

Special Called Investment Committee Meeting- June 18, 2019 (June 18, 2019)

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**KENTUCKY RETIREMENT SYSTEMS
SPECIAL CALLED
INVESTMENT COMMITTEE MEETING
Tuesday, June 18th, 2019 at 9:00 A.M., ET
1270 Louisville Road, Frankfort, KY 40601**

- 9:00AM Call to Order
- 9:01AM Approval of Minutes*- May 16th, 2019
- 9:02AM IPS Review – Rich Robben
- 9:15AM New Fund Recommendation* – JP Morgan – Joe Gilbert
- 10:00AM New Fund Recommendation* – Pzena – Joe Gilbert
- 10:45AM New Fund Recommendation* – Next Century – Joe Gilbert
- 11:30AM Adjourn

**Committee Action Required*

All times are approximations; one or more items on this agenda may be discussed in closed session.

**MINUTES OF MEETING
KENTUCKY RETIREMENT SYSTEMS
QUARTERLY INVESTMENT COMMITTEE
MAY 16, 2019, 9:00 A.M., E.T.
1270 LOUISVILLE ROAD, FRANKFORT, KENTUCKY 40601**

At the May 16, 2019 Quarterly Investment Committee Meeting, the following Committee members were present: John Farris (Chair), William Cook, Kelly Downard, Dave Harris, Sherry Kremer (arrived at 9:02 a.m.), Matthew Monteiro, Jerry Powell and Keith Peercy. Trustee Betty Pendergrass was also present. Staff members present were David Eager, Rich Robben, Anthony Chiu, Joe Gilbert, Ann Case, Shaun Case, Jared Crawford, Kristen Coffey, Natalie Young, Connie Davis, Joe Bowman, Victoria Hale, Mark Blackwell, Phillip Cook and Alane Foley. Chris Tessman and Chris Shelby from Wilshire Associates were also present.

Mr. Farris called the meeting to order and Ms. Alane Foley called roll.

Mr. Farris introduced the agenda item *Approval of Minutes- February 12, 2019*. Mr. Downard moved and was seconded by Mr. Powell to approve the minutes as presented. The motion passed unanimously.

Mr. Farris introduced agenda item *Standard Reports and Performance*. Mr. Rich Robben provided an overview of investment performance. This was provided for informational purposes only.

Mr. Robben then notified the Committee of an error by BNY Mellon recently discovered by staff with the composition of several plan level performance benchmarks. He stated that he had directed BNY to fix the issue, and requested the BNY restate the benchmark performance going back to July 1st, 2018. Mr. Robben also recommended that the Committee approve a change to the Fixed Income benchmarks used for all plans to bring those benchmarks in line with recent changes to our Fixed Income investments. His suggestion is to benchmark the Core Fixed Income allocation to the Bloomberg Barclays US Aggregate Index, and to benchmark the Specialty Credit / High Yield allocation to a 50-50 blend of the Bloomberg Barclays US High Yield Index, and the S&P

LSTA Leveraged Loan Index. After discussion, Mr. Downard moved and was seconded by Mr. Powell to approve the change to the benchmarks, and making that change retroactive to January 1st, 2019. The motion passed unanimously.

Mr. Farris introduced agenda item *New Fund Recommendation- Middle Ground I*. Mr. Anthony Chiu introduced Mr. John Stewart from Middle Ground Partners. Mr. Stewart provided an overview of the firm and the investment to the committee. Mr. Harris moved and was seconded by Mr. Monteiro to invest up to \$75 mil in Middle Ground Partners I. The motion passed unanimously.

There being no further business, Mr. Powell moved and was seconded by Mr. Harris to adjourn the meeting at 9:55 a.m. The next meeting of the Investment Committee is scheduled for 9:00 a.m. August 27, 2019. Copies of all documents presented are incorporated as part of the minutes of the Investment Committee meeting held May 16, 2019.

CERTIFICATION

I do certify that I was present at this meeting and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

Recording Secretary

I, as Chair of the Investment Committee of the Board of Trustees of the Kentucky Retirement Systems, do certify that the Minutes of the meeting held on May 16, 2019 were approved by the Investment Committee on June 18, 2019.

Committee Chair

I have reviewed the Minutes of the Investment Committee Meeting on May 16, 2019 for form, content, and legality.

Office of Legal Services



KENTUCKY RETIREMENT SYSTEMS

Investment Division



DATE June 18, 2019
TO: Members of the Investment Committee
FROM: Staff and Consultant
Subject: U.S. Micro Cap and Dedicated Emerging Market Searches

6.1

Recommendation

Kentucky Retirement Systems' (KRS) Staff and Wilshire Associates recommend the KRS Investment Committee fund an allocation within the U.S. Micro Cap space to be managed by Next Century Growth Investors, LLC pending a successful onsite visit and Wilshire finalizing its manager/product review with a satisfactory outcome.

Further, KRS Staff and Wilshire Associates recommend the KRS Investment Committee fund dedicated emerging market allocations to be managed by J.P. Morgan Asset Management and Pzena Investment Management, LLC pending successful onsite visits.

Finally, funding the new emerging market mandates will require a transition from the BlackRock MSCI ACWI Ex-US Index strategy to the BlackRock MSCI World Ex-US Index strategy.

No placement agents have been involved or will be compensated as a result of this recommendation.

Introduction

In a continued effort to create greater efficiencies within the structure of the public equity allocation, staff and consultant have worked together to study how KRS accesses different segments of the market. The team completed this exercise with not only an eye towards efficient market access, but also to an efficient allocation of fee dollars. Essentially, the goal was to spend fee dollars where the chances of outperforming the market are greatest, and conserve, if not eliminate, fees in those areas where more difficult to add excess value. U.S. equity markets are viewed as more efficient; however, there are still pockets of inefficiencies that can be exploited, especially as one moves down the capitalization structure. Non-U.S. developed markets are less efficient than their U.S. counter-parts, and emerging markets are even more so.

Generally speaking, the KRS U.S. equity portfolio will have a passive tilt, with that being expressed in the large and mid-cap portions of the allocation, and will seek excess returns for higher conviction all cap and small/micro-cap investments. The KRS Non-U.S. equity portfolio will have a greater degree of active management as the space is less efficient, particularly within the emerging market segment.

This memo serves as a review of the above-mentioned firms and their specific strategies KRS has interest, specifically philosophies and processes; and serves as a recommendation to the KRS Investment Committee to fund these strategies within the public equity allocation.

General Process

For both searches, staff and consultant employed the same basic process for narrowing the potential candidates down to the finalists in this report. The Wilshire Investment Management database is the starting point for setting the universe of potential ideas. This database is self-populated by external managers and contains a significant amount of information regarding their specific firm and its product(s). Minimum criteria are set in order to cull the potential candidate list down to a more manageable size, regarded as the short list. This criteria includes, but is not limited to, firm and product size, available capacity, performance history, track record length, etc. Staff may add managers to the

U.S. Micro Cap and Dedicated Emerging Market Searches 2

list that may not have either made it through the initial screen or who may not participate in the database. From this point, an additional cut is made based on additional data including, but not limited to, capture ratios, risk/return profiles, active share, etc. Staff then sent a Request For Information (RFI) to the remaining candidates designed to generate insight into the firm's structure, staffing, product stability, investment team/philosophy/process, and other meaningful data points. Staff and consultant having read the RFI responses narrowed down the candidate list further for onsite presentations and discussions. From there, finalists were selected for presentation to the Investment Committee. KRS staff and consultant will perform onsite interviews with the successful candidates at their offices prior to funding any position.

6.1

Organization Structure and Stability

Next Century Growth Investors, LLC

Next Century Growth Investors, LLC is a small boutique firm that was founded in 1998. The partnership is headquartered in Minneapolis and is comprised of six investors (all five PMs and a minority outside shareholder). The firm managed approximately \$770 million in U.S. equity strategies at the end of the first quarter. The micro-cap strategy KRS seeks to invest had roughly \$210 million invested at the end of the quarter, and will close the product at \$500 million. With the exception of one partner/portfolio manager who passed away, no portfolio managers have left the firm since its inception.

J.P. Morgan Asset Management Inc.

J.P. Morgan Investment Management Inc. is an investment advisor under J.P. Morgan Asset Management, and is wholly owned by J.P. Morgan Chase & Company, which is publicly traded on the NYSE. The firm manages approximately \$1.7 trillion in assets, \$480 billion of which are in the public equity markets. The strategy of interest to KRS managed roughly \$1.86 billion at the end of the first quarter, has experienced asset inflows of roughly \$1 billion over the past five years, and has only had outflows of \$34 million. The lead portfolio of the strategy has been in the position for the past seven years.

Pzena Investment Management, LLC

Pzena Investment Management, LLC is a publicly company traded on the NYSE. Current employees own approximately 55% of the economic interest of the firm and retain 95% of the voting rights. Former directors and employees and the parent holding company own the balance of the outstanding shares. The firm is headquartered in New York and manages approximately \$37.1 billion in assets across a suite of value products across the cap spectrum and geography. The emerging market strategy KRS wishes to invest had approximately \$700 million participating in the strategy as of close March 31, 2019. It should be noted that the strategy only has a 3.5-year track record; however, the strategy utilizes the same philosophy, process, and team as the flagship product, which has an inception of 2008 and assets under management at the end of the first quarter of approximately \$3.9 billion. There have been no changes at the portfolio manager level since inception.

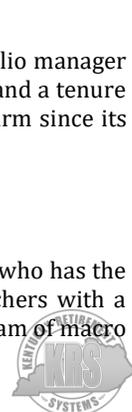
Investment Team

Next Century Growth Investors, LLC

The five principals of the firm manage the Micro-Cap Growth strategy and serve in the roles of both portfolio manager and analyst on the firm's four strategies offered. The team has an average industry experience of 21 years and a tenure at the firm of 15 years. The team has been very stable, with no portfolio managers having ever left the firm since its inception (with the exception of the previously mentioned above).

J.P. Morgan Asset Management Inc.

The strategy is managed by a team of three portfolio managers; however, there is a lead portfolio manager who has the final decision making authority. The portfolio management team is supported by a group of 43 researchers with a portion serving as dedicated sector analysts and the balance organized by region. Additionally, there is a team of macro



U.S. Micro Cap and Dedicated Emerging Market Searches 3

analysts that provides top-down insights to the different international teams at the firm who can use that information to put context around the companies' operating environment that are being considered.

Pzena Investment Management, LLC

The strategy utilizes a portfolio manager team approach and consists of four individuals who also serve as research analysts. All buys and sales require consensus from the four portfolio managers. Supporting the strategy is the firm's shared research group which consists of 25 individuals who are organized as sector globalists. Analysts rotate coverage every 3-5 years to promote stability of coverage and guard against bias.

Investment Philosophy and Process

Next Century Growth Investors, LLC

Next Century Growth Investors, LLC (Next Century) strives to invest in high quality fast growing companies. The team believes that the combination of high growth companies in conjunction of a strong sell discipline will lead to the compounding of portfolio value over the long-term.

The process starts with a defined universe of those companies with less than \$1 billion in market cap and top line growth of 15% or greater that is organic and sustainable. The team focuses on those candidates that are disruptive in terms of products or services, a strong competitive advantage, have large and growing end markets, and a strong management team. The strategy's sell discipline is a key portion of its success. Securities are sold for a number of reasons with the goal of maintaining a healthy portfolio; extreme valuation, fundamental disappointment, and market cap forced ensures a rotation into more attractive opportunities.

J.P. Morgan Asset Management Inc.

The strategy seeks to invest in high-quality business that can compound strong growth over the long-term. Two key elements to the strategy center around understanding and valuation; gaining a deep understanding of the companies and echo systems of the investment candidate and correctly valuing the growth potential of a business. The team must be confident in the potential of the target company management's ability to exploit opportunities that will drive earnings and ultimately the share price. The strategy tends to have a bias towards small and mid-caps, which reflects the team's view that smaller companies are the best way to access the emerging market story and its secular themes of infrastructure and consumption.

The process really comes down to two questions: is this a business you would like to own, and if so, at what price would you buy or sell it? The first question is answered through fundamental analysis to gain an understanding of the underlying economics of the business, how durable are the expected future earnings, and the quality of governance. In other words, does the company produce good returns, are they sustainable, and will they accrue to shareholders, or does poor governance practice hinder that effort? Companies are classified as premium, quality, or trading. A risk profile is then developed for each business to ensure understanding and point to potential issues for continued deliberation. If it is determined that the business is of sufficient quality to continue research, analysts build a five year expected return to help develop the context for answering the second question. Expected return is a function of company driven forces such as earnings growth and dividends, and market driven forces such as valuation changes and currency. The strategy seeks to invest in companies that create shareholder value from the internal drivers of expected return.

Pzena Investment Management, LLC

Pzena is a classic value investor meaning they try to buy good businesses at low prices. Specifically, those that are underperforming their historical earnings power. The philosophy hinges on the belief that most investors are leery of



U.S. Micro Cap and Dedicated Emerging Market Searches 4

those businesses that appear to be having problems and seek to avoid those that lack near-term earnings visibility. As a result, valuations are biased negatively as investors move on to less controversial options, providing skilled value investors opportunities for investment.

The process is bottom-up fundamental in nature, but also employs a top-down macro view in the process. Countries are accessed a discount rate based upon the spread between US Treasury spreads and sovereign bond spreads in order to make fairer comparisons between normalized earnings between regions. The process starts with a quantitative screen focused on valuation from an earnings perspective, specifically low price-to-normal earnings levels and current earnings falling below historical norms. A ranking is created based on these metrics and divided into quintiles. Pzena utilizes the cheapest quintile as its universe to select from for ideas for further fundamental research. A full research project is conducted which includes detailed financial models, on-sites/management discussions, solicitation of a bear-analyst review, and finalized normal earnings power assessment. Securities are sold when an idea reaches fair value, more attractive opportunities are found, and in the case of a fundamental breakdown. There is also a hard rule of sale at the midpoint of the normalized earnings spectrum of the universe.

Client Stability

Next Century Growth Investors, LLC

Next Century has experienced an asset downtrend for the past several years, with AUM declines across all strategies. Several rounds of quantitative easing led to low yields within the U.S., which as the environment persisted caused a rotation to those names that provided high dividend yields. As a result higher growth names struggled significantly versus lower growth names with higher dividend payouts. Additionally, a consultant with common clients recommended terminating the strategy, triggering nearly a \$1 billion exodus across multiple products within the firm. The micro-cap strategy in particular lost assets in 2015 and 2017 due to relative underperformance in 2014 and 2015 versus the index; performance rebounded significantly in 2017 and 2018. Client assets appear to have stabilized. Wilshire's manager research group conducted an additional review of the manager. Consultant view of the firm from a ranking perspective remained stable as asset losses and investor concentration required a slight downgrade which was offset by an upgrade in process and implementation.

J.P. Morgan Asset Management Inc.

J.P. Morgan Asset Management has benefited for several years from continued inflows both in terms of number of clients and assets. Over the past five years, strategy has added approximately \$1 billion in AUM across 17 new clients and has experienced asset outflows of just \$34 million.

Pzena Investment Management, LLC

Pzena as a firm has enjoyed a stable level of assets under management for the past several years. The specific strategy of interest to KRS has been relatively stable over the last several years. During the past five calendar years, the strategy experienced inflows of roughly \$400 million and one account loss of \$519 million which was a corporate defined benefit plan moving to an liability-driven investing model. During the first quarter of 2019, the product benefited from inflows of nearly \$360 million.

Performance

Next Century Growth Investors, LLC							
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	15 YRS	SI
NCG Micro Cap Growth Composite (GR)	15.2	27.9	34.0	13.9	22.1	13.0	17.3
Russell Microcap Growth Index	16.0	-1.4	10.8	3.5	14.8	5.6	9.0
*Inception Date: 01/01/03							

6.1



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J.P. Morgan Asset Management							
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	7 YRS	10 YRS	SI
Global Emerging Markets Discovery (GR)	14.5	-3.2	15.7	8.5	7.2	16.7	11.7
MSCI Emerging Markets IMI Index	9.7	-8.0	10.1	3.5	2.7	9.1	6.3
MSCI Emerging Markets Index	9.9	-7.4	10.7	3.7	2.7	8.9	7.1
MSCI Emerging Markets Growth Index	12.0	-9.5	11.8	5.0	4.4	10.0	6.9
*Inception Date: 11/01/97							

Pzena Investment Management, LLC							
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	SI	
Pzena Emerging Markets Select (GR)	7.4	-2.4	13.1	n/a	n/a	11.8	
MSCI Emerging Markets Index	9.9	-7.4	10.7	n/a	n/a	9.1	
MSCI Emerging Markets Value Index	7.8	-5.3	9.5	n/a	n/a	8.1	
*Inception Date: 11/01/15							
Pzena Emerging Markets Focused (GR)	7.6	-3.2	13.4	3.9	10.9	3.4	
MSCI Emerging Markets Index	9.9	-7.4	10.7	3.7	8.9	0.9	
MSCI Emerging Markets Value Index	7.8	-5.3	9.5	2.2	7.8	0.5	
*Inception Date: 01/01/08							

Management Fees

Next Century Growth Investors, LLC

On \$50-75 million, the effective rate would be 90 basis points.

J.P. Morgan Asset Management Inc.

On \$175 million, the effective rate would be 72.9 basis points.

Pzena Investment Management, LLC.

On \$175 million, the effective rate would be 59.3 basis points.

Implementation and Portfolio Sizing

Next Century Growth Investors, LLC

As of close May 31, 2019, KRS invested approximately \$250 million in a dedicated U.S. small cap core strategy, which equates to roughly 8% of the U.S. equity portfolio. This puts the allocation in line with the Russell 3000 Index. Staff and consultant intend to overweight small caps and propose a 10% target to the market cap range, which would equate to \$315 million. Staff and consultant would recommend an initial funding of \$50 million, with a target of 2.5% of the overall U.S. equity allocation, which would be roughly \$79 million as of the end of May. Staff is seeking approval of up to 3.5% to allow for future growth or rebalancing as opportunity allows. The initial funding will come from cash.

J.P. Morgan Asset Management Inc. & Pzena Investment Management, LLC.

Currently, KRS does not employ any dedicated emerging market strategies. Emerging market exposure is accessed through our MSCI ACWI Ex-US mandates that encompass both developed and emerging countries. Within the allocation, KRS utilizes a core-satellite structure, which has a passive beta core surrounded by four active concentrated mandates. The issue with the current structure lies in the core piece, which is passive in nature and thus provides passive emerging market exposure. In-line with staff and consultant's philosophical beliefs of emerging markets being less efficient, accessing these markets through active mandates as opposed to a passive strategy provides an opportunity to add alpha to the overall composite in the long-run. As such, staff and consultant recommend changing the core strategy (which accounts for 40% of KRS' non-U.S. allocation) from a passive MSCI ACWI Ex-US Index mandate



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to a passive MSCI World Ex-US Index mandate. The emerging market portion of the MSCI ACWI Ex-US Index is approximately 25%, thus 10% of the KRS non-U.S. allocation would be used for the initial funding, which equates to roughly \$350 million as of the end of May. Wilshire's optimizer funds the two candidates rather closely; therefore, staff and consultant recommend equal funding for J.P. Morgan and Pzena. Initial funding would be at 5% of the total non-U.S. exposure for each mandate (approximately \$175 million). Further, the optimizer suggests a larger investment in emerging markets, and therefore staff is requesting approval of up to 7.0% (roughly \$245 million) for each mandate to allow for portfolio optimization and rebalancing.

As stated above, initial funding & sizing is dependent upon transitioning the BlackRock MSCI ACWI-Ex US Index product utilized by KRS to a BlackRock MSCI World Ex-US Index strategy. KRS has had a long-term relationship with BlackRock and staff is comfortable making this recommendation as it is the largest passive index provider in the industry. Below is the performance of the MSCI World Ex-US product administered by BlackRock.

BlackRock						
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	
BlackRock World Ex-US	10.6	-2.6	7.8	2.6	9.3	
MSCI World Ex-US Index	10.5	-3.1	7.3	2.2	8.8	

Third-Party Provider and Placement Agent Disclosure

In accordance with KRS' gating practices, KRS Staff has requested candidate managers to acknowledge KRS transparency requirements, and to complete conflict of interest statements and placement agent forms. No placement agents have been involved or will be compensated as a result of this recommendation. A copy of each manager's Statement of Conflict of Interest and Placement Agent questionnaire has been attached to this recommendation.

Recommendation

As previously stated, staff and consultant are working to create greater efficiencies within the public equity allocation. This requires determining the optimal method for structuring the portfolio and accessing different segments of the market. In an effort to do this while being mindful of fee dollar expense, those portion of the market that are viewed as most efficient will be accessed as cheaply as possible as the chance for outperformance is lower. As a result, the U.S. portfolio will tilt towards passive exposure, especially within the large and mid-cap spaces. Those market segments that are less efficient provide greater opportunity for outperformance. This will point to greater active management within the small and micro-cap spaces within U.S. markets and an overall tilt towards active management outside of the U.S., especially within emerging markets.

Because of the above viewpoint and the search process completed, KRS Staff and Wilshire Associates put forth the following recommendations for the Investment Committee's consideration (pending final successful onsite visits at manager firms):

Next Century Growth Investors, LLC – Micro Cap Growth Strategy

Initial Funding \$50-75 million (2.5%) with option to grow/add to total of 3.5% of U.S. allocation.

J.P. Morgan Asset Management Inc. – Global Emerging Markets (GEM) Discovery Strategy

Initial Funding \$175 million (5%) with option to grow/add to total of 7% of Non-U.S. allocation.

Pzena Investment Management, LLC – Emerging Markets Select Value Strategy

Initial Funding \$175 million (5%) with option to grow/add to total of 7% of Non-U.S. allocation.

Transition the remaining balance of the BlackRock ACWI-Ex US Index portfolio to the BlackRock World Ex-US Index strategy.

We welcome any comments or questions by the Committee.



EXHIBIT B – Conflict of Interest Statement

KENTUCKY RETIREMENT SYSTEMS

CONFLICT OF INTEREST STATEMENT

In consideration of the investment by Kentucky Retirement Systems and Kentucky Retirement Systems Insurance Trust Fund (collectively, "KRS") in a vehicle or account ("Account") managed by Next Century Growth Investors, LLC (the "Manager"), the Manager acknowledges the need to maintain the public's confidence and trust in the integrity of KRS and the Commonwealth of Kentucky. In light of the forgoing, the Manager agrees to:

- Diligently identify, disclose, avoid and manage conflicts of interest that may arise through its relationship with KRS.
- Conduct activities with KRS so as not to advance or protect its own interests or the private interests of others with whom it has a relationship in a way that is detrimental to the interests of KRS.
- Conduct its activities in a manner to best promote the interests of KRS, but subject to the Manager's duty which requires it not to put the interests of one investor ahead of those of another investor.
- Upon discovery of an actual or potential conflict of interest involving KRS, disclose such conflict of interest to KRS and work with KRS in good faith to resolve or mitigate such conflict.
- Not engage directly or indirectly in any financial or other transactions with a trustee or employee of KRS that would violate the standards of the Executive Branch Ethics provisions as set forth in KRS Chapter 11A.

Agreed this the 7th day of June, 20 19

MANAGER

For itself and on behalf of the Account

By: Thomas L. Press

Name: Thomas L. Press

Title: Chairman & CEO

(Rev. Feb 2018)



Kentucky Retirement Systems

Statement of Disclosure and Placement Agents – Manager Questionnaire

6.1

1. Did your firm use a placement agent as defined in the KRS “Statement of Disclosure and Placement Agents” policy in an effort to solicit an Investment from KRS Please indicate fund vehicle title if relevant? If yes, please continue to question 2; if no, please proceed to question 10.

The firm did not use a placement agent as defined in the KRS “Statement of Disclosure and Placement Agents” policy

2. Please disclose the name of the placement agency used, the names of the individuals contracted by the placement agency (either as employees or as sub-agents) in order to solicit an investment from KRS, and the fees paid or payable to the placement agent in connection with a prospective KRS investment.

n/a

3. Please represent that any fees paid to placement agents are the sole obligation of the investment manager and not that of KRS or the limited partnership.

n/a

4. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government), KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent.

n/a

5. Please provide evidence of the regulatory agencies, if any, in any Federal, state or foreign jurisdiction the placement agent or any of its affiliates are registered with, such as the Securities and Exchange Commission (“SEC”), FINRA, or any similar regulatory agency.

n/a

6. Please provide a resume for each officer, partner or principal of the Placement Agent detailing the person’s education, professional designations, regulatory licenses and investment and work experience.

n/a

7. Please describe the services to be performed by the Placement Agent.

n/a

8. Please disclose whether the Placement Agent, or any of its affiliates, is registered as a lobbyist with any and all Kentucky state and local (county) governments.

n/a

9. Please disclose any political contributions made by the Placement Agent to any Kentucky official within the prior 2 years.

n/a

10. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS that are receiving any fees or compensation from the External Manager and/or placement agent. Please disclose any additional known relationships or conflicts with same.

n/a

11. Please disclose any political contributions made by External Manager or principals of the External Manager in the prior 2 years.

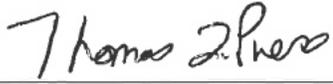
None

12. Please disclose whether any principals of the firm have been involved in any regulatory proceedings, and if so, details concerning the same.

None

13. Please provide a statement representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure, and acknowledge that similar language will be included in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

The information provided above is accurate and any change to such information will be communicated within 10 business days of change.

 6-7-2019

External Manager Signature Date

6.1



Kentucky Retirement Systems
 Statement of Disclosure and Placement Agents
 Approved May 2011

6.1

I. Purpose

This Policy sets forth the disclosure requirements which must be satisfied prior to any Kentucky Retirement Systems ("KRS") investment if a placement agent is involved. KRS shall require the disclosure of detailed information regarding payments and fees in connection with KRS' investments in or through External Managers (as defined herein), broker/dealers, Placement Agents (as defined herein) and those having or conducting business with KRS. This Policy is intended to apply broadly to all of the types of investment advisors with whom KRS conducts or potentially conducts business with including general partners, managers, investment managers and sponsors of hedge funds, funds of funds, private equity funds, real estate funds, infrastructure funds, as well as investment managers retained pursuant to a contract. KRS requires broad, timely, and annual updated disclosures of relationships, compensation and fees. The goal of this Policy is to bring transparency to placement agent activity in connection with KRS' investments and help ensure that KRS' investment decisions are made solely on the merits of the investment opportunity and in a manner consistent with the responsibilities of the Board of Trustees and individuals who owe a fiduciary duty to KRS.

II. Objectives

The role and function of Placement Agents are to provide sales and marketing services to investment management firms. Placement Agents exist because, with the exception of the largest firms (i.e., private equity and hedge fund general partnerships), many of these investment managers are not equipped to raise their investment funds independently. Most External Managers do not have the resources internally to access the capital markets. They require services such as crafting presentations, drafting, proofing and distributing private placement memorandums, sorting the potential universe of limited partners and determining how to access those limited partners, arranging meetings with the limited partners, handling follow-up meetings, assisting in the due diligence process including managing on-site due diligence meetings, and the closing process.

External investment managers in both the public and private markets use Placement Agents to assist them raise capital from various sources. Therefore, the Kentucky Retirement Systems' objectives are:

1. To ensure that KRS' investment decisions are consistent with KRS' overall Investment Policy Statements
2. To supplement the due diligence and information available to KRS Board Members, Staff, and Consultants when evaluating an investment opportunity
3. To prevent impropriety, conflicts of interest, and/or the appearance of improprieties and/or conflicts of interest
4. Provide transparency and confidence in KRS investment decision-making and process

III. Application

This Policy applies to all agreements with External Managers that are entered into after the date this Policy is adopted. This Policy also applies to existing agreements with External Managers if, after the date this Policy is adopted, the term of the agreement is extended, there is any increased commitment of

funds by KRS pursuant to the existing agreement or there is a material amendment to the substantive terms of an existing agreement, including the fees or compensation payable to the External Manager.

IV. Responsibilities:

A. External Manager's Responsibilities

Prior to KRS investing with any manager, KRS Staff shall obtain a written representation from the investment manager, in a form acceptable to KRS' Legal Office, stating that the investment manager has not used a placement agent in connection with the KRS investment opportunity, or if the manager has used a placement agent, it will disclose the following to KRS:

- The name of the placement agent
- The fee paid or payable to the placement agent
- Representation that the fee is the sole obligation of the investment manager and not that of KRS or the limited partnership
- Current or former Kentucky Officials (federal, state, and local government), KRS Board of Trustees members, KRS employees, or consultants to KRS that are receiving any fees or compensation from the External Manager and/or placement agent
- The names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent
- Evidence of the regulatory agencies, if any, in any Federal, state or foreign jurisdiction the placement agent or any of its affiliates are registered with, such as the Securities and Exchange Commission ("SEC"), FINRA, or any similar regulatory agency
- A resume for each officer, partner or principal of the Placement Agent detailing the person's education, professional designations, regulatory licenses and investment and work experience
- A description of the services to be performed by the Placement Agent
- A statement whether the Placement Agent, or any of its affiliates, is registered as a lobbyist with any and all Kentucky state and local (county) governments
- A statement by the External Manager and/or placement agent representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

In the event a placement agent is expected to receive remuneration for a KRS investment, KRS Staff will notify the Investment Committee in the memorandum discussing the recommended/approved investment. If a manager breaches the Policy, Staff will notify the Investment Committee as soon as practicable.

B. KRS Staff Responsibilities

- Providing the public with disclosure by posting a copy of this Policy on KRS' website
- Implementing this Policy for KRS
- Providing regular disclosure updates to the KRS Investment Committee and the Board of Trustees.

All parties responsible for implementing, monitoring and complying with this Policy shall consider the spirit as well as the literal expression of the Policy.

V. Conflict of Interest

All persons and entities contracting with KRS shall certify that they are legally capable of entering into a binding contract and authorized to do so; that they are not nor shall be in violation of any Kentucky law, statute or regulation pertaining to a conflict of interest including, but not limited to, KRS 121.056; and that they are not nor shall be in violation of any provision of KRS Chapter 11A or any regulation promulgated thereunder, or any law or regulation pertaining to the Kentucky Registry of Election Finance and the reporting requirements thereof.

All persons and entities seeking to or actually contracting with KRS shall disclose all relationships and potential conflicts of interest with any KRS Staff, Committee or Board Member. Subsequent discovery of any undisclosed conflict may be considered a breach of contract and may result in immediate termination of any agreements without penalty or fee to KRS.

Glossary of Terms

KRS Vehicle

A partnership, limited liability company, account or other investment vehicle in which KRS is the investor.

Consultant

Consultant refers to individuals or firms, and includes Key Personnel of Consultant firms, who are contractually retained or have been appointed to KRS to provide investment advice to KRS but who do not exercise investment discretion.

External Manager

An asset management firm that is seeking to be, or has been, retained by KRS or by a KRS Vehicle to manage a portfolio of assets (including securities) for a fee. The External Manager usually has full discretion to manage KRS assets, consistent with investment management guidelines provided by KRS and fiduciary responsibility.

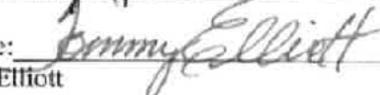
Placement Agent

Any person or entity hired, engaged or retained by or acting on behalf of an External Manager or on behalf of another Placement Agent as a finder, solicitor, marketer, consultant, broker or other intermediary to raise money or investments from or to obtain access to KRS, directly or indirectly, including without limitation through a KRS Vehicle.

Signatories

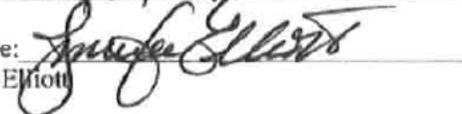
As Adopted By The Investment Committee

Date: May 3, 2011

Signature: 
Tommy Elliott

As Adopted By The Board of Trustees

Date: May 19, 2011

Signature: 
Jennifer Elliott

**Kentucky Retirement Systems
&
Kentucky Retirement Systems Insurance Trust Fund (collectively, "KRS")**

Gating Issues for Investing

(version June 2019)

6.1

Below are KRS's "gating items," with which the GP/investment manager needs to agree in order for KRS to make the proposed fund investment. Following confirmation that the GP/investment manager agrees with KRS on these gating issues, KRS will provide a comment memo and a full side letter.

We are disseminating the gating items list at the beginning of the process, so that internal counsel for the GP/ investment manager (and its law firm) can unambiguously understand that the side letter will need to be consistent with these gating items, and KRS will not accept the fund's "standard" provisions if they are in any way inconsistent with these gating items.

1. Disclsoure/Public Records Law. The GP/investment manager understands that KRS is subject to Kentucky's public records/disclosure laws and that KRS will disclose certain fund-level information, all contracts/offering documents, and other fee information, as described in KRS's side letter request and applicable Kentucky law. (See Exhibit A for a copy of the provision.)

Particularly, the GP/investment manager understands that:

(a) Pursuant to Kentucky Revised Statutes sections 61.645(19)(1) and (20), KRS is required to disclose all contracts or offering documents for services, goods, or property purchased or utilized by KRS. KRS intends to post any contracts with the GP/investment manager/fund on its website, which may include partnership agreements, side letters or similar documents. KRS may also post offering documents to its website if such offering documents contain substantive legal terms that are not contained in KRS's contracts with the GP/investment manager/fund or if there is no separate contract governing the investment. The GP/investment manager is invited to send KRS a redacted version of the contracts/offering documents.

(b) With respect to redacted documents, the GP/investment manager can only redact information that is exempt under Kentucky Revised Statutes sections 61.878(1)(c)(1); 61.878(1)(k) or 61.645(20) (i.e., information that is proprietary or otherwise exempt under Kentucky Revised Statutes section 61.878). Redacted documents should be reviewed by KRS prior to closing.

(c) In KRS's side letter (or in other relevant document executed by KRS), the GP/investment manager must clearly state the final closing date of the fund, and acknowledge that the final closing date is the date on which all redacted documents will be/may be posted on KRS's website or disclosed to the public. Further, the side letter must state that the fund/GP/investment manager will not make any claim against KRS if it makes available to the public any document, report, notice or other information that KRS received from the fund, which was required to be made public by KRS

pursuant to the Open Records Act, the Fee Disclosure Law, or the Document Disclosure Law (even if a court or the Attorney General later determines that certain information disclosed by KRS falls within an exemption under the Open Records Act, the Fee Disclosure Law, or the Document Disclosure Law.)

(d) pursuant to Kentucky Revised Statutes section 61.645(19)(i), KRS is required to disclose certain fee information. (See paragraph 1(d) in Exhibit A.)

2. Compliance with and Adherence to Investment Advisers Act of 1940, et.al. The GP/investment manager confirms that the GP and the investment manager shall comply with Kentucky Revised Statutes Section 61.650(1)(d)(2). (See paragraph 2 in Exhibit A for standard letter provision.)

3. KRS's Indemnification Obligation. KRS's indemnification obligations under the Subscription Agreement and the Partnership Agreement are not expressly authorized by the laws of the Commonwealth of Kentucky. Thus, KRS can't make any payment constituting such indemnification to the extent not authorized under such laws. (See paragraph 3 in Exhibit A.)

4. Sovereign Immunity. As a public agency, KRS reserves all immunities, defenses, rights or actions arising out of its sovereign status or under the 11th Amendment to the U.S. Constitution. (See paragraph 4 in Exhibit A.)

5. Jurisdiction/Venue.

(a) KRS requires its side letter to be governed by the laws of the Commonwealth of Kentucky, to the extent the terms in the side letter require interpretation or enforcement of a law, regulation or public policy of Kentucky. (See paragraph 5 in Exhibit A.); and

(b) The GP/investment manager agrees to the exclusive jurisdiction of the Franklin County Circuit Court in the Commonwealth of Kentucky, in connection with any legal proceeding involving any claim asserted by or against KRS arising out of the Partnership Agreement, the Subscription Agreement or related documents.

6. Conflict of Interest Statement. As part of KRS' internal policy, the GP/manager is required to sign and return KRS' Conflict of Interest Statement. (See Exhibit B.)

7. Statement of Disclosure and Placement Agent. As part of KRS' internal policy, the GP/manager is required to complete and return KRS' Statement of Disclosure and Placement Agent (Separately attached: See KRS's Statement of Disclosure and Placement Agents – Manager Questionnaire).

EXHIBIT A - Side Letter Provisions1. Public Records.

(a) The Partnership hereby acknowledges that the Investor is a public agency subject to (i) Kentucky's public record law (Kentucky Revised Statutes sections 61.870 to 61.884, the "Open Records Act"), which provide generally that all records relating to a public agency's business are open to public inspection and copying unless exempted under the Open Records Act, (ii) Kentucky Revised Statutes section 61.645(19)(i) (the "Fee Disclosure Law"), and (iii) Kentucky Revised Statutes sections 61.645 (19)(l) and (20) (the "Document Disclosure Law"), which provide generally that all contracts or offering documents for services, goods, or property purchased or utilized by the Investor shall be made available to the public unless exempted under the Document Disclosure Law. Notwithstanding any provision in the Partnership Agreement or the Subscription Agreement to the contrary, the Partnership hereby agrees that (i) the Investor will generally treat all information received from the General Partner or the Partnership as open to public inspection under the Open Records Act, the Fee Disclosure Law or the Document Disclosure Law, unless such information falls within an exemption under the Open Records Act, the Fee Disclosure Law or the Document Disclosure Law, and (ii) the Investor will not be deemed to be in violation of any provision of the Partnership Agreement or the Subscription Agreement relating to confidentiality if the Investor discloses or makes available to the public (e.g., via Investor's website) any information regarding the Partnership to the extent required pursuant to or under the Open Records Act, the Fee Disclosure Law or the Document Disclosure Law, including the Fund-Level Information in paragraph 1(b) (even if a court or the Attorney General later determines that certain information disclosed by the Investor falls within an exemption under the Open Records Act, the Fee Disclosure Law, or the Document Disclosure Law).

(b) The General Partner acknowledges that the Investor considers certain fund level information public under the Open Records Act, the Fee Disclosure Law or the Document Disclosure Law and that the Investor has concluded that it is obligated to disclose such information upon request (e.g., via Investor's website). Notwithstanding any provision in the Partnership Agreement or Subscription Agreement to the contrary, the General Partner agrees that the Investor may disclose the following information without notice to the General Partner or the Partnership: (i) the name of the Partnership, (ii) the vintage year of the Partnership and/or the date in which the Investor's initial investment was made in the Partnership; (iii) the amount of the Investor's Capital Commitment and unfunded Capital Commitment, (iv) aggregate funded contributions made by the Investor and aggregate distributions received by the Investor from the Partnership as of a specified date; (v) the estimated current value of the Investor's investment in the Partnership as of any previous date, (vi) the net asset value of the Partnership as of a specified date, (vii) the estimated IRR of the Investor's investment in the Partnership as of a specified date, and (viii) the amount of fees and commissions (including, but not limited to, the Management Fees, amounts paid in lieu of the Management Fees, and Carried Interest Distributions) paid to the General Partner and its Affiliates with respect to the Investor's interests (the "Fund-Level Information"). Nothing contained herein shall require the General Partner to disclose to the Investor information not otherwise made available to all Limited Partners pursuant to the Partnership Agreement.

(c) The General Partner agrees that the Investor may disclose the redacted versions of [Confidential Private Placement Memorandum of the Partnership,¹ the Partnership Agreement, this Side Letter, and the Investor's Subscription Documents] (collectively, the "Partnership Documents"), in each case to the extent required by the Document Disclosure Law, once

¹ Please note KRS may be able to remove the PPM from the list if the PPM includes all substantial legal terms that are addressed in the LPA. If the PPM has substantial legal terms that are not addressed in the LPA, it should be included in the list.

the offering period ends and the final closing date [FUND TO INSERT THE FINAL CLOSING DATE] occurs. It is further understood and agreed that the parties hereto shall amend and restate this Side Letter to reflect any elections under [MFN paragraph] hereof and shall amend the redacted version of this Side Letter in connection therewith.

(d) Notwithstanding any provision in the Partnership Agreement or Subscription Agreement to the contrary, the General Partner shall provide the Investor on at least a quarterly basis the information set forth in the Fee Disclosure Law, including but not limited to, (i) the dollar value of fees and commissions paid by the Investor (including via Capital Contributions) to the Partnership (including any Alternative Investment Vehicle), General Partner, Management Company or their respective Affiliates; (ii) the dollar value of the Investor's pro rata share of any profit sharing, Carried Interest Distributions or any other incentive arrangements, partnership agreements, or any other partnership expenses paid to the Partnership, General Partner, Management Company or their Affiliates; and (iii) if applicable, the name and address of all individual underlying managers or partners in any fund of funds in which Investor's assets are invested.

(e) The General Partner agrees that the Investor may disclose confidential information to any governmental body that has oversight over it and its statutory auditor, without notice to the General Partner or the Partnership; provided that such information retains the same confidential treatment with the recipient.

(f) The General Partner agrees to provide reporting to the Investor in accordance with the Fee Template published by the Institutional Limited Partners Association (available at ilpa.org).

(g) The General Partner and the Partnership acknowledge and agree that pursuant to the Open Records Act, the Fee Disclosure Law or the Document Disclosure Law, the Investor may publicly disclose the information set forth in this paragraph 1 without further notice to the General Partner.

2. Investment Advisers Act of 1940. The General Partner confirms that pursuant to Kentucky Revised Statutes Section 61.650(1)(d)(2), the General Partner and the Management Company shall comply with (a) the Investment Advisers Act of 1940, as amended, and the rules and regulations promulgated thereunder, and (b) all other federal securities statutes and related rules and regulations applicable to investment managers. **[Note to GP/Manager: To the extent the manager views itself exempt from the registration with the SEC, KRS expects that the manager would act as if they were a registered investment adviser (i.e., comply with substantive provisions of the Advisers Act (everything except filing requirements) and provide a private action to KRS in the event of violations of the Advisers Act terms).]**

3. Indemnification. The General Partner acknowledges that the Investor has advised it that indemnification obligations under the Investor's Subscription Agreement and the Partnership Agreement that may be attributed to the Investor are not expressly authorized by the laws of the Commonwealth of Kentucky. As a result thereof, the Investor shall not be obligated to make any payment constituting such indemnification to the extent not authorized under such laws. Representations, warranties or covenants made by the Investor in the Partnership Agreement or the Investor's Subscription Agreement respecting limited partner interests in the Partnership shall be deemed to be modified so as to be consistent with the provisions of the preceding sentence. Nothing contained herein, however, shall relieve the Investor of any obligation it may have under the Partnership Agreement to contribute capital in respect of its Capital Commitment under the terms and conditions of the Partnership Agreement.

4. Reservation of Immunities. The Investor hereby reserves all immunities, defenses, rights or actions arising out of its sovereign status or under the Eleventh Amendment to the United

States Constitution, and no waiver of any such immunities, defenses, rights or actions shall be implied or otherwise deemed to exist by its entry into the Partnership Agreement, the Subscription Agreement or this Side Letter (the "Investment Agreements"), by any express or implied provision thereof or by any actions or omissions to act on behalf of the Investor or any representative or agent of the Investor, whether taken pursuant to the Partnership Agreement or the Subscription Agreement or prior to the entry by the Investor into the Partnership Agreement or the Subscription Agreement.

Notwithstanding the foregoing sentence, the Investor hereby acknowledges that the foregoing sentence in no way compromises or otherwise limits the obligations (including the contractual liability) of the Investor under the Investment Agreements nor shall it reduce or modify the rights of the General Partner and the Partnership to enforce such obligations at law or in equity, in each case including but not limited to (a) Investor's obligations to make contributions and (b) any obligation to reimburse or otherwise pay the Partnership or any other Partner for any loss, damage or liability arising from a breach of any representation, warranty or agreement of the Investor contained in the Partnership Agreement or the Investor's Subscription Agreement.

5. Governing Law; Jurisdiction. Except to the extent the terms hereof require interpretation or enforcement of a law, regulation or public policy of the Commonwealth of Kentucky, in which case the laws of the Commonwealth of Kentucky shall govern, this Side Letter shall be governed by the laws of the [State of Delaware] without regard to principles of conflicts of law. Notwithstanding anything to the contrary in the Partnership Agreement or the Subscription Agreement, the General Partner agrees with the Investor that any legal proceeding involving any claim asserted by or against the Investor arising out of the Partnership Agreement or the Subscription Agreement may be brought only in and subject to the exclusive jurisdiction of the Franklin County Circuit Court in the Commonwealth of Kentucky.

6. Conflicts Interest Statement. The General Partner acknowledges and agrees it will act in accordance with the Conflict of Interest Statement attached hereto as Exhibit B and will promptly notify the Investor if it becomes aware of a violation of such Exhibit.

7. Statement of Disclosure and Placement Agent. The General Partner acknowledges and agrees it will promptly notify KRS in writing if any of the responses set forth in the Statement of Disclosure and Placement Agents attached hereto as [Exhibit___] cease to be accurate.

EXHIBIT B – Conflict of Interest Statement
KENTUCKY RETIREMENT SYSTEMS
CONFLICT OF INTEREST STATEMENT

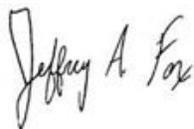
In consideration of the investment by Kentucky Retirement Systems and Kentucky Retirement Systems Insurance Trust Fund (collectively, "KRS") in a vehicle or account ("Account") managed by [J.P. Morgan Investment Management Inc. (JPMIM)] (the "Manager"), the Manager acknowledges the need to maintain the public's confidence and trust in the integrity of KRS and the Commonwealth of Kentucky. In light of the forgoing, the Manager agrees to:

- Diligently identify, disclose, avoid and manage conflicts of interest that may arise through its relationship with KRS.
- Conduct activities with KRS so as not to advance or protect its own interests or the private interests of others with whom it has a relationship in a way that is detrimental to the interests of KRS.
- Conduct its activities in a manner to best promote the interests of KRS, but subject to the Manager's duty which requires it not to put the interests of one investor ahead of those of another investor.
- Upon discovery of an actual or potential conflict of interest involving KRS, disclose such conflict of interest to KRS and work with KRS in good faith to resolve or mitigate such conflict.
- Not engage directly or indirectly in any financial or other transactions with a trustee or employee of KRS that would violate the standards of the Executive Branch Ethics provisions as set forth in KRS Chapter 11A.

Agreed this the 14th day of June, 2019

MANAGER

For itself and on behalf of the Account



By: _____

Name: Jeffrey Fox

Title: Managing Director, Client Advisor

(Rev. Feb 2018)

As discussed with Joe Gilbert, J.P. Morgan Investment Management Inc. has carefully reviewed the Gating Terms (including the Conflict of Interest Statement – Exhibit B) and, while we do not believe there are any material issues that cannot be resolved to our mutual benefit, we respectfully reserve the right to further discuss with you how we may tailor certain provisions of the Gating Terms to the vehicle and structure you ultimately decide on so as to appropriately address any legal, regulatory or operational requirements that pertain to the services being offered.



Kentucky Retirement Systems

Statement of Disclosure and Placement Agents – Manager Questionnaire

6.1

1. Did your firm use a placement agent as defined in the KRS “Statement of Disclosure and Placement Agents” policy in an effort to solicit an Investment from KRS Please indicate fund vehicle title if relevant? If yes, please continue to question 2; if no, please proceed to question 10.

No, J.P. Morgan Investment Management Inc. (JPMIM) does not hire 3rd party marketing or placement agents. JPMIM provides a salary, discretionary incentive award and benefits to JPMIM employees, Salaries are paid on a semi-monthly basis, while the discretionary incentive award is distributed annually in the form of cash and JPMorgan Chase & Co. (JPMC) Restricted Stock Units. Discretionary incentive awards are determined by management based upon factors that include individual, JPMIM and over-all JPMC performance. All compensation and benefits are believed to be commensurate with what is provided by competitor organizations. Employees will receive compensation under these provisions whether or not Kentucky Retirement Systems decide to invest in the Proposed Investment.

2. Please disclose the name of the placement agency used, the names of the individuals contracted by the placement agency (either as employees or as sub-agents) in order to solicit an investment from KRS, and the fees paid or payable to the placement agent in connection with a prospective KRS investment.

Not applicable.

3. Please represent that any fees paid to placement agents are the sole obligation of the investment manager and not that of KRS or the limited partnership.

Not applicable.

4. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government), KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent.

Not applicable.

5. Please provide evidence of the regulatory agencies, if any, in any Federal, state or foreign jurisdiction the placement agent or any of its affiliates are registered with, such as the Securities and Exchange Commission (“SEC”), FINRA, or any similar regulatory agency.

Not applicable.

6. Please provide a resume for each officer, partner or principal of the Placement Agent detailing the person’s education, professional designations, regulatory licenses and investment and work experience.

7. Please describe the services to be performed by the Placement Agent.

Not applicable.

8. Please disclose whether the Placement Agent, or any of its affiliates, is registered as a lobbyist with any and all Kentucky state and local (county) governments.

Not applicable.

9. Please disclose any political contributions made by the Placement Agent to any Kentucky official within the prior 2 years.

Not applicable.

10. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS that are receiving any fees or compensation from the External Manager and/or placement agent. Please disclose any additional known relationships or conflicts with same.

None.

11. Please disclose any political contributions made by External Manager or principals of the External Manager in the prior 2 years.

To the best of our knowledge, information and belief, no political contributions were identified from JPMIM or JPMIM's principals to any current or former Kentucky elected or appointed government officials (federal, state, and local government) in the prior two years.

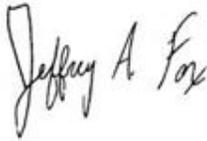
12. Please disclose whether any principals of the firm have been involved in any regulatory proceedings, and if so, details concerning the same.

JPMorgan Chase & Co. and/or its subsidiaries (collectively, the "Firm") are defendants or putative defendants in numerous legal proceedings, including private civil litigations and regulatory/government investigations. The litigations range from individual actions involving a single plaintiff to class action lawsuits with potentially millions of class members. Investigations involve both formal and informal proceedings, by both governmental agencies and self-regulatory organizations. These legal proceedings are at varying stages of adjudication, arbitration or investigation, and involve each of the Firm's lines of business and geographies and a wide variety of claims (including common law tort and contract claims and statutory antitrust, securities and consumer protection claims), some of which present novel legal theories. Based on current knowledge, the Firm believes it has asserted meritorious defenses to the claims asserted against it in its currently outstanding legal proceedings, intends to defend itself vigorously in all such matters and does not believe that any pending legal proceeding would have a material effect on the Firm's performance of the services contemplated by the RFP. For further discussion, please refer to JPMorgan Chase & Co.'s publicly-filed disclosures, including its most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q filed with

the U.S. Securities and Exchange Commission (available at: <https://investor.shareholder.com/jpmorganchase/sec.cfm>)

13. Please provide a statement representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure, and acknowledge that similar language will be included in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

The firm (i) represents and warrants that the information provided to KRS regarding the Statement of Disclosure is accurate and (ii) acknowledges that similar language will be included in any final agreement with a continuing obligation to update any such information within 10 business days of change of any information.



External Manager Signature Date 6/14/19

Jeffrey Fox, Managing Director, Client Advisor

6.1



Kentucky Retirement Systems
Statement of Disclosure and Placement Agents
Approved May 2011

6.1

I. Purpose

This Policy sets forth the disclosure requirements which must be satisfied prior to any Kentucky Retirement Systems ("KRS") investment if a placement agent is involved. KRS shall require the disclosure of detailed information regarding payments and fees in connection with KRS' investments in or through External Managers (as defined herein), broker/dealers, Placement Agents (as defined herein) and those having or conducting business with KRS. This Policy is intended to apply broadly to all of the types of investment advisors with whom KRS conducts or potentially conducts business with including general partners, managers, investment managers and sponsors of hedge funds, funds of funds, private equity funds, real estate funds, infrastructure funds, as well as investment managers retained pursuant to a contract. KRS requires broad, timely, and annual updated disclosures of relationships, compensation and fees. The goal of this Policy is to bring transparency to placement agent activity in connection with KRS' investments and help ensure that KRS' investment decisions are made solely on the merits of the investment opportunity and in a manner consistent with the responsibilities of the Board of Trustees and individuals who owe a fiduciary duty to KRS.

II. Objectives

The role and function of Placement Agents are to provide sales and marketing services to investment management firms. Placement Agents exist because, with the exception of the largest firms (i.e., private equity and hedge fund general partnerships), many of these investment managers are not equipped to raise their investment funds independently. Most External Managers do not have the resources internally to access the capital markets. They require services such as crafting presentations, drafting, proofing and distributing private placement memorandums, sorting the potential universe of limited partners and determining how to access those limited partners, arranging meetings with the limited partners, handling follow-up meetings, assisting in the due diligence process including managing on-site due diligence meetings, and the closing process.

External investment managers in both the public and private markets use Placement Agents to assist them raise capital from various sources. Therefore, the Kentucky Retirement Systems' objectives are:

1. To ensure that KRS' investment decisions are consistent with KRS' overall Investment Policy Statements
2. To supplement the due diligence and information available to KRS Board Members, Staff, and Consultants when evaluating an investment opportunity
3. To prevent impropriety, conflicts of interest, and/or the appearance of improprieties and/or conflicts of interest
4. Provide transparency and confidence in KRS investment decision-making and process

III. Application

This Policy applies to all agreements with External Managers that are entered into after the date this Policy is adopted. This Policy also applies to existing agreements with External Managers if, after the date this Policy is adopted, the term of the agreement is extended, there is any increased commitment of

funds by KRS pursuant to the existing agreement or there is a material amendment to the substantive terms of an existing agreement, including the fees or compensation payable to the External Manager.

IV. Responsibilities:

A. External Manager's Responsibilities

Prior to KRS investing with any manager, KRS Staff shall obtain a written representation from the investment manager, in a form acceptable to KRS' Legal Office, stating that the investment manager has not used a placement agent in connection with the KRS investment opportunity, *or* if the manager has used a placement agent, it will disclose the following to KRS:

- The name of the placement agent
- The fee paid or payable to the placement agent
- Representation that the fee is the sole obligation of the investment manager and not that of KRS or the limited partnership
- Current or former Kentucky Officials (federal, state, and local government), KRS Board of Trustees members, KRS employees, or consultants to KRS that are receiving any fees or compensation from the External Manager and/or placement agent
- The names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent
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- A statement by the External Manager and/or placement agent representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

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- Implementing this Policy for KRS
- Providing regular disclosure updates to the KRS Investment Committee and the Board of Trustees.

All parties responsible for implementing, monitoring and complying with this Policy shall consider the spirit as well as the literal expression of the Policy.

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All persons and entities contracting with KRS shall certify that they are legally capable of entering into a binding contract and authorized to do so; that they are not nor shall be in violation of any Kentucky law, statute or regulation pertaining to a conflict of interest including, but not limited to, KRS 121.056; and that they are not nor shall be in violation of any provision of KRS Chapter 11A or any regulation promulgated thereunder, or any law or regulation pertaining to the Kentucky Registry of Election Finance and the reporting requirements thereof.

All persons and entities seeking to or actually contracting with KRS shall disclose all relationships and potential conflicts of interest with any KRS Staff, Committee or Board Member. Subsequent discovery of any undisclosed conflict may be considered a breach of contract and may result in immediate termination of any agreements without penalty or fee to KRS.

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A partnership, limited liability company, account or other investment vehicle in which KRS is the investor.

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Placement Agent

Any person or entity hired, engaged or retained by or acting on behalf of an External Manager or on behalf of another Placement Agent as a finder, solicitor, marketer, consultant, broker or other intermediary to raise money or investments from or to obtain access to KRS, directly or indirectly, including without limitation through a KRS Vehicle.

Signatories

As Adopted By The Investment Committee

Date: May 3, 2011

Signature: *Tommy Elliott*
Tommy Elliott

As Adopted By The Board of Trustees

Date: May 19, 2011

Signature: *Jennifer Elliott*
Jennifer Elliott

EXHIBIT B – Conflict of Interest Statement

**KENTUCKY RETIREMENT SYSTEMS
CONFLICT OF INTEREST STATEMENT**

In consideration of the investment by Kentucky Retirement Systems and Kentucky Retirement Systems Insurance Trust Fund (collectively, "KRS") in a vehicle or account ("Account") managed by Pzena Investment Management, LLC (the "Manager"), the Manager acknowledges the need to maintain the public's confidence and trust in the integrity of KRS and the Commonwealth of Kentucky. In light of the forgoing, the Manager agrees to:

- Diligently identify, disclose, avoid and manage conflicts of interest that may arise through its relationship with KRS.
- Conduct activities with KRS so as not to advance or protect its own interests or the private interests of others with whom it has a relationship in a way that is detrimental to the interests of KRS.
- Conduct its activities in a manner to best promote the interests of KRS, but subject to the Manager's duty which requires it not to put the interests of one investor ahead of those of another investor.
- Upon discovery of an actual or potential conflict of interest involving KRS, disclose such conflict of interest to KRS and work with KRS in good faith to resolve or mitigate such conflict.
- Not engage directly or indirectly in any financial or other transactions with a trustee or employee of KRS that would violate the standards of the Executive Branch Ethics provisions as set forth in KRS Chapter 11A.

Agreed this the 7th day of June, 2019

MANAGER

For itself and on behalf of the Account

By: Joan Berger
Name: Joan F. Berger
Title: General Counsel

(Rev. Feb 2018)



Kentucky Retirement Systems

Statement of Disclosure and Placement Agents – Manager Questionnaire

6.1

1. Did your firm use a placement agent as defined in the KRS “Statement of Disclosure and Placement Agents” policy in an effort to solicit an Investment from KRS Please indicate fund vehicle title if relevant? If yes, please continue to question 2; if no, please proceed to question 10.

No, we did not use a third-party placement agent in an effort to solicit an investment from KRS.

2. Please disclose the name of the placement agency used, the names of the individuals contracted by the placement agency (either as employees or as sub-agents) in order to solicit an investment from KRS, and the fees paid or payable to the placement agent in connection with a prospective KRS investment.

N/A

3. Please represent that any fees paid to placement agents are the sole obligation of the investment manager and not that of KRS or the limited partnership.

N/A

4. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government), KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent.

N/A

5. Please provide evidence of the regulatory agencies, if any, in any Federal, state or foreign jurisdiction the placement agent or any of its affiliates are registered with, such as the Securities and Exchange Commission (“SEC”), FINRA, or any similar regulatory agency.

N/A

6. Please provide a resume for each officer, partner or principal of the Placement Agent detailing the person’s education, professional designations, regulatory licenses and investment and work experience.

N/A

7. Please describe the services to be performed by the Placement Agent.

N/A

8. Please disclose whether the Placement Agent, or any of its affiliates, is registered as a lobbyist with any and all Kentucky state and local (county) governments.

N/A

9. Please disclose any political contributions made by the Placement Agent to any Kentucky official within the prior 2 years.

N/A

10. Please disclose the names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS that are receiving any fees or compensation from the External Manager and/or placement agent. Please disclose any additional known relationships or conflicts with same.

None.

11. Please disclose any political contributions made by External Manager or principals of the External Manager in the prior 2 years.

There were no political contributions made by the External Manager or principals of the External Manager to Kentucky political officials in the prior two years ended March 31, 2019.

12. Please disclose whether any principals of the firm have been involved in any regulatory proceedings, and if so, details concerning the same.

There is no material regulatory action pending or, to the best of our knowledge, threatened, against the External Manager or any of its principals relating to the business of the firm in the past ten years ended March 31, 2019.

13. Please provide a statement representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure, and acknowledge that similar language will be included in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

I confirm the information provided herein is accurate to the best of my knowledge, and I acknowledge that similar language will be included in any final written agreement between the External Manager and KRS, with a continuing obligation to update any such information within 10 business days of any change in such information.

Pzena Investment Management, LLC



External Manager Signature
Name: Joan F. Berger
Title: General Counsel

June 7, 2019
Date



Kentucky Retirement Systems
Statement of Disclosure and Placement Agents
Approved May 2011

6.1

I. Purpose

This Policy sets forth the disclosure requirements which must be satisfied prior to any Kentucky Retirement Systems ("KRS") investment if a placement agent is involved. KRS shall require the disclosure of detailed information regarding payments and fees in connection with KRS' investments in or through External Managers (as defined herein), broker/dealers, Placement Agents (as defined herein) and those having or conducting business with KRS. This Policy is intended to apply broadly to all of the types of investment advisors with whom KRS conducts or potentially conducts business with including general partners, managers, investment managers and sponsors of hedge funds, funds of funds, private equity funds, real estate funds, infrastructure funds, as well as investment managers retained pursuant to a contract. KRS requires broad, timely, and annual updated disclosures of relationships, compensation and fees. The goal of this Policy is to bring transparency to placement agent activity in connection with KRS' investments and help ensure that KRS' investment decisions are made solely on the merits of the investment opportunity and in a manner consistent with the responsibilities of the Board of Trustees and individuals who owe a fiduciary duty to KRS.

II. Objectives

The role and function of Placement Agents are to provide sales and marketing services to investment management firms. Placement Agents exist because, with the exception of the largest firms (i.e., private equity and hedge fund general partnerships), many of these investment managers are not equipped to raise their investment funds independently. Most External Managers do not have the resources internally to access the capital markets. They require services such as crafting presentations, drafting, proofing and distributing private placement memorandums, sorting the potential universe of limited partners and determining how to access those limited partners, arranging meetings with the limited partners, handling follow-up meetings, assisting in the due diligence process including managing on-site due diligence meetings, and the closing process.

External investment managers in both the public and private markets use Placement Agents to assist them raise capital from various sources. Therefore, the Kentucky Retirement Systems' objectives are:

1. To ensure that KRS' investment decisions are consistent with KRS' overall Investment Policy Statements
2. To supplement the due diligence and information available to KRS Board Members, Staff, and Consultants when evaluating an investment opportunity
3. To prevent impropriety, conflicts of interest, and/or the appearance of improprieties and/or conflicts of interest
4. Provide transparency and confidence in KRS investment decision-making and process

III. Application

This Policy applies to all agreements with External Managers that are entered into after the date this Policy is adopted. This Policy also applies to existing agreements with External Managers if, after the date this Policy is adopted, the term of the agreement is extended, there is any increased commitment of

funds by KRS pursuant to the existing agreement or there is a material amendment to the substantive terms of an existing agreement, including the fees or compensation payable to the External Manager.

IV. Responsibilities:

A. External Manager's Responsibilities

Prior to KRS investing with any manager, KRS Staff shall obtain a written representation from the investment manager, in a form acceptable to KRS' Legal Office, stating that the investment manager has not used a placement agent in connection with the KRS investment opportunity, or if the manager has used a placement agent, it will disclose the following to KRS:

- The name of the placement agent
- The fee paid or payable to the placement agent
- Representation that the fee is the sole obligation of the investment manager and not that of KRS or the limited partnership
- Current or former Kentucky Officials (federal, state, and local government), KRS Board of Trustees members, KRS employees, or consultants to KRS that are receiving any fees or compensation from the External Manager and/or placement agent
- The names of any current or former Kentucky elected or appointed government officials (federal, state, and local government) KRS Board of Trustees members, employees, or consultants of KRS, or any other person, if any, who suggested the retention of the placement agent
- Evidence of the regulatory agencies, if any, in any Federal, state or foreign jurisdiction the placement agent or any of its affiliates are registered with, such as the Securities and Exchange Commission ("SEC"), FINRA, or any similar regulatory agency
- A resume for each officer, partner or principal of the Placement Agent detailing the person's education, professional designations, regulatory licenses and investment and work experience
- A description of the services to be performed by the Placement Agent
- A statement whether the Placement Agent, or any of its affiliates, is registered as a lobbyist with any and all Kentucky state and local (county) governments
- A statement by the External Manager and/or placement agent representing and warranting the accuracy of the information provided to KRS regarding the Statement of Disclosure in any final written agreement with a continuing obligation to update any such information within 10 business days of any change in the information.

In the event a placement agent is expected to receive remuneration for a KRS investment, KRS Staff will notify the Investment Committee in the memorandum discussing the recommended/approved investment. If a manager breaches the Policy, Staff will notify the Investment Committee as soon as practicable.

B. KRS Staff Responsibilities

- Providing the public with disclosure by posting a copy of this Policy on KRS' website
- Implementing this Policy for KRS
- Providing regular disclosure updates to the KRS Investment Committee and the Board of Trustees.

All parties responsible for implementing, monitoring and complying with this Policy shall consider the spirit as well as the literal expression of the Policy.

V. Conflict of Interest

All persons and entities contracting with KRS shall certify that they are legally capable of entering into a binding contract and authorized to do so; that they are not nor shall be in violation of any Kentucky law, statute or regulation pertaining to a conflict of interest including, but not limited to, KRS 121.056; and that they are not nor shall be in violation of any provision of KRS Chapter 11A or any regulation promulgated thereunder, or any law or regulation pertaining to the Kentucky Registry of Election Finance and the reporting requirements thereof.

All persons and entities seeking to or actually contracting with KRS shall disclose all relationships and potential conflicts of interest with any KRS Staff, Committee or Board Member. Subsequent discovery of any undisclosed conflict may be considered a breach of contract and may result in immediate termination of any agreements without penalty or fee to KRS.

Glossary of Terms

KRS Vehicle

A partnership, limited liability company, account or other investment vehicle in which KRS is the investor.

Consultant

Consultant refers to individuals or firms, and includes Key Personnel of Consultant firms, who are contractually retained or have been appointed to KRS to provide investment advice to KRS but who do not exercise investment discretion.

External Manager

An asset management firm that is seeking to be, or has been, retained by KRS or by a KRS Vehicle to manage a portfolio of assets (including securities) for a fee. The External Manager usually has full discretion to manage KRS assets, consistent with investment management guidelines provided by KRS and fiduciary responsibility.

Placement Agent

Any person or entity hired, engaged or retained by or acting on behalf of an External Manager or on behalf of another Placement Agent as a finder, solicitor, marketer, consultant, broker or other intermediary to raise money or investments from or to obtain access to KRS, directly or indirectly, including without limitation through a KRS Vehicle.

Signatories

As Adopted By The Investment Committee

Date: May 3, 2011

Signature: Tommy Elliott
Tommy Elliott

As Adopted By The Board of Trustees

Date: May 19, 2011

Signature: Jennifer Elliott
Jennifer Elliott

US Small Cap and Emerging Market Search

*Investment Committee –
June 18, 2019*

6.2



RECOMMENDATION

6.2

Staff & consultant recommend the KRS Investment Committee fund ...

- US micro cap allocation to be managed by ...
 - Next Century Growth Investors, LLC
- Dedicated emerging market allocation to be managed by ...
 - JP Morgan Asset Management Inc.
 - Pzena Investment Management, LLC
- Transition from BlackRock ACWI Ex-US Index strategy to the BlackRock World Ex-US Index product.

*No placement agents have been involved or will be compensated as a result of this recommendation.

INTRODUCTION / PROCESS

Staff & consultant studied public equity structure ...

- Market segment access
- Efficient use of fee dollars

Active management (fee dollars) utilized where the chance of outperforming is greater ...

- Less efficient markets
 - US – mid and small caps
 - Non-US / Emerging Markets

Generally, KRS will tilt ...

- Passively within the US portfolio, with active in the smaller cap ranges
- Active within the Non-US portfolio, especially emerging markets

Same basic process for both searches for narrowing candidates down to finalists

- Wilshire database
 - Minimum criteria set to cull list to manageable short list
- Staff added interesting names that may not have populated in list
- Additional cut
 - Capture ratios, risk/return profiles, active share, etc.
- RFI sent to remaining candidates
 - Firm structure, staffing, product stability, investment team/process, etc.
- Further narrowing for onsite discussions at KRS
- Finalists selected for presentation to Investment Committee
- Onsite interviews with successful candidates at their offices prior to funding

NEW CENTURY GROWTH INVESTORS

Firm

- Partnership founded in 1998 & headquartered in Minneapolis
- Firm AUM: \$770m across US cap spectrum
 - \$210m in micro cap (capacity at \$400-\$500m)

Investment Team

- Five principals of the firm manage the strategy & serve as PM/analysts; no PM has left since inception

Investment Philosophy

- Invest in high quality fast growing companies in combination with a strong sell discipline

Investment Process

- Universe: below \$1 billion market cap & 15% top line growth that is organic & sustainable
- Ideal candidates: disruptive, strong competitive advantage, large & growing end markets, strong management
- Sell discipline is key to maintain a healthy portfolio
 - Extreme valuation, fundamental disappointment, market cap forced ensures rotation

Client Stability

- Experienced asset downtrend for past several years (AUM declines across all strategies)
 - Underperformance: rotation into high yielders during QE, Micro cap strategy struggled in 2014 & 2015
 - A consultant recommended terminating a couple of the firm's strategies which led to \$1b exodus
- Performance rebounded in 2017 & 2018; client assets appear to have stabilized
- Wilshire's manager research group conducted an additional review: firm ranking remained stable

Performance

Next Century Growth Investors, LLC								
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	15 YRS	SI	
NCG Micro Cap Growth Composite (GR)	15.2	27.9	34.0	13.9	22.1	13.0	17.3	
Russell Microcap Growth Index	16.0	-1.4	10.8	3.5	14.8	5.6	9.0	
*Inception Date: 01/01/03								

Fees

- On \$50-75 million, 90 bps

JP MORGAN ASSET MANAGEMENT

Firm

- Wholly owned by JP Morgan Chase, publicly traded on the NYSE
- Firm AUM: \$1.7 T; \$480 billion in public equities
 - \$1.9b in GEM emerging market strategy

Investment Team

- Lead PM (7yrs on strategy) & two back-up / co- PMs
- Supported: 43 researchers – dedicated sector and/or regional; macro analysts that provide top-down insights

Investment Philosophy

- Invest in high quality businesses over the long-term
- Two key elements: understanding of business & echo systems it operates; correctly valuing the growth potential
- Confidence in management's ability to exploit opportunities
- Small & mid-caps biased: best way to access emerging market story, secular themes of infrastructure & consumption

Investment Process

- Is this a business you would like to own
 - Fundamental – economics of business, how durable are expected earnings, & quality of governance
- If so, at what price would you buy or sell it
 - 5-YR expected return built: company (earnings growth & dividends) & market (valuation & currency); seek companies that create value internally

Client Stability

- Several years of continued inflows: over \$1b across 17 clients in past 5 years

Performance

J.P. Morgan Asset Management								
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	7 YRS	10 YRS	SI	
Global Emerging Markets Discovery (GR)	14.5	-3.2	15.7	8.5	7.2	16.7	11.7	
MSCI Emerging Markets IMI Index	9.7	-8.0	10.1	3.5	2.7	9.1	6.3	
MSCI Emerging Markets Index	9.9	-7.4	10.7	3.7	2.7	8.9	7.1	
MSCI Emerging Markets Growth Index	12.0	-9.5	11.8	5.0	4.4	10.0	6.9	
*Inception Date: 11/01/97								

Fees

- On \$175 million, effective rate of 72.9 bps

PZENA INVESTMENT MANAGEMENT

Firm

- Headquartered in New York & publicly traded on the NYSE; current employees own 55% & retain 95% of voting
- Firm AUM: \$37.1b suite of value products across cap spectrum & geography
 - \$700m in strategy (Note: 3.5 yrs track record; same process/team as \$3.9b flagship (2008))

Investment Team

- Utilizes a portfolio manager team approach (4); PMs are also analysts
- Supported by shared research group of 25 analysts organized as sector globalists

Investment Philosophy

- Classic value investor – buy good businesses at low prices (underperforming historical earnings power)
- Belief that most investors are leery of business that appear to have issues & avoid those that lack earnings clarity
 - Valuations are biased negatively providing skilled value investors opportunity

Investment Process

- Bottom-up fundamental but incorporates a top-down macro view in the process
 - Countries as assessed a discount rate (spread between US Treasury & sovereign bond spreads)
 - Fairer comparisons of normalized earnings between regions
- Universe screened: low price-to-normalized earnings & below historical norms; cheapest quintile is the starting point
- Full workup for those interesting opportunities; utilize a negative external analyst to argue bear case

Client Stability

- Firm AUM has been relatively stable
- Strategy: inflows of \$400m over last few years & one account loss of \$519m (client moved to LDI model)

Performance

Pzena Investment Management, LLC							
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	SI	
Pzena Emerging Markets Select (GR)	7.4	-2.4	13.1	n/a	n/a	11.8	
MSCI Emerging Markets Index	9.9	-7.4	10.7	n/a	n/a	9.1	
MSCI Emerging Markets Value Index	7.8	-5.3	9.5	n/a	n/a	8.1	
*Inception Date: 11/01/15							
Pzena Emerging Markets Focused (GR)	7.6	-3.2	13.4	3.9	10.9	3.4	
MSCI Emerging Markets Index	9.9	-7.4	10.7	3.7	8.9	0.9	
MSCI Emerging Markets Value Index	7.8	-5.3	9.5	2.2	7.8	0.5	
*Inception Date: 01/01/08							

Fees

- On \$175 million, effective rate of 59.3 bps

IMPLEMENTATION & PORTFOLIO SIZING

Next Century

- KRS had \$250m in dedicated US small cap core strategy; 8% of US portfolio
- Staff & consultant would like to overweight small caps; 10% target of US = \$315m
- Initial funding from cash of \$50m with target of \$2.5% of US (\$79m)
- Asking for approval of up to 3.5% allow for future growth & rebalancing

JP Morgan & Pzena

- Currently access EM though MSCI ACWI-Ex US mandates
 - 40% of NonUS exposure is through passive MSCI ACWI-Ex US mandates
 - Passive exposure to EM is not consistent with belief that active management can add value
- 25% of MSCI ACWI Ex-US Index is EM; funding would come from that carve out
 - 10% of NonUS exposure would be utilized for funding (\$350m)
- Wilshire optimizer funds the two candidates rather closely
- Initial funding of 5% of total NonUS allocation to each mandate (\$175m each)
- Optimizer suggests larger investment; staff is requesting up to 7% each of NonUS portfolio (\$245m each)

Note: The remaining portion of the MSCI ACWI Ex-US mandate would be transitioned to a MSCI World Ex-US mandate run by BlackRock.

BlackRock						
As of: 03/31/19	YTD	1 YR	3 YRS	5 YRS	10 YRS	
BlackRock World Ex-US	10.6	-2.6	7.8	2.6	9.3	
MSCI World Ex-US Index	10.5	-3.1	7.3	2.2	8.8	

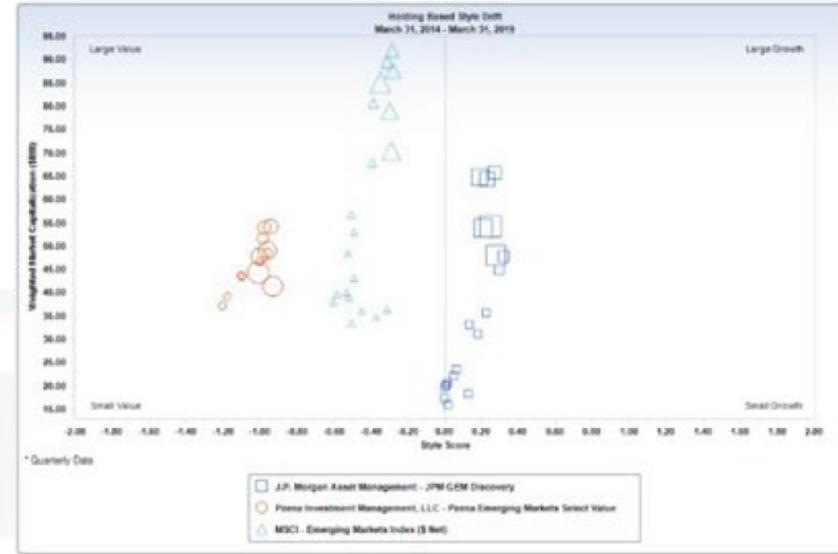
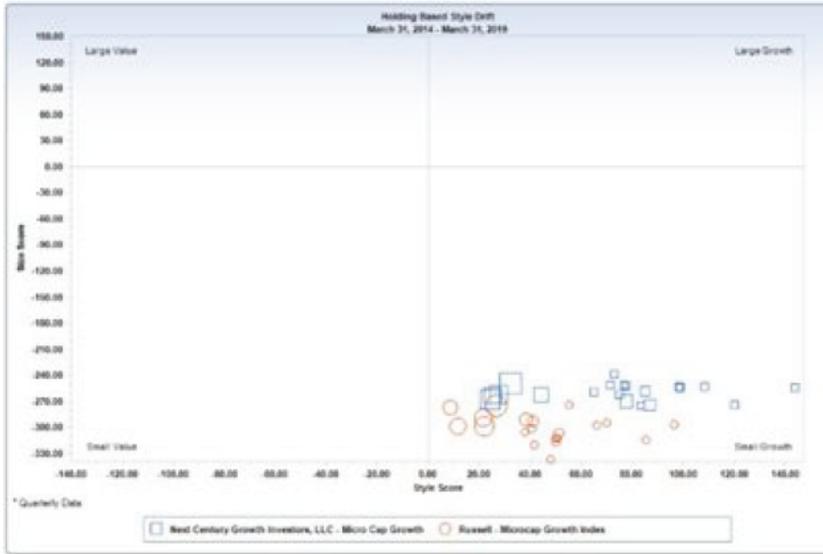
RECOMMENDATION

- Next Century Growth Investors, LLC – Micro Cap Growth Strategy
 - Initial Funding \$50-75 million (2.5%) with option to grow/add to total of 3.5% of U.S. allocation.
- J.P. Morgan Asset Management Inc. – Global Emerging Markets (GEM) Discovery Strategy
 - Initial Funding \$175 million (5%) with option to grow/add to total of 7% of Non-U.S. allocation.
- Pzena Investment Management, LLC – Emerging Markets Select Value Strategy
 - Initial Funding \$175 million (5%) with option to grow/add to total of 7% of Non-U.S. allocation.
- Transition the remaining balance of the BlackRock ACWI-Ex US Index portfolio to the BlackRock World Ex-US Index strategy.

6.2

APPENDIX

CHARTS PROVIDED BY WILSHIRE & ASSOCIATES



6.2

	BlackRock - MSCI World Index (Ex US) Index Fund	American Century Investment Management, Inc. - Non-U.S. Concentrated Growth	Franklin Templeton Investments - Franklin All Country World ex-U.S. Equity	Lazard Asset Management LLC - International Equity Plus (ACW ex-US)	LSV Asset Management - International Concentrated Value Equity	Northern Trust - NT EMERGING MARKETS SMALL CAP INDEX STRATEGY	Northern Trust - NT World ex US Small Cap Index Equity Strategy	J.P. Morgan Asset Management - JPM GEM Discovery	Pzena Investment Management, LLC - Pzena Emerging Markets Select Value
Correlation									
BlackRock - MSCI World Index (Ex US) Index Fund	1.00								
American Century Investment Management, Inc. - Non-U.S. Concentrated Growth	0.26	1.00							
Franklin Templeton Investments - Franklin All Country World ex-U.S. Equity	0.19	0.54	1.00						
Lazard Asset Management LLC - International Equity Plus (ACW ex-US)	0.30	0.27	0.10	1.00					
LSV Asset Management - International Concentrated Value Equity	0.03	-0.38	-0.22	-0.03	1.00				
Northern Trust - NT EMERGING MARKETS SMALL CAP INDEX STRATEGY	-0.80	-0.23	-0.10	-0.22	-0.08	1.00			
Northern Trust - NT World ex US Small Cap Index Equity Strategy	0.22	0.34	0.62	0.14	-0.07	-0.22	1.00		
J.P. Morgan Asset Management - JPM GEM Discovery	-0.74	-0.08	-0.07	-0.08	-0.19	0.62	-0.30	1.00	
Pzena Investment Management, LLC - Pzena Emerging Markets Select Value	-0.62	-0.44	-0.61	-0.23	0.19	0.37	-0.65	0.30	1.00



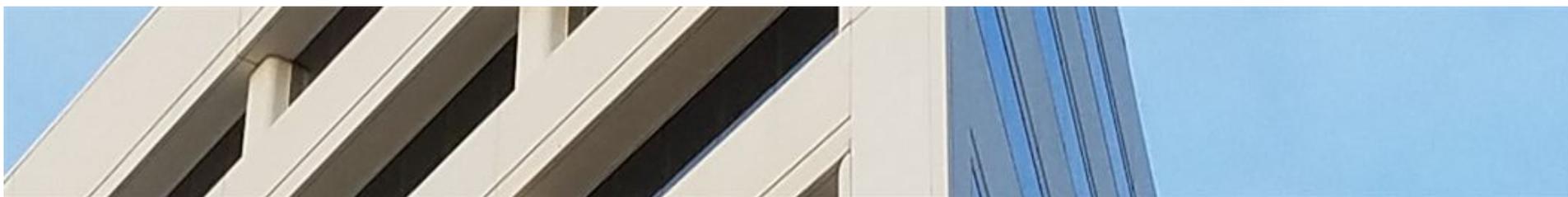
Prepared for



6.3

Kentucky Retirement Systems

Small Cap & Emerging Markets Manager Search



David Lindberg, CFA – Managing Director
Christopher S. Tessman – Sr. Vice President
Craig Morton, CFA – Vice President

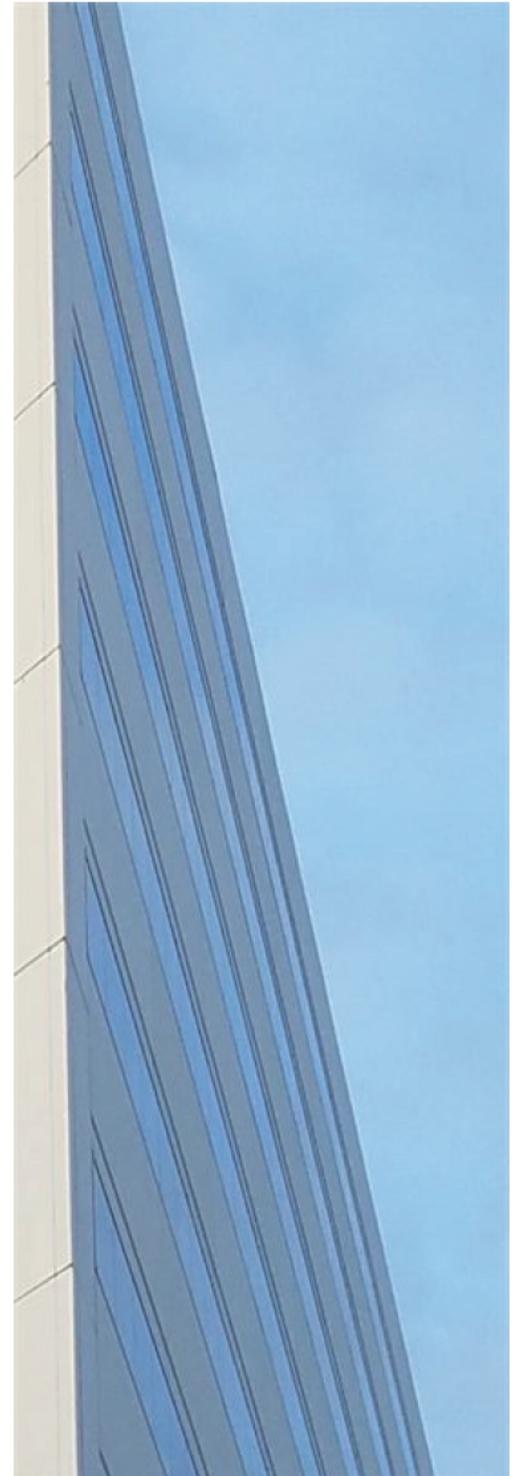
June 18, 2019

Wilshire Consulting
AGENDA

Emerging Markets Manager Search

Small Cap Manager Search

Wilshire Recommendations





Emerging Markets Manager Search

Wilshire Consulting



Emerging Markets Manager Search

6.3

- Using various qualitative and quantitative criteria, the Wilshire Investment Manager Database was narrowed to three RFP Invitees, which led to four in-person interviews.



4



Wilshire Consulting

Emerging Market In-Person Interviews

6.3

- Baillie Gifford
- **Conner, Clark, Lunn**
- **J.P Morgan**
- **Pzena**

- **Proposed addition**
- Considered, but not selected
- **Eliminated from consideration**



Wilshire Consulting

Emerging Markets Search Results

- In-depth conversations on four strategies across four investment management firms
- Two strategies were decided upon that would pair nicely in the KRS Non U.S. Equity composite
 - J.P. Morgan (Emerging Markets Growth)
 - Pzena (Emerging Markets Value)
- Strategies will primarily be funded by transitioning passive/index strategy from ACWI ex U.S. to a World Ex U.S. mandate

6.3



Small Cap Manager Search

Wilshire Consulting



Small Cap Manager Search

6.3

- Using various qualitative and quantitative criteria, the Wilshire Investment Manager Database was narrowed to three RFP Invitees, which led to two in-person interviews.



Wilshire Consulting



Small Cap Manager Search

6.3

- Using various qualitative and quantitative criteria, the Wilshire Investment Manager Database was narrowed to three RFP Invitees, which led to one in-person interview.



Wilshire Consulting



Small Cap Manager Search

6.3

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10

Wilshire Consulting



Small Cap Manager Search

6.3

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11

Wilshire Consulting



Small Cap In-Person Interviews

6.3

- Small Core
 - Kayne Anderson
 - Jacobs Levy
- Small Growth
 - Kayne Anderson
- Small Value
 - Pzena
 - Jacobs Levy
- Microcap
 - Next Century
 - Lord Abbett

- Proposed addition
- Considered, but not selected
- Eliminated from consideration



Wilshire Consulting

Small Cap Search Results

6.3

- In-depth conversations on seven strategies across five investment management firms
- Next Century – Microcap Growth product was selected to be added to the U.S. Equity Portfolio
- Pzena, on short-notice, was unable to have the PM for the Small Value product available for in-person interview.
 - Similar process to selected Emerging Markets strategy
 - Will interview PM while equity officer & consultant are on-site this summer
 - Continued search for other potential candidates in this space
- Staff and consultant will continue to search for high conviction Small Growth strategy to pair with Next Century
- Core portfolio will continue to be anchored by the Northern Trust enhanced index strategy for the immediate future



Wilshire Consulting Recommendations

6.3

- Non U.S. Equity Composite
 - Transition passive mandate from MSCI - ACWI ex U.S. to MSCI - World ex U.S. to avoid investing passively in emerging markets
 - Reduce passive mandate by 25% and redeploy those assets to active emerging markets
 - » J.P. Morgan Asset Management – JPM GEM Discovery
 - » Pzena Investment Management, LLC – Pzena Emerging Markets Select Value
- U.S. Equity Composite
 - Add NextCentury Growth Investors, LLC – Microcap Growth to the U.S. Equity composite
 - Continued search for high conviction managers seeking aggressive alpha



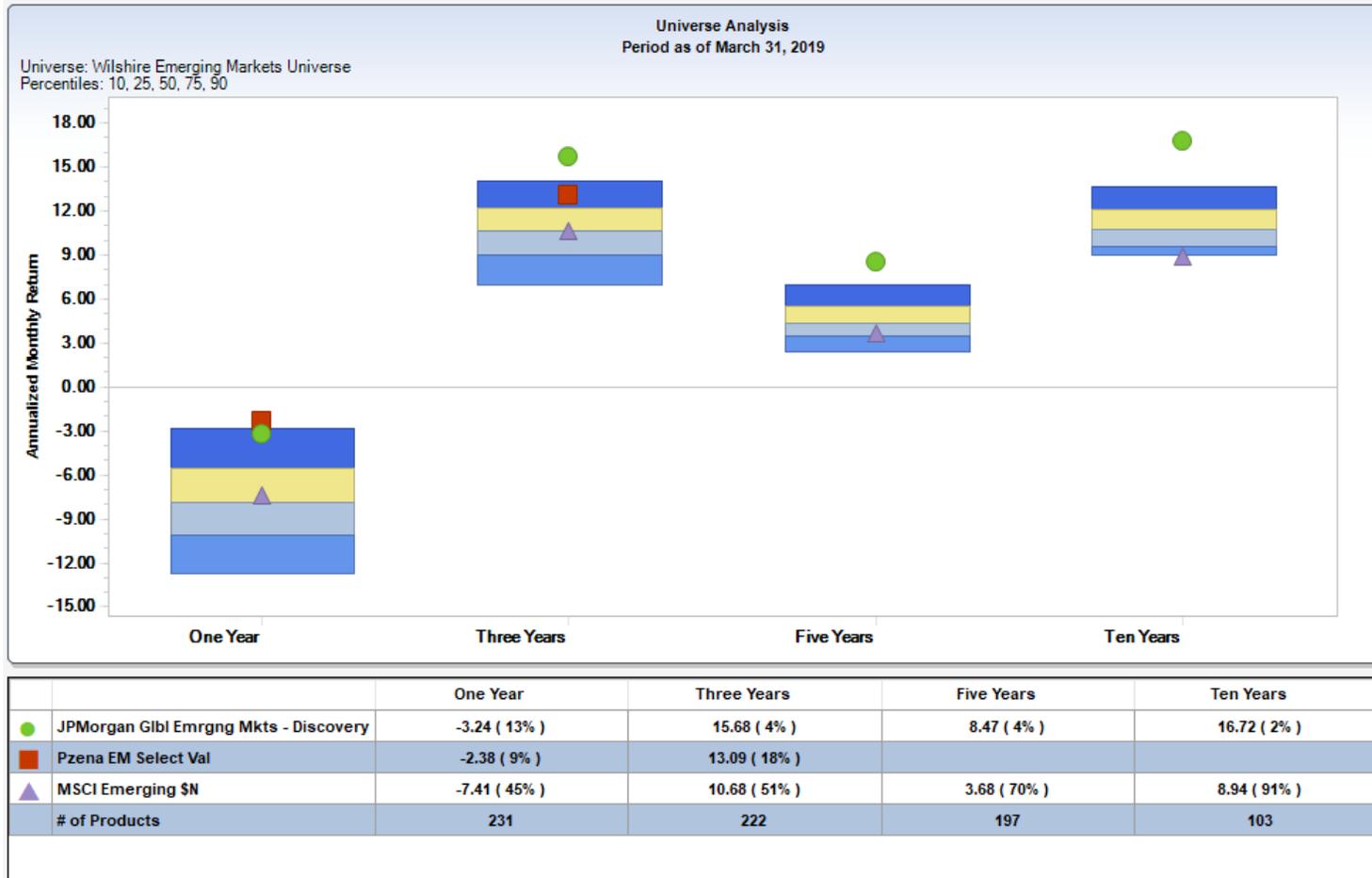
Appendix

Wilshire Consulting



Emerging Market Peer Analysis

6.3



Wilshire Consulting



Emerging Market Peer Analysis

6.3

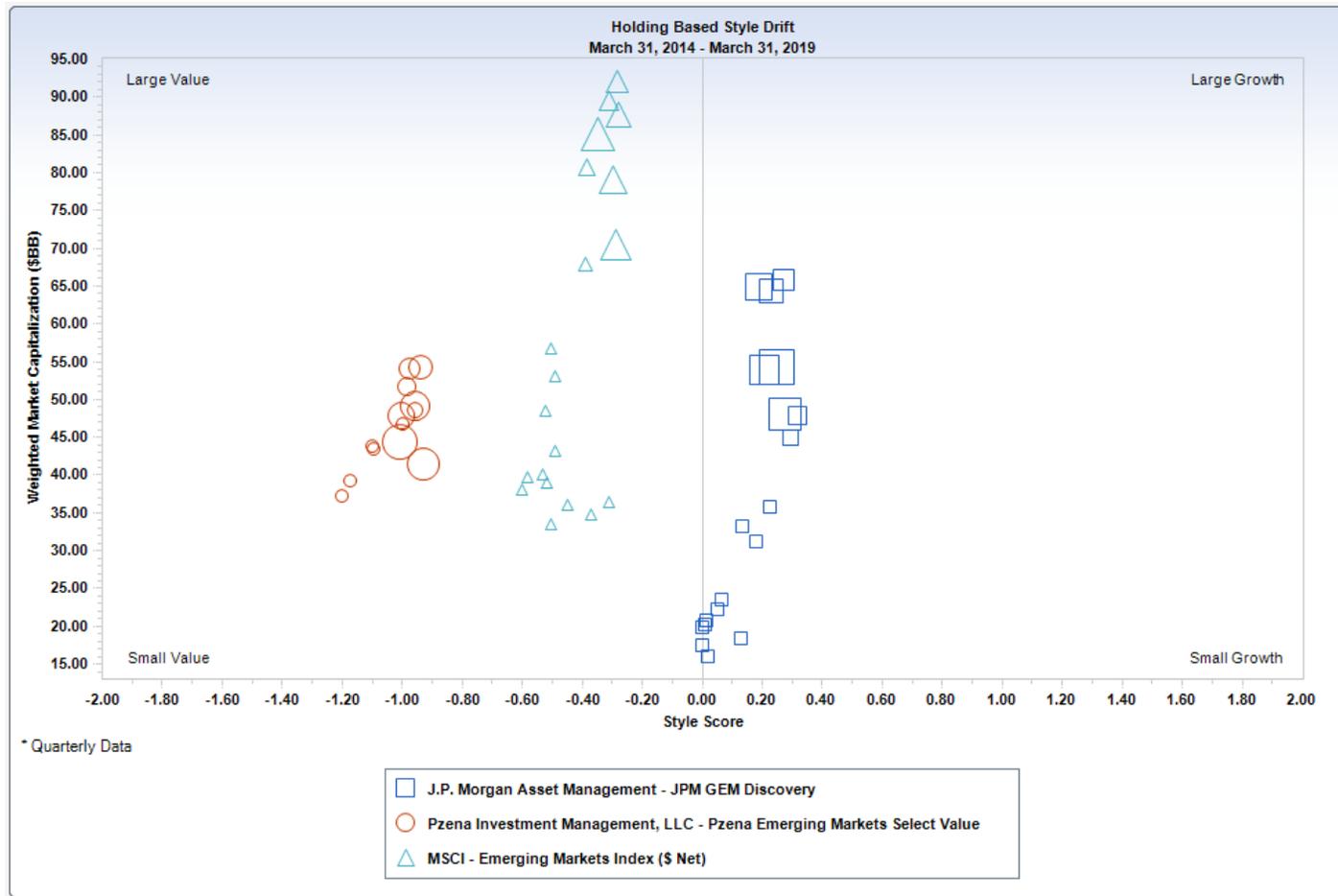


Wilshire Consulting



Emerging Market Style Analysis

6.3





Wilshire Consulting

Emerging Market Correlation Analysis

6.3

Correlation	BlackRock - MSCI World Index (Ex US) Index Fund	American Century Investment Management, Inc. - Non-U.S. Concentrated Growth	Franklin Templeton Investments - Franklin All Country World ex-U.S. Equity	Lazard Asset Management LLC - International Equity Plus (ACW ex-US)	LSV Asset Management - International Concentrated Value Equity	Northern Trust - NT EMERGING MARKETS SMALL CAP INDEX STRATEGY	Northern Trust - NT World ex US Small Cap Index Equity Strategy	J.P. Morgan Asset Management - JPM GEM Discovery	Pzena Investment Management, LLC - Pzena Emerging Markets Select Value
BlackRock - MSCI World Index (Ex US) Index Fund	1.00								
American Century Investment Management, Inc. - Non-U.S. Concentrated Growth	0.26	1.00							
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Lazard Asset Management LLC - International Equity Plus (ACW ex-US)	0.30	0.27	0.10	1.00					
LSV Asset Management - International Concentrated Value Equity	0.03	-0.38	-0.22	-0.03	1.00				
Northern Trust - NT EMERGING MARKETS SMALL CAP INDEX STRATEGY	-0.80	-0.23	-0.10	-0.22	-0.08	1.00			
Northern Trust - NT World ex US Small Cap Index Equity Strategy	0.22	0.34	0.62	0.14	-0.07	-0.22	1.00		
J.P. Morgan Asset Management - JPM GEM Discovery	-0.74	-0.08	-0.07	-0.08	-0.19	0.62	-0.30	1.00	
Pzena Investment Management, LLC - Pzena Emerging Markets Select Value	-0.62	-0.44	-0.61	-0.23	0.19	0.37	-0.65	0.30	1.00

* Pzena Emerging Markets Select Equity correlations based on available performance history of December 31, 2015 through March 31, 2019



Wilshire Consulting Microcap Peer Analysis

6.3





Wilshire Consulting Microcap Peer Analysis

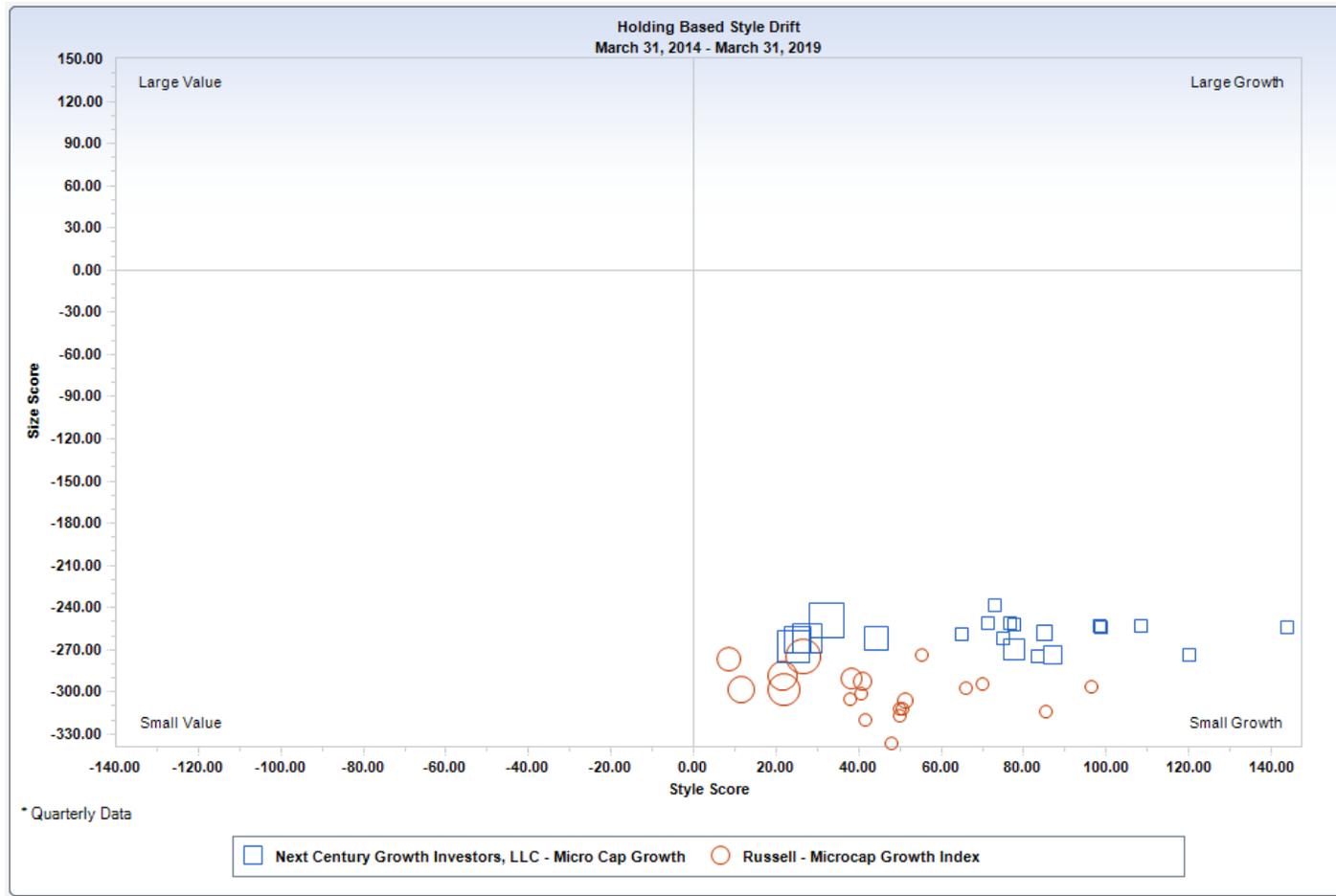
6.3





Wilshire Consulting Microcap Style Analysis

6.3

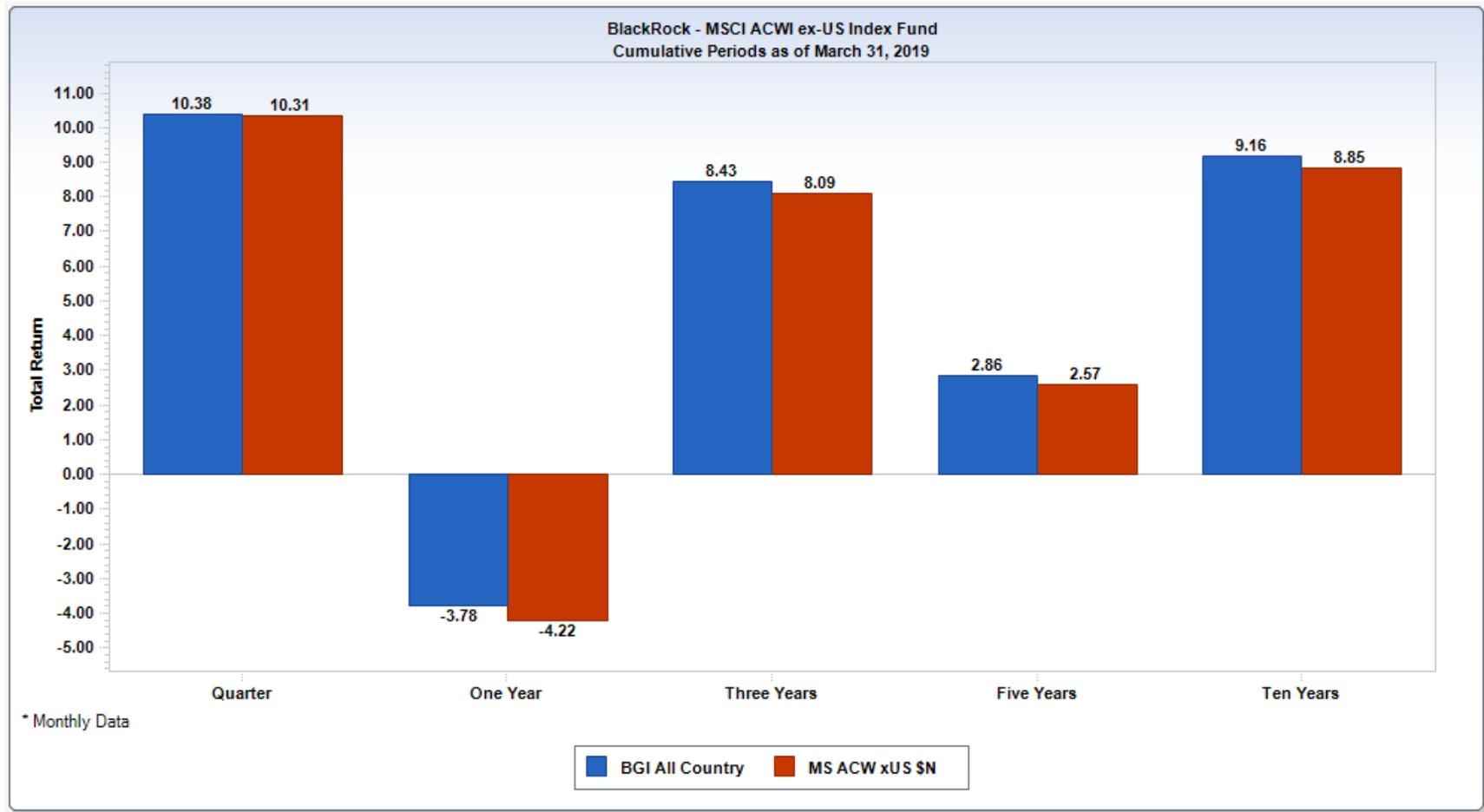




Wilshire Consulting

Blackrock - ACWI ex US Index

6.3

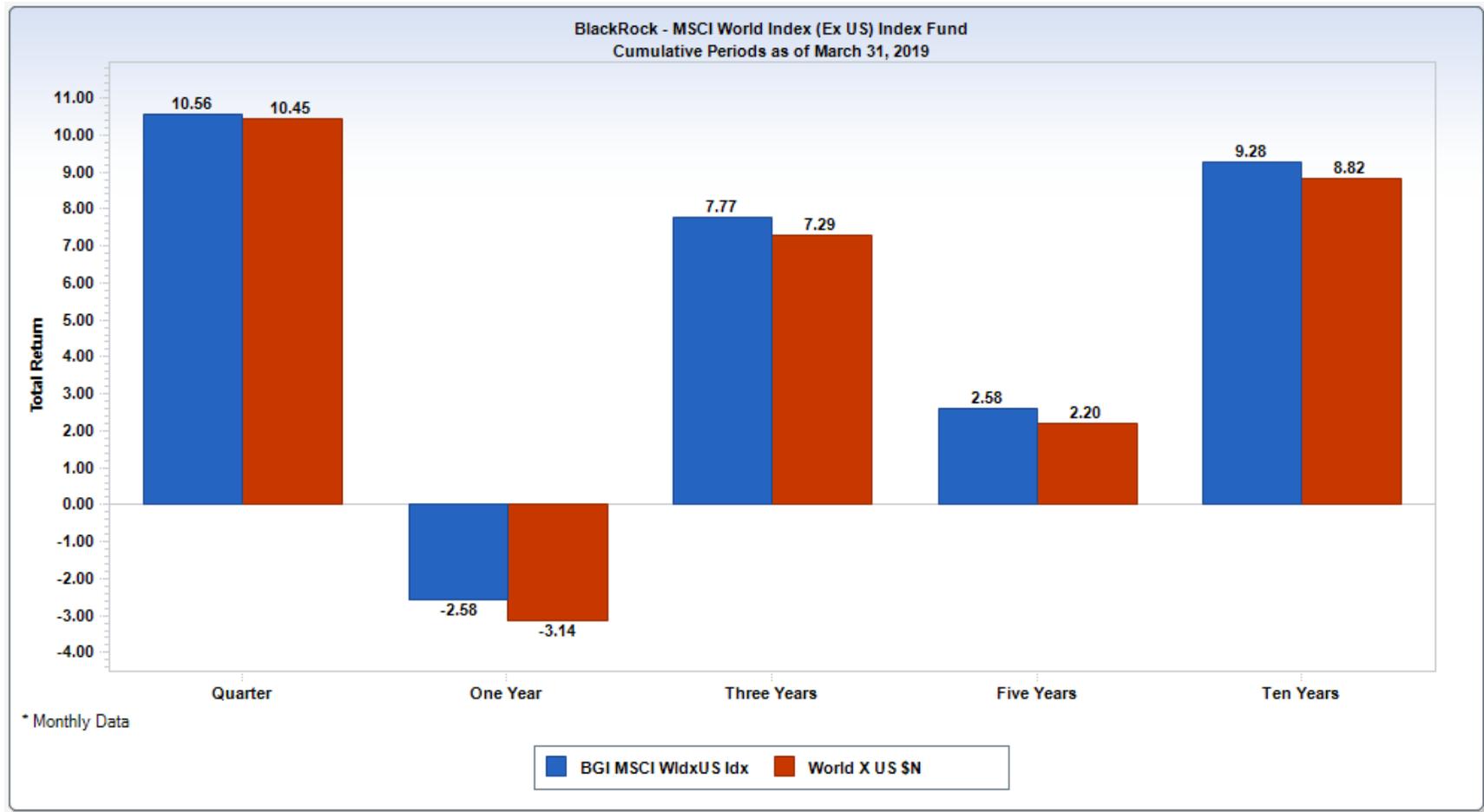


Wilshire Consulting



Blackrock - World Ex US Index

6.3



Global Emerging Markets (GEM) Discovery Strategy

June 2019

Leon Eidelman, Managing Director
Portfolio Manager
leon.eidelman@jpmorgan.com

Thomas Leventhorpe, Managing Director
Investment Specialist
thomas.r.leventhorpe@jpmorgan.com

Jeff Fox, Managing Director
Client Advisor
jeffrey.a.fox@jpmorgan.com

Our Commitment to Kentucky

State & Local Taxes Paid: \$11.9M | Consumer Customers: 1.1M | Govt. & Nonprofit Lending: \$63.5M | Commercial Banking Loans: \$1.6B

JPMorgan Chase contributed more than \$1.5M to nonprofits in the state in 2018

6.4



Investing in Skills

Our global workforce readiness initiatives are working with employers to help develop the talent pipelines they need to compete and providing them with critical support, education, and training to build in-demand skills that set them on stable and rewarding career paths

Contributed **\$1.3M to nonprofits** in support of Workforce Readiness in the state



Building Thriving Communities

Through initiatives like PRO neighborhoods – a \$125mm, 5-year commitment – we are working to identify and support solutions for creating economic opportunity in disadvantaged neighborhoods around the country

Contributed **\$29.7M to nonprofits** in support of Community Development in the state.



Boosting Small Business

- **Small Business Lending:** JPMC has provided **\$176.3M of financing** to businesses with revenues of \$20mm or less in the state
- **Small Business Support:** Contributed **\$100K to nonprofits** in support of Business Development in the state



Advancing Cities Challenge

Advancing Cities is our \$500mm, 5-year initiative to drive inclusive growth and create greater economic opportunities in cities. Entrants submitted proposals to address community challenges to help more people benefit from a growing economy.

In April, Louisville was selected as one of five winning cities in the inaugural challenge (selected from over 250 proposals across 45 U.S. states)

Source: JPMorgan Chase Global Philanthropy

1 | FOR INSTITUTIONAL/WHOLESALE/PROFESSIONAL CLIENTS AND QUALIFIED INVESTORS ONLY – NOT FOR RETAIL USE OR DISTRIBUTION

J.P.Morgan
Asset Management

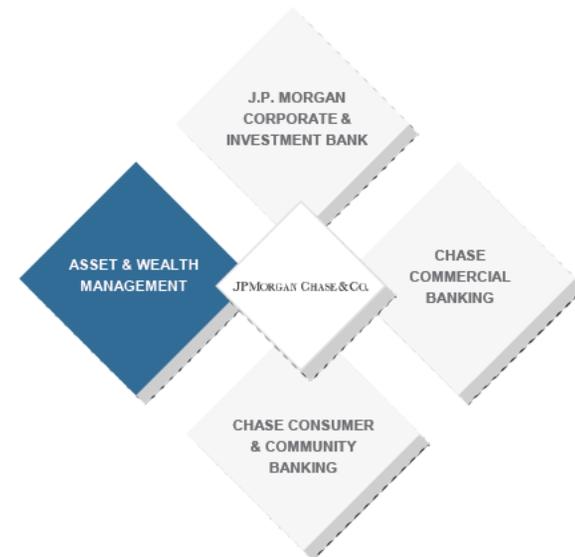
A fiduciary committed to client outcomes



“ J.P. Morgan Asset Management is committed to understanding our clients’ investment objectives and applying our intellectual capital to deliver superior investment outcomes. ”

Chris Willcox
Chief Executive Officer
Asset Management

WHO WE SERVE
<ul style="list-style-type: none"> • Defined Benefit • Defined Contribution • Insurance • Endowments & Foundations • Sovereigns • Intermediaries & Funds Management • Healthcare Providers • Corporate Treasury
WHAT WE DO
<ul style="list-style-type: none"> • Equities • Fixed Income • Alternatives • Solutions • Global Liquidity • Beta

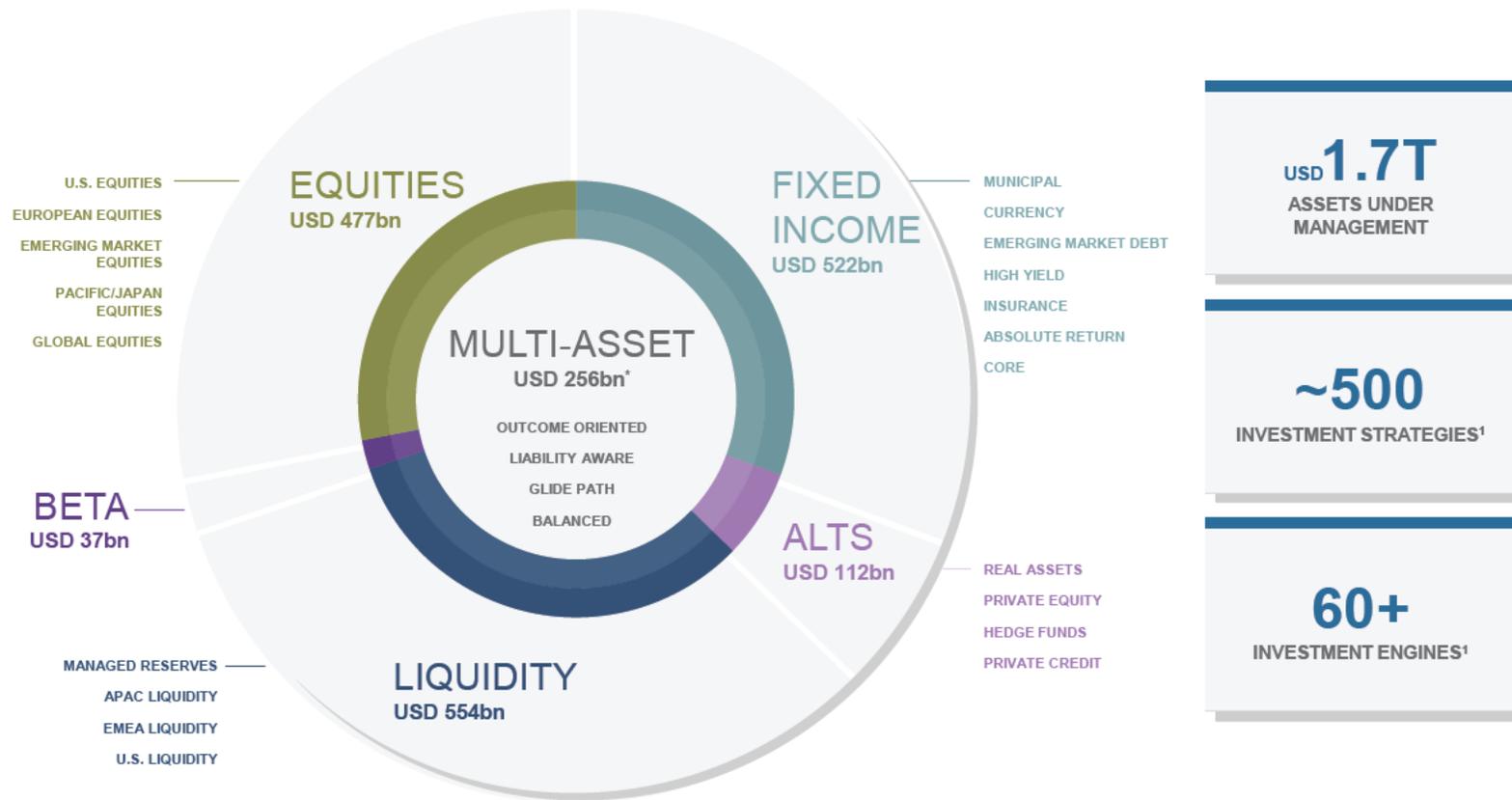


6.4



Build the right investment portfolio

Enabling better asset allocation decisions with strategies covering all asset classes



Source: J.P. Morgan Asset Management as of March 31, 2019. Stated AUM figures exclude retail advisory and glide path portfolios. *USD 41bn belongs to solutions direct. Data is updated annually, as of December 31, 2018.

Research led: Local equity expertise integrated globally

Actively sharing our expertise



6.4

9 LOCATIONS

370+ EQUITY INVESTMENT PROFESSIONALS WITH 12+ AVERAGE YEARS OF EXPERIENCE

149 EQUITY RESEARCH ANALYSTS WITH 9+ AVERAGE YEARS OF EXPERIENCE

USD **150_M** GLOBAL RESEARCH BUDGET

Source: J.P. Morgan Asset Management. As of 31st March 2019. Includes portfolio managers, research analysts, traders and investment specialists with VP title and above.

EMAP Platform – GEM Discovery

Emerging Markets & Asia Pacific (EMAP) Equities – Strategy highlights

	GEM Opportunities Strategy	GEM Diversified Strategy	GEM Focused Strategy	GEM Discovery Strategy	GEM Small Cap Strategy	Latin America Strategy	China A-share Strategy	Japan Core Strategy
Benchmark	MSCI Emerging Markets Index	MSCI Emerging Markets Index	MSCI Emerging Markets Index	MSCI Emerging Markets IMI*	MSCI Emerging Markets Small Cap Index	MSCI Latin America Index	CSI 300	TOPIX
Portfolio Managers	Richard Titherington Anuj Arora Sonal Tanna	Anuj Arora Joyce Weng	Austin Forey Leon Eidelman	Leon Eidelman Austin Forey Amit Mehta	Amit Mehta Austin Forey	Luis Carrillo, Sophie Bosch de Hood	Howard Wang Rebecca Jiang	Shoichi Mizusawa Naohiro Ozawa
Return Profile	Core	Core	Core	Unconstrained	Small Cap	Core	Core	Core
Style	Quality / Value	Core Value	Quality / Growth	Quality / Growth / SMID bias	Quality / Growth / Small-cap bias	Quality, Growth / SMID bias	Growth with Quality tilt	Quality / Growth / Core
Process	Top-down and bottom-up	Top-down and bottom-up	Fundamental Bottom-up	Fundamental Bottom-up	Fundamental Bottom-up	Fundamental Bottom-up	Fundamental Bottom-up	Fundamental Bottom-up
Holdings	50-80	100-175	60-100	60-100	60-140	50-70	50-70	40-80
Time Horizon / Annual Turnover	1-3 years Target 50%	1-2 years 50%-100%	3-5 years 10%-30%	3-5 years 20%-40%	3-5 years 10%-30%	3 years <50%	1-3 years 50-75%	2-3 years 50-80%
Long-term performance target**	3%+	2%+	3%	4%+	4%	3%	3%	3%
ActiveShare	70%+	60%+	65%+	80%+	85%+	40%+	70%+	65%+
Strategy inception date	Apr 2006	Jan 2007	May 1994	Nov 1997	Nov 2007	Jun 1992	Jun 2006	Aug 1969
AUM (USDm)	8,611	5,035	29,482	1,859	1,942	786	2,066	2,436
Strategy status/ Institutional	Open to new clients	Open to new clients	Open to new clients	Open to new clients	Not accepting new clients	Open to new clients	Open to new clients	Open to new clients

Source: J.P. Morgan Asset Management. AUM as of 31 March 2019. *MSCI Emerging Markets Investable Markets Index. The above portfolio characteristics are shown for illustrative purposes. The strategies are actively managed portfolios, holdings, sector weights, allocations, as applicable are subject to change at the discretion of the Investment Manager without notice. There can be no assurance that the professionals currently employed will continue to be employed by J.P. Morgan Asset Management or that the past performance or success of any such professional serves as an indicator of such professional's future performance or success

**The target returns are for illustrative purposes only and are subject to significant limitations. An investor should not expect to achieve actual returns similar to the target returns shown above. Because of the inherent limitations of the target returns, potential investors should not rely on them when making a decision on whether or not to invest in the strategy. Please see the complete Target Return disclosure at the conclusion of the presentation for more information on the risks and limitation of target returns.

6.4

Executive summary

GEM Discovery Strategy as of 30th April 2019

6.4

Expertise

Comprehensive research and local knowledge

- Nearly 100 dedicated portfolio managers and analysts across 8 countries
- Stability, experience, local knowledge and commitment

Portfolio

Invest in high quality businesses that compound earnings sustainably over the long term

- Over the long run, management's ability to exploit opportunities through internally generated funds will drive a company's earnings and therefore its stock price
- Fundamental, bottom-up, research driven, high active share
- In-depth fundamental analysis focuses on the economics, duration and governance of a business
- "Go anywhere" flexibility with a structural small and mid-cap tilt

Results

Strong track record of over 20 years

- The strategy has outperformed the benchmark over 1, 3, 5 and 10 years and since inception
- Annualised excess returns of 5% (gross) since inception
- The combination of persistent SMID bias and quality focus has generated outperformance in both up and down markets: 104% upside capture / 86% downside capture over the 5 years to December 31, 2018

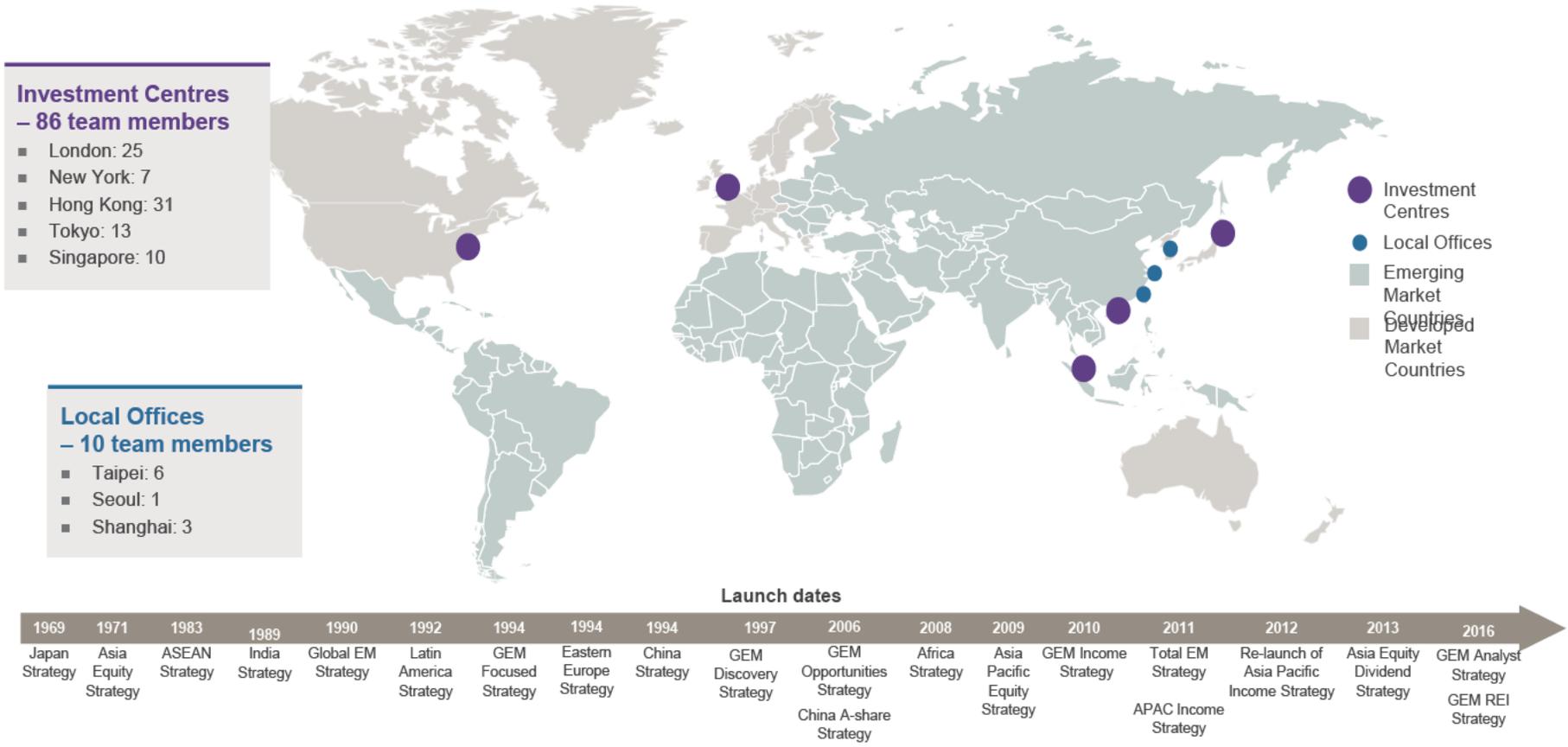
The manager seeks to achieve the stated objectives. There can be no guarantee the objectives will be met. Past performance is no guarantee of future results.

Expertise

Expertise, comprehensive coverage and long tenure

J.P. Morgan Asset Management in Emerging Markets & Asia Pacific (EMAP)

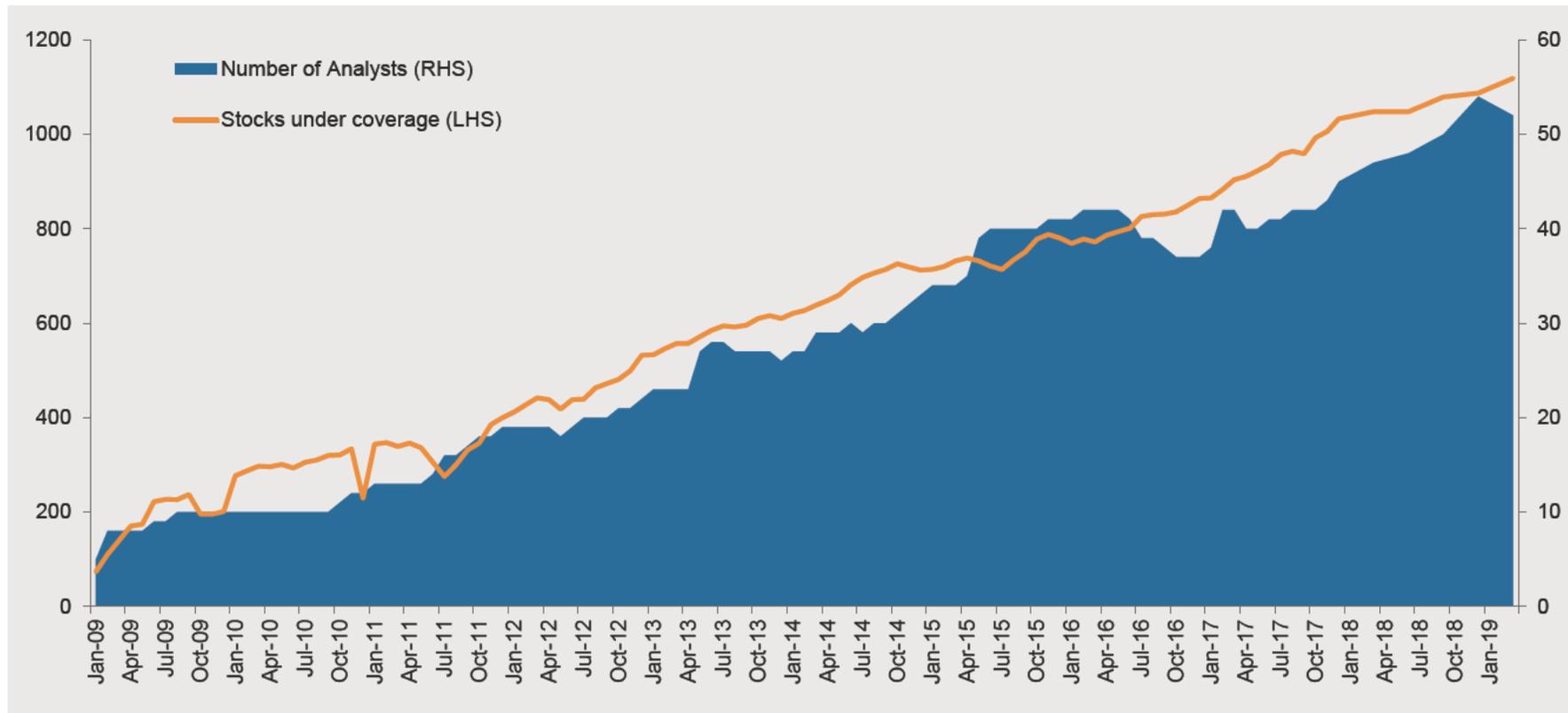
6.4



Source: J.P. Morgan Asset Management. As of 30th April 2019

Our fundamental research is a competitive advantage

1,119 stocks under coverage, of which close to 200 are A shares



6.4

Source: J.P. Morgan Asset Management, data as of end March 2019.

Number of Analysts = Analysts + Portfolio Managers that cover stocks. Coverage is defined by stocks with a Five Year Expected Return and Strategic Classification.



Global Emerging Markets (GEM) Fundamental: Portfolio management team



Richard Titherington
 Head of EMAP Equities
 Team
 Experience: 35/33

6.4

GEM Fundamental Team	Country Specialists	Investment Specialists
 <p>Austin Forey Experience: 31/31</p>	 <p>Howard Wang Experience: 24/14</p>	 <p>Oleg Biryulyov Experience: 25/25</p>
 <p>Leon Eidelman Experience: 16/16</p>	 <p>Pauline Ng Experience: 18/14</p>	 <p>Luis Carrillo Experience: 26/20</p>
 <p>Amit Mehta Experience: 17/7</p>	 <p>Rukhshad Shroff Experience: 27/25</p>	 <p>Thomas Leventhorpe Experience: 35/12</p>
 <p>John Citron Experience: 9/9</p>		 <p>Robert LeDoux Experience: 13/13</p>
		 <p>Curtis Butler Experience: 26/7</p>
		 <p>Kate Murphy Experience: 12/12</p>
		 <p>Timothy Morris Experience: 15/15</p>

Source: J.P. Morgan Asset Management. As of 30th April 2019
 Number of years experience Industry/Firm as of 31st December 2018

Emerging Markets and Asia Pacific (EMAP) Equities research platform

6.4



Mark Ferguson
Head of Sector Research
Exp 19/19

Financials



Chris Birney
Exp: 18/9



Li Tan
Exp: 8/8



Giovanni Carriere
Exp: 21/5



Ravi Tanna
Exp: 8/<1



Connie Shen
Exp: 8/5

Consumer



Aline Gaspar
Exp: 15/15



Catherine Moong
Exp: 18/13



Piotr Drozd
Exp: 11/4



Anuj Bansal
Exp.: 12/<1



Eva Wang
Exp: 14/2



Yunyun Hu
Exp: 10/1



Lin He
Exp: 15/1



Shumin Huang
Head of Greater China Research
Exp 27/13

Technology & Telecoms



Edward Yen
Exp: 14/<1



Penny Tu
Exp: 13/5



Ansel Lin
Exp 6/<1



Robert Yen
Exp: 16/3



Paul Chan
Exp: 25/19



Tucker Grinnan
Exp: 18/4



Sagar Rastogi
Exp: 10/1

Fundamental Product Analysts



Koji Namiki
Fundamental
Exp: 21/14



Mark Perrin
Fundamental
Exp: 14/5



Weiying Dong
Fundamental
Exp: 13/4



Amy Thavornasuk
EMEA
Exp: 12/8



Rachel Rodrigues
LATAM
Exp: 10/4



Karan Sikka
India
Exp: 15/14



Seol Kim
Korea
Exp: 13/2



Chris Smith
Australia
Exp: 10/2

Macro & Quantitative Analysts



Harold Yu
Exp: 5/5



Julian Wong
Exp: 7/5



Nandini Ramakrishnan
Strategy
Exp:5/5

Industrials



Gokhan Ates
Exp: 15/8



Simmy Qi
Exp: 8/8



Mark Mao
Exp: 9/2



Bonnie Chang
Exp: 19/4



Willy Chen
Exp: 9/1



Vivian Tao
Exp: 21/<1

Natural Resources



Veronika Lysogorskaya
Exp: 13/8



Sandro Apostolico
Exp: 22/22



Andrew Tan
Exp: 24/11

Healthcare



Denise Valentine
Exp: 23/3



Vincent Yu
Exp: 11/6

Select Developed Asia analysts



Thomas Stoegner
Exp: 12/2

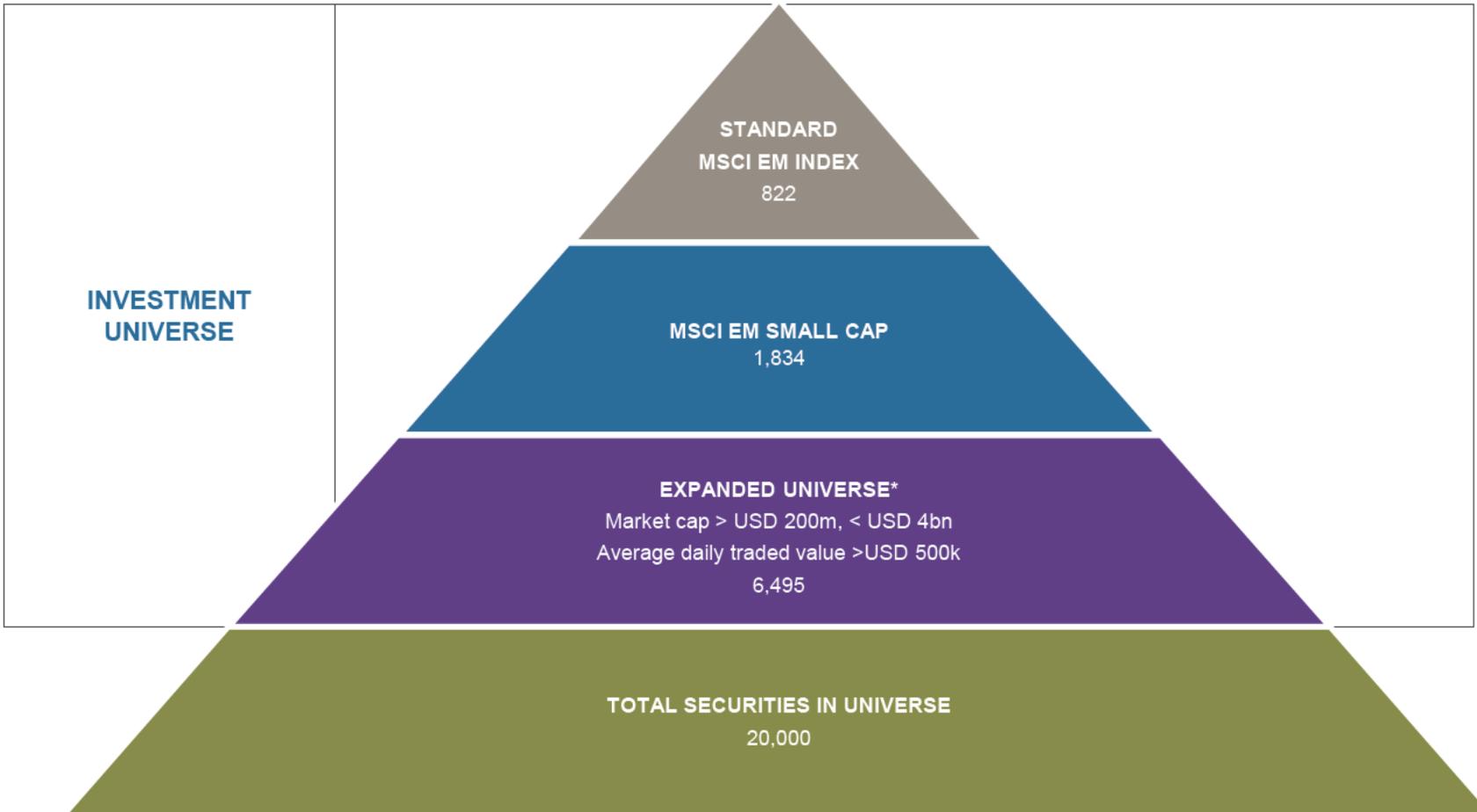


Rajesh Panjwani
Exp: 19/2

Source: J.P. Morgan Asset Management. As of 30th April 2019
Number of years experience Industry/Firm as of 31st December 2018

Portfolio

A broad opportunity set



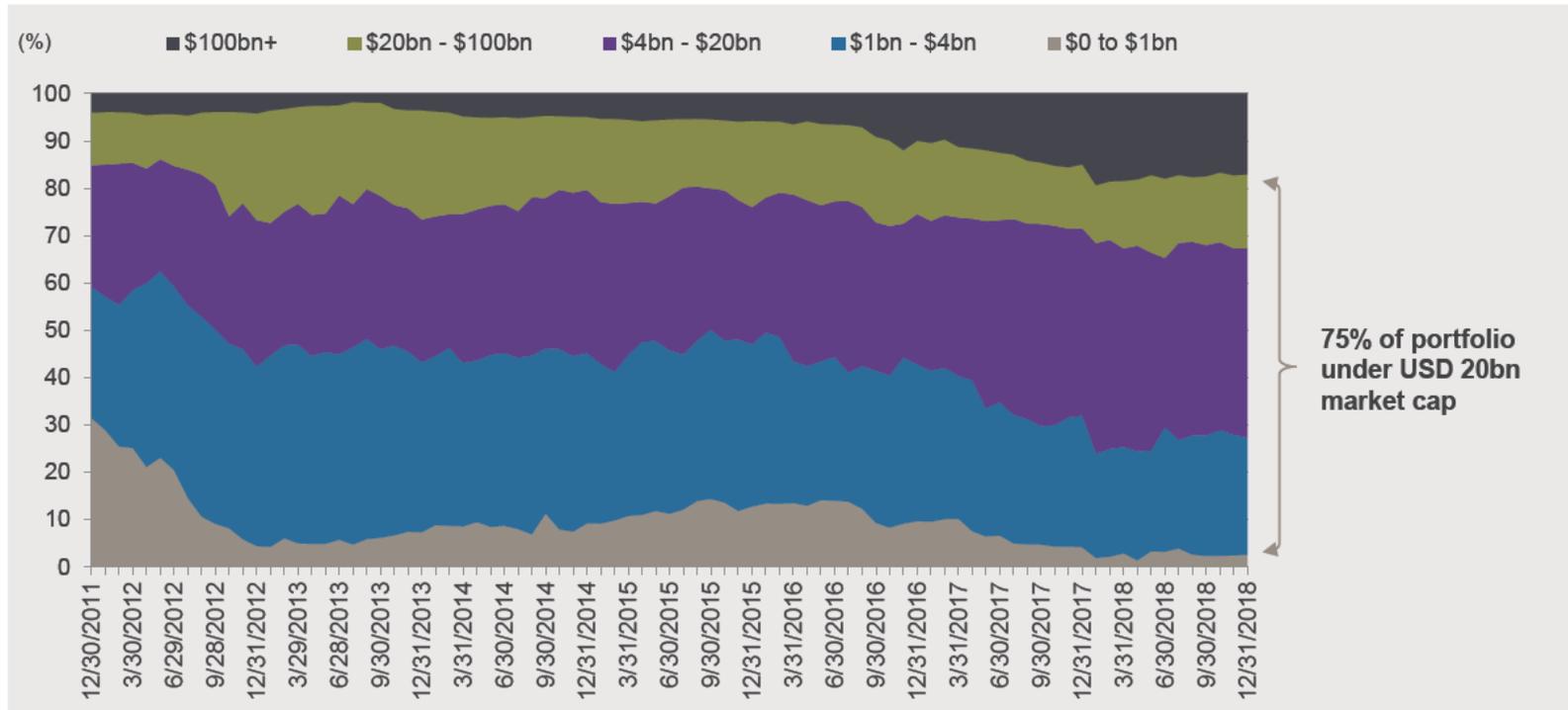
6.4

Source: MSCI Barra, Bloomberg, numbers of companies are approximate and provided for illustrative purposes. *includes MSCI EM Countries plus off-index countries located in Emerging Markets as well as Emerging Markets related stocks listed in Hong Kong and Singapore. Data as of end July 2018.



Global Emerging Markets Discovery Strategy

Market cap breakdown



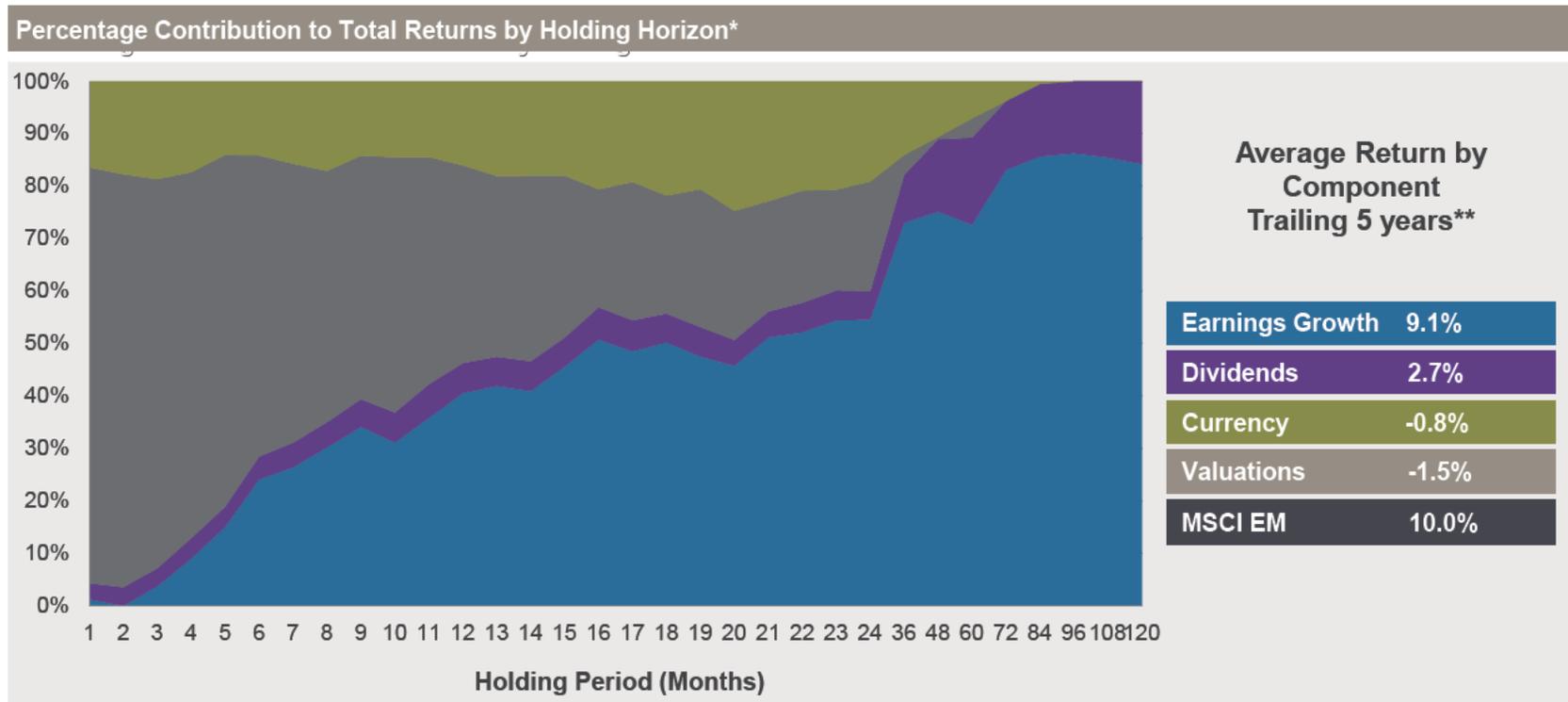
6.4

Source: J.P. Morgan Asset Management, as of end of December 2018.



Earnings are what matter over the long-term

6.4

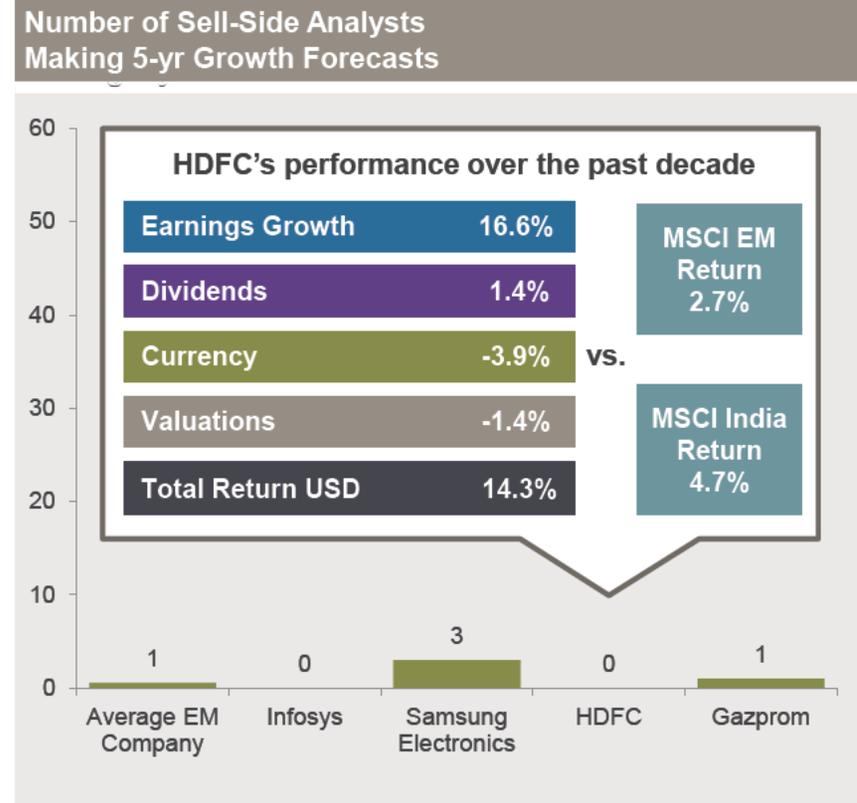
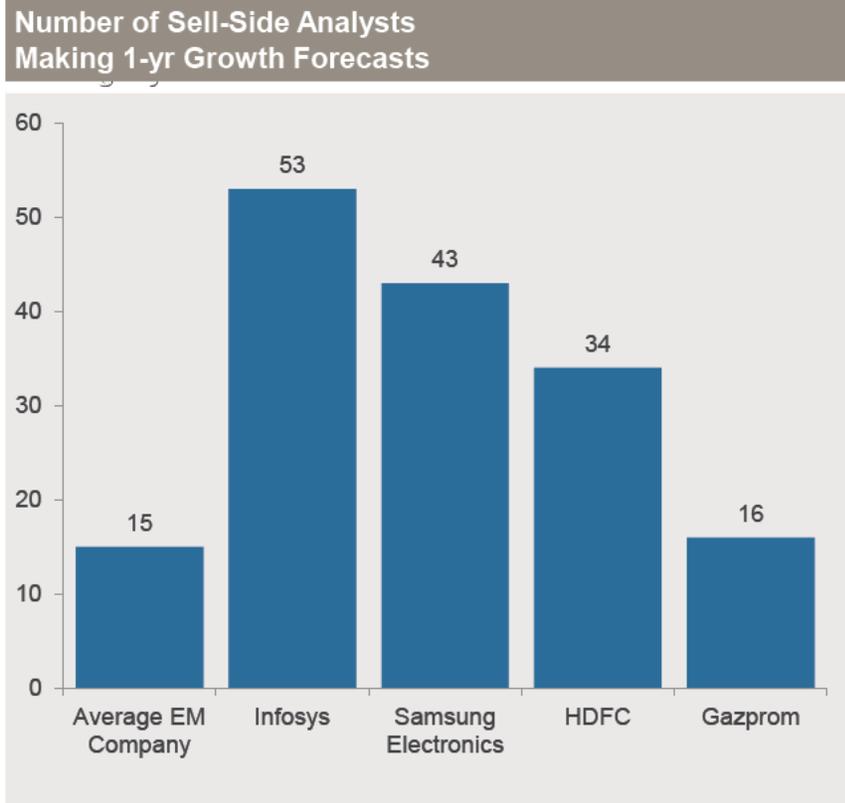


Source: J.P. Morgan Asset Management, MSCI.

*Chart as of March 2017 based on data from MSCI for the period between 1994 and 2017. Past performance is not necessarily a reliable indicator for current and future performance.

**Average return by component trailing five years, average of quarterly MSCI data from March 1998 to March 2019.

Our proprietary research is focused on the long-term



6.4

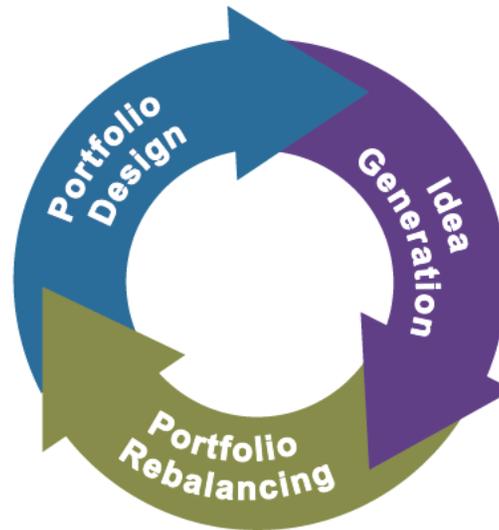
Source: Bloomberg, Factset J.P. Morgan Asset Management, as of March 2017. MSCI India and EM returns are in USD. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities. Past performance is not necessarily a reliable indicator for future performance.



Summary Investment Process

Portfolio Design (PM)

- Low running costs
- High level of active share
- Effective diversification



Idea Generation (Team)

- Is this the kind of business we want to own?
- At what price would we buy & sell the stock?

Portfolio Rebalancing (PM)

- How does a stock get into the portfolio?
- Maximise return, manage risk

For illustrative purposes only

Strategic classifications: Premium, Quality, Trading

Understanding the business

6.4

Economics

Does the business create value for shareholders?

- Sustainable Return on Equity
- Capital intensity
- Cash generation
- Balance sheet and funding
- Ability to finance growth
- Pricing power and inflation

Duration

Can this value creation be sustained?

- Resilience of the business
- Industry structure & growth
- Competitive advantage
- Economic moats
- Environmental factors
- Social responsibility

Governance

How will governance impact shareholder value?

- Shareholder focus
- Management competence
- Capital allocation
- Ownership structure
- Transparency and access
- Distribution to shareholders

Understanding the business

Strategic classifications

<p>Premium Companies</p>	<ul style="list-style-type: none"> ■ Produce very good returns for shareholders (economics) ■ Can continue to do so for a long time because they have a durable competitive position (duration) ■ Do not impair returns to shareholders through poor capital allocation (competence) or because of divergent interests (motives) 	<p>HDFC (India, Financials)</p>
<p>Quality Companies</p>	<ul style="list-style-type: none"> ■ Are good businesses which make a good return, but our confidence in their long term value creation is lower than for premium companies 	<p>Embraer (Brazil, Industrials)</p>
<p>Trading Companies</p>	<ul style="list-style-type: none"> ■ Long term creation of value for shareholders is unappealing, especially when viewed on a risk/reward basis ■ Instead, changes in valuation are needed rather than in underlying value created by the company 	<p>Gazprom (Russia, Energy)</p>

6.4

...Understanding the risk/return characteristic of a business

The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not positions on behalf of its clients in any or all of the aforementioned securities

Risk Profile

Learning from past mistakes

- 98-question checklist with three quarters of questions focused on governance and specific ESG* questions

■ Economics

- Does the company operate in an industry with high capital intensity?
- Is accounting profit significantly different to cash profit?

■ Duration

- Does the company receive significant government subsidies?
- Does the company have issues with toxic emissions, waste management or other environmental damage?
- Does the company have issues with labour relations?
- Has the company had issues with privacy or data security?

■ Governance

- Does the management fail to admit mistakes?
- Has the company changed key accounting policies?
- Does the owner have a history of poor governance, or of abusing minority shareholders?

Source: J.P. Morgan Asset Management. Data as of 31st March 2019.

*ESG stands for Environmental, Social, Governance.

ESG considerations are one aspect of our decision making process. We continue to only make investments that we believe will be return-enhancing and accretive to our clients' portfolios.

An absolute measure with large variation between country & sector

Sector	Average Red Flags	Country	Average Red Flags
Energy	24	UAE	28
Materials	21	Russia	27
Utilities	18	China	20
Financials	17	Korea	19
Telecom	16	Qatar	18
Industrials	16	Malaysia	18
Consumer Discretionary	14	Thailand	17
IT	15	Philippines	16
Health Care	17	Brazil	16
Consumer Staples	11	Taiwan	16
		Indonesia	16
		India	15
		Turkey	14
		Mexico	13
		Chile	12
		South Africa	12
		Egypt	8

Classification	Average Red Flags
Trading	20
Quality	11
Premium	6

6.4

Five Year Expected Returns

Valuing the business

- Annualised USD expected return detailing the four sources of return for a stock
- Five year time horizon
- Key analyst inputs:
 - Normalised profitability
 - Sustainable growth rate of earnings and dividends
 - Fair valuation in five years time
- Valuation inputs closely linked to Strategic Classification analysis
- Framework concentrates the investment debate



...a single framework enabling comparisons across the entire investment universe

*Earnings growth equals earning per share.

Where it all comes together

Portfolio construction

<p>Long-term approach</p>	<ul style="list-style-type: none"> ■ Lowers cost and breakeven skill level ■ Greater return to skill (versus chance) – Turnover typically below 20% to 40% p.a. – Investment horizon 3 to 5 years
<p>Prioritise return over risk minimisation</p>	<ul style="list-style-type: none"> ■ Bottom-up portfolio construction against a diversified index – Typical active share 80%+ – Relative country, sector and stock positions unconstrained but closely monitored
<p>Concentrated portfolio</p>	<ul style="list-style-type: none"> ■ Forces selectivity and scrutiny – On average 60 to 100 holdings
<p>Independent positions</p>	<ul style="list-style-type: none"> ■ Forces understanding of sources of return ■ Stock level decisions give greater choices – Universe of 3,000+ stocks – Cross correlations closely monitored

6.4

For illustrative purposes only

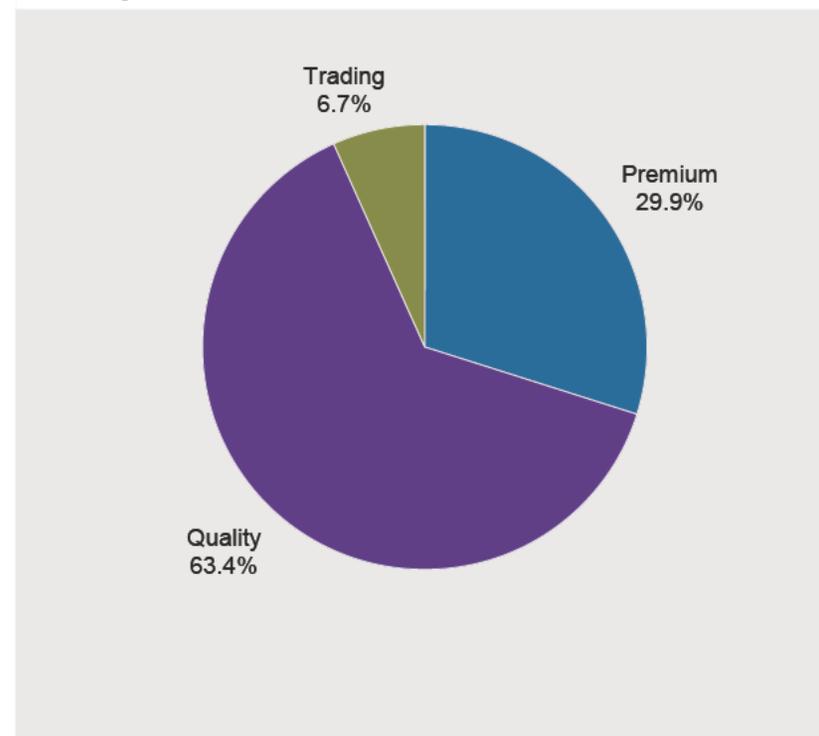
Portfolio characteristics

Global Emerging Markets Discovery Strategy as of 30th April 2019

Benchmark MSCI Emerging Markets IMI Index

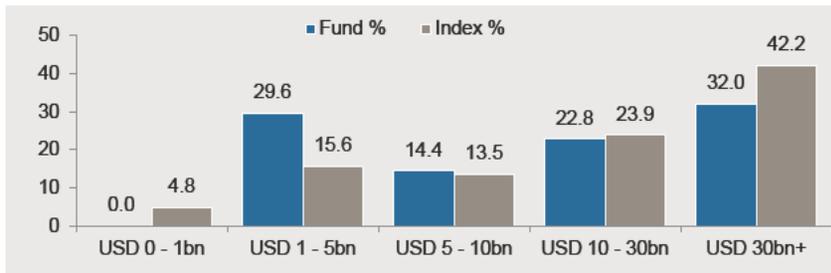
Portfolio (as of March 2019)	Fund	Index
Price/Earnings (forward)	17.6x	11.9x
Return on equity	19.9%	12.9%
*Net Debt to Equity	-10%	32%
Number of issuers	85	2,639
Active share	82.0%	
Beta	0.99	
Off- Index position	29.2%	

Strategic Classifications: % of Portfolio



6.4

Market capitalization



Source: UBS PAS, PRISM.

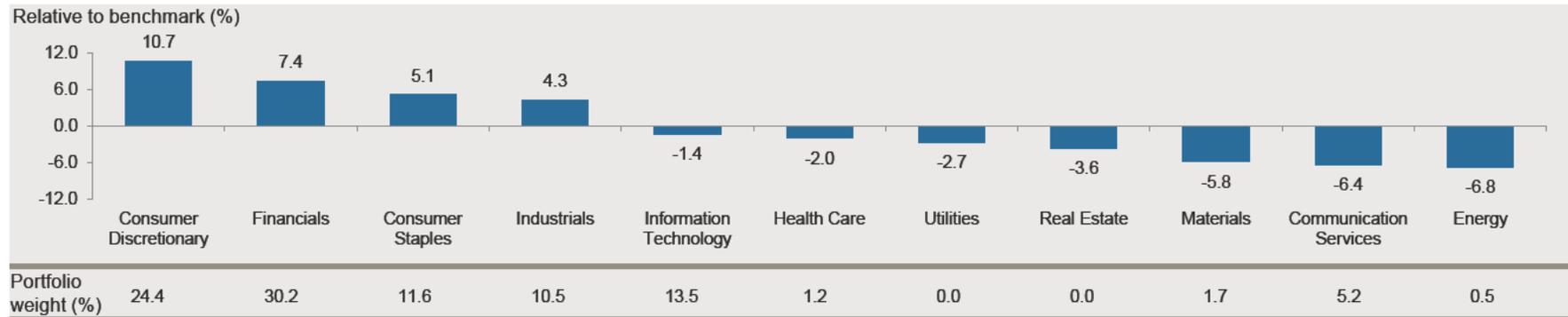
The Strategy is an actively managed portfolio, holdings, sector weights, allocations and leverage, as applicable are subject to change at the discretion of the Investment Manager without notice. The portfolio is an actively managed portfolio, holdings, sector weights, allocations and leverage, as applicable are subject to change at the discretion of the Investment Manager without notice. Past performance is not an indication of current and future performance. *Net debt to equity ratio excludes financials.

Country and sector positions

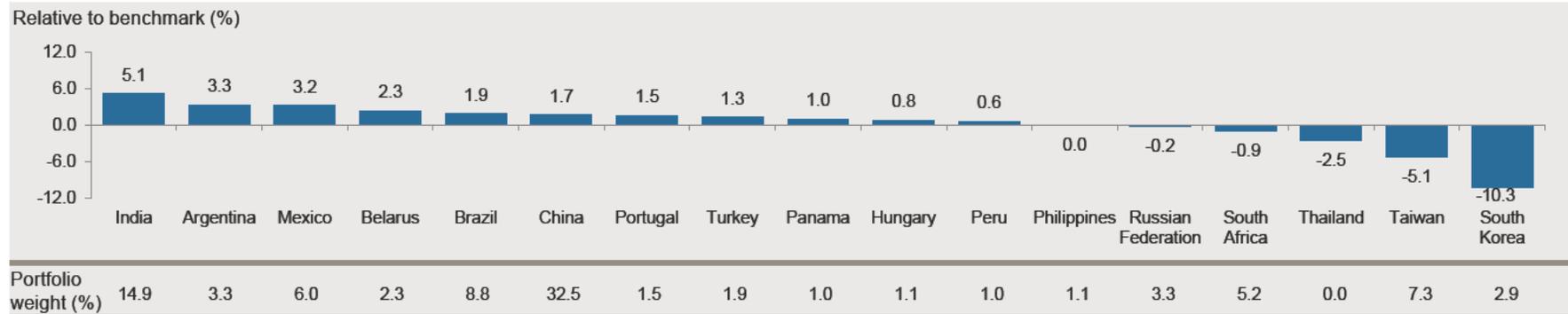
Global Emerging Markets Discovery Strategy as of 30th April 2019

Benchmark MSCI Emerging Markets IMI Index

Active and absolute sector positions



Active and absolute country positions



Source: J.P. Morgan Asset Management. The Fund is an actively managed portfolio. Holdings, sector weights, allocations and leverage, as applicable, are subject to change at the discretion of the Investment Manager without notice.

Portfolio positions

Global Emerging Markets Discovery Strategy as of 30th April 2019

Benchmark	MSCI Emerging Markets IMI Index
-----------	---------------------------------

6.4

Top 10 overweight positions

Stock	Country	Sector	Market cap.(USD millions)	Portfolio weight (%)	Benchmark weight (%)	Relative position (%)
AIA Group	China	Financials	122,540	2.6	0.0	2.6
HDFC Bank	India	Financials	90,534	2.6	0.0	2.6
Epam Systems	Belarus	Information Technology	9,787	2.3	0.0	2.3
Ping An Insurance	China	Financials	220,074	3.3	1.1	2.2
HDFC	India	Financials	49,329	2.9	0.8	2.1
51Job, Inc	China	Industrials	5,770	1.9	0.0	1.8
Mercadolibre, Inc.	Argentina	Consumer Discretionary	23,877	1.8	0.0	1.8
Grupo Aeroportuario Del Sureste	Mexico	Industrials	4,924	1.8	0.1	1.7
Sberbank	Russia	Financials	78,333	2.3	0.6	1.7
BK Brasil Operacao E Assessoria	Brazil	Consumer Discretionary	1,304	1.6	0.0	1.6

Top 10 underweight positions

Stock	Country	Sector	Market cap.(USD millions)	Portfolio weight (%)	Benchmark weight (%)	Relative position (%)
Naspers	South Africa	Consumer Discretionary	110,172	0.0	1.8	-1.8
Samsung Electronics C	South Korea	Information Technology	266,613	1.7	3.5	-1.8
China Construction Bank	China	Financials	220,840	0.0	1.4	-1.4
Tencent Holdings	China	Communication Services	468,373	3.4	4.7	-1.2
Alibaba Group	China	Consumer Discretionary	477,273	2.8	4.0	-1.1
China Mobile	China	Communication Services	195,088	0.0	1.0	-1.0
TSMC	Taiwan	Information Technology	217,338	2.4	3.4	-1.0
Reliance Industries	India	Energy	118,602	0.0	0.9	-0.9
ICBC	China	Financials	26,575	0.0	0.9	-0.9
Petroleo Brasileiro	Brazil	Energy	98,930	0.0	0.8	-0.8

Source: J.P. Morgan Asset Management

Benchmark: MSCI EM IMI. Market Cap as of the end of April 2019 in USD millions. The inclusion of the securities mentioned above is not to be interpreted as recommendations to buy or sell. The information above is taken from a representative account. Actual account information may differ.

Results

Performance

Global Emerging Markets Discovery Strategy as of 30th April 2019

Supplemental to annual performance report

Market value (as of April 2019)

Global Emerging Markets Discovery Strategy USD 2,392m

6.4

Annualized performance (%) – Gross of fees

Supplemental to Annual Report	Three months	One Year	Three years	Five years	Seven Years	Ten Years	Since Inception
Global Emerging Markets Discovery Strategy Composite	8.10	2.26	15.97	9.25	7.81	14.77	11.80
MSCI Emerging Markets IMI	3.12	-5.85	10.53	3.77	3.14	7.60	6.33
Excess Returns	4.83	8.62	4.93	5.29	4.53	6.67	5.15

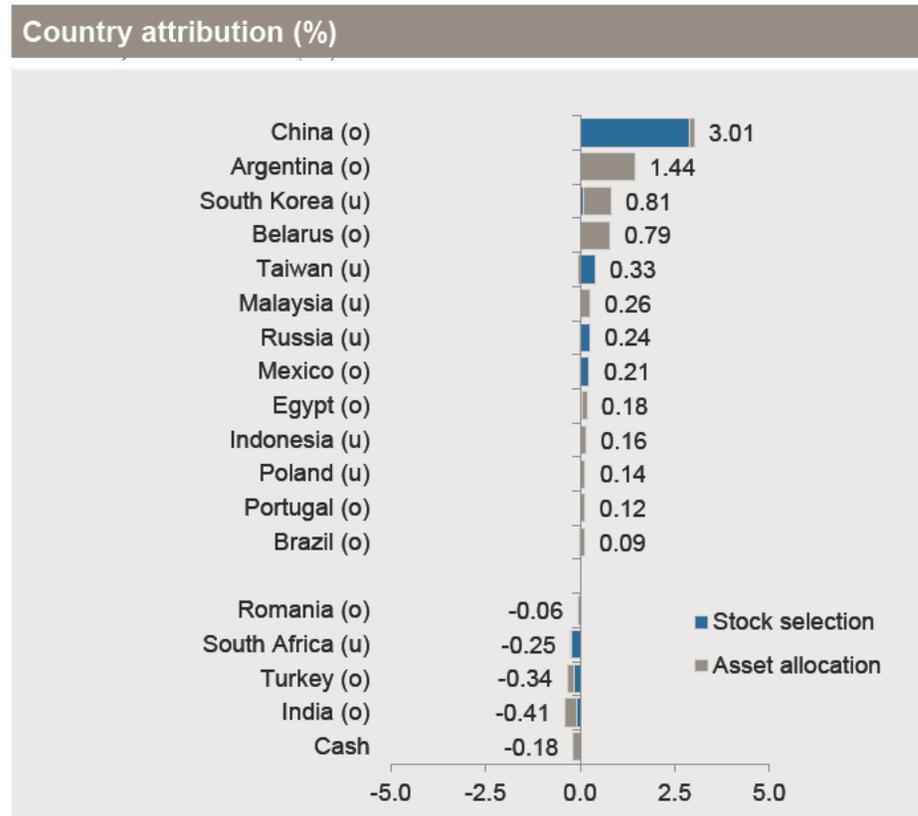
Calendar year performance (%) – Gross of fees

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Global Emerging Markets Discovery Composite	-27.41	83.71	-24.65	-0.90	-7.88	68.07	37.04	29.65	33.18	41.46	-57.42	129.83	34.99	-19.33	21.06	3.27	1.72	-8.53	13.96	46.39	-14.82
MSCI EM IMI	-29.67	62.63	-35.31	-2.02	-6.49	53.97	26.62	33.47	31.71	39.83	-53.78	82.36	19.90	-19.49	18.68	-2.20	-1.79	-13.86	9.90	36.83	-15.05
MSCI EM Standard	-25.34	66.41	-30.61	-2.61	-6.17	55.81	25.55	33.99	32.17	39.39	-53.33	78.51	18.88	-18.42	18.22	-2.60	-2.19	-14.92	11.19	37.28	-14.58
Excess Returns vs. IMI	3.21	12.96	16.48	1.14	-1.49	9.16	8.23	-2.86	1.12	1.17	-7.88	26.03	12.59	0.20	2.01	5.59	3.57	6.19	3.70	6.99	0.27
Excess Returns vs. Standard	-2.77	10.40	8.59	1.76	-1.82	7.87	9.15	-3.24	0.76	1.49	-8.76	28.75	13.55	-1.12	2.40	6.03	4.00	7.51	2.50	6.63	-0.28

Source: J.P. Morgan Asset Management. Returns are gross of fees in USD. Excess returns are calculated on a geometric basis. This information is supplemental to information provided previously. Past performance is not a guarantee of comparable future results. Total return assumes the reinvestment of income. Performance results are gross of investment management fees. The deduction of an advisory fee reduces an investor's return. Actual account performance will vary depending on individual portfolio security selection and the applicable fee schedule. Fees are described in Part II of the Advisor's ADV which is available upon request. Please see back page for additional disclosure

Performance attribution

Global Emerging Markets Discovery Strategy – YTD to 30th April 2019



Attribution summary	Stock: 3.44 Country: 3.51
Benchmark	MSCI Emerging Markets IMI Index

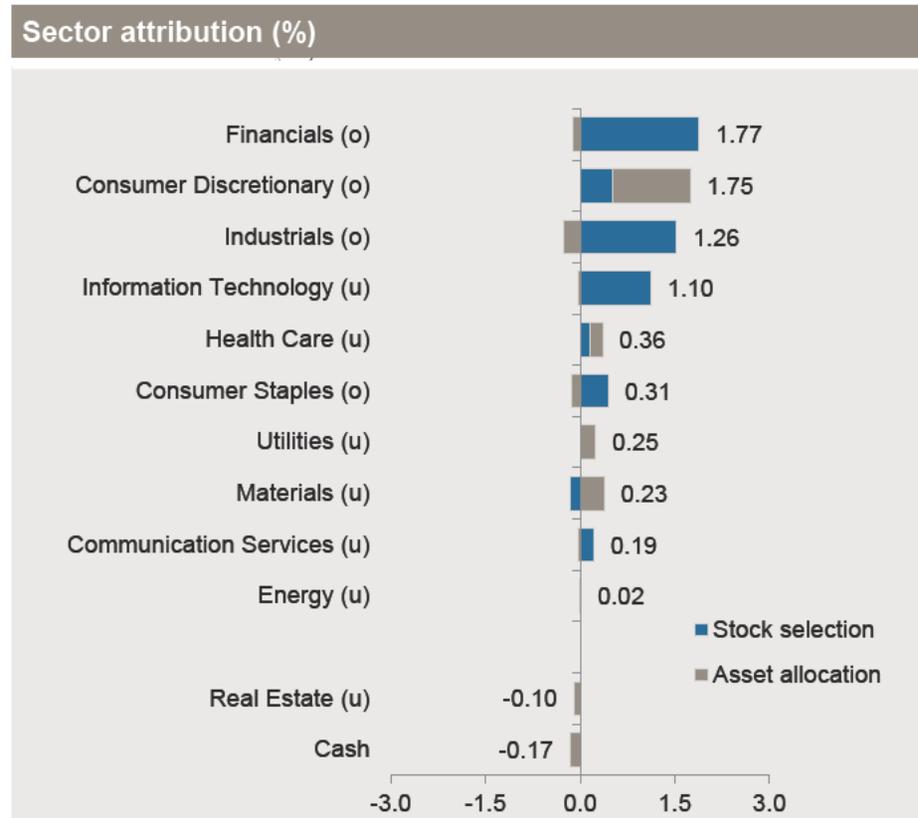
- Stock selection in China was a leading contributor to relative performance. New Oriental Education was among the top contributors during this period, after the company announced revenue beating market expectations.
- Relative performance was also aided by appliance manufacturers Midea and Hangzhou Robam, which began to recover amid expectations that monetary and fiscal stimulus will support growth and boost domestic demand.
- In India, some cyclical indicators suggested slower economic growth, while the corporate reporting season indicated that an overall recovery in earnings and profitability remains elusive. There was also some controversy over the accuracy of India's economic data, with some allegations that there may have been political intervention in order to make the data look more positive. As a result, holdings in the financial services sector, including HDFC, underperformed.
- Stock selection in Turkey detracted from performance, driven by economic turmoil in the country. Overweight positions in Ford Otomotiv and BIM Birlesik Magazalar, a Turkish supermarket operator, were leading detractors in the market.

Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%). Factset, gross of fees in USD to 30th April 2019. Data for Total Attribution shown (stock selection plus country allocation). Attribution may not match official returns due to differences in systems rounding. Past performance is not an indication of future performance. The above portfolio characteristics are shown for illustrative purposes only and are subject to change without notice. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.

Performance attribution

Global Emerging Markets Discovery Strategy – YTD to 30th April 2019

Attribution summary	Stock: 5.73 Sector: 1.22
Benchmark	MSCI Emerging Markets IMI Index



- On the positive side, our holding in Mercadolibre (Argentina, consumer discretionary) contributed to returns during this period. The company reported strong 4th quarter earnings, with net revenue up 20% YOY, beating expectations. As part of its expansion plans the company raised \$1bn in a heavily subscribed public offering, as well as securing a \$750mn direct investment from PayPal in March, which should allow the company to invest more heavily in its payment business.
- Also, our off-benchmark exposure to Globant, an IT and software development company, boosted relative returns. The stock has benefitted from the growing demand for digital solutions across a blue-chip customer portfolio.
- Automotive parts supplier Nexteer Automotive was a detractor, hurt by a slower Chinese market. While revenues and margins have been impacted by a slowing market and heavy investment, we believe this is cyclical. Additionally, Ambev (consumer staples), the Brazilian based brewer, detracted from returns.

Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%), Factset, gross of fees in USD to 30th April 2019. Data for Total Attribution shown (stock selection plus country allocation). Attribution may not match official returns due to differences in systems rounding. Past performance is not an indication of future performance. The above portfolio characteristics are shown for illustrative purposes only and are subject to change without notice. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.

Performance attribution

Global Emerging Markets Discovery Strategy – YTD to 30th April 2019

Attribution summary	Stock: 3.44
	Country: 3.51
Benchmark	MSCI Emerging Markets IMI Index

Stock attribution

Top 10 Contributors	Relative weight (%)	Stock return (%)	Impact (%)
MercadoLibre*	2.08	65.32	1.01
EPAM Systems*	2.23	54.61	0.78
New Oriental	1.11	74.17	0.49
51Job	1.59	47.89	0.49
Globant*	1.35	49.13	0.42
Ping An Insurance	2.04	36.31	0.42
Midea Group	1.35	44.88	0.37
Hangzhou Robam Appliances	0.76	47.29	0.29
Sberbank of Russia	1.71	29.86	0.28
Yili Group	1.08	41.12	0.26

Top 10 Detractors	Relative weight (%)	Stock return (%)	Impact (%)
CVC Brasil Operadora	1.45	-8.93	-0.31
Naspers	-1.70	31.26	-0.29
Bim Birlesik Magazalar	0.96	-14.93	-0.26
HDFC	2.23	1.92	-0.25
Nexteer Automotive Group	1.20	9.81	-0.22
IndusInd Bank*	1.67	0.83	-0.20
Mr Price	0.70	-11.69	-0.20
Supreme Industries	1.08	-2.34	-0.20
Alibaba	-0.98	35.38	-0.19
Ford Otomotiv	1.17	-1.86	-0.19

Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%). Factset, gross of fees in USD to 30th April 2019. Attribution may not match official returns due to differences in systems rounding. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.*Not in benchmark.

Strategy Summary

Global Emerging Markets Discovery as of 30th April 2019



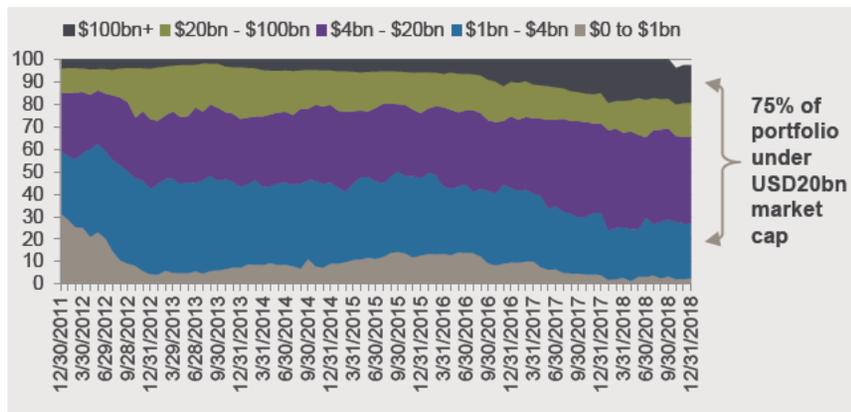
Leon Eidelman
Portfolio Manager
Experience: 16/16



Austin Forey
Portfolio Manager
Experience: 31/31



Amit Mehta
Portfolio Manager
Experience: 17/7



Fund Information

Inception Date	November 1997
Benchmark	MSCI Emerging Markets IMI Index
Market capitalisation	All-cap with a SMID bias
Strategy size	USD 2,392m
Target number of holdings	60-100

Key Characteristics (as of March 2019)

	Strategy	Index
Price/Earnings (forward)	17.6x	11.9x
Return on equity	19.9%	12.9%
*Net Debt to Equity	-10%	32%
Number of issuers	85	2,639
Active share	82.0%	
Beta	0.99	
Off- Index position	29.2%	

Long-term, high conviction strategy with a growth and quality approach

Source: UBS Portfolio Analysis System, J.P. Morgan Asset Management, PRISM. There is no guarantee that these will be achieved. MSCI Emerging Markets IMI. Numbers are UBS analyst estimates where available, and otherwise consensus. *Net debt to equity ratio excludes financials. Market cap chart as of end December 2018.

Environments

Global Emerging Markets Discovery Strategy as of 30th April 2019

Environments in which the portfolio tends to perform well

- Benign macro economic environments
- Markets that lack a strong directional theme
- Company specific factors are the main drivers of returns (and there is broad participation)
- Consumer oriented sectors outperform more cyclical sectors, specifically energy and materials
- Small and mid cap stocks outperform

Example: 2015

- The market was generally characterized by a benign macro economic environment, despite spikes in volatility in China and South Africa during the year
- The Strategy outperformed, driven by stock selection as macro headwinds subsided and company specific factors began to drive returns
- IT outsourcers, attractive due to their high standards of corporate governance, strong economics and cash flow generation, were leading contributors across a range of markets

Environments in which the portfolio tends to struggle

- Low quality, deep value stocks outperform
- Large cap stocks outperform and market leadership is very narrow
- Positive momentum is a dominant factor
- Sharp macro and FX driven corrections
- Standalone commodity rallies
- Liquidity driven sell-offs

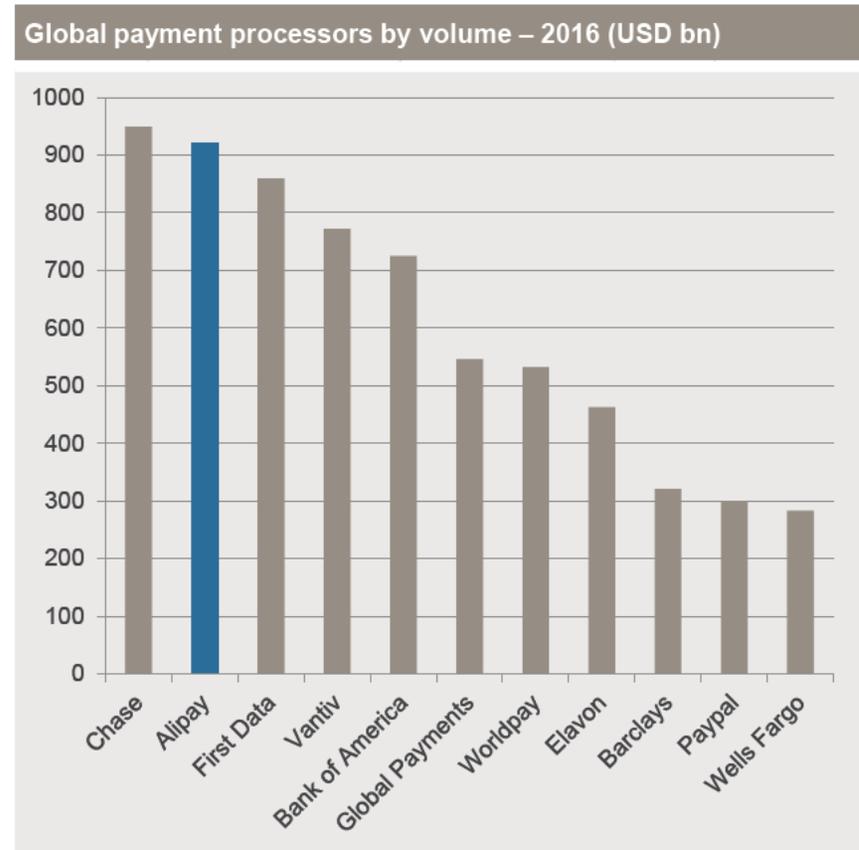
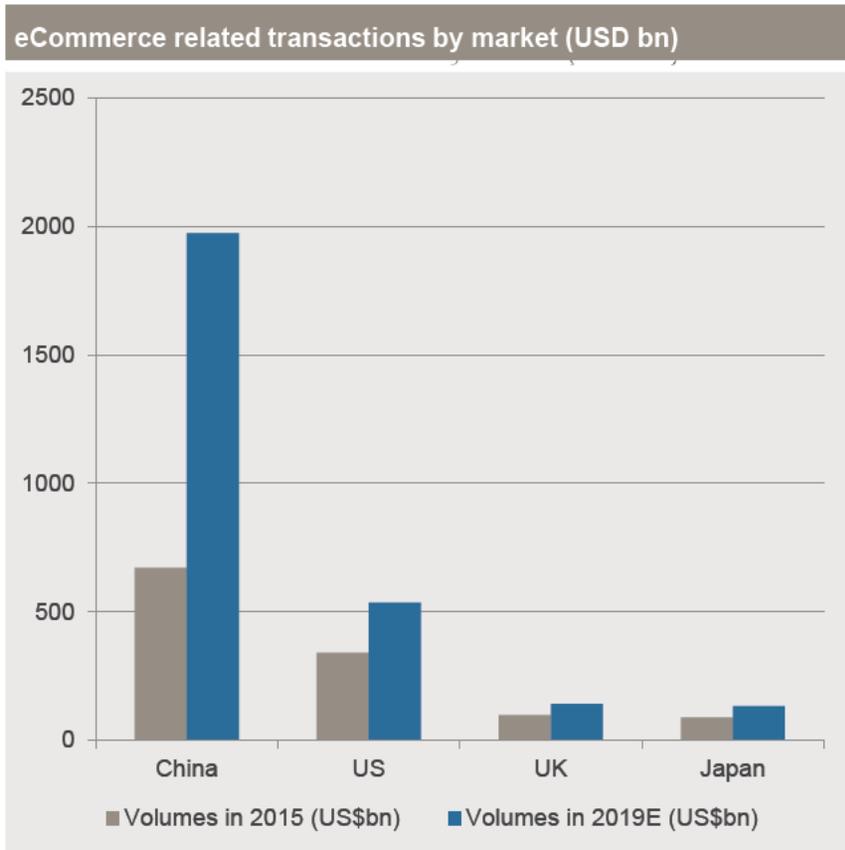
Example: 2008

- The asset class fell by over 50% as fear of a global financial meltdown led to a massive sell-off of risk in global markets
- The Strategy underperformed as small and mid-cap sold off more than larger capitalization stocks which were perceived as being lower risk

The opinions and views expressed here are those held by the author, which are subject to change and are not to be taken as or construed as investment advice.

Investment themes

Even after stellar growth, China is expected to be one of the fastest growing markets for eCommerce



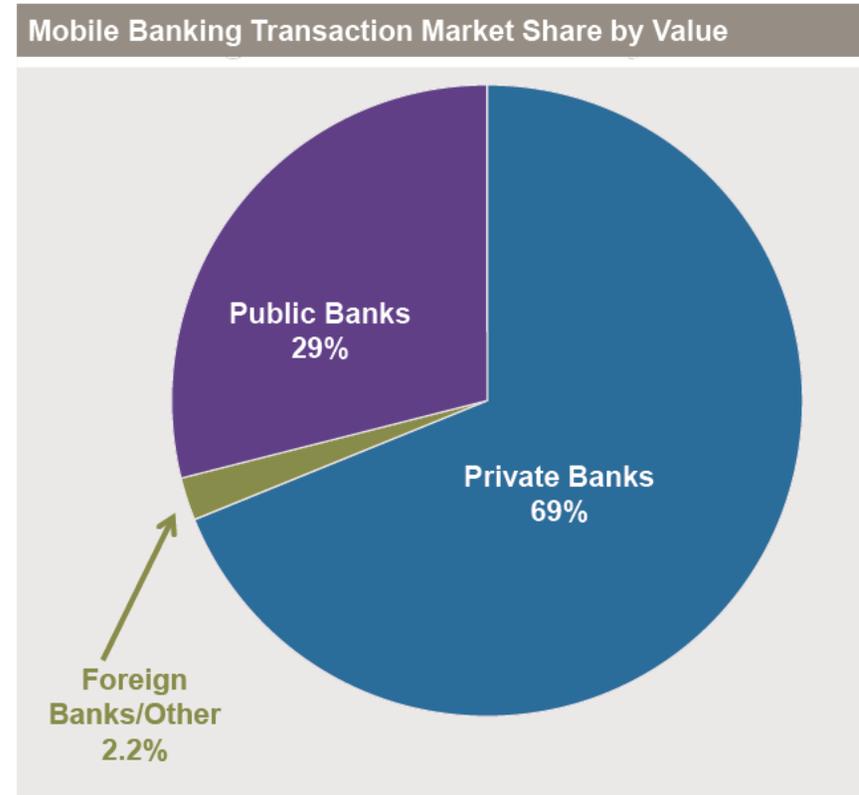
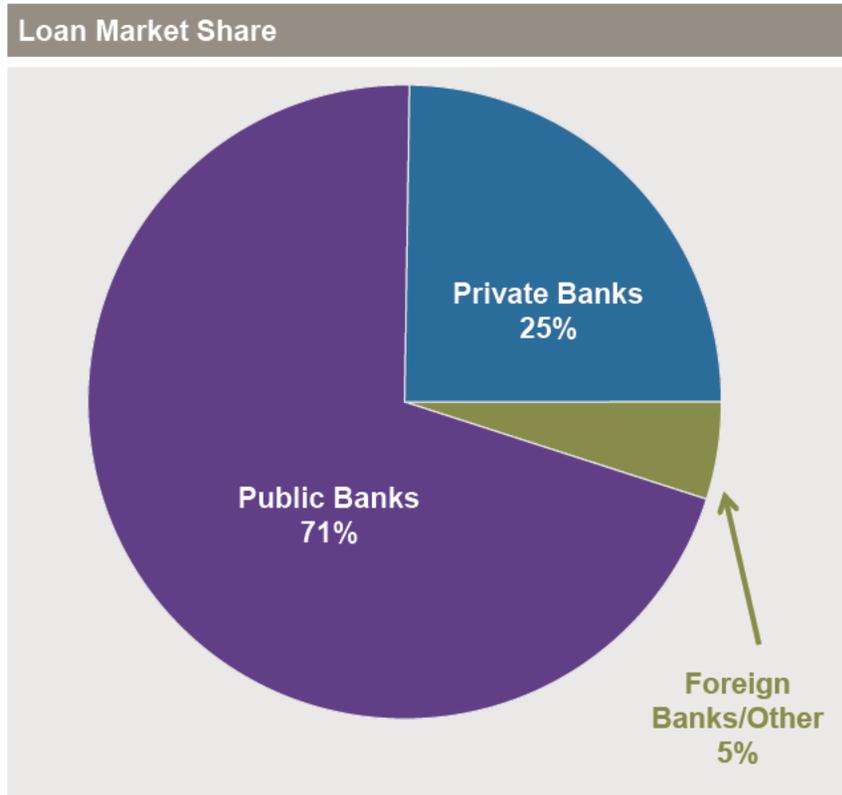
6.4

Source: eMarketer, Nilson Report, Autonomous estimates as of 4/19/2017



India's banking sector is dominated by public banks

Mobile banking trends point to a long-term shift in market share



6.4

Source: J.P. Morgan Asset Management, CLSA, RBI as of LHS chart as of 01/31/2017 RHS as of March 2016.

Stock example: Housing Development Finance Corp (India)

Leading specialist mortgage provider in India with investments in diverse financial services

Economics:

- Intense focus on operational performance and stability
- Pricing premium due to efficiency of service

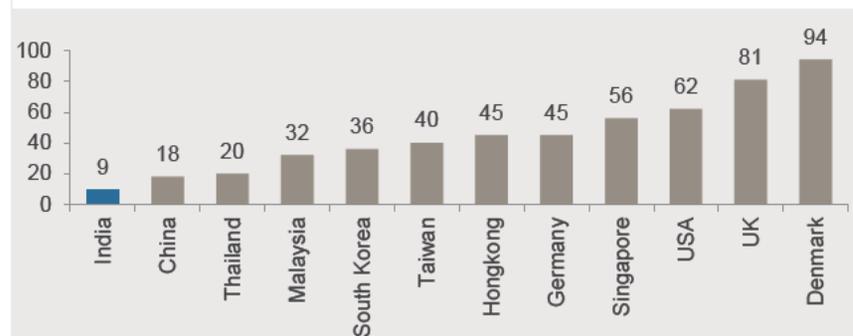
Duration:

- Low penetration of mortgages, rising urbanisation, improving affordability

Governance:

- Private sector management team in a sector dominated by public sector banks.
- Unusual continuity in management over last 15 years

Home Loans as a % of GDP



Performance over the past decade

Earnings Growth	16.6%	vs.	MSCI EM Return 2.7%
Dividends	1.4%		
Currency	-3.9%		MSCI India Return 4.7%
Valuations	-1.4%		
Total Return USD	14.3%		

Source: Company accounts, Morgan Stanley, Bloomberg, Factset J.P. Morgan Asset Management, as of March 2017. MSCI India and EM returns are in USD. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities. Past performance is not necessarily a reliable indicator for future performance.

Stock example: IndusInd Bank (India, financials)

Strategic Classification: Quality

Economics:

- High ROE driven by strong lending culture and technology

Duration:

- 1% lending share in a market dominated by inefficient and less profitable government banks
- Indian economy is underpenetrated, technology is expanding the market of bankable customers

Governance:

- 39 meetings over the past 5 years reinforce our positive view
- Transparency in planning, reporting, goals and by-laws

Offers excellent growth prospects in the Indian private sector



Source: J.P. Morgan Asset Management, as of 03/31/2017. Image from Shutterstock.

Past performance is not necessarily a reliable indicator of current or future performance.. The companies above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf its clients in any or all of the aforementioned securities .

Stock example: RaiaDrogasil (Brazil, consumer discretionary)

Dominant drugstore chain with substantial domestic growth opportunity

Economics

- Strong cash flow generation and balance sheet (net cash position)
- Attractive and improving returns (2015 ROE: 13% vs. 2021E: 24%)

Duration

- Resilient sector supported by low penetration of pharma sales in Brazil and aging of the population
- Consolidation opportunity: still fragmented sector (top 5 chains account for 30% of the market sales)

Governance

- Listed on the Novo Mercado
- Experienced management team with solid corporate



Key figures

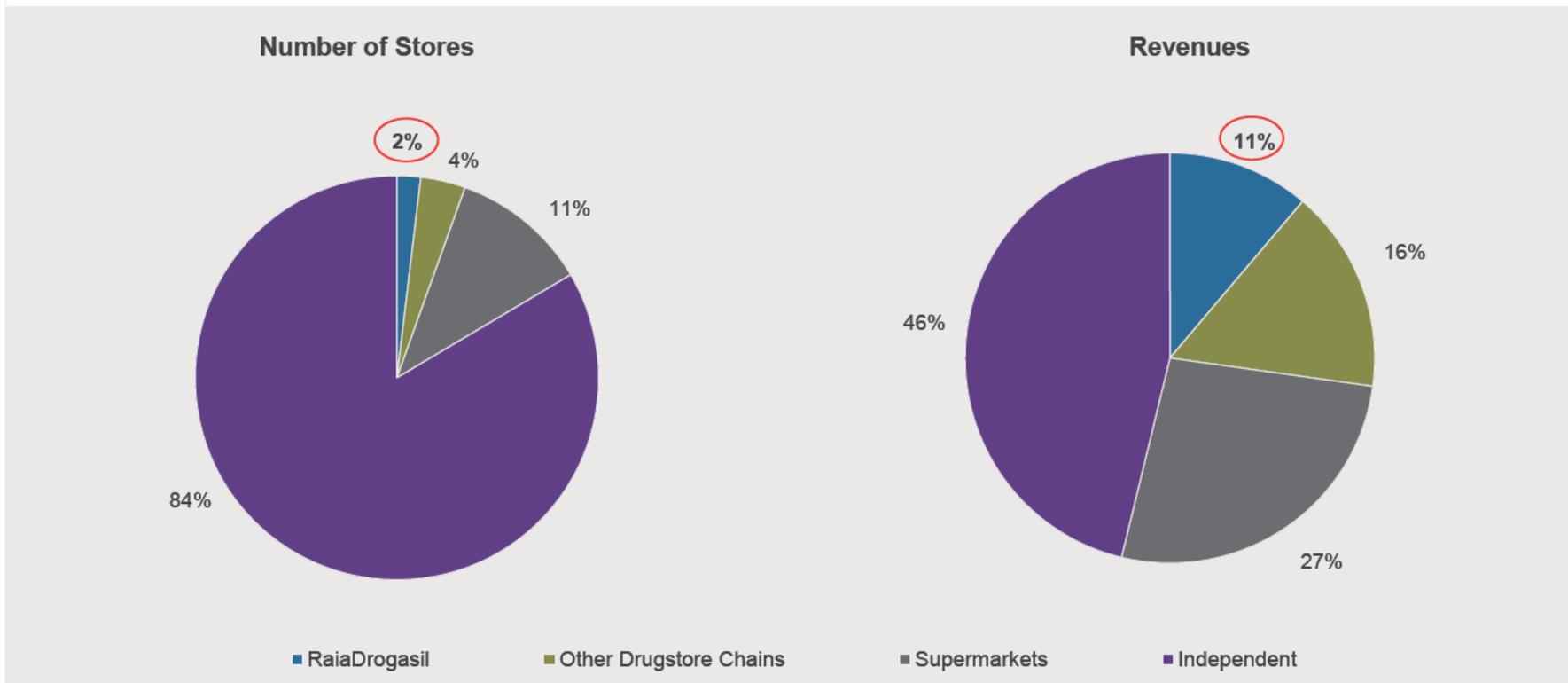
	2011	2016	
Store Count	778	1,420	↑83%
Sales Area (sqm)	109,095	214,965	↑97%
Geographic Presence	9 states	18 states	
	78% of the Brazilian Market	90% of the Brazilian Market	
Gross Revenues (R\$ MM)	4,775	11,828	↑148%

Source: J.P. Morgan Asset Management, RaiaDrogasil as of 03/31/2017. Image from Shutterstock. The companies above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities. Past performance is not necessarily a reliable indicator for current and future performance. Forecasts, projections and other forward looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections and other forward statements, actual events, results or performance may differ materially from those reflected or contemplated.

Stock example: RaiaDrogasil (Brazil)

Fragmented market with demographic tailwind

Market share by number of stores and revenues



Source: RaiaDrogasil as of 12/31/2016.

Appendix

J.P. Morgan Equities: Deeply resourced and research led

6.4

ACTIVELY SHARING EXPERTISE

Local equity research integrated globally

- Collaboration among 370+ equity investment professionals in 9 locations
- One of the **deepest and most experienced** equity managers in the world
- **USD 150m** annual research budget leads to unique insights

EMPOWERING BETTER DECISIONS

Insights and guidance to help our clients invest with conviction

- **Proprietary portfolio insights**, reports and analytics
- **Timely macro and market views**, including our quarterly global equity views
- **Access to senior managers** through a range of client events

BUILDING THE RIGHT PORTFOLIO

Solutions designed to address client needs

- Strong commitment to **active management**
- **Comprehensive range of strategies** across styles and geographies
- Disciplined approach to **risk management**

TAPPING INTO PROVEN SUCCESS

A history of innovation and demonstrated results

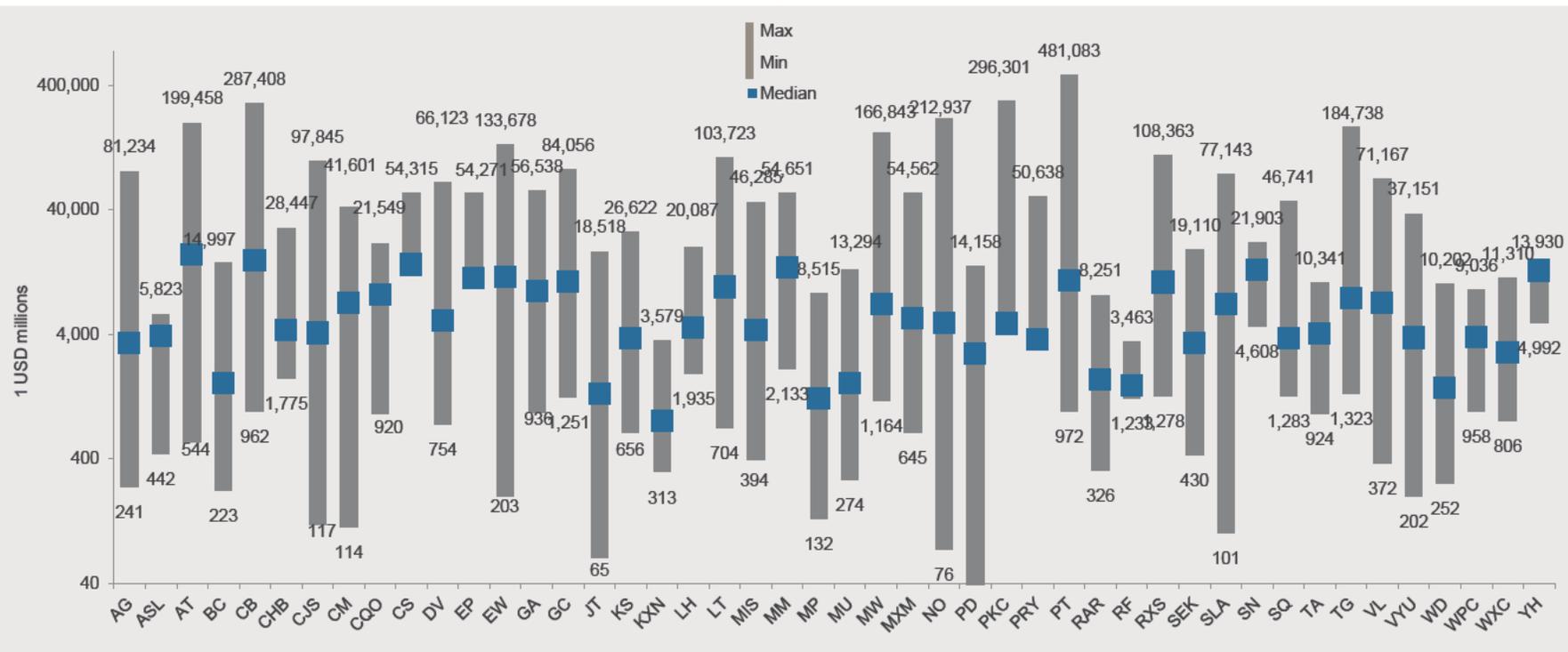
- Led by an **investment performance culture**
- **Serving 57%** of the world's largest pension plans, sovereign wealth funds and central banks
- **Early mover** in research-enhanced index and short-enabled strategies

Source: J.P. Morgan Asset Management. As of 31st March 2019. Includes portfolio managers, research analysts, traders and investment specialists with VP title and above

Analyst coverage

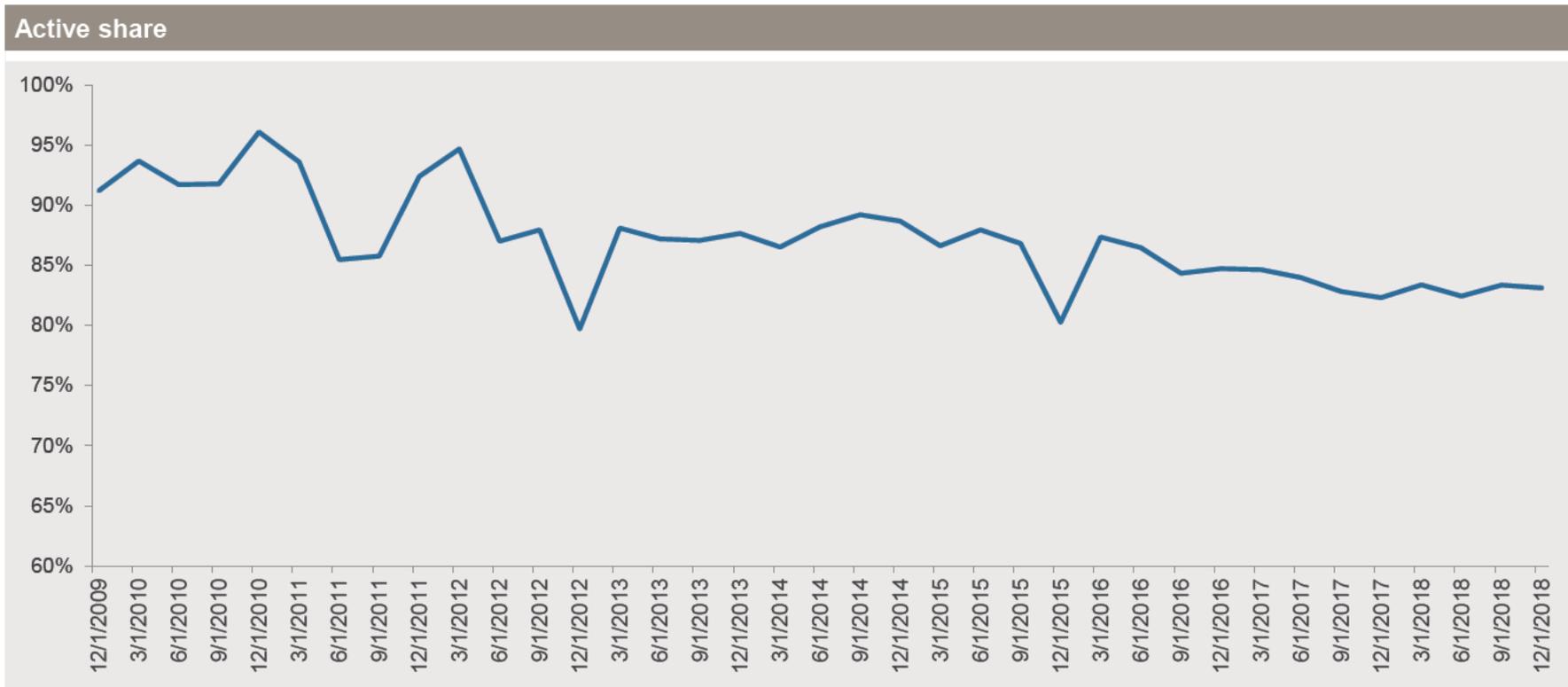
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Our research analysts cover a very wide range of market caps (USD millions)



Source: J.P. Morgan Asset Management, as of July 31st 2018
 X axis = EMAP research analysts initials

Active share - quarterly over five years



6.4

An active share consistently above 80% is a reflection of our conviction-led process.

Source: J.P. Morgan Asset Management, as of end December 2018.



Active management demands active risk management

Our risk management discipline is essential to our investment process

Portfolio Management Team

1

- Responsible for managing portfolios to stated risk management guidelines, and for determining and ensuring risk exposures are deliberate and appropriately scaled
- Accountable for the regular (e.g., daily/weekly/monthly/quarterly) review and monitoring of customized risk data and analytics across portfolios

Investment Director

2

- Provides embedded fiduciary and risk oversight, while independently ensuring portfolios adhere to stated operating and compliance guidelines
- Upholds governance framework through periodic investment reviews, Board reporting and customized risk monitoring within the asset class

Independent Risk Management

3

- Provides independent, consolidated view of risks at multiple levels – including investment, counterparty, liquidity and operational risk
- Produces standard weekly global risk packages for senior management summarizing key risk metrics across multiple funds and asset classes and provides credible challenge to the business through review of accounts that trigger risk thresholds

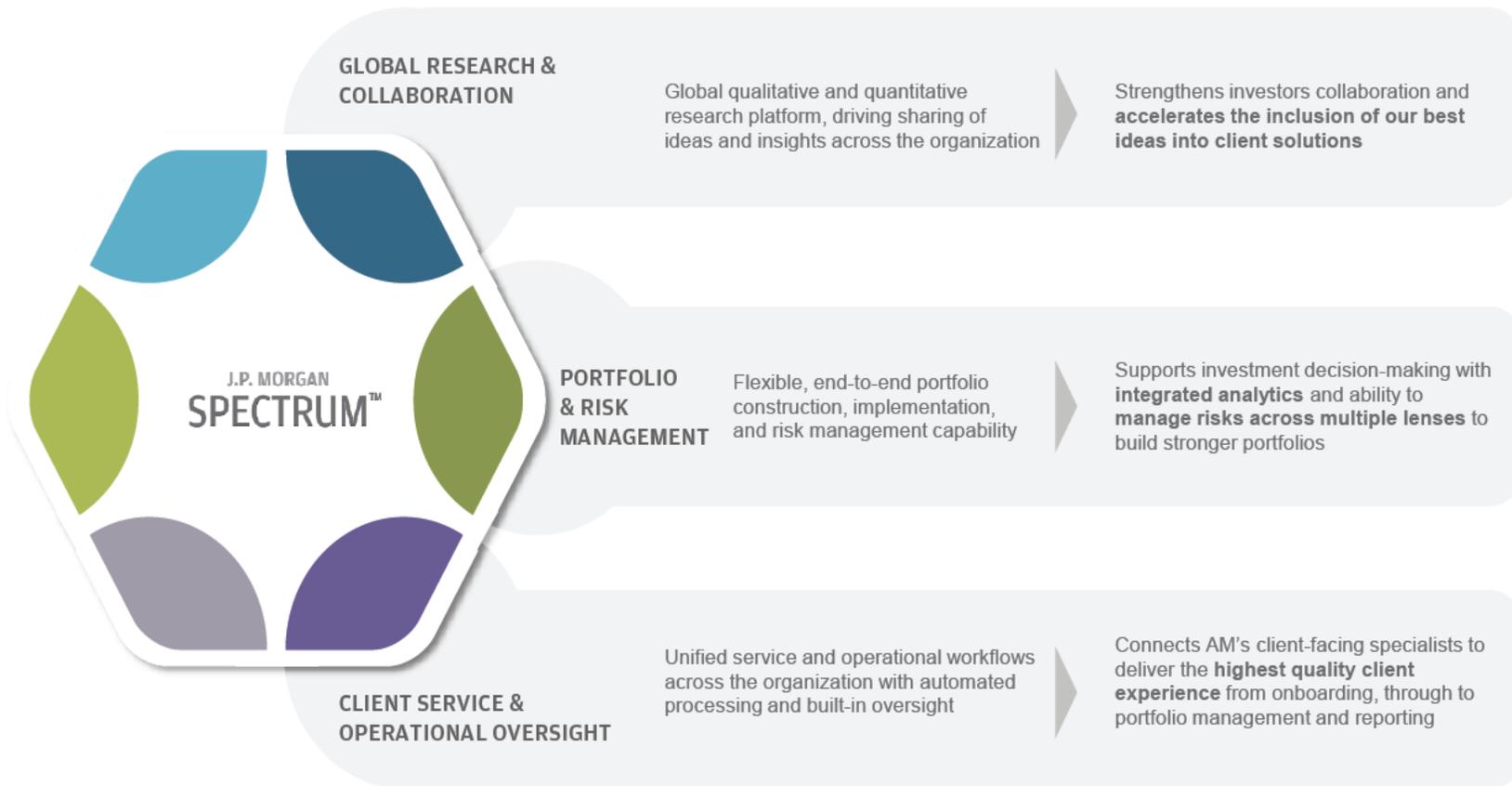
Powered by:



6.4

J.P. Morgan Spectrum™ end-to-end investment management and client service

One platform to manage solutions and services for clients across J.P. Morgan Asset Management



6.4



Spectrum

Our end-to-end portfolio management and analytics tool

- A common platform across equities for research and portfolio analytics
- Comprehensive research database to maximize portfolio manager insight
- Combines company research notes with analyst expectations to facilitate idea generation
- Allows for real-time analysis of portfolios, including risk and style exposures
- Has the flexibility to allow customized views of portfolios, benchmarks and factor information

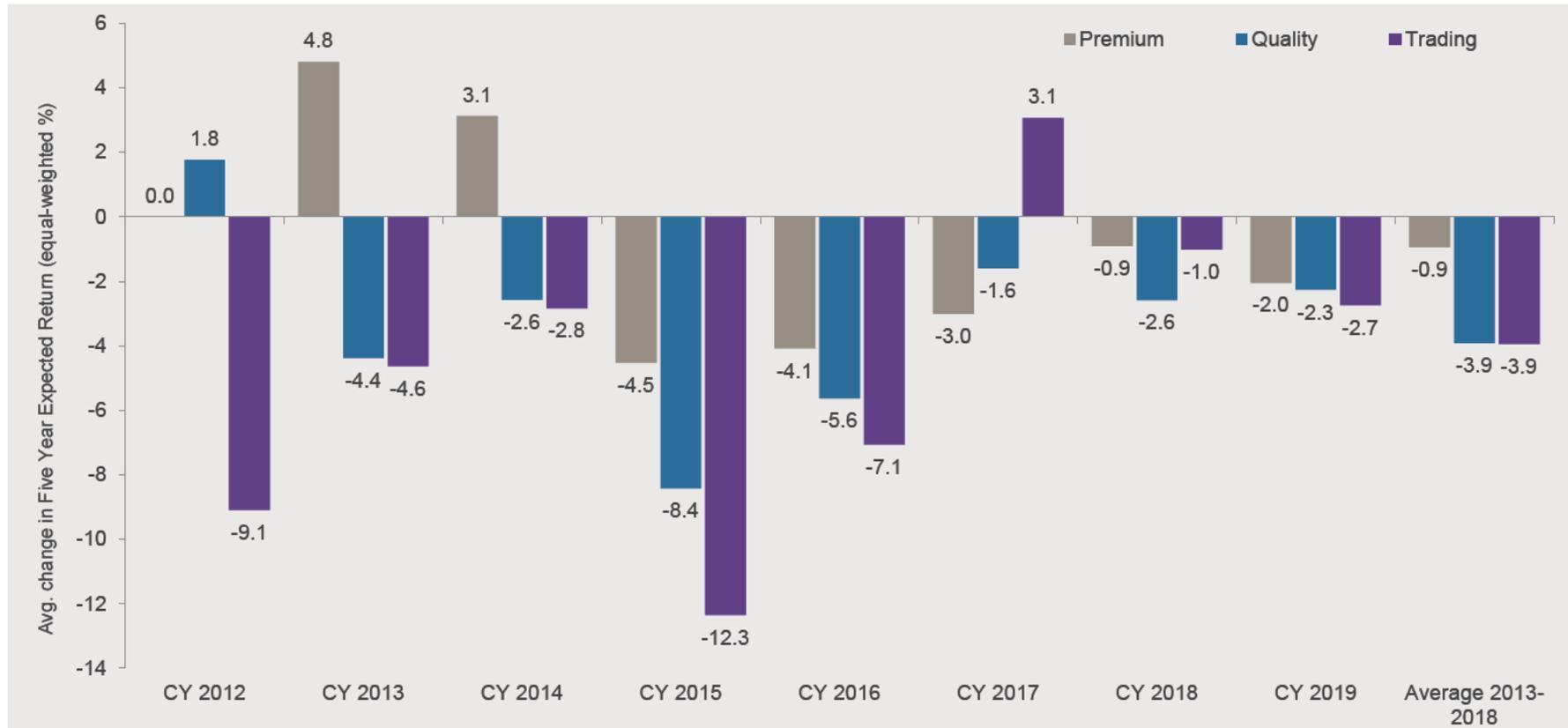


6.4

Source: J.P. Morgan Asset Management, In-house research platform. For illustrative purposes only.

Downgrades by strategic classification

In a challenging growth environment, Strategic Classifications lead us towards more stable growth



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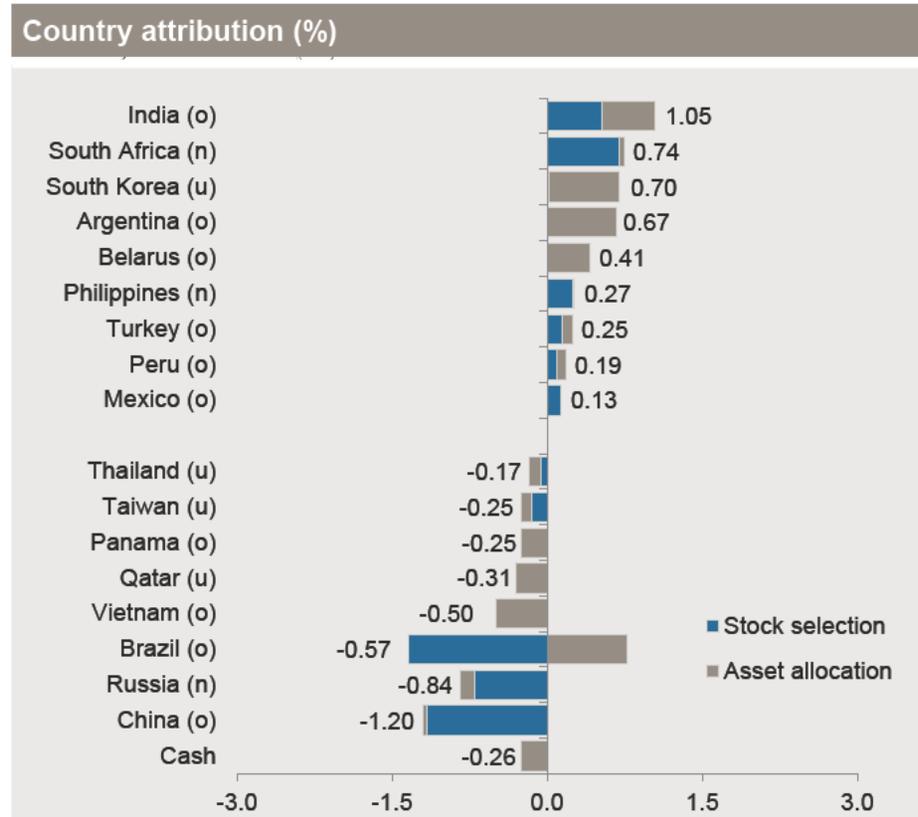
Source: J.P Morgan Asset Management
Data as of end April 2019



Performance attribution

Global Emerging Markets Discovery Strategy - Calendar year ending 31st December 2018

Attribution summary	Stock: -1.37
	Country: 1.10
Benchmark	MSCI Emerging Markets IMI Index



- On the positive side, our off-benchmark exposure to Globant, an IT and software development company operating in Argentina, boosted relative returns over the 12 month period. The stock has benefitted from the growing demand for digital solutions across a blue-chip customer portfolio.
- Stock selection in China was the leading detractor, most notably led by our exposure to Hangzhou Robam, an appliance manufacturer. The company's sales volumes have been disappointing, as a result of the slowdown in the Chinese economy.
- Stock selection in Brazil also hindered relative performance. Our position in educational services provider Kroton underperformed this year, after reporting lower-than-expected revenues and a 4% decline in student enrolment, due to higher dropout and graduation rates than initially expected.

6.4

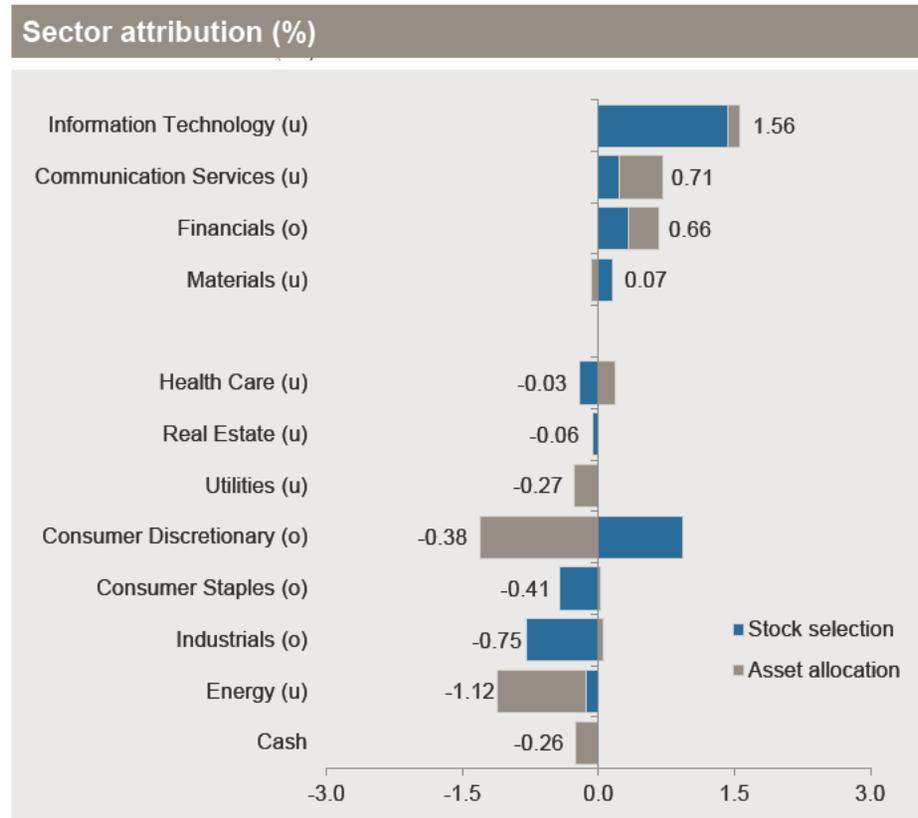
Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%). Factset, gross of fees in USD to 31st December 2018. Data for Total Attribution shown (stock selection plus country allocation). Attribution may not match official returns due to differences in systems rounding. Past performance is not an indication of future performance. The above portfolio characteristics are shown for illustrative purposes only and are subject to change without notice. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.



Performance attribution

Global Emerging Markets Discovery Strategy - Calendar year ending 31st December 2018

Attribution summary	Stock: 1.43 Sector: -1.69
Benchmark	MSCI Emerging Markets IMI Index



- Stock selection in financials aided relative performance. HDFC Bank was among the top contributors. The Indian bank continues to deliver operationally, reporting results which confirmed resilient margins as quality private banks widened the performance gap with lower quality financial institutions in India following a scandal at ICICI earlier this year.
- Stock selection in industrials was a headwind. In China, slowing industrial activity weighed on Han's Laser, the largest industrial laser equipment maker in China, which reported 3Q results that were in-line with market expectations but included lower guidance. The company anticipates that its high power laser segment will grow slower than originally forecast due to trade tensions and macro slowdown.

6.4

Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%). Factset, gross of fees in USD to 31st December 2018. Data for Total Attribution shown (stock selection plus sector allocation). Attribution may not match official returns due to differences in systems rounding. Past performance is not an indication of future performance. The above portfolio characteristics are shown for illustrative purposes only and are subject to change without notice. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.

Performance attribution

Global Emerging Markets Discovery Strategy - Calendar year ending 31st December 2018

Attribution summary	Stock: -1.37
	Country: 1.10
Benchmark	MSCI Emerging Markets IMI Index

Stock attribution

Top 10 Contributors	Relative weight (%)	Stock return (%)	Impact (%)
CVC Brasil Operadora	1.48	8.77	0.65
Lojas Renner	0.49	41.31	0.59
Globant*	1.48	21.22	0.53
HDFC	2.10	6.29	0.46
Bim Birlesik Magazalar	0.33	45.22	0.43
EPAM Systems*	2.03	7.99	0.41
HDFC Bank*	1.91	4.23	0.41
Chailease	1.51	14.57	0.39
51Job	1.51	2.61	0.38
BK Brasil Operacao e Assessoria	0.43	2.27	0.37

Top 10 Detractors	Relative weight (%)	Stock return (%)	Impact (%)
Hangzhou Robam Appliances	1.03	-59.34	-0.67
Kroton Educacional	0.89	-57.25	-0.59
Vietnam Dairy Products*	1.51	-40.44	-0.50
Raia Drogasil	1.14	-46.29	-0.49
Han's Laser Technology	0.44	-38.96	-0.39
Minth*	1.01	-45.26	-0.39
Midea Group	1.49	-35.78	-0.36
JD.com	0.82	-49.47	-0.31
Nexteer Automotive Group	1.32	-39.17	-0.31
Silicon Motion Technology *	1.23	-33.14	-0.29

Source: J.P. Morgan Asset Management, MSCI Emerging Markets IMI (%). Factset, gross of fees in USD to 31st December 2018. Attribution may not match official returns due to differences in systems rounding. The companies/securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. J.P. Morgan Asset Management may or may not hold positions on behalf of its clients in any or all of the aforementioned securities.*Not in benchmark.

Biographies



Leon Eidelman

Leon Eidelman is a portfolio manager within the Emerging Markets and Asia Pacific (EMAP) Equities team based in New York. An employee since 2002, Leon is a member of the group of Global Emerging Market portfolio managers responsible for the fundamental, bottom-up portfolios, including the Global Emerging Markets Discovery and GEM Focused strategies. He is lead manager of the Global Emerging Markets Discovery strategy and is a portfolio manager on the GEM Focused Strategy. Leon holds a B.A. in economics with a concentration in finance from Cornell University and is a CFA charter holder.



Austin Forey

Austin Forey is a portfolio manager responsible for Global Emerging Markets. An employee since 1988, Austin is a portfolio manager responsible for Global Emerging Markets portfolios, a role he has fulfilled since 1994. Prior to this he worked in the U.K. market, where he was deputy head of UK research. Before this, Austin worked as research analyst covering engineering, and subsequently all financial sectors, including property; other responsibilities included co-management of a mid-cap investment trust, and two specialist unit trusts. Austin obtained a B.A. in modern languages from Cambridge University, and earned a Ph.D. in modern languages from Cambridge University.



Amit Mehta

Amit Mehta is a portfolio manager responsible for Global Emerging Markets portfolios based in London. An employee since 2011, Amit previously worked at Prusik Investment Management (2009-2011) and Atlantis Investment Management (2007-2009) where he was an Asian equities Analyst and Portfolio Manager. Prior to that he was a Global Emerging Markets Analyst at Aviva Investors (2004-2007) and an Investment Consultant at Mercer Investment Consulting (2000-2004). Amit obtained a Bsc (Hons) in Mathematics from Kings College London. He is a holder of the CFA designation.

GIPS performance page

Composite Performance Results	
Composite	Global Emerging Markets Discovery
Benchmark	MSCI EM IMI USD Net
Base Currency	US Dollar
Gross Returns as of	30-Apr-2019
Firm	JPM EMEA

Year	Composite Return	Benchmark Return	Composite 3-Yr Ann St Dev	Benchmark 3-Yr Ann St Dev	Number of Portfolios (*throughout period)	Dispersion	Market Value at end of Period	Percentage of Firm Assets	Total Firm Assets
2019 (Apr)	18.68%	11.75%	13.19%	12.86%	5 (5)	N/A	2,390,755,840		
2018	-14.77%	-15.04%	14.42%	14.63%	5 (5)	N/A	1,608,442,989	0.40%	397,864,000,000
2017	46.39%	36.83%	13.98%	15.33%	5 (3)	N/A	1,475,864,701	0.37%	397,864,000,000
2016	13.96%	9.90%	14.92%	15.95%	<5	N/A	789,218,887	0.24%	323,024,000,000
2015	-8.49%	-13.86%	13.59%	14.04%	<5	N/A	608,622,272	0.18%	337,498,000,000
2014	1.73%	-1.79%	14.38%	14.99%	<5	N/A	702,244,560	0.20%	346,370,000,000
2013	3.28%	-2.20%	17.68%	19.30%	<5	N/A	500,107,116	0.15%	339,656,000,000
2012	21.06%	18.68%	19.98%	21.79%	<5	N/A	1,036,275,636	0.36%	285,186,000,000
2011	-19.33%	-19.49%	28.38%	26.41%	<5	N/A	799,461,935	0.29%	279,893,000,000
2010	34.99%	19.90%	38.29%	33.48%	<5	N/A	652,590,024	0.22%	302,549,000,000

GIPS Disclosures

Composite Disclosures

Composite: Global Emerging Markets Discovery

As of: 30-Apr-2019

The Firm

For the purpose of GIPS® compliance, the Firm is defined as the J.P. Morgan London, J.P. Morgan Japan, J.P. Morgan Hong Kong, J.P. Morgan Singapore and J.P. Morgan Taiwan investment processes of J.P. Morgan Asset Management. Robert Fleming Holdings was acquired by the Chase Manhattan Corporation on 1st August 2000. The Chase Manhattan Corporation and JP Morgan and Co Incorporated merged with effect from 1st January 2001. The firm name was changed from JPMorgan Fleming Asset Management to J.P. Morgan Asset Management with effect from July 2005. J.P. Morgan Taiwan investment process was added to the firm definition with effective from January 2019. A complete list and description of all the firm's composites is available on request.

Verification

J.P. Morgan Asset Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. J.P. Morgan Asset Management has been independently verified for the periods 1st January 1996 to 31st December 2017. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. Verification has not included the J.P. Morgan Taiwan investment process.

Definition of Composite

This composite consists of all equity portfolios invested with a global emerging markets discovery mandate, according to the following rules. The portfolios are managed by the Emerging Markets Equity Team; they can either be pooled funds or segregated accounts; they may invest in all market capitalization ranges but have a bias towards mid and small capitalization names; they follow a dynamic strategy. The composite is constructed from discretionary portfolios only. It does not contain any returns that have been carved out of other multi asset class portfolios. The benchmark of the composite is the MSCI Emerging Markets IMI (Net) index. The composite benchmark is calculated net of withholding tax from a Luxembourg holding company's perspective. The MSCI Investable Market Indices (IMI) cover all investable large, mid and small cap securities across the Developed, Emerging and Frontier Markets, targeting approximately 99% of each market's free-float adjusted market capitalization. No portfolios in this composite are leveraged through the use of derivatives or other means. Portfolios may be permitted to use forward contracts for the purposes of hedging only. Additionally some portfolios are permitted to use security and currency futures and options for positioning, according to the guidelines. The writing of uncovered options for any purpose is not permitted. The composite was constructed during December 2001. The composite inception date is 30 November 1997.

Valuation and Calculation

The returns shown for this composite are the asset-weighted averages of the performance of all of the individual portfolios in the composite using beginning of period weightings. The performance results are time-weighted rates of return with the reinvestment of income, that are net of commissions, transaction costs and non-reclaimable withholding taxes, where applicable. Gross returns do not reflect the deduction of management fees or any other expenses that may be incurred in the management of the account. Net returns are net of model management fees in effect for the respective time period. Model net returns are calculated by subtracting 1/12th of the fee listed in the fee disclosure section from the gross composite return on a monthly basis. No other fees in addition to the investment management fee and trading expenses have been deducted in the calculation of these net returns. No performance based fees have been deducted. Actual management fees charged may vary by account due to various conditions described in Part IIA of Form ADV.

The returns for indices do not include any transaction costs, management fees or other costs.

Additional information regarding policies for valuing portfolios, calculating performance and preparing compliant presentations are available upon request.

Internal dispersion measures the spread of annual returns of individual portfolios within a composite. It is calculated using the asset-weighted standard deviation of the gross returns of portfolios that were included in the composite for the full year. Internal dispersion is not shown for calendar years with five or fewer portfolios in the composite for the full year.

The three year annualised standard deviation measures the variability of the composite and benchmark returns over the preceding 36 month period. Standard deviation measures are not shown where there are less than 36 monthly observations available.

All portfolios in this composite have been valued at least monthly to June 2005 and daily thereafter (excluding Hong Kong accounts which continue to be valued monthly), on a trade date basis using accrual accounting.

Past performance is no guarantee of future results. As with any investment vehicle, there is always the potential for gains as well as the possibility of losses.

Until the Total Firm Assets are finalised, the previous year's Total Firm Assets will be carried forward as an estimate.

Fee

JPMorgan Asset Management's (JPMAM) typical schedule of management fees payable in USD for Global Emerging Markets Discovery clients is 0.80% per annum.

J.P. Morgan Asset Management

RISKS ASSOCIATED WITH INVESTING: International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Also, some overseas markets may not be as politically and economically stable as the United States and other nations. The Fund's investments in emerging markets could lead to more volatility in the value of the Fund. As mentioned above, the normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The Target Return has been established by J.P. Morgan Investment Management Inc. "J.P. Morgan" based on its assumptions and calculations using data available to it and in light of current market conditions and available investment opportunities and is subject to the risks set forth herein and to be set forth more fully in the Memorandum. The target returns are for illustrative purposes only and are subject to significant limitations. An investor should not expect to achieve actual returns similar to the target returns shown above. Because of the inherent limitations of the target returns, potential investors should not rely on them when making a decision on whether or not to invest in the strategy. The target returns cannot account for the impact that economic, market, and other factors may have on the implementation of an actual investment program. Unlike actual performance, the target returns do not reflect actual trading, liquidity constraints, fees, expenses, and other factors that could impact the future returns of the strategy. The manager's ability to achieve the target returns is subject to risk factors over which the manager may have no or limited control. There can be no assurance that the Fund will achieve its investment objective, the Target Return or any other objectives. The return achieved may be more or less than the Target Return. The data supporting the Target Return is on file with J.P. Morgan and is available for inspection upon request.

Past performance does not guarantee future results. Total returns assumes reinvestment of any income. The deduction of an advisory fee reduces an investor's return. Actual account performance will vary on individual portfolio security selection and the applicable fee schedule. Fees are available upon request.

The following is an example of the effect of compounded advisory fees over a period of time on the value of a client's portfolio: A portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum would grow to \$259 million after 10 years, assuming no fees have been paid out. Conversely, a portfolio with a beginning value of \$100 million, gaining an annual return of 10% per annum, but paying a fee of 1% per annum, would only grow to \$235 million after 10 years. The annualized returns over the 10 year time period are 10.00% (gross of fees) and 8.91% (net of fees). If the fee in the above example was 0.25% per annum, the portfolio would grow to \$253 million after 10 years and return 9.73% net of fees. The fees were calculated on a monthly basis, which shows the maximum effect of compounding.

The MSCI Emerging Markets Index (net of foreign withholding taxes) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of emerging markets. The performance of the index does not reflect the deduction of fees, such as investment management fees. Total return figures assume the reinvestment of dividends. The dividend is reinvested after deduction of withholding tax, applying the maximum rate to nonresident individual investors who do not benefit from double taxation treaties. An individual cannot invest directly in an index. Securities may be sold through J.P. Morgan Institutional Investments Inc., member FINRA. J.P. Morgan Investment Management Inc. is the legal entity responsible for the management of this product.

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6.4

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6.4



Introduction to Pzena:
Our Philosophy and Process

June 18, 2019

6.5

PREPARED FOR



Pzena Contact:

Valerie Arnold
arnold@pzena.com
212.583.0371



Pzena Biographies

| 2



Caroline Cai, CFA

Managing Principal, Portfolio Manager, and member of the firm's Executive Committee. Ms. Cai is a co-portfolio manager for the Global, International, European and Emerging Markets strategies, and the Financial Opportunities service. Ms. Cai became a member of the firm in 2004. Prior to joining Pzena Investment Management, Ms. Cai was a senior analyst at AllianceBernstein LLP, and a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Math and Economics from Bryn Mawr College. Ms. Cai holds the Chartered Financial Analyst designation.



Valerie Mignone Arnold

Principal and Co-Head of North American Distribution. Ms. Arnold was a senior research analyst with our firm before transitioning to her current role. Ms. Arnold became a permanent member of the firm in 2005. Prior to joining Pzena Investment Management, Ms. Arnold was an associate at General Atlantic Partners, a global private equity investment firm, and worked in the Mergers and Acquisitions Group at Morgan Stanley. She earned a B.S. from Cornell University and an M.B.A. from Harvard Business School.

6.5



Why Pzena

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Unwavering Commitment to Deep Value Investing	The Right Investment Team	Culture of Ownership
<ul style="list-style-type: none">▪ Concentrated portfolio of deeply undervalued businesses<ul style="list-style-type: none">▪ Superior Research▪ Systematic Process▪ Long-term investment horizon	<ul style="list-style-type: none">▪ 25-person global research team with 14 together for 7+ years▪ Business people focused on evaluating businesses	<ul style="list-style-type: none">▪ Broad and significant equity ownership▪ 48 Partners – fosters a culture of shared purpose with clients

6.5

As of March 31, 2019.



Our Client Base is Global

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6.5

■ Pzena offices – New York, London and Melbourne

Pzena Assets Under Management as of March 31, 2019 = 37.1B USD
Regional amounts may not total to firm-wide AUM due to rounding.

PZENA Investment Management



We Build Long-Term Relationships

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Endowments and Foundations	Sub-Advisory	Retirement Plans
<p>Archdiocese of Indianapolis Fondazione Roma Pittsburgh Symphony Orchestra Endowment Samuel H. Kress Foundation Victoria University Endowment Wheaton College Trust Company</p>	<p>ABN AMRO Investment Solutions American Beacon Advisors, Inc. AMP Capital Bridge Builder Funds Brown Advisory CIBC Asset Management, Inc. Hirtle, Callaghan & Co., LLC John Hancock Classic Value Fund Liberty Asset Management Company MLC Investments Limited Russell Investments The Vanguard Group, Inc. UBS Global Asset Management Wilshire Mutual Funds, Inc.</p>	<p>Alaska Permanent Fund Corporation ArcelorMittal Caterpillar Inc. Church Pension Fund City of Gainesville Harbor Capital Group Trust International Paper Mass PRIM Massachusetts Port Authority Employees' Retirement System Minnesota State Board of Investment New Jersey Division of Investment St. Louis Painters Pension Plan and Trust Parker Hannifin Corporation Praxair, Inc. Sunsuper Pty Ltd The Manhattan & Bronx Surface Transit Operating Authority UFCW Local 152 Retail Meat Pension Fund</p>

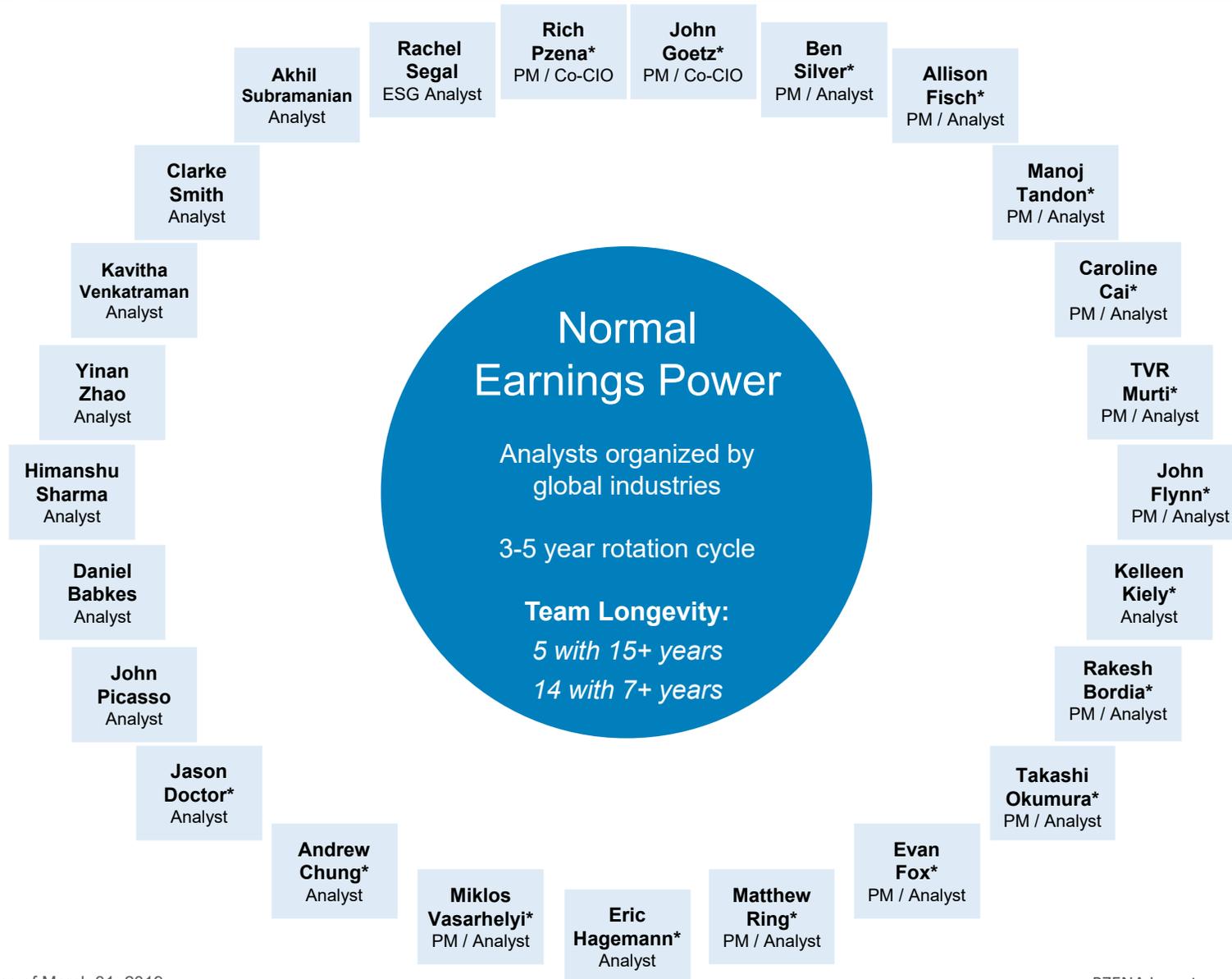
6.5

Pzena Investment Management does not use performance-based criteria in listing clients on its representative client list. The list includes institutional clients who have given permission for inclusion of their name on our list or who have otherwise publicly disclosed such relationship. It reflects client accounts across Pzena investment strategies and certain investors in funds managed by Pzena Investment Management as of March 31, 2019, and is updated periodically. It is not known whether the listed clients approve or disapprove of Pzena Investment Management, or the advisory services provided.

PZENA Investment Management



Experienced Global Research Team



6.5

*Partners as of March 31, 2019



A History of the Firm: Building a Global Research Team

| 7

Our Goal: Ability to search for value anywhere

6.5

	1996	2000	2004	2008	2018
Research Universe	<ul style="list-style-type: none"> US Focused Value* US Small Cap 	<ul style="list-style-type: none"> US Large Cap US Mid Cap US Best Ideas 	<ul style="list-style-type: none"> Global International 	<ul style="list-style-type: none"> European Emerging Markets 	<ul style="list-style-type: none"> Japan International Small Cap
Research Team	5	8	12	20	25

Firm AUM as of March 31, 2019: \$37.1 Billion

*US Focused Value strategy universe is the top 1,000 largest US companies



Investment Process: Characteristics of Investment Opportunities

| 8

We seek to expose our clients to skewed potential outcomes

6.5

Quantitative Screen

- Low price-to-normal earnings level
- Current earnings below historical norms

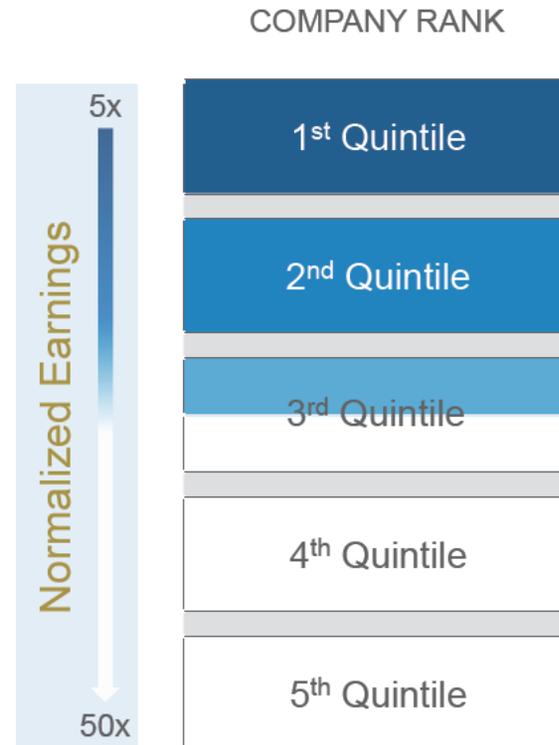
Fundamental Research

- The problem is temporary and not permanent
- The company's business is good
- Significant downside protection



Investment Process: Identify Opportunities

- Bottom-up process
- Rank universe of companies by price-to-normalized earnings
- Select from the cheapest quintile*



*Subject to construction guidelines.
Applies to Focused Value strategies. Positions in other strategies may be added to accommodate portfolio construction guidelines.



Investment Process: Would We Buy The Entire Business?

| 10



6.5



Portfolio Construction: Fitting the Pieces Together

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Position Size Based On:

1. Valuation

- Price-to-normal earnings

2. Risk

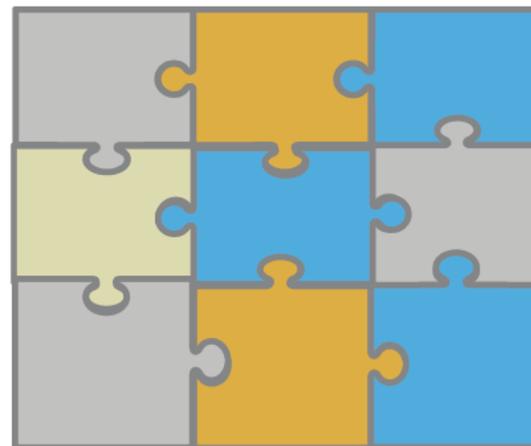
- Potential range of outcomes
- Leverage
- Trailing 12-month price volatility

3. Diversification

- Sector / Industry
- Country / Region

4. On-going Review

- Portfolio Review
- Risk analysis
- Improve risk / return



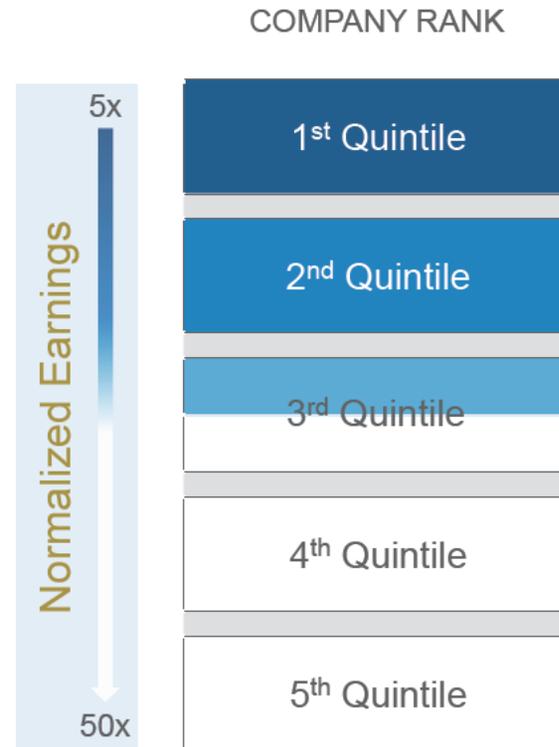
6.5



Investment Process: Systematic Sell Discipline

A security is sold* when:

- It reaches fair value
- There are more attractive opportunities
- There is a change in company fundamentals



*Subject to construction guidelines.
Applies to Focused Value strategies. Positions in other strategies may be held to accommodate portfolio construction guidelines.

Bottom Up

- Recognize company specific factors
- Scrutinize sector and industry economics

Country and Macro Factors

- Examine macro factors: country, region, and globe where appropriate
- Apply different discount rates by country, derived from US\$ sovereign bond spreads over US Treasuries
- Review overall country valuations to sanity check process



Portfolio Guidelines: Emerging Markets Select Value

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■ Universe	1000 Largest Companies in Non-Developed Markets
■ Portfolio Management Team	Rakesh Bordia, Caroline Cai, Allison Fisch, John Goetz
■ # of Positions	Generally 30 – 60
■ Position Limits:	
At Purchase	5.0%
At Market	7.5%
■ Sector Constraints	Not to exceed the greater of: (a) 20% of the total portfolio or (b) 150% of the sector's weight in the MSCI Emerging Market Index
■ Country Limit	Not to exceed the greater of: (a) 20% of the total portfolio or (b) 150% of the country's weight in the MSCI Emerging Market Index or MSCI Frontier Market Index
■ New Buys	Cheapest Quintile
■ Sell Discipline	Universe Mid-Point

6.5



Portfolio Characteristics: Emerging Markets Select Value

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	Emerging Markets Select Value*	MSCI Emerging Markets Index
█ [Redacted]	█	█

6.5

As of March 31, 2019.

Past performance is not indicative of future returns.

*Emerging Markets Universe Median (1000 Largest Companies in Non-Developed Markets); ^3 Year

Source: FactSet, MSCI, Pzena Analysis

This information supplements the GIPS-compliant composite performance information appearing later in this presentation.

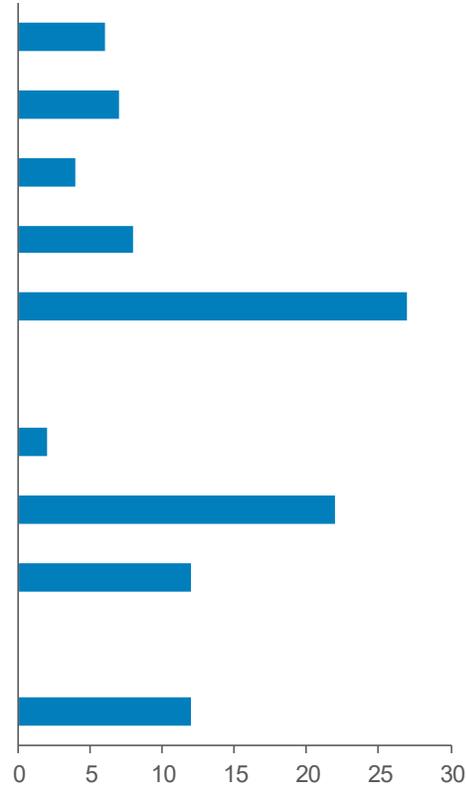
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Sector Weights: Emerging Markets Select Value

SECTOR

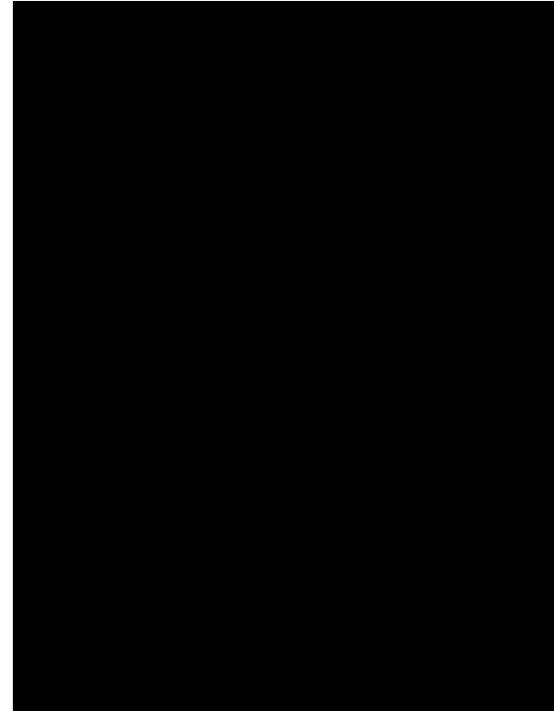
- Communication Services
- Consumer Discretionary
- Consumer Staples
- Energy
- Financials
- Health Care
- Industrials
- Information Technology
- Materials
- Real Estate
- Utilities



As of March 31, 2019.

Emerging Markets Select Value*

MSCI Emerging Markets Index



6.5

*Emerging Markets Select Value Composite estimate

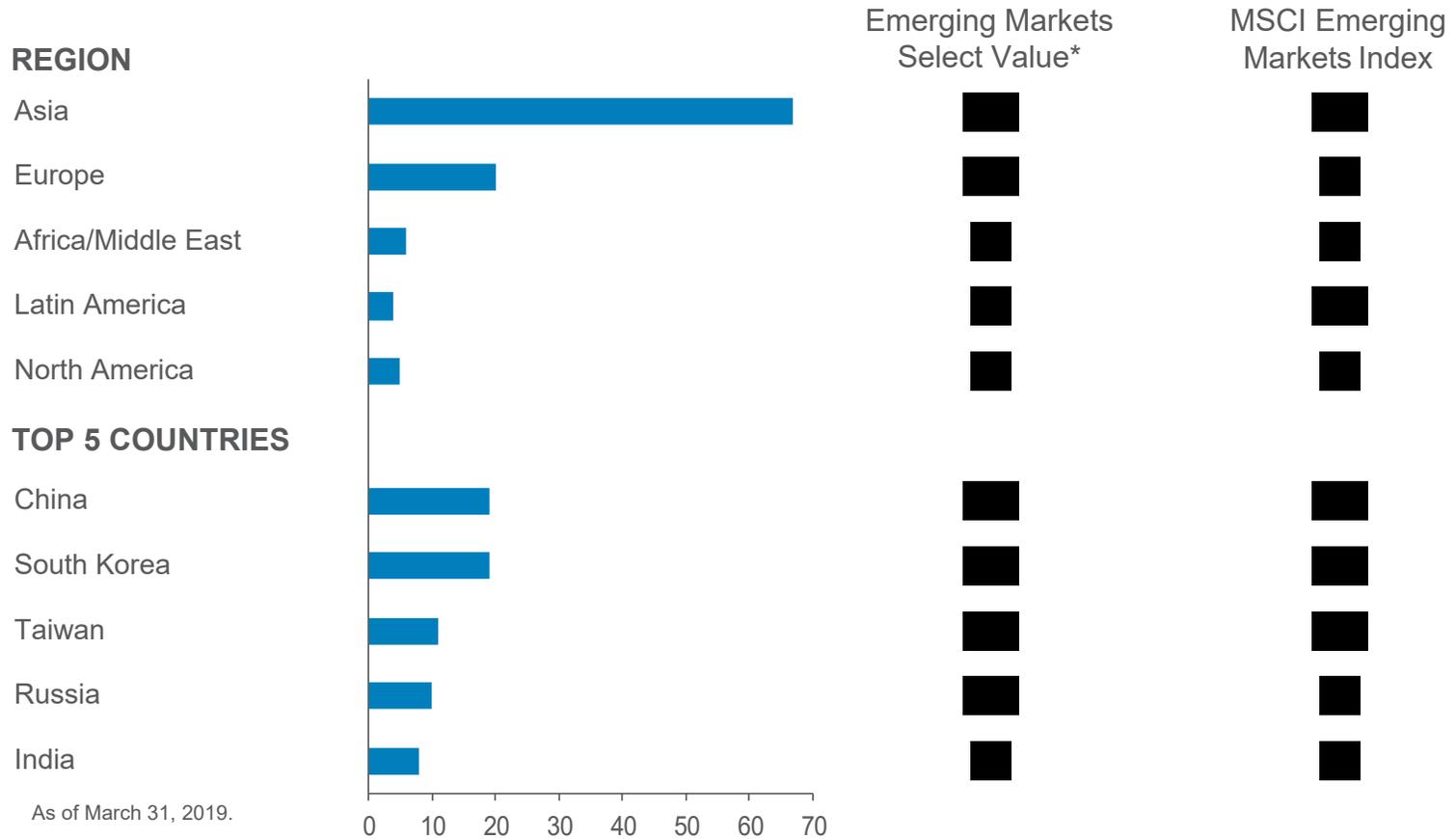
Source: FactSet, MSCI, The Global Industry Classification Standard (GICS®). This information supplements the GIPS-compliant composite performance information appearing later in this presentation.

Sector weights adjusted for cash – may appear higher than actual. Numbers may not add to 100% due to rounding.



Regional / Country Weights: Emerging Markets Select Value

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6.5

*Emerging Markets Select Value Composite estimate

Source: FactSet, MSCI

This information supplements the GIPS-compliant composite performance information appearing later in this presentation.

Region weights adjusted for cash – may appear higher than actual. Numbers may not add to 100% due to rounding.

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Model Portfolio: Emerging Markets Select Value

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6.5

As of March 31, 2019.

This information supplements the GIPS-compliant composite performance information appearing later in this presentation.

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Investment Performance: Emerging Markets Select Value

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6.5

	Annualized Returns				
	1Q 2019	YTD	One Year	Three Year	Since Inception 11/01/15
Emerging Markets Select— Gross	7.4%	7.4%	-2.4%	13.1%	11.8%
Emerging Markets Select — Net	7.3%	7.3%	-3.0%	12.4%	11.3%
MSCI Emerging Markets Index*	9.9%	9.9%	-7.4%	10.7%	9.1%
MSCI Emerging Markets Value Index*	7.8%	7.8%	-5.3%	9.5%	8.1%

Returns through March 31, 2019.

Past performance is not indicative of future returns. For calendar year returns please refer to the GIPS Compliant Presentation and Notes to Performance at the end of this presentation.

*The information provided is for equity returns including dividends net of withholding tax rates as calculated by MSCI. Returns are calculated in US dollars (“USD”). All performance numbers are preliminary and subject to change.

The performance in the body of this report is an abbreviated presentation of composite performance and is presented as supplemental information only. A full presentation of composite performance that adheres to the Global Investment Performance Standards (GIPS®) is provided later in this presentation.

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Fee Schedule: Emerging Markets Select Value

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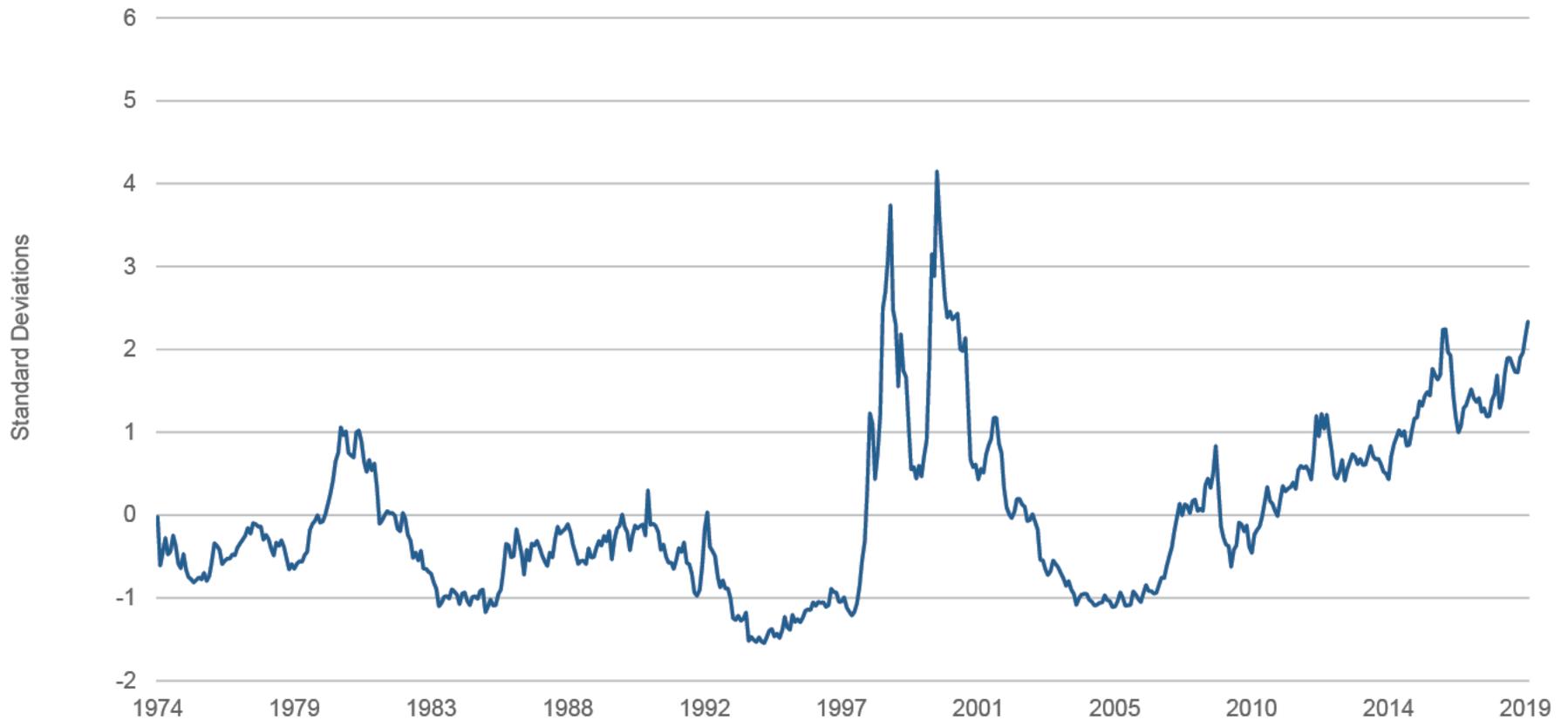
6.5

Minimum separate account size is \$25 million
All fees are in US dollars



Global Valuation Dispersion Remain Wide

Global 1st Quintile vs. 5th Quintile Dispersion Expressed in Standard Deviations



6.5

Data through March 2019. Source: Sanford C. Bernstein & Co., Pzena analysis
Dispersion based on price to book; equally-weighted data.
Universe is the largest ~1,600 stocks by market capitalization in developed world.

PZENA Investment Management



Regional Valuation Dispersions Remain Wide

1st Quintile vs. 5th Quintile Dispersion by Region
Expressed in Standard Deviations



6.5

Data through March 2019. Source: Sanford C. Bernstein & Co., Pzena analysis
Dispersion based on price to book; equally-weighted data.
Universes comprise the largest stocks by market capitalization for each region as follows:
~1000 largest US; ~300 largest Japanese; ~500 largest European; ~1100 largest emerging markets.



Global Valuations: Price-to-Normalized Earnings¹ Mid-Points

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6.5

	Cheapest Quintile	Universe ²
Global	8.4	16.5
US	9.3	16.8
Europe	7.9	15.9
Japan	8.0	17.5
Emerging Markets	7.3	14.7

As of March 2019

Source: FactSet, Reuters, Pzena analysis

¹Pzena estimates. ²Universes comprise the largest stocks by market capitalization for each region as follows:

~2,000 largest global; ~1,000 largest US; ~750 largest European; ~750 largest Japanese; ~1,500 largest emerging markets.

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Similar Fundamentals at Different Valuations

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Emerging Markets Key Financial Data by Valuation Quintile

6.5

Price/Normal Quintile	Historical Return on Equity	Historical Revenue Growth	Price to		
			Earnings	Sales	Book Value
Q1 (cheapest)	16%	14%	7x	0.9x	0.9x
Q2	15%	14%	12x	0.9x	1.6x
Q3	17%	14%	15x	1.6x	1.9x
Q4	16%	15%	15x	1.4x	2.0x
Q5 (expensive)	12%	19%	17x	1.7x	2.6x

Source: FactSet, Reuters, Pzena analysis

Valuation quintile buckets based on Pzena's price-to-normalized earnings estimates.

P/E and P/S ratios are calculated using average sell-side consensus 1-yr forward estimates.

Return on equity and revenue growth calculated over trailing 10-year period.

Universe is the largest ~1,500 largest stocks in non-developed markets by market capitalization.

Data as of March 2019.

Does not represent any specific Pzena product or service.

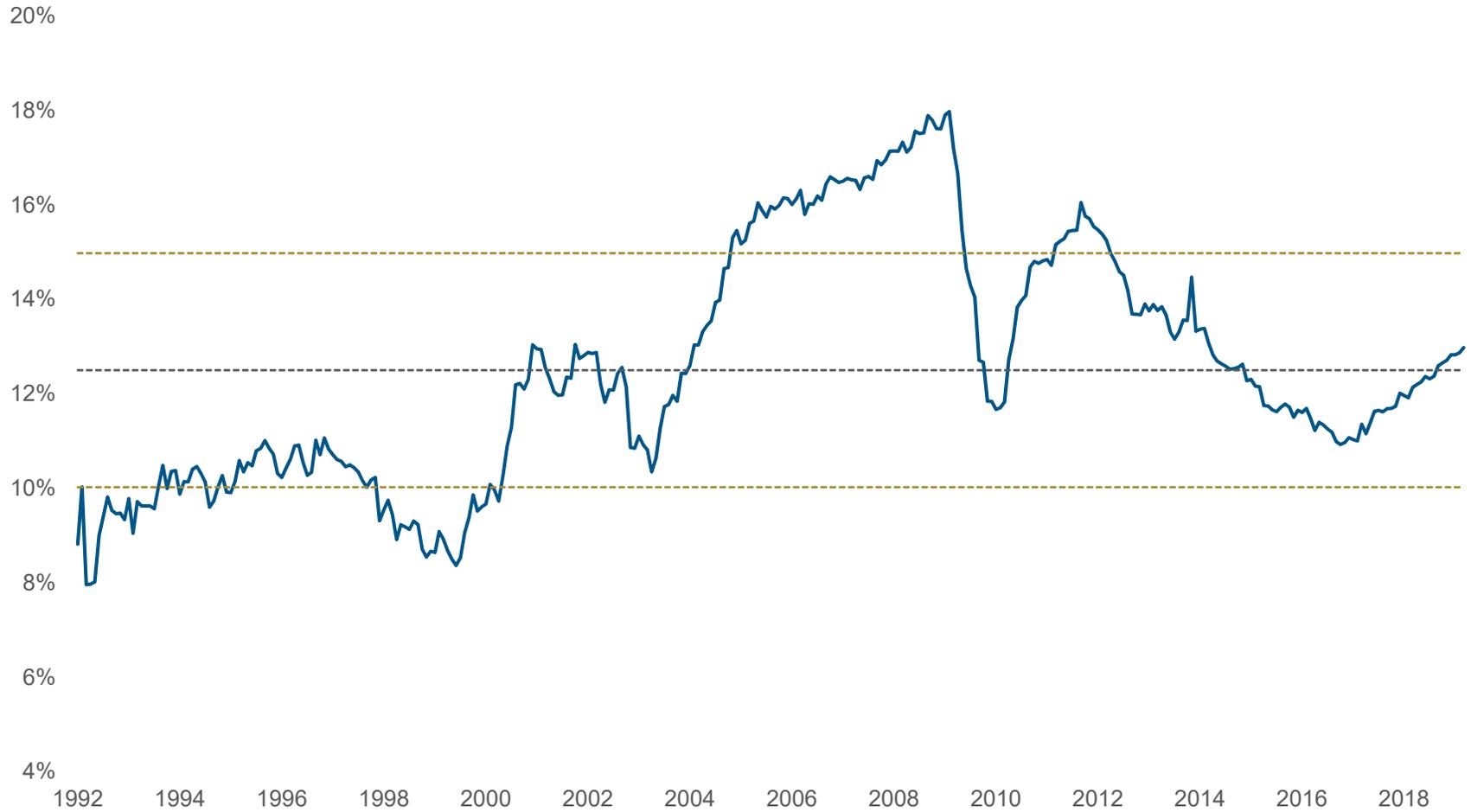
Past performance is not indicative of future returns.

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Emerging-Market Return on Equity Normalizing

MSCI Emerging Markets Index Return on Equity 1992 – March 2019



6.5

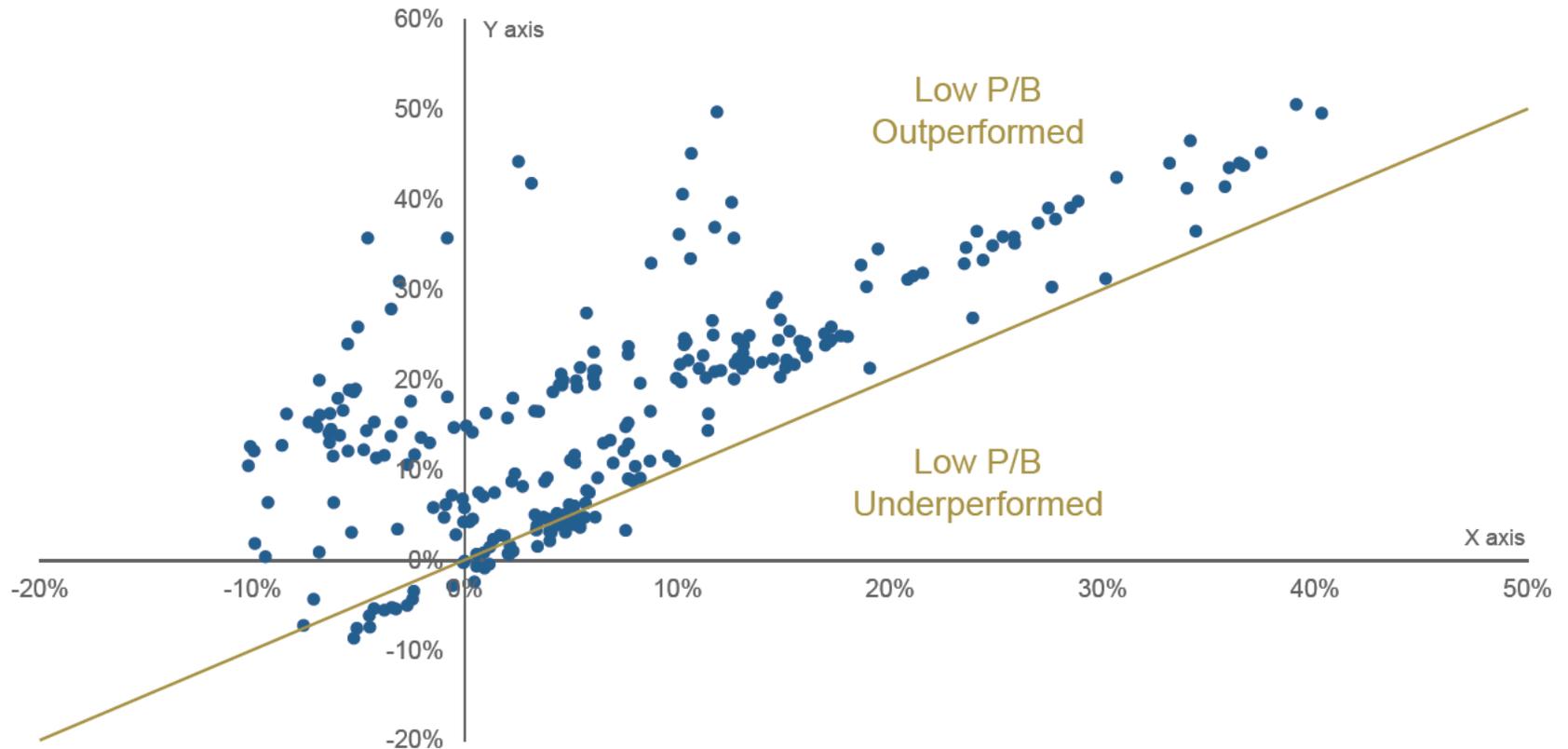
Source: Sanford C. Bernstein & Co.
Past performance is not indicative of future returns.



Undervalued Stocks Have Outperformed over Time

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5-Year Rolling Returns of Low Price/Book* vs. MSCI EM Index
1992 – March 2019



6.5

Y axis: Monthly Rolling 5-year USD annualized return of Low Price/Book*

X axis: Monthly Rolling 5-year USD annualized return of MSCI Emerging Markets Index (gross returns)

Source: MSCI, Sanford C. Bernstein & Co., Pzena analysis

*Cheapest quintile price to book of largest ~1100 stocks in emerging markets (equally-weighted data);

Does not represent any specific Pzena product or service.

Past performance is not indicative of future returns.

PZENA Investment Management

Appendix



Emerging Markets: Portfolio Manager Biographies



Rakesh Bordia

Principal and Portfolio Manager. Mr. Bordia is a co-portfolio manager for the Emerging Markets strategies. Mr. Bordia became a member of the firm in 2007. Prior to joining Pzena Investment Management, Mr. Bordia was a principal at Booz Allen Hamilton focusing on innovation and growth strategies, and a software engineer at River Run Software Group. He earned a Bachelor of Technology in Computer Science and Engineering from the Indian Institute of Technology, Kanpur, India and an M.B.A. from the Indian Institute of Management, Ahmedabad, India.



Allison Fisch

Principal and Portfolio Manager. Ms. Fisch is a co-portfolio manager for the International and Emerging Markets strategies, along with the Global Best Ideas service. Ms. Fisch became a member of the firm in 2001. Prior to joining Pzena Investment Management, Ms. Fisch was a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Psychology and a minor in Drama from Dartmouth College. At Dartmouth, Ms. Fisch was a member of the Phi Beta Kappa and Psi Chi national honor societies.



Caroline Cai, CFA

Managing Principal, Portfolio Manager, and member of the firm's Executive Committee. Ms. Cai is a co-portfolio manager for the Global, International, European and Emerging Markets strategies, and the Financial Opportunities service. Ms. Cai became a member of the firm in 2004. Prior to joining Pzena Investment Management, Ms. Cai was a senior analyst at AllianceBernstein LLP, and a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Math and Economics from Bryn Mawr College. Ms. Cai holds the Chartered Financial Analyst designation.



John P. Goetz

Managing Principal, Co-Chief Investment Officer, Portfolio Manager, and member of the firm's Executive Committee. Mr. Goetz is a co-portfolio manager for the Global, International, European, Emerging Markets and Japan Focused Value strategies. He also previously served as the Director of Research and was responsible for building and training the research team. Mr. Goetz became a member of the firm in 1996. Prior to joining Pzena Investment Management, Mr. Goetz held a range of key positions at Amoco Corporation, his last as the Global Business Manager for Amoco's \$1 billion polypropylene business where he had bottom-line responsibility for operations and development worldwide. Prior positions included strategic planning, joint venture investments, and project financing in various oil and chemical businesses. Before joining Amoco, Mr. Goetz had been employed by The Northern Trust Company and Bank of America. He earned a B.A. summa cum laude in Mathematics and Economics from Wheaton College and an M.B.A. from the Kellogg School at Northwestern University.



Investment Management Team

Daniel L. Babkes

Senior Research Analyst. Mr. Babkes became a member of the firm in 2016. Prior to joining Pzena Investment Management, Mr. Babkes worked as an analyst at LG Capital Management, an event-driven hedge fund, and as an investment banker in the restructuring group at Evercore Partners. He began his finance career as a trader at Chesapeake Partners, a multi-billion dollar hedge fund. He earned a B.A. cum laude from Amherst College and an M.B.A. from the Wharton School of the University of Pennsylvania.

Rakesh Bordia

Principal and Portfolio Manager. Mr. Bordia is a co-portfolio manager for the Emerging Markets strategies. Mr. Bordia became a member of the firm in 2007. Prior to joining Pzena Investment Management, Mr. Bordia was a principal at Booz Allen Hamilton focusing on innovation and growth strategies, and a software engineer at River Run Software Group. He earned a Bachelor of Technology in Computer Science and Engineering from the Indian Institute of Technology, Kanpur, India and an M.B.A. from the Indian Institute of Management, Ahmedabad, India.

Caroline Cai, CFA

Managing Principal, Portfolio Manager, and member of the firm's Executive Committee. Ms. Cai is a co-portfolio manager for the Global, International, European and Emerging Markets strategies, and the Financial Opportunities service. Ms. Cai became a member of the firm in 2004. Prior to joining Pzena Investment Management, Ms. Cai was a senior analyst at AllianceBernstein LLP, and a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Math and Economics from Bryn Mawr College. Ms. Cai holds the Chartered Financial Analyst designation.

Andrew Chung, CFA

Principal and Senior Research Analyst. Mr. Chung became a member of the firm in 2014. Prior to joining Pzena Investment Management, Mr. Chung was a senior associate at Dodge & Cox and began his career as a research associate at Sanford C. Bernstein. He earned a B.S.E. summa cum laude in Finance and a B.A.S. in Computer Science from the University of Pennsylvania. Mr. Chung holds the Chartered Financial Analyst designation.

Jason Doctor, CFA

Principal and Senior Research Analyst. Mr. Doctor became a member of the firm in 2014. Prior to Pzena Investment Management, Mr. Doctor was a senior research analyst at Evercore Asset Management, a research analyst at Viking Global Investors, and a research associate at Citigroup Asset Management. He earned a B.S.F.S. in International Economics from Georgetown University and holds the Chartered Financial Analyst designation.

Eric M. Hagemann, CFA

Principal and Senior Research Analyst. Mr. Hagemann became a member of the firm in 2011. Prior to joining Pzena Investment Management, Mr. Hagemann was a summer analyst at Echo Street Capital Management, where he researched prospective investments in a generalist capacity. He earned a B.A. magna cum laude from Columbia College, graduating with departmental honors in Philosophy and an M.B.A. from Columbia Business School. Mr. Hagemann holds the Chartered Financial Analyst designation.

Allison Fisch

Principal and Portfolio Manager. Ms. Fisch is a co-portfolio manager for the International and Emerging Markets strategies, along with the Global Best Ideas service. Ms. Fisch became a member of the firm in 2001. Prior to joining Pzena Investment Management, Ms. Fisch was a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Psychology and a minor in Drama from Dartmouth College. At Dartmouth, Ms. Fisch was a member of the Phi Beta Kappa and Psi Chi national honor societies.

John J. Flynn

Principal and Portfolio Manager. Mr. Flynn is a co-portfolio manager for the U.S. Mid Cap and Large Cap strategies, along with the Focused Value and Small Cap Focused Value services. Mr. Flynn became a member of the firm in 2005. Prior to joining Pzena Investment Management, Mr. Flynn was an associate at Weston Presidio, a middle-market private equity investment firm. He earned a B.A. in Music from Yale University and an M.B.A. with distinction from the Harvard Business School.

Evan D. Fox, CFA

Principal and Portfolio Manager. Mr. Fox is a co-portfolio manager for the Small Cap Focused Value service. Mr. Fox became a member of the firm in 2007. Prior to joining Pzena Investment Management, Mr. Fox was a teaching assistant for the Wharton School Finance Department, a summer analyst at Lazard, and a summer researcher at Lucent Technologies. He earned a B.S. summa cum laude in Economics from the Wharton School of the University of Pennsylvania and a B.A.S. from the University of Pennsylvania School of Engineering and Applied Science. Mr. Fox holds the Chartered Financial Analyst designation.



Investment Management Team

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John P. Goetz

Managing Principal, Co-Chief Investment Officer, Portfolio Manager, and member of the firm's Executive Committee. Mr. Goetz is a co-portfolio manager for the Global, International, European, Emerging Markets and Japan Focused Value strategies. He also previously served as the Director of Research and was responsible for building and training the research team. Mr. Goetz became a member of the firm in 1996. Prior to joining Pzena Investment Management, Mr. Goetz held a range of key positions at Amoco Corporation, his last as the Global Business Manager for Amoco's \$1 billion polypropylene business where he had bottom-line responsibility for operations and development worldwide. Prior positions included strategic planning, joint venture investments, and project financing in various oil and chemical businesses. Before joining Amoco, Mr. Goetz had been employed by The Northern Trust Company and Bank of America. He earned a B.A. summa cum laude in Mathematics and Economics from Wheaton College and an M.B.A. from the Kellogg School at Northwestern University.

Kelleen Kiely, CFA

Principal and Senior Research Analyst. Ms. Kiely became a member of the firm in 2005. Prior to joining Pzena Investment Management, she was an HIV educator for the TOTAL HIV Prevention Program at St. Christopher's Inc., a research assistant for Brown University Medical School, and as a research associate for the Y.R. Gaitonde Centre for AIDS Research and Education in Chennai, India. She earned a B.A. in Anthropology-Linguistics from Brown University. Ms. Kiely holds the Chartered Financial Analyst designation.

TVR Murti

Principal and Portfolio Manager. Mr. Murti is a co-portfolio manager for the Long/Short Value service. Mr. Murti became a member of the firm in 2005. Prior to joining Pzena Investment Management, Mr. Murti was a business manager at Capital One Financial Corporation, a senior consultant with Coopers and Lybrand Consulting, and an engineer with Suzuki Motor Company's subsidiary in India. He earned a Bachelor of Technology in Mechanical Engineering with honors from the Indian Institute of Technology, Kharagpur, India and an M.B.A. with distinction from the Indian Institute of Management, Ahmedabad, India.

Takashi Okumura

Principal and Portfolio Manager. Mr. Okumura is the portfolio manager for the Japanese Focused Value service. Mr. Okumura became a member of the firm in 2007. Prior to joining Pzena Investment Management, he was a sales director at E2open Japan Corporation, a business-to-business software venture jointly established by 10 high tech companies including IBM, Hitachi, Matsushita, and Toshiba. Prior to that, he was a sales specialist at IBM Japan responsible for business development of emerging business, and a sales representative with Daitokyo Fire & Marine Insurance. He earned a B.A. in Commerce from Waseda University, Tokyo, Japan and an M.B.A. from Columbia Business School.

John Picasso

Senior Research Analyst. Mr. Picasso became a member of the firm in 2016. Prior to joining Pzena Investment Management, Mr. Picasso was a research analyst at Kavi Asset Management and a senior vice president at Fifth Street Asset Management. He earned a B.A. cum laude in Biology, a B.S. cum laude in Economics, and an M.B.A. with Palmer Scholar distinction, all from the University of Pennsylvania.

Richard S. Pzena

Founder, Managing Principal, Co-Chief Investment Officer, Portfolio Manager, and member of the firm's Executive Committee. Mr. Pzena is the architect of the firm's investment strategy and conceived and developed our proprietary screening model. He serves as co-portfolio manager for the U.S. Large Cap and Mid Cap strategies, Focused Value, and U.S. Best Ideas. Mr. Pzena began the firm in 1995. Prior to forming Pzena Investment Management, Mr. Pzena was the Director of U.S. Equity Investments and Chief Research Officer for Sanford C. Bernstein & Company. He joined Bernstein as an oil industry analyst and was named to the Institutional Investor All America Research Team for three years running. Mr. Pzena also served as Chief Investment Officer, Small Cap Equities. Prior to joining Bernstein, Mr. Pzena worked for the Amoco Corporation in various financial and planning roles. He earned a B.S. summa cum laude and an M.B.A. from the Wharton School of the University of Pennsylvania.

Matthew J. Ring

Principal and Portfolio Manager. Mr. Ring is a co-portfolio manager for the International Small Cap Focused Value service. Mr. Ring became a member of the firm in 2010. Prior to joining Pzena Investment Management, he was a senior manager with consulting firm Simat Helliesen & Eichner, providing due diligence for investments in the Industrials and Aerospace & Defense sectors. Mr. Ring began his career with General Electric Aircraft Engines as a design engineer and holds a patent on his GENx compressor case design for the Boeing 787. He earned a B.S. magna cum laude in Aerospace Engineering from the University of Notre Dame, a Masters in Mechanical Engineering from The Ohio State University, and an M.B.A. from Columbia Business School, graduating with honors.

Rachel Segal

ESG Research Analyst. Ms. Segal became a member of the firm in 2019. Prior to joining Pzena Investment Management, Ms. Segal was a Senior Associate in ESG at BNY Mellon. Prior to that, Rachel worked as a sustainability consultant for both PwC and Kantar Consulting. Ms. Segal graduated with a B.A. from Cambridge University and an M.A. from The Johns Hopkins School of Advanced International Studies (SAIS).

Himanshu Sharma

Senior Research Analyst. Mr. Sharma became a member of the firm in 2016. Prior to joining Pzena Investment Management, Mr. Sharma worked at Bernstein Research as a senior research associate, where he worked on the North American Transportation, European Chemicals, Payments and U.S. Large-Cap Banks teams. He earned a B.Tech and M.Tech (dual degree) in Biotechnology and Biochemical Engineering from Indian Institute of Technology, Kharagpur. He also earned a Post Graduate Diploma from Indian Institute of Management, Ahmedabad where he graduated with a Gold Medal (top of class). He received his M.B.A. from the Wharton School of the University of Pennsylvania and graduated as a Ford Fellow (top of class).

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Investment Management Team

Benjamin S. Silver, CFA, CPA

Principal and Portfolio Manager. Mr. Silver serves as co-portfolio manager for the U.S. Mid Cap, Large Cap, and Global strategies, along with the Focused Value and Small Cap Focused Value services. Mr. Silver became a member of the firm in 2001. Prior to joining Pzena Investment Management, Mr. Silver was a research analyst at Levitas & Company, a value-based equity hedge fund, and a manager for Ernst & Young LLP in their Financial Services Group. He earned a B.S. magna cum laude in Accounting from Sy Syms School of Business at Yeshiva University. Mr. Silver is a Certified Public Accountant and holds the Chartered Financial Analyst designation.

Clarke M. Smith

Research Analyst. Mr. Smith became a member of the firm in 2017. Prior to joining Pzena Investment Management, Mr. Smith was a senior analyst at Eachwin Capital, a concentrated long-term US equities fund. He began his finance career at Barclays Capital as a credit analyst in long-short proprietary trading. Mr. Smith graduated summa cum laude with a B.A. in Classics from Princeton University and was inducted into the Phi Beta Kappa Society. He earned his M.B.A. from the Stanford Graduate School of Business.

Akhil Subramanian

Research Analyst. Mr. Subramanian became a member of the firm in 2017. Prior to joining Pzena Investment Management, Mr. Subramanian was an analyst at SLS Capital, a concentrated long/short equities fund. Prior to that, Mr. Subramanian worked at TGG Group as a senior consultant and Credit Suisse as an investment banking analyst. Mr. Subramanian graduated with a B.S. in Mathematics and a B.A. in Economics from the University of Chicago, and an M.B.A. from Columbia Business School.

Manoj Tandon

Principal, Director of Research, and Portfolio Manager. Mr. Tandon serves as co-portfolio manager for the Focused Value, Long/Short Value and U.S. Best Ideas strategies. Mr. Tandon became a member of the firm in 2002. Prior to joining Pzena Investment Management, Mr. Tandon was an associate analyst for Global Software and IT Services Strategy at Deutsche Bank and a member of its Enterprise Software Research team. Previously, Mr. Tandon worked as a senior research engineer at Exxon Chemical Company and as a research associate at West Virginia University. He earned a Bachelor of Technology in Chemical Engineering from Indian Institute of Technology, New Delhi, India, a Ph.D. in Chemical Engineering from the University of Virginia, and an M.B.A. from New York University.

Miklos C. Vasarhelyi

Principal and Portfolio Manager. Mr. Vasarhelyi is a co-portfolio manager for the European strategy. Mr. Vasarhelyi became a member of the firm in 2012. Prior to joining Pzena Investment Management, he worked at Sanford C. Bernstein as a senior research associate covering U.S. large cap banks, and a research analyst at Banc of America Securities covering the Specialty Finance sector. He earned a B.A. in East Asian Languages and Cultures from Columbia College, where he served as President of the Student Body, and an M.B.A. with Dean's Honors and Distinction from Columbia Business School.

Kavitha Venkatraman

Research Analyst. Ms. Venkatraman became a member of the firm in 2016. Prior to joining Pzena Investment Management, Ms. Venkatraman was an investment analyst at Steinberg Asset Management, investing in U.S. equities, and at DSP BlackRock Investment Managers, investing in Indian equities. She earned a B.S. in Computer Science from University of Madras in India, and an M.B.A. from the Wharton School of the University of Pennsylvania.

Yinan Zhao, CFA

Senior Research Analyst. Mr. Zhao became a member of the firm in 2016. Mr. Zhao joined Pzena Investment Management upon graduating with an M.B.A. from Columbia Business School, where he was enrolled in the Value Investing Program. Prior to business school, Mr. Zhao worked at Susquehanna International Group as a senior research associate and began his career as a research analyst at Merrill Lynch. He earned a B.S. in Electrical Engineering from Stanford University and holds the Chartered Financial Analyst designation.



GIPS Compliant Presentation

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Pzena Investment Management, LLC
 Schedule of Investment Performance
 Pzena Emerging Markets Select Value Composite

Year Ended Dec 31	Rate of Return (Gross)	Benchmark Return	Number of Portfolios	Composite Assets at End of Period (US\$ millions)	Total Firm Assets at End of Period (US\$ millions)	Total Product Managed Assets ^(a) at End of Period (US\$ millions)	Composite Assets as a Percentage of Firm Assets	Composite Assets as a Percentage of Product Managed Assets ^(a)	High ^(b)	Low ^(b)	Composite 3-yr Annualized Standard Deviation	Benchmark 3-yr Annualized Standard Deviation
2018	-9.0%	-14.6%	2	136	32,198	336	Less Than 1%	40.3%	N/A	N/A	14.5%	14.6%
2017	33.3%	37.3%	2	604	37,690	801	1.6%	75.4%	33.3%	33.2%	N/A	N/A
2016	21.8%	11.2%	2	440	30,035	440	1.5%	100.0%	N/A	N/A	N/A	N/A
3-yr Annualized	13.9%	9.3%										
2015 (c)	-7.7%	-6.0%	1	161	25,999	161	Less Than 1%	100.0%	N/A	N/A	N/A	N/A

(a) Product Managed Assets information is included as supplemental information. See Notes to Performance.

(b) High and Low performance for the Composite is presented when two or more accounts were active for the entire year.

(c) Composite created in November 2015 with inception date of 11/1/2015. Performance represents partial year 2015.

Past performance is not indicative of future returns.

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Notes to Performance

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Pzena Investment Management, LLC (the "Firm") claims compliance with the Global Investment Performance Standards ("GIPS®") and has prepared and presented this report in compliance with the GIPS standards. Pzena Investment Management, LLC has been independently verified for the periods January 1, 1996 to December 31, 2018. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The verification and performance examination reports are available upon request. The Firm commenced operations on January 1, 1996. The Firm is a registered investment adviser that follows a classic value investment approach and is the operating company of Pzena Investment Management, Inc. Pzena Investment Management, Inc. is a publicly traded company whose shares are listed on the New York Stock Exchange under the ticker symbol "PZN."

The Pzena Emerging Markets Select Value Composite (the "Composite") was created in November 2015. The Composite represents returns for clients invested in the Pzena Emerging Markets Select Value strategy. Pzena Emerging Markets Select Value is a portfolio generally consisting of 30-60 stocks generally taken from the largest 1,000 companies in the non-developed markets at the time of initial purchase. The presentation of investment performance sets forth the time-weighted rates of return (the "Return") for the Composite. Past performance is not an indication of future results and may differ for future time periods.

The Composite includes all fee-paying and non wrap fee portfolios since inception date that are managed on a fully discretionary basis by the Firm, according to the Pzena Emerging Markets Select Value strategy. Eligible new portfolios are added to the Composite at the beginning of the first full month under management. Terminated portfolios are removed from the Composite after the last full month that the portfolio is under firm management. FX currency transactions were used to transact in equity securities only, where applicable.

The Total Product Managed Assets represents the total value of all accounts invested in the Pzena Emerging Markets Select Value strategy managed and traded by the Firm, including accounts with client-imposed restrictions or accounts not fully invested at year-end.

Generally, securities listed on any national securities exchange are valued at the last quoted sale price on the exchange. For securities that have not recently traded, an estimate of current price is used to value the security. Securities which are not listed are valued at the most recent publicly quoted bid price. Securities transactions are recorded on a trade date basis. Dividend income is recorded as of the ex-dividend date. The results for the Composite for all periods shown are net of withholding taxes, where applicable, on dividends, interest, and capital gains. The withholding tax rates used in the return calculations are the actual withholding tax rates of each country in which an investment was made or held during the period of such calculation.

The rate of return is calculated on a time-weighted, total return basis and includes all dividends, interest, accrued income and realized and unrealized gains or losses. Returns are calculated in U.S. dollars ("USD").

Gross rates of return are presented gross of investment management fees and net of the deduction of brokerage commissions and transaction costs. Net rates of return are presented net of investment management fees and net of the deduction of brokerage commissions and transaction costs. An investor's actual return will be reduced by investment management fees.

Generally, investment management fees are charged based upon the size of the portfolio, and are applied quarterly. The Firm's standard annual asset-based fee schedule is as follows: 0.70% per annum on the first \$50 million and 0.55% per annum on assets above \$50 million. Generally fees are not negotiable. However, over time the standard fees have evolved and changed. The fees may vary depending on the date the account is opened or on an account's particular requirements. To illustrate the compounded effect of the deduction of a 1% annual fee on a hypothetical investment of \$1,000 in an account where the average annual return before fees was 10% for a 10-year period, and assuming reinvestment of all dividends and interest, the initial investment would have grown to \$1,100 after one year before fees and \$1,089 after fees; to \$1,611 after five years before fees and \$1,532 after fees; and to \$2,594 at the end of ten years before fees and \$2,346 after fees. Further discussion regarding our advisory fees is contained in our Form ADV Part 2.



Notes to Performance

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Composite returns are benchmarked to the MSCI Emerging Markets Index (the "Index"). The benchmark is used for comparative purposes only and generally reflects the risk or investment style of the investments reported on the schedule of investment performance. The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets, and provides equity returns including dividends net of withholding tax rates as calculated by MSCI. The Index cannot be invested in directly. Investments made by the Firm for the portfolios it manages in the Pzena Emerging Markets Select Value Composite may differ from those of the MSCI Emerging Markets Index. Accordingly, investment results will differ from those of the benchmark.

The standard deviation of comparable performance over time is a measure of volatility. The three-year annualized standard deviation measures the variability of the composite and the benchmark returns over the preceding 36-month period. The Firm also presents the returns for the highest and lowest yielding portfolios in the Composite. High and Low performance for the Composite is only presented when two or more accounts were active for the entire year. Additional information is available upon request regarding policies for valuing portfolios, calculating performance, and preparing compliant presentations, as well as a list of composite descriptions.

Past performance is no guarantee of future results, and the past performance of Pzena Emerging Markets Select Value composite should not be considered indicative of the future performance of any accounts or commingled funds managed by the Firm. Investment return and principal value of an investment will fluctuate over time. Additionally, there are special risks associated with investing in foreign securities which may affect performance. For example, the value of foreign currencies may decline relative to the U.S. dollar, or political, social or economic instability in a foreign country in which a client invests may cause the value of the client's investments to decline.

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Notable portfolio holdings are discussed for illustrative purposes only. The specific portfolio securities discussed in this presentation were selected for inclusion based on their ability to help you better understand our investment process and, where applicable, the investment model for our particular product strategy in which you are invested. They were selected from securities in one or more of our Focused Value strategy composites, as of February 28, 2019, and were not selected based on performance. They do not represent all of the securities purchased or sold for our client accounts during any particular period, and it should not be assumed that investments in such securities were or will be profitable.

Holdings vary among client accounts as a result of different product strategies having been selected thereby. Holdings also may vary among client accounts as a result of opening dates, cash flows, tax strategies, etc. There is no assurance that any securities discussed herein remain in client portfolios at the time you receive this presentation booklet or that securities sold have not been repurchased. The S&P 500® is a registered trademark of Standard & Poor's, a division of S&P Global Inc., which is the owner of all copyrights relating to this index and the source of the performance statistics of this index that are referred to herein.

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Next Century Growth Investors, LLC

Investing Today in Tomorrow's Big Companies

Micro Cap Growth

June 18, 2019

Kentucky Retirement Systems



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Firm Overview

As of May 31, 2019

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- NCG founded in November 1998 and headquartered in Minneapolis
- Over 85 years of combined investment experience
- Disciplined investment strategy
- Focused on portfolio management
- No portfolio manager turnover

Products

As of May 31, 2019

Portfolio	Assets	Status
Small Cap	\$425 million	Open
SMID Cap	\$15 million	Open
Micro Cap	\$212 million	Open
Large Cap	\$96 million	Open
Small/Micro Cap	\$27 million	Open

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Investment Team

As of May 31, 2019

NCG Team	Position	Investment Industry Experience
Thomas L. Press	NCG Chairman, Chief Executive Officer, Portfolio Manager	35 years
Robert E. Scott	President, Chief Operating Officer, Portfolio Manager	25 years
Kaj Doerring	Portfolio Manager	21 years
Peter M. Capouch	Portfolio Manager	16 years
Tom Dignard	Portfolio Manager	6 years

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Investment Philosophy

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We seek to invest in the highest quality and fastest growing companies in America. We believe a portfolio of high growth companies, combined with a strong sell discipline, will lead to a compounding of portfolio value over time.

Investment Philosophy

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- Small team of portfolio managers performing direct research
- Work on the Law of Compounding
- Strong sell discipline allows us to admit mistakes quickly

Investment Philosophy

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Investment Process

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Universe of Stocks → **Fundamental Screening** → **Direct Research & Analysis**

Available Stocks:
Approximately 2000

Available Stocks:
Approximately 500

Portfolio:
Approximately 40-60 Stocks

Universe

- ◆ < 1B market cap at time of purchase

Typical Growth Criteria

- ◆ Revenue Growth > 15%
- ◆ Earnings Growth > 15%

Key Growth Fundamentals

- ◆ Strong revenue growth
- ◆ Large growing market opportunity
- ◆ Leadership position
- ◆ Control of distribution
- ◆ Strong management

Investment Process

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Portfolio Construction:

- Diversified portfolio of approximately 40-60 holdings
- Emphasis on fastest growing sectors
- Purchase 1% position immediately in portfolio
- Individual positions limited to 5% of portfolio
- Individual sector limits of 2x Russell Microcap Growth Index

Sell Discipline

- Our research uncovers a change in the original investment thesis
- Fundamental disappointment
- Extreme valuation
- 5% ceiling on individual holdings in the portfolio
- Market cap exceeds Micro Cap range[^]
 - 9 in 2011
 - 6 in 2012
 - 14 in 2013
 - 5 in 2014
 - 9 in 2015
 - 2 in 2016
 - 4 in 2017
 - 8 in 2018
 - 3 YTD 2019

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[^]We manage the weighted average market cap of the product to be within 150% of the Russell Microcap Growth Index.

Risk Management

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- Portfolio diversification and an awareness of risk at a company level
- Biggest risk to performance is company specific fundamental disappointment
- Strong sell discipline
- Market cap forced selling creates a sell high mechanism
- Excessive valuation of stock or sector
- Position limits
- Trading liquidity

Reasons to invest in Micro Cap Growth

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- Most inefficient segment of the market
- Fast growth is easier
- Valuation is usually better
- Experienced small cap portfolio managers may be successful in micro cap

Synergies with Small Cap

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- We know the sectors
- We know many of the companies already
- Our small cap investments give us access to management teams & idea sources.
- Small, regional brokerages active in idea generation
- Graduation effect

Performance – NCG Micro Cap Growth Composite

Periods Ended May 31, 2019

	Year to Date	One Year	Annualized				Since Inception 1/1/2003
			Three Years	Five Years	Ten Years	Fifteen Years	
NCG Micro Cap Growth Composite							
Composite Gross of Fees (%)	16.53	9.85	31.69	18.47	20.19	13.23	17.16
Composite Net of Fees (%)	16.19	9.16	30.75	17.61	19.24	12.30	16.12
Russell Microcap Growth Index (%)	9.54	-14.24	6.91	4.34	11.73	5.70	8.52

Past performance is not an indicator of future performance and the value of your account may increase or decrease over time.

The performance information provided above includes the reinvestment of all dividends and other earnings but does not reflect the deduction of investment advisory fees. The investment return would be reduced by these investment advisory fees and other expenses that clients may incur. For example, an annual gross investment return of 20%, subject to an annual investment advisory fee of 1.00% of assets under management, would result in an annual net investment return over 1 year of 18.8%. Next Century Growth Investors' investment advisory fees are described in Part 2a of its Form ADV.

The Next Century Growth Investors Micro Cap Growth Composite contains portfolios investing primarily in the equity securities of small U.S. companies ((primarily with a market cap \$100 million-\$1 billion at the time of purchase) that the portfolio managers believe have substantial potential for high long-term growth. The portfolio manager seeks to identify the fastest growing and highest quality companies for investment. Investment results are measured versus the Russell Microcap Growth Index. The Russell Microcap® Growth Index measures the performance of those Russell Microcap companies with higher price-to-book ratios and higher forecasted growth values. The Russell Microcap Growth Index is not an actual investment and does not reflect the deduction of transaction charges and other expenses that your account must bear. The Russell 2000 Growth Index measures performance of the companies within the Russell 2000 Index (the 2,000 smallest of the 3,000 largest U.S. companies based on total market capitalization) with relatively higher price-to-book ratios and higher forecasted growth values. The Russell 2000 Growth Index is not an actual investment and does not reflect the deduction of transaction charges and other expenses that your account must bear.

*Additional information regarding policies for calculating and reporting returns is available upon request
Micro Cap Growth Composite assets represent 24.38% of total firm assets as of 05/31/2019. Source of Indices: ICE Data Pricing*

Information is shown in conjunction with the GIPS compliant presentation included at the end of this presentation.

Next Century Growth Investors, LLC

NCG's Portfolios Confirm Our Disciplined Investment Process

As of May 31, 2019

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Fundamentals

Growth	Micro Cap Growth	Russell Microcap Growth Index
Est. Sales Growth (3-5 Year) [^]	23%	18%
Est. EPS Growth (3-5 Year)	20%	18%

[^]Securities excluded with less than \$25 million revenue (2019 mean)

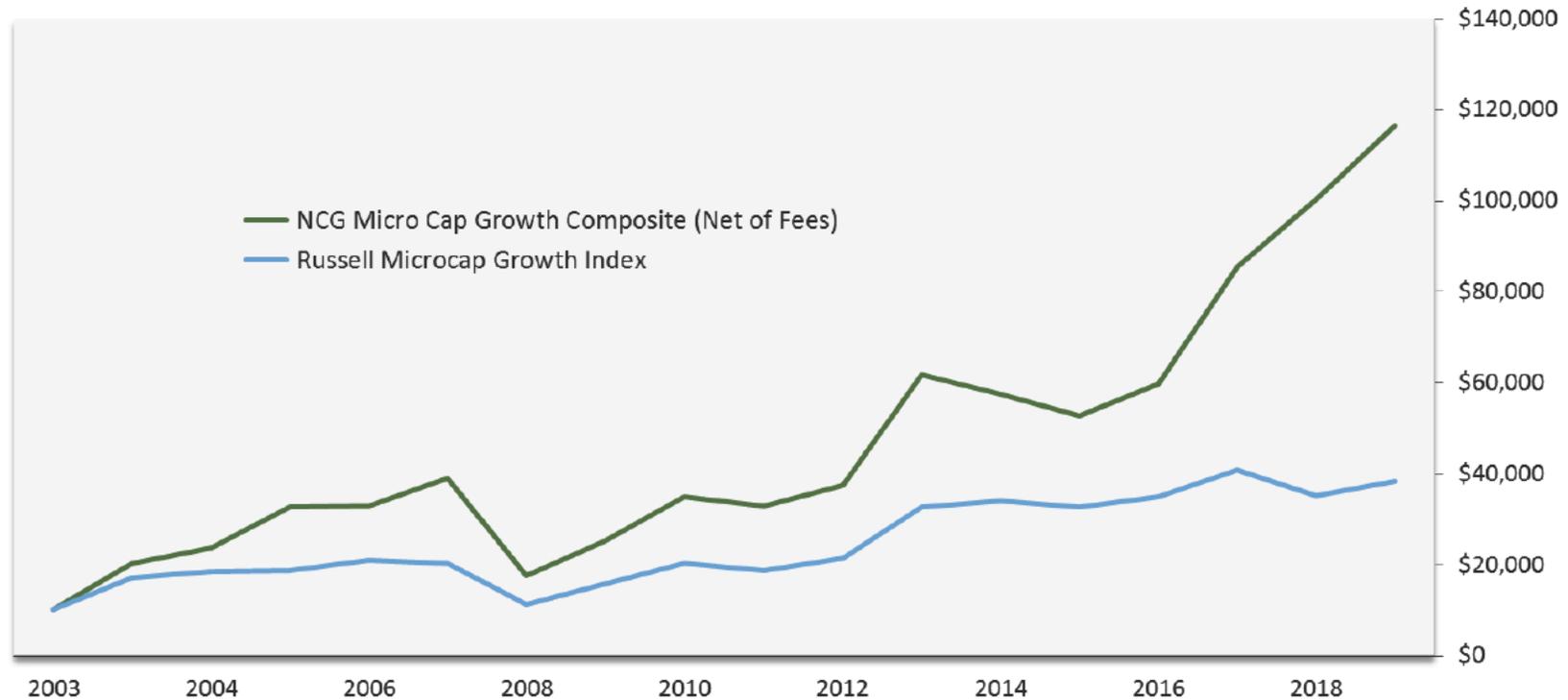
Portfolio characteristics are based on representative account and are calculated using weighted average Source: FactSet

Reasons to Hire

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- More than 16 years successfully investing in micro cap growth space
- Extensive small cap experience
- Disciplined, consistent investment process
- Portfolio managers own the firm
- No portfolio management turnover

Compound Annual Growth of \$10,000 Investment



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Results Displayed in US Dollar. Source: Axyx 1/1/2003-05/31/2019. This graph is for illustrative purposes only. Information for Micro Cap Growth based on composite returns calculated net of fees. Performance does not represent actual client accounts. Past performance is not an indicator of future performance and the value of your account may increase or decrease over time.

The Russell Microcap® Growth Index measures the performance of those Russell Microcap companies with higher price-to-book ratios and higher forecasted growth values. The Russell Microcap Growth Index is not an actual investment and does not reflect the deduction of transaction charges and other expenses that your account must bear.

The NCG Micro Cap Growth Equity Composite contains portfolios investing primarily in the equity securities of smaller U.S. companies that the portfolio manager believes have substantial potential for high long-term growth. The portfolio manager seeks to identify the fastest growing and highest quality companies for investment. Investment results are measured versus the Russell Microcap Growth Index.

Biographies

As of May 31, 2019

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Thomas Press, CFA, Chairman and Chief Executive Officer

Tom founded NCG in November 1998 with the goal of managing institutional accounts within our growth stock investing philosophy. He is a portfolio manager on all of our strategies, as well as being our Chairman and Chief Executive Officer since inception of the firm. Prior to NCG he worked at Jundt Associates from 1994-1998 as a portfolio manager, and before that he worked at Investment Advisors from 1992-1993. From 1985-1992 he worked Salomon Brothers and Morgan Stanley & Company on the institutional sales desk. Of his 35 years of investment experience, the past 28 have been spent utilizing our current investment process. Tom holds a B.A. degree in business administration from the University of Minnesota and an M.B.A. degree from the University of St. Thomas. He was a former member of the U.S. World, World Cup, and Olympic Wrestling Teams (alternate and team leader) and is a member of the Minnesota Wrestling Coaches Association Hall of Fame.

Robert Scott, CFA, President, Chief Operating Officer, Portfolio Manager

Bob joined NCG in our second year, serving as a portfolio manager on all strategies. In 2003, he helped create our microcap strategy and has been a portfolio manager on that product ever since. He also serves as the firm's President. Prior to joining NCG in September 2000, Bob spent seven years at Investment Advisers, Inc (IAI). While at IAI, Bob held various positions including Vice President and portfolio manager for the IAI small cap growth and mid cap growth products. From July 1991 to July 1993 he was a research analyst with the American Embassy in Tokyo, Japan. He has 25 years of investment experience. Bob graduated from Harvard University in 1990.

Peter Capouch, CFA, Portfolio Manager

Peter has been with NCG for 16 years and has 17 years of investment experience. He has been involved in all aspects of the portfolio management process since joining the firm in July 2003. Prior to joining NCG, he worked at State Street Global Advisors as a consultant analyst developing and maintaining relationships with investment consultant companies. Peter graduated from Harvard University in 2002, where he was captain of the men's ice hockey team.

Biographies

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Kaj Doerring, Portfolio Manager

Kaj Doerring has 21 years of investment experience. This includes 3 years at Piper Jaffray Companies and 3 years as a founding member of Think Equity Partners. Before entering the investment industry, Kaj spent 14 years at various positions within drug, diagnostic, device and capital equipment sales/marketing areas including 9 years at Bristol-Myers Squibb, 2 Years at Boehringer Mannheim Diagnostics and 3 years at Coherent Surgical. Kaj graduated from Concordia College, Moorhead, MN in 1985 with a BA in Computer Science.

Tom Dignard, CFA, Portfolio Manager

Tom joined NCG in January 2013. Tom earned his BA in economics from Yale University in 2010, where he was also a 4-year letterman of the Men's Ice Hockey Team. He earned his MBA and graduated with Distinction from the University of Ulster in 2012.

Kelly McNulty, Vice President, Chief Compliance Officer, Chief Financial Officer

Kelly has over 26 years of industry experience. Prior to joining NCG in April 2002, she spent 7 years with Paladin Investments (formerly Investment Advisers, Inc.) as Associate Vice President of Operations overseeing institutional accounts and mutual funds. Previous to Paladin, Kelly held various positions at Piper Jaffray. Kelly received her MBA in Finance in May 2002 from the University of St. Thomas and she received her BA in Accounting and Finance from Creighton University in 1992.

Next Century Growth Investors, LLC

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This presentation is intended only for sophisticated clients. Next Century Growth Investors, LLC (NCG) and its affiliates may have positions in, and may affect transactions in, the markets, contracts and related investments described herein. Past performance is not indicative of future results. The investment process and limitations described in this presentation are intended as an illustration of the manager's general investment philosophy. Any client-specific investment guidelines or restrictions must be detailed in a written agreement between NCG and the client.

Separately Managed Accounts

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Micro Cap Growth Investment Management

Fee Schedule

1.00% annual rate on assets

Next Century Growth Investors, LLC
Micro Cap Growth Composite
January 1, 2003 through December 31, 2018

Year	Gross-of-Fees Return	Net-of-Fees Return	Russell Microcap Growth Index	Russell 2000 Growth Index	Standard Deviation	Number of Portfolios	Composite Assets (\$ Millions)	Percentage Off Firm Assets	Firm Assets (\$ Millions)	Composite	Annualized 3-Year Standard Deviation	
	(percent)	(percent)	(percent)	(percent)					Russell Microcap Growth Index		Russell 2000 Growth Index	
2003	105.56	101.99	69.83	48.54	-	2	15	0.96	1,551	**	**	**
2004	17.60	16.62	7.90	14.30	0.12	2	5	0.27	1,734	**	**	**
2005	39.67	38.06	2.04	4.15	0.01	5	40	2.36	1,705	21.1%	18.1%	16.5%
2006	1.81	1.10	11.38	13.34	0.63	10	155	7.01	2,203	20.5%	16.7%	15.6%
2007	18.89	18.00	(2.67)	7.04	0.10	10	355	12.07	2,937	18.4%	14.8%	14.2%
2008	(54.59)	(55.07)	(44.64)	(38.53)	0.44	13	171	11.21	1,521	26.3%	21.7%	21.3%
2009	45.40	43.99	39.17	34.46	0.54	12	233	9.51	2,446	26.5%	26.2%	24.8%
2010	39.82	38.73	29.48	29.08	0.27	12	321	10.35	3,100	31.4%	29.1%	27.7%
2011	(5.20)	(6.09)	(8.42)	(2.90)	0.31	11	230	9.60	2,604	27.2%	25.2%	24.3%
2012	15.08	14.03	15.17	14.58	0.33	11	316	11.75	2,690	26.8%	21.6%	20.7%
2013	66.85	65.52	52.83	43.30	0.30	7	441	11.43	3,860	22.2%	18.5%	17.3%
2014	(6.17)	(6.94)	4.29	5.60	0.15	6	296	9.34	3,163	19.0%	16.5%	13.8%
2015	(7.64)	(8.36)	(3.85)	(1.38)	0.06	5	188	7.35	2,555	18.7%	17.6%	14.9%
2016	13.93	13.12	6.86	11.31	0.14	5	194	11.19	1,736	19.2%	19.4%	16.7%
2017	44.17	43.16	16.65	22.16	0.01	3	159	19.01	834	16.0%	17.0%	14.6%
2018	18.25	17.47	(14.18)	(9.30)	0.03	3	169	24.24	699	17.7%	18.5%	16.5%

Compliance Statement

Next Century Growth Investors, LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Next Century Growth Investors, LLC has been independently verified for the periods 1999-2018. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation.

Definition of the Firm

Next Century Growth Investors, LLC is a registered investment adviser with the U.S. Securities and Exchange Commission under the Investment Advisers Act of 1940. The Firm offers investment services to individuals and institutional investors. Next Century Growth is located in Minneapolis, Minnesota, has one office and no subsidiaries.

List of Composites

This composite was created January 1, 2003. The firm's list of composite descriptions is available upon request.

Formal Description of the Micro Cap Growth Composite

The NCG Micro Capitalization Growth Equity Composite contains all fee paying portfolios investing primarily in the equity securities of smaller U.S. companies that the portfolio manager believes have substantial potential for high long-term growth. The portfolio manager seeks to identify the fastest growing and highest quality companies for investment. Investment results are measured versus the Russell Microcap Growth Index and the Russell 2000 Growth Index. Prior to October 1, 2018 the Micro cap Growth composite had been referred to as Poling Composite, MicroCap Composite, and SMicroCap Composite, and Small Cap Ultra Composite. Beginning January 1, 2003, there was no minimum account size for the composite. Beginning October 1, 2010 the minimum account size for the composite is \$10,000.

Currency

Valuations are computed and performance reported in United States dollar (\$).

Benchmark

The benchmark for the Micro Cap Growth Equity Composite is the Russell Microcap® Growth Index. The Russell Microcap® Growth Index measures the performance of those Russell Microcap companies with higher price-to-book ratios and higher forecasted growth values. Prior to January 2008, the firm used the Russell 2000 Growth Index. The Russell 2000 Growth Index measures performance of the companies within the Russell 2000 Index (the 2,000 smallest of the 3,000 largest U.S. companies based on total market capitalization) with relatively higher price-to-book ratios and higher forecasted growth values. The Russell Microcap® Growth Index is not an actual investment and does not reflect the deduction of transaction charges and other expenses that your account must bear.

Fee Schedule

Next Century Growth Investors standard investment advisory fee is 1.00% on all asset under management. The net returns reflect the deduction of actual advisory fees. Prior to April 2004, monthly net returns reflect the deduction of a model advisory fee of 1.00%. This fee is the maximum annual advisory fee based upon the accompanying fee schedule in effect during each respective performance period for each portfolio in the composite, for net composite returns. The annual advisory fee is divided by 12 to determine the monthly advisory fee.

Measure of Dispersion

The composite dispersion is measured using an asset weighted standard deviation of returns for portfolios that were in the composite for the entire year.

Significant Cash Flows

Beginning Jan 1, 2018, composite policy requires the temporary removal of any portfolio incurring a client initiated significant cash inflow or outflow of at least 35% of portfolio assets. The temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurs and the account re-enters the composite at the beginning of the month after the cash flow.

Additional Information

Policies for valuing portfolios, calculating performance and preparing compliant presentations is available upon request. Past performance is not an indicator of future performance and the value of your account may increase or decrease over time. The performance information provided above includes the reinvestment of all dividends and other earnings. Additional information about NCG is contained in the firm's Form ADV. NCG will supply a copy of its Form ADV to any prospective client upon request.

** for periods with less than 3 years of composite performance, no 3-year ex-post standard deviation measurement is available.