



**Alameda County Employees' Retirement Association  
BOARD OF RETIREMENT**

**INVESTMENT COMMITTEE/BOARD MEETING**

**THIS MEETING WILL BE CONDUCTED VIA TELECONFERENCE  
SEE GOV'T CODE § 54953(e).**

**ACERA MISSION:**

**To provide ACERA members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services.**

**Wednesday, July 13, 2022  
9:30 a.m.**

<b>ZOOM INSTRUCTIONS</b>	<b>COMMITTEE MEMBERS</b>	
<p>The public can view the Teleconference and comment via audio during the meeting. To join this Teleconference, please click on the link below. <a href="https://zoom.us/join">https://zoom.us/join</a> Webinar ID: 879 6337 8479 Passcode: 699406 1 (669) 900-6833 US For help joining a Zoom meeting, see: <a href="https://support.zoom.us/hc/en-us/articles/201362193">https://support.zoom.us/hc/en-us/articles/201362193</a></p>	<b>TARRELL GAMBLE</b>	<b>APPOINTED</b>
	<b>CHAIR</b>	
	<b>GEORGE WOOD</b>	<b>ELECTED GENERAL</b>
	<b>VICE CHAIR</b>	
	<b>DALE AMARAL</b>	<b>ELECTED SAFETY</b>
	<b>OPHELIA BASGAL</b>	<b>APPOINTED</b>
	<b>KEITH CARSON</b>	<b>APPOINTED</b>
<b>JAIME GODFREY</b>	<b>APPOINTED</b>	
<b>LIZ KOPPENHAVER</b>	<b>ELECTED RETIRED</b>	
<b>HENRY LEVY</b>	<b>TREASURER</b>	
<b>KELLIE SIMON</b>	<b>ELECTED GENERAL</b>	
<b>NANCY REILLY</b>	<b>ALTERNATE RETIRED<sup>1</sup></b>	
<b>DARRYL WALKER</b>	<b>ALTERNATE SAFETY<sup>2</sup></b>	

<sup>1</sup> The Alternate Retired Member votes in the absence of the Elected Retired Member, or, if the Elected Retired Member is present, then votes if both Elected General members, or the Safety Member and an Elected General member, are absent.

<sup>2</sup> The Alternate Safety Member votes in the absence of the Elected Safety, either of the two Elected General Members, or both the Retired and Alternate Retired members.

*Note regarding accommodations:* The Board of Retirement will provide reasonable accommodations for persons with special needs of accessibility who plan to attend Board meetings. Please contact ACERA at (510) 628-3000 to arrange for accommodation.

*Note regarding public comments:* Public comments are limited to four (4) minutes per person in total.

The order of agenda items is subject to change without notice. Board and Committee agendas and minutes, and all documents distributed to the Board or a Committee in connection with a public meeting (unless exempt from disclosure), are available online at [www.acera.org](http://www.acera.org).

# **INVESTMENT COMMITTEE/BOARD MEETING**

**NOTICE and AGENDA July 13, 2022**

**Call to Order:** 9:30 a.m.

## **Roll Call**

**Public Input (The Chair allows public input on each agenda item at the time the item is discussed)**

## **Board Action Item:**

1. Proposed Findings Regarding State of Emergency Pursuant to Gov't Code §54953(e) (3): Staff Recommendation: The Board finds that it has reconsidered the circumstances of the state of emergency and (1) the state of emergency continues to directly impact the ability of the members to meet safely in person, and (2) state or local officials continue to impose or recommend measures to promote social distancing.

Dave Nelsen, ACERA

Jeff Rieger, ACERA

## **Action Items: Matters for discussion and possible motion by the Committee**

1. Interview of the Finalists for ACERA's Emerging Markets Equity Manager Search – International Equities and Possible Motion by the Investment Committee to Recommend Finalist (s) to the Board

9:45 – 10:30

Mike Gush, Baillie Gifford and Company  
Liam Hoare, Baillie Gifford and Company

10:30 – 11:15

Dáire Dunne, Wellington Management  
Simon C. Henry, Wellington Management  
Akin Greville, Wellington Management  
Brian M. White, Wellington Management

11:15 – 12:00

Stephanie Braming, William Blair  
Todd McClone, William Blair  
Wally Fikri, William Blair

Joe Abdou, Verus Advisory  
Eileen Neill, Verus Advisory  
Thomas Taylor, ACERA  
Betty Tse, ACERA

## **Information Items: These items are not presented for Committee action but consist of status updates and cyclical reports**

1. Total Fund Recessionary/Inflationary Impact Review 2022-2027

Eileen Neill, Verus Advisory  
Margaret Jadallah, Verus Advisory  
Betty Tse, ACERA

***INVESTMENT COMMITTEE/BOARD MEETING***

**NOTICE and AGENDA July 13, 2022**

**Trustee Remarks**

**Future Discussion Items**

**Establishment of Next Meeting Date**

August 10, 2022 at 9:30 a.m.



475 14<sup>TH</sup> STREET, SUITE 1000, OAKLAND, CA 94612 800/838-1932 510/628-3000 FAX: 510-268-9574 WWW.ACERA.ORG

To: Members of the Investment Committee  
Date: July 13, 2022  
From: Thomas Taylor, Investment Officer *Thomas Taylor*  
Subject: Interview of the Finalists for ACERA's Emerging Markets Equity Manager Search – International Equities and Possible Motion by the Investment Committee to Recommend Finalist (s) to the Board.

**Recommendation:**

Staff recommends that the Investment Committee select and recommend to the Board William Blair Management –the highest scorer, to replace ACERA's dedicated International Equity Emerging Markets Equity manager, Newton Investment Management, from the following list of finalist candidates:

- Baillie Gifford (BG) - *Emerging Markets All Cap*
- Wellington Management (Wellington)- *Emerging Market Development*
- William Blair - *Emerging Markets Growth*

**Background:**

On June 16, 2016, the Board adopted the Investment Committee's recommendation to amend the International Equity manager structure to include a 10% dedicated Emerging Markets (EM) equity allocation. In 2018-2019, ACERA completed a search for, and hiring of, ACERA's first EM equity manager, Newton Investment Management. Subsequently, at the September 8, 2021 Investment Committee Meeting, Staff reviewed the multiple material personnel changes at Newton<sup>1</sup>.

In response, on November 16, 2021, the Board adopted the Investment Committee's recommendation for a new EM equity manager search inclusive of a Timeline, Search Criteria, and Evaluation Matrix for the replacement of ACERA's Emerging Market Manager, Newton. Hence, the Board approved a focused-list RFI approach with a mandate of approximately \$300 million<sup>2</sup>, the value of ACERA's EM account at the time. Subsequently, on April 13, 2022 the Board approved a short-list of emerging markets equity manager finalists (Baillie Gifford & Co., Fidelity Institutional Asset Management, Wellington Management, and William Blair Investment Management) for further review and the conduct of on-site visits.

<sup>1</sup> Organizational changes at Newton: 1) CEO Hanneke Smits takes a new role at the parent company, BNY Mellon, 2) The 3 portfolio managers and half of the analysts that ACERA hired left the firm.

<sup>2</sup> The current value of the dedicated emerging markets account is approximately \$260 million as of 3/31/2022; however may fluctuate due to market conditions.

## **Discussion:**

### **Evaluation Process:**

Staff and Verus completed on-site visits to the four finalists<sup>3</sup> to verify the information provided by the prospective managers (RFI responses) and to conduct further due diligence. Our collective understanding of each firm was greatly increased. Using the same agenda for all meetings, Staff and Verus focused on the Organization (30 points); the Investment Team (30 points); Performance and Risk (30 points); and finally Proposed Fee Schedule (10 points).

Staff and Verus looked for consistency and integrity of each firm's philosophy, culture, the portfolio managers (PMs) and analyst expertise and experience, as well as, research platform, and their communication infrastructure. Staff and Verus considered the firms' investment process and portfolio constructions, as well as how Environmental, Social, and Governance (ESG) is applied in their stock selection. For example, all of the finalists have incorporated ESG as part of their stock selection in the risk-decision-making process and focus on sustainable, responsible investing. Additionally, all of the firms look at the country's political stability and the regulatory effectiveness, corporate governance, and natural resources stewardship, for additional examples.

Staff confirmed that each of the investment management companies have viable commingled fund platforms, albeit different. For instance, Baillie Gifford's investment managers are both PMs and analysts –a dual function. Additionally, BG analysts focus on stock selection by region or country. On the other hand, Wellington approaches stock selection strictly by using a thematic approach with which the analysts construct the portfolio via a universe of equities within that theme. Additionally, Wellington's analysts are sector specialists. William Blair's approach is more traditional and the PMs work closely with its analysts in structuring its portfolio; analysts are industry or sector specialists. Baillie Gifford offers a concentrated portfolio, while Wellington and William Blair are less concentrated with twice the number of stocks. Lastly, the investment teams (PMs/analysts) at all three firms manage other similar EM strategies at their firms, i.e., more than the one strategy.

Using the same Evaluation Matrix previously approved by the Board, Staff and Verus re-scored the four finalists after the site-visits; and, the scoring changed incrementally for all managers. The order of the rankings remained the same for Staff's scores and Verus' scores; however, the order of the "average" scores between Staff and Verus changed. William Blair remained the highest score, Wellington scored second, Baillie Gifford third, and Fidelity fourth. Subsequently, both Staff and Verus elected to move forward with Baillie Gifford, Wellington, and William Blair; and cull Fidelity, who scored the lowest. For the scores and company highlights (findings) for the three candidates please see below.

---

<sup>3</sup> On-Site visits: William Blair on 5/4/2022 (Chicago), Fidelity on 5/6/2022 (Boston), Baillie Gifford on 5/9/22 (Edinburgh), and Wellington on 5/12/2022 (Singapore).

**Overall Results – Updated Summary** (For complete scoring, see Attachment #1):

Table 1: (scores out of 100)	Initial Scores (and ranking)			Updated Scores (and ranking)			
	Staff	Verus	Average	Staff	Verus	Average	Change
Baillie Gifford & Co.	77.1 (4)	83.1 (2)	<b>80.1 (2)</b>	78.6 (3)	84.1 (2)	<b>81.3 (3)</b>	+1.3
Fidelity (FIAM)	77.8 (3)	78.8 (3)	<b>78.3 (3)</b>	72.8 (4)	75.3 (4)	<b>74.1 (4)</b>	-4.3
Wellington Management	79.6 (2)	77.1 (4)	<b>78.3 (3)</b>	87.1 (2)	79.6 (3)	<b>83.3 (2)</b>	+5.00
William Blair	86.4 (1)	87.7 (1)	<b>87.0 (1)</b>	88.2 (1)	84.7 (1)	<b>86.4 (1)</b>	-0.60

**Baillie Gifford & Company - Emerging Markets All Cap**

Baillie Gifford & Co is a 6<sup>th</sup> generation private partnership and has operated as an unlimited liability corporation since its founding in 1908. Baillie Gifford is owned by 47 partners who all currently work at the firm. The Baillie Gifford platform is structured as an autonomous and decentralized collection of 1) investment managers, 2) business operators, and 3) client service professionals. With 1,600 total employees and a total of \$365.3 billion under management as of 3/31/2022, Baillie Gifford is “entrepreneurial, enterprise and client-centric”. The emerging-market strategies account for approximately \$33.6 billion (9.2 % of total AUM) of which ACERA is specifically considering the *Emerging Markets All Cap* strategy with \$15.0 billion (4.1% of total AUM).

Portfolio construction is lead by Portfolio Managers Mike Gush, Andrew Stobart, and Ben Durrant along with a team of six other Investment Managers (PMs). The firm operates both on an informal as well as on a formal basis that promotes extensive research, debate and collaboration among the EM team. Analyst coverage is by region or country and not by industry or sector. It should be noted that Baillie Gifford’s investment managers are analysts, as well. Collectively, the EM team also manages several other EM strategies at Baillie Gifford.

The firm’s investment strategy is to invest in growing businesses with long-term ownership that follow “hard currency earnings” over the long term, 5-years, and beyond. Baillie Gifford often engages with selected companies to help them towards better business practices and the highest possible ESG standards. The investment process relies on the interaction of creative thinking and exposure to a wide range of information sources. For example, in addition to in-house expertise, Baillie Gifford sources paid-for independent research to gain a deeper understanding of geopolitical and country risks.

Take-a-ways: Baillie Gifford’s strength in managing the *Emerging Markets All Cap* strategy is its investment process, which relies heavily on research and debate; a deep understanding of companies and diversification. BG considers research to be its best risk mitigation tool. The firm hires and trains talent from a diverse source of universities and colleges and with different areas of study. Baillie Gifford offers its employees a robust training program. This leads to higher retention and low turnover. However, given the long-term horizon, the *Emerging Markets All Cap* strategy is subject to shorter-term volatility and a slightly higher tracking error. Fifty-seven percent of the positions in the portfolio have been held for five or more years. Additionally, the firm has a growth bias toward investing, which is being challenged in the current inflationary environment. (Please see Executive Summary, Attachment #2.)

## **Wellington Management Company - *Emerging Market Development***

Wellington, headquartered in Boston, MA, is a privately owned company with 174 actively employed managing partners. It manages \$1.3 trillion in client assets under management. All emerging market strategies make up \$25.8 billion (or 1.9%) of total assets under management. The *Emerging Market Development* strategy has \$1.1 billion (or 0.1%) in total AUM. The EM platform consists of two PMs and two investment strategy analyst, supported by 12 global analysts that cover the specific economic themes. The *Emerging Market Development* strategy is managed by Co-PMs Dáire Dunne and Simon Henry. Additionally, there are nine other individuals involved in portfolio implementation, structural research, risk management (including ESG), and product management.

The fund's strategy is theme-specific first and foremost (thematic) and currently invests in eight broad themes. For example, "health care" and "automation & robotics" are two themes. The investment objective is to invest in high active share companies (overweighting or underweighting of positions versus the benchmark)) and take into consideration valuations, profitability, earnings, and momentum within each theme.

Take-a-ways: The *Emerging Market Development* strategy is very thematically driven. The strategy invests using several overarching themes (currently 8) and owns approximately 10 names (securities) in each of the eight themes. This provides for good diversification within the portfolio. The PMs lead in the development of the themes (portfolio construction) and the implementation (stock selection) is delegated to the investment analysts. Wellington has a robust communications technology infrastructure to support and connect its worldwide research with other resources. The PMs are located in Singapore in order to be closer to the emerging markets with the ability of visiting companies in the majority of emerging market countries. Analysts are located in London, Boston, Hong Kong, Tokyo, and Singapore. However, of all of the EM candidate strategies ACERA is considering, Wellington's AUM in the EM space is the smallest percentage of its overall business (1.9%). The *Emerging Market Development* strategy, too, has the shortest history (7-years) of the two candidates, (> 10-years). (Please see the Executive Summary, Attachment #3.)

## **William Blair Investment Management - *Emerging Markets Growth***

Chicago-based, William Blair is an active employee-owned company. It is an entrepreneurial investment-led, client-focused culture. With long-term expertise across asset classes globally, it has 348 employees –including 58 partners, 113 investment professionals, and \$70.1 billion total in assets under management. William Blair has approximately \$40.9 billion in Global Equity, which includes 17.0 in EM sleeve. There is \$13.4 billion (19.1% of total AUM) in dedicated Emerging Markets strategies, which includes \$6.1 billion (8.7% of total AUM) in the *Emerging Markets Growth* strategy. (There is a total of 30.4 billion or 43.4% in EM equities.) William Blair's structure integrates a combination of dedicated research analysts as well as a centralized company-wide platform of additional analysts and operations. The *Emerging Markets Growth* platform is managed by the PM team of Todd McClone, Casey Preyss, and Vivian Lin Thurston. The PMs are supported by 15 fundamental analysts who conduct bottom-up research, organized by sectors and market capitalization.

William Blair's investment strategy is to build and manage a diversified, all-cap portfolio of high-quality companies. Their investment process pursues sustainable value creation, a long-term holistic perspective, and systematic approach to research. Much of risk management (portfolio, geopolitical, ESG, etc.) is bolstered by

deep fundamental research and the strength of information, record keeping, and a communication system facilitated by all team members. McClone, Preyss, and Thurston –as well as the analysts, support other similar EM strategies but do so on robust and integrated information platforms.

Take-a-ways: The William Blair *Emerging Markets Growth* strategy scored highest of the three candidates because of its organizational platform (e.g., communications infrastructure), investment team strength and more consistent outperformance in annualized returns, as well as excess return (e.g., investment process) through 3/31/2022. Equally important, William Blair offers an entrepreneurial investment-led culture with diverse viewpoints. Global markets -and specifically, emerging markets are an important product segment at William Blair and make up a larger percentage (43.4%) of its overall business relative to the other finalists. William Blair has a robust information technology infrastructure to support and connect its worldwide data and resources. However, William Blair is in the investment banking and brokerage business, as well. This may be perceived as a conflict of interest; on the other hand, Staff and Verus were assured that the two businesses have no overlap or shared resources. Lastly, awarding William Blair the dedicated emerging markets allocation in the ACERA International Equity Asset Class would increase the total ACERA assets managed by William Blair. As of 3/31/2022, William Blair, a manager in good standing<sup>4</sup>, currently manages ~\$142.6 million of ACERA’s U.S. Equity Small Cap Growth Fund. (Please see Executive Summary, Attachment #4.)

**Management Fees (\$260 million mandate):**

<i>Table #2: Final Fee Proposals</i>	<b>Management Fee*</b>	<b>Total Estimated Fees<sup>5</sup></b>
Baillie Gifford & Company	77.0 bps	\$2,002,000
Wellington Management Company	66.0 bps	\$1,716,000
William Blair Investment Management	66.0 bps	\$1,716,000

\*Operating expenses included in the management fees: Baillie Gifford has a fixed 15 bps; Wellington has a fixed 6 bps, and William Blair capped up to 5 bps. Accordingly, the total management fee for William Blair would be between \$1.586 and \$1.716 million.

**Performance - Calendar Years (Percentages):**

<b>Table #3 Manager (Gross returns)</b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022*</u></b>
Baillie Gifford - Emerging Markets All Cap Strategy	54.4	-14.4	28.9	30.9	-7.8	-12.4
Wellington - Emerging Market Development	46.6	-13.5	23.2	40.0	-0.3	-11.6
William Blair – Emerging Markets Growth	51.2	-21.1	29.6	41.9	5.2	-12.1
MSCI Emerging Markets Index	37.8	-14.2	18.9	18.7	-2.2	-6.9

\*Through 3/31/2022

<sup>4</sup> As of 3/31/2022, ACERA’s U.S. Small Cap Growth fund has outperformed its benchmark since inception (10/2019): 21.0% vs. 14.3%

<sup>5</sup> Assuming an investment of \$260 million.



**Performance – Annualized Returns through March 31, 2022 (Percentages):**

<b>Table #4: Manager (Gross returns)</b>	<b><u>1-year</u></b>	<b><u>3-year</u></b>	<b><u>5-year</u></b>
Baillie Gifford -Global Emerging Markets All Cap Strategy	-19.9	5.9	9.2
Wellington - Emerging Market Development	-12.5	10.6	11.5
William Blair – Emerging Markets Growth	-8.3	14.9	12.3
MSCI Emerging Markets Index	-11.1	5.3	6.4

**Conclusion:**

Staff recommends William Blair as the first choice to replace the incumbent emerging markets equity manager, Newton Investment Management. Although all three managers have strong research platforms, investment processes, and robust risk management procedures, William Blair has integrated all of its systems and processes, as well as, offers the most consistent and highest annualized excess returns over the 5 years measured. Accordingly, because management of emerging markets equities are an important and sizeable share of its business, the *Emerging Markets Growth* strategy is fully supported by the resources of the firm.

**Next Steps:**

Upon adoption of this recommendation, or the selection of another finalist, Staff will proceed with the next steps in our operational due diligence, which include reference checks, background investigations, legal due diligence, and contract negotiations. Staff will work closely with Verus and ACERA’s legal staff to implement the Board’s decision.

**Attachments:**

1. Evaluation Matrix with Updated Scores (Staff and Verus)
2. Executive Summary Report – Baillie Gifford
3. Executive Summary Report – Wellington
4. Executive Summary Report – William Blair
5. Verus Memo
6. Baillie Gifford Presentation
7. Wellington Presentation
8. William Blair Presentation

# Memorandum

**To:** ACERA Investment Committee  
**From:** Verus  
**Date:** July 13, 2022  
**RE:** **Emerging Markets Equity Manager Search**

---

## Background

At the March 2022 Investment Committee meeting, the Committee was updated on ACERA's emerging markets manager search and requested onsite visits with 4 finalist managers (Baillie Gifford, Fidelity, Wellington, and William Blair.) This memo presents the findings of the onsite meetings along with updated scoring for the final four managers and updated performance. William Blair finished first among both staff and Verus' individual scores with a score of 84.4% and is the top candidate for the mandate from the RFI & onsite meetings.

## Search process

Prior to issuing an RFI, Verus and staff presented criteria to the Investment Committee to identify managers in the emerging market universe of almost 600 products to narrow down the universe to a reasonable number of best in class strategies for detailed due diligence. The criteria to be sent an RFI is listed below and was approved by the investment committee on November 16, 2021:

- 1) **Firm size** – Min \$1.5 billion
- 2) **Strategy size** - \$900 million<sup>i</sup>
- 3) **Strategy status** – Active (open to new business)
- 4) **Primary Benchmark** – MSCI Emerging Markets Index/ MSCI Emerging Markets IMI index
- 5) **5-year Information Ratio** – Greater than 0.2
- 6) **Rolling 3 and 5 year excess return** – Exceeds MSCI EM Index by at least 0.8% over rolling 3 and 5 year periods
- 7) **5-year excess return** – Exceeds the benchmark by 0.8% over 5-years
- 8) **R Squared** – Greater than 0.8

Using the criteria above, Verus and staff then created a quartile distribution of the resulting managers who passed the screens and removed the bottom 50% based on the information ratio (a standard risk-adjusted excess return metric) so that only the top two quartiles of resulting products remained for further consideration. This process produced a feasible candidate list of 26 emerging markets equity managers. The RFI was issued in December 2021 with a due date of January 31, 2022. There were 21 manager responses as of the RFI deadline. Verus and staff read the RFI responses and scored managers independently via the proposed scoring approved by the Investment Committee in November.

**Scores for the RFI are below:**

Verus and staff individually scored the RFI’s and discussed their findings through several meetings. Evaluation of the RFI’s focused on the organization, investment team, performance, and fees. Thirty percent was allocated to each major topic (Organization/Firm, Investment Team/Approach, and Performance and Risk,) and the remaining 10% was for fees. ESG was also incorporated into the RFI evaluation process as a subcategory within organization and performance. The scores for the top four managers were presented to the Investment Committee in March.

	Staff	Verus	Average
Baillie Gifford & Company	77.08 (4)	83.08 (2)	80.08 (2)
Fidelity Institutional Asset Management	77.83 (3)	78.83 (3)	78.33 (3)
Wellington Management Company	77.58 (2)	77.08 (4)	78.33 (3)
William Blair Investment Management	86.36 (1)	87.67 (1)	87.02 (1)

**Onsite Visits:**

Pursuant to the March investment committee Verus and staff conducted onsite visits to all four managers. Each on site was conducted in the primary location for the strategies’ teams and consisted of a 4-hour meeting with key executives, portfolio managers, analysts, risk officers, traders, and compliance/legal personnel. The visits were conducted in May 2022 and provided valuable additional information about the firms and strategies. Verus and staff met and discussed topics on all evaluation criteria during the meetings. Once the visits were completed Verus and staff independently rescored the final four managers. An updated performance analysis is attached as supplementary information. The result of the updated scoring is below:

	Staff	Verus	Average
Baillie Gifford & Company	78.58 (3)	84.08 (2)	81.33 (3)
Fidelity Institutional Asset Management	72.83 (4)	75.33 (4)	74.08 (4)
Wellington Management Company	87.08 (2)	79.58 (3)	83.33 (2)
William Blair Investment Management	88.17 (1)	84.64 (1)	86.42 (1)

ESG and DEI were added to the topics discussed during the visits per the recently approved ESG policy. Managers could score up to 13% on ESG related topics. All managers with the exception of Fidelity had an average score between 11.8% and 12.5% on these topics. For William Blair ESG is built into the investment process, with each new idea reviewed for ESG risks and opportunities. William Blair is also engaging in DEI initiatives; they enacted a program for internship to hire opportunities from historically black colleges and universities. Baillie Gifford (BG) received the highest ESG score of 13% given they embraced ESG integration and began offering ESG-oriented strategies in the early 2000’s. In terms of D&I, BG has a dedicated D&I Group, an internal D&I magazine and belongs to several D&I industry groups. They were able to provide multiple policies related to ESG and D&I as part of their RFP response. Wellington is launching a venture capital fund (WAV) that is going to invest in underfunded black and latinx entrepreneurial businesses. Additionally, they created a scholarship and internship program with four HBCUs. Wellington also has dozens of internal business networks targeted at improving an inclusive culture (i.e. Shade,

Allies). In terms of ESG, Wellington has a dedicated ESG research team that works alongside the traditional stock analysts. Wellington evaluates ESG risks as an integral part of its investment process for all equity strategies at the firm.

**Recommendation:**

We consider all the managers to be institutional quality; however, per our rankings Verus and staff believed Fidelity posed key man risk and lacked certain risk protocols on a strategy level leaving them significantly under the remaining three candidates. William Blair stands out as the most attractive candidate for ACERA’s emerging markets equity mandate as they ranked first individually for both Verus and staff and combined in average scoring. William Blair looks for quality growth companies through bottom-up fundamental research. The focus on quality has helped in the recent turbulent markets, while still capturing alpha in upside markets.

*Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other “forward-looking statements.” No assurance can be given that future results described or implied by any forward looking information will be achieved. Investing entails risks, including possible loss of principal. Verus Advisory Inc. and Verus Investors, LLC (“Verus”) file a single form ADV under the United States Investment Advisors Act of 1940, as amended.*

---



# **PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS**



**July 2022**

Emerging Markets Equity Search

**Verus Investments**

# Manager overview

# Manager comparison

	Baillie Gifford	Wellington	William Blair
FIRM OWNERSHIP	100% employee owned	100% employee owned	100% employee owned
PREFERRED BENCHMARK	MSCI EM-GD	MSCI EM-GD	MSCI EM IMI-ND
FIRM NAME	Baillie Gifford & Co	Wellington Management Company LLP	William Blair Investment Management, LLC
PRODUCT NAME	Emerging Markets All Cap	Emerging Market Development	Emerging Markets Growth
FIRM TOTAL AUM (\$MM)	\$365,340	\$1,341,690	\$70,121
STRATEGY AUM (\$MM)	\$15,463	\$1,101	\$6,065
INCEPTION DATE	Sep-94	Oct-15	Oct-96
INVESTMENT APPROACH	Fundamental	Fundamental	Fundamental
SCREENING APPROACH	Bottom-Up	Top-Down	Bottom-Up
KEY ATTRIBUTES	Benchmark agnostic Growth bias 3-5 yr time horizon	0	Growth tilt All Cap 12-18 month time horizon

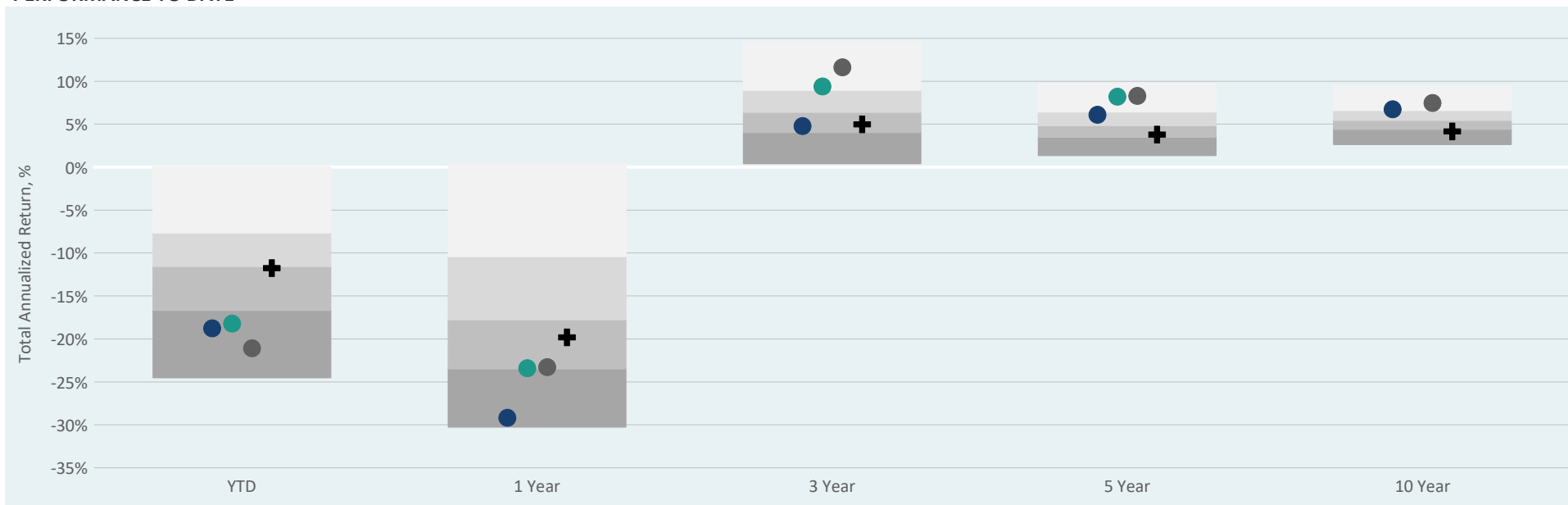
# Performance Analysis



# Performance comparison - as of May 2022

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

## PERFORMANCE TO DATE



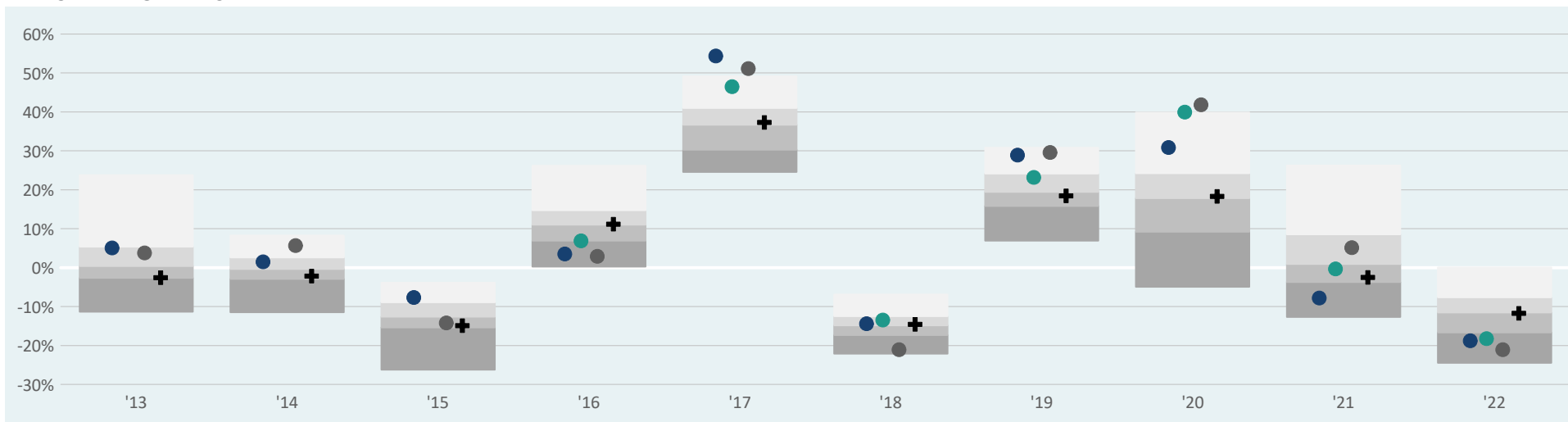
## EXCESS ANNUALIZED RETURN TO DATE, %

	YTD	1 Year	3 Year	5 Year	10 Year
Baillie Gifford	-7.0	-9.3	-0.2	2.3	2.6
Wellington	-6.4	-3.6	4.4	4.4	---
William Blair	-9.3	-3.5	6.6	4.5	3.3

# Calendar year performance

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

## ANNUAL PERFORMANCE



ANNUAL PERFORMANCE + RANKING	2014	2015	2016	2017	2018	2019	2020	2021	2022
Baillie Gifford	1.5	-7.7	3.6	54.4	-14.4	28.9	30.9	-7.8	-18.8
<i>Rank</i>	<i>30</i>	<i>17</i>	<i>89</i>	<i>1</i>	<i>42</i>	<i>9</i>	<i>13</i>	<i>87</i>	<i>84</i>
Wellington			6.9	46.5	-13.4	23.2	40.0	-0.3	-18.2
<i>Rank</i>			<i>75</i>	<i>9</i>	<i>33</i>	<i>30</i>	<i>5</i>	<i>57</i>	<i>82</i>
William Blair	5.7	-14.2	2.9	51.2	-21.0	29.6	41.9	5.1	-21.1
<i>Rank</i>	<i>12</i>	<i>61</i>	<i>91</i>	<i>2</i>	<i>93</i>	<i>6</i>	<i>4</i>	<i>31</i>	<i>91</i>
MSCI EM Index	-2.2	-14.9	11.2	37.3	-14.6	18.4	18.3	-2.5	-11.8
<i>Rank</i>	<i>69</i>	<i>69</i>	<i>48</i>	<i>44</i>	<i>46</i>	<i>59</i>	<i>46</i>	<i>69</i>	<i>53</i>

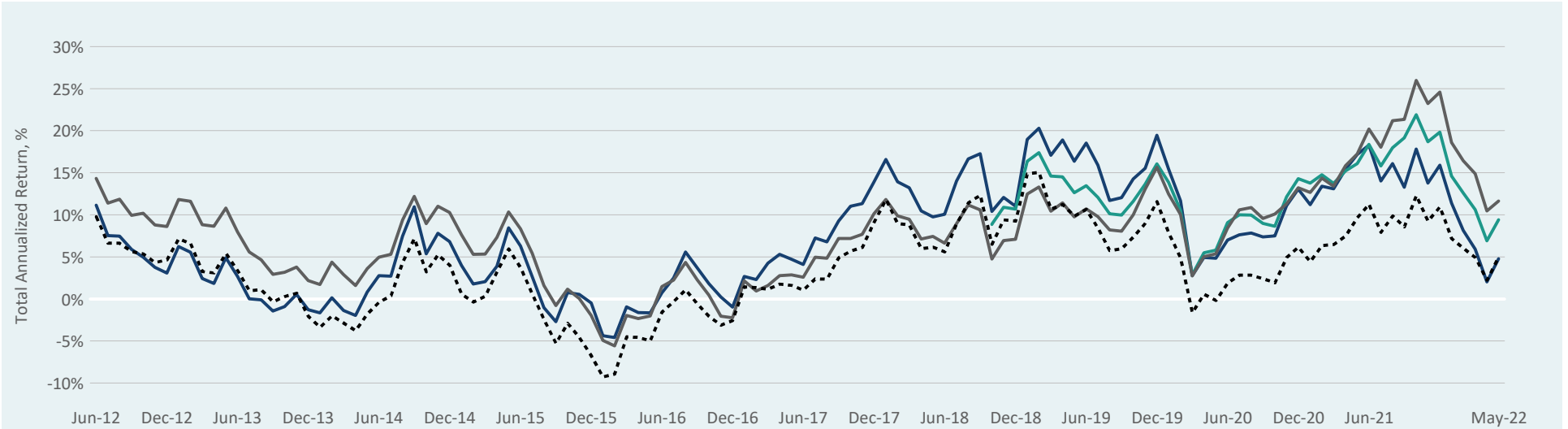
# Performance summary - as of May 2022

	Baillie Gifford	Wellington	William Blair	MSCI EM Index
<b>PERFORMANCE ANALYSIS - (5 Years)</b>				
Alpha %	2.2	4.4	4.5	0.0
Beta	1.2	1.0	1.0	1.0
R-squared %	95.6	86.7	85.3	100.0
Sharpe Ratio	0.2	0.4	0.4	0.2
Treynor Ratio	0.0	0.1	0.1	0.0
Tracking Error %	5.1	6.4	7.2	0.0
Annualized Std Dev %	20.1	17.6	18.6	16.8
Information Ratio	0.5	0.7	0.6	---
Max Drawdown %	-30.1	-24.3	-27.4	-28.7
Calmar Ratio	0.2	0.3	0.3	0.1
Excess Ann. Return %	2.3	4.4	4.5	0.0
<b>PERFORMANCE TO DATE</b>				
1 Year	-29.2	-23.4	-23.3	-19.8
3 Year	4.8	9.4	11.6	5.0
5 Year	6.1	8.2	8.3	3.8
7 Year	6.0	---	6.3	3.4
10 Year	6.7	---	7.5	4.2
Common Inception (Nov-15)	8.5	9.8	9.2	6.1
<b>CALENDAR YEAR RETURNS</b>				
2021	-7.8	-0.3	5.1	-2.5
2020	30.9	40.0	41.9	18.3
2019	28.9	23.2	29.6	18.4
2018	-14.4	-13.4	-21.0	-14.6
2017	54.4	46.5	51.2	37.3
2016	3.6	6.9	2.9	11.2
2015	-7.7	---	-14.2	-14.9
2014	1.5	---	5.7	-2.2
2013	5.1	---	3.8	-2.6
2012	14.2	---	22.2	18.2

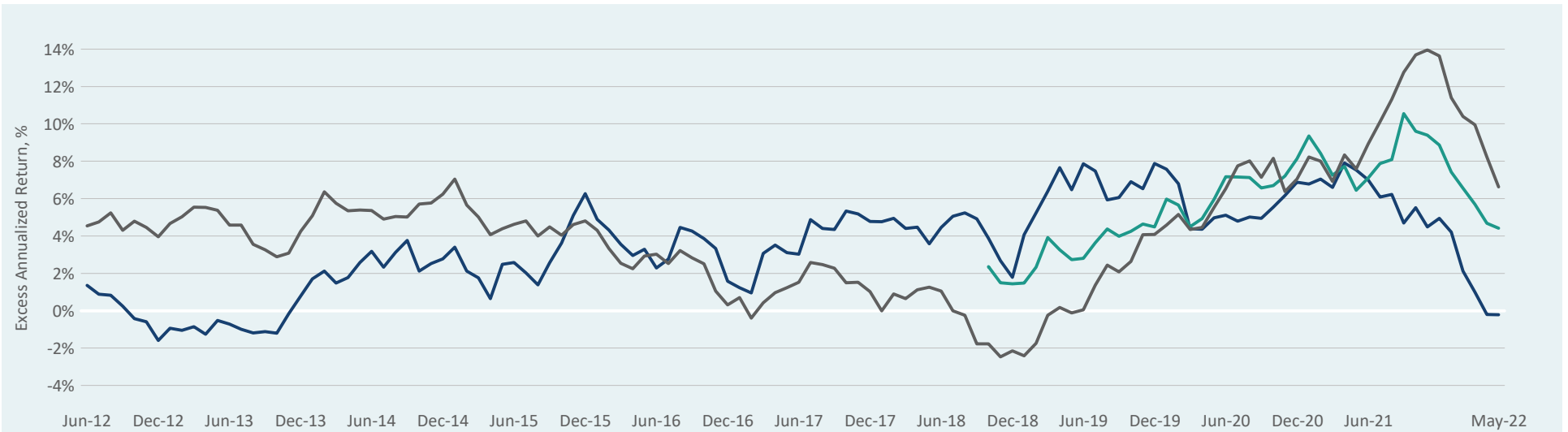
# Rolling performance

● Baillie Gifford ● Wellington ● William Blair ● + MSCI EM Index

## TOTAL 36 MONTH ROLLING PERFORMANCE



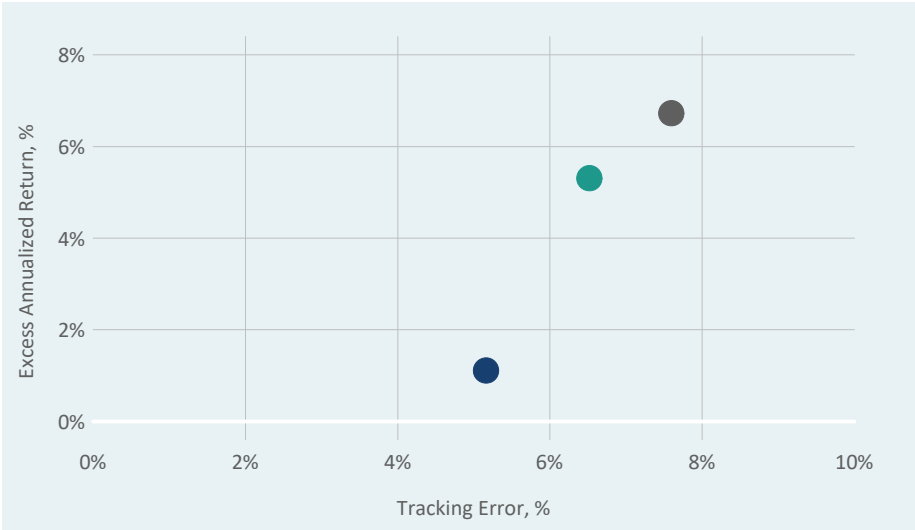
## EXCESS 36 MONTH ROLLING PERFORMANCE



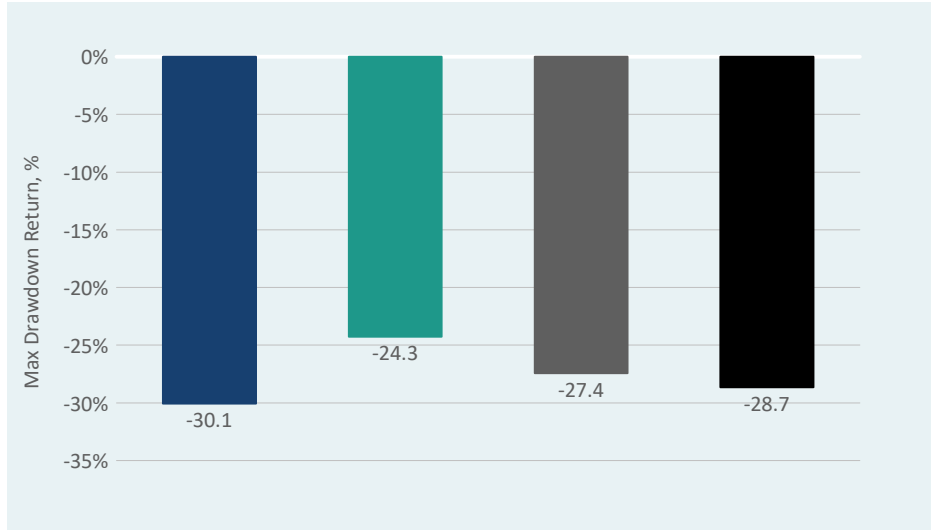
# Performance statistics

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

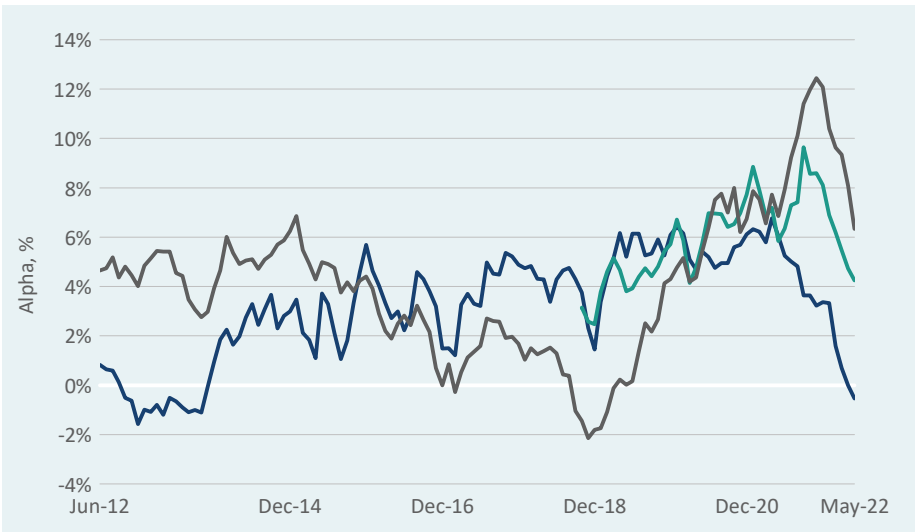
EXCESS PERFORMANCE VS. RISK, OCT-18 TO MAY-22



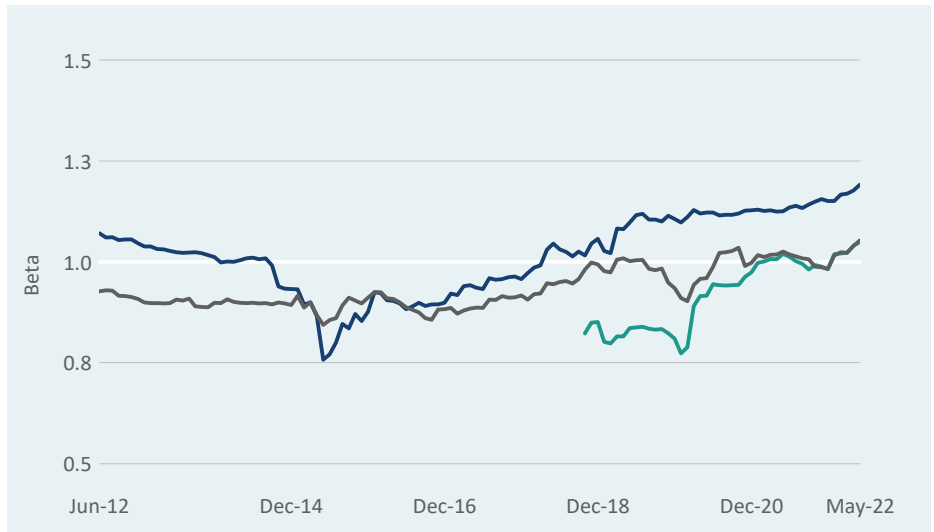
MAX DRAWDOWN RETURN, JUN-17 TO MAY-22



36 MONTH ROLLING ALPHA



36 MONTH ROLLING BETA

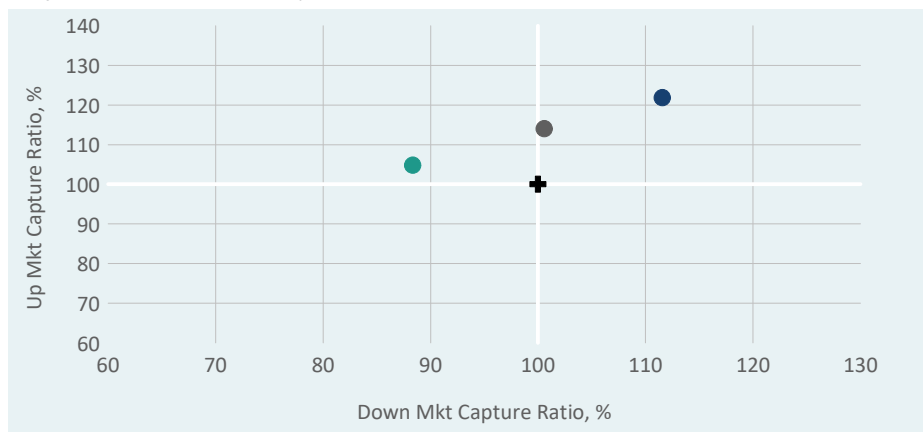


# Style Analysis and Portfolio Analytics

# Style and portfolio comparison

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

UP/DOWN MARKET CAPTURE, NOV-15 TO MAY-22



MSCI EM MAP, OCT-18 TO MAY-22



USD, 36-month trailing window; exp. weighted, rescaled

	Baillie Gifford	Wellington	William Blair
% HOLDINGS IN 10 LARGEST STOCKS	---	19.0%	33.0%
ANNUAL TURNOVER	11.7%	97.0%	51.1%
CASH	1.1%	3.0%	2.5%
CURRENT DIVIDEND YIELD	3.2%	1.5%	1.6%
CURRENT P/E	13.3	23.0	22.7
CURRENT P/B	2.3	2.5	4.3
PORTFOLIO HOLDINGS	68	155	125
WGTD. AVG. MKT. CAP	\$ 171,402	\$ 42,262	\$ 80,164
MAX CASH POSITION	10.0	5.0	10.0
MAX POSITION SIZE	5.0	---	7.5
DEVELOPED MARKETS %	0.7%	13.0%	0.0%

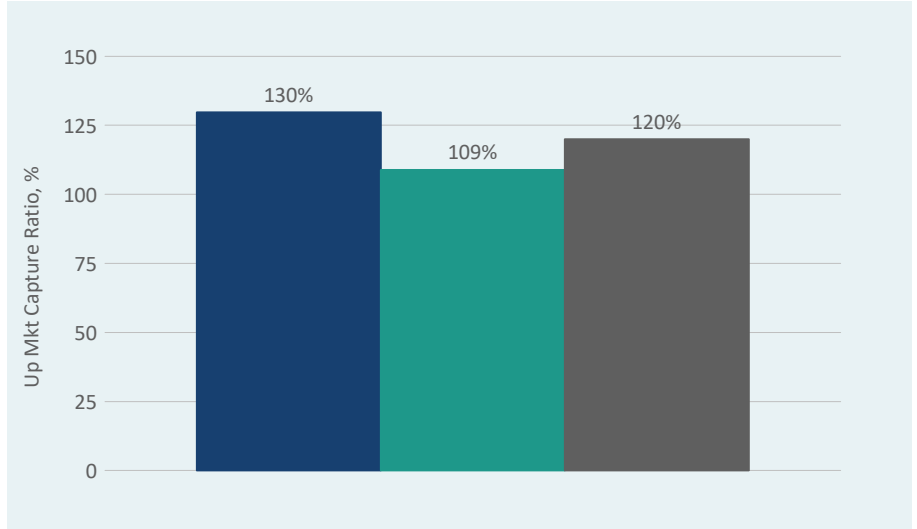
# Up & down market analysis

● Baillie Gifford ● Wellington ● William Blair ● MSCI EM Index

36 MONTH ROLLING UP MKT CAPTURE RATIO



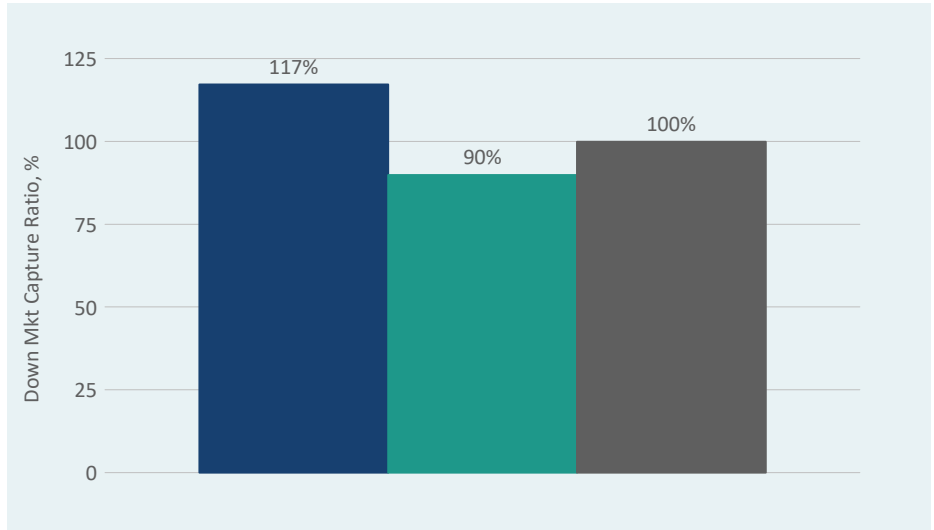
UP MARKET CAPTURE RATIO, JUN-17 TO MAY-22



36 MONTH ROLLING DOWN MKT CAPTURE RATIO



DOWN MARKET CAPTURE RATIO, JUN-17 TO MAY-22





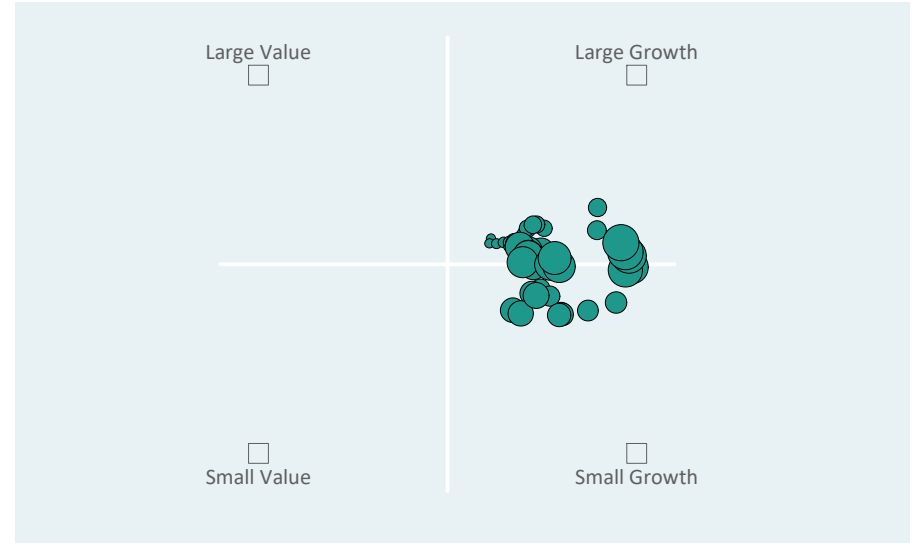
# Style analysis (MSCI EM MAP)

● Baillie Gifford ● Wellington ● William Blair ● MSCI EM Index

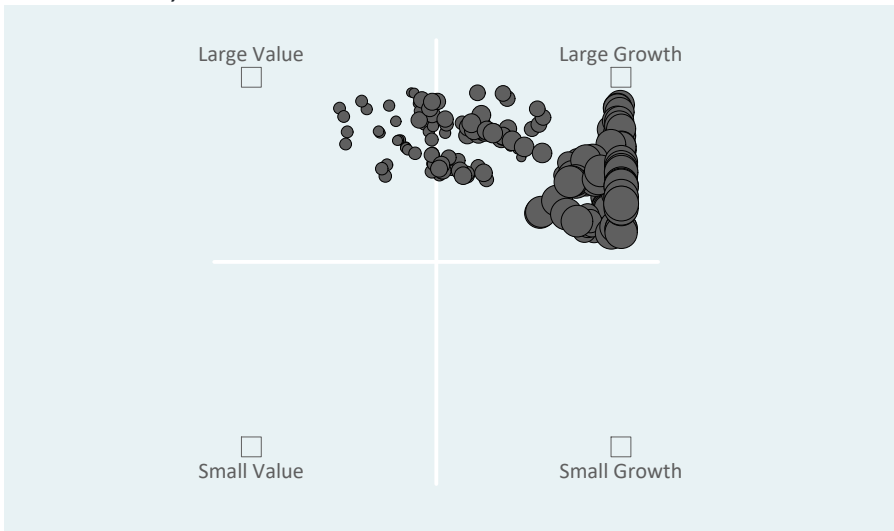
MSCI EM MAP, SEP-97 TO MAY-22



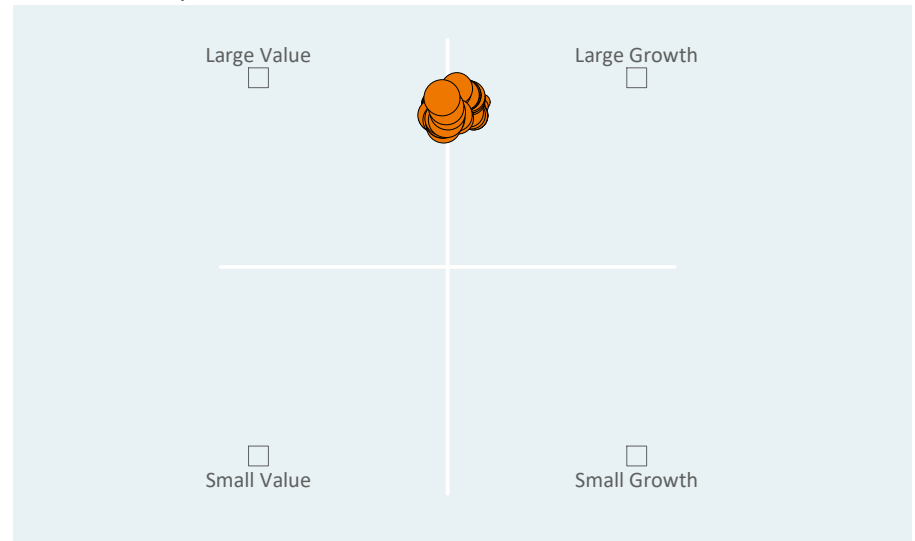
MSCI EM MAP, OCT-18 TO MAY-22



MSCI EM MAP, SEP-02 TO MAY-22



MSCI EM MAP, JUL-08 TO MAY-22

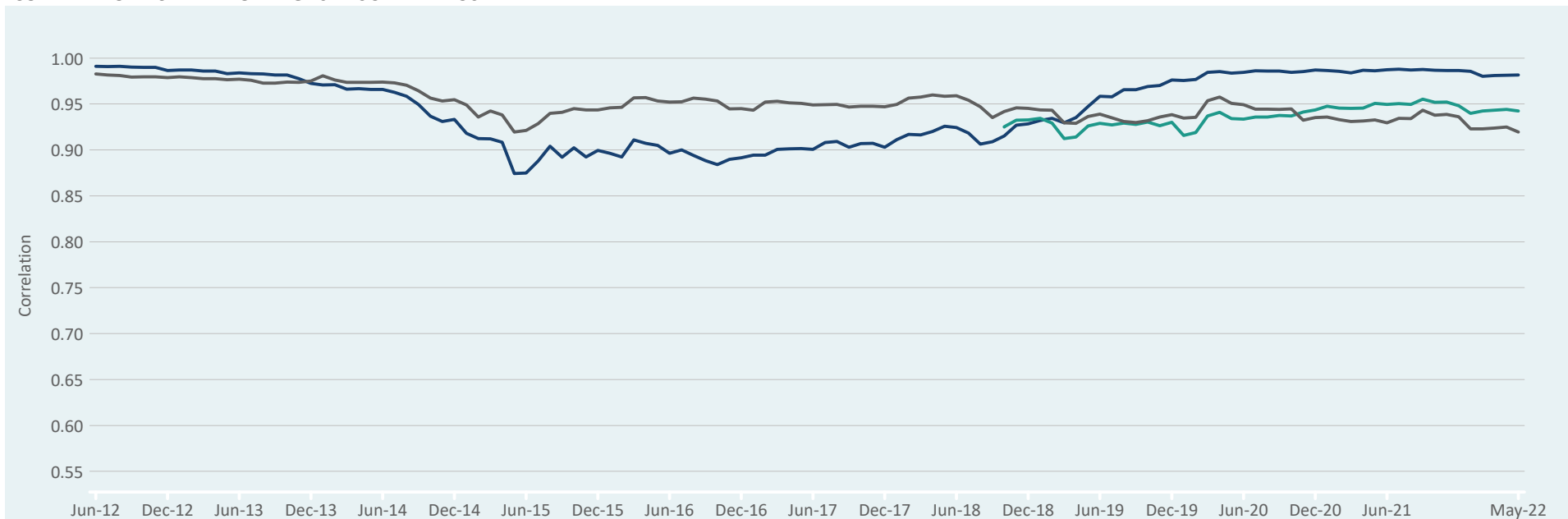


# Risk Analysis

# Correlations

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

## CORRELATION - 3 YEAR ROLLING vs. MSCI EM NR USD



### 3 YEAR ENDING 05/2022

	Baillie Gifford	Wellington	William Blair	MSCI EM Index
Baillie Gifford	1.00	0.95	0.93	0.98
Wellington	0.95	1.00	0.94	0.93
William Blair	0.93	0.94	1.00	0.91
MSCI EM Index	0.98	0.93	0.91	1.00

# Excess return correlations

## 1 YEAR ENDING 05/2022

	Baillie Gifford	Wellington
Baillie Gifford	1.00	-0.22
Wellington	-0.22	1.00

## 3 YEAR ENDING 05/2022

	Baillie Gifford	Wellington	William Blair
Baillie Gifford	1.00	0.33	0.32
Wellington	0.33	1.00	0.53
William Blair	0.32	0.53	1.00

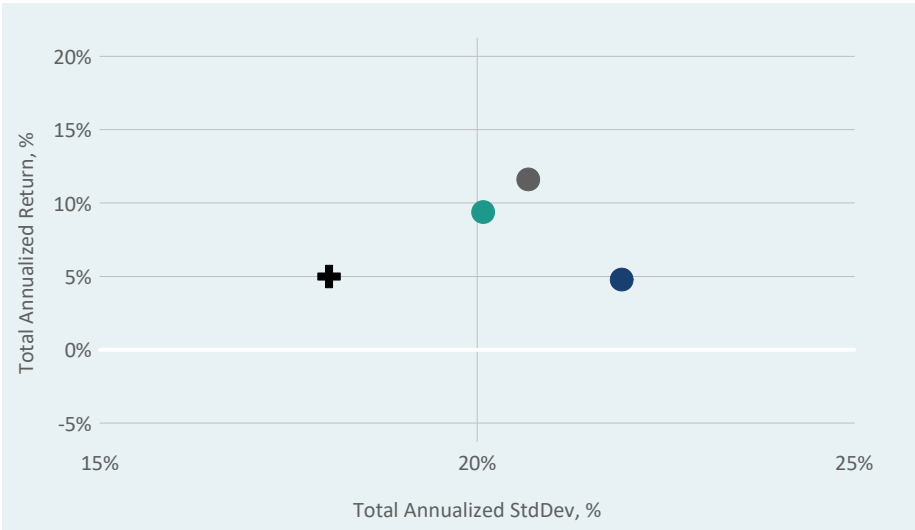
## 5 YEAR ENDING 05/2022

	Baillie Gifford	Wellington	William Blair
Baillie Gifford	1.00	0.16	0.24
Wellington	0.16	1.00	0.57
William Blair	0.24	0.57	1.00

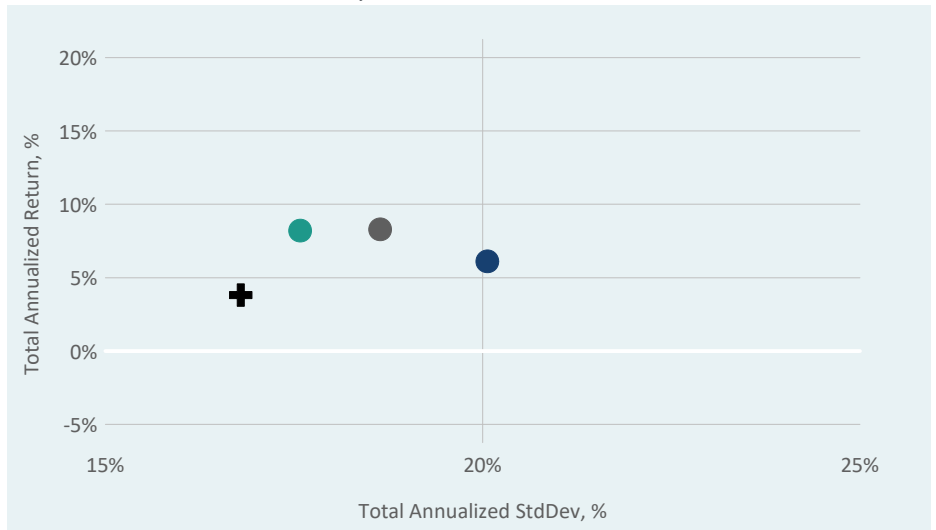
# Risk vs. return

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

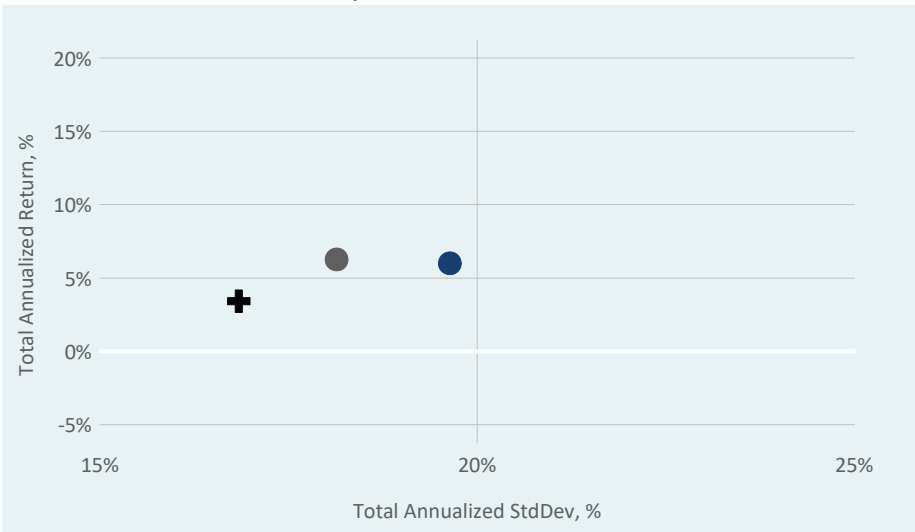
TOTAL PERFORMANCE VS. RISK, JUN-19 TO MAY-22



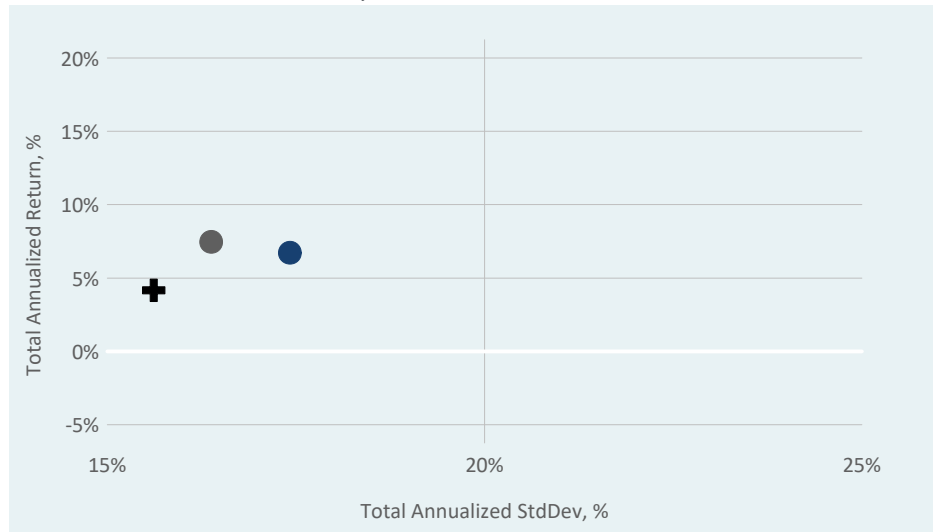
TOTAL PERFORMANCE VS. RISK, JUN-17 TO MAY-22



TOTAL PERFORMANCE VS. RISK, JUN-15 TO MAY-22



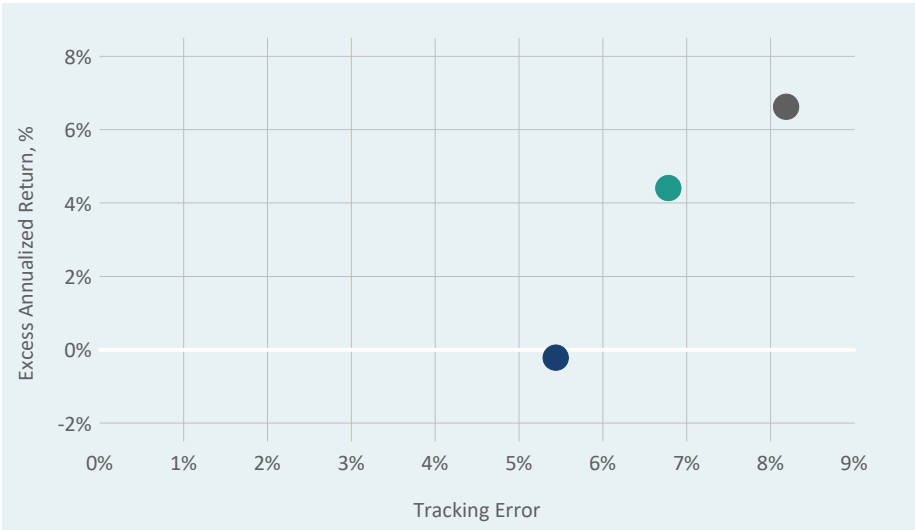
TOTAL PERFORMANCE VS. RISK, JUN-12 TO MAY-22



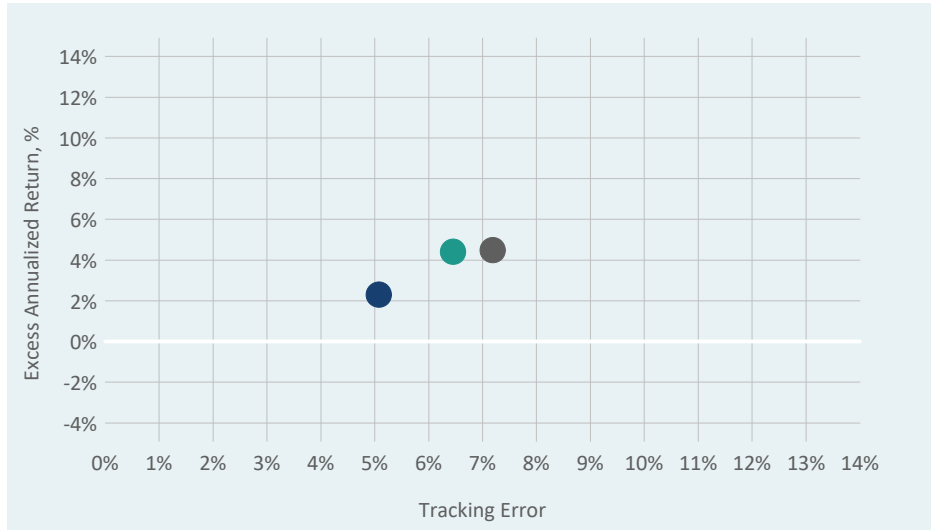
# Performance efficiency

● Baillie Gifford ● Wellington ● William Blair + MSCI EM Index

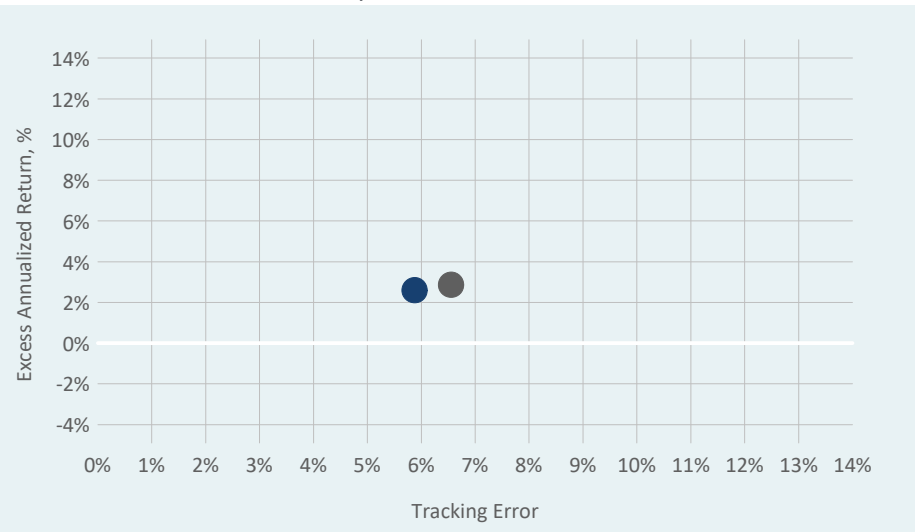
EXCESS PERFORMANCE VS. RISK, JUN-19 TO MAY-22



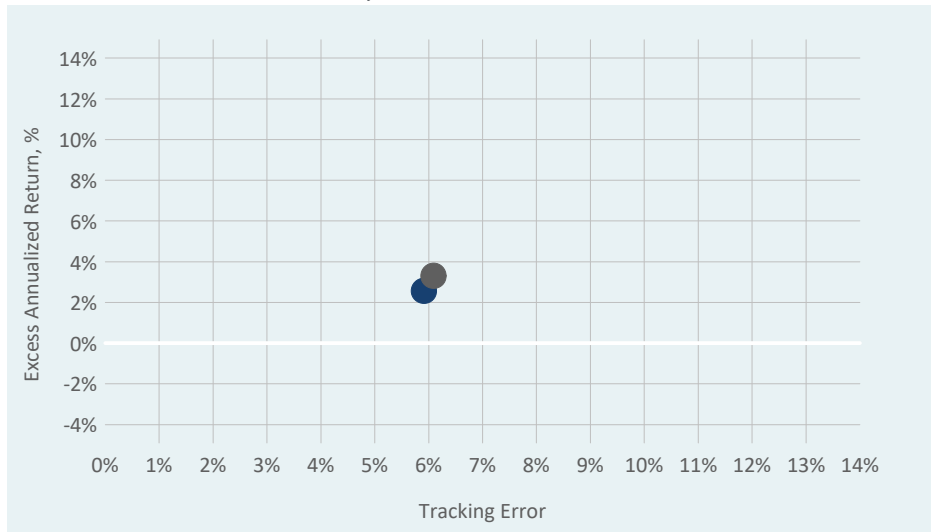
EXCESS PERFORMANCE VS. RISK, JUN-17 TO MAY-22



EXCESS PERFORMANCE VS. RISK, JUN-15 TO MAY-22



EXCESS PERFORMANCE VS. RISK, JUN-12 TO MAY-22



# Notices & Disclosures

**Past performance is no guarantee of future results.** This report or presentation is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and should not be relied upon by retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. The opinions and information expressed are current as of the date provided or cited only and are subject to change without notice. This information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. This report or presentation cannot be used by the recipient for advertising or sales promotion purposes.

The material may include estimates, outlooks, projections and other “forward-looking statements.” Such statements can be identified by the use of terminology such as “believes,” “expects,” “may,” “will,” “should,” “anticipates,” or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.

“VERUS ADVISORY™” and any associated designs are the respective trademarks of Verus Advisory, Inc. Additional information is available upon request.

# Alameda County Employees Retirement Association



*Emerging Markets*

This presentation is intended solely for the use of the above named recipient and should not be relied upon by any other person.



# Important information and risk factors

Baillie Gifford Overseas Limited is wholly owned by Baillie Gifford & Co. Baillie Gifford Overseas Limited provides investment management and advisory services to non-UK clients. Both are authorized and regulated by the Financial Conduct Authority. Baillie Gifford Overseas Limited is registered with the SEC in the United States of America.

Baillie Gifford International LLC is wholly owned by Baillie Gifford Overseas Limited; it was formed in Delaware in 2005 and is registered with the SEC. It is the legal entity through which Baillie Gifford Overseas Limited provides client service and marketing functions in North America.

The Manager is not resident in Canada, its head office and principal place of business is in Edinburgh, Scotland. Baillie Gifford Overseas Limited is regulated in Canada as a portfolio manager and exempt market dealer with the Ontario Securities Commission ('OSC'). Its portfolio manager licence is currently passported into Alberta, Quebec, Saskatchewan, Manitoba and Newfoundland & Labrador whereas the exempt market dealer licence is passported across all Canadian provinces and territories. Baillie Gifford International LLC is regulated by the OSC as an exempt market and its licence is passported across all Canadian provinces and territories. Baillie Gifford Investment Management (Europe) Limited ('BGE') relies on the International Investment Fund Manager Exemption in the provinces of Ontario and Quebec.

Baillie Gifford & Co claims compliance with the Global Investment Performance Standards (GIPS®). All performance data presented is supplementary to an appropriate compliant composite presentation. An example of a compliant composite presentation has been included for your reference. A complete list of the Firm's composites and performance results is available on request.

**Principal Office: Calton Square, 1 Greenside Row,  
Edinburgh EH1 3AN, Scotland  
Telephone: +44 (0)131 275 2000 [bailliegifford.com](http://bailliegifford.com)**

**780 Third Avenue, 43rd Floor, New York, NY 10017  
Telephone: (212) 319 4633 [bailliegifford.com](http://bailliegifford.com)**

Copyright © Baillie Gifford & Co 2015

This presentation contains information on investments which does not constitute independent research. Accordingly, it is not subject to the protections afforded to independent research and Baillie Gifford and its staff may have dealt in the investments concerned.

All information is current and sourced from Baillie Gifford & Co unless otherwise stated.

## **Past Performance**

Past performance is not a guide to future returns. Changes in investment strategies, contributions or withdrawals may materially alter the performance, strategy and results of the portfolio.

Material market or economic conditions will have an impact on investment results. The returns presented in this document are gross of fees unless otherwise stated and reflect the reinvestment of dividends and interest.

All investment strategies have the potential for profit and loss.

Historical performance results for investment indexes and/or categories, generally do not reflect the deduction of transaction costs and/or custodial charges or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing historical performance results.

It should not be assumed that recommendations/transactions made in the future will be profitable or will equal performance of the securities mentioned.

## **Stock Examples**

Any stock examples, or images, used in this presentation are not intended to represent recommendations to buy or sell, neither is it implied that they will prove profitable in the future. It is not known whether they will feature in any future portfolio produced by us.

Any individual examples will represent only a small part of the overall portfolio and are inserted purely to help illustrate our investment style.

# Stability for our clients

## Ownership

6<sup>th</sup> generation private partnership  
Wholly organic growth since 1908

## People

Long tenure = genuine  
accountability  
Investment professional turnover  
<5% p.a. over last 20 years

As of December 31, 2021.

## Clients

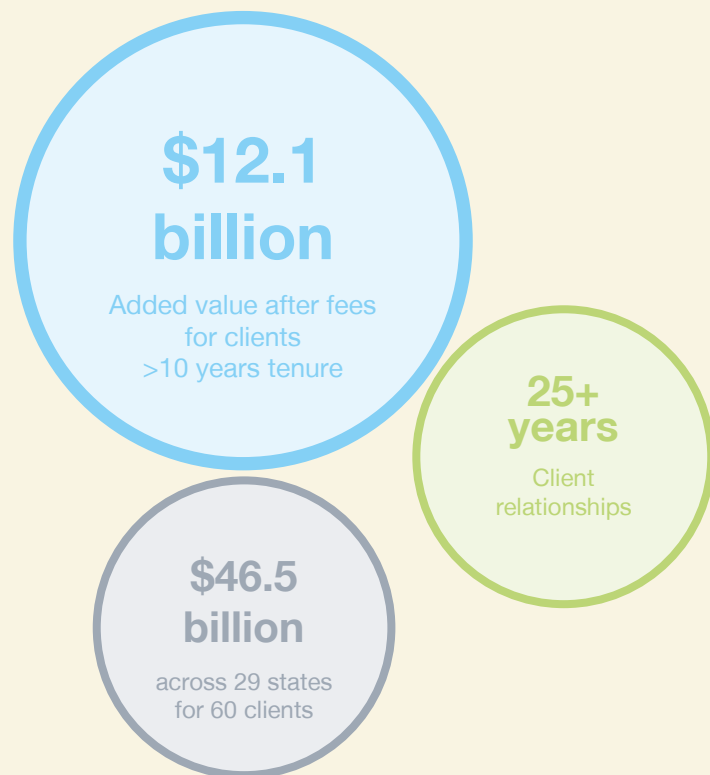
Existing clients dating back to  
1909  
13 out of 18 segregated EM  
clients have been with us for more  
than 10 years

As of March 31, 2022.



# US public plan clients

## First US public plan client in 1993



## Representative client list

Arkansas Public Employees Retirement System  
California Public Employees' Retirement System  
California State Teachers  
Colorado Public Employees' Retirement Association  
Indiana Public Retirement System  
Kansas Public Employees Retirement System  
Maryland State Retirement Agency  
Massachusetts Pension Reserves Investment Management Board  
New York City Deferred Compensation Plan  
Oklahoma Public Employees Retirement System  
Pennsylvania Public School Employees' Retirement System  
State Board of Administration of Florida  
The Public Employees' Retirement System of Mississippi  
Virginia Retirement System

## Industry memberships

National Association of State Retirement Administrators  
National Council on Teacher Retirement  
National Institute on Retirement Security  
National Conference on Public Employee Retirement Systems  
The Council of Institutional Investors  
United Nations Principles for Responsible Investment

As of March 31, 2022. US dollars.




The clients identified in the above list were selected based on a variety of factors, including name recognition, industry, geographic region and investment mandate. The selection of clients for the list is not based on performance criteria. It is not known whether the listed clients approve or disapprove of Baillie Gifford or services provided.

Money earned data is estimated and calculated via StatPro returns.







## An important and valued part of our business

# The Emerging Markets team






## Portfolio Construction Group

		
<b>Mike Gush*</b> MEng in Mechanical Engineering 19 (19) years' experience Taiwan, China	<b>Andrew Stobart</b> MA in Economics 31 (31) years' experience China, LatEMEA	<b>Ben Durrant</b> BSc in Mathematics 10 (5) years' experience India/ASEAN, Korea

## Rest of Emerging Markets team

					
<b>Will Sutcliffe*</b> MA in History 23 (23) years' experience LatEMEA, India	<b>Roderick Snell</b> BSc (Hons) in Biological Sciences 16 (16) years' experience Korea, China	<b>Sophie Earnshaw</b> MA in English Literature, MPhil in Eighteenth Century and Romantic Literature 12 (12) years' experience China, Taiwan	<b>Huatai Cui</b> MA (Hons) in Sociology and Social Anthropology 3 (3) years' experience GEM	<b>Kitsu Egerton</b> BA in Theology and Religion 1 (1) year's experience GEM	<b>Michelle Brown</b> MA in Development Studies 21 (1) years' experience ESG

## Shanghai office

<b>Other Baillie Gifford investors covering EM equities (65)</b>					
	<b>Linda Lin†</b> 12 (8) years' experience	<b>Louise Lin</b> 8 (8) years' experience	<b>Rio Tu</b> 8 (8) years' experience	<b>Tony Wang</b> 6 (2) years' experience	<b>Freddy Zhu</b> 4 (2) years' experience

\*Partner

†Partner as of May 1, 2022  
(Years with Baillie Gifford)

## Diversity of character and alignment with clients

# Investment philosophy

## Growth

- We believe that sustainable long-term growth is rewarded

## Long-term

- Private partnership: the ability to focus on 5 years and beyond
- 57% of portfolio held for over 5 years\*

## Active

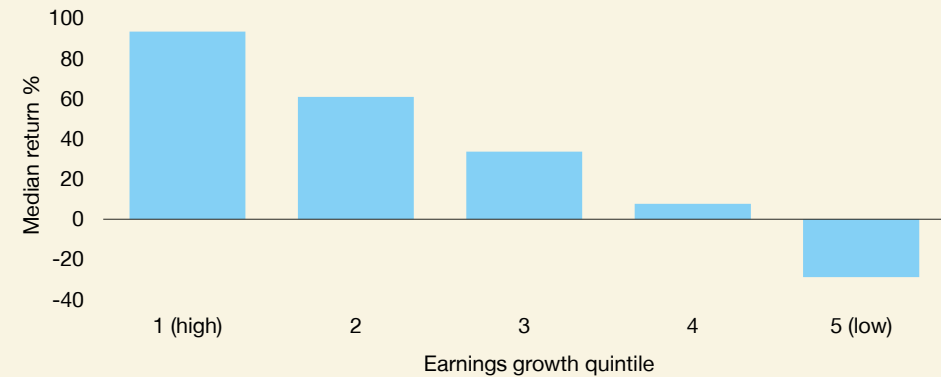
- Willing to be very different
- Accepting of short-term volatility

## Responsible

- We engage with selected companies to help them towards the highest possible environmental, social and governance standards
- This requires patience, pragmatism, trust and mutual commitment

\*As of March 31, 2022. Based on a representative Emerging Markets All Cap portfolio.

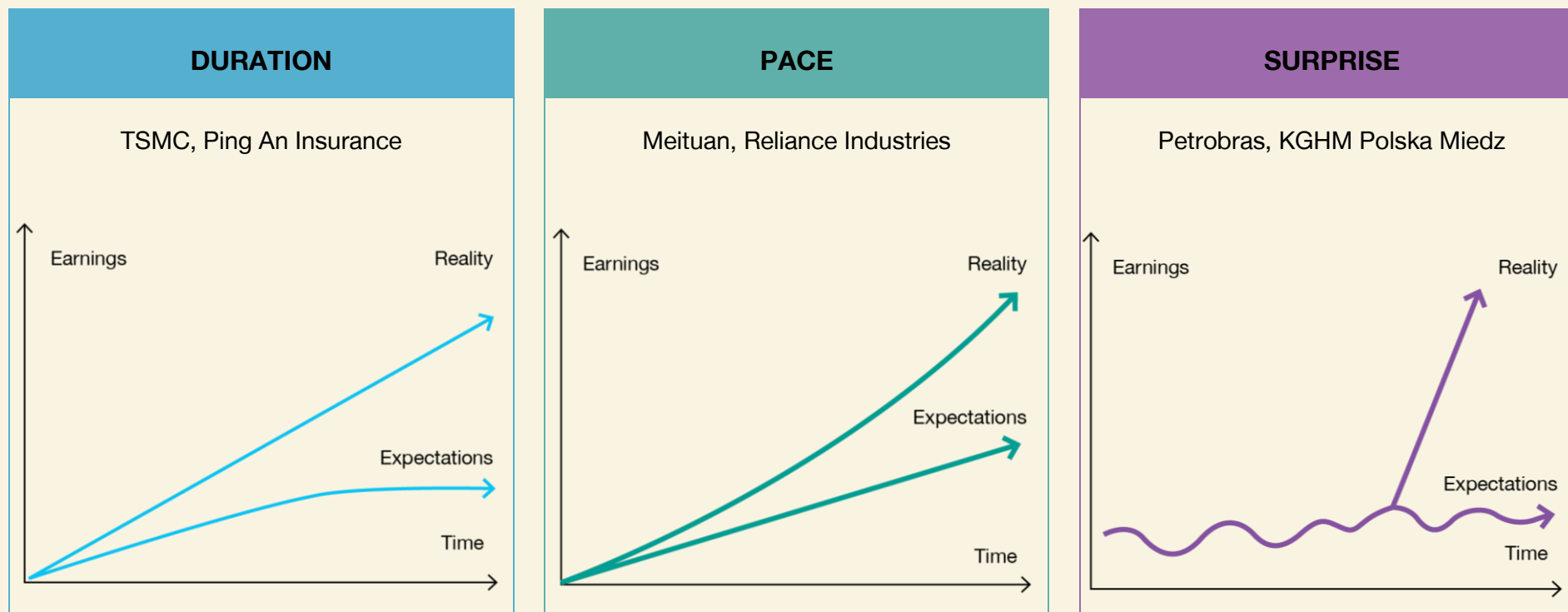
## Returns follow hard currency earnings over the long term in EM



Source: Baillie Gifford & Co, FactSet. Median 5-year USD returns from Emerging Markets stocks as of the end of December of each year between 1994 and 2021 and with a market capitalisation larger than time-adjusted USD 1bn.

# How do we think about growth?

We are long-term growth investors, focused on three under-appreciated growth opportunities

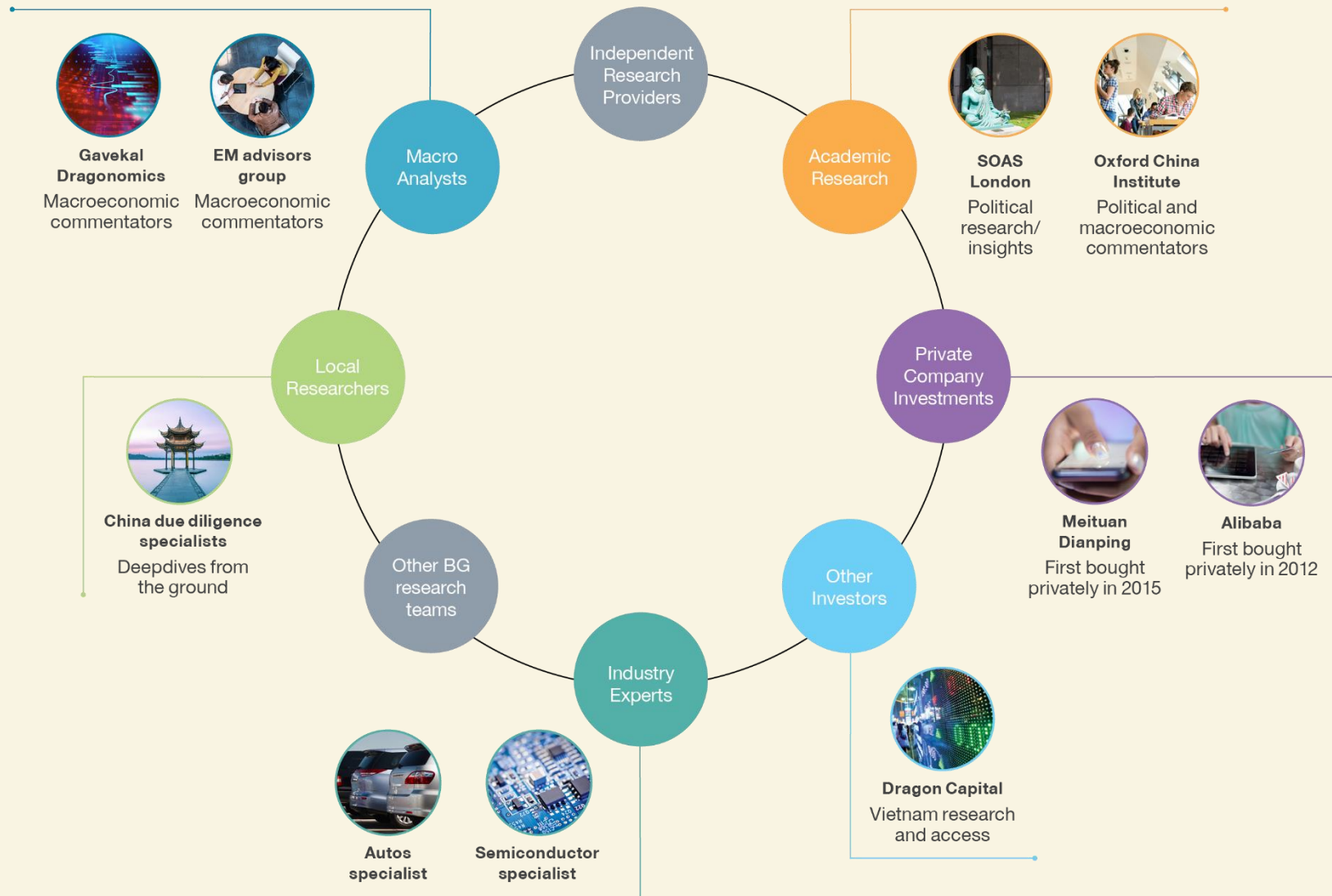


We believe that in the long-run, dollar equity returns follow dollar earnings growth

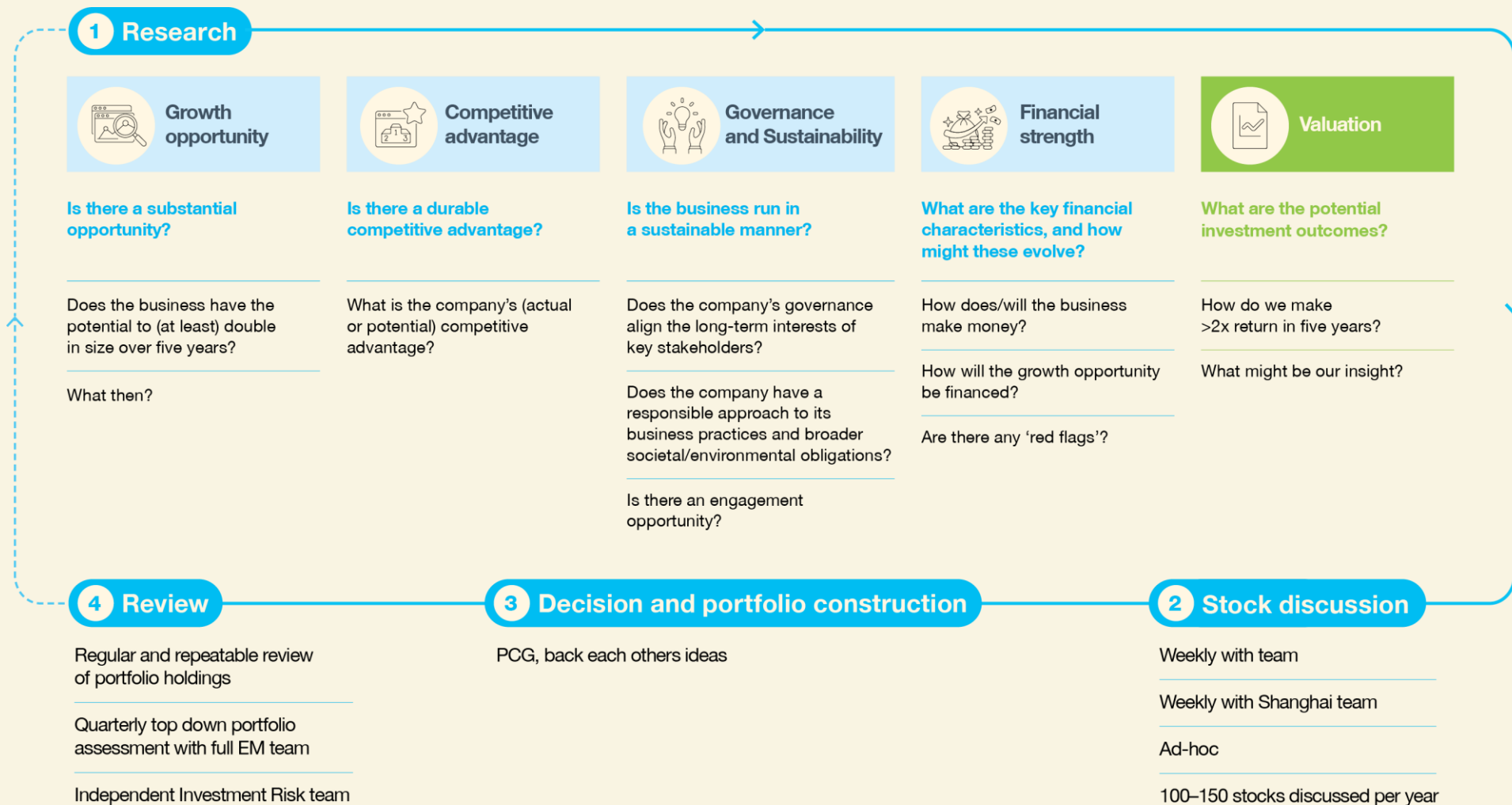
Many market participants suffer from short-termism, failure of imagination and an aversion to risk/volatility

# Idea generation

Our process relies on the interplay of creative thinking and exposure to as wide a range of information as possible



# Research and debate





# Responsible investing – our principles

**Our investment process is founded on the long-term ownership of growing businesses**

We want to help these companies fulfil their potential, and encourage them to ignore the short-term pressures of the market

**Sustainability is central to our analytical task**

Businesses engaging in practices that are harmful to society may be capable of generating attractive returns in the short-term, but are unlikely to be sustainable over the time periods we seek to invest

**We do not believe ‘one size fits all’**

ESG practices need to be assessed on a case-by-case basis, not reliant on formulaic and backward-looking screens

**We do not seek ‘perfect’ companies**

We prefer to consider the likely direction of change in otherwise promising investments and engage accordingly. Divestment will usually occur only in the absence of any intent to improve

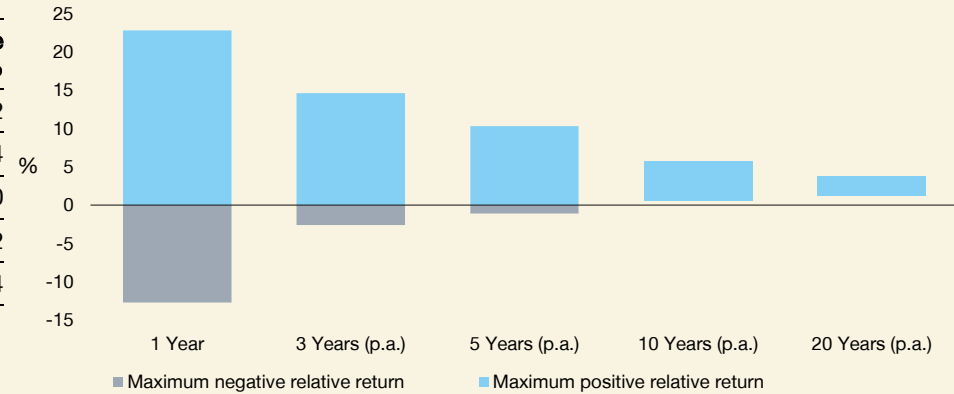
# Performance: net of fees

## Performance

	Composite %	MSCI Emerging Markets %	Difference %
Since Inception* (p.a.)	8.4	5.1	+3.2
10 Years (p.a.)	5.1	3.7	+1.4
5 Years (p.a.)	8.3	6.4	+2.0
3 Years (p.a.)	5.1	5.3	-0.2
12 Months	-20.5	-11.1	-9.4

Source: StatPro, MSCI. Annualized returns for periods ended March 31, 2022. Figures may not sum due to rounding. The Emerging Markets All Cap composite is more concentrated than the MSCI EM Index. US dollars.  
\*September 30, 1994.

## Range of relative returns over rolling periods



Source: StatPro, MSCI. Data to March 31, 2022. The figures above show results after analyzing annualized returns over each monthly time period for the Emerging Markets All Cap composite (09/30/94 to 03/31/22) vs MSCI Emerging Markets.

## Emerging Markets and MSCI over 20 years



Source: StatPro, MSCI. Rebased to 100 at December 31, 1998 to March 31, 2022. US dollars.

**The strategy has outperformed in 95% of 5 year periods and 100% of 10 year periods since inception**



# Appendices

# Risk and portfolio construction

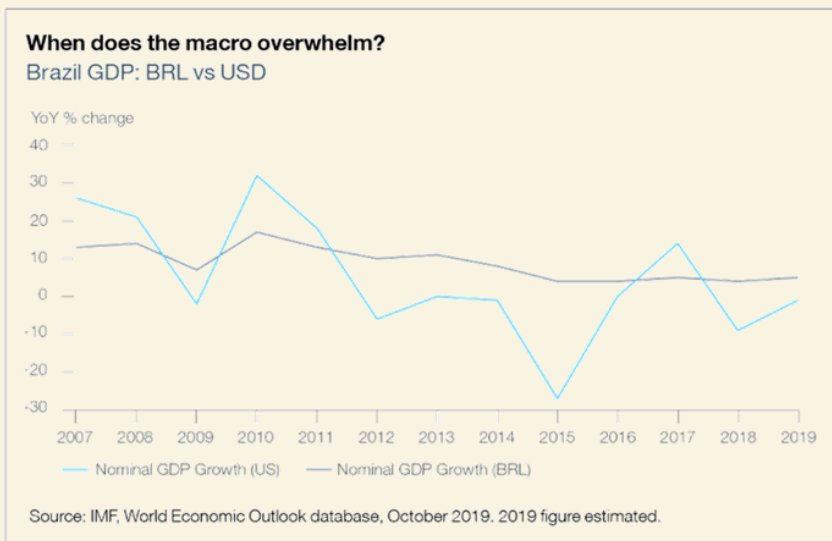
Considered diversification is our best risk mitigation tool

The nature of EM is such that we cannot take one blanket approach to all countries and industries. So what do we think about?

**Investment guidelines**

- Individual stock: Index +5% at time of purchase
- Number of stocks: 60-100
- Country weights: Index +/-15%
- Industry weights: Index +/-15%

*Sufficient diversification, but retain the ability to embrace risk*



### How Do Portfolio Companies/Industries Interact?

2016 during period of large IT 'concentration':

MSCI Emerging Markets technology industry correlations


	Internet software and services	Electronic equipment	Technology hardware	Semiconductors	IT services	Software	Communication equipment	Internet retail
Internet software and services	1.0	0.5	0.5	0.5	0.4	0.5	0.2	0.3
Electronic equipment	0.5	1.0	0.9	0.6	0.5	0.4	0.4	0.3
Technology hardware	0.5	0.9	1.0	0.7	0.4	0.4	0.5	0.3
Semiconductors	0.5	0.6	0.7	1.0	0.2	0.4	0.4	0.1
IT services	0.4	0.5	0.4	0.2	1.0	0.2	0.2	0.2
Software	0.5	0.4	0.4	0.4	0.2	1.0	0.3	0.2
Communication equipment	0.2	0.4	0.5	0.4	0.2	0.3	1.0	0.2
Internet retail	0.3	0.3	0.3	0.1	0.2	0.2	0.2	1.0

5 Years


*Look at long term correlations, lower than many thought*

Source: Baillie Gifford & Co, Datastream content from Refinitiv, MSCI, September 2016.


### Deliberate blend of personalities in the PCG



Mike Gush



Andrew Stobart



Ben Durrant

### How can our independent Risk, Analytics and Research team help?

Combination of:

Portfolio testing	Bespoke analysis
Quarterly review process	e.g. ROE quintile analysis
Analysis of characteristics and themes reported to team	e.g. USD sensitivity analysis

### Initial position sizing based on conviction within the team

c.50bps      c.100bps      c.150bps

Smaller starting sizes represent higher likelihood of binary outcomes/wider range of team conviction.

# Stability for our investors

Corporate stability allows investors to

## Take genuinely long-term views

Performance bonus paid on rolling 5 year performance

## Take investment risk

Necessary to generate sustained outperformance

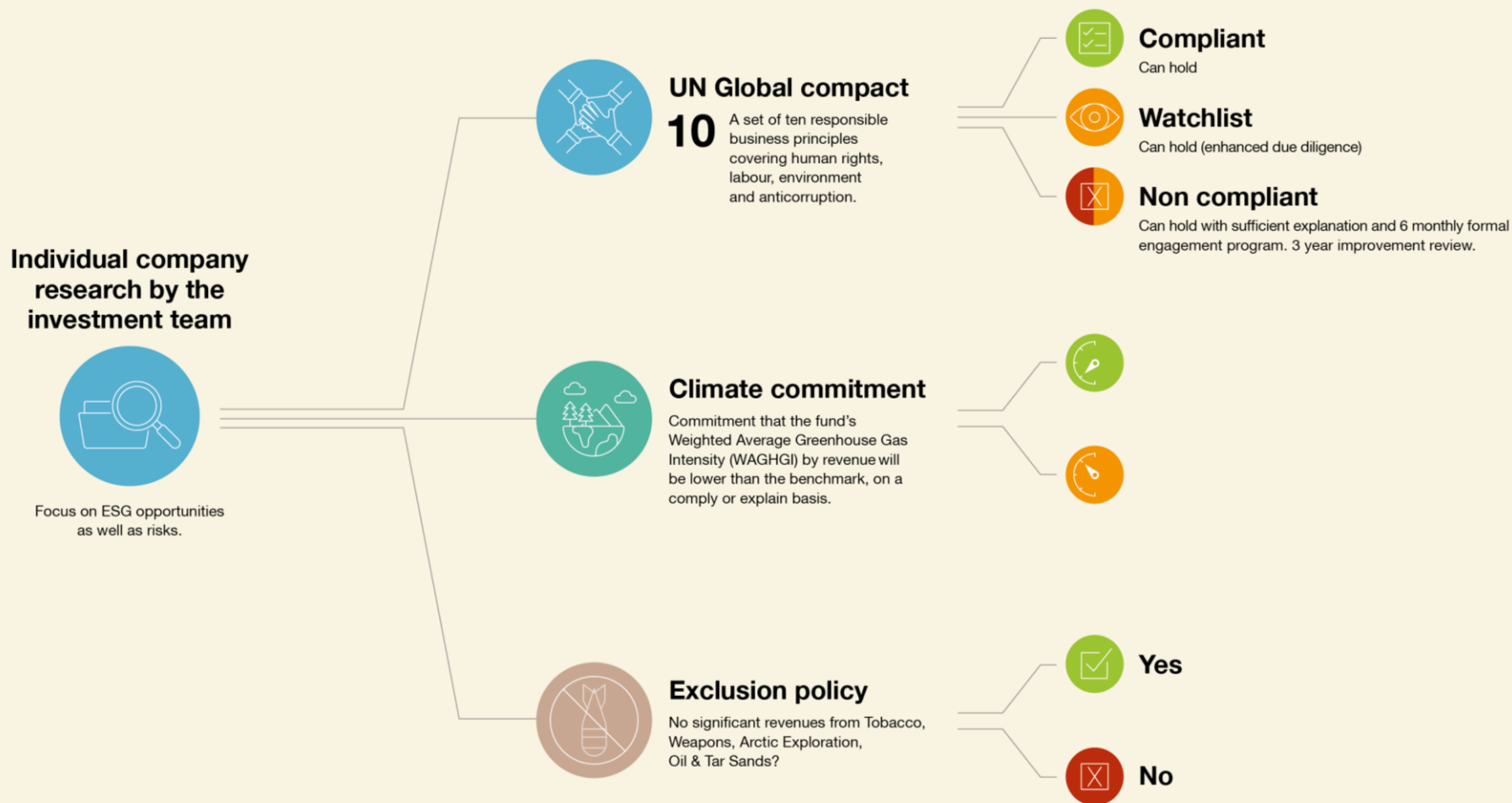
## Be optimistic

Our focus is on exploiting persistent inefficiencies



A structure designed to maximise our ability to generate sustained outperformance for our clients

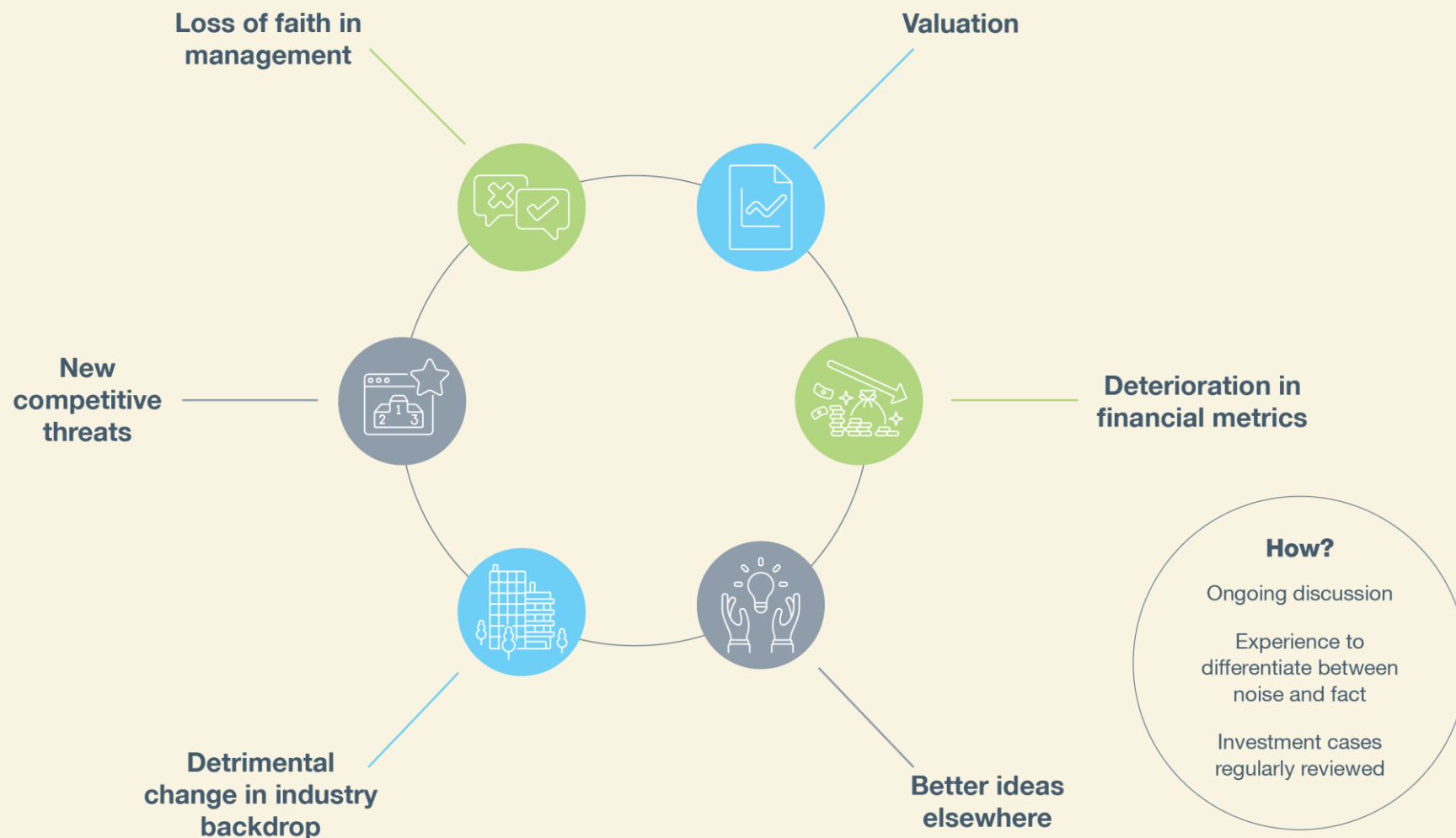
# ESG implementation



## ESG team input at all stages of the process

In addition to pre purchase checks, there is an annual portfolio review (stock by stock).

# Sell discipline



**We will make mistakes and are quick to move on**

# Portfolio listing

Holding	Portfolio (%)	Consumer discretionary	16.7	Materials	11.1	Health care	1.0
<b>Information technology</b>	<b>26.7</b>	Alibaba	3.7	First Quantum Minerals	3.7	BeiGene	0.4
TSMC	10.1	MercadoLibre	2.0	Vale	1.8	Zai Lab	0.4
Samsung Electronics	6.8	Meituan	1.9	Lundin Mining	1.7	Burning Rock Biotech	0.2
Mediatek	2.4	Hyundai Motor Company	1.7	LG Chemical	1.2	<b>Real estate</b>	<b>0.2</b>
Tata Consultancy Services	2.0	JD.com	1.3	Cemex	0.7	KE Holdings	0.2
Tech Mahindra	1.9	Coupang	1.0	UltraTech Cement	0.7		
Samsung SDI	1.6	Haier Smart Home	0.9	KGHM Polska Miedz	0.7		
SK Hynix	1.4	Geely Automobile	0.7	Zijin Mining	0.6		
Anker Innovations	0.4	Midea	0.7	Norilsk Nickel	0.0		
StoneCo	0.1	Li Ning	0.7	<b>Communication services</b>	<b>7.6</b>		
<b>Financials</b>	<b>20.0</b>	Shenzhen International	0.6	Tencent	5.6		
China Merchants Bank	2.8	Allegro	0.6	SEA Limited	0.7		
Ping An Insurance	2.6	Mint Group	0.5	NAVER Corp	0.6		
HDFC	2.5	Brilliance China Automotive	0.3	Kuashou Technology	0.4		
B3	2.1	Dada Nexus	0.2	Tencent Music Entertainment Group	0.3		
Bank Rakyat Indonesia	1.9	Ozon Holdings	0.0	<b>Industrials</b>	<b>3.2</b>		
Banco Bradesco	1.5	<b>Energy</b>	<b>11.4</b>	CATL	1.7		
Grupo Financiero Banorte	1.3	Petrobras	6.4	Copa Holdings	1.0		
HDFC Life Insurance	1.1	Reliance Industries	4.0	Doosan Bobcat	0.5		
Piramal Enterprises	0.9	Raizen	1.0	<b>Consumer staples</b>	<b>1.0</b>		
Ping An Bank	0.8	Valeura Energy	0.1	Walmex	1.0		
Credicorp	0.7			Magnit	0.0		
Lufax Holding	0.7						
FirstRand	0.6						
ICICI Lombard	0.4						
Sberbank	0.0						
Moscow Exchange	0.0						

## 68 holdings

Source: Baillie Gifford & Co, MSCI.

As of March 31, 2022. Cash 1.1%.

Based on a representative Emerging Markets All Cap portfolio, new client portfolios may not mirror the representative portfolio exactly.

Totals may not sum due to rounding.

■ Sector overweight relative to MSCI Emerging Markets.

■ Sector underweight relative to MSCI Emerging Markets.



# Portfolio holdings

## Top and bottom 3 geographical location relative positions

Geographical location	Portfolio %	Index %	Difference %
Brazil	14.8	5.8	+9.0
Other Emerging Markets	4.2	0.0	+4.2
South Korea	14.8	12.6	+2.2
Saudi Arabia	0.0	4.2	-4.2
Taiwan	12.5	16.1	-3.7
South Africa	0.6	4.1	-3.4

## Top and bottom 3 sector relative positions

Sector	Portfolio %	Index %	Difference %
Energy	11.4	4.8	+6.6
Information Technology	26.7	21.6	+5.0
Consumer Discretionary	16.7	12.3	+4.4
Consumer Staples	1.0	5.8	-4.8
Health Care	1.0	3.9	-2.9
Utilities	0.0	2.6	-2.6

Source: Baillie Gifford & Co, MSCI.  
 Relative to MSCI Emerging Markets, as of March 31, 2022.  
 Based on a representative Emerging Markets All Cap portfolio. Excludes cash.

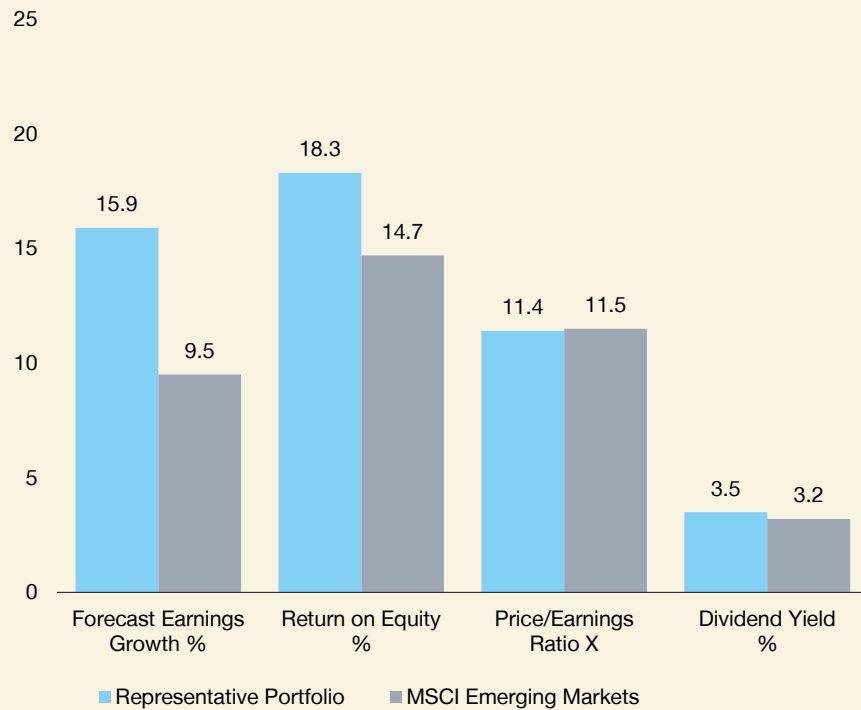
## Top 10 company overweights

Holding	Portfolio %	Index %	Difference %
Petrobras	6.4	0.8	+5.5
First Quantum Minerals	3.7	0.0	+3.7
TSMC	10.1	7.0	+3.1
Reliance Industries	4.0	1.4	+2.6
Samsung Electronics	6.8	4.3	+2.5
China Merchants Bank	2.8	0.5	+2.3
MercadoLibre	2.0	0.0	+2.0
Ping An Insurance	2.6	0.7	+1.9
Tencent	5.6	3.8	+1.8
B3	2.1	0.3	+1.8

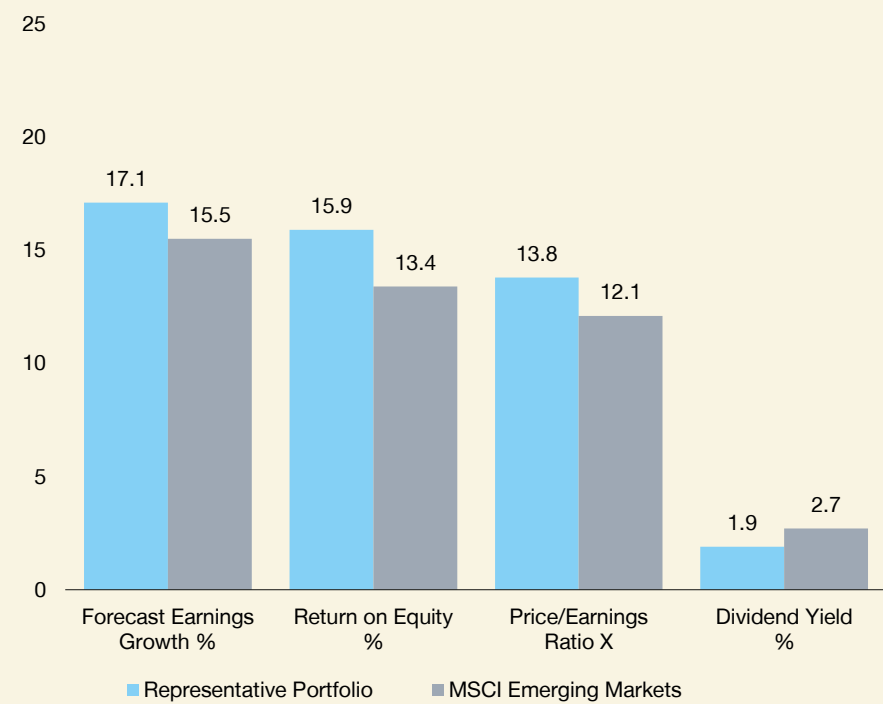
# Portfolio characteristics

## Consistent growth bias

March 31, 2022



March 31, 2017



Source: FactSet, Baillie Gifford & Co, MSCI. US dollars.  
 Representative Emerging Markets All Cap portfolio.  
 12 month forward estimates.

# Baillie Gifford Emerging Markets

## Specialist EM strategies

	AUM	Inception	Typical Stock Range
Emerging Markets All Cap	\$15.0bn	1994	60-100
Emerging Markets Leading Companies	\$8.9bn	2004	35-60*
Emerging Markets Small Cap	\$680m	2016	60-100
Emerging Markets Concentrated Growth	\$407m	2017	15-25
Emerging Markets ex China	\$1m	2021	40-80
Asia ex Japan	\$6.5bn	1989	50-100
China Equities	\$1.4bn	2006	40-80
China A-Shares	\$718m	2019	25-40

As of March 31, 2022. US dollars.

\*Min market cap at time of purchase: \$1bn

## Representative Emerging Markets clients

	BG Client Since
City of Austin Employees' Retirement System	2016
Sacramento County Employees' Retirement System	2015
AT&T	2012
Maryland State Retirement Agency	2008
California State Teachers	2006
Colorado Public Employees' Retirement Association	2005
Pictet & Cie ref Pensionskasse Stadt Zürich	2003
OPSEU Pension Trust	2003
Vanguard	2003
Mitsubishi UFJ Trust and Banking Corporation	1989

The above names represent a selection of our clients.

It is not known whether the listed clients approve or disapprove of Baillie Gifford or services provided.

The clients identified in the above list were selected on a variety of factors, including name recognition, industry, geographic region and investment mandate. The selected clients for the list are not based on performance criteria.

**We have been running specialist EM portfolios since 1994**

# Our China capabilities

At Baillie Gifford, we have \$38bn invested in Chinese equities. The pace of development in China is exciting, we have scaled our resource to harness this opportunity

## Edinburgh



- c.70 investors researching Chinese equities in our EM, Global and International Teams



## Shanghai



- On the ground presence
- Deepening relationships with existing holdings
- Dedicated to identifying the next generation of exceptional Chinese companies



**Linda Lin\***  
12 years' experience  
8 years at Baillie Gifford



**Louise Lin**  
8 years' experience  
8 years at Baillie Gifford



**Rio Tu**  
8 years' experience  
8 years at Baillie Gifford



**Tony Wang**  
6 years' experience  
2 year at Baillie Gifford

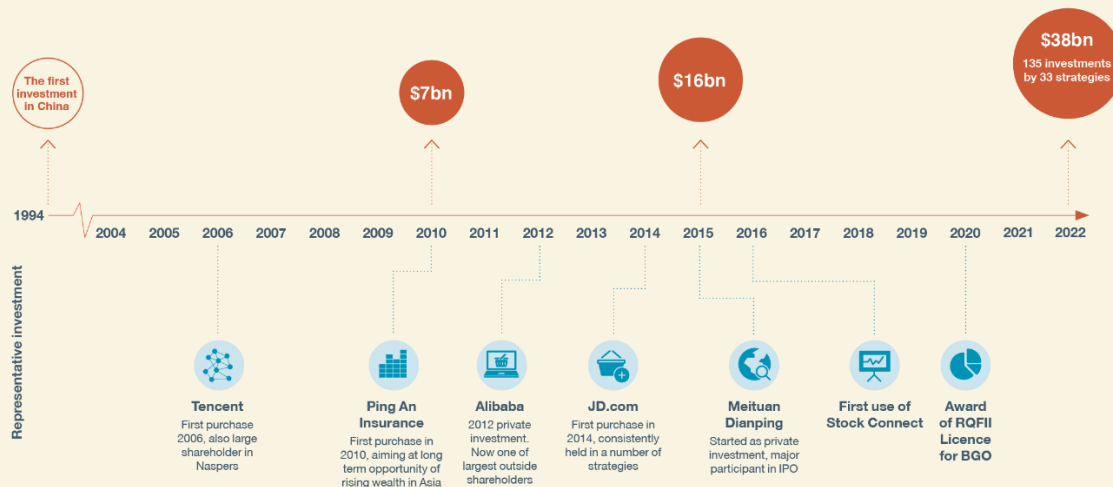


**Freddy Zhu**  
4 years' experience  
2 year at Baillie Gifford

\* Partner as of May 1, 2022

Bringing together local insights with global perspectives, to the benefit of all our clients

## Baillie Gifford's investment in China

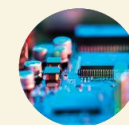


Source: Baillie Gifford & Co. As of March 31, 2022. 2010 and 2015 figures as of December 31. US dollars.

## Examples of additional perspectives



**Fathom Consulting**  
Due diligence insights



**RedTech**  
China internet specialists



**SOAS London**  
Political and macroeconomic commentators

Our external research providers add breadth, depth and different perspectives

## Building relationships early

First invested privately, building long standing relationships



**Ant Financial**  
First bought privately in 2018



**Alibaba**  
First bought privately in 2012



**Meituan Dianping**  
First bought privately in 2015



**Bytedance**  
First bought privately in 2019

## China Equities composite performance

	Composite %	Index* %	Difference %
Since Inception <sup>†</sup> (p.a.)	9.0	6.9	+2.0
10 Years (p.a.)	9.1	6.4	+2.6
5 Years (p.a.)	9.3	5.8	+3.5

Source: StatPro, MSCI. As of March 31, 2022. US dollars. Net of fees. Figures may not sum due to rounding. \*MSCI China All Shares (MSCI All China prior to November 27, 2019, MSCI Golden Dragon prior to May 2, 2019).  
<sup>†</sup>February 28, 2006.

# Exploitable inefficiencies

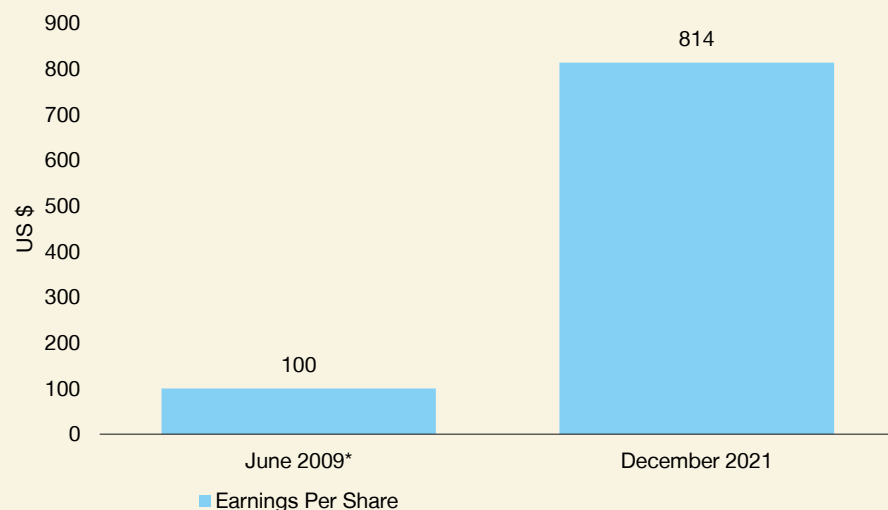
## Under-appreciated growth duration

Many of the most attractive EM businesses will be those that are constantly re-investing, either in R&D and/or capital projects

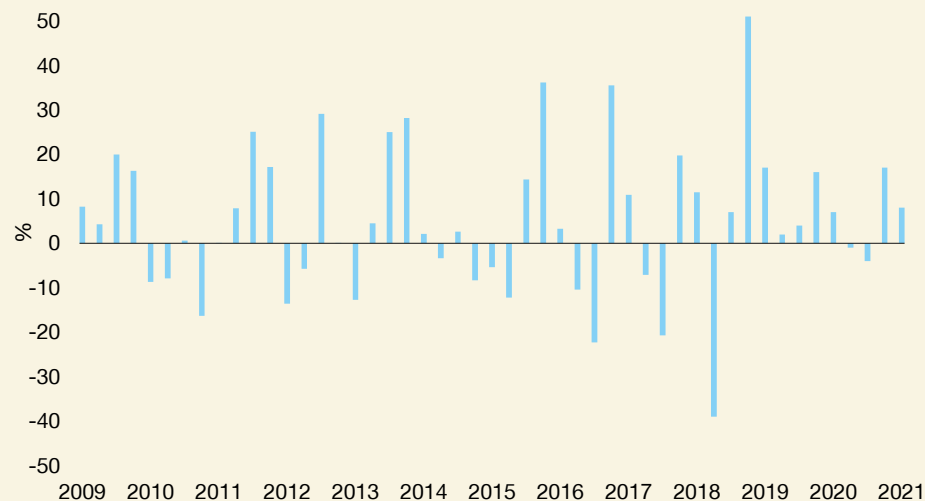
The pay-offs are multi-year but often with significant time lags – this presents patient investors with opportunities

It is critical to ignore inevitable near-term volatility in pursuit of long-term outperformance

### TSMC - Earnings per Share



### TSMC - Earnings per Share (Quarter on Quarter Change)



Source: FactSet. As of December 31, 2021. Taiwan Semiconductor Manufacturing Company Earnings. US dollars.

\*Rebased to \$100 as of June 29, 2009.

**The market lacks the patience to allow good decisions to prove their worth**

# Exploitable inefficiencies

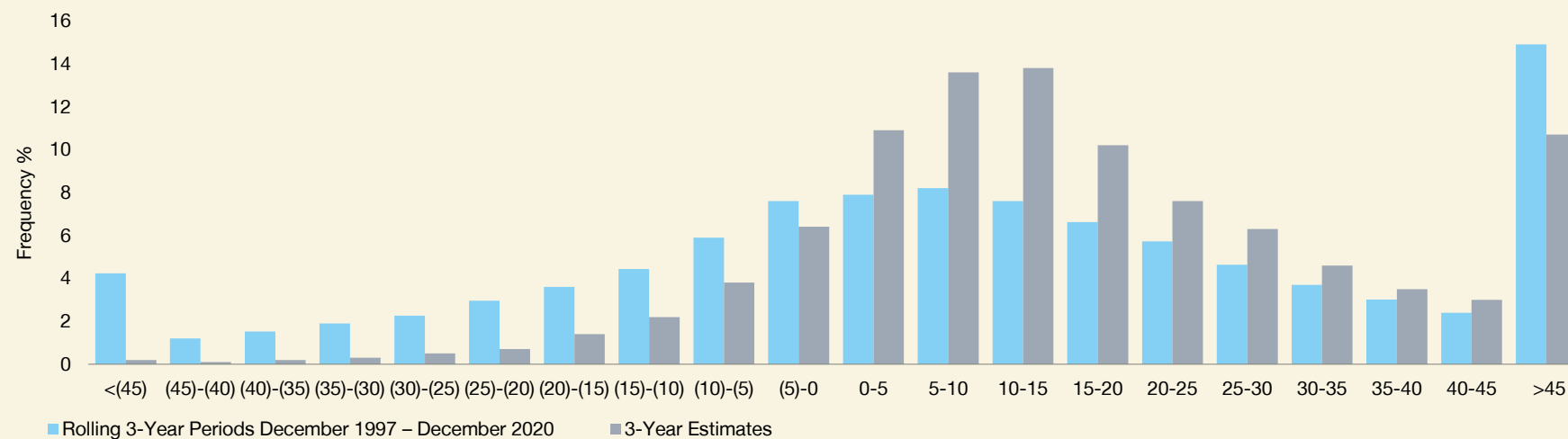
## Under-appreciated growth - pace

Very few companies drive market returns in EM. Over the 10 years to end December 2020, only 8 out of 2096 companies made up all of the index return

Our research emphasises what could go right more than what could go wrong

This maximises the chance of buying and holding 'fat tail' stocks, those that grow much faster than the market

## Emerging Markets Stocks – Range of EPS 3-Year Compound Annual Growth Rate (CAGR)



Source: Factset, MSCI, FTSE. As of December 31, 2020.  
Based on Emerging Markets stocks in MSCI EM Index or FTSE EM Index. US dollars.

**The market consistently fails to recognise or price correctly the likelihood of extreme outcomes**

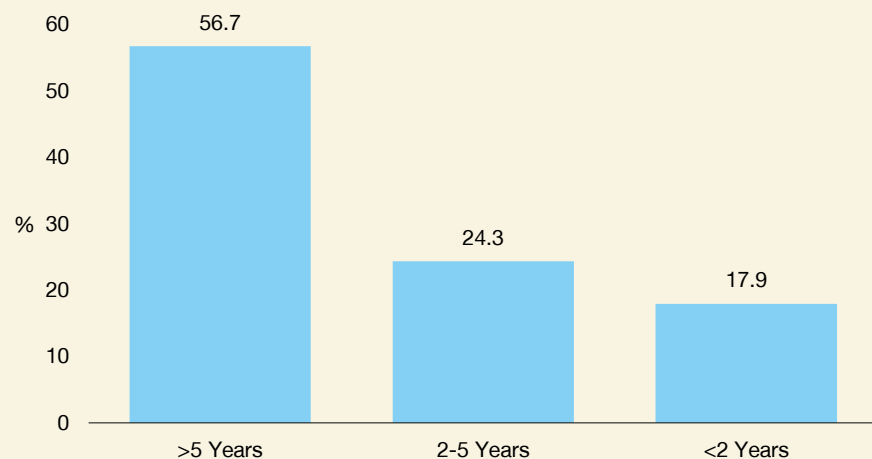
# Exploitable inefficiencies

## Under-appreciated growth surprise

Understanding the micro and the macro is critical to investment success in Emerging Markets

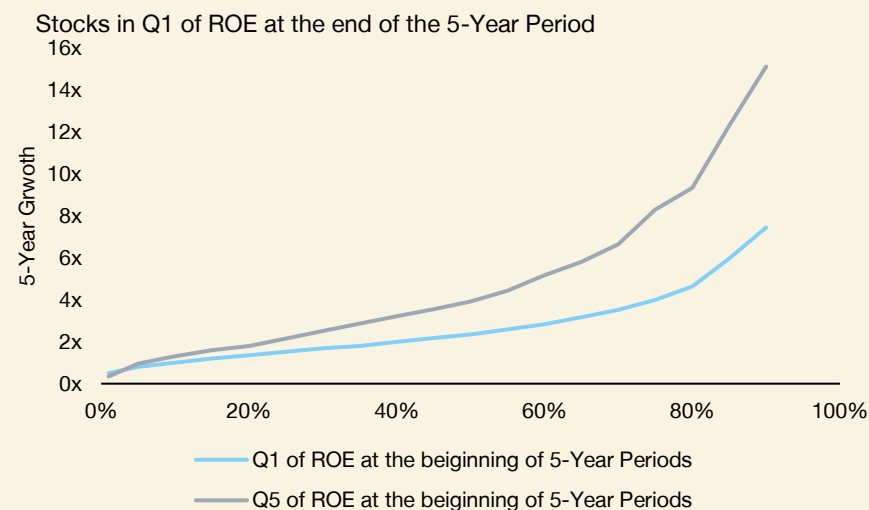
Inflection points matter. It is often the stocks transitioning from low to high profitability that perform best

## Holding periods



As of March 31, 2022. Based on a representative Emerging Markets All Cap portfolio. Excludes cash.

## 5-Year Stock Growth Percentiles by Quintile of ROE at the Beginning of the 5-Year Period



The graph on the right shows the results of our analysis of EM returns data from 1996-2021. We split this into 5-year return periods, rebalanced annually, and we studied quintiles of 5-year US dollar ROE. It shows that stocks transitioning from low ROE quintiles to the top quintile have often displayed strong returns. For example, 20% of the observations grew more than eight times over 5-year periods, as shown by the blue line. Based on equities defined as Emerging Markets by MSCI or FTSE. Source: FactSet. As at 31 December 2021. Universe: stocks included in the MSCI EM Index or FTSE All World Emerging Index restricted by a time adjusted market value limit.

# Annual discrete performance: net of fees

	<b>03/31/17- 03/31/18</b>	<b>03/31/18- 03/31/19</b>	<b>03/31/19- 03/31/20</b>	<b>03/31/20- 03/31/21</b>	<b>03/31/21- 03/31/22</b>
EM All Cap Composite (%)	33.0	-3.3	-17.7	77.3	-20.5
MSCI Emerging Markets (%)	25.4	-7.1	-17.4	58.9	-11.1

Source: StatPro, MSCI. US dollars.

The Emerging Markets All Cap composite is more concentrated than the MSCI EM Index.



# Microsite

## Video Content



## Shorter thought pieces

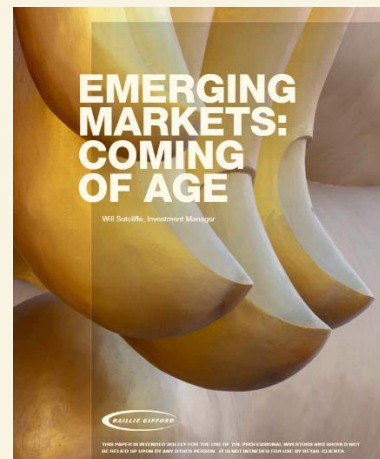


This content is suitable for the use of professional investors and should not be relied upon by any other person. It is not intended for use by retail clients.



This content is suitable for the use of professional investors and should not be relied upon by any other person. It is not intended for use by retail clients.

## Long, discursive papers



Emerging Markets All Cap  
00000 INS PS 0000 (SO)

## QR Code



# Legal notices

All information is current and sourced from Baillie Gifford & Co unless otherwise stated.

## **MSCI**

Source: MSCI. The MSCI information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for or a component of any financial instruments or products or indices. None of the MSCI information is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Historical data and analysis should not be taken as an indication or guarantee of any future performance analysis, forecast or prediction. The MSCI information is provided on an "as is" basis and the user of this information assumes the entire risk of any use made of this information. MSCI, each of its affiliates and each other person involved in or related to compiling, computing or creating any MSCI information (collectively, the "MSCI Parties") expressly disclaims all warranties (including, without limitation, any warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall any MSCI Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) or any other damages. (www.msci.com)

## **FTSE Russell**

Source: London Stock Exchange Group plc and its group undertakings (collectively, the "LSE Group"). © LSE Group 2022. FTSE Russell is a trading name of certain of the LSE Group companies. "FTSE®" "Russell®", is/are a trade mark(s) of the relevant LSE Group companies and is/are used by any other LSE Group company under license. All rights in the FTSE Russell indexes or data vest in the relevant LSE Group company which owns the index or the data. Neither LSE Group nor its licensors accept any liability for any errors or omissions in the indexes or data and no party may rely on any indexes or data contained in this communication. No further distribution of data from the LSE Group is permitted without the relevant LSE Group company's express written consent. The LSE Group does not promote, sponsor or endorse the content of this communication.

## Performance Results

**Composite Benchmark** Emerging Markets - All Cap  
**Currency** MSCI Emerging Markets  
**Period Ended** USD  
 31/12/2021

Year	Composite Return Gross of Fees %	Composite Return Net Of Fees %	Benchmark Return %	No. of Portfolios	Composite Dispersion %	Composite 3 Yr Std Deviation (% p.a.)	Benchmark 3 Yr Std Deviation (% p.a.)	Composite Assets (million)	Firm Assets (million)
2021	-7.8	-8.5	-2.2	17	0.5	21.4	18.3	15,896	440,864
2020	30.9	29.9	18.7	16	0.6	22.4	19.6	16,840	430,926
2019	28.9	27.9	18.9	15	0.4	16.1	14.2	10,956	280,112
2018	-14.4	-15.1	-14.2	11	0.2	16.6	14.6	5,419	213,728
2017	54.4	53.2	37.8	8	0.3	16.3	15.4	5,281	235,335
2016	3.6	2.7	11.6	12	0.2	16.2	16.1	4,651	174,160
2015	-7.7	-8.4	-14.6	11	0.3	13.7	14.0	4,798	176,004
2014	1.5	0.7	-1.8	9	0.3	15.0	15.0	3,861	173,138
2013	5.1	4.3	-2.3	9	0.4	19.8	19.0	4,242	168,719
2012	14.2	13.3	18.6	11	0.3	22.8	21.5	5,822	133,325

## Supplementary Information: Annualised Performance Results to 31/12/2021

	Composite Gross of Fees % p.a.	Composite Net of Fees % p.a.	Benchmark % p.a.
1 Year	-7.8	-8.5	-2.2
3 Years	15.9	15.0	11.3
5 Years	15.5	14.6	10.3
10 Years	9.1	8.3	5.9
15 Years	7.6	6.7	4.8
20 Years	12.7	11.8	10.0
25 Years	10.3	9.4	6.6
Since Inception (30/09/1994)	9.9	9.0	5.5

These returns are supplemental to the composite presentation and are not verified by an independent third party.

## Disclosures

1. Baillie Gifford and Co claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Baillie Gifford and Co has been independently verified for the periods 1 Jan 94 - 31 Dec 21. The verification report(s) is/are available upon request. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report. The Emerging Markets - All Cap Composite has had a performance examination for the period from 1 Jan 18 through 31 Dec 21. The verification and performance examination reports are available upon request.
2. For the purposes of applying the GIPS® Standards, the Firm is defined as Baillie Gifford and Co and all of its wholly or jointly owned affiliates. An investment management partnership founded in 1908, which specialises in managing equity, fixed income and multi-asset portfolios for a global client base.
3. The composite is defined as: All portfolios with an Emerging Markets all cap equity mandate.
4. The composite inception date is 30 Sep 94. The composite was created on 26 Mar 19.
5. Internal dispersion is calculated using the asset-weighted standard deviation of the gross returns of all accounts included in the composite for the entire year; it is not presented for periods less than one year or when there were fewer than five accounts in the composite at year end. The three-year annualized ex post standard deviation measures the variability of the composite and the benchmark gross returns over the preceding 36-month period, it is not presented for periods of less than three years.
6. Gross of fees performance returns are presented before management and custodial fees but after all trading expenses. Returns are presented net of withholding taxes on dividends, interest income and capital gains where applicable. Net of fees returns are calculated by deducting a model management fee of 0.067%, 1/12th of the highest management fee of 0.80%, from the monthly gross composite return. The highest fee currently charged for segregated portfolios included in this composite is 0.80% p.a. The management fee and total expense ratio for the UK OEIC, which is included in the composite, are 0.72% on all assets and 0.78%, respectively. The management fee and total expense ratio for the Canadian Pooled Fund, which is included in the composite, are 0.72% on all assets and 0.79%, respectively. The management fee and total expense ratio for the US Mutual Fund, which is included in the composite, are 0.70% on all assets and 0.89%, respectively. The management fee and total expense ratio for the Worldwide Fund, which is included in the composite, are 0.72% on all assets and 0.87%, respectively. The management fee and total expense ratio for the Collective Investment Trust, which is included in the composite, are 0.57% on all assets and 0.72%, respectively. This may not necessarily represent the actual fee charged.
7. Additional information regarding policies for valuing investments, calculating performance and preparing GIPS Reports is available on request.
8. The firm's list of composite descriptions, broad distribution pooled funds, and limited distribution pooled fund descriptions are available on request.
9. All investment strategies have the potential for profit and loss.
10. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

## Emerging Market Development

For institutional use only. Any views expressed herein are those of the author(s), are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. The material and/or its contents are current as of the most recent quarter end, unless otherwise noted. Certain data provided is that of a third party. While data is believed to be reliable, no assurance is being provided as to its accuracy or completeness.

13 July 2022

**Daire T. Dunne, CFA** Partner and Portfolio Manager

**Simon C. Henry, CFA** Managing Director and Portfolio Manager

**Akin N. Greville, CFA** Managing Director and Business Development Manager

**Brian M. White** Assistant Vice President and Business Development Analyst

## Agenda

**Section one** ..... Wellington Management overview

**Section two** ..... Emerging Market Development overview

**Section three** ..... Appendix



## Our distinctive strengths

A singular focus on investment management

Long-term perspective of a partnership structure

Comprehensive capabilities

Rigorous proprietary research

Open, collaborative culture

A commitment to bringing the right resources to each client



Our mission is simple: We seek to exceed the investment objectives and service expectations of our clients worldwide.



## Wellington Management today

### Diversified asset base

USD 1,342 billion in client assets under management

46% equity, 36% fixed income, 18% multi-strategy – including ~ USD 31.1 billion in alternatives

---

### Global resources

3,041 employees

967 investment professionals

16 offices with investment and relationship personnel in key financial centers

Globally integrated research since 1972



We serve as a trusted adviser and strategic partner to investors worldwide.

# Wellington Management

A geographically diverse, interconnected investment team



UNITED STATES: 683<sup>1</sup>

LONDON: 167<sup>1</sup>

HONG KONG: 41<sup>1</sup>

TOKYO: 16<sup>1</sup>

SINGAPORE: 45<sup>1</sup>

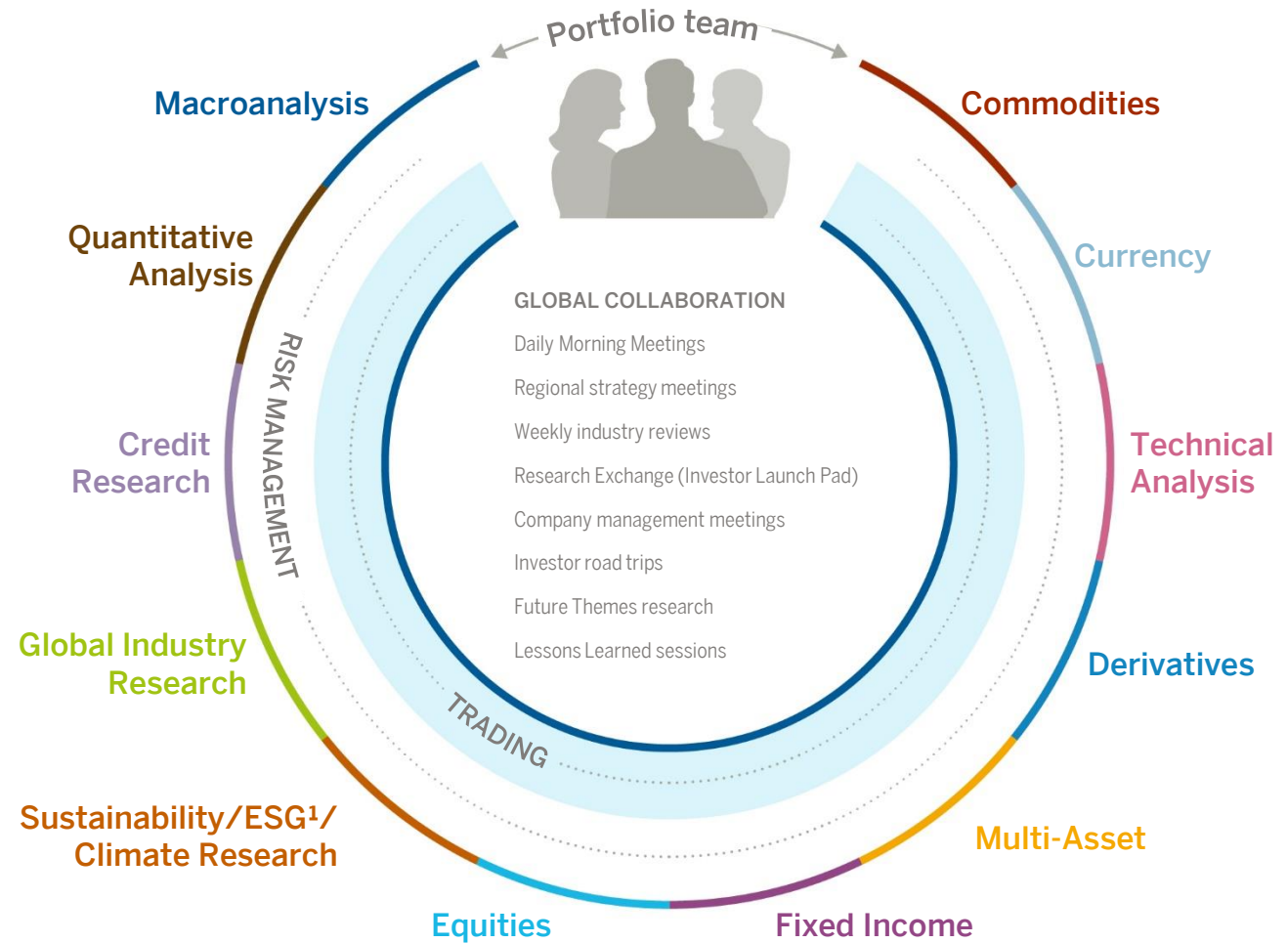
SYDNEY: 4<sup>1</sup>



<sup>1</sup>Number of investment professionals | As of 31 March 2022

## Investors draw on our marketplace of ideas to build portfolios

We believe the best investment thinking is forged by the free exchange of ideas among a broadly diverse group of professionals



<sup>1</sup>Environmental, social, and corporate governance

## Our diversity, equity and inclusion strategy pillars

DEI Steering Committee

Regional DEI Committees – APAC, Americas and EMEA

Upstanders and Becoming Allies

Global Diversity, Equity and Inclusion Team

13 Diversity Business Networks with regional chapters and two Business Network Councils – Americas and EMEA

20+ External Diversity Associations and Industry Coalitions

Partnered with more than 100 US-based diverse suppliers

Grants with 193 organizations in 11 geographies since 1992



As of 1 March 2021

## Our commitment to the west coast and mountain states

### Experienced

Managing assets for west coast institutions since 1982 with an average of 18 years of relationship manager experience

### Local

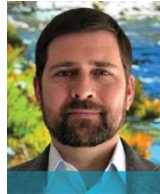
Dedicated west coast relationship team based in our San Francisco office; active member of the west coast investment community

### Substantial presence

Work with over 250 west coast and mountain state clients including leading public and corporate pensions, Taft-Hartley pensions, defined contribution, endowments, foundations, family offices, and balance sheet assets

## ACERA Relationship Team

Experienced and local client service resources



**Akin Greville, CFA**  
Business Development Manager  
Managing Director

20 years of professional experience  
15 years with Wellington Management

---



**Brian White**  
Business Development Analyst  
Assistant Vice President

8 years of professional experience  
4 years with Wellington Management

---



**Molly Conway, CFA**  
Relationship Manager  
Vice President

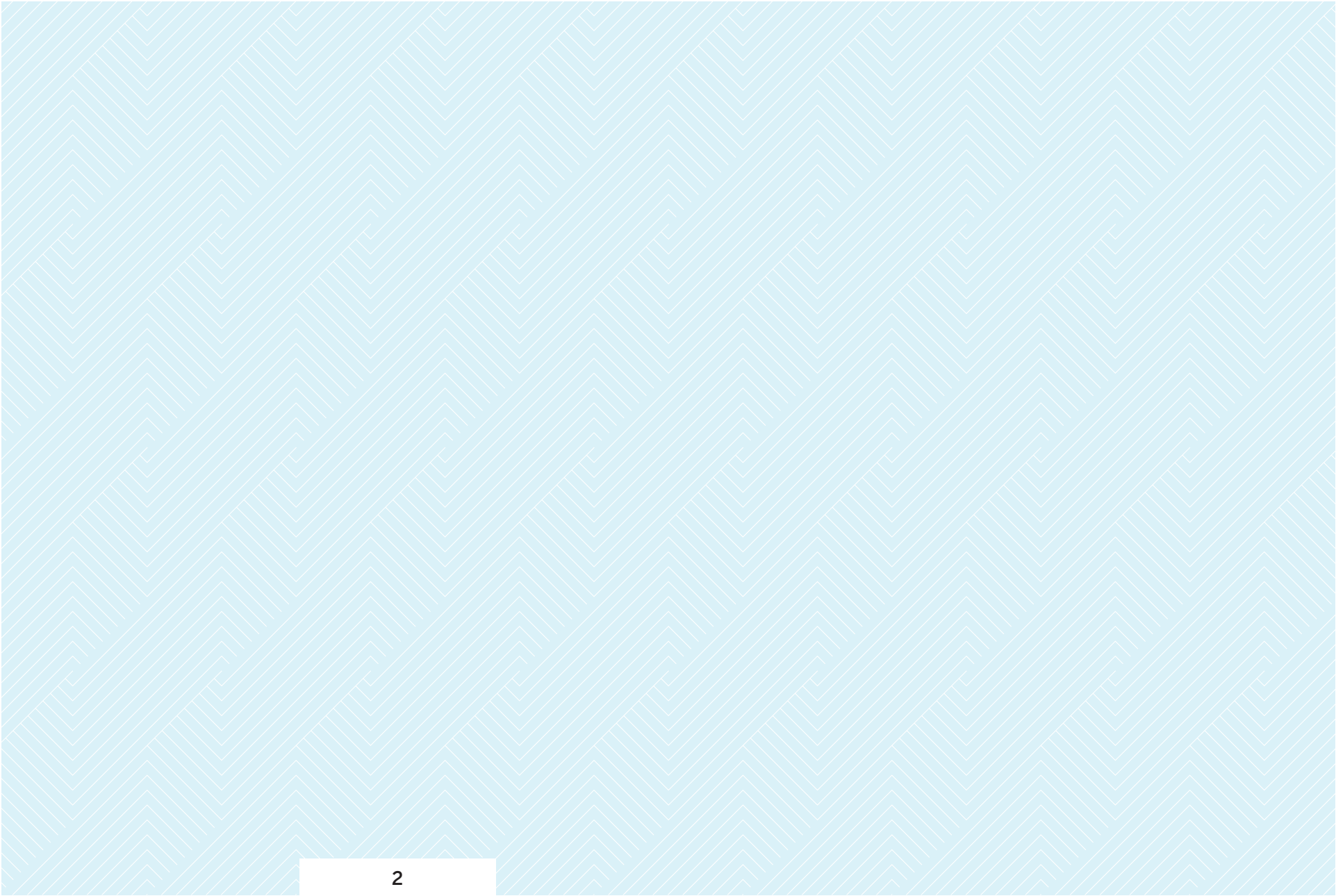
15 years of professional experience  
6 years with Wellington Management

---



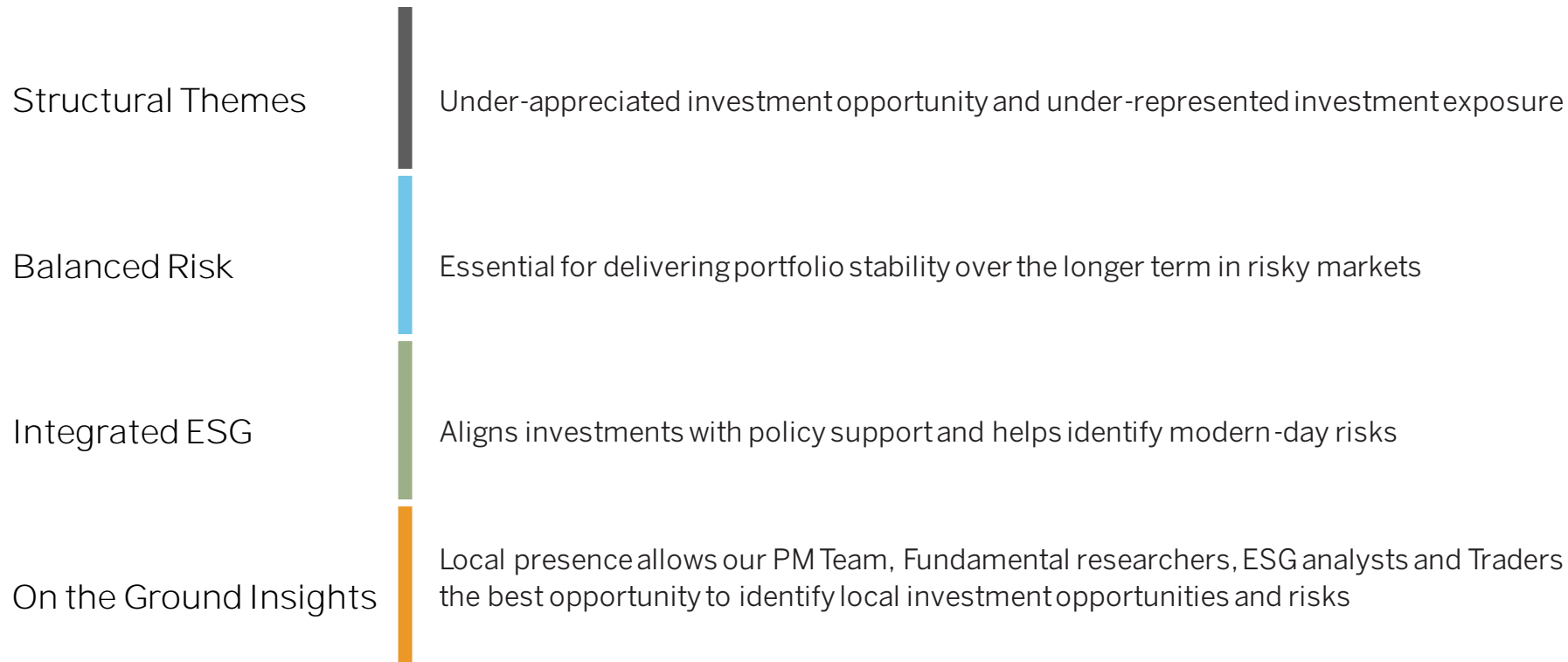
**Stephen Crisan, CFA**  
Client Service Manager  
Vice President

16 years of professional experience  
10 years with Wellington Management





# Emerging Market Development Key differentiators



As of 31 May 2022. Views expressed are those of the presenter(s). Views are as of date indicated, are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. This material is not intended to constitute investment advice or an offer to sell, or the solicitation of an offer to purchase shares of other securities.



## Emerging Market Development Investment philosophy

The market underappreciates economic development's impact on profit pools. Benchmarks represent the past; focused themes maximise exposure to the future.

Traditional investing using portfolio weights generates undesirable concentrations. Conviction based risk budgeting leads to more efficient portfolio outcomes.

Nascent and disparate ESG coverage often leads to company mispricing, creating opportunities for active ESG research, integration, and engagement

Actual holdings vary and there is no guarantee the fund will have the same characteristics as described above. | The portfolio does not have a sustainable investment objective. While the evaluation of Sustainability Risks through the analysis of ESG factors is part of the investment process, it may not necessarily result in the exclusion of a security.

## Sources of Structural Change in Emerging Markets



### INCLUSION

Improving living standards and broadening the range of beneficiaries of economic development  
Impact: changing patterns of behaviour and preferences, and access to health care, education and finance



### SUSTAINABILITY

Using available resources with due consideration for future generations and the environment  
Impact: more recycling, waste management, energy efficiency, alternative energy sources, testing and diagnostics



### INNOVATION

Increasing the efficiency of all available factors of production  
Impact: use of technology, promotion of innovation, institutional reform, etc



# Structural Themes are under-represented in MSCI EM Index

### EM Dev opportunity set as a % of MSCI EM Index

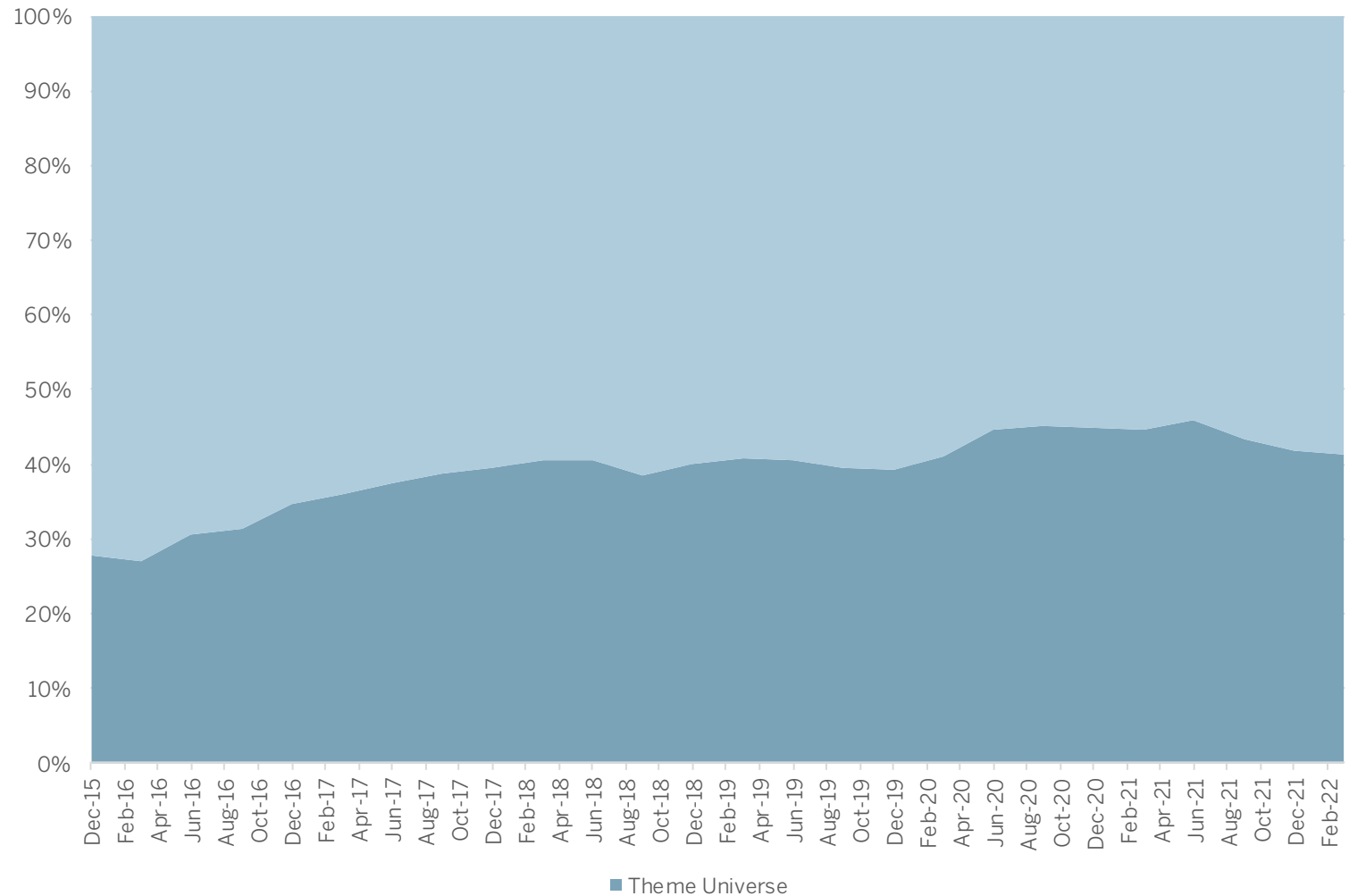


Chart data: 31 May 2015 to 30 April 2022. Chart reflects the proportion of the EM Development team's internally constructed thematic universe that is included in the MSCI Emerging Market Index. The theme universe consists of the investible opportunity set for each theme, defined based on the EM Development team's theme revenue purity and company liquidity thresholds. Source: Wellington Management



# The Importance of Risk Balance in Emerging Markets

Why allocate in risk terms?

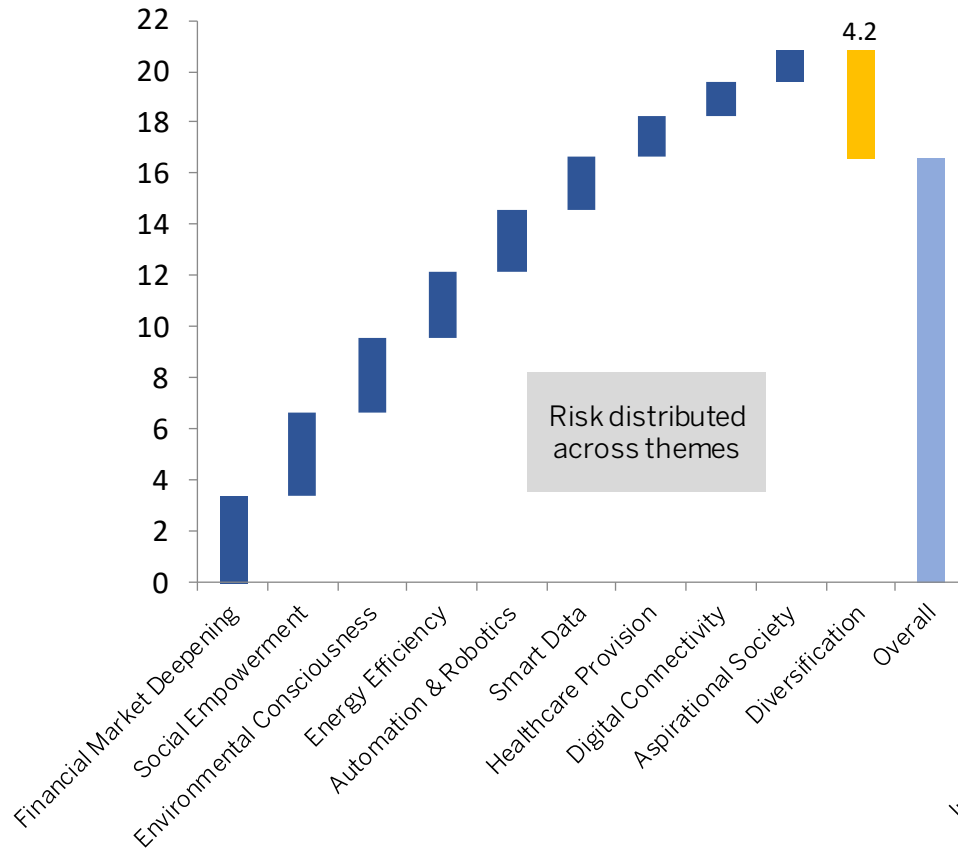
- Don't want anyone theme to dominate the portfolio
- Higher volatility is often not commensurate with higher returns
- Volatility tends to be "sticky" in the short term
- Desire to maximise the diversification benefit on each theme

Themes more diversifying than sectors<sup>1</sup>

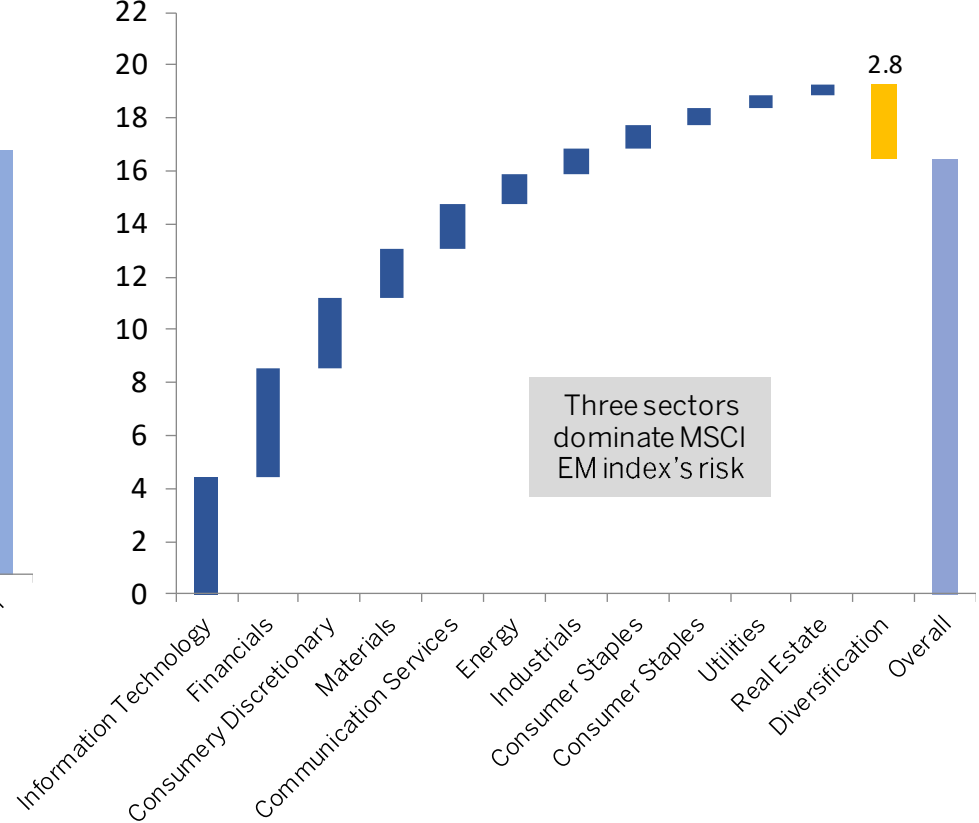
Average theme correlation<sup>2</sup> 0.5

Average MSCI sector correlation 0.7

EM Development Representative account  
Contribution to total risk (%)<sup>3</sup>



MSCI Emerging Market Index  
Contribution to total risk (%)<sup>3</sup>



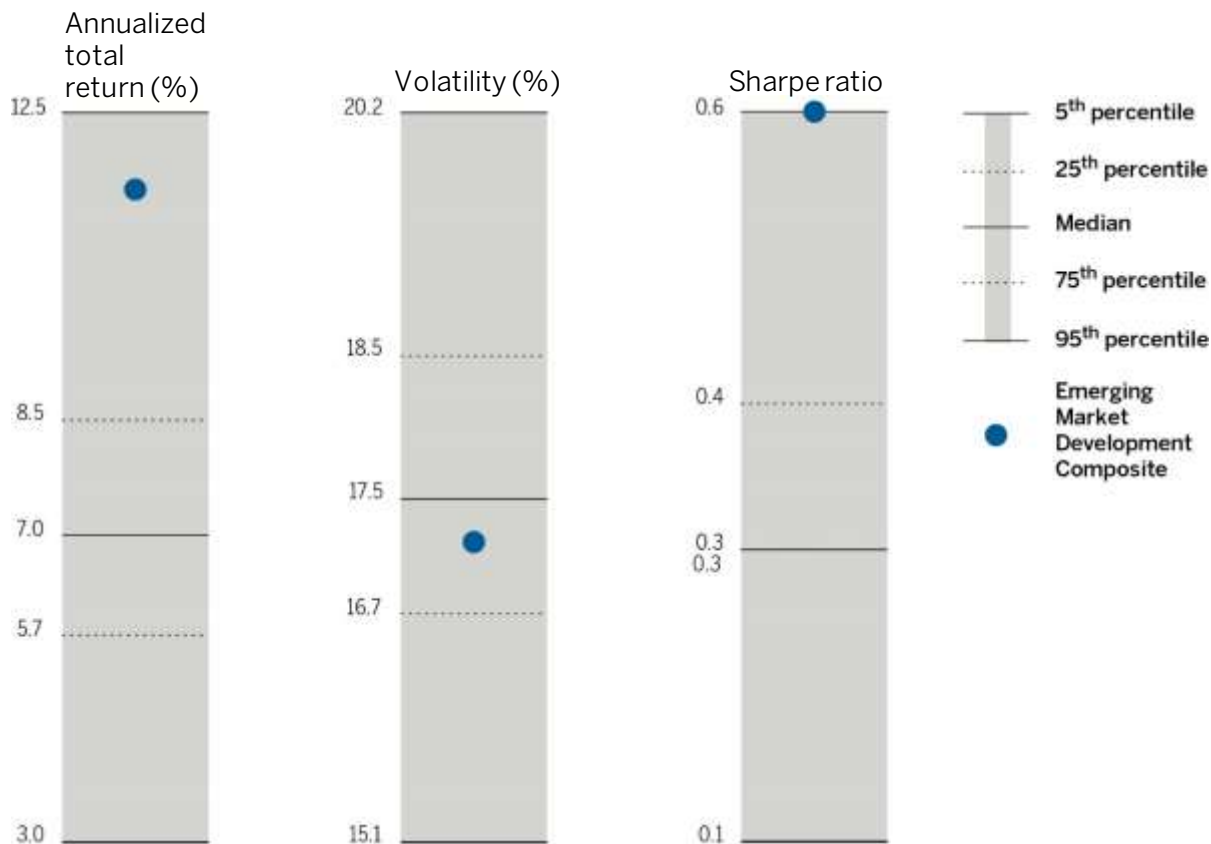
<sup>1</sup>Correlations are as of 31 March 2022 and were calculated using average correlations based on monthly historical returns since 31 October 2015. <sup>2</sup>Theme correlations are calculated based on representative account theme returns. <sup>3</sup>Risk data is as of 31 May 2022 and is calculated based on monthly historical returns since 31 October 2015. The Emerging Market Development representative account inceptioned on 8 October 2015. The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. Source: Wellington Management, Bloomberg.



# Emerging Market Development Composite Risk comparison

5 years as of 31 March 2022 (gross, USD)

Source: eVestment Alliance | The Global Emerging Markets manager results are presented for 5 years as of 31 March 2022. The inception date of the Emerging Market Development Composite (the "Advisor") is 31 October 2015. | The Emerging Market Development approach is benchmark agnostic, unconstrained, and long-only equity. The peer group comparison represents percentile rankings, which are based on gross of fee returns and reflects where those returns or given metric fall within the indicated eVestment universe. The Global Emerging Market universe is defined by eVestment and is intended to include Global Emerging Market products that invest primarily emerging markets equities. The Adviser did not pay a fee to be included in the rankings. Data is that of a third party. While data is believed to be reliable, no assurance is being provided as to its accuracy or completeness. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.** Gross performance results are net of commissions and other direct expenses, but before (gross of) advisory fees, custody charges, withholding taxes, and other indirect expenses, and include reinvestment of dividends and other earnings. If all expenses were reflected, the performance shown would be lower. Actual fees will vary depending on, among other things, the applicable fee schedule and account size. | For use in one-on-one presentations only. | This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.



Emerging Market Development percentile rank	8	61	7
Emerging Market Development	11.45	17.19	0.60

## Emerging Market Development Environmental, social, and governance overview

### SUSTAINABLE ALIGNMENT

Economic development themes underpin a diverse and underappreciated set of attractive investment opportunities across Emerging Markets

### ESG INTEGRATION

A wider range of factors, beyond financial metrics, needs to be assessed when making long term capital commitments in Emerging Markets

### COMPANY ENGAGEMENT

We believe that company engagement can lead to long-term positive outcomes through actively sharing our views and ensuring consistent alignment to our development goals

### EXCLUSIONS LIST

Certain corporate activity is fundamentally mis-aligned with our definition of Economic Development



Whilst the portfolio does not have a sustainable investment objective, the evaluation of ESG risks is an integral part of the investment process. Whilst ESG factors are a consideration when determining allocations to individual companies, they will not necessarily result in the exclusion of an issuer or security from the investment universe. A decision to invest should take account of all the characteristics and objectives described in the offering documents.



# Emerging Market Development Leveraging Wellington research

## PORTFOLIO MANAGEMENT



**Daire Dunne, CFA**  
Portfolio Manager  
Singapore  
22 years of prof exp  
Career focused on global thematic macro-oriented investing across asset classes and emerging markets



**Simon Henry, CFA**  
Portfolio Manager  
Singapore  
18 years of prof exp  
Specialises in quantitative valuation and analysis frameworks, and advanced portfolio construction techniques



**Kenny Teo**  
Investment Strategy Analyst  
Singapore  
Focused on portfolio construction and implementation



**Aaron Koh**  
Investment Strategy Analyst  
Singapore  
Focused on strategic research and security analysis

## PORTFOLIO IMPLEMENTATION

Focus on portfolio coordination and implementation for the firm's research and global equity portfolios  
14 resources in Boston  
2 resources in Singapore  
2 resources in London  
1 resource in Hong Kong

**Pui San Shim**  
Equity Implementation Manager APAC  
Singapore  
17 years of prof exp  
**Mike Sawyer**  
Multi-Asset Portfolio Analyst  
Boston  
25 years of prof exp

## STRUCTURAL RESEARCH



**Santiago Millan, CFA**  
Macro Strategist  
Hong Kong  
26 years of prof exp  
Career analysing macro economic development in emerging economies globally

## ESG RESEARCH

**Jung Soo Hoo**  
ESG Analyst  
Singapore  
**Calista Lee**  
ESG Analyst  
Singapore  
Supported by a team of 13 ESG Research Analysts with EM coverage located globally

**TRADING**  
50 resources in Boston  
6 resources in Hong Kong  
11 resources in London

## PRODUCT MANAGEMENT

**Andrew Sharp-Paul**  
Investment Director,  
Singapore  
**Graham Proud**  
Investment Director,  
Boston  
**Takeishi Maki**  
Investment Director,  
Tokyo  
**Annabelle Lam**  
Investment Analyst,  
Singapore  
Focus on portfolio investment integrity and oversight of portfolio positioning, performance, and risk exposures.

## GLOBAL INVESTMENT RESOURCES

### FINANCIAL MARKET DEEPENING



**Robert E. Wydenbach**  
London



**Devashish Chopra**  
London

### HEALTH CARE PROVISION



**Rebecca D. Sykes, CFA**  
Boston



**Sue Su**  
Hong Kong

### ASPIRATIONAL SOCIETY



**Jon Jhun**  
Hong Kong



**Jolene Lee**  
Singapore

### AUTOMATION & ROBOTICS



**Anita M. Killian, CFA**  
Tokyo



**Angel Pan**  
Singapore

### ENVIRONMENTAL CONSCIOUSNESS



**Juanjuan Niska, CFA**  
Boston



**Alicia Che**  
Hong Kong

### ENERGY EFFICIENCY



**Namit Nayegandhi**  
Singapore



**Anh Ngyuen**  
Singapore

### SOCIAL EMPOWERMENT



**Liliana Dearth**  
Singapore



**Arvind Monie**  
Singapore

### DIGITAL CONNECTIVITY & SMART DATA

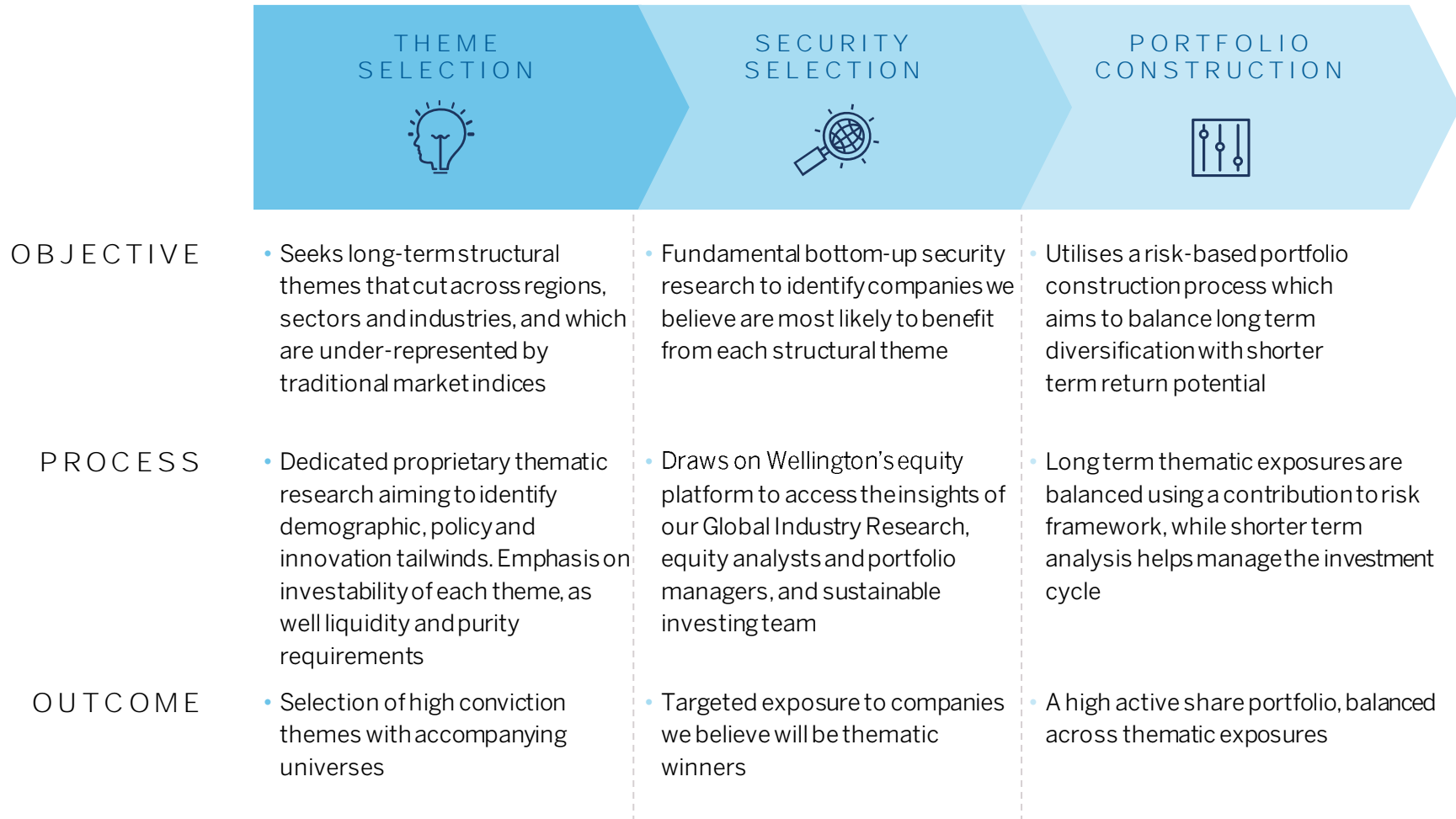


**Yash Patodia**  
Singapore



**Zhern Chong**  
Singapore

# Wellington Next Generation Platform Investment process





# Emerging Market Development

## Representative account top three holdings by theme



Stock	Country	Weight (%)
<b>Automation &amp; Robotics</b>		
Teradyne	United States	1.6
Microchip Technology	United States	1.5
NVIDIA	United States	1.5
<b>Smart Data</b>		
Kingdee International Software	China	1.0
Realtek Semiconductor	Taiwan	0.9
Totvs	Brazil	0.8
<b>Environmental Consciousness</b>		
China Longyuan Power	China	2.4
China Datang	China	1.8
Cia de Saneamento Basico	Brazil	1.6
<b>Energy Efficiency</b>		
Samsung SDI	South Korea	1.9
GEM	China	1.2
Contemporary Amperex Technology	China	1.2

Stock	Country	Weight (%)
<b>Aspirational Society</b>		
CP ALL PCL	Thailand	1.3
Li Ning	China	0.9
E-MART	South Korea	0.9

Stock	Country	Weight (%)
<b>Social Empowerment</b>		
Telkom Indonesia	Indonesia	1.3
Bharti Airtel	India	1.3
Escorts	India	1.0
<b>Health Care Provision</b>		
CSPC Pharmaceutical	China	0.9
Hapvida Participacoes e Investimentos	Brazil	0.8
Shenzhen Mindray	China	0.6
<b>Financial Market Deepening</b>		
AIA Group	Hong Kong	2.1
Housing Development Finance	India	1.6
Kasikornbank Public	Thailand	1.5
<b>Digital Connectivity</b>		
Tencent	China	1.0
NAVER	South Korea	0.6
JD.com	China	0.5

As of 31 March 2022 | Weight of holding in total Emerging Market Development representative account. The names listed above represent the top three weights in each theme | The specific securities identified are not representative of all of the securities purchased, sold, or recommended for clients. It should not be assumed that an investment in the securities identified has been or will be profitable. Actual holdings will vary for each client and there is no guarantee that a particular client's account will hold any or all of the securities listed. The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. | Portfolio characteristics are based on the underlying holdings of the representative account and are subject to change. This data may be sourced internally or externally depending on the specific approach, availability of internal data, underlying holdings characteristics, and other factors. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | Please refer to the Important Disclosures page for additional information.

## Emerging Market Development Investment returns

	As of 31 March 2022 (% , USD)				
	3 mos	1 yr	3 yrs	5 yrs	SI
Emerging Market Development Composite (gross)	-11.6	-12.5	10.6	11.5	11.4
MSCI Emerging Markets	-6.9	-11.1	5.3	6.4	7.5
Active return (gross vs benchmark)	-4.7	-1.5	5.3	5.1	3.9

	YTD	2021	2020	2019	2018	2017
Emerging Market Development Composite (gross)	-11.6	-0.3	40.0	23.3	-13.4	46.6
MSCI Emerging Markets	-6.9	-2.2	18.7	18.9	-14.2	37.8
Active return (gross vs benchmark)	-4.7	1.9	21.3	4.4	0.8	8.8

	2016	2015*
Emerging Market Development Composite (gross)	6.9	-2.8
MSCI Emerging Markets	11.6	-6.0
Active return (gross vs benchmark)	-4.7	3.2

\*Partial calendar year (31 October 2015 to 31 December) | The inception date of the Emerging Market Development Composite is 31 October 2015. | Sums may not total due to rounding. | Performance returns for periods one year or less are not annualized. | PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.

Gross performance results are net of commissions and other direct expenses, but before (gross of) advisory fees, custody charges, withholding taxes, and other indirect expenses, and include reinvestment of dividends and other earnings. If all expenses were reflected, the performance shown would be lower. Actual fees will vary depending on, among other things, the applicable fee schedule and account size. Composite returns have the potential to be adjusted until reviewed and finalized 30 days following each calendar quarter end period. For use in one-on-one presentations only. This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.

## The Wellington Management relationship

### Wellington Management feature

### ACERA benefit

Time-tested investment team and process

Proven over multiple markets; Strong ESG orientation and sustainability alignment

Extensive global research resources

High-quality investment idea generation and analysis across the emerging markets

Experienced, well-resourced relationship team that can meet ACERAs' needs

Customized client services; thought partner for ACERA

100% employee owned private partnership

Long-term focus; organizational stability



Forces of structural change



# Emerging Market Development

## From the EM economic development opportunity to the investment potential

Portfolio themes

Investment thesis

	AUTOMATION & ROBOTICS	Better affordability, supported by rising wages and technological innovation, should encourage significant catch up to developed peers
	SMART DATA	Unlock increased productivity and efficiency via the digitalization of enterprise operations, enabled by the rapid digital infrastructure build out
	ENVIRONMENTAL CONSCIOUSNESS	Social pressures continue to rise and pressure aggressive policy support
	ENERGY EFFICIENCY	Increasing policy initiatives to reduce energy intensity, fueled by aggressive targets for emissions reduction, lower costs for consumers and increasing energy security
	SOCIAL EMPOWERMENT	Policy initiatives and favourable demographics are creating tailwinds for the next wave of emerging and frontier market consumers
	HEALTH CARE PROVISION	Favourable demographics and improving accessibility, along with reform commitments should fuel strong growth
	FINANCIAL MARKET DEEPENING	Penetration of financial products and services is very low and governments are motivated to improve financial literacy and access
	DIGITAL CONNECTIVITY	Virtual integration of networks, market places, ecommerce, payments and leisure activities
	ASPIRATIONAL SOCIETY	Increasing disposable income in EM will increase spending via the shift in perceptions on premium consumption, consumption of experiences and formats of consumption

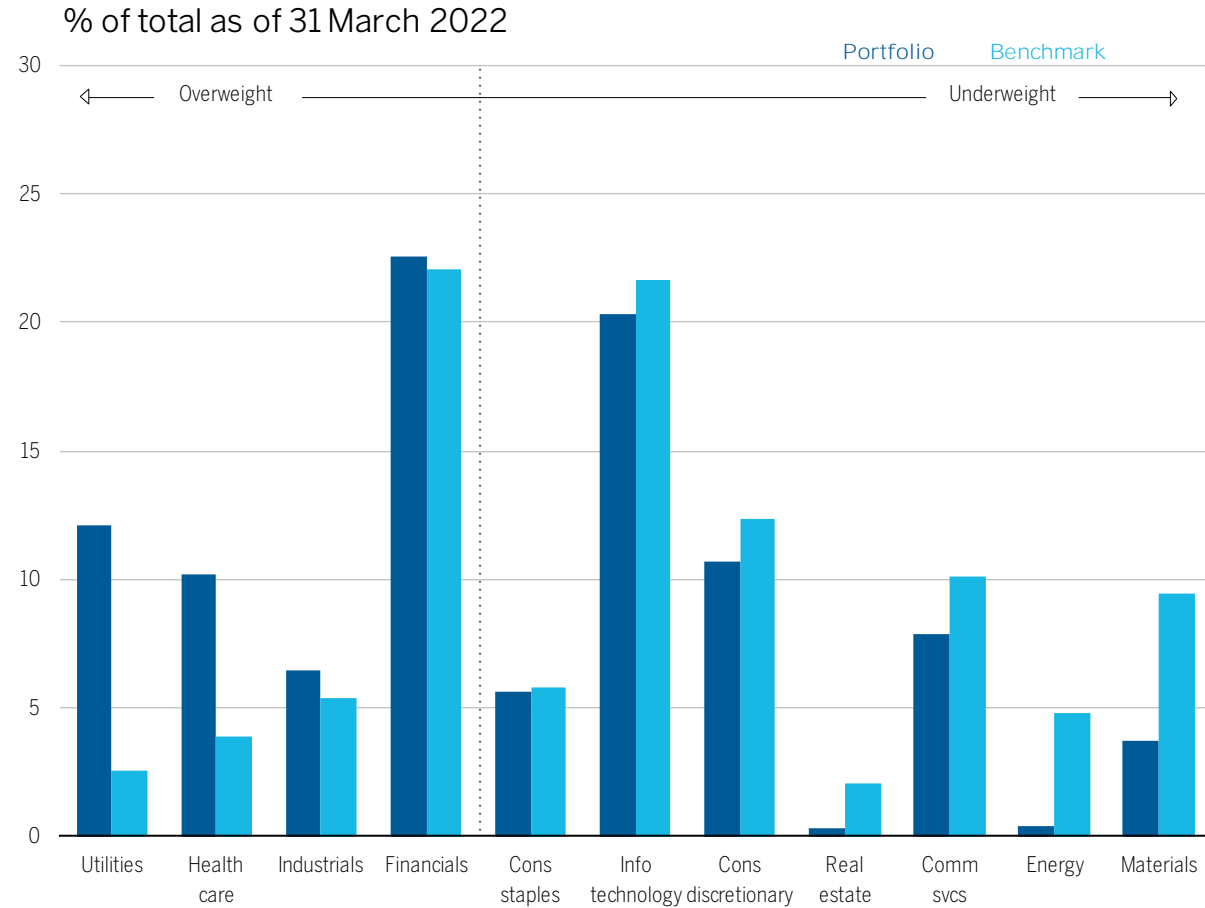
## Emerging Market Development Representative account top ten holdings

As of 31 March 2022

Company	Sector	Country	% of total
China Longyuan Power	Utilities	China	2.4
Bank Rakyat Indonesia	Financials	Indonesia	2.1
AIA	Financials	Hong Kong	2.1
Samsung SDI	Info technology	S Korea	1.9
China Datang Corporation Renewable Power	Utilities	China	1.8
Cia de Saneamento Basico	Utilities	Brazil	1.6
Teradyne	Info technology	US	1.6
Housing Development Finance	Financials	India	1.6
Kasikornbank	Financials	Thailand	1.5
Microchip Technology	Info technology	US	1.5
Total			18.1

Sums may not total due to rounding. | The specific securities identified are not representative of all of the securities purchased, sold, or recommended for clients. It should not be assumed that an investment in the securities identified has been or will be profitable. Actual holdings will vary for each client and there is no guarantee that a particular client's account will hold any or all of the securities listed. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.

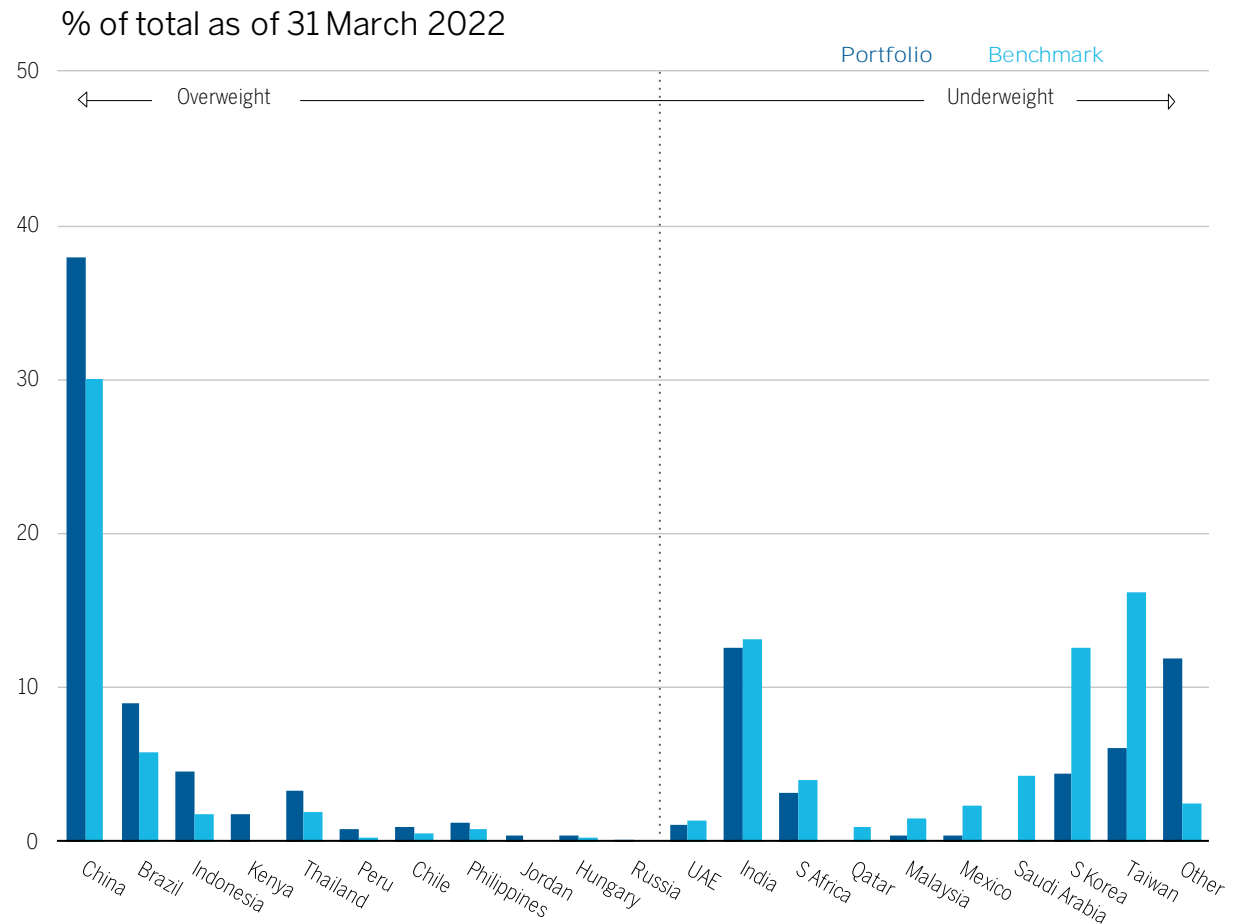
## Emerging Market Development Representative account sector weights



Benchmark: MSCI Emerging Markets. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.



# Emerging Market Development Representative account country weights



Benchmark: MSCI Emerging Markets. | Other represents additional countries held by the portfolio or benchmark. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.



## Emerging Market Development Representative account characteristics

As of 31 March 2022

	Portfolio	Benchmark
Size		
Asset-weighted market cap (USD, bil)	42.3	122.8
Median market cap (USD, bil)	8.6	7.6
Over USD 10 bil (%)	61	80
USD 5 – 10 bil (%)	17	13
USD 2 – 5 bil (%)	13	7
USD 1 – 2 bil (%)	7	0
Under USD 1 bil (%)	2	0
Financial metrics		
Projected EPS growth (next year, %)	33.3	30.1
Projected P/E (x)	13.1	11.0
Price/book (x)	2.1	1.5
Risk (holdings based)		
Projected beta - equity	1.05	
Projected tracking risk (%)	5.12	

Benchmark: MSCI Emerging Markets | Sums may not total due to rounding. | If access products are held by the portfolio they may not be included in the calculation of characteristic data. Access products are instruments used to gain access to equity markets not otherwise available and may include (but are not limited to) instruments such as warrants, total return swaps, p-notes, or zero strike options. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. Portfolio characteristics are based on the underlying holdings of the representative account and are subject to change. This data may be sourced internally or externally depending on the specific approach, availability of internal data, underlying holdings characteristics, and other factors. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.

THEME  
SELECTION



OUTCOME

Selection of high conviction themes with accompanying theme universes

# Wellington Next Generation Platform Investment process

Dedicated research to identify most attractive themes

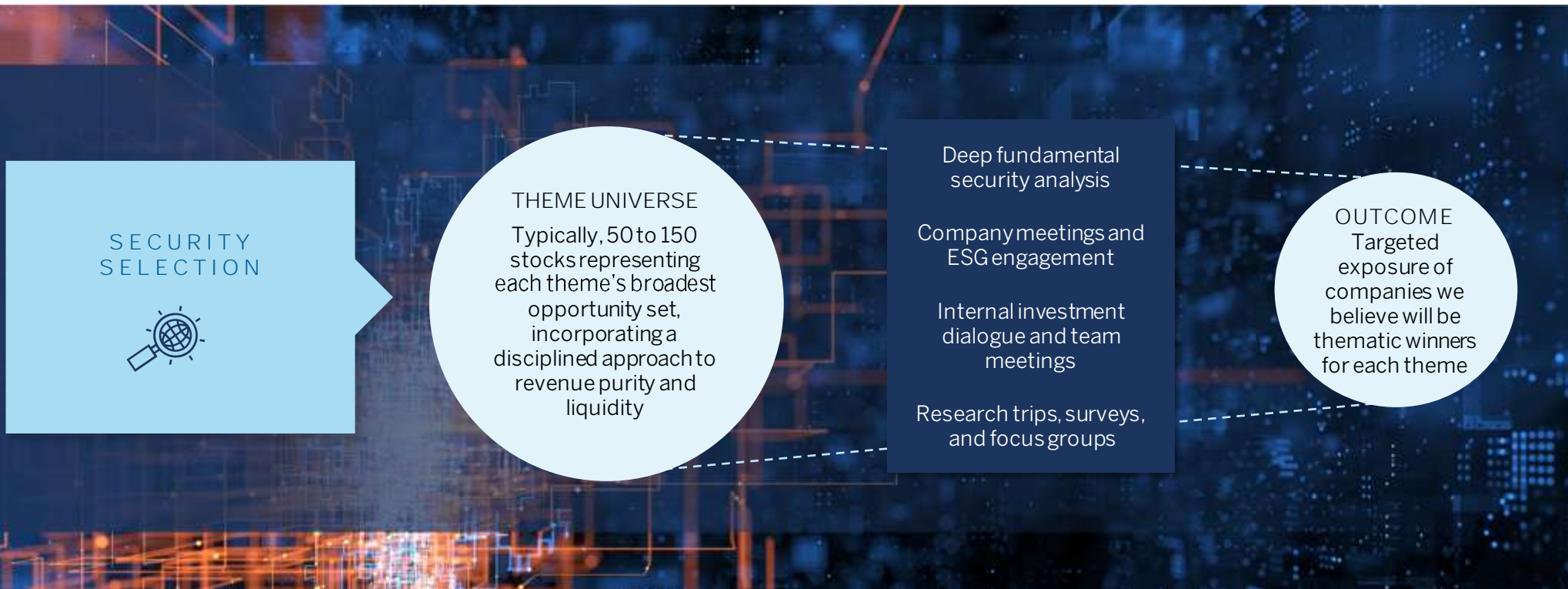


The characteristics presented are sought during the portfolio management process. Actual experience may not reflect all of these characteristics, or may be outside of stated ranges. The Next Generation Platform consists of thematic equity strategies managed by Wellington's Investment Strategy Thematic team, inclusive of (the) Emerging Market Development (strategy). A decision to invest should take account of all the characteristics and objectives described in the offering documents. A decision to invest should take account of all the characteristics and objectives described in the offering documents.



# Wellington Next Generation Platform Investment process

Security selection: Identifying winners within each theme



The characteristics presented are sought during the portfolio management process. Actual experience may not reflect all of these characteristics, or may be outside of stated ranges. The Next Generation Platform consists of thematic equity strategies managed by Wellington's Investment Strategy Thematic team, inclusive of (the) Emerging Market Development (strategy). A decision to invest should take account of all the characteristics and objectives described in the offering documents. A decision to invest should take account of all the characteristics and objectives described in the offering documents.

PORTFOLIO  
CONSTRUCTION



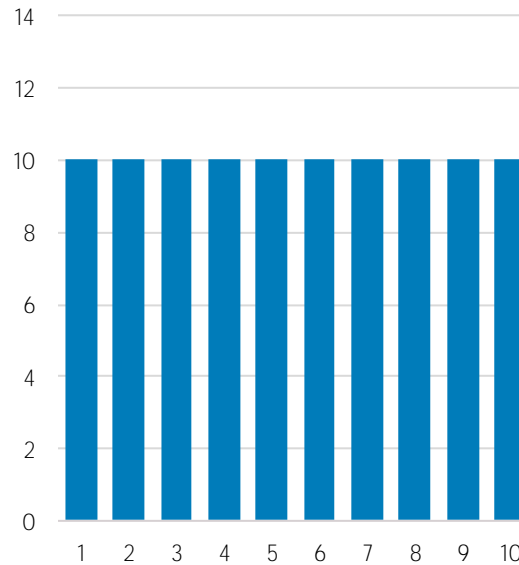
OUTCOME

A high active  
share portfolio,  
balanced across  
thematic exposures

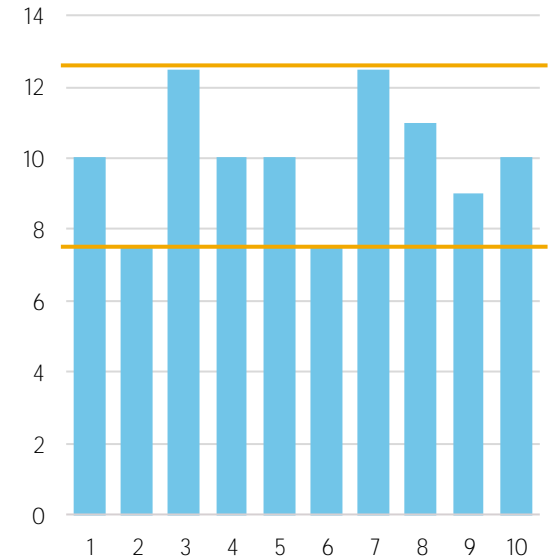
# Wellington Next Generation Platform Investment process

## Balancing risk and opportunity

Long term risk balance  
Equal contribution to risk



Short term positioning  
Conviction weighted theme exposures



Why allocate in risk terms?

- Don't want anyone theme to dominate the portfolio
- Higher volatility is often not commensurate with higher returns
- Volatility tends to be "sticky" in the short term
- Desire to maximise the diversification benefit on each theme

The characteristics presented are sought during the portfolio management process. Actual experience may not reflect all of these characteristics, or may be outside of stated ranges. The Next Generation Platform consists of thematic equity strategies managed by Wellington's Investment Strategy Thematic team, inclusive of (the) Emerging Market Development (strategy).

## Emerging Market Development Attractive risk-return profile As of 31 March 2022

EM Development representative account performance (gross) since inception<sup>1</sup>

	Return (%)	Benchmark Return (%)
Energy efficiency <sup>2</sup>	15.4	2.2
Social empowerment <sup>2</sup>	-1.2	2.0
Digital connectivity	9.8	6.0
Automation and robotics	15.8	6.0
Financial market deepening	8.6	6.0
Infrastructure evolution <sup>3</sup>	8.5	4.5
Environmental consciousness	14.1	6.0
Healthcare provision	5.8	6.0
Evolving consumption <sup>3</sup>	3.9	6.1
Convergent consumption <sup>3</sup>	18.2	6.0
Discretionary lifestyles <sup>3</sup>	39.5	6.6
Aspirational Society <sup>4</sup>	-34.0	-16.3
Smart Data <sup>4</sup>	-31.4	-16.6
<b>EM Development</b>	<b>8.6</b>	<b>6.0</b>

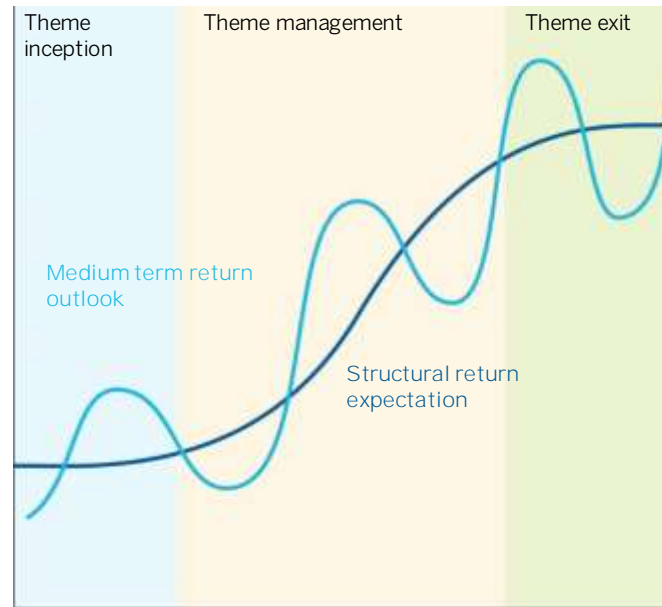
Benchmark relative capture ratios since inception<sup>1</sup> (%)

Upside capture	103.2
Downside capture	83.4

<sup>1</sup>Inception date: 31 October 2015 | <sup>2</sup>For energy efficiency, annualised performance is from 29 September 2017 to date. For social empowerment, annualised performance is from 20 June 2018 to date. | <sup>3</sup>Evolving consumption data is from 31 October 2015 through 5 December 2016. For convergent consumption, annualised performance is from 8 October 2015 through 30 June 2018. For discretionary lifestyles, annualised performance is from 6 December 2016 through 30 June 2018. For infrastructure evolution, annualised performance is from 8 October 2015 through 31 August 2021. | <sup>4</sup>For aspirational society, annualised performance is from 19 April 2021 to date. For smart data, annualised performance is from 1 September 2021 to date. Annualised volatility is not available as the period falls below 12 months. | <sup>5</sup>Calculated using average correlations based on historical returns since inception. | Benchmark: MSCI EM | Performance returns for periods one year or less are not annualized. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.** Gross performance results are net of commissions and other direct expenses, but before (gross of) advisory fees, custody charges, withholding taxes, and other indirect expenses, and include reinvestment of dividends and other earnings. If all expenses were reflected, the performance shown would be lower. Actual fees will vary depending on, among other things, the applicable fee schedule and account size. | For use in one-on-one presentations only. | This information complements the GIPS® Composite Report included at the end of the materials. Please refer to the Important Disclosures page for additional information.

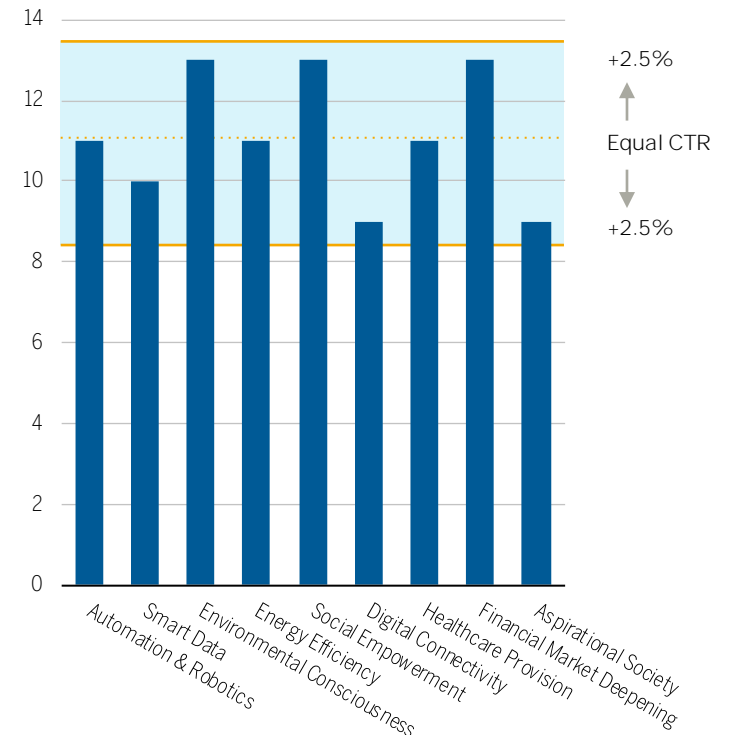
# Emerging Market Development

## Managing thematic exposures through an investment cycle



For illustrative purposes only.

Target contribution to risk (%)



### Medium term weighting system driven by

- Valuations
- Earnings revisions
- Profitability trends
- Price momentum

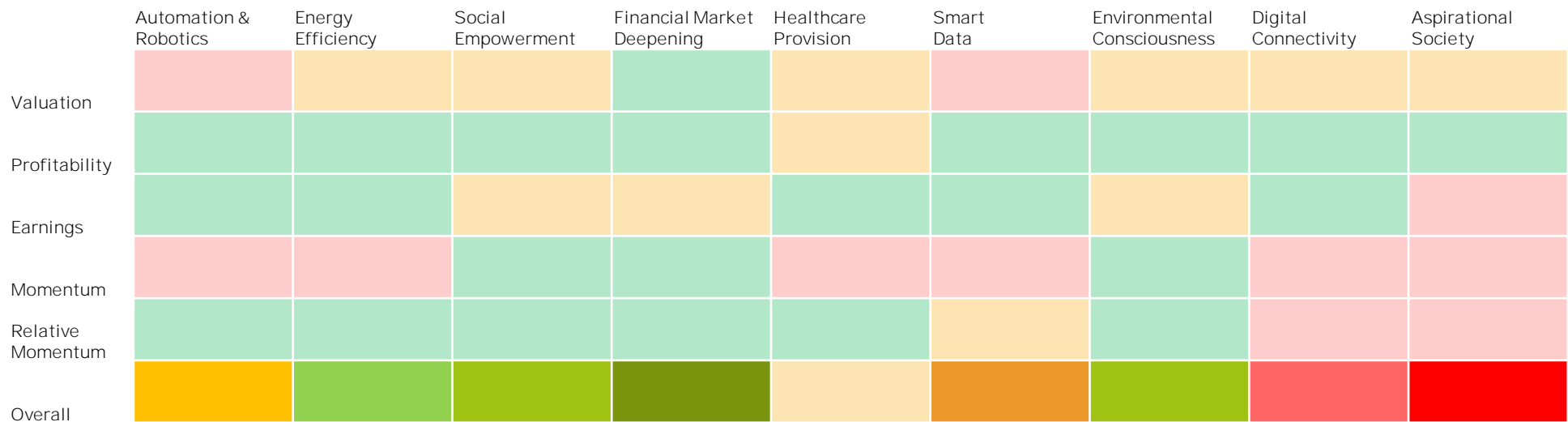
	CTR (%)	Risk over/underweight (%)	Capital allocation (%)
Automation & Robotics	11.0	-0.1	11.3
Smart Data	10.0	-1.1	8.9
Environmental Consciousness	13.0	1.9	13.9
Energy Efficiency	11.0	-0.1	10.8
Social Empowerment	13.0	1.9	11.2
Digital Connectivity	9.0	-2.1	5.9
Healthcare Provision	11.0	-0.1	11.9
Financial Market Deepening	13.0	1.9	18.7
Aspirational Society	9.0	-2.1	7.6

As of 31 March 2022 | Sums may not total due to rounding. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. | Portfolio characteristics are based on the underlying holdings of the representative account and are subject to change. This data may be sourced internally or externally depending on the specific approach, availability of internal data, underlying holdings characteristics, and other factors. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | Please refer to the Important Disclosures page for additional information.



# Emerging Market Development

## Theme ranking heatmap as of 31 March 2022



Our proprietary quantitative models help rank the themes within the portfolio over shorter time horizons which are then validated through a fundamental lens to help determine whether to implement the proposed trades. Green indicates the most attractive themes while red represents the least attractive.

Valuation measures the attractiveness of each theme based on price metrics such as price to sales, price to book and price to forward earnings

Profitability looks at current, historical and changes in net profit margins for each theme

Earnings measures the change in earnings revision ratios for each theme

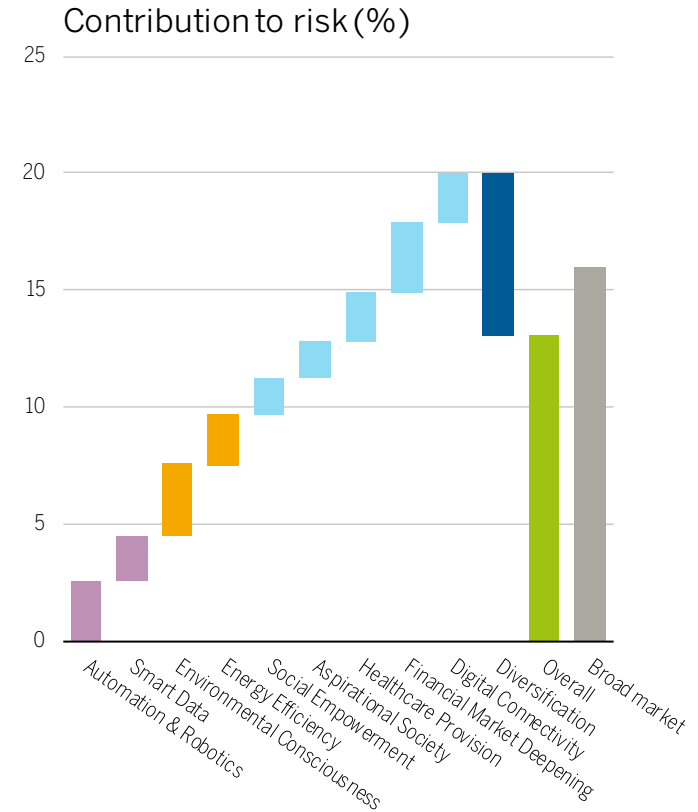
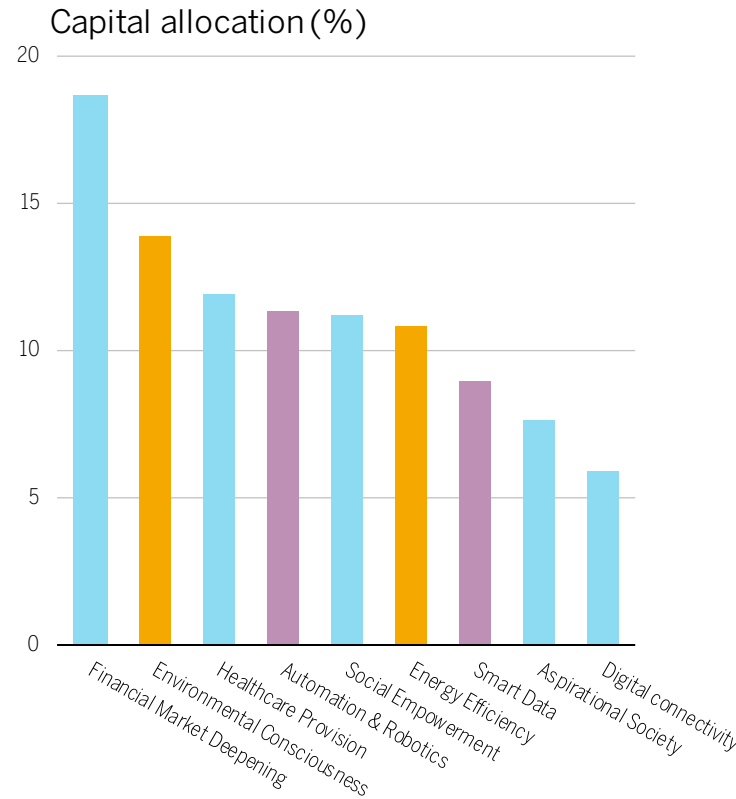
Momentum ranks themes by looking at the change in deviations of moving average returns

Relative momentum ranks themes by looking at the change in deviations of moving average returns relative to the benchmark (MSCI Emerging Markets)

Overall is an aggregation of each theme's scores

Views expressed are those of the presenter(s). Views are as of date indicated, are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. This material is not intended to constitute investment advice or an offer to sell, or the solicitation of an offer to purchase shares of other securities. For illustrative purposes only.

# Emerging Market Development Risk aware portfolio construction Representative account



Sources: Wellington Management, MSCI | As of 31 March 2022 | Broad market represented by MSCI Emerging Market Index | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. | Portfolio characteristics are based on the underlying holdings of the representative account and are subject to change. This data may be sourced internally or externally depending on the specific approach, availability of internal data, underlying holdings characteristics, and other factors. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | Please refer to the Important Disclosures page for additional information.

Why allocate in risk terms?

Don't want any one theme to dominate the portfolio

Higher volatility is often not commensurate with higher returns

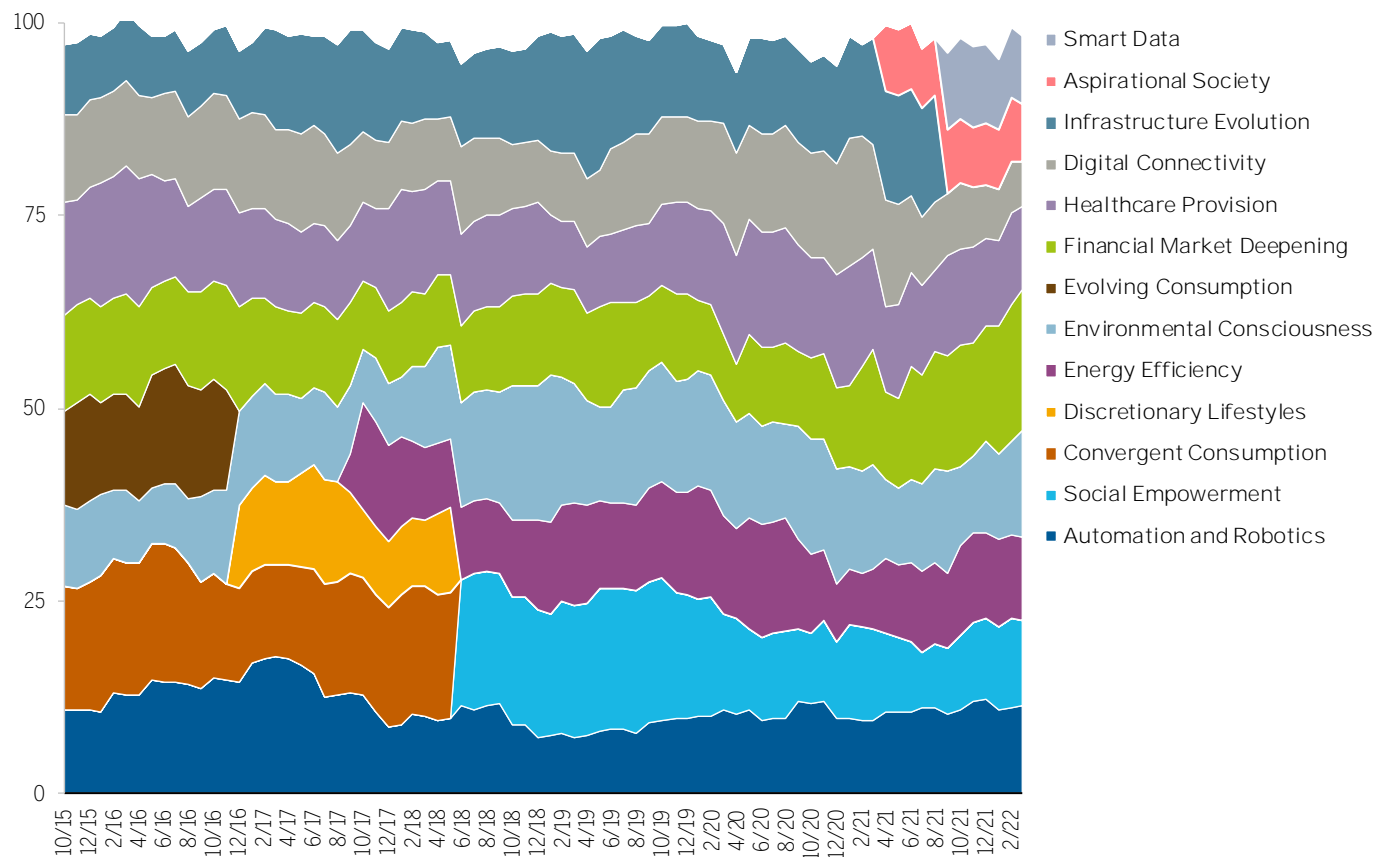
Volatility tends to be "sticky" in the short term





# Emerging Market Development Representative account theme allocation history As of 31 March 2022

Theme allocation (%)



The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. | Portfolio characteristics are based on the underlying holdings of the representative account and are subject to change. This data may be sourced internally or externally depending on the specific approach, availability of internal data, underlying holdings characteristics, and other factors. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | Please refer to the Important Disclosures page for additional information. | Chart data: October 2015 – March 2022

# Emerging Market Development Environmental consciousness Universe – Theme example



Juanjuan Niska  
Global Industry Analyst  
17 years experience



Environmental consciousness theme	
Number of companies	10
EM Asia	88.0%
EM Latin America	12.0%
> USD 3 bil market cap	100%
< USD 3 bil market cap	0%
Volatility	22%
Beta to MSCI EM	0.4
Projected PE vs MSCI EM	10.27 vs 11.03
ROE average vs MSCI EM	20.93 vs 20.93

As of 31 March 2022 | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. Projected or forward looking characteristics are based on a number of assumptions and the use of alternative assumptions could yield significantly different results. Additional information on this data is available upon request. | Please refer to the Important Disclosures page for additional information.

# Emerging Market Development

## Investment risks

### PRINCIPAL RISKS

**Common Stock Risk** – Common stock are subject to many factors, including economic conditions, government regulations, market sentiment, local and international political events, and environmental and technological issues as well as the profitability and viability of the individual company. Equity security prices may decline as a result of adverse changes in these factors, and there is no assurance that a portfolio manager will be able to predict these changes. Some equity markets are more volatile than others and may present higher risks of loss. Common stock represents an equity or ownership interest in an issuer.

**Currency Risk** – Active investments in currencies are subject to the risk that the value of a particular currency will change in relation to one or more other currencies. Active currency risk may be taken in an absolute, or a benchmark relative basis. Currency markets can be volatile, and may fluctuate over short periods of time.

**Emerging Markets Risk** – Investments in emerging and frontier countries may present risks such as changes in currency exchange rates; less liquid markets and less available information; less government supervision of exchanges, brokers, and issuers; increased social, economic, and political uncertainty; and greater price volatility. These risks are likely greater relative to developed markets.

**Liquidity Risk** – Investments with low liquidity may experience market value volatility because they are thinly traded (such as small cap and private equity or private placement bonds). Since there is no guarantee that these securities could be sold at fair value, sales may occur at a discount. In the event of a full liquidation, these securities may need to be held after liquidation date.

**Smaller Capitalization Stock Risk** – The share prices of small and mid-cap companies may exhibit greater volatility than the share prices of larger capitalization companies. In addition, shares of small and mid-cap companies are often less liquid than larger capitalization companies.

### ADDITIONAL RISKS

**Concentration Risk** – Concentration risk is the risk of amplified losses that may occur from having a large percentage of your investments in a particular security, issuer, industry, or country. The investments may move in the same direction in reaction to the conditions of the industries, sectors, countries and regions of investment, and a single security or issuer could have a significant impact on the portfolio's risk and returns.

**Derivatives Risk** – Derivatives can be volatile and involve various degrees of risk. The value of derivative instruments may be affected by changes in overall market movements, the business or financial condition of specific companies, index volatility, changes in interest rates, or factors affecting a particular industry or region. Derivative instruments may provide more market exposure than the money paid or deposited when the transaction is entered into. As a result, a relatively small adverse market movement can not only result in the loss of the entire investment, but may also expose a portfolio to the possibility of a loss exceeding the original amount invested. Derivatives may also be imperfectly correlated with the underlying securities or indices it represents, and may be subject to additional liquidity and counterparty risk. Examples include futures, options and swaps.

**Model Risk** – Model risk occurs when systematic and/or quantitative investment models used in investment decision making fail. These models may evolve over time and have risks related to mistakes in software or data inputs that could go undetected for a period of time before rectified. Models may fail to adequately measure or predict market risks or outcomes and could result in a loss of value or opportunity cost.

**Restricted Security Risk** – Restricted securities are securities acquired in unregistered, private sales from the issuing company or from an affiliate of the issuer. These securities may not be transferable until certain criteria are met and under the federal securities laws, generally may be resold only to qualified institutional buyers, resulting in liquidity risk.

## Important disclosures

### Additional performance information

**PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.** There can be no assurance nor should it be assumed that future investment performance of any strategy will conform to any performance examples set forth in this material or that the portfolio's underlying investments will be able to avoid losses. The investment results and any portfolio compositions set forth in this material are provided for illustrative purposes only and may not be indicative of the future investment results or future portfolio composition. The composition, size of, and risks associated with an investment in the strategy may differ substantially from the examples set forth in this material. An investment can lose value.

### Impact of fees

Illustration of impact of fees: If USD100,000 was invested and experienced a 10% annual return compounded monthly for ten years, its ending value, without giving effect to the deduction of advisory fees, would be USD270,704 with an annualized compounded return of 10.47%. If an advisory fee of 0.95% of average net assets per year were deducted monthly for the ten-year period, the annualized compounded return would be 9.43% and the ending USD value would be USD246,355. Information regarding the firm's advisory fees is available upon request.

### Selection of representative account

The current representative account became effective on 1 November 2015 because it was the only account at the time of selection. For data shown prior to the current representative account effective date, data of the representative account(s) deemed appropriate for the time period was used. Further information regarding former representative accounts can be provided upon request. Each client account is individually managed; individual holdings will vary for each account and there is no guarantee that a particular account will have the same characteristics as described. Actual results may vary for each client due to specific client guidelines, holdings, and other factors. In limited circumstances, the designated representative account may have changed over time, for reasons including, but not limited to, account termination, imposition of significant investment restrictions, or material asset size fluctuations.

### Access products

If access products are held by the portfolio they may not be included in the calculation of characteristic data. Access products are instruments used to gain access to equity markets not otherwise available and may include (but are not limited to) instruments such as warrants, total return swaps, p-notes, or zero strike options.

### Global Industry Classification Standard (GICS) changes

S&P Dow Jones Indices and MSCI have broadened and renamed the Telecommunication Services Sector as Communication Services to include companies that facilitate communication and offer related content and information through various media. These changes to Global Industry Classification Standard (GICS) are effective as of 1 October 2018 in the data shown. The new sector name applies retroactively and therefore Communication Services will replace Telecommunications Services for all periods. Wellington Management data reflects changes in line with the official GICS update; however, MSCI and S&P have elected to update their official index structures with different timing. Therefore, index data shown may differ from data obtained directly from the index vendors.

### Additional disclosures

Securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly into an index.

### Benchmark definition

MSCI Emerging Markets: The Index is a free float-adjusted market capitalization index that captures large and mid cap representation across Emerging Markets countries.

**Wellington Management**  
**Composite: Emerging Market Development**  
**Schedule of Performance Returns from 01 November 2015 to 31 December 2021**

<i>Period</i>	<i>Gross Return (%)</i>	<i>Net Return (%)</i>	<i>Benchmark Return (%)</i>	<i>Number of Portfolios</i>	<i>Internal Dispersion (%)</i>	<i>Composite Mkt. Value (USD Mil)</i>	<i>Total Firm Assets (USD Mil)</i>
2015 <sup>1</sup>	-2.82	-2.97	-5.98	< 6	N/M	2	926,949
2016	6.88	5.93	11.60	< 6	N/M	108	979,210
2017	46.57	45.30	37.75	< 6	N/M	185	1,080,307
2018	-13.45	-14.23	-14.24	< 6	N/M	164	1,003,389
2019	23.26	22.18	18.88	< 6	N/M	243	1,154,735
2020	39.99	38.77	18.69	< 6	N/M	692	1,291,419
2021	-0.32	-1.22	-2.22	< 6	N/M	1,120	1,425,481

Benchmark: MSCI Emerging Markets

<sup>1</sup> Returns reflect performance beginning 01 November 2015. Partial year returns are not annualized.

N/M: For years where there are less than six portfolios throughout the performance period, Internal Dispersion is not meaningful.

**Composite Description:** Portfolios included in the Emerging Market Development composite seek to outperform broad emerging markets indexes over a full market cycle, with high tracking risk to the reference benchmark MSCI Emerging Market Index. The approach is benchmark agnostic, unconstrained, and long-only equity. The approach has exposure to a selected set of evolving investment themes related to economic development in emerging markets, and integrates top-down views with security selection expertise. Theme selection is based on a combination of fundamental, quantitative and investability considerations. The opportunity set incorporates securities with exposure to long term trends in emerging market development, domiciled in emerging, frontier and developed countries. In times of increased market volatility, the composite characteristics may change significantly due to various risk factors. Key risks of this composite, in no particular order, include, but are not limited to, Common Stock Risk, Currency Risk, Emerging Markets Risk, Liquidity Risk, and Smaller Capitalization Stock Risk.

**Composite Inception Date:** The composite inception date is 31 October 2015.

**Composite Creation Date:** The composite creation date is December 2015.

**Composite Membership:** All fully discretionary, fee paying portfolios are eligible for inclusion in the composite.

**Fee Schedule:** The institutional management fee schedule for this product is:

<u>Market Value</u>	<u>Annual Fee</u>
First US\$50 Million	0.90%
Next US\$50 Million	0.85
Remaining Assets	0.80

**Benchmark Definition:** MSCI Emerging Markets is a free float-adjusted market capitalization index that captures large and mid cap representation across Emerging Markets countries.

**Firm:** For purposes of GIPS® compliance, the Firm is defined as all portfolios managed by Wellington Management Company LLP, an independently owned, SEC-registered investment adviser, as well as its affiliates (collectively, Wellington Management). Wellington Management provides investment advisory services to institutions around the world.

**GIPS®:** Wellington Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS® standards. Wellington Management has been independently verified for the periods 1 January 1993 to 31 December 2020. The verification reports are available upon request.

A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report.

GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

**Performance Calculation:** Gross performance results are net of trading expenses. Returns are gross of withholding taxes on dividends, interest and capital gains and include reinvestment of any earnings. Returns, market values, and assets are reported in USD except when otherwise noted. Returns, market values and assets reported in currencies other than USD are calculated by converting the USD monthly return and assets using the appropriate exchange rate (official 4:00 p.m. London closing spot rates). Policies for valuing investments, calculating performance, and preparing GIPS composite reports are available upon request.

Net of fees performance reflects the deduction of the highest tier investment management fee ("model fee") that would be charged based on the fee schedule appropriate to you for this mandate, without the benefit of breakpoints and is calculated by subtracting 1/12th of the model fee from monthly gross composite returns. In certain instances Wellington Management may charge certain clients a fee in excess of the standard model fee, such as to legacy clients or clients receiving additional investment services. Performance net of model fees is intended to provide the most appropriate example of the impact management fees would have for you.

Pool investors will experience costs in excess of investment management fees, such as operating expenses and custodial fees. These indirect costs are not reflected in the model fee, or net of fees performance.

**Internal Dispersion:** The dispersion measure presented is the asset-weighted standard deviation. The asset-weighted standard deviation measures the dispersion of individual portfolio gross returns relative to the asset-weighted composite return. Only portfolios that have been included in the composite for the full period are included in the standard deviation calculation. Limitations imposed by client guidelines or by law on a portfolio's ability to invest in certain securities or instruments, such as IPO securities, and/or implementation of the firm's Trade Allocation Policies and Procedures, may cause the portfolio's performance to differ from that of the composite.

**Wellington Management**  
**Composite: Emerging Market Development**  
**Schedule of Performance Returns from 01 November 2015 to 31 December 2021**

**External Dispersion:** The dispersion measure presented is the three-year annualized ex-post standard deviation. It measures the variability of the composite gross returns and the benchmark(s) over the preceding 36-month period. For periods prior to 1 January 2011, the Firm was not required to present the three-year annualized ex-post standard deviation.

	3-Year Standard Deviation (%)						
Year	2015	2016	2017	2018	2019	2020	2021
Composite	N/A*	N/A*	N/A*	13.33	12.32	20.20	18.96
Benchmark	N/A*	N/A*	N/A*	14.62	14.17	19.62	18.35

*\*N/A for performance periods with less than 36 months of data based on composite inception date.*

**Composite Listing:** Wellington Management's list of composite descriptions is available upon request.

**Pooled Fund Listing:** Wellington Management's list of pooled fund descriptions is available upon request.

**Other Matters:** This material contains summary information regarding the investment approach described herein and is not a complete description of the investment objectives, policies, guidelines, or portfolio management and research that supports this investment approach. Any decision to engage Wellington Management should be based upon a review of the terms of the investment management agreement and the specific investment objectives, policies, and guidelines that apply under the terms of such agreement.

**Past Performance:** Past results are not necessarily indicative of future results and an investment can lose value.

## Important Notice

Wellington Management Company LLP (WMC) is an independently owned investment adviser registered with the US Securities and Exchange Commission (SEC). WMC is also registered with the US Commodity Futures Trading Commission (CFTC) as a commodity trading advisor (CTA) and serves as a CTA to certain clients including commodity pools operated by registered commodity pool operators. WMC provides commodity trading advice to all other clients in reliance on exemptions from CTA registration. WMC, along with its affiliates (collectively, Wellington Management), provides investment management and investment advisory services to institutions around the world. Located in Boston, Massachusetts, Wellington Management also has offices in Chicago, Illinois; Radnor, Pennsylvania; San Francisco, California; Frankfurt; Hong Kong; London; Luxembourg; Madrid; Milan; Shanghai; Singapore; Sydney; Tokyo; Toronto; and Zurich. ■ This material is prepared for, and authorized for internal use by, designated institutional and professional investors and their consultants or for such other use as may be authorized by Wellington Management. This material and/or its contents are current at the time of writing and may not be reproduced or distributed in whole or in part, for any purpose, without the express written consent of Wellington Management. This material is not intended to constitute investment advice or an offer to sell, or the solicitation of an offer to purchase shares or other securities. Investors should always obtain and read an up-to-date investment services description or prospectus before deciding whether to appoint an investment manager or to invest in a fund. Any views expressed herein are those of the author(s), are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients.

In Canada, this material is provided by Wellington Management Canada ULC, British Columbia unlimited liability company registered in the provinces of Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec, and Saskatchewan in the categories of Portfolio Manager and Exempt Market Dealer. ■ In Europe (excluding the United Kingdom and Switzerland), this material is provided by Wellington Management Europe GmbH (WME) which is authorized and regulated by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht - BaFin). This material may only be used in countries where WME is duly authorized to operate and is only directed at eligible counterparties or professional clients as defined under the German Securities Trading Act. This material does not constitute investment advice, a solicitation to invest in financial instruments or information recommending or suggesting an investment strategy within the meaning of Section 85 of the German Securities Trading Act (Wertpapierhandelsgesetz). ■ In the United Kingdom, this material is provided by Wellington Management International Limited (WMIL), a firm authorized and regulated by the Financial Conduct Authority (FCA) in the UK (Reference number: 208573). This material is directed only at eligible counterparties or professional clients as defined under the rules of the FCA. ■ In Switzerland, this material is provided by Wellington Management Switzerland GmbH, a firm registered at the commercial register of the canton of Zurich with number CH-020.4.050.857-7. This material is directed only at Qualified Investors as defined in the Swiss Collective Investment Schemes Act and its implementing ordinance. ■ In Hong Kong, this material is provided to you by Wellington Management Hong Kong Limited (WM Hong Kong), a corporation licensed by the Securities and Futures Commission to conduct Type 1 (dealing in securities), Type 2 (dealing in futures contracts), Type 4 (advising on securities), and Type 9 (asset management) regulated activities, on the basis that you are a Professional Investor as defined in the Securities and Futures Ordinance. By accepting this material you acknowledge and agree that this material is provided for your use only and that you will not distribute or otherwise make this material available to any person. Wellington Private Fund Management (Shanghai) Limited is a wholly-owned entity and subsidiary of WM Hong Kong. Wellington Global Private Fund Management (Shanghai) Limited is a wholly-owned entity and subsidiary of Wellington Private Fund Management (Shanghai) Limited. ■ In Singapore, this material is provided for your use only by Wellington Management Singapore Pte Ltd (WM Singapore) (Registration Number 201415544E). WM Singapore is regulated by the Monetary Authority of Singapore under a Capital Markets Services Licence to conduct fund management activities and is an exempt financial adviser. By accepting this material you represent that you are a non-retail investor and that you will not copy, distribute or otherwise make this material available to any person. ■ In Australia, Wellington Management Australia Pty Ltd (WM Australia) (ABN19 167 091 090) has authorized the issue of this material for use solely by wholesale clients (as defined in the Corporations Act 2001). By accepting this material, you acknowledge and agree that this material is provided for your use only and that you will not distribute or otherwise make this material available to any person. Wellington Management Company LLP is exempt from the requirement to hold an Australian financial services licence (AFSL) under the Corporations Act 2001 in respect of financial services provided to wholesale clients in Australia, subject to certain conditions. Financial services provided by Wellington Management Company LLP are regulated by the SEC under the laws and regulatory requirements of the United States, which are different from the laws applying in Australia. ■ In Japan, Wellington Management Japan Pte Ltd (WM Japan) (Registration Number 199504987R) has been registered as a Financial Instruments Firm with registered number: Director General of Kanto Local Finance Bureau (Kin-Sho) Number 428. WM Japan is a member of the Japan Investment Advisers Association (JIAA), the Investment Trusts Association, Japan (ITA) and the Type II Financial Instruments Firms Association (T2FIFA). ■ WMIL, WM Hong Kong, WM Japan, and WM Singapore are also registered as investment advisers with the SEC; however, they will comply with the substantive provisions of the US Investment Advisers Act only with respect to their US clients.

©2022 Wellington Management. All rights reserved. | As of April 2022

June 21, 2022

Thomas Taylor, Investment Officer  
Alameda County Employees' Retirement Association  
475 14<sup>th</sup> Street, Suite 1000  
Oakland, CA 94612

Dear Tom:

We want to thank the ACERA staff, board, and Verus for inviting us to present our Emerging Markets Growth strategy on July 13<sup>th</sup>. Joining me for the presentation is Stephanie Braming, CFA, Partner, Global Head of Investment Management, and Todd McClone, CFA, Partner and Portfolio Manager. Enclosed are materials for our presentation.

As the group considers managers, I thought it may be helpful to summarize what we believe to be a few distinguishing characteristics as they relate to the emerging markets growth mandate for ACERA:

- **100% active employee-owned** – William McCormick Blair founded our firm in 1935 with a belief that “When our clients succeed, the firm’s success will follow.” Such values are intact today and the firm remains 100% employee-owned by the active partners. Ownership is broad-based among the 246 active partners. We feel this is integral to our culture and means stability and continuity for our clients in the years to come.
- **Deep and experienced team with a consistent philosophy** – We have a deep and experienced global investment team that has been investing in emerging markets with a consistent philosophy since 1996. The three portfolio managers on the strategy average 26 years of industry experience and 17 years at the firm. Our fundamental research analysts average 14 years of industry experience and 11 years at the firm. All portfolio managers and many of the analysts are partners and equity owners of the firm. 100% of the portfolio managers and analysts have attained an ESG certification through the PRI Academy’s Applied Responsible Investment course or the CFA Institute’s Certificate in ESG Investing. They are joined by a talented team of systematic research professionals, strategy research professionals, and experienced traders working a desk with 24 hour coverage.
- **Disciplined, rigorous and time-tested quality growth investment process** – This strategy is an all cap portfolio taking advantage of idea generation from highly inefficient parts of the market like EM small cap and China A, as well as large to mid cap. The Emerging Markets Growth portfolio demonstrates consistent growth characteristics, with a focus on quality growth companies with sound management teams and strong financial characteristics. These companies tend to do well in strong market environments and generally hold up well versus their peers in down markets. The team has a sound, repeatable fundamental investment process utilizing the best of systematic tools and qualitative fundamental analysis to deliver consistent stock selection over time.
- **Strong and consistent results** – Through rigorous bottom-up stock selection, the Emerging Markets Growth strategy has delivered substantial value relative to its benchmark (MSCI Emerging Markets IMI Index) across sectors and regions. Since inception 9/30/96 through 5/31/22, the composite has outperformed its benchmark by 589 bps annualized, and in 21 of 26 calendar years. The strategy peer group rankings place excess returns, information ratio and Sharpe ratio in the top one percentile in the eVestment Emerging Markets All Cap Equity universe. The results do not rest on a single person or investment decision; rather, they are driven by a team oriented process and great breadth.
- **Excellent service for public fund clients** – We have experienced relationship managers focused on the needs of sophisticated public fund clients where we have been entrusted \$19 billion in AuM. This includes public plans across the country including Florida State Investment Board, Washington State Investment Board, Oregon State Treasury, North Dakota State Investment Board, and several '37 Act counties like Orange County, Sacramento County, Tulare County, Contra Costa County, and of course our relationship with Alameda County dating back to 2019.

Again, we are very excited about the opportunity and would be thrilled to expand our relationship with ACERA. If there are any questions, or if you require additional information, please do not hesitate to contact me at Work 312.364.8089, Mobile 312.758.1668 or wfikri@williamblair.com.

Thanks again,



Wally Fikri, CFA, Partner



Alameda County Employees' Retirement Association  
Emerging Markets Growth

July 13, 2022

Stephanie G. Braming, CFA, Partner  
sbraming@williamblair.com  
+1 312 364 8968

Todd M. McClone, CFA, Partner  
tmccclone@williamblair.com  
+44 20 7297 4708

Wally Fikri, CFA, Partner  
wfikri@williamblair.com  
+1 312 364 8089

# William Blair Investment Management at a Glance

## Sophisticated Global Investor Base

### Investment Management

100% active-employee owned

Entrepreneurial investment-led, client focused culture

Long-term expertise across asset classes globally

Holistic, investment-led ESG integration

348 employees (58 partners)

113 investment professionals

\$70.1 billion under management

### Core Investment Tenets

Active Management

Alpha-Seeking

Long-Term Focus

Fundamental Orientation

Disciplined Process

Research Intensive



### Tenured and Experienced Teams

	Average years in the industry	Average years at William Blair
Portfolio Managers	25	10
Analysts	17	10

Data as of March 31, 2022.

<sup>1</sup>Wo Bai Business Consulting (Shanghai) Co., Ltd. is an affiliated company solely providing research to other William Blair affiliates on a consultative basis.

<sup>2</sup>In Singapore, this material is provided for your use only by William Blair International (Singapore) Pte. Ltd. (Registration Number 201943312R). William Blair International (Singapore) Pte. Ltd. is regulated by the Monetary Authority of Singapore under a Capital Markets Services License to conduct fund management activities. By accepting this material you represent that you are a non-retail investor and that you will not copy, distribute or otherwise make this material available to any person.

As used on this page, "William Blair" refers to William Blair Investment Management, LLC and affiliates unless otherwise noted. For more information about William Blair, please see <http://www.williamblair.com/About-William-Blair.aspx>. This material has been distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy, or investment product. Strategy availability may be limited to certain investment vehicles; not all investment vehicles may be available to all investors.

# The William Blair Mission: Empower. Deliver. Engage.

## Empower Colleagues

- Entrepreneurial investment-led culture encourages diverse viewpoints
- Cross-sectional teams answer key questions and drive strategic imperatives
- Mentorship, professional development, generous educational assistance program reinforce intellectual curiosity
- BrightScope® has ranked the William Blair 401(k) and Profit Sharing Plan in the top 10-15% of its peer group over the last two years

## Engage in Our Communities

- Our colleagues are actively engaged in the community through leadership and volunteer roles
  - Firm has a culture of global philanthropy & volunteerism
- In 2021:
- Achieved 54% participation in matching gifts program vs 24% standard for the industry<sup>1</sup>
  - Firm, foundation, and employees supported over 1,000 global nonprofit organizations
  - Employees donated 2,500 hours of virtual and in person volunteer hours to support nonprofits around the world

<sup>1</sup>Measured by % of net income.

## Deliver Client Success

- Private partnership structure aligns interests with clients over the long term
- Demonstrated track record of value-added performance
- Clients engage directly with decision makers, developing customized solutions to meet their unique objectives



## 2021 Charitable Activity by Geography



# Holistic, Investment-led Integration of ESG

## Commitment

- PRI signatory since 2011; A+ rated for Equity Incorporation; A rated for Active Ownership<sup>1</sup>
- Member of the U.S. Investor Stewardship Group and International Corporate Governance Network; signatory of stewardship codes in Japan and Korea
- ESG Leadership Team consists solely of investment professionals
- Natural alignment with our quality-focused investment philosophies
- \$11.8 billion in ESG assets<sup>2</sup>

## Integration

- Investment opportunities and risks holistically incorporate material ESG considerations
- Proprietary framework focuses analysis on most relevant industry- or country-specific factors
- Proprietary Summit research platform facilitates seamless integration and analysis

<sup>1</sup>Per 2020 PRI Assessment Report. The median Equity Incorporation rating for all PRI signatories was A. The median Active Ownership rating for all PRI signatories was B.

<sup>2</sup>As of March 31, 2022. Includes separate accounts with client-specific screening criteria and WB sustainability strategies.

The inclusion of Environmental, Social and Governance (ESG) factors beyond traditional financial information in the selection of securities could result in a strategy's performance deviating from other strategies or benchmarks, depending on whether such factors are in or out of favor. ESG analysis may rely on certain values-based criteria to eliminate exposures found in similar strategies or benchmarks, which could result in performance deviating.

## William Blair ESG Materiality Framework Topic Structure

### Environmental

Climate Change  
Natural Resources Stewardship  
Pollution and Waste



### Social

Human Capital  
Customer Well-Being  
Supply Chain Management  
Community Relations



### Governance

Corporate Governance  
Corporate Culture



### Country ESG Factors

Political stability and institutional strength  
Regulatory effectiveness, level of corruption, and rule of law  
Demographic changes, living standards, and income inequality  
Natural resource availability and climate change resilience

# Diverse Thought Drives Strong Outcomes

## Recruiting Strategy

- Diverse candidate and interviewer slates are the norm
- Gender-neutral job descriptions
- Always Be Recruiting networking casts a wide net

## Industry Outreach

- Purposefully partner with Diverse Professional Organizations for networking, recruiting and to raise awareness
- Collaborate with other industry participants to promote D&I
- CFAI Experimental Partners Program

## Internal Initiatives

- Global Inclusion Council sets the firm's strategy
- Business Resource Groups lead initiatives and support colleagues
- Courageous Conversations engage teams in new ways
- Unconscious bias training addresses blind spots
- Mentoring program provides 1x1 networking and feedback

## Results

- Diverse leadership teams: IM led by a woman for over 20 years
- From 12/31/17 to 12/31/21:\*
  - 32.5% of new hires are racially/ethnically diverse (R/ED) and 44.4% are women
  - Women represent 38.8% of IM
  - R/ED talent increased from 15.7% to 20.5%
- Of 8 mutual fund board members, 4 are women and 1 is R/ED
- Received 100% score on the Human Rights Campaign's Corporate Equality Index<sup>1</sup> for the second consecutive year



\*As of December 31, 2021. Excludes non-US employees. 117 hires. Mutual fund board members as of November 2021.

<sup>1</sup>Human Rights Campaign's Corporate Equality Index is the national benchmarking survey and report measuring company policies and practices related to LGBTQ workplace equality.

# Investment Strategies

Global reach and wide array of strategies and vehicles

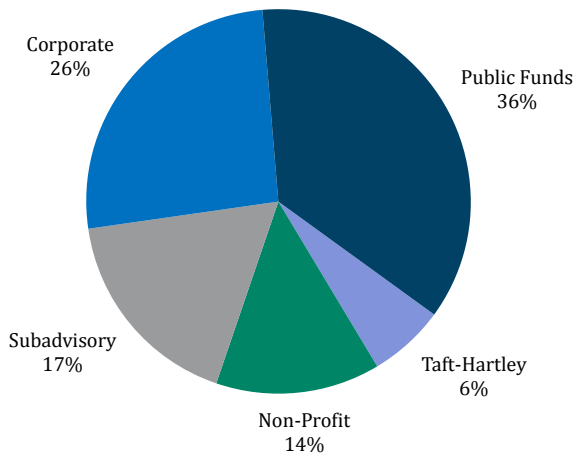
Teams	Strategies	Investment Professionals	AUM
<b>Global Equity</b>	<ul style="list-style-type: none"> <li>Global Leaders</li> <li>Global Leaders Concentrated</li> <li>Global Leaders Sustainability</li> <li>International Growth</li> <li>International Leaders</li> <li>International Leaders Concentrated</li> <li>International Leaders ADR</li> </ul>	<ul style="list-style-type: none"> <li>International Small Cap Growth</li> <li>Emerging Markets Growth</li> <li>Emerging Markets Leaders</li> <li>Emerging Markets Leaders Concentrated</li> <li>Emerging Markets Small Cap Growth</li> <li>Emerging Markets Ex China Growth</li> <li>China A-Shares Growth</li> <li>China Growth</li> </ul>	<p><b>10 PMs, 15 analysts</b></p> <p><b>\$40.9b</b></p>
<b>U.S. Growth &amp; Core Equity</b>	<p><b>U.S. Growth</b></p> <ul style="list-style-type: none"> <li>All Cap Growth</li> <li>Large Cap Growth</li> <li>Mid Cap Growth</li> <li>SMID Growth</li> <li>Small Cap Growth</li> </ul>	<p><b>U.S. Core</b></p> <ul style="list-style-type: none"> <li>U.S. Equity Sustainability</li> <li>SMID Core</li> </ul>	<p><b>7 PMs, 19 analysts</b></p> <p><b>\$22.8b</b></p>
<b>U.S. Value Equity</b>	<ul style="list-style-type: none"> <li>Mid Cap Value</li> <li>SMID Value</li> <li>Small Cap Value</li> </ul>		<p><b>3 PMs 4 analysts</b></p> <p><b>\$4.3b</b></p>
<b>Emerging Markets Debt</b>	<ul style="list-style-type: none"> <li>Hard Currency</li> <li>Local Currency</li> <li>Corporate Debt</li> </ul>	<ul style="list-style-type: none"> <li>Frontier</li> <li>Blended</li> </ul>	<p><b>10 PMs, 2 analysts</b></p> <p><b>\$163m</b></p>
<b>Global Multi-Asset &amp; Currency</b>	<ul style="list-style-type: none"> <li>Macro Allocation</li> <li>Dynamic Diversified Allocation</li> <li>Global Diversified Return</li> <li>Absolute Return Currency</li> </ul>		<p><b>2 PMs, 10 analysts</b></p> <p><b>\$1.3b</b></p>

Assets as of March 31, 2022.

As used on this page, "William Blair" refers to William Blair Investment Management, LLC and affiliates unless otherwise noted. For more information about William Blair, please see <http://www.williamblair.com/About-William-Blair.aspx>. This material has been distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy, or investment product. Strategy availability may be limited to certain investment vehicles; not all investment vehicles may be available to all investors. Unless otherwise noted, all data shown is as of the date of this material. Assets shown in U.S. dollar.

# Sophisticated Investor Base

Balanced mix of institutional clients representing \$70.1 billion in assets



## Corporate

- Air Products & Chemical, Inc.
- AT&T
- Bank of America
- Boeing Company
- Caterpillar Inc.
- Fortune Brands
- Liberty Mutual Insurance
- Major League Baseball Office of the Commissioner
- PGA TOUR, Inc.

## Endowment/Foundation

- The College of William and Mary Foundation
- Indiana University Foundation
- McGill University
- Toledo Museum of Art
- Truth Initiative
- University of California, Irvine Foundation

## Healthcare & Not-For-Profit

- Advocate/Aurora Healthcare
- The Carle Foundation
- CommonSpirit Health
- Children’s Hospital of New Orleans
- Clerics of St. Viator
- OhioHealth
- Rush University Medical Center
- SKL Investment Group, LLC

## Subadvisory

- Charles Schwab
- Columbia Threadneedle Investments
- Fidelity
- Lombard Odier Darier Hentsch
- Northern Trust
- Prudential
- SEB Group
- UBS

## Public Plans and Taft-Hartley

- **Alameda County Employees Retirement System**
- City of Lansing ERS & PFRS
- City of Orlando Pension Plans
- Colorado Public Employees Retirement Association
- **Contra Costa County Employees’ Retirement Association**
- County Employees’ Annuity and Benefit Fund of Cook County
- El Paso Firemen and Policemen’s Pension Fund
- Employees’ Retirement System of the City of Milwaukee
- Firemen’s Annuity & Benefit Fund of Chicago
- Florida State Board of Administration
- Illinois State Board of Investment
- Illinois Municipal Retirement Fund
- Iowa Judiciary
- Laborers’ Annuity and Benefit Fund of Chicago
- Municipal Employees’ Annuity & Benefit Fund of Chicago
- Municipal Police Employees’ Retirement System of Louisiana
- North Dakota State Retirement Board
- Nova Scotia Health Employees’ Pension Fund
- **Orange County ERS**
- Oregon State Treasury
- Pensionskasse SBB (Swiss Federal Railway)
- Policemen’s Annuity and Benefit Fund of Chicago
- Richmond Retirement System
- **Sacramento County ERS**
- San Diego City Employees’ Retirement System
- Teachers’ Retirement System of Louisiana
- **Tulare County Employees’ Retirement Association**
- Washington State Investment Board

Clients shown in **bold** are SACRS counties created as part of the County Employees Retirement Law of 1937.

As of March 31, 2022.

This list is comprised of representative clients that have either given William Blair express permission to use their names or for whose services we provide have been made part of the public domain. Inclusion indicates the scope of clients served, but is not to be construed as an approval or disapproval of William Blair or its advisory services.

# Global Portfolio Strategies

Our single, integrated investment platform is directed toward achieving portfolio objectives across all of our strategies

		Global	International	Emerging Markets
		Global Leaders \$3.2 billion	International Leaders \$8.9 billion	Emerging Markets Leaders \$5.4 billion
<b>Leaders</b>	High quality portfolios of leading companies across the corporate life cycle	Global Leaders Concentrated \$7 million	International Leaders Concentrated \$92 million	Emerging Markets Leaders Concentrated \$88 million
		Global Leaders Sustainability \$100 million	International Leaders ADR \$188 million / \$434 million AUA <sup>1</sup>	
<b>All Cap</b>	Broad exposure across all market caps		International Growth \$12.0 billion (closed) <sup>2</sup>	Emerging Markets Growth \$6.1 billion Emerging Markets Ex China Growth \$3 million
<b>Small Cap</b>	Broad exposure to small cap companies		International Small Cap Growth \$2.7 billion (closed) <sup>2</sup>	Emerging Markets Small Cap Growth \$1.8 billion (closed) <sup>2</sup>
<b>China</b>	Broad exposure to high quality China-domiciled companies			China A-Shares Growth \$360 million China Growth \$6 million

Assets as of March 31, 2022.

<sup>1</sup>Assets Under Advisement (AUA) consists of assets managed by third parties in accordance with model portfolios provided by William Blair. William Blair does not have investment discretion or trading authority over these assets.

<sup>2</sup>Capacity management is an integral component of our investment process.

As used on this page, "William Blair" refers to William Blair Investment Management, LLC and affiliates unless otherwise noted. For more information about William Blair, please see <http://www.williamblair.com/About-William-Blair.aspx>. This material has been distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy, or investment product. Strategy availability may be limited to certain investment vehicles; not all investment vehicles may be available to all investors. and affiliates unless otherwise noted, all data shown is as of the date of this material. Assets shown in U.S. dollar.



# William Blair Emerging Markets

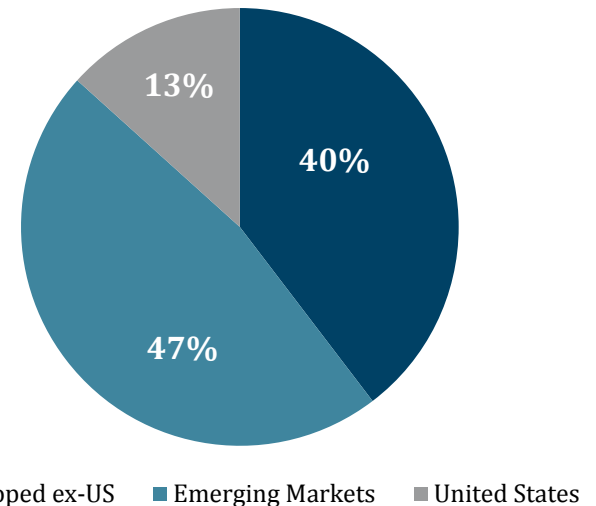
## Deep-Rooted Experience

- Managing Emerging Markets strategies since 1996 with the same philosophy and process
- Involved in China A shares since 2012 with research presence in Shanghai
- Currently manage \$13.4 billion in dedicated Emerging Markets strategies and \$17.0 billion in Emerging Markets securities across Global Equity Team’s strategies

## Emerging Markets Strategies Suite

Strategy	Scope	Benchmark
<b>Emerging Markets Leaders</b>	Portfolio of leading companies in terms of products, services, and execution	MSCI Emerging Markets
<b>Emerging Markets Leaders Concentrated</b>	Concentrated portfolio of leading companies in terms of products, services, and execution	MSCI Emerging Markets
<b>Emerging Markets Growth</b>	Diversified, all-cap portfolio of high quality companies, with constant exposure to small cap	MSCI Emerging Markets IMI
<b>Emerging Markets ex China Growth</b>	Diversified, all-cap portfolio of high quality companies, with constant exposure to small cap, excluding China	MSCI Emerging Markets ex China IMI
<b>Emerging Markets Small Cap Growth</b>	Diversified portfolio of high quality small cap companies	MSCI Emerging Markets Small Cap
<b>China A-Shares Growth</b>	High quality growth portfolio of China A share companies across market cap spectrum	MSCI China A Onshore
<b>China Growth</b>	High quality growth portfolio of China All Shares companies across the market cap spectrum	MSCI China All Shares

**Emerging Markets’ Significant Role in Eligibility List<sup>1</sup>**  
 Emerging Markets make up a disproportionate percentage of our quality growth universe



As of March 31, 2022.

<sup>1</sup>Based on number of companies in the Global Eligibility List. Eligibility List data source: William Blair and MSCI ACWI IMI Index. Calculated in FactSet. Strategy availability may be limited to certain investment vehicles; not all investment vehicles may be available to all investors. Assets shown in U.S. dollar.

# Integrated Investment Platform

One team, one philosophy, one process

## Emerging Markets Growth Portfolio Managers



**Todd M. McClone, CFA, Partner**

*Portfolio Manager*

30 years industry experience  
22 years with William Blair  
B.B.A. and B.A., University of Wisconsin–Madison



**Casey Preyss, CFA, Partner**

*Portfolio Manager*

23 years industry experience  
22 years with William Blair  
M.B.A., University of Chicago  
B.S.B.A., The Ohio State University



**Vivian Lin Thurston, CFA, Partner**

*Portfolio Manager*

26 years industry experience  
7 years with William Blair  
M.A. & M.S., University of Illinois  
LL.B., Peking University



15

**Fundamental Analysts**

Conducting bottom-up research, organized by global sectors and market cap



4

**Portfolio Specialists**

Integrated into the investment process



10

**Portfolio Managers**

Across the global investment platform



5

**Strategists**

Framing the global economic environment and thematic growth drivers



4

**Systematic Research Analysts**

Providing data analytics and portfolio management tools



7

**Traders**

24/7 global coverage

As of April 2022.

# Global Investment Team

One team, one philosophy, one process

## Portfolio Management<sup>1</sup>

### Global Leaders

Andy Flynn, CFA, Partner (17/32)  
Ken McAtamney, Partner (17/32)  
Hugo Scott-Gall, Partner (4/28)<sup>3</sup>

### International Growth

Simon Fennell, Partner (11/30)  
Ken McAtamney, Partner (17/32)  
Andrew Siepker, CFA, Partner (16/18)

### International Leaders

Alaina Anderson, CFA, Partner (16/21)  
Simon Fennell, Partner (11/30)  
Ken McAtamney, Partner (17/32)

### International Leaders ADR

Alaina Anderson, CFA, Partner (16/21)

### International Small Cap

Simon Fennell, Partner (11/30)  
Andy Flynn, CFA, Partner (17/32)  
D.J. Neiman, CFA, Partner (20/24)

### Emerging Markets Leaders

Todd McClone, CFA, Partner (22/30)  
Ken McAtamney, Partner (17/32)  
Hugo Scott-Gall, Partner (4/28)<sup>3</sup>

### Emerging Markets Growth

Todd McClone, CFA, Partner (22/30)  
Casey Preyss, CFA, Partner (22/23)  
Vivian Lin Thurston, CFA, Partner (7/26)

### Emerging Markets Small Cap Growth

Todd McClone, CFA, Partner (22/30)  
D.J. Neiman, CFA, Partner (20/24)<sup>3</sup>  
Casey Preyss, CFA, Partner (22/23)

### China A-Shares Growth

Casey Preyss, CFA, Partner (22/23)  
Vivian Lin Thurston, CFA, Partner (7/26)

(Years at William Blair/Years in Industry)

<sup>1</sup>Portfolio Management team average 15 years at William Blair and 26 years in the industry. <sup>2</sup>Global Fundamental Research Analysts average 11 years at William Blair and 14 years in the industry. <sup>3</sup>William Benton and Hugo Scott-Gall also serve as Co-Directors of Research. <sup>4</sup>10 years of experience at William Blair from April 2007 to 2016. Rejoined the firm in July 2021.

<sup>5</sup>Blake Pontius is Director of Sustainable Investing for Investment Management. <sup>6</sup>Traders, excluding Portfolio and Trade Order Management and International Trade Specialists, average 9 years at William Blair and 18 years in the industry. <sup>7</sup>Terry O'Bryan also serves as the Head of Global Equity Trading. *Italics indicate Associate role.* As of May 2022.

## Global Fundamental Research Analysts<sup>2</sup>

### Consumer

Kwesi Smith, CFA (7/18)  
William Benton, CFA, CPA, Partner (25/25)<sup>3</sup>  
Adam Dettmer, CFA (5/8)  
Michael Patchen, CFA (3/10)  
*Evelyn Kong, CFA, CPA (1/1)*  
*Emily Stent, CFA (4/7)*

### Financials

Daniel Hill, CFA (17/17)  
Esteban Gonzalez-Rosell (3/12)  
*Kalpita Shah, CFA (3/7)*  
*Paul O'Toole (1/5)*

### Healthcare

Thomas Sternberg, CFA, Partner (17/19)  
Richard Reznick, Ph.D. (12/12)  
*Jonathan Kaufman, CPA (6/6)*

## Portfolio Specialists

Ryan Dimas, CFA, CAIA, Partner (22/27)  
Romina Graiver, Partner (10/23)  
Jeremy Murden, CAIA (11/16)<sup>4</sup>  
Emily George (10/11)  
*Jennifer Stange (7/11)*  
*Amanda Schwartz (7/13)*

### Industrials, Energy & Materials

Andrew Siepker, CFA, Partner (16/18)  
Anil Daka, CFA, Partner (11/14)  
Ben Loss, CFA (11/12)  
Bryan Shea (13/13)  
*Monika Budyn (9/13)*  
*Koray Yesilli, CFA (<1/<1)*

### Information Technology

Greg Scolaro, CFA, CPA (8/8)  
Drew Buckley, CFA, CPA, Partner (14/16)  
Jayesh Kannan, CFA (4/9)  
*Nupur Balain (1/1)*  
*Grant Parsons, CPA (3/6)*

### China Generalist

*Sophie Gao, CFA (1/10)*

## Strategy Research

Hugo Scott-Gall, Partner (4/28)<sup>3</sup>  
Olga Bitel, Partner (12/19)  
Gurvire Grewal (3/8)  
Blake Pontius, CFA (17/25)<sup>5</sup>  
Rita Spitz, CFA, Partner (36/44)  
*Alexa Davis (4/7)*

## Systematic Research

Spiro Voulgaris, Partner (14/31)  
Andrew Kominik, CFA (19/22)  
Andy Tang, CFA (6/11)  
Andrew Wickman, CFA (7/12)  
*Scott Akeson (7/7)*  
*Kathy Matos (15/15)*

## Technologist

Darragh Grogan (14/16)

## Trading<sup>6</sup>

### Asia/Pacific

Nathan Fisher, CFA (7/18)  
Daniel Iannessa (17/19)  
Malik Nicholson (8/16)

### Europe

Nicola Hynds (14/27)  
Simon Johnstone (9/22)  
Akos Reitz (2/7)

### Americas and FX

Terry O'Bryan, Partner (15/24)<sup>7</sup>

## Portfolio & Trade Order Management

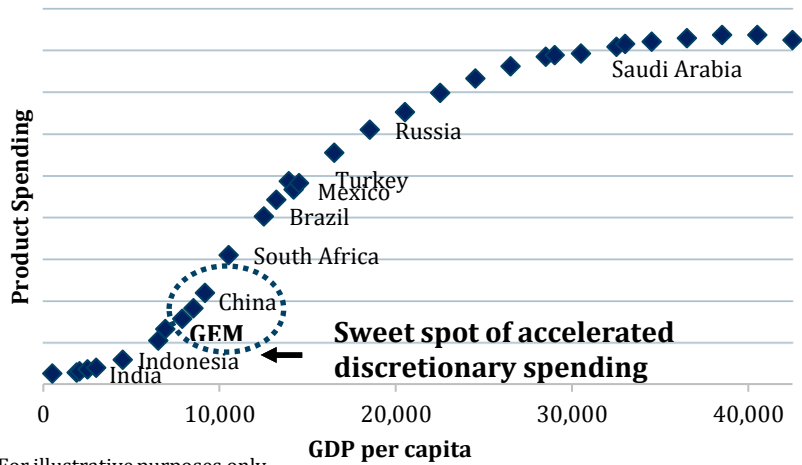
Joe Emanuele (5/7)  
Tim Randick (15/15)

## International Trade Data Specialists

Michael LaDuke (12/14)

# Secular Growth Potential in Emerging Markets

Global Emerging Markets Consumption Spending per Capita

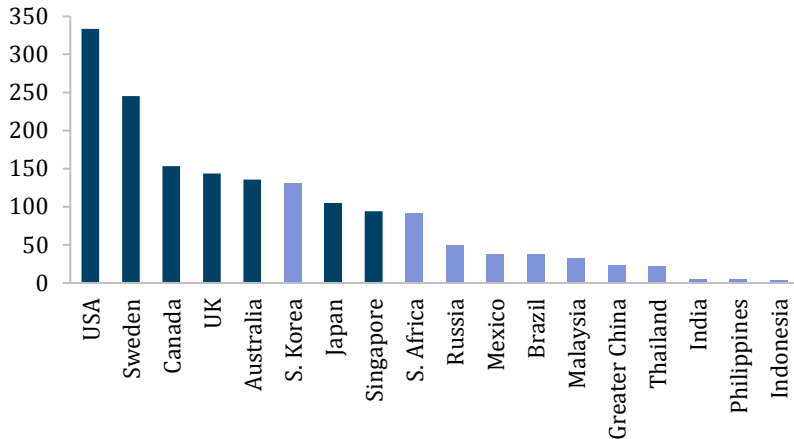


Per Capita Spending on Staple Products  
(as % of G7 Capital Spending 2025)

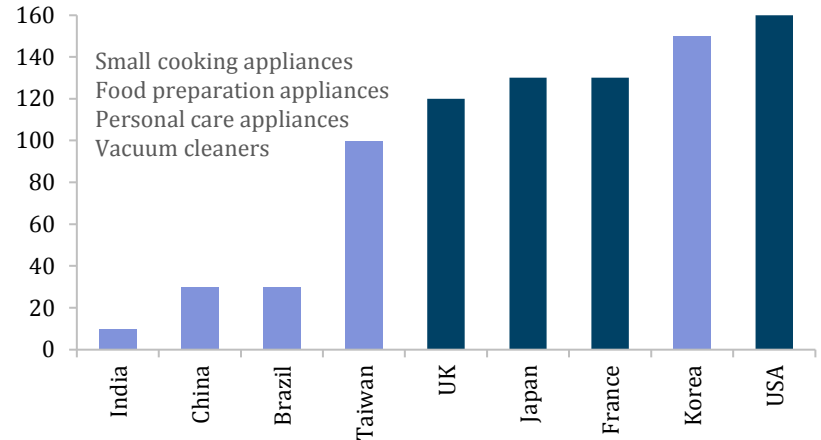
	Brazil	China	Indonesia	India	EM
Instant Coffee	15%	5%	30%	2%	19%
Beer	46%	16%	1%	1%	12%
Carbonated Drinks	40%	6%	3%	1%	12%
Baked Goods	42%	8%	4%	1%	10%
Spirits	14%	3%	0%	3%	9%
Yogurt	29%	14%	1%	1%	9%
Savory Snacks	12%	8%	3%	2%	6%
Chocolate	17%	2%	3%	1%	5%
Consumer Health	12%	10%	5%	1%	5%
Pet Food	21%	1%	0%	0%	3%
Ready Meals	4%	1%	0%	0%	1%

More Mature

Per Capita Spending on Sportswear (\$USD)



Per Capita Spending on Household Appliances (\$USD)

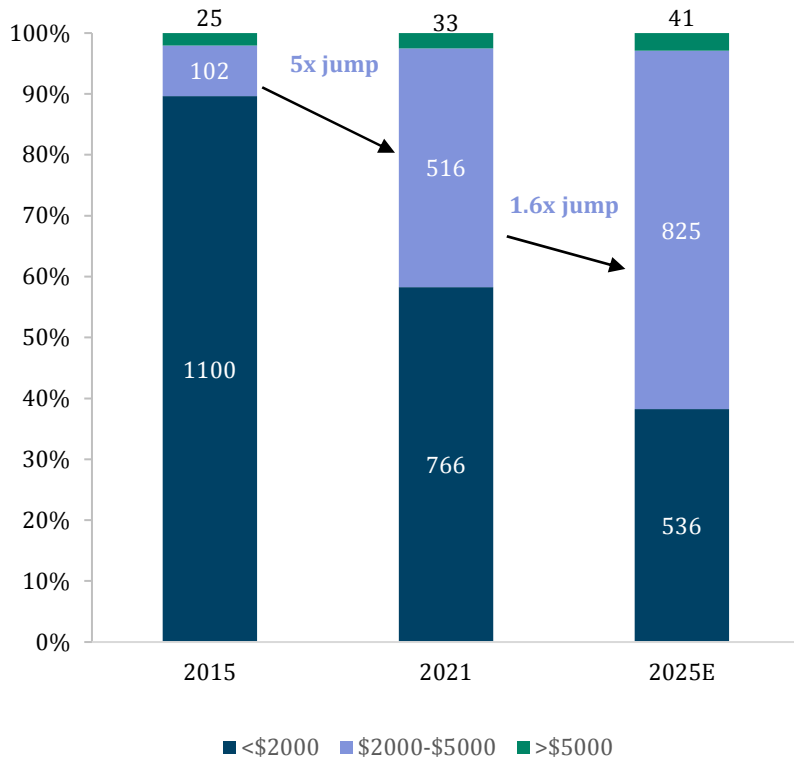


Data as of October 2019.

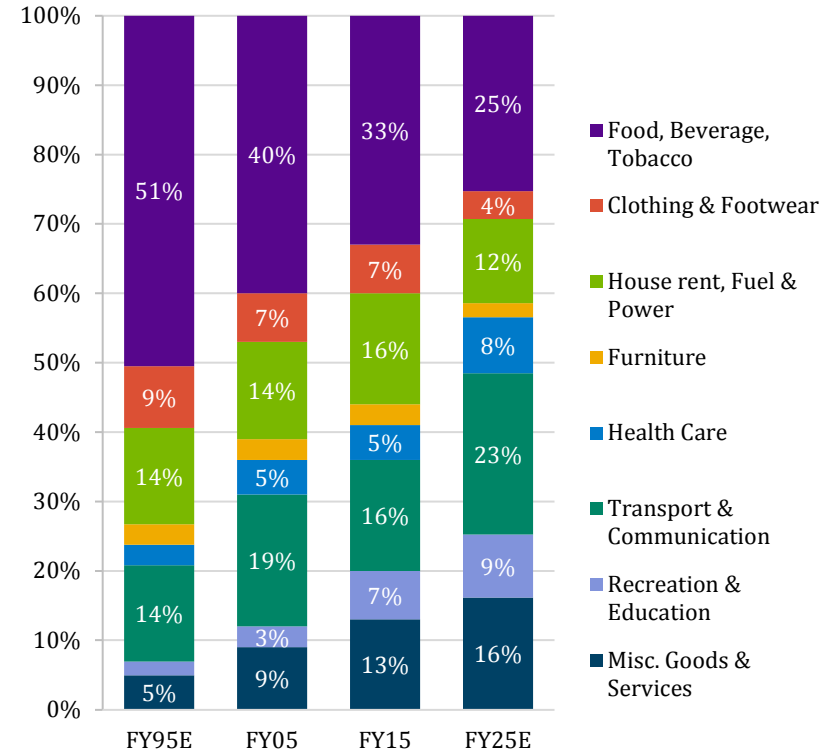
Source: Credit Suisse, Goldman Sachs, Deutsche Bank, CSLA.

# India's Emerging Middle Class

## Population Distribution (million) Per Capita Income



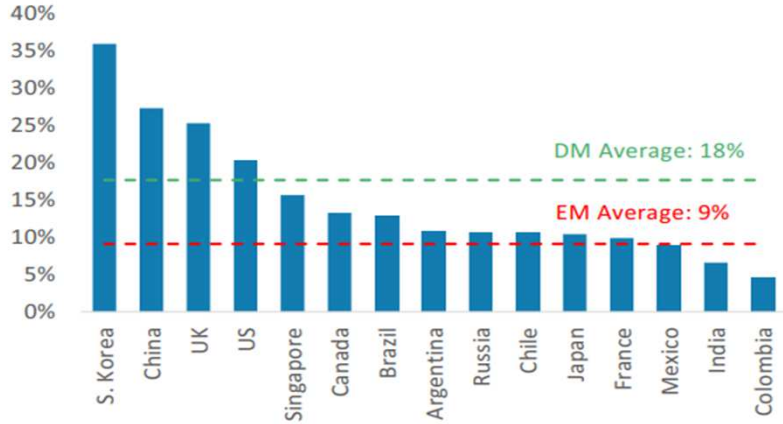
## Discretionary Spending Shift



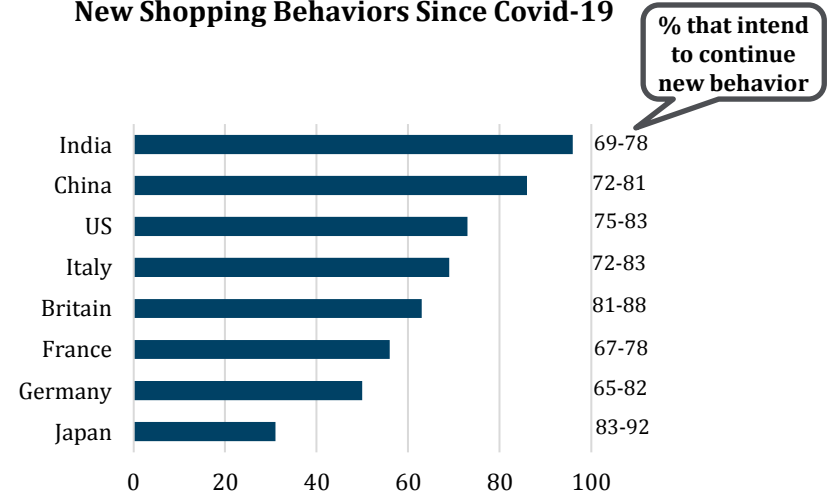
Data as of December 2021.  
Source: Spark Capital.

# E-Commerce: Long Term Growth Opportunity in Emerging Markets

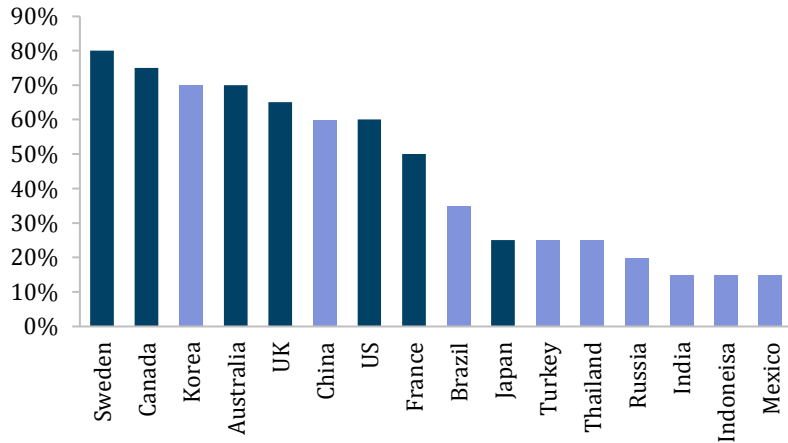
**E-Commerce Penetration Across Markets**  
(2020 % of Retail Sales)



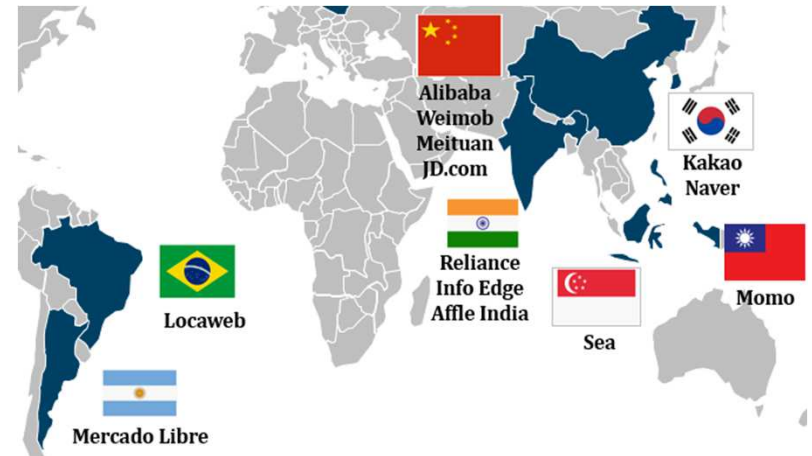
**McKinsey Survey: % of Customers who Have Tried New Shopping Behaviors Since Covid-19**



**Credit Card and Digital Penetration by Country**  
(% of Personal Consumption Expenditure)



**Emerging Markets E-Commerce Champions**

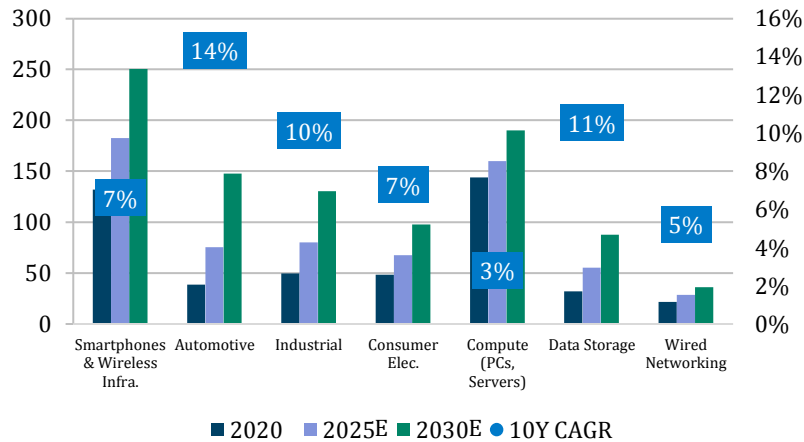


Data as of December 2021.

Source: Bernstein, BofA Merrill Lynch Global Investment Strategy, Morgan Stanley Research, McKinsey. References to specific companies are provided for illustrative purposes only and should not be interpreted as a recommendation to buy or sell any security.

# Increased Growth Opportunities in Tech Hardware

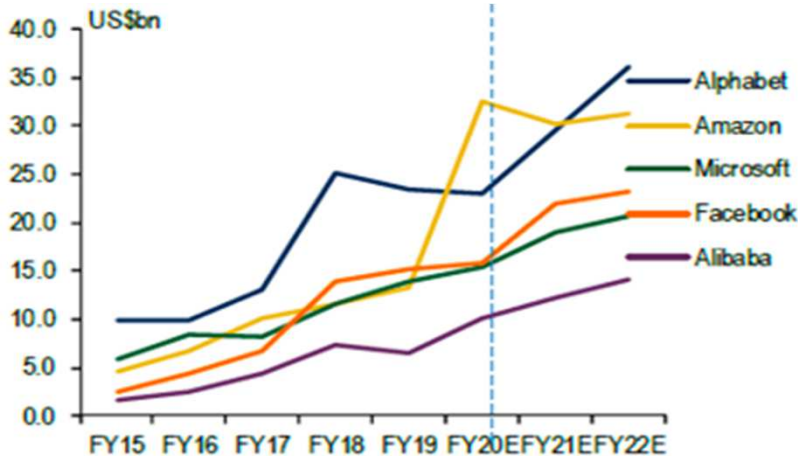
**Total Semi Revenue (\$B) by Application**



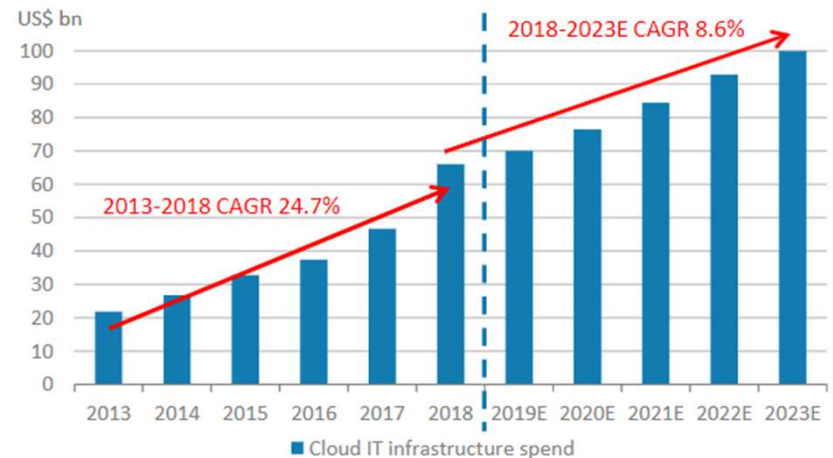
**Incremental Average Semiconductor Content Cost**



**Hyperscale Capex Increase Continues in 2021**



**Cloud IT Infrastructure Spend**

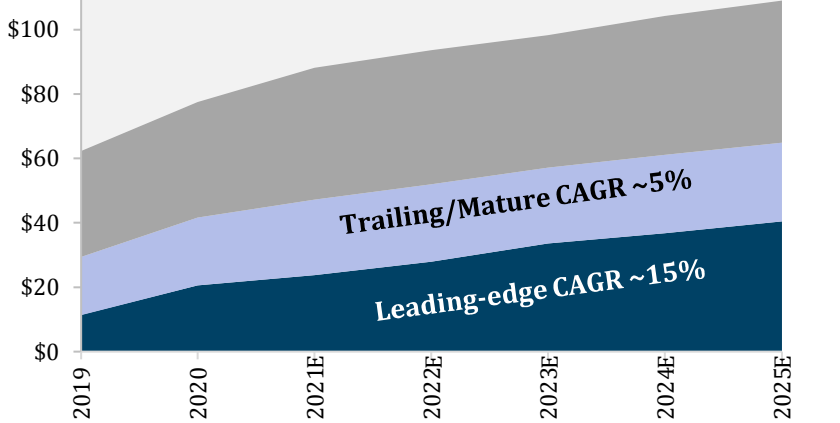


Data as of June 2021.

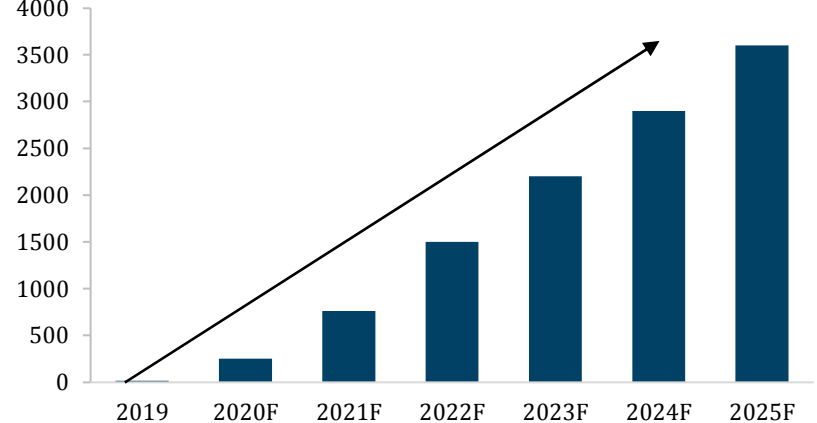
Source: Qorvo, CIMB, BAML, Morgan Stanley. References to specific companies are provided for illustrative purposes only and should not be interpreted as a recommendation to buy or sell any security.

# Growth Opportunities Driven by High Performance Computing and 5G

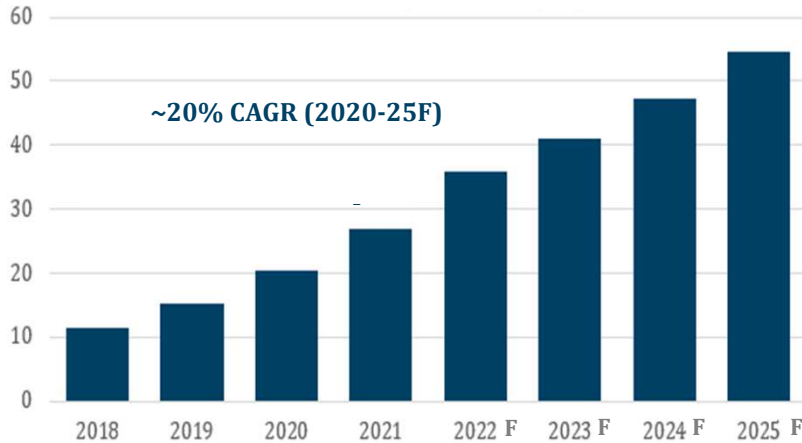
**Foundry Revenue (\$B) by Manufacturing Process Technology**



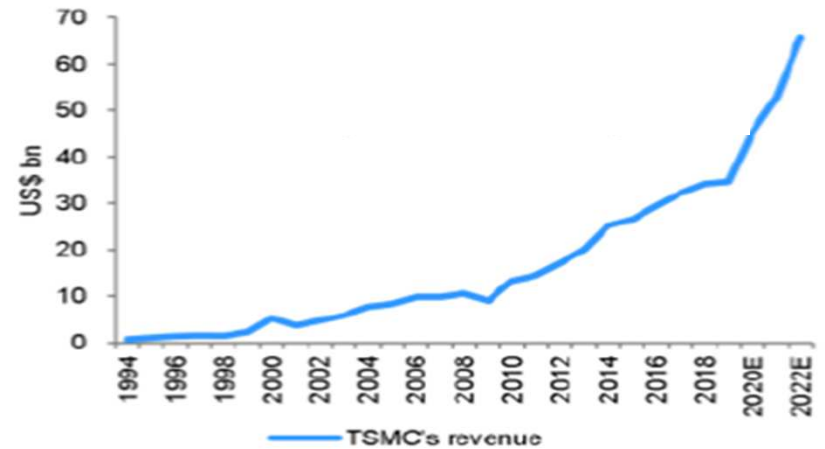
**Global 5G Connection Forecast (mn units)**



**Global AI Chip Market (\$B)**



**TSMC Revenue Growth**



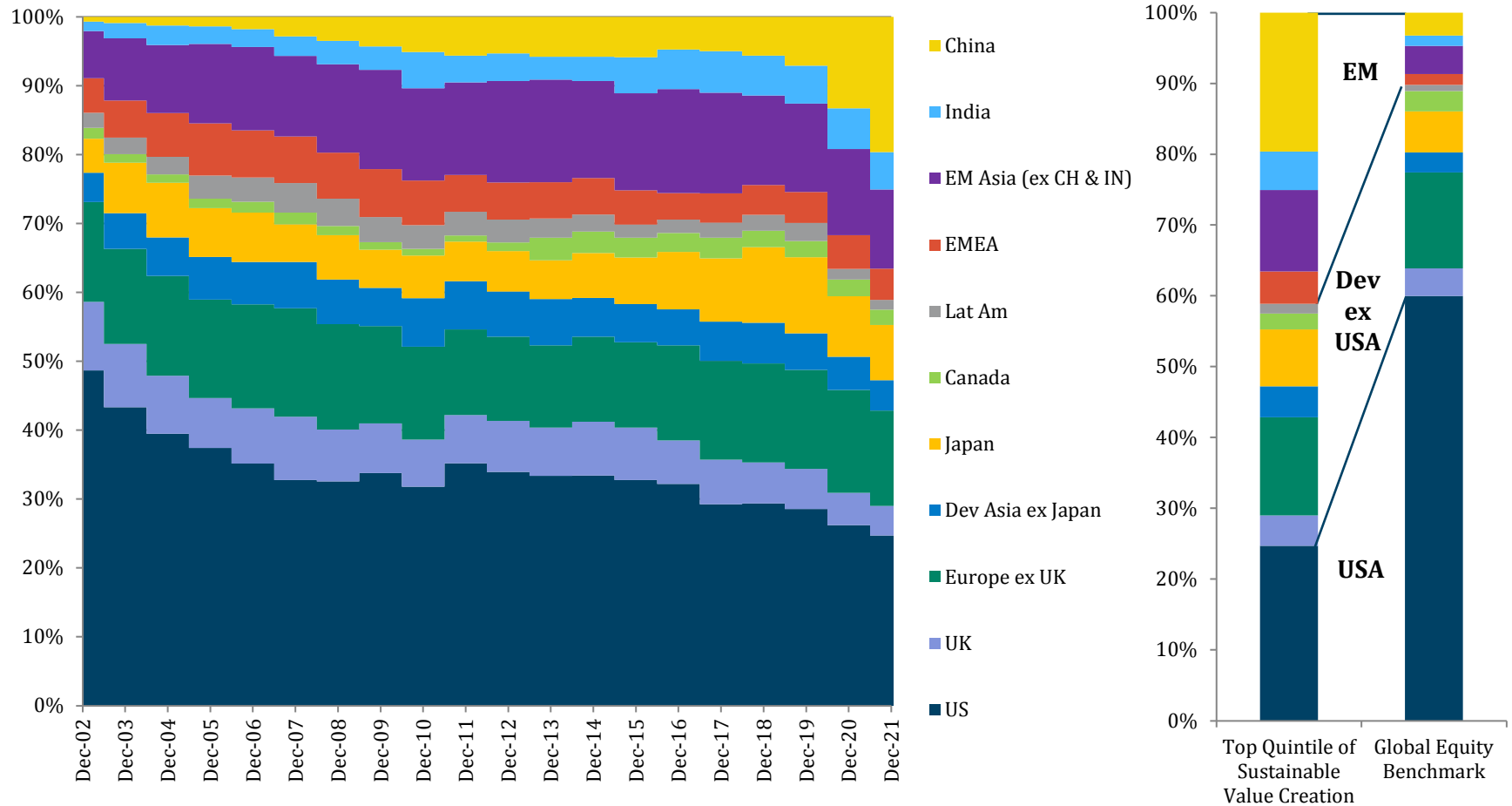
Data as of June 2021.

Source: Cornerstone Macro, Mizuho Securities Equity Research, Gartner, Deloitte, McKinsey, PWC, Macquarie, Infineon. References to specific companies are provided for illustrative purposes only and should not be interpreted as a recommendation to buy or sell any security.



# Expanding High Quality Opportunity Set in Emerging Markets

## Top Quintile of Sustainable Value Creation

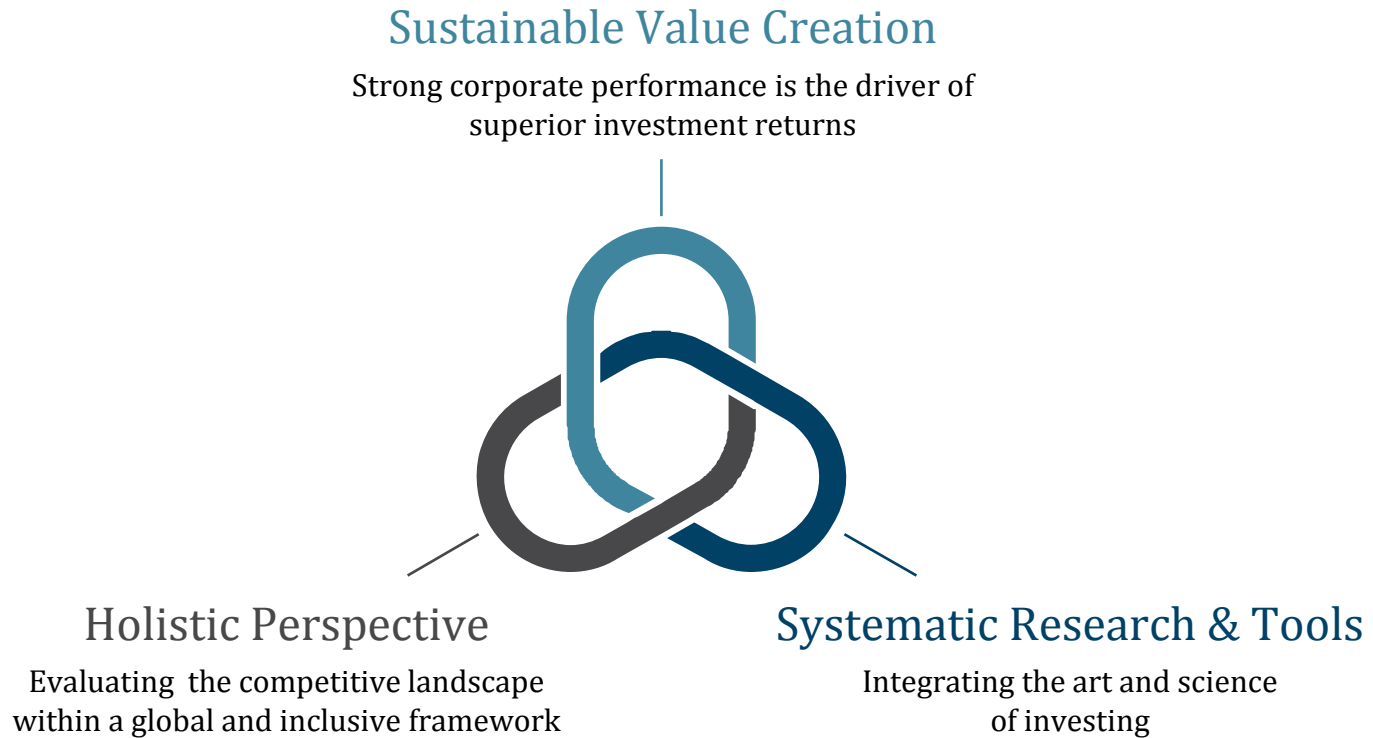


Data as of December 2021.

Source: MSCI ACWI IMI. Top quintile of sustainable value creation is equal weighted. Sustainable value creation is an aggregate measure of corporate returns on capital. Several quantitative financial statement factors are used to measure total corporate profit/cash flow relative to total invested capital, corporate equity profit/cash flow relative to invested equity capital, as well as operating efficiency.

# Investment Philosophy

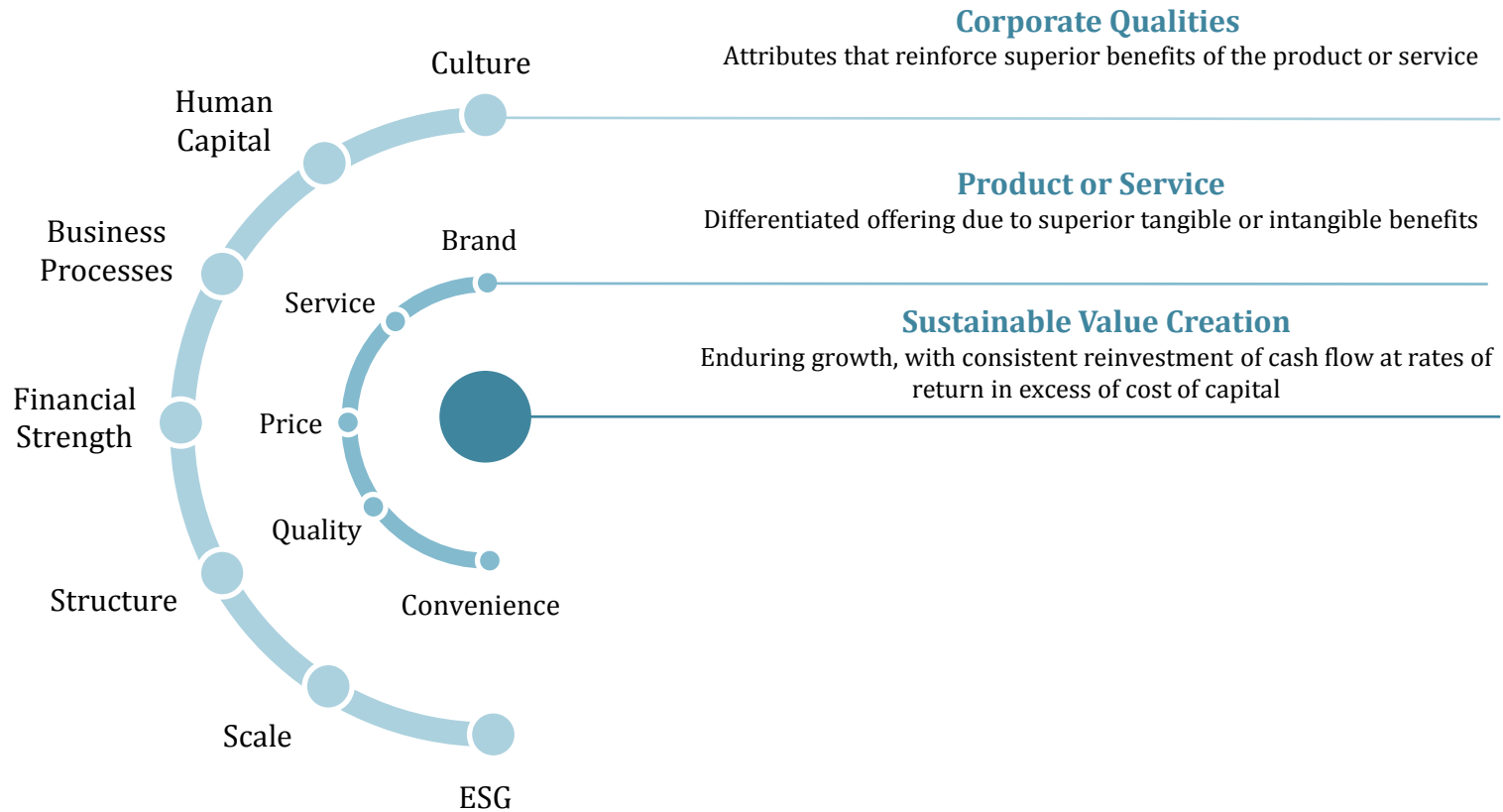
We believe an integrated investment platform directed towards identifying companies with strong corporate performance will drive superior long-term investment returns





# Sustainable Value Creation

Strong corporate performance is the driver of superior investment returns





# Sustainable Value Creation

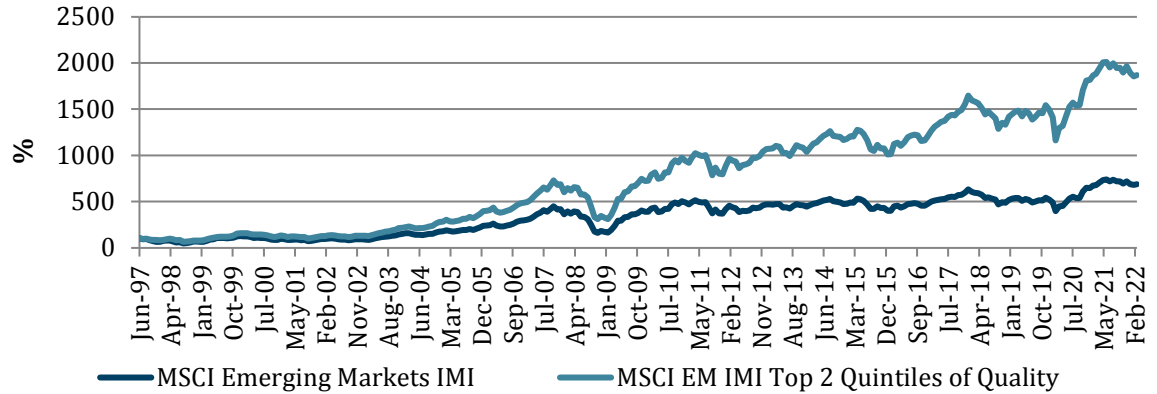
Strong corporate performance is the driver of superior investment returns

## Benefits of Quality Investing

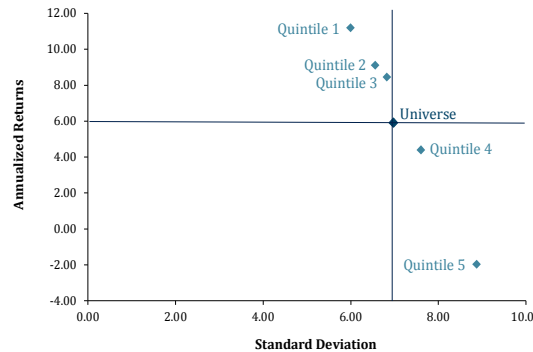
Companies with industry leading returns on capital and sustainable competitive advantages have:

- Produced strong relative returns
- Generated attractive risk/adjusted returns
- Helped protect capital in down markets

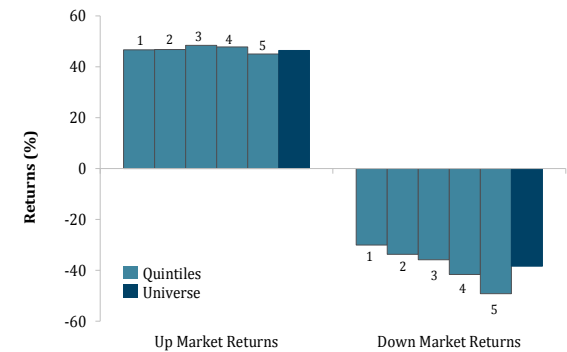
## Cumulative Returns of High Quality



## Emerging Markets Universe by Quality Quintiles



## Emerging Markets Quality Universe Up/Down Market Performance



Source: William Blair Emerging Markets Universe. Data shown for period between June 30, 1997– March 31, 2022 (Quality line chart updated through February 29, 2022). Securities are equally weighted to create hypothetical portfolios based on the criteria shown. The hypothetical portfolios are rebalanced monthly.

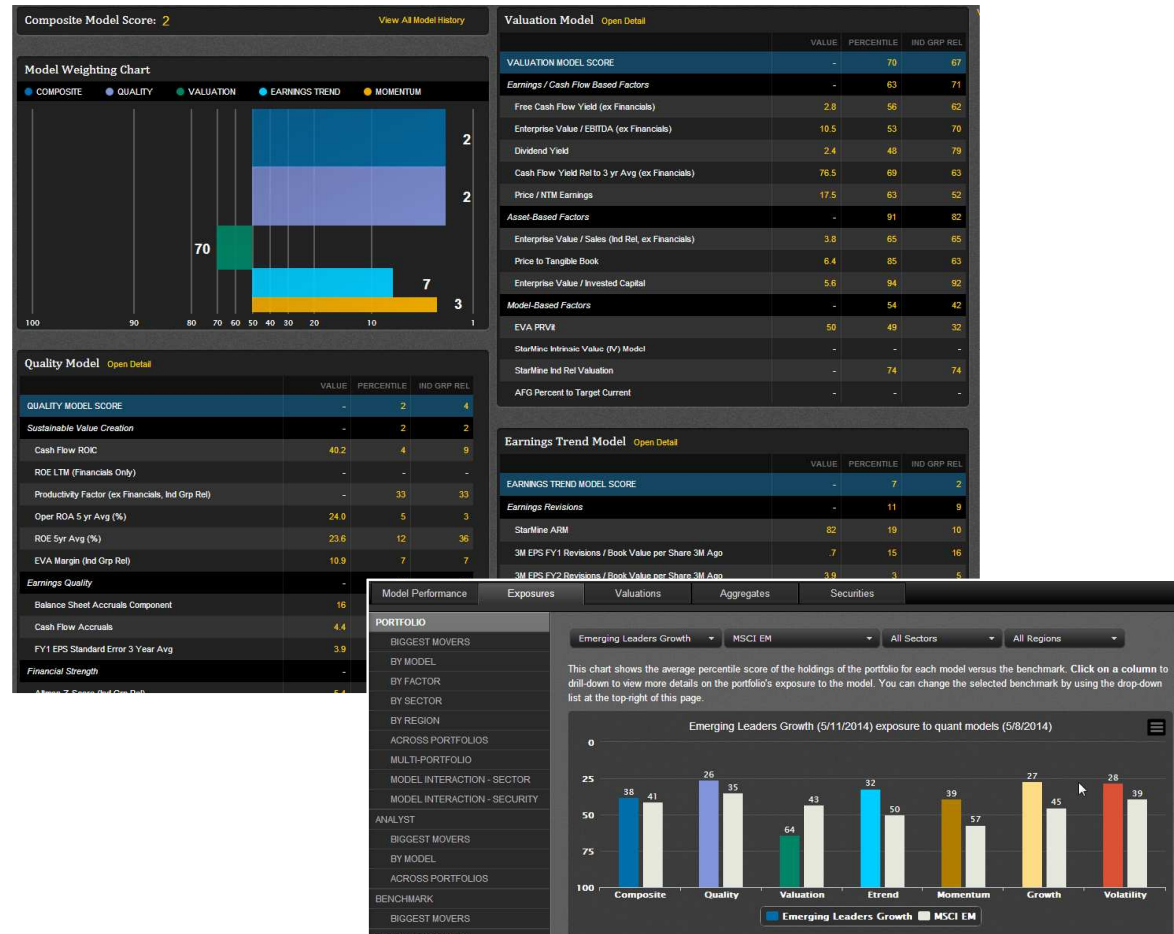
**Past performance is not indicative of future returns. Hypothetical performance is provided for illustrative purposes only.** The above performance information is based on quality scores from William Blair’s proprietary model and does not in any way relate to actual results of any account or strategy. The strategy may or may not hold the companies included in the Quality quintiles shown. Hypothetical performance has inherent limitations. Specifically, hypothetical results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. There is no assurance that the models will remain the same in the future. Quality is defined as those companies with good balance sheet metrics, efficiency, and higher returns. Up/down market returns based on MSCI Emerging Markets IMI Index, annualized returns using a monthly frequency.

# Systematic Research & Tools

We believe that integrating the art and science of investing is the best way to achieve desired outcomes



Quantitative models, portfolio analytics, and fundamental research are integrated within Summit, dynamically connecting all elements of our investment process.

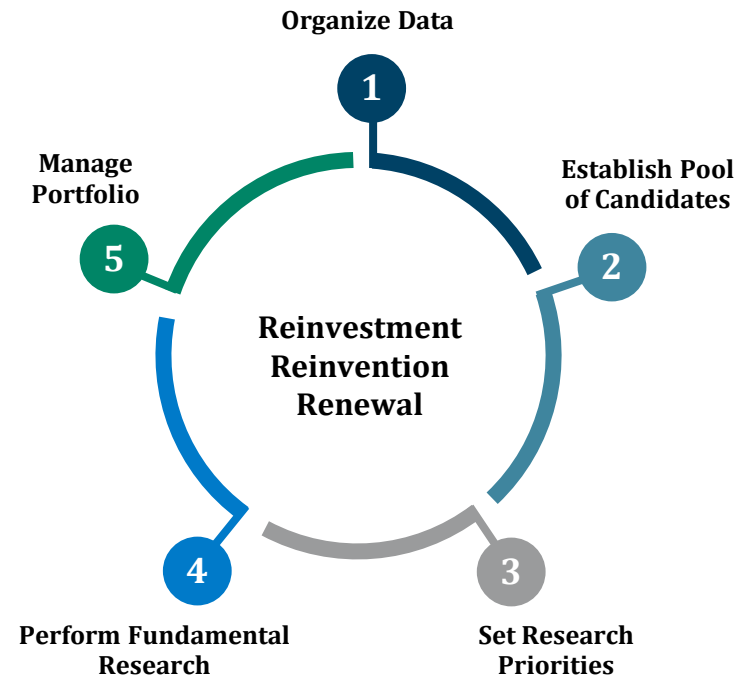


For illustrative purposes only. Not intended as investment advice.

# Investment Process

Integrated Fundamental, Systematic and Strategy Research Throughout the Investment Process

- 1 Organize Data**  
Rank order global universe of equities by fundamental and technical attributes and utilize systematic research to analyze information
- 2 Establish Pool of Candidates**  
Create Eligibility List of 2,800- 3,000 companies through quantitative screens and fundamental analysis
- 3 Set Research Priorities**  
Establish Research Agenda of 50-75 companies by identifying opportunities and risks through bottom up research, top down strategy, and portfolio objectives
- 4 Perform Fundamental Research**  
Analyze sustainable value creation and determine if fundamentals appear poised to change
- 5 Manage Portfolio**  
Weigh risk/reward of buy/sell decision to seek desired outcomes



# Investment Process

## 2 Establish the Pool of Candidates

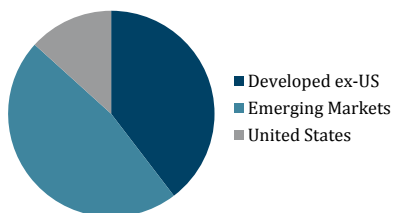
### What company characteristics best align with our investment philosophy?

#### Eligibility List

- Quantitative screen on quality and growth metrics
- Qualitative input from global sector analysts

Results in a universe 2,800-3,000 stocks across all sectors, countries, market caps, and corporate life cycle

#### Global Eligibility List

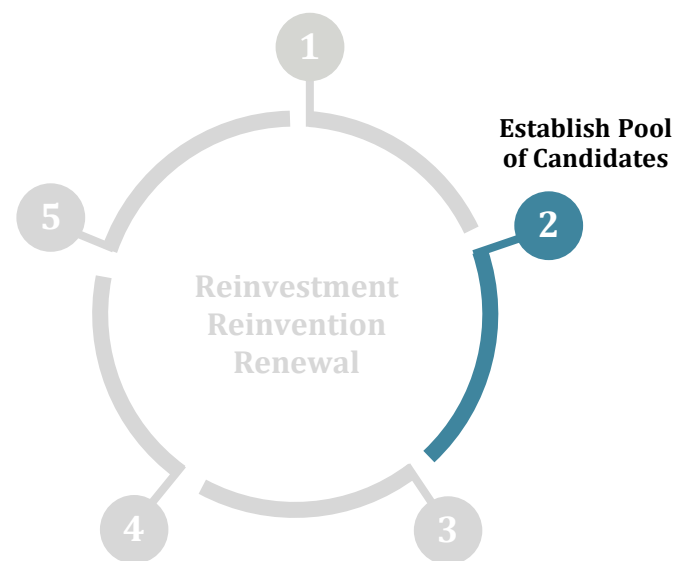


#### Global Eligibility List - March 31, 2022

Characteristics (%)	Global Eligibility List	MSCI ACWI IMI
Cash Flow ROIC	21.9	17.6
Debt/Equity	84.2	91.0
5-Year Historic EPS Growth	19.8	16.4
Reinvestment Rate	27.7	20.6
EPS Est. Rev Breadth	1.6	1.1
P/E (next 12 months)	22.0	16.8

Characteristics calculated in FactSet. Data is not representative of any actual account or strategy managed by William Blair.

Systematic | Fundamental | Strategy



# Investment Process

## 3 Set Research Priorities

### Where should we focus our fundamental research effort?

#### Daily Team Meetings

#### Research Agenda

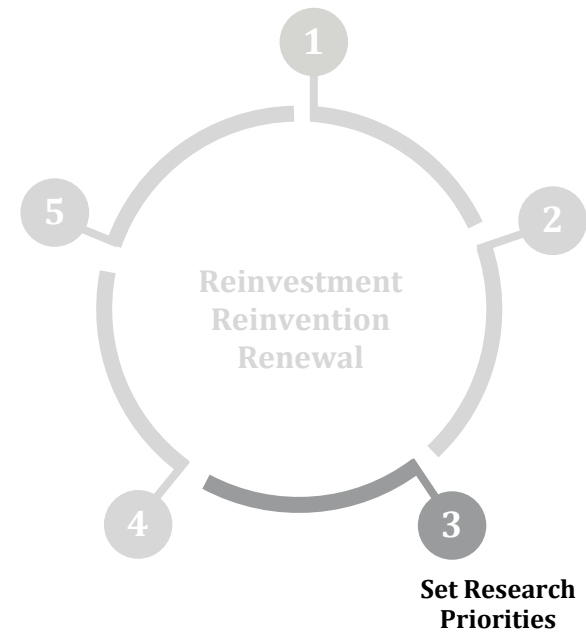
- A company can be added by an analyst or portfolio manager
- Portfolio manager sponsor

Research Agenda is typically 50-75 securities

#### Set Research Priorities



Systematic | **Fundamental** | **Strategy**





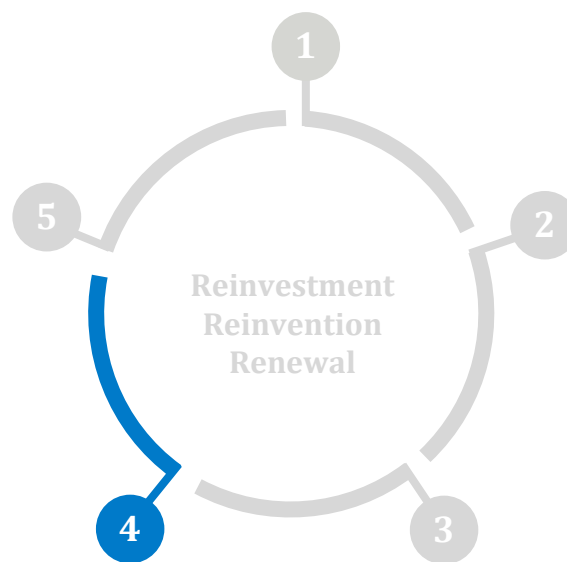
# Investment Process

## 4 Perform Fundamental Research

Systematic | **Fundamental** | Strategy

### Should we own this security now?

	Fundamental	Systematic
<b>Quality</b>	Business model and competitive advantage Management strategy & execution Leaders designation	Sustainable value creation Financial strength Earnings quality
<b>Growth</b>	Growth drivers TAM analysis Corporate life cycle	Growth trends Reinvestment rates Volatility of growth
<b>Valuation</b>	Valuation vs. expected earnings power	Earnings/Cash flow factors Asset-based factors Relative to history, competitors, & similar business models
<b>Operating Performance</b>	Near-term fundamental forecast vs. consensus	Earnings revisions Earnings surprises Fundamental and price momentum
<b>Strategic Considerations</b>	ESG analysis Macro, industry, and company risks Pre-mortem	Materiality scores Aggregate macro, sector, industry, and regional data Fundamental volatility



**Perform Fundamental Research**

# Emerging Markets Growth Portfolio Attributes

As of May 31, 2022

	Emerging Markets Growth	MSCI Emerging Markets IMI Index	Difference
<b>Quality</b>			
WB Quality Model (Percentile)	29	38	
Return on Equity (%)	21.7	16.2	34%
Cash Flow ROIC (%)	23.0	18.5	24%
Debt/Equity (%)	72.7	76.5	-5%
<b>Growth</b>			
WB Growth Model (Percentile)	32	45	
Long-Term Growth (%)	20.1	17.5	15%
5-Year Historic EPS Growth (%)	11.9	10.8	10%
Reinvestment Rate (%)	14.0	12.1	16%
<b>Earnings Trend</b>			
WB Earnings Trend Model (Percentile)	45	50	
EPS Est Rev Breadth (%)	-4.3	-4.5	0.3
<b>Valuation</b>			
WB Valuation Model (Percentile)	78	54	
P/E (next 12 months)	17.9	11.5	56%
Dividend Yield (%)	1.7	2.9	-42%

The data shown above is based on the strategy's representative portfolio. The index is comparable to the strategy in terms of investment approach but contains significantly more securities. Calculated by William Blair. Aggregate scores shown above based on William Blair's quantitative model. For individual and composite ranks, 1 is best and 100 is worst. The MSCI Emerging Markets IMI Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. Not intended as investment advice.

# Emerging Markets Growth Composition Snapshot

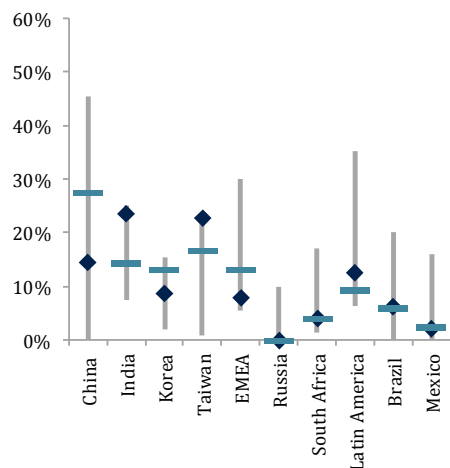
*Broad emerging markets portfolio of 120-175 stocks diversified across market cap, region, industry and corporate lifecycle with a structural weight to small cap companies.*

Top 10 Holdings	Sector	Country	Position Size (%)
Taiwan Semiconductor Manufacturing Co Ltd	Information Technology	Taiwan	8.6
Samsung Electronics Co Ltd	Information Technology	South Korea	5.3
Reliance Industries Ltd	Energy	India	3.8
Capitec Bank Holdings Ltd	Financials	South Africa	3.1
Bank Central Asia Tbk Pt	Financials	Indonesia	3.1
E.Sun Financial Holding Co Ltd	Financials	Taiwan	2.4
Bank Rakyat Indonesia Persero Tbk Pt	Financials	Indonesia	2.4
Itau Unibanco Holding Sa	Financials	Brazil	2.1
Wal-Mart De Mexico Sab De Cv	Consumer Staples	Mexico	2.1
Tata Consultancy Services Ltd	Information Technology	India	2.0

Benchmark	
MSCI Emerging Markets IMI	
<b>Maximum Position Size</b>	7.5% or 1.5x benchmark weight
<b>Active Share</b>	74.7%
<b>Number of Holdings</b>	125
<b>Weighted Avg. Mkt Cap (\$b)</b>	\$75.9

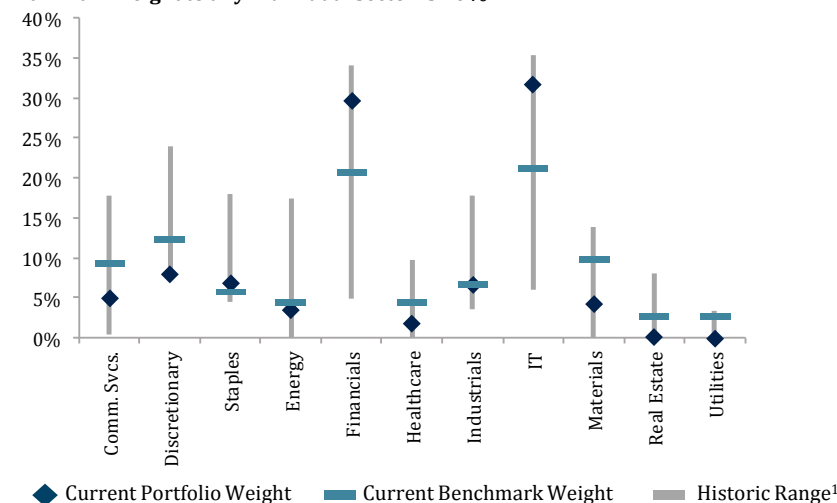
## Regions

Exposure to major countries typically ranges from 0.5 to 2x the benchmark weight



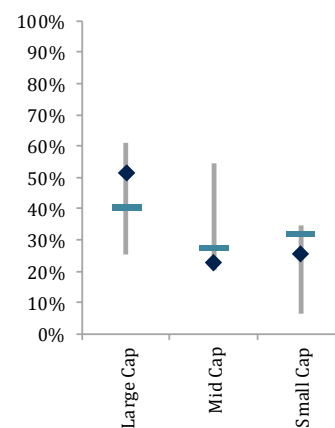
## Sectors

Exposure to major sectors typically ranges from 0.5 to 2x the benchmark weight  
Maximum weight to any individual sector is 40%



## Market Cap

Exposure to small cap exposure typically >10%



<sup>1</sup>Historic range dates back to 7/1/2005. Data as of May 31, 2022. Region, Sector and Market Cap data as of March 31, 2022.

Source: William Blair. Individual securities listed in this report are for informational purposes only. Holdings are subject to change at any time. The data shown above is based on the strategy's representative portfolio excluding cash. Small cap is defined as \$0-\$5 billion, mid cap \$5 billion to \$20 billion, and large cap over \$20 billion. The MSCI Emerging Markets Investable Market Index (IMI) Net is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. This information does not constitute, and should not be construed as, investment advice or recommendations with respect to the securities listed.

# Emerging Markets Growth Performance Summary

As of May 31, 2022

Composite Performance (%)	Annualized								Strategy Inception			
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	20 Yr	(Oct 1 96)				
<b>Emerging Markets Growth (Gross of fees)</b>	<b>-10.21</b>	<b>-21.07</b>	<b>-23.29</b>	<b>11.63</b>	<b>8.30</b>	<b>7.49</b>	<b>11.41</b>	<b>10.55</b>				
MSCI Emerging Markets IMI Index	-5.33	-11.62	-18.62	5.71	4.06	4.36	8.49	4.66				
Relative Performance (Gross of fees)	-4.88	-9.44	-4.67	5.92	4.25	3.13	2.92	5.89				

Annual Composite Performance (%)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Emerging Markets Growth (Gross of fees)</b>	<b>5.15</b>	<b>41.85</b>	<b>29.61</b>	<b>-21.05</b>	<b>51.19</b>	<b>2.93</b>	<b>-14.17</b>	<b>5.73</b>	<b>3.83</b>	<b>22.17</b>	<b>-15.89</b>	<b>24.73</b>	<b>79.09</b>
MSCI Emerging Markets IMI Index	-0.28	18.39	17.64	-15.04	36.83	9.90	-13.86	-1.79	-2.20	18.68	-19.49	19.90	82.36
Relative Performance (Gross of fees)	5.43	23.46	11.97	-6.01	14.36	-6.97	-0.31	7.52	6.03	3.49	3.60	4.83	-3.27

Annual Composite Performance (%)	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996 <sup>1</sup>
<b>Emerging Markets Growth (Gross of fees)</b>	<b>-60.54</b>	<b>40.26</b>	<b>39.27</b>	<b>49.10</b>	<b>37.93</b>	<b>58.66</b>	<b>-2.70</b>	<b>13.75</b>	<b>-29.81</b>	<b>90.73</b>	<b>-18.90</b>	<b>5.91</b>	<b>1.07</b>
MSCI Emerging Markets IMI Index	-53.78	39.83	31.70	33.47	26.62	53.97	-6.49	-2.02	-35.31	62.63	-29.67	-19.74	-1.45
Relative Performance (Gross of fees)	-6.76	0.44	7.57	15.63	11.31	4.69	3.78	15.77	5.50	28.11	10.77	25.65	2.52

May 2022 performance is preliminary.

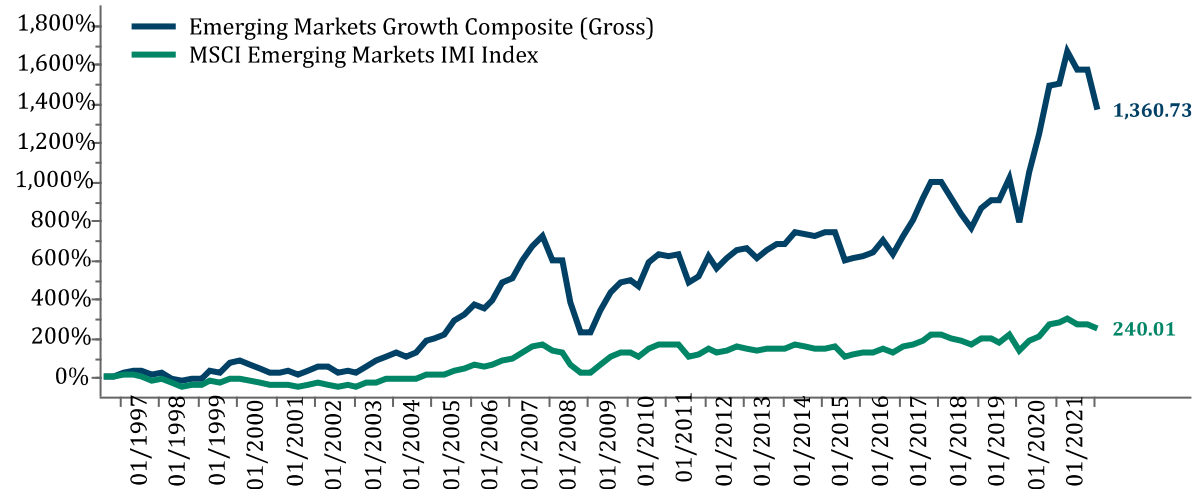
<sup>1</sup>Partial year performance from October 1 to December 31, 1996.

**Past performance is not indicative of future returns.** Performance is shown in U.S. dollar unless otherwise noted. Returns for periods greater than one year are annualized. Gross performance results shown do not reflect the deduction of investment management fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the highest possible fee. Investment management fees are described in William Blair's Form ADV Part 2A. The benchmark that best reflects the composite's investment strategy is the MSCI Emerging Markets Investable Market Index (IMI) Net, which is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic, and political risk. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.

# Long-Term Return Profile

Periods ending March 31, 2022

**Cumulative Performance Since Inception**  
09/1996 to 03/2022



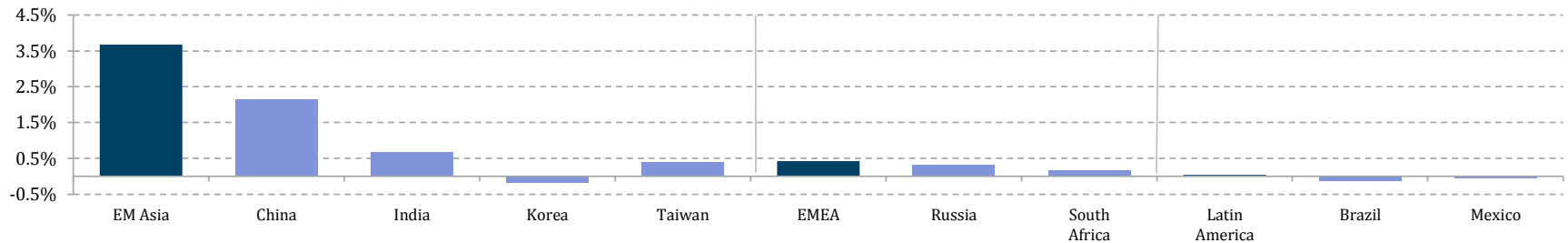
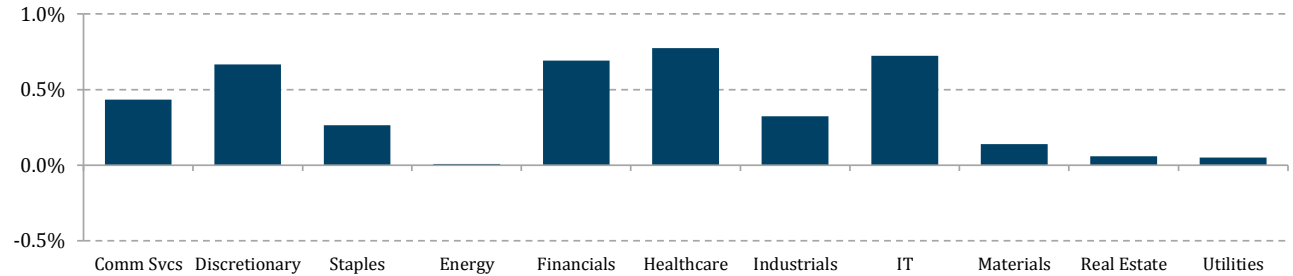
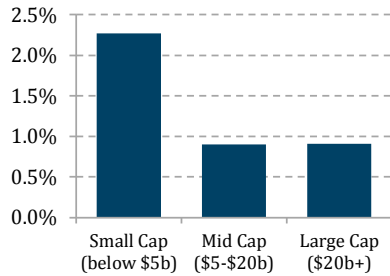
	Annualized Return Since Inception (%) <sup>1</sup>
Emerging Markets Growth Composite (Gross)	11.09
MSCI Emerging Markets IMI Index	4.92

<sup>1</sup>Composite inception October 1, 1996.

**Past performance is not indicative of future returns.** Performance is shown in U.S. dollar unless otherwise noted. Composite performance is calculated using monthly data from October 1999 to present. Prior to October 1999, Emerging markets growth composite returns were calculated quarterly using the emerging markets carve out of the International Growth Composite. Past performance is not indicative of future returns. Gross investment performance assumes reinvestment of dividends and capital gains, is gross of investment management fees and net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the account's actual fee. Investment management fees are described in William Blair's Form ADV Part 2A. Returns for periods greater than one year are annualized. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic and political risk. The benchmark is the Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index which is an unmanaged index that includes only emerging markets. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.

# Long-Term Alpha Generation

## Emerging Markets Growth – Ten-Year Annualized Attribution by Market Cap, Sector, and Region (% USD)



March 2022 performance is preliminary.

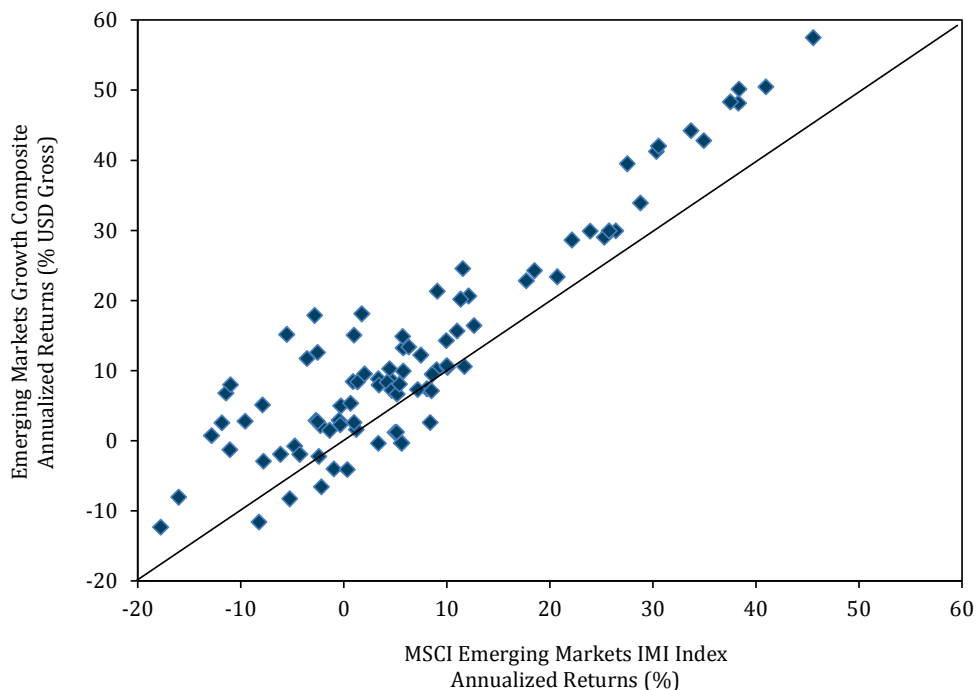
As of March 31, 2022.

Attribution source: William Blair, Proprietary attribution system, based on the strategy's representative portfolio. Total effect vs. MSCI AC World ex-US Investable Market Index (IMI). Attribution by segment is based on estimated returns of equities held within the segments listed. All stocks held during a measurement period, including purchases and sales, are included. Cash is not allocated among segments. Calculations are for attribution analysis only and are not intended to represent simulated performance history. The actual returns may be higher or lower. Sectors based on Global Industry Classification (GICS) Sectors. Market cap is float adjusted.

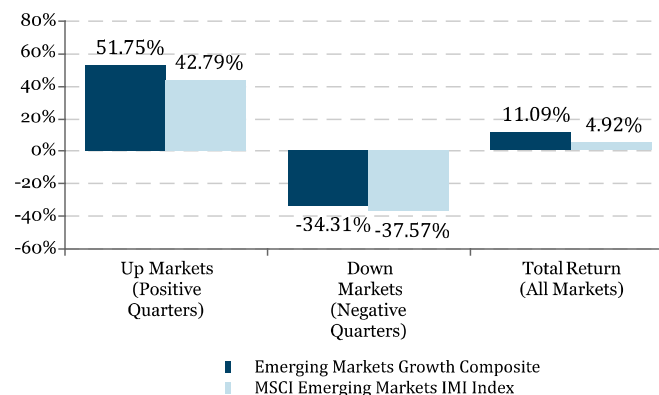
**Past performance is not indicative of future returns.** Performance is shown in U.S. dollar unless otherwise noted. Returns for periods greater than one year are annualized. Gross performance results shown do not reflect the deduction of investment management fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the highest possible fee. Investment management fees are described in William Blair's Form ADV Part 2A. The benchmark that best reflects the composite's investment strategy is the MSCI Emerging Markets Investable Market Index (IMI) Net, which is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic and political risk. Please see GIPS Composite Report in appendix for a complete description of the composite.

# Emerging Markets Growth Strategy Performance

Rolling 3-Year Annualized Periods Since Inception (Quarterly Data)  
Emerging Markets Growth Composite (USD Gross) vs.  
MSCI Emerging Markets IMI Index  
October 1, 1996 – March 31, 2022



Annualized Up/Down Market Returns (% USD Gross)  
09/1996 to 03/2022



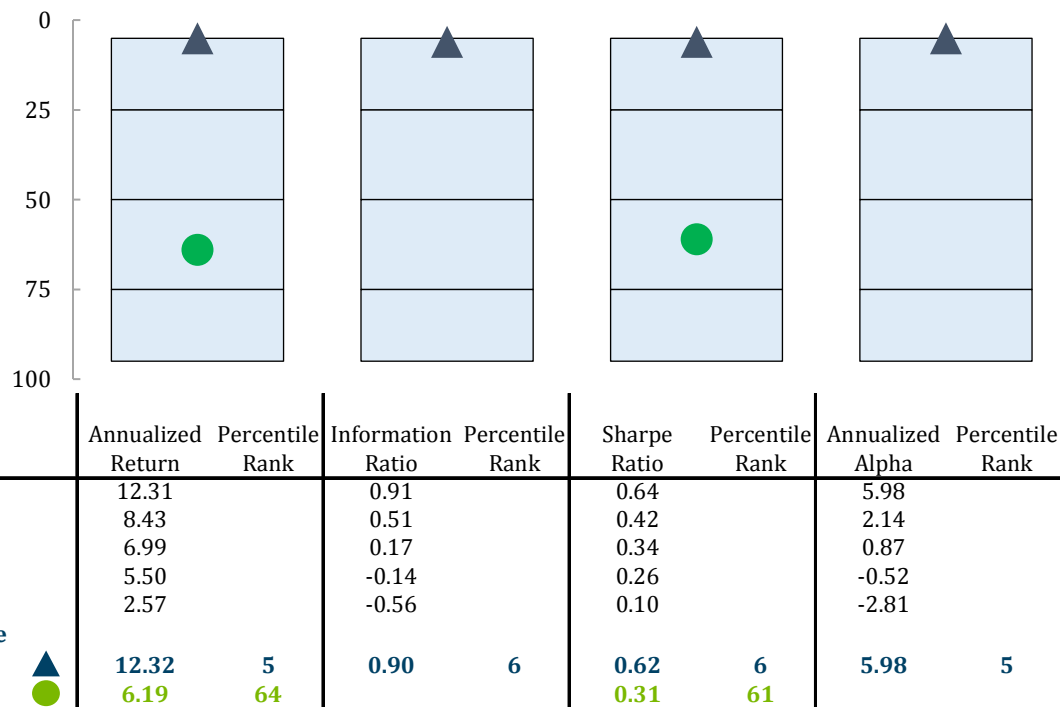
Up Markets Capture Ratio	1.18
Down Markets Capture Ratio	0.87
Up Markets Quarters	64
Down Markets Quarters	38

Composite Inception October 1, 1996.

Up/down market returns calculated using quarterly, annualized data.

**Past performance is not indicative of future returns.** Performance is shown in U.S. dollar unless otherwise noted. Returns for periods greater than one year are annualized. Gross performance results shown do not reflect the deduction of investment management fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the highest possible fee. Investment management fees are described in William Blair's Form ADV Part 2A. The benchmark that best reflects the composite's investment strategy is the MSCI Emerging Markets Investable Market Index (IMI) Net, which is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic, and political risk. Please see GIPS Composite Report in appendix for a complete description of the composite.

# Emerging Markets Growth – Five Years Ending March 31, 2022



Number of Managers

199

eVestment Alliance Emerging Markets All Cap Equity Universe data generated on April 19, 2022.

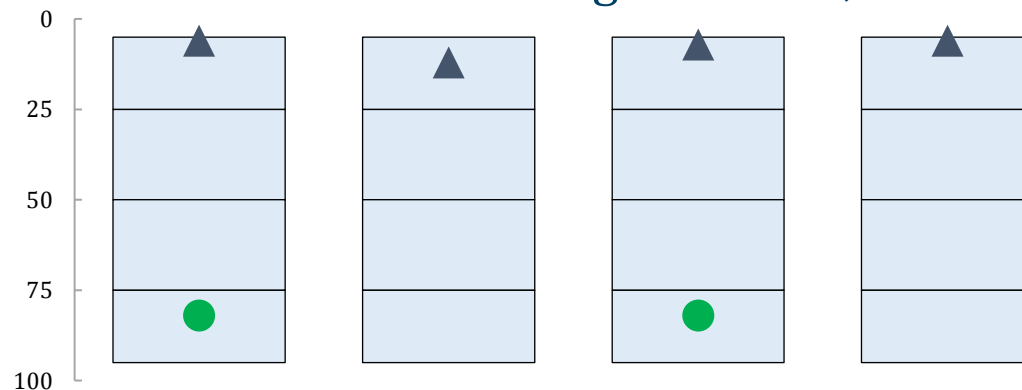
Composite inception 10/1/96. Performance shown is calculated in U.S. dollar, gross of fees, unless otherwise noted.

eA Universe Construction Methodology Emerging Markets All Cap Equity – Equity products that invest primarily in small, middle, and/or large capitalization stocks in emerging markets countries. The expected benchmarks for this universe would include the MSCI Emerging Market Free, or IFC Investable. Managers in this category will typically indicate a “Primary Capitalization Emphasis” equal to Small, Mid, or Large Cap and a “Primary Style Emphasis” equal to Growth, Value, or Core. eVestment Alliance standard deviation reflects annualized calculation of monthly returns. Percentile ranks are calculated across the eVestment universe using each manager’s default reporting method and may include a mix of gross of fees and net of fees returns as reported by each manager.

**Past performance is not indicative of future returns.** Composite performance is calculated using monthly data from October 1999 to present. Prior to October 1999, Emerging markets growth composite returns were calculated quarterly using the emerging markets carve out of the International Growth Composite. Past performance is not indicative of future returns. Gross investment performance assumes reinvestment of dividends and capital gains, is gross of investment management fees and net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the account’s actual fee. Investment management fees are described in William Blair’s Form ADV Part 2A. Returns for periods greater than one year are annualized. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic and political risk. The benchmark is the Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index which is an unmanaged index that includes only emerging markets. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.



# Emerging Markets Growth – Ten Years Ending March 31, 2022



	Annualized Return	Percentile Rank	Information Ratio	Percentile Rank	Sharpe Ratio	Percentile Rank	Annualized Alpha	Percentile Rank
5th Percentile	7.72		0.83		0.46		4.22	
25th Percentile	6.03		0.50		0.34		2.49	
50th Percentile	4.79		0.32		0.26		1.22	
75th Percentile	3.88		0.07		0.20		0.50	
95th Percentile	2.30		-0.21		0.10		-1.16	
<b>Emerging Markets Growth Composite (Gross of fees)</b> ▲	<b>7.43</b>	<b>6</b>	<b>0.67</b>	<b>12</b>	<b>0.42</b>	<b>7</b>	<b>3.96</b>	<b>6</b>
<b>MSCI Emerging Markets IMI Index</b> ●	<b>3.59</b>	<b>82</b>			<b>0.19</b>	<b>82</b>		
Number of Managers	132							

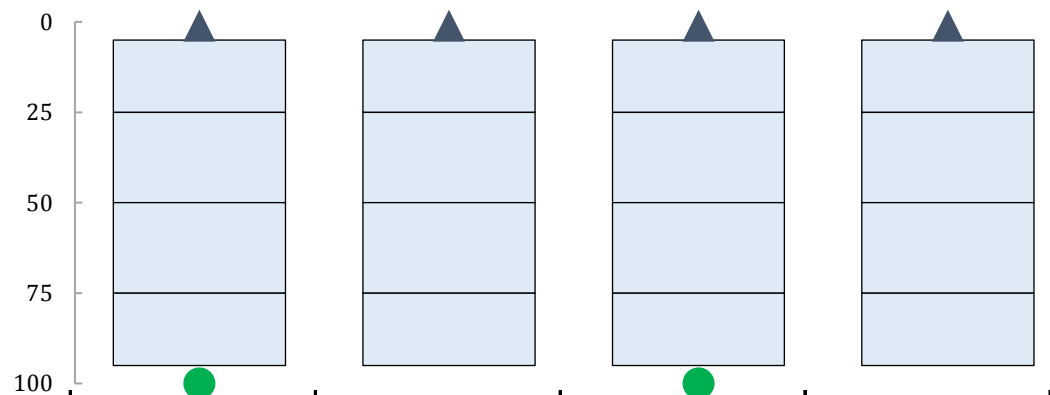
eVestment Alliance Emerging Markets All Cap Equity Universe data generated on April 19, 2022.

Composite inception 10/1/96. Performance shown is calculated in U.S. dollar, gross of fees, unless otherwise noted.

eA Universe Construction Methodology Emerging Markets All Cap Equity – Equity products that invest primarily in small, middle, and/or large capitalization stocks in emerging markets countries. The expected benchmarks for this universe would include the MSCI Emerging Market Free, or IFC Investable. Managers in this category will typically indicate a “Primary Capitalization Emphasis” equal to Small, Mid, or Large Cap and a “Primary Style Emphasis” equal to Growth, Value, or Core. eVestment Alliance standard deviation reflects annualized calculation of monthly returns. Percentile ranks are calculated across the eVestment universe using each manager’s default reporting method and may include a mix of gross of fees and net of fees returns as reported by each manager.

**Past performance is not indicative of future returns.** Composite performance is calculated using monthly data from October 1999 to present. Prior to October 1999, Emerging markets growth composite returns were calculated quarterly using the emerging markets carve out of the International Growth Composite. Past performance is not indicative of future returns. Gross investment performance assumes reinvestment of dividends and capital gains, is gross of investment management fees and net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the account’s actual fee. Investment management fees are described in William Blair’s Form ADV Part 2A. Returns for periods greater than one year are annualized. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic and political risk. The benchmark is the Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index which is an unmanaged index that includes only emerging markets. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.

# Emerging Markets Growth – Since Inception To March 31, 2022



	Annualized Return	Percentile Rank	Information Ratio	Information Percentile Rank	Sharpe Ratio	Sharpe Percentile Rank	Annualized Alpha	Alpha Percentile Rank
5th Percentile	9.78		0.87		0.29		4.76	
25th Percentile	8.69		0.69		0.27		3.77	
50th Percentile	7.91		0.60		0.22		2.89	
75th Percentile	7.20		0.40		0.20		2.37	
95th Percentile	6.74		0.24		0.18		1.86	
<b>Emerging Markets Growth Composite (Gross of fees)</b>	<b>11.09</b>	<b>1</b>	<b>0.89</b>	<b>1</b>	<b>0.34</b>	<b>1</b>	<b>6.10</b>	<b>1</b>
<b>MSCI Emerging Markets IMI Index</b>	<b>4.92</b>	<b>100</b>			<b>0.12</b>	<b>100</b>		

Number of Managers 25

eVestment Alliance Emerging Markets All Cap Equity Universe data generated on April 19, 2022.

Composite inception 10/1/96. Performance shown is calculated in U.S. dollar, gross of fees, unless otherwise noted.

eA Universe Construction Methodology Emerging Markets All Cap Equity – Equity products that invest primarily in small, middle, and/or large capitalization stocks in emerging markets countries. The expected benchmarks for this universe would include the MSCI Emerging Market Free, or IFC Investable. Managers in this category will typically indicate a “Primary Capitalization Emphasis” equal to Small, Mid, or Large Cap and a “Primary Style Emphasis” equal to Growth, Value, or Core. eVestment Alliance standard deviation reflects annualized calculation of monthly returns. Percentile ranks are calculated across the eVestment universe using each manager’s default reporting method and may include a mix of gross of fees and net of fees returns as reported by each manager.

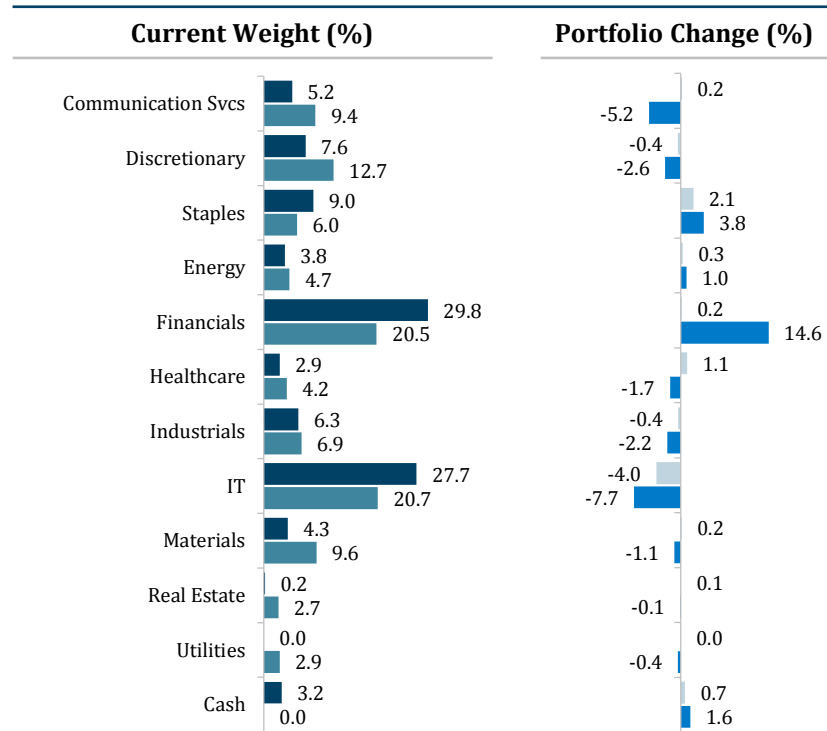
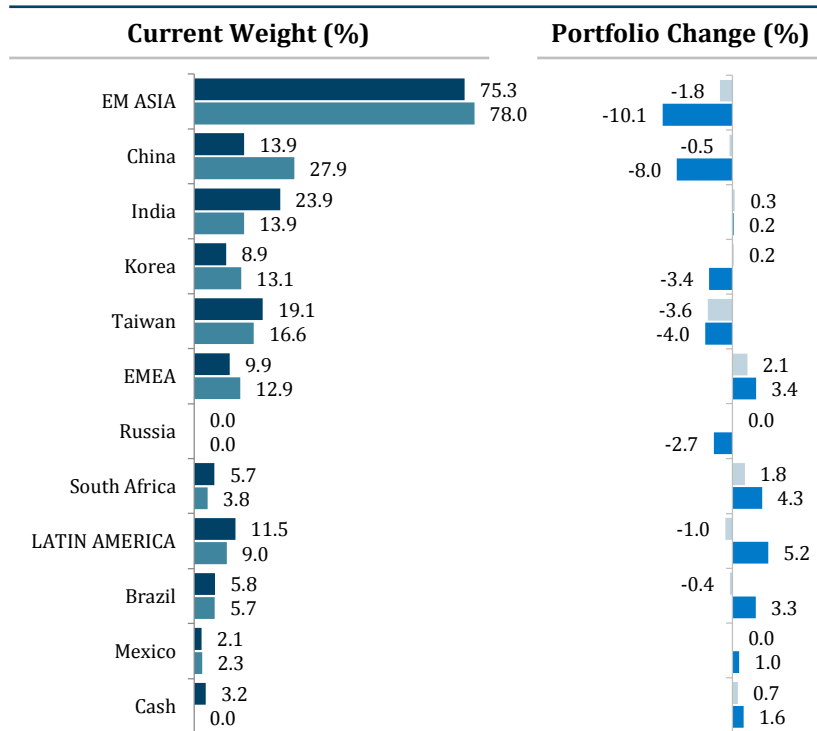
**Past performance is not indicative of future returns.** Composite performance is calculated using monthly data from October 1999 to present. Prior to October 1999, Emerging markets growth composite returns were calculated quarterly using the emerging markets carve out of the International Growth Composite. Past performance is not indicative of future returns. Gross investment performance assumes reinvestment of dividends and capital gains, is gross of investment management fees and net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the account’s actual fee. Investment management fees are described in William Blair’s Form ADV Part 2A. Returns for periods greater than one year are annualized. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic and political risk. The benchmark is the Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index which is an unmanaged index that includes only emerging markets. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.

# Portfolio Positioning – Emerging Markets Growth

As of May 31, 2022

## Regional Exposure

## Sectoral Exposure



■ Emerging Markets Growth      ■ Difference From Previous Quarter End  
■ MSCI Emerging Markets IMI Index      ■ Difference From Previous Year End

The data shown above is based on the strategy's representative portfolio. Cash incorporates cash equivalents and accruals. Region and sector distribution calculated in Eagle based on Global Industry Classification (GICS) Sectors. The MSCI Emerging Markets IMI Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. Not intended as investment advice.

# Holdings: Emerging Markets Growth

May 31, 2022

	Portfolio Weight		Portfolio Weight		Portfolio Weight
<b>EM Asia</b>	<b>75.32</b>	<b>EM Asia (continued)</b>		<b>EM Asia (continued)</b>	
<b>China</b>	<b>13.94</b>	<b>India (continued)</b>		<b>India (continued)</b>	
Tencent Holdings Ltd	1.70	Upl Ltd	0.92	Polycab India Ltd	0.22
China Merchants Bank-H	1.39	Srf Ltd	0.91	Godrej Properties Ltd	0.22
Bank Of Ningbo Co Ltd -A	1.12	Tata Elxsi Ltd	0.80	Dixon Technologies India Ltd	0.21
Li Ning Co Ltd	1.09	Apollo Hospitals Enterprise	0.73	Clean Science & Technology L	0.21
Kweichow Moutai Co Ltd-A	0.99	Varun Beverages Ltd	0.45	Astral Ltd	0.19
Jd.Com Inc - Cl A	0.92	Asian Paints Ltd	0.43	Atul Ltd	0.17
Netease Inc	0.92	Trent Ltd	0.41	Jk Cement Ltd	0.17
Silergy Corp	0.56	Pidilite Industries Ltd	0.37	Jubilant Foodworks Ltd	0.11
Anta Sports Products Ltd	0.52	Apl Apollo Tubes Ltd	0.35	Info Edge India Ltd	0.11
Suzhou Maxwell Technologie-A	0.51	Sun Pharmaceutical Indus	0.34	<b>Indonesia</b>	<b>5.46</b>
Inner Mongolia Yili Indus-A	0.50	Havells India Ltd	0.34	Bank Central Asia Tbk Pt	3.07
East Money Information Co-A	0.45	Bata India Ltd	0.34	Bank Rakyat Indonesia Perser	2.39
Zhejiang Jingsheng Mechani-A	0.44	Nestle India Ltd	0.34	<b>Philippines</b>	<b>1.11</b>
Jiumaojiu International Hold	0.43	Computer Age Management Serv	0.33	Bdo Unibank Inc	0.56
Zhongsheng Group Holdings	0.42	Kei Industries Ltd	0.31	Intl Container Term Svcs Inc	0.55
China Meidong Auto Holdings	0.41	Coforge Limited	0.31	<b>South Korea</b>	<b>8.90</b>
Chacha Food Co Ltd-A	0.35	Tata Consumer Products Ltd	0.30	Samsung Electronics Co Ltd	5.35
Yunnan Botanee Bio-Technol-A	0.34	Hindustan Unilever Ltd	0.29	Naver Corp	0.81
Shenzhen Inovance Technolo-A	0.33	Minda Industries Ltd	0.29	Kakao Corp	0.74
Naura Technology Group Co-A	0.29	Affle India Ltd	0.29	Samsung Biologics Co Ltd	0.60
Proya Cosmetics Co Ltd-A	0.27	Amber Enterprises India Ltd	0.26	Jyp Entertainment Corp	0.43
<b>India</b>	<b>23.95</b>	Voltas Ltd	0.25	Leeno Industrial Inc	0.43
Reliance Industries Ltd	3.81	Escorts Ltd	0.25	Samsung Sdi Co Ltd	0.30
Tata Consultancy Svcs Ltd	1.97	Crompton Greaves Consumer El	0.25	Chunbo Co Ltd	0.25
Hdfc Bank Limited	1.72	Dabur India Ltd	0.24	<b>Taiwan</b>	<b>19.10</b>
Bajaj Finance Ltd	1.41	Aarti Industries Limited	0.24	Taiwan Semiconductor-Sp Adr	6.41
Housing Development Finance	1.34	Kajaria Ceramics Ltd	0.23	E.Sun Financial Holding Co	2.40
Infosys Ltd	1.30	Indian Energy Exchange Ltd	0.23	Taiwan Semiconductor Manufac	2.17

The data shown above is based on the strategy's representative portfolio. Individual securities listed in this report are for informational purposes only. Holdings are subject to change at any time. This information does not constitute, and should not be construed as, investment advice or recommendations with respect to the securities listed. Cash incorporates cash equivalents and accruals.

# Holdings: Emerging Markets Growth

May 31, 2022

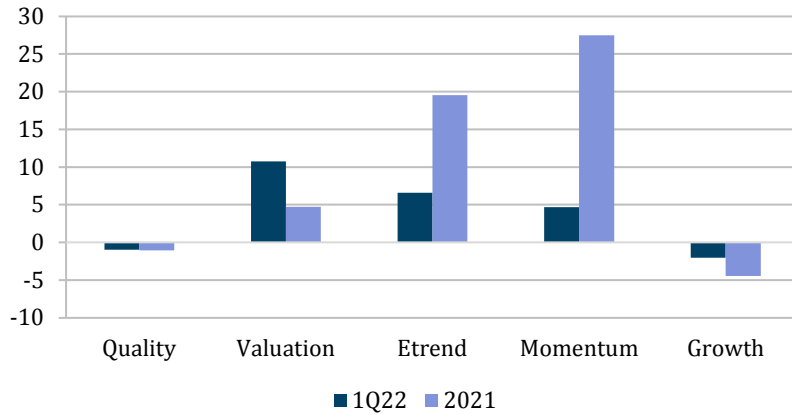
	Portfolio Weight		Portfolio Weight		Portfolio Weight
<b>EM Asia (continued)</b>		<b>EMEA (continued)</b>		<b>Latin America (continued)</b>	
<b>Taiwan (continued)</b>		<b>Poland</b>	<b>0.37</b>	<b>Peru</b>	<b>1.43</b>
Chailease Holding Co Ltd	1.47	Dino Polska SA	0.37	Credicorp Ltd	1.43
Mediatek Inc	1.13	<b>Qatar</b>	<b>1.85</b>	<b>Uruguay</b>	<b>0.43</b>
Voltronic Power Technology	0.65	Qatar National Bank	1.29	Dlocal Ltd	0.43
Parade Technologies Ltd	0.60	Qatar Islamic Bank	0.56	<b>Cash</b>	<b>3.24</b>
Lotes Co Ltd	0.55	<b>Saudi Arabia</b>	<b>0.34</b>	<b>Total</b>	<b>100.00</b>
Advantech Co Ltd	0.52	Dr Sulaiman Al Habib Medical	0.34		
Aspeed Technology Inc	0.42	<b>South Africa</b>	<b>5.71</b>		
Sinbon Electronics Co Ltd	0.42	Capitec Bank Holdings Ltd	3.12		
Feng Tay Enterprise Co Ltd	0.34	Shoprite Holdings Ltd	0.91		
Ememory Technology Inc	0.31	Clicks Group Ltd	0.88		
Wiwynn Corp	0.28	Bidvest Group Ltd	0.80		
Elite Material Co Ltd	0.27	<b>United Arab Emirates</b>	<b>1.48</b>		
Chroma Ate Inc	0.27	First Abu Dhabi Bank Pjsc	1.48		
Asmedia Technology Inc	0.25	<b>Latin America</b>	<b>11.50</b>		
Airtac International Group	0.24	<b>Argentina</b>	<b>1.72</b>		
Realtek Semiconductor Corp	0.17	Mercadolibre Inc	0.96		
Accton Technology Corp	0.12	Globant SA	0.76		
Momo.Com Inc	0.11	<b>Brazil</b>	<b>5.81</b>		
<b>Thailand</b>	<b>2.54</b>	Itau Unibanco H-Spon Prf Adr	2.14		
Kasikornbank Pcl-Foreign	1.18	Localiza Rent A Car	0.77		
Bangkok Dusit Med Service-F	0.52	Raia Drogasil SA	0.62		
Com7 Pcl-F	0.50	Weg SA	0.62		
Bumrungrad Hospital-Foreign	0.35	Totvs SA	0.58		
<b>Vietnam</b>	<b>0.33</b>	B3 Sa-Brasil Bolsa Balcao	0.45		
Hoa Phat Group Jsc	0.33	Patria Investments Ltd-A	0.36		
<b>EMEA</b>	<b>9.93</b>	Vinci Partners Investments-A	0.27		
<b>Kenya</b>	<b>0.19</b>	<b>Mexico</b>	<b>2.11</b>		
Safaricom PLC	0.19	Walmart De Mexico Sab De Cv	2.11		

The data shown above is based on the strategy's representative portfolio. Individual securities listed in this report are for informational purposes only. Holdings are subject to change at any time. This information does not constitute, and should not be construed as, investment advice or recommendations with respect to the securities listed. Cash incorporates cash equivalents and accruals.

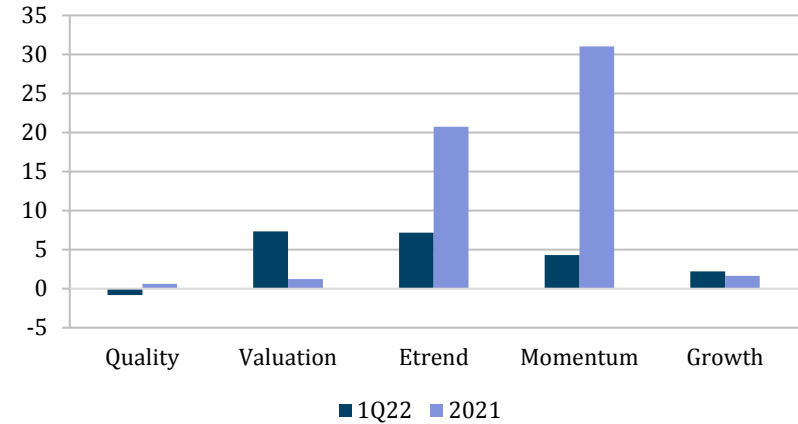
# Emerging Markets Overview

# Emerging Markets Style Performance

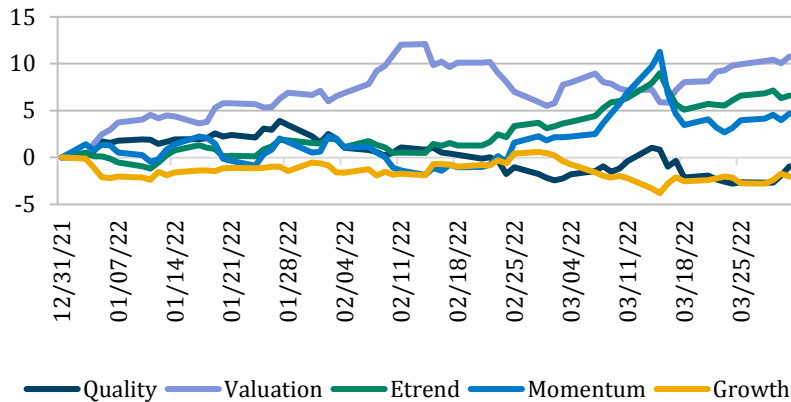
### MSCI EM IMI Style Performance (Q1-Q5)



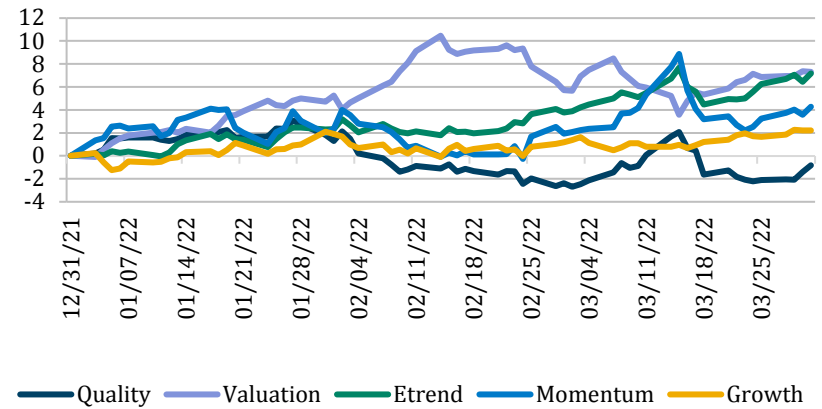
### MSCI EM Small Cap Style Performance (Q1-Q5)



### MSCI EM IMI Style Performance (Q1-Q5) YTD



### MSCI EM Small Cap Style Performance (Q1-Q5) YTD

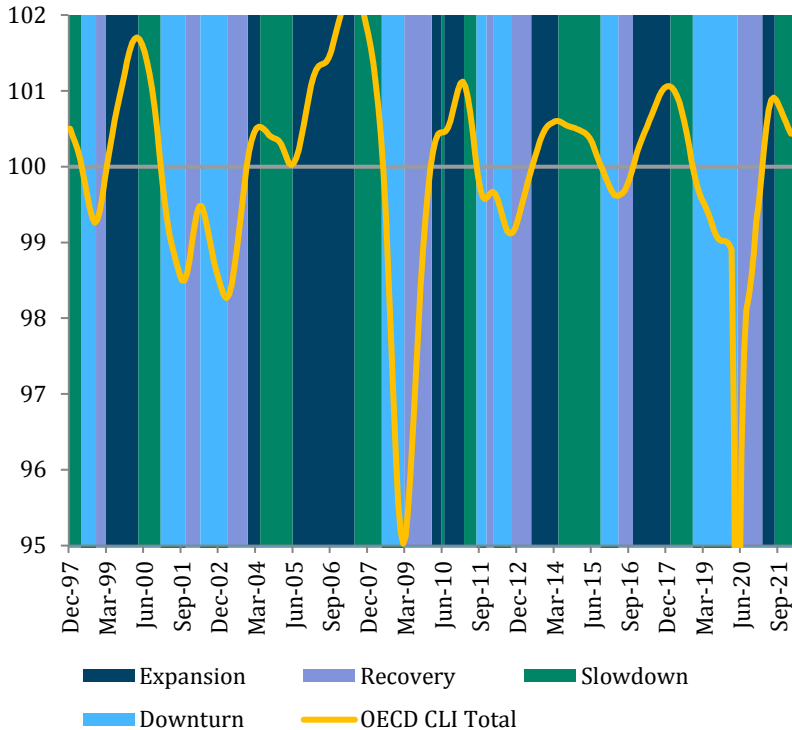


Data as of March 2022.  
Source: William Blair, MSCI.

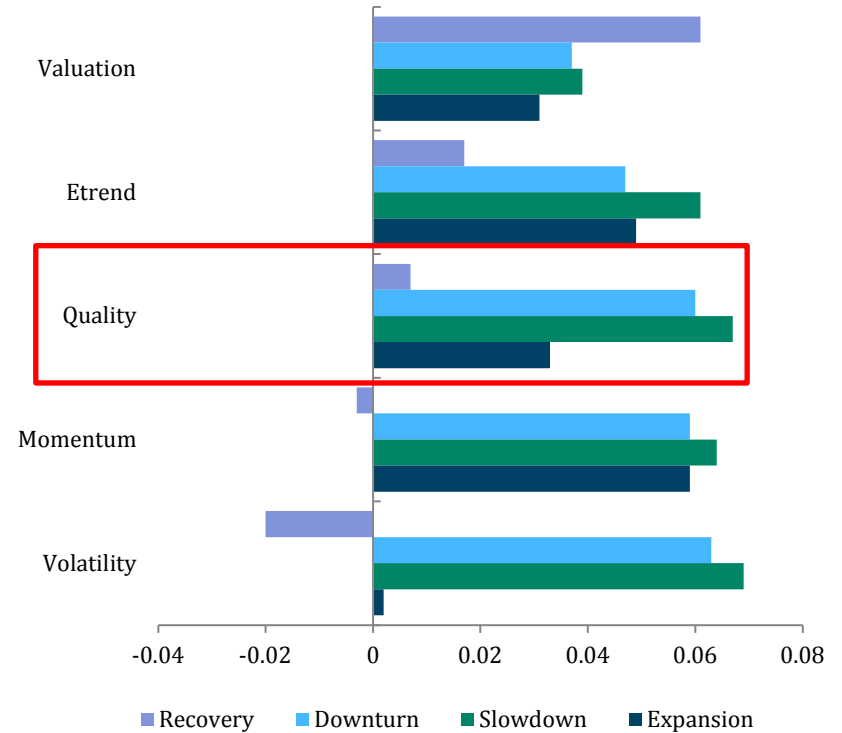
**Past performance is not indicative of future returns.** Fundamental model performance is provided for illustrative purposes only. Information is based on William Blair's proprietary quantitative models and does not in any way relate to actual results of any account or strategy.

# Emerging Markets Style Performance

### OECD Composite Leading Indicator



### MSCI EM IMI Information Coefficient Across Regimes



Data as of March 2022.

Source: William Blair, MSCI.

**Past performance is not indicative of future returns.** Fundamental model performance is provided for illustrative purposes only. Information is based on William Blair's proprietary quantitative models and does not in any way relate to actual results of any account or strategy. Hypothetical and backtested performance have many inherent limitations. Specifically, hypothetical and backtested results do not reflect actual trading, fees or expenses, or the effect of material economic and market factors on the decision-making process. There is no assurance that the models will remain the same in the future. Please refer to the Quantitative Models Definitions and Important Disclosures slides for additional information. Information Coefficient – represents the Spearman ranked correlation between factor score and future performance. A positive IC suggests that a given factor has exhibited predictive power of future performance during the backtest period.



# Emerging Market Performance in Rising Interest Rate Environment

## EM Factor Performance (Q1-Univ) in US 10 Year Interest Rate Environment

Factor	Falling	Rising	YTD
<b>Valuation</b>	<b>10.26%</b>	<b>12.27%</b>	<b>5.03%</b>
Earnings/CF (Value)	11.32%	11.76%	6.78%
<b>ETrend Revisions</b>	<b>11.68%</b>	<b>11.03%</b>	<b>4.13%</b>
ETrend Surprise	9.01%	7.38%	1.49%
ETrend Momentum	5.96%	6.80%	-0.16%
Asset (Value)	1.86%	6.08%	2.29%
<b>Quality</b>	<b>9.60%</b>	<b>5.11%</b>	<b>-1.08%</b>
Sust. Value Creat. (Quality)	7.81%	4.62%	-3.30%
Momentum	11.89%	4.02%	3.77%
Fund. Vol.	10.44%	3.55%	1.09%
Earns. Quality (Quality)	2.86%	1.71%	0.51%
Market Beta	-10.30%	1.06%	-6.20%
Fin. Strength (Quality)	6.11%	1.05%	0.52%
<b>Growth</b>	<b>1.53%</b>	<b>0.10%</b>	<b>-1.30%</b>

## EM Industry Performance in US 10 Year Interest Rate Environment

Industry	Falling	Rising	YTD
Energy	-1.95%	9.43%	17.87%
Insurance	4.47%	7.83%	4.46%
Food & Staples Retailing	7.47%	5.56%	8.41%
Banks	4.98%	5.39%	13.44%
Materials	2.17%	3.36%	4.83%
Automobiles & Components	4.07%	3.05%	-8.37%
Food, Beverage & Tobacco	4.41%	1.71%	0.00%
Telecommunication Services	0.41%	1.59%	5.13%
Retailing	3.02%	1.59%	-1.45%
Utilities	3.09%	1.29%	3.41%
Software & Services	-4.57%	1.04%	-12.64%
Technology Hardware & Equipment	-9.84%	0.93%	-8.52%
Transportation	-0.71%	-0.17%	4.05%
Real Estate	-2.87%	-0.45%	2.70%
Diversified Financials	-0.42%	-0.65%	-1.39%
Household & Personal Products	12.45%	-1.78%	-7.69%
Health Care Equipment & Services	-1.18%	-2.46%	-2.38%
Capital Goods	-2.65%	-2.49%	-0.80%
Pharmaceuticals, Biotechnology & Life Sciences	7.39%	-3.22%	-6.78%
Commercial & Professional Services	1.68%	-3.50%	3.44%
Consumer Services	0.88%	-4.28%	2.41%
Semiconductors & Semiconductor Equipment	-0.26%	-4.41%	-7.60%
Consumer Durables & Apparel	-4.93%	-5.08%	-6.51%
Media & Entertainment	-8.08%	-5.14%	-8.21%

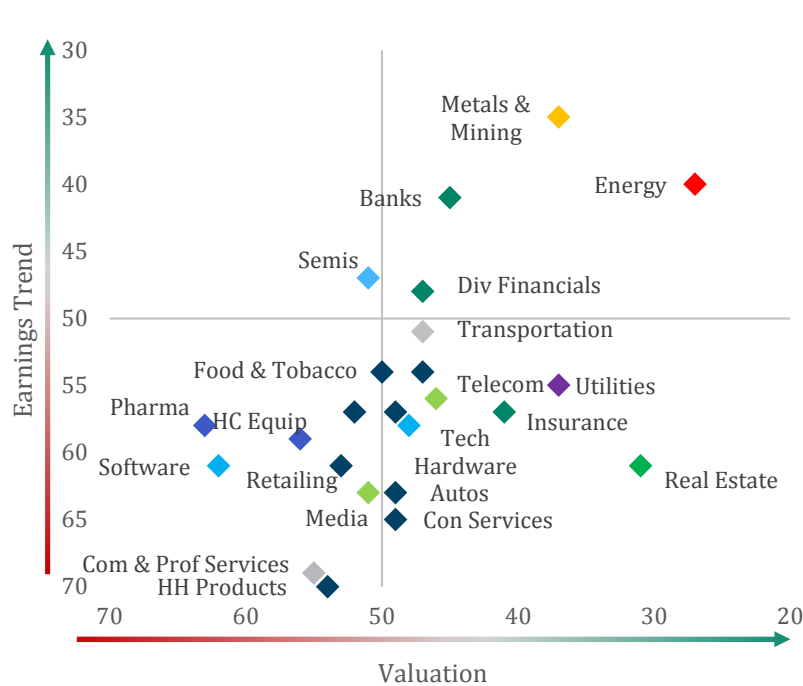
As of March 2022. MSCI EM IMI, Rising/Falling Markets from June 1997-March 2022.

Sources: William Blair and MSCI.

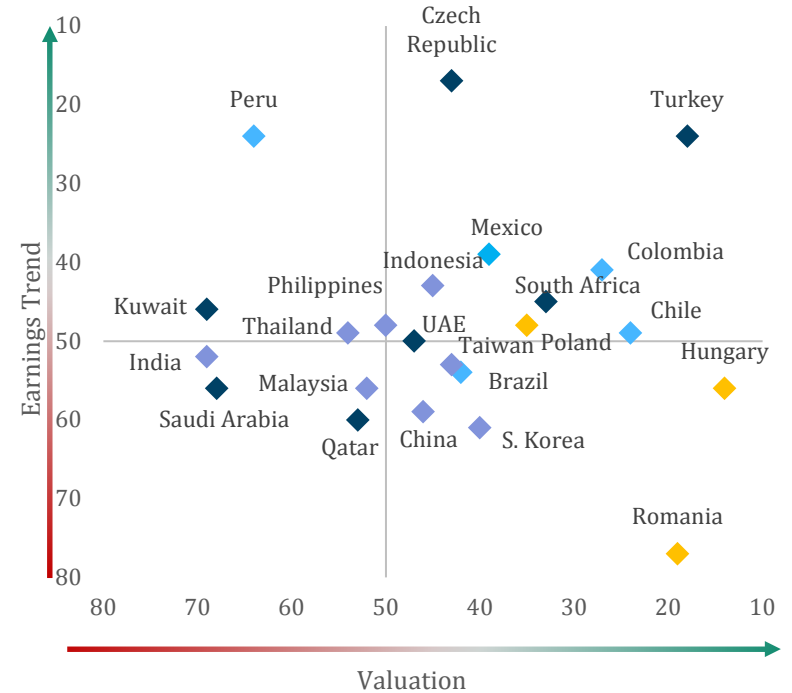
**Past performance is not indicative of future returns.** Fundamental model performance is provided for illustrative purposes only. Information is based on William Blair's proprietary quantitative models and does not in any way relate to actual results of any account or strategy.

# Emerging Market Fundamentals & Valuation

## Emerging Markets Industries



## Emerging Markets Countries



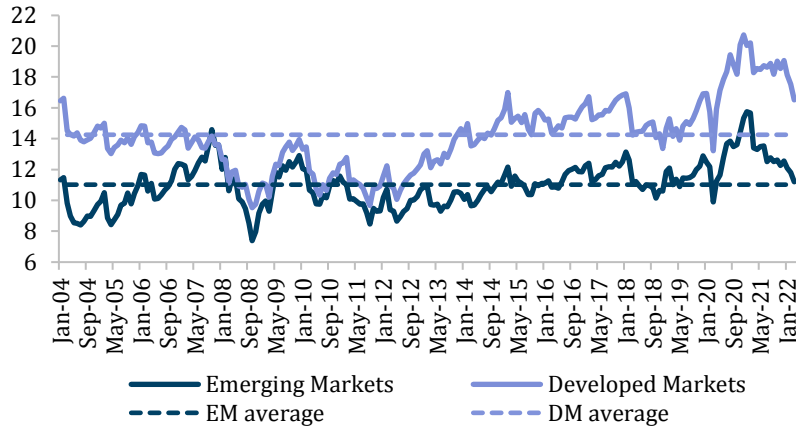
As of March 2022.

Sources: William Blair and MSCI.

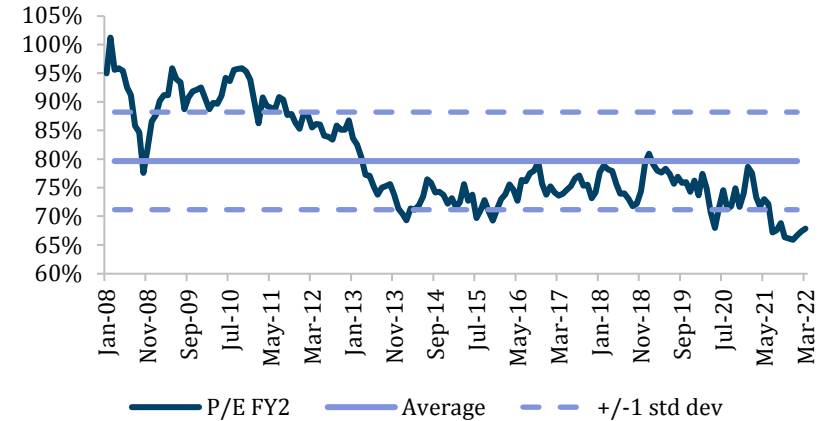
**Past performance is not indicative of future returns.** Fundamental model scores are provided for illustrative purposes only. Information is based on William Blair's proprietary quantitative models and does not in any way relate to actual results of any account or strategy.

# Attractive Valuations Relative to Developed Markets

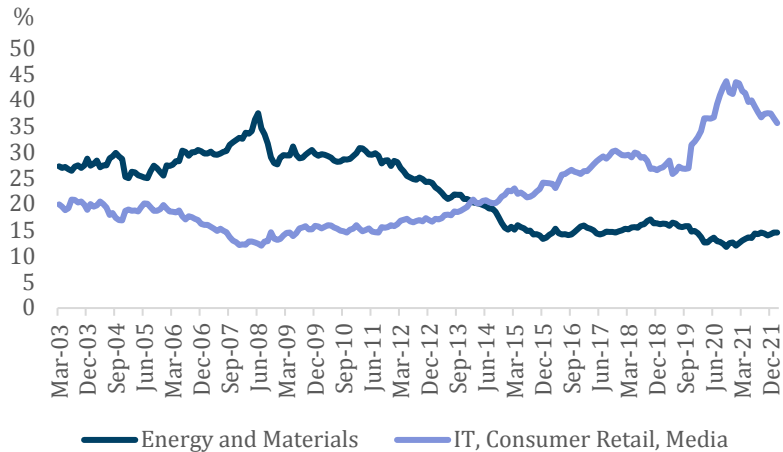
### MSCI Emerging vs Developed - P/E FY2



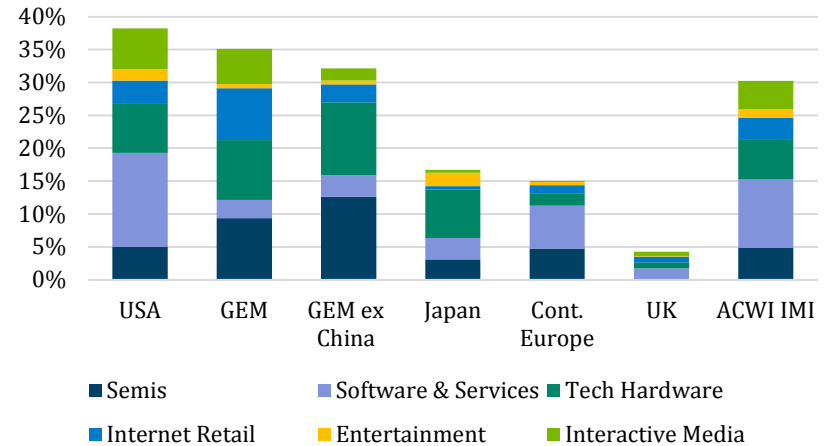
### MSCI EM P/E FY2 - Relative to MSCI World (Premium/Discount)



### MSCI Emerging Markets Industry Group Weight Shifts (%)



### Tech+ Market Share by Region



Data as of March 2022.  
Source: MSCI, FactSet, Credit Suisse.

## Russia Exposure

- Historically low exposure to Russia and no investment in SOEs, natural resources, and companies in strategic industries due to concerns related to poor corporate governance, lack of transparency and corruption
- No investment in local securities –  
Only securities trading in New York and London
- Only investments across the Global Team were in four, high-quality growth, privately-owned companies
- As of March 31; Zero/De minimis exposure in Russia

# Emerging Market Countries: Key Trends and Outlook

			Outlook	Commodity Beneficiary	Covid Impact	Interest Rate Cycle	Corporate Fundamentals	Valuation	Geopolitical/Regulatory
EMEA	Russia		Negative						✗
	Kazakhstan		Negative	✓					✗
	Hungary		Negative			✗	✗		✗
	Poland		Negative			✗	✗		✗
	UAE		Positive	✓	✓	✓	✓	✓	
	Qatar		Positive	✓		✓	✓	✓	
	South Africa		Positive	✓	✓		✓	✓	
LATAM	Brazil		Positive	✓	✓	✓		✓	
	Peru		Positive	✓	✓			✓	✗
	Mexico		Positive		✓	✓	✓		
Asia	Taiwan		Positive			✓	✓	✓	✗
	India		Neutral	✗				✗	✓
	China		Neutral		✗	✓	✗	✓	✗ ✓
	Indonesia		Positive	✓	✓		✓		
	Thailand		Positive		✓		✓		
	Philippines		Positive		✓		✓		

As of April 2022.

Information is subject to change without notice. Forecasts are provided for illustrative purposes only and are not indicative of future results. Forecasts and projections are based on current beliefs and expectations. Due to a variety of factors, actual events may differ significantly from the estimates or outlooks presented.

# China Outlook

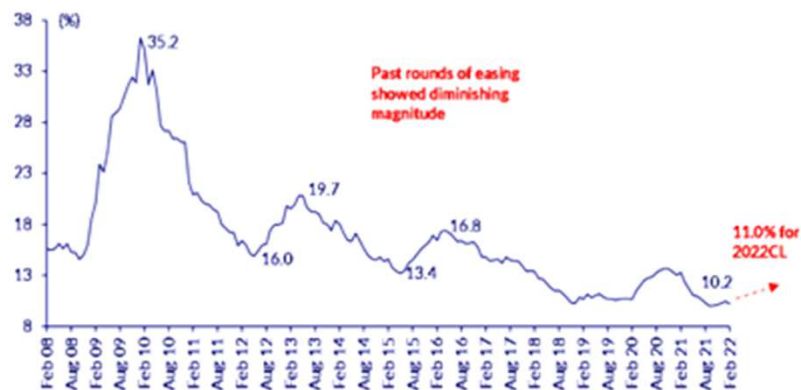
## POSITIVE

- Government focused to ensure stable economic growth
- Fiscal stimulus
- Monetary easing
- Attractive valuations
- Potential easing of regulatory pressure
- Potential resolution of ADR overhang

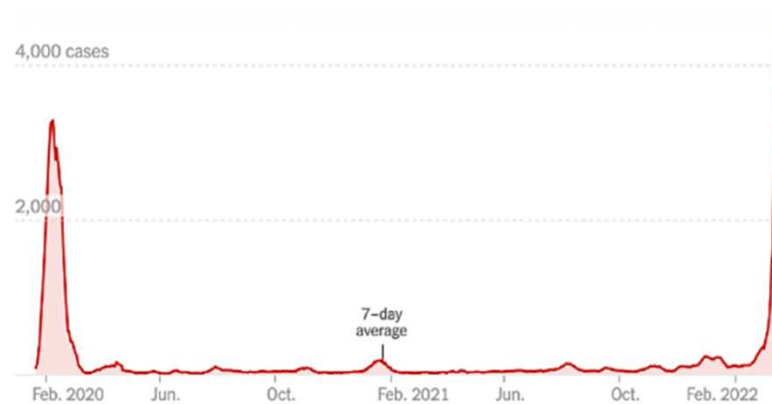
## NEGATIVE

- Covid resurgence and lockdowns
- Weaker growth
- Property market stress
- Sluggish consumer sentiment
- Internet: Regulation and increased competitive intensity
- Regulatory overhang affecting fundamentals
- Increased geopolitical risks

### China Total Social Financing



### China 7-Day Average Covid Cases

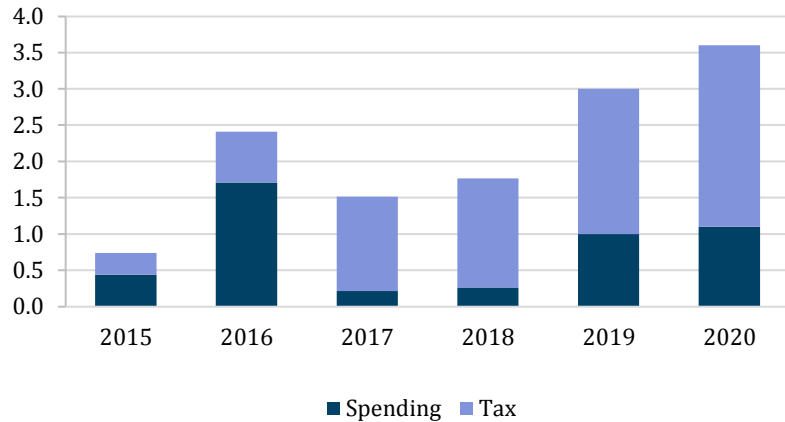


Data as of March 2022.

Source: China National Health Commission, Cornerstone, CLSA.

# China Outlook

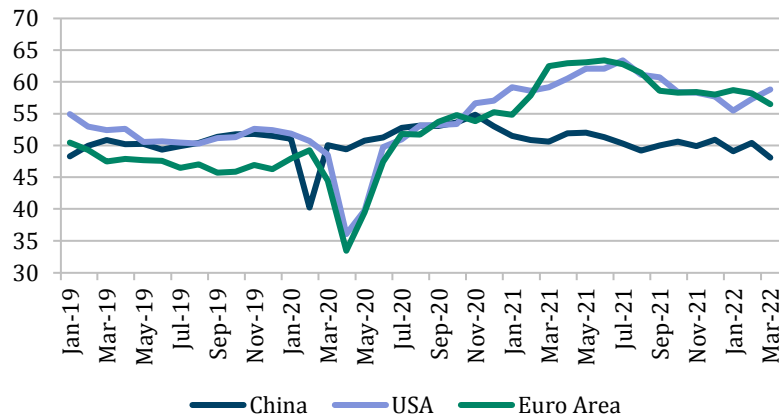
### China Fiscal Stimulus as % of GDP



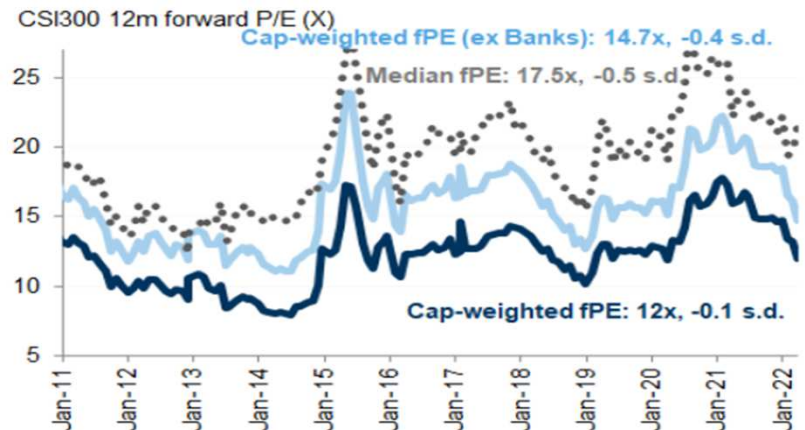
### China Total Social Financing (YoY %)



### Manufacturing PMIs



### 12-Month Forward P/E for CSI300, Past 10 Years

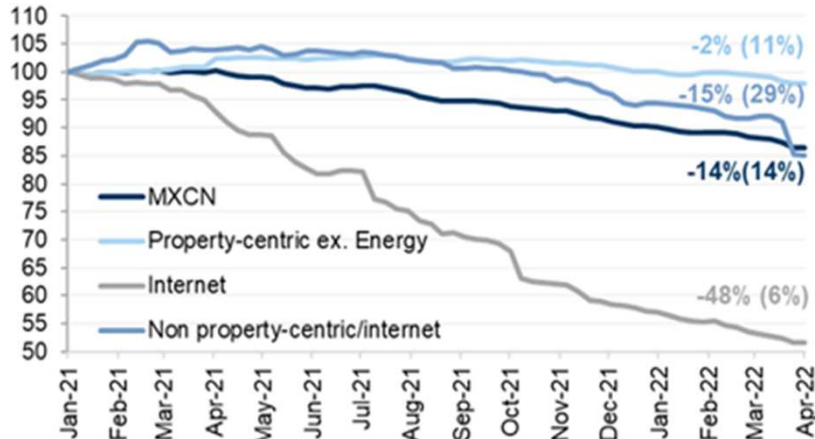


Note: The TSF here refers to the new definition, which includes treasury bonds, ABS and loan. Data as of March 2022.

Source: Cornerstone Macro, Bloomberg, FactSet, I/B/E/S, CLSA, Goldman Sachs. Past performance is not indicative of future results.

# China Outlook: Policy and Regulatory Risks

MSCI China - EPS Revisions (Average of 2021-2022 EPS)



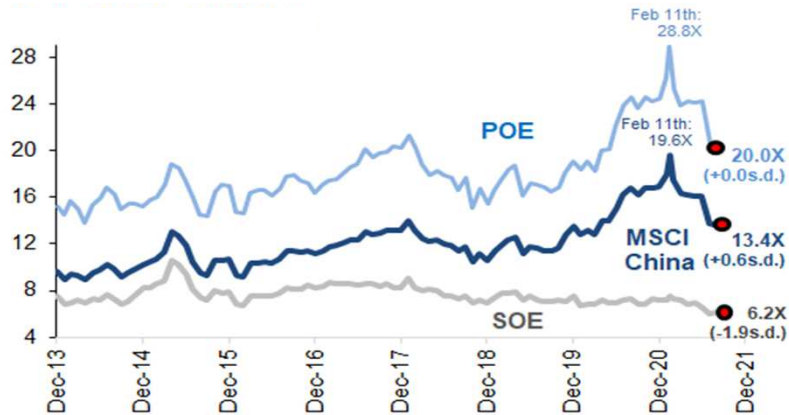
Note: Numbers in brackets represent 2021-23E EPS CAGR on consensus est.

China Regulatory Trend Baskets Performance

All China Industry Groups	Regulation vulnerability scorecard				Total	21/22E avg EPSg
	Antitrust	Capital Markets	Data Security	Social Equality		
Media	***	***	***	***	***	21%
Consumer Services	***	***	***	***	***	91%
Retailing	**	***	***	***	***	15%
Transportation	**	**	**	**	***	186%
Pharma Biotech		**	***	***	***	99%
Real Estate	*	**	*	***	**	14%
Telecom	***		***	*	**	29%
Insurance	***		**	**	**	12%
Software	*	**	***		**	59%
Cons Durables	**		*	***	**	34%
Tech Hardware	*	**	**		**	37%
Div Financials	*	*	***		**	19%
Banks	**		**		**	10%
Autos	**	*	**		**	52%
Semiconductors	*		***		**	43%
Energy	***				*	44%
Capital Goods	*	*	*		*	17%
Food Bev & Tobacco				**	*	22%
Utilities		**			*	12%
Materials		*			*	33%

Note: Sectors with higher # of total \* may be more vulnerable while sectors with lower # of total \* may be relatively immune to regulation risk. Sectors with relatively higher leverage are also deemed as vulnerable under the dimension of Capital Markets.

MSCI China - Forward P/E



Data as of August 2021.

Source: Goldman Sachs Research, Credit Suisse, William Blair.

China Regulatory Trend Baskets Performance



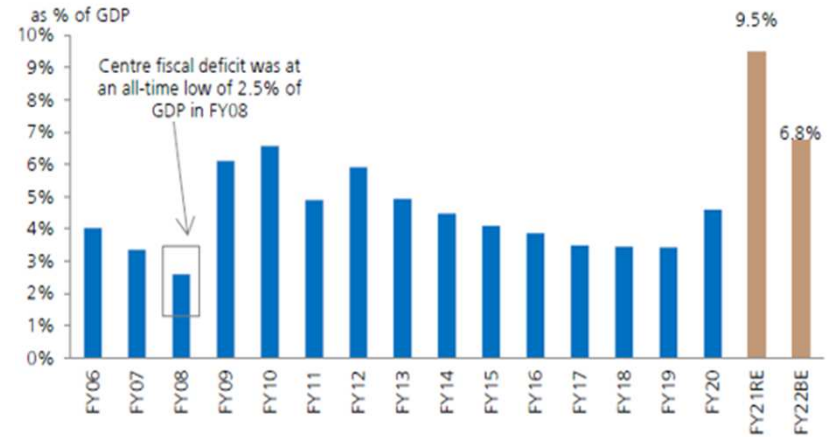


# India Outlook

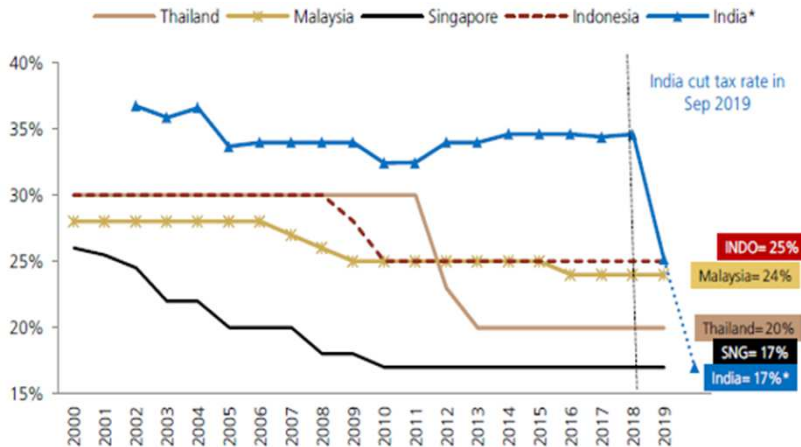
## Nomura India Business Resumption Index



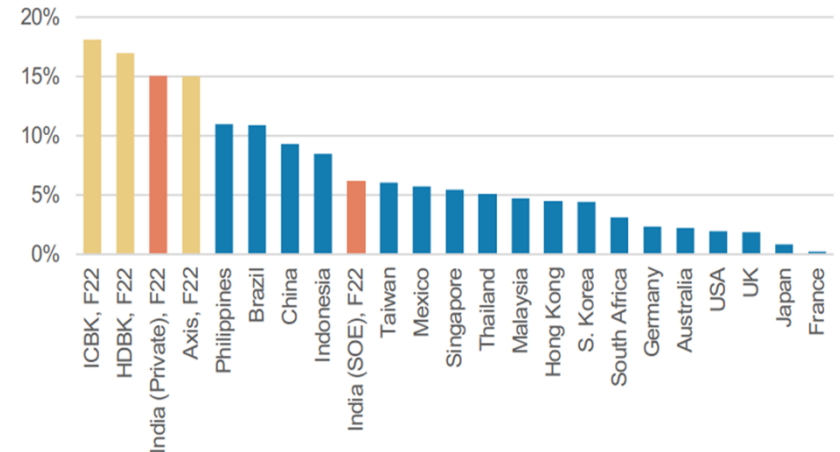
## Central Government's Fiscal Deficit



## Corporate Tax Rates



## Morgan Stanley Estimates 2021/F2022 Loan Growth

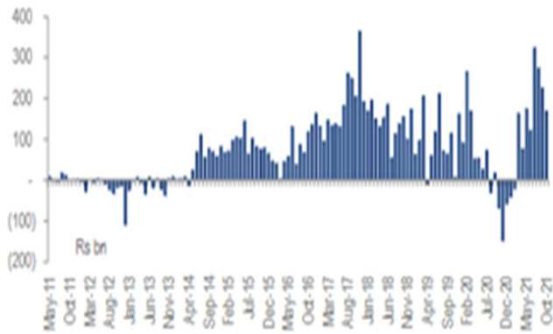


Data as of December 2021.

Source: UBS, Morgan Stanley.

# India Valuation and Risk

### Flows into Domestic Equity Mutual Funds



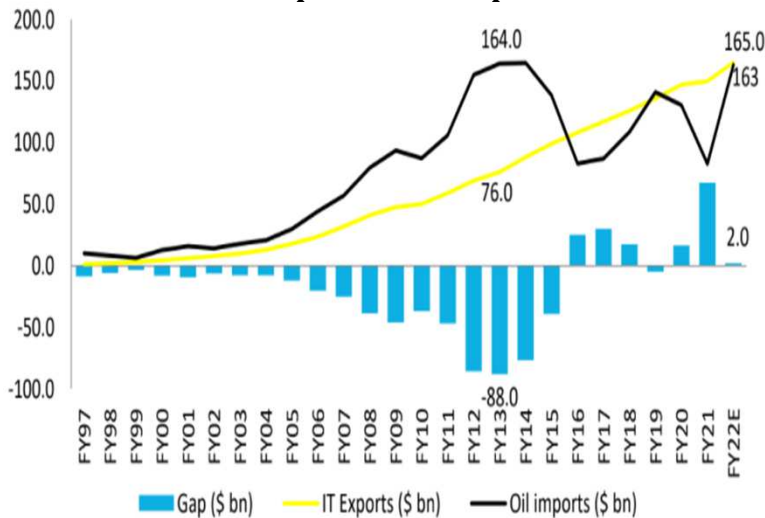
### NIFTY P/E FY1



### MSCI India Premium vs EM



### IT Exports vs Oil Imports



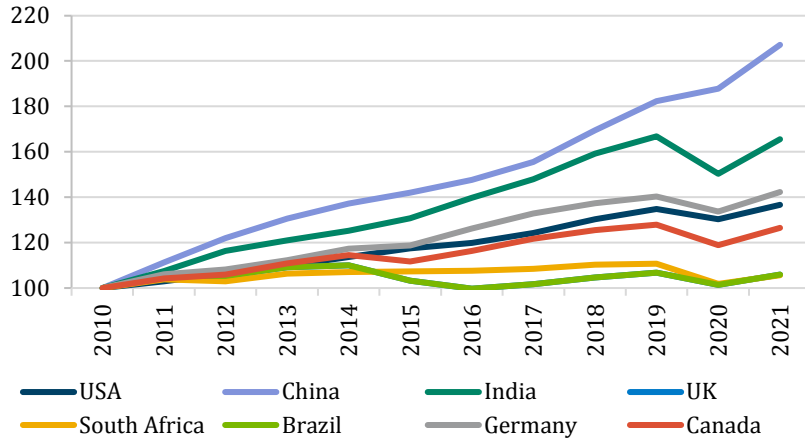
## India's Core Macro Fundamentals Have Improved Significantly with Inclusion of Indian Sovereign Bonds

Table	FY13	FY22E	Comments
CAD (% of GDP)	4.8	0.9	• Current account deficit as % of GDP is expected to narrow to 0.9% FY22E from 4.8% in FY13
External Debt as % of Nominal GDP*	24%	21%	• External debt as % of GDP has fallen to 21% in FY21 from 24% in FY14
Import Cover (in months)	7.1	13.6	• Import cover as has also increased to 13.6 months currently vs. 7.1 months in Mar'13
Forex Reserve (\$, bn)	294	639	• Forex reserves have increased to \$639bn as of Sep'21 vs. \$294bn in Mar'13
CPI Inflation (% yoy)	9.9	5.5	• CPI inflation has decisively come down to ~5% for vs. 9.9% in FY13
GNPL Ratio*	12.0	10.4	• Gross Non performing is expected to decrease to 10.4% in FY22E vs. 12% in FY13

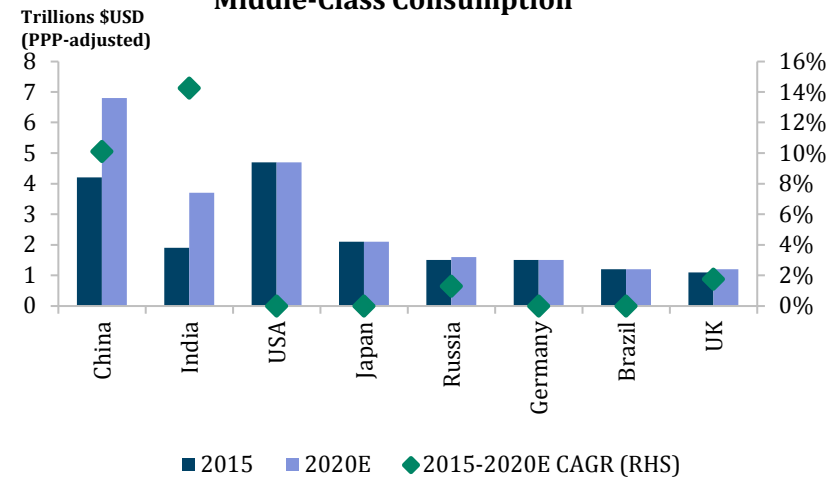
Data as of March 2022.  
Source: Citi Research, Spark Capital.

# Emerging Markets Rich Opportunity Set for Quality Growth Investors

### GDP per Person, \$ at PPP (indexed 2010 = 100)



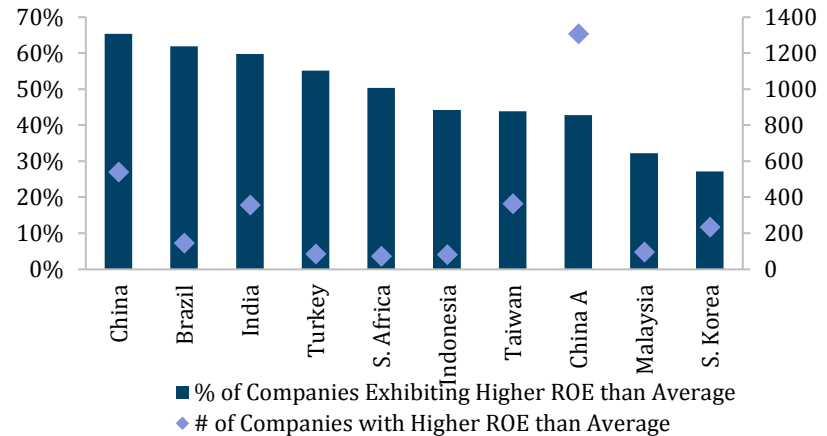
### Middle-Class Consumption



### Higher Growth Profile<sup>1</sup>...



### ... With Abundant High Quality Opportunities

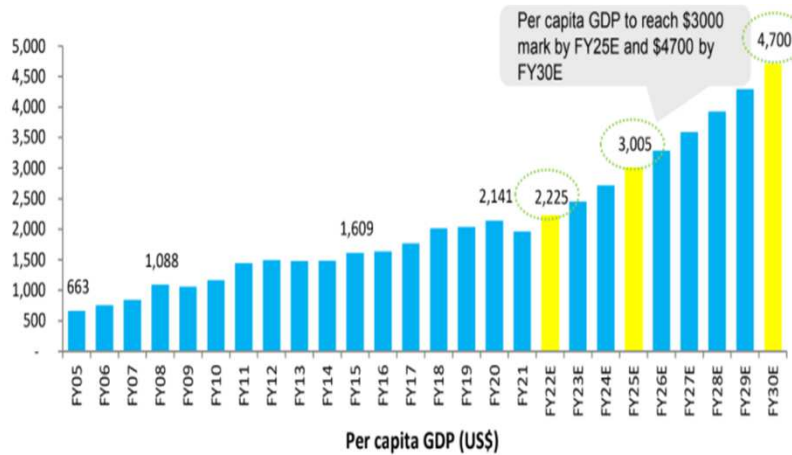


<sup>1</sup>Growth is defined as the William Blair long-term growth rate which is based on a combination of realized and forecast growth rates. Data as of September 2021.

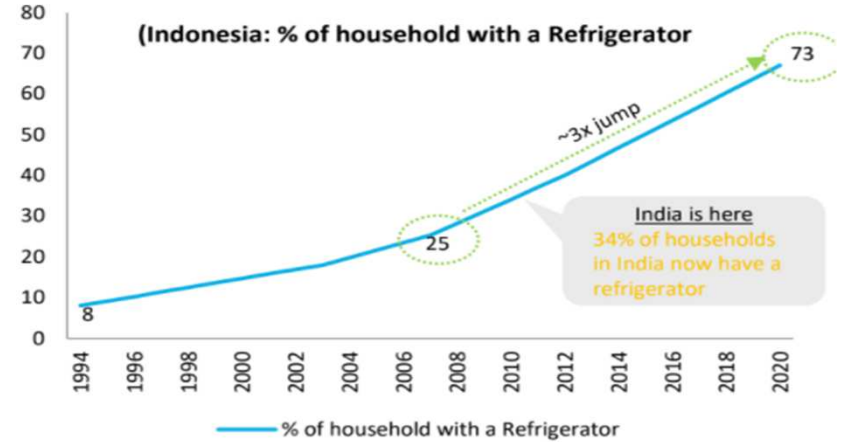
Source: William Blair, Refinitiv, Goldman Sachs, McKinsey. Universe consists of all listed emerging market companies (ex-Financials) with market caps above \$100 million USD.

# India's Consumer Story at an Inflection Point

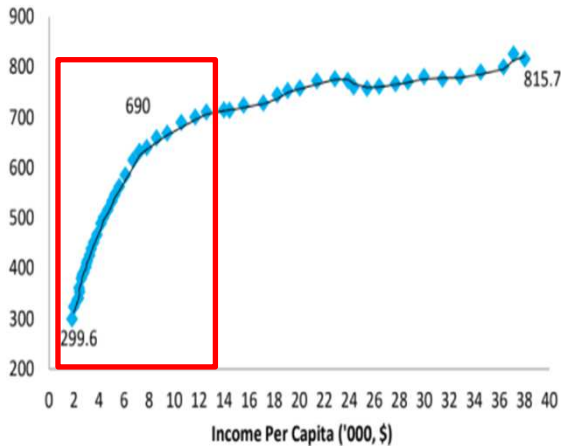
## India's Per Capita GDP Growth



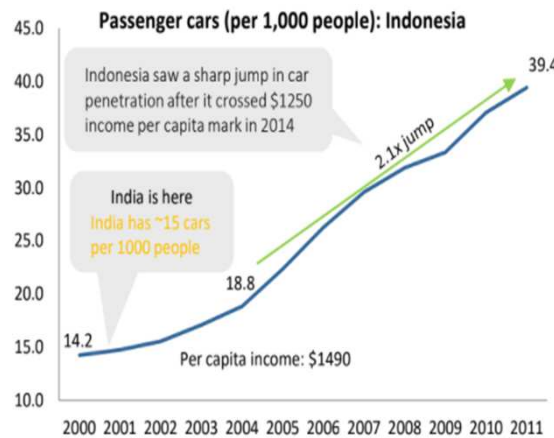
## Indonesia Durable Products After Crossing \$2000 Income Per Capita



## US Vehicle Ownership from \$2000-\$10,000 in 1960's



## Indonesia Passenger Cars After Crossing \$1250 Income per Capita



## China Car Penetration After Crossing \$2000 Income per Capita



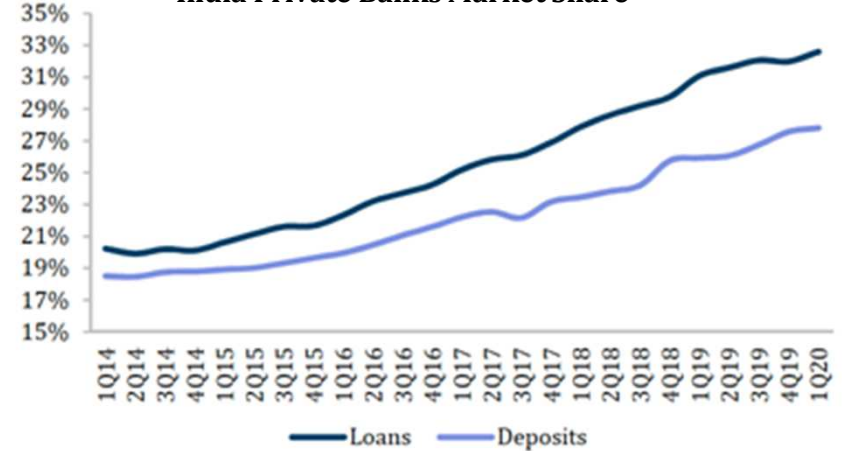
Data as of December 2021.  
Source: Spark Capital.

# Improving Trends and Long-Term Growth Opportunity Indian Financials

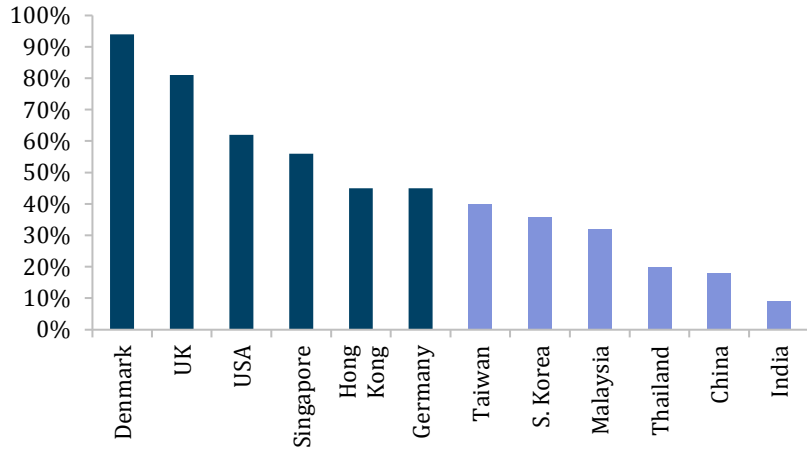
### India Home Loan Rate - HDFC



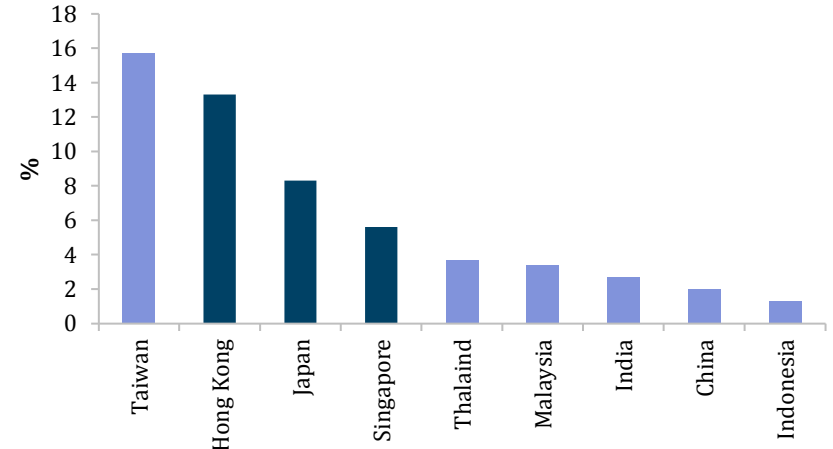
### India Private Banks Market Share



### Low Mortgage Penetration



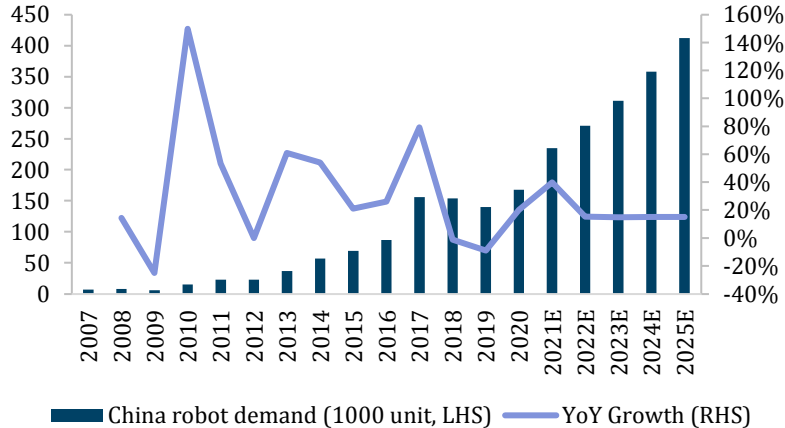
### Low Life Insurance Penetration



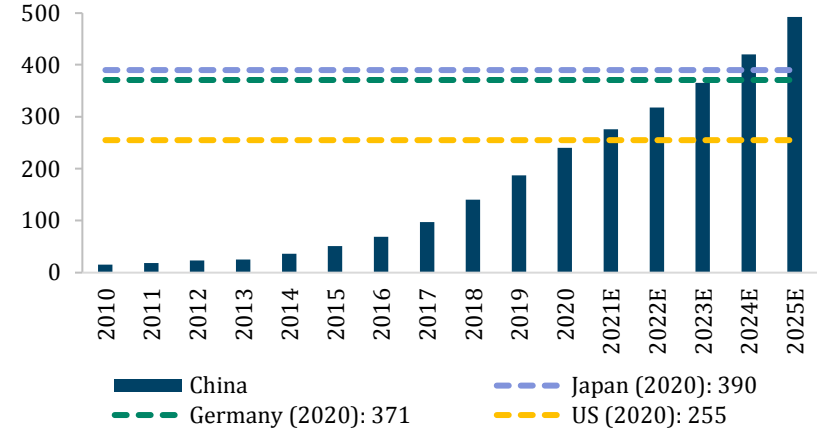
Data as of December 2020.  
Source: European Mortgage Federation, HDFC, Citi.

# Long-Term Growth in China High End Manufacturing and Green Energy

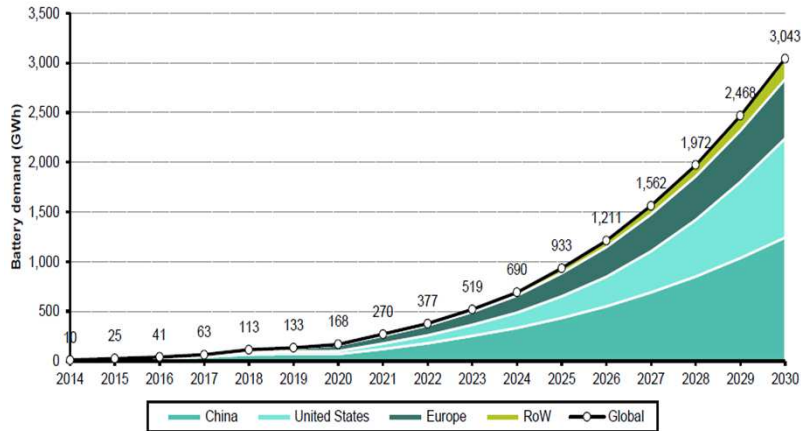
**After a Cyclical Downturn in 2018-19, the Chinese Robot Market is Forecasted to Return to ~20% CAGR**



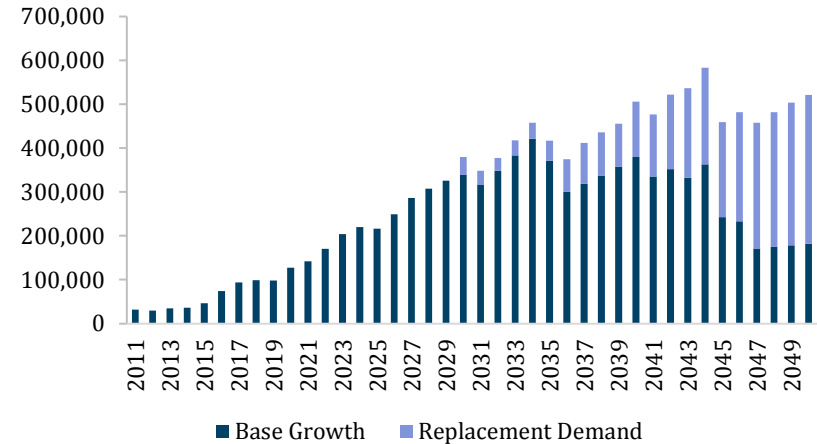
**Robot Density in the Manufacturing Industry (Installed Robots per 10k Manufacturing Workers)**



**China Remains Largest and Fastest Growing Market for Batteries**



**China Solar Energy Base Annual Growth (MW) - (2021-2049F)**

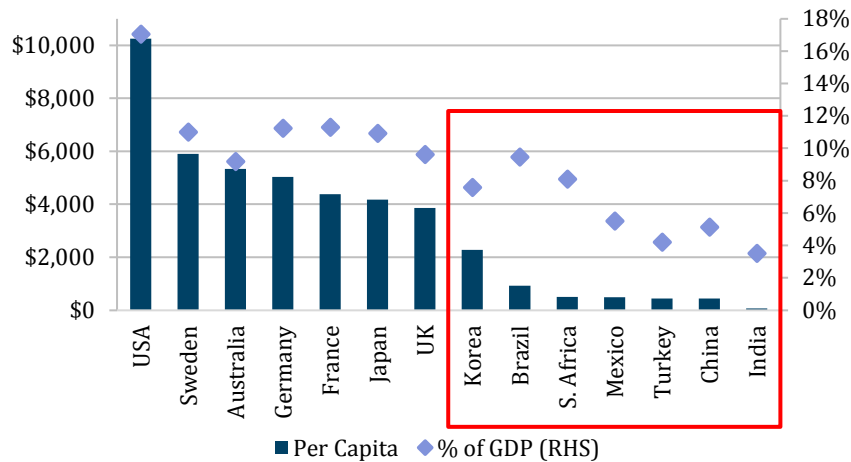


Data as of January 2022.

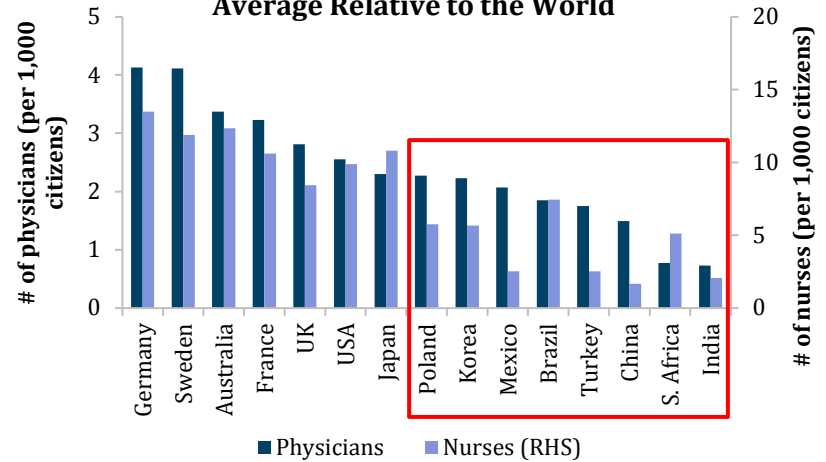
Source: Goldman Sachs Global Investment Research, Gao Hua Securities Research, MIR, Gongkong, Bishop Associates.

# Sustainable Growth Drivers in Emerging Markets Health Care

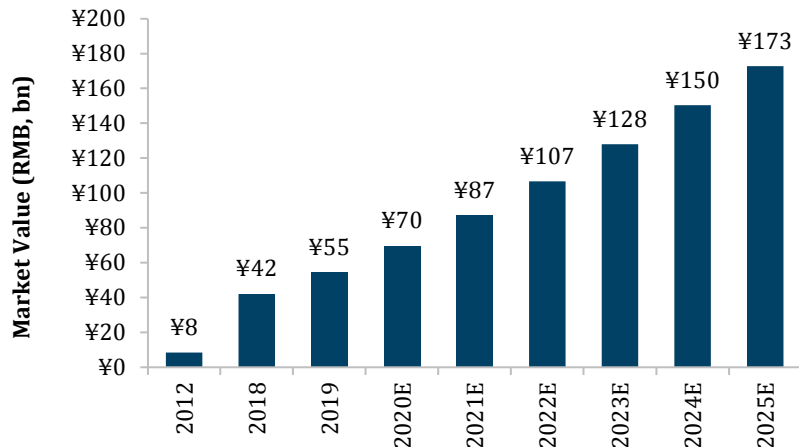
### Health Care Expenditure per Capita



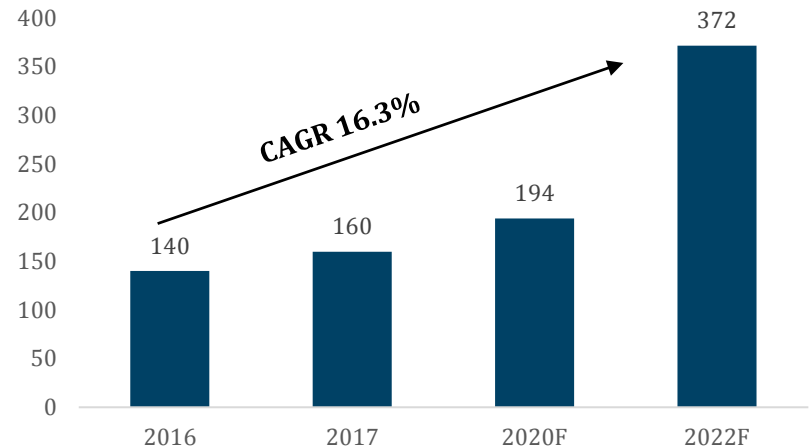
### Physicians and Nursing Staff Levels Below-Average Relative to the World



### China Contracted Research Organizations Markets



### Indian Health Care Market Size (USD \$bn)



Data as of September 2020.

Source: World Health Organization, Nomura, IBEF.

# Appendix



# Alameda County Employees' Retirement Association

## Emerging Markets Growth Fee Schedule

### **Collective Investment Trust (GAV<sup>1</sup>)**

<b>Share Class 1</b>	<b>Annual Investment Management Fee</b>
First \$25 million	0.90%
Next \$25 million	0.85%
Next \$50 million	0.70%
Next \$50 million	0.65%
Next \$50 million	0.60%
Next \$200 million	0.40%
Over \$400 million	0.35%

**Minimum CIT account size: \$5 million (\$1 million for DC assets)**

**We are pleased to offer a 5% discount based on our existing relationship with ACERA.**

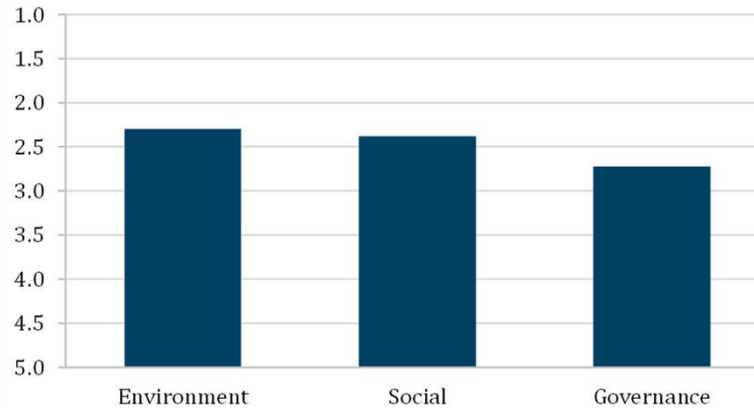
**Based on a \$250mm mandate and applying the 5% discount, the annual investment management fee for the GAV CIT Class 1 would be 61 bps, plus operating expenses as described below.**

<sup>1</sup>Investors in the Collective Investment Trust (CIT) are also responsible for customary expenses associated with pooled investment vehicles (including custody, trustee, fund accounting, audit, etc.) which are paid to unaffiliated third party service providers. These expenses are contractually capped at 5 bps. The CIT does not participate in securities lending. There is no revenue sharing within the CIT.

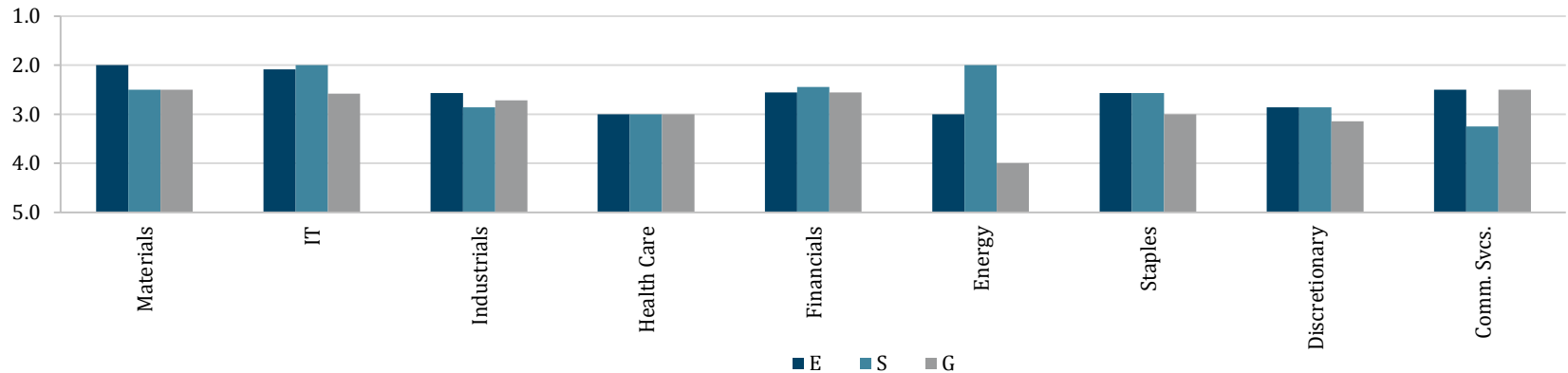
# William Blair ESG Ratings Profile

## Emerging Markets Growth

**Portfolio Weighted Average ESG Ratings**



**Average ESG Ratings by Sector**



March 31, 2022

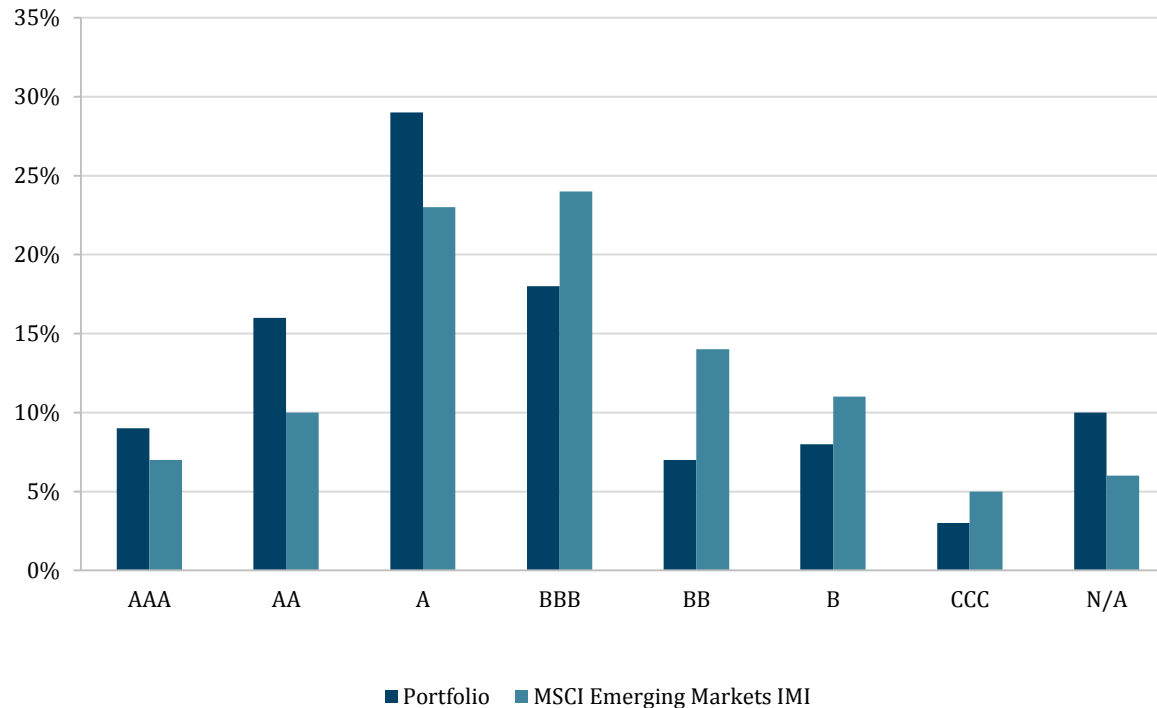
WB Environmental, Social & Governance ratings are qualitative ratings based on analysts' assessments of each company, guided by WB's materiality framework. Ratings range from 1 (best) to 5 (worst). The data shown above is based on the strategy's representative portfolio. The Average ESG Ratings by Sector chart excludes non-rated positions.

# MSCI ESG Ratings Distribution

## Emerging Markets Growth

### MSCI ESG Overall Rating (Weighted Average)

Emerging Markets Growth	A
MSCI Emerging Markets IMI Index	BBB



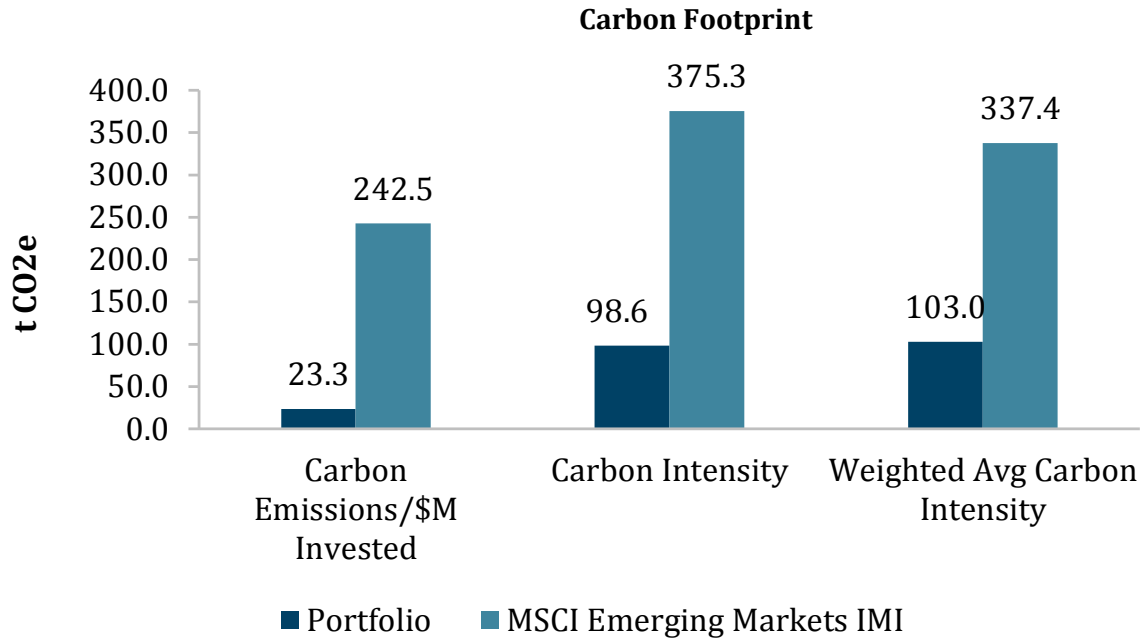
March 31, 2022

Source: MSCI ESG Portfolio Extended Summary Report. The data shown above is based on the strategy's representative portfolio. Overall MSCI ratings for portfolio and benchmark are weighted average calculations. ESG Ratings Distribution represents the percentage of a portfolio's market value coming from holdings classified as ESG Ratings Leaders (AAA and AA), Average (A, BBB, and BB), and Laggards (B and CCC). MSCI ESG ratings use a rules-based methodology designed to measure a company's exposure to industry-material ESG risks and its ability to manage those risks relative to peers.

Certain information © 2021 MSCI ESG Research LLC. Reproduced by permission; no further distribution.

# Carbon Exposure Analysis

## Emerging Markets Growth



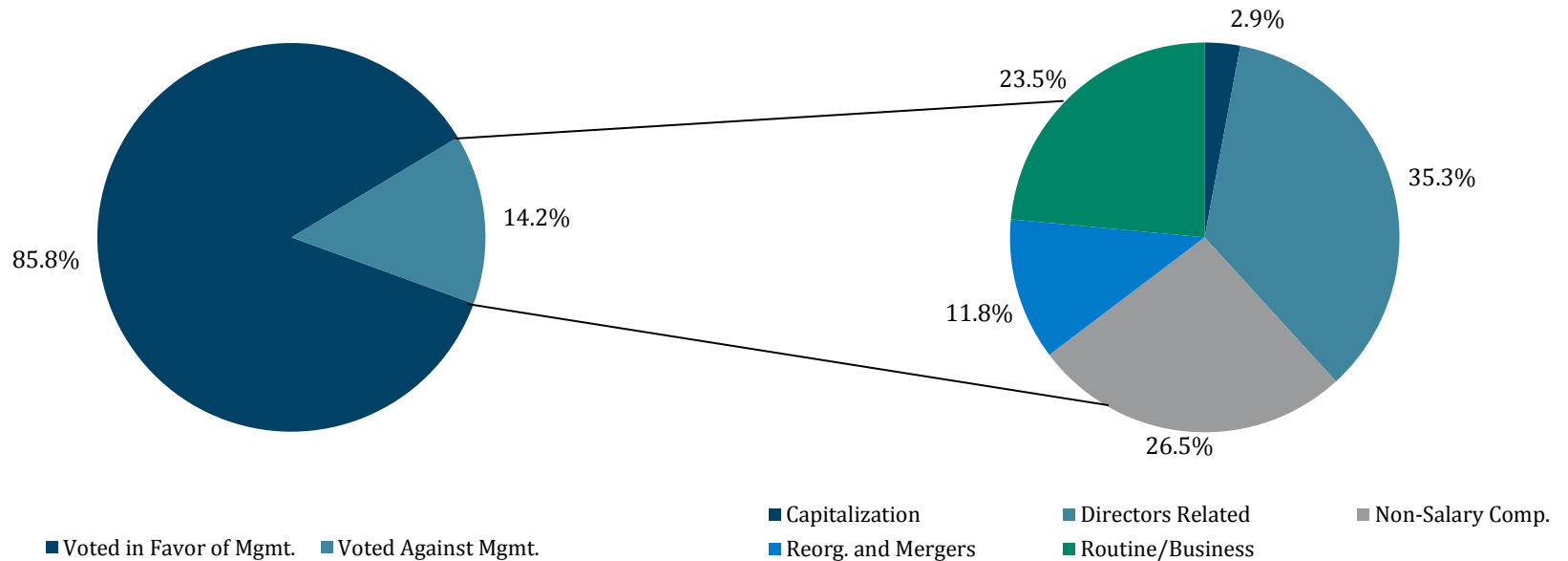
As of March 31, 2022.

Certain information © 2022 MSCI ESG Research LLC. Reproduced by permission; no further distribution. Portfolio carbon intensity measures the carbon efficiency of a portfolio and is defined as the total carbon emissions of the portfolio per \$ million of portfolio sales; while weighted average carbon intensity is a measure of a portfolio's exposure to carbon related potential market and regulatory risks and is computed as the sum product of the portfolio companies' carbon intensities and weights.

# Proxy Voting Summary

## Global Equity Team

### Proxy Voting Summary Emerging Markets Growth Q1 2022



Quarter ended March 31, 2022.

Source: ISS, William Blair. Includes institutional accounts that have granted William Blair proxy voting authority and that follow the standard ISS sustainability proxy voting guidelines. Additional voting activity detail is available upon request. Detailed voting activity for William Blair mutual funds is available at [www.williamblairfunds.com](http://www.williamblairfunds.com). Proxy voting activity for William Blair SICAV funds is available at [www.sicav.williamblair.com](http://www.sicav.williamblair.com).

# Market Performance – Emerging Equity Markets

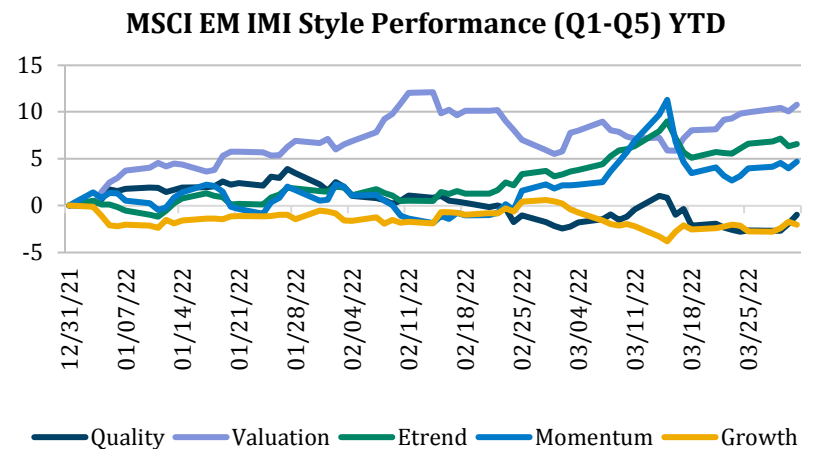
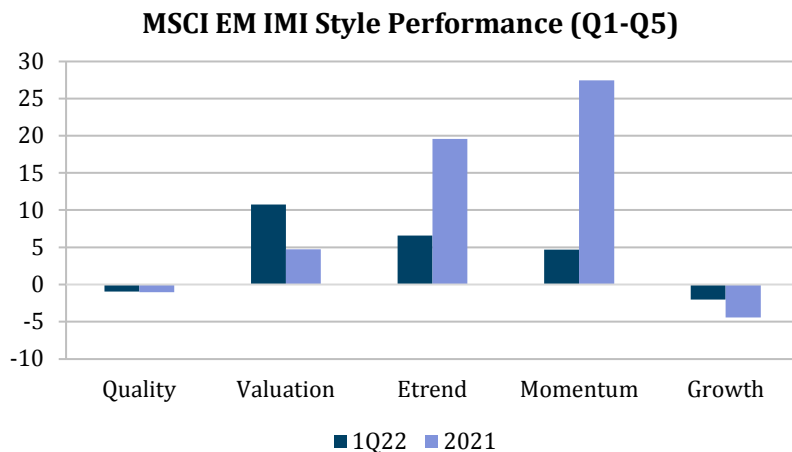
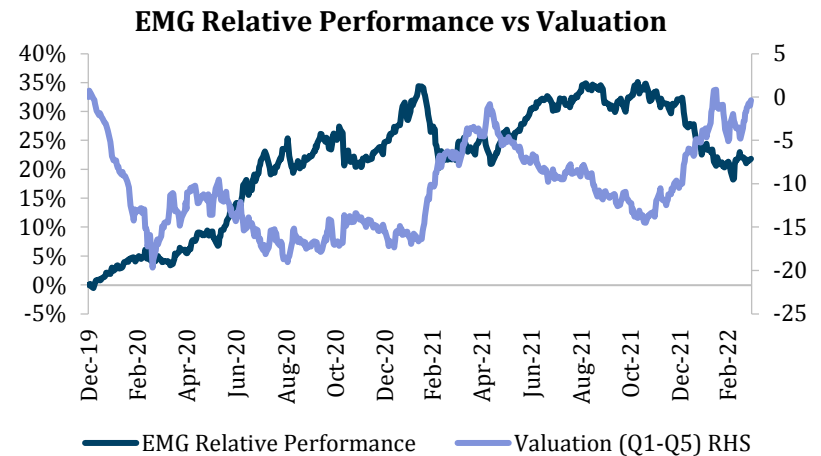
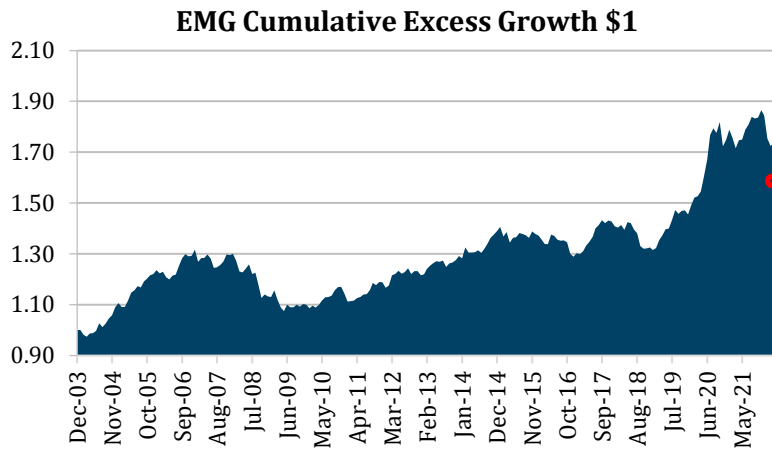
May 31, 2022

		QTD	YTD	2021	2020
Regions	<b>AC World (DM+EM)</b>	-7.9	-12.9	18.2	16.3
	<b>Developed Markets (DM)</b>	-8.2	-13.1	21.0	15.9
	Japan	-7.2	-13.4	1.0	13.1
	Europe ex UK	-6.1	-15.5	15.7	12.1
	UK	-2.9	-4.1	17.6	-9.0
	USA	-9.2	-14.1	25.6	20.5
	<b>Emerging Markets (EM)</b>	-5.3	-11.6	-0.3	18.4
	<b>Asia</b>	-5.0	-13.1	-2.2	28.5
	China	-3.1	-16.9	-21.2	29.4
	India	-7.7	-10.2	30.4	16.1
	Korea	-4.8	-13.8	-5.7	46.0
	Taiwan	-6.7	-12.8	27.7	39.1
	<b>EMEA</b>	-6.9	-18.2	18.0	-5.6
	South Africa	-11.4	5.8	6.8	-4.9
	<b>Latin America</b>	-6.1	18.7	-8.5	-14.1
	Brazil	-6.8	25.0	-17.1	-19.1
Mexico	-5.7	2.6	21.1	-1.6	
<b>Frontier Markets (FM)</b>	-9.2	-14.2	25.4	2.1	
Size	Large Cap	-5.1	-12.2	-4.1	19.6
	Small Cap	-6.6	-10.6	18.8	19.3
Sectors	Communication Svcs	-5.2	-16.1	-8.1	27.1
	Discretionary	-2.1	-17.0	-26.3	33.1
	Staples	-1.9	-8.6	-4.1	10.8
	Energy	3.5	-16.3	20.4	-14.9
	Financials	-6.2	-1.1	9.1	-7.9
	Healthcare	-10.9	-23.0	-18.1	55.5
	Industrials	-3.0	-5.6	14.1	7.7
	IT	-8.0	-18.2	12.5	58.5
	Materials	-8.6	-6.1	12.5	26.2
	Real Estate	-5.3	-6.7	-15.9	-15.6
	Utilities	0.4	0.0	15.7	-4.9
Style	Quality	0.7	-0.3	-1.5	-6.8
	Valuation	1.6	12.6	6.5	-12.4
	Etrend	1.1	7.8	22.1	14.5
	Momentum	3.3	8.1	24.9	9.7
	Growth	-1.1	-3.1	-5.1	12.9
	Composite	3.4	11.9	15.5	-5.3

Regional performance is based on IMI region/country indexes. Sector, style, and size values are based on the MSCI EM IMI Index. Style values reflect the Quintile 1 minus Quintile 5 spread of William Blair's proprietary quantitative models. Sectors are based on Global Industry Classification (GICS) sectors. Large Cap and Small Cap based on MSCI Global Investable Market Index Methodology. Data in blue reflects the top 20% (highest) values by region, country, sector, and style. Data in red reflects the bottom 20% (lowest) values by region, country, sector, and style. **Past performance is not indicative of future returns.** A direct investment in an unmanaged index is not possible. The Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index is an unmanaged index that includes emerging markets. Calculated in FactSet. All index returns are net of dividends.

# Emerging Markets Growth Long-Term Performance and Style Cycles

## As of March 2022

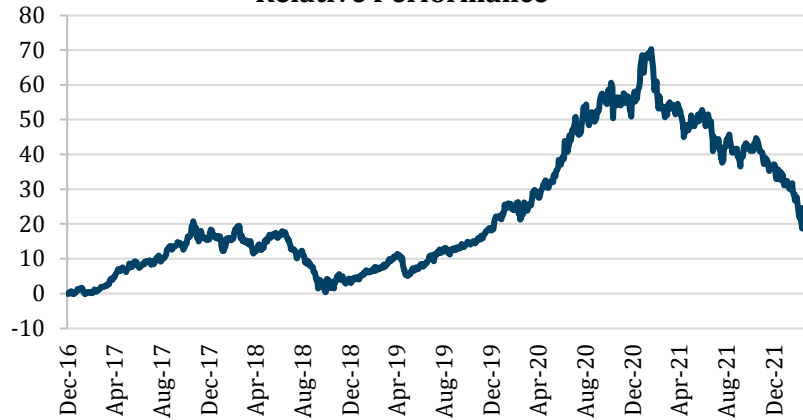


Source: William Blair, MSCI.

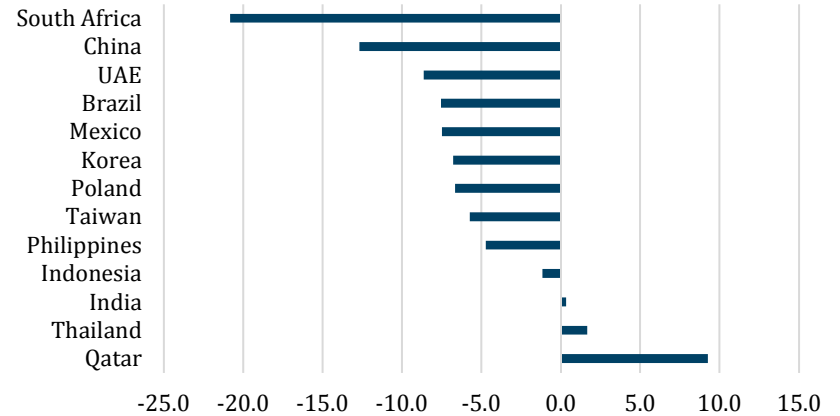
**Past performance is not indicative of future returns.** Strategy performance in the relative performance vs valuation chart is based on a representative portfolio. The strategy's benchmark is the MSCI Emerging Markets IMI Index. Gross performance results shown do not reflect the deduction of investment management fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Investment management fees are described in William Blair's Form ADV Part 2A. Fundamental model performance is provided for illustrative purposes only. Information is based on William Blair's proprietary quantitative models and does not in any way relate to actual results of any account or strategy.

# Emerging Markets Growth vs. Value As of March 2022

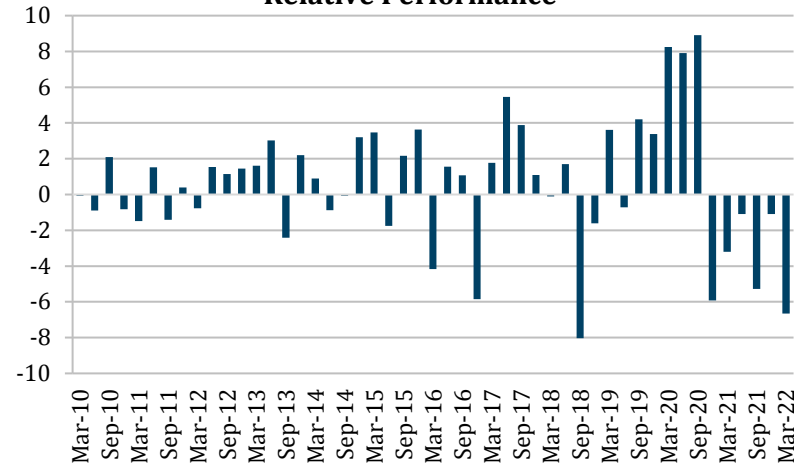
**MSCI EM IMI Growth vs Value Cumulative  
Relative Performance**



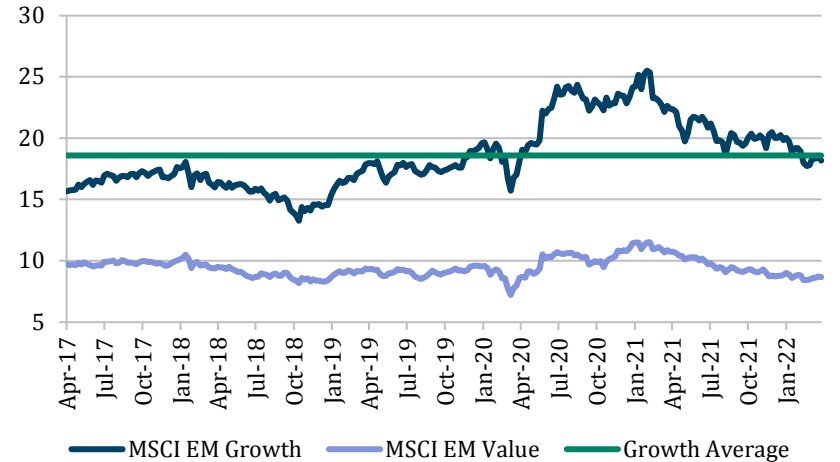
**MSCI EM IMI Growth vs Value Relative Performance in 2022**



**MSCI EM IMI Growth vs Value Quarterly  
Relative Performance**



**MSCI EM IMI Growth vs Value P/E NTM**



Source: William Blair, MSCI. The MSCI Emerging Markets IMI is a free float-adjusted market capitalization index designed to measure equity market performance in the global emerging markets. Value and Growth style characteristics are defined by MSCI's index construction methodology. A direct investment in an unmanaged index is not possible.

**Past performance is not indicative of future returns.**



# Quantitative Models – Definitions

Factor	Examples
<p><b>Quality</b></p>	
<p><b>The William Blair Quality Model</b> attempts to put into quantitative terms one of the cornerstones of the firm’s investment philosophy: identifying high quality companies. The score combines measurements of sustainable value creation, earnings quality, and financial strength.</p>	<p>Cash Flow ROIC Cash Flow Accruals Net Debt/EBITDA</p>
<p><b>Valuation</b></p>	
<p><b>The William Blair Valuation Model</b> combines varying metrics used to characterize the relationship between the stock’s trading price and its intrinsic value. By going beyond using only one or two measures, the model attempts to build a more holistic version of a stock’s worth vis-a-vis the market. The score combines measurements of earnings/cash flow based, asset-based, and model-based factors.</p>	<p>Free Cash Flow Yield Price/NTM Earnings Enterprise Value/Sales</p>
<p><b>Earnings Trend</b></p>	
<p><b>The William Blair Earnings Trend Model</b> captures information about short- and medium-term changes in analyst estimates in an attempt to anticipate future estimate changes and stock performance. The score combines measurements of earnings revisions, earnings momentum, and earnings surprise.</p>	<p>3 Month EPS Revisions Standardized Unexpected Earnings (SUE)</p>
<p><b>Momentum</b></p>	
<p><b>The William Blair Momentum Model</b> combines information about short- and medium-term performance trends for each stock in order to identify stocks that may be able to persist in outperformance over the near term.</p>	<p>12 Month Volatility Adjusted Return 6 Month Sharpe Ratio</p>
<p><b>Growth</b></p>	
<p><b>The William Blair Growth Model</b> builds a long-term growth estimate based on a combination of realized and forecast growth rates. The inputs and results of this model are not limited to earnings, but instead cast a broader net to include measures of a firm’s overall growth. In addition to providing a Growth Model score, the growth rate generated by the model is used as an input into other models.</p>	<p>Historical &amp; Expected Growth 6 &amp; 10 Year Average Trend Growth</p>
<p><b>Volatility</b></p>	
<p><b>The William Blair Volatility Model</b> captures the variability in short- and long-term fundamental returns which include ROE, Margins, and EPS.</p>	<p>ROE Range/Average Coefficient of Variation &amp; Dispersion of EPS</p>
<p><b>Composite</b></p>	
<p><b>The William Blair Composite Model</b> produces an aggregate score from the Quality, Valuation, Earnings Trend, and Momentum models using a proprietary weighting mix.</p>	

William Blair proprietary quantitative model.

# Biographies – Global Investment Team

## Portfolio Management



**Alaina Anderson, CFA**  
Partner

Alaina Anderson, CFA, partner, is a portfolio manager for the International Leaders and International Leaders ADR strategies.

Previously, she was a global research analyst covering real-estate, utilities, and engineering companies. Before joining William Blair in 2006, she was a senior analyst in the investments department of the MacArthur Foundation, where she provided research support for internally managed portfolios and was involved in investment manager due diligence, selection, and monitoring for the foundation's U.S., non-U.S., and hedge-fund portfolios. Before joining the MacArthur Foundation, Alaina was an investor relations consultant with Ashtor Partners and a financial advisor with UBS Painewebber. She is a fellow of Leadership Greater Chicago, a board member of the North Lawndale Employment Network, and a member of the CFA Institute and the CFA Society Chicago.

**Education:** B.S., Wharton School at the University of Pennsylvania; M.B.A., University of Chicago's Booth School of Business



**Simon Fennell**  
Partner

Simon Fennell, partner, is a portfolio manager for William Blair's International Growth, International Small Cap Growth, and International Leaders strategies.

He joined William Blair in 2011 as a technology, media, and telecommunications research analyst focusing on idea generation and strategy more broadly. Before joining William Blair, Simon was a managing director in the equities division at Goldman Sachs in London and Boston, responsible for institutional equity research coverage for European and international stocks. Previously, Simon was in the corporate finance group at Lehman Brothers in London and Hong Kong, working in the M&A and debt capital markets groups.

M.A., University of Edinburgh; M.B.A., Cornell University's Samuel Curtis Johnson Graduate School of Management



**Andrew G. Flynn, CFA**  
Partner

Andy Flynn, CFA, partner, is a portfolio manager for William Blair's International Small Cap Growth and Global Leaders strategies.

Since joining William Blair in 2005, Andy has served as a U.S. industrials and consumer analyst and a non-U.S. consumer, healthcare, and IT analyst. He was also a portfolio manager for the firm's Global Small Cap Growth strategy. Before joining the firm, Andy was a senior equity analyst and portfolio manager at Northern Trust, where he specialized in mid- and small-capitalization growth companies. Before that, he was a senior equity analyst at Scudder Kemper Investments and a research assistant at Fidelity Investments. Andy is a member of the CFA Institute and the CFA Society Chicago.

B.A., economics, University of Kansas; M.B.A. finance emphasis, University of North Carolina at Chapel Hill



**Kenneth J. McAtamney**  
Partner

Ken McAtamney, partner, is the head of the global equity team and a portfolio manager for William Blair's International Growth, Global Leaders, International Leaders, and Emerging Markets Leaders strategies.

Ken is also a member of the Investment Management leadership team. He was previously co-director of research and a mid-large-cap industrials and healthcare analyst. Before joining William Blair in 2005, Ken was a vice president at Goldman Sachs and Co., where he was responsible for institutional equity research coverage for both international and U.S. equity. Before that, he was a corporate banking officer with NBD Bank.

B.A., Michigan State University; M.B.A., Indiana University

# Biographies – Global Investment Team

## Portfolio Management



**Todd M. McClone, CFA**  
Partner

Todd McClone, CFA, partner, is a portfolio manager for William Blair’s emerging markets strategies, including Emerging Markets Leaders, Emerging Markets Growth, Emerging Markets Small Cap Growth, and Emerging Markets ex China Growth.

Before joining the firm in 2000, he was a senior research analyst specializing in international equity for Strong Capital Management. Previously, he was a corporate finance research analyst with Piper Jaffray, where he worked with the corporate banking financials team on a variety of transactions, including initial public offerings, mergers and acquisitions, and subordinated debt offerings. He also issued fairness opinions and conducted private company valuations.

**Education:** B.B.A. and B.A., University of Wisconsin–Madison



**D.J. Neiman, CFA**  
Partner

D.J. Neiman, CFA, partner, is a portfolio manager for the International Small Cap Growth and Emerging Markets Small Cap Growth strategies. Before becoming a portfolio manager, D.J. was a global research analyst covering small-cap financial stocks.

Before joining Investment Management in 2009, D.J. was an analyst in the firm’s sell-side research group, covering the financials sector with a focus on the asset-management and advisory investment-banking industries. Previously, D.J. was a senior accountant with William Blair Funds and a fund analyst at Scudder Kemper Investments. He is a member of the CFA Institute and the CFA Society Chicago.

B.S., Miami University; M.B.A., with high distinction, University of Michigan’s Ross School of Business



**Casey K. Preyss, CFA**  
Partner

Casey Preyss, CFA, partner, is a portfolio manager for William Blair’s Emerging Markets Growth, Emerging Markets Small Cap Growth, China A-Shares Growth, China Growth, and Emerging Markets ex China Growth strategies.

Since joining William Blair in 2000, he has been a research analyst covering industrials, IT, and resources stocks. Before taking on fundamental research responsibilities for William Blair’s global equity team, Casey was a quantitative analyst. Before joining the firm, he was an international equity research sales associate with Thomas White International.

B.S.B.A., The Ohio State University; M.B.A., University of Chicago’s Booth School of Business



**Hugo Scott-Gall**  
Partner

Hugo Scott-Gall, partner, is a portfolio manager for the Global Leaders and Emerging Markets Leaders strategies, and Co-Director of Research for the Global Equity team.

Before joining William Blair in 2018, Hugo was a managing director and head of the thematic research team at Goldman Sachs. In that role, he managed a global team of approximately 15 people who investigated thematic changes, analyzed their effects across industries, and sought to identify long-term structurally advantaged companies. He and his team produced *Fortnightly Thoughts*, a publication offering thematic insights across sectors, and *GS Sustain*, a long-term-focused publication that sought to find best-in-breed companies, with environmental, social, and governance (ESG) analysis forming an integral part of the process. He also oversaw *GS Dataworks*, a team that used alternative data to augment fundamental research. Before his move into thematic research, Hugo was an equity research analyst covering European transportation companies. Before joining Goldman Sachs, he was an equity research analyst at Fidelity Investments.

# Biographies – Global Investment Team

## Portfolio Management



**Andrew J. Siepker, CFA**  
Partner

Andy Siepker, CFA, Partner, is a portfolio manager for the International Growth strategy and a global equity research analyst covering industrial companies.

Previously, he was a research analyst conducting non-U.S. consumer research and worked on William Blair's sell-side as a research associate focused on e-commerce and hardline retailers. Before joining William Blair in 2006, Andy was a financial analyst in a finance training program at First Data Corporation. He is a member of the CFA Institute and the CFA Society Chicago.



**Vivian Lin Thurston, CFA**  
Partner

Vivian Lin Thurston, CFA, partner, is a portfolio manager for William Blair's Emerging Markets Growth, China A-Shares Growth, China Growth, and Emerging Markets ex China Growth strategies. Previously, she was a global equity research analyst covering the China A-shares market and large-cap consumer companies.

Before joining William Blair, Vivian was vice president and consumer sector head at Calamos Investments. Before that, she was an executive director and senior investment analyst at UBS Global Asset Management/Brinson Partners, where she was responsible for stock selection and research for consumer sectors in the United States and emerging markets. Vivian also held roles at Mesirow Financial, China Agribusiness Development Trust and Investment Corporation, and Vanke. She is a member of the CFA Institute and the CFA Society Chicago. She is also the founder and chairman of the board of the Chinese Finance Association of America, a 501(c) nonprofit organization.

**Education:** B.S., finance, with highest distinction, University of Nebraska

LL.B., sociology, Peking University; M.A., sociology and M.S., finance, University of Illinois Urbana-Champaign

# Biographies – Global Investment Team

## Portfolio Specialists



**Ryan Dimas, CFA, CAIA**  
Partner

Ryan Dimas, CFA, CAIA, partner, is a portfolio specialist for William Blair's global equity strategies.

In this role, Ryan participates in the team's decision-making meetings, conducts portfolio analysis, and is responsible for communicating portfolio structure and outlook to clients, consultants, and prospects. Previously, for 17 years, Ryan led the investment manager research effort for William Blair Select, a team that was responsible for the selection and ongoing evaluation of third-party investment managers. In 2016, Ryan was named chief investment strategist and chair of the asset allocation investment committee for investment counseling, where he worked closely with investment counseling teams on strategic and tactical recommendations that were implemented within portfolios. He is a member of the CFA Society Chicago and a CAIA charterholder.

**Education:** B.A., finance, Arizona State University



**Romina Graiver**  
Partner

Romina Graiver, partner, is a portfolio specialist for William Blair's global equity strategies.

In this role, she participates in the team's decision-making meetings, conducts portfolio analysis, and is responsible for communicating portfolio structure and outlook to clients, consultants, and prospects. She is a member of the ESG leadership team for William Blair Investment Management and Global Inclusion Council. Previously at William Blair, she was a senior client relationship manager. Before joining William Blair in 2012, Romina was deputy head of the international equity investment team at BNP Paribas Investment Partners, where she was responsible for product development and investor communication. Before taking on that role, she was a product specialist for model-driven equity investments and a marketing manager. She holds the CFA UK Certificate in ESG Investing.

B.Sc., international business and an M.Sc., economics, University of Pantheon-Sorbonne, Paris, France



**Jeremy Murden, CAIA**

Jeremy Murden, CAIA, is a portfolio specialist for William Blair's global equity strategies.

In this role, Jeremy conducts portfolio analysis, participates in the team's decision-making meetings, and communicates portfolio structure and outlook to clients, consultants, and prospects. Before joining William Blair as a portfolio specialist, Jeremy was a portfolio strategist at Matthews Asia, where he provided macro thought leadership and individual portfolio insights focused on the firm's China and Asia equity strategies. Before joining Matthews Asia, Jeremy spent 10 years as a senior investment manager analyst for William Blair Select, leading external equity manager coverage for the team that was responsible for the selection and ongoing evaluation of third-party investment managers. He started his career in distribution as a product specialist at Claymore Securities, now Guggenheim Funds. He holds the Chartered Alternative Investment Analyst designation.

B.Sc. in finance honors, DePaul University; M.B.A., University of Chicago Booth School of Business



**Emily George**

Emily George is a portfolio specialist for William Blair's global equity strategies.

In this role, Emily conducts portfolio analysis and is responsible for communicating portfolio structure and outlook to clients, consultants, and prospects. Before joining the firm in 2011, Emily was a financial planning assistant for a private financial services company in Cleveland, Ohio.

B.A., political science and economics, College of Wooster

# Biographies – Global Investment Team

## Research



**William Benton, CFA, CPA**  
Partner

William Benton, CFA, CPA, partner, is a global equity research analyst and is co-director of research for the Global Equity team. He covers large-cap consumer/communication services companies. Previously, William covered mid- and large-cap technology, media, and communication services companies.

Before joining William Blair Investment Management in 2007, he was a technology research analyst with the firm's sell-side research group for 10 years. In this position, William was twice named "Best on the Street" in The Wall Street Journal's annual analyst survey. Before joining William Blair in 1997, he worked at SBC Warburg, U.S. Cellular, May Company, and Monsanto. William is a member of the CFA Society Chicago and holds the CMA designation.



**Drew Buckley, CFA, CPA**  
Partner

Drew Buckley, CFA, CPA, partner, is a global equity research analyst. He covers small-cap technology, media, and communication services companies.

Before joining William Blair in 2008 as a global research associate focused on technology, media, and telecommunications stocks, he spent two years as a senior associate in Ernst & Young LLP's investment management assurance practice. Drew is a member of the CFA Society Chicago.



**Anil Daka, CFA**  
Partner

Anil Daka, CFA, partner, is a global equity research analyst. He covers small-mid cap Industrials companies.

Before joining the firm in 2011, Anil was an equity analyst at Morningstar, where he was responsible for equity research coverage in the global industrials sector. He is a member of the CFA Institute and the CFA Society Chicago.



**Adam Dettmer, CFA, CPA**

Adam Dettmer, CFA, is a global equity research analyst covering small- to mid-cap consumer companies.

Before joining William Blair in 2018, Adam was an equity research associate with Oppenheimer & Co. He also worked in the federal government practice at Deloitte Financial Advisory Services. Adam is a CFA charterholder.

**Education:** B.S., finance, University of Illinois Urbana-Champaign; M.B.A., Dartmouth College's Amos Tuck School of Business Administration, where he was a Tuck Scholar

B.S., business, University of Colorado–Boulder

B.Tech., metallurgical engineering, Indian Institute of Technology; M.B.A. from the University of North Carolina

B.B.A., summa cum laude, finance and accounting, The College of William and Mary; M.B.A., University of Chicago's Booth School of Business

# Biographies – Global Investment Team

## Research



**Esteban Gonzalez Rosell**

Esteban Gonzalez Rosell is a global equity research analyst covering small-cap financials and real estate.

Before joining William Blair, he was a portfolio manager, trader, and research analyst for Intercorp Financial Services.



**Daniel Hill, CFA**

Daniel Hill, CFA, is a global equity research analyst at William Blair Investment Management. He covers large-cap financial companies and real estate.

Daniel was previously a small-cap financials analyst, global generalist research analyst and an international and global research associate supporting the global financial team under the guidance of research analysts. He joined William Blair in 2005 as an investment accountant. Daniel is a member of the CFA Institute and the CFA Society Chicago.



**Jayesh Kannan, CFA**

Jayesh Kannan, CFA, is a global equity research analyst. He covers small-cap technology, media, and communication services companies.

Before joining William Blair in 2018, Jayesh was an associate in the institutional equities division at Morgan Stanley in New York City and Singapore. In this role, he focused on emerging market and Asian equities. Jayesh is a member of the CFA Institute and the CFA Society Chicago and has previously contributed to the Financial Times.



**Benjamin Loss, CFA**

Benjamin Loss, CFA, is a global equity research analyst. He covers energy and materials companies.

Before joining William Blair in 2011 as a global research associate focused on energy and materials, Benjamin was a sell-side research associate at Morgan Keegan. He is a member of the CFA Institute and the CFA Society Chicago.

**Education:** B.S., Universidad del Pacifico in Peru; M.B.A., Wharton School at the University of Pennsylvania

B.S., finance, University of Nebraska; M.B.A. from Northwestern University's Kellogg Graduate School of Management

B.E., computer engineering, Nanyang Technological University, Singapore, was a Singapore Airlines-Neptune Orient Lines scholar and graduated with first-class honors; M.B.A., Massachusetts Institute of Technology (MIT) Sloan School of Management, graduated as a Martin Trust Community Fellow

B.S., accounting, summa cum laude, University of Maine; M.S., finance, Vanderbilt University

# Biographies – Global Investment Team

## Research



**Michael Patchen, CFA**

Michael Patchen, CFA, is a global equity research analyst. He covers small- and mid-cap consumer companies.

Before joining William Blair, Michael worked as a summer research associate in the TMT group at Credit Suisse, a financial manager at American Express, and a regulatory risk analyst at Morgan Stanley.



**Richard Reznick, Ph.D.**

Richard Reznick, Ph.D., is a global equity research analyst. In this role, he covers small-cap healthcare companies, including those in China.

Before joining William Blair in 2010 as an equity research associate focused primarily on the biotechnology sector, Richard was a product specialist in Abbott Laboratories' diagnostics division.



**Greg Scolaro, CFA, CPA**

Greg Scolaro, CFA, CPA, is a global equity research analyst. He covers large cap technology, media, and communication services companies.

Previously, he covered small-cap emerging markets companies. Before that, he was a research associate covering global technology, media, and telecommunications stocks. Before joining the firm in 2014, Greg was an auditor in the technology sector at KPMG Chicago. He is a member of the CFA Institute and the CFA Society Chicago.



**Bryan Shea**

Bryan Shea is a global equity research analyst. He covers industrials, materials, and utilities.

Previously, he was a small-cap generalist analyst in emerging markets and a global research associate supporting the consumer team. He joined the firm in 2009 as an associate on the sell-side focusing on several subsectors within consumer. Before joining William Blair, Bryan was an associate at Madison Capital Funding, where he provided a variety of cash-flow-based, leveraged-capital products to private-equity sponsors. Before that, he was an analyst at Lincoln International, where he worked on mergers and acquisitions, issued fairness opinions, and conducted private company valuations.

**Education:** B.S., risk management and minor in international business, The Penn State University; M.B.A., Massachusetts Institute of Technology's Sloan School of Management

B.S., biology, University of Illinois at Urbana-Champaign; Ph.D., biology, Yale University

B.S. and M.S., accountancy, University of Illinois Urbana-Champaign

B.S., finance, with honors, Indiana University; M.B.A., Northwestern University's Kellogg School of Management



# Biographies – Global Investment Team

## Research



**Andrew J. Siepker, CFA**  
Partner

Andy Siepker, CFA, Partner, is a portfolio manager for the International Growth strategy and a global equity research analyst covering industrial companies.

Previously, he was a research analyst conducting non-U.S. consumer research and worked on William Blair's sell-side as a research associate focused on e-commerce and hardline retailers. Before joining William Blair in 2006, Andy was a financial analyst in a finance training program at First Data Corporation. He is a member of the CFA Institute and the CFA Society Chicago.



**Kwesi Smith, CFA**

Kwesi Smith, CFA, is a global equity research analyst. He covers large-cap consumer companies.

Before joining the firm in 2015, Kwesi was an equity research analyst for TimesSquare Capital Management for 10 years. In this role, he supported the firm's research efforts across a variety of sectors, including healthcare, technology, media/cable, defense, and consumer, before focusing on healthcare. Before that, Kwesi worked at MetLife Investments as a technology, media/cable, and telecom fixed-income research analyst and provided credit analysis across a variety of fixed-income asset classes, including high yield, private placement, leveraged finance, and investment-grade public corporates. He is on the governing board of 3Arts and Breakthrough. He is also a member of the CFA Institute and the CFA Society Chicago.



**Thomas A. Sternberg, CFA**  
Partner

Tommy Sternberg, CFA, partner, is a global equity research analyst. He covers large-cap healthcare companies.

Previously, he was a research associate focused on the healthcare industry. Before joining William Blair in 2004, Tommy spent two years as an equity analyst in Oak Brook Bank's investment management and trust department. He is a member of the CFA Institute and the CFA Society Chicago.

**Education:** B.S., finance, with highest distinction, University of Nebraska

B.S., University of Virginia's McIntire School of Commerce

B.S., economics, Duke University; M.B.A., University of Chicago's Booth School of Business

# Biographies – Global Investment Team

## Systematic Research



**Spiro Voulgaris**  
Partner

Spiro Voulgaris, partner, is a senior quantitative analyst. He joined William Blair in 2007.

Before joining the firm, Spiro was a senior quantitative analyst with Neuberger Berman for five years and subsequently worked alongside the same investment professionals for an additional three years while with Northern Trust. He was also with Lehman Brothers for six years, where he was a strategist and quantitative analyst for its global and U.S. investment strategy teams in London and New York. Before that, Spiro spent three years as a research analyst with the Center for Research in Securities Prices (CRSP).



**Andrew Kominik, CFA**

Andrew Kominik, CFA, is the liquidity and investment risk manager.

In this role, Andrew identifies, aggregates, and monitors investment-related risks across William Blair Investment Management. He also is a senior quantitative analyst on the systematic research team, where he spearheaded the development of William Blair's proprietary equity risk models and continues to maintain and enhance them. Previously, Andrew was a quantitative portfolio analyst, portfolio construction analyst, and marketing analyst. Before joining William Blair in 2003, he worked in institutional marketing at Columbia Management Group. Andrew is a member of the CFA Institute and the CFA Society Chicago.



**Andy Tang, CFA**

Andy Tang, CFA, is a quantitative research analyst on the systematic research team.

In this role, he conducts research on quantitative finance and builds tools for portfolio optimization and risk management. Before joining William Blair in 2016, Andy spent five years as a quantitative analyst at Morningstar, where he worked on designing and building the Morningstar global equity risk model and global portfolio optimizer. He also worked on fixed-income pricing and risk analytics and big-data analytics on financial text modeling. He is a member of the CFA Institute and the CFA Society Chicago.



**Andrew Wickman, CFA**

Andrew Wickman, CFA, is a quantitative research analyst on the systematic research team.

In this role, he performs econometric research that evaluates quantitative factor efficacy and macro-fundamental trends. Andrew also develops models that aid in portfolio strategy and quantitative stock-selection. Before joining William Blair in 2015, he was a consultant at FactSet Research Systems. Andrew is a member of the CFA Institute and the CFA Society Chicago.

**Education:** B.A., economics, University of Chicago; M.B.A., statistics and international finance, University of Chicago's Booth School of Business

B.A., history, Brandeis University; M.B.A., finance and econometrics/statistics, University of Chicago's Booth School of Business

B.A., economics, Donghua University; M.S., finance, Illinois Institute of Technology; M.S., statistics, University of Chicago

B.S., economics, University of Kentucky; M.B.A., concentrations in analytic finance, economics, and statistics/econometrics, University of Chicago's Booth School of Business

# Biographies – Global Investment Team

## Strategy Research and Technology



**Olga Bitel**, Partner

Olga Bitel, partner, is a global strategist.

She is responsible for economic research and analysis across all regions and sectors. She distills macroeconomic and geopolitical developments into actionable insights for global equity portfolios within a multifaceted strategic framework. In addition, she provides insights about cyclical turning points and structural trends as inputs into portfolio construction in predominantly bottom-up investment approaches. Before joining William Blair in 2009, Olga was a senior economist at the National Institute of Economic and Social Research in London, United Kingdom, where she produced macroeconomic forecasts for most Asian economies and led thematic research projects for some of the world's best-known international organizations, including the Organization of the Petroleum Exporting Countries and the International Monetary Fund.

**Education:** B.A., University of Chicago; M.Sc., economics, London School of Economics and Political Science



**Blake Pontius**, CFA

Blake Pontius, CFA, is director of sustainable investing.

In this role, he coordinates the firm's integration of environmental, social and governance (ESG) factors in its investment processes and provides ESG research support to the global equity team. Blake also leads the firm's ESG Leadership Team. Previously at William Blair, Blake was a global portfolio specialist and institutional client relationship manager. Before joining William Blair in 2005, Blake worked at UBS Asset Management and Mercer. He is a board member of Easterseals DuPage & Fox Valley, and a member of the CFA Institute and the CFA Society Chicago. In addition, he holds the SASB Fundamentals of Sustainability Accounting (FSA) credential and the CFA Certificate in ESG Investing.

B.A., economics, with honors, Michigan State University; M.B.A. in finance, with distinction, from DePaul University



**Rita Spitz**, Partner, CFA

Rita Spitz, CFA, partner, is a global equity research analyst focusing on ESG integration.

She is on William Blair's Global Inclusion Council and the ESG/Impact Investing Working Group. Previously, she was a research analyst covering U.S. and global consumer stocks across the range of market capitalizations. She served as director of research from 2001 to 2008. Rita joined William Blair in 1986 as a sell-side research analyst covering advertising and marketing firms, a role she held for 13 years. She is a member of the CFA Society Chicago, the CFA Institute, and The Economic Club of Chicago. She has also served on the advisory groups of the Financial Accounting Standards Board. She is a trustee of The Joffrey Ballet.

B.B.A., finance and Spanish, University of Wisconsin–Madison; M.B.A., University of Chicago's Booth School of Business



**Darragh Grogan**

Darragh Grogan is a technologist on the global equity team.

In this role, he works with William Blair's IT development team to implement technological improvements into the investment process. Before joining William Blair in 2008 as a software engineer supporting trading and reconciliation, Darragh was a senior software engineer at Accenture and Fidelity.

B.Com. and a higher diploma in applied science (software development and design), National University of Ireland in Galway; M.S., advanced software engineering, University College Dublin

# Biographies – Global Investment Team

## Strategy Research and Technology



**Gurvir Grewal**

---

Gurvir Grewal is a research analyst working with the thematic strategy team in London.

Before joining William Blair, Gurvir was a quantitative researcher at QMC, a Dubai-based quantitative hedge fund. Before that, he was an emerging markets cash equities trader at Morgan Stanley in London.

---

**Education:** M.A., engineering, economics, and management with first-class honors, University of Oxford. There, he focused on machine learning, signal processing, and optimization.

---

# Biography



**Stephanie Braming, CFA**  
Partner

---

Stephanie Braming, CFA, partner, is the global head of William Blair Investment Management. She is also chairman of the board of trustees and president of the William Blair Funds, chairman of the William Blair SICAV, and serves on the firm's executive committee. She is responsible for leading and setting the strategic direction for Investment Management, including broadening, deepening, and evolving the firm's investment capabilities. She also chairs the leadership team for Investment Management and serves on the firm's global inclusion council. Before assuming leadership of William Blair Investment Management in 2017, Stephanie was a portfolio manager for the International Growth and International Small Cap Growth strategies. Joining the firm in 2004, she was instrumental in portfolio construction and portfolio design and had a leadership role in the enhancement of the firm's systematic research tools. Stephanie also served as portfolio manager for the Japan strategy from inception in 2013 to close in 2015. Before joining the firm, she was a principal at Mercer Investment Consulting, where she was responsible for the strategic investment direction of her institutional clients. She also previously worked at the Federal Reserve Bank of Chicago. Stephanie is a member of the CFA Institute and the CFA Society Chicago, where she served on the society's board of directors, the Economic Club of Chicago, and The Chicago Network. She also serves on the Board of Governors of the Investment Company Institute (ICI), and is on the Board of Directors of the Museum of Science and Industry, and Working in the Schools (WITS), the largest volunteer literacy organization serving Chicago Public School students. Additionally, American Banker named Stephanie one of the 25 most powerful women in finance in 2021, and Barron's named her one of the most 100 influential women in U.S. finance in 2022.

---

**Education:** B.A., DePauw University; M.B.A., University of Chicago's Booth School of Business.

---

# Relationship Team for the West Region



**Wally Fikri, CFA, CPA**  
Partner

Wally Fikri, CFA, CPA, is a Partner at William Blair Investment Management. Wally has 29 years of investment experience. He works with plan sponsors and investment consultants in the United States; and he brings asset allocation and risk expertise to bear in understanding their needs and structure. He works closely with the investment teams at William Blair. He has served on William Blair's Benefits Committee and chaired the Investment Committee overseeing the defined contribution and defined benefit plans. Before joining William Blair in 2004, Wally was a partner with Brinson Partners (now UBS Global Asset Management) for nearly 12 years. He managed asset allocation portfolios which included actively managed bottom up strategies across global equities, bonds and alternative investments. He also worked closely with plan sponsors and consultants, and served on the firm's charitable giving committee. Wally began his career in the financial services practice at KPMG Peat Marwick in 1991.

Wally is currently Chair of the SACRS Affiliate Committee, member of the Program Committee and advisor to the Board. He is a member of the CFA Institute and CFA Society Chicago, where he was past board member. He is currently a member of the governing board of the Civic Leadership Foundation, a 501(c)3 charitable organization working with middle-school children across a number of Chicago Public Schools.

Wally earned the right to use the CFA charterholder designation in 1995 and successfully completed all levels of the CPA in 1991 (CPA is inactive). He currently holds his FINRA series 24, 7, and 63 securities licenses. He is married with three wonderful children.



**Stephen J. Weeks**  
Partner

Steve Weeks, partner, is a senior client relationship manager with William Blair Investment Management.

Before joining William Blair in 2015, he was senior vice president of marketing, consultant relations, and client services at Columbus Circle Investors (CCI). Before joining CCI in April 2005, he was a director and senior investment specialist for Principal Global Investors and one of the founding partners of GlobeFlex Capital, where he was responsible for institutional marketing and client service. He is a current board advisor of the National Conference on Public Employee Retirement Systems (NCPERS).

**Education:** B.S., accountancy, Northern Illinois University; M.B.A., Northwestern University's Kellogg Graduate School of Management

B.S., finance, University of Arizona

# Glossary – Terms

**Active Share:** A measure of the percentage of stock holdings in a manager's portfolio that differ from the benchmark index.

**Alpha:** A measure of a portfolio's return in excess of the market return, after both have been adjusted for risk. It is a mathematical estimate of the amount of return expected from a portfolio above and beyond the market return at any point in time. For example, an alpha of 1.25 indicates that a stock is projected to rise 1.25% in price in a year over the return of the market, or the return when the market return is zero. When an investment price is low relative to its alpha, it is undervalued, and considered a good selection.

**Beta:** A quantitative measure of the volatility of the portfolio relative to the overall market, represented by a comparable benchmark. A beta above 1 is more volatile than the overall market, while a beta below 1 is less volatile, and could be expected to rise and fall more slowly than the market.

**CFROIC (Cash Flow Return on Invested Capital):** A measure of how effectively a company generates cash flow based on legacy capital investment.

**Convexity:** A measure of the sensitivity of a fixed income investment's duration to changes in yield.

**Developed Markets:** Using the Morgan Stanley Capital International (MSCI) geographic definition, this region includes: United Kingdom, Europe (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Spain, Sweden and Switzerland), Japan, Pacific Asia (Australia, Hong Kong, New Zealand, and Singapore) and the Western Hemisphere (Canada and other Americas).

**Debt to Total Capital Ratio:** This figure is the percentage of each company's invested capital that consists of debt. Companies with a high Debt to Total Capital level may be considered riskier. From a portfolio perspective, the portfolio Debt to Total Capital Ratio is a weighted average of the individual holdings' Debt to Total Capital Ratio.

**Duration:** A measure of the price sensitivity of a fixed income investment to a change in interest rates, stated in years.

**Emerging Markets:** Using MSCI's geographic definition, this region includes: Emerging Markets Asia (China, India, Indonesia, Malaysia, S Korea, Taiwan, and Thailand), Emerging Markets Europe, Mid-East and Africa (Czech Republic, Hungary, Poland, Russia, Turkey, Egypt, Morocco, and S Africa), and Latin America (Argentina, Brazil, Chile, Columbia, Mexico, Peru and Venezuela).

**EPS Estimate Revision Breadth:** A 1-month factor representing the trend in the direction of estimate changes. Range from -100% to +100%, it is calculated as the number of positive revisions minus the number of negative revisions divided by the total number of estimates.

**EPS (Earnings Per Share) Growth Rate (Projected):** This measure represents the weighted average of forecasted growth in earnings expected to be experienced by the stocks within the portfolio over the next year. From a portfolio perspective, the portfolio EPS Growth Rate is a weighted average of the individual holdings' EPS Growth Rate.

**EPS Growth Rate (5-Year Historic):** The weighted average earnings per share growth for stocks within the portfolio over the past 5 years.

**EV/EBITDA (Enterprise Value/Earnings Before Interest, Taxes and Depreciation-Amortization):** The EV/EBITDA ratio is useful for global comparisons because it ignores the distorting effects of individual countries' taxation policies. It's used to find attractive takeover candidates. Enterprise value is a better measure than market cap for takeovers because it takes into account the debt which the acquirer will have to assume. Therefore, a company with a low EV/EBITDA ratio can be viewed as a good takeover candidate.

**EV/IC: (Enterprise Value/Invested Capital) Ratio:** Enterprise Value (EV), which is market capitalization minus cash plus debt divided by Invested Capital (IC), which is the sum of common stock, preferred stock and long-term debt. This number will get you a simple multiple. If it is below 1.0, then it means that the company is selling below book value and theoretically below its liquidation value.

**Frontier Markets:** Less advanced capital markets in the developing world.

**FX:** In finance, an exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency.

**Information Ratio:** A measure of risk-adjusted return. The annualized excess return of the portfolio relative to a respective benchmark, divided by the annualized tracking error relative to that same benchmark. The higher the measure, the higher the risk-adjusted return.

**Integrated:** Constructs a portfolio of the top 20% of stocks based on William Blair's multi-factor composite model, which uses Earnings Trend, Momentum, Quality, and Valuation factors. The portfolio is rebalanced on a monthly basis and weights stocks based on relative market capitalization.

**Net Debt to EBITDA:** A measure of leverage calculated by taking interest bearing liabilities minus cash divided by earnings before interest, taxes, depreciation, and amortization.

**Option-Adjusted Spread (OAS):** A measure of the spread of a fixed income investment's yield relative to a benchmark, adjusted to take into account an embedded option.

**PBVn (Price/Book Value) Ratio:** The PBV Ratio measures the value of a company's common stock relative to its shareholder's equity. A price-to-book multiple above one means that the price of the company's common stock is higher than its common shareholder's equity. A price-to-book multiple below one means that the price of the company's common stock are less than its break-up value, and the shares may be undervalued.

**PCF (Price/CashFlow):** Some analysts favor the price/cash flow over the price-earnings (PE) ratio as a measure of a company's value. Cash flow is a measure of a company's financial health. It equals cash receipts minus cash payments over a given period of time.

**P/E (Price/Earnings) Ratio:** This is the most common measure of how expensive a stock is. Simply, it is the cost an investor in a given stock must pay per dollar of current annual earnings. A high P/E generally indicates that the market is paying more to obtain the stock because it has confidence in the company's ability to increase its earnings. Conversely, a low P/E often indicates that the market has less confidence that the company's earnings will increase rapidly or steadily, and therefore will not pay as much for its stock.

**Price to Book:** A stock's capitalization divided by its book value. This ratio compares the market's valuation of a company to the value of that company as indicated on its financial statements.

**R-squared:** A measurement of how closely the portfolio's performance correlates with the performance of its benchmark, such as the MSC AC World Free ex US Index. In other words, it is a measurement of what portion of a portfolio's performance can be explained by the performance of the overall market or index. Ranges from 0 to 1, where 0 indicates no correlation and 1 indicates perfect correlation.

**Recovery Rate:** The extent to which principal and interest on defaulted debt can be recovered, expressed as a percentage of face value.

**Risk (Standard Deviation):** A measure of the portfolio's risk. A higher standard deviation represents a greater dispersion of returns, and thus a greater amount of risk. The annualized standard deviation is calculated using monthly returns.

**Silo:** Constructs portfolios using the top 20% of stocks based on each of the four sub-models used to construct William Blair's composite model, then averages the returns coming from each of the four portfolios. The portfolios are rebalanced on a monthly basis and weights stocks based on relative market capitalization. (The Equal Weighted strategy equally weights the returns coming from each of the sub-portfolios; the Optimized approach weights Quality 5%, Valuation 60%, Earnings Treng 5%, and Momentum 30%. The optimization was based on a Monte-Carlo simulation that sought an optimal weighting of each sub-portfolios to achieve the highest return).

**Sortino Ratio:** A modification of the Sharpe ratio that differentiates harmful volatility from general volatility by taking into account the standard deviation of negative asset returns, called downside deviation. The Sortino ratio subtracts the risk-free rate of return from the portfolio's return, and then divides that by the downside deviation. A large Sortino ratio indicates there is a low probability of a large loss.

**Sharpe-Ratio:** A risk-adjusted measure calculated using standard deviation and excess return (Portfolio return – Risk Free Rate) to determine reward per unit of risk. The higher the Sharpe ratio, the better the portfolio's historic risk-adjusted performance.

**Spread Duration:** A measure of the price sensitivity of a fixed income investment to a change in credit spreads.

**Tracking Error:** Tracking Error measures the extent to which a portfolio tracks its benchmark. The tracking error of an index portfolio should be lower than that of an active portfolio. The tracking error will always be greater than zero if the portfolio is anything other than a replication of the benchmark.

**Trailing 1-Year Turnover:** This figure reflects the portfolio's trading activity by calculating the amount of the portfolio's holdings bought or sold over the prior year, expressed as a percentage of the portfolio's average market value. Turnover figures may be related to the amount of trading costs experienced by the portfolio.

**Weighted Average Market Capitalization:** Market capitalization refers to the total market value of each company's outstanding shares. The Weighted Average Market Capitalization for a portfolio is calculated as the average market capitalization of the stocks within the portfolio, weighted by the amount of each stock owned.

**Weighted Median Market Capitalization:** This calculation represents the median market capitalization of the stocks in the portfolio, weighted by the amount of each stock owned.

**Yield to Maturity:** A representation of the rate of return anticipated on a bond if held until its maturity.

**Yield to Worst:** A representation of the lowest potential yield that an investor would receive on a bond if the issuer does not default.

# Glossary – Indices

**Bloomberg U.S. Aggregate Bond Index:** A broad-based benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, mortgage-backed securities (agency fixed-rate and hybrid ARM pass-throughs), asset-backed securities and commercial mortgage backed securities.

**Bloomberg Intermediate Govt./Credit Index:** A fixed-rate government and corporate bonds rated investment grade or higher.

**Bloomberg Multiverse Index:** Provides a broad-based measure of the global fixed-income bond market. The index represents the union of the Global Aggregate Index and the Global High-Yield Index and captures investment grade and high yield securities in all eligible currencies. Standalone indices such as the Euro Floating-Rate ABS Index and the Chinese Aggregate Index are excluded. The Multiverse Index family includes a wide range of standard and customized sub-indices by sector, quality, maturity, and country.

**Bloomberg US Govt/Credit 1-3 Year Index:** measures the return on the investment grade 1-3 year bond market. The benchmark was changed on November 10, 2021 from the Bloomberg Intermediate US Govt/Credit Index

**ICE BofAML 1-Year U.S. Treasury Note Index:** An unmanaged index comprised of a single U.S. Treasury Bill issued at the beginning of each month and held for a full month. Each month the index is rebalanced and the issue selected is the outstanding U.S. Treasury Note that matures closest to, but not beyond one year from the rebalancing date.

**ICE BofAML 3-Month Treasury Bill Index:** An unmanaged market index of U.S. Treasury securities maturing in 90 days that assumes reinvestment of all income.

**J.P. Morgan Cash Index:** Measures the total return of a rolling investment in a notional fixed income instrument with a maturity of three months. The deposit rates used in the calculation of the JP Morgan Cash Index are LIBOR or similar local reference rates.

**Merrill Lynch 1-Year U.S. Treasury Note Index:** Comprised of a single U.S. Treasury Bill issued at the beginning of each month and held for a full month. Each month the index is rebalanced and the issue selected is the outstanding U.S. Treasury Note that matures closest to, but not beyond one year from the rebalancing date.

**Merrill Lynch 3-Month Treasury Bill Index:** An unmanaged index market index of U.S. Treasury securities maturing in 90 days that assumes reinvestment of all income.

**MSCI (Morgan Stanley Capital International):** MSCI indices are the most widely used benchmarks by global portfolio managers. MSCI offers international investors performance benchmarks for 51 national stock markets as well as regional, sector, industry group, and industry aggregations.

**MSCI China All Shares Index:** a free-float weighted equity index designed to capture large and mid-cap representation across China A-shares, B-shares, H-shares, Red-chips, P-chips and foreign listings (e.g. ADRs). The index aims to reflect the opportunity set of China share classes listed in Hong Kong, Shanghai, Shenzhen and outside of China.

**MSCI China A Onshore Index:** A free-float weighted equity index, designed to measure performance of China A share securities listed on either the Shanghai or Shenzhen Stock Exchanges.

**MSCI All Country World ex-US EAFE Index:** An unmanaged index that includes developed and emerging markets outside the United States.

**MSCI All Country World ex-US Small Cap Index:** A free float-adjusted market capitalization index designed to measure global developed and emerging market small capitalization equity performance, excluding the U.S.

**MSCI EAFE Index:** A free float-adjusted market capitalization index which captures large and mid cap representation across Developed Markets countries around the world, excluding the U.S. and Canada.

**MSCI EAFE IMI Index:** A free float-adjusted market capitalization index which captures large, mid and small cap representation across Developed Markets countries around the world, excluding the U.S. and Canada.

**MSCI EAFE Growth Index:** A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. & Canada.

**MSCI All Country World ex-US Index:** An unmanaged index that includes developed and emerging markets, excluding the U.S.

**MSCI All Country World ex-US Growth Index:** A free float-adjusted market capitalization index that is designed to provide a broad measure of equity-market performance throughout the world, excluding the U.S. It includes those MSCI All Country World ex-US securities with higher price-to-book ratios and higher forecasted growth rates.

**MSCI All Country World ex-US IMI Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets, excluding the U.S.

**MSCI All Country World IMI Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets.

**MSCI All Country World ex-US IMI Growth Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets, excluding the U.S. It includes those MSCI All Country World ex-US IMI Index securities with higher price-to-book ratios and higher forecasted growth rates.

**MSCI World ex-US Growth Index:** A free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, excluding the U.S., with higher price-to-book ratios and higher forecasted growth rates.

**MSCI World ex-US Index:** A free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, excluding the U.S.

**MSCI Emerging Markets Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

**MSCI Emerging Markets IMI Index:** A free float-adjusted market capitalization index which captures large, mid and small cap equity market performance in the global emerging markets.

**MSCI Emerging Markets ex-China IMI Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets excluding China.

**MSCI Emerging Markets Small Cap Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance of small cap companies in emerging markets.

**MSCI Emerging Markets Large Cap Index:** A free float-adjusted market capitalization index that is designed to measure equity market performance of large cap companies in emerging markets.

**MSCI World ex-US Small Cap Index:** An unmanaged index that includes non-US developed markets.

**Russell 1000 Index:** Measures the performance of the 1000 largest companies in the Russell 3000 Index, which represents approximately 90% of the total market capitalization of the U.S. market.

**Russell 1000 Growth Index:** Measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 1000 Value Index:** Measures the performance of the large cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 2000 Index:** Measures the performance of the 2000 smallest companies in the Russell 3000 index, which represents approximately 8% of the total market capitalization of the Russell 3000 index.

**Russell 2000 Growth Index:** Measures the performance of those Russell 2000 companies with higher price-to book ratios and higher forecasted growth values.

**Russell 2000 Value Index:** Measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell 2500 Index:** Measures the performance of the 2500 smallest companies in the Russell 3000 Index.

**Russell 2500 Growth Index:** Measures the performance of those Russell 2500 companies with higher price-to book ratios and higher forecasted growth values.

**Russell 2500 Value Index:** Measures the performance of those Russell 2500 companies with lower price-to book ratios and lower forecasted growth values.

**Russell 3000 Index:** Measures the performance of the 3000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. equity market.

**Russell 3000 Growth Index:** Measures the performance of those Russell 3000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell Midcap Index:** Measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 27% of the total market capitalization of the Russell 1000 companies.

**Russell Midcap Growth Index:** Measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values.

**Russell Midcap Value Index:** Measures the performance of the mid-cap value segment of the U.S. equity universe. It includes those Russell Midcap Index companies with lower price-to-book ratios and lower forecasted growth values.

**S&P 500 Index:** The Standard & Poor's 500 Index (S&P 500) is an index of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to be a leading indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large cap universe. Companies included in the index are selected by the S&P Index Committee, a team of analysts and economists at Standard & Poor's. The S&P 500 is a market value weighted index—each stock's weight is proportionate to its market value.

**Short Duration Bond Linked index:** This custom benchmark is 100% Bloomberg Intermediate US Govt/Credit Index through September 30, 2021 and 100% Bloomberg US Govt/Credit 1-3 Year Index thereafter. Total returns are calculated daily and then geometrically linked together to arrive at the month's rate of return. It is rebalanced daily. The Bloomberg US Govt/Credit 1-3 Year Index measures the return on the investment grade 1-3 year bond market. The Bloomberg Intermediate US Govt/Credit Index measures the return on the investment grade 1-10 year bond market.

A direct investment in an unmanaged index is not possible.



# Emerging Markets Growth Performance Summary

Performance for periods ending March 31, 2022

Composite Performance (%)	Qtr	Annualized					Strategy Inception (Oct 1 96)
		1 Yr	3 Yr	5 Yr	10 Yr	20 Yr	
Emerging Markets Growth (Gross of fees)	-12.09	-8.33	14.88	12.32	7.43	12.06	11.09
Emerging Markets Growth (Net of fees)	-12.30	-9.24	13.74	11.20	6.37	10.90	9.93
MSCI Emerging Markets IMI Index	-6.65	-9.49	5.74	6.19	3.59	8.71	4.92
Relative Performance (Gross of fees)	-5.44	1.17	9.15	6.14	3.85	3.35	6.17

Annual Composite Performance (%)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Emerging Markets Growth (Gross of fees)	5.15	41.85	29.61	-21.05	51.19	2.93	-14.17	5.73	3.83	22.17	-15.89	24.73	79.09
Emerging Markets Growth (Net of fees)	4.10	40.44	28.32	-21.84	49.69	1.90	-15.02	4.68	2.80	20.95	-16.73	23.40	77.13
MSCI Emerging Markets IMI Index	-0.28	18.39	17.64	-15.04	36.83	9.90	-13.86	-1.79	-2.20	18.68	-19.49	19.90	82.36
Annual Composite Performance (%)	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996 <sup>1</sup>
Emerging Markets Growth (Gross of fees)	-60.54	40.26	39.27	49.10	37.93	58.66	-2.70	13.75	-29.81	90.73	-18.90	5.91	1.07
Emerging Markets Growth (Net of fees)	-61.01	38.77	37.79	47.53	36.46	57.00	-3.77	12.52	-30.60	88.76	-19.80	4.76	0.79
MSCI Emerging Markets IMI Index	-53.78	39.83	31.70	33.47	26.62	53.97	-6.49	-2.02	-35.31	62.63	-29.67	-19.74	-1.45

<sup>1</sup>Partial year performance from October 1 to December 31, 1996.

**Past performance is not indicative of future returns.** Performance is shown in U.S. dollar unless otherwise noted. Net investment performance represents the deduction of the highest possible fee. Actual client net returns may be higher or lower depending on fees charged to your account and the amount invested.

Returns for periods greater than one year are annualized. Gross performance results shown do not reflect the deduction of investment management fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs. Performance results will be reduced by the fees incurred in the management of the account. For example, assuming an annual gross return of 8% and an annual management/advisory fee of .40%, the net annualized total return of the portfolio would be 7.58% over a 5-year period. Net investment performance represents the deduction of the highest possible fee. Investment management fees are described in William Blair's Form ADV Part 2A. The benchmark that best reflects the composite's investment strategy is the MSCI Emerging Markets Investable Market Index (IMI) Net, which is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. International investing involves special risk considerations, including currency fluctuations, lower liquidity, economic, and political risk. Please see GIPS Composite Report in appendix for a complete description of the composite. The Emerging Markets Growth Composite included carve-out portfolios from inception through 2006.

# Composite Presentation Report

## Emerging Markets Growth

Calendar Year	Composite Gross Return (%)	Composite Net Return (%)	MSCI Emerging Mkts IMI (net) Return (%)	Composite 3-Yr Std Dev (%)	Benchmark 3-Yr Std Dev (%)	Number of Portfolios	Dispersion (%)	Composite Assets End of Period \$(mm)	Total Firm Assets \$(mm)
2012	22.17	20.95	18.68	19.95	21.49	13	0.22	5,276.65	49,610.61
2013	3.83	2.80	-2.20	17.55	19.03	13	1.01	5,271.28	62,018.81
2014	5.73	4.68	-1.79	14.03	14.78	13	0.58	5,276.88	63,060.05
2015	-14.17	-15.02	-13.86	13.57	13.84	12	0.21	4,103.22	64,777.78
2016	2.93	1.90	9.90	15.01	15.72	13	0.20	4,369.80	64,872.51
2017	51.19	49.69	36.83	14.88	15.11	12	0.34	6,004.52	73,549.85
2018	-21.05	-21.84	-15.04	15.35	14.43	11	0.39	3,961.08	48,880.26
2019	29.61	28.32	17.64	14.11	13.94	13	0.77	4,923.42	58,446.29
2020	41.85	40.44	18.39	20.89	19.86	13	1.87	5,883.80	69,739.61
2021	5.15	4.10	-0.28	19.23	18.48	14	N/A**	6,554.85	79,683.54

### Disclosures:

William Blair Investment Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. William Blair Investment Management has been independently verified for the periods January 1, 1993 through December 31, 2021. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The Emerging Markets Growth Composite has had a performance examination for the periods from composite inception through December 31, 2021. The verification and performance examination reports are available upon request.

For purposes of compliance with GIPS, the Firm is defined as all portfolios managed by William Blair Investment Management, a distinct operating unit within William Blair. William Blair Investment Management currently operates as William Blair Investment Management, LLC, an investment adviser registered with the United States Securities and Exchange Commission ("SEC") which is a separate legal entity that is distinct from William Blair & Company, L.L.C. Registration with the SEC does not imply a certain level of skill or training.

The Emerging Markets Growth strategy invests in a broad range of well managed, quality growth companies based in emerging markets. A portfolio manager change occurred effective 5/1/2015, 3/1/2018, and 7/1/2021. The investment strategy was not materially altered by the personnel change.

The benchmark that best reflects the composite's investment strategy is the MSCI Emerging Markets Investable Market Index (net), which is a free float-adjusted market capitalization index that is designed to measure equity market performance, net of withholding taxes, in the global emerging markets.

Portfolios must have an initial market value greater than or equal to \$1 million to be included in the composite. New portfolios are added to the composite at the beginning of the month following the first full calendar month under management. Portfolios that change investment strategies are transferred between composites in the first full monthly reporting period the portfolio is managed under the new style. Portfolios will be excluded from the composite the first month immediately following the last complete month of authorized management by the Firm. Portfolios are removed from this composite, in the event of a significant cash flow, for the month during which the flow occurs. Portfolios are typically added back into the composite the following month. A portfolio is determined to have a significant cash flow if the accumulated net external flows of cash and/or securities during a month exceed the significant cash flow threshold, which was 25% of the beginning of month portfolio market value through December 31, 2020 and 10% thereafter. Additional information regarding the treatment of significant cash flows is available upon request.

Performance includes the reinvestment of dividends and other earnings. Portfolio and composite returns are calculated daily. Valuations and returns are denominated in U.S. Dollars. Accrual accounting is used for dividends. The dividend accruals included in portfolio valuations are net of applicable withholding taxes. Pending withholding tax reclaims are not accrued for in the portfolio valuations. Composite dispersion measures represent the consistency of a firm's composite performance with respect to the individual portfolio returns within a composite. The dispersion of annual returns is measured by the asset-weighted standard deviation of the gross returns in the composite. Dispersion includes only those portfolios that have been included in the composite for the entire year. The three-year annualized standard deviation measures the variability of the gross composite returns and the benchmark returns over the preceding 36-month period. This statistic is not presented until there are 36 months of performance available.

Performance results are stated gross of management fees and net of a model investment management fee for the strategy. The model fee is the maximum separate account management fee as of the time the composite return was calculated, applied by dividing that annual fee by the count of the annual calculation periods for the composite and then subtracting that quotient from the periodic gross composite returns. Actual fees may vary depending on, among other things, the applicable fee schedule and portfolio size. The current separate account management fee schedule is as follows: up to \$25,000,000: .90%, next \$25,000,000: 0.85%, next \$50,000,000: 0.70%, next \$50,000,000: 0.65%, next \$50,000,000: 0.60%, next \$200,000,000: 0.40%, over \$400,000,000: 0.35%.

The strategy is available via one or more pooled funds, which may have alternate fee schedules. The limited distribution pooled funds are: William Blair Emerging Markets Growth Collective Investment Fund, which has a highest management fee of 0.90% and a highest expense ratio of 0.95%; and William Blair Emerging Markets Growth Fund LLC, which has a highest management fee of 0.90% and a highest expense ratio of 0.95%. The information presented above is for informational purposes only and is not an offer to sell or solicitation of an offer to buy securities or otherwise make an investment in any private fund managed by William Blair ("William Blair Fund"). Any offer to sell or a solicitation of an offer to purchase Interests in a William Blair Fund will only be made by means of a confidential private placement memorandum or similar document (a "Memorandum"); no offer to purchase an Interest will be accepted prior to receipt by the offeree of a Memorandum and the completion of all appropriate documentation.

The Emerging Markets Growth Composite was created in March 2005. The composite performance inception date is October 1, 1996.

A complete list and description of firm composites and pooled funds is available upon request. Additional information regarding valuing investments, calculating performance, and preparing GIPS reports is also available upon request. Past performance is not indicative of future results. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

\*\*Five or fewer portfolios were included in the composite for the entire year.

# Important Disclosures

This material is provided for information purposes only and is not intended as investment advice, offer or a recommendation to buy or sell any particular security or product. This material is not intended to substitute a professional advice on investment in financial products and any investment or strategy mentioned herein may not be suitable for every investor. Before entering into any transaction each investor should consider the appropriateness of a transaction to his own situation and, the need be, obtain independent professional advice as to risks and consequences of any investment. William Blair will accept no liability for any direct or consequential loss, damages, costs or prejudices whatsoever arising from the use of this document or its contents.

Any discussion of particular topics is not meant to be complete, accurate, comprehensive or up-to-date and may be subject to change. Data shown does not represent and is not linked to the performance or characteristics of any William Blair product or strategy. Factual information has been taken from sources we believe to be reliable, but its accuracy, completeness or interpretation cannot be guaranteed. This material may include estimates, outlooks, projections and other forward-looking statements. Due to a variety of factors, actual events may differ significantly from those presented. There can be no assurance that any forecast made will come to pass.

This material is not intended for distribution, publication or use in any jurisdiction where such distribution or publication would be unlawful.

Past or estimated performance is not necessarily indicative of future results and no assurance can be made that the profits will be achieved or that substantial losses will not be incurred.

Information and opinions expressed are those of the author and may not reflect the opinions of other investment teams within William Blair. Information is current as of the date appearing in this material only and subject to change without notice.

This material is distributed in the United Kingdom by William Blair International, Ltd., authorized and regulated by the Financial Conduct Authority (FCA), and is only directed at and is only made available to persons falling within articles 19, 38, 47, and 49 of the Financial Services and Markets Act of 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons").

This document is intended for persons regarded as professional investors (or equivalent) and is not to be relied on, distributed to or passed onto any "retail clients". No persons other than persons to whom this document is directed should rely on it or its contents or use it as the basis to make an investment decision.

This document is distributed in Australia by William Blair Investment Management, LLC which is exempt from the requirement to hold an Australian financial services license under Australia's Corporations Act 2001 (Cth). William Blair is registered as an investment advisor with the U.S. Securities and Exchange Commission ("SEC") and regulated by the SEC under the U.S. Investment Advisers Act of 1940, which differs from Australian laws. This document is distributed only to wholesale clients as that term is defined under Australia's Corporations Act 2001 (Cth).

This document is the property of William Blair and is not intended for distribution or dissemination, directly or indirectly, to any other persons than those to which it has been addressed exclusively for their personal use. It is being supplied to you solely for your information and may not be reproduced, modified, forwarded to any other person or published, in whole or in part, for any purpose without the prior written consent of William Blair.

This content is for informational and educational purposes only and not intended as investment advice or a recommendation to buy or sell any security. Investment advice and recommendations can be provided only after careful consideration of an investor's objectives, guidelines, and restrictions.

As used in this document, "William Blair" refers to William Blair Investment Management, LLC and affiliates unless otherwise noted.

# Disclosures

This material is provided for information purposes only and is not intended as investment advice, offer or a recommendation to buy or sell any particular security or product. This material is not intended to substitute a professional advice on investment in financial products and any investment or strategy mentioned herein may not be suitable for every investor. Before entering into any transaction each investor should consider the appropriateness of a transaction to his own situation and, the need be, obtain independent professional advice as to risks and consequences of any investment. William Blair will accept no liability for any direct or consequential loss, damages, costs or prejudices whatsoever arising from the use of this document or its contents.

Any discussion of particular topics is not meant to be complete, accurate, comprehensive or up-to-date and may be subject to change. Data shown does not represent and is not linked to the performance or characteristics of any William Blair product or strategy. Factual information has been taken from sources we believe to be reliable, but its accuracy, completeness or interpretation cannot be guaranteed. This material may include estimates, outlooks, projections and other forward-looking statements. Due to a variety of factors, actual events may differ significantly from those presented. There can be no assurance that any forecast made will come to pass.

This material is not intended for distribution, publication or use in any jurisdiction where such distribution or publication would be unlawful.

Past or estimated performance is not necessarily indicative of future results and no assurance can be made that the profits will be achieved or that substantial losses will not be incurred.

Information and opinions expressed are those of the author and may not reflect the opinions of other investment teams within William Blair. Information is current as of the date appearing in this material only and subject to change without notice.

## Quality Models - Definitions

The William Blair Quality Model attempts to put into quantitative terms one of the cornerstones of the firm's investment philosophy: identifying high quality companies. The score combines measurements of sustainable value creation, earnings quality, and financial strength.

The William Blair Growth Model builds a long-term growth estimate based on a combination of realized and forecast growth rates. The inputs and results of this model are not limited to earnings, but instead cast a broader net to include measures of a firm's overall growth. In addition to providing a Growth Model score, the growth rate generated by the model is used as an input into other models.

This document is the property of William Blair and is not intended for distribution or dissemination, directly or indirectly, to any other persons than those to which it has been addressed exclusively for their personal use. It is being supplied to you solely for your information and may not be reproduced, modified, forwarded to any other person or published, in whole or in part, for any purpose without the prior written consent of William Blair.

This content is for informational and educational purposes only and not intended as investment advice or a recommendation to buy or sell any security. Investment advice and recommendations can be provided only after careful consideration of an investor's objectives, guidelines, and restrictions.

As used in this document, "William Blair" refers to William Blair Investment Management, LLC and affiliates unless otherwise noted.

# Important Disclosures – Sustainability Metrics

## **MSCI ESG Research**

This report contains certain information (the “Information”) sourced from MSCI ESG Research LLC, or its affiliates or information providers (the “ESG Parties”). The Information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for or a component of any financial instruments or products or indices. Although they obtain information from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. None of the MSCI information is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such, nor should it be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. ©2021 MSCI ESG Research LLC. Reproduced by permission; no further distribution.



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



JULY 13, 2022

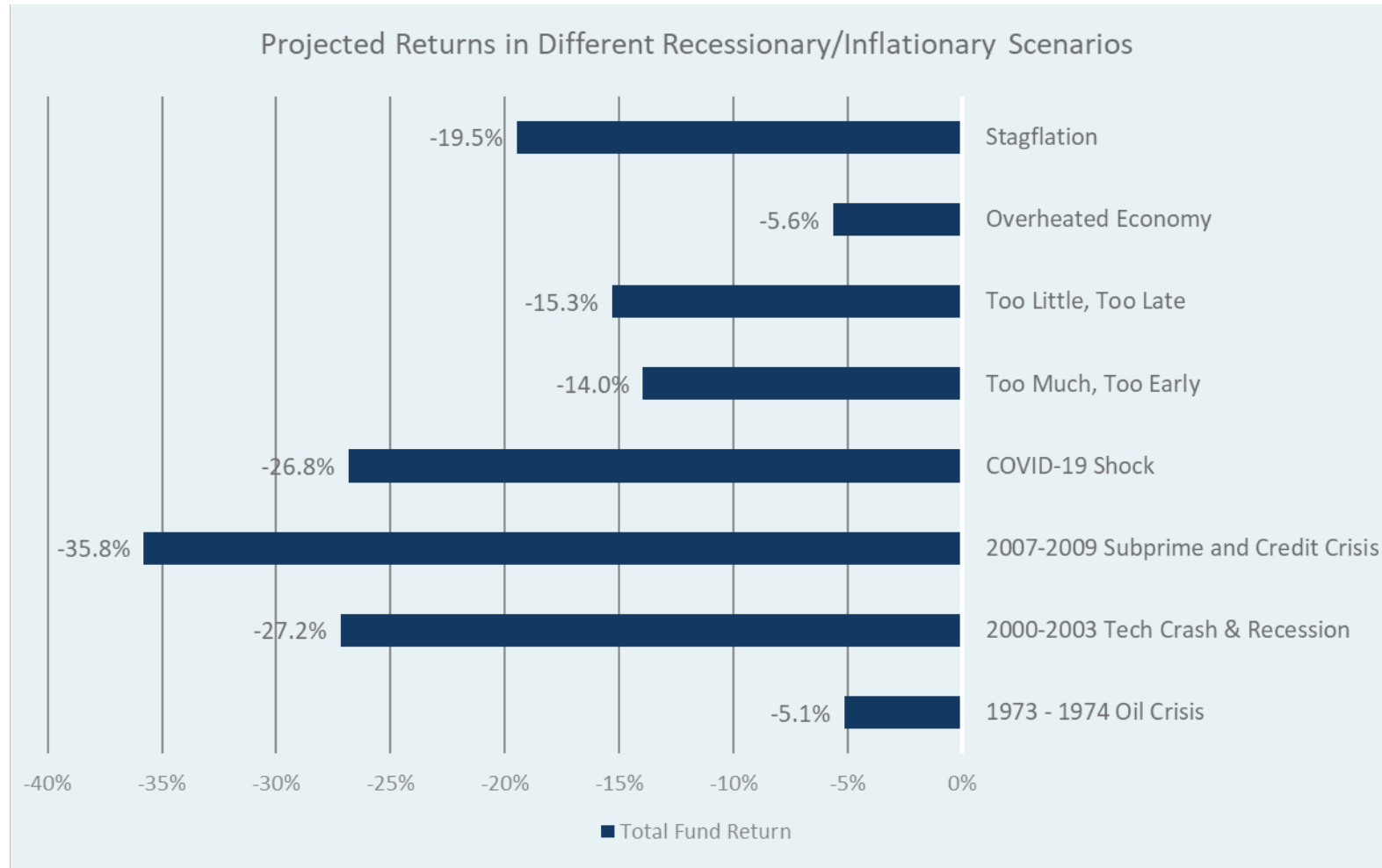
Total Fund Recessionary/Inflationary Impact Review

Alameda County Employees' Retirement Association

# Commentary

- Pandemic-induced supply chain issues, global energy price effects of Russian-Ukraine war, and decade-plus of unprecedented economic stimulus have converged to produce much higher than expected inflation
- To combat inflation, U.S. Federal Reserve is raising interest rates at a rapid rate
- Verus utilized its risk analytics to simulate ACERA's Total Fund performance based on current asset allocation under varying stress environments
- Under worst recessionary or inflationary scenarios, ACERA total fund portfolio is likely to drawdown between 15% and 20%
- However, anticipated current drawdown is still less than potential Total Fund drawdown in stressed equity environment

# Risk model stress tests for different recessionary/inflationary scenarios



Source: BARRA One



# Is Board action warranted?

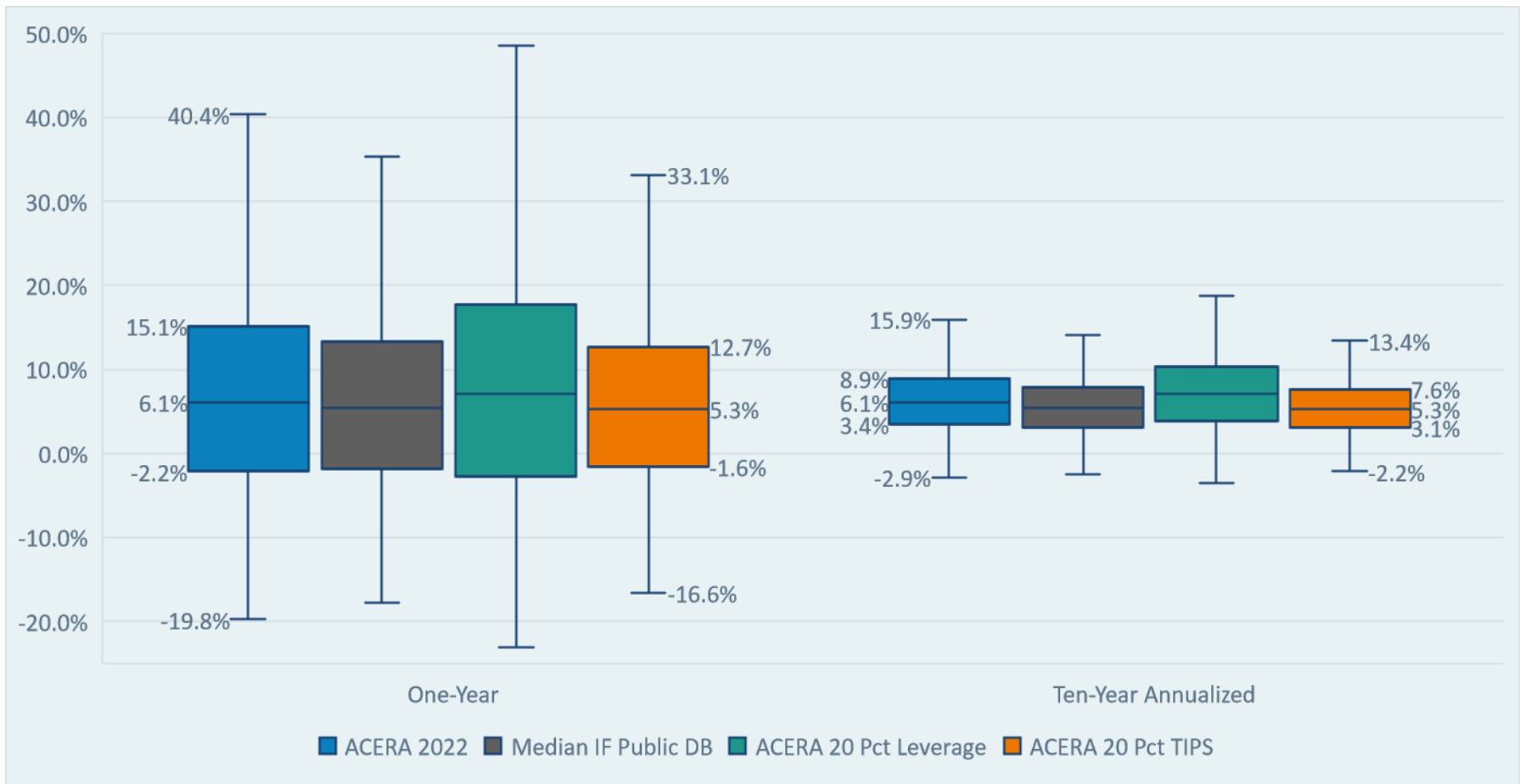
- Board approved new asset allocation policy in 2021
- Verus believes it would be premature to consider making any changes at this juncture. Much of recent inflation shock effect has already been reflected in 2022 returns through June 30<sup>th</sup>
  - Some inflationary pressures already easing (lower gasoline prices, some large retailers are overstocked in consumer goods, etc.)
- Verus' asset allocation analysis shows that taking risk off table now and adding more inflation hedging assets (i.e., TIPS) in reaction to current markets would result in lower expected returns over subsequent 10-yr horizon
- Portfolio is already structured for growth. To increase growth exposure, Board would likely need to lever portfolio to meaningfully increase expected return
- ***Verus advises staying the course unless longer term outlook for capital markets warrants revisiting asset allocation policy***

# Total fund expected return adjusted for various market scenarios

	ACERA 2022	Median IF Public DB	ACERA 20 Pct Leverage	ACERA 20 Pct TIPS
<b>Mean Variance Analysis</b>				
<b>Forecast 10 Year Return</b>	<b>6.1</b>	<b>5.5</b>	<b>7.0</b>	<b>5.3</b>
Standard Deviation	12.9	11.4	15.4	10.7
<i>1st percentile ret. 1 year</i>	<i>-19.8</i>	<i>-17.8</i>	<i>-23.0</i>	<i>-16.6</i>
Sharpe Ratio	0.49	0.49	0.49	0.50
Probability 1 year return > 7%	47.2	44.6	50.1	43.8
Probability 10 year return > 7%	41.3	33.5	50.2	31.1
<b>Verus Scenario Analysis</b>				
<b>10 Year Return Forecast</b>				
Stagflation	3.9	4.3	4.3	4.7
Weak	0.4	1.0	0.2	0.9
<i>May 2022</i>	<i>6.8</i>	<i>6.3</i>	<i>7.8</i>	<i>6.1</i>
Strong	13.6	11.9	16.0	11.6
<i>Shock (1 year)</i>	<i>-29.4</i>	<i>-24.3</i>	<i>-35.9</i>	<i>-23.0</i>
<b>10 Year <u>Real</u> Return Forecast</b>				
Stagflation	-2.6	-2.2	-2.2	-1.9
Weak	-1.1	-0.5	-1.3	-0.7
<i>May 2022</i>	<i>4.3</i>	<i>3.8</i>	<i>5.3</i>	<i>3.6</i>
Strong	10.6	8.9	13.0	8.6
<i>Range of Scenario Forecast</i>	<i>13.2</i>	<i>11.1</i>	<i>15.2</i>	<i>10.5</i>

Source: Verus, MPI

# Range of total fund return outcomes



Source: Verus, MPI; from top to bottom, the percentiles outcomes shown are 1<sup>st</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 99<sup>th</sup>

# Appendix

# Scenario descriptions

**Stagflation** - Hypothetical inflation scenario. This scenario assumes the U.S. is impacted more severely than other regions as a result of more aggressive fiscal and monetary stimulus, which could lead to significant pressure on the U.S. dollar. Although real rates decline, growth disruption and uncertainty take the upper hand, pushing U.S. equities into slightly negative territory, resulting in a positive bond-equity correlation.

**Overheated Economy** - Hypothetical inflation scenario. In this scenario, inflation picks up slightly more than planned, which leads to disrupted economic growth and increases in nominal rates as the Fed reacts to rising inflation. U.S. equities benefit moderately from decreasing real rates with growth stocks benefiting more from declining real rates.

**Too Little, Too Late** - Hypothetical Fed rate hike scenario. Markets perceive that the policy path is too slow, which brings inflation worries to the forefront. While short-term growth is steady, long-term forecasts are hit. Higher inflation and a diminished growth outlook increase equity risk premia. Equities decline, while long-term interest rates pick up, resulting in a positive bond-equity correlation.

**Too Much, Too Early** - Hypothetical Fed rate hike scenario. Markets believe that policy actions occur too early and are overaggressive. Short- and long-term economic growth are negatively impacted, and market-implied inflation expectations drop. Equities fall, the yield curve flattens and the slowdown in the U.S. growth hurts emerging markets.

**COVID-19 Shock** - The peak to trough drawdown from February to March in 2020.

**2007-2009 Subprime and Credit Crisis** - The burst of the housing bubble in mid-2007 marked the beginning of the years-long subprime mortgage crisis, rooted from the easy credit, low interest rates, and loose regulatory environment in the early 2000s, which made low quality (subprime) mortgaging extremely easy. The contagious meltdown quickly led to plunging asset prices in the financial markets, rising bankruptcies, delinquencies, and foreclosures, and central bank monetary rescues and fiscal interventions by governments around the globe.

# Scenario descriptions (cont'd)

**2000-2003 Tech Crash & Recession** - Period of crisis and slowdown for technological firms due to a rapid jump in stock prices when a speculative technology bubble began to burst, triggering a sell-off of companies. The period includes a slowdown for internet companies that went out of business as the stock market plummeted further.

**1973-1974 Oil Crisis** - Many developed countries suffered in this energy crisis as OPEC members placed an oil embargo on the U.S. and Israel's allies during the Yom Kippur War in October 1973, which sent global oil prices soaring.