Oregon Investment Council

July 27, 2011 - 9:00 AM

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, OR 97223

Oregon Investment Council

Harry Demorest
Chair

Office of The State Treasurer
Ted Wheeler
State Treasurer

Ronald Schmitz
Chief Investment Officer

OREGON INVESTMENT COUNCIL

Agenda

July 27, 2011
9:00 AM

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, Oregon

Time	A. Action Items	Presenter	Tab
9:00-9:05	**1. Review & Approval of Minutes** June 1, 2011 Regular Meeting	**Ron Schmitz** *Chief Investment Officer*	**1**
9:05-9:45	**2. Prologis Global Strategic Venture** *OPERF Real Estate*	**Brad Child** *Senior Investment Officer* **Tony Breault** *Investment Officer* **Hamid Moghadam** *Chairman & Co-CEO* **Guy Jaquier** *CEO, Private Capital* **Alison Hill** *Managing Director* **Nori Lietz** *PCA Real Estate Advisors*	**2**
9:45-10:25	**3. TPG Growth Fund II, L.P.** *OPERF Private Equity*	**Jay Fewel** *Senior Investment Officer* **Bill McGlashan** *Managing Partner* **Scott Gilbertson** *Managing Director* **David Fann** *Pacific Corporate Group*	**3**
10:25-10:40	**----------BREAK----------**		
10:40-11:20	**4. Highstar Capital IV** *OPERF Alternative Investments*	**John Hershey** *Investment Officer* **Christopher Lee** *Managing Partner* **Tom Martin** *Pacific Corporate Group*	**4**

Harry Demorest Chair	Keith Larson Vice-Chair	Ted Wheeler State Treasurer	Katy Durant Member	Richard Solomon Member	Paul Cleary PERS Director (Ex-officio)

11:20-12:00	**5. NPG Natural Resources X** *OPERF Alternative Investments*	**John Hershey** **Kenneth Hersh** *CEO* **Tom Martin**	**5**
12:00-12:20	**----------LUNCH BREAK----------**		
12:20-1:00	**6. OPERF Real Estate Annual Review** *OPERF Real Estate*	**Brad Child** **Nori Lietz**	**6**
1:00-1:25	**7. Emerging Markets Mandates** *OPERF & CSF Public Equity*	**Mike Viteri** *Senior Investment Officer* **Ben Mahon** *Investment Officer* **John Meier** *Strategic Investment Solutions*	**7**
1:25-1:45	**8. Internal Equity RAFI® Fundamental Index** *OPERF Public Equity*	**Mike Viteri** **John Meier**	**8**
	B. Information Items		
1:45-2:00	**9. Annual Internal Audit Update**	**Andrea Belz, CPA** *OST, Controller* **Byron Williams, CPA** *OST, Chief Audit Executive*	**9**
	10. Asset Allocations & NAV Updates a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. HIED Pooled Endowment Fund	**Ron Schmitz**	**10**
	11. Calendar—Future Agenda Items	**Ron Schmitz**	**11**
	12. Other Items	**Council** **Staff** **Consultants**	

C. Public Comment Invited
15 Minutes

Harry Demorest Chair	Keith Larson Vice-Chair	Ted Wheeler State Treasurer	Katy Durant Member	Richard Solomon Member	Paul Cleary PERS Director (Ex-officio)

TAB 1 – REVIEW & APPROVAL OF MINUTES

June 1, 2011 Regular Meeting

RONALD D. SCHMITZ
CHIEF INVESTMENT OFFICER
INVESTMENT DIVISION

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OREGON INVESTMENT COUNCIL
JUNE 1, 2011
MEETING MINUTES

Members Present:	Paul Cleary, Harry Demorest, Katy Durant, Keith Larson, Dick Solomon, Treasurer Ted Wheeler
Staff Present:	Darren Bond, Tony Breault, Brad Child, Garrett Cudahey, Jay Fewel, Sam Green, Ellen Hanby, Andy Hayes, John Hershey, Julie Jackson, Perrin Lim, Tom Lofton, Ben Mahon, Mike Mueller, Tom Rinehart, Ron Schmitz, James Sinks, Michael Viteri
Consultants Present:	John Linder (PCA), Nori Gerardo Lietz (Partners Group), John Meier and Deborah Gallegos (SIS), David Fann and Ken Lee (PCG)
Legal Counsel Present:	Dee Carlson, Oregon Department of Justice Deena Bothello, Oregon Department of Justice

The OIC meeting was called to order at 9:02 am by Harry Demorest, Chair.

I. 9:02 a.m.: Review and Approval of Minutes

MOTION: Mr. Demorest brought approval of the April 27, 2011 minutes to the table. Mr. Larson moved approval of the minutes. The motion was seconded by Mr. Solomon and passed by a vote of 4/0. Treasurer Wheeler was not present for the vote.

Keith Larson proposed updating the record to include a review performed by OST staff that revealed discrepancies in the analysis provided by the Jewish Federation at the April 27, 2011 OIC meeting.

II. 9:04 a.m.: Vista Equity Partners IV, L.P. - *OPERF Private Equity*

Robert Smith, Chairman and CEO with Vista Equity Partners along with Jay Fewel, Sr. Investment Officer, presented to the OIC. Vista was founded in 2000 by three Principals and is led by Chairman and CEO Robert Smith. They maintain offices in San Francisco, Chicago and Austin, and employ eight Principals, five Vice Presidents, a CFO, eleven Associates and seven Analysts.

The Fund has a focused investment criteria and will continue the same investment strategy as the prior funds. Vista seeks companies that provide mission-critical software and technology-enabled solutions with recurring revenue streams, and where there is an opportunity to improve the company's operations. Typically, companies will have annual revenues in excess of $50 million and positive EBITDA. Following an investment, Vista seeks to create value by applying a standard set of operating procedures: "Vista Standard Operating Procedures" or "VSOPs," which include product development, sales and marketing, customer support, professional services, and general administration in order to improve a company's profitability.

There was a brief question and answer period following the presentation.

MOTION: Mr. Solomon moved approval of the staff recommendation of a $100 million commitment to Vista Equity Partners IV, L.P. subject to the satisfactory negotiation of terms and conditions, and completion of the requisite legal documents by DOJ legal counsel working in concert with OST staff. Ms. Durant seconded the motion. The motion was passed by a vote of 5/0.

III. 9:40 a.m.: Public Equity Review

Michael Viteri, Senior Investment Officer, Ben Mahon, Investment Officer, as well as John Meier and Deb Gallegos with SIS, provided an introduction and overview of the current state of the public equity portfolio and recommended two policy changes including updates to policies 4.05.01 (codifies OIC authorization to convert any existing long-only mandate to a 130/30 strategy) and 4.05.03 (clarifies the objectives and strategies of the Tiered Emerging Markets Strategies (TEMS)).

There was a brief question and answer period following the presentation.

MOTION: Treasurer Wheeler moved approval of staff recommendation. Mr. Larson seconded the motion. The motion was passed by a vote of 5/0.

IV. 10:15 a.m.: Fundamental Methodology Overview – *OPERF Public Equity*

Rob Arnott, President of Research Affiliates, introduced the topic of fundamental indexing. The concept of fundamental indexing was first presented in the March/April 2005 edition of the Financial Analysts Journal by then editor Rob Arnott. Since that time, the debate concerning the superiority of fundamentally-based indexes versus "old-fashioned" capitalization-based indexes (such as the S&P 500 or the Russell 2000) continues, and has been the catalyst for a slew of fundamentally-based strategies and product offerings. At its core, fundamental indexes differ from capitalization-weighted indexes because they weight companies on non-price-based metrics such as sales, earnings, book value, and dividends. To bolster the "superiority" argument of the fundamental index strategy, supporters point to the numerous valuation bubbles that have occurred over the years and maintain that investors were required to purchase over-priced/over-weighted stocks to maintain their cap-weighted indexes, and, consequently, lost money when those bubbles burst. They assert that fundamental indexing offers investors the opportunity to eliminate the "noise" surrounding individual stocks that can cause them to become over- or under-valued.

For the last few years, staff has been monitoring and researching the viability of implementing an internally managed fundamental index strategy. Staff believes that such a strategy would offer diversification and provide an additive, low cost strategy to the OPERF equity portfolio.

V. 10:55 a.m.: Core Real Estate Review

Following the 2009 annual real estate review in July 2010, Staff and PCA Real Estate Advisors agreed to conduct a further assessment of the real estate core portfolio and manager performance. Brad Child, Sr. Real Estate Investment Officer and Nori Gerardo Lietz of PCA Real Estate Advisors presented this information to the OIC as well as the 2011 core Real Estate portfolio review.

The core portfolio is comprised of six separate managers. Four separate accounts, structured as joint ventures, are held with specialist managers for each of the primary real estate property types (office, industrial, retail and multifamily). The remaining portfolio includes an open-ended, comingled real estate fund and a separate account for investments in high-grade CMBS and securitized real estate debt product. Mr. Child provided a general overview of each manager which was followed by a brief question and answer period.

MOTION: Staff recommended termination of the contract with RREEF America II. Mr. Solomon moved approval of staff recommendation. Ms. Durant seconded the motion. The motion was passed by a vote of 5/0.

****VII. 11:30 a.m.: SAIF Annual Review *(taken out of order)***

In accordance with OIC Policy 4.09.06, representatives from SAIF Corporation provided an annual update. Mike Mueller, Deputy CIO introduced SAIF representatives Brenda Rocklin, President and CEO, Theresa McHugh, Vice President of Financial Operations, and Jerry Dykes, CFO. An overview of their handouts showed that there was a decrease in policy holders, a decrease in premium dollars they take in equaling about 2.9% and an increase in surplus. Most of these changes directly relate to the slowing economy.

Mr. Dykes highlighted investment performance, including investment income which has steadily increased in 2010. With regard to claim counts, they have steadily gone down since 2007, but so far in 2011 there has been a slight increase. There has also been a shift in types of claims entered, with the more serious claim numbers staying about the same and all other claims going down.

The overall portfolio has performed well, with the fixed income portfolio providing significant alpha over the past two years. From a low of $3.18 billion in October 2008, the SAIF portfolio is up over 33 percent to $4.24 billion as of April 2011.

VI. 11:52 a.m.: OPERF Policy Implementation Overlay Review

Mike Mueller, Deputy CIO and Greg Nordquist, Senior Portfolio Manager with Russell Investments provided the OIC with an update on the OPERF Policy Implementation Overlay program, provided by Russell Investments.

VIII. 12:02 p.m.: OPERF 1st Quarter Performance Review

John Meier of SIS presented the OPERF Performance Summary for the quarter ending March 31, 2011.

IX. 12:15 p.m.: Asset Allocations and NAV Updates

Mr. Schmitz reviewed the Asset Allocations and NAV's for the period ending April 30, 2011.

X. 12:16 p.m.: Calendar – Future Agenda Items

Mr. Schmitz highlighted future agenda topics.

XI. 12:17 p.m.: Other Business

There was no other business discussed.

Public Comments:

There were no public comments.

The meeting adjourned at 12:17 p.m.

Respectfully submitted,

Julie Jackson

Julie Jackson
Executive Support Specialist

TAB 2 – PROLOGIS GLOBAL STRATEGIC VENTURE

OPERF Real Estate

Prologis Global Industrial Venture ("GIV")

Purpose

Staff is recommending a commitment of $500 million to the Prologis-OPERF Global Industrial Venture ("GIV" or the" Venture"), to pursue global equity investments in industrial real estate. The Venture, via a feeder vehicle formed by Prologis and OPERF, will invest in various Prologis investments globally and serve as a single access point for investing and reinvesting capital in Prologis Funds, potential co-investment opportunities, joint ventures, and publicly traded shares of Prologis. The feeder vehicle will also be the mechanism by which OPERF receives a global discount on management fees, consolidated reporting and investor communications.

Background

AMB Property Corporation and ProLogis ("Former ProLogis") combined in a merger of equals to form Prologis, Inc. ("Prologis") on 3 June 2011. A history of each company is as follows:

AMB

AMB was founded in 1983 by Douglas Abbey, Hamid Moghadam and Robert Burke as an investment advisor to institutional investors interested in office, retail and/or industrial real estate in the western United States. By the mid-1980s, AMB was investing nationally and had largely exited the office sector, refining its focus on industrial properties and shopping centers. AMB launched its first commingled fund in 1991 and went public in 1997, at which time it was one of the largest publicly traded real estate companies (REIT) in the United States, with more than US$2.2 billion in total assets. Shortly thereafter, AMB sold its retail assets to further refine its focus on industrial real estate.

In 1998, AMB launched its first fund offering following its initial public offering, growing its platform to five real estate funds by 2002. In 2002, AMB expanded globally with its first investment in Mexico, a build-to-suit investment for a multinational consumer products company, and also entered the European and Asian markets. In 2004, AMB launched the first open-end commingled fund by a public real estate investment trust ("REIT"), the AMB U.S. Logistics Fund, and in the years following began expanding its development capabilities and launching funds outside the United States.

Overall, AMB has had a successful 28 year track record since its founding, returning a net IRR to investors of 17.1% prior to its IPO (1987-1997) and a total return since the 11/997 IPO of over 200%. Since 1998, AMB has demonstrated superior operational performance; exceeding the U.S. industrial occupancy by an average of 450 basis points as well as leading the industry peer same store NOI growth average by 110 basis points.

Former ProLogis

Former ProLogis was formed in 1991 as Security Capital Investment Trust, primarily as a long-term owner of industrial distribution space operating in the United States. The company went public in 1994

and changed its name to ProLogis in 1998. Over time, Former ProLogis' business strategy evolved to include the development of properties for contribution to property funds in which it maintained an ownership interest and for which it managed the properties owned by such funds. Originally, Former ProLogis sought to differentiate itself from the competition by focusing on its corporate customers' distribution space requirements on a national, regional and local basis and providing customers with consistent levels of service throughout the United States. However, as its customers' needs expanded to markets outside the United States, so did its portfolio and its management team. Prior to the merger, Former ProLogis was a global industrial real estate company with operations in North America, Europe and Asia. Its business strategy was to integrate international scope and expertise with a strong local presence in its markets, thereby becoming an attractive choice for its targeted customer base, the largest global users of distribution space, while achieving long-term sustainable growth in cash flow.

New, Combined Company (Prologis)

Prologis is a leading owner, operator and developer of industrial real estate, focused on global and regional markets across the Americas, Europe and Asia. As of March 31, 2011, on a pro forma basis giving effect to the merger, Prologis owned or had investments in, on a consolidated basis or through unconsolidated joint ventures, properties and development projects expected to total more than 600 million square feet (55.7 million square meters) in 22 countries. The company leases modern distribution facilities to more than 4,500 tenants, including manufacturers, retailers, transportation companies, third-party logistics providers and other enterprises. As of 31 March 2011, after giving effect to the merger, the assets under management of Prologis' 22 coinvestment vehicles totaled US$25.7 billion, reflecting gross fair market value of co-investment ventures / funds and estimated investment capacity.

Strategy

The Venture will provide OPERF the opportunity to invest, via a single "separate account" relationship, in institutional-grade industrial real estate on a global scale. Overall, the Venture will have a value-added focus, in aggregate, and will target a net, levered long term internal rate of return (IRR) of 10-15%. The investments will be allocated primarily amongst different fund investment offerings Prologis provides. Additionally, it is anticipated future co-investment and/or joint venture opportunities may be created following the AMB-ProLogis merger and continued consolidation of the new Prologis organization. To the extent a new Prologis Fund or opportunity is open for investment and meets OPERF's investment objectives, OPERF may notify Prologis whether and to what extent it desires to invest in the Prologis Fund or co-investment. Furthermore, OPERF will reserve the right to decline an opportunity for investment in a an offering by Prologis if the investment strategy and product type significantly overlap with another fund manager OPERF is invested with, if a commitment by OPERF to a Prologis investment opportunity will result in an over-allocation to a specific risk strategy within the OPERF real estate portfolio (i.e., core, value added or opportunistic), or if a commitment by OPERF to a Prologis offering will result in an over-allocation to any specific geographic region within the OPERF real estate portfolio

The Venture will be evergreen in nature, thus maintaining OPERF's capital commitments at $500 million through the life of the Venture. However, while the capital commitment will be, in aggregate, to a single manager, it is of a similar scale to both other separate account relationships within our portfolio as well as follow-on fund commitments to long term relationships with single managers within the real estate Opportunistic portfolio. For example, OPERF's Core portfolio NAVs (not including unfunded commitments), as of December 31, 2010, range from a minimum of $200 million to $529 million. Including unfunded commitments, our average separate account is presently $431 million. Within the Opportunistic real estate portfolio, OPERF has $843 million NAV with multiple Lone Star Funds and $320 million with Fortress. As the OPERF real estate portfolio continues to grow, the commitment size will be in-line with our goals of sourcing partnerships that can provide scalable investment strategies with global diversification.

Forming a programmatic venture provides the following advantages to OPERF within the structure of a single manager relationship and point of contact: (i) management fee rebates on invested capital; (ii) early document review for future fund offerings; (iii) global "most favored nations" rights; (iv) advisory board participation on investment fund offerings; (v) global diversification; (vi) access to emerging markets within a defined real estate strategy utilizing a lower risk profile offered by the industrial asset class; and (vii) opportunities for co-investment, as well as potential direct core industrial property and/or portfolio acquisitions in strategic global markets. Both OPERF and Prologis will have the right to terminate the Venture.

The new commitment will be allocated to the Value Added real estate sub-portfolio. Value Added has a target allocation of 20% and, as of December 31, 2010, Value Added comprised 12.2% of the real estate portfolio. OPERF's real estate portfolio exposure to the industrial asset class of 10% was underweight to the NCREIF benchmark of 14% as of December 31, 2010. As a global mandate, this Venture will further diversify OPERF's geographic exposure to both Europe and Asia, which were each 13% of the total real estate portfolio effective December 31, 2010.

Given the present offerings and post-merger growth objectives of Prologis, Staff anticipates the $500 million to be deployed over a three year horizon. Initially, Staff recommends committing $75 million to the AMB European Logistics Fund (to be renamed Prologis Targeted Europe Logistics Fund). Originally, Staff had entered into discussions with AMB to create this global venture with the intent of immediately underwriting and completing due diligence for both the European and Brazil funds previously sponsored by AMB. However, in the intervening months, the Brazil fund closed following a significant commitment from a single investor and shortly after the AMB-ProLogis merger was announced, thus further fund offerings were moved to the latter half of 2011 and beyond to allow for complete integration of all post-merger operations and administration for the newly combined company (Prologis).

Now that the corporate merger has been completed, below is a potential portfolio representing anticipated future commitments of $500 million, through 2015, to additional fund offerings once the prerequisite fund structures and legal documents are finalized. These commitments will be subject to satisfactory negotiations between Prologis and Staff on the terms and conditions of the global feeder vehicle and subsequent due diligence on fund offerings once presented:

Initial Investments (through 2011)*:

Fund	Timing	Risk Profile	Structure	Investment Amount
Europe Logistics Fund	2011	Core	Open end	$75 million

Potential Future Investments (through 2015)*:

Fund	Timing	Risk Profile	Structure	Investment Amount
Brazil Fund II	1Q12	Value Add	Closed end	$50-100 million
Japan Log/Dev Fund	1Q12	Core/Value Add	Closed end	$50-100 million
PEPR Recap (European)	2Q12	Value Add	Closed end	$50-100 million
Canada Logistics Fund	2012	Value Add	Closed end	$50-100 million
China Logistics Fund	2014	Value Add	Closed end	$50-100 million
U.S. Logistics Fund	2015	Value Add	Closed end	$50-100 million
Mexico Fund 2	2015	Value Add	Closed end	$50-100 million

* OPERF will limit committed capital to any one fund offering to the lesser of 20% of the fund's total commitments or $100 million.

Staff is recommending an allocation of up to 15% to publicly traded shares of Prologis to be held by State Street bank as custodian for OPERF. The allocation will be based upon committed capital to specified funds and investment opportunities. The publicly traded shares will provide immediate global diversification, particularly in the early stages of the Venture, and can be a source of liquidity for capital calls and distributions as well maintaining exposure to the Venture as it matures and the various funds/investments enter different stages in their life cycles.

Lastly, additional investment offerings such as potential co-investment opportunities are anticipated as further consolidation takes place within the Prologis organization following the AMB-ProLogis merger completed in June 2011. Specifically, these opportunities are anticipated in the following global markets: U.S., China, Western and Central Europe, Korea and Mexico.

Structure

Upon approval by the OIC for the initial $500 million commitment to this Global Industrial Venture, Staff is recommending allocations to future fund offering be subject to unanimous favorable investment recommendations from OST Staff, Real Estate Consultant, and the Chief Investment Officer, following the standard underwriting and due diligence process in place for all other portfolio investments. All such commitments to future Prologis Funds will be reported by OST Staff to the OIC at the next regularly scheduled OIC meeting following the investment recommendation.

Approvals for future capital commitments are recommended to have the following limitations:

- Allocation to future funds: Up to $100 million per individual Prologis Fund commitment

- Capital Commitment to funds: OPERF shall not be more than 20% of the aggregate capital commitments to any single fund

- Prologis public REIT exposure: Capped at 15% of invested capital; with single buy/sell transaction not to exceed $15 million.

Commitments to co-investments, joint venture offerings, or capital allocations outside the thresholds listed above will be brought, at minimum, before the Real Estate Committee and/or the OIC for approval. Additionally, the Global Industrial Venture portfolio performance will be briefed annually to the OIC in concert with the annual real estate portfolio review.

Issues for Consideration

- The OPERF real estate program has a globally diversified portfolio. With over $44 billion in AUM, Prologis is the leading global industrial real estate company with offices and investments on four continents. Prologis' global strategy offers OPERF an opportunity to invest in scale via a single relationship with a defined (industrial real estate only) strategy and with an experienced investment team.

- OPERF's European and Asia investments, to date, have been primarily opportunistic and short term in nature. This Global Industrial Venture will be a predominately Value-added strategy but will also offer core, cash flow oriented investments as well as development investments in emerging markets to the real estate portfolio. As of December 31, 2011, the real estate portfolio was 13% allocated to Asia real estate and 13% exposure to European real estate investments.

- The Value-add sector of OPERF's real estate portfolio had a 12% weighting as of December 31, 2010 versus a target weighting of 20%. Core was 29% versus a target of 30%. Opportunistic was 38% versus a target 30% and REITs were 21% versus a target 20%. As a primarily Value-added investment, this Global Industrial Venture will be beneficial for achieving portfolio target balance.

- As of December 31, 2011, the OPERF real estate portfolio had a 10% weighting to the industrial real estate asset class, underweight to the NCREIF benchmark of 14%. All investments within the Global Industrial Venture will be industrial real estate only.

- Global real estate investing has political and currency risk not associated with domestic investing. The Prologis team has years of experience investing for international institutions throughout the Americas, Europe and Asia.

Recommendation

Staff recommends that the OIC authorize a $500 million commitment to the Prologis-OPERF Global Industrial Venture, including $75 million to the AMB European Logistics Fund, subject to the satisfactory negotiation of terms and conditions and completion of the requisite legal documents by DOJ legal counsel working in concert with OST staff.

Prologis-OPERF

Global Industrial Venture

Presented to: Oregon Investment Council

July 27, 2011

Prologis Overview

Prologis — Enduring Excellence in Global Real Estate[1]

The only industrial real estate company active on four continents

Global operator with approximately 600 million square feet of modern distribution space in global markets and regions across the Americas, Europe and Asia

The world's leading industrial property owner, operator and developer

More than 3,500 industrial properties across the Americas, Europe and Asia. Prologis expects to complete $1.5 billion of construction investment in 2011

Global leader in real estate investment management

Prologis Private Capital manages more than $25.7 billion in assets invested in 22 industrially-focused funds, covering a broad risk-return spectrum and delivering risk-adjusted returns

Morgan Stanley Research recently stated that "Prologis is the premier general partner (GP) in the industrial space…"

Highly focused real estate organization

The company's 1,300 colleagues serve 4,500 customers in 22 countries, representing the deepest pool of talent serving the industrial real estate industry in the world

- A leading global REIT (Real Estate Investment Trust); $44 billion in real estate AUM
- Member of the S&P 500
- #21 among the world's most sustainable corporations
- Publicly traded on the NYSE under the symbol PLD
- Founded in 1983 (AMB Property Corporation)
- Corporate Headquarters in San Francisco, California
- Operational Headquarters in Denver, Colorado

1) Data on a pro forma basis as of March 31, 2011.

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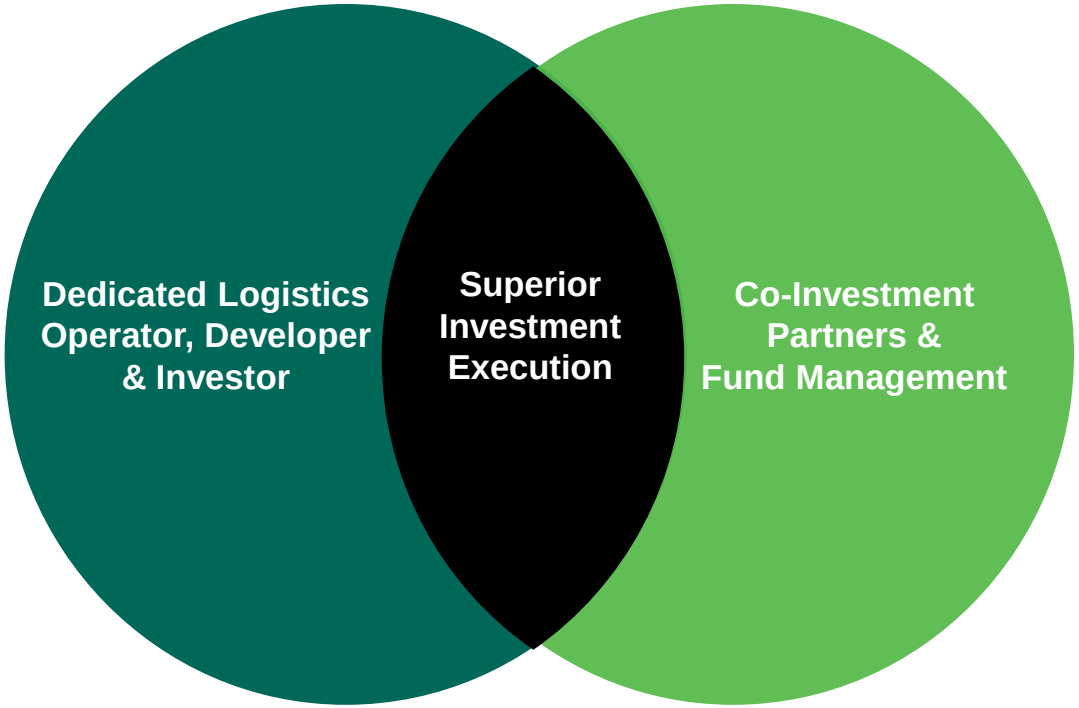
Global Capabilities

- ✓ Private Capital
- ✓ Research
- ✓ Global Customer Team
- ✓ Property Management
- ✓ Leasing
- ✓ Dispositions
- ✓ Valuation
- ✓ Construction
- ✓ Insurance
- ✓ Tax
- ✓ Engineering
- ✓ Environmental
- ✓ Accounting/Finance
- ✓ Sustainability



Delivering consistent quality and results on four continents

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Continuous Commitment to Alignment of Interests

- Material co-investment in all funds and ventures
  - Average 30% interest, many times PLD is the largest investor in its funds
  - Over $3 billion invested alongside our partners
    - During the downturn both AMB and PLD made new investments into their funds to help stabilize capital structure and position for growth
- 100% focused on industrial real estate
  - This is our only business
- Significant portions of Senior Management's net worth is tied to Prologis stock and thus are co-investors with our investor partners
- Fund profitability is tied to promote at end of fund life
- Dedicated Fund Management team whose compensation is tied to fund performance
- OPERF can invest in PLD stock offering the opportunity to own a piece of the GP

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One Portfolio Policy

- All assets are managed on an ownership blind basis
- Funds are compensated to the full lease term in case of early lease termination due to relocation of customers
- Customers drive decisions
- Scaled operating platform offers customers flexibility when fulfilling and growing space needs
- Predictable standard of service spans markets and countries
- All fund properties and investors benefit when customers' needs are met

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Global Reach

Americas

- 423 msf / 39.3 msm
- 2,630 buildings in 4 countries
- 7,400 acres of land for sale / development

Europe

- 146 msf / 13.6 msm
- 620 buildings in 14 countries
- 3,900 acres of land for sale / development

Asia

- 30 msf / 2.8 msm
- 87 buildings in 4 countries
- 160 acres of land for sale / development

Platform in regions that represent ~78% of global GDP[1]

Note: Data on a pro forma basis as of March 31, 2011.
1) International Monetary Fund.

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PROLOGIS.

Focused Investment Strategy —
Providing the Infrastructure for Global Trade

Global Markets

- Large population centers with high consumption per capita tied to global trade; seaport and airport focus for rapid movement of inventory
  - Infill sub-markets
- Supply constrained markets that appeal to a variety of local, national and international customers and investors creating enhanced demand and liquidity
- Abundant customer demand throughout market cycles

Regional Markets

- Near large population centers and/or near economic centers for leading national and global industries
  - At key crossroads in the supply chain
- Focused on delivering bulk goods to customers; storage and racking optimization is critical
- Fortune 1000 and strong regional customer base

Prologis invests in markets critical to the global supply chain and multinational customers

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Leadership — Striving for Excellence

Hamid R. Moghadam | Chairman & Co-Chief Executive Officer

- Years of Industry Experience: 32
- Relevant Experience: Founder, Chairman & Chief Executive Officer, Prologis Property Corporation
- Investment Committee Member

Walter C. Rakowich | Co-Chief Executive Officer

- Years of Industry Experience: 26
- Relevant Experience: Chief Executive Officer, ProLogis; President & Chief Operating Officer, ProLogis
- Investment Committee Member

Gary E. Anderson | Chief Executive Officer, Europe & Asia

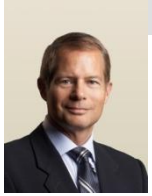
- Years of Industry Experience: 20
- Relevant Experience: President, Europe & the Middle East; Managing Director, Investments & Development , ProLogis
- Investment Committee Member

Michael S. Curless | Chief Investment Officer

- Years of Industry Experience: 22
- Relevant Experience: Chief Investment Officer, ProLogis; President and Principal, Lauth Property Group
- Investment Committee Chairman

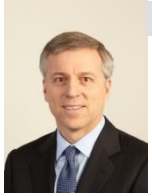
Nancy J. Hemmenway | Chief Human Resources Officer

- Years of Industry Experience: 10
- Relevant Experience: SVP, Human Resources, Prologis; EVP, Human Resources and Administration, NorthPoint Communications



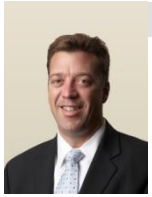
Guy F. Jaquier | Chief Executive Officer, Private Capital

- Years of Industry Experience: 29
- Relevant Experience: Senior Investment Officer, CalPERS; Senior Executive, Equitable Real Estate/Lend Lease
- Investment Committee Member



Edward S. Nekritz | Chief Legal Officer

- Years of Industry Experience: 21
- Relevant Experience: Chief Legal Officer, ProLogis; Associate, Mayor, Brown & Platt
- Investment Committee Member



Thomas S. Olinger | Chief Integration Officer

- Years of Industry Experience: 21
- Relevant Experience: Controller, Oracle Corporation; Partner, Arthur Andersen

Eugene F. Reilly | Chief Executive Officer, The Americas

- Years of Industry Experience: 27
- Relevant Experience: Chief Investment Officer, Cabot Properties, Inc.
- Investment Committee Member

William E. Sullivan | Chief Financial Officer

- Years of Industry Experience: 27
- Relevant Experience: Chief Financial Officer, ProLogis; President, Greenwood Advisors, Inc.
- Investment Committee Member

Experienced, cycle-tested leadership team with proven track records of performance

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Private Capital Team

Guy F. Jaquier
CEO, Private Capital
(San Francisco)

Alison M. Hill
MD, Global Fund Dev & Ops
(San Francisco)

- **William B. O'Donnell**
  SVP, Fund Mgmt
  (San Francisco)
- **Barton A. Carter**
  VP, Fund Development
  (San Francisco)
- **John Farias**
  VP, Fund Ops
  (San Francisco)
- **Jorge Girault**
  VP, Fund Mgmt
  (Mexico City)

Michael A. Evans
MD, Global Fund Mgmt & Strategy
(Tokyo)

- **Robert C. Bransfield**
  SVP, Fund Mgmt
  (Boston)
- **Simon Nelson**
  SVP, Fund Mgmt
  (Amsterdam)
- **James Creighton**
  FVP, Fund Mgmt
  (Denver)
- **Ellen F. Hall**
  SVP, Fund Mgmt
  (Paris)
- **Aaron M. Reuter**
  VP, Fund Mgmt
  (San Francisco)
- **Peter Cassells**
  SVP, CEO, PEPR
  (Luxembourg)
- **Thurai Thavasikkannu**
  VP, Fund Mgmt
  (Singapore)

Stephen A. Barrios
VP, Group CFO, Private Capital
(San Francisco)

James W. Green
MD, Global Client Relations
(New York)

- **Timothy K. Brosnan**
  SVP, Client Relations
  (Los Angeles)
- **Martina M. Malone**
  SVP, Client Relations
  (London)

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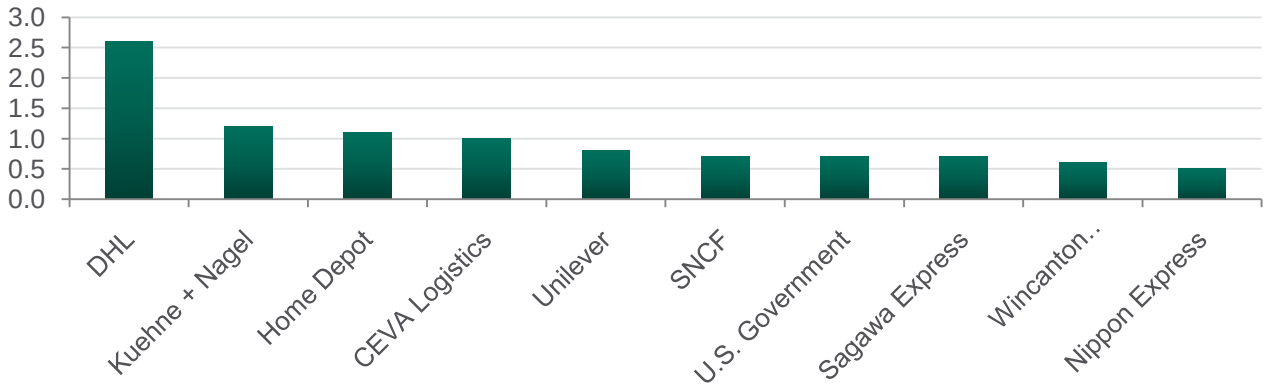
Leading Customer Franchise — Strategic Partner to Global Trade



Strategic

- We understand the logistics business
- Real time outlook helps shape our strategy over time – new markets, new product types
- Allows Prologis to build product that has longevity

Tactical/Transaction Driven

- Drives demand
  - Existing portfolio vacancies
  - Build to suits
  - Acquisitions with tenant in tow
- Deep relationships breed transaction transparency (e.g., early awareness and last look)
- Earlier view on tenant retention
- Expedites transaction time
- Compresses downtime

Depth of customer knowledge results in greater retention and repeat business from global customers in multiple geographies

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Prologis Corporate Citizenship

Prologis takes pride in being a responsible global citizen. Our approach to sustainability comprises three dimensions of care: **for the planet** (environmental stewardship), **for people** (social responsibility) and **for the pursuit of excellence in business** (ethics & governance).

Sustainability Awards

Dow Jones Sustainability Indexes

Domini 400 SOCIAL INDEX

FTSE4Good

Environmental Stewardship

Operations

- Lighting upgrades
- Water conservation
- Cool roofing
- HVAC upgrades
- Risk management

Development

- Infill projects
- LEED, CASBEE
- Green redevelopment
- Adaptive re-use
- Green specifications

Social Responsibility

Community Engagement

- CEC Program
- CR Champions Program
- Foundation giving
- Volunteer time-off
- Space for Good
- Disaster-response donations and support

Governance and Ethics

Corporate Governance

- Board composition
- Governance practices
- Independent directors
- Business Conduct Hotline

Ethics

- Code of Business Conduct
- IMPACT
- Employee training
- FCPA
- Harassment
- Insider Training
- Communications

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Research — Mining Proprietary Data for Leading Indicators

Goal: Provide predictive tools so our investors can benefit from the intelligence and depth of our global research platform. Provide timely and actionable research for strategic internal decision making.

Primary Data Sources

- Proprietary Monthly Tenant Sentiment Survey (Prologis IBI)
- Broker sentiment interviews
- Modeling Software

Proprietary Internal Data

- Accounting Systems and Operations
- Valuations and Transactions

Macro Economic and Third Party Real Estate Data

- Economic Series
- Real Estate Transactions, Fundamentals and Returns
- Market and Submarket Analysis
- Submarket Rent Growth Assumptions
- Market Entry and Exit
- Research reports & white papers

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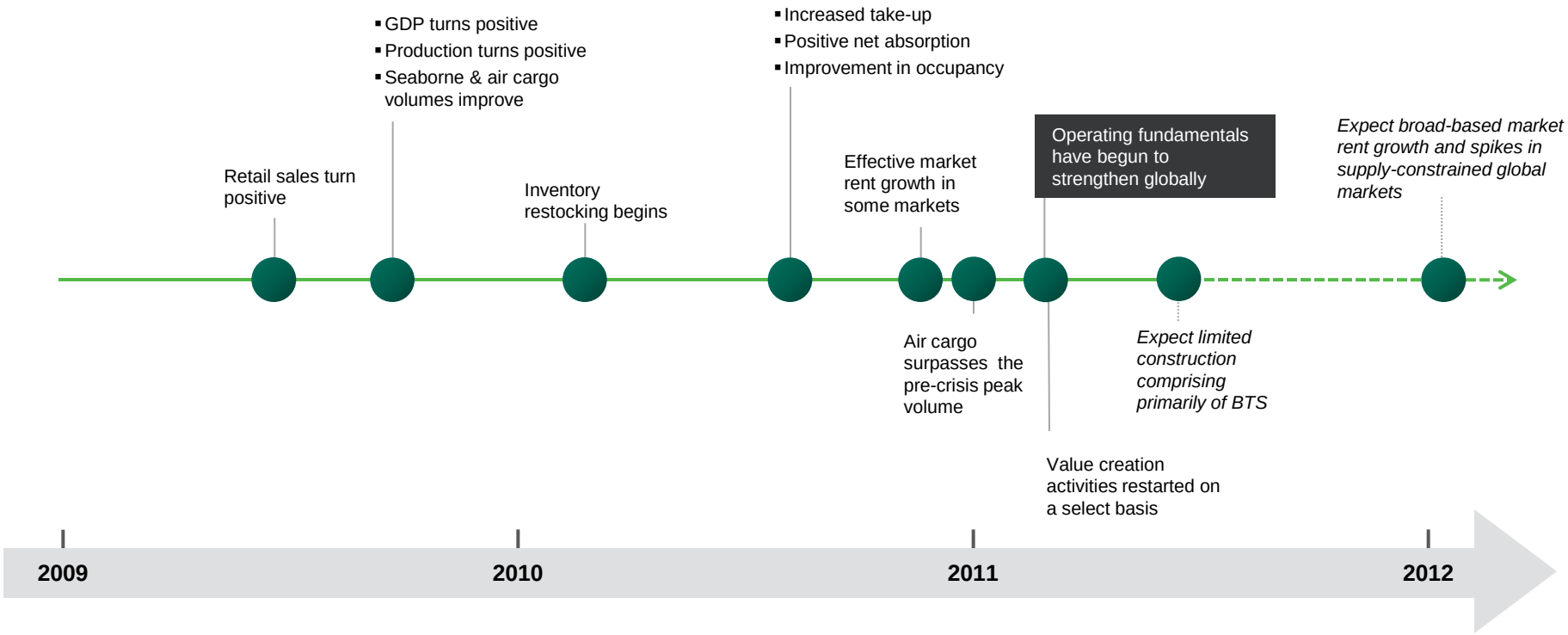
Outlook

Timeline of Recovery



Global economic recovery is continuing

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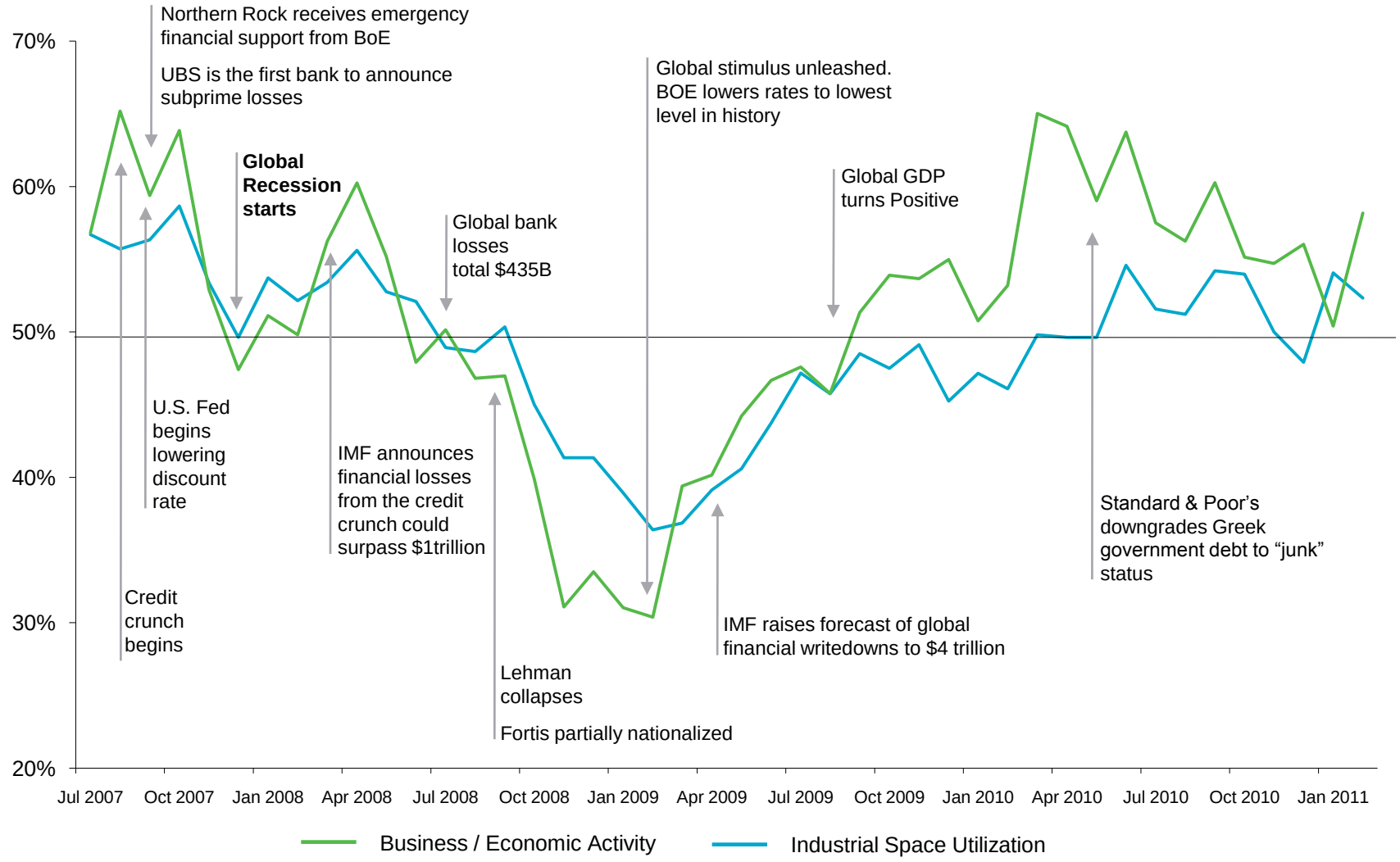
The IBI: Inception through February 2011



Source: Prologis Research

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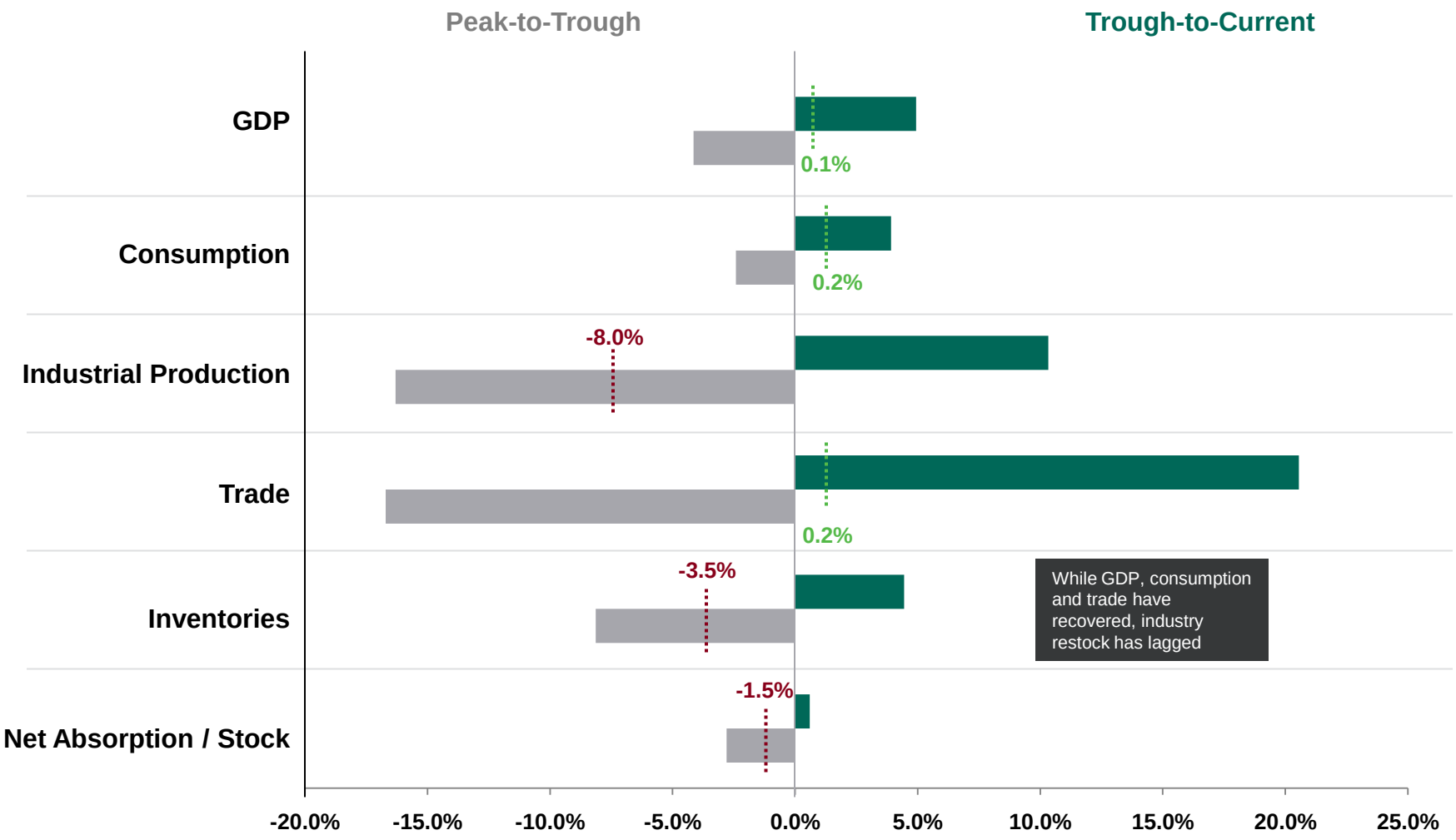
Leading Indicators of Demand



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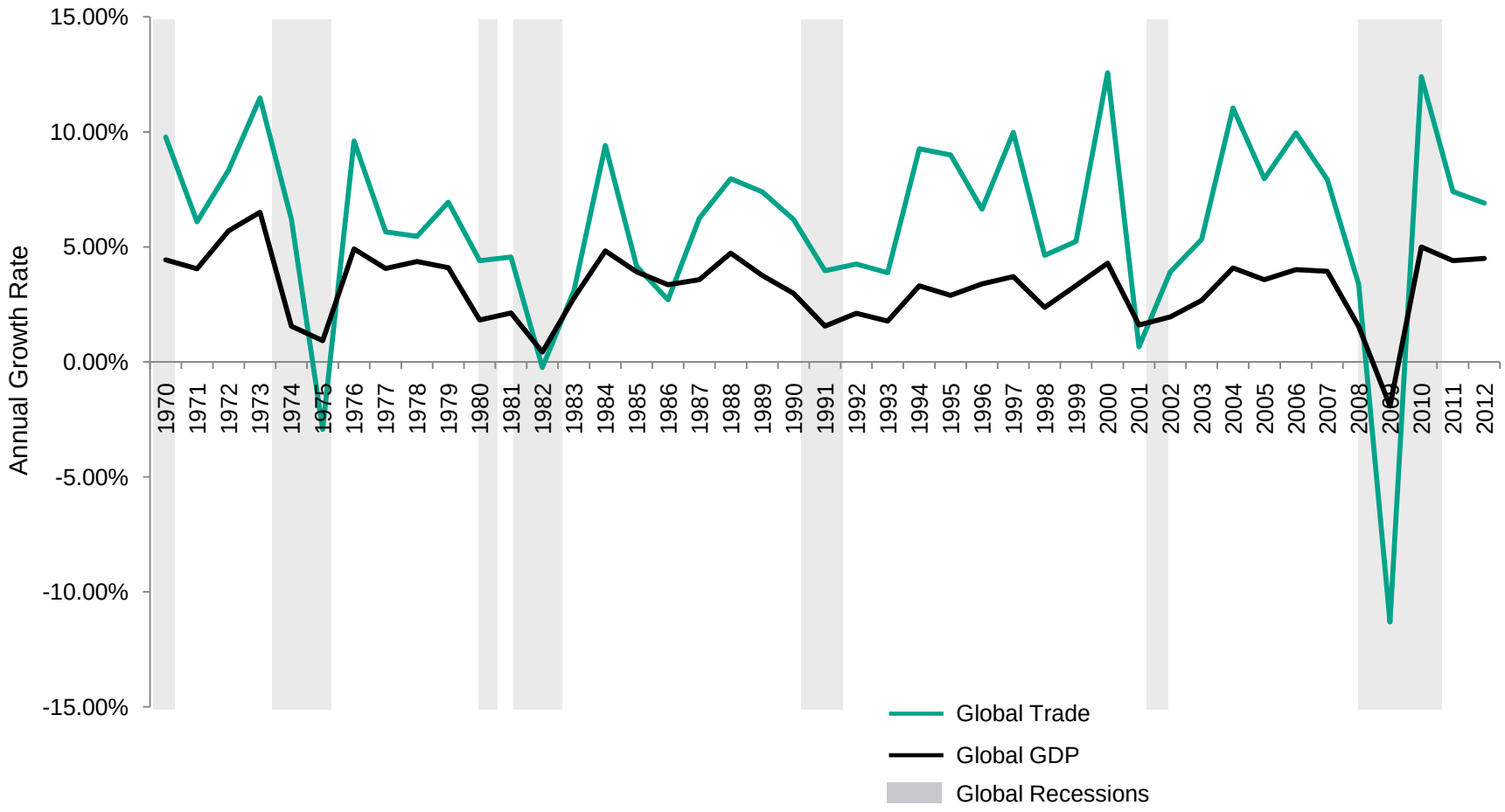
Long-Term Relationship Between Global Trade & GDP



Global trade is highly correlated with GDP at 2-3 times

Source: World Bank and International Monetary Fund World Economic Outlook June 2011

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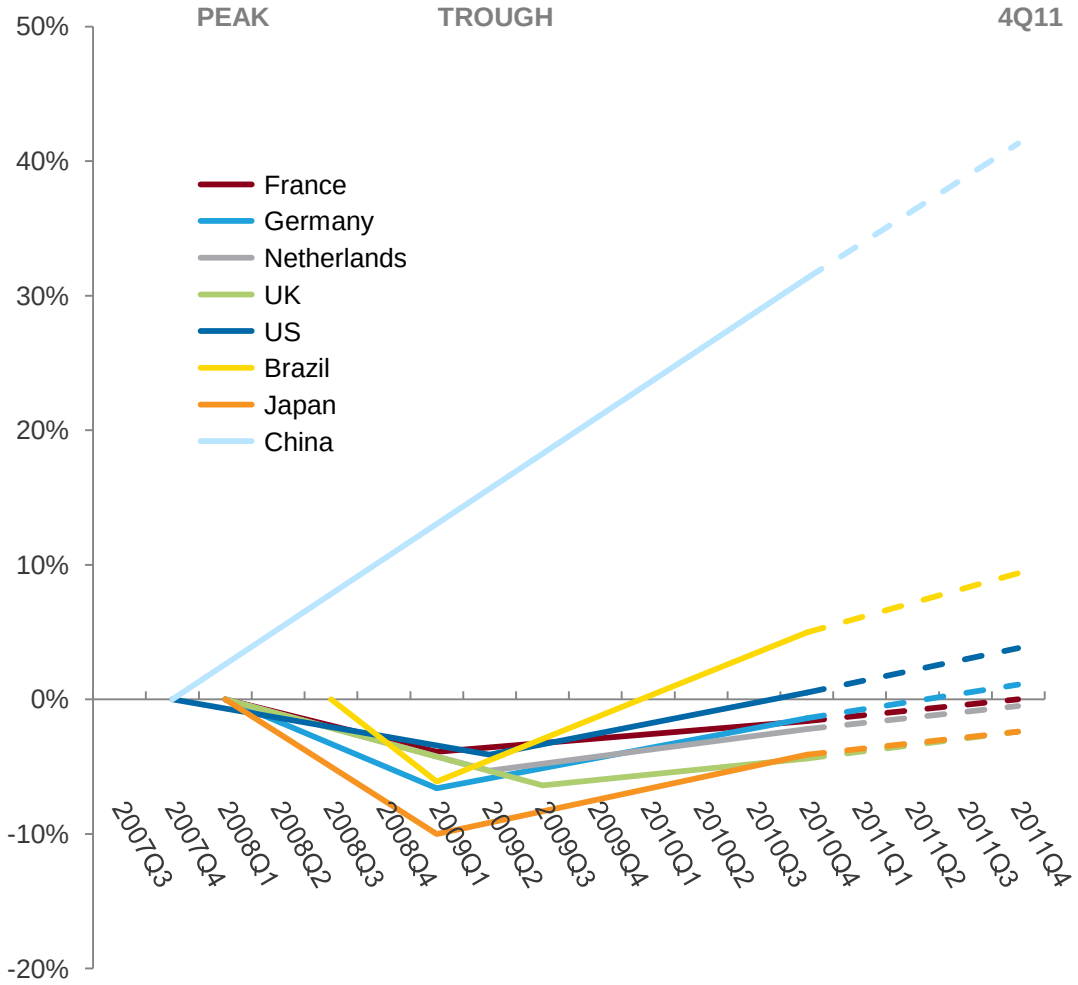
Leading Indicators - GDP
Peak-Trough-4Q2011(estimate)

2012 Consensus Forecast

France	1.7%
Germany	2.0%
Netherlands	1.7%
U.K.	2.1%
U.S.	3.1%
Brazil	4.2%
Japan	3.2%
China	8.8%



Source: China National Bureau of Statistics, Cabinet Office of Japan, Deutsche Bundesbank, Institut National de la Statistique et des Etudes Economiques, Centraal bureau voor de statistiek, UK Office of National Statistics, Statistical Office of the European Communities, US Bureau of Economic Analysis, Haver Analytics, Consensus Economic Inc.

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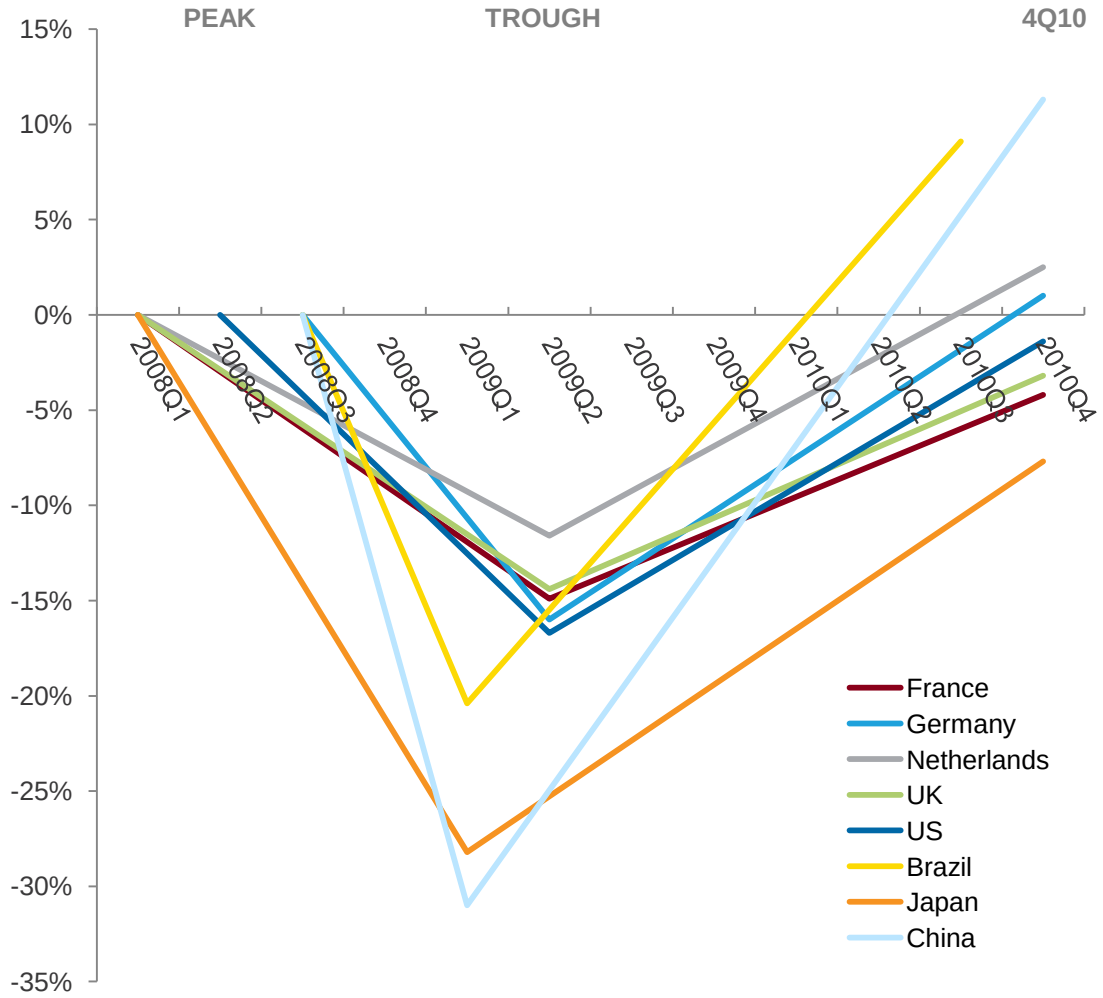
Resulting Whipsaw Effect on Real Global Trade
Peak-Trough-4Q2010

Trade Forecast

Global Trade Growth 2011	7.1%
Global Trade Growth 2012	6.8%

China, Brazil, Germany and Netherlands past previous peak

US surpassed in Q1 and rest in 2011



Source: China National Bureau of Statistics, Cabinet Office of Japan, Deutsche Bundesbank, Institut National de la Statistique et des Etudes Economiques, Centraal bureau voor de statistiek, UK Office of National Statistics, Statistical Office of the European Communities, US Bureau of Economic Analysis, Haver Analytics

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Global Market Opportunities

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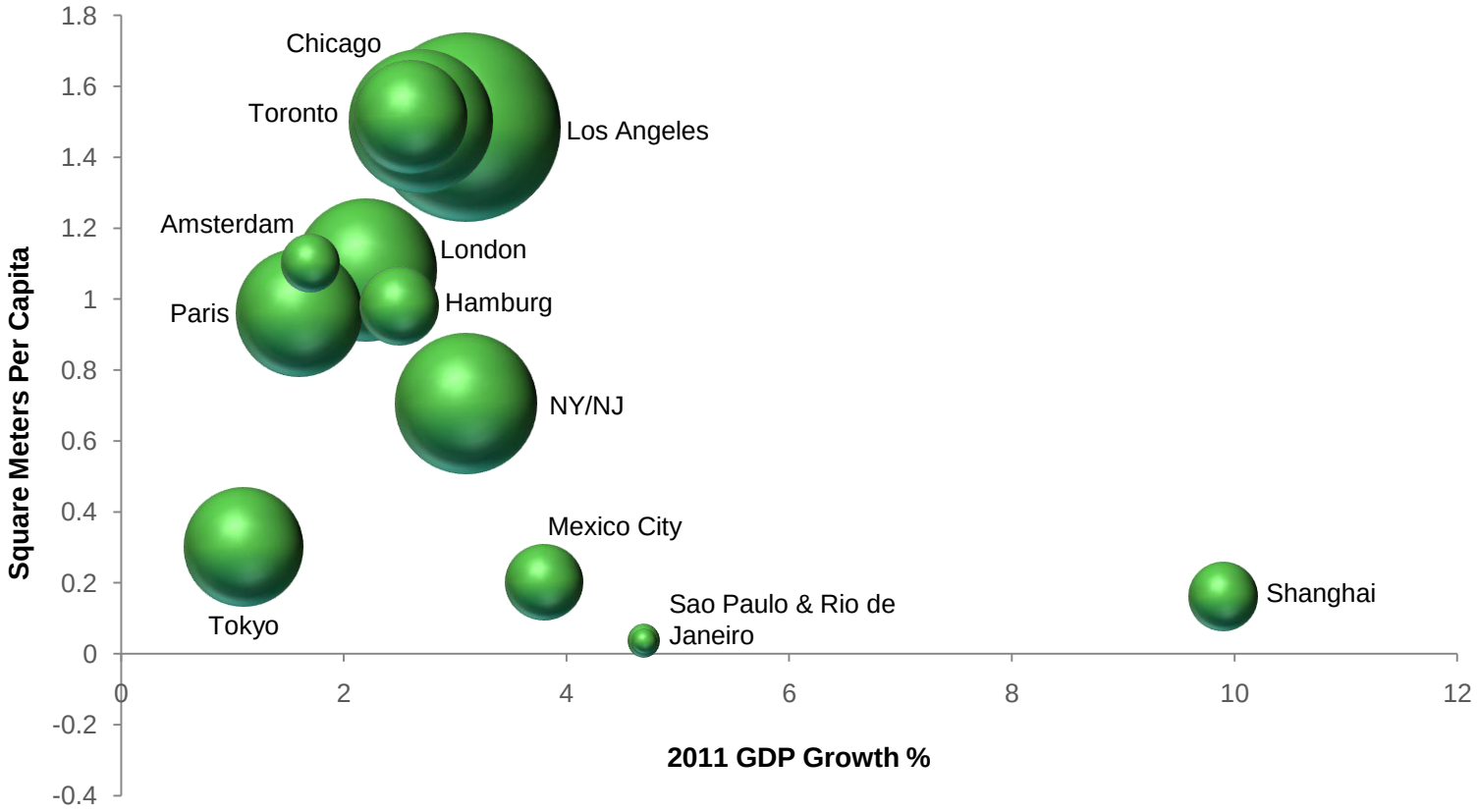
Global Class A Logistics Space Per Capita and GDP



Emerging markets – Undersupply of Class A space

Source: World Bank, International Monetary Fund, Prologis Research

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Developed Markets

Market	Current Opportunity

Canada	• Canada weathered the global downturn without a single quarter of losses
	• Debt at 25% of GDP, modest deficits and no housing dip
	• Toronto is the fourth largest market in North America at 750 million square feet
	  • Unique market - both the financial and manufacturing heart of Canada
	• Vacancy rates for15 years have remained stable and rarely exceeded 7%
	• Vacancy rate for the 1Q11 edged up slightly to 6.4% from previous quarter's 6.3%
	• Rail freight traffic destined for or passing through Canada increased 16.9% YOY February 2010 to 2011
	• Absorption of virtually all large state-of-the-art distribution availability over the past 18 months
	  • Only option for large users: build new space
	  • Replacement cost rents ~20% more than current market rent

U.S.	• Operating fundamentals bottomed in many markets • Global trade leading the economic recovery • Improving economic conditions fueling recovery in infill markets • Improving customer sentiment resulting in increased leasing velocity • Growth in trade volumes expected to increase space utilization • National availability decreased in 1Q11 for the third straight quarter • Record low new supply and decrease in availability expected to drive substantial rental rate increases

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Developed Markets

Market	Current Opportunity
Europe	• Operating fundamentals bottomed in many markets • Valuations stabilized - downturn not as pronounced as in the U.S. • Continued caution related to sovereign debt • Global trade leading the economic recovery, essentially in Germany • Improving economic conditions fueling recovery in the infill markets • Improving customer sentiment resulting in increased leasing velocity • Growth in trade volumes expected to increase space utilization • Physical and regulatory constraints traditionally kept a lid on new supply in many urban markets • Record low new supply and decrease in availability expected to drive substantial rental rate increases over the next few years
Japan	• Rebuilding efforts leading to a near-term stimulus • “Flight to Quality” - heightened awareness of advantages of modern, Class A facilities designed to the latest seismic specifications • Risk management - firms seek redundant locations to avoid putting “all eggs in one basket”. Firms with exclusive Tokyo distribution centers now looking for secondary facilities in Osaka • Retrenching by most local and global competitors resulting in little speculative development • Competitively low-interest-rate environment compared with most major economies. Cap rate spreads over interest rates in Japan among the widest

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Emerging Markets

Market	Current Opportunity
Brazil	• Among global leaders in projected GDP growth; 7.5% in 2010[1] • Middle class and consumer spending continue to rise • Rising income per capita driving demand for basic materials, food and energy • Growth in consumer products and low Class A stock heightens demand for modern, high quality logistics space • ~$539 billion in infrastructure investment tied to 2014 World Cup and 2016 Olympics – greatly expanding the logistics network in major population centers • 95-97% occupancy across key markets[1]

Mexico	• Economy expanding despite publicized violence
	• Job growth in Juarez one of the most robust over the past 12 months
	  • adding ~20,000 jobs[1]
	  • absorption levels equivalent to prior to the financial crisis
	• Rebound in manufacturing
	• High fuel and transportation costs increase Mexico's attractiveness over Chinese manufacturing
	• Increased Chinese labor costs add to Mexico's attractiveness
	• Mazda has plans for a $500 million manufacturing facility with capacity up to 100,000 cars per year
	• Mexico City is experiencing rental rate growth – up ~7.0% over the past 12 months

1) The Wall Street Journal, May 31, 2011, "*The Mexican Paradox, Why is a supposed 'failed state' prospering?*"

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Venture Overview

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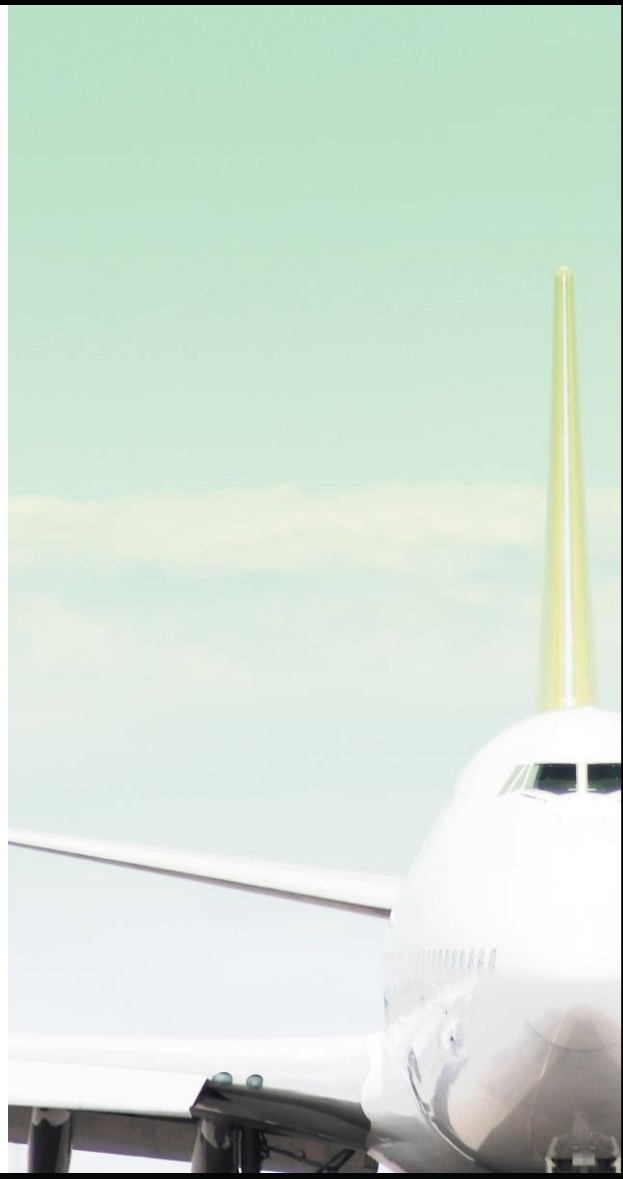
Objective

To create a strategic investment venture with strong alignment of interests and a global focus between the Oregon Public Employees Retirement Fund (OPERF) and Prologis

Guiding Principles

1. OPERF will be briefed on and provided early document review of future Prologis initiatives at early stages of development
2. OPERF will have the discretion to determine whether and in what amounts it will invest in the investment opportunities presented by Prologis
3. In no event will OPERF be more than 20% of any single fund or have a commitment of greater than $100 million to any one fund
4. OPERF will be offered to participate in appropriate co-investment opportunities, if any
5. Prologis will charge OPERF fees correlated to the actual cost of providing services; Prologis will provide economies of scale
6. Ownership of Prologis stock can enhance alignment through an investment in the GP



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Prologis Co-Investment Overview

	Launch Year	Core	VA	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PLD stock purchase	2011		✓										
Targeted Europe Logistics Fund	2011	✓											
Japan Logistics Fund	2011	✓											
Japan Development Fund	2011		✓										
Canada Logistics Fund	2012		✓										
PEPR Recapitalization	2012		✓										
Brazil Logistics Partners Fund 2	2012		✓										
China Logistics Partners Fund	2014		✓										
U.S. Logistics Partners Fund	2015		✓										
Mexico Fund 2	2015		✓										

Existing Future

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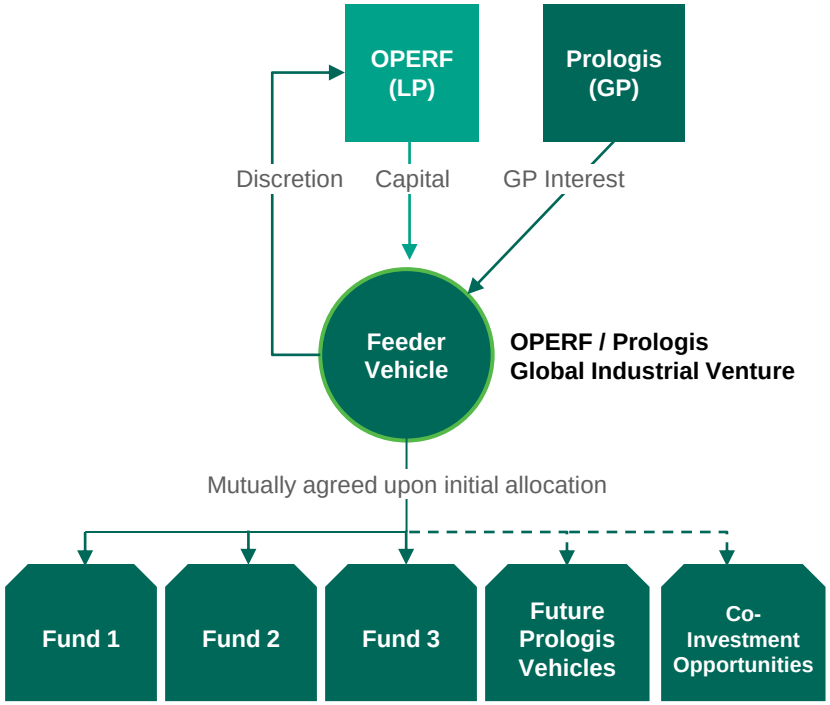
OPERF / Prologis Structure

- Prologis will create a feeder vehicle which will provide OPERF with a single access point for capital
- Capital will then be distributed into mutually agreed upon Prologis investment vehicles globally
- OPERF retains the discretion regarding which opportunities are pursued as well as dollar amounts



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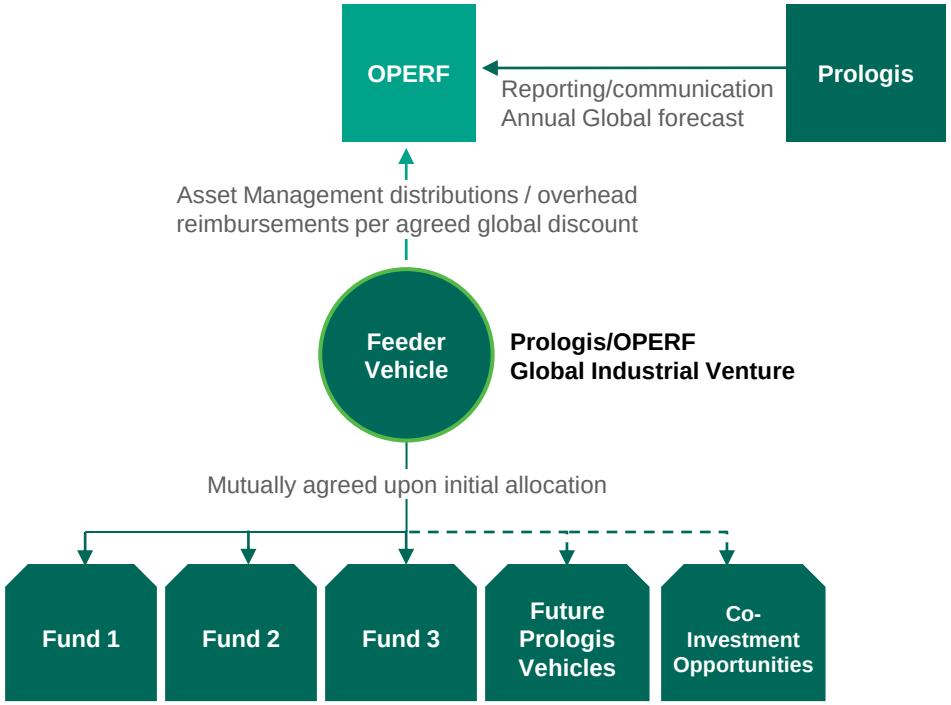
Governance / Reimbursements

- Prologis will provide economies of scale related to asset management distributions/overhead reimbursements as negotiated with a basis in the actual cost of delivering service
- Prologis will consolidate reporting to entity level as well as provide fund level reporting
- OPERF will have a Managing Director level single point of contact for the platform
- Platform reviews will be made quarterly with a minimum of two in person
- Annual global forecast meeting



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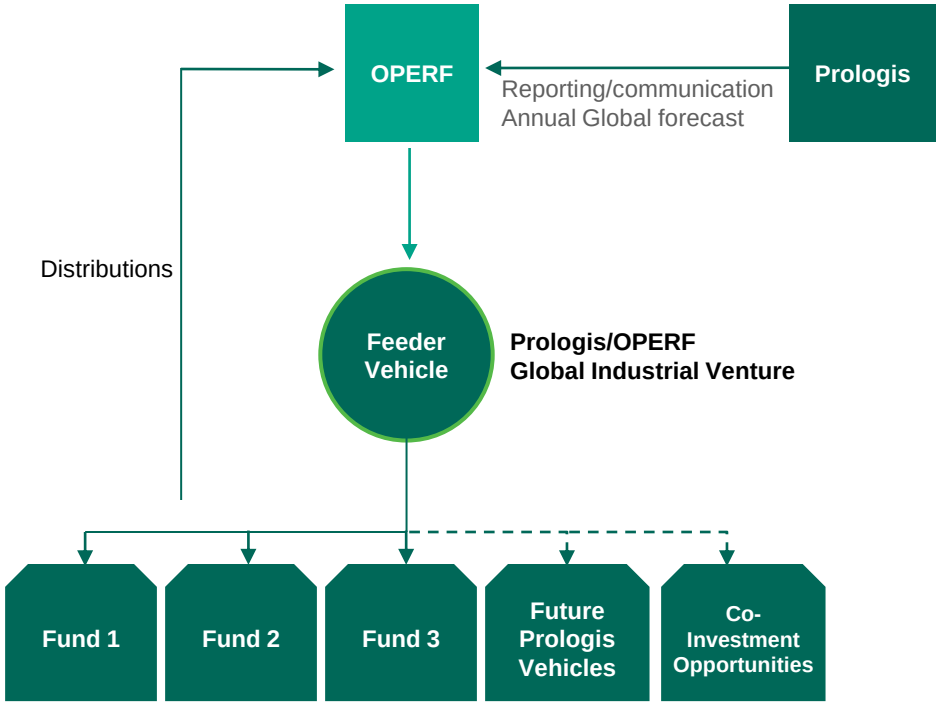
Contributions and Distributions

- All return on and return of capital net of partnership costs will be distributed to OPERF
- New capital needs will be made via traditional capital call per the fund documents
- Based upon annual global forecast and at OPERF's discretion, capital will be re-allocated to Prologis investment through feeder vehicle



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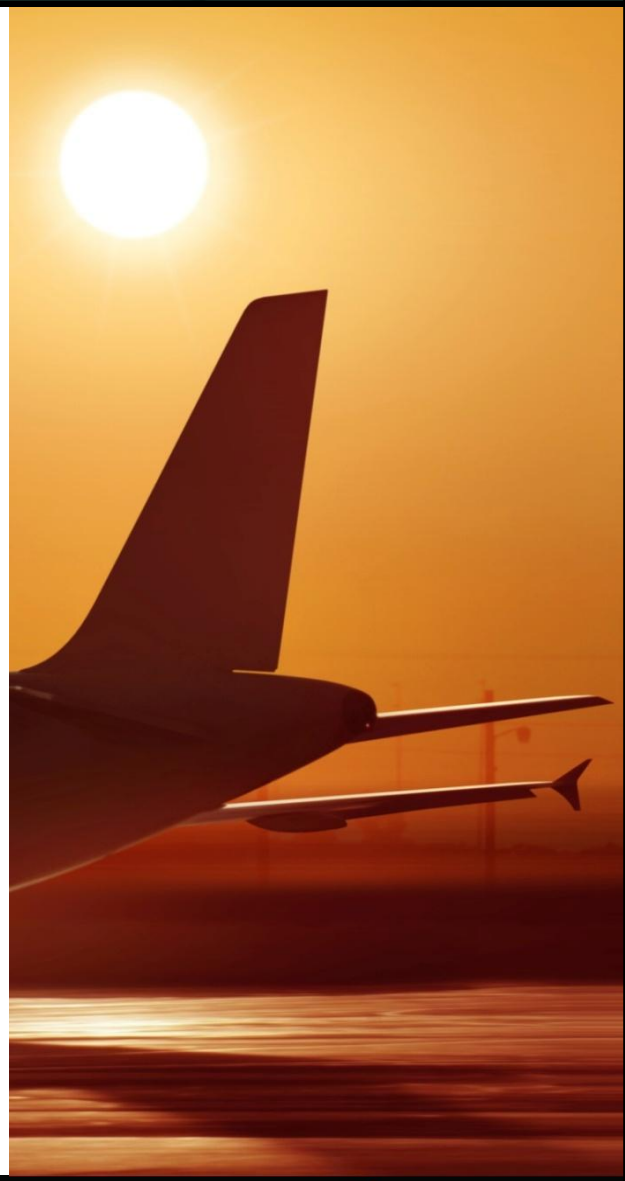
OPERF / Prologis Venture

- Cornerstone investor, strategic partner
- Strong alignment of interests
- Invest globally with consistent delivery
- Efficient, consolidated structure
- Clear communication lines and accountability



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Presenter Biographies

Presenter Biographies

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hmoghadam@prologis.com

Hamid R. Moghadam, Chairman & Co-Chief Executive Officer

Hamid Moghadam is co-chief executive officer of Prologis. He is primarily responsible for shaping the company's vision, strategy, organizational structure and private capital franchise. Mr. Moghadam co-founded the company's predecessor, AMB Property Corporation, in 1983 and led the company through its initial public offering in 1997 and its merger with Prologis in 2011.

Mr. Moghadam has held a number of strategic roles within the real estate industry. He has served as the chairman of the National Association of Real Estate Investment Trusts (NAREIT), a director of Plum Creek Timber Company and a founding member of the Real Estate Roundtable. Mr. Moghadam is a trustee of Stanford University and served as chairman of Stanford Management Company. Additionally, he serves on the executive committee of the board of directors for the Urban Land Institute (ULI). As an active participant in the San Francisco Bay Area community, he has served on various philanthropic and community boards, including the California Academy of Sciences, Town School for Boys, and as chairman of Young Presidents Organization's (YPO) Northern California chapter.

He is a past winner of the Ernst & Young Entrepreneur of the Year award, a recipient of the Ellis Island Medal of Honor and has been named CEO of the Year on eight different occasions by four separate industry publications. He received the Wisconsin Alumni Center's Vision Setter award and the National Association of Industrial and Office Properties (NAIOP) Lifetime of Building award and NAREIT's Industry Leadership award.

Mr. Moghadam received an MBA from the Stanford Graduate School of Business and a Bachelor and Master of Science in engineering from Massachusetts Institute of Technology.

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gjaquier@prologis.com

Guy F. Jaquier, Chief Executive Officer, Private Capital

Guy Jaquier is the chief executive officer for Prologis Private Capital. He oversees Prologis' private capital funds and joint ventures with leading institutional real estate investors.

Mr. Jaquier joined AMB Property Corporation in 2000 as chief investment officer, started AMB's international business in 2002 and served as its president of Europe and Asia, directing the establishment and expansion of AMB's Europe and Asia investment and operating platforms. Prior to joining AMB, Mr. Jaquier served as senior investment officer for real estate at the California Public Employees' Retirement System, where his responsibilities included managing a $12 billion real estate portfolio. Prior to that, he spent 15 years at Lend Lease Real Estate Investments and its predecessor, Equitable Real Estate, where he held various transactions and management positions.

Mr. Jaquier is a member of the Urban Land Institute and the Pension Real Estate Association. He is also on the advisory board for the University of Washington Runstad Center for Real Estate Studies. Mr. Jaquier has an MBA from the Harvard Graduate School of Business Administration and a Bachelor of Science in building construction management from the University of Washington.

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Presenter Biographies

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ahill@prologis.com

Alison M. HIll, Managing Director, Global Fund Development and Operations

Alison Hill is managing director, global fund development and operations, responsible for the formation, structuring and operations of Prologis' private capital ventures around the world. She joined AMB in 1999, and has served in a variety of positions within the private capital business. Ms. Hill previously served as the chief operating officer of AMB Capital Partners, with responsibility for building AMB's private capital business and expanding the business outside of the United States.

Prior to joining AMB in 1999, she practiced real estate law at the global law firm of Morrison & Foerster. Prior to Ms. Hill's tenure at Morrison & Foerster, she practiced law with Lionel Sawyer & Collins within the real estate and commercial transactions groups. Ms. Hill is a member of the State Bar of California, the Massachusetts Bar and the State Bar of Nevada.

She is a member of AFIRE, (the Association of Foreign Investors in Real Estate), PREA (the Pension Real Estate Association) and ANREV (the Asian Association for Investors in nonlisted real estate vehicles). Ms. Hill holds a J.D., cum laude, from Case Western Reserve University School of Law and a Bachelor of Arts in international relations from Hamilton College.

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tbrosnan@prologis.com

Timothy K. Brosnan, Senior Vice President, Client Relations

Timothy K. Brosnan is senior vice president, client relations for Prologis. He is responsible for raising new capital and developing and growing relationships with institutional investors and consultants throughout the United States.

Prior to joining AMB in 2010, he served as director, capital markets and client relations at JER Partners, and director, client relations at RREEF. In these roles, Mr. Brosnan was responsible for raising capital and establishing relationships with institutional investors and consultants primarily in the western region of the U.S. Previously, he was with Buchanan Street Partners.

Mr. Brosnan is a member of the Pension Real Estate Association (PREA), State Association of County Retirement Systems (SACRS) and National Association of Office and Industrial Professionals (NAOIP). He received an MBA from the University of California at Irvine and a Bachelor of Science from the University of Southern California.

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Forward-Looking Statements

Some of the information included in this press release contains forward-looking statements, such as future opportunities for the combined company, improved cost of capital, increased revenue opportunities, the pending retirement of any of the individual's mentioned, operational, capital deployment, private capital, earnings guidance, personnel, strategies and the approximate cost savings, which are made pursuant to the safe-harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. Because these forward-looking statements involve risks and uncertainties, there are important factors that could cause our actual results to differ materially from those in the forward-looking statements, and you should not rely on the forward-looking statements as predictions of future events. The events or circumstances reflected in forward-looking statements might not occur. You can identify forward-looking statements by the use of forward-looking terminology such as "believes," "expects," "may," "will," "should," "seeks," "approximately," "intends," "plans," "pro forma," "estimates" or "anticipates" or the negative of these words and phrases or similar words or phrases. You can also identify forward-looking statements by discussions of strategy, plans or intentions. Forward-looking statements are necessarily dependent on assumptions, data or methods that may be incorrect or imprecise and we may not be able to realize them. We caution you not to place undue reliance on forward-looking statements, which reflect our analysis only and speak only as of the date of this report or the dates indicated in the statements. We assume no obligation to update or supplement forward-looking statements. The following factors, among others, could cause actual results and future events to differ materially from those set forth or contemplated in the forward-looking statements: changes in general economic conditions in California, the U.S. or globally (including financial market fluctuations), global trade or in the real estate sector (including risks relating to decreasing real estate valuations and impairment charges); risks associated with using debt to fund the company's business activities, including refinancing and interest rate risks; the company's failure to obtain, renew, or extend necessary financing or access the debt or equity markets; the company's failure to maintain its current credit agency ratings or comply with its debt covenants; risks related to the merger with Prologis, including litigation related to the merger, and the risk that the merger may not achieve its intended results, including that the expected synergies will not be realized, or will not be realized during the expected time period; the risks that the businesses will not be integrated successfully; disruption from the merger making it more difficult to maintain business and operational relationships; risks related to the company's obligations in the event of certain defaults under co-investment venture and other debt; defaults on or non-renewal of leases by customers, lease renewals at lower than expected rent or failure to lease properties at all or on favorable rents and terms; difficulties in identifying properties, portfolios of properties, or interests in real-estate related entities or platforms to acquire and in effecting acquisitions on advantageous terms and the failure of acquisitions to perform as the company expects; unknown liabilities acquired in connection with the acquired properties, portfolios of properties, or interests in real-estate related entities; the company's failure to successfully integrate acquired properties and operations; risks and uncertainties affecting property development, redevelopment and value-added conversion (including construction delays, cost overruns, the company's inability to obtain necessary permits and financing, the company's inability to lease properties at all or at favorable rents and terms, and public opposition to these activities); the company's failure to set up additional funds, attract additional investment in existing funds or to contribute properties to its co-investment ventures due to such factors as its inability to acquire, develop, or lease properties that meet the investment criteria of such ventures, or the co-investment ventures' inability to access debt and equity capital to pay for property contributions or their allocation of available capital to cover other capital requirements; risks and uncertainties relating to the disposition of properties to third parties and the company's ability to effect such transactions on advantageous terms and to timely reinvest proceeds from any such dispositions; risks of doing business internationally and global expansion, including unfamiliarity with the new markets and currency risks; risks of changing personnel and roles; losses in excess of the company's insurance coverage; changes in local, state and federal regulatory requirements, including changes in real estate and zoning laws; increases in real property tax rates; risks associated with the company's tax structuring; increases in interest rates and operating costs or greater than expected capital expenditures; environmental uncertainties and risks related to natural disasters; and our failure to qualify and maintain our status as a real estate investment trust. Our success also depends upon economic trends generally, various market conditions and fluctuations and those other risk factors discussed under the heading "Risk Factors" and elsewhere in our most recent annual report on Form 10-K for the year ended December 31, 2010 and our other public reports.

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TAB 3 – TPG GROWTH FUND II, L.P.

OPERF Private Equity
TPG Growth II, L.P.

Purpose

Staff recommends a commitment of $75 million be made to TPG Growth II, L.P. ("the Fund", or "Fund II"). This commitment was proposed to be made through the June 10, 2011 Private Equity Committee meeting, but at the request of the OIC, was rescheduled for consideration by the full OIC.

Background

The Fund is being formed and sponsored by TPG Capital, and will continue the successful thematic, stage-agnostic strategy employed in the prior fund, TPG STAR (Acronym for Smaller Transactions, Allied-Resources. The Firm has since renamed the effort TPG Growth). The Firm launched TPG STAR in 2007 to target the type of smaller, high-growth transactions that TPG had focused on in its earlier, smaller private equity funds, but which over time, had been abandoned as the "main" TPG series of funds had grown substantially in both fund size, and targeted investment size, and evolved to become more buyout focused. The thesis behind STAR was that a fund managed by a dedicated investment team, focusing on smaller transactions, and allied with the deep resources of a large, global asset management firm such as TPG, would have a competitive advantage over small, stand-alone firms targeting similar transaction sizes. These "allied resources" include TPG Capital's operations group, sector teams, investment banking relationships, executive networks, and the experience of TPG's founders, who serve on the Fund's Investment Committee.

Fund II is targeting commitments of $2 billion, and has not set a hard-cap. TPG expects Fund II will make 25 to 30 investments of less than $100 million per transaction, approximately equally split between North America and China/Southeast Asia, with a few opportunistic transactions coming from other regions. Small buyouts, minority growth investments, and late-stage venture capital deals, primarily within the retail, financial services, business services, healthcare, consumer, and clean technology sectors will be targeted. Investment themes on which the team will focus may change according to technology and market developments, but are currently: the internet and "cloud" derivatives; multi-channel consumer products; vertical marketing software; renewable energy; and infrastructure in emerging markets. Generation of deal flow will be multi-channel, and include: the TPG Growth Investment Team; current and former portfolio company executives; TPG Capital's global platform (affiliate referrals); and financial intermediaries. In general, transactions requiring an investment of less than $100 million in North America, and less than $65 million in Asia, will be first offered to the Fund. Larger investments will first be offered to TPG's flagship buyout fund, or TPG Asia focused funds, respectively. In the case of investment opportunities which fit the investment profile of both the Fund, and another TPG fund, the investment allocation parameters are detailed on page 29 of PCG's Investment Recommendation.

TPG Growth has a dedicated investment team of 25 investment professionals (including three Partners), operating out of offices in San Francisco, Hong Kong, and Mumbai. Partners Bill McGlashan, Sing Wang, and Varun Kapur lead each office, respectively. In addition to the dedicated team, additional resources from TPG Capital are available to assist as needed with due diligence, operational improvements, or sector deep dives. In addition, TPG Capital will support the Growth team, assisting with accounting, reporting, investor relations, and fundraising. Approximately half of the carried interest generated by Growth investments will be shared by the Growth team, with the remainder going to TPG Capital. TPG Capital combines this with carry allocations received from other TPG funds and strategies into a firm wide carry pool that is then reallocated to Firm partners based on their respective overall contributions to the Firm's success. This system of shared cross fund incentives contributes to a "one Firm" culture, and promotes the sharing of deals, ideas, and resources within the overall TPG Capital platform. Investment decision making is collaborative with deals first reviewed by the TPG Growth Investment Review Committee (comprised of all senior Growth professionals), then reviewed again by the Firm Investment Review Committee, which includes David Bonderman, Jim Coulter, Jonathan Coslet, and other senior Firm executives.

OPERF committed $100 million to the prior TPG STAR fund in 2007.

As of December 31, 2010, TPG STAR has generated a net IRR of 10.6 percent, and a net total value multiple of 1.16x. These metrics rank in the first quartile, and high in the second quartile, respectively, according to Venture Economics data.

It should be noted that the smaller size of the current investment recommendation ($75 million vs. $100 million in the prior fund) is driven by the need to manage the size of OPERF's private equity allocation, and is not indicative of any lack of conviction in this opportunity. Staff and PCG have reviewed TPG Growth's responses and comments to the OIC's Private Partnership Principles, and note general compliance with most principles. Staff and PCG will focus negotiations on improved governance rights.

The Firm has asserted it will not engage a placement agent to assist in raising the Fund, and is using internal TPG Capital investor relations staff in marketing.

A new commitment will be allocated 100 percent to the Corporate Finance-Small sub-sector. As of December 31, 2010, OPERF's allocation to Corporate Finance-Small is targeted at 0 to 10 percent, with a current fair market plus unfunded commitments exposure totaling 2.7 percent.

Recommendation

Staff recommends that the OIC authorize a $75 million commitment to TPG Growth II, L.P., subject to the satisfactory negotiation of terms and conditions, and completion of the requisite legal documents by DOJ legal counsel working in concert with OST staff.

MEMORANDUM

TO: Oregon Public Employees Retirement Fund ("OPERF")

FROM: PCG Asset Management LLC ("PCG AM")

DATE: July 7, 2011

RE: TPG Growth II L.P.

Strategy:

TPG Capital (formerly Texas Pacific Group) ("TPG" or the "Firm") is sponsoring TPG Growth II, L.P. ("TPG Growth II" the "Partnership," or the "Fund") to pursue a broad range of small and middle-market growth-equity and buyout transactions. Following TPG's growth equity strategy implemented across the Partnership's predecessor fund, TPG Growth II will be global in scope; the Firm expects to invest approximately half of aggregate commitments in the U.S. and half on an international basis, with a particular focus on China and Southeast Asia. The Fund will also focus on sectors in which TPG has historical investment experience such as retail, financial services, business services, consumer technology, healthcare, and clean technology.

TPG Growth II will continue to be the primary vehicle for TPG's investments that require equity commitments of less than $100 million. Given the smaller commitment sizes relative to the Firm's large buyout vehicles, the Fund will not be constrained by investment stage. Rather, it will target late-stage venture capital opportunities, minority growth investments, small buyouts, corporate partnerships, and, on a more opportunistic basis, start-ups with little to no technology risk. Utilizing this strategy, the General Partner expects the Fund will make approximately 25 to 30 investments over a six-year commitment period.

The Fund's target fund size is $2.0 billion, with a first closing originally scheduled for June of 2011 and additional closings taking place through September 30, 2011. At final close, TPG has stated that it will make a capital commitment equal to at least 1.5% of aggregate capital commitments to the Fund. Based on the targeted fund size, this equates to a commitment of $30.0 million, which will likely be funded entirely in cash.

Please see attached investment memorandum for further detail on the investment opportunity.

Allocation:

A new commitment to the Fund would be allocated 100% to the Medium Corporate Finance investment sub-sector. As of March 31, 2011, OPERF's allocation to Medium Corporate Finance is listed in the table below. It is important to note that since allocation is based on fair market value, a commitment to the Fund would not have an immediate impact on OPERF's current portfolio allocation. A commitment to the Fund is complementary to OPERF's existing fund commitments and provides the overall portfolio with a further degree of diversification.

As of March 31, 2011	Target	FMV	FMV + Unfunded
Med Corp Finance	5-25%	20.7%	21.1%

Conclusion:

The Fund offers OPERF an opportunity to participate in a differentiated portfolio of private equity investments. PCG AM's review of the General Partner and the proposed Fund indicates that the potential returns available justify the risks associated with an investment in the Fund. PCG AM recommends that OPERF consider a commitment of up to $100 million to the Fund. PCG AM's recommendation is contingent upon the following:

(1) Satisfactory negotiation or clarification of certain terms of the investment;

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

(4) No material changes to the investment opportunity as presented; and

(5) Confidentiality maintained regarding the commitment of OPERF to the Partnership until such time as all the preceding conditions are met.

TAB 4 – HIGHSTAR CAPITAL IV

Highstar Capital IV L.P.

Purpose

Staff recommends approval of a commitment to the Highstar Capital IV L.P. (Highstar) in the amount of $100 million for the OPERF Alternatives Portfolio.

Background

Since its inception in 2000 with its first fund, Highstar has invested over $4.8 billion in a variety of infrastructure assets. The investment firm is currently seeking to close its fourth fund with approximately $2.0 billion of capital commitments.

Strategy:
Highstar will focus on higher return value added and opportunistic strategies to build out a portfolio of contracted assets and GDP-related businesses in the energy, environmental services and transportation sectors, principally in North America and Europe. Examples include airports, natural gas transportation, distribution and storage, the provision of water and wastewater services, and marine terminals (ports). Infrastructure assets tend to exhibit lower volatility relative to other asset classes and returns that are less correlated to capital market assets such as equities and fixed income instruments.

While Highstar focuses on long duration, core infrastructure assets, it will pursue a typical private equity style strategy of buying and holding for three to seven years before exit. As such, it will seek opportunities that allow for value-add operational improvement and growth opportunities to grow EBITDA and position the assets for longer hold acquirers.

Pros:

- *Independent.* Highstar is an independently owned firm with a large and experienced team. While most infrastructure funds are affiliated with or captive to large financial firms (banks, brokerage firms, industrial companies), Highstar is now independent of any banking or industrial group and thus has no conflicts with other businesses and a better alignment of interests with its LPs.
- *Track record.* Across three funds, Highstar has delivered a strong track record, including net IRRs of approximately 16%, for both realized and unrealized investments. The value of their realized investments more than doubled, producing a gross IRR of 37%.
- *Oligopolistic-type assets.* The strategy emphasizes downside protection with a focus on assets with essential services, contracted/regulated cash flows, cost pass through and inflation mitigation, high barriers to entry, and entrenched customer relationships. At the same time, Highstar seeks value add opportunities to grow EBITDA through operational improvements and platform enhancing add-on acquisitions.
- *Experienced operator/owners.* The Highstar team has demonstrated the ability to invest in large complex assets, such as one of the largest marine terminal companies in the United States (Ports America) and Kinder Morgan, one of the largest pipeline operators in the United States. It will typically avoid investments that offer few opportunities for value add, such as annuity like toll roads and PFI (Private Finance Initiative, or concession type) initiatives.
- *Co-investment.* Option to co-invest alongside the GP at a reduced fee.

Cons:

- The portfolio may be subject to political and regulatory risk as some of the assets may be regulated or previously municipally owned and operated. While there is a trend towards greater public-private partnership ("PPP"), there can be opposition to private ownership of essential services. *[Mitigant: Highstar is a U.S. based fund and therefore not subject to the same political risk that foreign investors face (for example when Dubai attempted to acquire a U.S. port, that was ultimately sold to Highstar). Moreover, it has worked on a number of successful PPP investments demonstrating the ability to work with a variety of constituents, including public officials and labor organizations.]*
- Most infrastructure assets utilize debt as part of their capital structure. Availability of debt and on what terms can vary over time thereby impacting potential equity returns. *[Mitigant: despite the current debt crisis, there generally has been availability of debt for investment grade opportunities.]*
- Highstar was previously a partner with AIG, which was a major participant in the 2008 financial crisis. *[Mitigant: Highstar negotiated a complete separation from AIG and is now a fully independent investment management firm. Moreover, Highstar's investment strategy was distinct from AIG's mainline businesses and Highstar's performance was not adversely affected by its former relationship with AIG.]*

Terms:
There is a standard management fee on committed capital with a standard carry and preferred return. There is a five-year investment period and a ten-year term with two one-year optional GP extensions. Highstar retained Probitas as their placement agent to help market the fund. Staff had contact with Probitas though Staff also was aware of, met with, and was tracking Highstar prior to Probitas being retained by Highstar.

Conclusion:
Highstar offers one of the few independent and experienced managers with a realized track record of successful investing as a principal in the infrastructure sector. Infrastructure, as an asset class, offers expected returns between equity and fixed income, but with relatively low volatility and less correlated returns. Furthermore, as an asset class, it is a valuable hedge against inflation with long-lived real assets to match nicely with a pension plan's liabilities.

Recommendation
Staff and PCG recommend a commitment of $100 million to Highstar Capital IV L.P., subject to the negotiation of the requisite legal documents with staff working in concert with the Department of Justice.

MEMORANDUM

TO: Oregon Public Employees' Retirement Fund ("OPERF")

FROM: PCG Asset Management LLC ("PCG AM")

DATE: July 15, 2011

RE: Highstar Capital IV, L.P.

Strategy:

Highstar Capital IV, L.P., (the "Fund", "Highstar IV", or "Fund IV"), is being formed by Highstar Capital, L.P. (the "Firm", "General Partner", or "Highstar"). The Fund is Highstar's fourth, and will continue the Firm's operationally focused, value-added investment strategy targeting North American sector-focused infrastructure investments. The Fund will target a net IRR return profile of 18-25%, depending on the risk profile of the underlying investments, and with the upper end of the range dependent upon successful execution of the Firm's value-add investment strategy. The target capitalization for the Fund is $3.5 billion.

The Fund will target investments in the following sectors: (i) Energy: midstream, power generation, transmission and distribution; (ii) Environmental Services: waste, utilities, renewables; and (iii) Transportation: rail, ports, airports. The Fund's primary geographic focus areas are North America and Western Europe. Highstar's investment strategy, which has remained consistent since inception, targets controlling or influential minority investments in core, strategic infrastructure assets and businesses with achievable upside potential through operationally focused, value creation strategies geared towards generating sustainable EBITDA growth, while maintaining sustainable downside protection.

Highstar operates from offices in New York and Houston and employs 21 investment and portfolio management professionals, nine legal, finance administration and accounting professionals, as well as two investor relations and communications professionals.

Conclusion:

The Fund offers OPERF an opportunity to participate in a differentiated portfolio of private equity investments with relatively attractive overall terms. PCG AM's review of the General Partner and the proposed Fund indicates that the potential returns available justify the risks associated with an investment in the Fund. PCG AM recommends that OPERF consider a commitment of $100 million to the Fund. PCG AM's recommendation is contingent upon the following:

(1) Satisfactory negotiation or clarification of certain terms of the investment;

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

(4) No material changes to the investment opportunity as presented; and

(5) Confidentiality maintained regarding the commitment of OPERF to the Partnership until such time as all the preceding conditions are met.

TAB 5 – NPG NATURAL RESOURCES X

NGP Natural Resources X L.P.

Purpose

Staff recommends approval of a commitment to NGP Natural Resources X ("NGP" or the "Fund") in the amount of $100 million for the OPERF Alternatives Portfolio.

Background

NGP was starting in 1988 to invest in natural resources properties in North America. Over the past 22 years, the firm has generated a 22% net IRR while never losing money despite a volatile and cyclical industry. NGP is targeting a $4 billion capital raise for its tenth fund.

Discussion/investment considerations

NGP's strategy is to invest in businesses in oil and natural gas production, energy midstream and oilfield services industries in the energy sector. In addition, the Fund will explore opportunities in the water resources and food and agriculture industries. While NGP may consider investments globally, it expects, as in prior funds, to investment primarily in North America.

Investment considerations:

Pros:

- *Strong track record.* Through nine funds and multiple market cycles since 1988, NGP has never lost money for its investors. Its since inception net IRR across nine funds over 22 years has been in excess of 20%.
- *Continuity and a deep bench.* The three founding partners have worked together for over 22 years. The investment team is deep with over 35 investment professionals and has enjoyed nearly no turnover that has resulted in nearly 200 investments in 145 portfolio companies over multiple funds.
- *Global demand*. Global population growth is expected to grow by one third by 2050, such that the world's population will total over 9 billion people. The urbanization of that increased population contributes to changing consumption patterns for the world's commodities. Moreover, the increased population and urbanization is driving the growth of a much larger "middle class" thereby fueling increased demand for energy, protein, and water resources.
- *Capital investment.* To meet the increased demand for natural resources, increased prices and increased capital investment will be required to increase production and the supply of natural resources.
- *Repeat management teams.* NGP's investment model includes providing "line of equity" capital to entrepreneurs in the natural resources sector. Many of NGP's portfolio company managers have operated and realized successful exits in prior NGP funds. As a result, NGP expects to have well developed relationships with many of the managers of its future portfolio companies, which should reduce the "blind pool" nature of the Fund.
- *Skin in the game.* The GP is committing 2.8% to the Fund, both as a GP commitment and through additional LP interests, more than double the normal market rate of GP commitment.

Cons:

- *Cyclical industries.* The natural resources sector has historically experience periods of both strong growth and severe downturns. [Mitigant: NGP has successfully invested in both bull and bear oil and gas markets.]
- *Capital flows.* There has been a renewed interest from institutional investors in real assets, including oil and natural gas strategies. Higher than normal interest could cause assets to be bid up, thereby hurting future returns. [Mitigant: NGP focuses on the conventional, less competitive segment of the market (as opposed to the more bid up shale plays) and can aggregate properties to exit to larger investors that need to deploy capital.]
- *Newer sectors.*NGP will explore opportunities in the water resources and food and agriculture industries where it has some, but not extensive, experience. [Mitigant: The Fund will limit its exposure to these sectors to no more than 10% of committed capital.]
- *Minority investor in General Partner.* The GP is 40% owned by Barclay's Bank PLC, a large British financial institution. [Mitigant: The ownership of Barclay's has provided a means to more broadly distribute the incentive compensation within the GP, allowing for stronger retention of key contributors.]

Terms:
The fund has a typical management fee and incentive fee (carry) for funds of this structure. The management fee will begin to step down after the end of the investment period. Any carry will be subject to a hurdle rate that will need to be achieved before a "catch-up" of incentive fees. NGP do not hire a placement agent as part of its fund raising effort, nor did any placement agent contact Treasury staff. [See PCG memo for terms]

Recommendation
Staff and PCG recommend a commitment of $100 million to NGP Natural Resources X L.P., subject to the negotiation of the requisite legal documents with staff working in concert with the Department of Justice.

MEMORANDUM

TO: Oregon Public Employees' Retirement Fund ("OPERF")

FROM: PCG Asset Management LLC ("PCG AM")

DATE: July 15, 2011

RE: NGP Natural Resources X, L.P.

Strategy:

NGP Natural Resources X, L.P., a Delaware Limited Partnership (the "Fund", "NGP X" or "Fund X") is being formed by G.F.W. Energy X, L.P., a Delaware Limited Partnership (the "General Partner") and NGP Energy Capital Management, L.L.C. ("NGP" or the "Firm"), a Texas limited liability corporation. NGP was formed in 1988 and has since raised nine core-funds, as well as several other related products that total $9.5 billion of assets raised. The Fund has a target capitalization of $4.0 billion and hard cap of $4.75 billion. The Fund will target a gross IRR in excess of 25% and net IRR greater than 18%.

The Fund will continue the same investment approach employed by NGP over the past 22 years, focusing on backing high-quality management teams and acquiring interests in businesses in the oil and natural gas production, energy midstream and oilfield service ("Energy") industries. In addition, the Fund may also invest in the food and agriculture ("Food & Agriculture") industry and the water resources and services ("Water Resources & Services") industry; however, non-Energy investment is restricted to 10% of the Fund. The Fund will be focused on North America, but will have the ability to invest up to 25% outside of North America. The Fund will continue NGP's disciplined approach to risk management through the use of conservative asset-based leverage and commodity price assumptions as well as prudent hedging.

NGP operates from its headquarters in Irving, Texas, and has offices in Houston, Stamford, and Santa Fe. The Firm employees 71 people comprised of 39 investment professionals, and 32 operational and administrative professionals.

Conclusion:

The Fund offers OPERF an opportunity to participate in a differentiated portfolio of private equity investments with relatively attractive overall terms. PCG AM's review of the General Partner and the proposed Fund indicates that the potential returns available justify the risks associated with an investment in the Fund. PCG AM recommends that OPERF consider a commitment of $100 million to the Fund. PCG AM's recommendation is contingent upon the following:

(1) Satisfactory negotiation or clarification of certain terms of the investment;

(2) Satisfactory completion of legal documents;

(3) Satisfactory continuation and finalization of due diligence;

(4) No material changes to the investment opportunity as presented; and

(5) Confidentiality maintained regarding the commitment of OPERF to the Partnership until such time as all the preceding conditions are met.

TAB 6 – OPERF REAL ESTATE ANNUAL REVIEW

OPERF Real Estate

Portfolio Review and 2011 Annual Plan

Purpose

To provide the OIC with a review of the current OPERF Real Estate portfolio, portfolio results for 2010 and tentative plan for 2011 real estate activity.

Background

OPERF's 2010 real estate performance showed a solid rebound from the economic downturn in 2008 and 2009. The 1-year total return for the real estate portfolio was 18.9%, led by the Core segment at 26.3%, and with all other segments showing double digit returns for 2010. The benchmark NCREIF Index return for 2010 was 13.1%. While the fundamentals for real estate such as occupancy and rental rates improved during the year, returns were primarily driven by the capital market's demand for yield. Well occupied properties with strong cash flows were achieving premium pricing by year-end 2010, thereby increasing the value of our Core Portfolio. Our holdings of domestic REITs also benefitted from this increased demand as well as from a resumption of the public debt offerings, providing a 1-year return for OPERF's domestic REIT portfolio of 31.7% for 2010.

OPERF's Opportunistic and Value Added portfolios both achieved double digit returns (12.0% and 11.1% respectively). Most fund managers have resolved their debt issues through difficult negotiations during the past two to three years. While many managers had taken a defensive posture toward their unfunded commitments previously, most had started to see attractive acquisition opportunities in the recovering market by year-end 2010.

OPERF's real estate portfolio started 2010 with a net asset value of $4.77 billion and ended at $5.71 billion. Unfunded commitments ended the year at just over $2.0 billion. The $5.71 billion ending value represented 9.7% of total OPERF value versus a target if 11%. Had the entire unfunded commitment been invested, the real estate portfolio would have increased to 13.2% of the total OPERF fund value (less than the maximum 14% allowed by policy). Real estate transaction activity increased at the very end of 2010 and has continued during the first half of 2011. Further acquisitions will draw down existing unfunded commitments and increase net asset values toward our 11% policy target allocation.

During 2010, three new real estate commitments were approved for a total $300 million. In 2011 through June, two real estate commitments totaling another $300 million have been approved. These investments will focus on two strong theses: recovery of the domestic real estate market and continued growth of global emerging markets. We expect both of these trends to continue into 2012 and provide good risk adjusted returns. Staff recommended that OPERF <u>not</u> double its existing commitment to a manager for distressed debt/distressed real estate since we had adequate investment in that space with that manager and other existing managers that still had unfunded commitments.

As required by OIC policy for Non-Mandate Property Exception reporting, no Non-mandate property transactions occurred during 2010. However, during 2011, one 93,400 square foot retail/office property in Dallas, Texas was acquired as part of the Non-Mandate Property Exception.

The real estate portfolio balance target prescribed by the OIC is 30% to Core, 20 % to Public REITs, 20% to Value Added Investments and 30% to Opportunistic investments. At year-end 2010 both the Core and REIT portfolios were at target levels; Value Added segment was below target (12% versus target 20%) and Opportunistic was near the top of permitted range (38% versus target of 30% and maximum of 40%). During 2010 the issue of the portfolio's high commitment to the Opportunistic segment was discussed with the OIC. Direction from the OIC at that time was to continue seeking high yielding investments selectively where the risk/reward was justified.

At year-end 2010, the Core Real Estate Portfolio balance was within policy range for all four property segments. Office, industrial and retail segments were near target range. The apartment segment was below target level while still being within policy range. Proposed development activity during the first half 2011 should close the gap on reaching our target allocation for the apartment segment in the future.

Aggregate debt levels for the real estate portfolio at year-end 2010 were within OIC policy limits. Some individual accounts remain above their target limits but all made headway during the year. In aggregate, the Core portfolio debt level dropped from 30% loan to value at year end 2009 to 23% by year end 2010. The Value Added portfolio debt level dropped from 70% loan to value at year-end 2009 to 60% at year end 2010. OIC policy limits are 50% loan to value for Core and 70% loan to value for Value Added.

In summary, the OPERF real estate portfolio has weathered the economic storm of the past few years and is poised to recover in value as the economy improves. Managers with unfunded capital commitments are seeing opportunities to invest profitably. Staff will continue to monitor pacing of distributions and contributions to assess the need for new commitments needed to bring the real estate portfolio to the policy target of 11% of total OPERF holdings. Given the current overweight, Opportunistic sector commitments will be very selective. Some existing managers may not receive an allocation in their next round of fund offerings. Conversely the Value Added sector will actively be pursued due to current underweight and due to its potential for strong risk adjusted returns as part of the economic improvement. The Core and REIT portfolios will be monitored and rebalanced, if necessary, to ensure that they maintain their respective target levels within the portfolio.

Recommendations

This report is provided for discussion and informational purposes, and no action is required.

Market Update 2H11

OREGON INVESTMENT COUNCIL

Oregon Public Employees' Retirement Fund

Areté Capital

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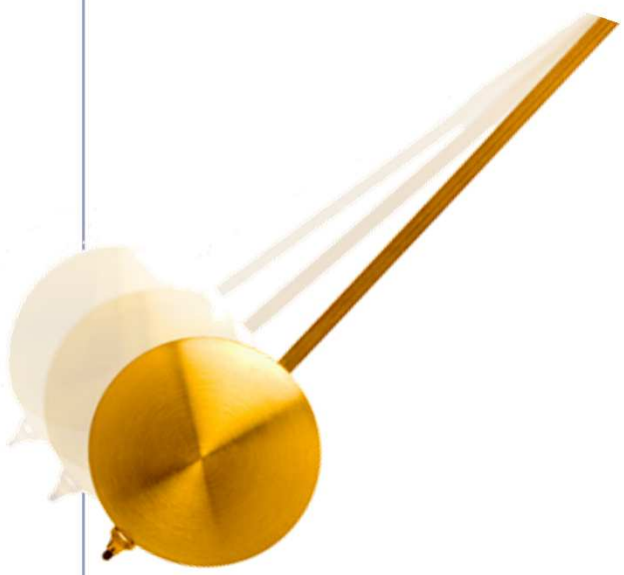
Executive summary



- **The pendulum swung out faster and farther than expected.**
  Over the past six months, global cap rates compressed significantly, especially for prime properties. Target returns on new junior debt and non-core equity investments came down by 300-600 basis points, on average.

- **What caused the swing?**
  The market movement was driven by strong capital flows. As demand for class A properties in tier 1 cities could not be fully absorbed, investors started to move up the risk/return spectrum in the search for additional yield. Fundamentals, on the other hand, were mixed.

- **Has the pendulum swung out too far?**
  Several of the market segments that attracted the most capital appear fully priced. However, there is room for appreciation in various tier 2 and 3 cities, as well as in the secondary space, where we find attractive opportunities.

- **What are likely triggers of a core market correction?**
  We consider rising inflation a likely trigger. Once bonds have 6% yields again, cap rates of 5% and lower will not be plausible any more, especially not in markets without strong fundamentals. Rents can potentially be protected against inflation, but capital values cannot.

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A world of two speeds

Real GDP growth (%)

		2010	2011E	2012E
Developed markets	US	2.7	2.7	3.2
	Eurozone	1.8	1.8	1.9
	Germany	3.5	2.8	2.0
	UK	1.3	1.8	2.3
	Japan	2.9	0.5	2.9
Emerging markets	Brazil	7.5	4.0	4.5
	Russia	4.0	4.8	5.0
	China	10.3	9.3	9.0
	India	8.6	8.0	8.5
	World	**4.9**	**4.2**	**4.5**

Source: Median Morgan Stanley, Bank of America Merrill Lynch, UBS, Goldman Sachs, Barclays Capital, JP Morgan and Deutsche Bank estimates (May 2011)

- More sustainable growth in the emerging markets, slow but positive growth in the developed markets.
- Creditor countries outperform debtor countries.

Overall growth remains positive. Caution: Growth dispersion is on the rise.

Where is the global economy headed?

12-month composite leading indicator (%)

Developed markets

Country	October 2010	April 2011		Change
US	2.8	1.1	↘	-1.7
Canada	-1.2	-2.7	↘	-1.5
Euro Area	0.7	-1.4	↘	-2.1
Germany	6.6	2.6	↘	-4.0
UK	-2.9	-4.7	↘	-1.8
France	-3.1	-3.0	↗	0.1
Spain	-3.8	-6.2	↘	-2.4
Italy	-4.4	-6.4	↘	-2.0
Ireland	6.5	4.2	↘	-2.3
Norway	3.3	2.8	↘	-0.5
Sweden	8.7	0.5	↘	-8.1
Greece	-7.0	-6.4	↗	0.6
Australia	5.1	2.9	↘	-2.3
Japan	2.6	2.0	↘	-0.6

Emerging markets

Country	October 2010	April 2011		Change
China	12.1	14.2	↗	2.1
Brazil	3.4	0.0	↘	-3.3
Mexico	0.1	-1.2	↘	-1.3
Russia	8.9	7.5	↘	-1.4
Poland	9.4	5.3	↘	-4.1
Turkey	5.0	3.6	↘	-1.4

Source: Bloomberg (20 May 2011)

- The outlook is generally less positive than it was six months ago.

In the medium-term, growth is expected to slow globally.

What are the risks to the global economy?

Sovereign debt crises	■ Possible spillover effects could negatively affect the banking sector globally.
Monetary tightening	■ The question is not if, but when and by how much monetary conditions will be tightened in developed markets.
Emerging markets' slowdown	■ Central banks may continue to pursue tightening measures such as rate hikes and increases in reserve requirements.
Fiscal consolidation	■ Developed markets' gross public debt levels are unsustainably high*. Eventually, there will be cuts in public households and /or increases in taxes.
Inflation	■ Rising commodity prices and rising bond yields would affect both the developed and emerging markets.

The outlook is less positive than six months ago, since risks have increased.

*As of 2011, developed markets' public gross debt to GDP is 103% (Bloomberg)

Labor markets show mixed performance

Unemployment level and change (%)

Developed markets

Country	April 2011	Change since October 2010	Difference to 5yr average
US	9.0	↘	↗
Canada	7.6	↘	↗
Eurozone	9.9	↘	↗
Germany	7.1	↘	↘
UK	7.7	↘	↗
France	9.2	↘	↗
Italy	8.5	↗	↗
Spain	21.3	↗	↗
Sweden	8.1	↗	↗
Ireland	14.7	↗	↗
Greece	14.1	↗	↗
Japan	4.6	↘	↗
Australia	4.9	↘	↗
South Korea	4.2	↗	↗
Singapore	1.9	↘	↘
Hong Kong	3.6	↘	↘
Taiwan	4.6	↘	↘

Source: Bloomberg (May 2011)

Emerging markets

Country	April 2011	Change since October 2010	Difference to 5yr average
China	4.1	⇨	⇨
Brazil	6.3	↘	↘
Mexico	5.1	↘	↗
Russia	7.5	↗	↗
Poland	9.8	↗	↗
Turkey	11.2	↗	↘

- Unemployment levels in developed markets, and in debtor countries in particular, are elevated compared to their long term average.

The picture is expected to stay mixed as GDP growth below 2% does not tend to reduce unemployment.

Real estate fundamentals reflect lackluster job growth

Office vacancy (%)

Developed markets

City	Q1 2011	Change since Q3 2010	Change until Q4 2011 (E)
New York	11.8	↘	↖
Washington DC	14.5	↘	↖
Chicago	20.1	↖	↘
San Francisco	16.8	↘	↘
Los Angeles	18.3	↖	↘
Toronto	8.9	↘	↘
London	6.5	↘	↖
Paris	7.3	↖	↘
Frankfurt	15.2	↖	↘
Madrid	10.2	↖	↘
Brussels	11.2	↘	↘
Amsterdam	17.2	↘	↖
Tokyo	6.0	↘	↘
Sydney	8.9	↖	↘
Singapore	5.7	↖	↖
Hong Kong	4.8	↖	↘

Source: JLL (April 2011, November 2010)

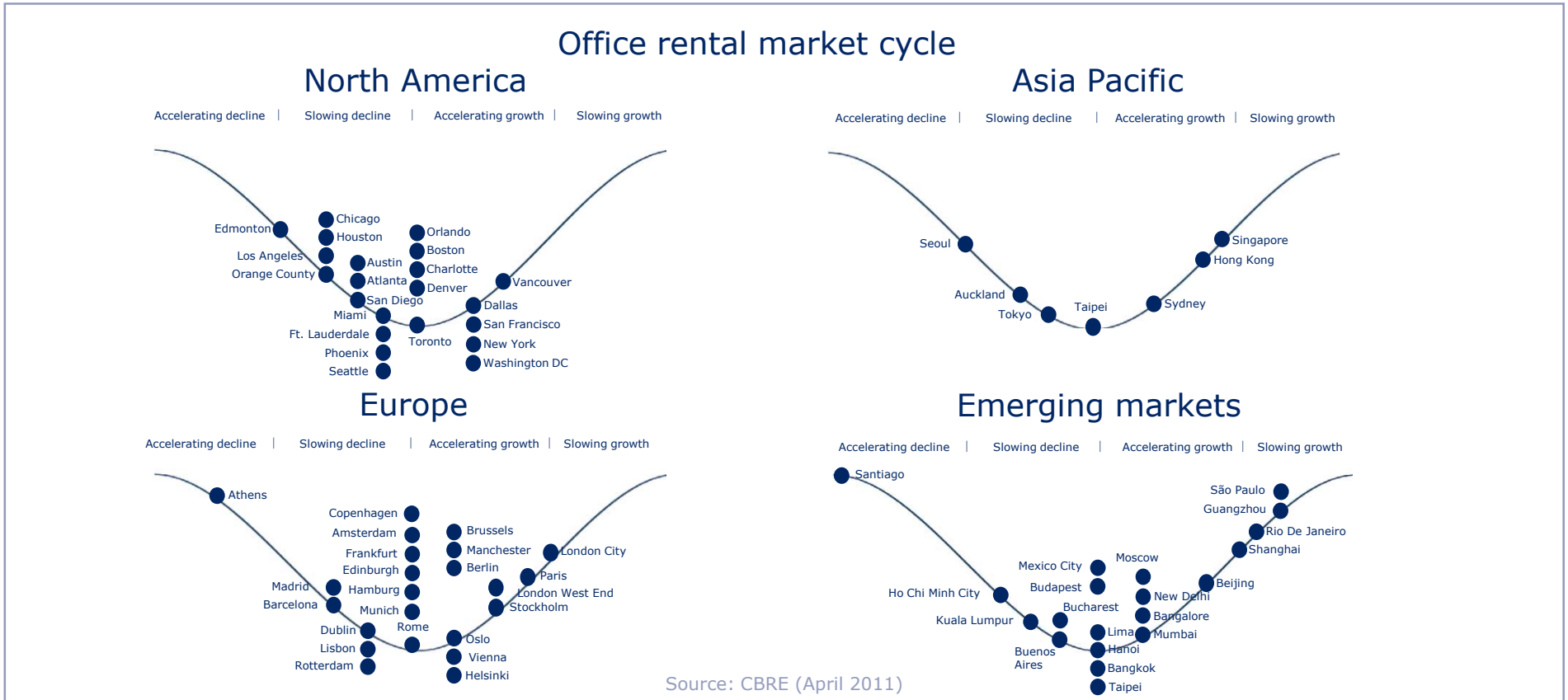
Emerging markets

City	Q1 2011	Change since Q3 2010	Change until Q4 2011 (E)
Shanghai	5.6	↘	↖
São Paulo	6.7	↘	↖
Mexico City	12.0	↖	↖
Moscow	15.2	↖	↘
Mumbai	16.8	↖	↖

- Office vacancies remain elevated, especially in North America and in the emerging markets.
- Historically, improving labor markets tended to lead to growing demand for space.

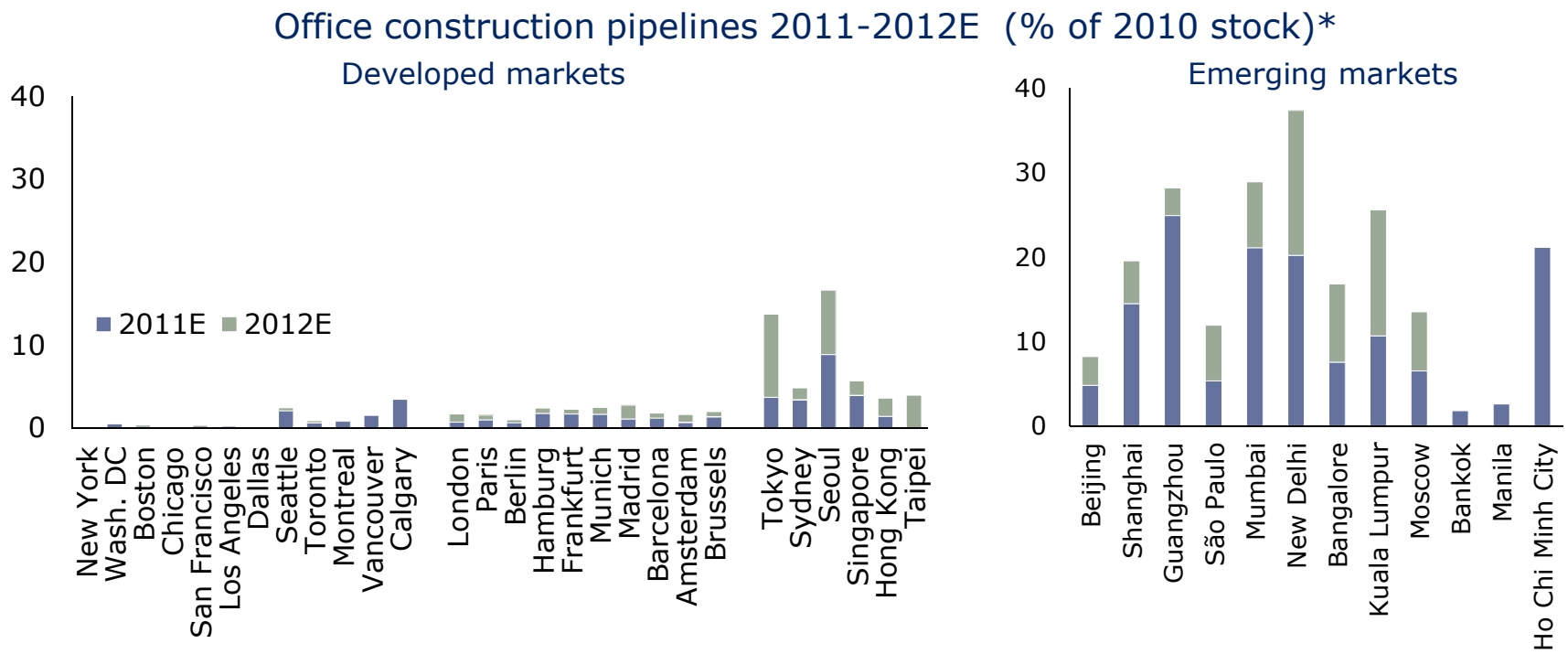
Without GDP and job growth, demand for real estate typically does not pick up.

Majority of markets still at or near the trough in rents



Only select tier 1 and emerging market cities have been seeing substantial rental growth.

Development pipelines mirror the world of two speeds



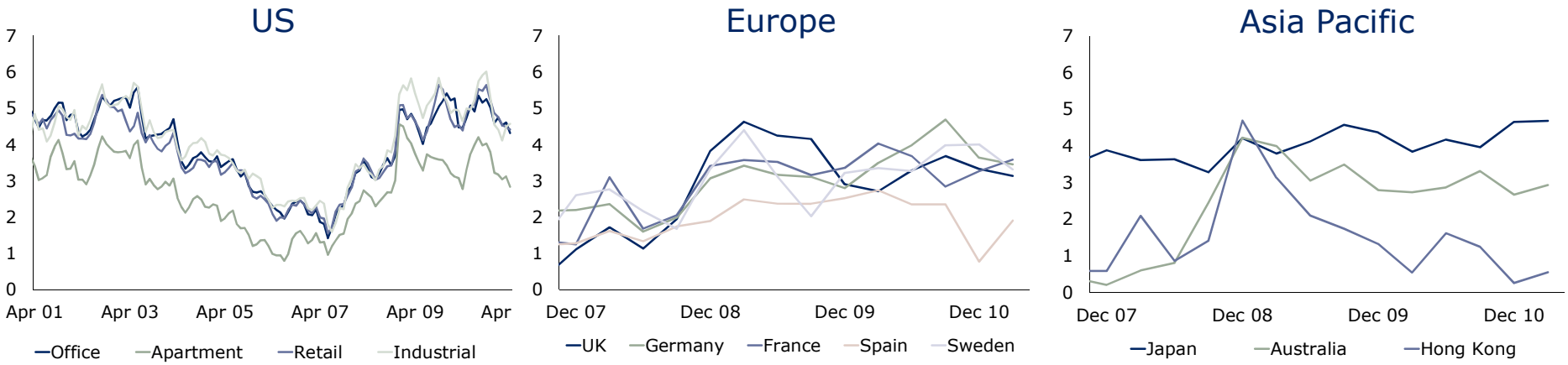
Source: CBRE, JLL (April 2011)

Pipelines are small in the developed western markets, large in the emerging markets.

*Numbers do not reflect stalled developments with uncertain construction starts.

Core real estate appears attractive compared to bonds

Cap rate spreads over local 10-year government bond yield (%)



Source: Bloomberg, Real Capital Analytics (8 June 2011)

- For institutional investors, core assets in tier 1 cities with high cash flow visibility represent a relatively close substitute for bonds.

Investors in real estate can earn a positive spread over long term government bonds.

Is real estate hedged against inflation? (1 of 2) Rental income

- **US** lease contracts often allow landlords to pass a large number of expenses on to the tenant ("pass-through expenses"), such as maintenance, repairs, trash removal, and even some taxes. Leases are often indexed to the consumer price index (CPI).
- **Brazilian** leases are indexed to the annual change in the local CPI.
- Mexican leases are adjusted to the annual change in local CPI or US CPI, dependent on whether the lease payments are in Mexican Pesos or in USD.
- **British** leases are inflation adjusted and upward-adjusting only. Triple-net leases are common.
- **German** leases are 75-100% indexed to annual headline CPI.
- **Spanish** rents are generally 100% indexed to annual headline CPI/CCI*.
- **Swedish** leases are typically 100% inflation-indexed to local CPI.
- **French** rents are 100% indexed to annual headline CPI/CCI.
- In **Russia**, rent indexation typically applies from the second or third year of the lease, based on US headline CPI, or a fixed increment of 5-10%.
- In **Australia,** upward-adjusting only leases are typical.
- In **New Zealand**, upward-adjusting only leases are typical.

- In many countries, rental income goes up with general price levels (albeit with a lag).

Rents tend to be hedged against inflation. This makes core real estate superior to fixed income instruments for investors who are concerned about inflation risk.

*Construction cost index

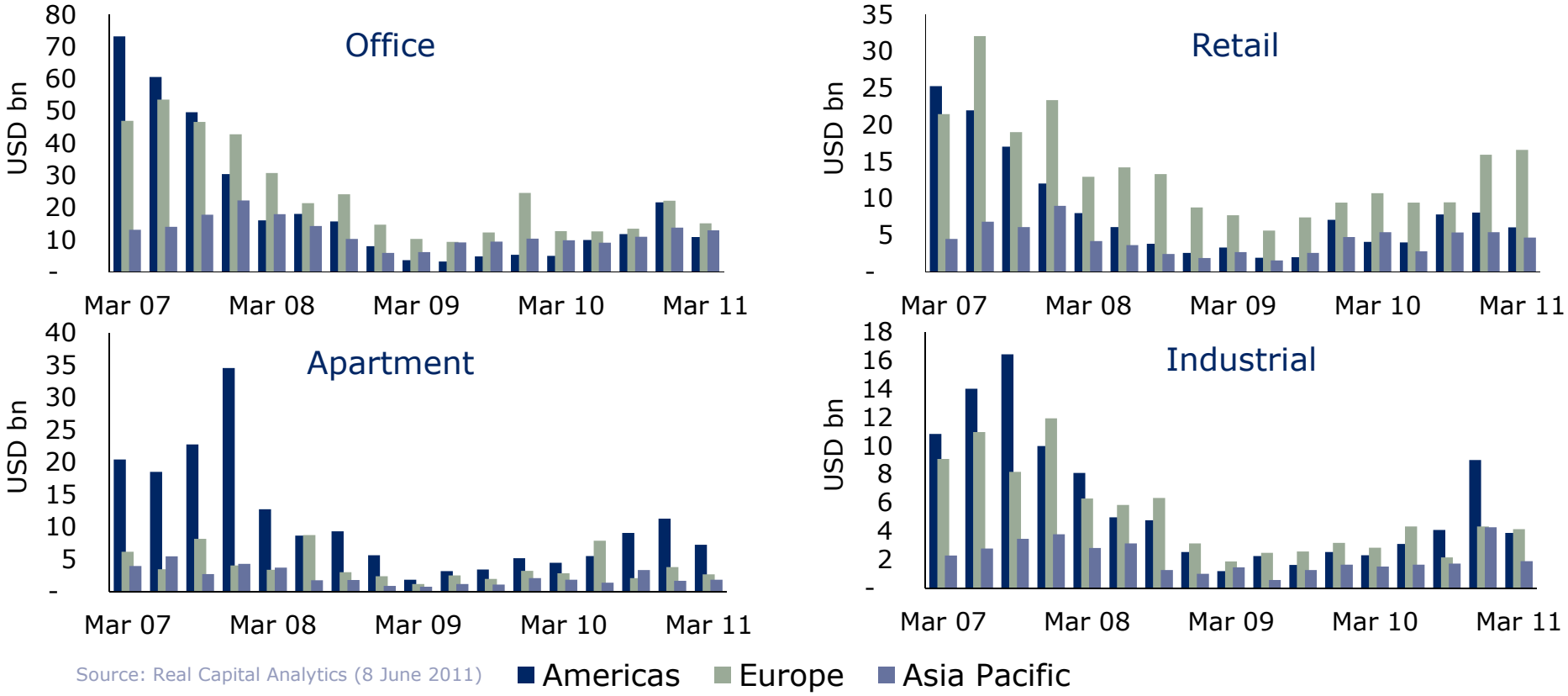
Is real estate hedged against inflation? (2 of 2) Asset values

Starting point			Scenario Inflation, interest rates and NOI go up 3%	
Cap rate	**10-year bond yield**	**Cap rate spread**	**Cap rate**	**Change in capital value**
3.0%	3.0%	0.0%	6.0%	-48.5%
4.0%	3.0%	1.0%	6.5%	-36.6%
5.0%	3.0%	2.0%	7.0%	-26.4%
6.0%	3.0%	3.0%	7.5%	-17.6%
7.0%	3.0%	4.0%	8.0%	-9.9%
8.0%	3.0%	5.0%	8.5%	-3.1%

- A significant rise in inflation may initially hurt real estate values due to a potential rise in cap rates (to maintain a positive spread vs. the local risk free rate of return).
- Potential value declines offset by rental increases over time (CPI indexed rents) and by increases in replacement costs.
- Potential declines may also be offset by "fear factors" in the economy driving investors to tangible assets
- Over time, real estate should provide better inflation linked protection than fixed income, especially when limited new supply conditions exist, as is the case today in developed markets.

Real estate asset values are generally not hedged against inflation. Inflation is likely to be the trigger of a re-pricing of core real estate.

Transactions involving cash flowing properties are back to levels last seen in early 2008

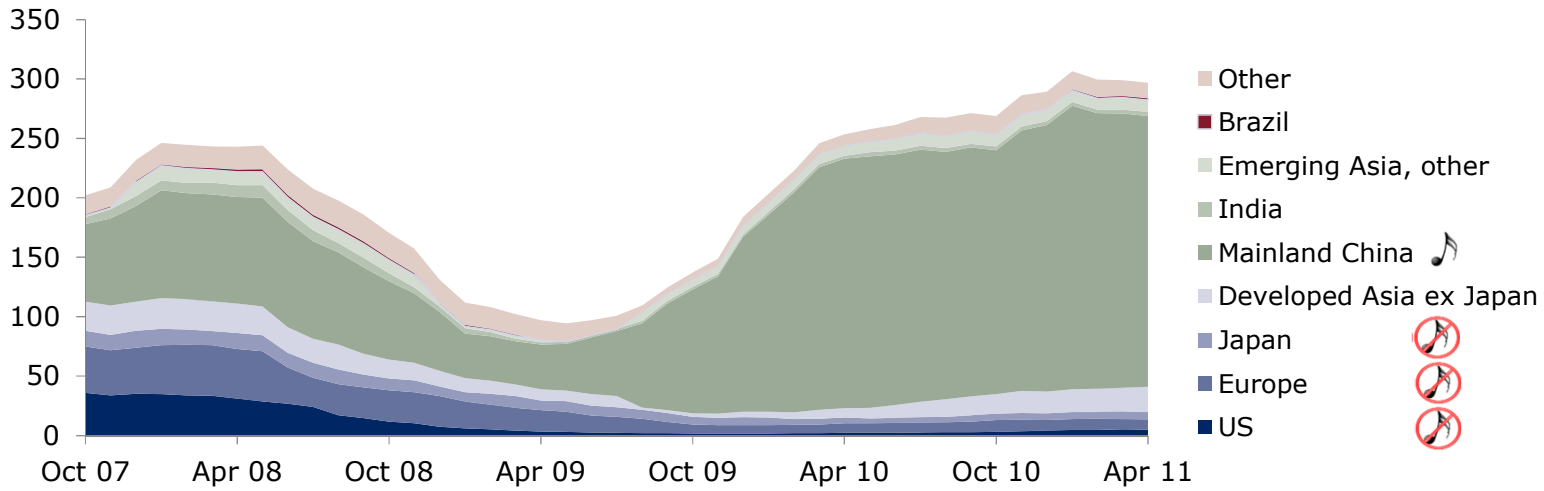


Source: Real Capital Analytics (8 June 2011)

Major themes include European retail, US apartments and US industrial.

Transactions involving development and land are at an all time high

Trailing 12-month sales of development and land* (USD bn)



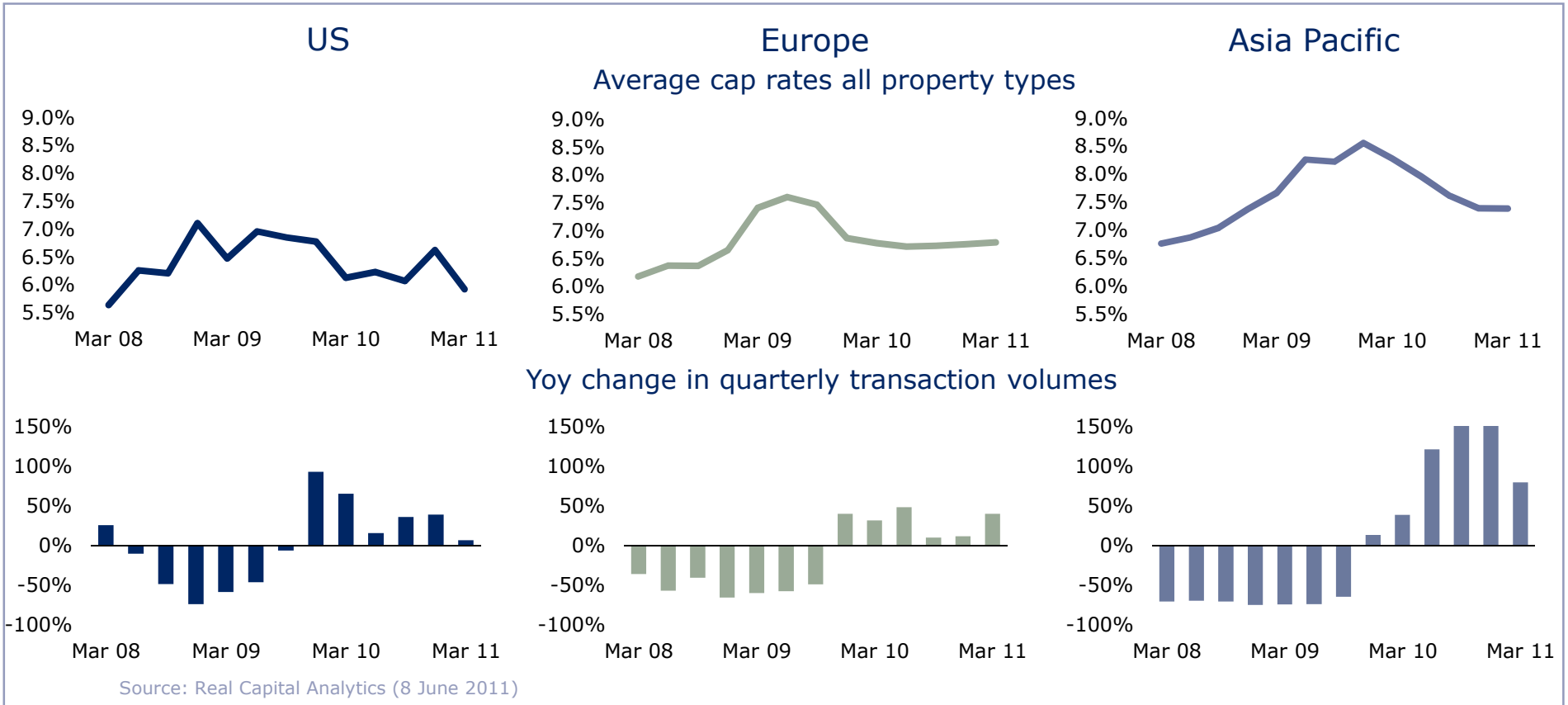
Source: Real Capital Analytics (8 June 2011)

- Transactions involving Chinese land and construction account for ¾ of Chinese property sales, as well as for ¼ of property sales globally. One might ask: When will the music stop?
- In many developed markets, construction activity is still muted.

Developments are most attractive in markets with strong GDP growth and a limited supply of quality real estate.

*Commercial real estate only, dose not include housing.

Demand for real estate drives pricing



Source: Real Capital Analytics (8 June 2011)

Capital markets, not fundamentals, drive cap rate compression.

Where does the capital flow?

Commercial real estate market transactions (USD bn)

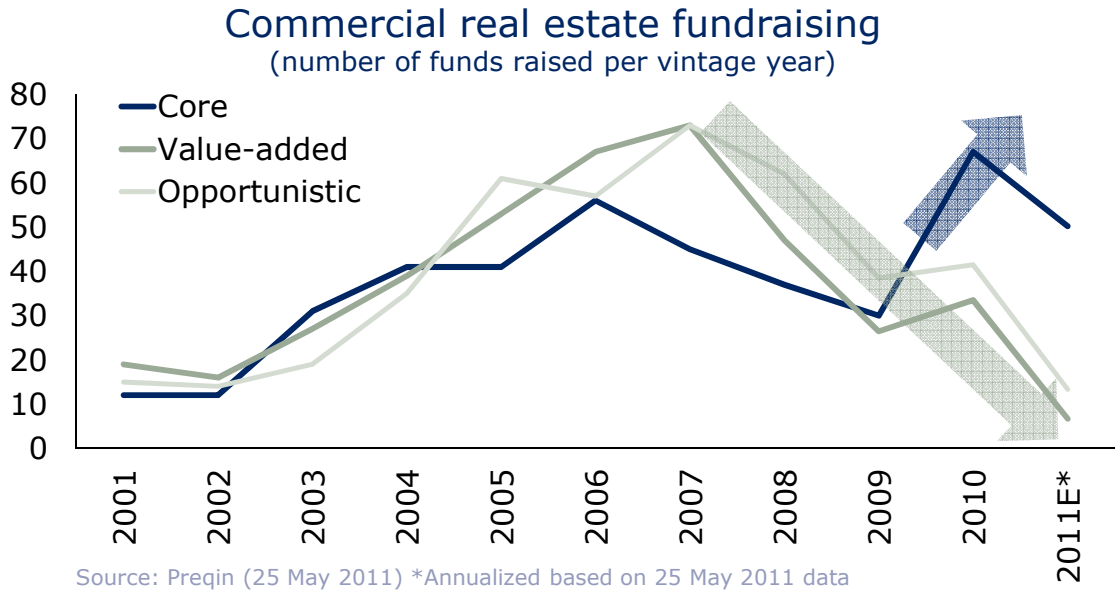
Country	2010	Yoy change in %	Q1 2011	Yoy change in %
US	112.5	141%	26.7	85%
Canada	15.7	131%	2.6	-21%
UK	48.2	20%	14.8	59%
Germany	26.3	54%	9.0	37%
France	21.8	68%	4.8	58%
Sweden	10.8	176%	2.7	21%
Spain	6.4	3%	1.3	-30%
Netherlands	5.5	22%	1.2	10%
Italy	4.2	4%	1.7	96%
Japan	25.0	14%	10.1	5%
Australia	12.9	44%	1.4	-51%
Hong Kong	20.3	111%	3.5	-30%
Singapore	14.9	295%	5.4	235%
South Korea	5.6	-46%	1.2	30%

Country	2010	Yoy change in %	Q1 2011	Yoy change in %
Brazil	5.7	217%	2.9	399%
Mexico	0.3	-30%	0.1	156%
Poland	2.5	121%	1.6	120%
Russia	7.1	41%	0.3	-85%
China	197.1	23%	78.2	11%
Taiwan	7.2	35%	1.6	-18%
India	4.3	62%	0.7	-35%

Source: Real Capital Analytics (May 2011, November 2010)

Markets which are undersupplied with capital offer more attractive opportunities on a relative basis.

Into which strategies does private capital flow?



Source: Preqin (25 May 2011) *Annualized based on 25 May 2011 data

- The pendulum has swung back: Only a few quarters ago, we saw redemption queues throughout the core market. Today, subscription queues are common.

Private market investors continue to focus on core. Fundraising for non-core remains subdued.

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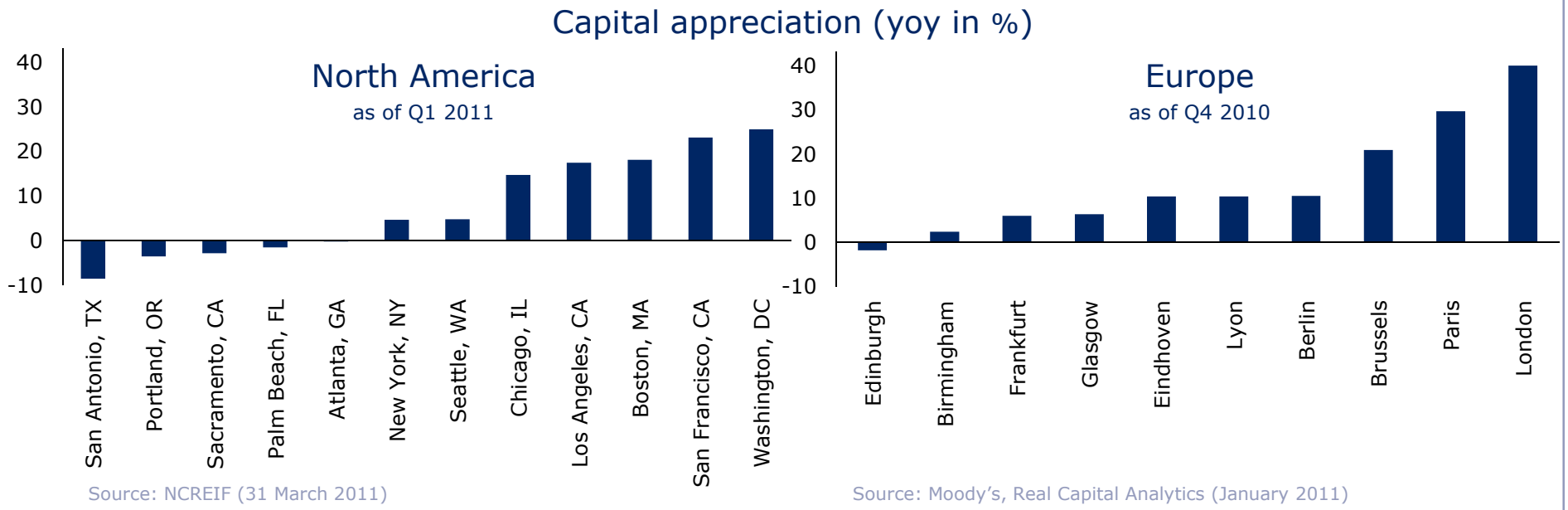
Tier 1 cities continue to outperform

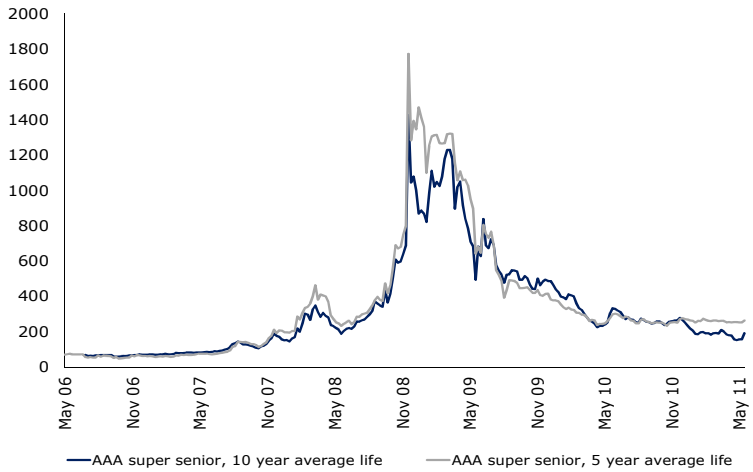


- Various tier 1 markets appear fully priced again.
- Once capital starts to move outside of tier 1 again, pricing is expected to move quickly.

Now may be a good time to invest in tier 2 and 3 cities with sound fundamentals.

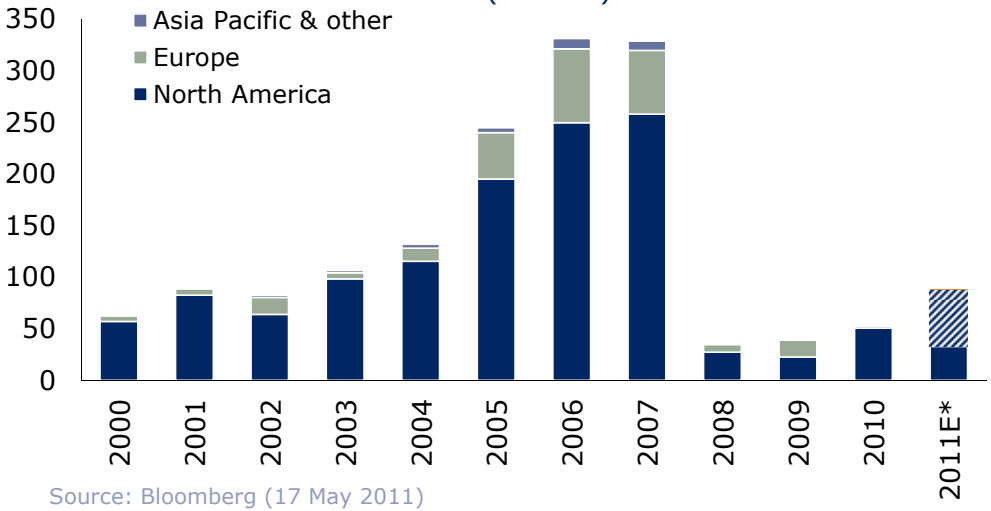
Senior debt markets returned to normal more quickly than expected

Commercial mortgage backed securities
(spread over maturity-matched US treasuries in bps)



Source: Bloomberg (17 May 2011)

Issuance of commercial mortgage backed securities
(USD bn)



Source: Bloomberg (17 May 2011)
*Hatched bar: 18 May - 31 December, estimated as an annualized YTD number as of 17 May

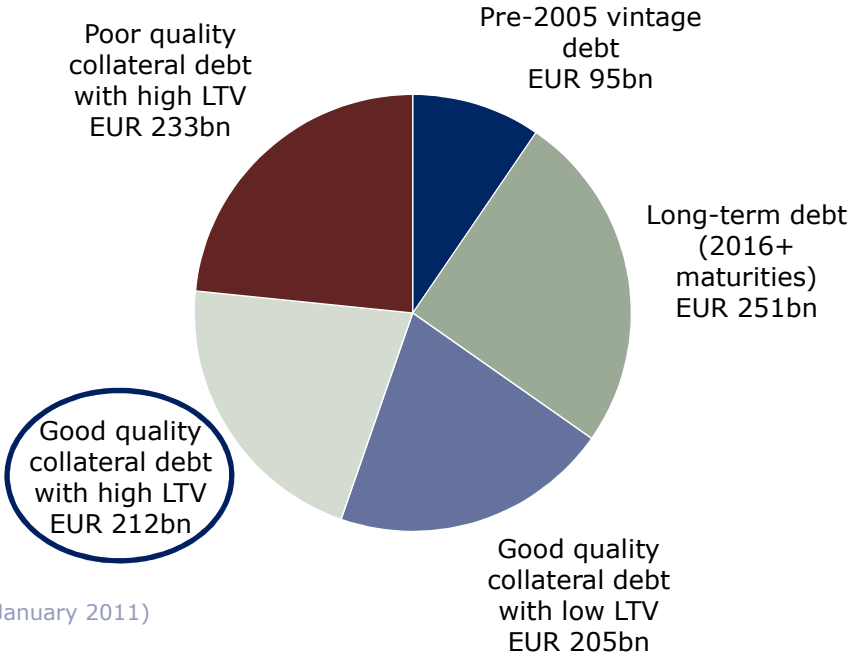
- Rumor has it that institutions such as Bank of America and Morgan Stanley have started to warehouse senior mortgages for CMBS securitizations.
- Selectively, development financing is becoming available again.

Junior debt spreads compressed more quickly and by a larger margin than anticipated.

What are the distressed debt opportunities?

Decomposition of loans outstanding – Europe

Sum as of January 2011: EUR 960bn

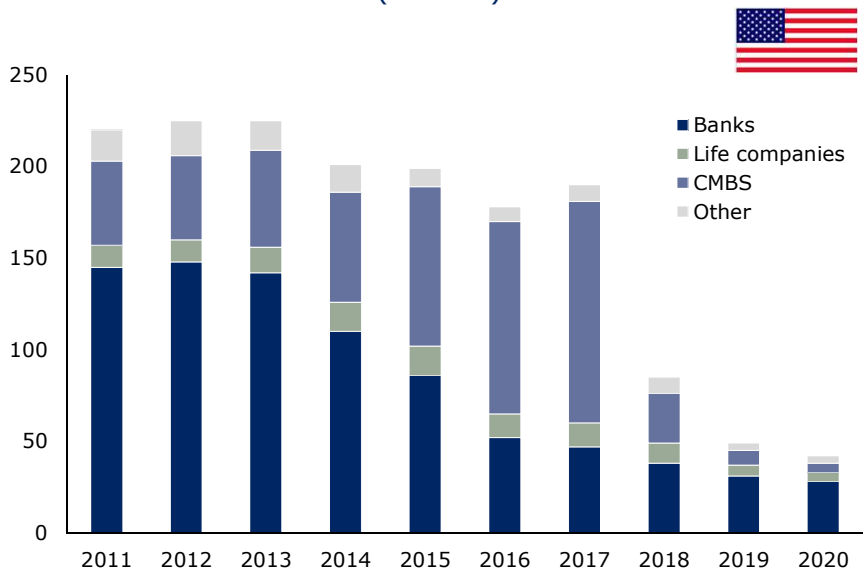


Source: CBRE (January 2011)

The case for recapitalizations of quality assets remains intact. However, fewer overleveraged assets than expected are worked out with the help of 3rd party mezzanine.

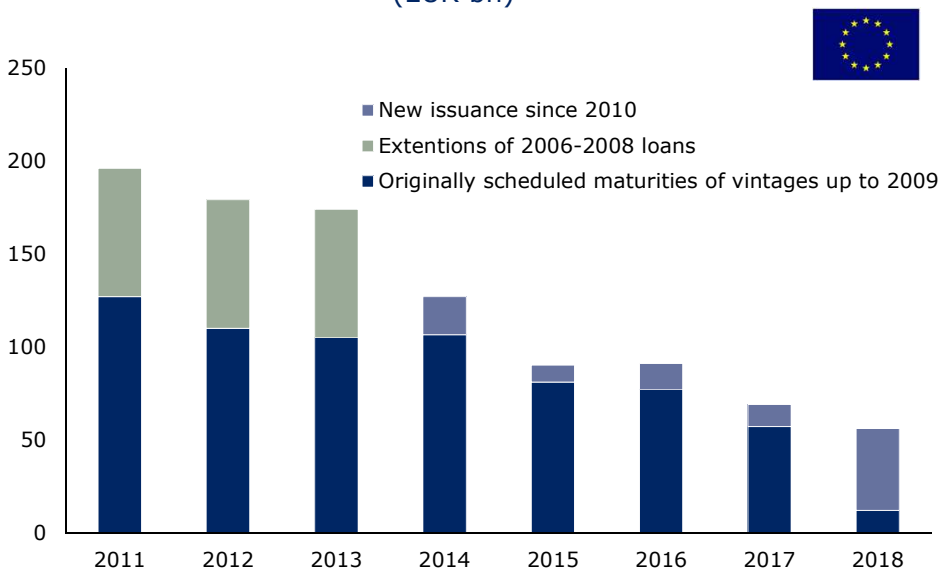
How long will the opportunity last?

Maturity schedule of CRE loans outstanding
(USD bn)



Source: MBA, RCA, BEA, RCG, RREEF (January 2011)

Maturity schedule of CRE loans outstanding
(EUR bn)

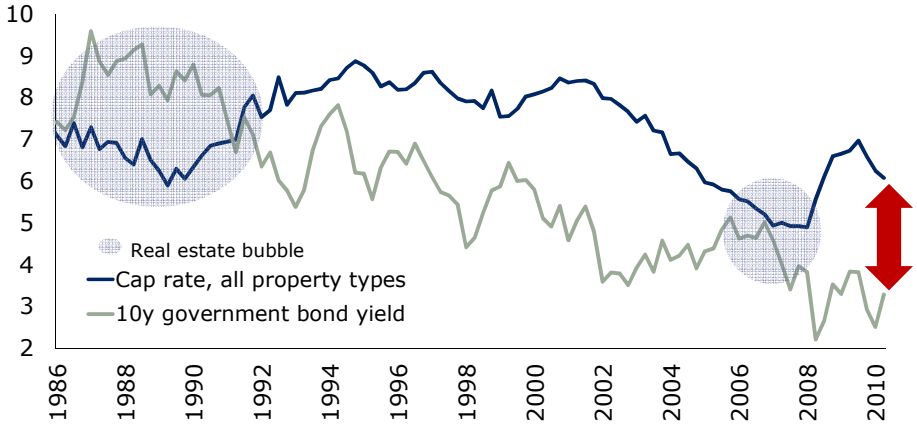


Source: CBRE, De Montfort University (January 2011), RREEF (September 2010)

The resolution of problem loans is expected to be spread out over a longer period.

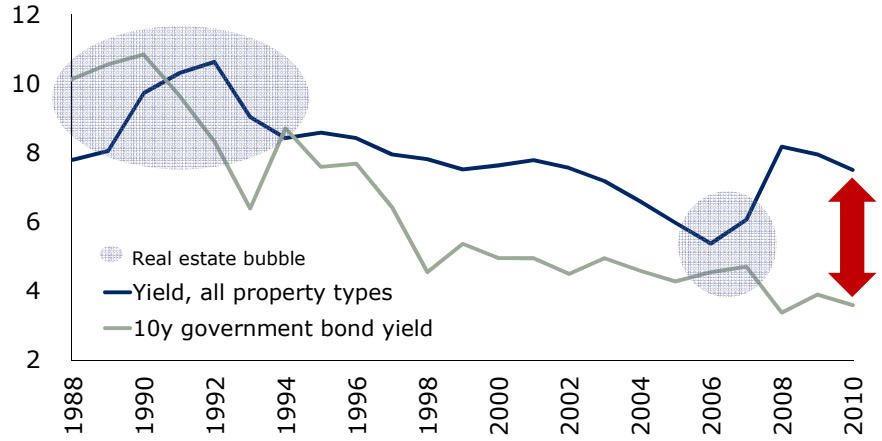
… although core real estate seems historically attractive

US core cap rates vs. US bond yields in %



Source: Bloomberg (31 December 2010)

UK core yields vs. UK bond yields in %

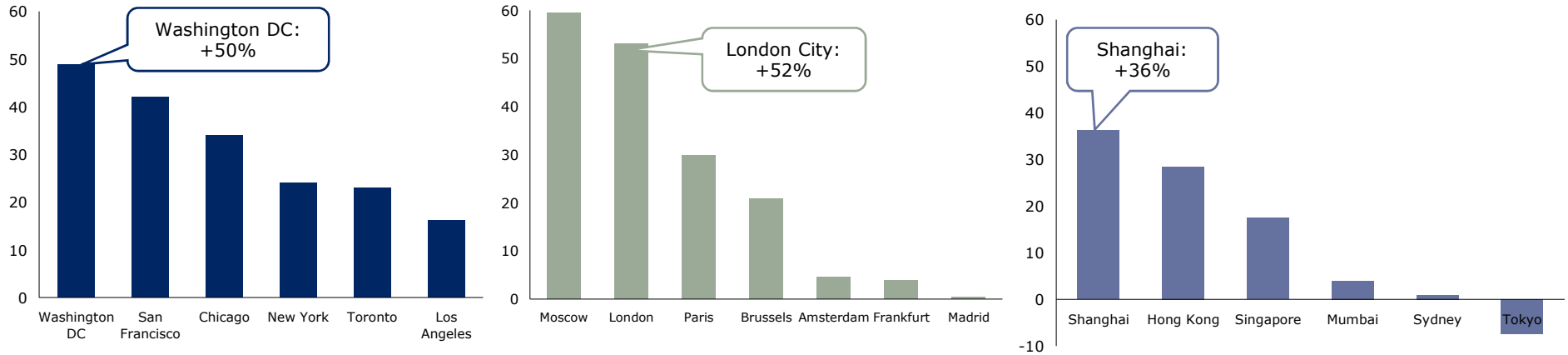


Source: Bloomberg (31 December 2010)

- We expect capital to be attracted by core real estate yield spreads that are still high (250-400 bps)
- Today, cap rate compression driven by capital flows, not real estate fundamentals

A tale of two markets: Very strong returns of trophy assets…

Prime office capital yoy value changes as of Q3 2010 in %

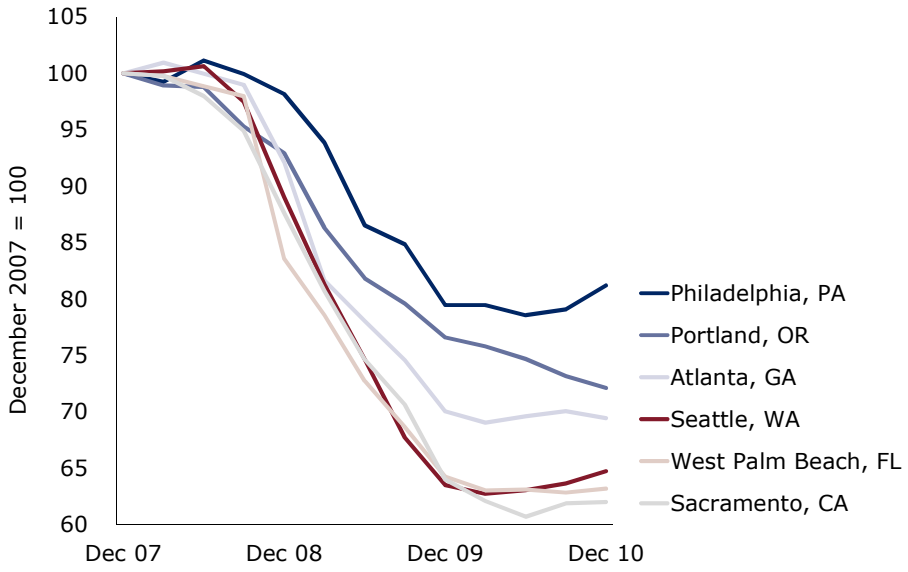


Source: Jones Lang Lasalle (October 2010)

- Investors need to be careful to now draw conclusions on the broad markets from a small number of transactions
- We believe the high returns achieved on the few trophy assets are reflective of the general market direction, but not the speed of recovery, which is substantially slower

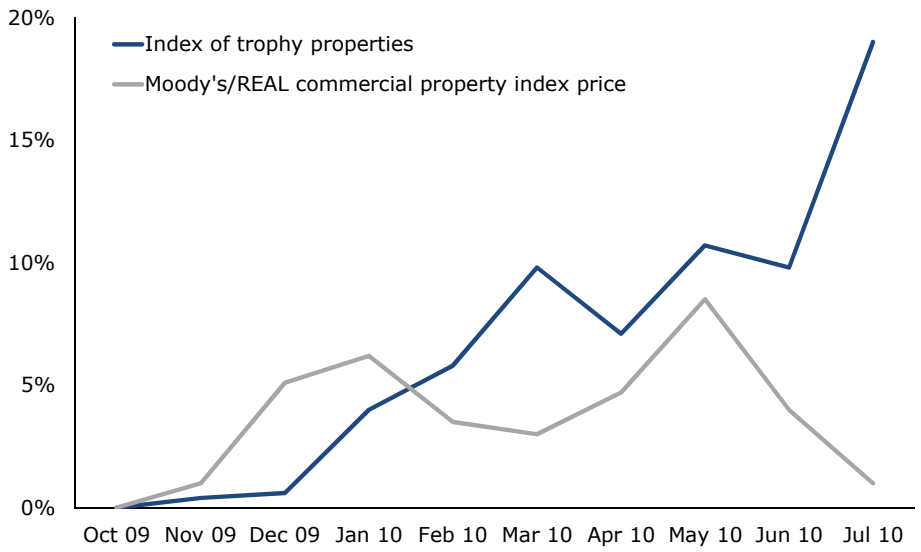
… vastly outperform secondary markets

Real estate price index for secondary US cities



Source: NCREIF (31 December 2010)

US all property performance vs. trophy assets



Source: Moody's, Real Capital Analytics (January 2011)

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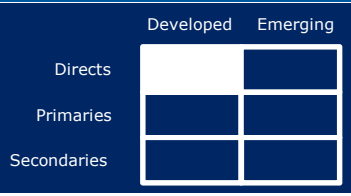
Directs
Developed markets



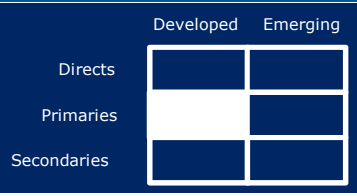
Trends

- Yields and target equity returns for stabilized assets in top markets have contracted substantially over the past six months.
- Senior debt is more available than 6-12 months ago. Banks now finance core assets up to 75-80% loan-to-value, on average; senior construction loans are becoming available again, reaching 60-75% LTC and more, in certain markets.
- Cost of senior debt has remained low, or contracted further. Spreads range from 60-250 bps over LIBOR.
- Subordinated debt on stabilized core assets trading at 8-11%, not 15%+, as was seen in H1 2010.
- Subordinated debt return projections, based on current deal flow, average 9-13% for prime assets , 12-15% for value-added risk, and 14+% for opportunistic / development risk. We expect continued yield compression.
- Equity return projections, based on current deal flow, average 14-18% for value-added and 16%+ for opportunistic / development risk. We expect continued yield compression .
- Debt opportunities abound in Europe and the US; equity opportunities in Europe, the US, Brazil and Asia.

Conclusion and relative value assessments

- **Overweight** subordinate debt investments in A locations in tier 2 & 3 cities that fail to attract the attention of international capital streams despite sound asset fundamentals; sponsors with proven active value creation strategies; lease-up/repositioning equity plays with near-term stabilization in tier 2 markets which trade at a near all time high discount to tier 1 markets.
- **Underweight** debt and equity investments in core assets (appear overpriced); investments with pure development risk without downside protection; investments that strongly depend on a market recovery.

Primaries
Developed markets



Trends

- Primary deal flow remains fairly slow with <100 new funds logged YTD. Approximately 55% of primary offerings are US funds, 30% Europe, 5% Asia Pacific and 10% Rest of World.
- Primary fundraising continues to take 12-18 months. Commingled fundraising for non-core funds remains slow, such that many GPs now consider clubs of 2-4 larger investors and separate accounts, or even do one-off transactions. The one exception to slow fundraising has been in the core funds space which went from massive redemption queues in 2009/2010 to massive subscription queues in 2011 driven by rebalancings and the flight to perceived safety.
- New fund strategies include: Distress-oriented investments through debt or equity, multifamily acquisitions in the US, pan-European core and value-added strategies, as well as European single country strategies (Germany, France).

Conclusion and relative value assessments

- **Overweight** niche strategies, either by property type or country/region, implemented by proven specialists; primaries in Europe and the US that pursue loan-to-own strategies on quality assets, and where the sponsor is capable of taking control of and managing the properties.
- **Underweight** multibillion-dollar funds and funds with a broad investment scope; core funds in the US (overpriced). We consider new investments in Japan with caution.

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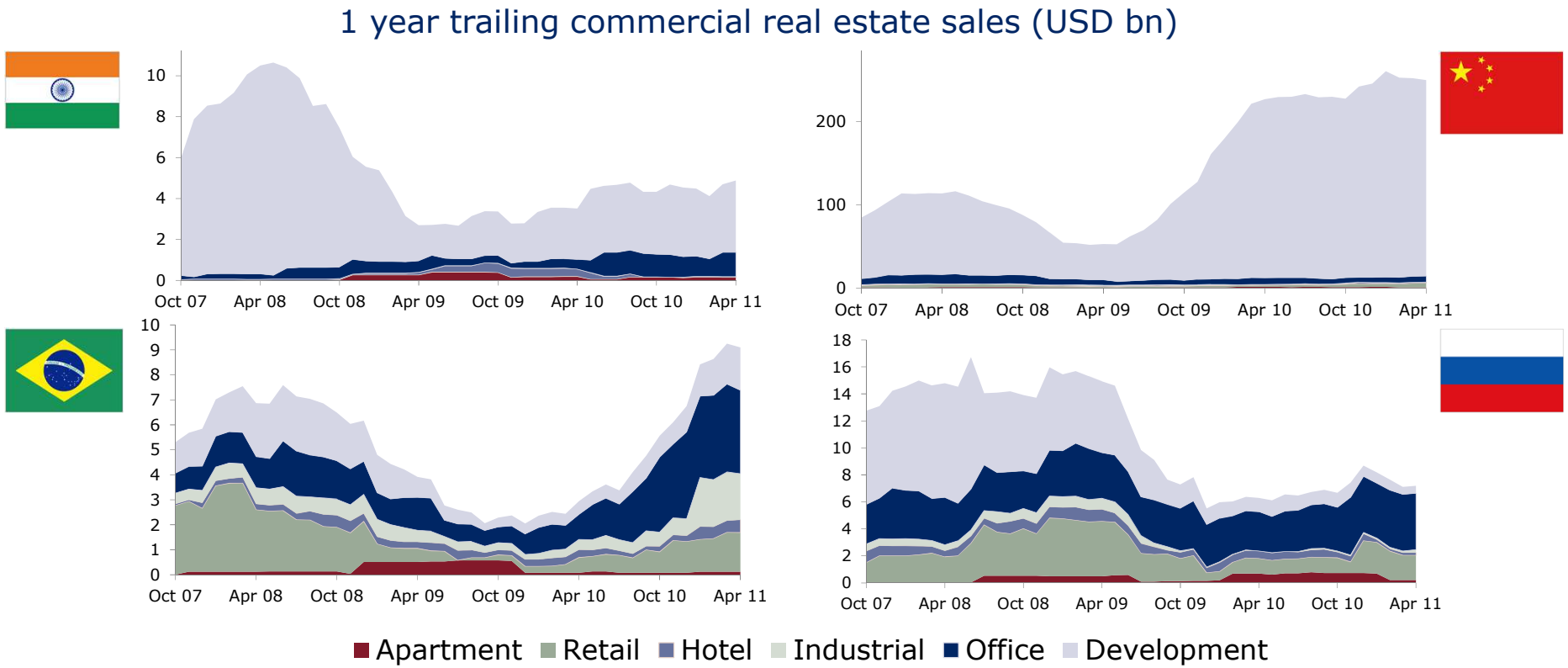
Not all emerging markets are made equal

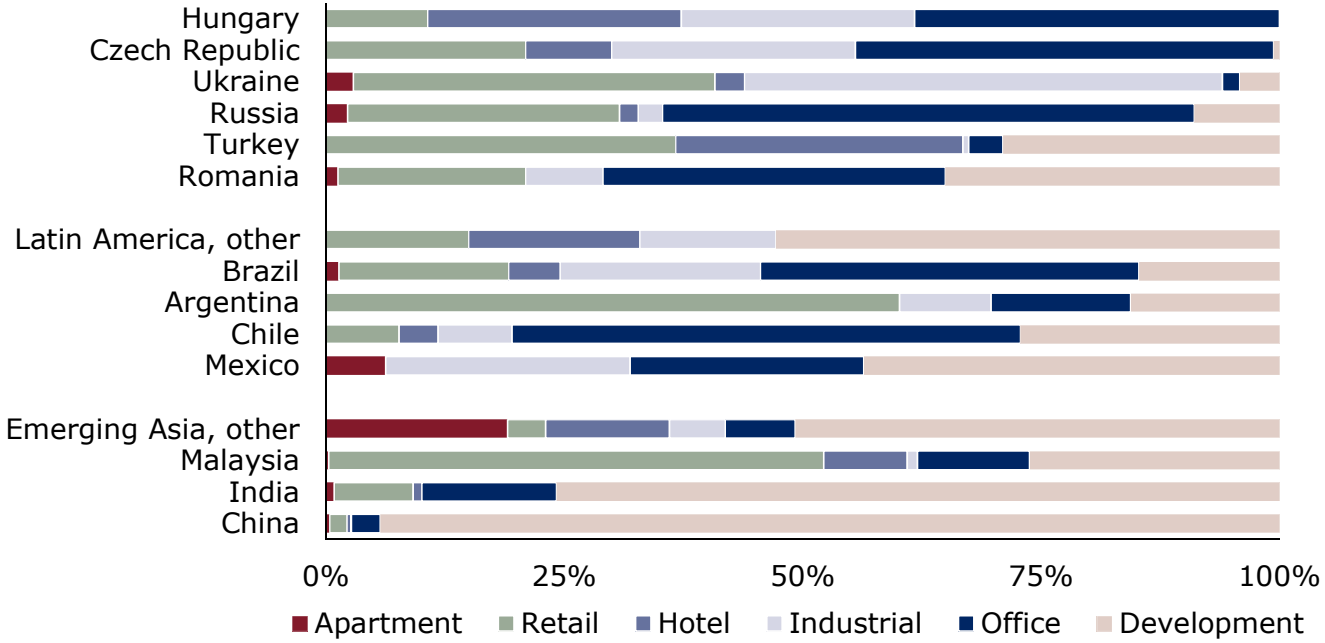


Source: Real Capital Analytics (9 June 2011)

The emerging real estate markets are as heterogeneous as the emerging markets themselves.

Emerging real estate markets are maturing

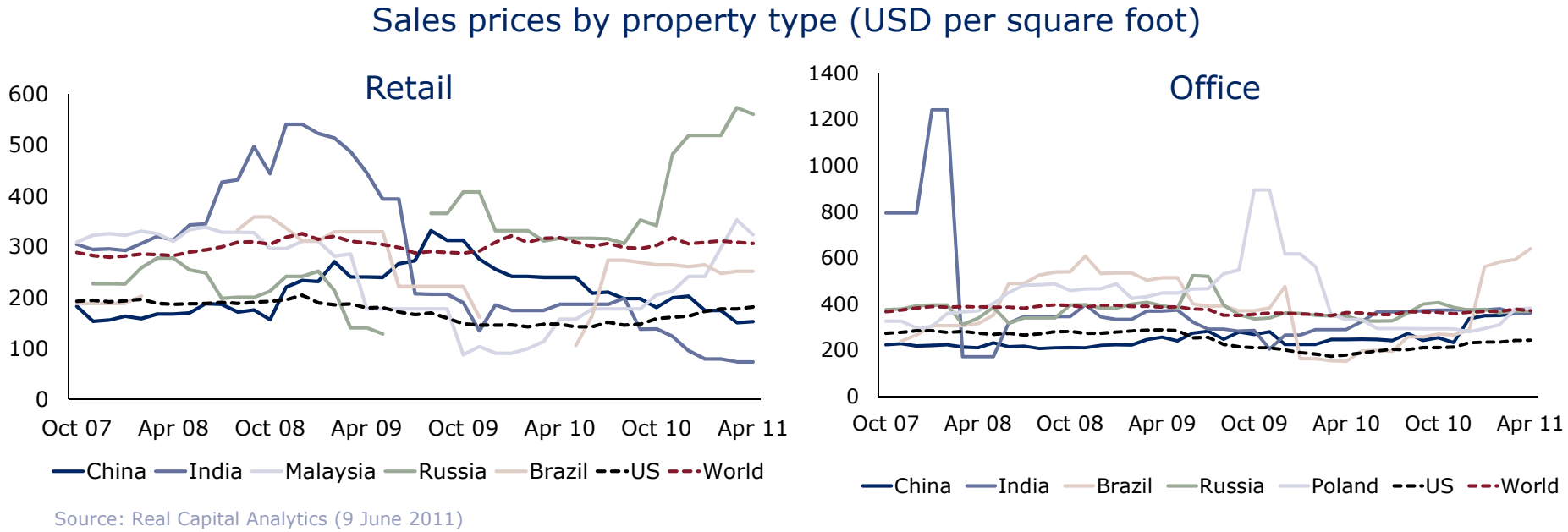
1-year trailing commercial real estate sales by property type (in % of country total)



Source: Real Capital Analytics (9 June 2011)

Emerging market real estate investing is no longer only about ground-up development. In many countries, sales of cash flowing properties account for the majority of transactions.

Emerging market pricing can be volatile

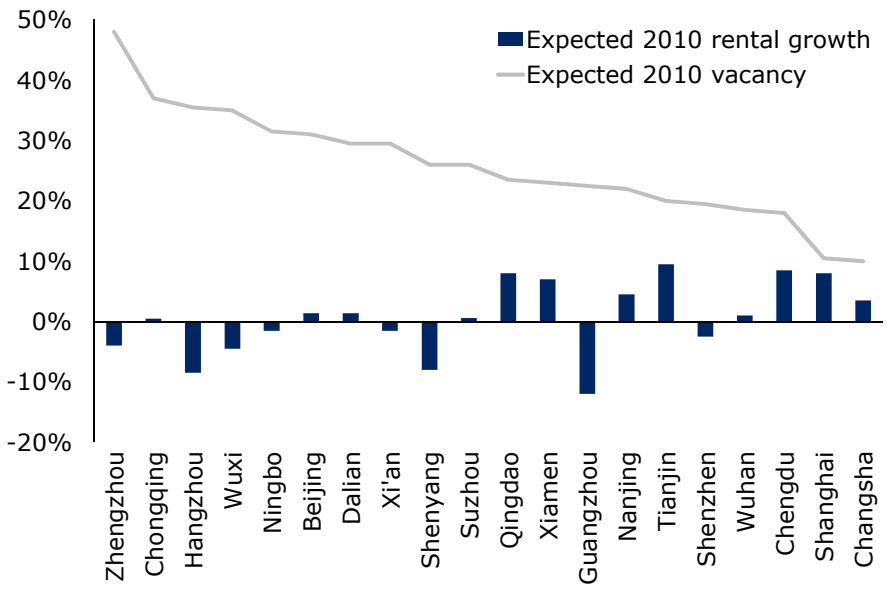


Source: Real Capital Analytics (9 June 2011)

The investor should earn a risk premium as compared to developed markets.

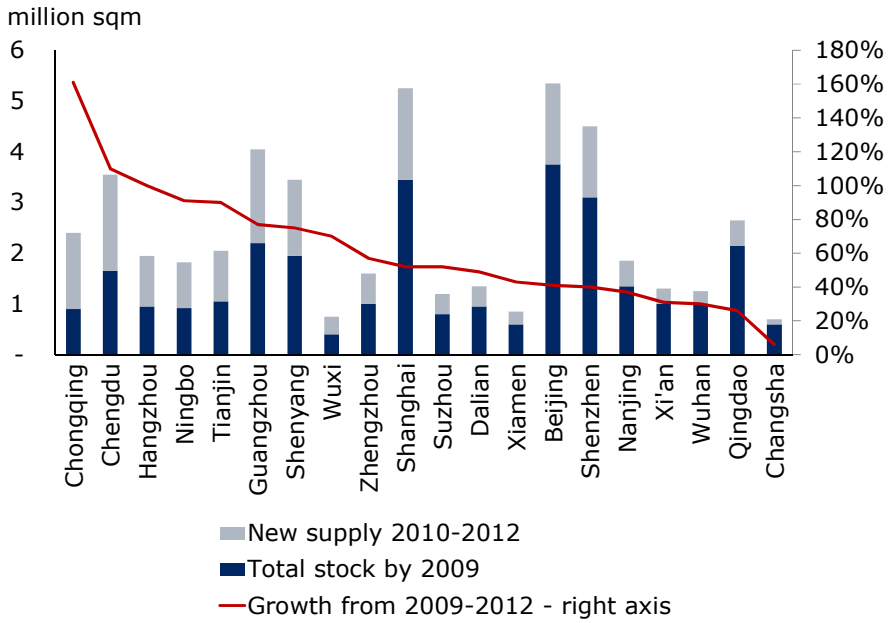
A tale of two markets: Some office markets appear saturated, others undersupplied with quality assets

Office fundamentals



Source: JLL (July 2010)

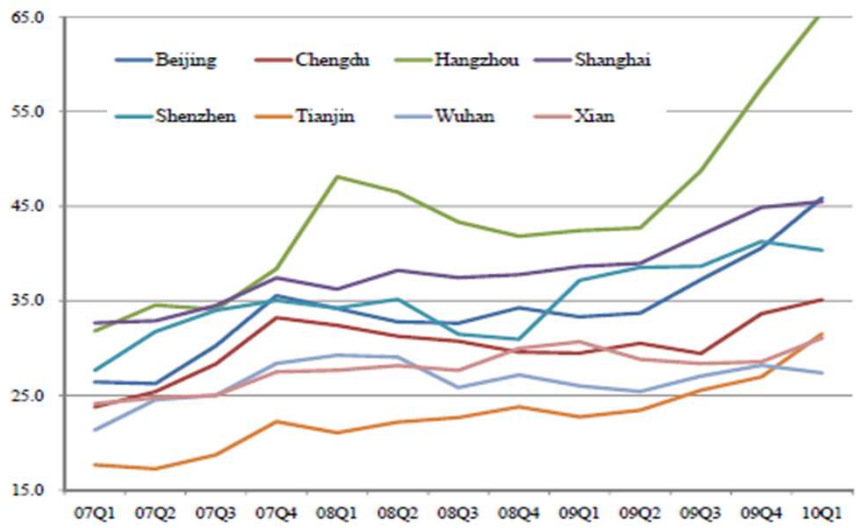
Expected new office supply until 2012



Source: JLL (July 2010)

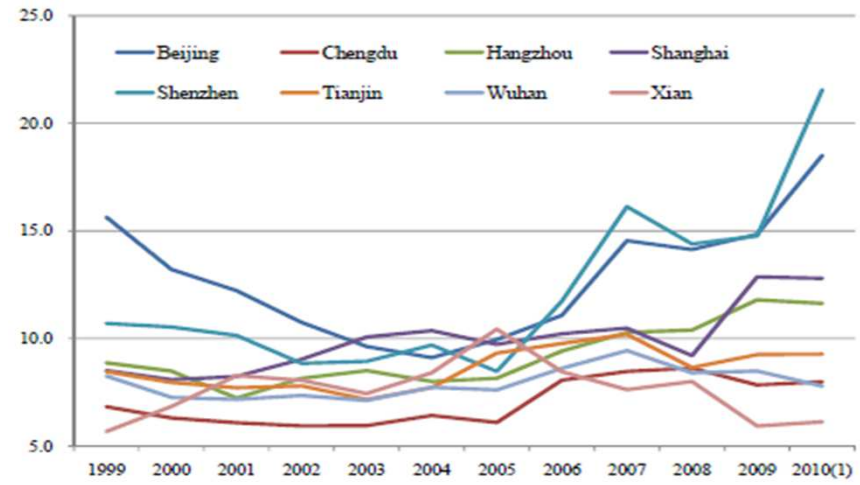
Housing price appreciation of various markets difficult to explain fundamentally

Price-to-rent ratio in eight major cities



Source: NBER WP, July 2010

Price-to-income ratios in eight major cities

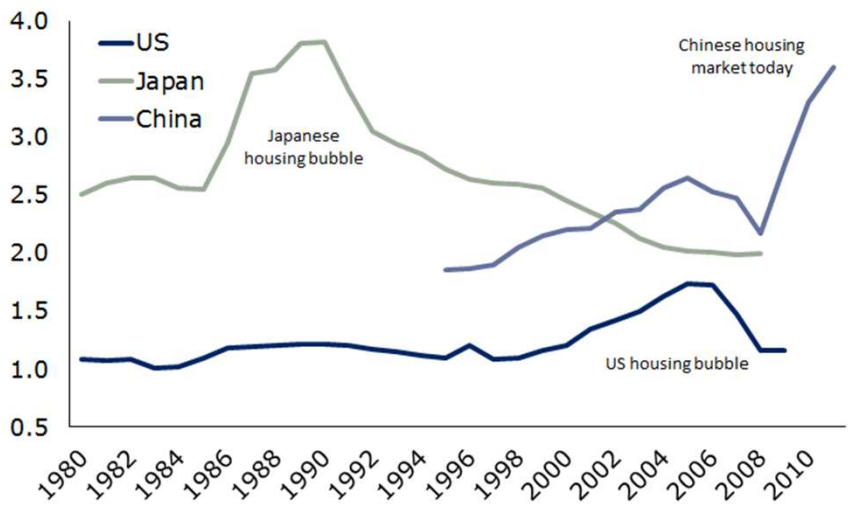


Source: NBER WP, July 2010

- Sharp rise in price-to-rent and price-to-income ratios since 2008 in Beijing and many of the other larger coastal markets

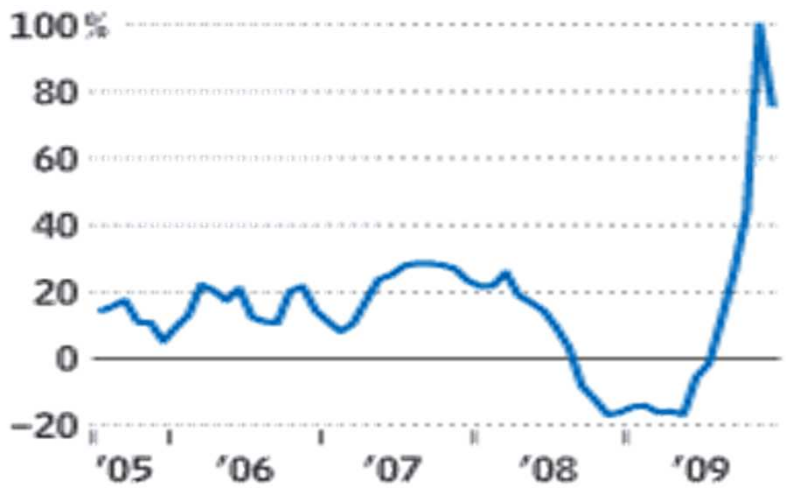
On national aggregate, the residential market appears frothy

Size of residential housing market relative to GDP



Source: Minyanville, 9 August 2010

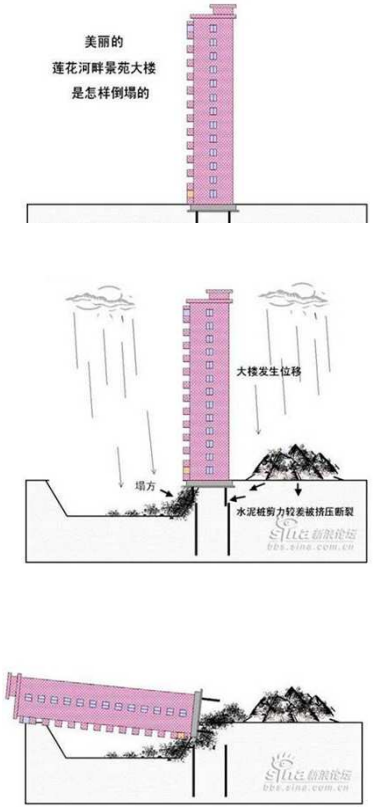
Floor space constructed is up 100% yoy in 2009



Source: Wall Street Journal, 19 January 2010

Example of a failed project: Lotus Riverside residential complex, Shanghai

- Once construction of the 15-story residential tower was completed…
- a 5 meter deep underground garage was dug on the south side and the excavated dirt was piled up on the north side. As a result, the building experienced uneven lateral pressure from south and north
- 3,000 tons of lateral pressure proved too much for the building's hollow pilings to hold, and the block collapsed



The only good news: The crash did not lead to a domino effect with neighboring assets

Source: Wall Street Journal (6 August 2009), Hoax-Slayer.com (February 2011)

Mitigant I: The Chinese government takes action

- In November 2009 the Chinese government announced new rules to fight a bubble in residential real estate:
  - Restrictions on real estate activities through tighter credit standards
  - Mortgage down payments on non-owner-occupied dwellings were increased
  - In some jurisdictions non-residents were banned from buying properties

- As a result, the housing market started to cool, but nevertheless
  - The latest available data shows newly started construction was still booming in June (up 67% yoy) and fixed investment in real estate developments was up by 34.1% yoy in August
  - Loan volume also increased sharply, with total loan balances outstanding increased by over 40% from the end of 2008 through Q1 2010. Residential mortgages and loans to real estate developers also expanded at similarly high rates during the same period, by 38% and 50%, respectively

Mitigant II: Limited leverage in the system

- Comparatively moderate leverage in the Chinese housing market
  - An estimated 20% of Chinese homebuyers pay their homes in cash
  - The remaining buyers are believed to borrow no more than 40% of the purchase price (on average) in the form of personal recourse loans
  - Together, this means that there is less than 35% leverage in the system. In other words, home prices would need to correct by over 65% for lenders to be hurt by the crisis, too
  - For comparison: In the US, housing prices declined approximately 25% from peak to trough in the recent housing debacle, effectively wiping out homeowner equity and contaminating the banking system due to non-recourse nature of the loans

Summary: Emerging real estate markets

GDP growth	■ Overall GDP growth in emerging markets is undeniable. This outsized growth will create demand for real estate space in most markets, with the exception of eastern Chinese cities
Fundamentals	■ In many emerging markets new supply is growing but is supported by the increased demand fuelled by GDP growth. However, the pendulum may have swung too far in certain eastern Chinese cities such as Beijing, Shanghai, Guangzhou and Hangzhou. There, notwithstanding double digit vacancies of commercial space, considerable new supply is coming on line. While ultimately it should be absorbed, near term price corrections may occur
Transaction market	■ Vibrant for both existing and to-be-built projects. Interesting opportunities abundant
Debt market	■ Generally available. However Chinese government has recently implemented credit tightening measures in the residential sector

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I. Executive Summary

II. Global Fundamentals

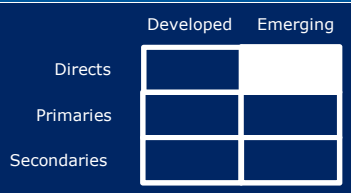
III. Developed Markets

IV. Emerging Markets

a) Market Overview

b) Execution on Opportunities

Directs
Emerging markets



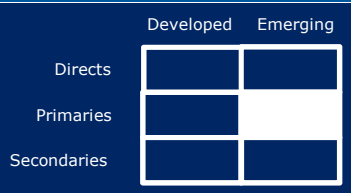
Trends

- Growing number of direct equity opportunities (and to a lesser extent, direct debt) in the emerging markets: ~16% of 2011 YTD deal flow.
- In Asia, we a see large number of opportunities in the middle income residential sector in China and India. In China, tightening measures designed to cool the housing market disproportionally restrict small to mid-sized developers' access to capital, creating opportunities for investors to partner with such firms at attractive terms. More recently, opportunities to invest in retail, office and hotel developments in Taiwan, Vietnam, Thailand and Malaysia have rebounded.
- Brazil has been Latin America's most active market for direct, primary and secondary investments. The markets in Colombia and Peru have also begun to offer more attractive opportunities. We have begun to reconsider opportunities in those parts of Mexico that benefit from a US recovery (industrial) or from Mexico's growing middle class (housing & retail, especially in tier 2 cities).
- In CEE, we have seen a divergence between strongly performing markets and those lagging the recovery. Poland and Russia have been the most active markets for direct deal flow. Poland mostly for retail and residential, Moscow for office and logistics, and St. Petersburg mainly for office and residential. We are also starting to monitor Prague, Bratislava and Budapest for office and retail.

Conclusion and relative value assessments

- **Overweight** proven sponsors with experience managing capital for institutional partners (lower GP risk). With respect to countries and property types, we overweight development opportunities in Brazil in sectors such as retail, affordable housing and industrial, whereas we are more selective in the office sector. In China, we focus on residential developments and retail repositioning plays in tier 2 and 3 cities, and in India, on middle income residential strategies. In CEE, spreads between target returns for non-core and core strategies have generally narrowed, making locations at the lower end of the risk spectrum (Warsaw) most attractive, from a relative value perspective.
- **Underweight** unproven sponsors or groups lacking experience managing institutional capital. With respect to countries and property types, we underweight the acquisition of stabilized properties in Brazil, China, India. Such assets are overpriced due to the abundance of capital chasing existing properties. In CEE, opportunities at the higher end of the risk spectrum yield less attractive risk-adjusted returns (e.g. development in Russia, Ukraine, tier 2 cities in Turkey).

Primaries
Emerging markets



Trends

- In emerging Asia, many funds currently in fundraising have been in the market since 2010, and are presently working towards final closings, such that the number of primary opportunities is shrinking. While many Chinese funds have a clearly defined theme (e.g. retail value-add; tier 2/3 residential development), most pan-Asian funds have flexible mandates. Indian funds exist both with a flexible mandate and with a commercial focus. Fewer groups are fundraising than were in 2006/7, but funds from those vintages have invested their capital and are expected to return to the market soon.
- In Latin America, Brazil continues to be the focus of attention for foreign investors attracted to the country's quick rebound from the global crisis and positive demographics. Current primary fundraising targets retail, office and affordable housing. Industrial investment opportunities are still attractive, although more competitive. Hotels will be an investment theme in H2 2011. Brazilian banks will sponsor funds (through JVs with local groups), as will local private equity funds and global firms (Blackstone, Walton Street).
- In Central & Eastern Europe and Russia, Poland is seeing the most primary and secondary deal flow. Primary deal flow in Russia is muted. In Poland, funds are targeting both Warsaw and the larger tier 2 cities, based on their compelling macro and demographic fundamentals. The increasing purchasing power of the emerging middle class makes the retail and residential sectors attractive, especially in tier 2 cities.

Conclusions and relative value assessments

- **Overweight** proven sponsors that have experience managing capital for institutional partners (lower GP risk). In Latin America, we overweight development opportunities in Brazil in sectors such as retail, affordable housing and industrial, whereas we are more selective in the office sector. In Asia, we focus on retail and affordable housing strategies, as well as on industrial and office developments, to a lesser degree. In CEE, funds that focus on value-added and development in Poland are most attractive.
- **Underweight** unproven sponsors, groups without experience managing institutional capital, and funds focusing on the acquisition of stabilized properties in Brazil, China and India, as such assets seem overpriced, due to the abundance of capital chasing existing properties. Also underweight development funds in less transparent markets in CEE, as returns are not sufficiently attractive on a risk-adjusted basis.

TAB 7 – EMERGING MARKETS MANDATES

Public Equities
International Equities - Emerging Markets
STAFF RECOMENDATION

Purpose
Staff and SIS recently conducted a manager search to identify possible replacements for Pictet Asset Management that would improve the expected risk/return profile of the Emerging Market sub-asset class. The result of the search is a recommendation to replace Pictet's Emerging Market product with Axiom International Investors in the OPERF portfolio and with Arrowstreet Capital in the Common School Fund (CSF) portfolio.

Background
OIC Policy 04-05-01 addresses the strategic role of public equities within OPERF. One objective of OIC Policy 04-05-01 is to achieve a portfolio return of 75 basis points or more above the MSCI All Country World Index Investable Market Index (ACWI IMI) over a market cycle. Strategies to accomplish the return objective include structuring the portfolio on a global basis, with country and market capitalization allocations loosely in-line with the ACWI IMI index, and enhancing returns to OPERF through exposure to active management.

Pictet was hired in March 2006 to manage an emerging markets mandate for the OPERF portfolio. They are currently one of six dedicated Emerging Markets managers. As of May 31, 2011, the market value of the portfolio managed on behalf of OPERF was equal to $222 million. The since inception annualized return is equal to 7.5 percent, which trails the MSCI Emerging Markets index by 1.7 percent over the time period.

During the manager restructuring of the CSF approximately three years ago, Pictet, along with Genesis, was selected to manage a dedicated emerging markets mandate. As of May 31, 2011, Pictet managed approximately $33 million on behalf of CSF. In May 2011, staff received word that Arrowstreet would be re-opening their Emerging Markets strategy, on a limited basis, to existing clients. Each client was offered a specific amount of capacity based on their pro rata share of the total assets in the strategy. For Oregon, this represented additional capacity of up to $40 million. Given CSF's structure and asset level, the replacement of Pictet with the Arrowstreet's Emerging Markets product represents a straightforward change to a high conviction manager (Arrowstreet currently manages a developed-only mandate for CSF).

Discussion
Team and staff changes have plagued Pictet since the inception of their mandate. Most notably, in July 2009, it was announced that co-PM Tom Rodwell was leaving Pictet to pursue his "academic interests." (Pictet was placed on Watchlist status at this time). Nidhi Mahurkar was set to continue in her role as co-PM of the global emerging market (GEM) portfolio, working with Mr. Rodwell's replacement, Klaus Bockstaller, in managing the team and global emerging market portfolios. Reporting lines within the team were also modified, with Ms. Mahurkar taking all reports for the Asia team and Mr. Bockstaller taking all reports for the Latin America and Europe, Middle East, and Africa (EMEA) team. This was apparently done at the urging of CIO Richard Heelis, and was likely due to lackluster performance over the trailing five years. A further change was the assignment of Oliver Bell to the new role of Head of Research, overseeing the team of sector analysts. In March 2011, another re-structure was announced,

with Ms. Mahurkar no longer directly involved with the GEM portfolio and new hire Avo Oro assuming her responsibilities. This came on the heels of four analyst departures during the prior 12 months.

In response to the organizational changes, Staff placed Pictet on Watchlist status in 2009, and reduced the target allocation to the Pictet mandate in OPERF, through a public equity manager structure study that was presented and approved at the February 2010 OIC meeting.

We take a negative view of the staff changes that have taken place and are concerned about potential process modifications. While relative performance has been positive since being placed on Watchlist, longer-term performance has been disappointing. In addition, the volume and consistency of investment professional turnover as well as multiple changes in the decision making dynamics (and its subsequent strain on a relatively young portfolio management team) are further motivations for a more negative stance. In an asset class like emerging markets, where the alpha opportunities are comparatively greater, (and the opportunity costs of retaining a lower conviction manager are more apparent), staff felt it prudent to seek an upgrade.

Process

Once the need was identified, staff and SIS independently screened the pool of candidates to create a "shortlist," based on a variety of qualitative and quantitative factors, including:

- Staff and SIS knowledge and opinions regarding the firm and product, including opinions of products highly ranked by Russell analysts;
- Team attributes, including consistency and depth;
- Firm attributes, including employee ownership, assets under management, and adherence to GIPS;
- Portfolio attributes, including benchmark-relative risk, portfolio holdings, style characteristics, and correlation of returns relative to other OPERF managers; and,
- The history of relative performance including consistency and upside/downside capture.

Three firms were invited to make formal presentations to the selection team, which consisted of staff members Mike Viteri and Ben Mahon, and SIS consultants John Meier and Deborah Gallegos. The selection team, along with Ron Schmitz, reviewed all analysis and written materials and participated in a post-interview discussion to debate the relative merits of the firms. It is important to note that Emerging Markets remains a capacity constrained asset class and capacity availability is an unavoidable impediment in any manager search. This is evidenced first-hand by the closure of several current strategies utilized in the OPERF portfolio to new investors (Genesis, Arrowstreet, and Westwood), and the communication that we would effectively close two of the three finalists in the present search, if selected. While all three products were highly regarded, Axiom's product rose to the top. Staff is recommending hiring Axiom for the OPERF mandate and hiring the Arrowstreet (recently re-opened to existing clients only) for the CSF mandate.

Axiom was founded in 1998 by CIO Andrew Jacobson. Based in Greenwich, Connecticut, the firm is 100 percent employee owned with over $14 billion in assets under management. The Emerging Markets strategy is managed by Luis Soares, who is assisted by co-PM Chris Lively. The firm employs the same investment process across all their long-only products. Axiom's approach is highly differentiated relative to peers, featuring a very clear focus on the drivers of earnings surprise and revisions. Key drivers are defined broadly to include a wide variety of factors that could have a significant impact on the short- and long-term financial performance of a company. Axiom believes the direction of key business drivers

are leading indicators of financial performance, and therefore, seeks to purchase or hold those companies where the key drivers are exceeding investor expectations.

Staff has access to the Russell research platform and spoke with the Russell analyst that covers Emerging Markets manager research. Russell ranks the Axiom product with their highest ranking and employs the strategy in their multi-manager funds. Staff also spoke with the research team at Northern Trust, who also provides investment management services using multi-manager platforms. Staff is very familiar with the Northern Trust research team as they have managed the emerging manager product for OPERF since 1996. Staff has a high opinion of Northern Trust's manager research. Northern Trust uses the Axiom Emerging Markets product in their multi-managed Emerging Markets mutual fund.

Staff views the pros and cons of hiring Axiom as follows:

Pros:

- Staff has high conviction in the investment team and process, which is capable of delivering strong risk-adjusted returns, and a history of doing so.
- Axiom is a partnership and as such key professionals (including Luis) have an equity interest in the business. In addition, employees have over $100 million invested in their strategies.
- The current level of assets under management is low ($1 billion as of March 31, 2011) with a reasonable capacity target. The firm has a good record of closing strategies appropriately.
- The investment process adds diversification benefits and is complementary with the other Emerging Markets managers, introducing a true growth component that should be expected to perform well when "momentum" is rewarded.
- Both Russell Investments and Northern Trust have high regard for this team, and use this product in their multi-manager programs.

Cons:

- The product is new, with less than a four year track record.
- Although Luis is a mature investor, this is his first stint as a portfolio manager.
- While historic tracking error is modest, the portfolio takes meaningful bets away from the benchmark and should be expected to experience elevated tracking error at times.

Staff performed a variety of other due diligence in determining the appropriateness of Axiom, including:

- Separate on-site due diligence visits by Ben Mahon and Deborah Gallegos. No significant concerns were noted.
- Reviewed manager ADV filings looking for potential conflicts of interest and other items of concern. No concerns were noted.
- Discussed trading issues including soft dollar usage, FX capabilities, and commission recapture. Managers will adhere to OPERF guidelines.
- Staff checked references from peers. References were all very favorable.
- Reviewed and discussed the fee schedules.

Recommendation

- Staff and SIS recommend the termination of the Pictet mandates utilized for OPERF and CSF.
- Staff and SIS recommend hiring Axiom International Investors' Emerging Markets product for the OPERF portfolio, and hiring Arrowstreet Capital's Emerging Markets product for CSF portfolio, subject to the successful negotiation of terms.
- Amend OIC policy 04-05-01 accordingly.

Emerging Markets Equity Search

Oregon Investment Council

April 2011

STRATEGIC INVESTMENT SOLUTIONS, INC.

333 Bush Street, Suite 2000
San Francisco, CA 94104
(415) 362-3484

Section 1

Firm/Product Summarè

Oregon Investment Council

Emerging Markets Equity

INVESTMENT PREMISE

The Oregon Treasury Staff and SIS have been conducting due diligence on emerging markets equity managers to recommend as a replacement for Pictet Asset Management. Pictet has demonstrated weak performance relative to the emerging markets equity universe of active managers, at times falling below the 75%. Pictet analyzed this underperformance and attempted to address it by restructuring the team, streamlining the decision making process and adding resources at the analyst level. While these changes may help performance long term, SIS believes it will take some time for the group to learn to work together productively. To this end, SIS is recommending OIC transition the Pictet portfolio to Axiom International Investors.

ORGANIZATION

Axiom was established in 1998 by Andrew Jacobson. He and his team of research analysts left Columbus Circle where the group had developed and managed the International Equity strategy. With the exception of a US Small Cap product, the firm is entirely dedicated to managing international assets. Axiom manages both long only and long/short portfolios. All portfolios are managed with the same investment process. The firm is 100% employee owned with Andrew Jacobson the controlling shareholder. Employees are granted equity based on their tenure and contribution to the firm. In total, employees have approximately $100 million invested in the strategies they manage for clients. The firm is located in Greenwich Connecticut.

INVESTMENT PROFESSIONALS

The lead portfolio manager for the strategy is Luis Soares who has ultimate decision making authority. Luis joined Axiom as an International Equity analyst in 2003 and has been an equity Partner since becoming portfolio manager for the emerging markets product in 2008. Prior to Axiom, Luis worked for Reuters Analytics as a Latin America analyst. Before Reuters he served as a Director for Grupo Elo Limited, a Brazilian shipping and industrial services company and was an Analyst for Andersen Consulting in Brazil. Chris Lively serves as the co-portfolio manager. The two portfolio managers are supported by one dedicated research analyst and draw on the research of the broader group of analysts for macro research applicable to their companies. All analysts employ the same research methodology which allows for cross fertilization of ideas on a common platform. The analysts and portfolio managers develop themes based on the research produced for across the firm.

INVESTMENT STRATEGY

Axiom's strategy can be described as having a fundamental and momentum driven philosophy. They look to identify companies that are exceeding expectations by identifying key business drivers for each stock. A critical element of their process is understanding the market's expectations for a given stock as it to relates to the key drivers of that stock. Key business driver analysis begins with identifying the dozen or so key operational drivers for each of the companies being considered. They use a combination of primary and secondary research in order to capture efficiently a comprehensive array of information on each company. Key drivers include company specific, industry, macro-economic and political factors. For each of these drivers, they survey a wide variety of sources in order to determine investor expectations. They then continuously monitor the actual results being achieved to identify positive or negative developments. Ultimately, they want to purchase companies where the key drivers are exceeding investor expectations, and they want to sell those companies where the drivers are falling short of expectations.

Axiom uses proprietary rating/ranking system that helps with both stock selection and portfolio construction. In terms of the ranking matrix itself each stock under consideration is assigned a number and letter ranking. The letter ranking is a representation of how established or emerging an enterprise is. The number ranking is a representation of how much a company's aggregate key business drivers are tracking ahead or behind consensus. While they use this multi-factor screen to rank companies, most new ideas are identified as a consequence of specific positive fundamental developments in a company's operations. Stocks are bought or sold when key business drivers are move away from expectations.

Axiom utilizes a proprietary intranet SQL server database to report each new piece of information being considered by a portfolio manager or analyst. Any member of the investment team (portfolio managers, analysts and traders) have the opportunity to change or verify a company ranking with each saved data point. In effect, the database acts as a data warehouse where they can record and see trends in operational data that could cause a portfolio manager or analyst to re-rank a holding.

Axiom's emerging markets equity portfolio typically consists of 70-85 securities. They will typically hold between 25-40% non-benchmark names. Turnover averages 100% per year. The alpha target for this strategy is 200-300 basis points and they do not manage to a specific tracking error. Performance for this strategy will be best in periods of rising markets and strong economic growth but they aim to offer downside protection in less supportive markets.

EVALUATION

SIS has conducted due diligence on Axiom, including an on-site visit and we believe it presents an attractive alternative to the Pictet emerging markets strategy. The team has performed well generating an information ratio above 1.0 since the inception of the product. Axiom presents a solid organization with a consistent investment philosophy and process. The team is solid and the firm has a compensation structure in place designed to engender a long term commitment to the firm and alignment of interest with clients.

FEES AND CAPACITY

Axiom currently manages $986 million in the Emerging Markets Equity strategy. Due to the nature of their investment process and their desire to focus on existing client assets, they have decided to close the product to new business once they reach approximately $2.5 billion in assets. Axiom's fees are in line with the median Emerging Markets equity manager. We do not expect them to negotiate fees because of the low level at which they plan to close the product.

Universe Name: eA Emerging Mkts Equity
Mandate Size: $200,000,000

	Annual Separate Account Basis Points (bps)	Rank
Median	88.00	
Axiom Emerging Markets Equity	86.30	43

Axiom International Investors LLC

March 31, 2011

Displayed in: US Dollar (USD)

Firm Headquarters:	33 Benedict Place Greenwich, Connecticut 06830, United States
Phone/Fax:	203.422.8000 / 203.422.8090
Registered Investment Advisor:	Yes
Year Firm Founded:	1998
Firm Website:	

Key Facts	
Total Assets Under Management ($ Million):	$14,336.1
Total Number of Accounts:	52
Number of Portfolio Managers:	7
Number of Analysts:	12
% Employee Owned:	100.00 %

Contact Information

Marketing Contact:	Jon Yenor	Database Contact:	Sanja Kraljevic
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City, State, Zip Code:	Greenwich, Connecticut 06830-6378	City, State, Zip Code:	Greenwich, Connecticut 06830
Phone/Fax:	203.422.8030 / 203.422.8090	Phone/Fax:	203.422.8035 / 203.422.8090
Email Address:	jyenor@axinvest.com	Email Address:	skraljevic@axinvest.com

Asset & Account Information

Current Totals	Assets ($ Mil)	Accounts
Total in Firm	$14,336.1	52
Total Taxable	$3,963.7	20
Total Tax-Exempt	$10,372.5	32
Total Institutional	$0.0	0

Accts Gained	Number	($ Million)	% Firm Assets
Current Quarter	3	$276.6	0.0 %
2010	69	$960.2	7.5 %
2009	82	$1,320.9	15.4 %

Accts Lost	Number	($ Million)	% Firm Assets
Current Quarter	2	$184.3	0.0 %
2010	48	$556.6	2.5 %
2009	52	$361.1	4.2 %

Assets By Type	Equity	Fixed Inc.	Balanced	Alts	Other
United States	$0.0	$0.0	$0.0	$0.0	$0.0
Canada	$0.0	$0.0	$0.0	$0.0	$0.0
United Kingdom	$0.0	$0.0	$0.0	$0.0	$0.0
Europe ex-UK	$0.0	$0.0	$0.0	$0.0	$0.0
Australia	$0.0	$0.0	$0.0	$0.0	$0.0
Japan	$0.0	$0.0	$0.0	$0.0	$0.0
Hong Kong	$0.0	$0.0	$0.0	$0.0	$0.0
Singapore	$0.0	$0.0	$0.0	$0.0	$0.0
Other Asia ex-Japan	$0.0	$0.0	$0.0	$0.0	$0.0
China	$0.0	$0.0	$0.0	$0.0	$0.0
Latin America	$0.0	$0.0	$0.0	$0.0	$0.0
Africa/Middle East	$0.0	$0.0	$0.0	$0.0	$0.0
EAFE	$0.0	$0.0	$0.0	$0.0	$0.0
Global	$0.0	$0.0	$0.0	$0.0	$0.0
Emerging Markets	$0.0	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0

Historical Assets($ Million)	Prior QTR	YE 2010	YE 2009
Total Firmwide	$13,814.8	$13,814.8	$12,112.5
Total Taxable	$3,732.2	$3,732.2	$3,054.1
Total Tax-Exempt	$10,082.5	$10,082.5	$9,058.5
Total Institutional	$0.0	$0.0	$0.0

Assets By Geographic Region & Client Domicile	Assets ($ Million)
United States	$0.0
Canada	$0.0
United Kingdom	$0.0
Continental Europe	$0.0
Japan	$0.0
Australia	$0.0
Hong Kong	$0.0
Singapore	$0.0
Other Asia ex-Japan	$0.0
Africa/Middle East	$0.0
Latin America	$0.0
Other	$0.0

5 Largest Accounts	Aggregate ($ Mil)
1) ---	$0.0
2) ---	$0.0
3) ---	$0.0
4) ---	$0.0
5) ---	$0.0

Ownership Information

% Employee Owned	100.0%
% Parent Owned	0.0%
% Publicly Held	0.0%
Parent Company Name	---
Total % Minority/Female Owned	---

GIPS Compliance & Insurance Information

Firm GIPS Compliant:	Yes	Effective Date	7/1/1996
Performance Audited:	Yes	Effective Date	12/31/2009
Errors & Omissions Insurance:	Yes	Coverage ($ Mil)	---
Fiduciary Liability Insurance:	Yes	Coverage ($ Mil)	---
Firm Bonded:	Yes	Coverage ($ Mil)	---

Asset Class:	Diversified Emg Mkts-Equity
eA Primary Universe:	eA Emerging Mkts Equity - Unhedged
Marketing Contact:	Jon R. Yenor
Title:	Director of Marketing
Phone/Fax:	203.422.8030 / 203.422.8090
Email Address:	jyenor@axinvest.com

Key Facts	
Primary Capitalization:	All Cap
Primary Style Emphasis:	Growth
Preferred Benchmark:	MSCI EM-ND
Total Product Assets:	$986.8
Total Product Accounts:	0
Product Offered As:	SA,CF
Investment Focus:	Long Only

Asset & Account Information

Current Totals	Assets ($ Million)	Accounts
Total in Product	$986.8	0
Total Taxable	$905.1	0
Total Tax-Exempt	$81.7	0
Total Institutional	$0.0	0

Assets by Vehicle Type	Assets ($ Million)
Separate/Segregated Assets	$974.2
Pooled/Commingled Assets	$12.6
Mutual Fund/Institutional Assets	$0.0
Mutual Fund/Retail Assets	$0.0

Accounts Gained	Number	($ Million)	% Product Assets
Current Quarter	1	$70.1	0.0 %
2010	3	$25.5	3.3 %
2009	4	$14.5	0.0 %

Assets Lost	Number	($ Million)	% Product Assets
Current Quarter	0	$0.0	0.0 %
2010	0	$0.0	0.0 %
2009	0	$0.0	0.0 %

Portfolio Characteristics

Strategy Snapshot	
Preferred Benchmark:	MSCI EM-ND
Primary Capitalization:	All Cap
Primary Style Emphasis:	Growth
Current Cash Position:	0.9 %
Number of Countries in Portfolio:	17
Approach Towards Currency Hedging:	---
% Hedged Back to Local Currency:	---
Maximum Country Limits:	---

Fundamental Characteristics	
Current Number Of Holdings:	79
Annual Turnover (LTM):	---
Current Dividend Yield:	---
Current P/E (12-mo Trailing):	---
Current P/B (12-mo Trailing):	---
Earnings Growth (Past 5 Yrs):	---
Weighted Avg. Mkt Cap (Mil):	$41,527
Median Market Cap (Mil):	$9,491

Key Country Allocations	
Brazil	---
China Free	---
Korea	---
Mexico	---
Russia	---
South Africa	---
Taiwan	---
Developing Markets	---

Performance Information

Performance For:	Representative Account-Gross of Fees	Risk Index:	MSCI EM IMI-GD
Frequency:	Quarterly	Risk-Free Index:	Citigroup 3-Month T-Bill

	Returns								
Trailing Periods	**Product**	**Benchmark**	**Excess**	**Std Dev**	**Alpha**	**Beta**	**Trk Error**	**Info Ratio**	**Sharpe Ratio**
1 Year	24.84	18.76	6.08	---	---	---	---	---	---
2 Year	52.97	48.47	4.50	---	---	---	---	---	---
3 Year	9.55	5.27	4.29	36.94	4.26	1.00	3.91	1.09	0.25
4 Year	---	9.00	---	---	---	---	---	---	---
5 Year	---	11.43	---	---	---	---	---	---	---
6 Year	---	16.67	---	---	---	---	---	---	---
7 Year	---	16.79	---	---	---	---	---	---	---
8 Year	---	23.35	---	---	---	---	---	---	---
9 Year	---	17.37	---	---	---	---	---	---	---
10 Year	---	17.13	---	---	---	---	---	---	---
Since Inception (12/2007)	6.21	1.93	4.28	35.08	4.37	1.00	3.93	1.09	0.15

Calendar Years	MRQ	YTD	2010	2009	2008	2007	2006	2005	2004
Product Returns:	0.60	0.60	26.92	87.51	-51.64	---	---	---	---
Benchmark Returns:	1.52	1.52	20.22	82.88	-53.63	40.14	32.16	34.36	26.92
Excess Returns:	-0.92	-0.92	6.70	4.63	1.99	---	---	---	---

Fee Information

Vehicle Type	Available	Min. Size($ Mil)	Minimum Fee
Separate/Segregated	Open	$50	$475,000
Pooled/Commingled	Open	$1	$50,000
Mutual Fund	Not Available	---	---

Fees By Acct. Size	$25M	$50M	$75M	$100M
Separate/Segregated	$250,000 100 bps	$475,000 95 bps	$700,000 93 bps	$925,000 93 bps
Pooled/Commingled	$250,000 100 bps	$475,000 95 bps	$700,000 93 bps	$925,000 93 bps
Mutual Fund	--- ---	--- ---	--- ---	--- ---

Professional Information

Team Description	No.	Avg. Yrs. Exp.	Avg. Yrs. @ Firm
Portfolio Managers:	---	---	---
Research Analysts:	---	---	---
Traders:	---	---	---

Professional Turnover		Port Mgrs.	Analysts
Professionals Gained	MRQ	0	0
	2010	0	1
	2009	0	0
Professionals Lost	MRQ	0	0
	2010	0	1
	2009	0	0

Investment Professionals Managing This Strategy

Christopher Lively

Current Position/Ownership Details

Title:	CFA, Portfolio Manager
Primary Role:	Portfolio Manager
Start Year Industry:	1988
Start Year Firm:	2007
Equity Owner:	
Equity Ownership:	

Educational History

Undergraduate:
Harvard University

Post Graduate:

Georgetown University	M.S.
UCLA	M.B.A.

Prior Experience

Firm	Title	Start Year	End Year

Biography:

Luis Soares

Current Position/Ownership Details

Title:	Portfolio Manager
Primary Role:	Portfolio Manager
Start Year Industry:	1993
Start Year Firm:	2003
Equity Owner:	
Equity Ownership:	

Educational History

Undergraduate:
Cornell University

Post Graduate:

Prior Experience

Firm	Title	Start Year	End Year

Biography:

Section 2

Performance Exhibits

Oregon Investment Council

Emerging Markets Equity

Oregon Investment Council - Emerging Markets Equity

Periods ending March 31, 2011

Performance Summary Tables

All Strategies

	Axiom: EM		Pictet: GEM		MSCI EM		Universe Median	Universe Size
	Stat	Rank	Stat	Rank	Stat	Rank		
Total Return								
3 Mos.	0.6	59	2.0	28	2.1	27	1.1	*180*
1 Yr.	24.9	9	19.1	48	18.8	50	18.7	*179*
3 Yrs.	9.6	15	2.1	77	4.6	48	4.6	*164*
5 Yrs.	n/a	n/a	9.3	77	11.0	48	10.8	*128*
7 Yrs.	n/a	n/a	15.6	74	16.5	53	16.7	*104*
10 Yrs.	n/a	n/a	18.7	41	17.1	73	17.9	*85*
Excess Return								
3 Mos.	-1.5		-0.1				-1.0	*180*
1 Yr.	6.1		0.3				-0.1	*179*
3 Yrs.	4.9		-2.5				0.0	*164*
5 Yrs.	n/a	n/a	-1.7				-0.2	*128*
7 Yrs.	n/a	n/a	-0.9				0.2	*104*
10 Yrs.	n/a	n/a	1.5				0.7	*85*
Excess Return vs. Universe Median								
3 Mos.	-0.5		1.0		1.0			*180*
1 Yr.	6.2		0.4		0.1			*179*
3 Yrs.	5.0		-2.5		0.0			*164*
5 Yrs.	n/a	n/a	-1.5		0.2			*128*
7 Yrs.	n/a	n/a	-1.1		-0.2			*104*
10 Yrs.	n/a	n/a	0.8		-0.7			*85*
Standard Deviation								
3 Yrs.	32.2	51	32.0	47	31.9	44	32.2	*164*
5 Yrs.	n/a	n/a	27.9	47	27.9	48	28.1	*128*
7 Yrs.	n/a	n/a	25.6	46	25.6	44	25.9	*104*
10 Yrs.	n/a	n/a	24.4	54	24.1	45	24.3	*85*
Tracking Error								
3 Yrs.	4.2	39	3.7	26			4.7	*164*
5 Yrs.	n/a	n/a	3.3	18			4.6	*128*
7 Yrs.	n/a	n/a	3.3	23			4.2	*104*
10 Yrs.	n/a	n/a	4.2	49			4.3	*85*
Information Ratio								
3 Yrs.	1.2	7	-0.7	81			0.0	*164*
5 Yrs.	n/a	n/a	-0.5	81			0.0	*128*
7 Yrs.	n/a	n/a	-0.3	74			0.0	*104*
10 Yrs.	n/a	n/a	0.4	40			0.2	*85*

Universe: **eA EM**

Universe Rank: **Green = Top Quartile** **Red = Bottom Quartile**

Oregon Investment Council - Emerging Markets Equity

Periods ending March 31, 2011

Performance Summary Tables

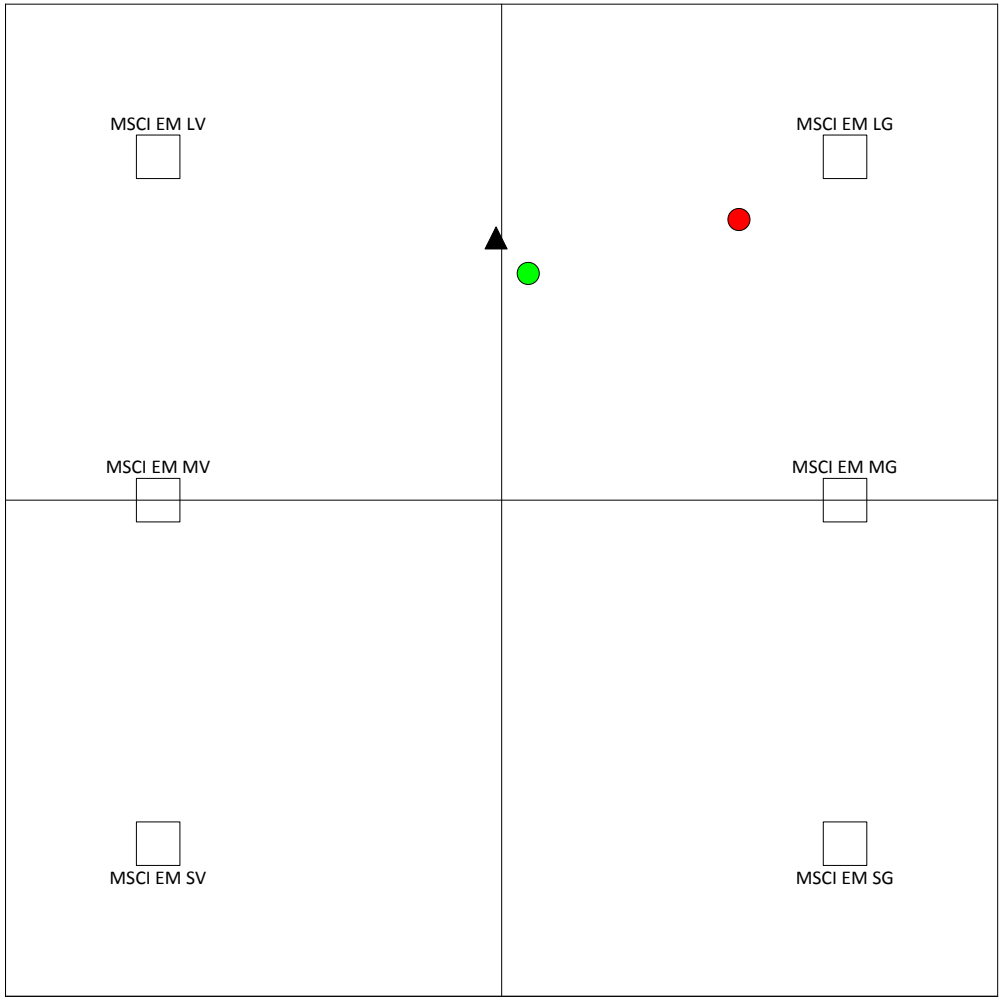
All Strategies

	Axiom: EM		Pictet: GEM		MSCI EM		Universe Median	Universe Size
	Stat	Rank	Stat	Rank	Stat	Rank		
Beta								
3 Yrs.	1.0	49	1.0	56			1.0	*164*
5 Yrs.	n/a	n/a	1.0	54			1.0	*128*
7 Yrs.	n/a	n/a	1.0	52			1.0	*104*
10 Yrs.	n/a	n/a	1.0	50			1.0	*85*
Alpha (CAPM)								
3 Yrs.	4.9	**16**	-2.5	**76**			-0.1	*164*
5 Yrs.	n/a	n/a	-1.7	**77**			-0.2	*128*
7 Yrs.	n/a	n/a	-0.8	67			0.3	*104*
10 Yrs.	n/a	n/a	1.6	46			1.2	*85*
Sharpe Ratio								
3 Yrs.	0.3	**16**	0.1	**76**	0.1	49	0.1	*164*
5 Yrs.	n/a	n/a	0.3	**76**	0.3	47	0.3	*128*
7 Yrs.	n/a	n/a	0.5	67	0.6	51	0.6	*104*
10 Yrs.	n/a	n/a	0.7	47	0.6	67	0.7	*85*
Upside Capture Ratio								
3 Yrs.	110.1	**11**	97.1	69			99.4	*164*
5 Yrs.	n/a	n/a	98.5	62			99.5	*128*
7 Yrs.	n/a	n/a	99.7	54			100.4	*104*
10 Yrs.	n/a	n/a	103.2	31			101.0	*85*
Downside Capture Ratio								
3 Yrs.	97.8	37	102.9	67			100.2	*164*
5 Yrs.	n/a	n/a	102.7	71			99.9	*128*
7 Yrs.	n/a	n/a	102.2	65			100.3	*104*
10 Yrs.	n/a	n/a	99.2	52			99.0	*85*

Universe: **eA EM**

Universe Rank: **Green = Top Quartile** **Red = Bottom Quartile**

Style Map (Oct 02 - Mar 11)

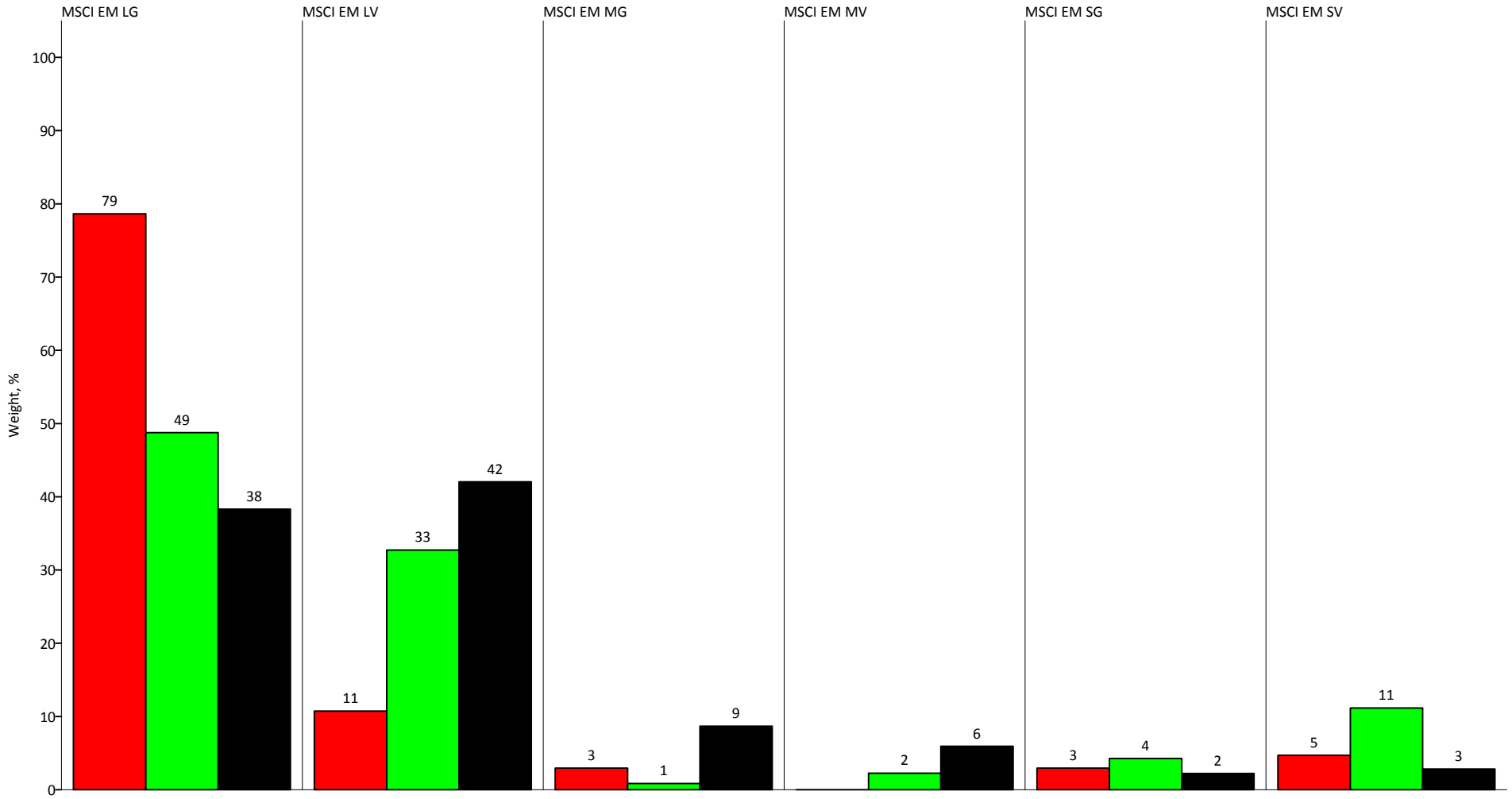


Legend

● Axiom: EM ● Pictet: GEM ▲ MSCI EM

Note: The date range displayed in style analysis charts will not match those in other charts because the system requires a certain number of returns (18 months in this study) before it can perform the first style calculation.

Style Weights (Oct 02 - Mar 11)

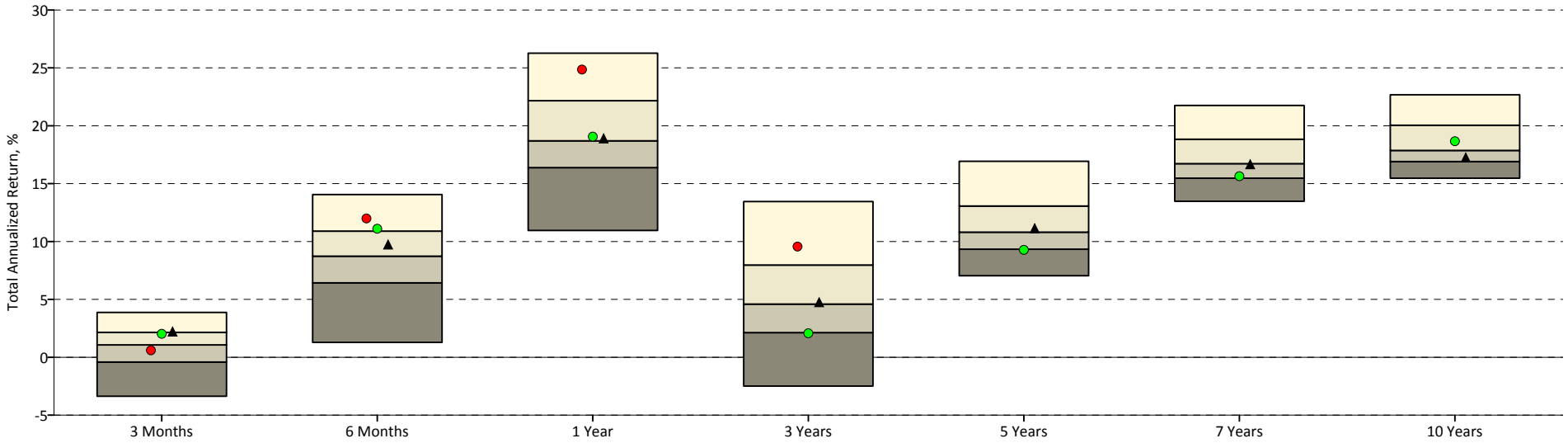


Legend

Axiom: EM Pictet: GEM MSCI EM

Note: The date range displayed in style analysis charts will not match those in other charts because the system requires a certain number of returns (18 months in this study) before it can perform the first style calculation.

Total Return: Trailing Periods



	Total Return													
	3 Months		6 Months		1 Year		3 Years		5 Years		7 Years		10 Years	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Axiom: EM	0.6	59	12.0	15	24.9	9	9.6	15	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	2.0	28	11.1	22	19.1	48	2.1	77	9.3	77	15.6	74	18.7	41
MSCI EM	2.1	27	9.6	40	18.8	50	4.6	48	11.0	48	16.5	53	17.1	73
Universe Median	1.1		8.7		18.7		4.6		10.8		16.7		17.9	
Universe Size		*180*		*179*		*179*		*164*		*128*		*104*		*85*

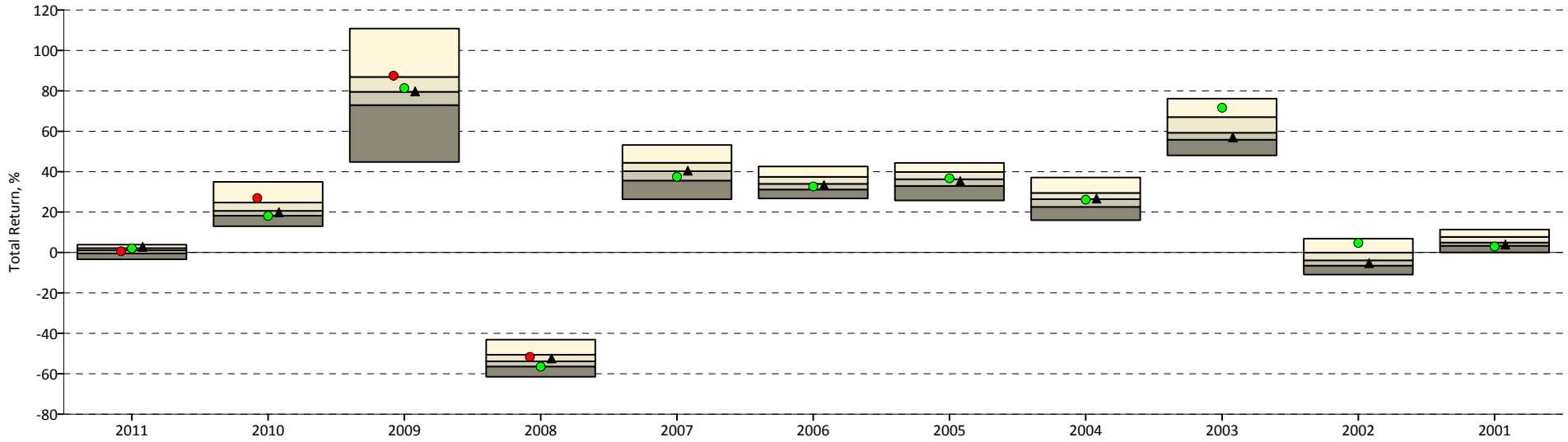
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM
- MSCI EM

Universe:
eA EM

Universe Rank:
Green = Top Quartile Red = Bottom Quartile

Total Return: Calendar Years



	Total Return																					
	2011		2010		2009		2008		2007		2006		2005		2004		2003		2002		2001	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Axiom: EM	0.6	59	26.9	**17**	87.5	**22**	-51.6	30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	2.0	28	18.2	**76**	81.3	44	-56.5	**76**	37.5	68	32.7	60	36.7	46	26.2	51	71.7	**15**	4.7	**11**	3.0	**77**
MSCI EM	2.1	27	19.2	64	79.0	54	-53.2	42	39.8	54	32.6	60	34.5	63	26.0	55	56.3	72	-6.0	74	3.2	**76**
Universe Median	1.1		20.6		79.5		-53.9		40.2		34.0		36.3		26.4		59.3		-3.9		4.9	
Universe Size		*180*		*181*		*185*		*179*		*166*		*153*		*136*		*131*		*126*		*116*		*115*

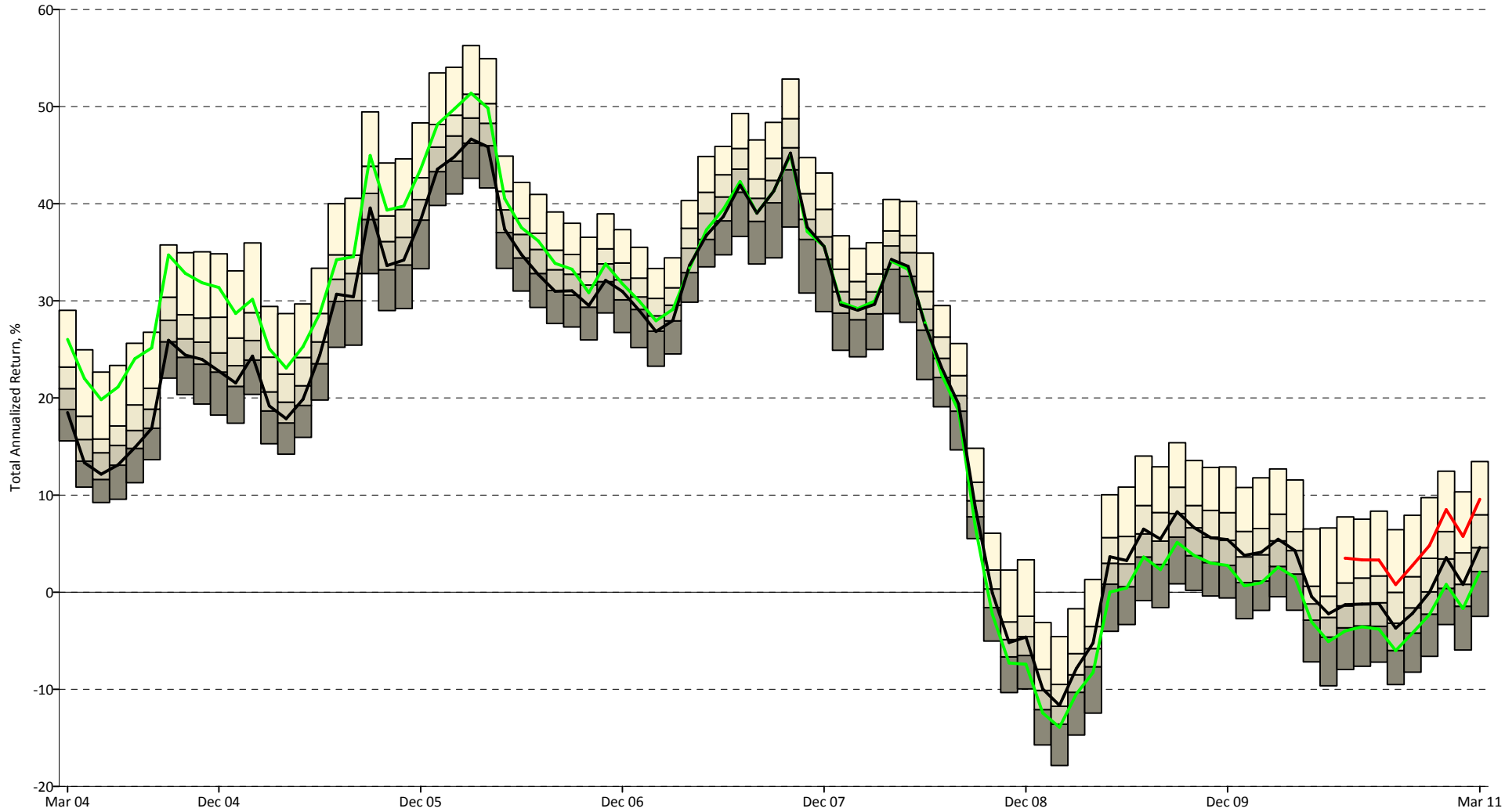
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM
- MSCI EM

Universe:
eA EM

Universe Rank:
Green = Top Quartile Red = Bottom Quartile

Total Return: Rolling 36-month Periods (Apr 01 - Mar 11)

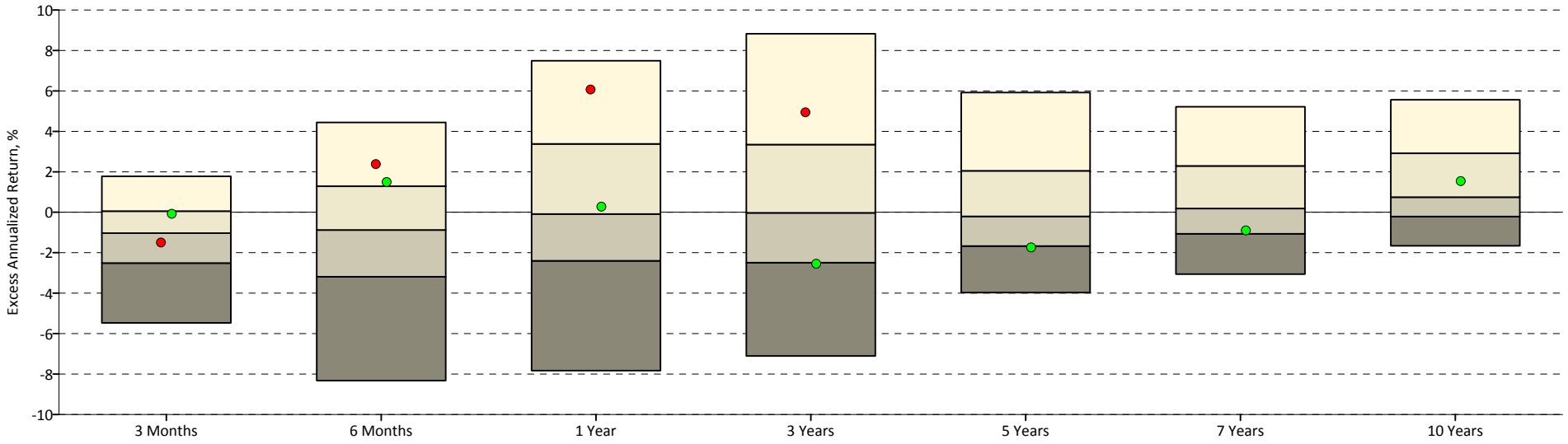


Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM
- MSCI EM

Universe: **eA EM**

Excess Return: Trailing Periods



	Excess Return													
	3 Months		6 Months		1 Year		3 Years		5 Years		7 Years		10 Years	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Axiom: EM	-1.5	59	2.4	**15**	6.1	**9**	4.9	**15**	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	-0.1	28	1.5	**22**	0.3	48	-2.5	**77**	-1.7	**77**	-0.9	74	1.5	41
Universe Median	-1.0		-0.9		-0.1		0.0		-0.2		0.2		0.7	
Universe Size		*180*		*179*		*179*		*164*		*128*		*104*		*85*

Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe:
eA EM

Universe Rank:
Green = Top Quartile **Red = Bottom Quartile**

Excess Return: Calendar Years

	Excess Return																					
	2011		2010		2009		2008		2007		2006		2005		2004		2003		2002		2001	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Axiom: EM	-1.5	59	7.8	**17**	8.5	**22**	1.5	30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	-0.1	28	-1.0	**76**	2.3	44	-3.3	**76**	-2.3	68	0.1	60	2.2	46	0.2	51	15.4	**15**	10.7	**11**	-0.3	**77**
Universe Median	-1.0		1.4		0.5		-0.7		0.4		1.4		1.7		0.5		3.0		2.1		1.7	
Universe Size		*180*		*181*		*185*		*179*		*166*		*153*		*136*		*131*		*126*		*116*		*115*

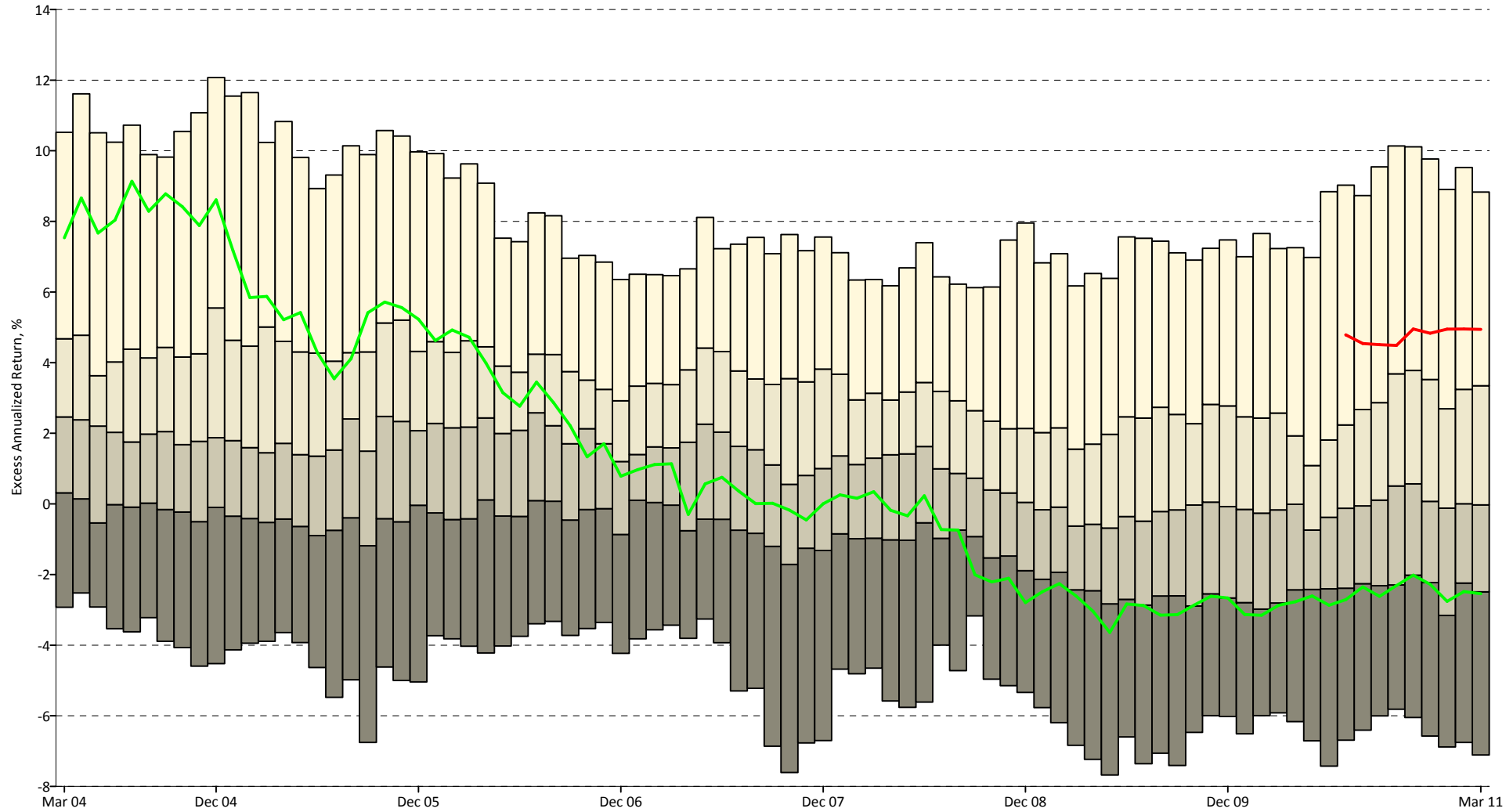
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe:
eA EM

Universe Rank:
Green = Top Quartile **Red = Bottom Quartile**

Excess Return: Rolling 36-month Periods (Apr 01 - Mar 11)

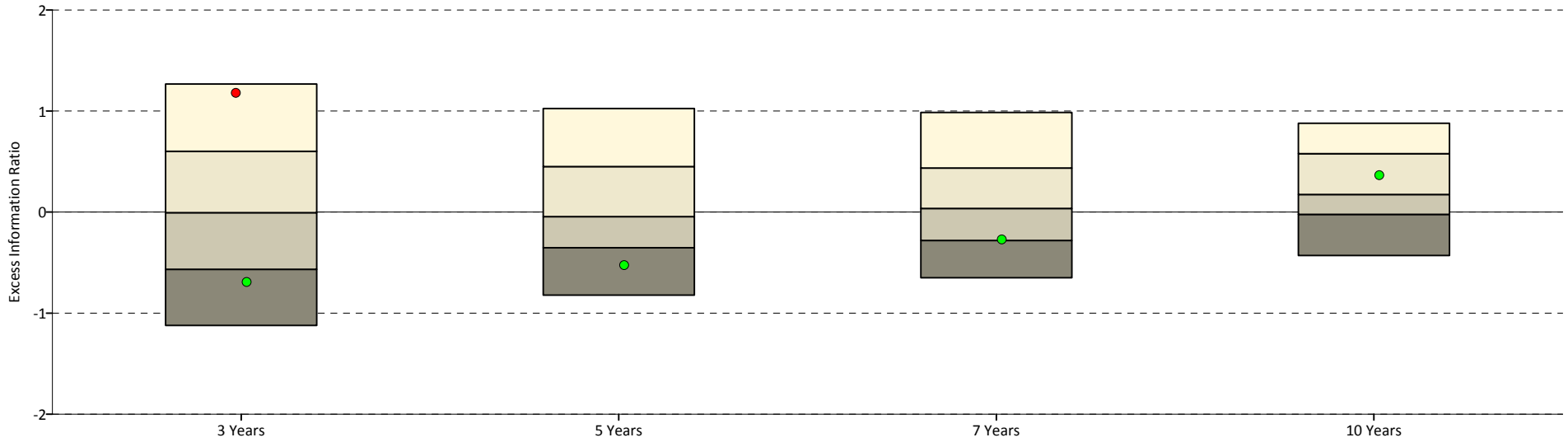


Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe: **eA EM**

Information Ratio: Trailing Periods



	Information Ratio							
	3 Years		5 Years		7 Years		10 Years	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Axiom: EM	1.2	7	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	-0.7	81	-0.5	81	-0.3	74	0.4	40
Universe Median	0.0		0.0		0.0		0.2	
Universe Size		*164*		*128*		*104*		*85*

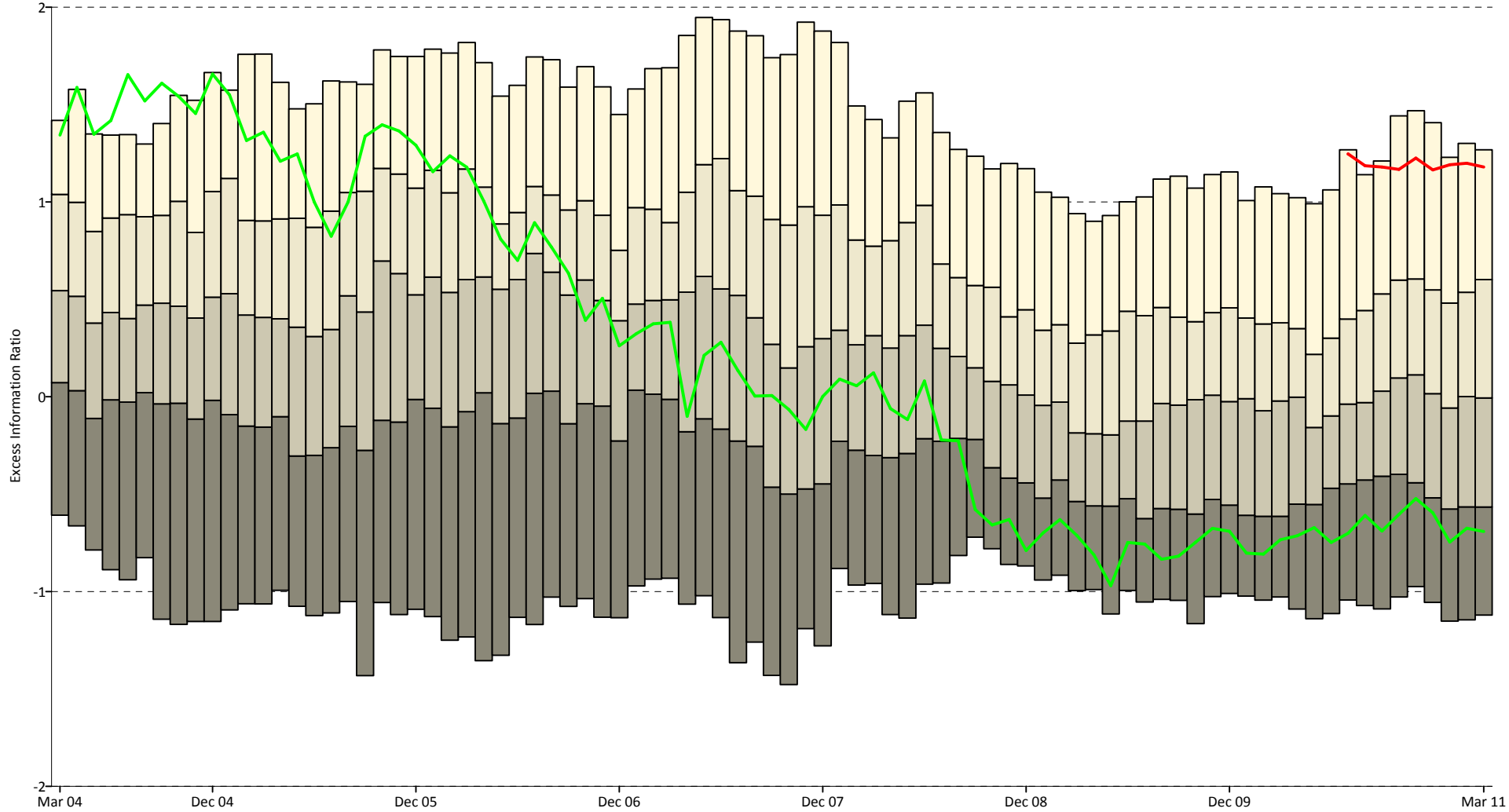
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe:
eA EM

Universe Rank:
Green = Top Quartile **Red = Bottom Quartile**

Information Ratio: Rolling 36-month Periods (Apr 01 - Mar 11)

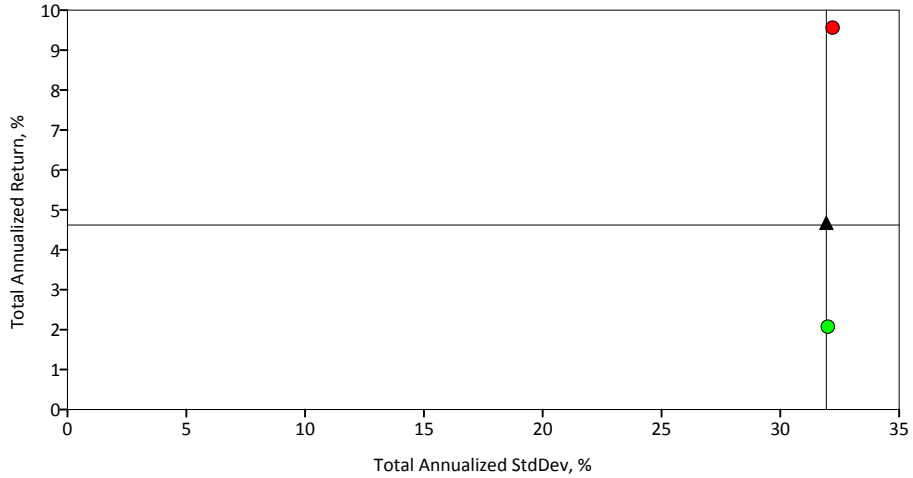


Legend

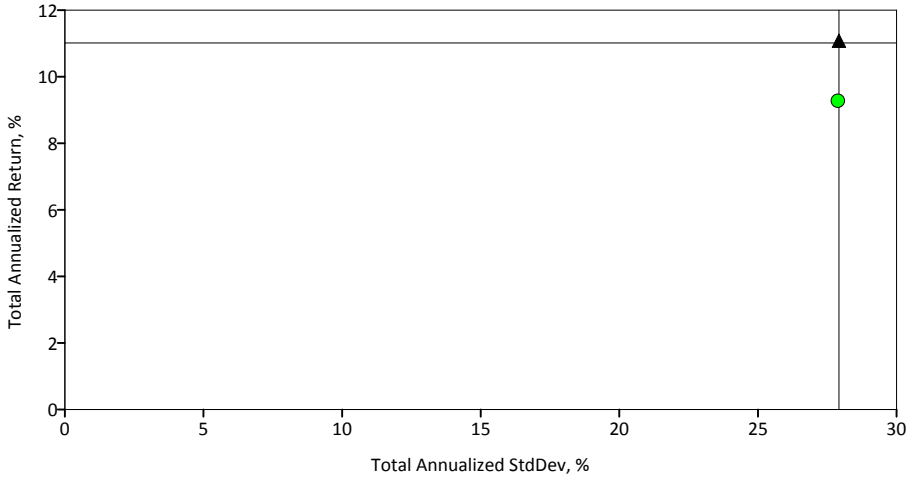
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe: **eA EM**

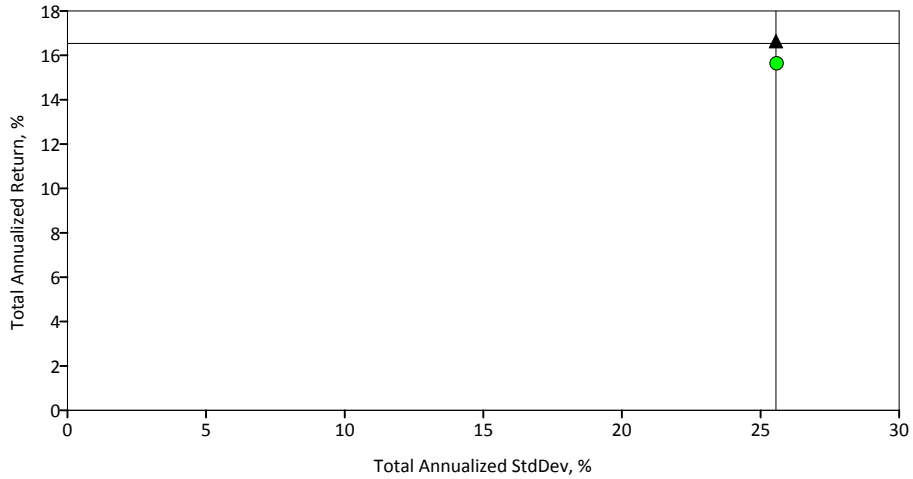
Total Return vs. Standard Deviation: Trailing 3 Years (Apr 08 - Mar 11)



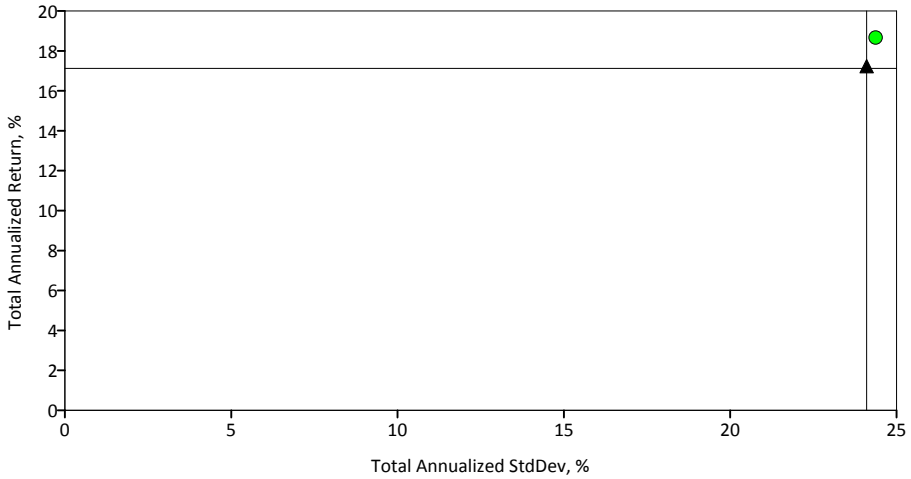
Total Return vs. Standard Deviation: Trailing 5 Years (Apr 06 - Mar 11)



Total Return vs. Standard Deviation: Trailing 7 Years (Apr 04 - Mar 11)



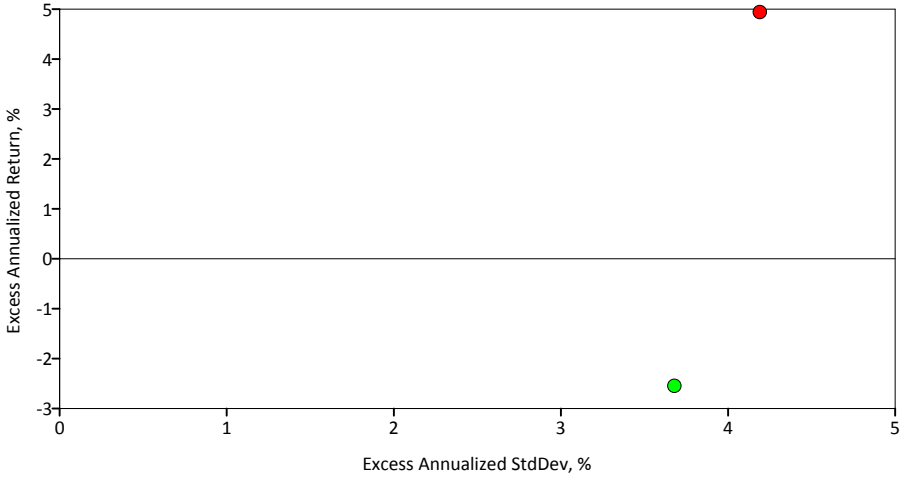
Total Return vs. Standard Deviation: Trailing 10 Years (Apr 01 - Mar 11)



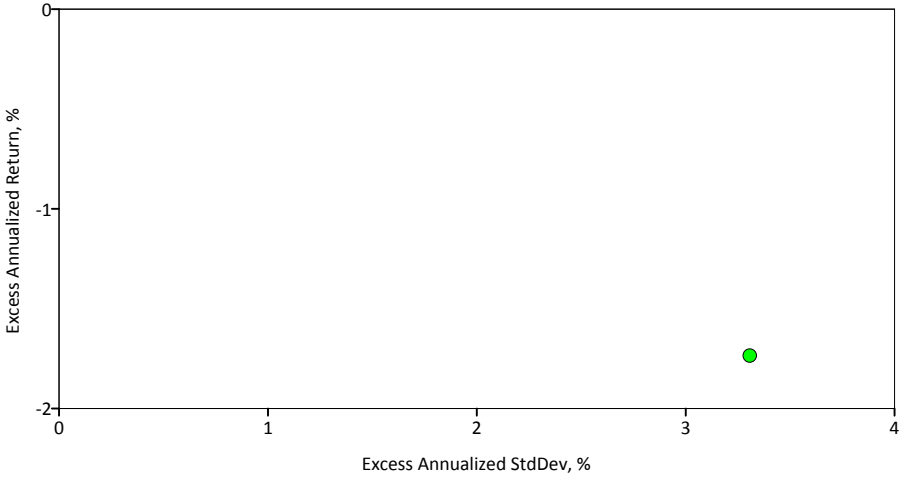
Legend

● Axiom: EM ● Pictet: GEM ▲ MSCI EM

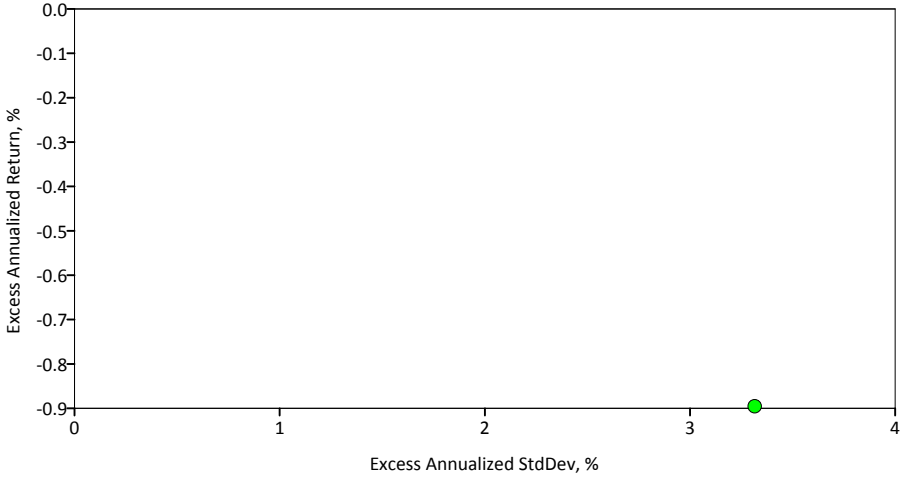
Excess Return vs. Tracking Error: Trailing 3 Years (Apr 08 - Mar 11)



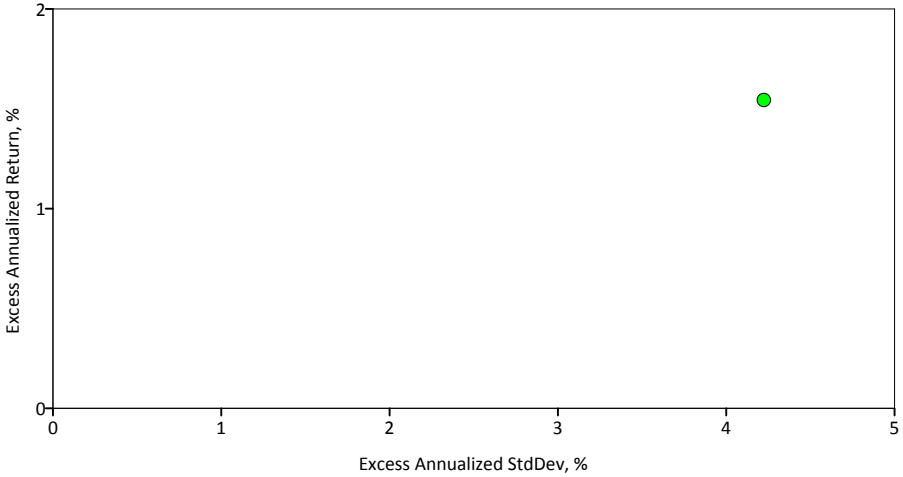
Excess Return vs. Tracking Error: Trailing 5 Years (Apr 06 - Mar 11)



Excess Return vs. Tracking Error: Trailing 7 Years (Apr 04 - Mar 11)



Excess Return vs. Tracking Error: Trailing 10 Years (Apr 01 - Mar 11)



Legend

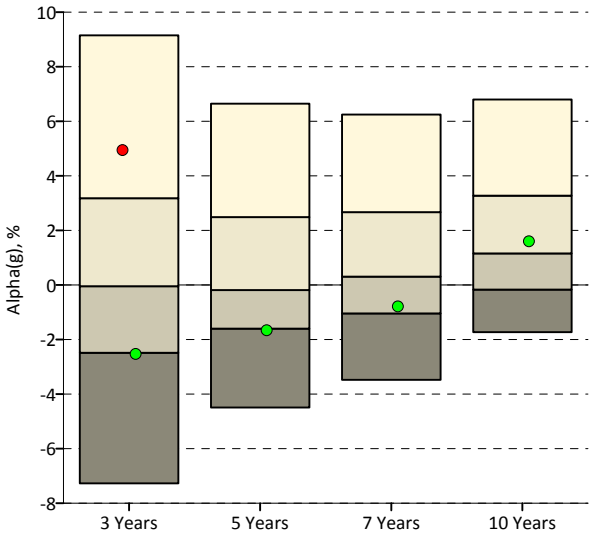
- Axiom: EM
- Pictet: GEM

Oregon Investment Council - Emerging Markets Equity

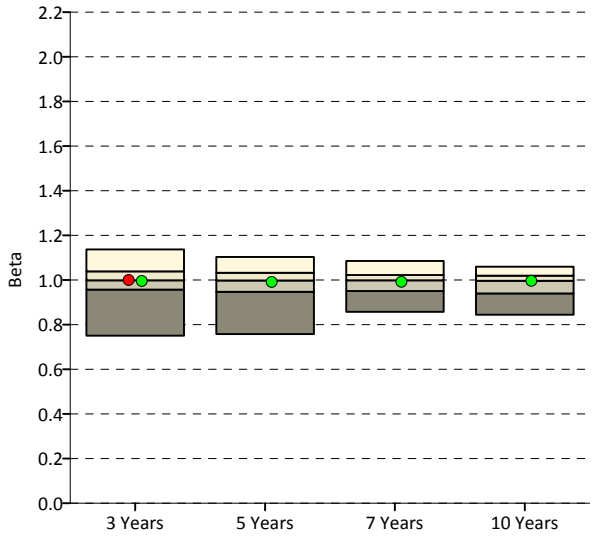
Periods ending March 31, 2011

MPT Statistics
All Strategies

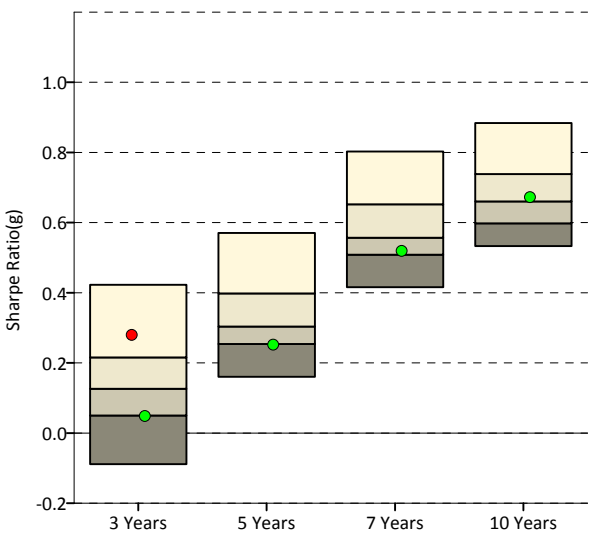
Alpha: Trailing Periods (Apr 08 - Mar 11)



Beta: Trailing Periods (Apr 08 - Mar 11)



Sharpe Ratio: Trailing Periods (Apr 08 - Mar 11)



	3 Yrs			5 Yrs			7 Yrs.			10 Yrs.		
	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]
Axiom: EM	4.9 [16]	1.0 [49]	0.3 [16]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pictet: GEM	-2.5 [76]	1.0 [56]	0.1 [76]	-1.7 [77]	1.0 [54]	0.3 [76]	-0.8 [67]	1.0 [52]	0.5 [67]	1.6 [46]	1.0 [50]	0.7 [47]
Universe Median	-0.1	1.0	0.1	-0.2	1.0	0.3	0.3	1.0	0.6	1.2	1.0	0.7
Universe Size	*164*			*128*			*104*			*85*		

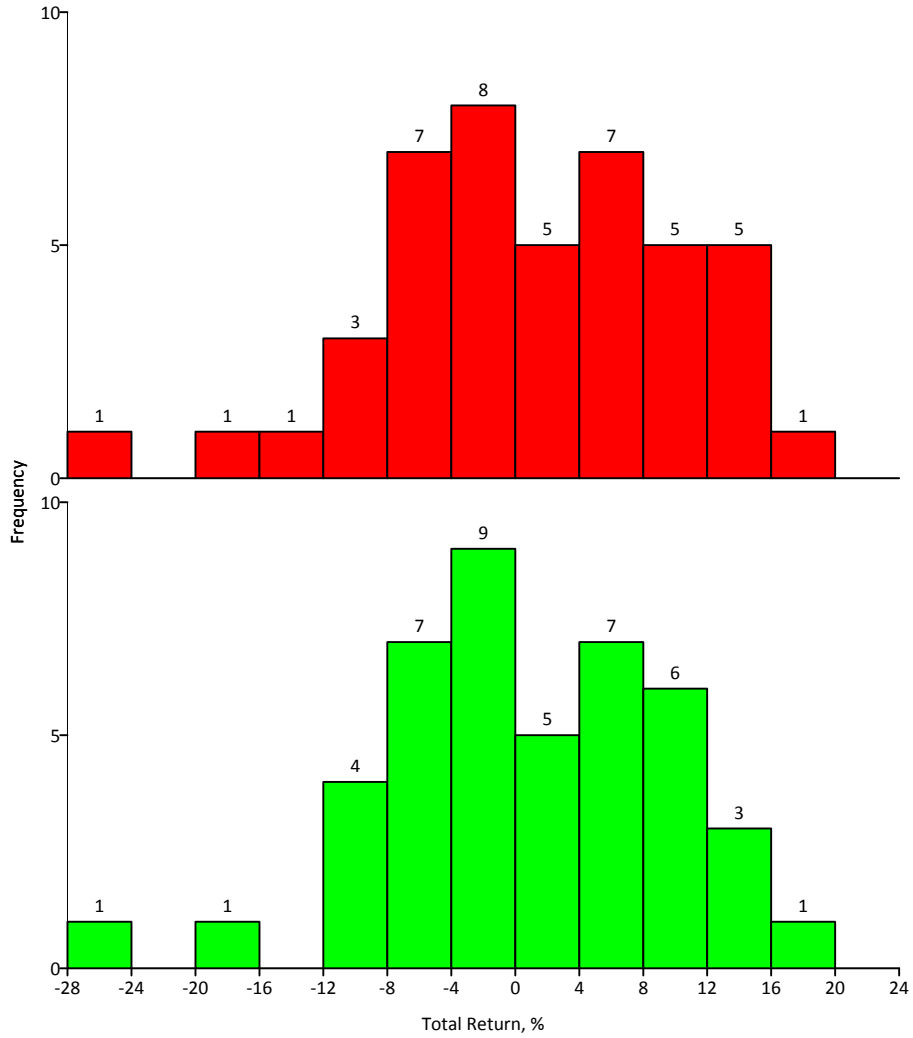
Legend

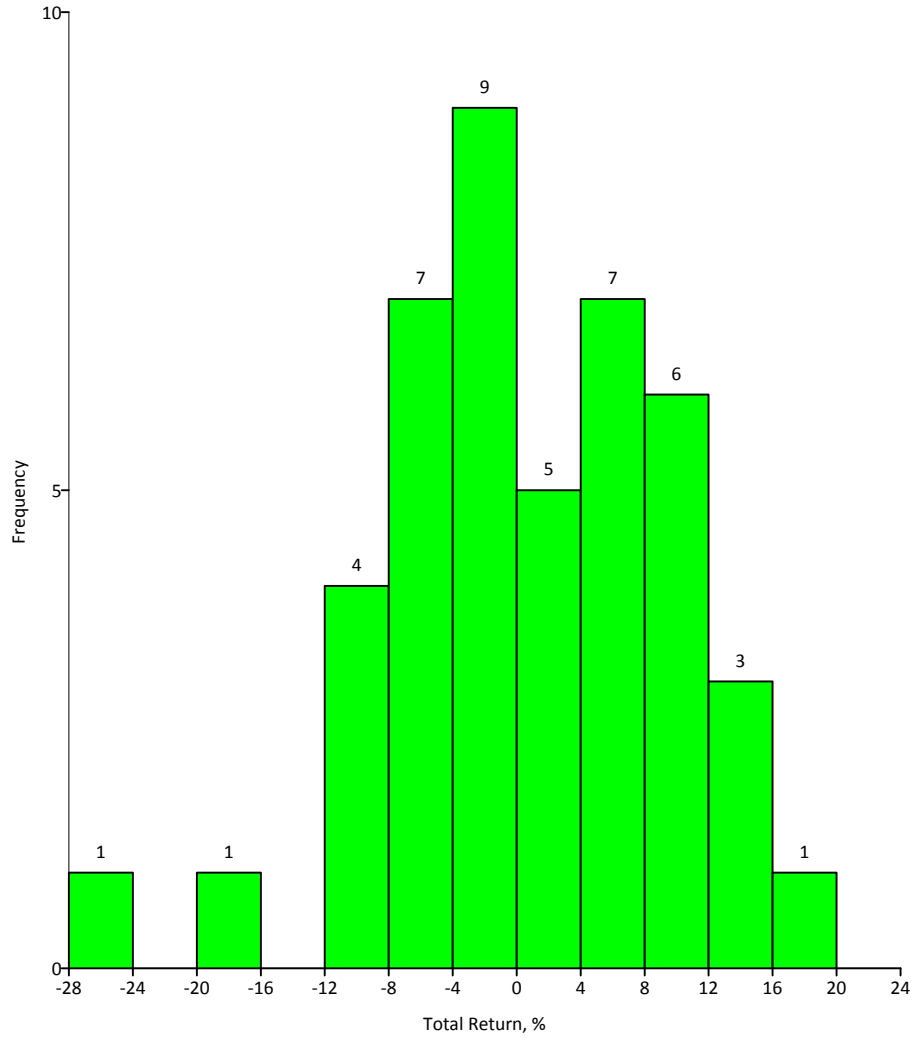
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Axiom: EM
- Pictet: GEM

Universe:
eA EM

Universe Rank:
Green = Top Quartile **Red = Bottom Quartile**

Distribution of Total Returns: Common Period (Aug 07 - Mar 11)

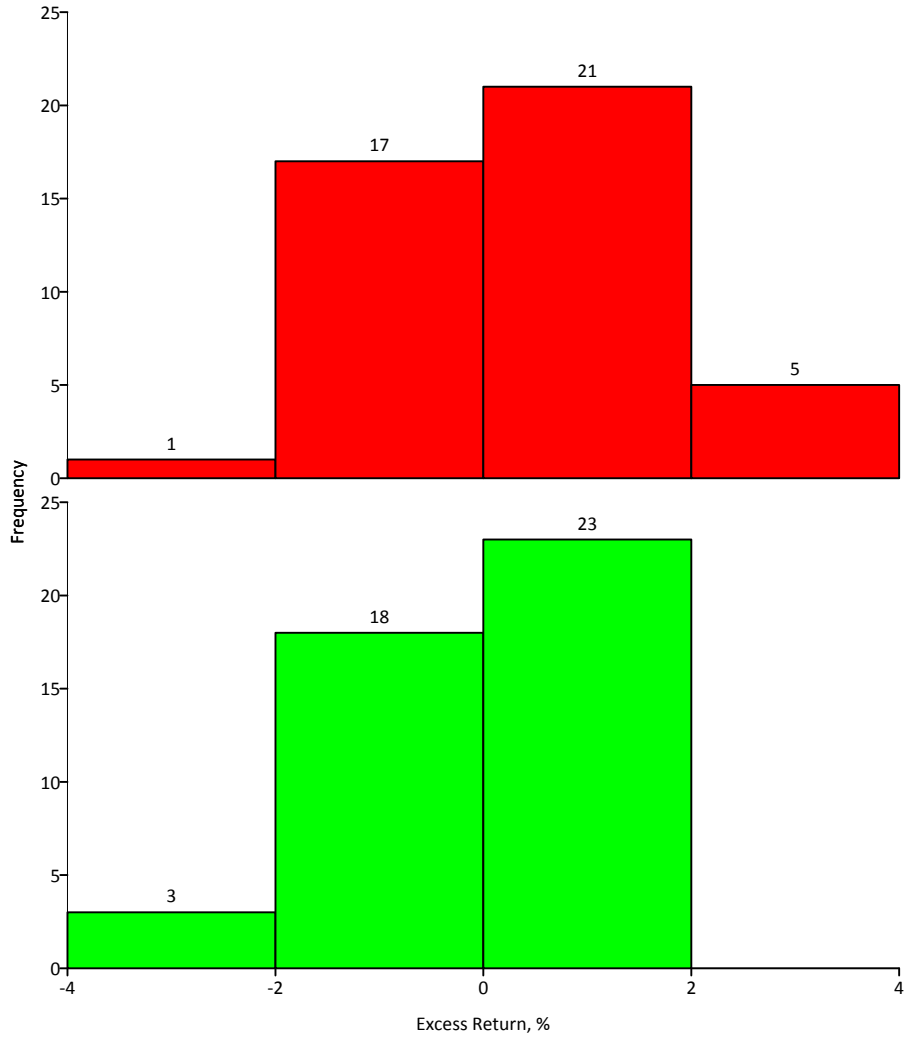


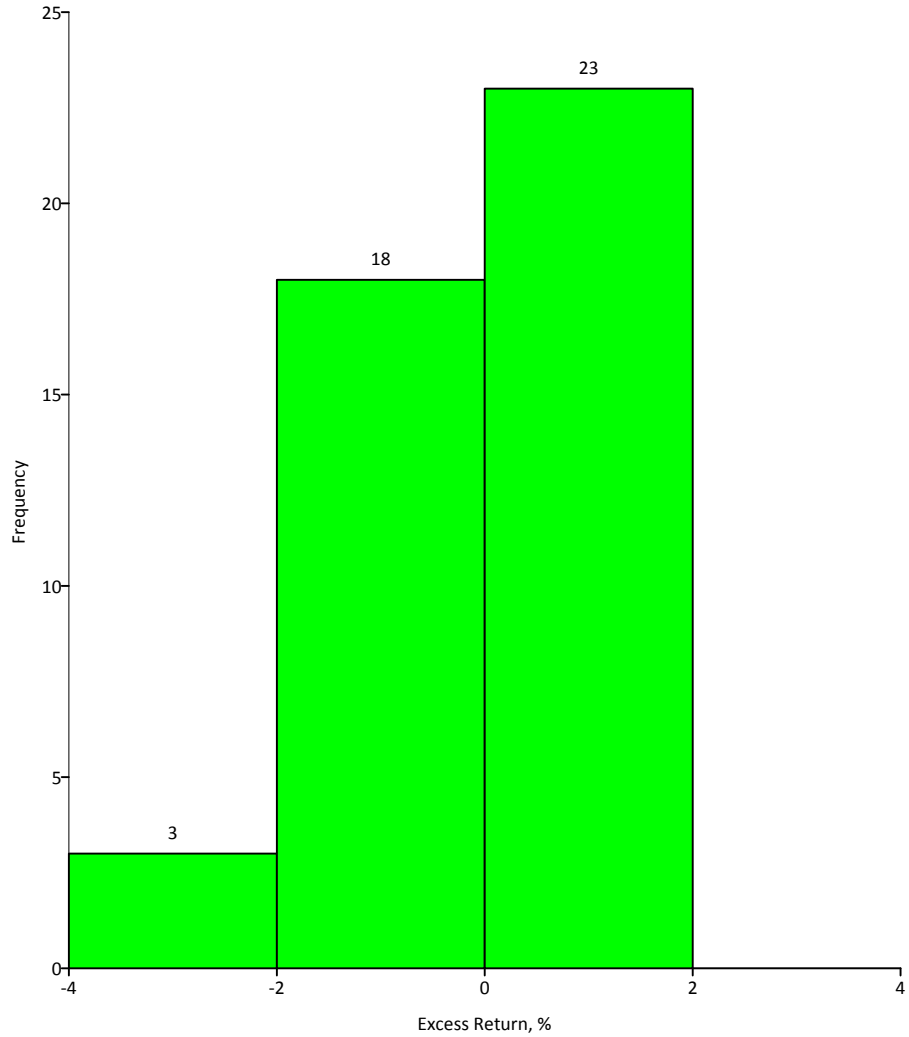


Legend

Axiom: EM Pictet: GEM

Distribution of Excess Returns: Common Period (Aug 07 - Mar 11)





Legend

Axiom: EM Pictet: GEM

Alpha (Jenson's Alpha) – a manager's *Total Return* in excess of that which can be explained by its systematic risk, or *Beta*. Alpha is calculated by regressing a manager's *Total Returns* against those of the benchmark (taken to represent the "market"). Alpha is the intercept term in this regression, also known as a Capital Asset Pricing Model (CAPM) regression. A positive Alpha implies that a manager has added value relative to the benchmark on a *Beta*- or risk-adjusted basis.

Batting Average – the percentage frequency a manager's periodic *Total Return* exceeds the benchmark. A manager that outperforms the benchmark in 15 out of 20 months will have a *Batting Average* of 0.75.

Benchmark R-Squared – a statistical measure that represents the percentage of volatility in a manger's returns which can be explained by the volatility of the benchmark. Benchmark R-Squared can range from 0-100%. See also *R-Squared*.

Best/Worst Quarter – the maximum/minimum *Total Return* or *Excess Return* over any rolling 3-month period (when monthly returns are used). Note that the term "quarter" in this calculation does not refer to calendar quarters (unless the periodicity is quarterly), but rather 3-month windows.

Best/Worst Year – the maximum/minimum *Total Return* or *Excess Return* over any rolling 12-month period (when monthly returns are used). Note that the term "year" in this calculation does not refer to calendar years, but rather 12-month (or 4-quarter) windows.

Beta – a measure of a manager's sensitivity to systematic, or market risk. Beta is calculated by regressing a manager's *Total Returns* against those of the benchmark (taken to represent the "market"). Beta is the slope coefficient in this regression, also known as a Capital Asset Pricing Model (CAPM) regression. A manager with a Beta of 1 has a systematic volatility equal to that of the benchmark, while a Beta less than 1 implies lower systematic volatility than the benchmark and a Beta greater than 1 indicates that a manager exhibits more systematic volatility than the benchmark.

Calmar Ratio – a risk/return measure that is calculated by dividing a manager's *Total Return* or *Excess Return* by the respective *Maximum Drawdown*. A higher Calmar Ratio implies greater manager efficiency in generating *Total Returns* or *Excess Returns* without experiencing correspondingly high *Maximum Drawdowns*.

Capture Ratio – the ratio of a manager's average *Total Return* to the benchmark's average *Total Return*. Up Market Capture Ratio refers to relative performance in periods where the benchmark *Total Return* is greater than 0 (i.e., positive) and Down Market Capture Ratio is calculated over those periods where the benchmark *Total Return* is less than 0 (i.e., negative).

Correlation – a standardized measure of *Covariance* scaled to a range of -1 to 1. Correlations close to 1 suggest that two *Return Series* move together very closely while Correlations close to -1 indicate that two *Return Series* tend to move opposite of one another.

Covariance – a measure of the co-movement of two variables, *Return Series* for these purposes. When two *Return Series* tend to deviate in the same direction they will exhibit positive Covariance and if they tend to deviate in opposite directions they will exhibit negative Covariance.

Excess Correlation – the *Correlation* between two sets of *Excess Return Series*.

Excess Information Ratio – a measure of a manager's active return per unit of active risk. Excess Information Ratio (commonly referred to as *Information Ratio*) is calculated by dividing a manager's *Excess Return* by the *Tracking Error*. A higher Excess Information Ratio implies greater manager efficiency in terms of the active risk taken versus the benchmark.

Excess Loss Ratio – a measure of a manager's active return per unit of downside active risk. Excess Loss Ratio is calculated by dividing a manager's *Excess Return* by the *Semi-Standard Deviation* of *Excess Returns*. A higher Excess Loss Ratio implies greater manager efficiency.

Excess Omega Ratio – a measure of a manager's active return versus active risk that uses the cumulative probability distribution function (CDF) of *Excess Returns* and assigns a return threshold (0 in this case), with part of the distribution on each side. Excess Omega Ratio is calculated by dividing the area above the CDF curve to the right of the threshold by the area below the CDF curve to the left of the threshold. Excess Omega Ratio is useful in that it incorporates the full distribution of *Excess Returns*, not just the mean and standard deviation (i.e., tracking error), and does not rely on a normally-distributed return series as many other risk-adjusted measures such as the *Sharpe Ratio* and *Information Ratio* implicitly do. As with other risk-adjusted measures, a higher Excess Omega Ratio implies greater manager efficiency in terms of active risk and return.

Excess Return – a manager's return in excess of the benchmark's *Total Return*.

Excess Style Weights – a manager's style weights in excess of the benchmark's style weights for a given period. This measures a manager's style deviations, or bets, versus the benchmark.

Information Ratio – a measure of a manager's return per unit of risk. Information Ratio is calculated by dividing a manager's *Total Return* by the *Standard Deviation*. A higher Information Ratio implies greater manager efficiency. To avoid confusion and conform to industry standards, the term "Information Ratio" is used throughout the study when referencing the *Excess Information Ratio* statistic.

Maximum Drawdown – a drawdown is any losing period during a *Return Series* (either *Total Return* or Excess *Return*) and the Maximum Drawdown measures the cumulative return during the worst "peak to trough" period for the *Return Series*. The Maximum Drawdown does not necessarily occur over consecutive months (or quarters) of negative performance and can be interrupted by periods of positive performance as long as this does not cause full recovery of the initial value prior to the drawdown.

Recovery Duration – the number of months (or quarters) from trough to full recovery after the *Maximum Drawdown*. If the full amount of the initial value has not been recovered, Recovery Duration will display "N/A".

Recovery Percent – where the full amount of the initial value has not been recovered after the *Maximum Drawdown*, Recovery Percent represents the partial percent of peak to trough loss that has been regained to date. If the initial value has been re-achieved, Recovery Percent will display "100%".

Recovery Period – the range of months (or quarters) to regain the value before the *Maximum Drawdown* occurred, starting from the first month (or quarter) after a trough. When the full amount of the initial value has not been recovered the date range shown is from the trough to the highest subsequent cumulative value.

Return Series – a set of *Returns* over a range of time periods.

Risk – see *Standard Deviation*.

R-Squared – within the context of regression analysis, R-Squared represents the portion of the variation of a dependent variable (e.g., a manager's *Return Series*) that can be explained by the variation of the independent variable(s) (e.g., a benchmark index or set of *Style Indices*). R-squared values range from 0 to 100. An R-squared of 100 indicates that all movements of the dependent variable are completely explained by movements of the independent variable(s). In addition, R-Squared provides a measure of the goodness of fit, or validity, of the regression model.

Selection Return – a manager's *Total Return* in excess of the *Style Return*. A positive Selection Return implies that a manager has added value relative to the *Style Benchmark* through security selection.

Semi-Standard Deviation – a measure of downside risk similar to Standard Deviation, except that it is calculated using only the variance of returns below a target rate (0 by default, but can also be set to a Minimum Accepted Return or MAR, the risk-free rate or the benchmark's return). A high Semi-Standard Deviation represents a wide range of returns below the target rate and therefore implies a higher level of downside risk. Semi-Standard Deviation is useful in that it penalizes managers only for volatile returns below the target rate, unlike the full Standard Deviation calculation which does not distinguish between upside (good) and downside (bad) volatility.

Sharpe Ratio – a manager's *Excess Return* over the risk-free rate divided by the *Standard Deviation*. Sharpe Ratio measures a manager's return per unit of risk. A higher Sharpe Ratio implies greater manager efficiency.

Standard Deviation – a measure of the extent to which observations in a series vary from the arithmetic mean of the series. Standard Deviation (also referred to ask *Volatility* or *Risk*) provides an indication of the dispersion of periodic returns. A high Standard Deviation represents a wide range of returns and therefore implies a higher level of risk.

Style Benchmark – a blended index of *Style Indices* combined at the corresponding *Style Weights*. The *Style Return* represents the *Total Return* of the Style Benchmark.

Style Indices – independent (or explanatory) variables used in the *Style Regression*. Style Indices can also be interpreted as the manager's *Betas* or risk factors within the context of the *Style Regression*.

Style Map – a specialized form of scatter plot used to show where a manager lies in relation to a set of *Style Indices* on a two-dimensional plane. A Style Map is simply a different way of viewing the *Style Weights*. The x and y co-ordinates are calculated by rescaling the *Style Weights* to a range of -1 to 1 on each axis.

Style Regression – a constrained quadratic regression of a manager or benchmark return series against a set of *Style Indices*. Style Regression calculates a series of *Betas* that collectively seek to explain as much of a return series as possible.

Style Return – calculated by multiplying a manager's (or benchmark's) Style Weights by the corresponding returns of the Style Indices and summing the resulting weighted component returns.

Style R-Squared – a statistical measure that represents the percentage of volatility in a manager's returns which can be explained by the volatility of the *Style Indices* (or collectively, the *Style Benchmark*). Style R-Squared can range from 0-100%. See also *R-Squared*.

Style Weights – represent the periodic exposure of a manager (or benchmark) to various explanatory variables, also referred to as *Style Indices*. Style Weights are returns-based, i.e. they are calculated through the *Style Regression*.

Timing Return – a manager's *Style Return* in excess of the benchmark's *Style Return*[1]. A positive Timing Return implies that a manager has added value relative to the benchmark through asset allocation decisions, i.e., over/underweight "positions" in the *Style Indices* versus those of the benchmark.

1) If the market benchmark used in the study is not also one of the *Style Indices* then it too will have *Style Weights*, a *Style Return* and a *Style Benchmark*. If the benchmark is one of the *Style Indices*, its *Style Return* will equal the benchmark's *Total Return*.

Total Return – a measure of the appreciation or depreciation in the price of an investment over a given time period.

Tracking Error – the *Standard Deviation* of a manager's *Excess Return* series. Tracking Error measures the extent to which a manager's returns diverge from the benchmark's returns. A low Tracking Error indicates that the manager closely tracks the benchmark.

Volatility – see *Standard Deviation*.

Note: All calculations use geometrically annualized returns except for cumulative returns and those that cover periods less than one year.

TAB 8 – INTERNAL EQUITY RAFI® FUNDAMENTAL INDEX

Oregon Investment Council
Russell/RAFI Fundamental Large Cap Index
July 27, 2011

Purpose
Staff recommends approval of an internally managed Russell/RAFI Large Cap Fundamental Index strategy.

Background
At the June 1, 2011 OIC meeting, Rob Arnott, President of Research Affiliates, introduced the topic of fundamental indexing. The concept of fundamental indexing was first presented in the March/April 2005 edition of the Financial Analysts Journal by then editor Rob Arnott. Since that time, the debate concerning the superiority of fundamentally-based indexes versus "old-fashioned" capitalization-based indexes (such as the S&P 500 or the Russell 2000) continues, and has been the catalyst for a slew of fundamentally-based strategies and product offerings. To bolster the "superiority" argument of the fundamental index strategy, supporters point to the numerous valuation bubbles that have occurred over the years and maintain that investors were required to purchase over-priced/over-weighted stocks to maintain their cap-weighted indexes, and, consequently, lost money when those bubbles burst. They assert that fundamental indexing offers investors the opportunity to eliminate the "noise" surrounding individual stocks that can cause them to become over or under-valued.

Discussion
At its core, fundamental indexes differ from cap-weighted indexes because they weight companies on non-price based metrics such as sales, earnings, book value, and dividends. A key tenet behind the fundamental index is that underlying accounting valuation metrics are objective and less volatile measures of a company's importance in the economy, as opposed to the company's listed market value. The Russell/RAFI approach is to weight companies using the following three measures:

- Adjusted Sales - How much does the company sell;
- Retained Cash Flow – How much of the retained earnings have grown into the current net worth of a company;
- Dividends + Buybacks – How much of that profit does it give back to shareholders.

The use of these metrics allows the construction of a portfolio that weights a company relative to its share of the economy as shown by the following chart and provides a meaningfully different weighting scheme relative to capitalization based indexes.

	5-Year Average						Current			3/31/10
	Sales		Cash Flow		Dividend		Book Value		RAFI	Ru1000
	Weight	Rank	Weight	Rank	Weight	Rank	Weight	Rank	Weight	Weight
Exxon Mobil	3.4%	2	3.5%	**1**	3.0%	6	2.0%	5	2.9%	2.8%
Bank of America	1.2%	8	1.6%	5	3.1%	5	3.5%	**1**	2.3%	1.5%
General Electric	1.6%	6	1.5%	8	4.1%	2	2.1%	4	2.2%	1.7%
Wal-Mart Stores	3.4%	**1**	1.4%	11	1.2%	17	1.2%	11	1.7%	1.1%
Microsoft	0.5%	39	1.4%	10	4.3%	**1**	0.7%	22	1.7%	1.9%

Investment Considerations

Pros

- Provides a diversifying exposure for the OPERF Equity portfolio complementing cap-weighted strategies with the expectation of out-performance over a market cycle;
- Internal implementation will generate a 70% license fee savings relative to external implementation;
- Minimal allocation of staff resources as the Russell/RAFI strategy only rebalances quarterly;
- More efficient management of total plan cash flows as it pertains to OPERF benefit payments, private equity and real estate draw downs (externally managed funds have longer notification deadlines);

Cons

- RAFI is a back-tested strategy. *[mitigant: RAFI large Cap US strategies have been live since 12/31/04 and have out-performed, in-line with back-tests];*
- Requires adequately trained/skilled staff *[mitigant: existing staff with requisite skills and experience];*
- Portfolio management staff may leave *[mitigant: staff has been/is being cross-trained to minimize "Key man" risk, otherwise assets can simply be transferred to an external provider];*
- Portfolio may underperform specified benchmarks over the long-term *[mitigant: OIC can terminate the mandate and reallocate to other strategies].*

Conclusion

Although cap-weighted indexes are considered to be the best representation of an investment opportunity set, the Russell/RAFI Fundamental index captures a unique beta that can serve an alternative to active management and that can complement current cap-weighted index strategies. For the last few years, staff has been monitoring and researching the viability of implementing an internally managed fundamental index strategy. Staff and SIS believe that such a strategy would offer diversification and provide an additive, low cost strategy to the OPERF Equity portfolio.

Recommendation

- Staff and SIS recommend funding a $500mm internally managed Russell/RAFI Fundamental Large Cap Index strategy (with approval to increase the mandate to $1 billion).
- Approve proposed staff changes as outlined above and reflected in attached policies.
    - ✓ 4.05.01 Strategic Role of Public Equity Securities within OPERF: *Codifies OIC authorization to implement a Russell/RAFI Fundamental Large Cap Index strategy.*
    - ✓ 4.05.03 Internal Equity – Portfolio Objectives & Strategies: *Clarifies the objectives and strategies of the Russell/RAFI Fundamental Large Cap Index strategy.*

FUNCTION: **Public Equity Investments**
ACTIVITY: **Strategic Role of Public Equity Securities within OPERF**

POLICY: **Public equity securities should comprise 38~~41~~% to 48~~51~~% of OPERF's total assets, with a strategic target of 43~~6~~%, based on an overall global equity target allocation established in OIC Policy 4.01.18.**

PROCEDURES:

PURPOSE

The purpose of these Public Equity Investment Policies & Strategies is to define the strategic role of public equities as an asset class within the Investment Council's general investment policies for the Oregon Public Employees Retirement Fund (OPERF), to set forth specific short-term and long-term policy objectives for this segment of OPERF's investment portfolio, and to outline the strategies for implementing the Investment Council's public equity investment policies.

STRATEGIC ROLE

Publicly traded equity securities generally should provide enhanced returns and diversification to the OPERF. The investable universe of equity securities can be categorized as U.S., non-U.S. developed countries and emerging market countries. The Public Equity Fund also provides liquidity to OPERF to meet cash flow needs.

POLICY OBJECTIVES

1. To provide one of the highest expected returns of the OPERF's major asset classes. Over the long-term, the return should exceed inflation by 6.0 percent.

2. To achieve a portfolio return of 0.75 percent or more above the MSCI All Country World Index Investable Market Index (ACWI IMI) (net) over a market cycle of three to five years on a net-of-fee basis.

3. Active risk will be managed to a targeted annualized tracking error of 0.75 to 2.0 percent, relative to the MSCI ACWI IMI (net).

STRATEGIES

1. The public equity portfolio shall be structured on a global basis, seeking to loosely replicate the country and market capitalization characteristics of the world-wide investable stock universe.

2. Diversify the asset class of public equities across the stock markets of all investable countries to ensure exposure to a wide range of investment opportunities, and participate

broadly in those markets to receive the highest expected rate of return for equities, and to provide risk reduction to the entire equity portfolio. The size of any commitment to an individual investment manager's strategy will be based on the commitment's impact on the overall portfolio, the Investment Council's confidence in the abilities of the manager, the investment style of the manager, and the capacity of the manager to invest and manage such a commitment.

3. Maintain an overall portfolio market capitalization that reflects the MSCI ACWI IMI with a double weighting to U.S. small capitalization stocks, in an effort to enhance return. This tilt is based on the Investment Council's belief that inefficiencies in the small and micro cap markets, relative to the large cap market, through active management, will outperform large cap stocks over the long-term.

4. Invest opportunistically, using innovative investment approaches, within a controlled and defined portfolio allocation. To that end, 130/30 strategies may be implemented with any existing OPERF manager mandate conditional upon consultant and Chief Investment Officer concurrence, such that the implementation of the strategy does not change the managers role within Public Equity. Staff will report any 130/30 implementations to the Council.

5. Enhance returns to OPERF through exposure to active management.

6. Active investment managers are expected to outperform stated benchmarks on an after-fee, risk adjusted basis, over a market cycle of three to five years (see Appendix B). Those benchmarks include the passive management alternative. Comparisons against a representative peer group universe will also be considered in evaluating the performance and risk levels of managers.

7. All non-U.S. benchmarks assigned to managers should be unhedged. Managers may be permitted to hedge currency exposure and, in the case of managers whose stated investment approach includes active currency management, may take active currency positions, but all managers are measured against an unhedged benchmark.

8. The Investment Council's selection of active managers will be based upon demonstrated expertise. Active managers will be selected for their demonstrated ability to add value over a passive management alternative and within reasonable risk parameters by using a style which enables OPERF to meet the strategic target allocations set forth in Appendix A. The management guidelines described in Appendix C will be attached to and incorporated into the Investment Council's contract with every investment manager.

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached)

A. Public Equity Strategic Targets (Appendix A)
B. Investment Manager Benchmarks (Appendix B)
C. Management Guidelines (Appendix C)

APPENDIX A

STRATEGIC TARGETS

Subject to periodic review and revision, the Investment Council adopts the following strategic target allocations (all targets are measured relative to the MSCI ACWI IMI):

a. Capitalization exposure similar to stated benchmark;

b. The Investment Council's strategic target allocations represent percentages of OPERF's total public equity portfolio. Each target allocation has an accompanying percentage range. The strategic target allocations and ranges can be summarized as follows:

	Targets	**Ranges**
Active	75%	65% - 85%
Passive	25%	15% - 35%
U.S.	ACWI weight	+/- 10%
Non-U.S.	ACWI weight	+/- 10%
Emerging Markets	ACWI weight	+/- 4%
Growth	50%	45% - 55%
Value	50%	45% - 55%
U.S. Small Cap Overweight	100%	0% - 140%

Note: The U.S. small cap overweight is based on the Russell 2000 index weight relative to the Russell 3000 index weight which approximates 8%.

c. The Investment Council will approve target allocations and associated ranges for the various sub-asset classes, at the time of hire. The OPERF public equity portfolio will be monitored quarterly by a report to the Investment Council that includes the target allocation for each category of management style (active/passive and growth/value). The actual percentage market value for each category, compared to its target allocation, will also be included in this report. When a segment falls outside of the established ranges or when manager allocations are considered sub-optimal, staff will transfer assets as deemed appropriate within the target allocations. The total structural characteristics of the public equity portfolio will be considered at the time of any rebalancing. Re-allocations between asset classes shall be governed by Policy 4.01.18.

APPENDIX B

INVESTMENT MANAGER BENCHMARKS

Manager	Benchmark	Peer Group	Return Objective Over Benchmark Net-of-Fees
U.S. Large Cap:			
Aletheia	Russell 1000 Growth	U.S. Large Growth	1.5%
Delaware	Russell 1000 Growth	U.S. Large Growth	1.5%
Wells Capital	Russell 1000 Growth	U.S. Large Growth	1.5%
Aronson+Johnson+Ortiz	Russell 1000 Value	U.S. Large Value	1.0%
MFS	Russell 1000 Value	U.S. Large Value	1.0%
PIMCO	Russell 1000	U.S. Large Core	1.0%
Russell/RAFI Fund Index	Russell 1000	U.S. Large Core	1.5%
Pyramis	Russell 1000	U.S. Large Core	2.0%
Northern Trust Emerging Mgrs	Russell 3000	U.S. All Core	1.5%
BGI Russell 1000 Value Index	Russell 1000 Value	U.S. Large Value	N/A
BGI Russell 1000 Growth Index	Russell 1000 Growth	U.S. Large Growth	N/A
S&P 500 Index	S&P 500	U.S. Large Passive	N/A
S&P 400 Index	S&P 400	U.S. Mid Passive	N/A
U.S. Small and SMID Cap			
EAM	Russell Microcap Growth	U.S. Micro Gr.	2.5%
Next Century	Russell Microcap Growth	U.S. Micro Gr.	2.5%
Next Century	Russell 2000 Growth	U.S. Small Gr.	2.0%
AQR	Russell 2000 Value	U.S. Small Value	1.0%
Boston Company	Russell 2000 Value	U.S. Small Value	1.0%
Wellington	Russell 2000	U.S. Small Core	1.0%
Wanger	Russell 2500	U.S. SMID Core	1.0%
Russell 2000 Synthetic Index	Russell 2000	U.S. Small	0.3%
Non-U.S. Large Cap			
TT International	World x US Std Growth	Non-US Growth	2.0%
UBS	ACWI x US IMI Growth	Non-US Growth	2.0%
Walter Scott	World x US Std	Non-US Growth	2.0%
Acadian	ACWI x US IMI Value	Non-US Value	1.7%
Brandes	ACWI x US Std Value	Non-US Value	2.0%
AQR	World x US Std	Non-US Core	2.0%
Arrowstreet	ACWI x US IMI	Non-US Core	2.0%
Lazard	ACWI x US Std	Non-US Core	1.5%
Pyramis Select	ACWI x US Std	Non-US Core	1.0%
Northern Trust Emerging Mgrs	World x US IMI	Non-US Core	1.5%

SSgA World ex-US Index	World x US Std	Non-US Passive	N/A

Manager	**Benchmark**	**Peer Group**	**Return Objective Over Benchmark Net-of-Fees**
Non-U.S. Small Cap			
DFA	World x US Sm Cap Val	Non-US Small Value	1.5%
Harris Associates	ACWI x US Sm Cap Val	Non-US Small Value	2.0%
Pyramis Select	World x US Sm Cap	Non-US Small Core	2.0%
Victory Intl	World x US Sm Cap Gr	Non-US Small Growth	2.0%
Emerging Markets			
Arrowstreet	Em Mkts IMI	Emerging Markets	2.0%
DFA	Em Mkts Small Cap	Emerging Markets	1.5%
Genesis	Em Mkts IMI	Emerging Markets	2.0%
~~Pictet~~ Axiom	Em Mkts Std	Emerging Markets	2.0%
BGI Tiered Emerging Markets	Em Mkts Std	Emerging Markets	2.0%
Westwood Global	Em Mkts Std	Emerging Markets	2.5%
Global			
AllianceBernstein Value	ACWI Value Std	Global Value	2.0%

ACWI – MSCI All-Country World Index (U.S. + Non-U.S. Developed + Emerging Markets)
IMI – MSCI IMI Index (Large Cap + Mid Cap + Small Cap)
Std – MSCI Standard Index (Large Cap + Mid Cap)
Sm Cap – MSCI Index (Small Cap)
Em Mkts – MSCI Emerging Markets Index

APPENDIX C

MANAGEMENT GUIDELINES

The following guidelines shall be attached to and incorporated into every separate account contract between the Investment Council and an active investment manager. These guidelines may be modified from time to time as considered necessary by the Chief Investment Officer, however, the assigned benchmark may not be changed without OIC approval:

1. The category of management to which a manager is assigned.

2. A description of the manager's investment style.

3. The manager's specific performance objective, expressed on a relative basis in comparison to an index or a passively managed alternative, as that manager's required excess return. The manager's required excess return will represent the risk-premium associated with this manager's investment style in comparison to the index or passively managed alternative to which the manager is assigned.

4. The expected risk (tracking error) of the portfolio expressed in relationship to the assigned benchmark.

5. Portfolio characteristics which the OIC expects the manager to exhibit on average throughout a market cycle.

6. A list of permissible equity securities in which the manager may invest.

FUNCTION: **Equity Investments**
ACTIVITY: **Internal Equity – Portfolio Objectives & Strategies**

POLICY: **All internal equity investments shall be authorized by a public equity investment officer, authorization shall be documented, and shall be in accordance with portfolio guidelines established by the Oregon Investment Council**.

PURPOSE

The purpose of this policy is to specify the portfolio strategies staff is authorized to manage internally and to define the tolerable risk, performance objectives, and permitted investments.

POLICY OBJECTIVES & STRATEGIES

S&P 500 Index Strategy

1. The objective of the S&P 500 Index portfolio is to closely match the S&P 500 Total Return Index performance through a full replication strategy.
2. The S&P 500 Index Portfolio is expected to outperform the S&P 500 Total Return Index by approximately 5 basis points annualized over a market cycle with an expected tracking error of 10 basis points.

S&P 400 Index Strategy

1. The objective of the S&P 400 Index portfolio is to closely match the S&P 400 Total Return Index performance through a full replication strategy.
2. The S&P 400 Index Portfolio is expected to outperform the S&P 400 Total Return Index by 10 basis points annualized over a market cycle with an expected tracking error below 30 basis points.

Russell 2000 Synthetic Index Strategy

1. The objective of the Russell 2000 Index portfolio is to closely match the Russell 2000 Total Return Index performance through a synthetic replication strategy.
2. The Russell 2000 Index Portfolio is expected to outperform the Russell 2000 Index Total Return Index by 30 basis points annualized over a market cycle with an expected tracking error below 50 basis points.

Tiered Emerging Markets Strategy (TEMS)

1. The objective of the TEMS is to outperform the MSCI Emerging Markets (net) Index through a tiered allocation strategy based upon country weighting. The strategy is currently implemented using index commingled trust funds and is rebalanced annually by staff, or as needed given additions or deletions to the MSCI EM Index. Given the the underlying implementation vehicles are country index funds, the strategy does not utilize any active security selection.

2. The TEMS Portfolio is expected to outperform the MSCI Emerging Markets (net) Index by 200 basis points annualized over a market cycle with an expected tracking error of 400 basis points.

Russell/RAFI Fundamental Large Cap Index Strategy

3. The objective of the RAFI/Russell 1000 portfolio is to outperform the Russell 1000 Total Return Index by 200 basis points annualized over a market cycle with an expected tracking error below 450 basis points.

PERMITTED HOLDINGS

S&P 500 Index Strategy

1. Securities contained in the S&P 500 Index.
2. Securities reasonably expected to be part of the S&P 500 Index at some future date.
3. Securities that have recently been a member of the S&P 500 Index.
4. Exchange Traded Funds (ETFs) which replicate the S&P 500 Index such as: iShares S&P 500 Index Fund (Ticker: IVV) or Spyders (Ticker: SPDR).
5. S&P 500 Index Futures (Large Contracts and Mini's).
6. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

S&P 400 Index Strategy

1. Securities contained in the S&P 400 Index.
2. Securities reasonably expected to be part of the S&P 400 Index at some future date.
3. Securities that have recently been a member of the S&P 400 Index.
4. Exchange Traded Funds (ETFs) which replicate the S&P 400 Index such as: iShares S&P 400 Index Fund (Ticker: IJH).
5. S&P 400 Index Futures (Large Contracts and Mini's).
6. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

Russell 2000 Synthetic Index Strategy

1. Russell 2000 Index Futures.
2. U.S. Treasury Bills or other acceptable cash equivalents used for equity futures collateral.
3. Oregon Short Term Fund.

Tiered Emerging Markets Strategy (TEMS)

1. MSCI Emerging Market & Frontier Market commingled trust funds, exchange traded funds, or equity futures.

Russell/RAFI Fundamental Large Cap Index Strategy

Securities contained in the Russell 1000 Index.

1. Securities reasonably expected to be part of the Russell 1000 Index at some future date.
2. Securities that have recently been a member of the Russell 1000 Index.
3. Exchange Traded Funds (ETFs) which replicate the RAFI/Russell 1000.

4. Russell 1000, Russell 2000, S&P 500, S&P 400, S&P 600 S&P 400 Futures contracts.
5. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

ABSOLUTE RESTRICTIONS

The Internal Public Equity Portfolios may not purchase the following investments or types of investments without the specific advanced approval of the Chief Investment Officer and the Oregon Investment Council:

1. Short sales of securities.
2. Margin purchases or other use of lending or borrowing money or leverage to create positions greater than 100% of the market value of assets under management.
3. Commodities.
4. Non-U.S. dollar denominated fixed income securities issued by entities incorporated or chartered outside of the United States.

PROCEDURES:

1. All trades are entered into an Order Management System (OMS) such as Bloomberg POMS and are authorized by the signature (electronic or handwritten) of a Public Equity Investment Officer. The Public Equity Investment Officer shall act in accordance with established procedures and internal controls for the operation of the investment program consistent with this policy. The Senior Public Equity Investment Officer will review trades initiated by members of the Public Equity team. The Chief Investment Officer will review trades initiated by the Senior Public Equity Investment Officer.

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached): NONE

STRATEGIC INVESTMENT SOLUTIONS, INC.

333 BUSH STREET, STE. 2000
SAN FRANCISCO, CALIFORNIA 94104

TEL 415/362-3484 ■ FAX 415/362-2752

MEMORANDUM

To: Oregon Investment Council
From: Strategic Investment Solutions, Inc.
Date: July 13, 2011
Subject: Public Equity Manager Structure Analysis

Part of any investment buying decision involves determining how much to invest in the opportunity. With the addition of two new strategies/managers, the Russell Fundamental Index and Axiom Emerging Markets, and the elimination of a manager, Pictet Emerging Markets, SIS examined the current Public Equity Manager Structure. We looked at both the manager allocation targets used by staff to manage the Public Equity portfolio and managers' current allocations.

Determining the weight and dollar allocation to Axiom was quite simple. Just substituting Axiom for Pictet at their current allocation accomplished the objectives sought by search for a new emerging markets manager. The expected alpha of the Public Equity portfolio is improved. The risk characteristics of the emerging markets portfolio are improved as there will now be more style balance among the OIC's managers managing emerging markets. Furthermore, replacing a relatively low conviction manager with a higher conviction manager makes it easier to rebalance the portfolio and reduce manager concentration risk.

For the Russell Fundamental Index Strategy, we looked at incorporating a 2% position, approximately $500 million, into the Public Equity portfolio. Since one could debate if the strategy is passive or active, we looked at three funding alternatives, 100% from Active US Large Cap managers (100% active), 100% from the Blackrock Passive Russell 1000 Growth and Value portfolios (100% passive) and 50% each from the Active US Large Cap managers and the Blackrock Passive portfolios (50/50 active/passive). For each of the three alternatives, we developed expected alpha, expected tracking error and resulting information ratio (alpha/tracking error). The following table summarizes the results:

	Expected Alpha	Expected TE	Expected IR
Funding from:			
100% Active	1.10%	0.80%	1.38
100% Passive	1.13%	0.84%	1.36
50/50 Active/Passive	1.12%	0.82%	1.37

Not surprising, funding the new strategy from the large cap active portfolio results in the lowest risk/lowest alpha portfolio and highest information ratio. The portfolio characteristics among the three options are all similar enough to make any clear and significant differentiation difficult. This similarity

along with the active/passive nature of the strategy leads SIS to recommend funding the strategy 50% from US Large Cap Active managers and 50% from the Blackrock Russell 1000 Growth and 1000 Value index funds.

RAFI/Russell 1000 Strategy

Oregon Investment Council

July 2011

STRATEGIC INVESTMENT SOLUTIONS, INC.

333 Bush Street, Suite 2000
San Francisco, CA 94104
(415) 362-3484

Section 1

Firm/Product Summaries

Oregon Investment Council

Large Cap Equity

Inception Date: February 2011
Preferred Benchmark: n/a

INVESTMENT PREMISE

The Oregon Treasury Staff and SIS have been conducting due diligence on the Russell Fundamental Indices alternative to benchmarking developed by Research Affiliates, LLC. Research Affiliates argues that traditional cap weighted indexes are inefficient in capturing market performance. They argue market movements are exaggerated in traditional market cap weighted indexes because they overweight the overpriced and underweight the underpriced securities. Research Affiliates uses a broader set of traditional measures to weight the securities in the index in order to avoid underperformance in exaggerated markets. The OIC Staff aims to replicate this strategy in-house thereby providing a diversified source of alpha to the total portfolio.

ORGANIZATION

Research Affiliates, LLC was founded by Robert D. Arnott in March 2002 and is located in Newport Beach, California. The firm developed the alternative indices and currently manages $4.1 billion in assets using this philosophy as the basis for their active strategies. The Enhanced RAFI Large Cap product accounts for $2.4 billion of the total assets under management and was launched in December 2004. Research Affiliates has a number of strategic partnerships for collaboration on asset management, sub-advisory services and licensing agreements. The OIC seeks to replicate the strategy Research Affiliates developed and is licensed by Russell Investments called the Russell Fundamental US Large Company Index. Other current partners include PIMCO, FTSE Group, Nomura Asset Management, Claymore Investments and Powershares Capital Management. As new products are developed, Research Affiliates with distribute these products through the partnerships they have developed with these firms.

INVESTMENT PROFESSIONALS

RAFI was originally developed by Rob Arnott. Mr. Arnott holds a Bachelors in Applied Mathematics, Computer Science and Economics. Prior to launching Research Affiliates, Mr. Arnott served as Chairman for First Quadrant where he worked for sixteen years. Mr. Arnott is supported by a team of senior investment professionals including Chris Brightman who serves as the Director of Investment Management. Mr. Brightman was hired in 2010 and is responsible for portfolio management and trading. Mr. Arnott is also supported by Victor Hsu who serves as Chief Investment Officer. Mr. Hsu has worked with RAFI since its inception in 2002. Mr. Hsu worked closely with Mr. Arnnot to develop the alternative index concept. He currently leads the research effort on the asset allocation models essential to the Research Affiliates strategies. The senior team is supported by six additional research analysts.

INVESTMENT STRATEGY

As mentioned above, Research Affiliates argues that traditional cap weighted indexes are inefficient in capturing market performance. To address this inefficiency, Research Affiliates developed a set of indices using fundamental factors to weight securities and remove the bias that price introduces to traditional market cap weighted indexes. Using publicly available data, this methodology selects and weights securities using the average of three fundamental measures of company size: adjusted sales—sales adjusted to take into consideration financial leverage by multiplying the sales component by the ratio of average assets to average equity; retained operating cash flow—operating cash flow from operations less dividends and buybacks; dividends plus buybacks—average dividends paid and share buybacks. A “score” is calculated for each factor.

Each factor score is an average of the prior five years of data. Using five years of data smooths out peaks and valleys in the data and ensures that the constituent weighting is not affected by any recent price driven market events. The factor scores are then averaged to assign each constituent a "fundamental score" which ultimately determines the constituent's weight within the index. The index is split into four equal tranches at reconstitution and each tranche is rebalanced on a rolling quarterly basis. Corporate actions are considered daily.

EVALUATION

SIS has conducted due diligence on Research Affiliates and we believe this strategy provides diversification to the OIC's current portfolio structure. Historically simulated performance for the Russell Fundamental US Large Company Index has been consistent since inception ranking in the 12th on a trailing three year basis and 20th percentile on a trailing five year basis against other Large Cap Equity managers. The corresponding information ratio remains steadily at 0.9-0.7 for three and five years respectively. This strategy exhibits an upside capture ratio of 110% and ranks in the 10-13th percentile of large cap equity managers with 100% downside capture. Overall, simulated results for the strategy indicate it has the capacity to achieve its objective of providing consistent returns over full market cycles.

ISSUES TO CONSIDER

In order to provide an objective opinion on the use of fundamental indices versus traditional market cap weighted indices, SIS would point out the following arguments that are made to counter their use. First, Blackrock's Sara Shores writes in "Alternative Equity Beta Indices: What you should know about non-cap-weighted benchmarks" that fundamental indices may "result in a structural bias toward value and, to a lesser degree, to small-to mid-cap securities." SIS's returns based analysis shows RAFI as having a 45% Large Value tilt, a 15 to 20% Large Growth tilt and the remaining Mid Value tilt with a tracking error of around 2%. Holdings based analysis shows a 40 to 45% Large Value tilt, a 10 to 20% Large Growth tilt, a 35 to 40% Mid Value tilt and a 0 to 10% Mid Growth tilt with a tracking error of 1.3 to 1.8%. However, these tilts are not static and may change over time and ultimately impact benchmarking and asset funding decisions rather than the efficacy of the strategy. Another criticism of non-cap weighted benchmarks is the higher level of turnover they generate with few securities than the traditional cap weighted benchmark. SIS does not view the higher turnover as problematic given Research Affiliates Indices has delivered consistent returns above their traditional benchmarks. The added diversification of introducing factors other than price into the rebalancing process and the ability to further reduce costs by managing the strategy in-house provides the opportunity cost for the higher level over turnover.

Displayed in: US Dollar (USD)

Firm Headquarters:	620 Newport Center Drive, Suite 900 Newport Beach, California 92660, United States
Phone/Fax:	949.325.8700 / 949-554-0192
Registered Investment Advisor:	Yes
Year Firm Founded:	2002
Firm Website:	www.rallc.com

Key Facts	
Total Assets Under Management ($ Million):	$4,105.3
Total Number of Accounts:	27
Number of Portfolio Managers:	2
Number of Analysts:	18
% Employee Owned:	95.00 %

Contact Information

Marketing Contact:	Jeff Wilson	Database Contact:	Regina Holt
Title:	Senior Vice President	Title:	Database Contact
Address:	620 Newport Center Drive, Suite 900	Address:	620 Newport Center Drive, Suite 900
City, State, Zip Code:	Newport Beach, California 92660	City, State, Zip Code:	Newport Beach, California 92660
Phone/Fax:	949-325-8722 / 949-325-8922	Phone/Fax:	949.325.8773 / 949.325.8973
Email Address:	wilson@rallc.com	Email Address:	holt@rallc.com

Asset & Account Information

Current Totals	Assets ($ Mil)	Accounts
Total in Firm	$4,105.3	27
Total Taxable	$810.9	11
Total Tax-Exempt	$3,294.5	16
Total Institutional	$4,105.3	27

Accts Gained	Number	($ Million)	% Firm Assets
Current Quarter	0	$0.0	0.0 %
2010	3	$62.5	1.6 %
2009	0	$0.0	0.0 %

Accts Lost	Number	($ Million)	% Firm Assets
Current Quarter	0	$0.0	0.0 %
2010	4	$108.1	2.8 %
2009	4	$11.8	0.5 %

Assets By Type	Equity	Fixed Inc.	Balanced	Alts	Other
United States	$3,244.1	$2.1	$0.0	$0.0	$177.7
Canada	$0.0	$0.0	$0.0	$0.0	$0.0
United Kingdom	$0.0	$0.0	$0.0	$0.0	$0.0
Europe ex-UK	$0.0	$0.0	$0.0	$0.0	$0.0
Australia	$0.0	$0.0	$0.0	$0.0	$0.0
Japan	$0.0	$0.0	$0.0	$0.0	$0.0
Hong Kong	$0.0	$0.0	$0.0	$0.0	$0.0
Singapore	$0.0	$0.0	$0.0	$0.0	$0.0
Other Asia ex-Japan	$0.0	$0.0	$0.0	$0.0	$0.0
China	$0.0	$0.0	$0.0	$0.0	$0.0
Latin America	$0.0	$0.0	$0.0	$0.0	$0.0
Africa/Middle East	$0.0	$0.0	$0.0	$0.0	$0.0
EAFE	$447.9	$0.0	$0.0	$0.0	$0.0
Global	$5.7	$0.0	$0.0	$86.5	$0.0
Emerging Markets	$141.3	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0

Historical Assets($ Million)	Prior QTR	YE 2010	YE 2009
Total Firmwide	$4,147.8	$4,147.8	$3,665.6
Total Taxable	$724.9	$724.9	$719.3
Total Tax-Exempt	$3,422.9	$3,422.9	$2,946.3
Total Institutional	$4,147.8	$4,147.8	$3,645.1

Assets By Geographic Region & Client Domicile	Assets ($ Million)
United States	$4,105.4
Canada	$0.0
United Kingdom	$0.0
Continental Europe	$0.0
Japan	$0.0
Australia	$0.0
Hong Kong	$0.0
Singapore	$0.0
Other Asia ex-Japan	$0.0
Africa/Middle East	$0.0
Latin America	$0.0
Other	$0.0

5 Largest Accounts	Aggregate ($ Mil)
1) ---	$0.0
2) ---	$0.0
3) ---	$0.0
4) ---	$0.0
5) ---	$0.0

Ownership Information

% Employee Owned	95.0%
% Parent Owned	---
% Publicly Held	---
Parent Company Name	
Total % Minority/Female Owned	---

GIPS Compliance & Insurance Information

Firm GIPS Compliant:	Yes	Effective Date	1/1/2003
Performance Audited:	Yes	Effective Date	12/31/2009
Errors & Omissions Insurance:	Yes	Coverage ($ Mil)	$10.00
Fiduciary Liability Insurance:	Yes	Coverage ($ Mil)	$10.00
Firm Bonded:	No	Coverage ($ Mil)	---

Investment Professionals Managing This Strategy

Robert Arnott

Current Position/Ownership Details

Title:	Chairman & Chief Executive Officer
Primary Role:	Portfolio Manager
Start Year Industry:	1977
Start Year Firm:	2002
Equity Owner:	Yes
Equity Ownership:	

Educational History

Undergraduate:

University of California, Santa Barbara	BA-Applied Mathematics, Computer Science, and Economics	1977

Post Graduate:

Prior Experience

Firm	Title	Start Year	End Year
First Quadrant, LP	Chairman	1988	2004
Salomon Brothers	Global Equity Strategist	1987	1988
TSA Capital Management	President	1984	1987

Biography:

Over his 30-year career, Robert Arnott has endeavored to bridge the worlds of academic theorists and financial markets. His success in doing so has resulted in a reputation as one of the worldâ€™s most provocative and respected financial analysts. Rob has pioneered several unconventional portfolio strategies that are now widely applied, including tactical asset allocation, global tactical asset allocation, tax-advantaged equity management, and the Fundamental IndexÂ® approach to indexation. In 2002, he established Research Affiliates as a research-intensive asset management firm that focuses on innovative products. The firm explores novel approaches to active asset allocation, optimal portfolio construction, and more efficient forms of indexation. Research Affiliates distributes investment products globally in partnership with leading financial institutions. Rob has been a frequent contributor to leading financial journals and books. He has published more than 100 articles in journals such as the Journal of Portfolio Management, the Harvard Business Review, and the Financial Analysts Journal, where he also served as editor in chief from 2002 through 2006. In recognition of his achievements as a financial writer, Rob has received five Graham and Dodd Scrolls, awarded annually by CFA Institute for best articles of the year. He also has received two Bernsteinâ€"Fabozzi/Jacobsâ€"Levy awards from the Journal of Portfolio Management. Rob lectures frequently, has served as a visiting professor at UCLA, and has served on the product advisory board of the Chicago Board Options Exchange and two other exchanges. An intrepid entrepreneur, Rob managed two important asset management firms before founding Research Affiliates. As chairman of First Quadrant, LP, he built up the former internal money manager for Crum & Foster into a highly regarded quantitative asset management firm. He also was global equity strategist at Salomon Brothers (now part of Citigroup), the founding president and CEO of TSA Capital Management (now part of Analytic Investors, LLC), and a vice president at The Boston Company. Rob Arnott graduated summa cum laude from the University of California, Santa Barbara in 1977 in economics, applied mathematics, and computer science. He is co-author of The Fundamental Index: A Better Way to Invest (Wiley 2008).

Chris Brightman

Current Position/Ownership Details

Title:	CFA, Director & Head of Investment Management
Primary Role:	Equity Analyst
Start Year Industry:	1983
Start Year Firm:	2010
Equity Owner:	Yes
Equity Ownership:	

Educational History

Undergraduate:

Virginia Tech	BS - Finance	1983

Post Graduate:

Loyola University, Baltimore	MBA	1990

Prior Experience

Firm	Title	Start Year	End Year
University of Virginia Investment Management Company	Chief Executive Officer	2004	2010
Strategic Investment Group	Chief Investment Officer	2001	2004
UBS Asset Management	Executive Director & Head of Equity Strategy	1997	2000

Biography:

Chris Brightman is responsible for portfolio management and trading. Chris has three decades of investment management experience spanning equities, fixed income, currency, and asset allocation. He has traded securities and derivatives, managed portfolios, supervised quantitative product development, and allocated assets to alternative investment strategies. He has extensive organizational and people management expertise. Prior to joining Research Affiliates, Chris served as board chair of The Investment Fund for Foundations (TIFF), chief executive officer of the University of Virginia Investment Management Company, chief investment officer of Strategic Investment Group, director of global equity strategy at UBS Asset Management, senior portfolio manager at Brinson Partners, vice president and head of asset/liability management at Maryland National Bank, and associate national bank examiner at the Comptroller of the Currency. Chris is a board and investment committee member of the Virginia Tech Foundation. He is a member of the CFA Society of Washington, D.C. Chris received a BS in finance from Virginia Tech and an MBA from Loyola University Maryland.

Jason Hsu

Current Position/Ownership Details

Title:	Other, Chief Investment Officer
Primary Role:	Portfolio Manager
Start Year Industry:	1998
Start Year Firm:	2002
Equity Owner:	Yes
Equity Ownership:	

Educational History

Undergraduate:

California Institute of Technology	BS Physics	1996

Post Graduate:

University of California, Los Angeles	PhD Finance	2004
Stanford University	MS Finance	1997

Prior Experience

Firm	Title	Start Year	End Year
Far Eastern Securities	Assistant Vice President	1998	1999
	Consultant	1997	1998

Biography:

Dr. Jason Hsu oversees the research and investment management areas at Research Affiliates. He directs research on the asset allocation models and equity strategies that are built on the Research Affiliates Fundamental IndexÂ® concept. Jason worked closely with Robert Arnott to originate the RAFIÂ® methodology and to popularize the alternative equity beta concept. For his work at Research Affiliates, he has won the 2008 Institutional Investor 20 Rising Stars of Hedge Funds Award and the 2005 William F. Sharpe Award for Best New Index Research. In addition, Jason is an adjunct professor in finance at the Anderson School of Business at UCLA and a visiting professor in international finance at the Taiwan National University of Political Science (NCCU). He has also taught financial management at the Merage School of Business at UC Irvine and at the Shanghai University of Financial Economics. Jason began his career working in derivatives research and in the trading area of Taiwanâ€™s Far Eastern Securities. He has also been a consultant to Asian investment banks, securities dealers, and insurance companies on issues such as risk management, strategic asset allocation, and convergence trading. Jason graduated summa cum laude from the California Institute of Technology and earned his Ph.D. in finance from UCLA where he conducted research on the equity premium, business cycles, and portfolio allocations. He also has earned a Masters in Science in finance from Stanford University. He is co-author of The Fundamental Index: A Better Way to Invest (Wiley, 2008) and a contributing author to The VAR Implementation Handbook (McGrawâ€"Hill, 2009), Stock Market Volatility (Chapman & Hall/CRC Finance, 2009), Model Risk Evaluation Handbook (McGrawâ€"Hill, 2010), and Shadow Banks and the Financial Crisis of 2007â€"2008 (Chapman-Hall/Taylor & Francis 2010). Jason has also authored more than 20 academic and practitioner articles appearing in journals such as the Financial Analysts Journal, the Journal of Portfolio Management, the Journal of Fixed Income, and the Journal of Investment Management.

Vitali Kalesnik

Current Position/Ownership Details

Title:	Vice President & Head of Analytics
Primary Role:	Equity Analyst
Start Year Industry:	2006
Start Year Firm:	2006
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

Belarus State Economic University	BA	2001

Post Graduate:

University of California, Los Angeles	Ph.D. Economics	2006

Prior Experience

Firm	Title	Start Year	End Year
Ministry of Economics, Belarus	Researcher		

Biography:

Dr. Vitali Kalesnik is responsible for quantitative research using advanced econometric tools in the areas of asset pricing and active asset allocation to enhance the Research Affiliates products, including the Fundamental IndexÂ®concept and global tactical asset allocation products. Â Prior to joining Research Affiliates, Vitali conducted research in economics at the University of California, Los Angeles, where he studied international trade and macroeconomics.Â He also worked as a researcher at the Ministry of Economics in Belarus as well as Priorbank. Â Vitali earned his Ph.D. in Economics from the University of California, Los Angeles, was a winner of the UCLA Graduate Division Fellowship from 2001-2005 and speaks fluent English, Russian and French.

Steven Lee

Current Position/Ownership Details

Title:	Strategy Manager
Primary Role:	Equity Analyst
Start Year Industry:	1997
Start Year Firm:	2008
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

University of California, Riverside	BBA	1997

Post Graduate:

University of Southern California	MBA - Finance	2007

Prior Experience

Firm	Title	Start Year	End Year
First Quadrant	Associate Director	2004	2008
The Capital Group of Companies	Senior Accountant	2001	2004
Franklin Templeton	Assistant Supervisor	1997	2000

Biography:

Feifei Li

Current Position/Ownership Details

Title:	Other, Director & Head of Research
Primary Role:	Equity Analyst
Start Year Industry:	2005
Start Year Firm:	2005
Equity Owner:	Yes
Equity Ownership:	

Educational History

Undergraduate:

Tshinghua University	BA	2000

Post Graduate:

University of California	PhD Finance	2005

Prior Experience

Firm	Title	Start Year	End Year
PricewaterhouseCoopers	Credit Analyst	2005	2005
Bank of China	Credit Analyst	2004	2004

Biography:

Dr. Feifei Li is responsible for quantitative research on equity products and strategies, including the Research Affiliates Fundamental IndexÂ® strategies. She also conducts research on the optimal asset allocation decision over the business cycle for the global tactical asset allocation products. In addition, she oversees strategies development and publications for the research group. Feifei has taught undergraduate and MBA finance classes at the California Institute of Technology and University of California, Irvine. She has contributed a number of investment-related articles both academic and practitioner journals, as well as books. Feifei earned her Ph.D. in finance at the University of California, Los Angeles, where she conducted empirical research on corporate finance and event-driven investment strategies. She earned a Bachelor of Arts from Tsinghua Universityâ€™s School of Management and Economics in Beijing. Feifei is a Certified Financial Risk Manager.

Max Moroz

Current Position/Ownership Details

Title:	CFP, Vice President & Head of Index Research
Primary Role:	Equity Analyst
Start Year Industry:	1993
Start Year Firm:	2009
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

MIPT, Moscow

Post Graduate:

University of California, Los Angeles	MS - Management	2002

Prior Experience

Firm	Title	Start Year	End Year
Research Affiliates, LLC	Consultant	2004	2008
PriceWaterhouseCoopers	Financial Risk Consultant	2002	2004
ProtÃ©gÃ© Venture, London	Valuation Analyst	1999	2000

Biography:

Christine Sol

Current Position/Ownership Details

Title:	Strategy Manager
Primary Role:	Equity Analyst
Start Year Industry:	2005
Start Year Firm:	2007
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

University of California, Los Angeles	BA - Political Science & History	2005

Post Graduate:

Prior Experience

Firm	Title	Start Year	End Year
Western Asset Management	Portfolio Compliance Analyst	2005	2007

Biography:

Himanshu Surti

Current Position/Ownership Details

Title:	Strategy Manager
Primary Role:	Equity Analyst
Start Year Industry:	2007
Start Year Firm:	2008
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

SBM Ploytechnic (India)	DCE (Civil Engineering)	1998

Post Graduate:

Michigan State University	MS (Civil Engineering)	2001
Univ. of California, Irvine	MBA (Finance)	2008

Prior Experience

Firm	Title	Start Year	End Year
The Walt Disney Company	Corporate Finance Intern	2007	2007

Biography:

Jeff Wilson

Current Position/Ownership Details

Title:	Senior Vice President, U.S. Institutional Client Group
Primary Role:	Marketing/Client Service
Start Year Industry:	1997
Start Year Firm:	2010
Equity Owner:	No
Equity Ownership:	

Educational History

Undergraduate:

University of Southern California	BS - Business Administration	1993

Post Graduate:

University of Southern California	MBA - Finance/International Finance	1997

Prior Experience

Firm	Title	Start Year	End Year
Maverick Capital	Senior Associate & Director of Marketing	2008	2009
TCW, Los Angeles	Senior Vice President	1997	2007
Occidental Petroleum Corp	Finance Associate	1993	1995

Biography:

Section 2

Performance Exhibits

Oregon Investment Council

Large Cap Equity

Oregon Investment Council - Large Cap Equity

Periods ending March 31, 2011

Performance Summary Tables

All Strategies

	Russell Fundamental US LC		Russell 1000 Growth Index		Russell 1000 Value Index		Russell 1000 Index		Universe Median	Universe Size
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank		
Total Return										
3 Mos.	7.3	20	6.0	50	6.5	37	6.2	44	6.0	*1,008*
1 Yr.	17.7	29	18.3	25	15.2	55	16.7	37	15.5	*1,007*
3 Yrs.	6.3	12	5.2	22	0.6	88	3.0	55	3.3	*989*
5 Yrs.	5.1	21	4.3	33	1.4	87	2.9	62	3.5	*929*
Excess Return										
3 Mos.	1.0		-0.2		0.2				-0.2	*1,008*
1 Yr.	1.0		1.6		-1.5				-1.2	*1,007*
3 Yrs.	3.3		2.2		-2.4				0.3	*989*
5 Yrs.	2.2		1.4		-1.6				0.6	*929*
Excess Return vs. Universe Median										
3 Mos.	1.3		0.0		0.5		0.2			*1,008*
1 Yr.	2.2		2.8		-0.3		1.2			*1,007*
3 Yrs.	3.0		1.9		-2.7		-0.3			*989*
5 Yrs.	1.7		0.9		-2.1		-0.6			*929*
Standard Deviation										
3 Yrs.	23.7	79	22.0	51	23.4	75	22.3	59	21.9	*989*
5 Yrs.	19.1	72	18.1	51	19.0	70	18.2	53	18.1	*929*
Tracking Error										
3 Yrs.	3.5	14	3.7	18	3.8	21			5.3	*989*
5 Yrs.	3.0	9	3.5	18	3.6	22			4.9	*929*
Information Ratio										
3 Yrs.	0.9	3	0.6	12	-0.6	93			0.1	*989*
5 Yrs.	0.7	5	0.4	23	-0.4	92			0.1	*929*

Universe: **eA Large Cap Equity**

Universe Rank: **Green = Top Quartile Red = Bottom Quartile**

*Simulated prior to 2/11

Oregon Investment Council - Large Cap Equity

Periods ending March 31, 2011

Performance Summary Tables

All Strategies

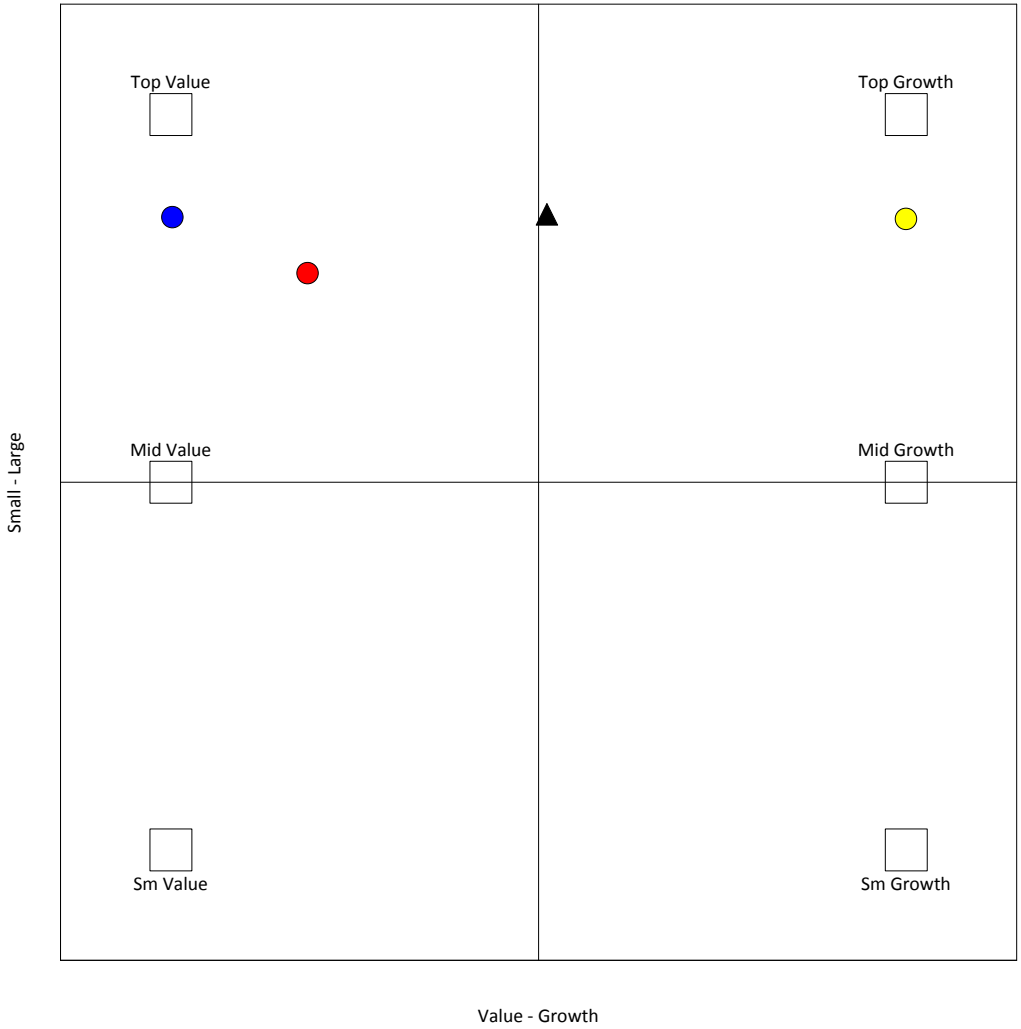
	Russell Fundamental US LC		Russell 1000 Growth Index		Russell 1000 Value Index		Russell 1000 Index		Universe Median	Universe Size
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank		
Beta										
3 Yrs.	1.1	17	1.0	45	1.0	22			1.0	*989*
5 Yrs.	1.0	21	1.0	43	1.0	25			1.0	*929*
Alpha (CAPM)										
3 Yrs.	3.1	14	2.3	22	-2.5	90			0.4	*989*
5 Yrs.	2.2	22	1.4	33	-1.6	87			0.6	*929*
Sharpe Ratio										
3 Yrs.	0.2	16	0.2	23	0.0	88	0.1	56	0.1	*989*
5 Yrs.	0.2	24	0.1	33	0.0	87	0.0	62	0.1	*929*
Upside Capture Ratio										
3 Yrs.	112.1	10	102.2	30	97.6	45			96.1	*989*
5 Yrs.	108.2	13	100.7	35	99.1	43			97.5	*929*
Downside Capture Ratio										
3 Yrs.	100.7	69	95.7	47	104.7	83			96.5	*989*
5 Yrs.	99.0	62	95.4	47	105.0	84			96.4	*929*

Universe: **eA Large Cap Equity**

Universe Rank: **Green = Top Quartile Red = Bottom Quartile**

*Simulated prior to 2/11

Style Map (Jul 06 - Mar 11)



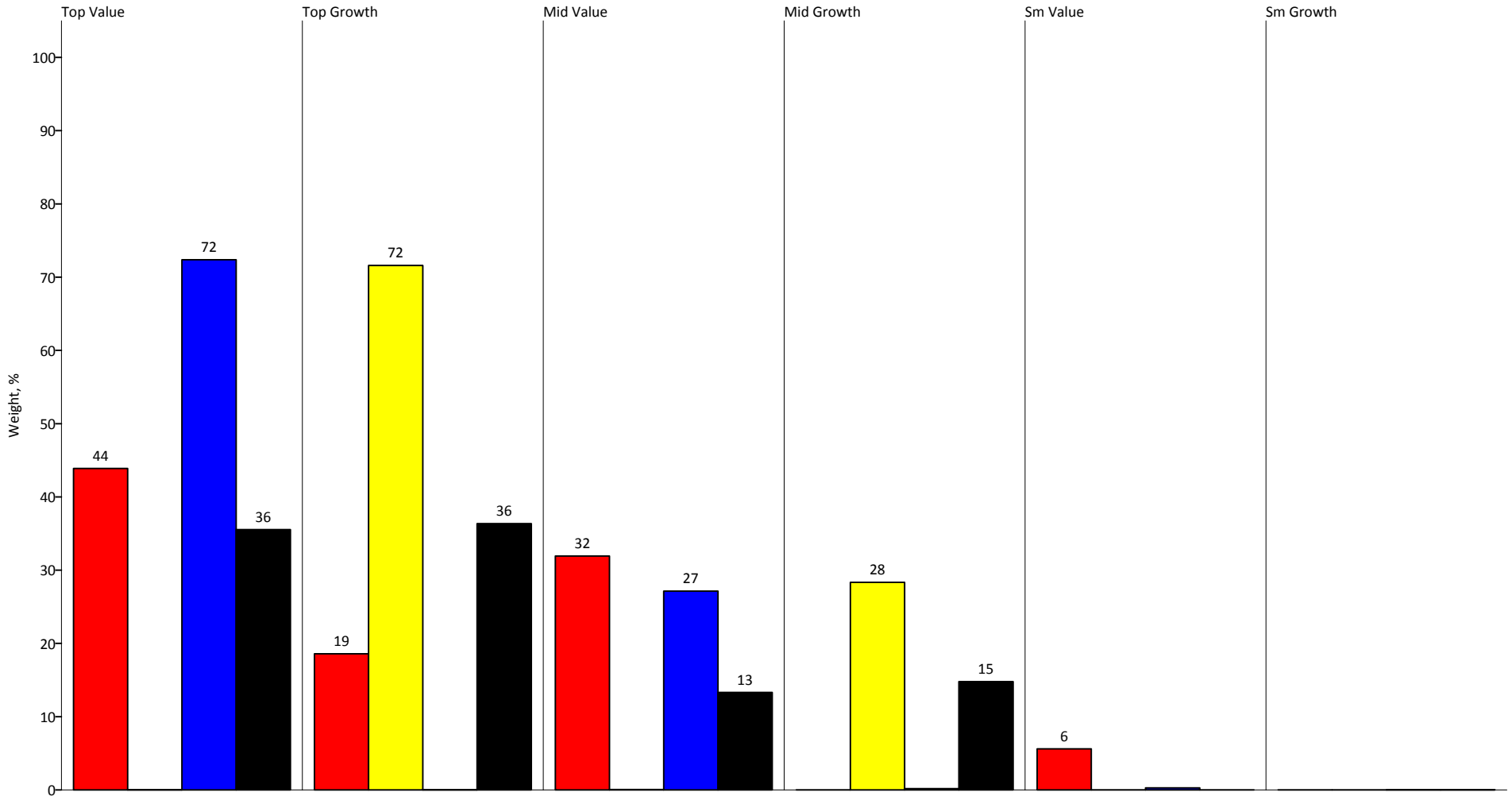
Legend

- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

Note: The date range displayed in style analysis charts will not match those in other charts because the system requires a certain number of returns (18 months in this study) before it can perform the first style calculation.

*Simulated prior to 2/11

Style Weights (Jul 06 - Mar 11)



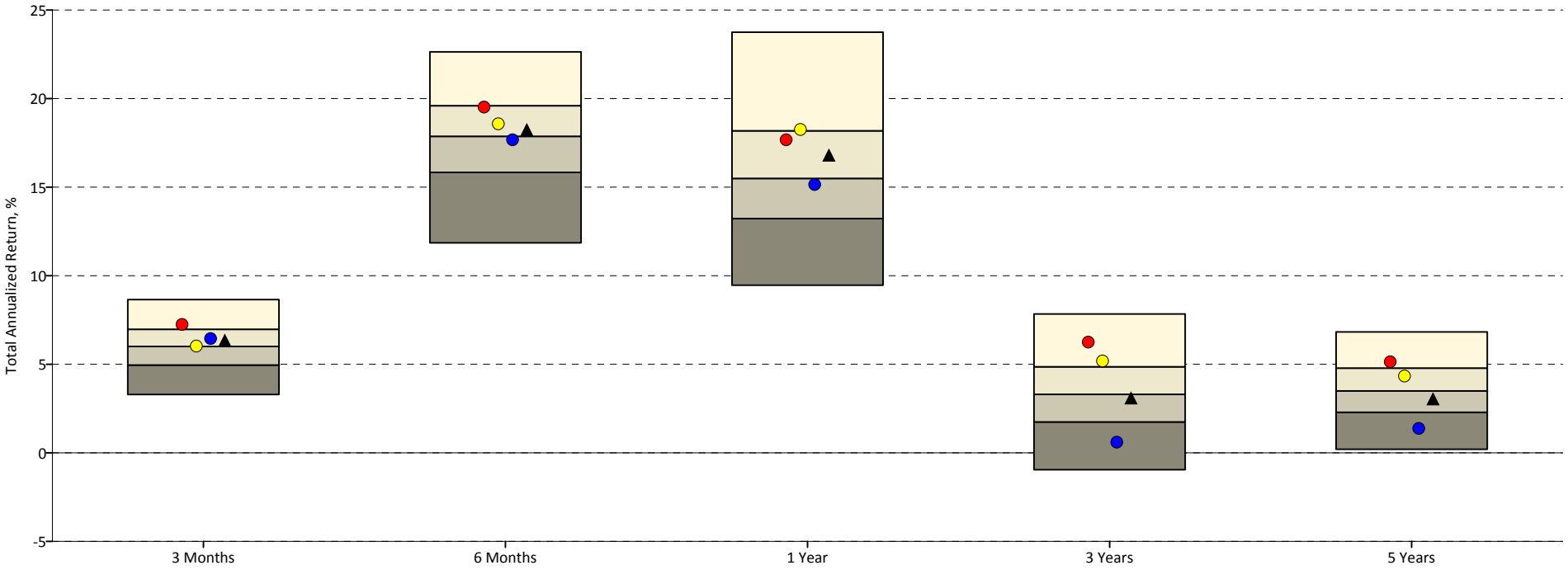
Legend

- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

Note: The date range displayed in style analysis charts will not match those in other charts because the system requires a certain number of returns (18 months in this study) before it can perform the first style calculation.

*Simulated prior to 2/11

Total Return: Trailing Periods



	Total Return									
	3 Months		6 Months		1 Year		3 Years		5 Years	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Russell Fundamental US LC	7.3	**20**	19.5	26	17.7	29	6.3	**12**	5.1	**21**
Russell 1000 Growth Index	6.0	50	18.6	39	18.3	25	5.2	**22**	4.3	33
Russell 1000 Value Index	6.5	37	17.7	53	15.2	55	0.6	**88**	1.4	**87**
Russell 1000 Index	6.2	44	18.1	46	16.7	37	3.0	55	2.9	62
Universe Median	6.0		17.9		15.5		3.3		3.5	
Universe Size		*1,008*		*1,008*		*1,007*		*989*		*929*

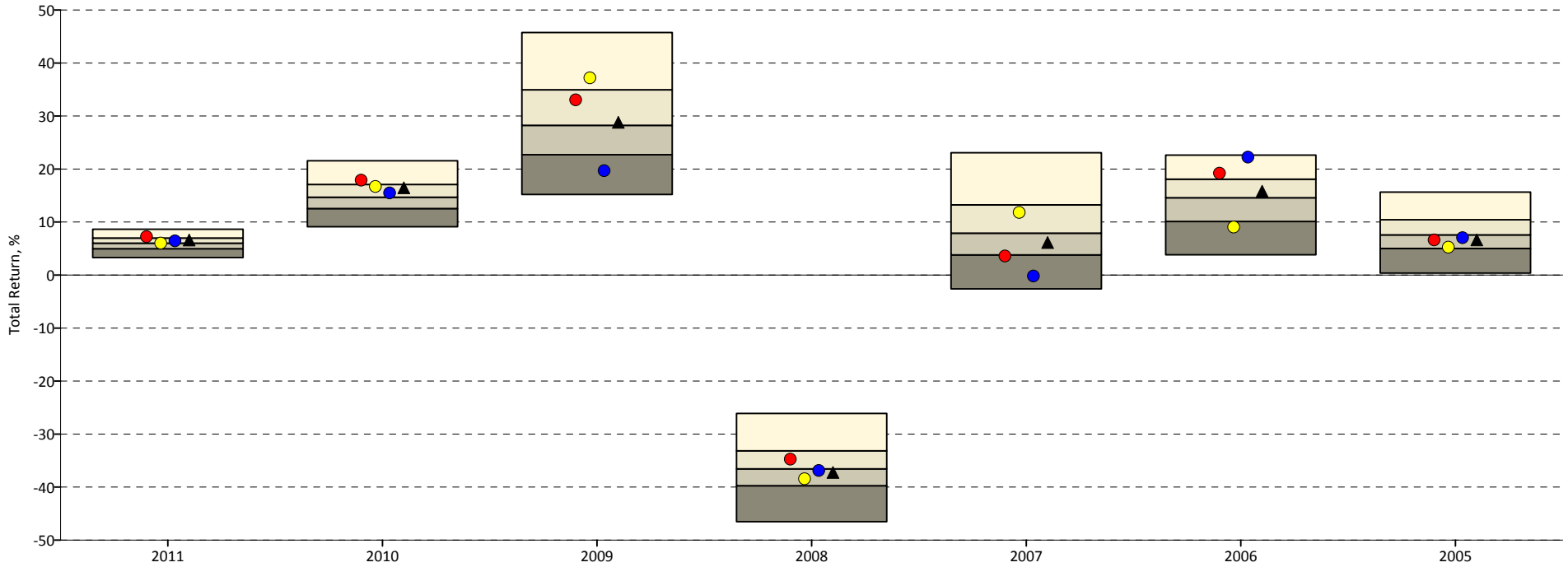
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Total Return: Calendar Years



	Total Return													
	2011		2010		2009		2008		2007		2006		2005	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Russell Fundamental US LC	7.3	**20**	17.9	**20**	33.1	33	-34.7	35	3.6	**77**	19.2	**19**	6.6	61
Russell 1000 Growth Index	6.0	50	16.7	29	37.2	**18**	-38.4	66	11.8	31	9.1	**80**	5.3	73
Russell 1000 Value Index	6.5	37	15.5	40	19.7	**86**	-36.9	54	-0.2	**91**	22.3	**6**	7.1	57
Russell 1000 Index	6.2	44	16.1	34	28.4	50	-37.6	59	5.8	64	15.5	45	6.3	64
Universe Median	6.0		14.7		28.2		-36.6		7.9		14.6		7.6	
Universe Size		*1,008*		*1,060*		*1,150*		*1,231*		*1,292*		*1,307*		*1,300*

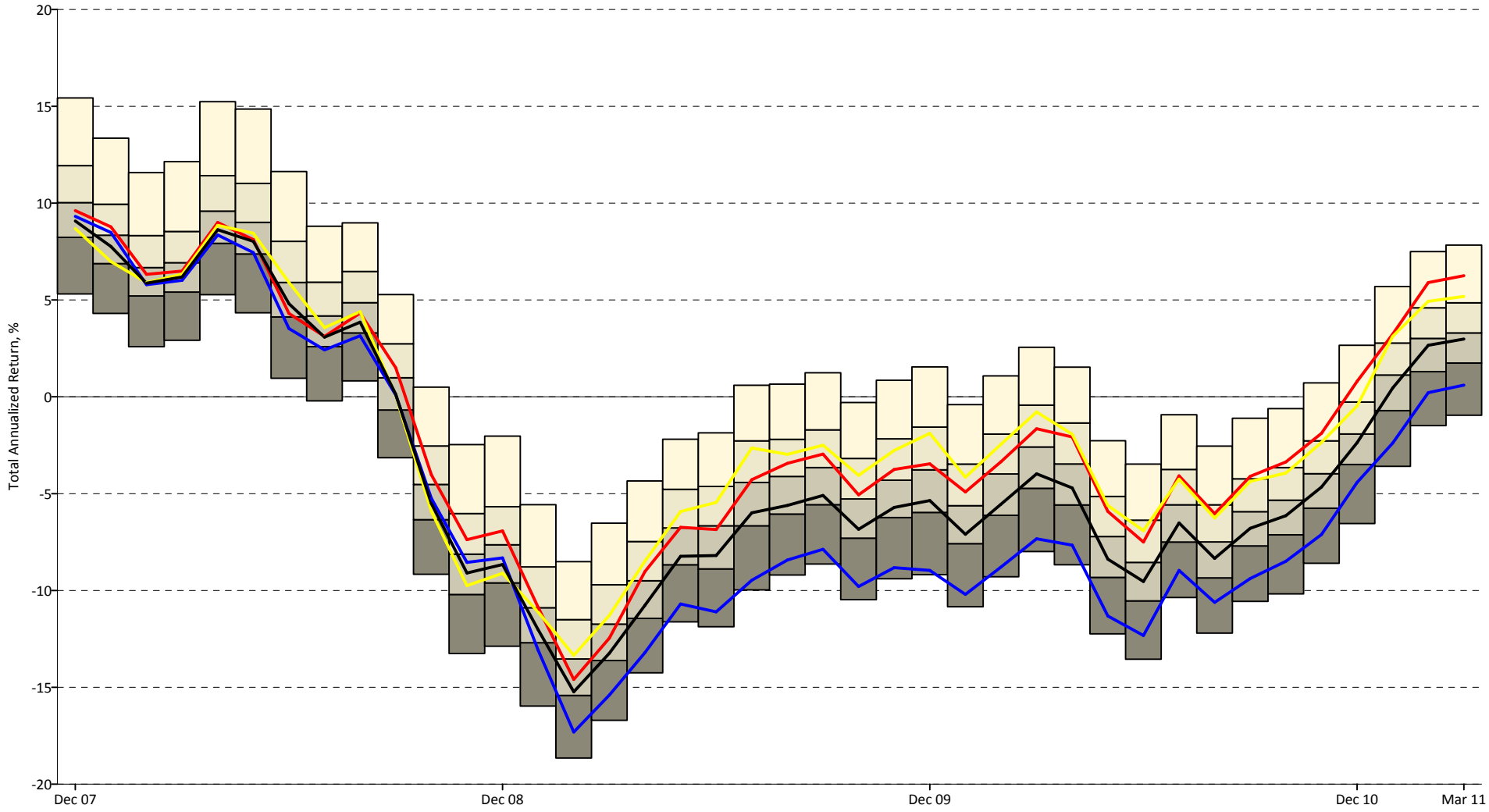
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Total Return: Rolling 36-month Periods (Jan 05 - Mar 11)



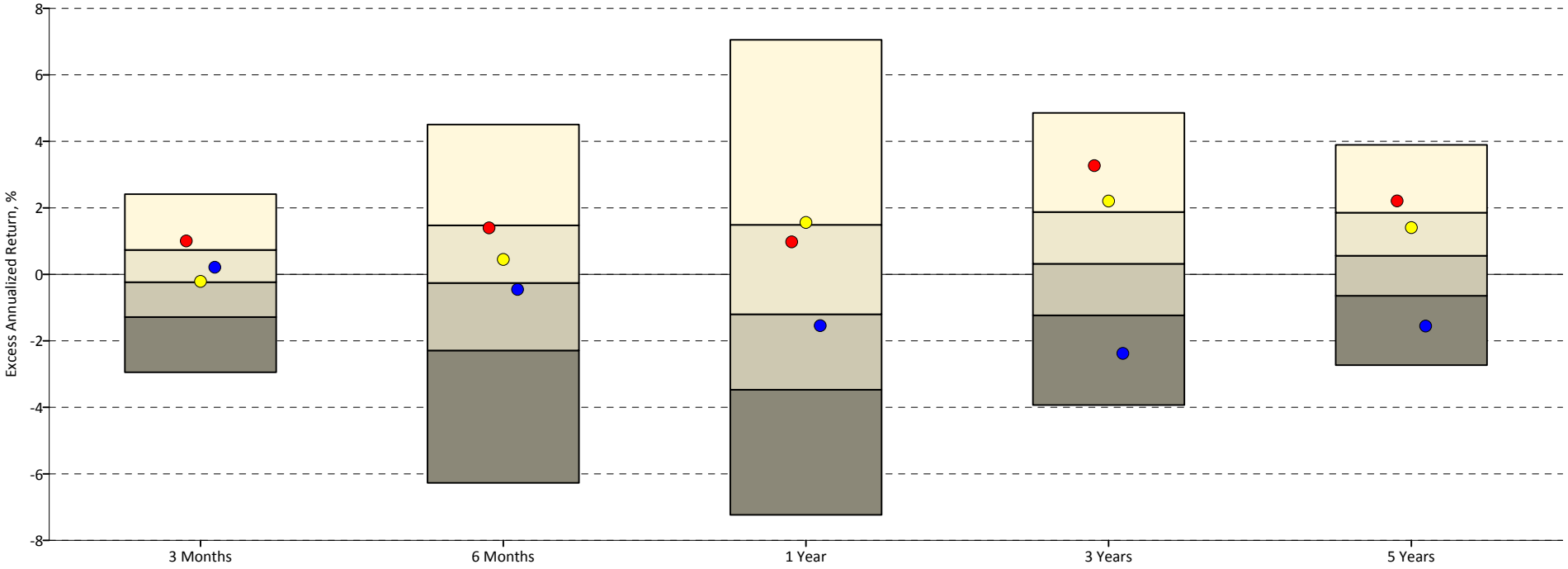
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

Universe:
eA Large Cap Equity

*Simulated prior to 2/11

Excess Return: Trailing Periods



	Excess Return									
	3 Months		6 Months		1 Year		3 Years		5 Years	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Russell Fundamental US LC	1.0	**20**	1.4	26	1.0	29	3.3	**12**	2.2	**21**
Russell 1000 Growth Index	-0.2	50	0.5	39	1.6	25	2.2	**22**	1.4	33
Russell 1000 Value Index	0.2	37	-0.5	53	-1.5	55	-2.4	**88**	-1.6	**87**
Universe Median	-0.2		-0.3		-1.2		0.3		0.6	
Universe Size		*1,008*		*1,008*		*1,007*		*989*		*929*

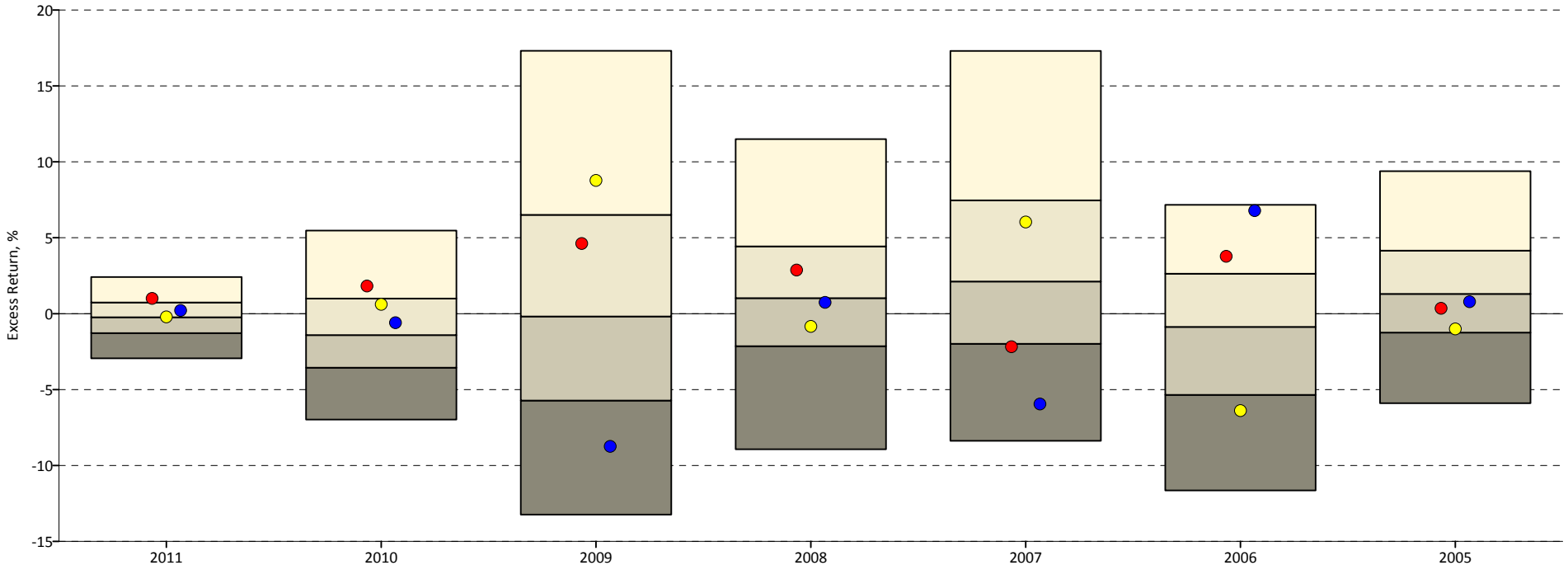
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Excess Return: Calendar Years



	Excess Return													
	2011		2010		2009		2008		2007		2006		2005	
	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank	Stat	Rank
Russell Fundamental US LC	1.0	20	1.8	20	4.6	33	2.9	35	-2.2	77	3.8	19	0.4	61
Russell 1000 Growth Index	-0.2	50	0.6	29	8.8	18	-0.8	66	6.0	31	-6.4	80	-1.0	73
Russell 1000 Value Index	0.2	37	-0.6	40	-8.7	86	0.8	54	-6.0	91	6.8	6	0.8	57
Universe Median	-0.2		-1.4		-0.2		1.0		2.1		-0.9		1.3	
Universe Size		*1,008*		*1,060*		*1,150*		*1,231*		*1,292*		*1,307*		*1,300*

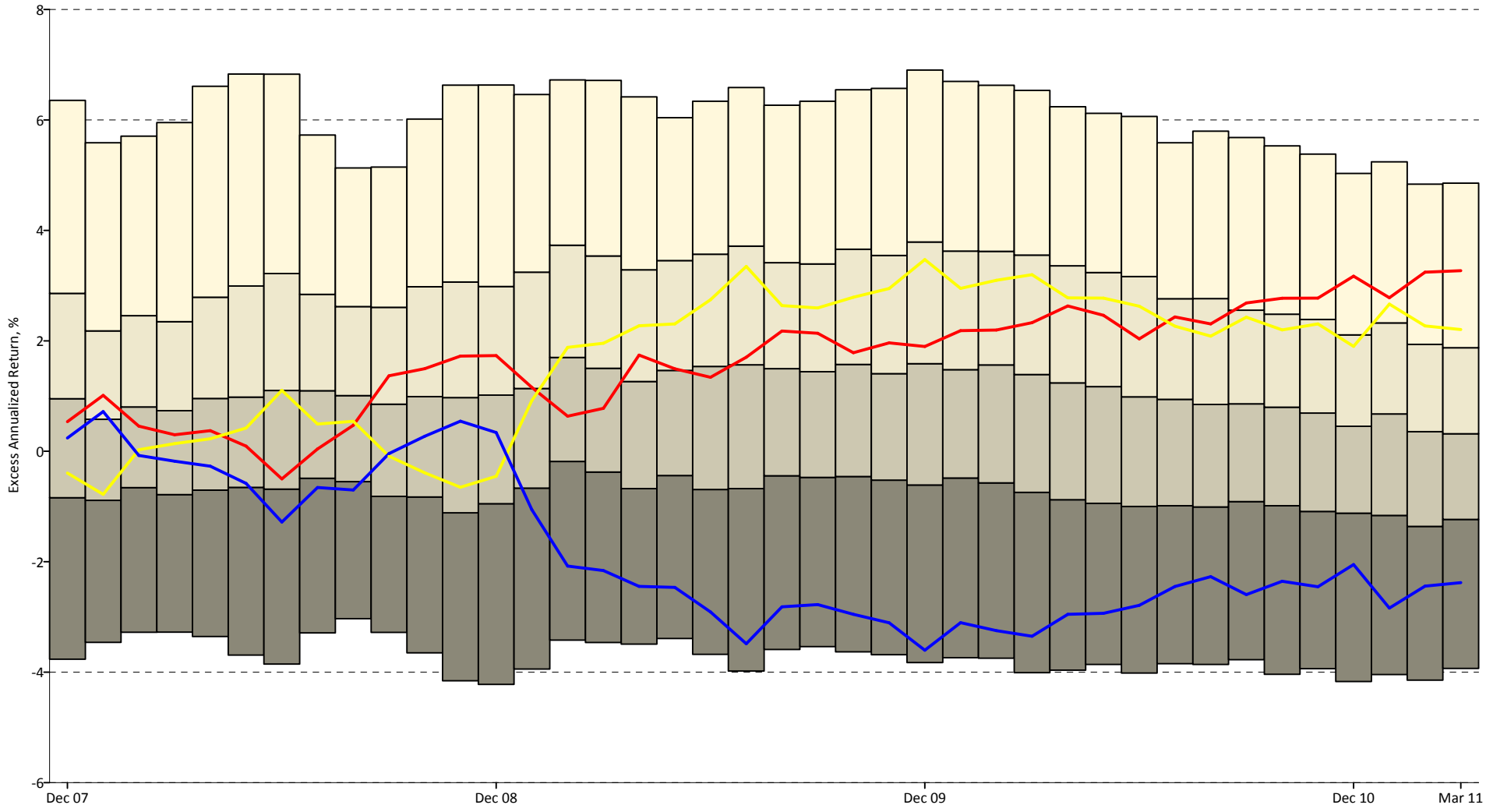
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Excess Return: Rolling 36-month Periods (Jan 05 - Mar 11)



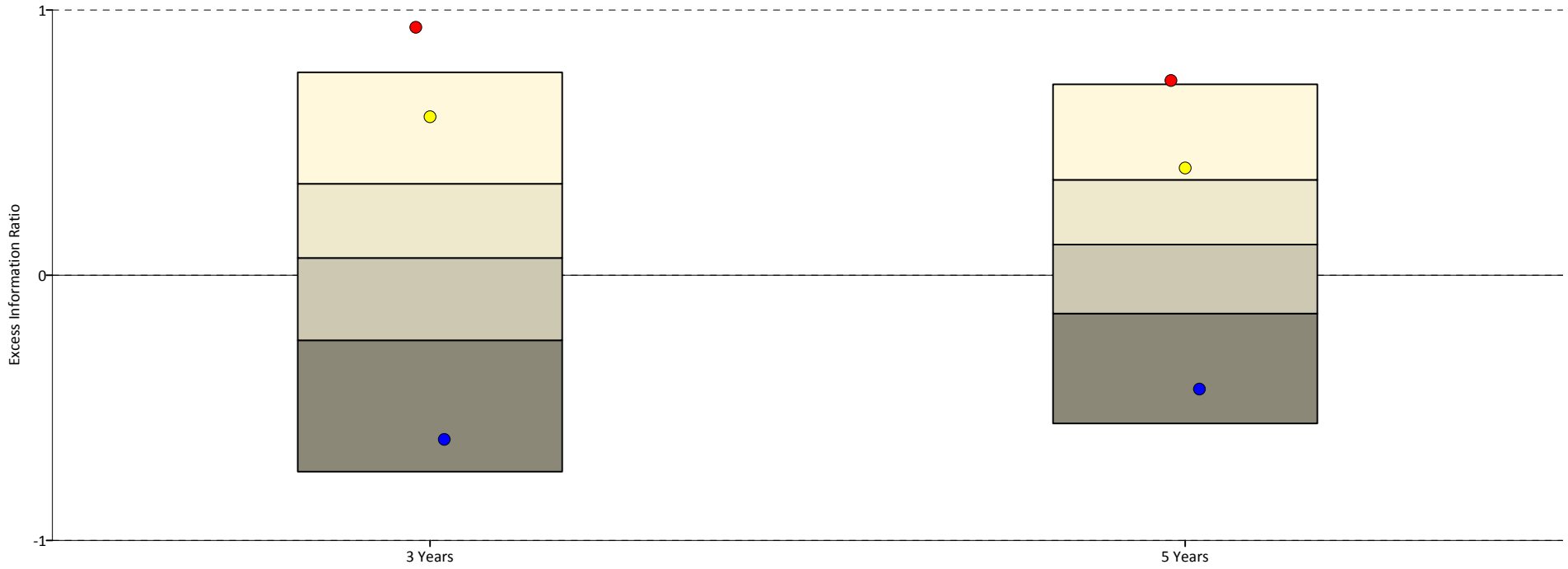
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

Universe:
eA Large Cap Equity

*Simulated prior to 2/11

Information Ratio: Trailing Periods



	Information Ratio			
	3 Years		5 Years	
	Stat	Rank	Stat	Rank
Russell Fundamental US LC	0.9	3	0.7	5
Russell 1000 Growth Index	0.6	12	0.4	23
Russell 1000 Value Index	-0.6	93	-0.4	92
Universe Median	0.1		0.1	
Universe Size		*989*		*929*

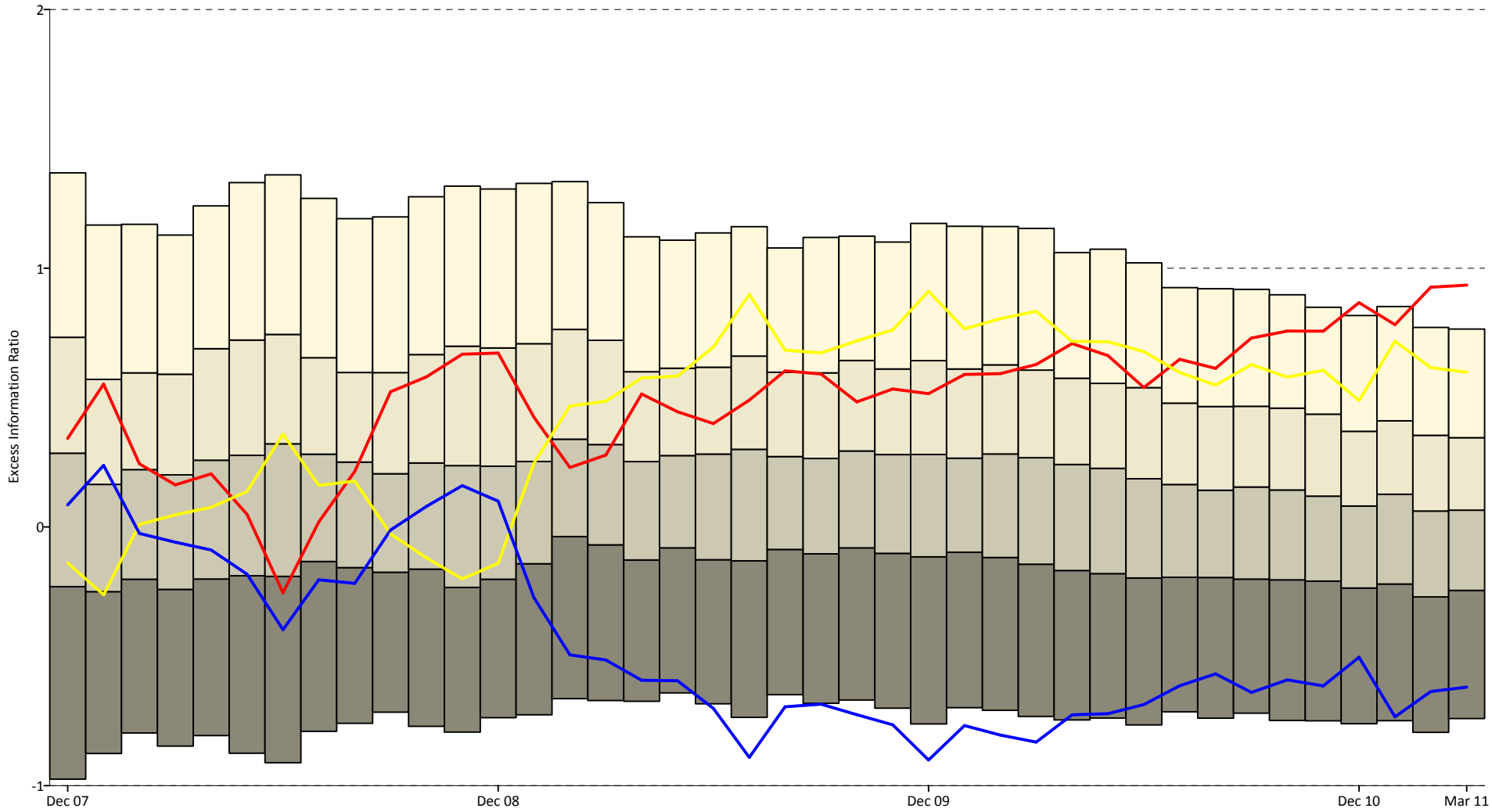
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Information Ratio: Rolling 36-month Periods (Jan 05 - Mar 11)



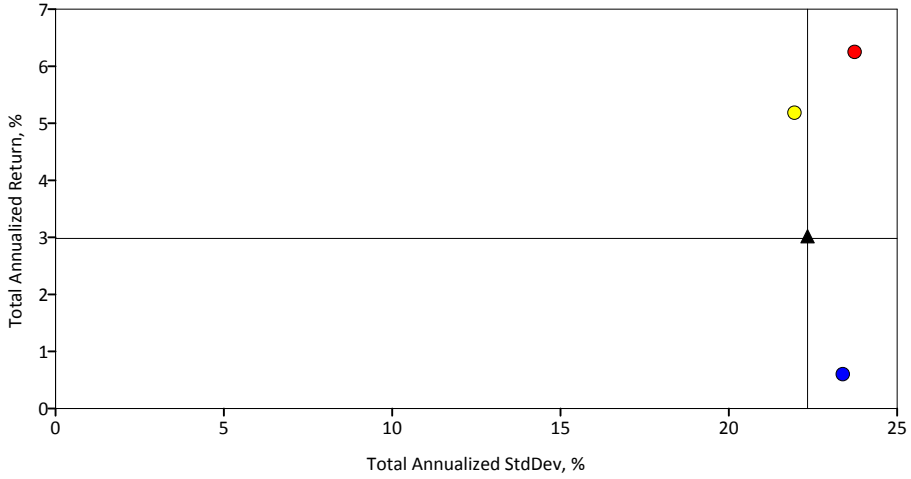
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

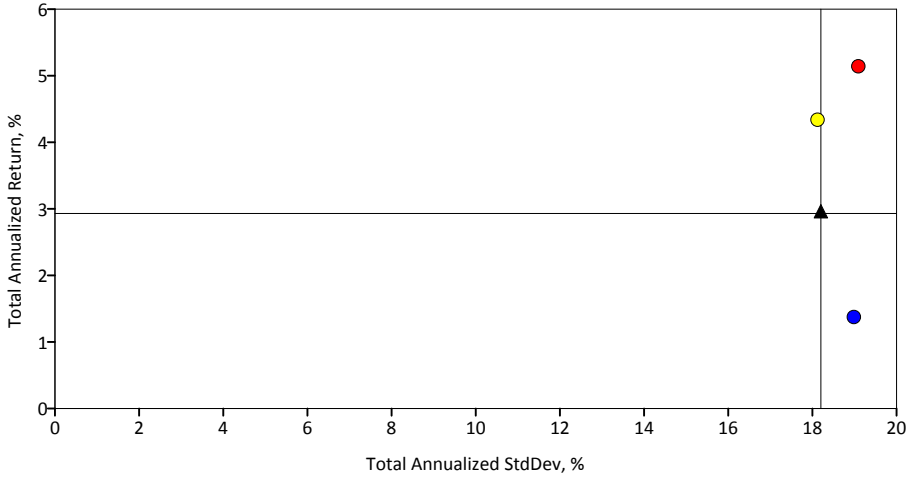
Universe:
eA Large Cap Equity

*Simulated prior to 2/11

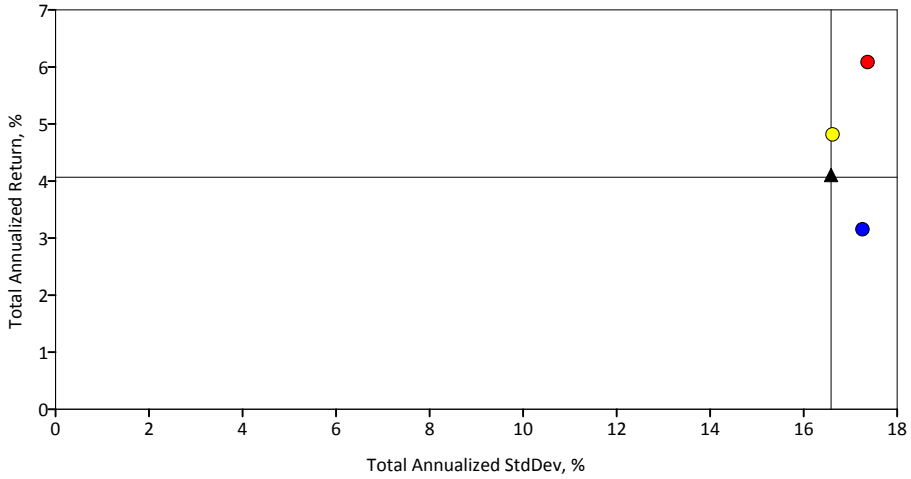
Total Return vs. Standard Deviation: Trailing 3 Years (Apr 08 - Mar 11)



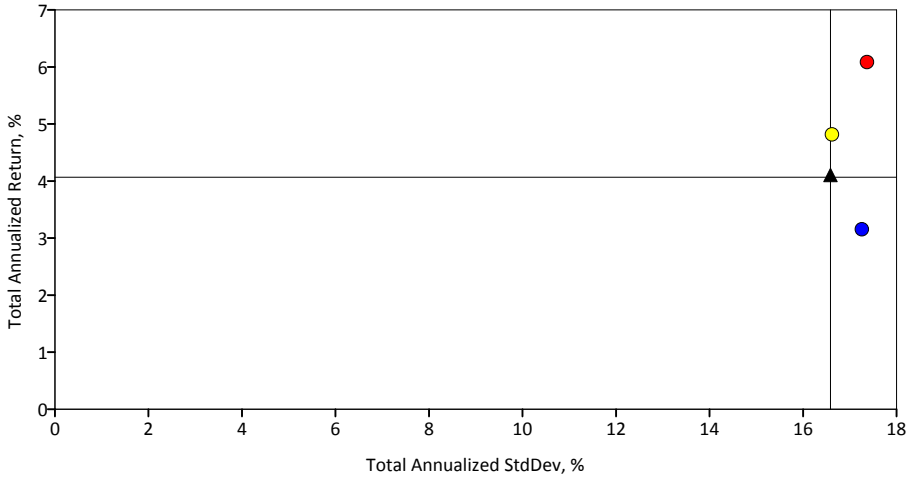
Total Return vs. Standard Deviation: Trailing 5 Years (Apr 06 - Mar 11)



Total Return vs. Standard Deviation: Trailing 7 Years (Jan 05 - Mar 11)



Total Return vs. Standard Deviation: Trailing 10 Years (Jan 05 - Mar 11)

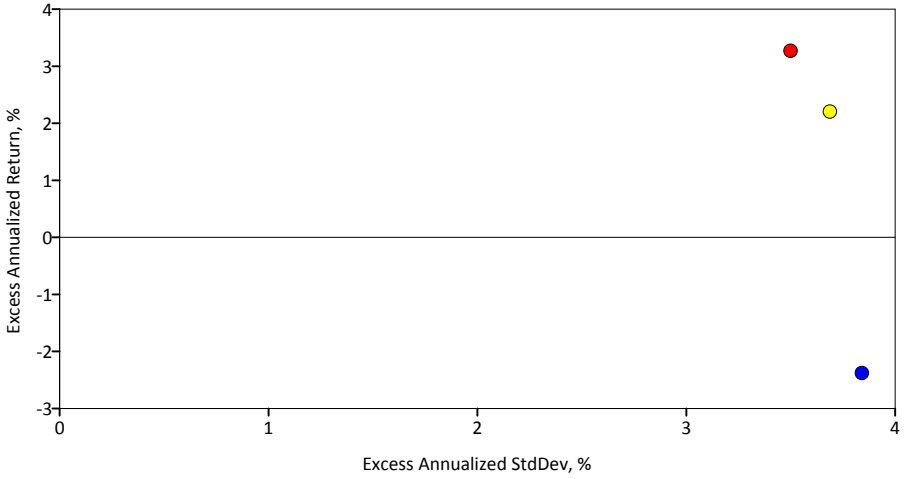


Legend

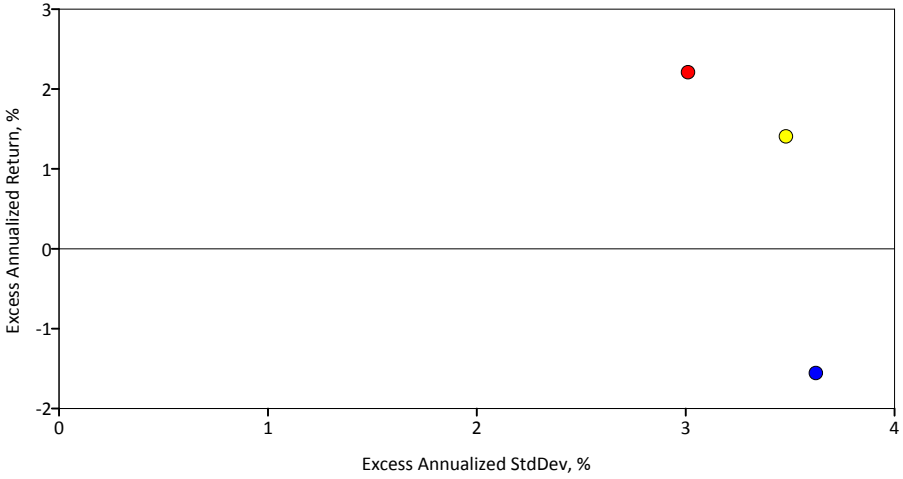
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index
- Russell 1000 Index

*Simulated prior to 2/11

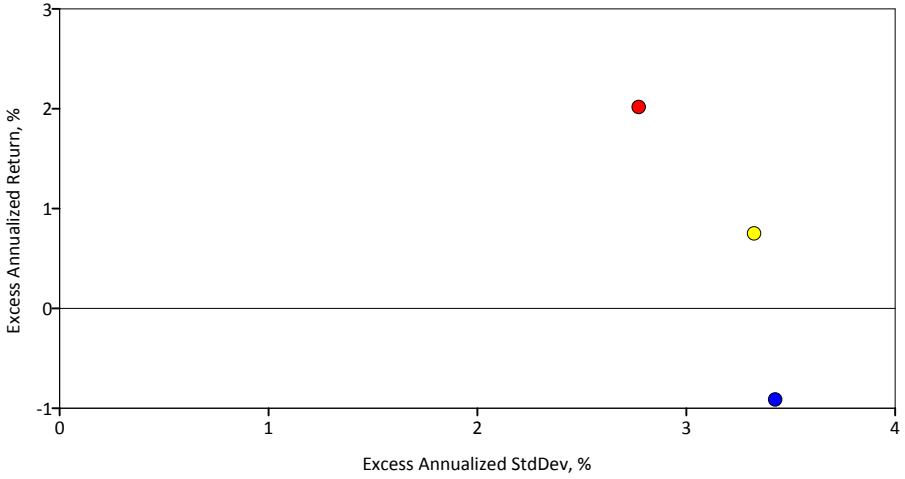
Excess Return vs. Tracking Error: Trailing 3 Years (Apr 08 - Mar 11)



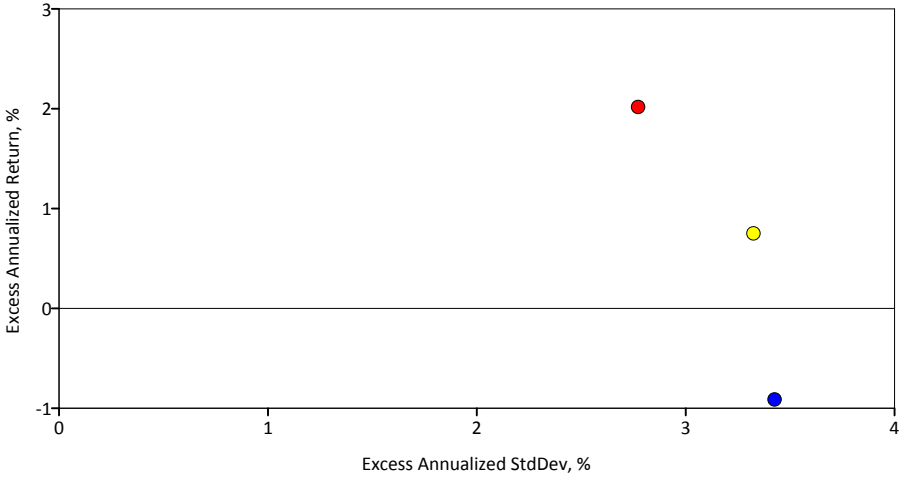
Excess Return vs. Tracking Error: Trailing 5 Years (Apr 06 - Mar 11)



Excess Return vs. Tracking Error: Trailing 7 Years (Jan 05 - Mar 11)



Excess Return vs. Tracking Error: Trailing 10 Years (Jan 05 - Mar 11)



Legend

- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

*Simulated prior to 2/11

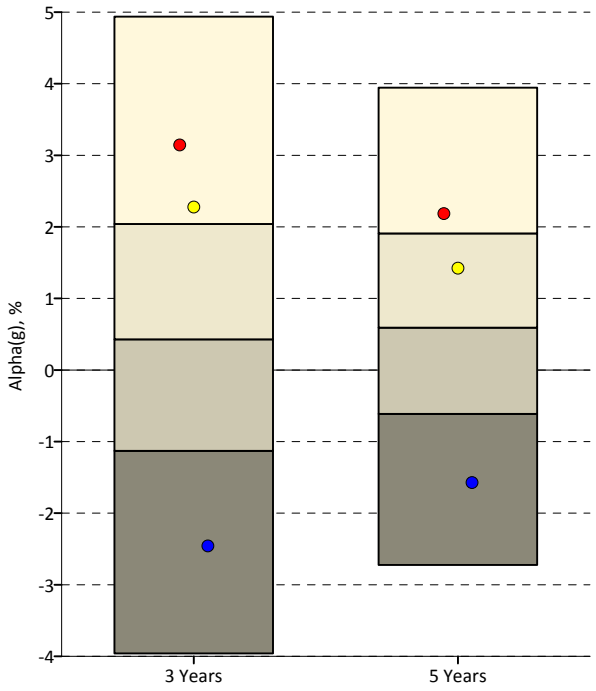
Oregon Investment Council - Large Cap Equity

Periods ending March 31, 2011

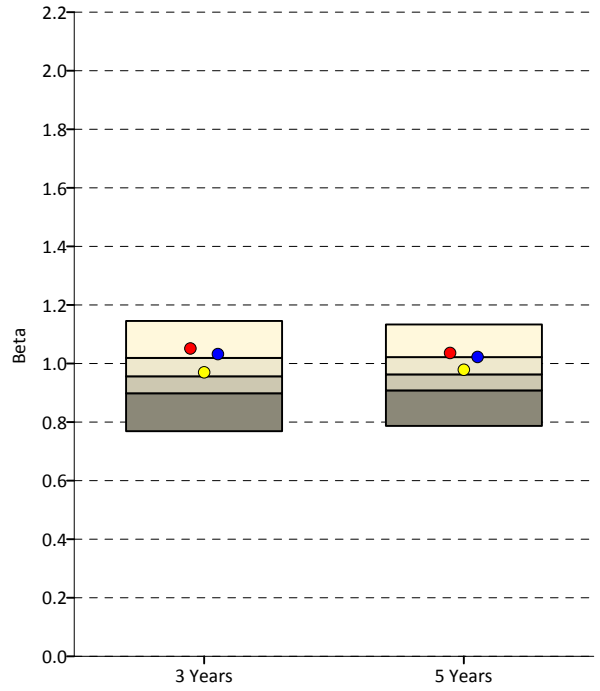
MPT Statistics

All Strategies

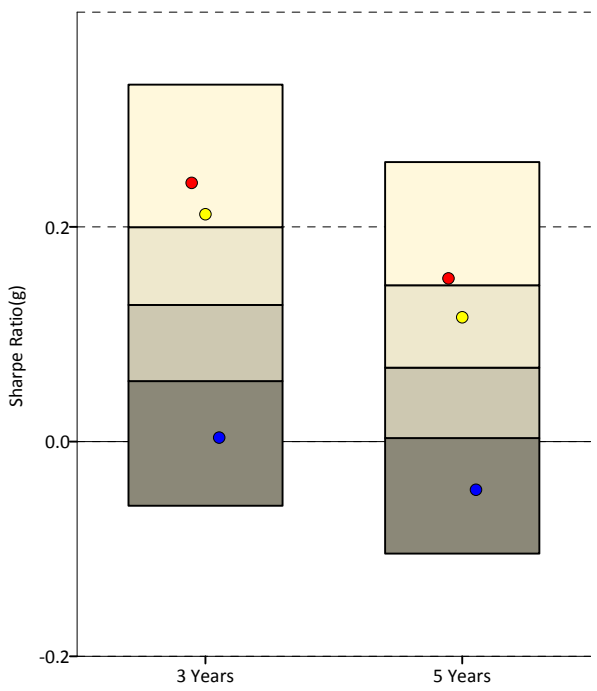
Alpha: Trailing Periods (Apr 08 - Mar 11)



Beta: Trailing Periods (Apr 08 - Mar 11)



Sharpe Ratio: Trailing Periods (Apr 08 - Mar 11)



	3 Yrs			5 Yrs		
	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]	Alpha [Rank]	Beta [Rank]	Sharpe [Rank]
Russell Fundamental US LC	3.1 [14]	1.1 [17]	0.2 [16]	2.2 [22]	1.0 [21]	0.2 [24]
Russell 1000 Growth Index	2.3 [22]	1.0 [45]	0.2 [23]	1.4 [33]	1.0 [43]	0.1 [33]
Russell 1000 Value Index	-2.5 [90]	1.0 [22]	0.0 [88]	-1.6 [87]	1.0 [25]	0.0 [87]
Universe Median	0.4	1.0	0.1	0.6	1.0	0.1
Universe Size	*989*			*929*		

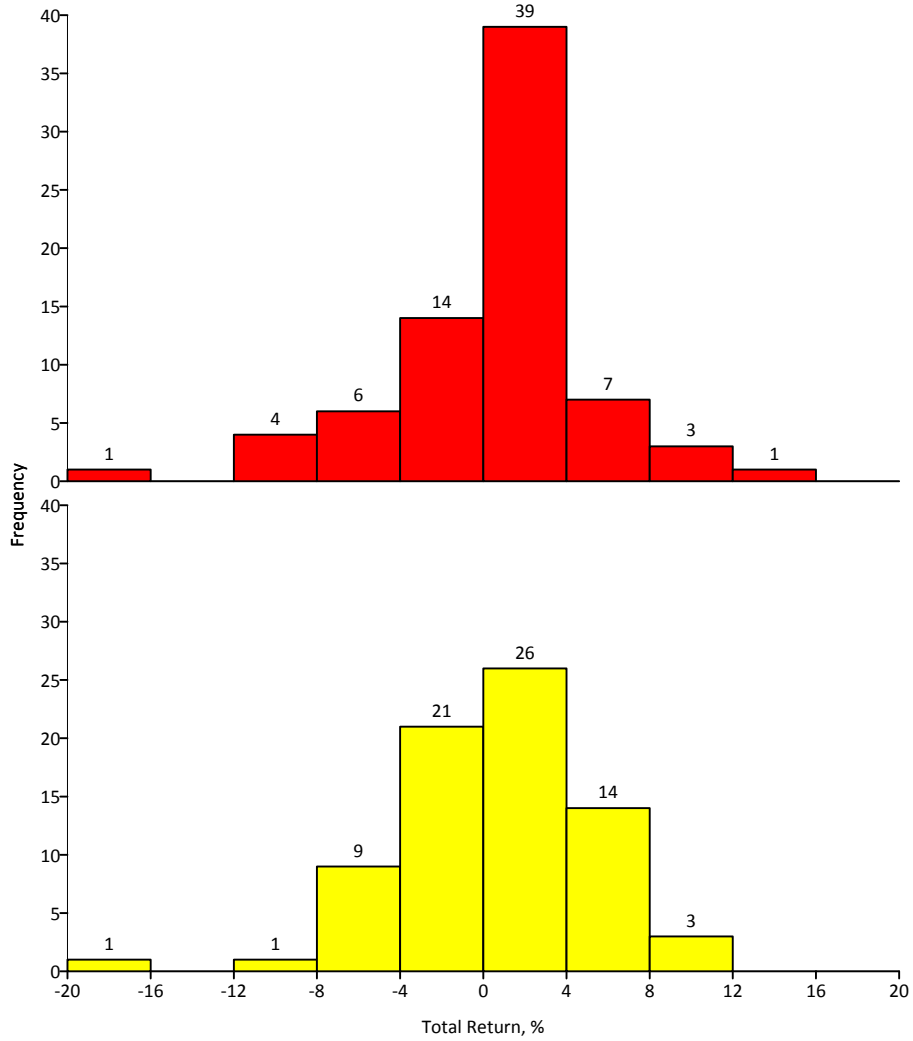
Legend

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile
- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

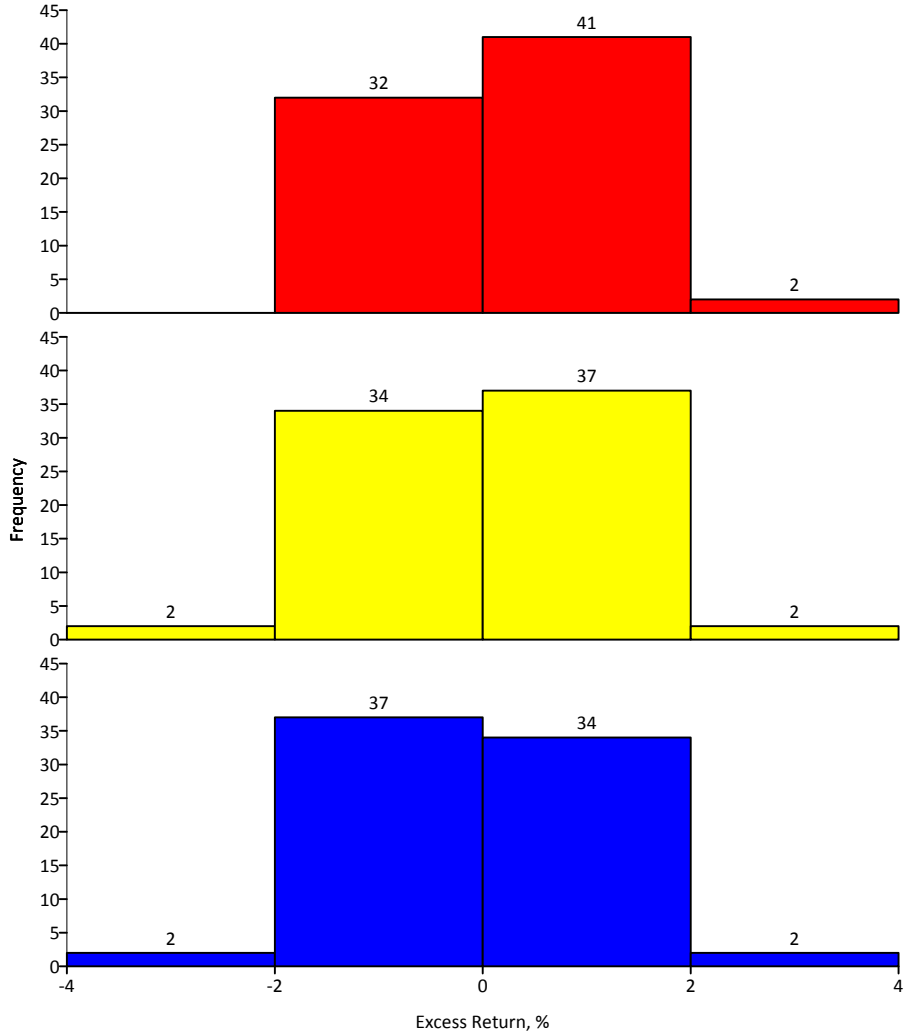
Universe:
eA Large Cap Equity
Universe Rank:
Green = Top Quartile Red = Bottom Quartile

*Simulated prior to 2/11

Distribution of Total Returns: Common Period (Jan 05 - Mar 11)



Distribution of Excess Returns: Common Period (Jan 05 - Mar 11)



Legend

- Russell Fundamental US LC
- Russell 1000 Growth Index
- Russell 1000 Value Index

*Simulated prior to 2/11

Alpha (Jenson's Alpha) – a manager's *Total Return* in excess of that which can be explained by its systematic risk, or *Beta*. Alpha is calculated by regressing a manager's *Total Returns* against those of the benchmark (taken to represent the "market"). Alpha is the intercept term in this regression, also known as a Capital Asset Pricing Model (CAPM) regression. A positive Alpha implies that a manager has added value relative to the benchmark on a *Beta*- or risk-adjusted basis.

Batting Average – the percentage frequency a manager's periodic *Total Return* exceeds the benchmark. A manager that outperforms the benchmark in 15 out of 20 months will have a *Batting Average* of 0.75.

Benchmark R-Squared – a statistical measure that represents the percentage of volatility in a manger's returns which can be explained by the volatility of the benchmark. Benchmark R-Squared can range from 0-100%. See also *R-Squared*.

Best/Worst Quarter – the maximum/minimum *Total Return* or *Excess Return* over any rolling 3-month period (when monthly returns are used). Note that the term "quarter" in this calculation does not refer to calendar quarters (unless the periodicity is quarterly), but rather 3-month windows.

Best/Worst Year – the maximum/minimum *Total Return* or *Excess Return* over any rolling 12-month period (when monthly returns are used). Note that the term "year" in this calculation does not refer to calendar years, but rather 12-month (or 4-quarter) windows.

Beta – a measure of a manager's sensitivity to systematic, or market risk. Beta is calculated by regressing a manager's *Total Returns* against those of the benchmark (taken to represent the "market"). Beta is the slope coefficient in this regression, also known as a Capital Asset Pricing Model (CAPM) regression. A manager with a Beta of 1 has a systematic volatility equal to that of the benchmark, while a Beta less than 1 implies lower systematic volatility than the benchmark and a Beta greater than 1 indicates that a manager exhibits more systematic volatility than the benchmark.

Calmar Ratio – a risk/return measure that is calculated by dividing a manager's *Total Return* or *Excess Return* by the respective *Maximum Drawdown*. A higher Calmar Ratio implies greater manager efficiency in generating *Total Returns* or *Excess Returns* without experiencing correspondingly high *Maximum Drawdowns*.

Capture Ratio – the ratio of a manager's average *Total Return* to the benchmark's average *Total Return*. Up Market Capture Ratio refers to relative performance in periods where the benchmark *Total Return* is greater than 0 (i.e., positive) and Down Market Capture Ratio is calculated over those periods where the benchmark *Total Return* is less than 0 (i.e., negative).

Correlation – a standardized measure of *Covariance* scaled to a range of -1 to 1. Correlations close to 1 suggest that two *Return Series* move together very closely while Correlations close to -1 indicate that two *Return Series* tend to move opposite of one another.

Covariance – a measure of the co-movement of two variables, *Return Series* for these purposes. When two *Return Series* tend to deviate in the same direction they will exhibit positive Covariance and if they tend to deviate in opposite directions they will exhibit negative Covariance.

Excess Correlation – the *Correlation* between two sets of *Excess Return Series*.

Excess Information Ratio – a measure of a manager's active return per unit of active risk. Excess Information Ratio (commonly referred to as *Information Ratio*) is calculated by dividing a manager's *Excess Return* by the *Tracking Error*. A higher Excess Information Ratio implies greater manager efficiency in terms of the active risk taken versus the benchmark.

Excess Loss Ratio – a measure of a manager's active return per unit of downside active risk. Excess Loss Ratio is calculated by dividing a manager's *Excess Return* by the *Semi-Standard Deviation* of *Excess Returns*. A higher Excess Loss Ratio implies greater manager efficiency.

Excess Omega Ratio – a measure of a manager's active return versus active risk that uses the cumulative probability distribution function (CDF) of *Excess Returns* and assigns a return threshold (0 in this case), with part of the distribution on each side. Excess Omega Ratio is calculated by dividing the area above the CDF curve to the right of the threshold by the area below the CDF curve to the left of the threshold. Excess Omega Ratio is useful in that it incorporates the full distribution of *Excess Returns*, not just the mean and standard deviation (i.e., tracking error), and does not rely on a normally-distributed return series as many other risk-adjusted measures such as the *Sharpe Ratio* and *Information Ratio* implicitly do. As with other risk-adjusted measures, a higher Excess Omega Ratio implies greater manager efficiency in terms of active risk and return.

Excess Return – a manager's return in excess of the benchmark's *Total Return*.

Excess Style Weights – a manager's style weights in excess of the benchmark's style weights for a given period. This measures a manager's style deviations, or bets, versus the benchmark.

Information Ratio – a measure of a manager's return per unit of risk. Information Ratio is calculated by dividing a manager's *Total Return* by the *Standard Deviation*. A higher Information Ratio implies greater manager efficiency. To avoid confusion and conform to industry standards, the term “Information Ratio” is used throughout the study when referencing the *Excess Information Ratio* statistic.

Maximum Drawdown – a drawdown is any losing period during a *Return Series* (either *Total Return* or Excess *Return*) and the Maximum Drawdown measures the cumulative return during the worst “peak to trough” period for the *Return Series*. The Maximum Drawdown does not necessarily occur over consecutive months (or quarters) of negative performance and can be interrupted by periods of positive performance as long as this does not cause full recovery of the initial value prior to the drawdown.

Recovery Duration – the number of months (or quarters) from trough to full recovery after the *Maximum Drawdown*. If the full amount of the initial value has not been recovered, Recovery Duration will display “N/A”.

Recovery Percent – where the full amount of the initial value has not been recovered after the *Maximum Drawdown*, Recovery Percent represents the partial percent of peak to trough loss that has been regained to date. If the initial value has been re-achieved, Recovery Percent will display “100%”.

Recovery Period – the range of months (or quarters) to regain the value before the *Maximum Drawdown* occurred, starting from the first month (or quarter) after a trough. When the full amount of the initial value has not been recovered the date range shown is from the trough to the highest subsequent cumulative value.

Return Series – a set of *Returns* over a range of time periods.

Risk – see *Standard Deviation*.

R-Squared – within the context of regression analysis, R-Squared represents the portion of the variation of a dependent variable (e.g., a manager's *Return Series*) that can be explained by the variation of the independent variable(s) (e.g., a benchmark index or set of *Style Indices*). R-squared values range from 0 to 100. An R-squared of 100 indicates that all movements of the dependent variable are completely explained by movements of the independent variable(s). In addition, R-Squared provides a measure of the goodness of fit, or validity, of the regression model.

Selection Return – a manager's *Total Return* in excess of the *Style Return*. A positive Selection Return implies that a manager has added value relative to the *Style Benchmark* through security selection.

Semi-Standard Deviation – a measure of downside risk similar to Standard Deviation, except that it is calculated using only the variance of returns below a target rate (0 by default, but can also be set to a Minimum Accepted Return or MAR, the risk-free rate or the benchmark's return). A high Semi-Standard Deviation represents a wide range of returns below the target rate and therefore implies a higher level of downside risk. Semi-Standard Deviation is useful in that it penalizes managers only for volatile returns below the target rate, unlike the full Standard Deviation calculation which does not distinguish between upside (good) and downside (bad) volatility.

Sharpe Ratio – a manager's *Excess Return* over the risk-free rate divided by the *Standard Deviation*. Sharpe Ratio measures a manager's return per unit of risk. A higher Sharpe Ratio implies greater manager efficiency.

Standard Deviation – a measure of the extent to which observations in a series vary from the arithmetic mean of the series. Standard Deviation (also referred to ask *Volatility* or *Risk*) provides an indication of the dispersion of periodic returns. A high Standard Deviation represents a wide range of returns and therefore implies a higher level of risk.

Style Benchmark – a blended index of *Style Indices* combined at the corresponding *Style Weights*. The *Style Return* represents the *Total Return* of the Style Benchmark.

Style Indices – independent (or explanatory) variables used in the *Style Regression*. Style Indices can also be interpreted as the manager's *Betas* or risk factors within the context of the *Style Regression*.

Style Map – a specialized form of scatter plot used to show where a manager lies in relation to a set of *Style Indices* on a two-dimensional plane. A Style Map is simply a different way of viewing the *Style Weights*. The x and y co-ordinates are calculated by rescaling the *Style Weights* to a range of -1 to 1 on each axis.

Style Regression – a constrained quadratic regression of a manager or benchmark return series against a set of *Style Indices*. Style Regression calculates a series of *Betas* that collectively seek to explain as much of a return series as possible.

Style Return – calculated by multiplying a manager's (or benchmark's) Style Weights by the corresponding returns of the Style Indices and summing the resulting weighted component returns.

Style R-Squared – a statistical measure that represents the percentage of volatility in a manager's returns which can be explained by the volatility of the *Style Indices* (or collectively, the *Style Benchmark*). Style R-Squared can range from 0-100%. See also *R-Squared*.

Style Weights – represent the periodic exposure of a manager (or benchmark) to various explanatory variables, also referred to as *Style Indices*. Style Weights are returns-based, i.e. they are calculated through the *Style Regression*.

Timing Return – a manager's *Style Return* in excess of the benchmark's *Style Return*[1]. A positive Timing Return implies that a manager has added value relative to the benchmark through asset allocation decisions, i.e., over/underweight "positions" in the *Style Indices* versus those of the benchmark.

1) If the market benchmark used in the study is not also one of the *Style Indices* then it too will have *Style Weights*, a *Style Return* and a *Style Benchmark*. If the benchmark is one of the *Style Indices*, its *Style Return* will equal the benchmark's *Total Return*.

Total Return – a measure of the appreciation or depreciation in the price of an investment over a given time period.

Tracking Error – the *Standard Deviation* of a manager's *Excess Return* series. Tracking Error measures the extent to which a manager's returns diverge from the benchmark's returns. A low Tracking Error indicates that the manager closely tracks the benchmark.

Volatility – see *Standard Deviation*.

Note: All calculations use geometrically annualized returns except for cumulative returns and those that cover periods less than one year.

TAB 9 – ANNUAL INTERNAL AUDIT UPDATE

Office of the State Treasurer
Audits Update

Purpose

To provide the Oregon Investment Council with an update of the investment-related audit engagements completed by OST's Internal Audit Services during the past year, and request a revision to Investment Policy 04.01.12.

Background

Oregon Revised Statute (ORS) 293.776 states "The Oregon Investment Council shall provide for an examination and audit of the investment funds investment program, and for submission to the council of a report based on the examination and audit, at least once every four years and at other times as the council may require. The examination and audit, and the report based thereon, shall include an evaluation of current investment funds investment policies and practices and of specific investments of the investment funds in relation to the objective set forth in ORS 293.721, the standard set forth in ORS 293.726 and other criteria as may be appropriate, and recommendations relating to the investment funds investment policies and practices and to specific investments of the investment funds as are considered necessary or desirable. The council shall make copies of the report or a summary thereof available for distribution to interested persons."

Investment Policy 04.01.12 addresses this requirement as follows:

> On an annual basis:
> The Office of the State Treasurer's Internal Audit Services will perform an audit of the internal control structure over one of the major asset classes (i.e., Real Estate, Fixed Income, Public Equities, Private Equities, Opportunity Portfolio, or Short-term Investments) for each year ended June 30. The audit shall be performed in accordance with professional auditor's standards approved by OST's Audit Committee.
>
> At least once every four years:
> The Office of the State Treasurer (OST) will obtain the services of a qualified consultant to perform a procedural (operational) review of the investment portfolio (or area) and its practices as compared and contrasted to the investment portfolio practices of similarly managed investments in the private and public sectors.

When this policy was updated in 2003 to broaden the pool of firms eligible to conduct operational reviews it was noted that future changes could include a proposal to allow Internal Audit Services to conduct operational reviews with the assistance of one or more qualified consultants. Internal Audit Services believes that moving to this model of execution would enhance the quality of future operational reviews, allowing the agency to contract with multiple specialist consultants who can provide in-depth analysis versus trying to find one provider who can cover all topics. This co-sourcing arrangement will also help to control rising costs, as consultant work assignments can be very precisely defined and some work can be completed by internal auditors. As an added benefit, internal auditor knowledge and

expertise will be enhanced through working relationships with specialist consulting firms. This will, in turn, benefit all of the investment engagements undertaken by Internal Audit Services.

Annual Internal Control Audits

Beginning with fiscal year 1993, OST began a process of annually reviewing the internal controls of one of the major assets classes. The reviews performed to date are summarized below:

Year Ended	Area	Firm
June-1993	Equities	KPMG
June-1994	Real Estate	KPMG
June-1995	OSTF	KPMG
June-1996	Fixed Income	KPMG
June-1997	Alternative Equities	KPMG
June-1998	Equities	Deloitte & Touche
June-1999	Real Estate	Deloitte & Touche
June-2000	OSTF	Deloitte & Touche
June-2001	Fixed Income	Deloitte & Touche
June-2002	Alternative Equities	Deloitte & Touche
June-2003	Public Equities	Internal Audit Services
June-2004	Real Estate	Internal Audit Services
June-2005	Short Term/Fixed Income	Internal Audit Services
June-2006	Private Equity	Internal Audit Services
June-2007	Real Estate	Internal Audit Services
June-2008	Public Equities	Internal Audit Services
June-2009	Short Term/Fixed Income	Internal Audit Services
June-2009	Opportunity Portfolio	Internal Audit Services
June-2010	Private Equity	Internal Audit Services

The Private Equity Internal Controls Audit report was issued by Internal Audit Services on December 2, 2010. A total of 6 findings were identified during this engagement.

Other Investment-Related Audit Engagements

The Oregon Secretary of State Audits Division issued a management letter addressing their review of internal controls over financial reporting for the Oregon State Treasury for the year ended June 30, 2010, on January 26, 2011. OST staff is continuing to work on resolving the outstanding finding.

Recommendation

Staff requests that the OIC approve the proposed amendment to Investment Policy 04.01.12 to allow internal audit services to take the lead on operational reviews.

Oregon State Treasury
Outstanding Audit Findings

Purpose

To provide the Oregon Investment Council with an update of outstanding audit findings for the investment-related audit engagements completed by OST's Internal Audit Services during the past year.

Private Equity Portfolio Internal Controls Audit

The Private Equity Portfolio Internal Controls Audit report was issued by Internal Audit Services on March 1, 2010. All findings have been addressed.

Annual Financial Audit

The Office of the Secretary of State Audits Division issued a management letter addressing their review of internal controls over financial reporting for the Office of the State Treasurer for the year ended June 30, 2010, on February 1, 2011. OST staff has made progress in resolving the finding noted within this letter, as follows:

> Finding: The SOS Audits Division recommended OST management strengthen internal controls over its financial reporting process to ensure that Treasury provides state agencies investment balances and disclosures that are fairly stated in accordance with generally accepted accounting principles. The SOS Audits Division also recommended that management improve the efficiency and effectiveness of its financial reporting process over information received from the custodian bank.
>
> Current Status: OST initiated a project to redesign its financial reporting processes so as to standardize and automate the work it performs to ensure that investment balances and financial disclosures are fairly presented to state agencies in conformity with generally accepted accounting principles. It's expected to be fully implemented in time for the fiscal year end 2012 reporting.

FUNCTION: **General Policies and Procedures**
ACTIVITY: **Rotating Internal Control and Operational Reviews**

POLICY: **Oregon Revised Statute (ORS) 293.776 states "The Oregon Investment Council shall provide for an examination and audit of the investment funds investment program, and for submission to the council of a report based on the examination and audit, at least once every four years and at other times as the council may require. The examination and audit, and the report based thereon, shall include an evaluation of current investment funds investment policies and practices and of specific investments of the investment funds in relation to the objective set forth in ORS 293.721, the standard set forth in ORS 293.726 and other criteria as may be appropriate, and recommendations relating to the investment funds investment policies and practices and to specific investments of the investment funds as are considered necessary or desirable. The council shall make copies of the report or a summary thereof available for distribution to interested persons."**

On an annual basis:
The Office of the State Treasurer's Internal Audit Services will perform an audit of the internal control structure over one of the major asset classes (i.e., Real Estate, Fixed Income, Public Equities, Private Equities, Opportunity Portfolio, or Short-term Investments) for each year ended June 30. The audit shall be performed in accordance with professional auditor's standards approved by OST's Audit Committee.

At least once every four years:
The Office of the State Treasurer (OST) will ~~obtain the services of a qualified consultant to~~ perform a procedural (operational) review of the investment portfolio (or area) and its practices as compared and contrasted to the investment portfolio practices of similarly managed investments in the private and public sectors.

This work and report shall comply with applicable professional standards and fulfill the requirements stated in ORS 293.776.

PROCEDURES:

1. Internal Audit Service will co-source or outsource portions of or the entirety of the work to ~~The~~ qualified consultants ~~shall be retained~~ through a request for proposal (RFP) process or other selection process ~~in the best interests of OST~~ according to OST purchasing policies. Consultant selection(s) and the scope of work will be approved by the OST Audit Committee.

2. ~~The Deputy State Treasurer, the Chief Investment Officer (or designee), and the Chief Audit Executive shall determine the investment portfolio subject to review.~~

3. Internal Audit Services ~~and the selected consultant~~ shall ~~each~~ deliver to OST management a written report on the results of the work performed, as well as any findings and/or recommendations for improvement.

4. On an annual basis, the Chief Audit Executive, or designee, shall inform the OIC of the results of audits and reviews and shall provide a summary of OST's response/implementation to all issues and recommendations raised in the reports.

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached): None

TAB 10 – ASSET ALLOCATIONS & NAV UPDATES

Asset Allocations at June 30, 2011

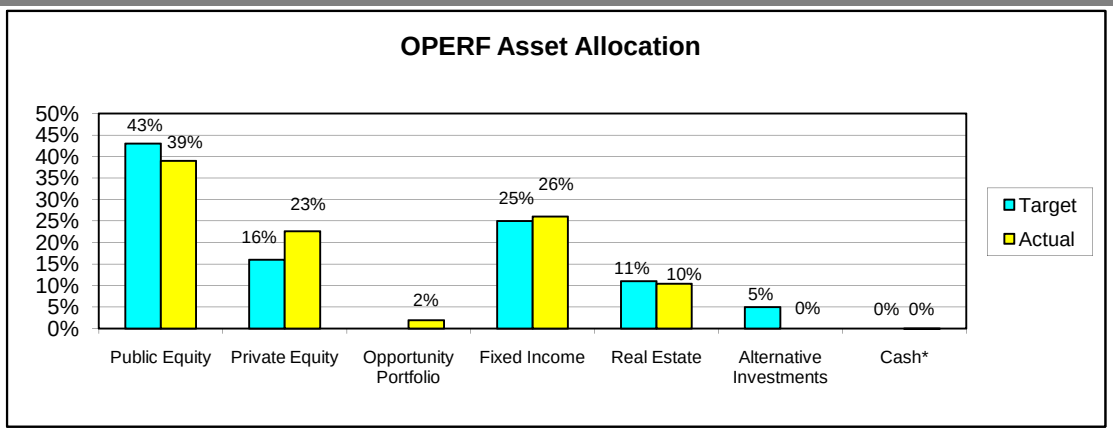
OPERF	Policy	Target	$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	$ Thousands	$ Thousands
	Regular Account							Variable Fund	Total Fund
Public Equity	38-48%	43%	23,542,970	40.2%	(698,282)	22,844,688	39.0%	948,234	23,792,922
Private Equity	12-20%	16%	13,273,044	22.6%		13,273,044	22.6%		13,273,044
Total Equity	**54-64%**	**59%**	**36,816,014**	**62.8%**	**(698,282)**	**36,117,732**	**61.6%**		**37,065,966**
Opportunity Portfolio			1,132,556	1.9%		1,132,556	1.9%		1,132,556
Fixed Income	**20-30%**	**25%**	**13,890,930**	**23.7%**	**1,374,188**	**15,265,118**	26.0%		**15,265,118**
Real Estate	**8-14%**	**11%**	**6,114,794**	**10.4%**	**(2,100)**	**6,112,694**	10.4%		**6,112,694**
Alternative Investments	**0-8%**	**5%**	**-**	**0.0%**		**-**	0.0%		
Cash*	**0-3%**	**0%**	**681,909**	**1.2%**	**(673,806)**	**8,103**	0.0%	3,132	**11,235**
TOTAL OPERF		**100%**	**$ 58,636,203**	**100.0%**	**$ -**	**$ 58,636,203**	**100.0%**	**$ 951,366**	**$ 59,587,569**

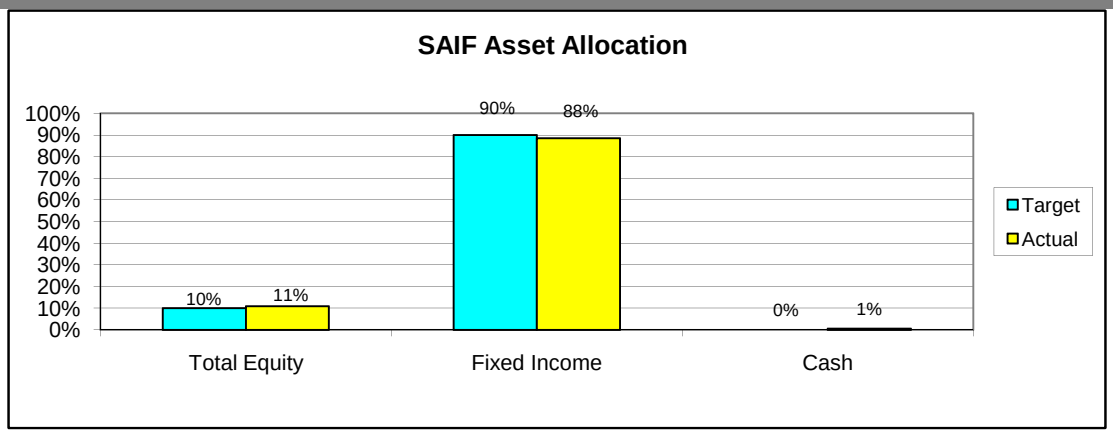
*Includes cash held in the policy implementation overlay program.

SAIF	Policy	Target	$ Thousands	Actual
Total Equity	**7-13%**	**10.0%**	**460,207**	**10.9%**
Fixed Income	**87-93%**	**90.0%**	**3,735,905**	**88.5%**
Cash	**0-3%**	**0%**	**26,188**	**0.6%**
TOTAL SAIF		**100%**	**$4,222,300**	**100.0%**

CSF	Policy	Target	$ Thousands	Actual
Domestic Equities	25-35%	30%	$362,245	31.8%
International Equities	25-35%	30%	355,767	31.2%
Private Equity	0-12%	10%	75,841	6.7%
Total Equity	**65-75%**	**70%**	**793,853**	**69.7%**
Fixed Income	**25-35%**	**30%**	**310,693**	**27.3%**
Cash	**0-3%**	**0%**	**34,140**	**3.0%**
TOTAL CSF			**$1,138,686**	**100.0%**

HIED	Policy	Target	$ Thousands	Actual
Domestic Equities	20-30%	25%	$18,197	27.5%
International Equities	20-30%	25%	18,745	28.4%
Private Equity	0-15%	10%	5,030	7.6%
Growth Assets	**50-75%**	**60%**	**41,972**	**63.5%**
Real Estate	0-10%	7.5%	1,544	2.3%
TIPS	0-10%	7.5%	4,613	7.0%
Inflation Hedging	**7-20%**	**15%**	**6,157**	**9.3%**
Fixed Income	20-30%	25%	16,871	25.5%
Cash	0-3%	0%	1,064	1.6%
Diversifying Assets	**20-30`%**	**25%**	**17,935**	**27.1%**
TOTAL HIED			**$66,064**	**100.0%**


OPERF Asset Allocation
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
43%
39%
16%
23%
2%
25%
26%
11%
10%
5%
0%
0%
0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Real Estate
Alternative Investments
Cash*
Target
Actual


SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10%
11%
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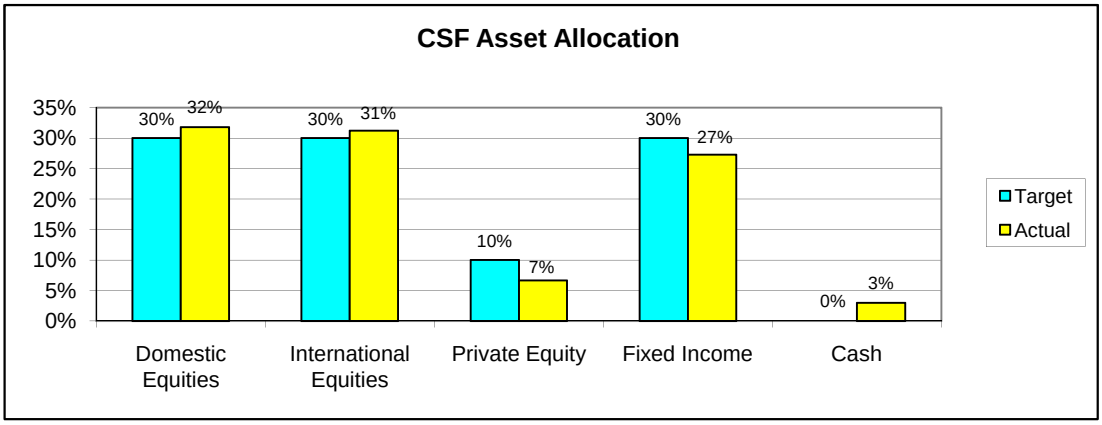
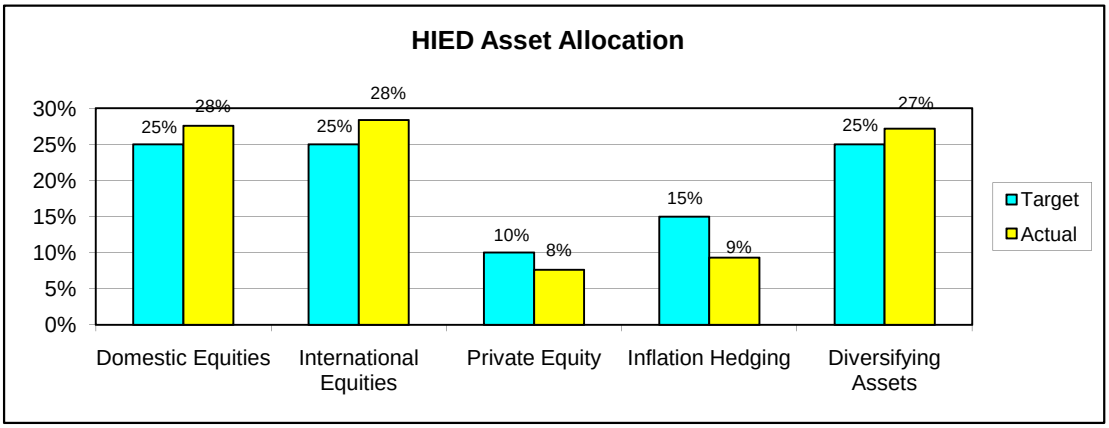
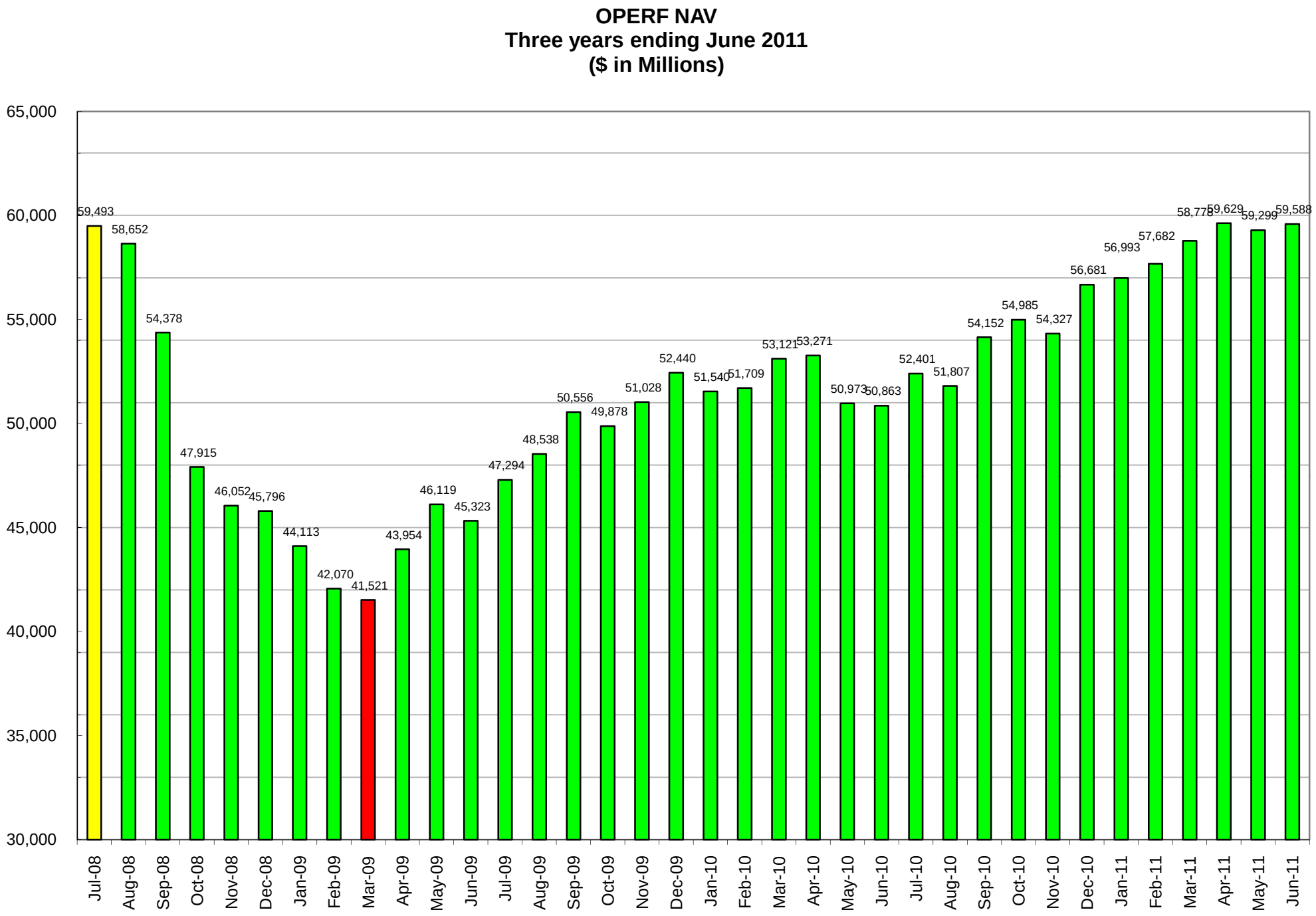
88%
0%
1%
Total Equity
Fixed Income
Cash
Target
Actual


CSF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
30%
32%
30%
31%
10%
7%
30%
27%
0%
3%
Domestic Equities
International Equities
Private Equity
Fixed Income
Cash
Target
Actual


HIED Asset Allocation
30%
25%
20%
15%
10%
5%
0%
25%
28%
25%
28%
10%
8%
15%
9%
25%
27%
Domestic Equities
International Equities
Private Equity
Inflation Hedging
Diversifying Assets
Target
Actual


OPERF NAV
Three years ending June 2011
($ in Millions)
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
59,493
58,652
54,378
47,915
46,052
45,796
44,113
42,070
41,521
43,954
46,119
45,323
47,294
48,538
50,556
49,878
51,028
52,440
51,540
51,709
53,121
53,271
50,973
50,863
52,401
51,807
54,152
54,985
54,327
56,681
56,993
57,682
58,778
59,629
59,299
59,588
Jul-08
Aug-08
Sep-08
Oct-08
Nov-08
Dec-08
Jan-09
Feb-09
Mar-09
Apr-09
May-09
Jun-09
Jul-09
Aug-09
Sep-09
Oct-09
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Apr-10
May-10
Jun-10
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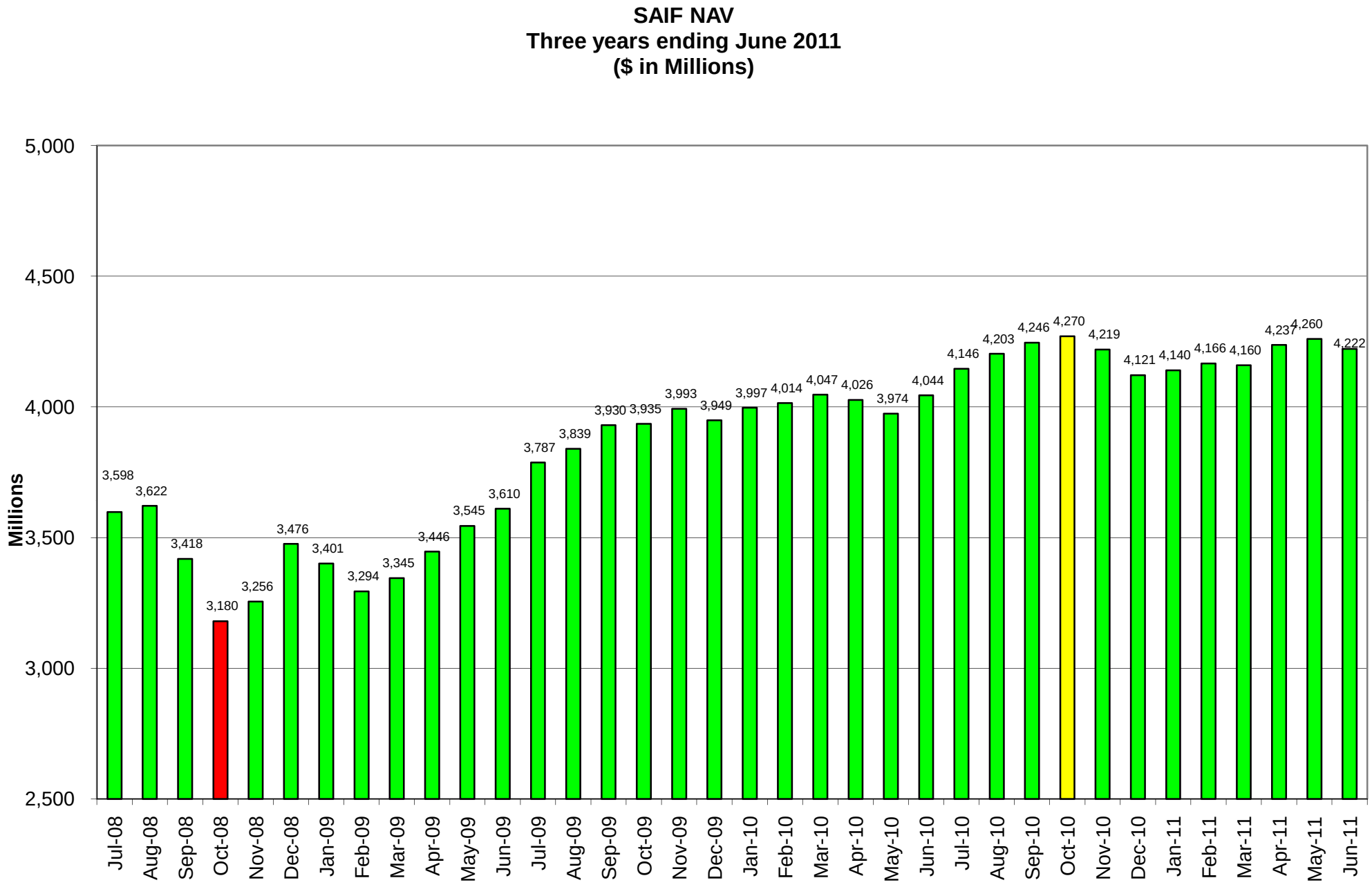
Mar-11
Apr-11
May-11
Jun-11


SAIF NAV
Three years ending June 2011
($ in Millions)
Millions
5,000
4,500
4,000
3,500
3,000
2,500
3,598
3,622
3,418
3,180
3,256
3,476
3,401
3,294
3,345
3,446
3,545
3,610
3,787
3,839
3,930
3,935
3,993
3,949
3,997
4,014
4,047
4,026
3,974
4,044
4,146
4,203
4,246
4,270
4,219
4,121
4,140
4,166
4,160
4,237
4,260
4,222
Jul-08
Aug-08
Sep-08
Oct-08
Nov-08
Dec-08
Jan-09
Feb-09
Mar-09
Apr-09
May-09
Jun-09
Jul-09
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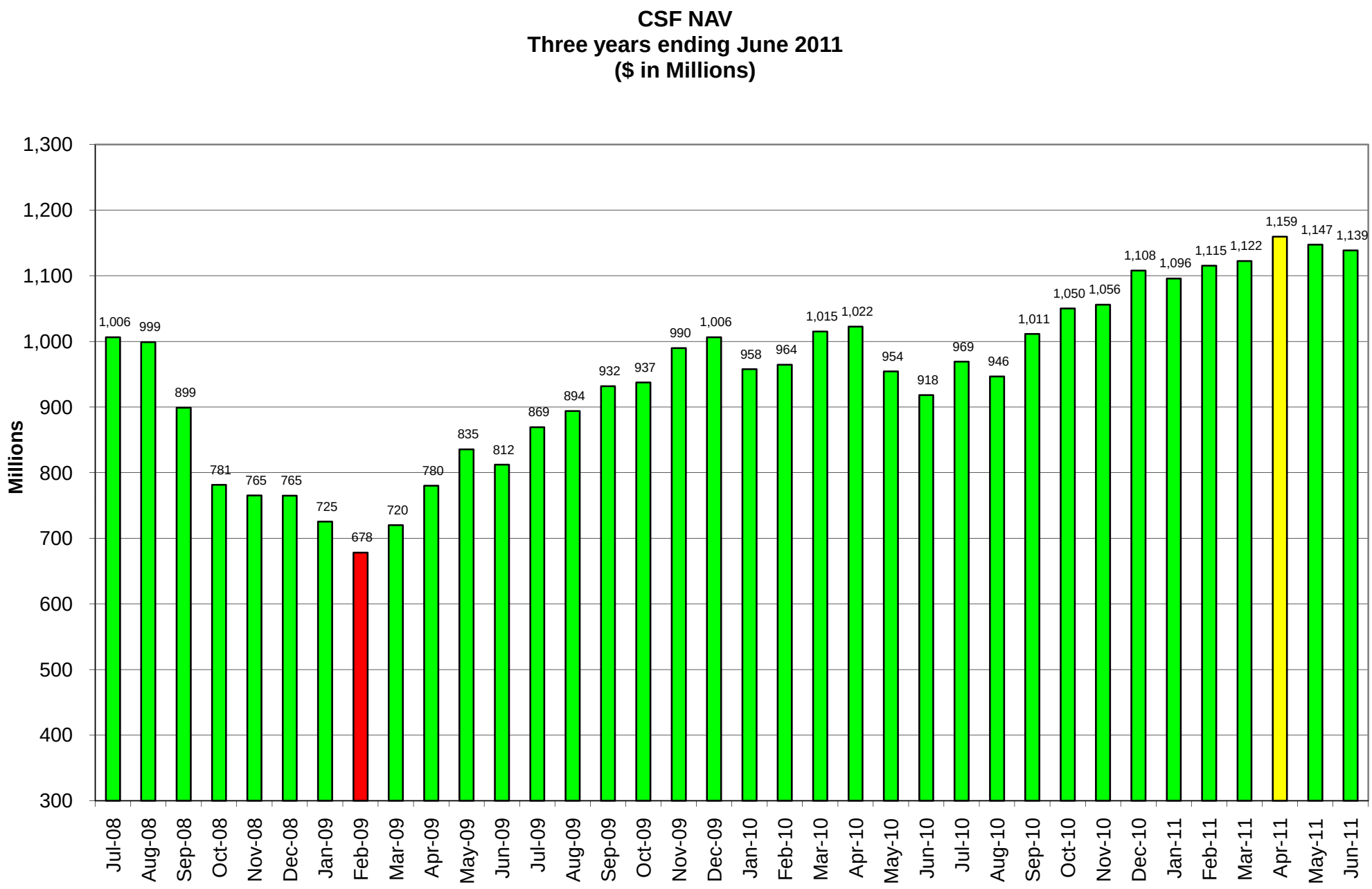
Jun-11


CSF NAV
Three years ending June 2011
($ in Millions)
Millions
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
1,006
999
899
781
765
765
725
678
720
780
835
812
869
894
932
937
990
1,006
958
964
1,015
1,022
954
918
969
946
1,011
1,050
1,056
1,108
1,096
1,115
1,122
1,159
1,147
1,139
Jul-08
Aug-08
Sep-08
Oct-08
Nov-08
Dec-08
Jan-09
Feb-09
Mar-09
Apr-09
May-09
Jun-09
Jul-09
Aug-09
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Nov-09
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Sep-10
Oct-10
Nov-10
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11

TAB 11 – CALENDAR – FUTURE AGENDA ITEMS

2011 OIC Forward Agenda Topics

September 28:	CSF Annual Review RE Consultant Recommendation Private Equity Fund Private Equity Fund Alternative Fund Alternative Fund Opportunity Portfolio Fund
November 2:	CEM Benchmarking Annual Review General Consultant Recommendation Private Equity Fund Alternative Fund
December 7:	OPERF 3rd Quarter Performance Review OPERF Opportunity Portfolio Review HIED Annual Review
January 2012:	OIC Election of Officers