13.98%
50	5.82%	8.73%	3.66%	5.49%	9.48%	14.22%
51	5.93%	8.90%	3.73%	5.60%	9.66%	14.50%
52	6.03%	9.04%	3.79%	5.69%	9.82%	14.73%
53	6.13%	9.20%	3.86%	5.79%	9.99%	14.99%
54	6.23%	9.34%	3.92%	5.88%	10.15%	15.22%
55	6.33%	9.49%	3.98%	5.97%	10.31%	15.46%
56	6.35%	9.52%	3.99%	5.99%	10.34%	15.51%
57	6.39%	9.58%	4.02%	6.03%	10.41%	15.61%
58	6.30%	9.45%	3.97%	5.95%	10.27%	15.40%
59	6.07%	9.11%	3.82%	5.73%	9.89%	14.84%
60	6.07%	9.11%	3.82%	5.73%	9.89%	14.84%

Interest:	7.25%
Salary Increase:	See Exhibit V.
COLA Loading:	62.93%
Mortality:	RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.54%	5.31%	1.91%	2.86%	5.45%	8.17%
16	3.59%	5.39%	1.94%	2.91%	5.53%	8.30%
17	3.65%	5.47%	1.97%	2.95%	5.62%	8.42%
18	3.69%	5.54%	1.99%	2.99%	5.68%	8.53%
19	3.75%	5.62%	2.02%	3.03%	5.77%	8.65%
20	3.80%	5.70%	2.05%	3.08%	5.85%	8.78%
21	3.85%	5.78%	2.08%	3.12%	5.93%	8.90%
22	3.91%	5.86%	2.11%	3.16%	6.02%	9.02%
23	3.96%	5.94%	2.13%	3.20%	6.09%	9.14%
24	4.01%	6.02%	2.17%	3.25%	6.18%	9.27%
25	4.07%	6.11%	2.20%	3.30%	6.27%	9.41%
26	4.13%	6.19%	2.23%	3.34%	6.36%	9.53%
27	4.19%	6.28%	2.26%	3.39%	6.45%	9.67%
28	4.25%	6.37%	2.29%	3.44%	6.54%	9.81%
29	4.30%	6.45%	2.32%	3.48%	6.62%	9.93%
30	4.36%	6.54%	2.35%	3.53%	6.71%	10.07%
31	4.42%	6.63%	2.39%	3.58%	6.81%	10.21%
32	4.48%	6.72%	2.42%	3.63%	6.90%	10.35%
33	4.55%	6.82%	2.45%	3.68%	7.00%	10.50%
34	4.61%	6.91%	2.49%	3.73%	7.10%	10.64%
35	4.67%	7.01%	2.52%	3.78%	7.19%	10.79%
36	4.73%	7.10%	2.55%	3.83%	7.28%	10.93%
37	4.80%	7.20%	2.59%	3.88%	7.39%	11.08%
38	4.87%	7.30%	2.63%	3.94%	7.50%	11.24%
39	4.93%	7.40%	2.66%	3.99%	7.59%	11.39%

General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
40	5.01%	7.51%	2.70%	4.05%	7.71%	11.56%
41	5.07%	7.61%	2.74%	4.11%	7.81%	11.72%
42	5.15%	7.73%	2.78%	4.17%	7.93%	11.90%
43	5.22%	7.83%	2.81%	4.22%	8.03%	12.05%
44	5.30%	7.95%	2.86%	4.29%	8.16%	12.24%
45	5.38%	8.07%	2.90%	4.35%	8.28%	12.42%
46	5.46%	8.19%	2.95%	4.42%	8.41%	12.61%
47	5.54%	8.31%	2.99%	4.48%	8.53%	12.79%
48	5.63%	8.44%	3.03%	4.55%	8.66%	12.99%
49	5.72%	8.58%	3.09%	4.63%	8.81%	13.21%
50	5.82%	8.73%	3.14%	4.71%	8.96%	13.44%
51	5.93%	8.90%	3.20%	4.80%	9.13%	13.70%
52	6.03%	9.04%	3.25%	4.88%	9.28%	13.92%
53	6.13%	9.20%	3.31%	4.96%	9.44%	14.16%
54	6.23%	9.34%	3.36%	5.04%	9.59%	14.38%
55	6.33%	9.49%	3.41%	5.12%	9.74%	14.61%
56	6.35%	9.52%	3.43%	5.14%	9.78%	14.66%
57	6.39%	9.58%	3.45%	5.17%	9.84%	14.75%
58	6.30%	9.45%	3.40%	5.10%	9.70%	14.55%
59	6.07%	9.11%	3.27%	4.91%	9.34%	14.02%
60	6.07%	9.11%	3.27%	4.91%	9.34%	14.02%

Interest:	7.25%
Salary Increase:	See Exhibit V.
COLA Loading:	53.95%
Mortality:	RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	5.83%	14.73%
16	8.90%	5.83%	14.73%
17	8.90%	5.83%	14.73%
18	8.90%	5.83%	14.73%
19	8.90%	5.83%	14.73%
20	8.90%	5.83%	14.73%
21	8.90%	5.83%	14.73%
22	9.02%	5.91%	14.93%
23	9.15%	5.99%	15.14%
24	9.27%	6.07%	15.34%
25	9.40%	6.16%	15.56%
26	9.53%	6.24%	15.77%
27	9.66%	6.33%	15.99%
28	9.80%	6.42%	16.22%
29	9.94%	6.51%	16.45%
30	10.07%	6.60%	16.67%
31	10.21%	6.69%	16.90%
32	10.36%	6.79%	17.15%
33	10.50%	6.88%	17.38%
34	10.66%	6.98%	17.64%
35	10.81%	7.08%	17.89%
36	10.98%	7.19%	18.17%
37	11.14%	7.30%	18.44%
38	11.31%	7.41%	18.72%
39	11.50%	7.53%	19.03%
40	11.70%	7.66%	19.36%
41	11.90%	7.80%	19.70%
42	12.13%	7.95%	20.08%

Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	12.38%	8.11%	20.49%
44	12.65%	8.29%	20.94%
45	12.86%	8.42%	21.28%
46	12.86%	8.42%	21.28%
47	12.87%	8.43%	21.30%
48	12.80%	8.39%	21.19%
49	12.51%	8.20%	20.71%
50	12.51%	8.20%	20.71%
51	12.51%	8.20%	20.71%
52	12.51%	8.20%	20.71%
53	12.51%	8.20%	20.71%
54	12.51%	8.20%	20.71%
55	12.51%	8.20%	20.71%
56	12.51%	8.20%	20.71%
57	12.51%	8.20%	20.71%
58	12.51%	8.20%	20.71%
59	12.51%	8.20%	20.71%
60	12.51%	8.20%	20.71%

Interest:	7.25%
Salary Increase:	See Exhibit V.
COLA Loading:	65.51%
Mortality:	RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	7.00%	15.90%
16	8.90%	7.00%	15.90%
17	8.90%	7.00%	15.90%
18	8.90%	7.00%	15.90%
19	8.90%	7.00%	15.90%
20	8.90%	7.00%	15.90%
21	8.90%	7.00%	15.90%
22	9.02%	7.09%	16.11%
23	9.15%	7.20%	16.35%
24	9.27%	7.29%	16.56%
25	9.40%	7.39%	16.79%
26	9.53%	7.50%	17.03%
27	9.66%	7.60%	17.26%
28	9.80%	7.71%	17.51%
29	9.94%	7.82%	17.76%
30	10.07%	7.92%	17.99%
31	10.21%	8.03%	18.24%
32	10.36%	8.15%	18.51%
33	10.50%	8.26%	18.76%
34	10.66%	8.38%	19.04%
35	10.81%	8.50%	19.31%
36	10.98%	8.64%	19.62%
37	11.14%	8.76%	19.90%
38	11.31%	8.90%	20.21%
39	11.50%	9.04%	20.54%
40	11.70%	9.20%	20.90%
41	11.90%	9.36%	21.26%
42	12.13%	9.54%	21.67%

Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	12.38%	9.74%	22.12%
44	12.65%	9.95%	22.60%
45	12.86%	10.11%	22.97%
46	12.86%	10.11%	22.97%
47	12.87%	10.12%	22.99%
48	12.80%	10.07%	22.87%
49	12.51%	9.84%	22.35%
50	12.51%	9.84%	22.35%
51	12.51%	9.84%	22.35%
52	12.51%	9.84%	22.35%
53	12.51%	9.84%	22.35%
54	12.51%	9.84%	22.35%
55	12.51%	9.84%	22.35%
56	12.51%	9.84%	22.35%
57	12.51%	9.84%	22.35%
58	12.51%	9.84%	22.35%
59	12.51%	9.84%	22.35%
60	12.51%	9.84%	22.35%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 78.65%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.
These rates exclude up to an extra 9% of compensation (depending on their MOU) that most Safety Tier A (Enhanced) members contribute that reduces the employer's contribution rate.

Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.50%	4.10%	12.60%
16	8.50%	4.10%	12.60%
17	8.50%	4.10%	12.60%
18	8.50%	4.10%	12.60%
19	8.50%	4.10%	12.60%
20	8.50%	4.10%	12.60%
21	8.50%	4.10%	12.60%
22	8.62%	4.16%	12.78%
23	8.74%	4.22%	12.96%
24	8.86%	4.27%	13.13%
25	8.98%	4.33%	13.31%
26	9.11%	4.40%	13.51%
27	9.23%	4.45%	13.68%
28	9.36%	4.52%	13.88%
29	9.49%	4.58%	14.07%
30	9.62%	4.64%	14.26%
31	9.76%	4.71%	14.47%
32	9.90%	4.78%	14.68%
33	10.04%	4.84%	14.88%
34	10.18%	4.91%	15.09%
35	10.33%	4.98%	15.31%
36	10.49%	5.06%	15.55%
37	10.64%	5.13%	15.77%
38	10.81%	5.22%	16.03%
39	10.99%	5.30%	16.29%
40	11.17%	5.39%	16.56%
41	11.38%	5.49%	16.87%
42	11.57%	5.58%	17.15%

Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	11.76%	5.67%	17.43%
44	11.87%	5.73%	17.60%
45	11.89%	5.74%	17.63%
46	11.80%	5.69%	17.49%
47	11.51%	5.55%	17.06%
48	11.90%	5.74%	17.64%
49	12.51%	6.04%	18.55%
50	12.51%	6.04%	18.55%
51	12.51%	6.04%	18.55%
52	12.51%	6.04%	18.55%
53	12.51%	6.04%	18.55%
54	12.51%	6.04%	18.55%
55	12.51%	6.04%	18.55%
56	12.51%	6.04%	18.55%
57	12.51%	6.04%	18.55%
58	12.51%	6.04%	18.55%
59	12.51%	6.04%	18.55%
60	12.51%	6.04%	18.55%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 48.25%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

Appendix B

Member Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	4.05%	6.07%	1.90%	2.85%	5.95%	8.92%
16	4.10%	6.15%	1.93%	2.89%	6.03%	9.04%
17	4.16%	6.24%	1.95%	2.93%	6.11%	9.17%
18	4.22%	6.33%	1.99%	2.98%	6.21%	9.31%
19	4.27%	6.41%	2.01%	3.01%	6.28%	9.42%
20	4.33%	6.50%	2.04%	3.06%	6.37%	9.56%
21	4.39%	6.59%	2.07%	3.10%	6.46%	9.69%
22	4.46%	6.69%	2.09%	3.14%	6.55%	9.83%
23	4.52%	6.78%	2.13%	3.19%	6.65%	9.97%
24	4.58%	6.87%	2.15%	3.23%	6.73%	10.10%
25	4.65%	6.97%	2.19%	3.28%	6.84%	10.25%
26	4.71%	7.06%	2.21%	3.32%	6.92%	10.38%
27	4.77%	7.16%	2.25%	3.37%	7.02%	10.53%
28	4.84%	7.26%	2.27%	3.41%	7.11%	10.67%
29	4.91%	7.36%	2.31%	3.46%	7.22%	10.82%
30	4.97%	7.46%	2.34%	3.51%	7.31%	10.97%
31	5.04%	7.56%	2.37%	3.55%	7.41%	11.11%
32	5.11%	7.67%	2.40%	3.60%	7.51%	11.27%
33	5.18%	7.77%	2.43%	3.65%	7.61%	11.42%
34	5.25%	7.88%	2.47%	3.70%	7.72%	11.58%
35	5.33%	8.00%	2.51%	3.76%	7.84%	11.76%
36	5.41%	8.11%	2.54%	3.81%	7.95%	11.92%
37	5.49%	8.23%	2.58%	3.87%	8.07%	12.10%

General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
38	5.56%	8.34%	2.61%	3.92%	8.17%	12.26%
39	5.64%	8.46%	2.65%	3.98%	8.29%	12.44%
40	5.73%	8.59%	2.69%	4.04%	8.42%	12.63%
41	5.81%	8.72%	2.73%	4.10%	8.54%	12.82%
42	5.90%	8.85%	2.77%	4.16%	8.67%	13.01%
43	5.99%	8.99%	2.82%	4.23%	8.81%	13.22%
44	6.09%	9.13%	2.86%	4.29%	8.95%	13.42%
45	6.19%	9.29%	2.91%	4.37%	9.10%	13.66%
46	6.31%	9.47%	2.97%	4.45%	9.28%	13.92%
47	6.41%	9.62%	3.01%	4.52%	9.42%	14.14%
48	6.53%	9.80%	3.07%	4.61%	9.60%	14.41%
49	6.63%	9.94%	3.11%	4.67%	9.74%	14.61%
50	6.74%	10.11%	3.17%	4.75%	9.91%	14.86%
51	6.76%	10.14%	3.18%	4.77%	9.94%	14.91%
52	6.80%	10.20%	3.19%	4.79%	9.99%	14.99%
53	6.71%	10.07%	3.15%	4.73%	9.86%	14.80%
54	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
55	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
56	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
57	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
58	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
59	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
60	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 47.00%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.54%	5.31%	2.11%	3.17%	5.65%	8.48%
16	3.59%	5.39%	2.14%	3.21%	5.73%	8.60%
17	3.65%	5.47%	2.17%	3.26%	5.82%	8.73%
18	3.69%	5.54%	2.20%	3.30%	5.89%	8.84%
19	3.75%	5.62%	2.23%	3.35%	5.98%	8.97%
20	3.80%	5.70%	2.27%	3.40%	6.07%	9.10%
21	3.85%	5.78%	2.30%	3.45%	6.15%	9.23%
22	3.91%	5.86%	2.33%	3.49%	6.24%	9.35%
23	3.96%	5.94%	2.36%	3.54%	6.32%	9.48%
24	4.01%	6.02%	2.39%	3.59%	6.40%	9.61%
25	4.07%	6.11%	2.43%	3.64%	6.50%	9.75%
26	4.13%	6.19%	2.46%	3.69%	6.59%	9.88%
27	4.19%	6.28%	2.49%	3.74%	6.68%	10.02%
28	4.25%	6.37%	2.53%	3.80%	6.78%	10.17%
29	4.30%	6.45%	2.56%	3.84%	6.86%	10.29%
30	4.36%	6.54%	2.60%	3.90%	6.96%	10.44%
31	4.42%	6.63%	2.63%	3.95%	7.05%	10.58%
32	4.48%	6.72%	2.67%	4.01%	7.15%	10.73%
33	4.55%	6.82%	2.71%	4.07%	7.26%	10.89%
34	4.61%	6.91%	2.75%	4.12%	7.36%	11.03%
35	4.67%	7.01%	2.79%	4.18%	7.46%	11.19%
36	4.73%	7.10%	2.82%	4.23%	7.55%	11.33%
37	4.80%	7.20%	2.86%	4.29%	7.66%	11.49%
38	4.87%	7.30%	2.90%	4.35%	7.77%	11.65%
39	4.93%	7.40%	2.94%	4.41%	7.87%	11.81%
40	5.01%	7.51%	2.99%	4.48%	8.00%	11.99%

General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
41	5.07%	7.61%	3.03%	4.54%	8.10%	12.15%
42	5.15%	7.73%	3.07%	4.61%	8.22%	12.34%
43	5.22%	7.83%	3.11%	4.67%	8.33%	12.50%
44	5.30%	7.95%	3.16%	4.74%	8.46%	12.69%
45	5.38%	8.07%	3.21%	4.81%	8.59%	12.88%
46	5.46%	8.19%	3.25%	4.88%	8.71%	13.07%
47	5.54%	8.31%	3.30%	4.95%	8.84%	13.26%
48	5.63%	8.44%	3.35%	5.03%	8.98%	13.47%
49	5.72%	8.58%	3.41%	5.11%	9.13%	13.69%
50	5.82%	8.73%	3.47%	5.20%	9.29%	13.93%
51	5.93%	8.90%	3.54%	5.31%	9.47%	14.21%
52	6.03%	9.04%	3.59%	5.39%	9.62%	14.43%
53	6.13%	9.20%	3.65%	5.48%	9.78%	14.68%
54	6.23%	9.34%	3.71%	5.57%	9.94%	14.91%
55	6.33%	9.49%	3.77%	5.66%	10.10%	15.15%
56	6.35%	9.52%	3.78%	5.67%	10.13%	15.19%
57	6.39%	9.58%	3.81%	5.71%	10.20%	15.29%
58	6.30%	9.45%	3.75%	5.63%	10.05%	15.08%
59	6.07%	9.11%	3.62%	5.43%	9.69%	14.54%
60	6.07%	9.11%	3.62%	5.43%	9.69%	14.54%

Interest:	7.25%
Salary Increase:	See Exhibit V.
COLA Loading:	59.61%
Mortality:	RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.54%	5.31%	1.74%	2.61%	5.28%	7.92%
16	3.59%	5.39%	1.77%	2.65%	5.36%	8.04%
17	3.65%	5.47%	1.79%	2.69%	5.44%	8.16%
18	3.69%	5.54%	1.82%	2.73%	5.51%	8.27%
19	3.75%	5.62%	1.84%	2.76%	5.59%	8.38%
20	3.80%	5.70%	1.87%	2.80%	5.67%	8.50%
21	3.85%	5.78%	1.89%	2.84%	5.74%	8.62%
22	3.91%	5.86%	1.92%	2.88%	5.83%	8.74%
23	3.96%	5.94%	1.95%	2.92%	5.91%	8.86%
24	4.01%	6.02%	1.97%	2.96%	5.98%	8.98%
25	4.07%	6.11%	2.01%	3.01%	6.08%	9.12%
26	4.13%	6.19%	2.03%	3.04%	6.16%	9.23%
27	4.19%	6.28%	2.06%	3.09%	6.25%	9.37%
28	4.25%	6.37%	2.09%	3.13%	6.34%	9.50%
29	4.30%	6.45%	2.11%	3.17%	6.41%	9.62%
30	4.36%	6.54%	2.15%	3.22%	6.51%	9.76%
31	4.42%	6.63%	2.17%	3.26%	6.59%	9.89%
32	4.48%	6.72%	2.21%	3.31%	6.69%	10.03%
33	4.55%	6.82%	2.23%	3.35%	6.78%	10.17%
34	4.61%	6.91%	2.27%	3.40%	6.88%	10.31%
35	4.67%	7.01%	2.30%	3.45%	6.97%	10.46%
36	4.73%	7.10%	2.33%	3.49%	7.06%	10.59%
37	4.80%	7.20%	2.36%	3.54%	7.16%	10.74%
38	4.87%	7.30%	2.39%	3.59%	7.26%	10.89%
39	4.93%	7.40%	2.43%	3.64%	7.36%	11.04%

General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
40	5.01%	7.51%	2.46%	3.69%	7.47%	11.20%
41	5.07%	7.61%	2.49%	3.74%	7.56%	11.35%
42	5.15%	7.73%	2.53%	3.80%	7.68%	11.53%
43	5.22%	7.83%	2.57%	3.85%	7.79%	11.68%
44	5.30%	7.95%	2.61%	3.91%	7.91%	11.86%
45	5.38%	8.07%	2.65%	3.97%	8.03%	12.04%
46	5.46%	8.19%	2.69%	4.03%	8.15%	12.22%
47	5.54%	8.31%	2.73%	4.09%	8.27%	12.40%
48	5.63%	8.44%	2.77%	4.15%	8.40%	12.59%
49	5.72%	8.58%	2.81%	4.22%	8.53%	12.80%
50	5.82%	8.73%	2.86%	4.29%	8.68%	13.02%
51	5.93%	8.90%	2.92%	4.38%	8.85%	13.28%
52	6.03%	9.04%	2.97%	4.45%	9.00%	13.49%
53	6.13%	9.20%	3.02%	4.53%	9.15%	13.73%
54	6.23%	9.34%	3.06%	4.59%	9.29%	13.93%
55	6.33%	9.49%	3.11%	4.67%	9.44%	14.16%
56	6.35%	9.52%	3.12%	4.68%	9.47%	14.20%
57	6.39%	9.58%	3.14%	4.71%	9.53%	14.29%
58	6.30%	9.45%	3.10%	4.65%	9.40%	14.10%
59	6.07%	9.11%	2.99%	4.48%	9.06%	13.59%
60	6.07%	9.11%	2.99%	4.48%	9.06%	13.59%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 49.19%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions			
Entry Age	**Basic**	**COLA**	**Total**
15	8.90%	5.36%	14.26%
16	8.90%	5.36%	14.26%
17	8.90%	5.36%	14.26%
18	8.90%	5.36%	14.26%
19	8.90%	5.36%	14.26%
20	8.90%	5.36%	14.26%
21	8.90%	5.36%	14.26%
22	9.02%	5.44%	14.46%
23	9.15%	5.51%	14.66%
24	9.27%	5.59%	14.86%
25	9.40%	5.66%	15.06%
26	9.53%	5.74%	15.27%
27	9.66%	5.82%	15.48%
28	9.80%	5.91%	15.71%
29	9.94%	5.99%	15.93%
30	10.07%	6.07%	16.14%
31	10.21%	6.15%	16.36%
32	10.36%	6.24%	16.60%
33	10.50%	6.33%	16.83%
34	10.66%	6.42%	17.08%
35	10.81%	6.51%	17.32%
36	10.98%	6.62%	17.60%
37	11.14%	6.71%	17.85%
38	11.31%	6.82%	18.13%
39	11.50%	6.93%	18.43%
40	11.70%	7.05%	18.75%
41	11.90%	7.17%	19.07%
42	12.13%	7.31%	19.44%
43	12.38%	7.46%	19.84%

Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
44	12.65%	7.62%	20.27%
45	12.86%	7.75%	20.61%
46	12.86%	7.75%	20.61%
47	12.87%	7.76%	20.63%
48	12.80%	7.71%	20.51%
49	12.51%	7.54%	20.05%
50	12.51%	7.54%	20.05%
51	12.51%	7.54%	20.05%
52	12.51%	7.54%	20.05%
53	12.51%	7.54%	20.05%
54	12.51%	7.54%	20.05%
55	12.51%	7.54%	20.05%
56	12.51%	7.54%	20.05%
57	12.51%	7.54%	20.05%
58	12.51%	7.54%	20.05%
59	12.51%	7.54%	20.05%
60	12.51%	7.54%	20.05%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 60.26%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	6.53%	15.43%
16	8.90%	6.53%	15.43%
17	8.90%	6.53%	15.43%
18	8.90%	6.53%	15.43%
19	8.90%	6.53%	15.43%
20	8.90%	6.53%	15.43%
21	8.90%	6.53%	15.43%
22	9.02%	6.62%	15.64%
23	9.15%	6.71%	15.86%
24	9.27%	6.80%	16.07%
25	9.40%	6.90%	16.30%
26	9.53%	6.99%	16.52%
27	9.66%	7.09%	16.75%
28	9.80%	7.19%	16.99%
29	9.94%	7.29%	17.23%
30	10.07%	7.39%	17.46%
31	10.21%	7.49%	17.70%
32	10.36%	7.60%	17.96%
33	10.50%	7.70%	18.20%
34	10.66%	7.82%	18.48%
35	10.81%	7.93%	18.74%
36	10.98%	8.06%	19.04%
37	11.14%	8.17%	19.31%
38	11.31%	8.30%	19.61%
39	11.50%	8.44%	19.94%
40	11.70%	8.59%	20.29%
41	11.90%	8.73%	20.63%
42	12.13%	8.90%	21.03%
43	12.38%	9.08%	21.46%

Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions			
Entry Age	**Basic**	**COLA**	**Total**
44	12.65%	9.28%	21.93%
45	12.86%	9.44%	22.30%
46	12.86%	9.44%	22.30%
47	12.87%	9.44%	22.31%
48	12.80%	9.39%	22.19%
49	12.51%	9.18%	21.69%
50	12.51%	9.18%	21.69%
51	12.51%	9.18%	21.69%
52	12.51%	9.18%	21.69%
53	12.51%	9.18%	21.69%
54	12.51%	9.18%	21.69%
55	12.51%	9.18%	21.69%
56	12.51%	9.18%	21.69%
57	12.51%	9.18%	21.69%
58	12.51%	9.18%	21.69%
59	12.51%	9.18%	21.69%
60	12.51%	9.18%	21.69%

Interest: 7.25%
Salary Increase: See Exhibit V.
COLA Loading: 73.38%
Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

These rates exclude up to an extra 9% of compensation (depending on their MOU) that most Safety Tier A (Enhanced) members contribute that reduces the employer's contribution rate.

SEGAL

Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions			
Entry Age	**Basic**	**COLA**	**Total**
15	8.50%	3.93%	12.43%
16	8.50%	3.93%	12.43%
17	8.50%	3.93%	12.43%
18	8.50%	3.93%	12.43%
19	8.50%	3.93%	12.43%
20	8.50%	3.93%	12.43%
21	8.50%	3.93%	12.43%
22	8.62%	3.99%	12.61%
23	8.74%	4.04%	12.78%
24	8.86%	4.10%	12.96%
25	8.98%	4.15%	13.13%
26	9.11%	4.21%	13.32%
27	9.23%	4.27%	13.50%
28	9.36%	4.33%	13.69%
29	9.49%	4.39%	13.88%
30	9.62%	4.45%	14.07%
31	9.76%	4.51%	14.27%
32	9.90%	4.58%	14.48%
33	10.04%	4.64%	14.68%
34	10.18%	4.71%	14.89%
35	10.33%	4.78%	15.11%
36	10.49%	4.85%	15.34%
37	10.64%	4.92%	15.56%
38	10.81%	5.00%	15.81%
39	10.99%	5.08%	16.07%
40	11.17%	5.17%	16.34%
41	11.38%	5.26%	16.64%
42	11.57%	5.35%	16.92%

Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	11.76%	5.44%	17.20%
44	11.87%	5.49%	17.36%
45	11.89%	5.50%	17.39%
46	11.80%	5.46%	17.26%
47	11.51%	5.32%	16.83%
48	11.90%	5.50%	17.40%
49	12.51%	5.79%	18.30%
50	12.51%	5.79%	18.30%
51	12.51%	5.79%	18.30%
52	12.51%	5.79%	18.30%
53	12.51%	5.79%	18.30%
54	12.51%	5.79%	18.30%
55	12.51%	5.79%	18.30%
56	12.51%	5.79%	18.30%
57	12.51%	5.79%	18.30%
58	12.51%	5.79%	18.30%
59	12.51%	5.79%	18.30%
60	12.51%	5.79%	18.30%

Interest:	7.25%
Salary Increase:	See Exhibit V.
COLA Loading:	46.26%
Mortality:	RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

Appendix C

Member Contribution Rates for Members with Membership Dates on or after January 1, 2013

General Members' Contribution Rates for Members with Membership Dates on or after January 1, 2013
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

	Basic	COLA	Total
PEPRA General Tier 4 (3% COLA)	8.03%	2.97%	11.00%
PEPRA General Tier 4 (2% COLA)	7.96%	1.79%	9.75%
PEPRA General Tier 5 (3%/4% COLA)	7.75%	2.75%	10.50%
PEPRA General Tier 5 (2% COLA)	7.61%	1.64%	9.25%

The PEPRA member contribution rate is 50% of the Normal Cost rate. These rates have changed from the prior report since the total Normal Cost rate increased by greater than 1% of payroll for these PEPRA Tiers.

Note: It is our understanding that in the determination of pension benefits under the PEPRA formulas, the compensation that can be taken into account for 2013 is equal to the Social Security Taxable Wage Base or $113,700. (For an employer that is not enrolled in Social Security, the maximum amount is $136,440 or 120% of the Social Security Taxable Wage Base). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013. (reference: Section 7522.10(d))

Safety Members' Contribution Rates for Members with Membership Dates on or after January 1, 2013
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

	Basic	COLA	Total
PEPRA Safety Tier D	12.00%	5.25%	17.25%
PEPRA Safety Tier E	11.66%	3.09%	14.75%

The PEPRA member contribution rate is 50% of the Normal Cost rate. These rates have changed from the prior report since the total Normal Cost rate increased by greater than 1% of payroll for these PEPRA Tiers.

Note: It is our understanding that in the determination of pension benefits under the PEPRA formulas, the compensation that can be taken into account for 2013 is equal to the Social Security Taxable Wage Base or $113,700. (For an employer that is not enrolled in Social Security, the maximum amount is $136,440 or 120% of the Social Security Taxable Wage Base). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013. (reference: Section 7522.10(d))

CEREDEX VALUE ADVISORS

Presentation For

Contra Costa County Employees' Retirement Association

Second Quarter 2013

July 24, 2013
Concord, California

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Table of Contents

CEREDEX VALUE ADVISORS

Ceredex Overview

CEREDEX
VALUE ADVISORS

OUR FIRM

- Value Equity investing roots trace back to 1989
- Approximately $9.6 billion AUM* in three primary strategies
- Headquartered in Orlando, Florida

OUR INVESTMENT STRATEGIES

	Large Cap Value	Mid-Cap Value	Small Cap Value
Assets	$3.4 billion	$3.1 billion	$3.1 billion
Lead Manager Experience	30 Years	16 Years	27 Years

OUR INVESTMENT PROFESSIONALS*

- 12 Investment Professionals
- 3 Portfolio Managers have worked together for 16 years
- 10 CFA Charterholders

*As of March 31, 2013 (includes sub-advisory relationships and separate accounts).
Effective April 20, 2012, the Small Cap Value Equity Fund is closed to new investors.

Investment Team

PORTFOLIO MANAGERS

Mills Riddick, CFA
Large Cap Value Lead Portfolio Manager

Donald Wordell, CFA
Mid-Cap Value Lead Portfolio Manager

Brett Barner, CFA
Small Cap Value Lead Portfolio Manager

RESEARCH ANALYSTS

Charlie Carter, CFA
Consumer Staples
Consumer Discretionary

Jennifer Graff, CFA
Industrials

Melissa Miller, CFA
Financials

Cody Smith, CFA
Health Care
Technology

Nicole Blakley, CFA
Energy
Materials

Jason Fraser, CFA
Financials
Telecom

Hein Hanekom, CFA
Utilities

CLIENT SERVICE

Steve Loncar
Client Portfolio Manager

Sarah Thompson
Portfolio Assistant

RIDGEWORTH EQUITY SECURITIES TRADERS

Joe Ward, CFA
Large Cap Value Lead Trader
Mid-Cap Value Lead Trader

Stephen P. Smith, CFA
Small Cap Value Lead Trader

As of June 30, 2013.

CEREDEX VALUE ADVISORS

Principles that have enabled the approach to be successful.

Dividend Orientation

Valuation Approach

Fundamentals

CEREDEX VALUE ADVISORS

Dividends reflect past performance and there is no guarantee they will continue to be paid.

Investment Process – Narrowing the Universe

Step 1: Apply Market Cap and Dividend Screens

LCV:1,400 Companies | MCV:1,200 Companies | SCV:1,300 Companies

Step 2: Examine Absolute and Relative Valuations

500 Companies

Step 3: Traditional Fundamental Analysis

200 Companies

Step 4: Construct Portfolio

LCV and MCV:
60-80 Companies

SCV:
80-100 Companies

Dividends reflect past performance and there is no guarantee they will continue to be paid.
Effective April 20, 2012, the Small Cap Value Equity Strategy is closed to new investors.

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Investment Process – Sell Discipline

Stock requires all three for purchase, but only one could trigger a sell:

Dividend Policy Change

- Eliminated – Automatic Sell
- Cut unexpectedly – Reevaluate Fundamentals
- Cut expectedly – Retain

Relative Value Weakens

- Stock Reaches its Previously Established Price Target
- More Attractive Risk/Reward Prospects

Fundamentals Deteriorate

- Cyclical
- Structural
- Timing of Catalyst Extended

CEREDEX VALUE ADVISORS

Dividends reflect past performance and there is no guarantee they will continue to be paid.

Portfolio Composition

Assets	Market Value	% of Total
Total Portfolio	$ 184,562,513.53	100.0%
Total Equities	$ 182,044,153.83	98.6%
Total Cash and Equivalents	$ 2,518,359.70	1.4%

As of June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
Past performance is not indicative of future results.

Account Activity Summary - Quarter

Beginning Portfolio Market Value 3/31/13	$	185,310,988.23
Additions	$	46,122.00
Withdrawals	$	(1,385,344.48)
Net Additions/Withdrawals	$	(1,339,222.48)
Portfolio Earnings		
Interest and Dividends	$	1,306,733.55
Realized Gains/Losses	$	805,276.89
Unrealized Gains/Losses	$	(1,521,262.65)
Total Portfolio Earnings	$	590,747.79
Ending Portfolio Market Value 6/30/13	$	184,562,513.53
Net Change	$	(748,474.70)

As of June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
Past performance is not indicative of future results.
Dividends reflect past performance and there is no guarantee they will continue to be paid.

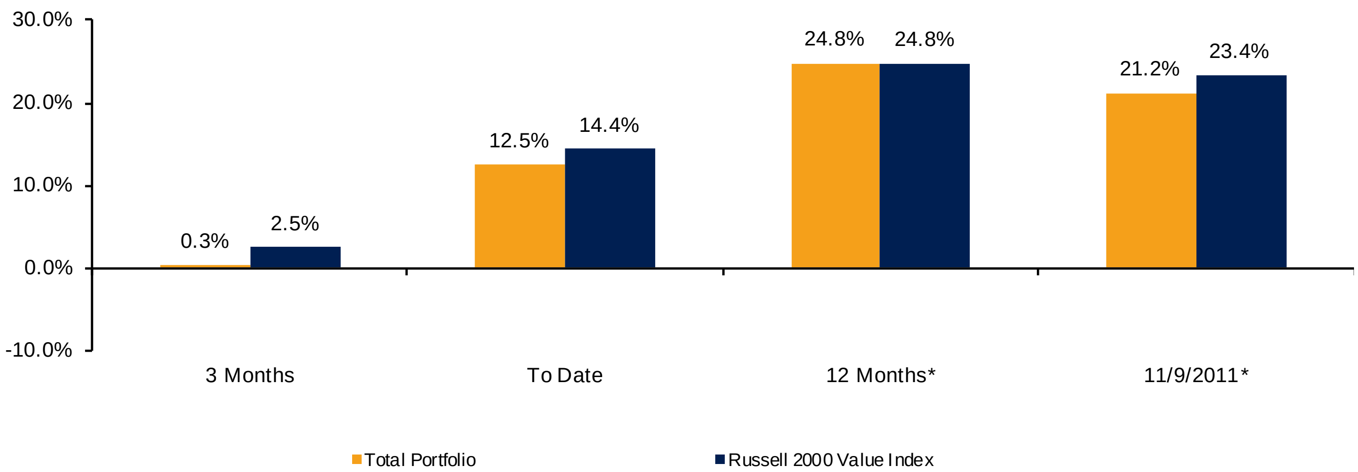
Account Activity Summary – Annual

Beginning Portfolio Market Value 6/30/12	$	189,095,876.55
Additions	$	837,904.41
Withdrawals	$	(50,392,200.12)
Net Additions/Withdrawals	$	(49,554,295.71)
Portfolio Earnings		
Interest and Dividends	$	5,841,473.93
Realized Gains/Losses	$	6,546,155.29
Unrealized Gains/Losses	$	32,633,303.46
Total Portfolio Earnings	$	45,020,932.68
Ending Portfolio Market Value 6/30/13	$	184,562,513.53
Net Change	$	(4,533,363.02)

As of June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
Past performance is not indicative of future results.
Dividends reflect past performance and there is no guarantee they will continue to be paid.

Investment Performance Comparisons

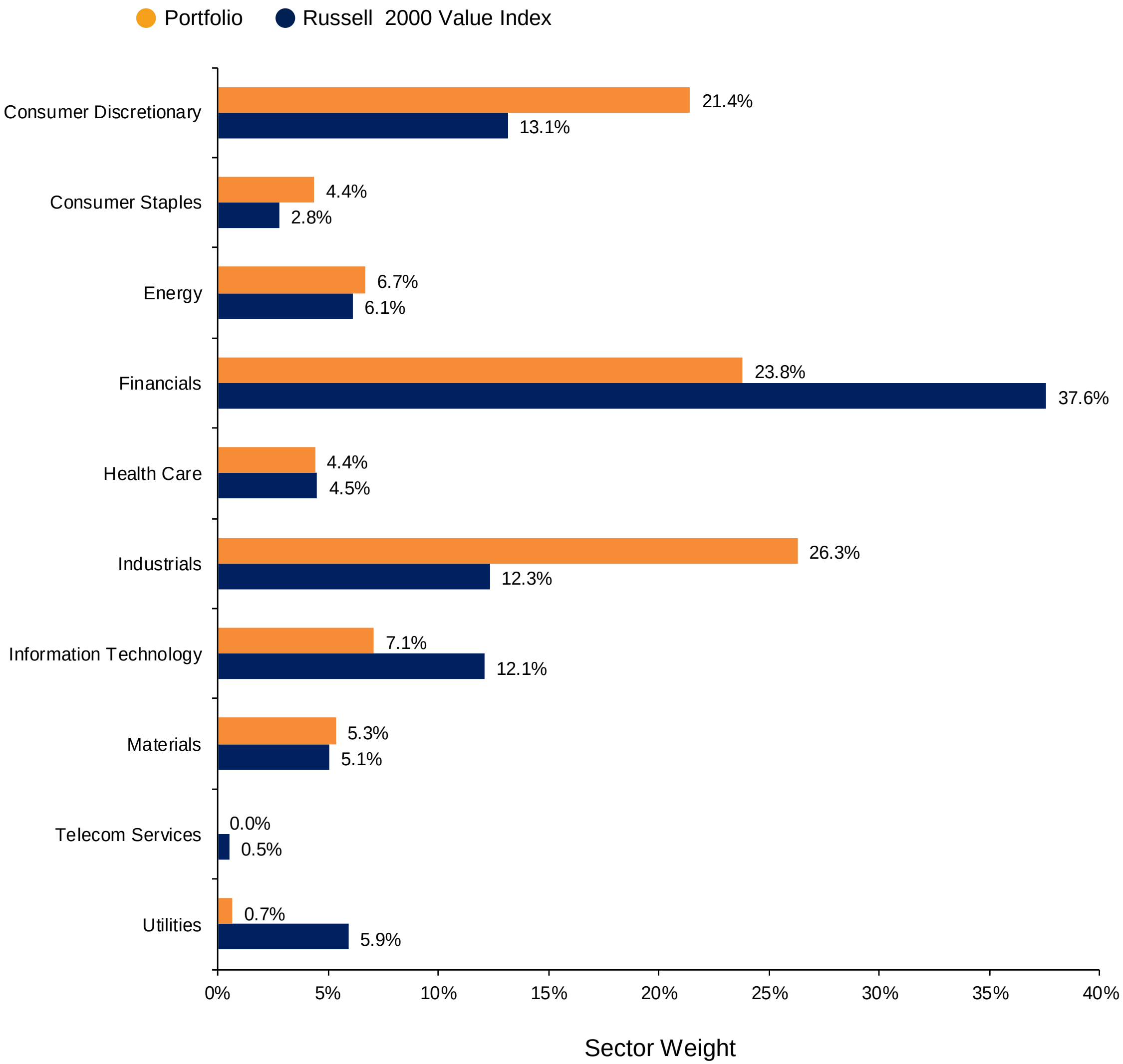
	3 Months	Year To Date	12 Months*	Inception To Date 11/9/2011*
Total Portfolio	**0.31%**	**12.48%**	**24.79%**	**21.17%**
Russell 2000 Value Index	2.47%	14.38%	24.76%	23.40%



As of June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
*Annualized returns.
Past performance is not indicative of future results.
The comparative performance contained herein reflects annualized returns for specific time periods, are gross of all fees, are not indicative of actual annual returns, and may not be relied upon for investment decisions. See Investment Performance Disclosure in Appendix.

CEREDEX VALUE ADVISORS

Sector Concentration*



Portfolio Characteristics*

Characteristic	Portfolio	Russell 2000 Value Index
Market Cap (billion)	$2.2	$1.4
Dividend Yield	2.0%	2.1%
Price-to-Earnings (12 months trailing)	18.0	16.0
Price-to-Book	1.9	1.4
Price-to-Sales	0.9	0.9

Top 10 Holdings*

Security	%
A.O. Smith Corp.	3.9
HSN Inc.	3.5
Guess? Inc.	3.4
StanCorp Financial Group Inc.	3.1
HCC Insurance Holdings Inc.	3.0
Cash America International Inc.	2.8
Sotheby's	2.8
Progressive Waste Solutions Ltd.	2.6
Interface Inc.	2.5
Lennox International Inc.	2.5

See Holdings Disclosure in Appendix.

* As of June 30, 2013. Source: FactSet, July 10, 2013.
Past performance is not indicative of future results.
Portfolio characteristics, sector analysis, and holdings exclude cash and may change at any time without notice.

CEREDEX VALUE ADVISORS

Performance Review – Top 10 Holdings

Security	Description
A.O. Smith Corp.	A. O. Smith Corporation engages in the manufacture and sale of water heating equipment and electric motors for the residential, commercial, and industrial end markets in the United States and internationally. The company operates through two segments, Water Products and Electrical Products.
HSN Inc.	HSN, Inc. operates as an interactive multi-channel retailer, offering retail experiences through various platforms, including television, online, mobile, catalogs, and retail and outlet stores. It markets and sells a range of third party and private label merchandise primarily in the United States.
Guess? Inc.	Guess?, Inc. designs, markets, distributes, and licenses lifestyle collections of contemporary apparel and accessories for men, women, and children that reflect the American lifestyle and European fashion sensibilities. The company's clothing collection includes jeans, pants, skirts, dresses, shorts, blouses, shirts, jackets, knitwear, and intimate apparel. Guess , Inc.
StanCorp Financial Group Inc.	StanCorp Financial Group, Inc., together with its subsidiaries, provides financial products and services in the United States. The company operates in two segments, Insurance Services and Asset Management. The Insurance Services segment offers group and individual disability insurance; group life, and accidental death and dismemberment insurance; group dental and group vision insurance; and absence management services to individuals and employers groups.
HCC Insurance Holdings Inc.	HCC Insurance Holdings, Inc. underwrites non-correlated specialty insurance products worldwide. The company operates in five segments: U.S. Property and Casualty, Professional Liability, Accident and Health, U.S. Surety and Credit, and International. The U.S.
Cash America Intl. Inc.	Cash America International, Inc. provides specialty financial services to individuals through retail services locations and e-commerce activities. The company offers pawn loans; and engages in the disposition of collateral from unredeemed pawn loans and the liquidation of merchandise purchased directly from customers or from third parties.
Sotheby's	Sotheby's operates as an auctioneer of authenticated fine art, decorative art, and jewelry. The company operates in three segments: Auction, Finance, and Dealer. The Auction segment primarily acts as an agent by offering works of art for sale at auction and by brokering private sales of artwork. The Finance segment provides financing secured by artworks to collectors and art dealers.
Progressive Waste Solutions	Progressive Waste Solutions Ltd. operates as a vertically integrated non-hazardous solid waste management company in North America. It operates through three segments: Canada, the U.S. south, and the U.S. northeast. The company provides waste collection, transfer, recycling, and disposal services to commercial, industrial, municipal, and residential customers in 13 U.S. states, the District of Columbia, and 6 Canadian provinces.
Interface Inc.	Interface, Inc. engages in the design, production, and sale of modular carpet products for the commercial, institutional, and residential markets primarily in the Americas, Europe, and the Asia-Pacific. The company offers modular carpets under the Interface, FLOR, and Heuga trademarks; and carpet tiles under the GlasBacRE trademark.
Lennox International Inc.	Lennox International Inc., through its subsidiaries, designs, manufactures, and markets climate control products for the heating, ventilation, air conditioning, and refrigeration markets. The company operates in three segments: Residential Heating & Cooling, Commercial Heating & Cooling, and Refrigeration.

Period Ending June 30, 2013. Source: Factset, July 10, 2013.
Data subject to change.

Performance Review - Portfolio Holdings

Units	Security		Unit Cost		Book Value		Price		Market Value	Alloc.
CASH AND EQUIVALENTS				**$**	**2,518,359.70**			**$**	**2,518,359.70**	**1.30%**
298,600	ARCOS DORADOS HOLDINGS INC SHS CLASS -A -	$	13.17	$	3,935,169.89	$	11.68	$	3,487,648.00	1.80%
72,300	BRUNSWICK CORP COM	$	20.75	$	1,500,311.87	$	31.95	$	2,309,985.00	1.20%
20,500	DESTINATION MATERNITY CORP COM	$	17.85	$	366,105.81	$	24.60	$	504,300.00	0.20%
17,700	EINSTEIN NOAH REST GROUP INC COM	$	14.46	$	256,099.76	$	14.20	$	251,340.00	0.10%
201,700	GUESS INC COM	$	28.58	$	5,765,333.38	$	31.03	$	6,258,751.00	3.30%
117,100	HSN INC COM	$	37.69	$	4,414,656.92	$	53.72	$	6,290,612.00	3.40%
40,700	LITHIA MTRS INC CL A	$	22.24	$	905,196.12	$	53.31	$	2,169,717.00	1.10%
88,000	MEREDITH CORP COM	$	34.03	$	2,994,827.31	$	47.70	$	4,197,600.00	2.20%
85,100	NUTRI SYS INC NEW COM	$	11.16	$	950,379.31	$	11.78	$	1,002,478.00	0.50%
1,710	OXFORD INDS INC COM	$	44.49	$	76,092.56	$	62.40	$	106,704.00	0.00%
84,000	SCHOLASTIC CORP COM	$	31.15	$	2,617,387.43	$	29.29	$	2,460,360.00	1.30%
94,200	SONIC AUTOMOTIVE INC CL A	$	14.33	$	1,350,077.95	$	21.14	$	1,991,388.00	1.00%
131,900	SOTHEBYS COM	$	36.74	$	4,846,682.84	$	37.91	$	5,000,329.00	2.70%
60,200	THOR INDS INC COM	$	27.32	$	1,644,823.51	$	49.18	$	2,960,636.00	1.60%
Consumer Discretionary				**$**	**31,623,144.72**			**$**	**38,991,848.00**	**21.10%**
26,400	CASEYS GEN STORES INC COM	$	51.54	$	1,360,900.56	$	60.16	$	1,588,224.00	0.80%
67,600	HARRIS TEETER SUPERMARKETS INC COM	$	39.14	$	2,646,159.71	$	46.86	$	3,167,736.00	1.70%
58,800	WD-40 CO COM	$	43.25	$	2,543,447.80	$	54.48	$	3,203,424.00	1.70%
Consumer Staples				**$**	**6,550,508.08**			**$**	**7,959,384.00**	**4.30%**
34,000	BERRY PETE CO CL A	$	39.92	$	1,357,286.32	$	42.32	$	1,438,880.00	0.70%
67,500	BRISTOW GROUP INC COM	$	47.21	$	3,187,312.13	$	65.32	$	4,409,100.00	2.30%
58,800	CARBO CERAMICS INC COM	$	91.00	$	5,351,060.01	$	67.43	$	3,964,884.00	2.10%
120,900	PATTERSON UTI ENERGY INC COM	$	17.32	$	2,094,211.45	$	19.36	$	2,340,624.00	1.20%
Energy				**$**	**11,989,869.93**			**$**	**12,153,488.00**	**6.50%**
78,208	AMERICAN RLTY CAP PPTYS INC COM	$	14.22	$	1,112,821.34	$	15.26	$	1,193,454.08	0.60%
31,100	BANCO LATINOAMERICANO DE COME SHS E	$	16.25	$	505,681.09	$	22.39	$	696,329.00	0.30%
12,500	BANK HAWAII CORP COM	$	41.39	$	517,375.00	$	50.32	$	629,000.00	0.30%
90,300	CAMPUS CREST CMNTYS INC COM	$	10.39	$	939,064.11	$	11.54	$	1,042,062.00	0.50%
110,600	CASH AMER INTL INC COM	$	48.29	$	5,341,128.58	$	45.46	$	5,027,876.00	2.70%
64,900	EVERCORE PARTNERS INC CLASS A	$	29.44	$	1,911,299.47	$	39.28	$	2,549,272.00	1.30%
82,400	HANCOCK HLDG CO COM	$	30.53	$	2,516,381.81	$	30.07	$	2,477,768.00	1.30%
80,400	HANOVER INS GROUP INC COM	$	37.54	$	3,018,254.93	$	48.93	$	3,933,972.00	2.10%
125,100	HCC INS HLDGS INC COM	$	27.00	$	3,378,331.19	$	43.11	$	5,393,061.00	2.90%
67,600	HORACE MANN EDUCATORS CORP NEW COM	$	17.36	$	1,174,090.81	$	24.38	$	1,648,088.00	0.80%
66,200	JMP GROUP INC COM	$	6.74	$	446,409.56	$	6.64	$	439,568.00	0.20%

Period Ending June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
Past performance is not indicative of future results. Data subject to change. See Holding Disclosure in Appendix.

CEREDEX VALUE ADVISORS

Performance Review - Portfolio Holdings

Units	Security	Unit Cost	Book Value	Price	Market Value	Alloc.
16,700	MID-AMER APT CMNTYS INC COM	$ 59.67	$ 996,633.54	$ 67.77	$ 1,131,759.00	0.60%
14,100	MONMOUTH REAL ESTATE INVT CORP CL A	$ 8.25	$ 116,325.00	$ 9.87	$ 139,167.00	0.00%
20,600	NATIONAL RETAIL PROPERTIES INC COM	$ 26.26	$ 541,093.87	$ 34.40	$ 708,640.00	0.30%
22,300	OPPENHEIMER HLDGS INC CL A NON VTG	$ 15.16	$ 338,275.67	$ 19.04	$ 424,592.00	0.20%
61,600	PROTECTIVE LIFE CORP COM	$ 26.29	$ 1,619,883.69	$ 38.41	$ 2,366,056.00	1.20%
115,500	STANCORP FINL GROUP INC COM	$ 35.43	$ 4,092,174.91	$ 49.41	$ 5,706,855.00	3.00%
59,800	STARWOOD PPTY TR INC COM	$ 18.80	$ 1,124,258.80	$ 24.75	$ 1,480,050.00	0.80%
36,481	TOWER GROUP INTERNATIONAL	$ 17.38	$ 634,404.58	$ 20.51	$ 748,225.31	0.40%
46,900	TRUSTCO BK CORP N Y COM	$ 4.96	$ 233,045.38	$ 5.44	$ 255,136.00	0.10%
58,400	UMB FINL CORP COM	$ 36.17	$ 2,112,427.15	$ 55.67	$ 3,251,128.00	1.70%
Financials			**$ 32,669,360.57**		**$ 41,242,058.39**	**22.30%**
39,400	ENSIGN GROUP INC COM	$ 24.61	$ 970,014.61	$ 35.22	$ 1,387,668.00	0.70%
22,700	LANDAUER INC COM	$ 51.76	$ 1,175,026.91	$ 48.31	$ 1,096,637.00	0.50%
71,300	STERIS CORP COM	$ 30.31	$ 2,161,441.83	$ 42.88	$ 3,057,344.00	1.60%
31,900	TELEFLEX INC COM	$ 60.20	$ 1,920,401.96	$ 77.49	$ 2,471,931.00	1.30%
Health Care			**$ 6,226,885.32**		**$ 8,013,580.00**	**4.30%**
68,800	ABM INDS INC COM	$ 19.92	$ 1,370,938.61	$ 24.51	$ 1,686,288.00	0.90%
18,000	BARNES GROUP INC COM	$ 27.42	$ 493,678.88	$ 29.99	$ 539,820.00	0.20%
15,700	CHINA YUCHAI INTL LTD COM	$ 13.40	$ 210,380.00	$ 17.63	$ 276,791.00	0.10%
55,800	CLARCOR INC COM	$ 50.48	$ 2,817,072.31	$ 52.21	$ 2,913,318.00	1.50%
61,503	CORRECTIONS CORP AMER NEW COM NEW	$ 26.99	$ 1,660,039.07	$ 33.87	$ 2,083,140.44	1.10%
47,000	EMCOR GROUP INC COM	$ 30.66	$ 1,441,121.35	$ 40.65	$ 1,910,550.00	1.00%
31,000	GPO AEROPORTUARIO DEL PAC SAB SPON ADR E	$ 34.22	$ 1,060,820.00	$ 50.83	$ 1,575,730.00	0.80%
12,300	GRANITE CONSTR INC COM	$ 28.87	$ 355,179.70	$ 29.76	$ 366,048.00	0.10%
118,400	GREAT LAKES DREDGE & DOCK CORP COM	$ 7.02	$ 831,645.36	$ 7.82	$ 925,888.00	0.50%
6,800	GRUPO AEROPORTUARIO DEL SUREST SPON ADF	$ 71.77	$ 488,037.15	$ 111.24	$ 756,432.00	0.40%
55,100	HARSCO CORP COM	$ 21.59	$ 1,189,879.85	$ 23.19	$ 1,277,769.00	0.60%
266,200	INTERFACE INC COM	$ 12.18	$ 3,243,351.46	$ 16.97	$ 4,517,414.00	2.40%
52,900	ITT CORP NEW COM NEW	$ 30.34	$ 1,605,067.99	$ 29.41	$ 1,555,789.00	0.80%
19,700	KENNAMETAL INC COM	$ 34.67	$ 683,128.29	$ 38.83	$ 764,951.00	0.40%
96,700	KNOLL INC COM NEW	$ 15.98	$ 1,545,582.91	$ 14.21	$ 1,374,107.00	0.70%
69,900	LENNOX INTL INC COM	$ 34.18	$ 2,389,615.99	$ 64.54	$ 4,511,346.00	2.40%
107,100	MILLER HERMAN INC COM	$ 21.76	$ 2,330,580.38	$ 27.07	$ 2,899,197.00	1.50%
45,900	MINE SAFETY APPLIANCES CO COM	$ 37.14	$ 1,705,162.11	$ 46.55	$ 2,136,645.00	1.10%
221,700	PROGRESSIVE WASTE SOLUTIONS LT COM	$ 20.23	$ 4,486,771.88	$ 21.51	$ 4,768,767.00	2.50%
52,400	RITCHIE BROS AUCTIONEERS COM	$ 19.93	$ 1,044,470.26	$ 19.22	$ 1,007,128.00	0.50%

Period Ending June 30, 2013. Source: Advent Portfolio Exchange, July 10, 2013.
Past performance is not indicative of future results. Data subject to change. See Holding Disclosure in Appendix.

CEREDEX VALUE ADVISORS

Performance Review - Portfolio Holdings

Units	Security	Unit Cost	Book Value	Price	Market Value	Alloc.
4,900	RYDER SYS INC COM	$ 49.36	$ 241,901.82	$ 60.79	$ 297,871.00	0.10%
196,400	SMITH A O COM	$ 19.03	$ 3,737,807.33	$ 36.28	$ 7,125,392.00	3.80%
10,300	SUN HYDRAULICS CORP COM	$ 28.59	$ 294,482.11	$ 31.28	$ 322,184.00	0.10%
16,900	TENNANT CO COM	$ 37.88	$ 640,197.11	$ 48.27	$ 815,763.00	0.40%
120,600	TITAN INTL INC ILL COM	$ 25.13	$ 3,031,650.15	$ 16.87	$ 2,034,522.00	1.10%
59,400	VIAD CORP COM NEW	$ 19.45	$ 1,155,506.13	$ 24.52	$ 1,456,488.00	0.70%
Industrials			**$ 40,054,068.31**		**$ 49,899,338.44**	**27.00%**
30,400	BLACK BOX CORP DEL COM	$ 25.49	$ 775,158.81	$ 25.32	$ 769,728.00	0.40%
16,800	DST SYS INC DEL COM	$ 52.82	$ 887,427.25	$ 65.33	$ 1,097,544.00	0.50%
39,100	FAIR ISAAC CORP COM	$ 46.42	$ 1,815,291.71	$ 45.83	$ 1,791,953.00	0.90%
39,200	FEI CO COM	$ 62.03	$ 2,431,780.66	$ 73.02	$ 2,862,384.00	1.50%
120,400	FLIR SYS INC COM	$ 19.49	$ 2,347,725.75	$ 26.97	$ 3,247,188.00	1.70%
70,500	PLANTRONICS INC NEW COM	$ 35.61	$ 2,510,807.90	$ 43.92	$ 3,096,360.00	1.60%
Information Technology			**$ 10,768,192.11**		**$ 12,865,157.00**	**6.90%**
100,000	CABOT CORP COM	$ 35.39	$ 3,539,515.22	$ 37.42	$ 3,742,000.00	2.00%
43,000	CARPENTER TECHNOLOGY CORP COM	$ 51.64	$ 2,220,575.62	$ 45.07	$ 1,938,010.00	1.00%
10,700	COMPASS MINERALS INTL INC COM	$ 75.37	$ 806,492.17	$ 84.53	$ 904,471.00	0.40%
73,800	GLOBE SPECIALTY METALS INC COM	$ 15.40	$ 1,136,643.10	$ 10.87	$ 802,206.00	0.40%
18,800	HAYNES INTERNATIONAL INC COM NEW	$ 52.90	$ 994,628.37	$ 47.87	$ 899,956.00	0.40%
53,600	SCHULMAN A INC COM	$ 22.20	$ 1,190,173.24	$ 26.82	$ 1,437,552.00	0.70%
Materials			**$ 9,888,027.73**		**$ 9,724,195.00**	**5.20%**
6,900	AVISTA CORP COM	$ 24.16	$ 166,704.00	$ 27.02	$ 186,438.00	0.10%
51,700	CALIFORNIA WTR SVC GROUP COM	$ 18.16	$ 939,268.74	$ 19.51	$ 1,008,667.00	0.50%
Utilities			**$ 1,105,972.74**		**$ 1,195,105.00**	**0.60%**
	COMMON STOCK(USD) Total		**$ 150,876,029.56**		**$ 182,044,153.83**	**98.60%**
TOTAL PORTFOLIO			**$ 153,394,389.26**		**$ 184,562,513.53**	**100.00%**

CEREDEX VALUE ADVISORS

Appendix

Glossary

Active Position
Absolute portfolio weight minus the benchmark portfolio weight.

Free Cash Flow Yield
Cash flow from operations for a particular year less capital expenditures divided by the diluted weighted average shares outstanding for that fiscal year. Free cash flow per share for the current fiscal year divided by current stock price.

Market Capitalization
The total dollar value of all outstanding shares. It is calculated by multiplying the number of shares outstanding by the current price of one share.

Operating Margin
Operating income divided by revenues, expressed as a percentage.

Price to Sales Ratio (P/S)
A stock's capitalization divided by its sales over a trailing 12 months. The value is the same whether the calculation is done for the whole company or a per-share basis.

Return on Equity (ROE)
Equal to a fiscal year's after-tax income (after preferred stock dividends but before common stock dividends) divided by book value, expressed as a percentage.

Tracking Error
Tracking error is the standard deviation of the difference between the periodic total returns of a portfolio of stocks and those of a benchmark. An estimated tracking error estimates the likelihood that a portfolio will outperform or underperform its benchmark by a certain amount or more at the end of a specified period.

Russell 1000 Value
Composed of the securities in the Russell 1000 Index, as defined by Russell Investment Group, with less-than-average growth orientation. Companies in this index generally have low price-to-book and price-to-earnings ratios, higher dividend yields, and lower forecasted growth values. Investors cannot invest directly in an index.

Russell Midcap Value
Is an unmanaged index which measures the performance of those securities found in the Russell Midcap universe, as defined by Russell Investment Group, with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value Index. Investors cannot invest directly in an index.

Russell 2000 Value
Is an unmanaged index which is comprised of the securities in the Russell 2000 Index, as defined by Russell Investment Group, with a less-than-average growth orientation. Companies in this index generally have low price-to-book and price-to-earnings ratios. Investors cannot invest directly in an index.

S&P 500/Citigroup Value
Seeks to gain exposure to large, value oriented U.S. companies by replicating the returns and characteristics of the S&P 500/BARRA Value Index. Each stock of the S&P 500 Index is categorized as being either value or growth companies based on its price-to-book ratio. The S&P 500/BARRA Value Index contains those securities with lower price-to-book ratios.

Disclosures

Client Reports and Custody Statement

It is important to receive and review the statement you receive from your custodian. Any client account report provided by our Firm is not intended to replace your custody statement, which should be considered your official record for all pertinent account information. And while our Firm's reports are provided in a different format from the custodian's, and may vary in content and scope, you should compare the asset information to that of your custody statement. Please notify us promptly if you do not receive statements on all accounts from the custodian on at least a quarterly basis.

General Economic and Market Commentary Disclaimer

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Past performance is not indicative of future results.

Holdings Disclosure

The information provided in this report should not be considered a recommendation to purchase or sell any particular security. There is no assurance that any securities discussed herein will remain in an account's portfolio at the time you receive this report or that securities sold have not been repurchased. The securities discussed do not represent an account's entire portfolio and in the aggregate may represent only a small percentage of an account's portfolio holdings. It should not be assumed that any of the securities transactions or holdings discussed were or will prove to be profitable, or that the investment recommendations or decisions we make in the future will be profitable or will equal the investment performance of the securities discussed herein.

Indexes Referenced

Russell 1000 Value: Is an unmanaged index which is comprised of the securities in the Russell 1000 Index, as defined by Russell Investment Group, with less-than-average growth orientation. Companies in this index generally have low price-to-book and price-to-earnings ratios, higher dividend yields, and lower forecasted growth values.

Russell Midcap Value: Is an unmanaged index which measures the performance of those securities found in the Russell Midcap universe, as defined by Russell Investment Group, with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value Index.

Russell 2000 Value: Is an unmanaged index which is comprised of the securities in the Russell 2000 Index, as defined by Russell Investment Group, with a less-than-average growth orientation. Companies in this index generally have low price-to-book and price-to-earnings ratios.

Investors cannot invest directly in an index.

Investment Performance

Past performance is not indicative of future results. Unless otherwise stated as net-of-fees, performance data related to accounts managed by Ceredex represents returns gross of investment management fees, i.e., performance has not been reduced by advisory fees and other expenses that may be incurred. See Ceredex's Form ADV, Part 2 for a description of investment advisory fees. The performance information reported herein may be for a variety of products which have different methods of presenting performance data, i.e. net of fees, gross of fees, or a combination of these. This information should not be evaluated independent of or without reference to the investment advisory agreement that more specifically addresses applicable investment advisory fees.

Fees have a compounding effect on cumulative results. For example, assume the account achieves a 10% annual return prior to the deduction of fees each year for a period of ten years. If an annual fee of 0.5% of assets under management were charged each of the ten years, the resulting annual average return net of fees would be reduced to 9.48%.

Investment Process, Strategies And Procedures

Investment process, strategies, and procedures detailed in this presentation are intended to be general guidelines, subject to market conditions and client-specific investment guidelines and restrictions, and are measured at time of purchase. [Boutique] may deviate from these guidelines if market conditions warrant, or if the investment professionals deem doing so would be in the clients' best interests. Guidelines do not guarantee any reduction of risk or loss.

Investment Risk

All investments involve risk. Equity securities (stocks) may be more volatile and carry more risk than other forms of investments. Value-based investments are subject to the risk that the broad market may not recognize their intrinsic value. Dividends reflect past performance and there is no guarantee they will continue to be paid. There is no guarantee a specific investment strategy will be successful. Individual investors are advised to consult with their investment professional about their specific financial needs and goals before making any investment decisions.

Sector Weightings and Portfolio Characteristics

The sector weightings and portfolio characteristics are presented as of the date shown on this presentation, and may change without notice. A complete list of sector weightings and individual security positions for any specific period are available upon request.

Investment process, strategies, and procedures detailed in this presentation are intended to be general guidelines, subject to market conditions and client-specific investment guidelines and restrictions, and are measured at time of purchase. Ceredex Value Advisors LLC may deviate from these guidelines if market conditions warrant, or if the investment professionals deem doing so would be in the clients' best interests. Guidelines do not guarantee any reduction of risk or loss.

CEREDEX
VALUE ADVISORS

MPT STATISTICS/OTHER MEASUREMENTS

Alpha - is defined as the difference between the average realized return of a portfolio manager with private information and the expected return of the passive strategy based upon public information with equal systematic risk.

Beta – is a measure of an investment's volatility, relative to an appropriate asset class.

R-Squared – a statistical measure of how well a regression line approximates real data points; an r-squared of 1.0 (100%) indicates a perfect fit. r-squared measures how well the Capital Asset Pricing Model predicts the actual performance of an investment or portfolio.

Sharpe Ratio - also known as Reward-to-Volatility-Ratio, indicates the excess return per unit of risk associated with the excess return. The higher the Sharpe Ratio, the better the performance.

Standard Deviation – a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time.

PORTFOLIO CHARACTERISTICS DEFINITIONS

30 Day SEC Yield – is calculated by dividing the net investment income per share for the 30 days ended on the date of calculation by the offering price per share on that date. The figure is compounded and annualized.

3-5 Year EPS Growth – Analyst's estimated 3-5 year growth in earnings.

Price-to-Book (P/B) – A stock's capitalization divided by its book value. The value is the same whether the calculation is done for the whole company or a per-share basis.

Price-to-Earning P/E – The price of the stock divided by its historical earnings per share.

Price-to-Earning P/E (FY1) – The P/E ratio is equal to a stock's market capitalization divided by its projected after-tax earnings the next 12-months.

Return on Equity – Equal to a fiscal year's after tax income (after preferred stock dividends but before common stock dividends) divided by book value, expressed as a percentage.

Price-to-Sales ratio (P/S) - A stock's capitalization divided by its sales over a trailing 12 months. The value is the same whether the calculation is done for the whole company or a per-share basis.

Thank You

Emerald Advisers, Inc.

Small Capitalization Growth

Prepared for:

Contra Costa County Employees' Ret. Association

July 24, 2013

www.teamemerald.com

Table of Contents

20 Years

1992-2012

Section 1

Emerald Corporate Profile

Inception November, 1991

Type of Business S-Corporation / 100% Employee-Owned

Firm Assets Under Management
$2.4 billion as of June 30, 2013

Products

Equity

Separate Accounts and Mutual Funds*

*Small Capitalization Growth**
All Capitalization Growth
Mid Capitalization Growth
Small Capitalization Core (PA-based)
Large Capitalization Core
*Banking & Finance Sector**

Fixed Income

Separate Accounts

Core Government Credit
Core Aggregate
Intermediate Government Credit
Low Duration
& Specifically-Tailored Client Portfolios

Partial Client List

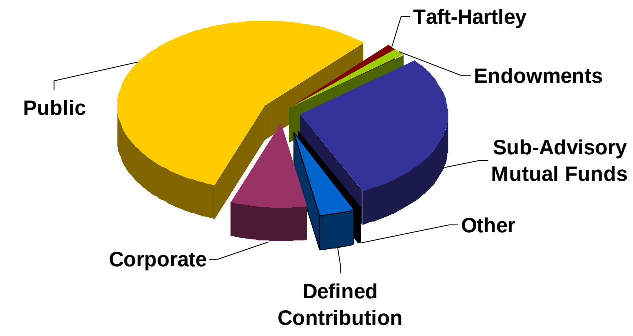
Public
City of Fort Pierce (FL)
City of Philadelphia
City of Taunton (MA)
Commonwealth of Pa.
Contra Costa County (CA)
Prince George's County (MD)
State of Illinois Teachers'
18 Pennsylvania Counties
PA State Workers Insurance Fund
Board of City Trusts/Girard Estate
AFSCME 13

Corporate
Independence Blue Cross
Shands Healthcare Pension Plan
Carpenter Technology

Endowments
Indiana Hospital
Lower Susquehanna Synod of the ELCA
Shippensburg University Foundation

Taft-Hartley
UFCW Tri-State Pension Fund

Sub-Advisory Relationships
Emerald Mutual Funds
Prudential Investments



It is not known whether the clients approve or disapprove of Emerald services provided through its subsidiaries. Emerald did not use performance-based data to determine which clients are included on this list. Clients were selected based upon their general name recognition and as a representative sampling of the types of accounts managed. Performance-based data was not used to determine which clients are included on this list. Clients were selected based on a sampling of the types of accounts managed.

Equity Investment Process

Emerald Advisers
In-house Research Team

1. Idea Generation

- Companies with:
  - Capitalization equal to or less than the largest Russell 2000 company
  - Competitive advantages
  - Leadership position
  - Growth rate exceeds peer group
  - Differentiated growth drivers
  - Under-researched

Portfolio Managers

Kenneth G. Mertz II, CFA
Stacey L. Sears
Joseph W. Garner

2. Research Process

- In-house generation
- Fundamental
- Bottom-up
- Company visits
- Individual analyst accountability

3. Portfolio Construction

- 70 years experience
- 110-120 stocks
- Sector diversification
- Industry diversification
- ½ to 2 percent positions
- Risk-averse

Review of Portfolio Philosophy, Process, and Style

Emerald Advisers employs an intense fundamental, bottom-up, research-focused investment philosophy designed to identify unrecognized, under-researched, and under-valued investment opportunities. Since over 400 of the Russell 2000 companies are covered by two or fewer sell-side brokerage firms, Emerald believes there is extraordinary opportunity in the small capitalization markets. Emerald's hands-on approach offers us unique insight into both industry trends and company-specific trends that enable us to identify largely undiscovered companies with distinct competitive advantages and higher growth rates relative to their industry peers and the market as a whole.

Portfolio Management Team

Small Cap Growth Equity

Kenneth G. Mertz II, CFA
Chief Investment Officer/ Portfolio Manager

- Community Banks
- Insurance

Stacey L. Sears
Portfolio Manager / Analyst

- Consumer Discretionary
- Consumer Technology

Joseph W. Garner
Portfolio Manager / Director of Research

- Consumer Goods/Services
- Financial Services
- Technology/Tech Team
- Transportation

Investment Experience		
34 Yrs.	18 Yrs.	18 Yrs.

Emerald
Investment Research Process

Emerald's in-house research team focuses on providing intense fundamental bottom-up research and analysis of small and mid-cap growth companies in a wide range of industries. In researching each individual company or security, our analysts utilize this proprietary 10-step process.

10-Step Process

1. **Review SEC filings, press releases and news stories.**
   The process includes monitoring relevant media sources such as industry press, financial press and popular press.
2. **Meet with management.**
   Conduct on-site meetings with management across the organization in areas such as executive management, marketing, product development, operations and finance. The Emerald Research Team conducts approximately 2,000 meetings per year.
3. **Interview customers.**
   Interview customers to determine (1) the critical factors driving their buy decision, (2) what competitors or alternatives were considered, (3) level of satisfaction with the quality of the product or service, and (4) likelihood of generating repeat business.
4. **Interview competitors.**
   Interview competitors to determine their strengths and weaknesses, as well the competitors' perception of the strengths and weaknesses of the company.
5. **Interview suppliers.**
   Interview suppliers to determine their ability to supply the products/services required by the company. Also, assess the extent of potential supply chain bottlenecks.
6. **Interview distributors.**
   Interview distributors to determine potential issues and opportunities in the company's distribution channel such as inventory levels, demand drivers and competitive pressures.
7. **Develop financial and valuation models.**
   Develop a financial model to analyze financial performance and estimate future cash flows, earnings and financing needs. Use a valuation model to analyze relative and absolute valuation.
8. **Review third party research.**
   Review published research from sell-side analysts and industry research firms to compare our data points and financial estimates. Also, use third party research to assess security-specific and industry-specific sentiment.
9. **Publish an internal research report.**
   Publish an internal research report summarizing the company's business, competitive advantages, management strengths/weaknesses, growth drivers and risks, as well as stating investment conclusions and recommendations.
10. **Communicate, Communicate, Communicate.**
    The entire research team meets formally twice per week and informally on an ongoing basis with the portfolio management team to discuss the fundamentals of all current and potential holdings. Internal discussions are held throughout the process.

Research Analyst Coverage

Stephen Amsterdam
- Semi Cap Equip.
- Electronics
- Gaming
- Semiconductors
- Tech Team

Tenure w/ Firm: 9 Years

Joseph A. Besecker, MD, FAAP
- Biotechnology
- Emerging Pharma
- Medical Devices

Tenure w/ Firm: 11 Years

Scott Blumenthal, MBA
- Basic Materials
- Industrials
- Capital Goods
- Defense & Aerospace
- Engineering & Construction

Tenure w/ Firm: 7 Years

Alfred Cooke, MD, FASC
- Medical Devices/ Diagnostics
- Surgical Products

Tenure w/ Firm: 11 Years

Derek Fisher
- Computer Software
- Information Technology
- Professional Services
- Tech Team

Tenure w/ Firm: 15 Years

Joseph W. Garner, MBA
Director of Research
Portfolio Manager
- Consumer Goods / Services
- Technology / Tech Team
- Transportation

Tenure w/ Firm: 18 Years

Nathan R. Jones, PhD, MBA
- Technology
- Tech Team

Tenure w/ Firm: 1 Month

Kenneth G. Mertz, CFA
Portfolio Manager
- Community Banks
- Insurance

Tenure w/ Firm: 20 Years

Andrew Rohrer
- Agriculture
- Automotive
- Transportation
- Trucking

Tenure w/ Firm: 4 Years

Steven E. Russell, Esq.
Portfolio Manager
- Financial Services
- Communications Technology

Tenure w/ Firm: 12 Years

Stacey L. Sears, MBA
Portfolio Manager
- Consumer Discretionary
- Consumer Technology

Tenure w/ Firm: 20 Years

Terry M. Smith, PhD, MBA
- Biotechnology
- Drugs & Pharma.
- Drug Distribution & Pharma Services
- Managed Care

Tenure w/ Firm: 5 Years

Nishit Trivedi, PhD, MBBS, MBA
- Molecular Diagnostics
- Medical Devices
- Hospitals

Tenure w/ Firm: 6 Years

Mike Vanaskie
- Consumer Staples

Tenure w/ Firm: 9 Months

David Volpe, CFA
Portfolio Manager
- Energy
- Producers
- Oil Services

Tenure w/ Firm: 13 Years

20 Years

1992-2012

Section 2

Preliminary Performance - Gross

As of June 30, 2013

	Emerald	Russell 2000 Growth
2nd Qtr. 2013	5.48%	3.74%
YTD	20.69%	17.44%
Trailing 1 Year	27.84%	23.67%
3 Years*	23.71%	19.97%
5 Years*	11.85%	8.89%
7 Years*	7.44%	6.89%
10 Years*	10.39%	9.62%
Since Inception* (from 4-7-03)	12.08%	11.39%

Performance Disclaimer - The performance information reflected is approved for "One-on-One" client presentations only. The performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed $100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to $259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to $234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.

Preliminary Performance - Gross
As of June 30, 2013

						Russell 2000 Growth		
			Cumulative		Cumulative			Cumulative
	Appraisal	Contrib	Contrib	Percent	Percent		Percent	Percent
Date	Value	(Deduct)	(Deduct)	Change	Change	Close	Change	Change
Year-End Summary Performance:								
4/7/2003	28,000,000					1,275		
12/31/2003	95,672,561	35,756,589	35,756,589	51.94	51.94	1,909	49.76	49.76
12/31/2004	83,594,097	-16,171,855	19,584,733	4.28	58.44	2,182	14.31	71.18
12/31/2005	171,550,077	73,583,839	93,168,573	9.76	73.9	2,273	4.15	78.29
12/31/2006	179,401,568	-14,897,828	78,270,744	13.76	97.82	2,576	13.35	102.08
12/31/2007	146,693,197	-38,591,297	39,679,448	3.34	104.44	2,758	7.05	116.32
12/31/2008	95,675,870	3,354,768	43,034,216	-36.46	29.91	1,695	-38.54	32.95
12/31/2009	134,412,361	3,660,620	46,694,836	33.29	73.15	2,279	34.47	78.78
12/31/2010	158,214,955	-12,574,231	34,120,605	30.43	125.84	2,942	29.09	130.78
12/31/2011	164,901,099	10,654,275	44,774,880	-0.54	124.61	2,857	-2.91	124.07
12/31/2012	202,261,608	6,294,627	51,069,507	18.43	166.01	3,273	14.59	156.76
Inception to Date Annualized Rate of Return:				12.08%			11.39%	
3 Year Annualized Rate of Return:				23.71%			19.97%	
5 Year Annualized Rate of Return:				11.85%			8.89%	
10 Year Annualized Rate of Return:				10.39%			9.62%	
Year to Date Rate of Return:				20.69%			17.44%	

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Preliminary Performance - Gross

As of June 30, 2013

Date	Appraisal Value	Contrib (Deduct)	Cumulative Contrib (Deduct)	Percent Change	Cumulative Percent Change	Russell 2000 Growth Close	Percent Change	Cumulative Percent Change
Year to Date Quarterly Performance:								
4/7/2003	28,000,000					1,275		
6/30/2003	75,340,570	35,853,743	35,853,743	19.52	19.52	1,534	20.31	20.31
9/30/2003	83,602,756	-54,054	35,799,689	11.04	32.71	1,694	10.47	32.9
12/31/2003	95,672,561	-43,101	35,756,589	14.49	51.94	1,909	12.68	49.76
3/31/2004	78,142,238	-19,338,480	16,418,108	1.93	54.88	2,016	5.58	58.12
6/30/2004	76,790,809	-34,645	16,383,463	-1.68	52.27	2,018	0.09	58.26
9/30/2004	73,026,571	3,255,882	19,639,345	-9.17	38.31	1,896	-6.01	48.75
12/31/2004	83,594,097	-54,612	19,584,733	14.55	58.44	2,182	15.08	71.18
3/31/2005	79,910,651	-52,554	19,532,179	-4.34	51.55	2,033	-6.83	59.5
6/30/2005	127,181,809	44,834,671	64,366,850	3.64	57.06	2,104	3.48	65.05
9/30/2005	165,136,306	28,972,042	93,338,892	6.47	67.23	2,237	6.32	75.47
12/31/2005	171,550,077	-170,320	93,168,573	3.99	73.9	2,273	1.61	78.29
3/31/2006	195,298,759	-4,373,166	88,795,407	16.53	102.64	2,599	14.36	103.9
6/30/2006	187,025,005	-170,374	88,625,033	-4.15	94.23	2,411	-7.25	89.12
9/30/2006	169,925,507	-10,163,920	78,461,112	-3.63	87.17	2,369	-1.76	85.79
12/31/2006	179,401,568	-190,368	78,270,744	5.69	97.82	2,576	8.77	102.08
3/31/2007	153,875,909	-32,150,330	46,120,414	4.02	105.77	2,640	2.48	107.09
6/30/2007	164,228,857	-120,130	46,000,284	6.81	119.78	2,817	6.69	120.94
9/30/2007	160,497,979	-6,132,680	39,867,604	1.65	123.41	2,817	0.02	120.97
12/31/2007	146,693,197	-188,156	39,679,448	-8.49	104.44	2,758	-2.1	116.32
3/31/2008	136,939,673	11,825,121	51,504,569	-14.36	75.08	2,404	-12.83	88.57

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Preliminary Performance - Gross

As of June 30, 2013

Date	Appraisal Value	Contrib (Deduct)	Cumulative Contrib (Deduct)	Percent Change	Cumulative Percent Change	Russell 2000 Growth Close	Russell 2000 Growth Percent Change	Russell 2000 Growth Cumulative Percent Change
6/30/2008	143,310,763	-154,825	51,349,744	4.77	83.42	2,512	4.47	97.01
9/30/2008	129,109,091	-8,158,601	43,191,143	-4.57	75.03	2,336	-6.99	83.25
12/31/2008	95,675,870	-156,927	43,034,216	-25.78	29.91	1,695	-27.45	32.95
3/31/2009	95,915,254	7,916,087	50,950,303	-8.27	19.16	1,530	-9.74	20
6/30/2009	111,625,456	-106,913	50,843,390	16.5	38.82	1,887	23.38	48.06
9/30/2009	126,818,512	-4,081,854	46,761,536	17.62	63.28	2,189	15.95	71.67
12/31/2009	134,412,361	-66,699	46,694,836	6.04	73.15	2,279	4.14	78.78
3/31/2010	129,597,586	-12,117,453	34,577,384	6.49	84.39	2,453	7.61	92.39
6/30/2010	119,099,446	-88,461	34,488,923	-8.04	69.57	2,227	-9.22	74.65
9/30/2010	134,869,074	-90,772	34,398,151	13.32	92.16	2,512	12.83	97.06
12/31/2010	158,214,955	-277,546	34,120,605	17.52	125.84	2,942	17.11	130.78
3/31/2011	200,862,763	22,999,806	57,120,411	13.46	156.24	3,214	9.24	152.1
6/30/2011	200,398,985	-81,585	57,038,826	-0.19	155.75	3,195	-0.59	150.62
9/30/2011	143,425,931	-12,158,421	44,880,406	-23.66	95.23	2,484	-22.25	94.86
12/31/2011	164,901,099	-105,526	44,774,880	15.05	124.61	2,857	14.99	124.07
3/31/2012	214,711,389	13,864,632	58,639,513	20.92	171.6	3,236	13.28	153.82
6/30/2012	198,386,431	-146,249	58,493,264	-7.54	151.13	3,108	-3.94	143.82
9/30/2012	205,145,116	-7,109,179	51,384,085	7.26	169.38	3,259	4.84	155.62
12/31/2012	202,261,608	-314,578	51,069,507	-1.25	166.01	3,273	0.45	156.76
3/31/2013	194,358,071	-34,036,436	17,033,071	14.42	204.37	3,706	13.21	190.68
6/30/2013	204,873,847	-127,835	16,905,236	5.48	221.05	3,844	3.74	201.54

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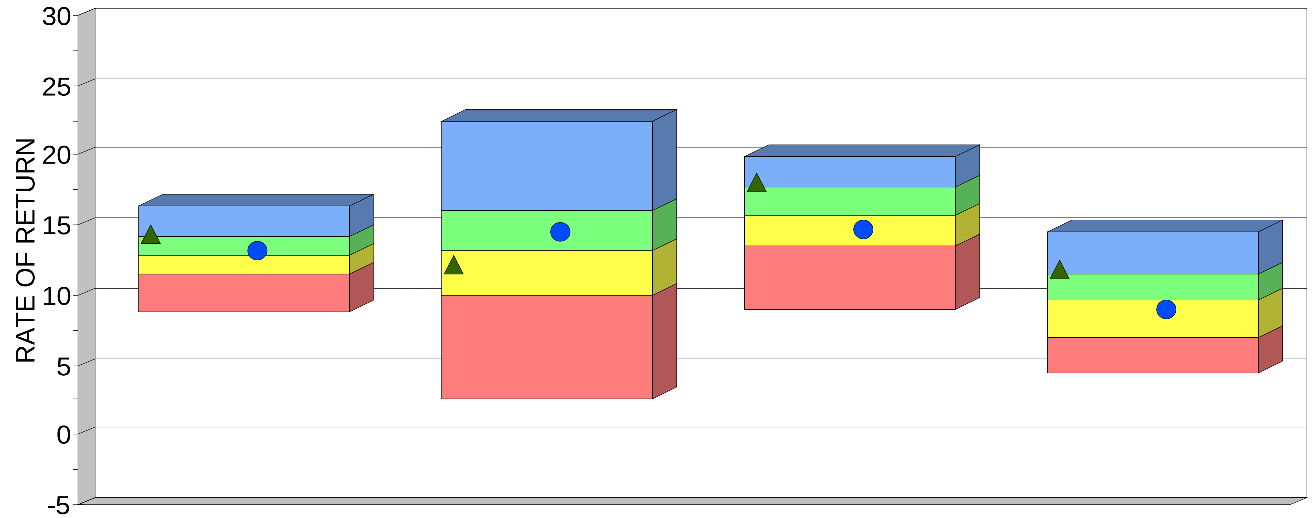
SCG Universe Comparison
As of March 31, 2013

RATE OF RETURN
REPORTED GROSS



	Latest Quarter	1 Year	3 Years	5 Years
HIGH (0.05)	16.30	22.35	19.95	14.47
FIRST QUARTILE	14.19	16.11	17.64	11.50
MEDIAN	12.82	13.10	15.72	9.56
THIRD QUARTILE	11.50	9.90	13.58	6.98
LOW (0.95)	8.88	2.59	8.99	4.51
MEAN	12.79	12.81	15.55	9.33
VALID COUNT	136	136	131	121

	Latest Quarter		1 Year		3 Years		5 Years	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Emerald Advisers Emerald Div. Sm.	14.37	21	12.11	61	18.08	16	11.81	19
● Russell 2000 Growth	13.21	40	14.52	38	14.75	62	9.04	52

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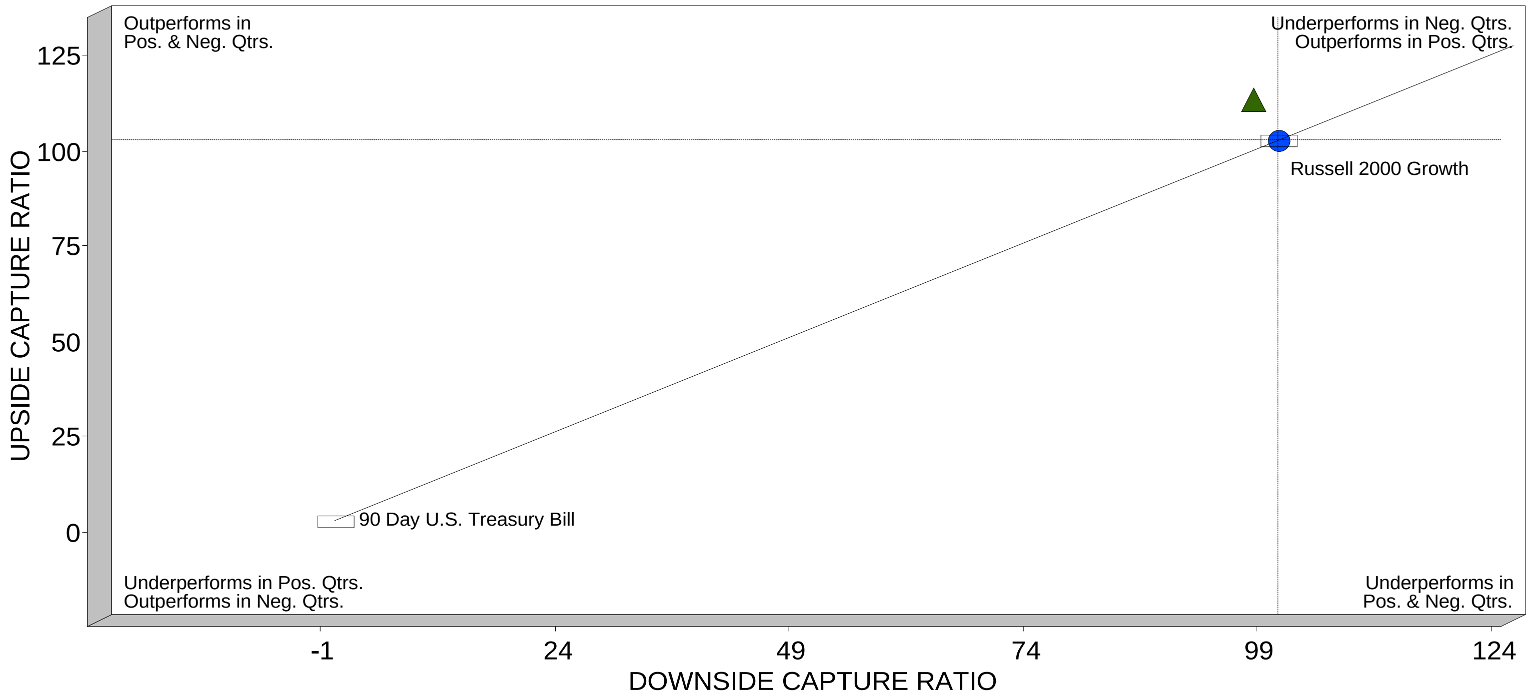
Source: PSN, Universe: Small Cap Growth

Market Capture – 5 Year
As of June 30, 2013

RATE OF RETURN REPORTED GROSS



	Up Mkt Capt Retrn	Up Cap Ratio	Dnside Cap Return	Dnside Cap Ratio	R-Squared
Emerald Advisers Emerald Div. Sm.	54.98	110.16	-38.85	97.43	0.95
Russell 2000 Growth	49.91	100.00	-39.87	100.00	1.00

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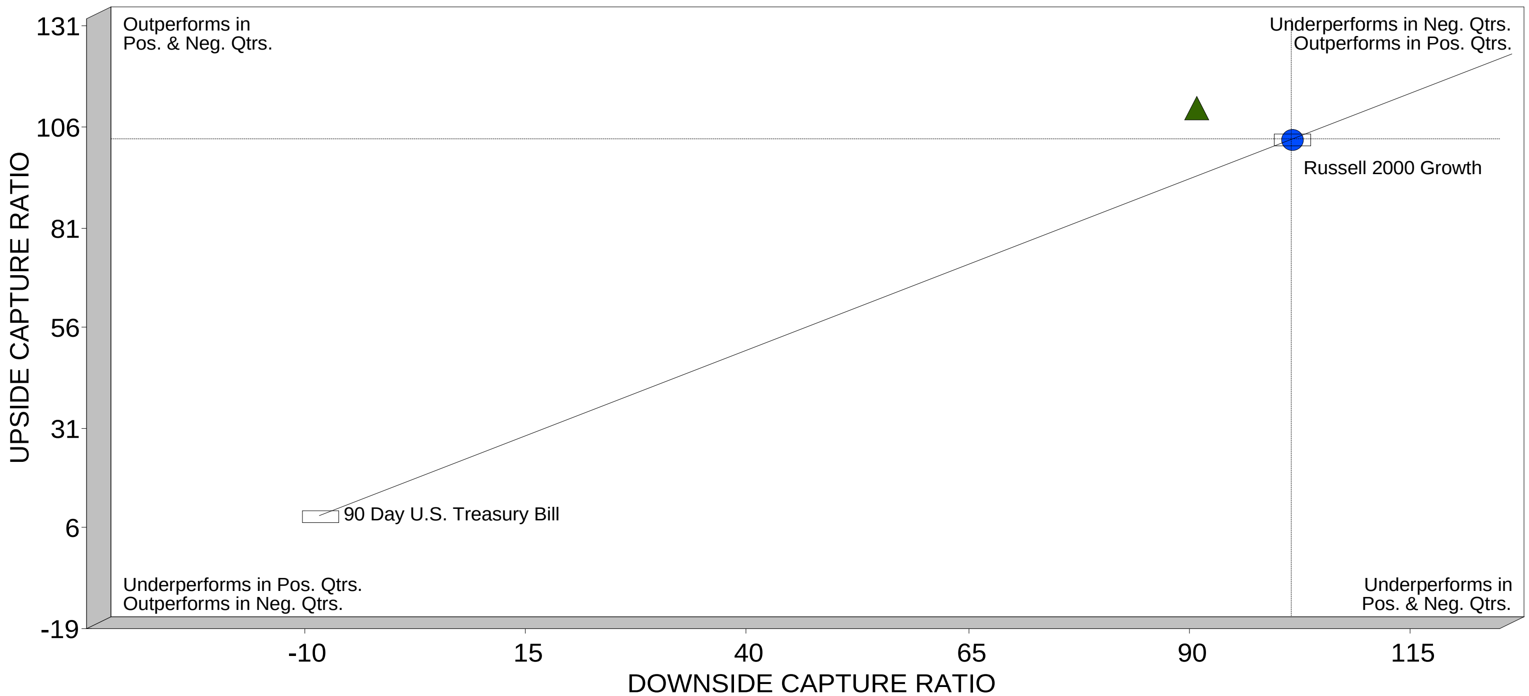
Source: PSN

Market Capture – Since Inception

As of June 30, 2013

RATE OF RETURN REPORTED GROSS



	Up Mkt Capt Retrn	Up Cap Ratio	Dnside Cap Return	Dnside Cap Ratio	R-Squared
Emerald Advisers Emerald Div. Sm.	50.70	107.97	-29.52	89.51	0.84
Russell 2000 Growth	46.95	100.00	-32.97	100.00	1.00

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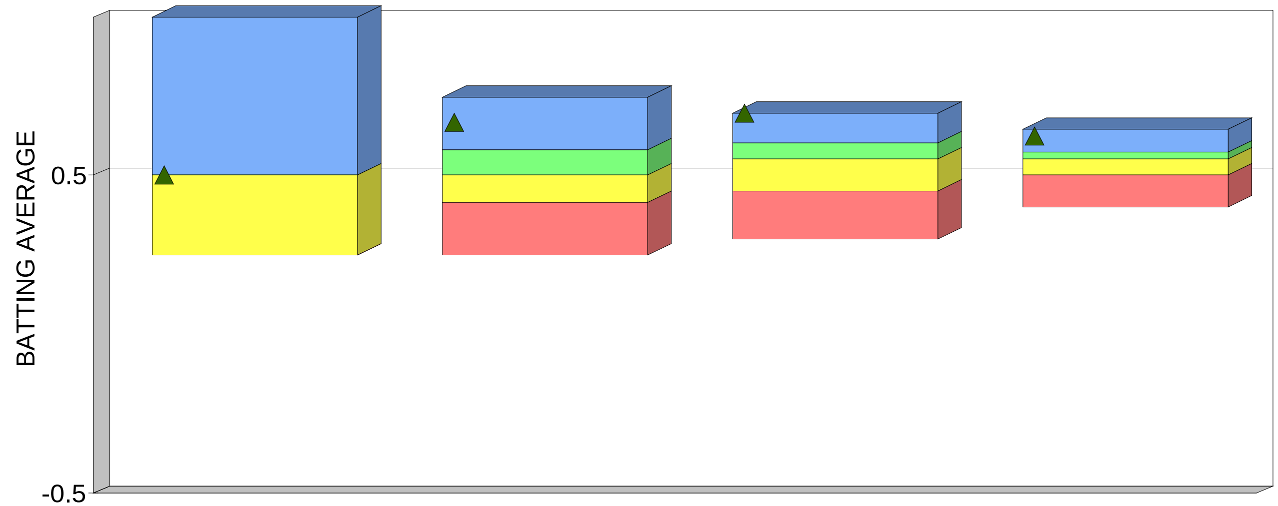
Source: PSN, Inception Date: 10/1/92

RATE OF RETURN
REPORTED GROSS

Batting Average
As of March 31, 2013



		1 Year	3 Years	5 Years	10 Years
(blue)	HIGH (0.05)	1.00	0.75	0.70	0.65
(green)	FIRST QUARTILE	0.50	0.58	0.60	0.58
(yellow)	MEDIAN	0.50	0.50	0.55	0.55
(red)	THIRD QUARTILE	0.25	0.42	0.45	0.50
	LOW (0.95)	0.25	0.25	0.30	0.40
	MEAN	0.46	0.52	0.52	0.54
	VALID COUNT	152	147	135	105

	1 Year		3 Years		5 Years		10 Years	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Emerald Advisers Emerald Div. Sm.	0.50	23	0.67	6	0.70	1	0.62	7
● Russell 2000 Growth	0.00	99	0.00	99	0.00	99	0.00	99

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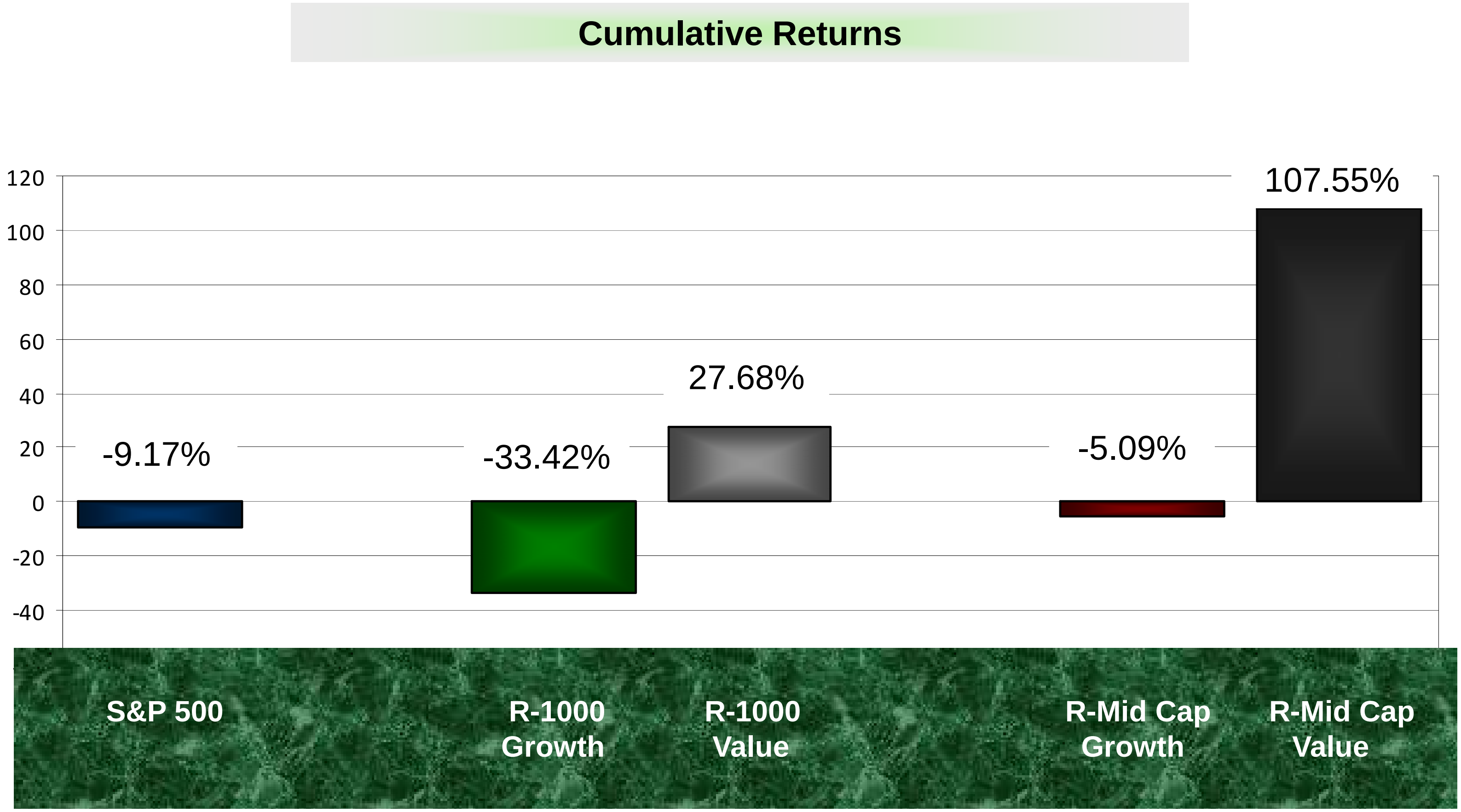
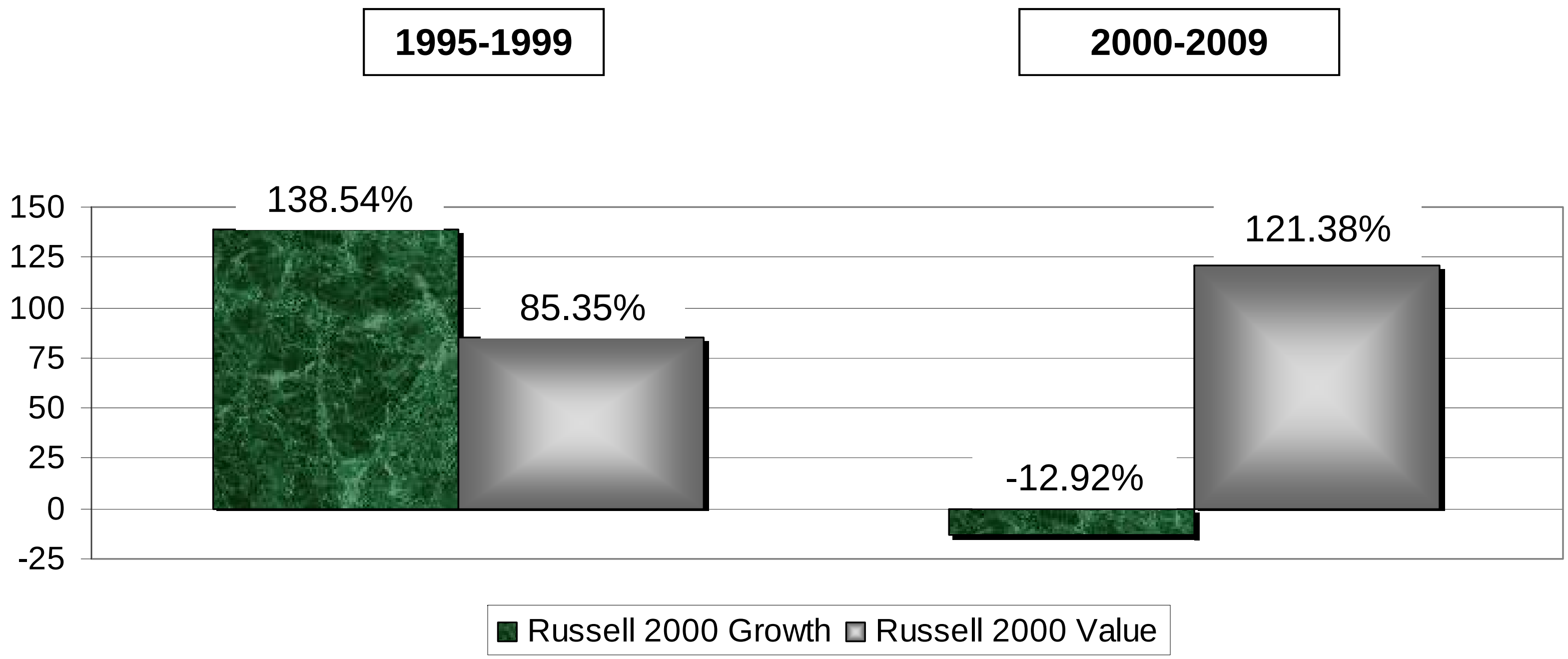
Source: PSN, Universe: Small Cap Growth

Growth vs. Value Cycle
1/1/2000 – 12/31/2009

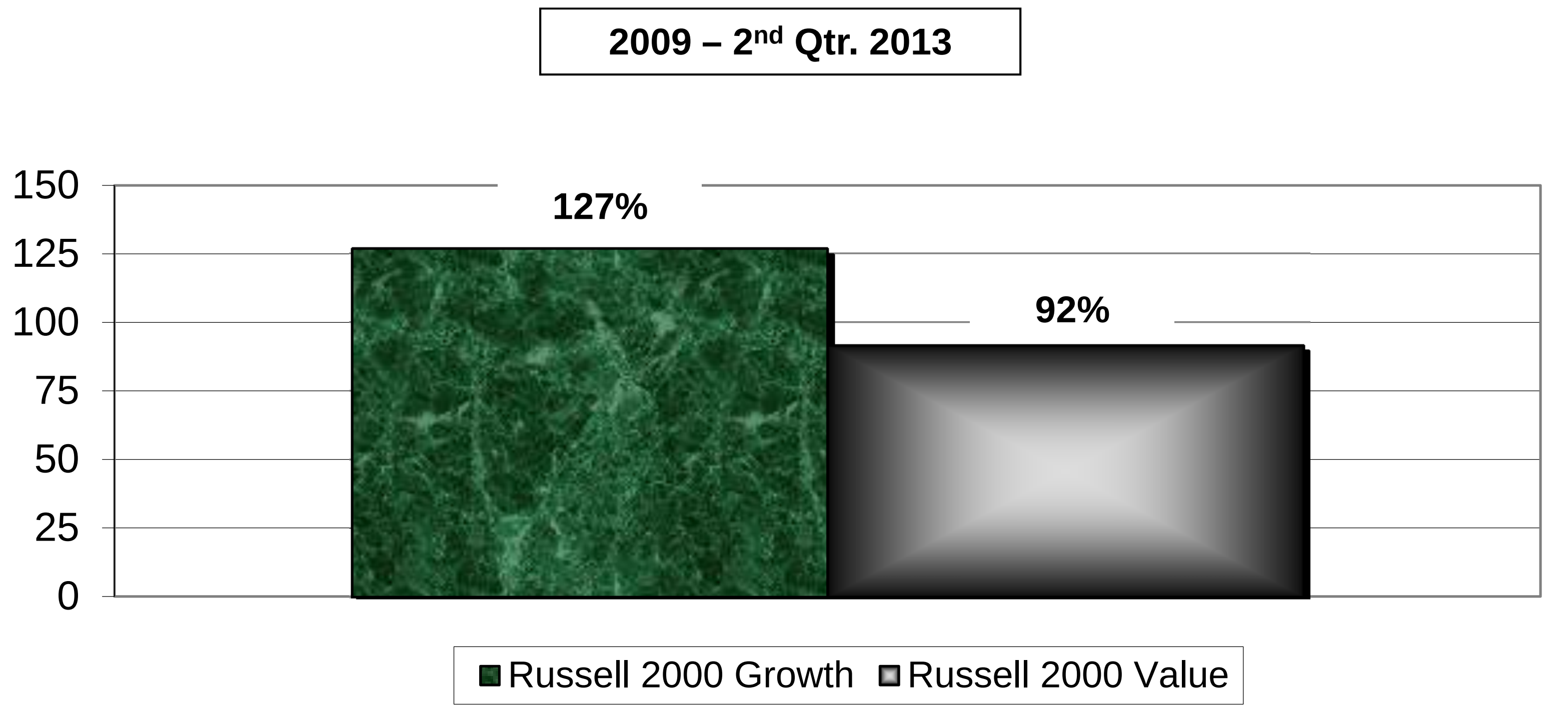


Small Cap Growth vs. Small Cap Value Cycle

Cumulative Returns as of December 31, 2009



New Growth Cycle Begins
Cumulative Returns as of June 30, 2013



20 Years

1992-2012

Section 3

2nd Quarter 2013 Performance Review

- **After a questionable start to the second quarter, where economic data was broadly disappointing, June's data flow broadly surprised to the upside**
- **The consumer is powering through the payroll tax increase and the initial impact from the implementation of the sequester as evidenced by the strength in both home and auto sales**
- **Talk of the taper catalyzes a major sell off in bonds and a corresponding surge in yields**
- **Mortgage rates surge in concert, raising concerns regarding the sustainability of consumption in the face of rising interest rates**
- **The consumer and healthcare sectors lead, while energy and materials lag**

(Source: Russell Investments)

	R2G Q2	R2V Q2	R2 Q2
Consumer Discretionary	9.24%	9.78%	9.47%
Consumer Staples	8.35%	11.18%	9.38%
Healthcare	5.83%	5.83%	5.83%
Materials	-3.88%	-5.67%	-4.72%
Technology	4.08%	6.75%	5.10%
Financials	0.54%	0.56%	0.56%
Producer Durables	1.36%	1.23%	1.30%
Energy	-1.60%	0.24%	-0.62%

- **Growth stocks outperform during the second quarter** (Source: Russell Investments)

	2Q 2013	YTD 2013
Russell 2000	3.08%	15.86%
Russell 2000 Growth	3.74%	17.44%
Russell 2000 Value	2.47%	14.39%

- **“Low Quality” leads – By category the smallest of the small caps, highest p/e, non-earnings stories, and lowest ROE companies show the strongest quarterly gains**

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
Market Cap Bucket	**Return**	**Contrib.**	**Return**	**Contrib.**	**Return**	**Contrib.**
>1 BIL	2.2	1.4	2.9	2.1	1.2	0.7
>500 MIL, <=1 BIL	4.2	0.9	5.7	1.0	3.2	0.7
>250 MIL,<=500M	6.5	0.6	7.2	0.5	6.3	0.7
<=250M	4.5	0.2	4.4	0.1	4.7	0.3

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
P/E Quintile	**Return**	**Contrib.**	**Return**	**Contrib.**	**Return**	**Contrib.**
Q1 (Lowest)	0.8	0.1	1.4	0.2	1.1	0.2
Q2	3.6	0.7	2.5	0.4	3.8	0.9
Q3	2.3	0.5	3.8	0.8	1.6	0.3
Q4	3.5	0.7	3.6	0.8	1.1	0.2
Q5 (Highest)	3.5	0.5	5.0	0.8	4.0	0.5
Nonearnings Stories	**5.7**	**0.6**	**6.8**	**0.8**	**4.1**	**0.3**

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
ROE Quintile	**Return**	**Contrib.**	**Return**	**Contrib.**	**Return**	**Contrib.**
Q1 (Highest)	2.5	0.7	3.9	1.0	-0.2	0.0
Q2	2.6	0.7	3.4	1.0	3.5	0.9
Q3	2.1	0.4	1.9	0.4	1.6	0.4
Q4	2.4	0.4	3.2	0.5	1.7	0.3
Q5 (Lowest)	7.8	0.9	7.9	0.9	8.1	0.9

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

- **Fastest growers lead, while beta and yield lag**

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
Long-Term Earnings Growth	**Return**	**Contrib.**	**Return**	**Contrib.**	**Return**	**Contrib.**
<=10%	1.8	0.5	1.0	0.2	2.1	0.8
>10%, <=20%	4.1	1.3	3.6	1.6	4.9	1.0
>20%	4.6	0.6	6.5	1.2	-0.6	0.0
NA	2.4	0.7	3.3	0.8	2.0	0.8

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
Beta Quintile	**Return**	**Contrib.**	**Return**	**Contrib.**	**Return**	**Contrib.**
Q1 (Lowest)	1.1	0.2	5.3	1.0	-1.4	-0.3
Q2	5.1	1.0	5.5	1.2	3.8	0.8
Q3	4.6	0.9	5.4	1.1	2.9	0.6
Q4	2.8	0.5	2.2	0.4	3.6	0.6
Q5 (Highest)	1.9	0.4	-0.1	0.0	3.8	0.8

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

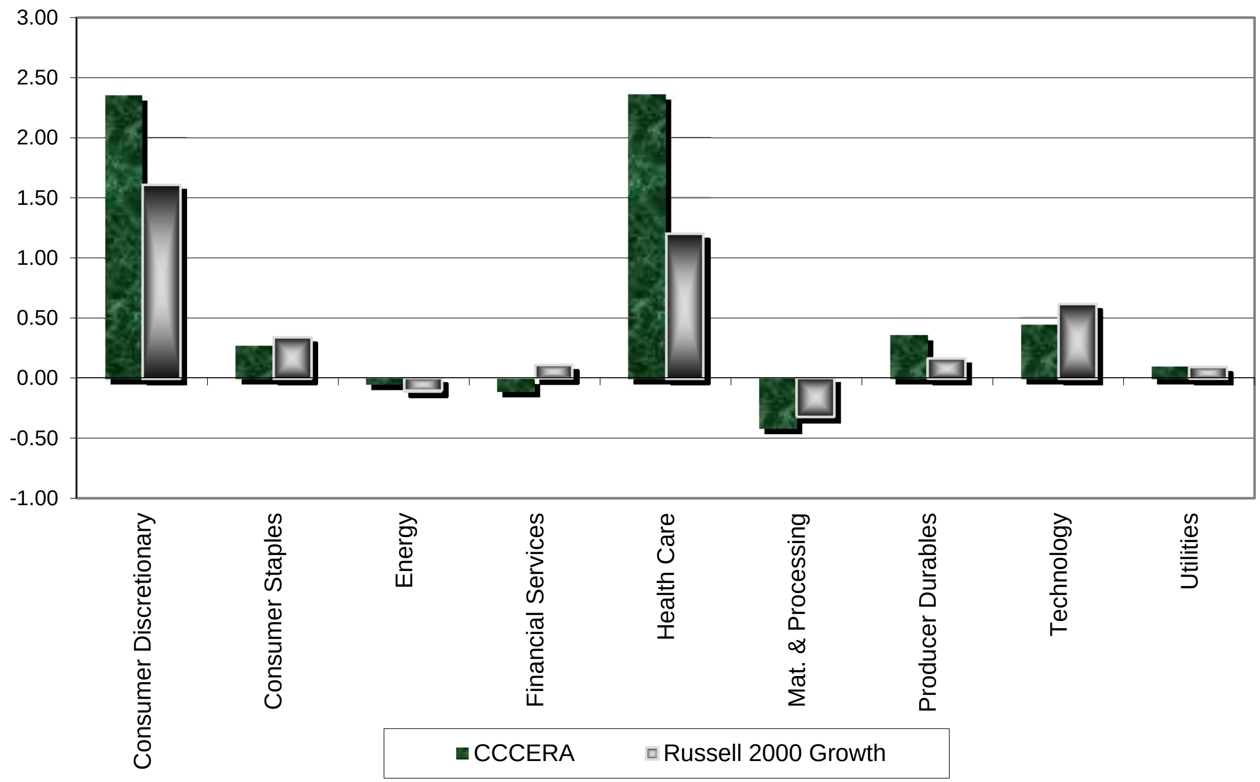
2nd Quarter 2013 Performance Review

	Second Quarter					
	Russell 2000		Russell 2000 Growth		Russell 2000 Value	
Yield	Return	Contrib.	Return	Contrib.	Return	Contrib.
Yield	1.0	0.5	1.7	0.6	0.7	0.5
No Yield	4.9	2.6	4.9	3.1	5.0	2.0

Source: BofA Merrill Lynch Small Cap Research; Russell Investment Group.

2nd Quarter 2013 Performance Attribution

CCCERA vs. Russell 2000 Growth Index
03/31/13 to 06/30/13



- **Portfolio performance outpaced that of the benchmark as a result of stock selection within the healthcare, consumer discretionary and producer durables sectors.**

2nd Quarter 2013 Performance Review

Portfolio Performance Summary

Contributors:

- Performance within the healthcare sector led returns for the quarter. Stock selection within the biotechnology industry was again the largest contributor to return. Other areas of strength included: services and facilities.

- Also contributing positively to return was performance within the consumer discretionary sector. Relative out-performance was most notable within the casinos & gambling and radio & television broadcast industries.

Top 5 Contributors to Return

- ExactTarget Inc.
- NPS Pharmaceuticals Inc.
- Aegerion Pharmaceuticals Inc.
- Sinclair Broadcast Group Inc.
- Spirit Airlines Inc.

Portfolio Performance Summary

Detractors:

- At the sector level there were no material detractors to return. However performance within the technology, materials and financial services sectors did detract modestly from performance.

Top 5 Detractors to Return

- Infinity Pharmaceuticals Inc.
- Aruba Networks Inc.
- FARO Technologies Inc.
- Ixia
- MWI Veterinary Supply Inc.

Sector Allocation
As of June 30, 2013

Sector	Emerald	Russell 2000 Growth	Russell 2000
Consumer Discretionary	**23.5%**	18.0%	15.8%
Consumer Staples	**1.3%**	4.2%	3.3%
Energy	**5.8%**	5.8%	5.7%
Financial Services	**11.5%**	9.3%	23.7%
Health Care	**25.0%**	21.0%	12.8%
Materials & Processing	**5.4%**	7.8%	7.1%
Producer Durables	**10.1%**	15.8%	14.2%
Technology	**15.7%**	16.7%	13.3%
Utilities	**0.9%**	1.3%	4.0%
Cash	**0.9%**	0.0%	0.0%

Top 10 Holdings (by Market Value)

As of June 30, 2013

	Company	Ticker	% Held
1.	MWI Veterinary Supply Inc.	MWIV	2.94
2.	Spirit Airlines Inc.	SAVE	2.15
3.	Trex Inc.	TREX	2.14
4.	Sinclair Broadcast Group Inc.	SBGI	1.95
5.	Middleby Corp.	MIDD	1.83
6.	Acadia Healthcare Co.	ACHC	1.82
7.	Bank of the Ozarks Inc.	OZRK	1.81
8.	Multimedia Games Inc.	MGAM	1.74
9.	NPS Pharmaceuticals Inc.	NPSP	1.72
10.	SVB Financial Group	SIVB	1.66

Portfolio Characteristics
As of June 30, 2013

Characteristic	Emerald	Russell 2000 Growth
Projected Growth Rate (3-5 Year)*	**21.2%**	18.1%
P/E Ratio**	**22.9x**	19.1x
R^2 vs. Russell 2000 Growth	**0.85**	1.00
Yield (%)	**0.41**	0.88
Price / Book Value**	**3.3x**	3.4x
Median Market Cap (By No. of Stocks)	**$1,223 mm**	$724 mm
Wgt. Average Market Cap	**$1,639 mm**	$1,826 mm
Turnover (Trailing 12 mos.)	**82%**	---

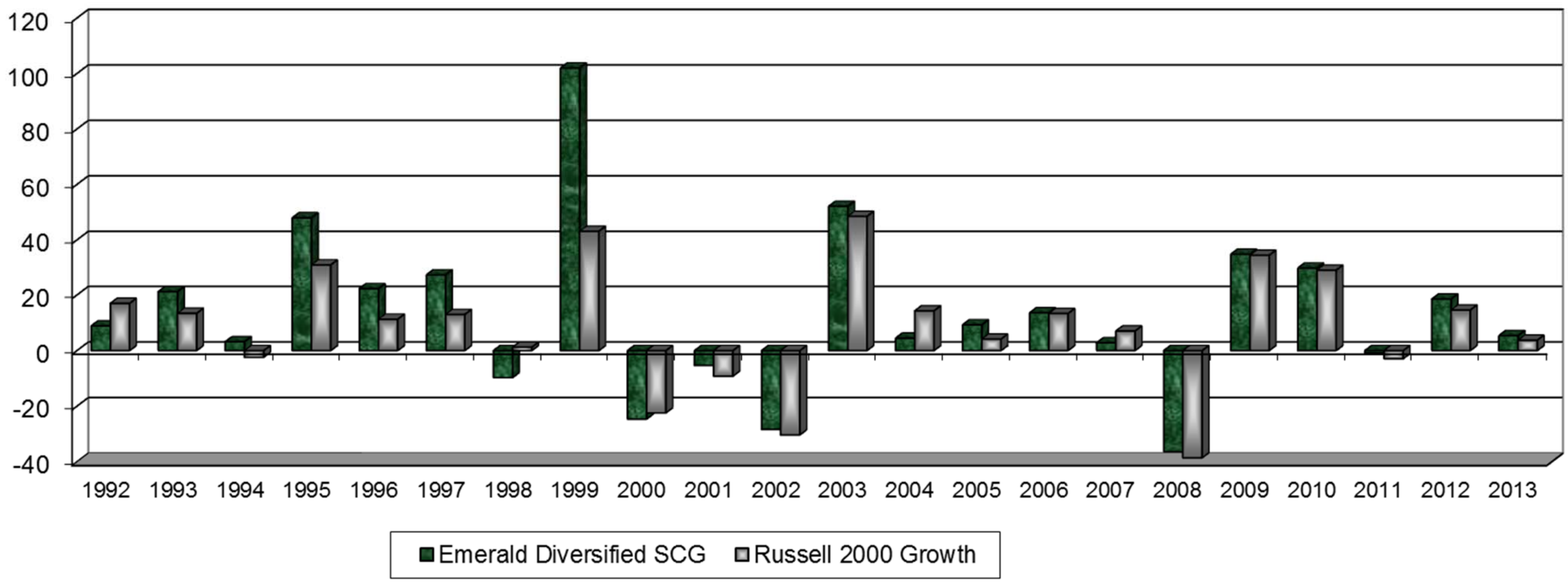
Database estimate, Emerald's internal estimates are higher.

***** In order to better reflect Emerald's characteristics relative to the Russell Indices, Emerald is now calculating its P/E and Price/Book ratios based on a weighted harmonic average in line with Russell's calculation methodology.***

Div. SCG Calendar Year Performance (Gross)

As of June 30, 2013

Emerald has outperformed in 16 of the 20 full calendar years we have been in business.



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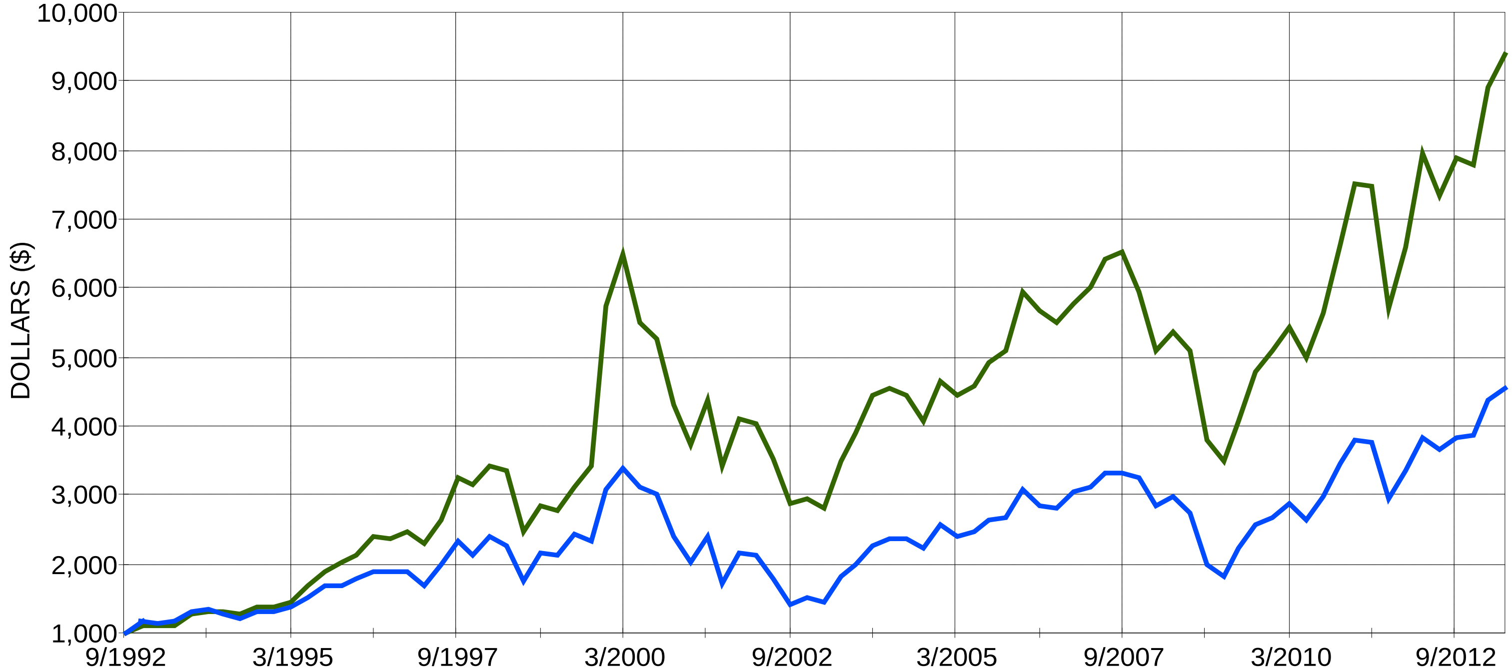
RATE OF RETURN
REPORTED GROSS

Growth of $1 mm
As of June 30, 2013



	Since Inception
Emerald Advisers Emerald Div. Sm.	9,398
Russell 2000 Growth	4,532

Performance Disclaimer - The performance information reflected is approved for "One-on-One" client presentations only. The performance figures do not reflect the deduction of investment fees; the investment advisory fees are described in Part II of Emerald Advisers' Form ADV. For example, if a client placed $100,000 under management and a hypothetical gross return of 10% were achieved, the investment assets before fees would have grown to $259,374 in ten years. However, if an advisory fee of 1% of average net assets were charged, investment assets would have grown to $234,573, or an annual compounded rate of 8.9%. This includes all reinvestment of dividends.

Source: PSN from 9/30/92 – 6/30/13, Inception Date: 10/1/92

20 Years

1992-2012

Section 4

Market Outlook

- **Portfolio positioning:**
  - Overweight positions: Consumer Discretionary, Healthcare, and Financial Services
  - Underweight positions: Consumer Staples, Technology, Materials, and Producer Durables sectors

- **The outlook for consumption strengthens**
  - Consumer confidence accelerates to the upside
  - Rising homes prices and broad market advance driving increased net worth and increased consumer confidence
  - With consumer net worth at new all time highs and debt service at historically low levels, the outlook for consumer spending is looking increasingly favorable
    - Housing
    - Autos

- **With the consumer beginning to show positive traction, confidence in the corporate suite remains the largest impediment to a broad based acceleration in growth**

- **Cash rich corporate balance sheets**
  - 13% of small cap company market capitalization is in cash (Source: Bank of America Merrill Lynch)
    - Creates potential for increases in:
      - Mergers & Acquisitions
      - Infrastructure Investments
      - Share Repurchases

Market Outlook

- **Expect heightened market volatility as the market speculates on the timing and magnitude of the reduction the Federal Reserve's bond buying program**

- **Emerald believes that ultimately a rebounding domestic economy will trump increases in interest rates**
  - As long as inflation remains low, Emerald believes that interest rates and p/e multiples can be positively correlated, implying the market can move higher if the economy continues to show improvement regardless of increases in interest rates

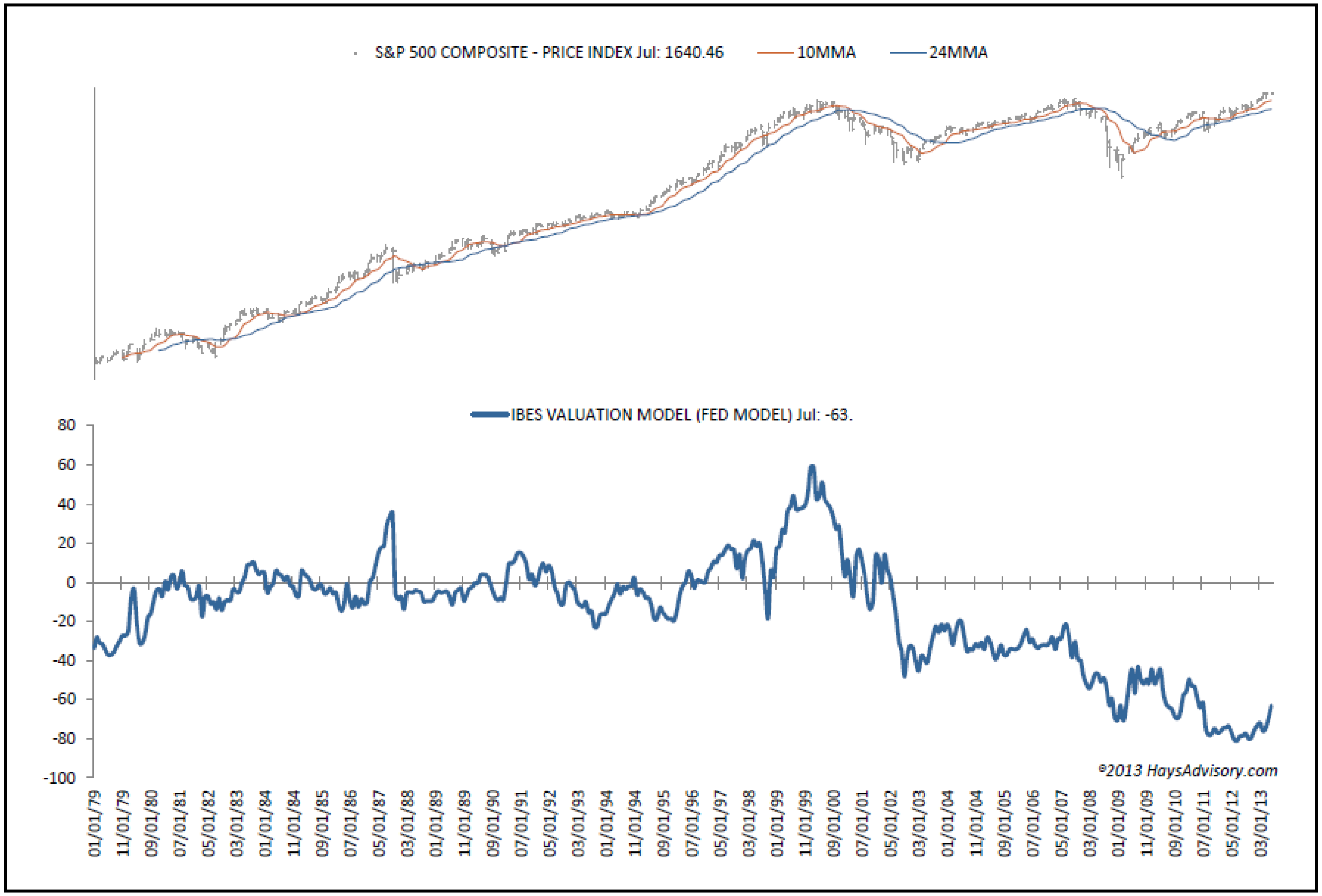
- **Small cap relative performance has historically been positively correlated with interest rates**
  - Higher rates, strong economy, better earnings growth

- **The great rotation into equities still looming on the horizon**

- **Innovation continues to drive secular investment opportunities**
  - Emerald continues to view the healthcare sector favorably given the resurgence in innovation in drug development, particularly in the areas of orphan drugs and oncology, as well select opportunities within medical devices and services.

- **Believe stock selection will be the key driver of relative outperformance**

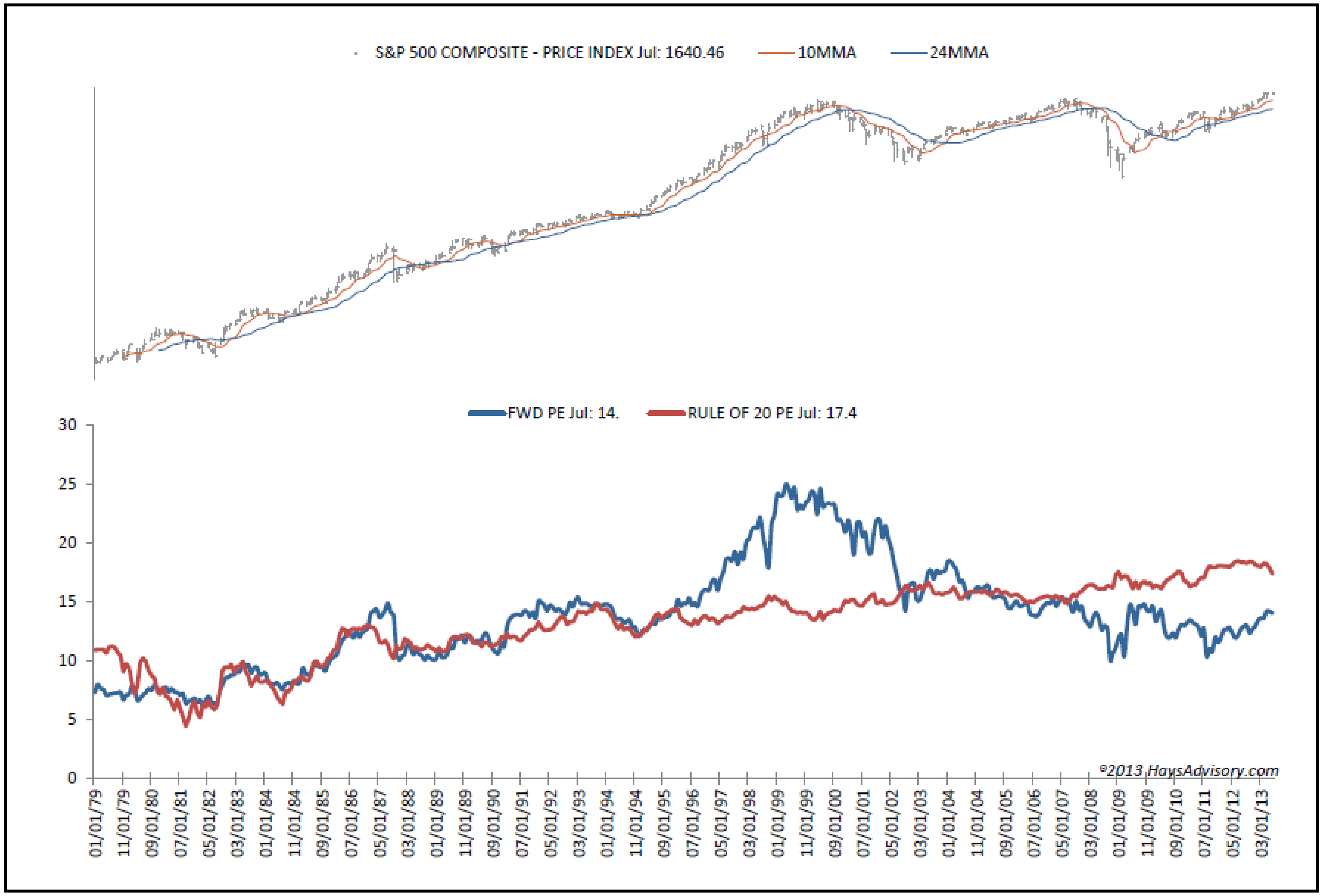
Stock Market Valuation



Source: HaysAdvisory.com

Rule of 20 PE

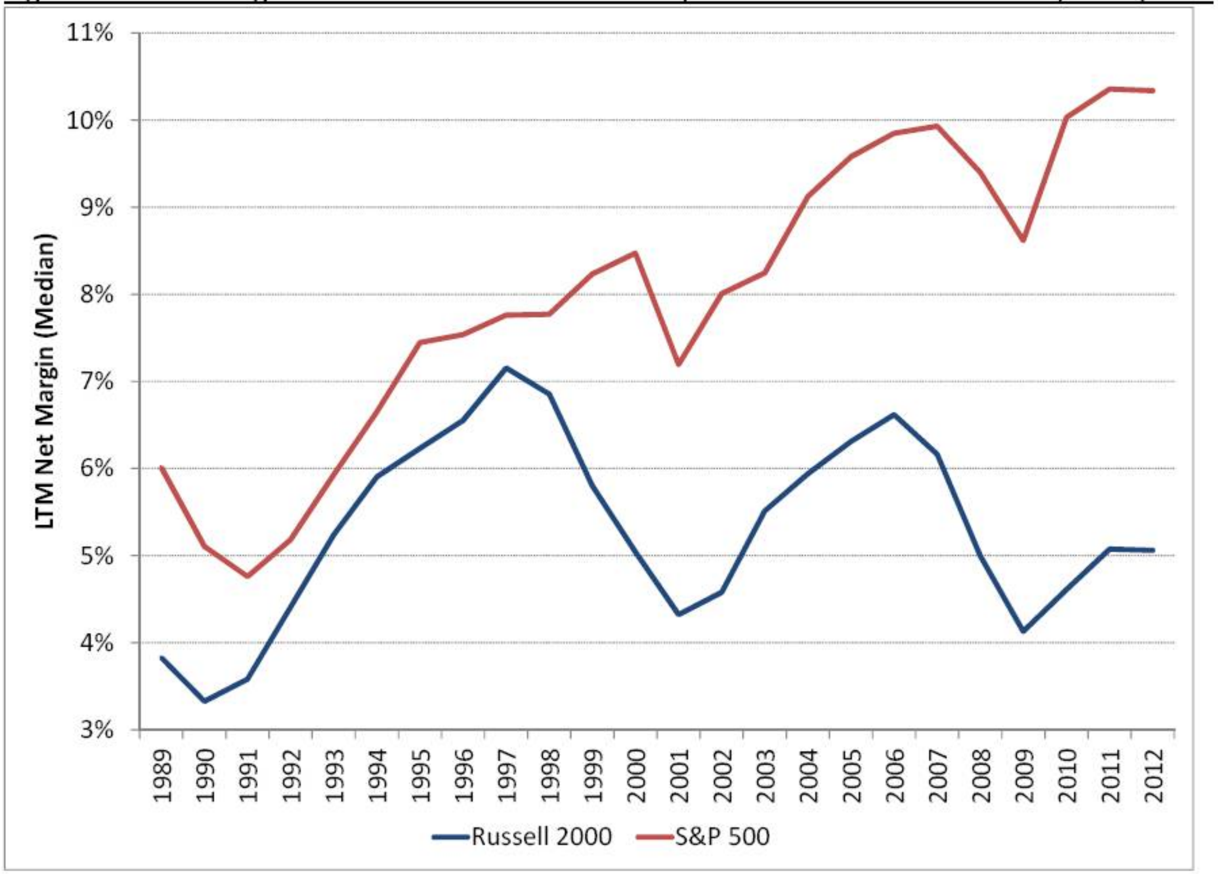
Stock Market Valuation



Source: HaysAdvisory.com

Russell 2000 Margins

Figure 16: Net Margins Have Plateaued but Small-Cap Levels are still well-below cyclical peaks



*Source: Furey Research Partners and FactSet;*Represents options granted less options cancelled.*

20 Years

1992-2012

Section 5

Portfolio Holdings
As of June 30, 2013

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
Cash & Cash Equivalents									
==== === =									
	CASH	1,785,373			1,785,373	0.9		1,875	0.11
Common Stocks									
====== ===									
	CONSUMER DISCRETIONARY								
	======== ============								
	CASINOS & GAMBLING								
	------- - --------								
136,427	MULTIMEDIA GAMES INC COM	2,356,321	17.27	26.07	3,556,652	1.7	1,200,331		
69,650	SHFL ENTMT INC COM	492,777	7.08	17.71	1,233,501	0.6	740,725		
		2,849,098			4,790,153	2.3	1,941,056		
	DIVERSIFIED RETAIL								
	----------- ------								
15,895	LUMBER LIQUIDATORS HOLDINGS INC	1,369,240	86.14	77.87	1,237,744	0.6	-131,496		
22,115	VITAMIN SHOPPE INC COM	681,697	30.83	44.84	991,637	0.5	309,940		
		2,050,937			2,229,380	1.1	178,444		
	ENTERTAINMENT								

53,948	CARMIKE CINEMAS INC COM	701,324	13	19.36	1,044,433	0.5	343,109		
	HOME BUILDING								
	---- --------								
198,316	HOVNANIAN ENTERPRISES INC CL A	374,958	1.89	5.61	1,112,553	0.5	737,594		
54,119	MERITAGE CORP COM	1,899,835	35.1	43.36	2,346,600	1.1	446,765		
213,566	STANDARD PAC CORP NEW COM	1,289,646	6.04	8.33	1,779,005	0.9	489,358		

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
39,091	TAYLOR MORRISON HOME CORP	909,076	23.26	24.38	953,039	0.5	43,963		
		4,473,515			6,191,196	3	1,717,681		
	HOUSEHOLD FUNRISHINGS								
	--------- -----------								
17,725	RESTORATION HARDWARE HOLDINGS	907,758	51.21	75	1,329,375	0.6	421,617		
	LEISURE TIME								
	------- ----								
133,582	BLACK DIAMOND INC	1,137,337	8.51	9.39	1,254,335	0.6	116,998		
77,751	HOMEAWAY INC COM	2,012,895	25.89	32.34	2,514,467	1.2	501,572		
		3,150,232			3,768,802	1.8	618,571		
	RADIO & TV BROADCASTERS								
	----- - -- ------------								
136,263	SINCLAIR BROADCAST GROUP INCCL A	2,402,480	17.63	29.37	4,002,044	2	1,599,564	81,758	2.04
	RESTAURANTS								

55,116	BJ'S RESTAURANT INC	1,208,885	21.93	37.1	2,044,804	1	835,919		
38,410	CHUY'S HOLDINGS INC	719,428	18.73	38.34	1,472,639	0.7	753,212		
71,328	DIVERSIFIED RSTRNT HLDGS INCCOM	425,223	5.96	7.96	567,771	0.3	142,548		
39,158	JACK IN THE BOX INC COM	1,408,545	35.97	39.29	1,538,518	0.8	129,972		
40,206	RED ROBIN GOURMET BURGERS INCOM	1,377,572	34.26	55.18	2,218,567	1.1	840,995		
		5,139,653			7,842,299	3.8	2,702,646		
	SPECIALTY RETAIL								
	--------- ------								
167,357	CHRISTOPHER & BANKS CORP COM	1,161,445	6.94	6.74	1,127,986	0.6	-33,459		
49,686	FIVE BELOW	1,778,427	35.79	36.84	1,830,432	0.9	52,005		
93,752	FRANCESCAS HLDGS CORP COM	2,442,052	26.05	27.79	2,605,368	1.3	163,316		
19,298	HIBBETT SPORTS INC COM	401,556	20.81	55.57	1,072,390	0.5	670,833		
32,939	LITHIA MTRS INC CL A	1,567,287	47.58	53.31	1,755,978	0.9	188,691	17,128	0.98
22,567	MATTRESS FIRM HOLDING CORP	501,203	22.21	40.3	909,450	0.4	408,247		
41,285	PENSKE AUTOMOTIVE GRP INC COM	1,338,615	32.42	30.54	1,260,844	0.6	-77,771	24,771	1.96
84,141	TILE SHOP HLDGS INC COM	1,265,816	15.04	28.96	2,436,723	1.2	1,170,908		
66,322	TILLY'S INC-CLASS A SHRS	1,061,237	16	16	1,061,152	0.5	-85		
		11,517,639			14,060,324	6.9	2,542,685	41,899	0.3
	TEXTILES APPAREL & SHOES								
	-------- ------- - -----								
127,690	FIFTH & PACIFIC COMPANIES INC COM	1,452,008	11.37	22.34	2,852,595	1.4	1,400,586		

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
	CONSUMER DISCRETIONARY TOTAL	34,644,644			48,110,602	23.5	13,465,958	123,657	0.26
	CONSUMER STAPLES								
	======== =======								
	PERSONAL CARE								
	-------- ----								
111,721	FEMALE HEALTH CO COM	803,385	7.19	9.86	1,101,569	0.5	298,184	31,282	2.84
33,761	PHOTOMEDEX INC	429,777	12.73	15.94	538,150	0.3	108,373		
		1,233,162			1,639,719	0.8	406,557	31,282	1.91
	MISCELLANEOUS								

22,097	GNC HOLDINGS INC	428,076	19.37	44.21	976,908	0.5	548,832	13,258	1.36
	CONSUMER STAPLES TOTAL	1,661,238			2,616,628	1.3	955,389	44,540	1.7
	ENERGY								
	======								
	OIL WELL EQUIPMENT								
	--- ---- ---------								
41,142	DELEK US HLDGS INC COM	1,492,809	36.28	28.78	1,184,067	0.6	-308,742	24,685	2.08
68,600	GLOBAL GEOPHYSICAL SVCS INC COM	296,710	4.33	4.72	323,792	0.2	27,082		
		1,789,519			1,507,859	0.7	-281,660	24,685	1.64
	OIL: CRUDE PRODUCERS								
	---- ----- ---------								
29,340	APPROACH RESOURCES INC COM	790,492	26.94	24.57	720,884	0.4	-69,608		
79,246	DIAMONDBACK ENERGY INC	1,593,235	20.1	33.32	2,640,477	1.3	1,047,242		
61,209	GULFPORT ENERGY CORP COM NEW	1,400,325	22.88	47.09	2,882,332	1.4	1,482,007		
601,597	MAGNUM HUNTER RES CORP DEL COM	2,665,707	4.43	3.65	2,195,829	1.1	-469,878		
110,250	REX ENERGY CORPORATION COM	1,349,767	12.24	17.58	1,938,195	0.9	588,428		
		7,799,525			10,377,716	5.1	2,578,191		
	ENERGY TOTAL	9,589,044			11,885,575	5.8	2,296,531	24,685	0.21
	FINANCIAL SERVICES								
	========= ========								
	ASSET MANAGEMENT & CUSTODIAN								
	----- ---------- - ---------								
17,159	FINANCIAL ENGINES INC COM	303,904	17.71	45.59	782,279	0.4	478,375	3,432	0.44

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
123,040	GSV CAP CORP COM	948,892	7.71	7.86	967,094	0.5	18,202		
		1,252,796			1,749,373	0.9	496,578	3,432	0.2
	BANKS: DIVERSIFIED								
	------ -----------								
85,790	BANK OF THE OZARKS INC COM	1,976,537	23.04	43.33	3,717,281	1.8	1,740,744	65,200	1.75
42,851	CARDINAL FINL CORP COM	647,733	15.12	14.64	627,339	0.3	-20,394	10,284	1.64
126,370	COBIZ INC COM	872,389	6.9	8.3	1,048,871	0.5	176,482	15,164	1.45
62,577	EVERBANK FINL CORP COM	960,078	15.34	16.56	1,036,275	0.5	76,197	5,006	0.48
89,508	PACIFIC PREMIER BANCORP COM	917,374	10.25	12.22	1,093,788	0.5	176,413		
40,803	SVB FINL GROUP COM	2,310,393	56.62	83.32	3,399,706	1.7	1,089,313		
32,869	TEXAS CAPITAL BANCSHARES INC	402,267	12.24	44.36	1,458,069	0.7	1,055,802		
		8,086,771			12,381,328	6	4,294,557	95,655	0.77
	COMMERCIAL FINANCE & MORTGAGE								
	---------- ------- - --------								
97,019	WALKER & DUNLOP INC	1,042,276	10.74	17.5	1,697,833	0.8	655,557		
	DIVERSIFIED FINANCIAL SERVICES								
	----------- --------- --------								
48,269	EVERCORE PARTNERS INC-CL A	2,069,644	42.88	39.28	1,896,006	0.9	-173,637	42,477	2.24
	FINANCIAL DATA & SYSTEMS								
	--------- ---- - -------								
17,900	BLACKHAWK NETWORK HOLDINGS	414,761	23.17	23.2	415,280	0.2	520		
	INSURANCE: MULTI LINE								
	---------- ----- ----								
62,554	HEALTH INSURANCE INOVATIONS	874,874	13.99	10.52	658,068	0.3	-216,806		
	INSURANCE: PROPERTY-CASUALTY								
	---------- -----------------								
62,355	AMTRUST FINANCIAL SERVICES ICOM	2,152,881	34.53	35.7	2,226,074	1.1	73,193	34,919	1.57
	REAL ESTATE INVESTMENT TRUSTS								
	---- ------ ---------- ------								
98,050	GLIMCHER RLTY TR SH BEN INT	1,001,073	10.21	10.92	1,070,706	0.5	69,633	39,220	3.66
148,144	SUMMIT HOTEL PROPERTIES INC	1,337,873	9.03	9.45	1,399,961	0.7	62,088	66,665	4.76
		2,338,946			2,470,667	1.2	131,721	105,885	4.29
	FINANCIAL SERVICES TOTAL	18,232,947			23,494,628	11.5	5,261,682	282,367	1.2
	HEALTH CARE								
	====== ====								
	BIOTECHNOLOGY								

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
	-------------								
34,250	AEGERION PHARMACEUTICALS INCCOM	930,739	27.17	63.34	2,169,395	1.1	1,238,656		
70,559	ALNYLAM PHARMACEUTICALS INC COM	1,223,235	17.34	31	2,187,329	1.1	964,094		
83,229	CELLDEX THERAPEUTICS INC	800,874	9.62	15.61	1,299,205	0.6	498,331		
55,408	CEPHEID COM	1,847,103	33.34	34.42	1,907,143	0.9	60,040		
18,804	EPIZYME INC	389,240	20.7	28.13	528,957	0.3	139,717		
95,248	EXACT SCIENCES CORP COM	928,169	9.74	13.91	1,324,900	0.6	396,731		
51,350	INCYTE PHARMACEUTICALS INC COM	991,093	19.3	22	1,129,700	0.6	138,607		
10,282	INTERCEPT PHARMACEUTICALS INCOM	383,857	37.33	44.84	461,045	0.2	77,188		
63,432	LIPOSCIENCE INC COM	429,065	6.76	6.99	443,390	0.2	14,325		
233,844	NPS PHARMACEUTICALS INC COM	1,840,899	7.87	15.11	3,533,383	1.7	1,692,484		
53,476	PORTOLA PHARMACEUTICALS INC	966,355	18.07	24.57	1,313,905	0.6	347,551		
122,574	REGULUS THERAPEUTICS INC	490,296	4	9.81	1,202,451	0.6	712,155		
65,992	SAREPTA THERAPEUTICS INC	561,424	8.51	38.04	2,510,270	1.2	1,948,845		
31,544	SYNAGEVA BIOPHARMA CORP COM	1,440,327	45.66	41.98	1,324,217	0.6	-116,110		
74,311	VERASTEM INC	735,214	9.89	13.88	1,031,437	0.5	296,223		
		13,957,888			22,366,725	10.9	8,408,837		
	HEALTH CARE FACILITIES								
	------ ---- ----------								
112,809	ACADIA HEALTHCARE COMPANY INCOM	1,503,658	13.33	33.07	3,730,594	1.8	2,226,935		
	HEALTH CARE MANAGEMENT SERVICE								
	------ ---- ---------- -------								
192,364	BIOSCRIPT INC COM	1,708,882	8.88	16.5	3,174,006	1.5	1,465,124		
	HEALTH CARE SERVICES								
	------ ---- --------								
48,803	MWI VETERINARY SUPPLY INC COM	1,845,195	37.81	123.24	6,014,482	2.9	4,169,287		
54,448	OMNICELL INC COM	791,876	14.54	20.55	1,118,906	0.5	327,030		
		2,637,071			7,133,388	3.5	4,496,317		
	MEDICAL & DENTAL INSTRUMENTS &								
	------- - ------ ----------- -								
60,214	NANOSTRING TECHNOLOGIES INC	582,887	9.68	8	481,712	0.2	-101,175		
	MEDICAL EQUIPMENT								
	------- ---------								
48,056	ABAXIS INC COM	1,963,617	40.86	47.51	2,283,141	1.1	319,524		
52,575	GREATBATCH INC COM	1,106,485	21.05	32.79	1,723,934	0.8	617,449		
		3,070,102			4,007,075	2	936,973		
	PHARMACEUTICALS								

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
131,832	ACHILLION PHARMACEUTICALS INCOM	1,019,259	7.73	8.18	1,078,386	0.5	59,127		
191,764	AKORN INC COM	1,776,507	9.26	13.52	2,592,649	1.3	816,142		
84,106	CAMBREX CORP COM	1,059,941	12.6	13.97	1,174,961	0.6	115,020		
59,510	INFINITY PHARMACEUTICALS INC	1,708,950	28.72	16.19	963,586	0.5	-745,364		
79,983	INSYS THERAPEUTICS INC COM NEW	767,856	9.6	13.84	1,106,965	0.5	339,109		
51,847	ISIS PHARMACEUTICALS COM	985,093	19	26.87	1,393,129	0.7	408,036		
29,570	JAZZ PHARMACEUTICALS PLC SHS	1,228,222	41.54	68.73	2,032,346	1	804,124		
		8,545,828			10,342,021	5	1,796,194		
	HEALTH CARE TOTAL	32,006,317			51,235,521	25	19,229,205		
	MATERIALS & PROCESSING								
	========= = ==========								
	BUILDING MATERIALS								
	-------- ---------								
26,630	ACUITY BRANDS INC COM	1,909,075	71.69	75.52	2,011,098	1	102,023	13,848	0.69
92,275	TREX INC COM	3,131,008	33.93	47.49	4,382,140	2.1	1,251,132		
		5,040,083			6,393,237	3.1	1,353,155	13,848	0.22
	BUILDING: ROOFING, WALLBOARD &								
	--------- -------- --------- -								
94,890	USG CORP COM NEW	2,180,750	22.98	23.05	2,187,215	1.1	6,464		
	FOREST PRODUCTS								
	------ --------								
34,996	BOISE CASCADE CO DEL COM	1,094,219	31.27	25.41	889,248	0.4	-204,971		
	GLASS								

67,006	APOGEE ENTERPRISES INC COM	1,151,629	17.19	24	1,608,144	0.8	456,515	24,122	1.5
	MATERIALS & PROCESSING TOTAL	9,466,682			11,077,844	5.4	1,611,163	37,970	0.34
	PRODUCER DURABLES								
	======== ========								
	AEROSPACE								

24,669	TRIUMPH GROUP INC NEW COM	877,048	35.55	79.15	1,952,551	1	1,075,503	3,947	0.2
	COMMERCIAL SERVICES: RENTAL &								
	---------- --------- ------ -								
47,229	H&E EQUIPMENT SERVICES INC	1,019,271	21.58	21.07	995,115	0.5	-24,156		
	MACHINERY: INDUSTRIAL								

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
	---------- ----------								
12,784	CHART INDS INC COM PAR $0.01	618,411	48.37	94.09	1,202,847	0.6	584,436		
22,072	MIDDLEBY CORP COM	1,843,451	83.52	170.09	3,754,226	1.8	1,910,775		
		2,461,862			4,957,073	2.4	2,495,211		
	SCIENTIFIC INSTRUMENTS: ELECTR								
	---------- ----------- ------								
40,649	FARO TECHNOLOGIES INC COM	791,093	19.46	33.82	1,374,749	0.7	583,656		
40,280	WESCO INTL INC COM	1,305,391	32.41	67.96	2,737,429	1.3	1,432,038		
		2,096,484			4,112,178	2	2,015,694		
	SHIPPING								

16,141	TIDEWATER INC COM	926,153	57.38	56.97	919,553	0.4	-6,600	16,141	1.76
	TRANSPORTATION MISCELLANEOUS								
	-------------- -------------								
138,749	SPIRIT AIRLS INC COM	2,859,457	20.61	31.72	4,401,118	2.1	1,541,662		
	TRUCKERS								

119,378	ROADRUNNER TRNSN SVCS HLDG ICOM	1,823,165	15.27	27.84	3,323,484	1.6	1,500,319		
	PRODUCER DURABLES TOTAL	12,063,440			20,661,072	10.1	8,597,632	20,088	0.1
	TECHNOLOGY								
	==========								
	COMMUNICATIONS TECHNOLOGY								
	-------------- ----------								
41,230	CYAN INC	453,158	10.99	10.45	430,854	0.2	-22,304		
19,346	GIGAMON INC	367,574	19	27.56	533,176	0.3	165,602		
106,105	INFOBLOX INC	2,271,996	21.41	29.26	3,104,632	1.5	832,636		
155,367	IXIA COM	2,250,364	14.48	18.4	2,858,753	1.4	608,389		
		5,343,092			6,927,414	3.4	1,584,323		
	COMPUTER SERVICES SOFTWARE & S								
	-------- -------- -------- - -								
115,861	BRIGHTCOVE	1,299,362	11.21	8.76	1,014,942	0.5	-284,420		
91,178	EPAM SYSTEMS INC	2,024,163	22.2	27.18	2,478,218	1.2	454,056		
41,490	GUIDEWIRE SOFTWARE INC	1,213,096	29.24	42.05	1,744,655	0.9	531,558		
145,859	JIVE SOFTWARE INC	2,291,833	15.71	18.17	2,650,258	1.3	358,426		
70,082	QLIK TECHNOLOGIES INC	1,782,134	25.43	28.27	1,981,218	1	199,084		
194,568	SABA SOFTWARE	1,969,674	10.12	9.75	1,897,038	0.9	-72,636		

Shares		Original Cost	Unit Cost	Unit Price	Current Value	% Value	Gain (Loss)	Annual Income	Curr Yield
61,103	SOURCEFIRE INC COM	1,570,662	25.71	55.55	3,394,272	1.7	1,823,610		
4,555	TEXTURA CORP	68,325	15	26.01	118,476	0.1	50,151		
23,207	ULTIMATE SOFTWARE GROUP INC COM	299,345	12.9	117.29	2,721,949	1.3	2,422,604		
		12,518,593			18,001,025	8.8	5,482,432		
	ELECTRONICS COMPONENTS								
	----------- ----------								
29,432	3-D SYS CORP DEL COM NEW	494,871	16.81	43.9	1,292,065	0.6	797,193		
	ELECTRONICS								

34,941	IPG PHOTONICS CORP	486,247	13.92	60.73	2,121,967	1	1,635,720		
	PRODUCTION TECHNOLOGY EQUIPMEN								
	---------- ---------- --------								
28,766	UNI PIXEL INC COM NEW	570,191	19.82	14.66	421,710	0.2	-148,482		
	SEMICONDUCTORS & COMPONENTS								
	-------------- - ----------								
51,954	CAVIUM INC COM	853,218	16.42	35.37	1,837,613	0.9	984,395		
77,060	INPHI CORP COM	834,586	10.83	11	847,660	0.4	13,074		
28,205	MICROSEMI CORP COM	276,760	9.81	22.75	641,664	0.3	364,904		
		1,964,564			3,326,937	1.6	1,362,372		
	TECHNOLOGY TOTAL	21,377,558			32,091,118	15.7	10,713,559		
	UTILITIES								
	=========								
	UTILITIES: TELECOMMUNICATIONS								
	---------- -----------------								
229,137	8X8 INC NEW COM	1,682,734	7.34	8.24	1,888,089	0.9	205,355		
	COMMON STOCKS TOTAL	$ 140,724,602			$ 203,061,077	99.1	$ 62,336,475	$ 533,307	0.26
WARRANT AND RIGHTS									
======= ==									
39,702	MAGNUM HUNTER RES CORP WT EXP 10141	0		0.14	5,558	0	5,558		
	TOTAL	$ 142,509,976			$ 204,852,009	100	$ 62,342,033	$ 535,182	0.26
	ACCRUAL VALUE				$ 19,393				
	GRAND TOTAL				$ 204,871,401				

Section 6

Keys to Success

- **Stability of Emerald**

  - Over 20 years as an employee-owned, growing boutique investment manager

  - Low turnover of investment professionals

- **Strong Fundamental Research**

  - Time tested 10-step equity research process

  - Upwards to 2,000 company visits a year by award winning research team

  - 18 experienced investment professionals firm wide

- **Adherence to Philosophy / Process**

  - Former CIOs with deep understanding of plan sponsor needs

  - Managers remain true to style

- **Experience**

  - 35 years average fixed income investment experience

  - 22 years average equity investment experience

- **Performance**

  - Superior long-term, risk-adjusted returns

Emerald Gives Back

We support the communities in which we live and work as well as initiatives throughout the country. In addition to working diligently to provide superior investment returns, Team Emerald continuously sustains its involvement with both local and national organizations committed to aiding various vital community needs and services. Because of Emerald's diverse group of investment products and extensive research commitments we recognize our obligation to be an involved member of the communities in which we work and live. Since its founding in 1991, Emerald has supported community initiatives, organizations and schools that provide much-needed services to area residents. A partial list of these organizations is provided below. In addition to the corporate sponsorships and participation in events, we encourage members of Team Emerald to actively work in their communities to make a difference. In 2005 Emerald Asset Management was selected as the *Corporate Citizen of the Year* by the Central Penn Business Journal.

ALS	Children Deserve A Chance	Gittlen Cancer Research Center	
American Red Cross	Coaches vs. Cancer	Keystone Care Hospice	Police Athletic League
Annual MS Walk	Cystic Fibrosis	Lititz Lions Club	St. Jude’s Research Hospital
Boy Scouts of America	Fulton Opera House	New School of Lancaster	UCP of Central Pennsylvania

In addition, the Emerald Foundation joins hands with community and national charitable organizations devoted to encouraging initiatives that promote human welfare and the sustainability of a quality standard of life for children, families, and individuals in need locally and throughout the country. To help meet the challenges facing communities the Foundation encourages initiatives by seeking meaningful collaboration among other nonprofits, local businesses and private individuals helping to promote and strengthen every individual’s commitment to community. Emerald executives have held senior leadership positions in a number of philanthropic and charitable organizations including the Leukemia & Lymphoma Society, Boys Club, Millersville University Foundation, Pennsylvania State University Research Foundation, Berks Conservancy, and Keystone Care Hospice.

INTERNAL REPORT

ExactTarget

(NYSE-ET)

Initial Report

March 20th, 2012

Derek L. Fisher

Description

Underwriters: J.P. Morgan, Deutsche Bank, Stifel Financial, RBC Capital, Pacific Crest, Canaccord Genuity, Raymond James
9.775 million Shares (range $13.00 to $15.00)
Date of Pricing: March 22nd, 2012

Headquartered in Indianapolis (IN), ExactTarget is a leading global provider of cross-channel, interactive marketing software-as-a-service("SaaS") solutions that empower organizations of all sizes to communicate with their customers through the interactive channels they use most — email, mobile, social media and websites. At the end of Q411, ExactTarget had greater than 4,700 customers and 1100 employees. The company's geographic revenue mix was 86% domestic and 14% international.

Competitive Advantages

- **Leading in Email Marketing:** ExactTarget was founded in December 2000, and while they initially focused on providing email marketing solutions to small and medium-sized clients, they have since expanded their offerings to serve the enterprise market. In January 2012, Forrester published an industry research report that stated that ExactTarget had the strongest email marketing solution. Specifically, Forrester awarded the company's offering perfect scores for usability, triggered messaging capabilities, dynamic content and ability to automate multichannel analytics.
- **High ROI:** ExactTarget's platform technology offers a strong and measurable ROI; company cites research which states that for every one dollar spent on email marketing, the vendor achieves $41 dollars in revenue.
- **Diverse Customer Base:** ExactTarget has a large installed customer base of greater than 4,700 customers. In each of 2009, 2010 and 2011, no single client represented more than 5% of the company's revenue, and the company's largest ten clients accounted for less than 20% of its total revenues. The company generates a significant portion of revenues from clients in a number of key vertical markets: no vertical constitutes greater than 15% of revenues.

Retail	Travel	Media/Ent	Daily Deals	Technology	Financial
Best Buy	AAA	Careerbuilder	Angie's List	Adobe	Ally
Nike	Hotels.com	Financial Times	GILT	Hulu	Citi
Oakley	KLM	Gannett	Groupon	Intuit	Liberty Mutual
Papa Johns	Priceline.com	Live Nation	Zappos	Microsoft	One America
Tommy Hilfiger	Tripadvisor	Universal		Zillow	

- **The Industry's Largest Direct Sales Force:** ExactTarget has the largest sales organization devoted to selling interactive marketing SaaS solutions, with over 290 sales professionals located on four continents. The company's sales' team includes both field sales representatives (quota carrying sales reps for large enterprise customers) and inside sales team (telephone-based sales reps for both the small and mid-markets). More than 80% of the company's revenue in each of 2010 and 2011 was derived from its enterprise, medium-sized and small business clients.

Revenue Mix By Segment	
Enterprise	30%
Channel	17%
Mid Market	35%
SMB	18%

- **Indirect Distribution And Partnerships:** We believe that a key differentiator for ExactTarget is the company's growing indirect distribution channel. Specifically, ExactTarget has sales distribution relationships with more than 500 marketing service providers that resell the company's software to several thousand additional organizations. In addition, the company has a reputation for integrating its email offering tightly with other enterprise technology providers such as leading CRM provider Salesforce.com, web analytic providers Omniture and Coremetrics and marketing automation providers like privately-held Marketo.

- **Strong Corporate Culture:** Similar to other successful high growth companies, we believe that ExactTarget has an extremely strong corporate culture which the company calls "Orange." We believe that the location of the company's headquarters (Indianapolis) has proven to be a competitive advantage which has allowed for the company to attract and retain the best of the technology-oriented workforce in the region.
- **Pricing Model:** We believe that one of the key differentiators for ExactTarget is the company's subscription-based pricing model, charges are based on volume of contracted utilization, level of functionality, number of interactive marketing channels, number of users and level of customer support. Utilization levels are based on the volume of email messages, short message service ("SMS") messages, website impressions and other activities. If clients exceed the specified volume of utilization, additional fees are billed for the excess volume, generally at rates equal to or greater than the contracted minimum per-utilization fee, and are included in subscription revenue (these overages account for ~5% of total revenues). The company's subscription-based model and track record of long-term client relationships have allowed us to achieve annual dollar-based subscription revenue renewal rates of over 100% in 2009, 2010 and 2011 and provide significant revenue visibility. As a result, the company has significant operating visibility and enters every year with 70% of revenue visibility and each quarter with 90% visibility.
- **Strong Balance Sheet:** At the mid-point of the IPO offering, ExactTarget will have $167 million in cash on the balance sheet. We believe that this cash balance provides the company with the significant flexibility to fund the expansion of the company's infrastructure and strategic acquisitions.

Assessment of Management

ExactTarget has a strong management team with significant operating experience from larger organizations. The company's Chairman and CEO Scott Dorsey co-founded the company in 2000 after previously serving in various sales and marketing positions at both Steelcase and Devine, Inc. The company's Chief Financial Officer Steven Collins joined the company in June 2011 after serving as the Chief Financial Officer of NAVTEQ Corporation, a digital mapping provider which was acquired by Nokia in October 2007. The company practices strong corporate governance and follows strict guidelines regarding their code of conduct and ethics.

Growth Drivers

- **Large Total Addressable Marketing:** According to Forrester Research, Inc. ("Forrester"), U.S. marketers plan to increase spending on interactive channels (defined as display, search, email, mobile and social media) as a percentage of total advertising spending from 16% in 2011 to 26% in 2016, creating a projected $15.7 billion dollar Total-Addressable-Market (TAM) by 2016.
- **New Customer Growth:** We believe that the long-term vision for ExactTarget is to be the salesforce.com for marketing software. While the company currently generates greater than 90% of its revenues from email marketing services, we believe that the company is focused on building and selling other offerings.
- **Interactive Marketing Hub:** In 2011, ExactTarget made its Interactive Marketing Hub generally available to clients, providing a broad and powerful suite of cross-channel, interactive marketing SaaS solutions to plan, automate, deliver and optimize data-driven interactive marketing campaigns and real-time communications. We believes that the introduction of the Interactive Marketing Hub have been important in winning new clients and cross selling into its existing client base.
- **Cross-Selling:** The company's central strategy is to sell its suite of cross-channel, interactive marketing SaaS solutions to organizations of all sizes. While ExactTarget generates revenues primarily through the sales of cloud-based marketing solutions, the company has made significant progress in selling the new company's products such as mobile and social offerings. The company's software manages Fan Tabs and Facebook pages for companies and provides a "Social Inbox" similar to an e-mail inbox to enable companies to monitor any comments or postings directed toward them.
- **International Growth:** ExactTarget intends to increase its direct global presence in international markets to serve their multinational clients and win new clients in these markets. In recent years, the company has completed acquisitions of 3 resellers located in the United Kingdom, Australia and Brazil, and have opened an office in Germany. Currently, international revenues represent 14% of revenues at the end of Q411.
- **Acquisitions:** We believe that management will look to make small acquisitions in order to drive revenue growth, broaden the company's service offerings, strengthen the company's customer base, expand geographic reach, add new product functionality and leverage the company's SGA costs. Since 2009, the company has made four acquisitions which have increased the company's social media management and engagement platform and three international software reseller partners.

- **Margin Expansion:** We believe that ExactTarget has significant margin expansion potential. While the company is currently investing in both increased sales and marketing expense and research and development efforts, management expects to show at least 100 basis points of margin expansion per year. Management believes the key to the company's path to profitability is slowing the rate of expense growth below that of the rate of revenue growth; The company's long term operating margin target is 18%-22% and the adjusted EBITDA margin target is 24%-28%.

	2009	2010	2011	Long Term
Revenue Growth	32%	41%	55%	20-25%
Gross Margins	68%	68%	67%	65% - 70%
% of Revenue				
Sales & Marketing	40%	47%	44%	25-30%
Development	15%	20%	19%	10 to 12%
G&A	12%	12%	12%	8 to 10%
Adjusted Operating Income	1%	-10%	-7%	18 to 20%
Adjusted EBITDA	8%	-2%	0%	24 to 28%

Issues/Risks

- **Competition:** ExactTarget competes against a number of different competitors including Aprimo (NYSE-TDC), e-Dialog (NASDAQ-EBAY), Eloqua International, Silverpop as well as client's in-house solutions.
- **Bookings:** Management indicated that they will provide qualitative commentary on bookings trends on a quarterly basis, but they do not plan to offer specific quantitative commentary on bookings. Management does not believe that deferred revenues will be an accurate indicator of the company's future revenue growth.
- **NOLs:** At the end of Q411, the company had $66.7 million of net operating loss carry-forwards and $10.2 million of net operating loss carry-forwards from unrecognized stock option exercise deductions.
- **Share Lock Up:** At the end of 180 days, approximately 55 million existing shares will become sellable. This includes the 8,500,000 shares that they are selling in this offering, which may be resold in the public market immediately (other than any shares sold to entities affiliated with Greenspring Associates (15.8% shares outstanding) and entities affiliated with Technology Crossover Ventures (22.5% of total shares), each an existing stockholder, as these entities are restricted from selling such shares by lock-up agreements they have entered into with their underwriters.

Conclusion / Recommendation

We believe that shares of ExactTarget represent a compelling investment due to the company's strong competitive market position, its breadth of product offerings, distribution channel and large customer base. Like many fast growth software companies, management has made the decision to invest in growth rather than maximize profitability. As a result, we believe that the best way to value the company over the next 12 months is on an enterprise value to revenue basis. We believe that consensus Wall Street estimates will be approximately $260 million for 2012, this would represent a 25% growth rate. However, given the strong underlying fundamentals of the market, the company's competitive position and the company's 50% bookings rate-we believe that the company could be at a 30% to 35% growth. As a result, we believe that there is significant upside in ExactTarget's revenue number and believe that shares being offered at $11.00 (3.5x times 2012) are very attractive. Our 12 month price target for 2012 is $28.00, which would represent a 6.3x multiple on $260 million.

Valuation Comparison

Company	Ticker	Price	Market Value	Gross Margins	EV	2011 Sales	2012 Sales	2013 Sales	Revenue Growth	Revenue Growth	2011 EV/R	2012 EV/R	2013 EV/R
Constant Contact	CTCT	$ 29.19	882.26	71.32	$ 755.8	$ 214.4	$ 251.9	$ 292.7	17.47	16.20	3.5	3.0	2.6
salesforce.com inc.	CRM	$ 148.36	20325.32	78.11	$ 20,084.2	$ 2,266.5	$ 2,949.6	$ 3,669.4	30.14	24.40	8.9	6.8	5.5
Responsys Inc.	MKTG	$ 11.45	543.22	52.08	$ 520.1	$ 134.9	$ 162.0	$ 191.0	20.05	17.92	3.9	3.2	2.7
LivePerson Inc.	LPSN	$ 16.76	914.15	74.98	$ 841.3	$ 133.1	$ 162.7	$ 196.6	22.24	20.81	6.3	5.2	4.3
NetSuite Inc.	N	$ 47.03	3266.95	70.02	$ 3,061.8	$ 236.3	$ 298.4	$ 369.4	26.27	23.78	13.0	10.3	8.3
SPS Commerce Inc.	SPSC	$ 26.46	321.19	72.38	$ 305.9	$ 58.0	$ 70.3	$ 82.5	21.34	17.29	5.3	4.3	3.7
Jive Software Inc.	JIVE	$ 26.36	1620.21	55.64	$ 969.0	$ 77.3	$ 110.9	$ 151.9	43.43	37.02	12.5	8.7	6.4
Average									**25.85**	**22.49**	**7.62**	**5.93**	**4.78**
Exact Target	ET	$ 16.00	$ 1,155.2		$ 987.2	$ 207.5	$ 259.9	$ 319.8	**25%**	**23%**	4.76	3.80	3.09
ET (Emerald)	Base	$ 16.00	$ 1,155		$ 987.2	$ 207.5	$ 270.0	$ 345.0	**30%**	**28%**	4.76	3.66	2.86
ET (Emerald)	Upside	$ 16.00	$ 1,155		$ 987.2	$ 207.5	$ 280.0	$ 370.0	**35%**	**32%**	4.76	3.53	2.67

INTERNAL REPORT

NPS Pharmaceuticals, Inc.

(NPSP - Nasdaq)

Initial Report

April 16, 2010

Terry Smith and Dr. Besecker

Current Price	$6.04
52-week High	$6.26
52-week Low	$2.74
Price Target	$12.00

Rating	BUY
Shares Out	48M
Market Cap	$293M
Avg. Daily Volume	305K

FY11 EPS	($0.46)
EPS Growth Rate	n.a.
FY11 PE	n.a.
FY11 PEG	n.a.

Book Value/share	($4.60)
Cash/share	$2.42
Insider Ownership	0.7%
Institutional Ownership	77.2%

Business Description

NPS Pharmaceuticals was founded in 1986 as a drug discovery company in Salt Lake City, UT. After a few successes and multiple failures, a series of changes were made. A new management team was brought in, the majority of the discovery scientists were laid off, and the company's headquarters were moved to Bedminster, New Jersey. With these changes, the company's focus was shifted to develop the two late stage assets the company possessed, with the objective of monetizing the royalty streams the company had from their legacy days to finance future development. The company is now at the point where its two phase 3 products will provide data at the end of 2010 for the first (Gattex) and in early/mid 2011 for the second product ('558).

Competitive Advantages

- **Gattex for short bowel syndrome (SBS):**
  - Short bowel syndrome most commonly results from surgical resection of a large portion of the bowel. This results in poor nutrient absorption. Palliative care involves administration of parenteral nutrition (PN) to compensate for the nutrients patients are not able to get from a normal diet. PN costs $100k/year and often results in hospitalization and other co-morbidities. The market for Gattex in SBS is close to a billion dollar market, and it is reasonable to think that Gattex peak sales in this indication could be $300-400M.
  - In 2008, NPS completed a 73 patient phase 3 program that studied 2 doses of Gattex versus placebo randomized 2:2:1. The primary endpoint was the percentage of patients who had a 20% reduction of PN usage from weeks 20-24 versus baseline. At 24 weeks, only 25% of patients in the high dose group had achieved the 20% reduction in PN, but the low dose achieved 46% versus the placebo 6%. The high dose was not statistically significant but the low dose was. There is a scientifically viable explanation for this lack of dose response. Gattex is a GLP-2 agonist, which is a growth factor in the gut. It is hypothesized that the GLP-2 agonists (much like a GLP-1 agonist for diabetes treatment) cause appetite suppression. Patients with appetite suppression would eat less and, therefore, be more dependent upon their PN. This was borne out in the first phase 3 trial and is the reason that the current phase 3 trial is only testing the lower dose.
  - The new study (called STEPS) is an 86 patient trial with 1:1 randomization using the same endpoint as the original trial. It is considered a confirmatory trial and will report data near the end of 2010.
  - I believe this trial will be positive based on the data presented for the low dose from the initial phase 3. Additionally, the company has taken measures to make it easier for doctors to lower the dosing of PN in all patients which will increase the delta for PN consumed between drug and placebo treated patients. Additionally, doctors are instructed to encourage patients to maintain the same level of food intake.
  - Enrollment is near completion according to my channel checks. On the Q1 earnings call, management said that 86 patients had been identified, but not all patients that are identified end up being randomized. Enrollment is not yet closed, but completion is imminent.
  - Once approved, Gattex can be tested in other diseases of the gut, most notably Crohn's disease.
- **'558 for hypoparathyroidism:**
  - Hypoparathyroidism is a state of decreased secretion of parathyroid hormone (PTH). The company estimates the prevalence to be 65,000 patients.
  - '558 is a recombinant PTH that is identical to the full length 84 amino acid polypeptide produced by the body.
  - The ongoing phase 3 study has 3 doses (50, 75, or 100ug daily) versus placebo. The primary endpoint is to demonstrate a 50% reduction of oral calcium supplementation and active vitamin D metabolite therapy relative to baseline. In addition, total serum calcium concentration needs to be normalized or maintained compared to baseline.

- This drug is marketed as Preotact for osteoporosis by Nycomed. Nycomed also has ex-US rights for hypoparathyroidism.

- **Legacy royalty streams:**
    - NPS has monetized a number of royalties which results in the $290M long term debt (and $48M of short term debt) on the balance sheet, as that is the means by which the non-recourse debt is recognized. The debt is secured by the royalty stream.
    - There are two royalty streams of interest:
        - Sensipar generates an annual royalty on $80M. At the current run rate, the royalties will return to NPSP in 2013. TEVA has filed a paragraph IV against Sensipar which will run out in 2011. The trial is currently in discovery. AMGN is the lead on this matter.
        - Nucynta was recently launched by JNJ. This is an unencumbered royalty but is only 1% on sales. Analysts project that this drug will be a $300-$800M drug.

Assessment of Management

Francois Nader, MD has served as CEO of NPSP since 2008, prior to which he was COO at NPSP since 2006. Dr. Nader brings with him a wealth of experience in international sales of pharmaceuticals, and has done a good job of monetizing royalty streams to allow the company to focus on its two late stage assets.

Corporate governance is in line with peer companies.

Growth Drivers

- Key drivers will be the clinical data from the Gattex program and the '558 program.
    - Gattex pivotal phase 3 data in short bowel syndrome is due late 2010/eary 2011.
    - '558 pivotal phase 3 data in hypoparathyroidism is due in H1 2011.

Issues/Risks

- Clinical risk: Clearly the biggest risk to the story is clinical failure of either Gattex or '558. Should only one trial be successful, the stock is worth more than its price today.
- Sensipar paragraph IV is being litigated by AMGN. Should this drug go away, NPSP would be free of $200M obligation for the remainder of the royalty, but $3 from our price target would also be eliminated which we attribute to the residual royalty revenue beyond 2013.

Conclusion / Recommendation

- We recommend purchase of shares of NPSP with a $12 price target given the following:
    - Valuation: The enterprise value is technically $600M as it is inflated by $300M of long term debt from the unsecured royalty agreement. As such, we assess this as a $350M company (excluding unsecured long term debt) because no credit is being given to the company for the $80M annual royalty stream from Sensipar.
        - We project peak sales of Gattex (excluding any label expansion) to be $300M. If this trial is successful, Gattex is worth $9 (2x peak rev which is conservative). The probability of success is 65%. The probability adjusted value of Gattex is $6.
        - Peak sales of '558 is around $150M with a 75% probability of success. Using 2x peak sales, the probability adjusted value of '558 is $3.50.
        - The value of the revenue stream for Sensipar from 2013-2017, assuming $100M annually discounted at a rate of 20% (due to paragraph IV risk) is $200M ($3/share).
    - Details of the deal:
        - The company will price an offering the evening of April 15, 2010 through Cannacord Adams with the intention of raising $40M.
        - The company finished 2009 with $75M cash, they monetized their Regpara royalty in February 2010 for a net $34M, and if they net $35M from this offering, the company would have $144M cash. They have guided to a burn of $75-90M/year (roughly $19-22M/Q) for 2010. This offering should take them until Q3 2011. We would expect a raise post positive data from either study.

- At present, there are 49M shares outstanding plus 9M shares for convertible debt which converts at $5.44 due in 2014. If this offering prices at $5.50, another 7.3M shares would be out bringing the total to 66M.

Financial Summary

NPSP

Annual Results	FY09	FY10E	FY11E
Revenue	$84.1M	$94.6M	$96.3M
EPS	-$0.37	-$0.71	-$0.46
Y-Y Revenue Growth	-18%	12%	2%
Y-Y EPS Growth	n.a.	n.a.	n.a.

FY09	1Q09	2Q09	3Q09	4Q09
Revenue	$16.3M	$25.6M	$20.1M	$22.1M
EPS	-$0.22	$0.05	-$0.16	-$0.04

FY10E	1Q10E	2Q10E	3Q10E	4Q10E
Revenue	$20.2M	$23.0M	$22.7M	$23.4M
EPS	-$0.22	-$0.19	-$0.22	-$0.22
Y-Y Revenue Growth	24%	-10%	13%	6%
Y-Y EPS Growth	n.a.	-484%	n.a.	n.a.

Comments

Additional Data

Current Price	$6.04
12-month High	$6.26
12-month Low	$2.74
FY End	Dec
Dividend	nil
Shares Outstanding	48.4M
Shares Short	1.9M
Avg Daily Vol	305K
Cash & ST Invest.	$117M
ST & LT Debt	$339M

Updated: 16-Apr-2010

NPS Pharmaceuticals Inc.

Valuation Comparison

NPS Pharmaceuticals, Inc.		FY End	Share Price	52-wk High	52-wk Low	Market Cap. ($M)	TTM EPS	FY2010 EPS	FY2011 EPS	5-yr Proj EPS Growth	TTM P/E	FY2010 P/E	FY2011 P/E	TTM Rev ($M)	FY2010 Rev ($M)	FY2011 Rev ($M)	Proj Growth	TTM M/R	FY2010 M/R	FY2011 M/R
Affymax	AFFY	Dec	$23.82	$25.64	$15.00	$571M	($4.09)	($1.32)	$1.46	27.5%	n.a.	n.a.	16.3x	$114.9M	$137.5M	$215.0M	36.8%	5.0x	4.2x	2.7x
Inspire Pharmaceuticals	ISPH	Dec	$6.80	$7.07	$3.52	$560M	($0.63)	($0.66)	($0.47)	22.0%	n.a.	n.a.	n.a.	$92.2M	$107.5M	$120.5M	14.3%	6.1x	5.2x	4.6x
Optimer Pharmaceuticals	OPTR	Dec	$12.55	$15.17	$9.54	$480M	($1.29)	($1.20)	($0.76)		n.a.	n.a.	n.a.	$0.9M	$6.8M	$43.2M	595.9%	538.8x	70.6x	11.1x
MAP Pharmaceuticals	MAPP	Dec	$16.98	$17.83	$2.40	$447M	($0.46)	($1.86)	($1.60)		n.a.	n.a.	n.a.	$54.2M	$0.7M	$11.6M	-53.8%	8.2x	647.3x	38.6x
Arena Pharmaceuticals	ARNA	Dec	$3.21	$5.93	$2.26	$325M	($1.88)	($1.13)	($0.53)		n.a.	n.a.	n.a.	$10.4M	$11.7M	$67.8M	155.4%	31.2x	27.8x	4.8x
NPS Pharmaceuticals	NPSP	Dec	$6.13	$6.26	$2.74	$297M	($0.50)	($0.77)	($0.43)		n.a.	n.a.	n.a.	$84.2M	$94.0M	$113.2M	16.0%	3.5x	3.2x	2.6x
						$463M				24.8%			16.3x				127.4%	98.8x	126.4x	10.7x

INTERNAL REPORT

Shuffle Master, Inc.

(SHFL - NASDAQ)

Initial Report

August 1, 2009

Joseph W. Garner & Stephen Amsterdam

Current Price	$7.20	Rating	Buy	FY10 EPS	$0.33	Book Value/share	$2.23
52-week High	$7.63	Shares Out	54M	EPS Growth Rate	22.5%	Cash/share	$0.34
52-week Low	$1.97	Market Cap	$386M	FY10 PE	21.8x	Insider Ownership	2.1%
Price Target	$15.00	Avg. Daily Volume	412K	FY10 PEG	1.0	Institutional Ownership	83.6%

Business Description

Shuffle Master, based in Las Vegas (NV), is a leading gaming equipment supplier. The company's operations are divided into the following business segments:

- **Utility Products** – Shuffle Master develops products for casinos that enhance table game speed, productivity, profitability and security. This segment's primary product line is automatic card shufflers for use with card-based table games. Shuffle Master also sells a line of roulette chip sorting products. The company has an installed base of over **28,000** Utility products. Utility products accounted for **43%** of total revenues in FY08.
- **Proprietary Table Games** – Shuffle Master develops, markets, and licenses proprietary table games, progressive table games with bonusing options, and side bets for table games. The company offers the industry's top six and **11** of the top **15** most popular games, including ***Three Card Poker, Let it Ride, Caribbean Stud, Fortune Pai Gow Poker, Casino War***, and ***Crazy 4 Poker***. Shuffle Master has an installed base of approximately **6,000** proprietary table game units. Proprietary Table Games accounted for **20%** of total revenues in FY08.
- **Electronic Table Systems** – Shuffle Master develops and markets electronic versions of table games via its ***Table Master, Vegas Star, Rapid Table Games,*** and ***i-Table*** platforms. The Table Master and Vegas Star platforms feature an electronic dealer and enable customers to offer a table game experience in markets where live table games are not permitted, such as racino and video lottery markets. The i-Table is a next generation technology that combines a live dealer with an electronic betting interface. Shuffle Master has an installed base of **7,000** Electronic Table Systems seats. The Electronic Table Systems segment accounted for **15%** of total revenues in FY08.
- **Electronic Gaming Machines** – Shuffle Master develops and markets PC-based video slot machines into the Australian and Asian markets through its ***Stargames*** subsidiary, which was acquired in 2006. The company has an installed base of **21,000** Electronic Gaming Machine seats. The segment accounted for **23%** of total revenues in FY08.

Competitive Advantages

- **Dominant Share of Automatic Card Shuffler Market** – Shuffle Master is the leading developer of automatic card shufflers used with card table games, with a market share estimated to be in excess of **85%.** Shuffle Master's leading market position is bolstered by its industry leading technology, strong *(and well defended)* intellectual property portfolio, and regulatory barriers to entry. The company's customer base includes the world's largest gaming facility operators, such as ***MGM MIRAGE, Harrah's Entertainment***, and ***Las Vegas Sands***.
- **Strong Leadership Position in Proprietary Table Games** – Shuffle Master has a broad and growing portfolio of industry leading proprietary table games, including the top six and eleven of the industry's top fifteen games. The company's market position is bolstered by its strong *(and well defended)* intellectual property portfolio, strong brand franchises, and regulatory barriers to entry.
- **High Degree of Recurring Revenues** – Over **40%** of Shuffle Master's revenues are recurring in nature, including the leasing of card shufflers and license fees from table games. The relatively high degree of recurring revenue increases the reliability and predictability of the company's financial performance.
- **Regulatory Barriers to Entry** – Casino gaming is a highly regulated industry. Shuffle Master has gained and maintained regulatory approval as a manufacturer and distributor of gaming devices and an operator of inter-casino linked systems. This is a distinct competitive advantage for Shuffle Master and a significant barrier to entry for new competitors.

Assessment of Management

Shuffle Master is undergoing a change in leadership with the retirement of ***Mark L. Yoseloff, PhD*** in March 2009 after having served as Chairman and CEO since 2002 and in various senior executive capacities since 1997. Succeeding Dr. Yoseloff is ***Timothy J. Parrott***, who joins Shuffle Master as CEO with extensive senior management experience in both the gaming equipment and casino industries. Prior to joining Shuffle Master, Mr. Parrott served as President and CEO, Americas for ***Aristocrat Technologies***, a leading Australia based gaming equipment supplier, and as Chairman and CEO of ***Boomtown,*** Inc., a regional casino operator that merged with ***Pinnacle Entertainment*** in 1998. Shuffle Master has also recently announced the addition of a new CFO, ***Linster W. Fox***, who joins the company after having served as CFO of Cherokee ***International*** and ***Anacomp***. While Mr. Fox does not possess gaming industry experience, he brings to the company extensive experience in the management of global operations. Mr. Parrott and Mr. Fox are joining the company after three challenging and turbulent years for the company. We believe they have the potential to re-ignite the growth engine of the company and re-build the company's credibility with investors.

We believe Shuffle Master has adequate corporate governance practices. During the recent management transition, the company has separated the positions of Chairman and CEO, which we view favorably. Compensation levels appear to be well within industry norms, but insider ownership is relatively low at less than **3%**.

Growth Drivers

- **Growth of the Table Game Market** – Over the next five years, the number of casino based table games worldwide is expected to grow **31%** to over **82,000** tables. While the North American market is expected to remain the largest market for table games during this time period, the area of greatest growth is likely to be the Asia market, particularly given the market's proclivity for table games. Historically, the growth of the table game market has been highly correlated with growing demand for automatic card shufflers and proprietary table games. As a result, we believe that Shuffle Master will be a major beneficiary of the global growth in table games.
- **Growth of the e-Table Market** - The e-Table game market is expected to grow to as many as **46,000** tables over the next five years. The growth of this market will be driven by a desire by casino operators to reduce operating costs, improve productivity, and tighten security while continuing to offer (1) lower denomination games (which have historically operated at low or zero profit), (2) table game options with reduced employee headcount, and/or (3) "table-style" games in a gaming jurisdiction that does not allow true table games. We believe Shuffle Master's extensive investments in electronic table systems uniquely position the company to capitalize on this trend.
- **Growth of Installed Base of Leased/Royalty Products** – Over the past three years, management has placed an increased emphasis on leasing rather than selling its products, in order to maximize the company's long-term financial prospects while enhancing the visibility and predictability of revenues. Since 2006, the percentage of total revenues derived from leasing and royalties has increased from **30%** to over **40%**. During that same period, the installed base of leased shufflers has grown nearly **20%** to **5,600** units, royalty generating proprietary table games has grown **30%** to **3,900**, and royalty generating electronic table systems has grown nearly **300%** to **1,700** units. We believe the strong growth in leased and royalty generating products will persist for the foreseeable future.
- **Margin Expansion** – Shuffle Master's operating profit margin declined to **11%** *(excluding goodwill impairment)* in FY08, which was well below the **25%** margin achieved in FY06 and the **46%** margin achieved in FY03. We believe recent initiatives to reduce operating expenses, re-emphasize leasing and royalty generating units, and restructure the Australian operations will lead to relatively steady and consistent operating margin expansion in future periods. While the record operating margin levels achieved in past years may prove elusive, we believe that Shuffle Master has the opportunity to leverage its revenue growth with significant margin expansion.

Issues/Risks

Risks include the impact of macro-economic factors on consumer demand for casino gaming, the financial health of the casino gaming industry, the ability of the new senior management team to effectively execute the company's growth strategy, customer acceptance of new products, and the ability of management to continue to defend the company's intellectual property portfolio.

Conclusion / Recommendation

Shuffle Master is a leading gaming equipment supplier that is well positioned for a significant financial and operational turnaround under the leadership of a new management team. Despite the issues that plagued the company's financial results over the past three fiscal years, Shuffle Master retained a relatively unchallenged leadership position in automatic card shufflers and proprietary table games. In addition, the company has emerged as a leading provider of electronic table game technology, which positions the company to take advantage of one of the casino gaming industry's emerging growth trends. We believe the combination of a solid foundation, a revamped management team, a growing end market, and a potential cyclical upturn in the gaming industry positions Shuffle Master's share price for significant upside from relatively depressed levels. Shuffle Master shares are currently trading at **9x** estimated FY09 EBITDA of **$50 million**, which represents a discount from its normalized historical range of **10x-15x**. We estimate that Shuffle Master will improve its EBITDA by **50%** or more over the next two years to over **$75 million**. Assuming that the company's shares only trade at the lower end of the historical valuation range, we believe a price level of **$15 per share**, or more than double the current share price, is achievable within 18 months. We rate Shuffle Master shares as a **BUY**.

Financial Summary

SHFL

Annual Results	FY08	FY09E	FY10E
Revenue	$190M	$170M	$191M
EPS	$0.32	$0.23	$0.33
Y-Y Revenue Growth		-10%	12%
Y-Y EPS Growth		-27%	41%

FY08	1Q08	2Q08	3Q08	4Q08
Revenue	$38M	$49M	$49M	$54M
EPS	$0.00	$0.09	$0.11	$0.12

FY09E	1Q09	2Q09	3Q09E	4Q09E
Revenue	$34M	$45M	$44M	$47M
EPS	$0.01	$0.10	$0.06	$0.07
Y-Y Revenue Growth	-9%	-8%	-11%	-12%
Y-Y EPS Growth	n.a.	11%	-41%	-40%

Comments

Additional Data

Current Price	$7.20
12-month High	$7.63
12-month Low	$1.97
FY End	Oct
Dividend	nil
Shares Outstanding	53.6M
Shares Short	1.9M
Avg Daily Vol	412K

Updated: 1-Aug-2009

Shuffle Master Inc.

Valuation Comparison

Gaming Equipment		FY End	Share Price	52-wk High	52-wk Low	Market Cap. ($M)	TTM EPS	FY2009 EPS	FY2010 EPS	5-yr Proj EPS Growth	TTM P/E	FY2009 P/E	FY2010 P/E	TTM Rev ($M)	FY2009 Rev ($M)	FY2010 Rev ($M)	Proj Growth	TTM M/R	FY2009 M/R	FY2010 M/R
International Game Technology	IGT	Sep	$19.75	$24.55	$6.81	$5,852M	$0.75	$0.77	$0.88	15.4%	26.3x	25.6x	22.4x	$2,231.6M	$2,104.3M	$2,187.1M	-1.2%	2.6x	2.8x	2.7x
Bally Technologies	BYI	Jun	$36.21	$37.79	$12.21	$1,972M	$2.17	$2.17	$2.36	18.5%	16.7x	16.7x	15.3x	$925.7M	$899.0M	$916.2M	2.0%	2.1x	2.2x	2.2x
WMS Industries	WMS	Jun	$36.16	$37.69	$15.48	$1,768M	$1.47	$1.53	$1.76	23.5%	24.6x	23.6x	20.5x	$696.2M	$704.8M	$750.2M	7.7%	2.5x	2.5x	2.4x
Scientific Games	SGMS	Dec	$18.02	$32.89	$10.05	$1,666M	($0.44)	$0.73	$0.99	20.0%	n.a.	24.7x	18.2x	$1,011.6M	$975.2M	$1,060.3M	-0.4%	1.6x	1.7x	1.6x
Shuffle Master	SHFL	Oct	$7.20	$7.63	$1.97	$386M	($0.23)	$0.23	$0.33	22.5%	n.a.	31.3x	21.8x	$182.9M	$170.4M	$191.0M	5.5%	2.1x	2.3x	2.0x
						$1,768M				20.0%	22.5x	24.4x	19.7x				2.7%	2.2x	2.3x	2.2x

INTERNAL REPORT

Sarepta Therapeutics

(SRPT - NASDAQ)

Initial Report

July 27, 2012

Terry Smith

Current Price	$8.35		Rating	Buy		FY13 GAAP EPS	($1.26)		Book Value/share	$0.62
52-week High	$10.78		Shares Out	22M		EPS Growth Rate	n.a.		Cash/share	n.a.
52-week Low	$2.60		Market Cap	$182M		FY13 PE	n.a.		Insider Ownership	5.7%
Price Target	$18.00		Avg. Daily Volume	1.8M		FY13 PEG	n.a.		Institutional Ownership	19.2%

Description

Sarepta Therapeutics is a biotechnology company that uses RNA-based therapeutics to treat serious and life threatening diseases. The company was founded in 1980 as AVI BioPharma, and changed its name to Sarepta Therapeutics in June 2012. The company's lead drug is Eteplirsen which is in phase 2 for treatment of Duchenne muscular dystrophy (DMD).

Competitive Advantage

- <u>The company has presented an unprecedented walking benefit in 6 patients after 36 weeks of treatment</u> –
  - Duchenne muscular dystrophy affects 1 in 3,600 boys and results in muscle degeneration and eventual death. The disease is caused by a mutation in the dystrophin gene, which results in a lack of functional dystrophin in the patient's muscles. We believe that there are 2,000 patients that would benefit from Sarepta's drug in the United States. At an annual price of $400k this is an $800M market in the US, and the European market is equal in size.
  - In April 2012, Sarepta presented data showing that at 24 weeks of treatment, patients had robust increases in dystrophin in their muscles, however this increase was not accompanied by an improvement in the distance a patient could walk in six minutes. In July 2012, Sarepta provided an update showing that at 36 weeks of treatment that the dystrophin gains seen at week 24 had translated into a clinical benefit. The four patients treated with 50mg/kg Eteplirsen saw their six-minute walk distance decline 9m over the 36 weeks, while the four placebo patients declined 78m. This was statistically significant with a p value <0.045. An improvement of 30m over one year is considered clinically meaningful.
  - Sarepta believes they can file for accelerated approval on the dystrophin endpoint under the new PDUFA V agreement. We think that there is a 50/50 chance that this strategy will work.
  - There is a milder form of muscular dystrophy called Becker muscular dystrophy where patients have dystrophin protein levels in the range of what is seen by in patients treated with Eteplirsen. These patients progress much more slowly than Duchenne patients.
  - There was also a cohort of four patients who were treated with 30mg/kg. Unfortunately, two of the patients in the drug group experienced a rapid decline in walking ability at the start of the trial. These patients were unable to walk by the end of the study due to disease progression, and were unable to perform the 6 minute walk test. The two remaining patients had similar responses to the 50mg/kg patients. Adding the data from these 6 patients together results in a p value of 0.0004 and greater than 60m improvement in 6 minute walk distance. One caveat is that this effect is driven primarily by placebo decline. Sarepta chose patients who would experience a rapid decline for this study. Though it is improper to compare across trials, Genzyme's Ataluren failed phase 3 had a 42m reduction in placebo over 48 weeks. The UC Davis Observational Study 013 had a 57m reduction at 12 months. The 4 placebo patients in the Sarepta study declined 78m in 36 weeks. The Ataluren study had both Becker and Duchenne muscular dystrophy patients, so this would explain the slower rate of decline in that study. The diagnosis of the 013 patients is unknown.
  - GlaxoSmithKline/Prosensa have a competitive product in phase 3 development for DMD. This drug (GSK2402968/PRO051) works by a mechanism similar to that of Eteplirsen. This drug produced confounding data in a 12 week trial when it came to the 6 minute walk distance, but showed dystrophin improvements on par with that of Eteplirsen. We believe the toxicity profile of Eteplirsen is vastly superior to that of '051.

Assessment of Management

CEO Chris Garabedian joined the company in January 2011. He brought with him a wealth of industry experience, as he was VP Corporate Strategy at Celgene and prior to that was an industry consultant to early stage biotech companies. To date, he has guided the company to the point where they have a realistic shot at benefitting from recent legislation to make genetic drugs for rare diseases more accessible.

Corporate governance is in line with peers.

Growth Drivers

- 48 week data – The company will release the final 48 week data on the DMD trial in October, 2012. Through the first 36 weeks of treatment, the drug group had lost 9m and the placebo patients had lost 78m. We expect the drug to be down roughly 15m from baseline and the placebo to lose an incremental 12m. It should be noted that the placebo patients crossed over to drug at 24 weeks, so there is no true placebo arm. The placebo arm is actually patients treated with placebo for 24 week, and then on drug for 24 weeks. We know from the initial cut of the original patients on drug that 24 weeks of treatment confers no walking benefit, but does result in significant dystrophin gains. As important as the walking benefit at the 48 week time point will be the sustained dystrophin protein levels.
- FDA meeting/potential filing – On the company's Q1-12 earnings call, the CEO said that the data from the current phase 2 trial may be sufficient to seek FDA registration. We see this as optimistic and expect that the company will need to do a 60-80 patient phase 3 program. The trial will likely be 52 weeks in length, but there is a chance that they could seek accelerated approval with this small phase 2 that is nearly complete under the new PDUFA V.

Issues/Risks

- Small patient numbers – The company has only demonstrated a walking benefit in a six patient study compared to a placebo group of four patients. Though they hit statistical significance in this study, there exists the possibility that these data are an aberration. It should also be noted that 2 of 8 patients lost their ability to walk and were not given a score for their walking distance. Imputing a value of zero for these patients removes statistical significance.
- Clinical risk in phase 3 – If the company needs to perform a phase 3, there is clinical risk that the results from the phase 2 will not be replicated. It should be noted that 69m of the 78m benefit relative to placebo at 36 weeks was derived from placebo deterioration. We have looked at past trials and believe that the placebo patients should have been expected to lose 50-60m.
- The company will need to raise cash – They presently have enough cash to make it through the end of Q1-13. We expect an equity raise in the next three months and believe that the stock will respond well to the removal of this overhang.
- Data from competitive products – We expect GSK will have data from a 53 patient phase 2 trial in September 2012. There will be some read through to the Sarepta program based on these data.
- Intellectual property – Prosensa has the IP for exon 51 in Europe. Sarepta will need access to this IP in order to commercialize their drug in Europe.

Conclusion / Recommendation

We believe the shares of SRPT represent an attractive buying opportunity given the following:

- Reasonable valuation in an under-owned story – At an enterprise value of $200M, we find the valuation of SRPT to be quite compelling when one considers that the end market for their drug is >$1.5B worldwide. The big dip in the stock to less than $1/share coupled with the name change put this stock off the radar of several investors. We believe the 36 week data presented that was recently presented will bring this interest back. Institutional ownership was 27% as of 6/30/12.
- The Street will likely over-estimate the probability of phase 3 success-- Due to the placebo deterioration in the phase 2 study, the delta between the treatment group and the placebo group is an unprecedented 78m. We assign a probability of success in the 60-70% range if a phase 3 is required. Given the robust phase 2 data presented to date, we expect investors to assign a higher probability of success and would not be surprised to see the stock in the high teens before the phase 3 pivotal trial results are released (this, of course, assumes that FDA requires a phase 3). Should the company file for regulatory approval on the phase 2, we believe the stock should be valued in the high teens.

We recommend buying shares of SRPT with an $18 12-month price target. An $18 target gives this company a market cap of $500M. We believe that Eteplirsen has a >65% chance at making it to market, and a 50% chance of making it to market in 2013 on an accelerated approval. The U.S. market for Eteplirsen is $800M.

Financial Summary

SRPT	Annual Results	FY11	FY12E	FY13E
	Revenue	$47.0M	$46.2M	$49.4M
	GAAP EPS	-$0.12	-$0.87	-$1.26
	Y-Y Revenue Growth	60%	-2%	7%
	Y-Y EPS Growth	n.a.	n.a.	n.a.

FY11	1Q11	2Q11	3Q11	4Q11
Revenue	$14.3M	$11.6M	$7.5M	$13.6M
GAAP EPS	$0.12	$0.06	-$0.18	-$0.06

FY12E	1Q12	2Q12E	3Q12E	4Q12E
Revenue	$11.2M	$11.2M	$10.9M	$11.2M
GAAP EPS	-$0.78	$0.35	-$0.26	-$0.26
Y-Y Revenue Growth	-22%	-3%	45%	-18%
Y-Y EPS Growth	-750%	483%	n.a.	n.a.

Comments

Additional Data

Current Price	$9.40
12-month High	$10.78
12-month Low	$2.60
FY End	Dec
Dividend	nil
Shares Outstanding	135.7M
Shares Short	1.5M
Avg Daily Vol	1,814K
Cash & ST Invest.	n.a.
ST & LT Debt	n.a.

Updated: 16-Aug-2012

Valuation Comparison

Sarepta Therapeutics, Inc.		FY End	Share Price	52-wk High	52-wk Low	Market Cap. ($M)	TTM EPS	FY2012 EPS	FY2013 EPS	5-yr Proj EPS Growth	TTM P/E	FY2012 P/E	FY2013 P/E	TTM Rev ($M)	FY2012 Rev ($M)	FY2013 Rev ($M)	Proj Growth	TTM M/R	FY2012 M/R	FY2013 M/R
BioMarin Pharmaceutical	BMRN	Dec	$37.89	$44.18	$26.61	$4,682M	($0.87)	($0.87)	($0.42)	39.7%	n.a.	n.a.	n.a.	$461.9M	$498.2M	$572.1M	13.8%	10.1x	9.4x	8.2x
Isis Pharmaceuticals	ISIS	Dec	$13.70	$14.05	$6.25	$1,378M	($0.72)	($0.79)	($0.92)		n.a.	n.a.	n.a.	$123.7M	$119.8M	$116.1M	8.3%	11.1x	11.5x	11.9x
Synageva BioPharma	GEVA	Dec	$49.90	$50.85	$8.53	$1,208M	($1.48)	($1.90)	($2.73)		n.a.	n.a.	n.a.	$6.5M	$9.1M	$8.5M	100.7%	186.9x	133.3x	142.7x
Alnylam Pharmaceuticals	ALNY	Dec	$18.44	$20.63	$5.88	$963M	($1.14)	($1.37)	($2.06)	0.0%	n.a.	n.a.	n.a.	$82.7M	$64.3M	$29.8M	-40.0%	11.6x	15.0x	32.4x
Aegerion Pharmaceuticals	AEGR	Dec	$13.30	$17.72	$11.75	$339M	($2.32)	($2.36)	($1.50)		n.a.	n.a.	n.a.	$0.0M	$0.0M	$26.5M				12.8x
Sarepta Therapeutics	SRPT	Dec	$8.35	$10.78	$2.60	$182M	($0.67)	($0.93)	($1.39)		n.a.	n.a.	n.a.	$43.5M	$44.7M	$46.0M	-1.0%	6.4x	6.3x	6.1x
						$1,086M				19.8%							16.4%	45.3x	35.1x	35.7x

INTERNAL REPORT

Trex Company, Inc.

October 30. 2012 (TREX – NASDAQ)

Joseph Garner, Steve Amsterdam & Andrew Rohrer Initial Report

Current Price	33.58		Rating	Buy		FY12 EPS	$1.49		Book Value/Share	$7.2
52-week High	34.9		Shares Out	16.8M		EPS Growth Rate	15%		Cash/Share	$4
52-week Low	16.94		Market Cap	564.1M		FY12 PE	22.6		Insider Ownership	13.0%
Price Target	50.00		Avg. Daily Vol	222.6K		FY12 PEG	0.7		Institution Ownership	86.8%

Business Description

Trex Company, based in Winchester (VA), is the leading producer of wood-alternative decking and railing products sold under the Trex brand name. The majority of the company's products are manufactured via a proprietary process that combines wood fibers and reclaimed polyethylene resulting in an aesthetically durable and low maintenance product.

Competitive Advantages

- **High Performance Wood Alternative Decking** – Trex addresses many of wood's major functional disadvantages in decking and railing applications. Trex products require no staining, are moisture resistant, have splinter-free surfaces, and need no chemical treatment against rot or insect infestation. Trex products offer a lower total cost of ownership relative to pressure treated lumber, despite a 30% price premium, by eliminating the on-going maintenance requirements associated with wood decks. It is estimated that Trex decks result in a positive payback relative to pressure treated lumber in less than six years.
- **Product Innovation** – Trex is widely regarded as the innovation leader in the wood-alternative decking products industry. In 2011, the company introduced ***Trex Transcend***, which features a protective shell coating for enhanced protection against fading, staining, and scratching. The product is both stain resistant and mold resistant with relatively easy soap and water clean-up. Aesthetically, Transcend offers high-definition wood grain and a range of seven colors. Our channel checks indicated a highly favorable consumer response to the Transcend product offering with retail back orders typically ranging from two days to two weeks in length. Trex' operational improvements have enabled the company to be more responsive to consumer preferences in a timely manner. For example, prior to the new senior management team joining the company, Trex had **154** SKUs and an on-time delivery rate of only **60%**. The company now has **690** SKUs and an on-time delivery rate of over **90%**.
- **Industry Leading Distribution Network** – Trex products are stocked in approximately **6,000** retail outlets in North America. This includes over **2,800** ***Home Depot*** and ***Lowe's*** Big Box DIY retail outlets. In addition, Trex services over **3,000** retail lumber dealers through approximately **90** wholesale distributor locations. The company has been increasing its retail distribution through the addition of approximately **500** dealers since 2011.
- **Market Leadership Position –** Trex is the market leader in the wood-alternative decking products industry with a market share of over **35%**, as of December 2010 according to ***Principia***. The company has a sizable lead with its next closest competitors *(Timbertech and Fiberon)* each accounting for a **14%** market share. Trex' market lead has been expanding as the company added **500 basis points** of market share in 2010. Management's goal has been to drive the company's market share to **50%** by the end of 2012. Our channel checks indicate that Trex continues to gain market share against other branded providers.
- **Balance Sheet –** Trex has undergone a dramatic improvement in its financial condition during the past four years under the leadership of its current senior management team. Since that time the company has improved its gross profit margin by more than **700 basis points**, EBITDA margin improving by more than **550 basis points**, and reduced inventory from **$111 million** in 2006 to **$13 million** in Q2-12. As a result, the company significantly improved its cash flow generation, enabling the company to go from a net debt position of over **$130 million** to being essentially debt free as of Q3-12. The company's improved profitability, stronger balance sheet, and more abundant cash flow provides management with the flexibility to more aggressively invest in initiatives to enhance shareholder value, such as product development, broader product distribution, share repurchases and dividends.

Assessment of Management

While Trex has long been widely regarded has highly skilled in product innovation and sales & marketing, the company lacked in operational and financial management skills. In 2008, after four years of rapidly deteriorating financial performance, the Board of Directors moved to address these issues by installing a new senior management team led by Chairman & CEO ***Ronald W. Kaplan***, who had 26 years of senior management experience with ***Harsco Corporation***, including titles such as Sr. VP - Operations. In addition, The company added ***James E. Cline*** as CFO *(29 years of senior financial and operating management positions with Harsco and Huffy)*, ***F. Timothy Reese*** as VP, Operations *(29 years of senior operational management experience with DuPont)*, ***J. Mitchell Cox*** as VP, Sales *(24 years in senior sales positions with Kraft)*, and ***Adam Zambanini*** as VP, Marketing *(6 years in senior marketing positions with Rubbermaid)*. In addition to the financial improvements noted above, the current senior management team has been instrumental in the development and commercial introduction of the company's highly successful Transcend product platform, attaining world class manufacturing status at the company's production facilities, building a global sales presence, and driving strong market share gains.

We believe Trex has solid corporate governance practices with a highly independent Board of Directors *(six of the seven members are independent)*; meaningful, but not overly generous incentive compensation programs tied to free cash flow generation, pre-tax profitability, and EPS; and a significant level of insider ownership *(officers and directors hold approximately 7.5% of the company's total outstanding shares)*.

Growth Drivers

- **<u>Expanding Market Share in a Growing Market Segment</u>** – The composite (wood alternative) decking market has expanded from only **3%** of the overall residential and decking market in 1999 to **34%** of the market in 2010. We believe that the composite segment is well positioned to continue to increase its share of the residential decking and railing market, given the favorable functional and financial advantages of composite materials. Product innovation, such as Trex' Transcend product line, should further the ability of composites to gain market share and the ability of Trex to gain share within that market segment. We estimate that composites have the potential to attain a market share of **50%** by 2020 with Trex representing **50%** or more of the market.
- **<u>Expanding Product Portfolio and Distribution Network Drive Organic Revenue Growth</u>** – Trex' industry leading organic revenue growth has been driven by the company's successful efforts to expand both its product portfolio and distribution network. Trex has been successful in extending its market leadership position with new product innovation, such as the highly successful Transcend premium product offering, as mentioned above. In addition, the company has leveraged the Trex brand to expand into adjacent markets such as railing, steel deck framing, deck lighting, and trim, as well as complementary accessories such as outdoor furniture, pergola kits, and deck drainage systems. The company has also been successful in extending its market reach by expanding its distribution network to encompass **6,000** retail locations, including approximately **500** new dealers over the past two years. Trex has also been developing an international distribution network and has expanded its market presence from three countries in 2008 to **26** countries in 2012. We believe the combination of product innovation, an expanding presence in additional product categories, and a broader distribution network will continue to drive market leading growth for Trex.
- **<u>Recovery in New Home Sales May Signal Recovery in Home Improvement Spending</u>** – According to the ***U.S. Census Bureau***, new residential home sales have increased on a y/y basis for four consecutive quarters with sales up over **19%** in Q2-12. In addition, the ***National Association of Realtors*** reported that the strength in existing home sales has continued with a **7.8%** rise in August 2012. The nascent recovery in the housing market may prove to be a leading indicator for home improvement spending, as the most significant period for home improvement spending tends to be within the first two years of purchasing a home. According to the U.S. Census Bureau, homeowner improvement spending was up **3.7%** in Q1-12, marking the second consecutive quarter of y/y improvements. The ***Leading Indicator of Remodeling Activity (LIRA)***, as reported by ***the Remodeling Futures Program*** at the ***Joint Center for Housing Studies of Harvard University***, suggests that homeowner improvement spending may reach **double-digit growth** by Q1-13. We believe that these trends bode well for Trex as decking remains one of the most attractive areas of home improvement investment for homeowners as decks increase living area at a relatively minimal cost per square foot. According to ***Remodeling Magazine's*** annual Cost vs. Value report, a deck addition project returns an average of approximately **70%** of the original investment in terms of increased home resale value, which represents one of the highest values in the survey. As a result, we believe that industry trends favor Trex and the decking industry for the foreseeable future.

- **Operating Margin Expansion** – In the first six months of 2012, Trex' operating profit margin expanded by **700 basis points** to **15.5%** in the first half of 2012. The company's operating profit margin was fueled by improved manufacturing capacity utilization and solid operating leverage. We believe that management's efforts to realize operating efficiencies and the operating leverage inherent in the company's business model provides the opportunity for further margin expansion as revenues continue to grow. We estimate Trex will realize nearly six hundred basis points of operating margin expansion in 2012 to **10.4%** and nearly **600 basis points** of additional operating margin expansion to more than **16%** in 2014.

Issues / Risks

Issues and risks include the following:

- The commercial success of the company's new product offerings and the company's ability to maintain its position as an innovation leader in the wood alternative decking and railing products industry
- Trex has the potential to be adversely impacted by adverse changes in the macro-economic environment that would impact discretionary income, home equity values, employment levels, and interest rates.
- Demand for Trex products in a single year can be impacted by weather conditions during the Spring and Summer construction seasons.
- The relative illiquidity of Trex shares, as the stock has an average daily trading volume of only 200,000 shares.

Summary and Recommendation

The decking and railing market is well positioned to benefit from a recovery in home improvement spending over the next several years, driven by improving home equity values and higher employment and consumer discretionary spending levels. Trex is the market leader and fastest growing company in the growing market for wood alternative decking and railing products, which is the fastest growing segment of the decking and railing market. The company's growing distribution network and highly successful new product offerings, such as Trex Transcend, position the company for strong revenue growth over the next several years. In addition, the company's vastly improved financial and operational management skills, under the leadership of Ronald Kaplan and his senior management team, position Trex to realize higher levels of profitability, both in terms of its operating profit margin and return on invested capital.

We estimate that Trex will grow its EPS from a loss of **$0.25 per share** in 2011 to a profit of **$1.41 per share** in 2012 and more than **$3.60 per share** by 2014. We believe that the sell-side estimates underestimate Trex revenue and EPS growth power, creating the potential for a sharp upward estimate revision over the next 12 months. Trex shares appear undervalued at only **11.5x** our 2013 EPS estimate of **$2.91 per share** and **9.3x** our 2014 EPS estimate of **$3.63 per share**. Our 12-month price target is at least **$50 per share**, or **17x** our 2013 EPS estimate, representing upside potential of nearly **50%**. We rate Trex shares as a **BUY**.

Financial Summary

TREX	Annual Results	FY11	FY12	FY13
	Revenue	266.8M	320.7M	347.3M
	EPS	-0.75	1.49	2.35
	Y-Y Rev Growth	-16.0%	20.2%	8.3%
	Y-Y EPS Growth	13.6%	-298.2%	58.0%

FY11	3-11	6-11	9-11	12-11
Revenue	69.0M	78.4M	67.9M	51.5M
EPS	0.30	0.12	-0.03	-1.19

FY12E	3-12	6-12	9-12	12-12
Revenue	96.1M	94.3M	70.8M	59.5M
EPS	0.74	0.48	0.17	0.02
Y-Y Rev Growth	27.7%	20.2%	38.8%	37.5%
Y-Y EPS Growth	146.7%	300.0%	-650.0%	-101.8%

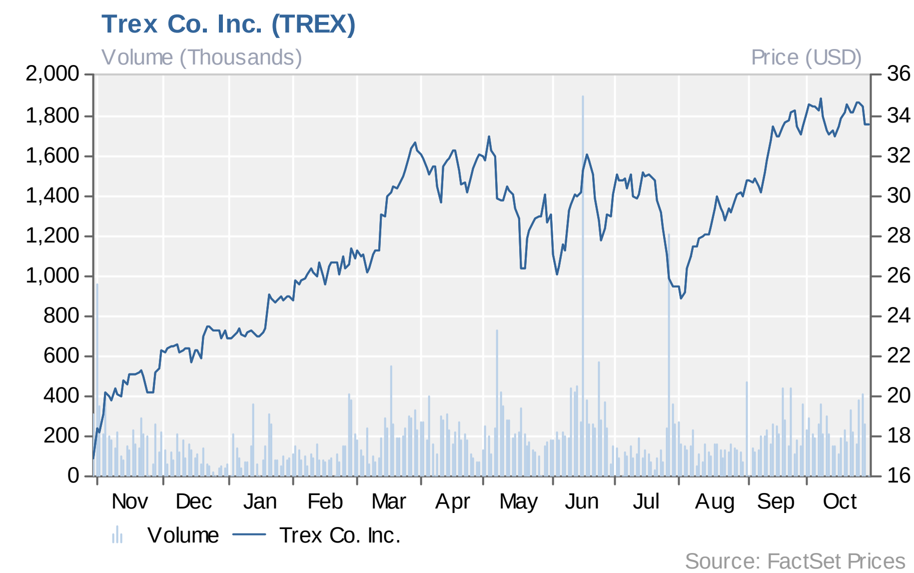
Comments

Estimates reflect sell-side consensus

Additional Data

Current Price	33.58
12-month High	34.9
12-month Low	16.94
FY End	12/2011
Dividend	0
Shares Outstanding	16.8M
Shares Short	1.6M
Avg Daily Vol	222.6K
Cash and ST Invest	41.5M
ST & LT Debt	86.4M

Updated: 30-Oct-2012



Home Improvement Products		FY End	Share Price	52-wk High	52-wk Low	Market Cap. ($M)	EV ($M)	FY2011 EPS	FY2012 EPS	FY2011 P/E	FY2012 P/E	FY2011 Rev ($M)	FY2012 Rev ($M)	FY2011 EBITDA	FY2012 EBITDA	FY2011 EV/EBITDA	FY2012 EV/EBITDA
Trex Co. Inc.	TREX	Dec	$33.58	$34.90	$16.94	$564.1	$584.4	($0.75)	$1.49	#N/A	23.4x	$266.8	$320.7	$20.57	$54.78	28.4x	10.7x
Universal Forest Products Inc.	UFPI	Dec	$37.13	$42.74	$24.31	$732.8	$806.4	$0.23	$1.23	134.2x	31.4x	$1,822.3	$2,044.6	$54.35	$80.11	14.8x	10.1x
Masco Corp.	MAS	Dec	$14.60	$16.25	$8.42	$5,213.7	$7,923.7	($1.66)	$0.26	#N/A	57.1x	$7,467.0	$7,668.0	$469.00	$629.23	16.9x	12.6x
American Woodmark Corp.	AMWD	Apr	$22.39	$22.99	$10.91	$324.7	$288.5	($1.40)	($1.45)	#N/A	113.9x	$452.6	$515.8	($4.29)	$6.26	-67.3x	46.1x
Universal Forest Products Inc.	UFPI	Dec	$37.13	$42.74	$24.31	$732.8	$806.4	$0.23	$1.23	134.2x	31.4x	$1,822.3	$2,044.6	$54.35	$80.11	14.8x	10.1x

Meeting Date
07/24/13
Agenda Item
#7

Memorandum

Date: July 12, 2013
To: CCCERA Board of Retirement
From: Timothy Price, Chief Investment Officer; Chih-chi Chu, Investment Analyst
Subject: Recommended Commitments to Distressed Real Estate Funds

Recommendation

In the staff memo to the CCCERA Board dated May 8, 2013, we laid out the potential budget for new commitments to real estate funds. In that memo, we laid out our recommendation that CCCERA could commit up to $60 million to value added funds and up to $175 to distressed real estate funds. We further recommended that these funds be targeted first to follow-on funds from existing managers, pending successful due diligence. CCCERA committed $60 million to value add real estate with the recent commitments to INVESCO III and Long Wharf IV. This memo details the case for additional commitments to distressed real estate.

Specifically, we recommend the Board make capital commitments of up to $80 million to Siguler Guff Distressed Real Estate Opportunities Fund II (DREOF II) and up to $70 million to Oaktree Real Estate Opportunities Fund VI (ROF VI), subject to successful due diligence and legal review. Both funds are follow-on funds, using the same teams and processes as when we committed to the prior funds, as outlined below.

Fund	Commitment Date	Commitment Size
Siguler Guff DREOF I	December, 2011	$75 million
Oaktree ROF V	December, 2011	$50 million

This memo evaluates Siguler Guff DREOF II and Oaktree ROF VI separately. We evaluate CCCERA's existing real estate investments with each firm, include a preview of the new funds' current and prospective investments, and finally, include a summary of each fund's terms.

Siguler Guff Distressed Real Estate Fund II

Overview

Siguler Guff is raising capital for Distressed Real Estate Opportunities Fund II, with a target fundraising range of $600 - $750 million. The $630 million Distressed Real Estate Opportunities Fund I (Fund I) has been fully committed and two-thirds drawn. Fund II is structured in the same way as Fund I, a fund-of-funds with approximately 40% of the fund allocated to co-investments (direct investments alongside the underlying fund managers).

Headquartered in New York City, Siguler Guff Advisers, LLC was founded in 1991 as the Private Equity group of PaineWebber. Siguler Guff became independent in 1995. The firm focuses on niche investment opportunities such as distressed real estate and securities, BRIC (Brazil, Russia, India, and China,) and US Small and Mid-Cap private equity. Currently the four senior partners of Siguler Guff own 80% of the firm's equity and 100% of the firm's voting interests; BNY Mellon Asset Management has a 20% non-voting interest in the firm. The current assets under management of the firm are over $8 billion.

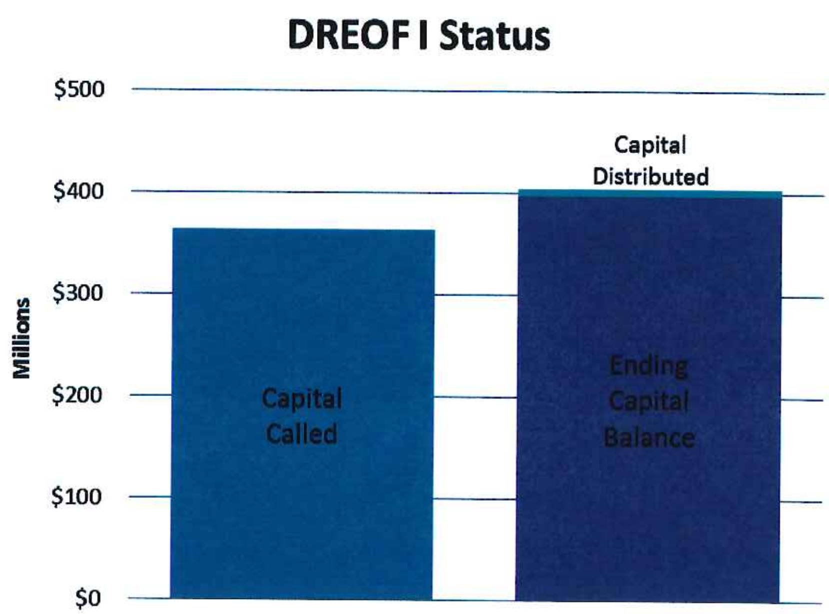
Review of Siguler Guff DREOF I

Siguler Guff's real estate investment program is relatively new compared to the firm's other offerings. However, the real estate program adheres to the firm's overall investment philosophy: to identify and exploit areas of market inefficiency and capital starvation. To fulfill this philosophy, Siguler Guff typically structures fund-of-funds investment vehicles through both fund investments and co-investments, with a conviction that its co-investments program will be beneficial to the overall investment performance.

CCCERA made its first capital call to DREOF I in early 2012. The following are highlights for DREOF I as of December 31, 2012:

• Fund Size	$630 million
• Number of Investments	22
• Capital Called	$364 million
• Capital Distributed	$7 million
• Ending Capital Balance	$397 million
• Current Investment Multiple	1.1 x
• CCCERA IRR % (gross/net)	20.9/13.5

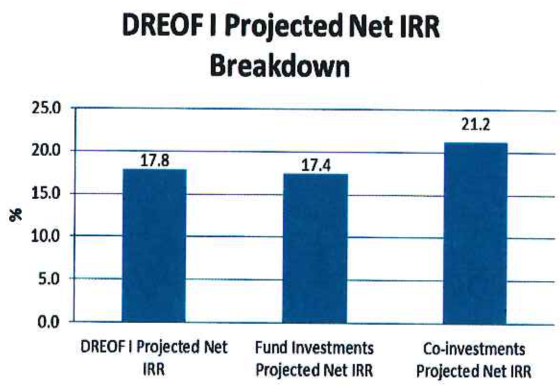
The chart below summaries the status of DREOF I as of December 31, 2012:

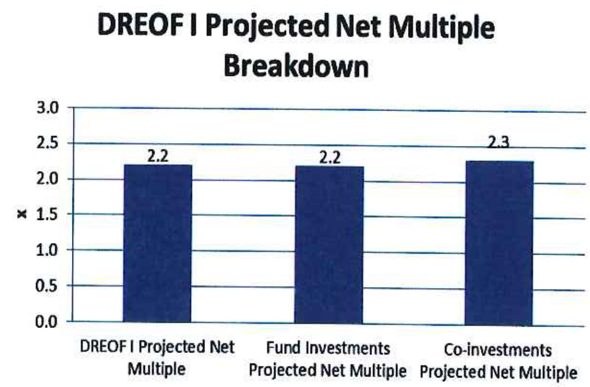


Although many investments in DREOF I are still too new to be meaningful from a return perspective, most investments in the fund are tracking well thus far. The current fund level net IRR is over 13% and the investment multiple is 1.1x. Out of the 22 investments already made in DREOF I, two are European funds, ten are North American funds, and ten are North American co-investments. European investments are over 10% of the total portfolio. The current investment level IRR ranges from -9.7% to 30.1%. The -9.7% investment remains in its J-curve due to up-front legal costs associated with this co-investment project.

DREOF I is projected to deliver a net IRR of 17.8% and an investment multiple of 2.2x at maturity, with the underlying fund investments projected to deliver net IRR of 17.4% and investment multiple of 2.2x, and the co-investments projected to deliver net IRR of 21.2% and investment multiple of 2.3x.

The charts below summarize the projected net IRR and net investment multiple of DREOF I, supported by the underlying funds and co-investments.





Siguler Guff DREOF II Investment Strategy

The fund's investment strategy is to commit capital to the portfolio in periods of distress. Siguler Guff will attempt to cast a wide net by geography, property type, investment vehicle and security type to capture assets at the best possible prices. Siguler Guff follows a strategy of partnering with local "sharp shooters" as the firm believes commercial real estate is still very much a local business. The fund's investment approach will remain flexible to pursue not only fund investments, but also joint ventures or co-investments.

DREOF II may potentially allocate a larger portion of the fund to Europe than DREOF I, as the firm believes that Europe is approximately two years behind United States in terms of distressed real estate opportunities coming to the market and will likely represent a relatively larger portion of the opportunity set during Fund II's investment period.

Approximately half of the underlying investment funds used in DREOF I will likely raise new funds that will be used in DREOF II. In addition to these follow-on funds, the investment pipeline for DREOF II looks robust with fourteen new fund investment opportunities (over $400 million) and eight new co-investment opportunities (over $200 million) at this time. It is Siguler Guff's intention to have a first close when they have at least $150 million in commitments. They currently have 21 LP's with paperwork in hand for $27.6 million. They have another $75-80 million in hard circles for the first close (not including CCCERA).

Summary of Key Terms of DREOF II

Target Size:	$750 million (likely to be closed in the $600's range)
Siguler Guff Commitment:	At least $3 million
Target Initial Close:	August 30, 2013
Investment Period:	The Third Anniversary of Final Closing
Maturity:	The 12^{th} Anniversary of the Initial Closing
Management Fee:	0.5% of Committed Capital if over $50 million (further fee break to be given for commitment at least $70 million in the Initial Close, that is, No Management Fee until $200 million is raised or for 3 months after the Initial Close, whichever event happens later)
Preferred Return:	8% compounded annually
General Partner Profits Interest:	5% (over return of LP's Capital plus Preferred Return to LP)
Investment Guidelines:	25% to any single Fund Investment; 25% to non-North America investments; 40% to Co-Investments (5% to single investment)

Oaktree Real Estate Opportunities Fund VI

Overview

Oaktree started raising Real Estate Opportunities Fund VI (ROF VI) in the summer of 2012, not long after closing the predecessor fund (Fund V) in December 2011 at $1.3 billion. ROF VI commenced operations on September 20, 2012. As of March 31, 2013 ROF VI has gathered committed capital of $653 million and is 70% drawn on that amount. Oaktree is in the final stages of closing ROF VI on or before September 20, 2013. Due to strong subscription demand, the final size of ROF VI could reach $2 billion, with a hard cap at $2.5 billion.

Oaktree was founded in 1995 by Howard Marks and four other partners. Headquartered in Los Angeles, the firm has approximately $79 billion under management. Since its founding, the firm has focused on less efficient markets and emphasized an opportunistic, value-oriented and risk-controlled approach to investments.

To generate liquidity for its employees, Oaktree went public in 2011, and currently has a market cap of $1.6 billion. Although it is a publicly traded company, the voting rights are retained almost entirely by its principals.

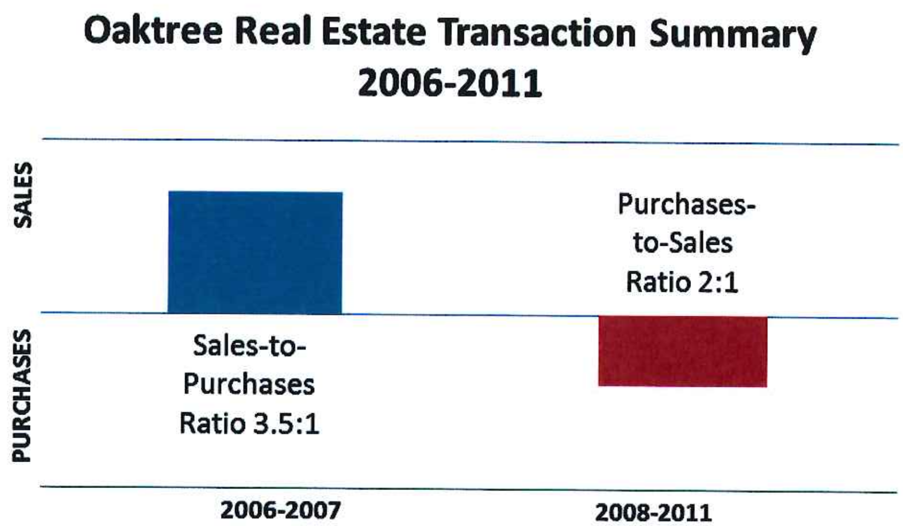
Oaktree Real Estate Track Record

Oaktree has been managing dedicated real estate investment programs since the firm's inception. It has managed nine funds prior to ROF VI. The track records of these funds, organized by the stage of the fund (Substantially Realized, Liquidating, Seasoning, or Investing) are summarized in the table below:

Fund Stage	Substantially Realized					Liquidating	Seasoning		Investing
Fund Name	SCF VI	ROF A	ROF B	ROF II	ROF III/IIIA	Legacy CMBS	ROF IV	Remington	ROF V
Start Date	August 1994	February 1996	March 1997	December 1998	October 2002	February 2010	June 2008	February 2010	February 2011
Capital (millions)	$505.5	$303.7	$285.5	$463.5	$707.3	$2,321.6	$450.4	$253.6	$1,283.0
Net IRR	17.4%	8.4%	7.1%	11.1%	11.9%	19.3%	12.8%	15.5%	11.0%
Net Multiple	2.1x	1.7x	1.6x	1.5x	1.7x	1.3x	1.5x	1.4x	1.2x

Oaktree attributes the consistent, strong track records largely to its counter-cyclical approach including selling assets during market peaks, expanding the capacity (both staff and capital) in advance of the opportunities and buying assets during the market trough.

As illustrated by the chart below, Oaktree real estate funds' ratio of assets sold to purchased was 3.5:1 during 2006-2007 real estate peak; the ratio of assets purchased to sold was 2:1 during 2008-2011 real estate crisis.



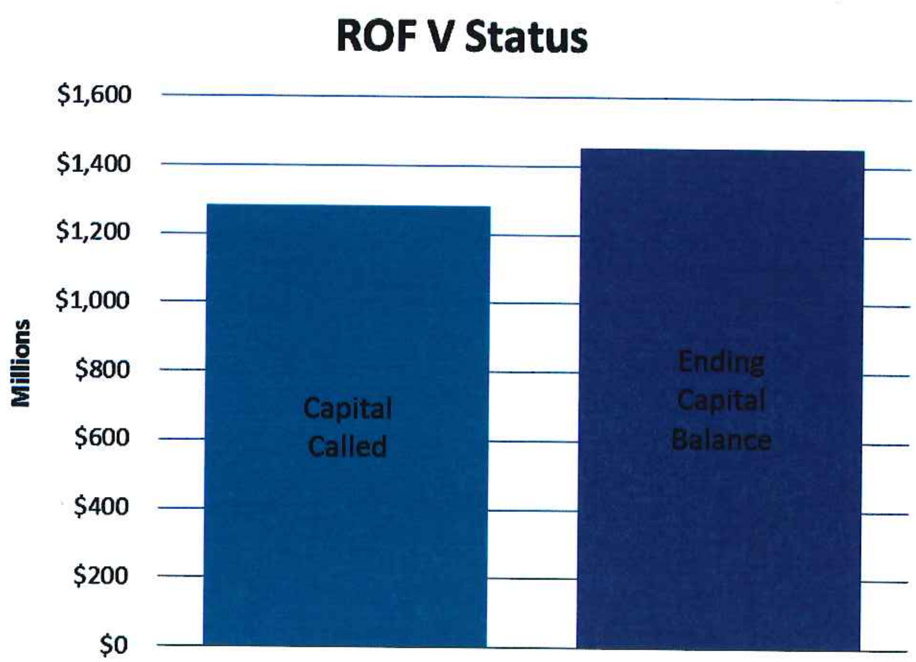
This record of buy-low/sell-high is somewhat unique and attributable to the value-sensitive investment process.

Review of Oaktree ROF V

CCCERA made its first contribution to ROF V at the end of 2011. The following are the highlights for ROF V as of March 31, 2013:

• Fund Size	$1.3 billion
• Number of Investments	83
• Capital Called	$1,283 million
• Capital Distributed	$0 million
• Ending Capital Balance	$1,455 million
• Investment Multiple	1.2 x
• CCCERA IRR % (gross/net)	16.8/11.0

The chart below summaries the status of ROF V:



As of March 31, 2013, ROF V has realized five investments, mostly successfully, with gross investment multiple ranging from 1.0 to 2.3x. These exits together brought in net profits of over $15 million to the fund. The profits were recycled (re-invested). Most recently on May 13, 2013, ROF V sent out a $90 million distribution; CCCERA's share is $2.5 million.

The number of the unrealized holdings is 78, with the largest holding, Taylor Morrison, accounting for 7.8% of the fund. Taylor Morrison became public in on April 12, 2013. The IPO will bring ROF V a significant liquidity event once the lock-up period for the insiders expires 180 days after the IPO.

The current IRRs for the existing investments ranges from -29.7% (this investment has less than $500,000 of capital) to 53.1% (Taylor Morrison.) For the fund life return expectation, ROF V is currently projected to deliver a net IRR between 14 and 16% and an investment multiple of between 1.6 and 1.8x.

Preview of ROF VI

ROF VI has invested $430 million of committed capital in 22 investments. Consistent with ROF V, ROF VI will invest across six major categories: Commercial (Real Estate), Residential (Real Estate), FDIC/Bank Portfolios (deposition of real estate debts from the banks), Structured Finance (CMBS), Non-US, and Corporate Real Estate (such as Taylor Morrison, or REITs). Of the 22 investments already in ROF VI, Commercial Real Estate is by far the leading investment category with 50% of the invested capital, followed by Residential's 22% and FDIC/Bank Portfolios' 16%. The original underwriting investment multiple of the ten largest sample investments in ROF VI ranged from 1.4 to 2.5x.

Summary of Key Terms of ROF VI

Expected Fund Size:	$2 billion
GP Commitments:	2.5% (amount to be between $20 and $100 million) Current GP Commitment is 5.7% of already committed capital
Date of Final Close:	September 20, 2013
Commitment Period:	Three years from the date of final close
Management Fee:	1.5% of Committed Capital if below $150 million
Preferred Return:	8% compounded annual return to Limited Partners
Distributions:	100% to LP contribution plus preferred return; then 60%/40% GP/LP split up to 20% of all distributions above LP contributions (Catch-Up;) then 80%/20% LP/GP (Carried Interest)

Summary

Both DREOF I and ROF V have deployed investors' capital rather quickly. The investments, although too early to be realized, appear promising for both funds according to the most recent updates. DREOF II and ROF VI are expected to carry predecessor funds' deal momentum and investment pace. ROF VI has closed many attractive investments, and is tracking an enormous investment pipeline of more than $14 billion. DREOF II has a robust pipeline, including a couple of highly lucrative European opportunities.

Both DREOF II and ROF VI's total fee (simulated by Milliman and staff) including carry and underlying fund fee, work out to be approximately 4% for returns in the mid-teens; however Siguler Guff's fee schedule is more aligned with LP interest, as it draws more of its share of the fee from the investment success (versus regular management fee).

The combined recommended deployment of $150 million in Distressed Real Estate represented by DREOF II and ROF VI is consistent to the Real Estate Program Review approved by the board on May 8, 2013 (see attached).

Memorandum

Meeting Date
05/08/13
Agenda Item
#7

Date: May 8, 2013

To: CCCERA Board of Retirement

From: Timothy Price, Chief Investment Officer; Chih-chi Chu, Investment Analyst

Subject: Real Estate Program Review

Overview

CCCERA last made real estate commitments to private funds in late 2011. Much of this previous round of commitments was put in place to better diversify CCCERA's real estate exposure away from publicly traded REITs. Through these commitments, the REIT exposure has been reduced.

At this time, we are approaching our long-term target allocation of 3.5% exposure to REITs. However, our availability to commit to private Real Estate has grown due to the increase in total CCCERA fund value and meaningful distributions from the existing private real estate managers. With the anticipated wind down of four real estate funds, as well as rapid deployment of the recently committed capital to closed end real estate funds, CCCERA will need to make new commitments to maintain its target exposure to private real estate. This memo addresses the funds available to commit to private real estate and highlights the types of real estate strategies that appear to be taking advantage of the most attractively valued which are poised for stronger relative returns at this time.

Please note that we have not attempted to address the relative attractiveness of individual property types (multi-family, office, industrial, etc.) or geographies (gateway U.S. cities vs. secondary markets, etc.) at this time. The majority of our current real estate managers are diversified across several sectors and geographies. Rather, we set out to determine what types of strategies were getting access to better valued properties and what kind of financial risk is embedded in their current pipeline of deals. If the Board approves the recommended allocation ranges to various types of real estate, we will immediately begin vetting the new funds available from our current managers and the property and geographical distributions will play a role in those analyses.

CCCERA Private Real Estate

Based on the March 31, 2013 market value of $5.95 billion, CCCERA has a 12.5% target allocation, or $744 million, to real estate. After subtracting the adjusted target of the REIT portfolios and the Willows Property, CCCERA has a remaining dollar target of $528 million to private (closed-end) real estate funds. Compared to this $528 million target, actual CCCERA investment in closed end real estate on 3/31/2013 was $419 million. To address this underweight and to take advantage of some of the relatively low property prices still available outside of the core real estate markets, we propose that CCCERA make additional commitments to closed end real estate of approximately $241 million.

As of March 31, 2013, CCCERA's closed-end real estate investments had a market value of approximately $419 million. Outstanding commitments to real estate which are to be drawn total $264 million. If the dollar target of $528 million is reduced by these amounts, CCCERA currently has an over-commitment of $155 million.

With the nature of investing in closed-end real estate, the beginning of a fund's life has a lag period from when a fund commitment is made until when the actual dollars are called by the investment manager. Later, when the fund approaches its termination and portfolio holdings mature, properties are sold, the portfolio eventually winds down, and capital is returned to investors. To recognize that the actual investment in real estate closed end funds is often below the commitment level, CCCERA needs to over-commit relative to the desired target of $528 million to closed-end real estate in order to achieve the real estate target allocation of 12.5%.

We recommend that CCCERA commit to closed end real estate funds 175% of the $528 closed end target: $924 million. (These dollar amounts will change with the total market value of the fund, and as the total market value of CCCERA assets grows over time, the amount allocated to real estate also grows.)

Based on this analysis, the total amount currently available for CCCERA to commit to closed-end real estate funds is approximately $241 million. These figures are illustrated in the following table:

	Value (Millions)
CCCERA Total Fund	**$5,953**
as of 3/31/13	
Total Real Estate Target @ 12.5%	$744
less REIT Target @ 3.5%	$208
= Private Real Estate Funds Target @ 9%	$536
less Willows Property	$8
= Closed End Target	**$528**
Plus 75% over commitment	$396
= Adjusted Closed End Target	**$924**

Current Closed End Fund Commitments

DLJ RECP II, III, IV	$123
Long Wharf FREG II, III	$65
INVESCO IREF I, II	$105
Oaktree V (new)	$53
Siguler Guff (new)	$46
Angelo Gordon VIII (new)	$27
=Total Current Investments	**$419**

Commitments Projected to Be Drawn

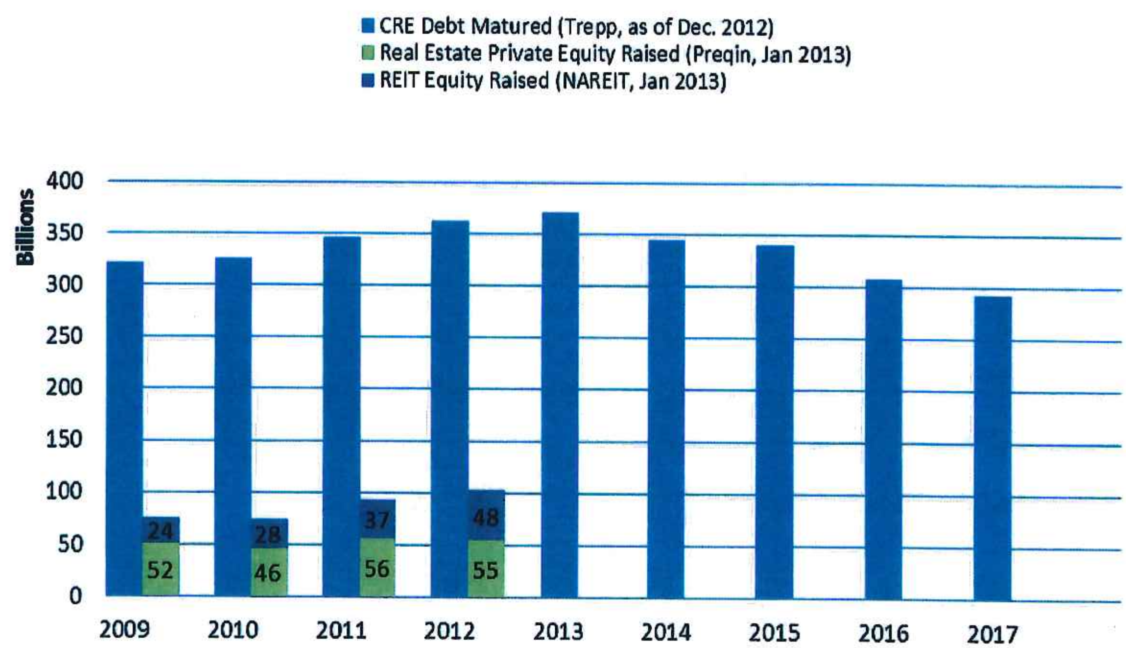
DLJ RECP II, III, IV, V	$113
Siguler Guff (new)	$28
Angelo Gordon VIII (new)	$48
LaSalle VI (new)	$75
= Total commitments to be drawn	**$264**

Adjusted Closed End Target	$924
less current Closed End Investments	$419
less existing closed end commitments	$264
Estimated Available to Commit	**$241**

Current Real Estate Market Trends
Since its peak in 2008, private real estate fund-raising has plummeted to pre-crisis levels. Much of the capital raised post 2008 has gone into the core assets (well financed, nearly fully leased class A properties in major markets), as investors become risk-averse after losing substantial amount of capital in non-core assets (which typically employ higher leverage) during the financial crisis. On the public side, the capital formation of REITs has increased since 2008; REITs are essentially core vehicles. As most of the equity raised, public and private, chase after the core assets, it leaves more opportunities than capital available for investment in non-core assets. Depending upon the valuation method used, core real estate appears to be fully to slightly over-valued relative to its own history. Non-core properties continue to trade at lower valuations.

Distressed real estate markets present a significantly different story. The combined commercial real estate (CRE) debts that come due in the next several years are mounting to trillions of dollars (shown in the chart below). While there may be a continuance of "extend and pretend", we believe that more properties with problem loans will be unloaded onto the market, creating tremendous real estate opportunities through the distressed (debt) channel.

Commercial Real Estate Debt v. Equity



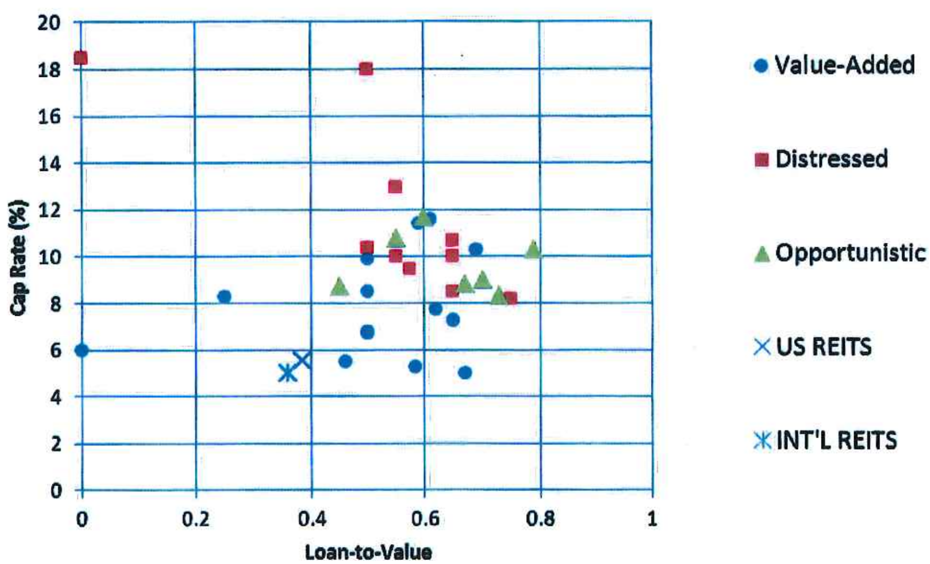
This trend mirrors CCCERA's experience from its recent round of real estate commitments. From December 2011 to April 2012 we committed $355 million to various real estate funds across the spectrum of Distressed, Opportunistic, and Value-Added strategies. While Opportunistic and Value-Added managers have been deploying capital at a regular pace, the Distressed managers have either called or committed all of their capital and have had greater opportunities than capital available to invest.

Review of Current Pipeline Deals

To access the relative attractiveness of the different real estate strategies in the current environment, we surveyed two key statistics, capitalization (cap) rates and debt ratios. We asked our real estate managers (including REITs) for these statistics for their recently-closed transactions and potential deals in the pipeline. Cap rates are a measure of the income generated by a property divided by the total value of the property and can be thought of as the yield produced. In general, a higher cap rates means that a property is generating more income per dollar invested which translates into stronger investment returns. The debt ratio, or loan-to-value (LTV,) represents the financial risk in the transaction since leverage amplifies the return on the investments. Less leveraged properties can better weather downturns but will offer more modest returns in rising markets.

The results of our survey are shown in the plot below. The northwest quadrant represents lower priced properties (higher capitalization rates) with less leverage (lower LTV ratio). These would be considered the more attractive investment opportunities.

Relative Attractiveness of Different Real Estate Strategies



As shown in the plot, CCCERA is compensated in terms of higher cap rates for the liquidity risk it takes from investing in private funds rather than REITS. While Value-Added and Opportunistic strategies appear to be finding similar cap rates, Distressed strategies appear to be capturing more low risk/high reward outliers. The relative attractiveness of Distressed strategy above also echoes the market opportunities review in the previous section. Being invested in core properties, public REITs offer a reasonable, though not terribly attractive, investment profile at this time.

Recommended Allocation

Based on CCCERA's current funds available to commit, the market opportunities, the relative attractiveness of different strategies, and the pace of capital deployment from our existing managers, we recommend the following allocation of the next commitment for Board consideration:

Total Availability:	$241 million (to be drawn from REITs)
Value-added:	$60 million target, $0-60 million range
Opportunistic:	$25 million target, $0-25* million range
Distressed:	$155 target, $100-175 million range

***DLJ V, an opportunistic fund in which CCCERA committed $75 million in April, 2012, has yet to close and has not made any capital commitments .**

The Distressed strategy is very appealing at this time, perhaps even more so than the last time we made our real estate commitment at the end of 2011. As more problematic CRE debts (with under-water properties) come due, the ability and willingness of lenders to extend the loans is becoming more limited, both due to regulation and simple fatigue of having to deal with some of these properties for more than five years now. We believe Distressed real estate experts with extensive debt networks and debt/equity restructuring capabilities are well equipped to capture these investment opportunities.

We have a $75 million commitment to DLJ RECP V, which has yet to make its initial close. While we believe the Opportunistic space is quite attractive, the $75 million commitment is an appropriate allocation. If the Board wishes, we could modestly increase our commitment size, up to a maximum of $100 million total ($25 million incremental increase).

Among our Value-Added managers, both Invesco and Long Wharf are in the exit stages for current funds, while LaSalle will call 40% of committed capital in May, 2013. Without new commitments we will have little exposure to the Value-Added strategy within the next several years.

Since our existing Distressed and Value-Added managers (except LaSalle) are in the market to raise the next fund, we can evaluate their current offerings based on Board direction. Our Distressed managers have done very well in a short period of time; the Value-Added managers have managed through the severe real estate downturn reasonably well with anticipation of no or little loss of our capital, and some have the possibility of a meaningful upside of up to 8% total returns based upon current forecasts from the managers.

Impact on CCCERA Combined Real Estate Portfolio

The following table displays the characteristics of closed end real estate funds available to institutional investors. It ranges from core (lower targeted return/lower risk) strategies to opportunistic (higher targeted return/higher risk) strategies. Core funds typically target returns in the mid-to-high single digit range, predominately from stable income streams such as apartments. Value-Added funds target IRRs from high single digit to mid-teens, while opportunity funds target returns in the high teens and above. Value-Added and Opportunistic funds will use higher leverage as well, typically above 60%, depending on the type of investments and the debt availabilities in the market. The risk displayed here includes both financial risk and operating risk. For example, "re-tenant" or "development" projects certainly involve more operating risk than collecting rents and maintenance of core buildings. Note our distressed real estate managers, although targeting higher return, are either fund-of-funds or sit on multi-investment platforms (debt, equity, preferred shares, etc.) therefore their overall risk may be lower due to their inherently diverse fund investments.

Strategic Position of CCCERA Private Real Estate Managers

Strategy	CCCERA Manager	Investment Theme Example	Operating Risk	Financial Leverage	Target Return
Core	None, REITs used as a liquid proxy	Office, Retail, Apartment with stabilized income streams	Low	Low	Low
Value-Added	Invesco, Long Wharf, LaSalle	Tenant improvement, property lease up	Medium	Medium	Medium
Opportunistic	DLJ, Angelo Gordon	Development projects, repositioning	High	High	High
Distressed	Oaktree, Siguler Guff	Borrower recapitalization, significant retenanting	Medium-High	Low-High	High

Currently, our strategy allocation, including both market values and commitments, for CCCERA's total private real estate portfolio is 45% Opportunistic, 30% Distressed, and 25% Value-added, as detailed in the table below:

CCCERA Existing Private Real Estate Strategy Allocation
Invested Capital plus Uncalled Commitments

Opportunistic	$311 million	45%
Distressed	$202 million	30%
Value-Added	$170 million	25%
TOTAL	$683 million	100% this is the sum of invested (419) and uncalled (264)

Our recommendation, assuming with $25 million, $155 million, and $60 million allocated to Opportunistic, Distressed and Value-Added respectively, will result to the following allocation:

CCCERA New Private Real Estate Strategy Allocation

Opportunistic	$336 million	36%
Distressed	$357 million	39%
Value-Added	$230 million	25%
TOTAL	$924 million	100%

Based on the comparison of the two tables above, the new allocation will not drastically change from the old. However it will be able to capture the attractive market opportunities more directly.

Distressed Real Estate Opportunities Fund II, LP

Contra Costa County Employees' Retirement Association

Confidential

July 2013

SIGULER GUFF

Ver. 07.15.13

Firm Overview

Siguler Guff Overview

- A multi-strategy private equity investment firm which, together with its affiliates, has over $10 billion of assets under management(1)
- Firm includes an independent registered investment advisor founded in 1995 as the successor to the Private Equity Group of PaineWebber
- Dedicated exclusively to private equity investing
- Value-oriented opportunistic focus
- Extensive expertise across a range of private equity and illiquid investing strategies
  - Direct private equity investment funds
  - Specialized multi-manager private equity funds with substantial direct investments/co-investments
  - Customized separate accounts
- Serving over 450 institutional clients including corporate and public employee benefit plans, endowments, foundations, government agencies, sovereign wealth funds and financial institutions
- Global footprint with offices in New York (headquarters), Boston, Chicago, Shanghai, Mumbai (local affiliate), São Paulo and Moscow
- 135 employees worldwide, including in-house operations, legal and compliance, accounting, and tax professionals
- Active, best practice investment policies, including environmental, social and corporate governance
- Strategic, passive investment by The Bank of New York Mellon Corporation

(1) Estimated as of June 30, 2013. Siguler Guff's assets under management are calculated based on commitments for funds in their investment period and on net asset value thereafter.

Siguler Guff's Investing Activities

Siguler Guff & Company Representative Funds

Advisory Activities

- Separate Accounts
- Siguler Guff Capital Partners (High Net Worth Individual investors)
- WMAM Funds (appointed 2009)

Multi-Manager Funds

- Distressed Opportunities Fund $595 million; 2002
- Distressed Opportunities Fund II $988 million; 2005
- Distressed Opportunities Fund III $2.4 billion; 2007
- Distressed Opportunities Fund IV $1.3 billion; 2010
- Small Buyout Opportunities Fund $505 million; 2006
- Distressed Real Estate Opportunities Fund $630 million; 2010
- Distressed Real Estate Opportunities Fund II *$750 million* **target**; 2013
- BRIC Opportunities Fund $610 million; 2005
- BRIC Opportunities Fund II $893 million; 2008

Direct Investment Funds

- Business Mortgage investors $54 million; 1993
- Russia Partners $155 million; 1995
- Russia Partners II $335 million; 2006
- Russia Partners III $626 million; 2009
- Russia Partners Technology Fund $92.6 million; 2011
- Other Russian & CIS Funds $150 million; 1999
- Venture Lending & Leasing $47 million; 1994
- Venture Lending & Leasing II $110 million; 1997
- Venture Lending & Leasing III $217 million; 2000

All fund sizes represent aggregate committed capital as of June 30, 2013

Siguler Guff Distressed Real Estate Investment Team

Investment Committee:

- George Siguler* – Partner
- Drew Guff* – Partner
- Jay Koh* – Partner
- Jim Gereghty* – Managing Director
- Kevin Kester* – Managing Director

Real Estate Investments

- **Jim Corl*** – Portfolio Manager; Managing Director; 25 yrs of experience
- **Tony Corriggio*** – Managing Director; 22 yrs of experience
- **Nestor Weigand** – Principal; 13 yrs of experience
- **Hamid Tabib** – Associate; 8 yrs of experience

Operations & Accounting

- **Ken Burns** – Partner; Managing Director
- **Michael Calandra** – Vice President; Controller
- **Jason Tan** – Real Estate Fund Accountant

Team of 7 operations professionals

Team of 14 additional accounting professionals

Legal & Compliance

- **Don Spencer** – Partner; Managing Director; Senior Counsel
- **Terri Liftin** – Managing Director; Managing Counsel

Team of 5 additional legal & compliance professionals

Marketing & Investor Relations

- **Tom McGowan** – Managing Director
- **Cliff Yonce** – Managing Director
- **Doug Loveland** – Vice President
- **William Tice** – Managing Director
- **Matt Brewer** – Vice President

Team of 9 additional marketing & investor relations professionals

Tax

- **Jarrad Krulick** – Vice President; Tax Manager

1 additional tax professional

* DREOF II Investment Committee member

Firm Performance – Inception through March 31, 2013 (estimated)

+ The Firm has exhibited strong performance across historical fund offerings

Siguler Guff Managed and Co-Managed ex-Emerging Markets Funds[1]

Inception Date	Siguler Guff Net IRR[2]	Benchmark: MSCI World Index[3]	Siguler Guff Outperformance (bps)
Jan-93	15.7%	5.0%	1070

Past performance does not guarantee future results. See Certain Disclosures for information on estimated performance.

[1] IRR shown includes performance of direct and multi-manager funds and funds co-managed by the Firm since inception, excluding the Siguler Guff BRIC Opportunities Funds and Russia Partners funds. Funds included have an emphasis on various investment sectors including distressed, buyouts, energy, venture lending & leasing and mortgage-related securities. Excludes funds that are less than one year from their final closing or are fundraising, as performance of private equity funds in their early years is not meaningful. Excludes a group of funds that were fully invested when Siguler Guff assumed investment management responsibilities in 2009.

[2] The performance of the individual funds included in this IRR varies; information on individual fund performance is available upon request. The historical performance of the funds is not indicative of their future performance, which can vary considerably.

[3] Inception date January 1993; index performance is calculated based on the actual monthly cash flows of the Siguler Guff managed and co-managed funds.

The Distressed Commercial Real Estate Opportunity

Investment Thesis Highlights

- *Economic Macro* -- An important component of the distressed cycle:
  - Late cycle phenomenon: Commercial Real Estate (CRE) distress lags overall market
  - Durable opportunity: CRE closely linked to employment and consumer spending
  - Massive size: Roughly $6 trillion market (U.S. only) (1) that warrants a separate allocation

- *Industry Macro* -- Broad, deep, lengthy CRE investment opportunity:
  - Significant portion of industry equity capitalization has been wiped out
  - Large private market opportunity lags other markets
  - Estimated capital hole of nearly $1 trillion(1)
  - Markets have begun a recovery after 40+% drop in values

- *Industry Micro* -- CRE investment industry players have re-ordered:
  - Many investments, funds and managers are discredited and/or troubled
  - Traditional "opportunity fund" business model in question
  - *Better terms are available today – lower fees, better liquidity and improved governance*

- *Investment Philosophy*:
  - Vintage is king
  - Cycle timing track record – CRE team knows how to play the distressed cycle
  - History of entering and exiting the CRE market effectively (Siguler Guff had an early 1990s distressed real estate fund)
  - Aggregate inefficiently priced investments through local/regional operating partners

(1) See analysis on first "Industry Predicament" slide.

Investment Thesis Highlights

- *Execution* -- Strong distressed investment capability
  - CRE investment team is a new industry leader in real estate multi-manager strategies
  - Total $1.328 billion of equity committed to date:
    - Fund investments: $823 million
    - Separate account: $100 million
    - Direct Investments: $405 million
  - $630 million first-time fund – Siguler Guff Distressed Real Estate Opportunities Fund, LP ("DREOF I")
    - 103% committed(1), including recycled proceeds
    - 68% called(1) from DREOF I investors (main fund)
    - No "J-curve" – Positive IRR 1 year after final close

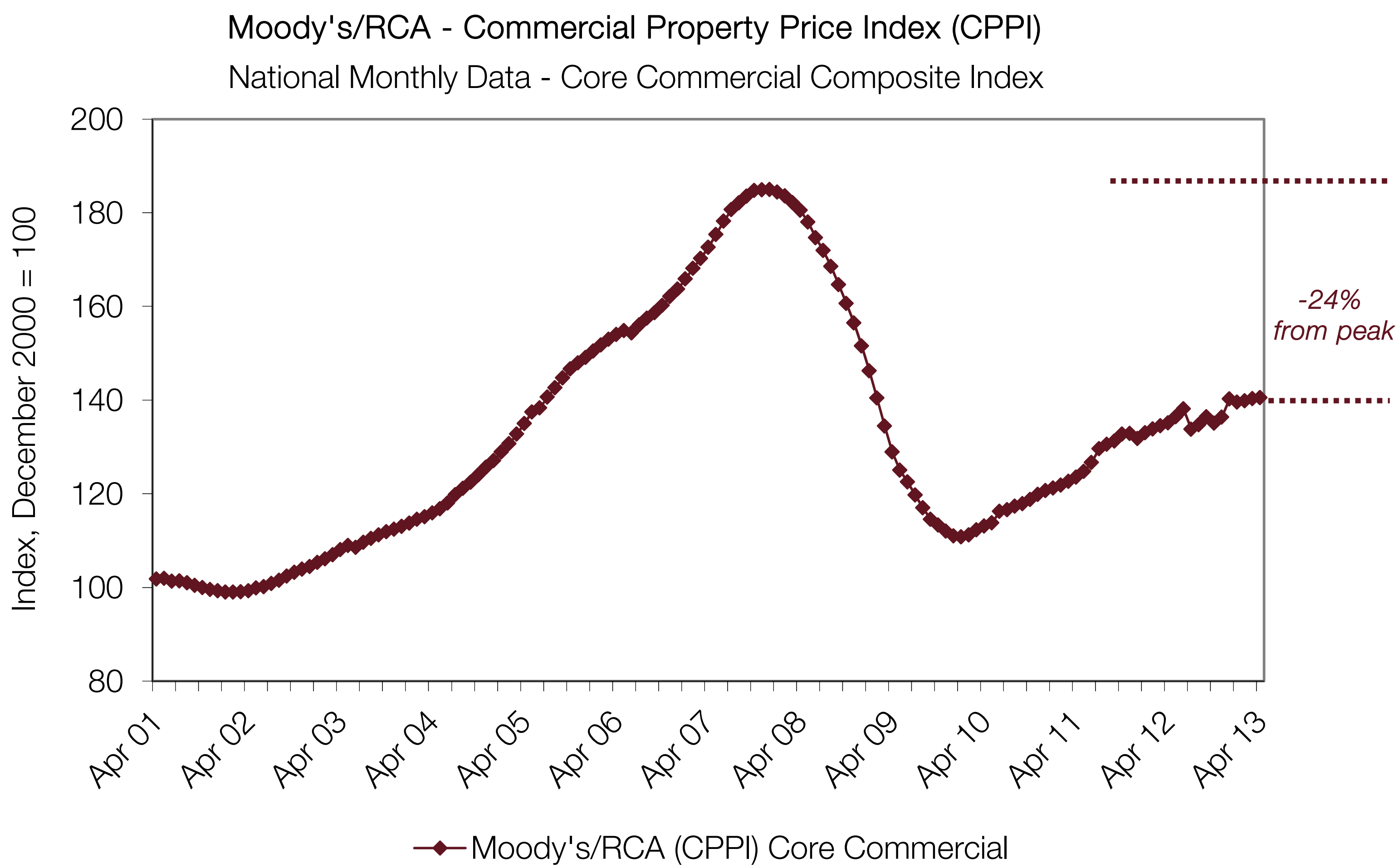
- *Investment Strategy* -- Active, aggressive multi-manager strategy:
  - Beyond passive diversification
  - Value-added portfolio re-allocation strategy focusing on:
    - Mispriced silos within the CRE universe
    - Managers with real operating expertise
    - Greater control and shorter duration/lock-ups
  - Holistic approach: broad product menu; structural innovativeness
    - Debt, equity, public, private, domestic, international

- *Existing Portfolio:*
  - "Local sharpshooter" managers
  - Focused, mostly "off-market" opportunities
  - Low-basis positions in good quality real estate
  - Larger commitments to small and mid-market managers yields:
    - Lower fees
    - Proprietary access to co-investment opportunities
    - Improved governance
  - Conservative underwriting, downside protection, no "hockey sticks"

(1) As of June 15, 2013

CRE Distressed Opportunity

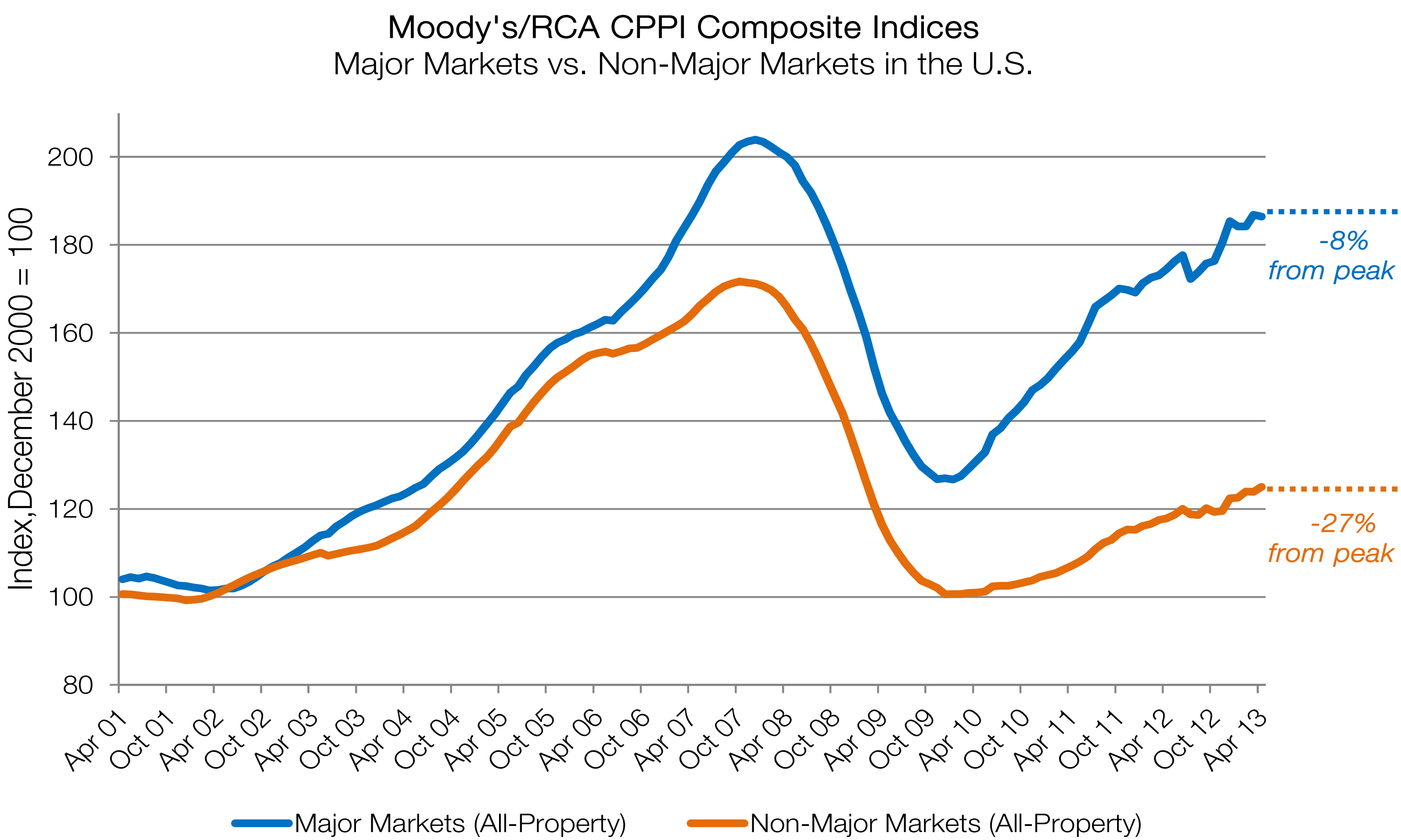
+ The Moody's/RCA Commercial Property Price Index (CPPI) shows a 24% drop in core CRE prices from the peak in 2007 through April 2013



Source: Moody's/RCA Commercial Property Price Index (CPPI) – Core Commercial Composite Index

CRE Distressed Opportunity

+ Implication: secondary markets have lagged the recovery experienced in primary markets

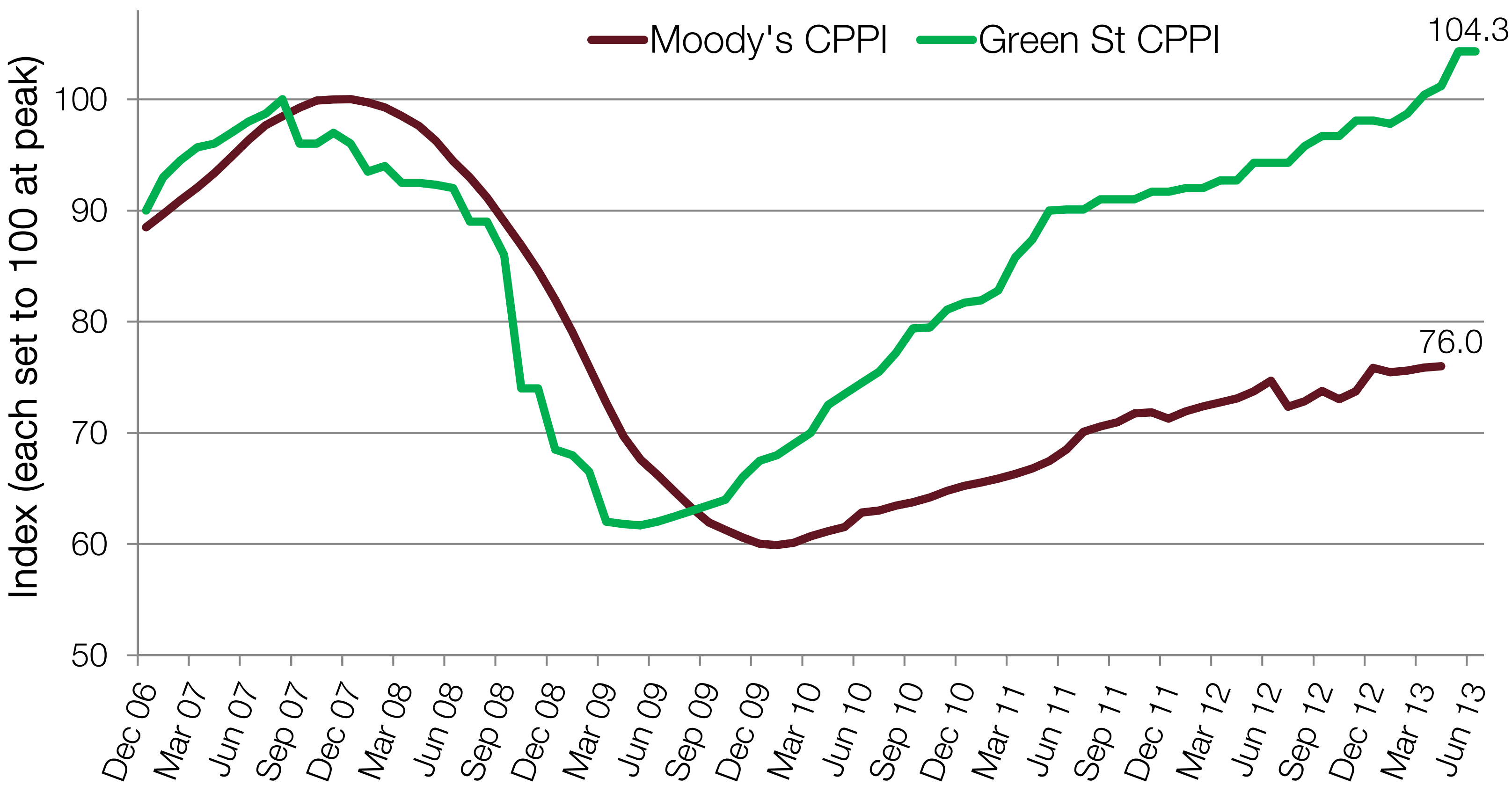


Source: Moody's/RCA Commercial Property Price Index (CPPI) – Core Commercial Composite Index
Major U.S. markets as defined by Moody's include: Boston, Chicago, Los Angeles, New York, San Francisco and Washington D.C.

Core vs. Opportunistic

+ Green Street Index represents "core" properties; Moody's index reflects all CRE in real-time

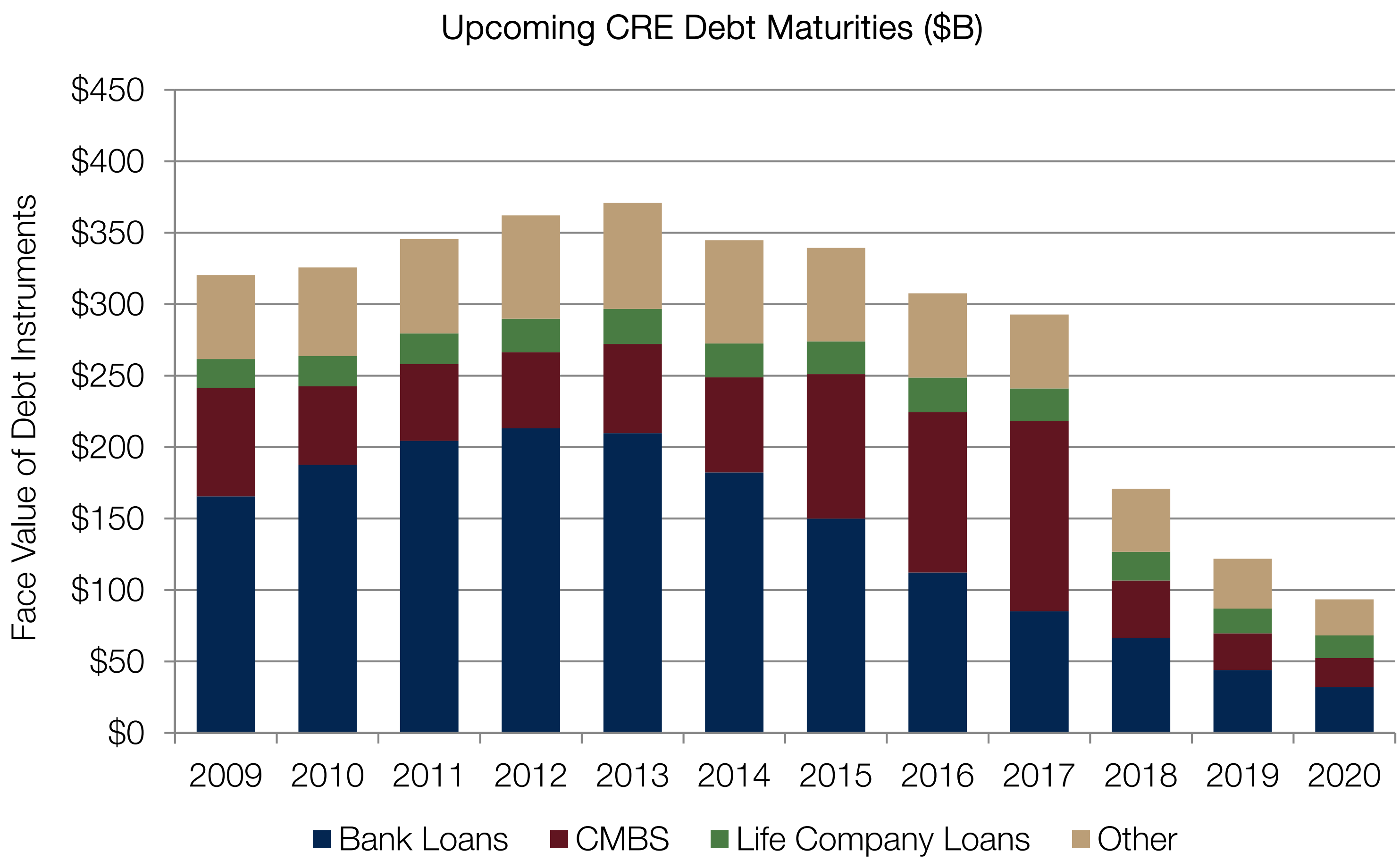
Commercial Property Price Indices: Moody's vs. Green Street Advisors



Sources: Moody's/RCA Commercial Property Price Index (CPPI) – Core Commercial Composite Index, Green Street Advisors – Commercial Property Price Index (Green St CPPI)
Note: For this chart, both indices were indexed to 100 at their respective peaks: Green St CPPI (Aug '07) and Moody's CPPI (Dec '07). Also note the release of Moody's data tends to lag Green Street by approximately two months (hence the shorter tail length of the red line).

Industry Predicament

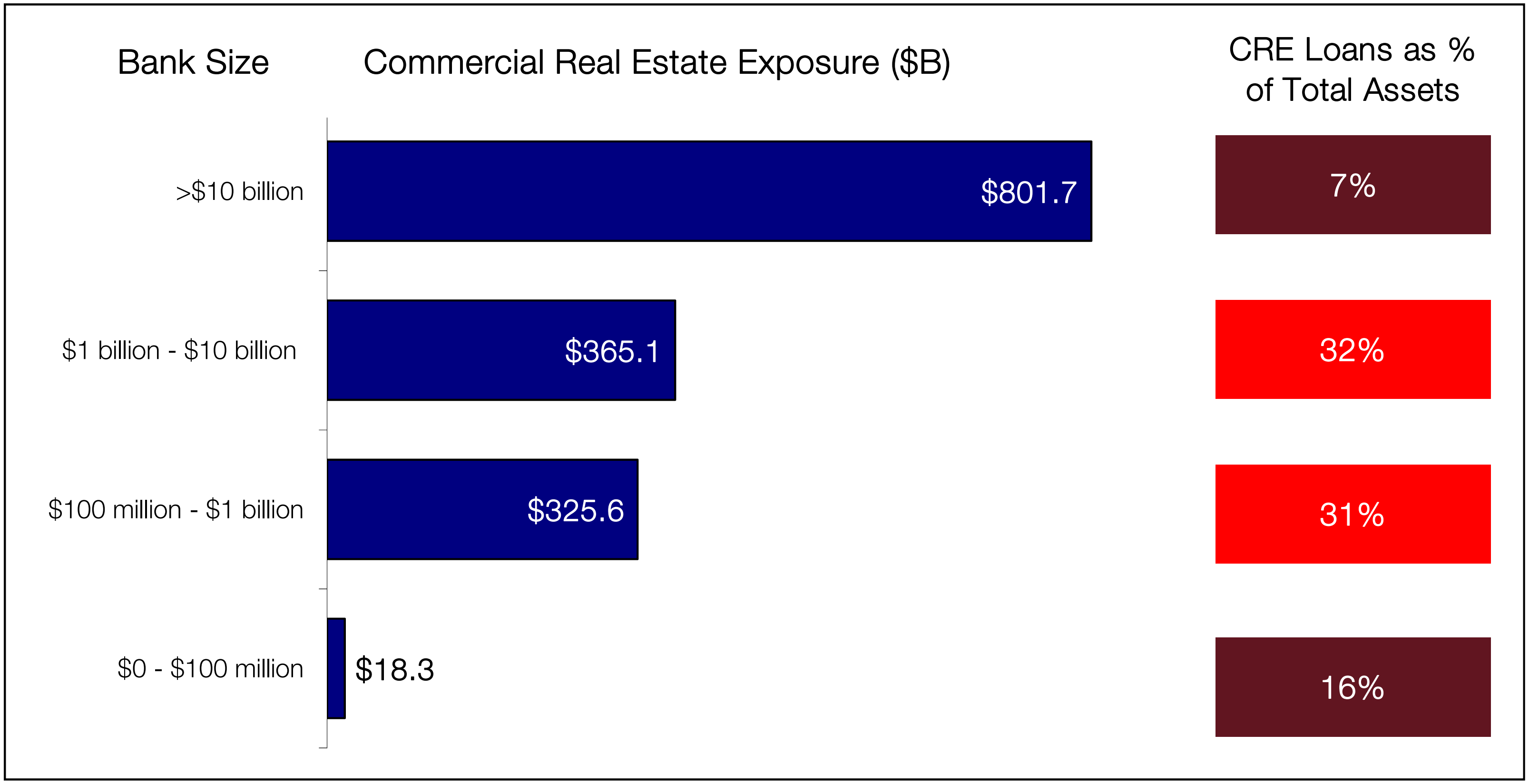
+ Ramping debt maturities catalyze opportunity



Source: Trepp – estimate as of December 2012

Where is the Distress Today?

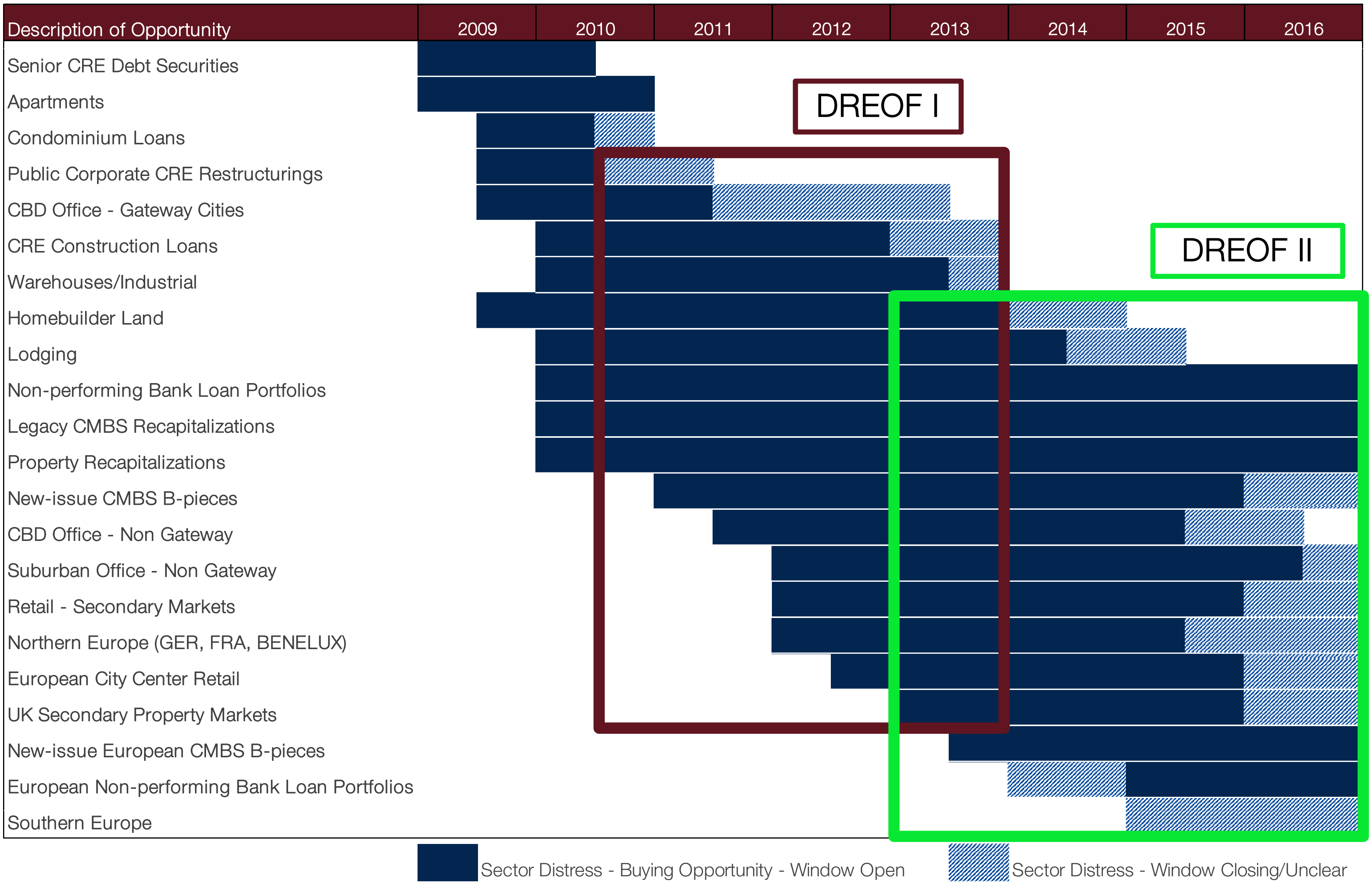
+ Regional and community banks are holding large amounts of CRE on their balance sheets (nearly as much as "TARP" level banks) and much of their CRE distress remains unresolved



Source: FDIC Quarterly Banking Profiles, Q1 2013.

Distressed Commercial Real Estate Opportunity Cycle

- The Siguler Guff Distressed Real Estate Opportunities Fund II, LP ("DREOF II") will continue DREOF I's strategy of investing and will focus on opportunities Siguler Guff believes present the best value characteristics



Source: Siguler Guff distressed real estate investment team

Overview of CCCERA’s Investment in DREOF I

- Contra Costa County Employees’ Retirement Association (as of June 15, 2013)
  - $75,000,000 commitment
  - $51,000,000 invested (68% of committed capital)
- DREOF I has committed approximately $646,000,000 (103% of total capital) to portfolio investments as of June 15, 2013
  - $414,000,000 to 14 fund investments (66% of committed capital)
  - $232,000,000 to 20 direct investments (37% of committed capital)
- Net IRR of 6.2% for the DREOF I main fund (tax-exempt U.S. investors) as of December 31, 2012

DREOF II Summary of Terms

Target Fund Size:	$750 million
Investment Objective:	Opportunistic returns from distressed real estate multi-manager strategy; at least 60% in funds and separate accounts; up to 40% in co-investments
Portfolio Construction:	12-15 real estate investment manager relationships
Commitment Periods:	Fund investments: 3 years from final close Co-investments: 5 years from final close
Subsequent Closings:	Investors admitted to the partnership after the first closing will pay 8% interest to early investors
Management Fee:	First $10 million 1.00% Next $40 million 0.85% Over $50 million 0.50%
Carried Interest:	Fund investments: 5% (after 8% preferred return) Co-investments: 15% (after 8% preferred return)
Geographic Investment Restriction:	Up to 25% non-North America (primarily Europe)

Siguler Guff Multi-Manager Value Proposition

- *Timing*: Seeking positive beta through vintage concentration

- *Value Orientation*: Constructing low basis positions by focusing on distressed situations
  - Downside protection
  - Cash flow growth through the ability to lease space at competitive rents
  - Discounts to replacement cost
  - Discounts to peak pricing
  - Less reliance on passive diversification techniques

- *"Holistic" Approach*: Accessing multiple real estate investment silos to find value
  - Private and public; debt and equity; domestic and international; primary and secondary markets

- *Manufacturing Core Real Estate:*
  - Seeking to exploit the broad valuation differential between "core" and "potentially core" real estate
  - Perceived safety trades richly; perceived risk trades cheaply

- *Manager Selection:*
  - Focus on "owner-operator" profiles
  - Focus on performance, not "AUM"

- *Terms of Engagement*:
  - Efficiency: Lower fees through volume discount, more advantageous profit participation
  - Control: Separate accounts, co-investment vehicles and Siguler Guff's JV-to-fund concept
  - Exclusivity: Negotiate exclusive co-investment rights

Note: There can be no assurance that the Fund will achieve the objectives described above.

Siguler Guff Real Estate Manager Profiles – Investments to Date

Fund Manager	Initial Commitment	Length of SG Relationship (yrs)	Emerging Manager (or pre-fund/1st time fund)	Owner-Operator Business Model
H/2 Capital Partners*	Apr 2009	12		N/A
Kennedy Wilson*	Nov 2009	20		✓
The Davis Companies*	Apr 2010	New	✓	✓
Paulson & Company Real Estate	Nov 2010	13	✓	✓
Rialto Capital Management (Fund I/II)	Nov 2010	15	✓	✓
Savanna (Real Estate Fund II/IIA)	Dec 2010	20		✓
Weeks Robinson Properties (Fund I/JV)	Jan 2011	15	✓	✓
Crocker Partners (JV I)	Aug 2011	17	✓	✓
The Related Companies	Sep 2011	12	✓	✓
Rosemont Realty	Nov 2011	New	✓	✓
Wheelock Street Capital	Nov 2011	6	✓	✓
Sterling Organization	Dec 2011	2	✓	✓
JMI Realty	Apr 2012	16	✓	✓
Mansford Real Estate	May 2012	New	✓	✓
Exeter Property Group	May 2012	New		✓
Victory Advisors	Oct 2012	New	✓	✓
Meyer Bergman	Dec 2012	New		✓
Crocker Partners (JV II)	Mar 2013	17	✓	✓
Revcap	Apr 2013	New	✓	

Source: Siguler Guff Distressed Real Estate investment team
Note: This slide represents the most recent investment portfolio based on existing investments in DREOF I and the Distressed Opportunities Funds ("DOF"). The Distressed Opportunities Funds may include DOF II, DOF III, and DOF IV. The actual DREOF I and DOF portfolios may have a significantly different composition.
* Pre-DREOF I investments

Multi-Manager Portfolio Construction – Investments to Date

EXISTING INVESTMENT PLATFORMS (Total Committed Capital, $M)

Manager/Fund	Date of Comm.	Investment Structure: Fund Vehicle	Investment Structure: Separate Account	Investment Structure: Direct Co-Inv/ JV	TOTAL	Siguler Guff Fund: DREOF	Siguler Guff Fund: DOF
H/2 Capital Partners	Apr-09		$100	$30	$130		$130
Kennedy Wilson	Nov-09			≤$100	$19		$19
The Davis Companies	Apr-10	$20		≤$50	$20		$20
Paulson Real Estate Recovery Fund	Nov-10	$39			$39	$39	
Rialto Capital Fund I	Nov-10	$175		$84	$259	$74	$185
Savanna Real Estate Fund II	Dec-10	$30		*evaluated*	$30	$30	
Weeks Robinson Properties	Jan-11	$20		$38	$58	$58	
United Community Banks, Inc.	Mar-11			$15	$15	$15	
Crocker Partners JV	Aug-11			$121	$121	$75	$45
Related Real Estate Recovery Fund	Sep-11	$140		*potential*	$140	$40	$100
Rosemont Real Estate Acquisitions Fund	Nov-11			≤$50	$6	$6	
Wheelock Street Real Estate Fund	Nov-11	$77		*potential*	$77	$32	$45
Sterling Value Add Partners	Dec-11	$36		*potential*	$36	$36	
JMI Realty, ("JV-to-fund")	Apr-12			$54	$54	$54	
Mansford Opportunities IV	May-12	$31		*likely*	$31	$31	
Exeter Industrial Value Fund II	May-12	$64		*likely*	$64	$32	$32
Savanna Real Estate Fund IIA	Sep-12	$40		*likely*	$40	$20	$20
Victory Advisors European RE Fund	Oct-12	$28		*pending*	$28	$28	
Rialto Capital Fund II	Dec-12	$50		*likely*	$50	$10	$40
Meyer Bergman Retail Partners II	Dec-12	$52		*potential*	$52	$26	$26
Crocker Partners JV II	Mar-13			$39	$39	$20	$20
Revcap Kitty Hawk Capital Partners II	Apr-13	$20		*potential*	$20	$20	
Total Existing Commitments		$823	$100	$405	$1,328	$646	$682

PENDING COMMITMENTS (Projected Committed Capital)

Manager/Deal	Projected Timing	Investment Structure: Fund Vehicle	Investment Structure: Separate Account	Investment Structure: Direct Co-Inv/ JV	TOTAL	Siguler Guff Fund: DREOF	Siguler Guff Fund: DOF
Netherlands office co-investment	Jul-13			$15	$15	$15	
Pan-European fund (primarily UK, Germany, France)	Jul-13	$33			$33		$33
		$33	$0	$15	$48	$15	$33

Total Existing and Pending Commitments: $1,376 | $661

Note: There is no assurance that pending commitments will ultimately be executed and closed into the fund. This slide represents commitments based on: existing investments in DREOF I, the DOF Funds, and investment opportunities under consideration. Real estate investments have been made from DOF II, DOF III, and DOF IV, but not every investment includes every DOF Fund. Each potential platform is subject to additional due diligence and Investment Committee approval. Therefore, the actual DREOF I and DOF portfolios may have a significantly different composition.

Investment #1: Weeks Robinson (Fund & Joint Venture)

Southeastern Warehouse Specialist (Jan 2011)

SG Fund: DREOF I

Manager/Platform Description

+ Siguler Guff made a significant commitment (both into a fund and through an exclusive co-investment vehicle) to this **industrial warehouse**-focused real estate investment and management platform based in Atlanta, GA The fund will acquire interests in existing industrial properties and consider development of undervalued build-to-suit industrial projects
+ Siguler Guff is the largest fund investor and negotiated a highly favorable fee and promote structure on co-investments which fall outside the scope of the main fund. The exclusive, separately negotiated co-investment vehicle will target distressed situations, including buildings with greater than 50% vacancy, note purchases, land purchases, and deals that simply require too much equity for the main fund

Executed Transaction Example

+ Purchased a 600,000 sq.ft. warehouse and an adjacent land parcel for an additional 600,000 sq.ft. building from a major national bank in August 2011
+ <u>Purchase Price = $19.2M (vs. original loan balance of $25M)</u>
  - Bldg Price = $17.7M ($30/sq.ft. or $40/sq.ft. “all-in” vs. replacement cost $49/sq.ft.)
  - Land Price = $1.5M (vs. replacement cost $7.5M)
+ Exclusive direct co-investment structure provides for substantially lower fees and profit split with the manager

Underlying Real Estate

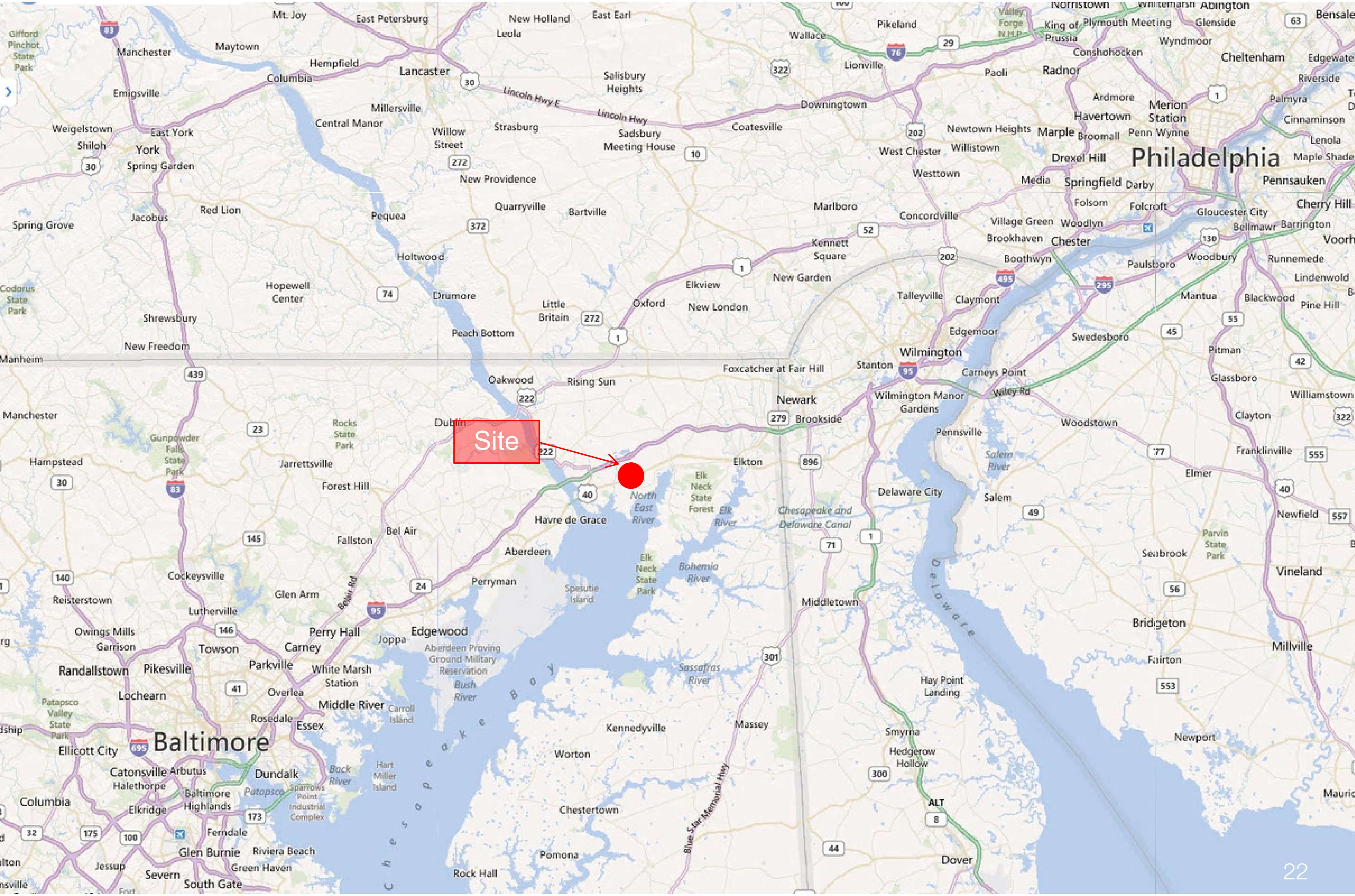
+ *Brand new Class A product:* 600,000 sq.ft. industrial warehouse constructed in 2007 along with a fully improved 33 acre land parcel (for additional 600,000 sq.ft. facility) located in Cecil County, MD
+ *Value added lease-up opportunity:* Physically desirable property, 100% vacant at acquisition

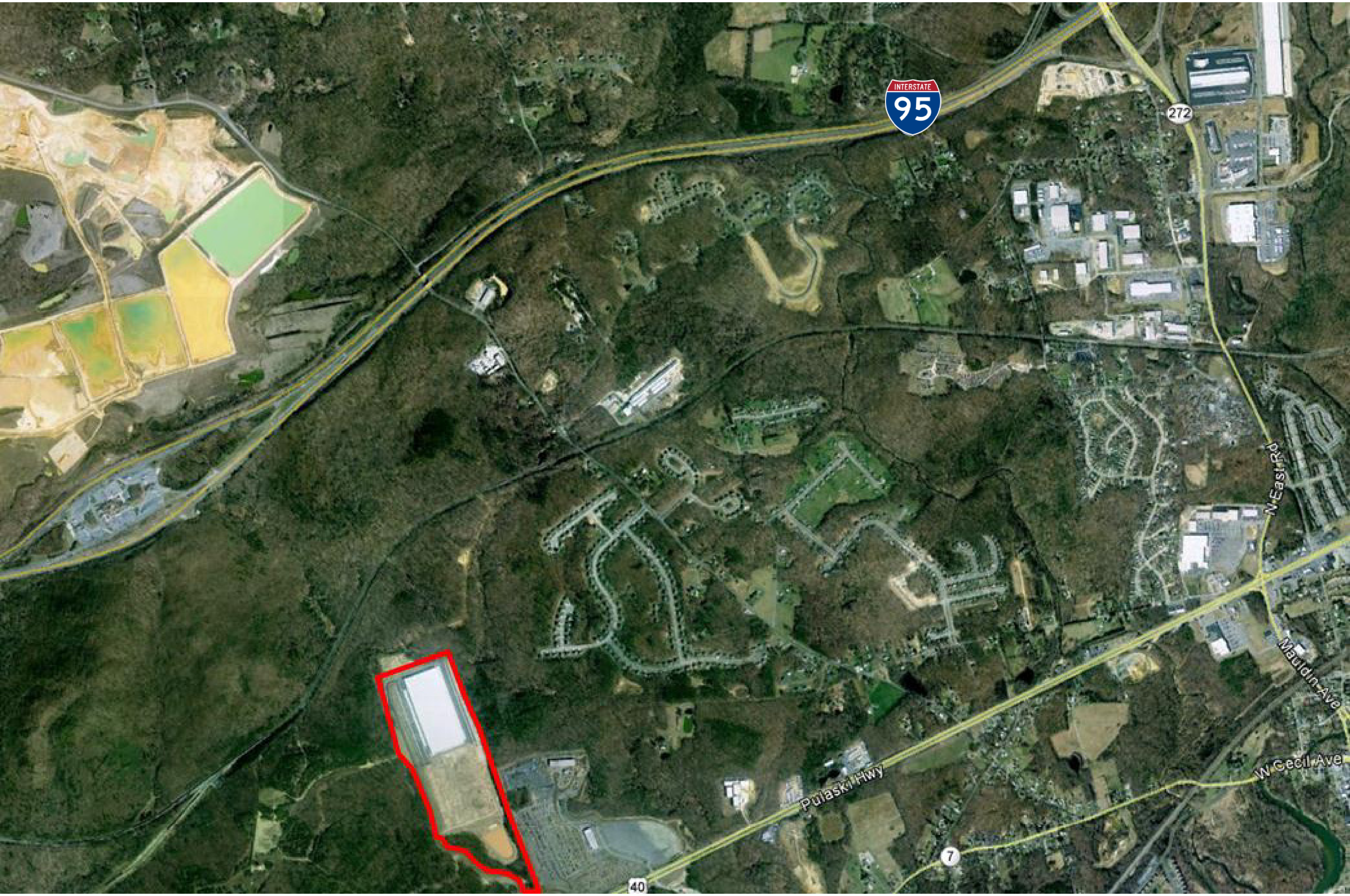
<u>INVESTMENT PERFORMANCE:</u>

+ In November 2011, the manager signed a 15-year lease with *Restoration Hardware* for the entire 1.2M sq.ft. (existing 600,000 sq.ft. warehouse and the 600,000 sq.ft. build-to-suit development)
+ Total all-in cost = $48.8M
+ Projected NOI at stabilization = approx. $4.5M annually*
+ High-quality income stream should generate a low exit cap rate

Note: Past performance does not guarantee future results. There can be no assurance that this investment or specific transaction will ultimately be profitable. All figures herein are based on data and assumptions provided by the underlying manager, but this presentation has not been verified by the manager.
*There can be no assurance that the investment will achieve the projected NOI at stabilization. Economic/market developments could significantly change value for any property. Selected transaction shown is not representative of the entire DREOF I portfolio. There is no guarantee that these types of investments will be available for DREOF II.

Weeks Robinson – Trade Center 95




INTERSTATE
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Pulaski Hwy
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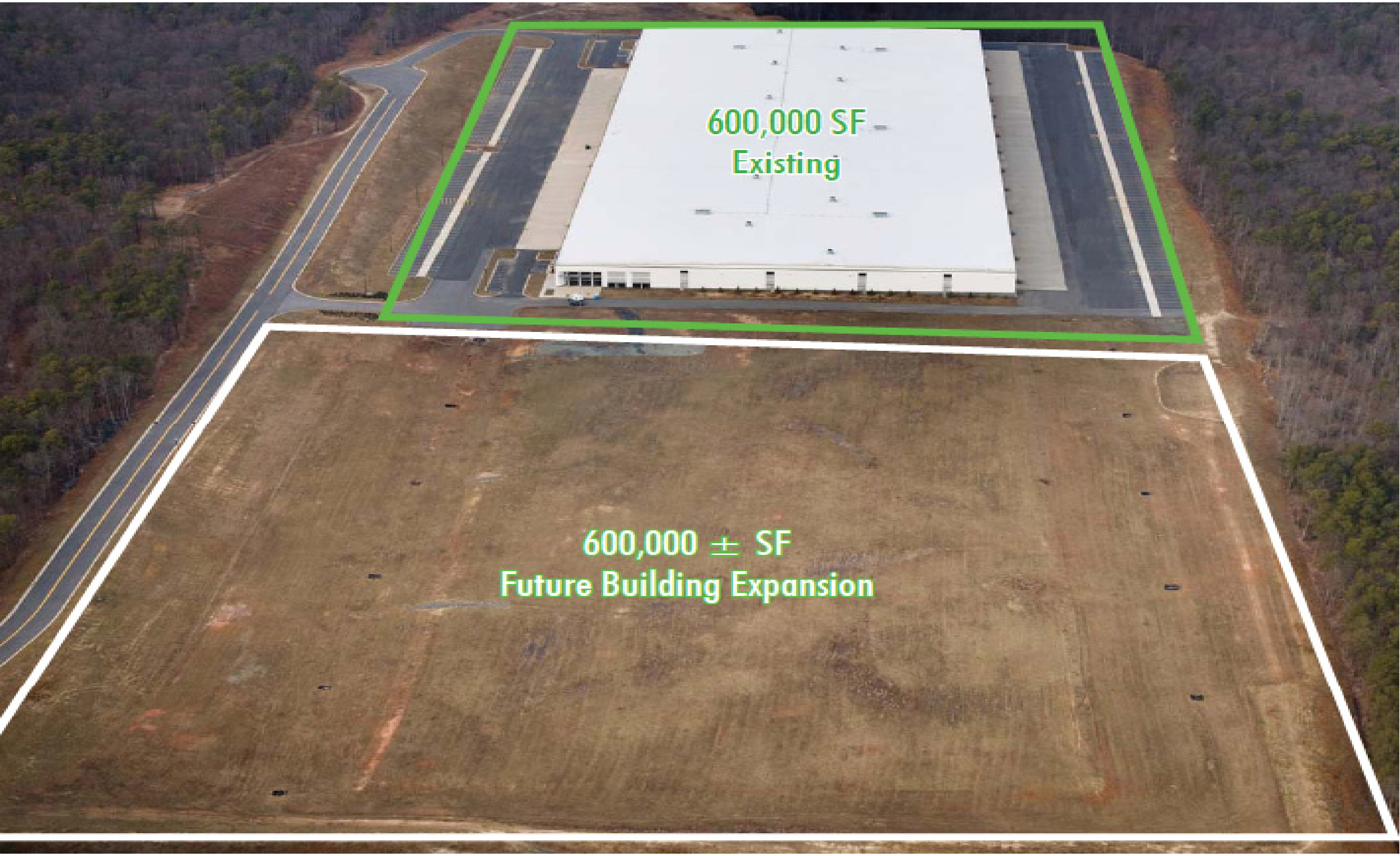

600,000 SF
Existing
600,000 ± SF
Future Building Expansion


BARTENFELDER


RH

M221

Investment #2: Crocker Partners (Joint Venture)

Southeastern Office Specialist (Aug 2011)

SG Fund: DREOF I

Manager/Platform Description

- $56M initial commitment to this Southeastern U.S. office operator
- The manager focuses on redeveloping/repositioning opportunities throughout the capital stack on well located Class A and B office assets
- The structure of this investment began as a "JV-to-fund", whereby Siguler Guff committed to an exclusive JV (in which Siguler Guff retains deal-by-deal approval rights and highly attractive economics)
- Siguler Guff and the manager have collectively decided to keep the structure of this investment as a JV, where Siguler Guff retains its rights and economic terms
- UPDATE: Siguler Guff recently expanded the commitment from $56M to $70M to fund the purchase of two assets the manager previously sold in late 2005 (one of those deals is highlighted here)

Executed Transaction Example

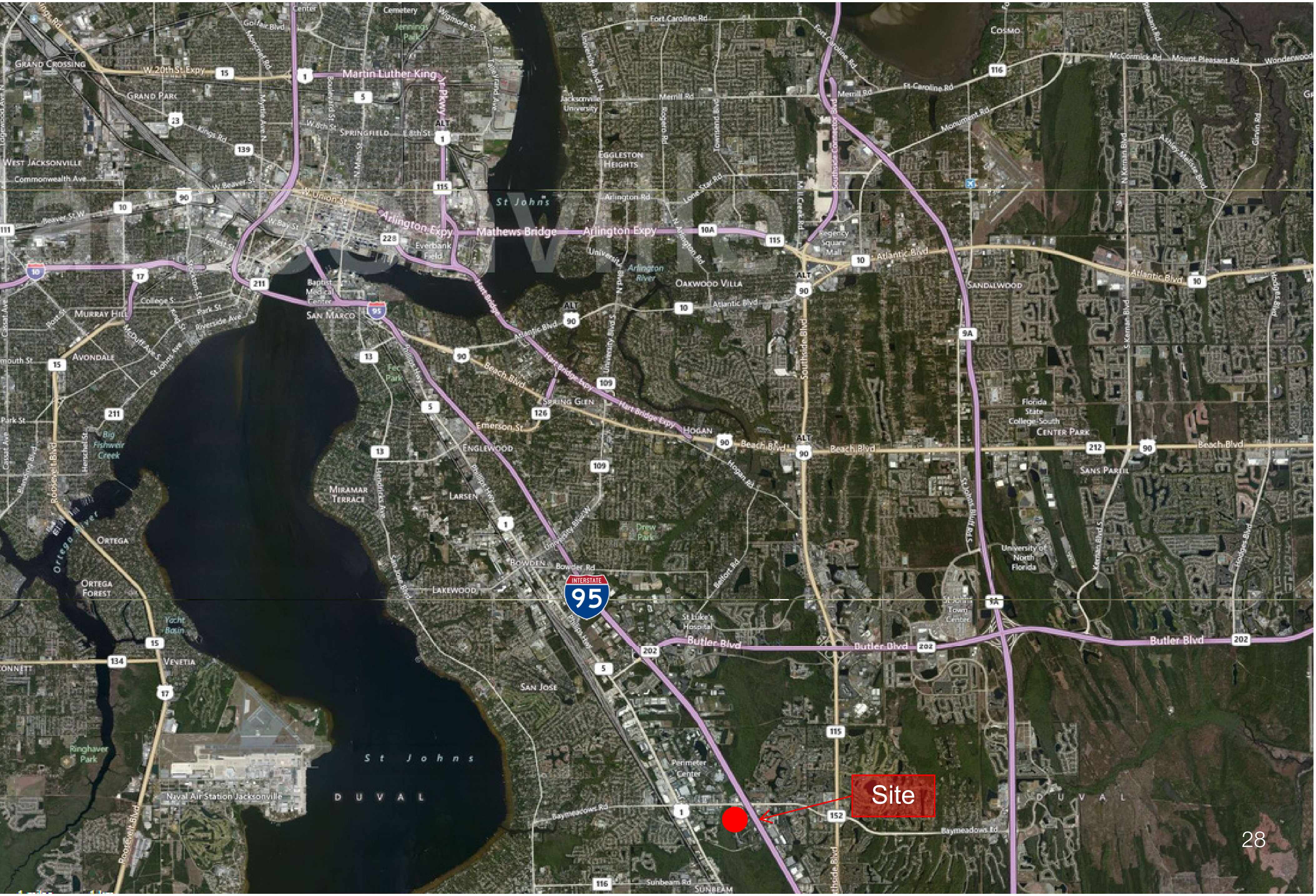
- In December 2012, the JV purchased a distressed 750,000 sq.ft. office park located in Jacksonville, FL through an online auction after it was foreclosed on by the lender
- Total Acquisition Price = $40/sq.ft.
  - 77% discount to current estimated replacement cost
  - 74% discount to previous sale price of assets in 2005
- Projected stabilized cap rate: 14.7%*

Underlying Real Estate

- A seven-building, 750,000 sq.ft. suburban office park located in the Butler/Baymeadows submarket of Jacksonville, FL
- 37% leased as the previous owners allowed the project to fall into a "zombie-like" status as a result of an overleveraged capital structure
- Our partner previously sold the assets in 2005 as part of a greater portfolio transaction when the assets were 99% leased
- UPDATE: Less than six months after closing the transaction, the fund received an offer for all seven properties at a level 20% higher than our all-in purchase price

Note: Past performance does not guarantee future results. There can be no assurance that this investment or specific transaction will ultimately be profitable. All figures herein are based on data and assumptions provided by the underlying manager, but this presentation has not been verified by the manager.
*There can be no assurance that the investment will achieve the projected stabilized cap rate. Business /market developments could significantly change the value for any particular property. Selected transaction shown is not representative of the entire DREOF I portfolio. There is no guarantee that these types of investments will be available for DREOF II.

Crocker – Freedom Commerce Center




INTERSTATE
95


ING

Investment #2: Crocker Partners II (Joint Venture)

Southeastern Office Specialist (May 2013)

SG Fund: DREOF I, DOF III

Manager/Platform Description

- After completing an initial $75M investment program, Siguler Guff expanded its relationship with a $40M follow-on JV (SGCP II) with this operator/manager to continue to target Southeastern U.S. office properties
- The manager focuses on redeveloping/repositioning opportunities throughout the capital stack on well located Class A and B office assets
- As DREOF I was nearly fully committed, DOF III also participated in this JV after previously executing two investments alongside our previous venture

Underlying Real Estate

- A 24 story, Class A office tower originally developed in 2001 located on 14th Street, the main corridor of the Midtown submarket and two blocks from I-75/I-85, the major north-south thoroughfare of Atlanta
- 78% leased at acquisition, assumed to decrease to 36% with expected tenant move-outs
- Current tenants include Regions Bank (82,000 sq.ft.), Alston & Bird (224,000 sq.ft.→ 24,000 sq.ft.), and Smith Moore LLP (19,000 sq.ft)

Executed Transaction Example

- In May 2013, SGCP II participated in the recapitalization of a 24-story Class A office building located in Atlanta, GA that was experiencing distress as a result of an overleveraged capital structure
- Acquired off market by negotiating a loan modification/extension with the lender alongside the previous sponsor, who maintained a minority stake
- Purchase Price = $178/sq.ft.
  - 48% discount to estimated replacement cost
  - 37% discount to the asset's sale price in 2005 ($282/sq.ft.)
  - Price approx. equal to existing loan balance (originated in 2005)
  - Loan extended for ~five years with commitment by SGCP II to fund leasing costs and capital expenditures

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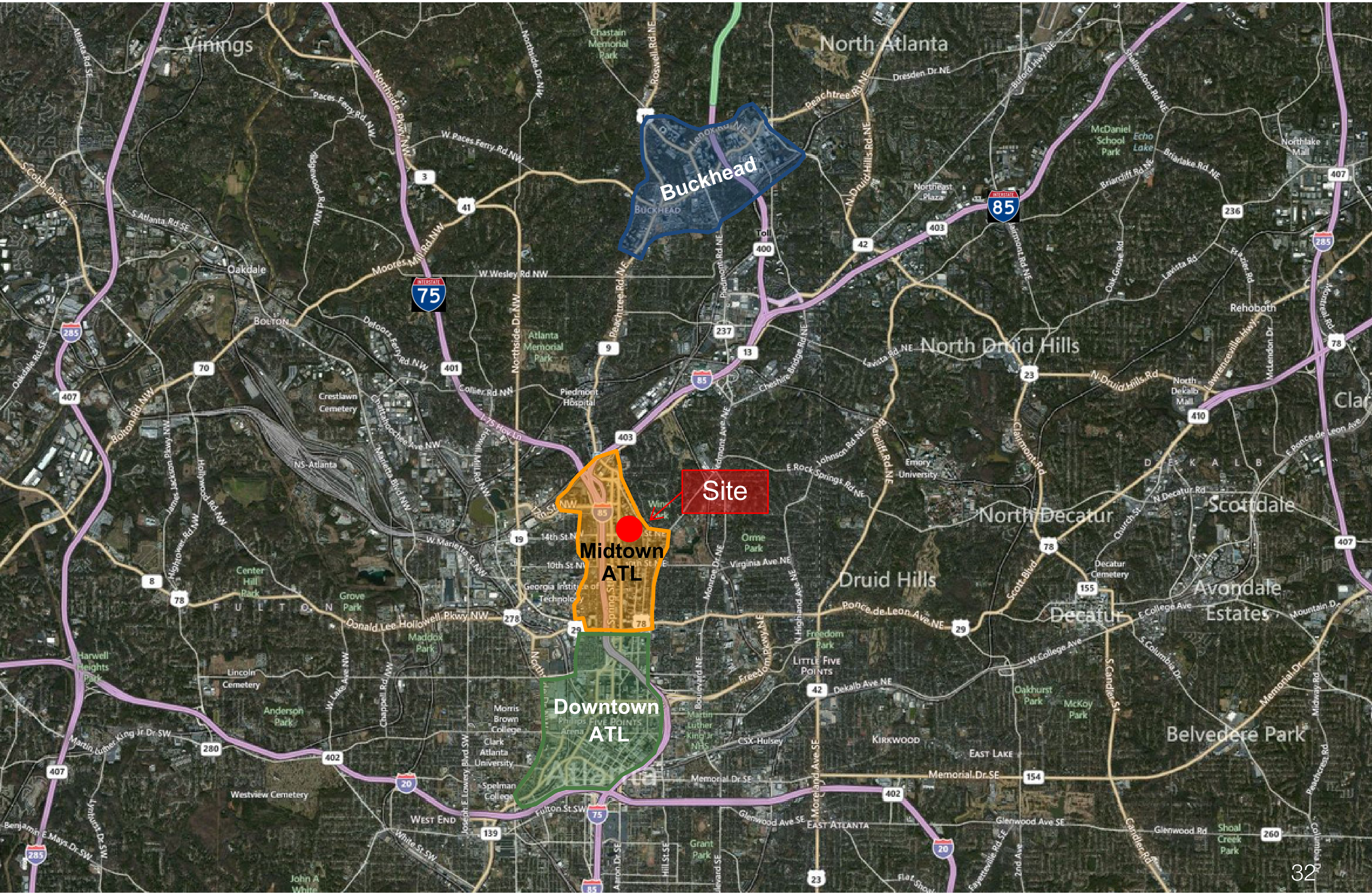
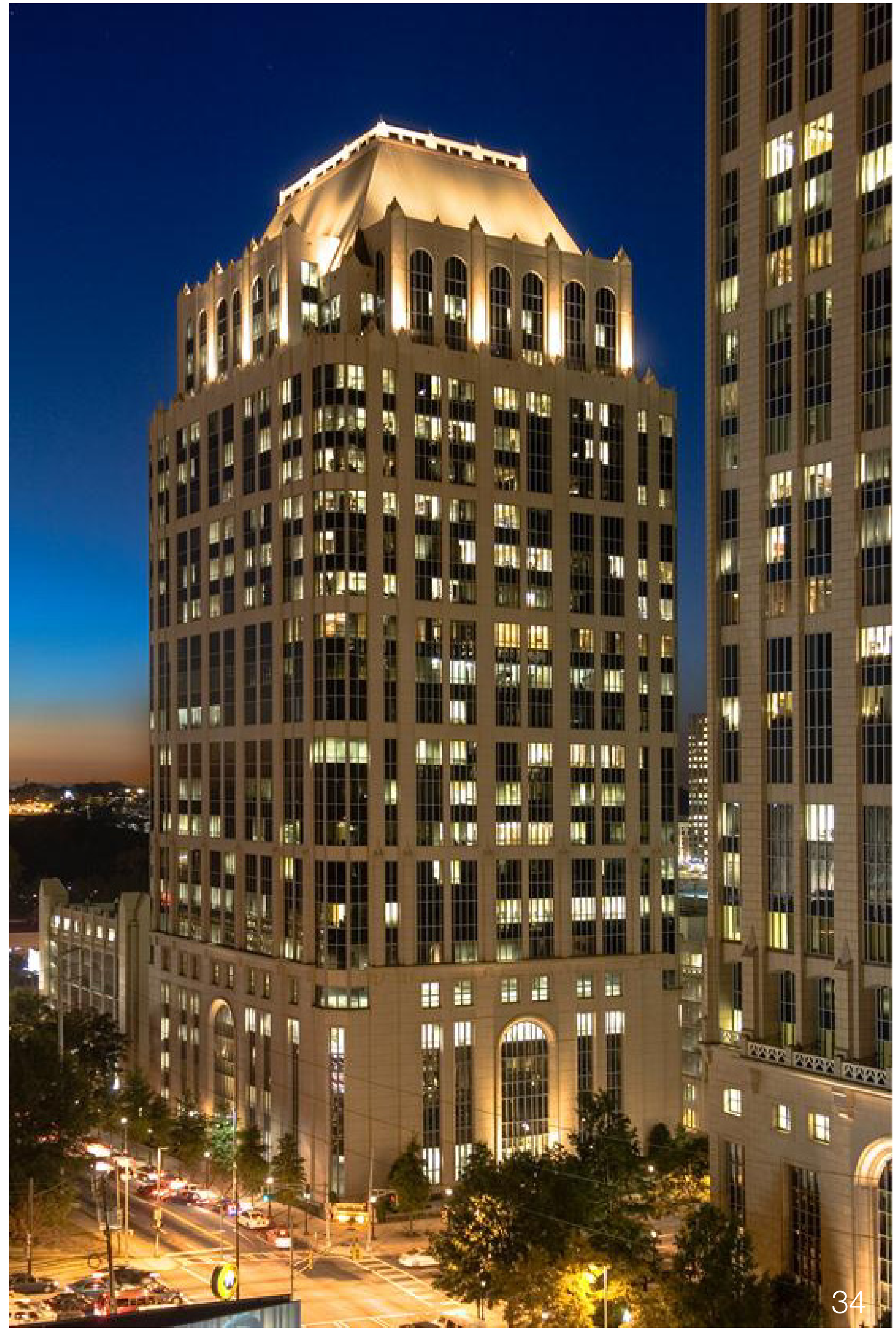
Business /market developments could significantly change the value for any particular property. Selected transaction shown is not representative of the entire DREOF I portfolio. There is no guarantee that these types of investments will be available for DREOF II.

Crocker – Atlantic Center Plaza





Investment #3: European Manager (Fund & Co-Investment)

Germany/Netherlands Office Fund (Oct 2012)

SG Fund: DREOF I

Manager Description

- This manager's first commingled private equity fund of €98M (of which Siguler Guff is €22M) targets financially distressed assets in fiscally sound parts of Western Europe (primarily office buildings in Germany and the Netherlands) with attractive real estate fundamentals
- Financial market turmoil has led to a near absence of debt capital to refinance these types of assets
- Prior to forming the fund, the key investment professionals generated a gross leveraged IRR of 70% (2.8x equity multiple) on realized investments over an 11 year period[(1)]

Executed Transaction Example

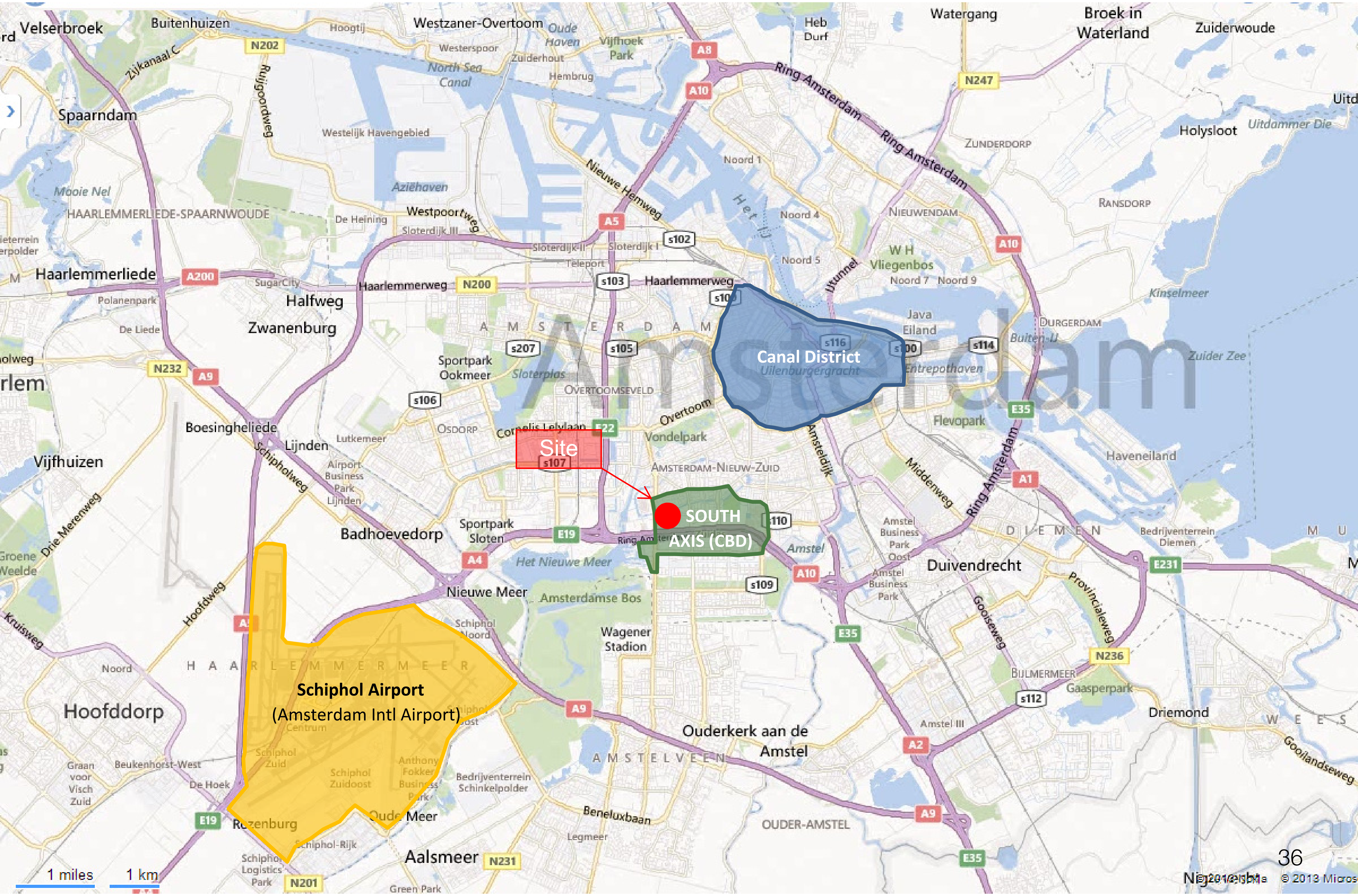
- After nearly one year of negotiating with the previous sponsor in a "friendly foreclosure," the Manager acquired what they believe to be one of the top-five assets in the Netherlands at a historically low price
- DREOF I participated in the transaction as a co-investor, providing approximately 33% of the capital (including its fund-level investment)
- <u>Assets were purchased for ~$350/sq.ft. (lowest ever for this asset)</u>
  - 35% discount to estimated replacement cost (~$530/sq.ft.)
  - 50% discount to 2007 sales price (~$700/sq.ft.)
  - In-place passing yield of approximately 8.0%

Underlying Real Estate

- Fee-simple interest of a ~365,000 sq.ft. trophy office building located in the prime submarket of Amsterdam known as the Zuidas, or "South Axis"
- Vacancy at acquisition was 22% and will increase in early 2014 to 38% with expected tenant move-outs
- Asset has historically been occupied by high-quality tenants in the finance, investment, real estate and legal sectors

(1) All information herein including track record is provided to Siguler Guff by the manager and has not been independently verified nor is it reflective of the performance of Siguler Guff's investment. The IRR figures shown do not take into account fees, expenses and carried interest at the manager level. The effect of these deductions could be significant
Note: Past performance does not guarantee future results. This presentation has not been verified by the manager. There can be no assurance that this investment or specific transaction will ultimately be profitable. Selected transaction shown are not representative of the entire DREOF I portfolio. There is no guarantee that these types of investments will be available for DREOF II.

European Manager – Project Court




WTC - E
ABN Tower
WTC - Main
Winterthur
Symphony
ITO
WTC - H & I
Strawinskyhuis
SOM
Resi
Atrium A
Vinoly
Assurantiebeurs
Graves
UN
FOZ
Asset
Prinses Irenestraat Building
The Rock
Parnassus complex


ATRIUM

Investment #4: Sterling Organization (Fund & Co-Investment)

Retail Owner/Operator Fund (Dec 2011)

SG Fund: DREOF I

Manager Description

+ Siguler Guff is the lead investor in a boutique style, “club” fund ($138M total) focused on acquiring **well-located, quality retail investments** in Florida, North Carolina, Texas, Georgia, Illinois and California
+ Retail assets have been red-lined by many other investors
+ Strong investment track record: Since 1997, but prior to investing this fund, the manager had acquired approximately $500M of retail real estate, generating a 59.8% gross IRR(1) and 3.3x multiple on realized investments
+ The company is a vertically integrated local sharpshooter with five regional offices and a staff of 40 professionals which creates a unique ability to source, acquire, manage, and subsequently exit their investments
+ Siguler Guff retains a predominant share of all co-investment rights

Executed Transaction Example

+ The manager acquired the fee simple interest on the asset at a short sale
+ <u>Asset was purchased for $16M ($41/sq.ft. – April 2012):</u>
    - Previous owner basis: Over $80M
    - 74% leased with 8.4% in-place yield on cost
    - 13.2% stabilized cap rate on $23.5M all-in basis

Underlying Real Estate

+ 395,000 sq.ft. of a 900,000 sq.ft. power center/open-air mall anchored by Macy’s, Sears, and Lowes (anchor pads not owned)
+ Fortress location on Federal Highway; 200 yards from the Intracoastal waterway, dense trade area, retailers performing well
+ Significant upside from releasing vacant space, pad sales, and other additional density in this freshly renovated but under-managed center

(1) Track record information is provided to Siguler Guff by the manager and has not been independently verified nor is it reflective of the performance of Siguler Guff’s investment. The IRR figures shown do not take into account fees, expenses and carried interest at the manager level. The effect of these deductions could be significant.
Note: Past performance does not guarantee future results. This presentation has not been verified by the manager. There can be no assurance that this investment or specific transaction will ultimately be profitable. Selected transaction shown are not representative of the entire DREOF I portfolio. There is no guarantee that these types of investments will be available for DREOF II.

Pending Acquisition
(partially redacted)

Manager Selection Process

Investment Process – DREOF I Manager Selection

>1,000
Universe of Fund Managers*

~390
Funds Seeking Capital Annually**

330
Initial Meetings with SG

43
Comprehensive Due Diligence

15
Final Portfolio of 15 best-in-class Managers

Global Universe of >1,000 Real Estate Investment Managers

Facing the right fundamentals: operates within an attractive silo in the CRE universe

Performance: relevant track record of successful investing; sell discipline

Continuity: demonstrable management skill set in place

Business model: leveraging a sustainable competitive advantage

Governance/Structure: interests aligned, lack of conflicts

Risk controls: compliance, diligence scrutiny

Scale: financial resources/flexibility

Portfolio of ~15 Managers

*Source: Preqin. Core managers and Fund of Funds excluded. North America (~750), Europe (~250), Asia & ROW (~200).
**Source: Preqin. Core funds, Core-plus funds and Fund of Funds excluded. Funds seeking capital currently: North America (232), Europe (92), Asia (66).

Investment Process – DREOF II Manager Pipeline

Existing DREOF I Manager?	Manager/Fund	Geography	Length of Relationship	Strategy	Potential DREOF II Inv.Amount	Total Target Fund Size	Final Closing	Potential SG Closing
√	Manager A Fund II	All U.S.	15 yrs	Distressed debt and high yield CMBS	$30M+	$950M	Dec 2013	Q3-Q4 2013
√	Manager B Fund II	Europe, focus on EU	1 yr	Retail only (incl. some dev't), Pan-Europe	€20M	€500M	Dec 2013	Q3-Q4 2013
	Manager C Fund II	Pan-Europe, focus on UK, Germany, France	7 yrs	Complex, distr. inv in W. Europe (Ger, Fr, Spain, UK)	€25M	€1.0 Bn	July 2013	Q3 2013
√	Manager D Fund II	All U.S., focus on SW/SE	13 yrs	U.S. Land and Hotels	$35-45M	$350M	Nov 2013	Q4 2013
	Manager E Separate Acct	Mostly Texas, some Southeast	4 yrs	Fully integrated Op Co, focused on TX office	$40M	$50-100M	Late 2013/ Early 2014	Q4 2013
√	Manager F Joint Venture	All Southeast, mostly GA & FL	17 yrs	Office repositionings	$40-50M	$50-100M	Late 2013/ Early 2014	Q4 2013
	Manager G Fund I	Mostly California	25 yrs	Office assets in SF Bay	$35-40M	$250M	Late 2013/ Early 2014	Q4 2013
	Manager H Fund I	All U.S., focus on South/West	New	Distressed recaps (mostly retail in CA)	$35-40M	$50M	Dec 2013	Q4 2013
√	Manager I Fund II	All U.S.	7 yrs	US Distresss, mostly hotel, land, & retail	$40-50M	$600M	Spring 2014	Q4 2013
	Manager J Fund I	All U.S.	9 yrs	Distressed NPLs/CMBS	$40M+	$200M	Late 2013	Q3-Q4 2013
	Manager K Fund II	London and SE U.K.	New	Turnarounds in London and SE	£20M	£150	Early 2014	Q4 2013
	Manager L Fund VI	All U.S., focus on East Coast	New	Hotels	$35M	$200M	Mar 2014	Q4 2013-Q1 2014
	Manager M Fund I	Western U.S.	New	Retail, mostly SW U.S.	$35M	$200M	Q1-Q2 2014	Q4 2013-Q1 2014
	Manager N Fund II	Germany and CEE	7 yrs	Distressed assets in Germany and CEE	€25M	€300M	Q1-Q2 2014	Q1-Q2 2014
	Manager O Fund III	Germany only	New	Germany only distressed, many asset classes	€25M	€350M	2014	Q1-Q2 2014
	Manager P Fund IV	Nordics only	New	Nordics only, all prop types	€25M	€300M	2014	Q2-Q3 2014

There can be no assurance that the investments in the DREOF II pipeline will ultimately be executed.

Investment Process – DREOF I Co-Investment Selection

89
Deals Presented by Underlying Managers

40
Deals from other Managers*

65
Passed initial screens

52
Fully underwritten

37
Offers submitted

21
Closed deals

+

9
Current Pipeline

Sourcing Distressed Real Estate Co-Investment Opportunities

15 High-Quality Investment Managers	Internally Generated/ Non-Fund Managers

Sufficiently opportunistic return profile

Facing the right fundamentals

Probability and magnitude of returns enhanced by manager core competency/ competitive advantage

Economy of scale pricing – Risk/ return

Manager focus/ Participation

Transparent, attractive structure

Liquidity/ Control parameters

Coherent, well-defined exit strategy

Portfolio of Co-Investments

*May also include deals from other business lines at Siguler Guff.

DREOF I Investment Windows

Manager/Fund/JV	Asset Class	Geography	Length of Relationship	Strategy	DREOF I Investment Amount	Total Fund/JV Size	Potential For DREOF II Co-Investments
Rialto I/II	Distressed Debt	All U.S.	15 yrs	Distressed debt and high yield CMBS	$74M (incl. co-inv)	$950M Fund II target	**Extremely likely**
SG-Crocker Partners JVs	Office	Southeast U.S., primarily FL & GA	17 yrs	Value-add office properties in the SE U.S.	$95M (all co-inv)	$115M (incl.	**Extremely likely**
Meyer Bergman II	Retail	Europe, focus on EU	New	Pan-Europe, retail only, including some dev't deals	€20M	€500M	**Extremely likely**
Sterling VA Fund I	Retail	Primarily Southeast U.S.	New	U.S. Select market Retail	$36M	$138M	**Likely**
JMI Realty JV	Hotels	Southeast/ Southwest U.S.	16 yrs	Distressed hotel acquisitions	$54M (all co-inv JV)	$60M	**Likely**
Savanna RE Fund II/IIA	Office	Mid-Atlantic, heavy focus on NYC	20 yrs	NYC Class B Office	$20M	$125M	**Possible**
SG-Weeks Robinson JV	Industrial	Southeast U.S.	15 yrs	Industrial warehouses, often distressed and/or vacant	$58M (incl. co-inv JV)	$104M / $40M	**Possible**
Related RE Recovery Fund	Distressed projects/ construction loans	All U.S.	12 yrs	Sub/non-performing construction loans	$40M	$825M Fund	**Possible**
Wheelock Street I	Mostly Hotels, Resi Land	All U.S.	6 yrs	US Distresss, mostly hotel and land	$32M	$525M	**Possible**
Mansford Opportunities IV	All	U.K. only	New	Distressed acquisitons throughout the U.K.	£20M	£110M	**Possible**
Exeter Industrial II	Industrial	Eastern and Southern U.S.	New	One-off' industrial in primary and secondary U.S. markets	$32M	$615M	**Possible**
Victory European Fund I	All; mostly office	Primarily Germany, Netherlands	New	Distressed office in "good" European markets	€34M (incl. co-inv)	€98M	**Possible**
Revcap Kitty Hawk CP II	All asset classes - micro deals	N. & W. Europe, focus on U.K.	New	Mostly UK, but looking at Ger, Scandanavia	$20M	£150M	**Possible**
Rosemont Realty Acq. Fund	Office	All U.S., focus on Sunbelt/secondary mkts	New	Deal-by-deal programmatic acquisition fund	$6M to date	~$500M	**Possible**

Please note that this information is highly confidential.

Biographies

Dedicated Real Estate Team

- James Corl
  - Managing Director, Head of Real Estate at Siguler Guff
  - 25 years of real estate investment experience
  - Chief Investment Officer, Real Estate Investment, Cohen & Steers, Inc.
  - Associate, Real Estate Investment Banking, Credit Suisse First Boston
  - Associate, Chemical Bank
  - B.A., Stanford University; M.B.A., Wharton School of the University of Pennsylvania

- Anthony Corriggio
  - Managing Director at Siguler Guff
  - 22 years of real estate investment/operating experience
  - Senior Analyst, Coeus Capital Management, LLC
  - Chief Financial Officer, The St. Joe Company
  - Vice President, Morgan Stanley Real Estate (MSRE, MSREF)
  - Captain, United States Air Force, Civil Engineering Officer
  - Real Estate Analyst, Prudential Property Company
  - B.S., University of Pennsylvania School of Engineering and Applied Science; B.S. and M.B.A., Wharton School of the University of Pennsylvania

- Nestor Weigand
  - Principal at Siguler Guff
  - 13 years of real estate experience
  - Associate Portfolio Manager, Real Estate Fund-of-Funds, Citi Property Investors
  - Vice President, Cityfeet.com
  - Project Analyst, CB Richard Ellis (f.k.a. Insignia/ESG)
  - B.A., University of Notre Dame; M.B.A., Tuck School of Business at Dartmouth

- Hamid Tabib
  - Associate at Siguler Guff
  - 8 years of real estate experience
  - Assistant Vice President, Crocker Partners
  - Associate, CRT Properties, Inc.
  - B.S., Stern School of Business at New York University; M.B.A., Wharton School of the University of Pennsylvania

Distressed Investment Team

- James Gereghty
  - Managing Director, Head of Distressed Investing and Portfolio Manager at Siguler Guff
  - 15 years of distressed debt and private equity experience
  - Founding member of the Distressed Debt Group, Wachovia Capital Markets
  - Head of Distressed Analytics, UBS
  - Senior member of the distressed debt research staffs, Morgan Stanley and Bear Stearns
  - B.A. in Economics and Political Science from University of Connecticut
  - M.B.A from the Fuqua School of Business at Duke University
  - CFA charterholder
- Marianna Fassinotti
  - Principal at Siguler Guff; has principal responsibility for managing external distressed GP relationships
  - 12 years of private equity, distressed debt and structured credit investing experience
  - Associate Director, Global Distressed Debt and Special Situations Group, UBS Investment Bank
  - Research Associate, Lehman Brothers
  - B.A., Harvard College; M.B.A., Tuck School of Business at Dartmouth
- Randall Beeler
  - Vice President at Siguler Guff
  - Investment Analyst within McKinsey's internal investment group, focusing on event-driven, distressed, credit and emerging market strategies
  - B.A., Loyola College of Maryland
- Anthony Cusano
  - Vice President at Siguler Guff
  - Investment Associate, Distressed Debt and Special Situations Group, StepStone Group LLC
  - B.S., California Polytechnic State University, M.B.A., Rady School of Management at University of California San Diego
  - CFA charterholder and member of the CFA Society of San Diego, Inc.
- Bradley Bennett
  - Vice President at Siguler Guff
  - Vice President, Distressed Credit Research, Gleacher & Company
  - Vice President, High Yield Distressed Investing – Fixed Income, Goldman, Sachs & Co.
  - Analyst, Distressed Bank Loan Investing – Fixed Income, Goldman Sachs & Co.
  - B.A., University of Pennsylvania
  - CFA charterholder
- Ryan Stuckert
  - Associate at Siguler Guff
  - Investment Banking Analyst, Jefferies & Company, Inc.
  - B.S. in Economics from the Wharton School of the University of Pennsylvania; B.S. in Engineering from the University of Pennsylvania School of Engineering and Applied Science
- Michael Sharp
  - Analyst at Siguler Guff
  - Officer, Distressed Debt Group, Wachovia Capital Markets, LLC
  - Assistant Vice President, Distressed Debt Group, Merrill Lynch & Co.
  - B.S., Marist College; M.B.A., Fordham University

Key Investment Professionals

- George Siguler
  - Managing Director and Founding Partner of Siguler Guff
  - 40 years of private equity investment experience
  - Associate Treasurer, Harvard University
  - Founding Partner of the Harvard Management Company
  - Chief of Staff, U.S. Department of Health and Human Services under President Reagan
  - Head of Paine Webber's Private Equity Group
  - Director, MSCI Corporation
  - A.B., Amherst College; M.B.A., Harvard Business School

- Drew Guff
  - Managing Director and Founding Partner of Siguler Guff
  - 30 years of private equity investment experience
  - Assistant to the President of PaineWebber for four years
  - First Vice President in PaineWebber's Merchant Banking Group
  - B.A., Harvard University

- Jay Koh
  - Managing Director and Partner of Siguler Guff
  - 15 years of private equity experience
  - Head of Investment Funds, Chief Investment Strategist, Chief Financial Officer, Overseas Private Investment Corporation
  - Partner, R3 Capital Partners
  - Managing Director, Lehman Brothers
  - Principal, The Carlyle Group
  - Law Clerk to Justice David H. Souter, United States Supreme Court
  - Law Clerk to Judge Michael Boudin, United States Court of Appeals for the First Circuit
  - A.B., Harvard College; Masters in Management, Oxford University; J.D., Yale Law School

Marketing and Investor Relations

- Thomas McGowan
  - Managing Director at Siguler Guff
  - Senior Vice President and member of the Executive Committee at Lynch & Mayer, a domestic growth stock manager
  - Regional Vice President of the Travelers Investment Group
  - B.A., Trinity College
- Cliff Yonce
  - Managing Director at Siguler Guff
  - Vice President of Private Wealth Management at Goldman Sachs & Co.
  - Banking Officer, Merchant Banking at Brown Brothers Harriman & Co.
  - Member of the Virginia Military Institute Endowment Committee and the Board of Trustees of the George C. Marshall Foundation
  - B.A., the University of Virginia; M.B.A., Darden School of Business Administration
- William Tice
  - Managing Director at Siguler Guff
  - Managing Director, Q Investments
  - Principal, The Blackstone Group
  - Vice President, Donaldson, Lufkin & Jenrette, Inc.
  - B.A., Middlebury College; M.B.A., Tuck School of Business at Dartmouth
- Douglas Loveland
  - Vice President at Siguler Guff
  - Associate Director, Institutional Sales, WisdomTree Asset Management
  - Investment Representative, Fidelity Investments
  - B.A., Gettysburg College
  - CFA charterholder
- Matthew Brewer
  - Vice President at Siguler Guff
  - Associate Director of Institutional Sales at WisdomTree Asset Management
  - Account Executive, Private Client Group, Fisher Investments
  - B.A. , California Polytechnic State University, M.B.A , Leonard N. Stern School of Business at New York University

Finance and Legal

- Ken Burns
  - Managing Director and Partner of Siguler Guff
  - Chief Financial Officer of Odyssey Investment Partners
  - Controller of Odyssey Partners' private equity portfolio
  - Controller of Buffalo Partners, a New York hedge fund
  - B.S., State University of NY at Oneonta; M.B.A., St. Johns University
  - Certified Public Accountant

- Donald Spencer
  - Managing Director, Senior Counsel, and Founding Partner of Siguler Guff
  - First Vice President and Associate General Counsel of Mitchell Hutchins
  - General Counsel of Atalanta / Sosnoff Capital Corporation
  - Major law firm experience at Sullivan & Cromwell and Shereff Friedman, Hoffman & Goodman
  - B.A., Wesleyan University; J.D., New York University

- Terri Liftin
  - Managing Director, Managing Counsel at Siguler Guff
  - U.S. Legal Counsel and Chief Compliance Officer, WestLB Mellon Asset Management
  - Director, Legal Department, WestLB AG
  - Senior Associate, K&L Gates
  - Associate, Rogers & Wells
  - A.B., Barnard College, M.A. in Economics, New York University, J.D., Brooklyn Law School

- Sandip Kakar
  - Principal, Legal and Compliance at Siguler Guff
  - 13 years of private equity experience
  - Senior Associate, Private Funds Group, Clifford Chance US LLP
  - Senior Associate, Corporate Group, K&L Gates LLP
  - Regulatory Compliance Consultant, PricewaterhouseCoopers LLP
  - B.A. in Economics, Northwestern University, J.D., St. John's University School of Law

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OAKTREE

REAL ESTATE OPPORTUNITIES FUND VI, L.P.

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Table of Contents

1 | Executive Summary

OAKTREE

Executive Summary

OAKTREE OVERVIEW	• Founded in 1995 • $78.8 billion in assets under management • Unifying investment philosophy emphasizing inefficient markets and downside protection • Global leader in distressed debt investing
REAL ESTATE OVERVIEW	• Expertise at the intersection of real estate and distressed debt • Disciplined approach over the last seven years, selling aggressively at market peak and investing aggressively at trough • Experienced team of 36[1] professionals led by John Brady • Specialized by geographic region and six areas of investment focus: Commercial, Corporate, Structured Finance, FDIC/Bank Portfolios, Residential and non-U.S. • Competitive advantage created by Oaktree's multi-disciplinary capabilities and a strategic network of lender, borrower and operating partner relationships
REAL ESTATE TRACK RECORD	• Have led $8.2 billion of investments since the Lehman bankruptcy ($5.0 billion of realizations thus far)[2] – Investments were made at an average of 42% of peak valuation[4] • Have distributed 140% of contributed capital from all opportunistic real estate funds not in investment period[3] • $3.3 billion of cumulative gains on Oaktree's real estate funds since inception – no money-losing funds • Under John Brady's leadership, the real estate funds have generated gross and net IRRs of 19% and 14%, respectively • High "batting average" for current team – 10:1 ratio of profits to losses in all opportunistic real estate funds[3]
INVESTMENT OPPORTUNITIES	• Continued flow of over-leveraged and distressed real estate in need of rescue capital and asset repositioning • Large supply and limited competition for non-performing residential and commercial loan portfolios • Limited supply and significant competition for large corporate transactions and opportunistic structured finance investments • Growing supply of distressed loan portfolios in Europe, particularly in the United Kingdom

As of March 31, 2013

See Appendix II for performance related information and disclosures

[1] *As of May 31, 2013.*

[2] *Investments include $6.0 billion of equity deployed in Real Estate team-led transactions across all Oaktree-managed funds and $2.1 billion of investments for Legacy CMBS Fund, of which $1.1 billion was cross-collateralized fund-level leverage. Realizations include $3.7 billion of asset sales and an additional $1.3 billion of refinancing proceeds.*

[3] *Excludes Legacy CMBS Fund.*

2 | Oaktree Overview

OAKTREE

Oaktree Overview – Profile

- Founded April 1995
- Invests in less efficient and alternative markets
- $78.8 billion in assets under management across highly synergistic investment platforms
- Eight Principals and over 700 staff members, with ownership held across senior personnel who comprise one-fourth of the Company
- Offices in 13 cities in 10 countries:

U.S.:	Los Angeles (headquarters), New York and Stamford (Connecticut)
Europe:	Amsterdam*, Frankfurt, London, Luxembourg* and Paris
Asia:	Beijing, Hong Kong, Seoul, Singapore and Tokyo

* *Office of affiliates of Oaktree-managed funds*

As of March 31, 2013

Oaktree Overview – Asset Breakdown

INVESTMENT AREAS

*Assets ($ millions)**

CORPORATE DEBT

U.S. High Yield Bonds	$17,197
European High Yield Bonds	1,319
U.S. Senior Loans	3,870
European Senior Loans	1,238
Mezzanine Finance	1,984
Strategic Credit	746
High Yield Plus	84
Subtotal	**$26,438**

CONVERTIBLE SECURITIES

U.S. Convertibles	$4,568
Non-U.S. Convertibles	2,312
High Income Convertibles	1,084
Subtotal	**$7,964**

DISTRESSED DEBT

Distressed Opportunities	$22,138
Value Opportunities	1,844
Subtotal	**$23,982**

CONTROL INVESTING

Global Principal	$7,164
European Principal	6,697
Asia Principal	439
Power Opportunities	1,215
Subtotal	**$15,515**

REAL ESTATE

Real Estate Opportunities	**$4,391**
Subtotal	**$4,391**

LISTED EQUITIES

Emerging Markets Absolute Return	$340
Emerging Markets Equities	86
Japan Opportunities	85
Subtotal	**$511**
Total	**$78,801**

CLIENTS

	Assets ($ millions)*	% of Assets
Public Funds	$23,956	30%
Corporate Pensions	15,081	19
Insurance Companies	6,650	9
Corporate	6,469	8
Sovereign Wealth Funds	6,262	8
Endowments/Foundations	5,968	8
Private – HNW/Family Office	4,911	6
Sub-Advisory – Mutual Funds	3,323	4
Fund of Funds	2,344	3
Unions	976	1
Oaktree and Other	2,861	4
Total	**$78,801**	**100%**

INVESTMENT STRUCTURE

	Assets ($ millions)*
Open-end	$29,837
Closed-end	**46,381**
Evergreen	2,583
Total	**$78,801**

* *As of March 31, 2013*

Oaktree Overview – Investment Philosophy

THE PRIMACY OF RISK CONTROL	"Avoid the losers and the winners will take care of themselves"
EMPHASIS ON CONSISTENCY	A superior record is best built on a high batting average rather than great successes that outweigh dismal failures
IMPORTANCE OF MARKET INEFFICIENCIES	It is only in less efficient markets that hard work and skill are likely to produce superior returns
BENEFITS OF SPECIALIZATION	Our highly specialized teams often collaborate on multi-disciplinary transactions
MACRO-FORECASTING NOT CRITICAL TO INVESTING	A bottom-up, value approach to investing is most productive
DISAVOWAL OF MARKET TIMING	Bargains are purchased without reference to guesses about the market's future direction

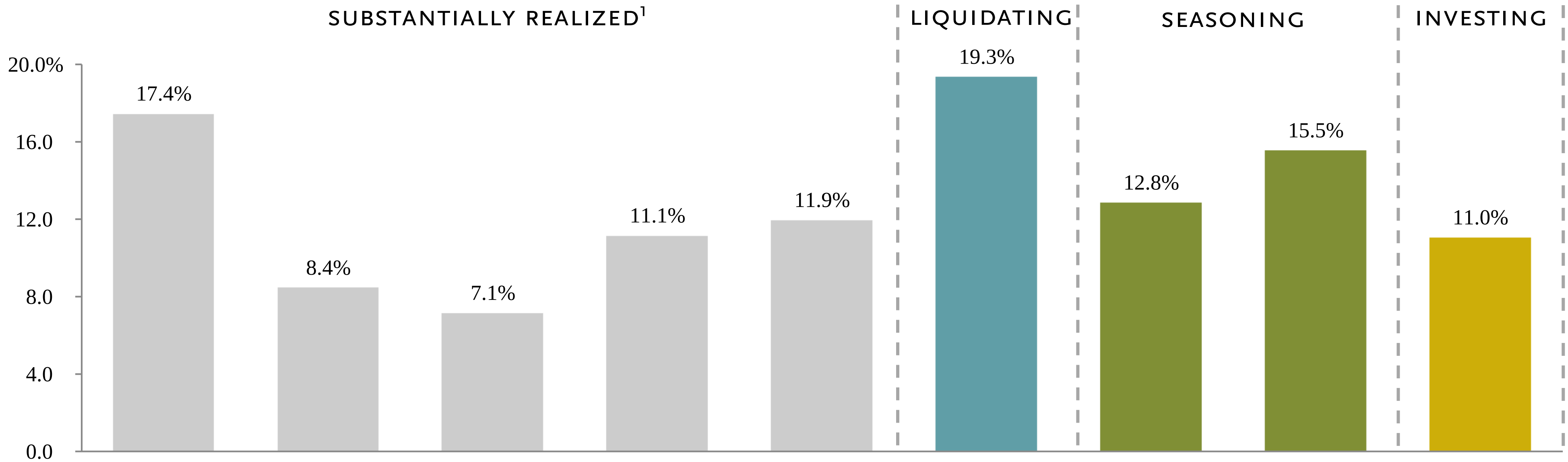
All of Oaktree's strategies operate pursuant to an investment philosophy that has remained unchanged since our founding in 1995

3 | Track Record

OAKTREE

Real Estate Track Record

NET NET FUND-LEVEL IRR



	SCF VI	ROF A	ROF B	ROF II	ROF III/IIIA[2]	Legacy CMBS Fund[3]	ROF IV	Remington[4]	ROF V
Commencement of Operations	1994	1996	1997	1998	2002	2010	2008	2010	2011
Committed Capital ($mm)	$506	$304	$285	$464	$707	$2,322	$450	$256	$1,283
Net Net Fund-Level Multiple of Capital[5]	2.1x	1.7x	1.6x	1.5x	1.7x	1.3x	1.5x	1.4x	1.2x
% Realized[6]	100.0%	99.9%	99.9%	100.0%	94.5%	56.3%	55.7%	56.4%	26.3%
% Held at Cost[7]	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	10.2%	25.3%	32.5%

As of March 31, 2013
See Appendix II for performance related information and disclosures
1 *Represents all funds that have realized 90% or more of investments. See footnote 5 below.*
2 *ROF III and ROF IIIA commenced operations in 2002 and 2003, respectively.*
3 *Due to the structure of the Legacy CMBS Fund, the fund-level returns presented in this table are for a feeder fund and not for the Legacy CMBS Fund itself.*
4 *The Remington Account is a separate standalone account managed by Oaktree's Real Estate team.*
5 *Fund-Level Multiple of Capital is calculated as (NAV + Distributions) divided by Contributed Capital.*
6 *Represents total realized proceeds as a percentage of the total fair market value of the fund. Total realized proceeds includes any proceeds for financing obtained after the initial investment.*
7 *Represents the current cost basis of investments still held at cost as a percentage of the remaining cost basis of the fund.*

4 | Oaktree Real Estate Overview

OAKTREE

Highly Specialized Investment Organization

FOCUS	OPPORTUNITIES	TEAM LEADERS
COMMERCIAL	Asset-level transactions across all property types, distressed assets and borrower recapitalizations	Ambrose Fisher, Phil Hofmann
CORPORATE	Platform investments, entity-level acquisitions/recapitalizations, and distressed debt	Todd Liker, Manish Desai
STRUCTURED FINANCE	Commercial mortgage-backed securities ("CMBS") and related debt opportunities	Keith Gollenberg, Justin Guichard
FDIC/BANK PORTFOLIOS	Large pools of distressed small balance real estate loans and REO	Mark Jacobs
RESIDENTIAL	Non-performing residential loan portfolios, distressed land and regional homebuilders	Jason Keller
NON-US		
– ASIA	Special situations and distress	Toshi Kuroda (Tokyo), Steve Choi (Seoul)
– EUROPE	Non-performing loan portfolios, distressed assets	Nebil Senman (Frankfurt), David Snelgrove (London)

Summerlin

National Industrial Portfolio

Japan Rental Housing

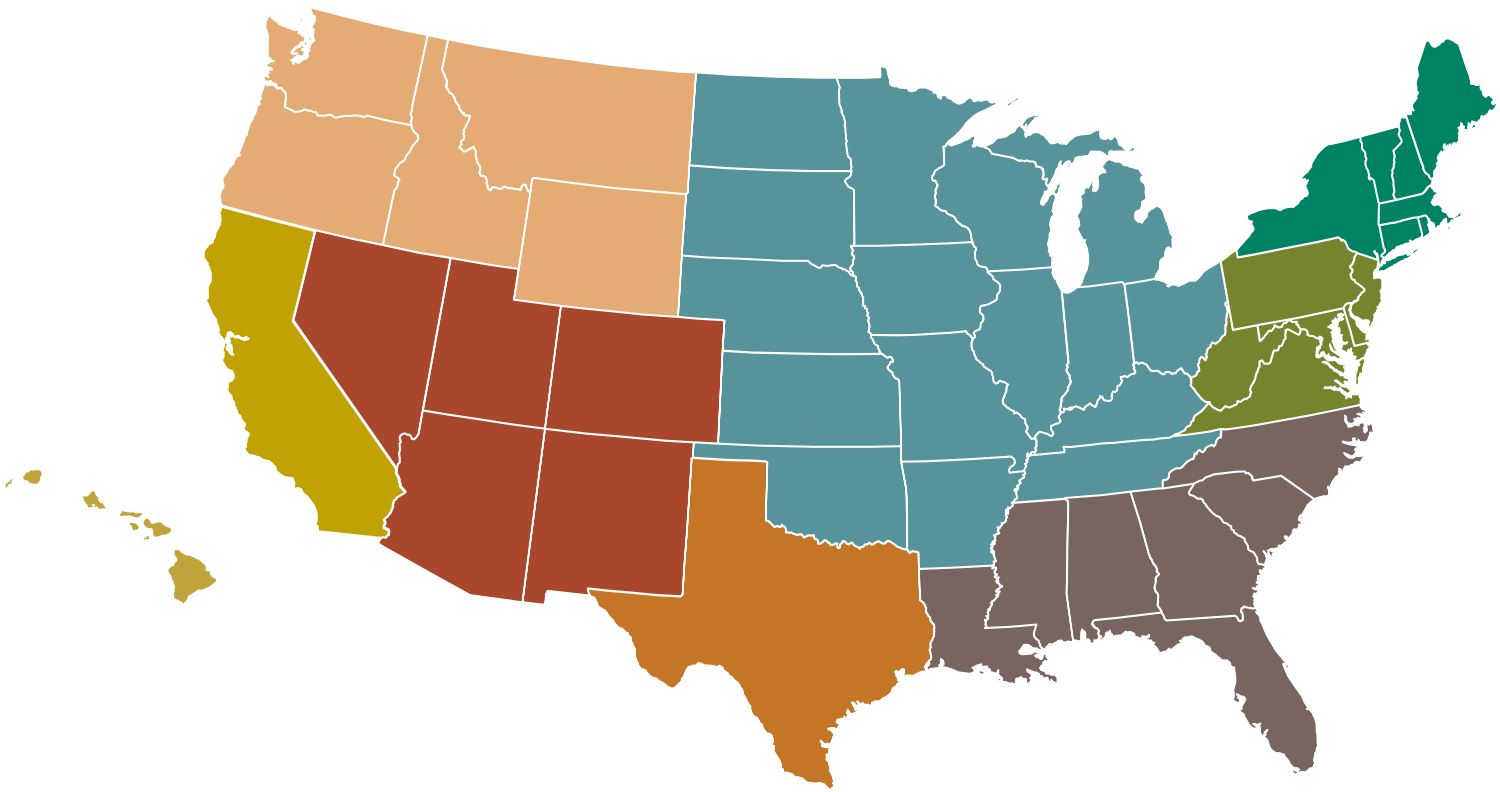
Kingfisher Shopping Centre

Senior leaders in the Real Estate team have an average 17 years of experience

As of May 31, 2013
See Appendix II for disclosure about investment examples.

Regional Expertise Across the U.S.

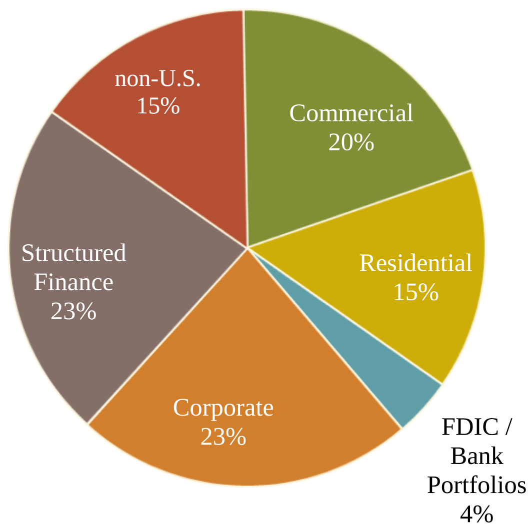
Name, Title, Years of Experience	Region
Ambrose Fisher *Managing Director* 22 years	Southwest, California & Hawaii
Keith Gollenberg *Managing Director* 32 years	Mid-Atlantic
Phil Hoffman *Managing Director* 20 years	Midwest, Northeast
Mark Jacobs *Managing Director* 19 years	Pacific Northwest, Southwest, California & Hawaii
Todd Liker *Managing Director* 17 years	Midwest, Southeast
Manish Desai *Senior Vice President* 12 years	Texas
Amy Johannes *Senior Vice President* 10 years	Northeast, Southeast
Raymond Gong *Vice President* 8 years	Midwest, Northeast, Mid-Atlantic
Taejo Kim *Vice President* 11 years	Southwest, California & Hawaii
Jared Lazarus *Vice President* 9 years	Texas, Southwest, California & Hawaii
Jameson Weber *Vice President* 8 years	Pacific Northwest, Southeast



Pacific Northwest | Midwest | Northeast | Mid-Atlantic
Southeast | Texas | Southwest | California & Hawaii

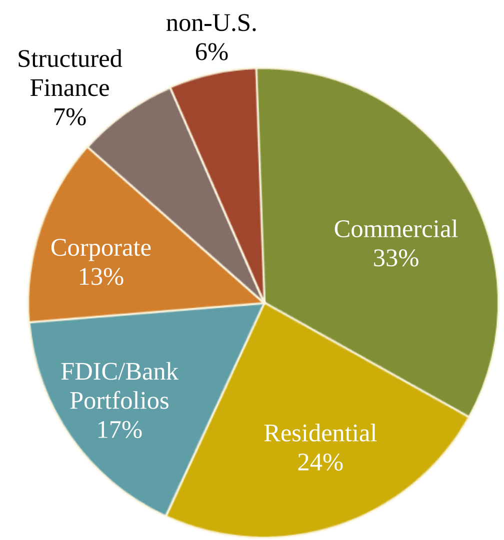
Diversified and Evolving Investment Portfolios

ROF IV[1]



Invested Capital:	$778 million[2]
Committed Capital:	$450 million
Number of Transactions:	58

ROF V[1]



Invested Capital:	$1.7 billion[2]
Committed Capital:	$1.3 billion
Number of Transactions:	83

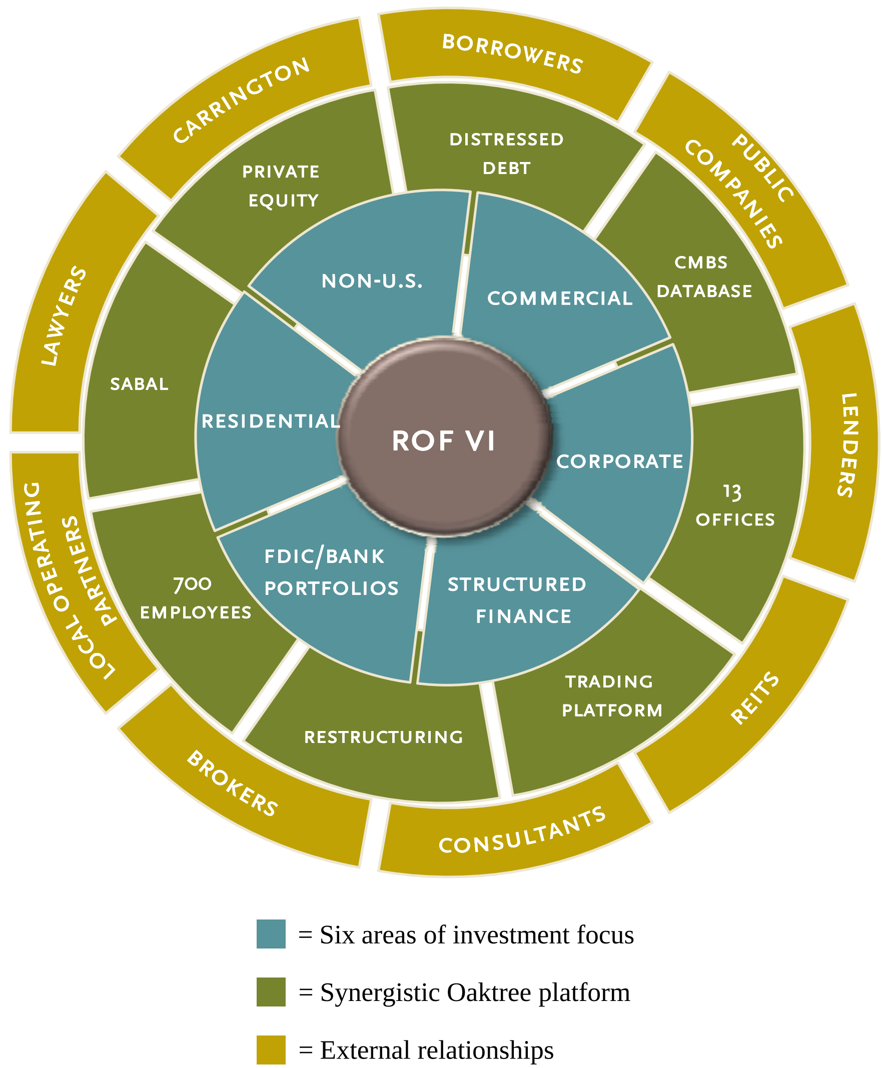
As of March 31, 2013

[1] *Investment category allocations reflect aggregate invested capital for each fund from inception through March 31, 2013.*

[2] *The total invested capital exceeds the total committed capital of the fund because the fund has the ability to (i) reinvest proceeds from realized investments during its investment period and (ii) make certain "follow-on" investments after its investment period with proceeds from realized investments.*

Investment Approach Consistent with Oaktree's Philosophy

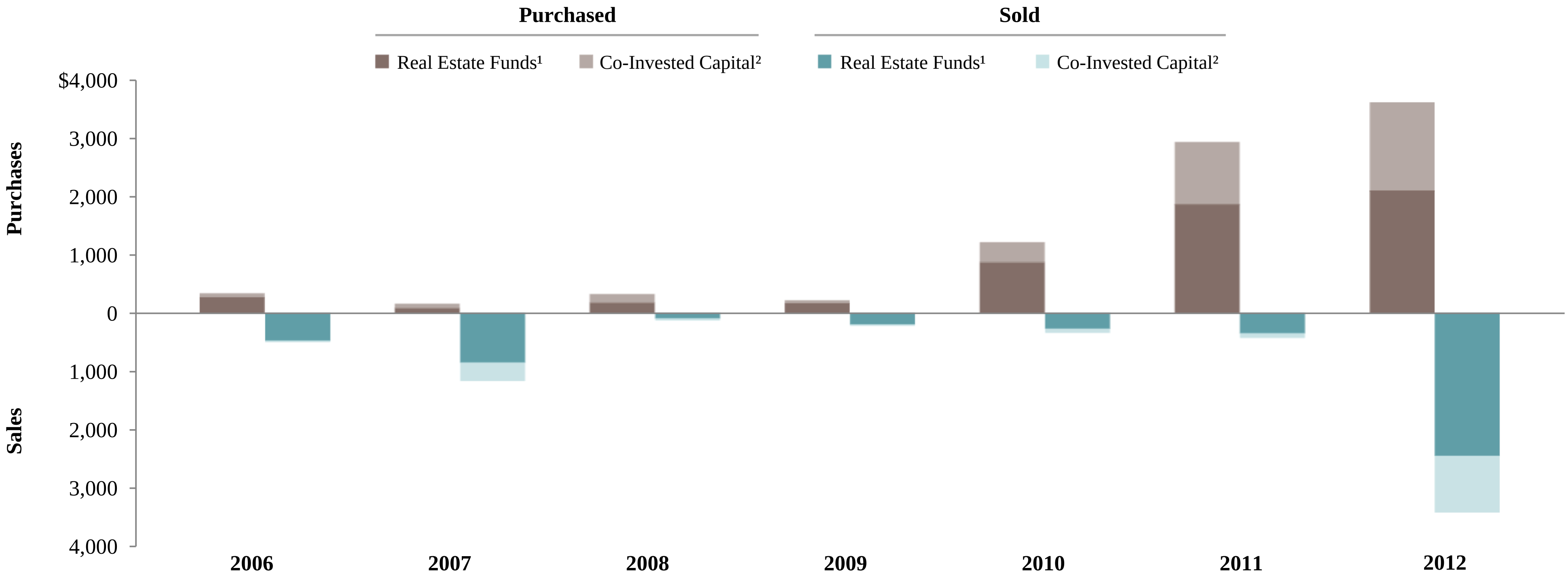
- Seek attractive risk-adjusted returns with downside protection by emphasizing:
  - Bargain purchases in less competitive and inefficient markets
  - Distressed assets, financial restructurings and borrower workouts
  - Value-added management and asset repositioning
  - Prudent use of attractive leverage
- Specialize in six areas of investment focus: Commercial, Corporate, Structured Finance, FDIC/Bank Portfolios, Residential and non-U.S.
  - Overlay of regional coverage responsibilities
- Leverage Oaktree's multi-disciplinary capabilities as a global leader in distressed debt and cultivate a strategic network of lender, borrower and operating partnerships



Combination of highly specialized real estate team and synergistic platform enhances access to distressed opportunities

Disciplined Approach Over Last Seven Years

PURCHASES AND SALES FOR REAL ESTATE TRANSACTIONS



Oaktree's Real Estate team realized $5.0 billion of investments and led the deployment $8.2 billion of capital since the Lehman bankruptcy[3]

[1] *Includes purchase and sale activity through December 31, 2012 for the following funds: ROF A, ROF B, ROF II, ROF III/IIIA, ROF IV, Remington Account, ROF V, ROF VI, AROF, Legacy CMBS Fund and all related separate accounts.*

[2] *Includes transactions through December 31, 2012 which the Real Estate team led for other Oaktree-managed funds and co-investment vehicles.*

[3] *As of March 31, 2013. Capital deployed includes $6.0 billion of equity deployed in Real Estate team-led transactions across all Oaktree-managed funds and $2.1 billion of investments for Legacy CMBS Fund, of which $1.1 billion was cross-collateralized fund-level leverage. Realizations include $3.7 billion of asset sales and an additional $1.3 billion of refinancing proceeds.*

5 | Investment Environment

OAKTREE

Investment Environment – Investment Cycle

DISTRESS

GROWTH

Primary Emphasis: Debt
Large downside cushion

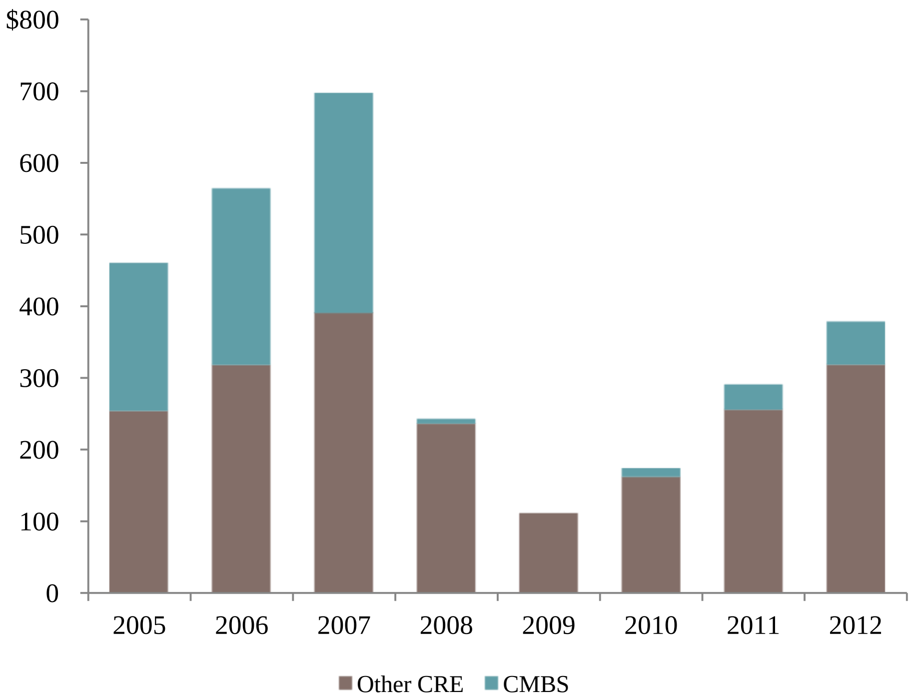
Primary Emphasis: Equity
First loss position

Investment Environment – Commercial

ORIGINATIONS AT THE RECENT RATE WILL NOT BE SUFFICIENT TO MEET FUTURE MATURITIES

COMMERCIAL REAL ESTATE DEBT ORIGINATIONS

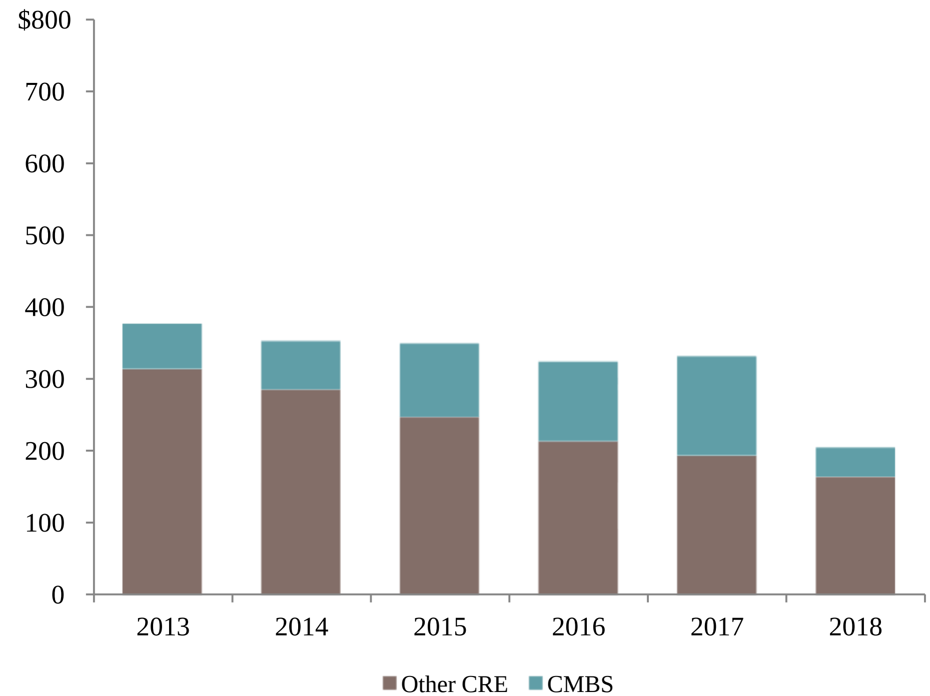
($ in billions)



Lenders remain significantly constrained, reducing new issue volumes and …

COMMERCIAL REAL ESTATE DEBT MATURITIES

($ in billions)

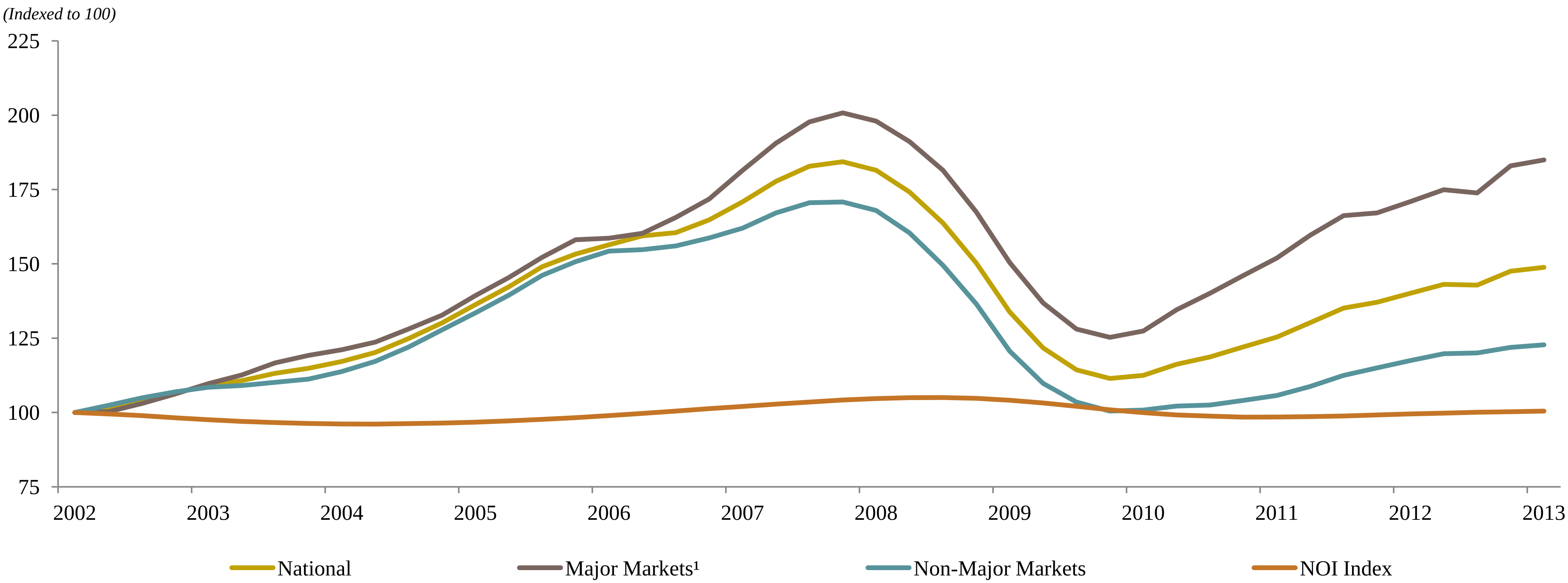


… leaving few options to satisfy $1.1 trillion of commercial real estate debt maturing through 2015

As of December 31, 2012
Sources: Mortgage Banker Association, Foresight Analytics, Trepp

Investment Environment – Commercial (continued)

COMMERCIAL REAL ESTATE VALUE INDEX VS. NOI INDEX



Property valuations have recovered to 2005 levels, but prices have diverged based on asset quality, location, sponsorship, leasing status and capital structure

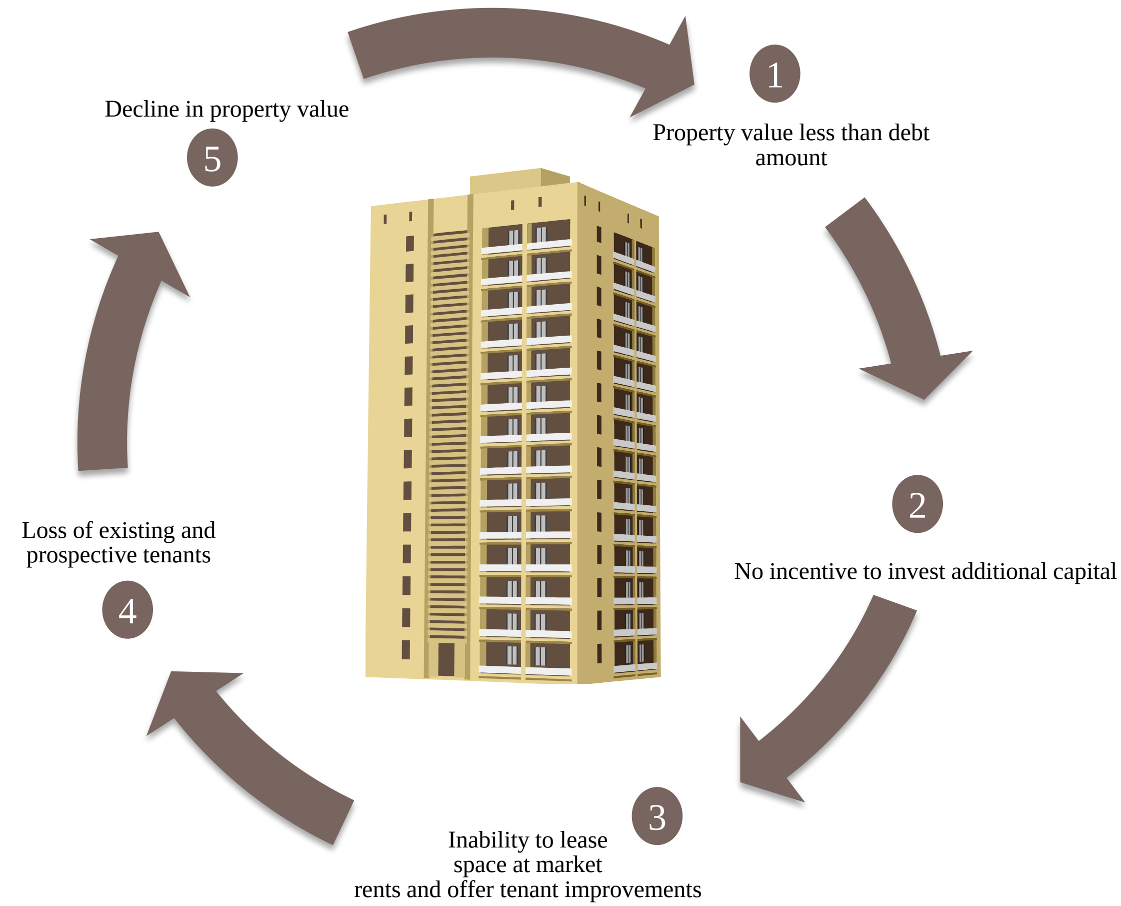
As of March 31, 2013

Sources: RCA and Moody's Investors Service

[1] *Major Markets are the six gateway metropolitan areas: Boston, Chicago, Los Angeles, New York, San Francisco and Washington, D.C.*

Investment Environment – Commercial (continued)

"ZOMBIE" REAL ESTATE DRIVING OPPORTUNITIES

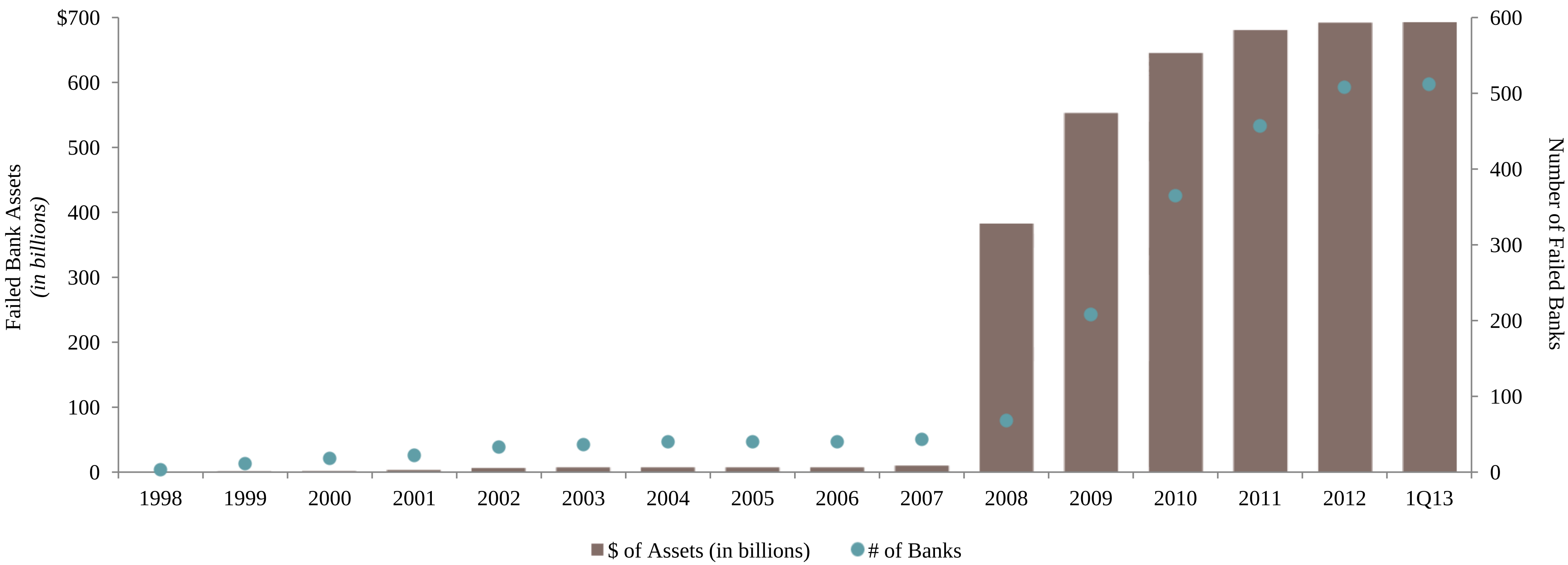


Over-leveraged and under-capitalized properties create vicious cycle of value destruction

Investment Environment – FDIC/Bank Portfolios

SIGNIFICANT OPPORTUNITIES IN SMALL BALANCE LOANS THROUGH DISTRESSED BANKS

CUMULATIVE BANK FAILURES SINCE 1998



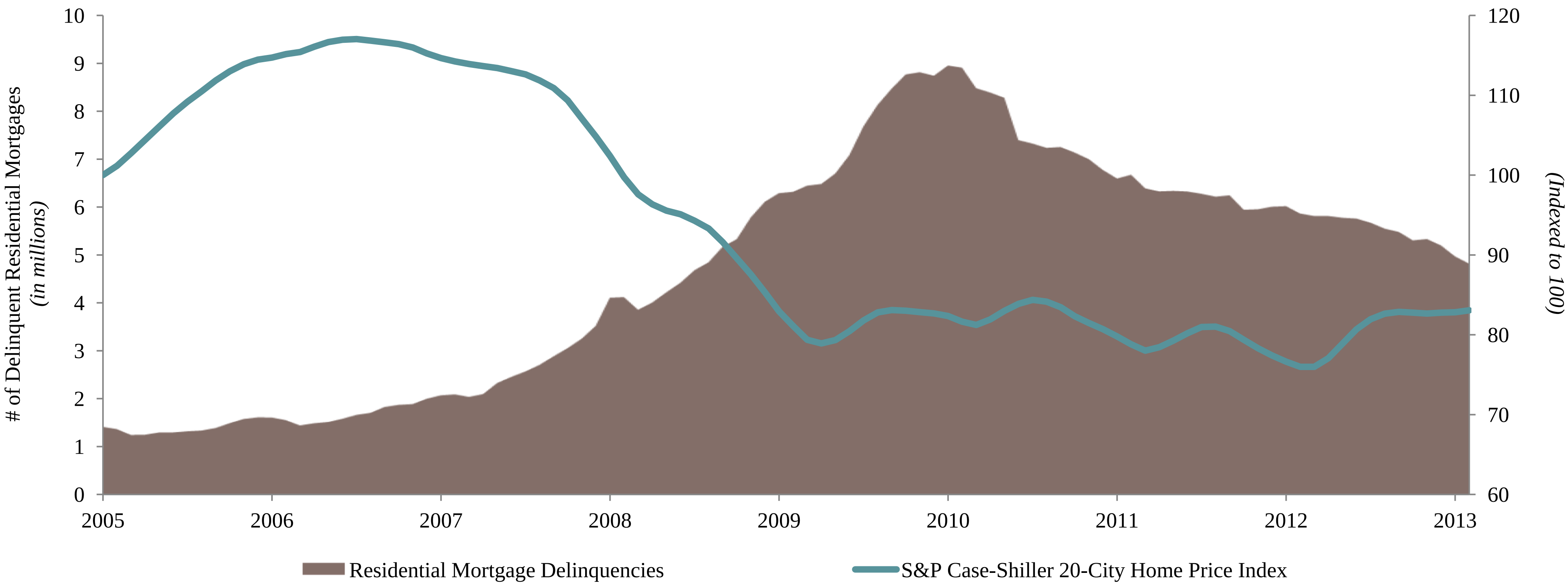
Between January 2008 and March 2013, the FDIC seized 469 banks ($681 billion of aggregate assets); 651 banks remained on the "problem" list[1]

As of March 31, 2013, unless otherwise noted
Sources: FDIC, SNL Financial
[1] *As of December 31, 2012.*

Investment Environment – Residential

ENVIRONMENT IS RIPE FOR RESIDENTIAL, NON-PERFORMING LOAN ACQUISITIONS

RESIDENTIAL MORTGAGE DELINQUENCIES



As of February 28, 2013
Sources: LPS, Morgan Stanley, S&P Case-Shiller

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6 | Summary Term Sheet

Summary Term Sheet

Terms	Description
Fund Name	Oaktree Real Estate Opportunities Fund VI, L.P., a Delaware limited partnership
Investment Period	4 years
Fund Term	10 years (subject to extension)
Management Fee	1.50% for a capital commitment of $2 million to $149 million 1.40% for a capital commitment of $150 million to $249 million 1.25% for a capital commitment of over $250 million
Preferred Return	8%
GP Carried Interest	20% with catch-up
Ancillary Cash Fees	100% applied to reduce management fees and carried interest
Minimum Commitment	$2 million
General Partner	Oaktree Real Estate Opportunities Fund VI GP, L.P.
Investment Manager	Oaktree Capital Management, L.P.
GP Capital Commitment	Greater of $20 million or 2.5% of aggregate capital commitments to the Fund
Feeder Fund	Oaktree Real Estate Opportunities Fund VI (Cayman), L.P., a Cayman Islands exempted limited partnership

Appendices

OAKTREE

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Appendix I: Supplemental Discussion Materials

ORGANIZATION CHART

John Brady
Managing Director and Portfolio Manager

U.S.			EUROPE	ASIA
LOS ANGELES		NEW YORK	LONDON	TOKYO
Ambrose Fisher *Managing Director*	**Justin Guichard** *Managing Director*	**Keith Gollenberg, CFA** *Managing Director*	**David Snelgrove** *Senior Vice President*	**Toshi Kuroda** *Managing Director*
Mark Jacobs *Managing Director*	**Jason Keller** *Managing Director*	**Phil Hofmann** *Managing Director*	**Alexander Mackenzie** *Associate*	**Soichiro Tabu** *Vice President*
Derek Smith *Managing Director*	**Ryan Delaney** *Senior Vice President*	**Todd Liker** *Managing Director*	**Nicolas Massiere** *Associate*	**Hideya Takahashi** *Vice President*
Manish Desai *Senior Vice President*	**Cary Kleinman** *Senior Vice President*	**Amy Johannes** *Senior Vice President*	FRANKFURT	SEOUL
Yi Zhang, CFA *Senior Vice President*	**Taejo Kim** *Vice President*	**Raymond Gong** *Vice President*	**Nebil Senman** *Senior Vice President*	**Steve Choi** *Managing Director*
Jared Lazarus *Vice President*	**Jameson Weber** *Vice President*	**Neel Shah** *Vice President*		**Andrew Lee, CPA** *Senior Vice President*
Brad Weinberg *Vice President*	**Samuel Averbach** *Associate*	**Matthew Chin** *Associate*		**Rachel Park, CPA** *Senior Vice President*
Rick Stumm *Associate*	**John Lee** *Analyst*	**Jimmy Zhan** *Associate*		**Andie Shin** *Associate*

ADDITIONAL RESOURCES			
OAKTREE LEGAL *16 attorneys*	OAKTREE TRADING *4 professionals*	SABAL FINANCIAL[1] *over 115 professionals*	CARRINGTON[2] *over 1,800 professionals*

As of May 31, 2013

1 *Sabal Financial Group, L.P. ("Sabal") is a nationwide diversified financial services firm specializing in the servicing and asset management of commercial real estate loans. Sabal currently provides servicing and workout capabilities to real estate and other Oaktree funds. Oaktree owns a 50% interest in Sabal, but does not profit from any amounts paid by our funds to Sabal. (See "Overlaps of the Fund with Other Oaktree Funds and Accounts – Conflicts with Portfolio Companies of Oaktree and Other Oaktree Funds" in the PPM.)*

2 *Carrington Holding Company, LLC is a vertically integrated asset manager and mortgage servicer that provides services for every aspect of the lifecycle of single family assets, and is uniquely positioned to service loans and manage rental homes on a national scale*

Appendix I: Supplemental Discussion Materials (continued)

OAKTREE'S REAL ESTATE TRACK RECORD

($ in millions)

REAL ESTATE INVESTMENT FUNDS [1,2]

	SUBSTANTIALLY REALIZED[3]					LIQUIDATING	SEASONING		INVESTING
	SCF VI	ROF A	ROF B	ROF II	ROF III/IIIA[4]	Legacy CMBS Fund[5]	ROF IV	Remington[6]	ROF V
Commencement of Operations	August 1994	February 1996	March 1997	December 1998	October 2002	February 2010	June 2008	February 2010	February 2011
Committed Capital	$505.5	$303.7	$285.5	$463.5	$707.3	$2,321.6	$450.4	$256.3	$1,283.0
Gross Investment-Level Profit[7]	684.8	267.5	188.6	292.7	696.3	439.1	337.4	137.6	288.1
Gross Investment-Level IRR	23.2%	11.8%	9.2%	17.3%	18.6%	30.2%	21.8%	22.2%	18.5%
Gross Fund-Level IRR	21.1	10.5	8.2	15.2	15.9	26.2	19.1	18.4	16.8
Gross Fund-Level Multiple of Capital[8]	2.4x	1.9x	1.7x	1.7x	2.0x	1.4x	1.8x	1.5x	1.2x
Net Net Fund-Level IRR	17.4%	8.4%	7.1%	11.1%	11.9%	19.3%	12.8%	15.5%	11.0%
Net Net Fund-Level Multiple of Capital[8]	2.1x	1.7x	1.6x	1.5x	1.7x	1.3x	1.5x	1.4x	1.2x
Distributed Capital as a Percentage of Paid-in Capital	208.1%	163.3%	159.4%	148.2%	160.2%	59.0%	42.2%	65.1%	0.0%

As of March 31, 2013

See Appendix II for performance related information and disclosures

1. *This table excludes performance results for trusts and separate accounts related to ROF A, ROF B, ROF II, ROF III/IIIA, ROF IV, ROF V; however, the returns for each associated entity are similar to the results for the fund to which it is related.*
2. *Gross Fund-Level figures are before management fees, expenses and potential incentive allocation and reflect the returns/multiples of the partnership. Net Net Fund-Level figures are after management fees, expenses and potential incentive allocation and reflect the returns/multiples of the unaffiliated limited partners.*
3. *Represents all funds that have realized 90% or more of investments.*
4. *ROF III and ROF IIIA commenced operations on October 1, 2002 and May 30, 2003, respectively.*
5. *The data contained herein reflects the effect of leverage employed by the Legacy CMBS Fund, which invested in commercial mortgage-backed securities using both debt and equity capital at approximately a 1:1 ratio. Due to the structure of the Legacy CMBS Fund, the fund-level returns presented in this table are for a feeder fund and not for the Legacy CMBS Fund itself.*
6. *The Remington Account is a separate standalone account managed by Oaktree's Real Estate team.*
7. *Gross Investment-Level Profit represents all realized and unrealized gains/(losses).*
8. *Fund-Level Multiple of Capital is calculated as (NAV + Distributions) divided by Contributed Capital.*

Appendix II: Performance Disclosures

In reviewing the performance table included herein, please note the following:

The summary investment returns of the funds and accounts managed by Oaktree in its real estate opportunities strategy set forth in this brochure (collectively, the "Predecessor Real Estate Funds") are for informational purposes only. They are based on investments that may not be representative of the type of investments that may be made for the Fund and provided only to illustrate the performance of other real estate funds and accounts managed by Oaktree. Differences in the investment tactics of the Fund and the Predecessor Real Estate Funds should be considered in any decision to invest in the Fund. In particular, the Legacy CMBS Fund was only permitted to invest in certain CMBS that were issued prior to 2009 and originally rated AAA. Oaktree makes no representation, and it should not be assumed, that past performance is an indication of future results. There can be no assurance that the Fund will be able to earn the rates of return indicated in this brochure. Indeed, wherever there is the potential for profit, there is also the possibility of loss.

Oaktree also manages Oaktree Asia Special Situations Fund, L.P. (formerly Oaktree Asia Real Estate Opportunities Fund, L.P., "ASIT") and Pangaea Asia Special Investors Fund, L.P. ("PASI"), which have a broader investment focus than the Fund and are geographically focused on investments in Asia and the Pacific region. While the investment strategy for ASIT and PASI are similar to that of the Fund, their investment tactics and geographic focus are substantially different than those anticipated to be used by the Fund and, accordingly, are not included as Predecessor Real Estate Funds. For these reasons, the investment performance of ASIT and PASI are not included in this brochure; however, performance information with respect to ASIT and PASI are available to prospective investors upon request.

VALUATION METHODOLOGY

For purposes of all performance data set forth herein, securities or instruments for which reliable market quotations were not available (including securities or instruments having a public market price that the General Partner determined did not fairly represent the fair value of such securities or instruments), were valued at their "fair value" as determined in the sole discretion of the General Partner, taking into account all factors, information, and data deemed to be pertinent, in accordance with U.S. GAAP. GAAP requires that a "fair value" be assigned to all assets and establishes a single authoritative definition of fair value that includes a framework for measuring fair value and enhanced disclosures about fair value that includes measurements.

Exchange-Traded Investments

Securities listed on one or more national securities exchanges are valued at their last reported sales price on the date of valuation. If no sale occurred on the valuation date, the security is valued at the mean of the last "bid" and "ask" prices on the valuation date. Securities that are not marketable due to legal restrictions that may limit or restrict transferability are generally valued at a discount from quoted market prices, as determined by the General Partner. The discount would reflect the amount market participants would require due to the risk relating to the inability to access a public market for the security for the specified period and would vary depending on the nature and duration of the restriction and the risk and volatility of the underlying securities.

Credit-Oriented Investments

Investments in corporate and government debt which are not listed or admitted to trading on any securities exchange are valued at the average mean of the last bid and ask prices on the valuation date based on quotations supplied by recognized quotation services or by reputable broker-dealers.

The market yield approach is considered in the valuation of non-publicly traded debt securities, utilizing expected future cash flows, discounted using estimated current market rates. Discounted cash flow calculations may be adjusted to reflect current market conditions and/or the perceived credit risk of the borrowers.

Appendix II: Performance Disclosures (continued)

VALUATION METHODOLOGY (CONTINUED)

Non-Publicly Traded Equity and Real Estate Investments

The fair values of private equity and real estate investments are determined by using a market approach or income approach. A market approach utilizes valuations of comparable public companies and transactions and generally seeks to establish the enterprise value of the portfolio company using a market multiple approach. This approach takes into account a specific financial measure (such as EBITDA, adjusted EBITDA, free cash flow, net operating income, net income book value or net asset value) believed to be most relevant for the given company. Consideration may also be given to such factors as acquisition price of the security, historical and projected operational and financial results for the portfolio company, the strengths and weaknesses of the portfolio company relative to its comparable companies, industry trends, general economic and market conditions and other factors deemed relevant. The income approach is typically a discounted cash flow method that incorporates expected timing and level of cash flows. It incorporates assumptions in determining growth rates, income and expense projections, discount and capitalization rates, capital structure, terminal values and other factors. The applicability and weight assigned to market and income approaches are determined based on the availability of reliable projections and comparable companies and transactions.

These valuation methodologies involve a significant degree of management judgment. Accordingly, valuations by the General Partner do not necessarily represent the amounts which may eventually be realized from sales or other dispositions of investments. Estimated fair values may differ from the values that would have been used had a ready market for the investment existed, and the differences could be material.

VALUATIONS

This brochure contains valuations of investments in companies that have not been fully realized as of March 31, 2013. Publicly traded securities generally were marked to market, although certain equity positions were valued at a discount from their public market price on account of legal or other issues that may have limited or restricted the sale of such securities. There can be no assurance that any of these valuations will be attained as actual realized returns will depend upon, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions upon which the valuations contained herein are based. Consequently, the actual realized returns may differ materially from the current returns indicated in this brochure. Nothing contained herein should be deemed to be a prediction or projection of future performance of the Fund.

INTERNAL RATE OF RETURN

The internal rates of return (“IRR”) reported herein represent the since inception annualized implied discount rate calculated from a series of investment cash flows. The investment-level IRR is the return that equates the present value of all capital invested in an investment to the present value of all returns of capital, or the discount rate that will provide a net present value of all cash flows equal to zero. Gross investment-level IRRs reflect returns on an investment-by-investment basis before allocation of the management fee, general fund expenses, income earned on cash and cash equivalents, and any carried interest to the general partners, but after any direct investment expenses and profit allocations to third parties. Because the carried interest allocated to the general partners of the Predecessor Real Estate Funds is not calculated on an investment-by-investment basis, but on an aggregate fund-by-fund basis only, comparable after-fee IRRs on an investment-by-investment basis are not available. Furthermore, IRRs for investments held for less than one year may not be meaningful. As such, all net IRRs presented in this brochure are on a fund-level basis only. Fund-level IRRs are calculated based on the daily limited partner cash flows, a valuation methodology and a residual value. The residual value is the net asset value of the non-affiliated limited partners’ capital accounts at the end of any respective period being measured. Gross fund-level IRRs represent returns before the allocation of management fees, all expenses of the funds and any incentive fees or “carried interest” paid, accrued or allocated to the general partner of the funds. Net fund-level IRRs represent returns after the allocation of management fees, all expenses of the funds and any incentive fees or “carried interest” paid, accrued or allocated to the general partner of the funds.

NO BENCHMARKS

No benchmarks are presented in the performance tables, as there are no known comparable benchmarks for Oaktree’s real estate investment philosophy, strategy and implementation.

IMPORTANT INFORMATION ABOUT INVESTMENT EXAMPLES

The examples of investments presented herein are for informational purposes only and were selected based on being the largest investments in each of the real estate investment focus areas. The investments presented may be more favorable than, and not representative of, all of the investments that may be made by the Fund. If the recipient would like additional detail regarding an investment, please contact a marketing representative of Oaktree.

Appendix III: Legal Information and Disclosures

An investment in the Fund is speculative and involves a high degree of risk. An investment should only be made after consultation with independent qualified sources of investment and tax advice. Such risks include, but are not limited to, those specified below. Please refer to the PPM for a more complete description of the Fund's investment practices, terms and conditions, restrictions, and other factors relevant to a decision to invest, as well as certain tax information and risk disclosures that are important to any investment decision.

INVESTMENTS

The Fund will make investments that entail substantial risk, including investments in real estate and real estate-related debt, companies, securities, and other assets on a global basis, with an emphasis on investments in the United States. There can be no assurance that the Fund's investments will increase in value, that the Fund will not incur significant losses or that the objectives of the Fund will be achieved. In addition, the Fund's investments may result in the Fund incurring significant costs, fees and expenses, including legal, advisory and consulting fees and expenses, costs of regulatory compliance and costs of defending third-party litigation, which generally will be borne by the investors in the Fund.

REAL ESTATE INVESTMENT IN GENERAL

The value of real estate and real estate-related securities and investments can be seriously affected by interest rate fluctuations, bank liquidity, the availability of financing, and by regulatory or governmentally imposed factors such as a zoning change, an increase in property taxes, the imposition of height or density limitations, the requirement that buildings be accessible to disabled persons, the requirement for environmental impact studies, the potential costs of remediation of environmental contamination or damage, the imposition of special fines to reduce traffic congestion or to provide for housing, competition from other investors, changes in laws, wars, and earthquakes, typhoons, terrorist attacks or similar events.

Income from income-producing real estate may be adversely affected by general economic conditions, local conditions such as oversupply or reduction in demand for space in the area, competition from other available properties, and the owner provision of adequate maintenance and coverage by adequate insurance. Certain significant expenditures associated with real estate (such as mortgage payments (to the extent leveraged), real estate taxes and maintenance costs) have no relationship with, and thus do not diminish in proportion to, a reduction in income from the property. Reductions in value or cash flow could impair the Fund's ability to make distributions to Fund investors, adversely impact its investment policy and reduce overall returns on investments.

MORTGAGE FORECLOSURES

Oaktree may be required for business or other reasons to foreclose on one or more mortgages held in the Fund's portfolio. Foreclosures can be lengthy and expensive and borrowers often assert claims, counterclaims and defenses to delay or prevent foreclosure actions. At any time during the proceedings, the borrower may file for bankruptcy, which would have the effect of staying the foreclosure action and further delaying the process, and materially increasing the expense thereof which expenses may or may not be recoverable by the Fund. In addition, antideficiency and related laws in certain states and countries limit recourse and remedies available against borrowers in connection with or as a result of foreclosure proceedings or other enforcement actions taken with respect to such borrowers. Such laws can result in the loss of liens on collateral or personal recourse against a borrower altogether.

REMOVAL OR REMEDIATION LIABILITIES

The Fund or a company in which the Fund invests may be considered an owner or operator of properties on or in which asbestos or other hazardous or toxic substances exist and, therefore, potentially liable for removal or remediation costs, as well as certain other related costs, including governmental fines and costs of injuries to persons and property. These costs can be substantially in excess of the value of the property. The presence of hazardous or toxic substances, or the failure to properly remediate such substances, may also adversely affect the value of such property. In addition, remediated property may attract a limited number of potential purchasers because of the property's history of contamination, which might also adversely affect the owner's ability to sell the property. Further, a transfer of property may not relieve from liability a person who owned the property at a time when hazardous or toxic substances were disposed of on, or released from, such property.

The properties the Fund will target for investment will be subject to a variety of federal, state and local statutes, ordinances, rules and regulations concerning the protection of health and the environment. The particular environmental laws that apply to any given community vary greatly according to the community site, the site's environmental conditions and the present and former use of the site. Also, noncompliance with environmental regulations may allow a governmental authority to order the owner/operator to cease operations at the property or to incur substantial costs and expenses to bring the property into compliance through the implementation of burdensome remediation or prophylactic measures. Finally, there can be no assurance that environmental laws relating to real estate transactions will not be amended in the future in ways that could adversely affect the Fund's investments.

Appendix III: Legal Information and Disclosures (continued)

POTENTIAL LACK OF DIVERSIFICATION

The Fund may not invest more than the greater of $300 million or 20% of total committed capital in securities of one issuer or consolidated group of issuers and will be under no other obligation to diversify the Fund's investments. Unfavorable performance by a small number of investments could substantially adversely affect the aggregate returns realized by the Fund's investors and the investment portfolio of the Fund may be subject to more rapid change in value than would be the case if the Fund were required to maintain a wide diversification among companies, industries and types of securities.

LEVERAGE

The Fund may elect to leverage its investments on a recourse or non-recourse basis or otherwise engage in certain investment activities that involve the use of leverage. While leverage presents opportunities for increasing the Fund's total return, it may potentially increase losses as well. To the extent that it engages in any leveraging, the Fund will be subject to the risks normally associated with debt financing, including those relating to the ability to refinance a property, and the insufficiency of cash flow to meet principal and interest payments, which could significantly reduce or even eliminate the value of the Fund's equity in such real estate investment. Additionally, the Fund's investments are expected to include companies whose capital structures may have significant leverage. Such investments are inherently more sensitive to declines in revenues and to increases in expenses and interest rates.

SHORT SALES AND OPTIONS

The Fund may engage in short sale transactions and may purchase or write covered and uncovered puts and calls. A short sale of a security involves the risk of a theoretically unlimited loss from a theoretically unlimited increase in the market price of the security that could result in an inability to cover the short position. The successful use of options depends principally on the price movements of the underlying securities, and if the price of the underlying security does not rise (in the case of a call) or fall (in the case of a put) to an extent sufficient to cover the option premium and transaction costs, the Fund will lose part or all of its investment in the option.

CURRENCY RISKS

Distributions by the Fund will generally be made in U.S. dollars. However, Oaktree anticipates that some of the Fund's investments will be denominated in other currencies. Changes in the rates of exchange between the U.S. dollar and other currencies may have an adverse effect on the performance of the Fund.

BANK LOANS AND PARTICIPATIONS

The Fund's investment program may include investments in bank loans, which may include mortgages, and participations, which involve the risk of invalidation as a fraudulent conveyance, lender-liability claims, environmental liabilities with respect to collateral and limitations on the Fund's ability to directly enforce its rights with respect to participations.

TAX MATTERS

There are a series of complex tax issues related to an investment in the Fund. Prospective investors are urged to consult their own tax advisors regarding the possible U.S. federal, state, local and non-U.S. tax consequences of an investment in the Fund. (See Annex C – I. Tax Considerations" in the PPM.)

NEWLY-COMPLETED PROPERTIES AND PROPERTIES UNDER CONSTRUCTION

The Fund, in many instances with local partners, may invest in development projects and may purchase undeveloped land and construct new projects on it. Properties under construction are subject to various risks. Cost and timely construction may be adversely affected by strikes, shortages in materials, subsoil risks, uninsurable losses and other factors beyond the control of Oaktree. In addition, costs of construction and operation of properties may be increased by local, state or federal legislative or administrative action in areas including zoning regulations and land use controls, air and water quality standards, noise pollution and other environmental impacts and regulatory controls. These risks could result in substantial unanticipated delays or expenses and, under certain circumstances, could prevent completion of development activities once undertaken, any of which could adversely affect the Fund and its investors. Any investment in unimproved land will be subject to all the foregoing risks, as well as risks associated with locating a satisfactory developer, formulating development plans and obtaining construction financing. Furthermore, properties under development or properties acquired for development may receive little or no cash flow from the date of acquisition through the date of completion of development and may still experience operating deficits well after the date of completion. Finally, market conditions may change during the course of development that make such investments less attractive than they were at the time of acquisition.

ILLIQUIDITY

Participation in the Fund will generally be an illiquid investment. An investor is generally not permitted to withdraw from, or transfer their interest in, the Fund. In addition, the Fund is expected to invest in relatively illiquid securities. Thus, there can be no assurance as to the timing and amount of distributions from the Fund, that the Fund will be able to sell securities at their fair market value or that the Fund will not distribute in-kind assets that are not readily marketable.

Appendix III: Legal Information and Disclosures (continued)

UNSPECIFIED USE OF PROCEEDS

The cash proceeds of the offering of the Interests are intended to be invested in investments which, as of the date of the PPM, have not yet been selected by Oaktree.

NON-U.S. INVESTMENTS

Non-U.S. investments involve risks and special considerations not typically associated with U.S. investments. Such risks include (i) the risk of nationalization or expropriation of assets or confiscatory taxation, (ii) social, economic and political uncertainty, including war and revolution, (iii) dependence on exports and the corresponding importance of international trade, (iv) price fluctuations, market volatility, less liquidity and smaller capitalization of securities markets, (v) currency exchange rate fluctuations, (vi) rates of inflation, (vii) controls on, and changes in controls on, non-U.S. investments and limitations on repatriation of invested capital and on the Fund’s ability to exchange local currencies for U.S. dollars, (viii) governmental involvement in and control over the economies, (ix) governmental decisions to discontinue support of economic reform programs generally and impose centrally planned economies, (x) differences in auditing and financial reporting standards which may result in the unavailability of material information about issuers, (xi) less extensive regulation of the securities markets, (xii) longer settlement periods for securities transactions, (xiii) less developed corporate laws regarding fiduciary duties and the protection of investors, (xiv) less reliable judicial systems to enforce contracts and applicable law, and (xv) certain considerations regarding the maintenance of the Fund's portfolio securities and cash with non-U.S. sub-custodians and securities depositories.

MATERIAL, NON-PUBLIC INFORMATION

In connection with the operation of the Fund and other activities, personnel of Oaktree may acquire confidential or material non-public information or be restricted from initiating transactions in certain securities. The Fund will not be free to act upon any such information and may not be able to initiate a transaction that it otherwise might have initiated.

POTENTIAL CONFLICTS OF INTEREST

Oaktree manages other funds and accounts which present the possibility of overlapping investments, and thus the potential for conflicts of interest. (See “Overlaps of the Fund with Other Oaktree Funds and Accounts” in the PPM.)

CARRIED INTEREST

The performance element of the carried interest distribution arrangement may create an incentive for the Fund’s general partner to cause the Fund to make investments that are riskier or more speculative than would be the case without the carried interest distribution arrangement.

CONTINGENT LIABILITIES ON DISPOSITIONS OF INVESTMENTS

The Fund may be required to indemnify the purchasers of investments it sells. In that regard, investors in the Fund may be required to return amounts distributed to them to fund the Fund’s indemnity obligations.

NO RIGHT TO CONTROL THE FUND’S OPERATIONS

Investors will not have the opportunity to participate in the management of the Fund, including investment and disposition decisions. In order to safeguard their limited liability for the liabilities and obligations of the Fund, investors must rely entirely on the Fund’s general partner to conduct and manage the affairs of the Fund.

NATURE OF BANKRUPTCY PROCEEDINGS

Investing in companies involved in bankruptcy proceedings presents significant risks, foremost of which are the lack of control, unpredictability, delays and costs inherent in the process.

NON-PAYMENT OF MORTGAGES UNDERLYING CMBS

The collateral underlying CMBS generally consists of commercial mortgages or real property that have a multifamily or commercial use, such as retail space, office buildings, warehouse property and hotels. With most commercial mortgages underlying CMBS, the bulk of the loan balance is payable at maturity with a one-time payment, commonly known as a “balloon payment,” and are usually non-recourse against the commercial borrower. The prospect of full repayment of the commercial mortgage loans underlying CMBS depends on the ability of the commercial borrower to generate current income from its commercial property. Also, the likelihood of the commercial borrower repaying the commercial mortgage loan at maturity is heavily influenced by the commercial borrower’s ability to secure subsequent financing, which can be negatively impacted by a difficult credit environment. If a commercial borrower defaults on the commercial mortgage loan underlying CMBS, then the options for financial recovery are limited in nature. In the event of default, the lender will have no right to assets beyond collateral attached to the commercial mortgage loan. In certain instances, a negotiated settlement or an amendment to the terms of the commercial mortgage loan are the only options before an ultimate foreclosure on the commercial property. The ultimate disposition of a foreclosed property may also yield a price insufficient to cover the cost of the foreclosure process and the balance attached to the defaulted commercial mortgage loan. There has been a rise in commercial mortgage loan defaults and a substantial decline in the market value of commercial real estate during the current economic downturn. It has also become increasingly difficult for lenders to dispose of foreclosed commercial real estate without incurring substantial investment losses, and ultimately leading to a decline in the value of CMBS.

Appendix III: Legal Information and Disclosures (continued)

NON-PAYMENT OF MORTGAGES UNDERLYING CMBS (CONTINUED)

The value of CMBS is also subject to risk from possible geographic and/or industry concentration. Certain geographic regions and/or industries may be more adversely affected from economic pressures when compared to other geographic regions and/or industries. A pool of CMBS backed by commercial mortgage loans with a substantial geographic and/or industry concentration will be more susceptible to the economic environment of such concentrated geographic regions and/or industries, and therefore could incur an increased loss in value. There can be no guarantee that the Fund's investments in CMBS will not be adversely affected by such risks.

INVESTMENT ENVIRONMENT

The activities of the Fund and its investments could be materially adversely affected by the instability in the U.S. or global financial markets, or changes in market, economic, political, or regulatory conditions, as well as by numerous other factors outside the control of the Oaktree. Interest rates and general levels of economic activity may affect the value and number of investments made by the Fund or considered for prospective investment. In addition, recent and current disruptions in the global debt markets have affected the price of, as well as the ability to make, certain types of investments, and there can be no assurance that these disruptions will not continue or worsen in the future. Specifically, recent events in the sub-prime mortgage market and other areas of the credit markets have caused significant dislocations, illiquidity, and volatility in the structured credit, leveraged loan, and high-yield bond markets, as well as in the wider global financial markets. Such recent and current disruptions may have a direct or indirect negative effect on a wide range of borrowers and may increase the likelihood that such borrowers will be unable to make principal and interest payments on, or refinance, outstanding debt when due. Moreover, the risk that such disruptions will affect a borrower's ability to pay its debts and obligations when due is enhanced if such borrower in turn provides credit to third parties or otherwise participates in the credit markets. In the event of such defaults, the Fund could lose both invested capital in, and anticipated profits from, any affected investments. In addition, recent developments in the U.S. and global financial markets have illustrated that the current environment is one of uncertainty for financial services companies. The existence of such events has had, and the continuation or worsening of any such events, or other similar or dissimilar events, may have or continue to have, a material adverse effect on the availability of credit to businesses generally and may lead to further overall weakening of the U.S. and global economies.

CURRENT MARKET CONDITIONS AND GOVERNMENTAL ACTIONS

World financial markets have experienced extraordinary market conditions. In reaction to these events, regulators in the United States and several other countries have undertaken and continue to undertake unprecedented regulatory action to stabilize markets. Unstable markets and the possibility of a severe worldwide economic downturn may adversely affect investments, and there may be significant new regulations enacted to address such instability that could limit investment opportunities.

INSTITUTIONAL RISK

The institutions with which the Fund directly or indirectly will do business, or to which securities will be entrusted for custodial purposes, may encounter financial difficulties, fail or otherwise become unable to meet their obligations. In light of recent market turmoil and overall weakening of the financial services industry, the financial condition of the Fund and such other financial institutions' may be adversely affected and they may become subject to legal, regulatory, reputational or other unforeseen risks that could have a material adverse effect on the business and operations of the Fund.

INVESTMENT COMPANY ACT

The Fund will not be registered under the Investment Company Act, and therefore, investors in the Fund will not be accorded the protections of the Investment Company Act.

REGULATORY RISKS

Legal, tax, and regulatory changes could occur that may adversely affect the Fund at any time during the term of the Fund. The legal, tax, and regulatory environment for funds that invest in alternative investments is evolving, and changes in the regulation and market perception of such funds, including changes to existing laws and regulations and increased criticism of the private equity and alternative asset industry by some politicians, regulators and market commentators, may adversely affect the ability of the Fund to pursue its investment strategy, its ability to obtain leverage and financing and the value of investments held by the Fund. In addition, the securities and futures markets are subject to comprehensive statutes, regulations, and margin requirements. The SEC, other regulators and self-regulatory organizations and exchanges are authorized to take extraordinary actions in the event of market emergencies, and retain the right to suspend or limit trading in securities, which could expose the Fund to losses. The regulation of derivatives transactions and funds that engage in such transactions is an evolving area of law and is subject to modification by governmental and judicial action. Amendments to banking, lending and other relevant laws and regulations could alter an expected outcome or introduce greater uncertainty regarding the likely outcome of an investment situation or the availability of investment opportunities. The effect of any future regulatory change on the Fund could be substantial and adverse.

Appendix III: Legal Information and Disclosures (continued)

REGULATORY RISKS (CONTINUED)

In recent years, market disruptions and the dramatic increase in the capital allocated to alternative investment strategies have led to increased governmental as well as self-regulatory scrutiny of the alternative investment fund industry in general, and certain legislation proposing greater regulation of the industry periodically is considered by the U.S. Congress and the U.S. Securities and Exchange Commission, as well as the governing bodies of non-U.S. jurisdictions. It is impossible to predict what, if any, changes may be instituted with respect to the regulations applicable to the Fund, Oaktree, and their affiliates, the markets in which they trade and invest or the counterparties with which they do business, or what effect such legislation or regulations might have. There can be no assurance that the Fund, Oaktree or their affiliates will be able, for financial reasons or otherwise, to comply with future laws and regulations, and any regulations which restrict the ability of the Fund to implement its investment strategy could have a material adverse impact on the Fund's portfolio. To the extent that the Funds or the Fund's investments are or may become subject to regulation by various agencies in the United States, the costs of compliance will be borne by the Funds. The effect of any future regulatory change could be substantial and adverse.

ERISA MATTERS

The General Partner will use commercially reasonable efforts to conduct the affairs and operations of the Fund so that the Fund's assets will not be deemed to constitute ''plan assets'' subject to ERISA by either (i) qualifying the Fund as a ''real estate operating company'' or a ''venture capital operating company'' or (ii) limiting investment in the Fund by ''benefit plan investors'' to less than 25% of each class of equity interests in the Fund. If the Fund were unable to comply with one of these exceptions, the assets of the Fund would likely be deemed to be ''plan assets.'' In such case, Oaktree and the General Partner would be ''fiduciaries'' to the extent determined under ERISA, and the operation and administration of the Fund, and the duties, obligations, liabilities and remuneration of Oaktree, would all be subject to the provisions of ERISA. If Oaktree operates the Fund so that it will qualify as a ''real estate operating company'' or a ''venture capital operating company'' within the meaning of ERISA, the Fund may be precluded from making certain investments. These efforts could require Oaktree to liquidate Fund investments at a disadvantageous time, resulting in lower proceeds to the Fund than might otherwise have been the case. In addition, if necessary the Fund's initial investment (other than short-term investments) must be an investment that enables the Fund to qualify as an ''operating company'' under applicable U.S. Department of Labor regulations. (See "Annex C – II. Effect of ERISA" in the PPM.)

Certain information contained herein concerning economic trends and performance is based on or derived from information provided by independent third-party sources. The Fund, Oaktree and their affiliates believe that such information is accurate and that the sources from which it has been obtained are reliable; however, they cannot guarantee the accuracy of such information and have not independently verified the accuracy or completeness of such information or the assumptions on which such information is based. Moreover, independent third-party sources cited in this brochure are not making any representations or warranties regarding any information attributed to them and shall have no liability in connection with the use of such information in this brochure. Except where otherwise indicated herein, the information provided herein is based on matters as they exist as of the date of preparation of this brochure and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available, or circumstances existing or changes occurring after the date of such preparation.

Certain information contained in this brochure is based on Oaktree's assumptions and projections or otherwise constitute "forward looking statements," which can be identified by the use of forward looking terminology such as "may," "will," "should," "expect," "anticipate," "forecast," "estimate," "intend," "continue" or "believe" or the negatives thereof or other variations thereon or other comparable terminology. Due to various risks and uncertainties, actual events or results or the actual performance of any scenarios or forecasts discussed herein may differ materially from those reflected or contemplated in such forward looking statements. Oaktree cannot assure you that any of the scenarios or forecasts described herein will actually transpire or occur, or if any of them do, what impact they will have on the returns of any investment. You are cautioned not to put undue reliance on any of the assumptions, projections or other forward looking statements contained herein. No representation or warranty is made as to future performance or such forward looking statements. Oaktree does not undertake any obligation to revise or update any information contained herein in light of new information, future developments or otherwise after the date that this brochure is prepared. This information is intended for informational purposes only. You should not rely on it for any other purpose.

contra costa county
Employees' Retirement Association
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Meeting Date
07/24/13
Agenda Item
#10

July 24, 2013

To: Board of Retirement

From: Ad Hoc Compensation Committee

Re: Compensation Study and Management Resolution

Recommendation: See items 1 through 4 below

Background: In December 2011, CCCERA commenced legal action against the County regarding rights and responsibilities with reference to CCCERA staff. A Settlement Agreement ("Agreement") was recently signed by both parties and approved by the court, resolving the lawsuit between CCCERA and the County over salaries and other benefits for retirement staff. As a result of this Agreement, the Board of Retirement has the authority to make the recommended changes listed below.

The Ad hoc Compensation Committee[1] met following the July 10, 2013 Board meeting and makes the follow recommendations:

1. The Committee recommends inclusion of all Retirement unrepresented positions in the County's upcoming unrepresented Management Resolution for all salary adjustments. Any salary changes made as a result of the Management Resolution will be reviewed as part of the total compensation study currently in progress.

2. The Committee recommends the implementation of a vacation sell back for all unrepresented employees hired or promoted to an unrepresented position after April 1, 2011, on a prospective basis, as follows:
    a. Unrepresented Retirement employees hired after April 1, 2011 may sell back 1/3 of their annual vacation accrual to the employer once every 13 months. The committee noted that this would allow unrepresented Retirement employees to forgo 1/3 of their annual vacation and spend additional time as needed in their position at CCCERA.

3. The Committee recommends implementation of a 5% certification differential for any unrepresented Retirement employee with the following active certifications:
    a. Chartered Financial Analyst (CFA)
    b. Associate of the Society of Actuaries (ASA)

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[1] The Committee is comprised of Board members Hast (Chair), Phillips, Telles and Allen.

4. The Committee recommends implementation of 2.5% certification differential for any unrepresented Retirement employee with the following certifications:
    a. Certified Employee Benefit Specialist (CEBS)

Note: only one certification differential may be applied per unrepresented Retirement position.

The Committee acknowledges that CCCERA is currently in the process of a conducting an independent compensation study for all Retirement job classifications. The Committee recommendations listed above, if approved, will be taken into account as part of the total salary and benefits package considered in connection with the compensation study.

The Committee will meet to review the completed compensation study for all positions and make further recommendations to the Board after the review process.