



# T. Rowe Price Strategic Investing Approach Has Benefited Our Global Equity Results

Rigor and conviction have created opportunities for clients.

June 2019

## KEY INSIGHTS

- A T. Rowe Price performance study of 16 of our actively managed non-U.S. equity funds compared with competing passive investment vehicles found that the value added by our strategic investing process was significantly positive for a majority of the funds included in the study.<sup>1</sup>
- Over the rolling three-year periods we studied, 94% of the T. Rowe Price funds (15 of 16) posted positive active success rates after fees and costs (Figure 1).<sup>2</sup> The average excess return over those periods was 1.38% (Figure 2).<sup>3</sup>
- We attribute our success to our practice of going beyond the numbers, by traveling to meet companies we invest in and debating and sharing investment insights to understand the complex dynamics of investment opportunities.

## Methodology

To measure the value added by our strategic investing process, we studied the relative performance of our actively managed global, international, and emerging markets (GIEM) equity funds compared against a passive competitor universe (“passive competitors” or “passive competitor composites”) created by T. Rowe Price. Our study covered 16 active GIEM funds currently advised by T. Rowe Price and its affiliates (Figure 3).

The funds in the study accounted for 16 of the 24 U.S.-domiciled active strategies specializing in GIEM equities currently offered by T. Rowe Price and represented approximately 64% of the equity assets advised by the firm’s U.S.-domiciled GIEM funds as of December 31, 2018.<sup>4</sup> The time period covered by the study was December 31, 1998 through December 31, 2018. All study results are as of December 31, 2018 unless otherwise noted.

## Past performance is not a reliable indicator of future performance.

<sup>1</sup> In this study, we compared the returns achieved by our funds over various time horizons with the returns for competing passively managed funds pursuing similar investment objectives. All funds included in the passive competitor composites were flagged by Morningstar as index funds or ETFs in its U.S. classification database. Funds were further screened by T. Rowe Price analysts to ensure they were truly representative of their assigned passive categories and had investment characteristics consistent with the objectives of the T. Rowe Price funds. See the appendix for additional details on our methodology.

<sup>2</sup> A positive active success rate is defined as a T. Rowe Price fund beating the performance of its passive competitors in more than half of the rolling periods measured.

<sup>3</sup> All excess return data for the T. Rowe Price funds and passive competitors referenced in this study take into account both the payment of investment management fees and other fund expenses, such as trading costs, and thus are after fees and costs.

<sup>4</sup> For a complete list of T. Rowe Price GIEM equity funds excluded from the study, please see the appendix.

## 15 of 16

funds had positive active success rates versus passive competitors over rolling 3-year periods

## 94%

of funds generated positive average excess returns versus passive competitors over rolling 3-year periods

Seven active T. Rowe Price GLEM equity funds were not included in the study because insufficient passive competitors existed (e.g., the Emerging Europe Fund). The Quantitatively Managed (QM) Global Equity Fund also was excluded from the study because of its extremely short performance history, which consisted of only 19 rolling one-year periods and no rolling 3-, 5-, or 10-year periods as of December 31, 2018.

Two additional funds with sizable assets under management—the International Stock Fund and the International Discovery Fund—were excluded because

comparable passive competitors could not be identified under our methodology.

The Institutional International Disciplined Equity Fund and the International Disciplined Equity Fund are managed in a substantially similar investment style with the same investment process and philosophy. To avoid the potential for double-counting results, the Institutional fund was chosen to be included as it has the longest track record.

The study also included two institutional funds (the Institutional Frontier Markets Equity Fund and the Institutional

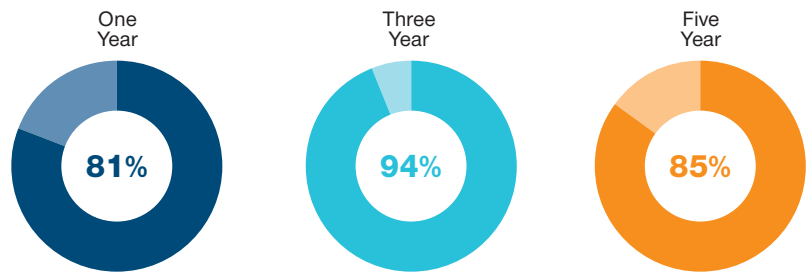
### Active Success Rates

The active success rate records the percentage of times a fund beat its passive competitors in rolling periods over a specified time horizon (say, 10 years).

We've defined a positive active success rate as a fund beating the performance of its passive competitors in more than half of the periods measured.

### (Fig. 1) Percentage of Funds With Positive Active Success Rates

Rolling Periods December 31, 1998, Through December 31, 2018



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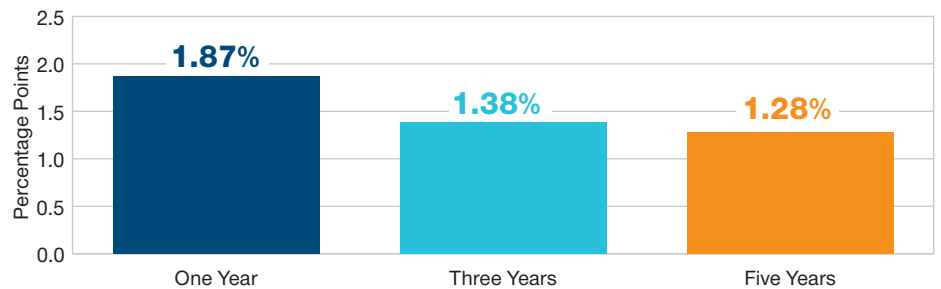
### Excess Returns

The return on a fund over a given period compared with its passive performance composite. Excess returns can be positive or negative and typically are annualized over different time periods, so an equity fund that returned 10% while its passive composite returned 9% would have a positive excess return of one percentage point, or 1.00%.

### (Fig. 2) Average Excess Returns for T. Rowe Price Funds

Equal-Weighted Average for All Periods for All Funds

Rolling Periods December 31, 1998, Through December 31, 2018



Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

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## Equity Categories

**Global:** Funds that invest in the full range of markets around the world, including the U.S. market.

**International:** Funds that invest primarily in countries outside the U.S.

**Emerging Markets:** Funds that invest primarily in developing countries in Europe, Asia, and Latin America.

## Rolling Periods

Instead of just looking at the most recent 1-, 3-, 5-, and 10-year periods, we measured performance over all such periods covered by our study. Every calendar month marked the start of a new rolling period—so the full study covered a total of 191 rolling five-year periods, if sufficient performance data were available for a given fund.

**(Fig. 3) T. Rowe Price Funds Included in Performance Study**

Fund	Inception Date	Study Inclusion Date
<b>Global</b>		
Global Growth Stock	10/27/2008	10/31/2008
Global Stock	12/29/1995	12/31/1998
Global Real Estate	10/27/2008	10/31/2008
Institutional Global Value Equity <sup>6</sup>	7/26/2012	7/31/2012
New Era (Global Natural Resources)	1/20/1969	10/31/2009
<b>International/Developed Country</b>		
European Stock	2/28/1990	12/31/1998
Institutional International Disciplined Equity <sup>6</sup>	7/27/2010	7/31/2010
International Value Equity	12/21/1998	12/31/1998
Japan	12/30/1991	12/31/1998
Overseas Stock	12/29/2006	12/31/2006
<b>Emerging Markets</b>		
Asia Opportunities	5/21/2014	5/31/2014
Emerging Markets Stock	3/31/1995	12/31/1998
Emerging Markets Discovery Stock	9/14/2015	9/30/2015
Institutional Frontier Markets Equity <sup>6</sup>	9/22/2014	9/30/2014
Latin America	12/29/1993	12/31/1998
New Asia	9/28/1990	12/31/1998

Source: T. Rowe Price.

Global Value Fund) that are available to individual investors with USD 1,000,000 initial investment. Retail versions of these strategies are not available.

For each T. Rowe Price fund in the study, we measured average excess returns over its designated passive competitor composite for all periods covered by the study where data were available.<sup>5</sup> These returns were based on fund net asset value (NAV) data and thus included the impact of management fees, operating expenses, and trading costs.

The returns for each T. Rowe Price fund in the study were compared with return composites that tracked the performance

of passive competitors in their particular equity categories or geographic regions. Relative performance was measured over periods for which sufficient passive comparison data were available.

## Study Results

Relative to the passive competitor composites, the value added by our strategic investing process was strongly positive for nearly all of the T. Rowe Price funds included in the study.<sup>7</sup> Some of the specific findings:

- Over the rolling five-year periods examined, almost 85% of our funds (11 of 13) posted positive active success rates.<sup>8</sup>

<sup>5</sup> Rolling 10-year performance comparisons for the 10 funds for which they were available can be found in Figures A4 and A5 in the appendix.

<sup>6</sup> The Institutional Global Value Equity Fund, the Institutional International Disciplined Equity Fund, and the Institutional Frontier Markets Equity Fund have a minimum investment of USD 1 million and feature lower management fees than the fund shares typically available to individual investors.

<sup>7</sup> For each fund, we calculated active success rates (the percentage of total rolling periods in which the fund outperformed its passive competitors) and average excess returns (the performance difference, positive or negative, between the T. Rowe Price fund and its passive competitors, averaged across all of the rolling periods in each time frame).

<sup>8</sup> The Asia Opportunities Fund, the Emerging Markets Discovery Stock Fund, and the Institutional Frontier Markets Equity Fund did not have 5-year performance histories as of December 31, 2018.

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- Thirteen of the 16 T. Rowe Price funds in the study showed higher returns on average, after fees and costs, compared with passive competitors in their respective equity categories over all rolling time horizons for which they had performance histories (Figure 4).
- Average excess returns were positive across rolling one-year periods for 14 of 16 funds and positive across rolling three-year periods for 15 of 16 funds.
- Over rolling five-year periods, 11 of the 13 funds with relative performance track records in that time frame showed positive average excess returns, after fees and costs.
- Twelve of the 16 T. Rowe Price funds had positive active success rates across every time horizon for which performance comparison data were available (Figure 5).
- Nine of the 13 funds with one-, three-, and five-year relative performance records (or almost 70%) showed positive active success rates versus their passive competitors across all three time frames. Ten of the 13 funds (or almost 77%) showed positive average excess returns across all three time frames.
- To provide a high-level summary of the effectiveness of our strategic investing process, we also calculated broader performance measures for all of the T. Rowe Price funds included in the study, based on equally weighted averages of all performance periods for all funds included across each rolling time horizon. The results are shown in Figures 1 and 2.

#### Our Approach to Strategic Investing

To the extent T. Rowe Price's GIEM funds have been able to deliver strong

### (Fig. 4) Average Annualized Excess Returns Over Passive Composites Net of Fees

Rolling Periods December 31, 1998, Through December 31, 2018

Fund	One Year	Three Years	Five Years
<b>Global</b>			
Global Growth Stock	3.10%	2.06%	1.96%
Global Stock	4.51	3.93	3.91
Global Real Estate	-0.24	-0.05	-0.06
Institutional Global Value Equity	1.33	1.32	1.49
New Era (Global Natural Resources)	1.27	1.42	1.78
<b>International/Developed Country</b>			
European Stock	1.04	1.24	1.50
Institutional International Disciplined Equity	1.81	2.12	2.07
International Value Equity	-0.57	0.08	0.40
Japan	2.47	1.21	0.90
Overseas Stock	0.75	0.85	0.83
<b>Emerging Markets</b>			
Asia Opportunities	4.19	3.61	-
Emerging Markets Stock	2.42	0.77	0.46
Emerging Markets Discovery Stock	2.31	2.05	-
Institutional Frontier Markets Equity	1.10	1.42	-
Latin America	0.44	0.19	-0.11
New Asia	4.39	2.62	2.40

Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

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## (Fig. 5) Active Success Rates for T. Rowe Price Funds Net of Fees

Rolling Periods December 31, 1998, Through December 31, 2018

Fund	One Year	Three Years	Five Years
<b>Global</b>			
Global Growth Stock	76%	98%	100%
Global Stock	81	79	93
Global Real Estate	49	54	48
Institutional Global Value Equity	59	79	78
New Era (Global Natural Resources)	44	60	92
<b>International/Developed Country</b>			
European Stock	62	55	58
Institutional International Disciplined Equity	69	97	100
International Value Equity	38	52	74
Japan	61	61	69
Overseas Stock	61	87	99
<b>Emerging Markets</b>			
Asia Opportunities	91	100	-
Emerging Markets Stock	68	71	60
Emerging Markets Discovery Stock	71	100	-
Institutional Frontier Markets Equity	55	75	-
Latin America	53	49	46
New Asia	72	91	95

Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

**Past performance is not a reliable indicator of future performance. See standardized returns in the following disclosure.**

## 22 years

average industry experience for T. Rowe Price portfolio managers<sup>10</sup>

## 17 years

average tenure with the firm for T. Rowe Price portfolio managers.<sup>10</sup>

long-term active performance, net of fees and costs, over the past two decades, we believe it reflects the strengths of our investment process in a number of key areas.

- We go out into the field to get the answers we need. Over 400 investment professionals<sup>9</sup> see firsthand how the companies we're investing in are performing today in order to make skilled judgments about how we think they'll perform in the future.
- We seek to uncover more opportunities for our clients and are constantly on the lookout, analyzing the markets and the companies within them. By going on the road to meet with executives and employees, our professionals can ask the questions to

get a deeper understanding of where a company stands and where it could go in the future.

- Experience has been a critical component of our success as well. The firm's skilled portfolio managers have deep experience—an average of 22 years in the industry and 17 years with T. Rowe Price.<sup>10</sup> Many of our analysts go on to become portfolio managers, which we believe creates a strong foundation on behalf of our clients.
- We also don't wait for change; we seek to get ahead of change for our clients. We assess when to move with the crowd and when to move against it. Our people have the conviction to think independently

<sup>9</sup> T. Rowe Price investment staff as of 12/31/2018. Includes 105 portfolio managers, 24 associate portfolio managers, 165 investment analysts, 44 associate analysts, 14 multi-asset specialists, 9 specialty analysts, 2 strategists, 2 economists, 29 traders, and 18 senior managers.

<sup>10</sup> As of December 31, 2018.

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but act collaboratively. This means we're able to respond quickly to take advantage of short-term market fluctuations, or we can also choose to hold tight.

Since assuming full control and ownership of its GIEM equity advisory business in 2000, T. Rowe Price has greatly expanded the resources that support those strategies. Our staff of GIEM equity professionals has more

than doubled since 2006 and now provides in-depth coverage of global economic sectors and regions from seven offices worldwide—Baltimore, London, Tokyo, Hong Kong, Singapore, Sydney, and Zurich.

By continuing to focus on the underlying factors that we believe support strong active performance, T. Rowe Price will continue to seek long-term value creation for our clients.

## Standardized Performance

Annualized Total Returns for Periods Ended June 30, 2019

Fund and Benchmark	Gross Expense Ratio <sup>1</sup>	1-Year	3-Year	5-Year	10-Year	Since Fund Inception <sup>2</sup>	Fund Inception
Asia Opportunities Fund	1.32%	1.45	13.10	8.40	N/A	8.88	5/21/14
MSCI All Country Asia ex Japan Index Net	N/A	-0.48	11.50	4.84	N/A	5.35	N/A
Emerging Markets Stock Fund	1.22%	3.34	12.05	5.36	7.30	—	3/31/95
MSCI Emerging Markets Index Net	N/A	1.21	10.66	2.49	5.81	—	N/A
Emerging Markets Discovery Stock Fund <sup>3</sup>	1.90%	8.73	14.34	N/A	N/A	11.66	9/14/15
MSCI Emerging Markets Index Net	N/A	1.21	10.66	N/A	N/A	9.78	N/A
European Stock Fund	0.97%	4.32	8.10	1.25	8.33	—	2/28/90
MSCI Europe Index Net	N/A	1.88	9.11	1.27	6.99	—	N/A
Global Growth Stock Fund	0.92%	7.87	15.91	9.63	12.20	—	10/27/08
MSCI All Country World Index Net	N/A	5.74	11.62	6.16	10.15	—	N/A
Global Stock Fund	0.82%	7.43	18.40	11.98	13.37	—	12/29/95
MSCI All Country World Index Net	N/A	5.74	11.62	6.16	10.15	—	N/A
Global Real Estate Fund	1.08%	6.41	3.10	4.08	10.40	—	10/27/08
FTSE EPRA NAREIT Developed Markets Real Estate Index	N/A	8.64	5.45	5.79	11.45	—	N/A
Institutional Frontier Markets Equity Fund	1.62%	-0.57	7.31	N/A	N/A	0.14	9/22/14
MSCI Frontier Market Index Net	N/A	4.92	8.35	N/A	N/A	-1.26	N/A
Institutional Global Value Equity Fund	2.90%	2.66	8.78	4.77	N/A	10.66	7/26/12
MSCI World Index Net	N/A	6.33	11.77	6.60	N/A	10.81	N/A
Institutional International Disciplined Equity Fund <sup>4</sup>	0.74%	3.64	7.60	2.82	N/A	7.69	7/27/10
MSCI Europe, Australasia, Far East (EAFE) Index Net	N/A	1.08	9.11	2.25	N/A	5.99	N/A
International Value Equity Fund	0.81%	-4.26	4.39	-0.89	5.72	—	12/21/98
MSCI EAFE Index Net	N/A	1.08	9.11	2.25	6.90	—	N/A
Japan Fund	0.96%	-4.52	10.75	8.68	9.48	—	12/30/91
Tokyo Stock Price Index (TOPIX)	N/A	-5.66	8.21	6.44	7.49	—	N/A
Latin America Fund	1.32%	25.72	11.25	1.50	3.18	—	12/29/93
MSCI Emerging Markets Latin America Index Net	N/A	18.45	10.79	-0.75	2.34	—	N/A
New Asia Fund	0.93%	0.19	10.85	5.21	9.08	—	9/28/90
MSCI All Country Asia ex Japan Index Net	N/A	-0.48	11.50	4.84	7.87	—	N/A
New Era Fund	0.69%	-6.15	3.93	-3.03	4.45	—	1/20/69
MSCI World Select Natural Resources Index Net	N/A	-9.19	5.15	-3.39	4.53	—	N/A
Overseas Stock Fund	0.81%	-3.02	8.61	2.18	7.41	—	12/29/06
MSCI EAFE Index Net	N/A	1.08	9.11	2.25	6.90	—	N/A

**Performance data quoted represents past performance and does not guarantee future results. Investment return and principal value will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted. To obtain the most recent month-end performance, visit [troweprice.com](http://troweprice.com).**

Average annual total return figures include changes in principal value, reinvested dividends, and capital gain distributions.

It is not possible to invest directly in an index.

Unless otherwise noted, benchmarks are shown with gross dividends reinvested.

Source: T. Rowe Price; MSCI; Tokyo Stock Exchange; LSE Group. See Additional Disclosures.

<sup>1</sup> As of the most recent prospectus.

<sup>2</sup> For funds with less than a 10-year performance history as of June 30, 2019.

<sup>3</sup> The name of this fund was changed from the Emerging Markets Value Stock Fund to the Emerging Markets Discovery Stock Fund on March 1, 2019.

<sup>4</sup> The name of this fund was changed from the Institutional International Concentrated Equity Fund to the Institutional International Disciplined Equity Fund on March 1, 2019.

# Appendix: Study Methodology

We examined the performance of 16 of T. Rowe Price's lineup of actively managed global, international, and emerging market (GIEM) equity funds over the period beginning December 31, 1998, and ending December 31, 2018, or since their inception. The study was intended to demonstrate the value added by our strategic investing process relative to passively managed investment vehicles—such as index funds and exchange-traded funds (ETFs)—with comparable investment objectives. Our focus was on funds that invest across equity categories, such as global equities or emerging market equities; specific geographical regions, such as Japan or Europe; or global sectors, such as natural resources or global real estate.

## Passive Competitor Composites

To measure the value added by T. Rowe Price's strategic investing process, we compared the returns achieved by our funds over various time horizons with the returns for competing passively managed funds pursuing similar investment objectives. These comparisons were based on the methodology described below, which was used by T. Rowe Price analysts to construct passive competitor composites for U.S.-domiciled passive funds in various equity categories, including world large stock, foreign large blend, diversified emerging markets, Asia ex-Japan, Japanese equity, European equity, global real estate, and natural resources. Figure A1 shows the passive competitor composites used to measure relative performance of each T. Rowe Price fund.

All funds included in the passive competitor composites were flagged by Morningstar as passive index funds or ETFs in its U.S. classification database. Funds were further screened by T. Rowe Price analysts to ensure they were truly representative of their assigned passive categories and had investment characteristics consistent with the objectives of the T. Rowe Price funds to which they were being compared. These additional criteria included:

- Length of track record: Only passive funds with at least one year of performance history were included in the passive competitor composites. Only funds that were in the Morningstar database as of December 31, 2018, were included.
- Portfolio constraints: Funds having environmental, social, and governance; low-volatility; high-divided yield; currency-hedged; small-cap; or IPO-specific security mandate components were excluded. These funds typically impose restrictions on portfolio holdings that make direct performance comparisons with non-screened funds inappropriate, in our view.
- An additional name screen was applied to Morningstar's Diversified Emerging Markets, Latin America, Pacific Asia ex-Japan, Global Real Estate, and Natural Resources fund categories to identify passive funds with investment objectives comparable with the T. Rowe Price funds in those same categories. For instance, Morningstar's Latin America category includes a number of products that focus specifically on Brazilian equities; in order to capture products within the category with a pan-Latin America mandate, a name screen was applied.
- To ensure that passive competing global funds were true global funds, the Global Real Estate and Natural Resources composites only include funds having between 25% and 75% of their portfolios invested in non-U.S. equities.
- Funds that exclude specific countries from their investment objectives were screened out and only included in the Foreign Large Blend and Foreign Large Value (i.e., ex-U.S.) passive competitor composites, where many "international" strategies that track non-U.S. or ex-U.S. benchmarks fall, and in the Pacific Asia Ex-Japan passive competitor composite, as mentioned in the additional name screen noted above.



**(Fig. A1) Passive Composites for T. Rowe Price Funds**

<b>Fund</b>	<b>Passive Composite</b>
<b>Global</b>	
Global Growth Stock	World Large Stock (With EM Exposure)
Global Stock	World Large Stock (With EM Exposure)
Global Real Estate	Global Real Estate
Institutional Global Value Equity	World Large Stock (Without EM Exposure)
New Era (Global Natural Resources)	Natural Resources
<b>International/Developed Country</b>	
European Stock	Europe Equity
Institutional International Disciplined Equity	Foreign Large Blend (Without EM Exposure)
International Value Equity	Foreign Large Value (Without EM Exposure)
Japan	Japan Equity
Overseas Stock	Foreign Large Blend (Without EM Exposure)
<b>Emerging Markets</b>	
Asia Opportunities	Pacific Asia Ex-Japan
Emerging Markets Stock	Diversified Emerging
Emerging Markets Discovery Stock	Diversified Emerging
Institutional Frontier Markets Equity	Frontier Screened (Within Diversified Emerging)
Latin America	Latin America
New Asia	Pacific Asia Ex-Japan

Source: T. Rowe Price.

The Morningstar World Stock, Foreign Large Blend, and Foreign Large Value categories include funds that invest in the full global equity opportunity set—that is, without geographic limitations—as well as those that invest primarily in developed markets outside the U.S. In order to match the investment objectives of the T. Rowe Price funds in those same categories, passive competitors were screened to identify those with prospectuses that permit materially significant investment in emerging and/or frontier equity markets and those that are only permitted incidental or minor exposure. We defined “material” exposure as 5% or more of a fund’s total portfolio value (as shown in the Morningstar database) as of the study’s end date. Based on these screens, we created separate World Large Stock (With EM Exposure) and World Large Stock (Without EM Exposure) passive competitor composites.

The Foreign Large Blend (Without EM Exposure) passive competitor composite

was used to measure the relative performances of the T. Rowe Price Overseas Stock Fund and the T. Rowe Price Institutional International Disciplined Equity Fund. The Foreign Large Value (Without EM Exposure) passive competitor composite was used to measure the relative performance of the T. Rowe Price International Value Equity Fund. The World Large Stock (With EM Exposure) passive competitor composite was used to measure the relative performances of the T. Rowe Price Global Stock Fund and the T. Rowe Price Global Growth Stock Fund. The World Large Stock (Without EM Exposure) passive competitor composite was used to measure the relative performance of the T. Rowe Price Institutional Global Value Equity Fund.

Following application of the appropriate screens to each category, the five largest passive funds by assets under management were included in the passive competitor for that category. In cases where the category included less

than five funds after screening, all of the funds in the category were included in the passive competitor composite. Passive competitor composites with only one competitor were excluded from the study. Passive competitor composite performance reflected an equal-weighted average of the total returns for each fund in the passive competitor during each performance period measured.

Passive competitor composites were only calculated for periods in which a sufficient number of passive competitors were available in the Morningstar database. Sufficient data were defined as having at least one comparable passive competitor in all rolling periods and at least two comparable passive competitors in the final rolling period covered by the study.

**(Fig. A2) Funds Included in Passive Competitor Composites**

<b>Composite</b>	<b>Inception Date</b>	<b>Composite Inclusion Date</b>
<b>Diversified Emerging</b>		
Vanguard Emerging Mkts Stock Idx Inv	5/4/1994	1/1/1999
iShares Core MSCI Emerging Markets ETF	10/18/2012	11/1/2012
iShares MSCI Emerging Markets ETF	4/7/2003	5/1/2003
Schwab Emerging Markets Equity ETF™	1/14/2010	2/1/2010
Fidelity® SAI Emerging Markets Index	1/5/2016	2/1/2016
<b>Europe Equity</b>		
Vanguard European Stock Index Investor	6/18/1990	1/1/1999
iShares MSCI Eurozone ETF	7/25/2000	8/1/2000
SPDR® EURO STOXX 50 ETF	10/15/2002	11/1/2002
iShares Core MSCI Europe ETF	6/10/2014	7/1/2014
iShares Europe ETF	7/25/2000	8/1/2000
<b>Foreign Large Blend (Without EM Exposure)</b>		
Vanguard Developed Markets Index Admiral	8/17/1999	9/1/1999
iShares MSCI EAFE ETF	8/14/2001	9/1/2001
iShares Core MSCI EAFE ETF	10/18/2012	11/1/2012
Fidelity® International Index Investor	11/5/1997	1/1/1999
Schwab International Equity ETF™	11/3/2009	12/1/2009
<b>Foreign Large Value (Without EM Exposure)</b>		
iShares MSCI EAFE Value ETF	8/1/2005	9/1/2005
Schwab Fundamental Intl Lg Co ETF	8/15/2013	9/1/2013
Schwab Fundamental Intl Lg Co Idx	4/2/2007	4/2/2007
Invesco FTSE RAFI Dev Mkts ex-US ETF	6/25/2007	7/1/2007
WisdomTree International Equity ETF	6/16/2006	7/1/2006
<b>Frontier Screened (Within Diversified Emerging)</b>		
Invesco Frontier Markets ETF	6/12/2008	7/1/2008
iShares MSCI Frontier 100 ETF	9/12/2012	10/1/2012
<b>Global Real Estate</b>		
Shares Developed Real Estate Idx K	8/13/15	9/1/15
SPDR® Dow Jones Global Real Estate ETF	5/7/08	6/1/08
Northern Global Real Estate Index	7/26/2006	8/1/2006
Cohen & Steers Global Realty Majors ETF	5/7/08	6/1/2008
First Trust FTSE EN Dev Mkts Rel Est ETF	8/27/07	9/1/2007
<b>Japan Equity</b>		
iShares MSCI Japan ETF	3/12/1996	1/1/1999
Goldman Sachs ActiveBeta® Japan Eq ETF	3/2/2016	4/1/2016
Voya Japan TOPIX Index® Port I	8/17/2009	9/1/2009
First Trust Japan AlphaDEX® ETF	4/18/2011	5/1/2011
iShares JPX-Nikkei 400 ETF	10/23/2001	11/1/2001

Sources: Morningstar (see Fig. 1) and T. Rowe Price; all data analysis by T. Rowe Price.

(Fig. A2) Funds Included in Passive Competitor Composites (Continued)

Composite	Inception Date	Composite Inclusion Date
<b>Latin America</b>		
iShares Latin America 40 ETF	10/25/2001	11/1/2001
First Trust Latin America AlphaDEX® ETF	4/18/2011	5/1/2011
<b>Natural Resources</b>		
FlexShares Mstar Gbl Upstrm Nat Res ETF	9/16/11	10/1/11
SPDR® S&P Global Natural Resources ETF	9/13/10	10/1/10
IQ Global Resources ETF	10/27/09	11/1/09
<b>Pacific Asia Ex-Japan</b>		
iShares MSCI All Country Asia ex Jpn ETF	8/13/2008	9/1/2008
iShares MSCI Asia ex Japan Index Instl	6/9/2015	7/1/2015
Global X Scientific Beta Asia ex-JPN ETF	5/12/2015	6/1/2015
<b>World Large Stock (With EM Exposure)</b>		
Vanguard Total World Stock ETF	6/24/2008	7/1/2008
iShares MSCI ACWI ETF	3/26/2008	4/1/2008
SPDR® MSCI ACWI IMI ETF	2/27/2012	3/1/2012
Ivy ProShares MSCI ACWI Index I	4/20/2017	5/1/2017
SPDR® Global Dow ETF	9/25/2000	10/1/2000
<b>World Large Stock (Without EM Exposure)</b>		
iShares Global 100 ETF	12/5/2000	1/1/2001
iShares MSCI World ETF	1/10/2012	2/1/2012
iShares MSCI Developed World Index Instl	6/1/2015	7/1/2015
JNL/Mellon Capital MSCI World Index A	7/2/1999	8/1/1999
Knowledge Leaders Developed World ETF	7/7/2015	8/1/2015

Sources: Morningstar (see Fig. 1) and T. Rowe Price; all data analysis by T. Rowe Price.

A full list of the passive competitor composites used in the study, and the competing passive funds included in each composite, can be found in Figure A2.

### T. Rowe Price Fund Inclusion

T. Rowe Price funds were included in the study universe as of December 31, 1998, or, for funds without full track records over the period covered by the study, as of the date of their inception. However, performance time periods for some T. Rowe Price funds were limited by an inability to construct adequate passive competitor composites for them prior to the dates of their inclusion. Sufficient passive comparison universes could not be identified under our methodology for seven active T. Rowe Price GIEM funds: the Africa & Middle East Fund, the Emerging Europe Fund, the International Discovery Fund, the International Stock Fund, the Global Consumer Fund, the Global Industrials

Fund, and the Global Technology Fund. Accordingly, those seven funds were excluded from the study. Figure 3 shows the inception and inclusion dates for each T. Rowe Price fund included in the study, while Figure A3 shows the total number of rolling performance periods covered by the study for each T. Rowe Price fund.

One additional active GIEM fund, the Quantitatively Managed (QM) Global Equity Fund, also was excluded from the study. The QM Global Equity Fund had an extremely short performance history, consisting of only 19 rolling one-year periods (rolled monthly) and no rolling 3-, 5-, or 10-year periods as of December 31, 2018.

### Performance Metrics

Relative fund performance versus the appropriate passive competitor composite was measured using two metrics:

- Active Success Rate: Records the percentage of times a T. Rowe Price

fund beat its passive competitor composite, net of fees and costs, over a specified time horizon (e.g., 10 years). A positive active success rate was defined as outperforming the passive competitor composite in more than 50% of all rolling periods over a particular time horizon.

- **Excess Return:** For each rolling period, the return (net of fees and costs) for the fund's passive competitor composite was subtracted from the T. Rowe Price fund return (also net of fees and costs), producing an excess return. Excess returns were then averaged across the total number of rolling periods in each time frame for each T. Rowe Price fund.

Available 1-, 3-, 5-, and 10-year performance comparisons for the T. Rowe Price funds over the full period covered by the study can be found in Figures A4 and A5.

It should be noted that active success rates and average excess return results may differ depending on a fund's overall performance pattern. For example, a fund that outperformed its passive competitor composite by a large margin in a relatively small number of rolling periods within a given time frame might show positive average excess returns but a negative active success rate (i.e., below 50%).

For each T. Rowe Price fund in the study, we calculated returns for one-, three-, and five-year rolling periods, rolled monthly. Returns for the three- and five-year rolling periods were annualized. In addition, we also examined relative performance over 10-year rolling periods, although six of the funds in the study did not have 10-year performance histories. Another fund, the T. Rowe Price Global Growth Stock Fund, had only three rolling 10-year performance periods as of

**(Fig. A3) Number of Rolling Performance Periods Included in the Study**

	Rolling Periods			
	One Year	Three Years	Five Years	Ten Years
<b>Global</b>				
Global Growth Stock	111	87	63	3
Global Stock	208	184	160	100
Global Real Estate	111	87	63	3
Institutional Global Value Equity	66	42	18	0
New Era (Global Natural Resources)	99	75	51	0
<b>International/Developed Country</b>				
European Stock	229	205	181	121
Institutional International Disciplined Equity	90	66	42	0
International Value Equity	149	125	101	41
Japan	229	205	181	121
Overseas Stock	133	109	85	25
<b>Emerging Markets</b>				
Asia Opportunities	44	20	0	0
Emerging Markets Stock	229	205	181	121
Emerging Markets Discovery Stock	28	4	0	0
Institutional Frontier Markets Equity	40	16	0	0
Latin America	195	167	147	87
New Asia	113	89	65	5
<b>Total</b>	<b>2,074</b>	<b>1,686</b>	<b>1,338</b>	<b>627</b>

Source: T. Rowe Price.

December 31, 2018, while the passive competitor composite for the T. Rowe Price New Asia Fund (the Asia Ex-Japan composite) had only five 10-year performance periods as of that date.

Of the ten funds that had sufficient histories for 10-year comparisons, seven (or 70%) had positive average excess returns over their passive competitors in the rolling 10-year periods covered by the study.

### Performance Averages

Broad relative performance averages were constructed for the T. Rowe Price funds included in the study. These performance averages were based on equally weighted averages of all available performance periods for all the funds in the study across each rolling time horizon. Full results, including for 10-year rolling periods, can be found in Figure A6.

### Joint Venture

From 1979 to 2000, some of T. Rowe Price's GIEM equity strategies were advised by Rowe Price-Fleming International (RPFI), a joint venture with Robert Fleming Holdings Ltd., a UK-based asset manager. In August 2000, T. Rowe Price completed its purchase of Fleming's 50% interest in RPFI, and the subsidiary was renamed T. Rowe Price International Ltd.

### Data Sources

All study results were based on total returns, including dividends reinvested. Returns for the T. Rowe Price funds included in the study and for the competitors included in passive competitor composites both were based on daily net asset values and thus reflected the subtraction of management fees, operating expenses, and trading costs. NAV data for the T. Rowe Price funds were taken from T. Rowe Price's internal

## (Fig. A4) Average Annualized Excess Returns Over Passive Competitor Composites Net of Fees

Rolling Periods December 31, 1998, Through December 31, 2018

	One Year	Three Years	Five Years	Ten Years
<b>Global</b>				
Global Growth Stock	3.10%	2.06%	1.96%	3.58%
Global Stock	4.51	3.93	3.91	3.48
Global Real Estate	-0.24	-0.05	-0.06	-0.35
Institutional Global Value Equity	1.33	1.32	1.49	-
New Era (Global Natural Resources)	1.27	1.42	1.78	-
<b>International/Developed Country</b>				
European Stock	1.04	1.24	1.50	1.93
Institutional International Disciplined Equity	1.81	2.12	2.07	-
International Value Equity	-0.57	0.08	0.40	0.25
Japan	2.47	1.21	0.90	0.39
Overseas Stock	0.75	0.85	0.83	0.77
<b>Emerging Markets</b>				
Asia Opportunities	4.19	3.61	-	-
Emerging Markets Stock	2.42	0.77	0.46	-0.01
Emerging Markets Discovery Stock	2.31	2.05	-	-
Institutional Frontier Markets Equity	1.10	1.42	-	-
Latin America	0.44	0.19	-0.11	-0.25
New Asia	4.39	2.62	2.40	3.47

Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

**Past performance is not a reliable indicator of future performance.**

performance database, which is used by T. Rowe Price to calculate returns for its quarterly, semiannual, and annual client reports; for marketing materials; and for regulatory disclosures. Return data for the passive competitor composites were taken from the Morningstar database.

### Fund Share Classes

The fund returns used in the study are based on the after-cost performance of the Investor Class of shares for each fund. In recent years, some of the T. Rowe Price funds included in the study have launched

Advisor and R Classes that include 12b-1 fees paid to intermediaries for distributing these funds. Given the limited track records of these share classes and the fact that they are not the lowest-expense share class available, we believe it was more accurate to base our study on performance results of the Investor Classes. The Advisor, R, and I Classes share the same portfolio as the Investor Class. For the three institutional funds used in the study, returns were based on the fee structures available to investors with USD 1,000,000 million to invest.

## (Fig. A5) Active Success Rates for T. Rowe Price Funds Net of Fees

Rolling Periods December 31, 1998, Through December 31, 2018

	One Year	Three Years	Five Years	Ten Years
<b>Global</b>				
Global Growth Stock	76%	98%	100%	100%
Global Stock	81	79	93	100
Global Real Estate	49	54	48	0
Institutional Global Value Equity	59	79	78	-
New Era (Global Natural Resources)	44	60	92	-
<b>International/Developed Country</b>				
European Stock	62	55	58	94
Institutional International Disciplined Equity	69	97	100	-
International Value Equity	38	52	74	46
Japan	61	61	69	60
Overseas Stock	61	87	99	100
<b>Emerging Markets</b>				
Asia Opportunities	91	100	-	-
Emerging Markets Stock	68	71	60	45
Emerging Markets Discovery Stock	71	100	-	-
Institutional Frontier Markets Equity	55	75	-	-
Latin America	53	49	46	18
New Asia	72	91	95	100
<b>Percent of All Funds with Positive Active Success Rates</b>	<b>81</b>	<b>94</b>	<b>85</b>	<b>60</b>

Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

## (Fig. A6) T. Rowe Price Fund Performance Averages Net of Fees

Equal-Weighted Averages for All Periods for All Funds in Study

Rolling Periods December 31, 1998, Through December 31, 2018, in Percentage Points

	One Year	Three Years	Five Years	Ten Years
Excess Returns	1.87%	1.38%	1.28%	1.06%
Active Success Rates	62%	69%	73%	65%

Sources: T. Rowe Price and Morningstar (see Fig. 1); all data analysis by T. Rowe Price.

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