

# Extracting Growth Alpha in Emerging Markets

OCTOBER 2020



JENNISON ASSOCIATES

---

[www.jennison.com](http://www.jennison.com)

# Extracting Growth Alpha in Emerging Markets

- Emerging markets are home to the world's fastest-growing economies and their long-term equity returns have attracted investment flows. In the past several years, however, many investors may have been disappointed by lackluster results from their emerging markets allocations.
- Investing in emerging markets companies with strong secular growth can lead to significant alpha generation over time and we believe the best way to capture this is to focus on the structural growth latent in select emerging markets companies.
- In our view, the emerging markets growth trajectory remains strong and the disconnect experienced by some investors may be attributed to indexes and low-tracking error investment approaches that have been slow to reflect fundamental changes in emerging markets growth dynamics.
- As most mainstream emerging markets indexes underrepresent dynamic secular growth companies, we believe portfolios are best constructed agnostic of index geographic and sector weights.

Institutional allocations to emerging markets (EM) equities have increased steadily since the 1980s<sup>1</sup>, as the asset class has evolved from frontier investment to growth mainstay. Over the past two decades, EM prosperity has been driven largely by export growth. While exports remain a significant component of developing world economic growth, we believe massive expansion of the EM middle class—and its dramatic stimulation of domestic consumption—is poised to drive a differentiated source of EM growth. As the middle class expands and its disposable income increases, demand for numerous products and services rises.

In 2019, EM countries posted average GDP growth of approximately 3.7%, substantially exceeding the 1.7% GDP growth of developed markets.<sup>2</sup> This EM growth premium is expected to persist into the next decade. China, Indonesia, and Brazil are projected to grow twice as fast as developed markets countries, while India and the Philippines are expected to grow even faster, in the high single digits.

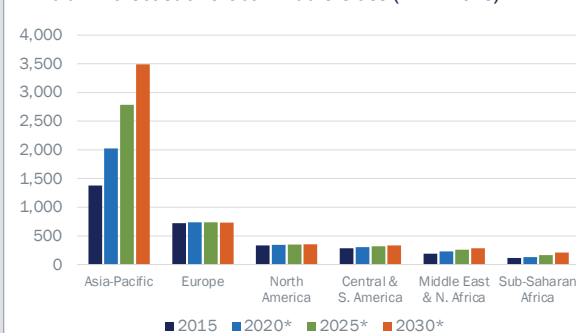
The success of investors seeking to translate EM's premium structural growth into robust investment returns hinges on investment strategy. Investors in passive vehicles or low-tracking-error diversified funds relative to the MSCI Emerging Markets Index (EM Index) may be handicapping their growth prospects. We believe actively managed, high-conviction, benchmark-agnostic portfolios focused on companies that can generate superior growth and long-term returns offer better investment opportunities for several reasons:

- The EM middle class's burgeoning growth is creating secular growth opportunities for active investors. But not all EM companies have the solid fundamentals necessary to capitalize on the demographic change.
- Macroeconomic growth doesn't necessarily translate into attractive equity returns. Rigorous research of individual company fundamentals can distinguish well-positioned businesses from disadvantaged companies.
- Active investing, particularly active growth investing, has historically outperformed in EM. This in part reflects the preponderance of cyclical, old economy companies in EM benchmarks. The cap-weighted nature of most EM indexes makes them slow to reflect new sources of growth.
- With so many lackluster, old-economy companies in EM indexes, concentrated portfolios focused on strong secular growth opportunities offer significant long-term alpha-generation potential. Diversifying portfolios with essentially deadweight, low-growth companies may dilute return potential.
- In EM, the highest-growth companies have historically outperformed.
- EM offers numerous high-growth companies, and ongoing demographic changes and innovation should lead to constantly evolving investment opportunities.

## EM's Middle Class Boom

Chief among the drivers of continued EM growth is the expanding EM middle class, particularly in the Asia-Pacific region as shown in Exhibit 1. Across the developing world, wealth accumulation and rising discretionary spending have been catalysts for growth. Lifestyle changes and urbanization have driven up consumption, increasing demand in areas such as educational and financial services, healthcare products, and leisure. It has also created greater appetite for branded and luxury goods. Global consumption is expected to reach \$62 trillion, twice its 2013 level, with emerging markets accounting for half this increase.<sup>1</sup>

**Exhibit 1: Forecast of Global Middle Class (in millions)**



Source: Statista, Brookings Institute

The emerging markets' large millennial population (people who reached young adulthood in the early 2000s) is likewise helping to drive growth. Millennials in China and India each outnumber the entire U.S. population. India's 410 million millennials are expected to spend \$330 billion this year.<sup>2</sup> Millennials use technology extensively in their daily lives, and companies catering to their habits have a long runway for secular growth.

<sup>1</sup> Mancini, N. P. (2017, August 30). Global growth, local roots: The shift toward emerging markets. Retrieved from mckinsey.com: <https://www.mckinsey.com/business-functions/operations/our-insights/global-growth-local-roots-the-shift-toward-emerging-markets>

<sup>2</sup> Grozdanovic, N. (2020, April 17). The next global frontier: Millennial investors are driving growth in emerging markets. Retrieved from worldfinance.com: <https://www.worldfinance.com/markets/the-next-global-frontier-millennial-investors-are-driving-growth-in-emerging-markets>

## Macroeconomic Growth Doesn't Necessarily Translate into Attractive Equity Returns.

While economic conditions and investment outcomes may coincide, they're not directly related. A company's profits and share price have, at best, an indirect relationship with the economy of the markets in which the company operates. Across emerging markets, local stock market performances vary and often differ dramatically from their respective economies.

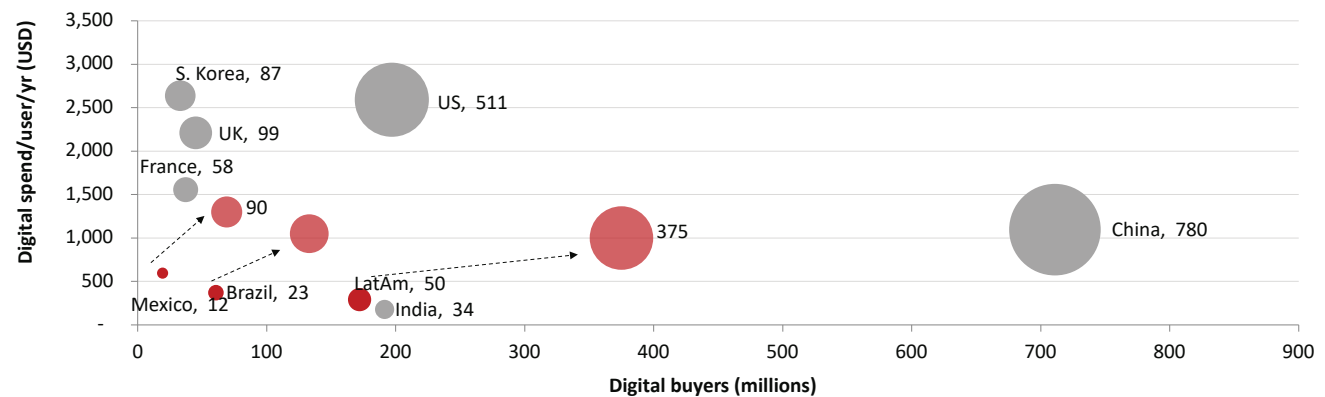
China provides an example. GDP in China grew 7.7% annually over the 10 years ended December 31, 2019.<sup>3</sup> Over the same period, Chinese stocks, as measured by the MSCI China Index, rose 5.3%.<sup>4</sup> Chinese GDP growth decelerated in each of those years, yet China is home to companies that have delivered blockbuster growth. Online consumer services marketplace Meituan Dianping grew its revenues from RMB4 billion in 2015 to RMB97 billion in 2019<sup>5</sup>; it went public less than two years ago. Alibaba, in the MSCI EM Index only six years, has grown its revenues by a factor of 11.<sup>6</sup> This impressive growth has translated into strong share price performance for these companies<sup>7</sup>, but the Chinese stock market as a whole has lagged China's GDP growth.<sup>8</sup> Equity returns reflect a spectrum of factors, ranging from company-specific fundamentals (like management quality, capital allocation decisions, competitive advantages, product innovation) to structural conditions (political, legal, regulatory, corporate governance frameworks) and the macroeconomic backdrop (interest rates, inflation expectations, currency movements).

MercadoLibre is another company that has been overcoming macro headwinds. This e-commerce platform has grown its revenues by a factor of 11 in the trailing ten years ending December 31, 2019, despite operating primarily in Argentina and Brazil, two countries with historically high rates of inflation, massive currency depreciation, and, in the case of Brazil, a deep recession between 2014 and 2016. Exhibit 2 shows that growth in the Latin American e-commerce user base is expected to surge over the next decade. This presages a compelling backdrop for secular growth investment opportunities, but, in our view only research of individual company fundamentals is likely to identify the companies best positioned to benefit from this growth over the long term.



**Exhibit 2: E-commerce in USDbn by country for 2019 and 10-yr forecasts for LatAm**

E-commerce in Latin America is expected to accelerate



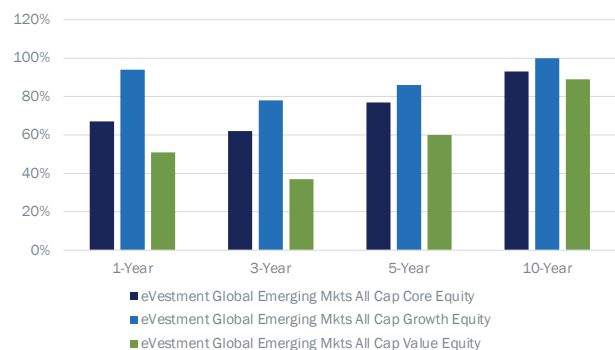
Source: HSBC estimates, Euromonitor, eMarketer, IBGE, INEG

To succeed, top-down investment strategies must correctly assess structural and macroeconomic factors. Unfortunately, exogenous factors—unforeseen geopolitical crises, trade disputes, currency disruptions, interest rate trends, and the like—make it extremely difficult to accurately predict how economies will proceed. Companies with strong fundamentals, like Meituan, Alibaba, and MercadoLibre, can thrive in the face of challenging external factors, reinforcing the viability of a bottom-up approach focused on idiosyncratic risk exposures regardless of the market backdrop. This is why concentrated individual stock selection can better exploit secular growth trends, in our view. We believe that identifying trends, such as disruptive technologies with long-duration growth, new product cycles, or large addressable markets, and finding companies with specific strengths poised to capitalize on these trends, is a better formula for generating alpha.

### Active Investors, Particularly Active Growth, Have Won in EM

Active EM equity managers outperformed passive indexes, and according to eVestment, active growth managers had the highest incidence of outperformance relative to the widely used MSCI Emerging Markets Index across a number of short and longer time periods. Every growth manager in the eVestment universe outperformed the index over the trailing 10 years, as shown in Exhibit 3. At least 78% and up to 94% of growth managers outperformed over the trailing one-, three-, and five-year timeframes.

Other styles of active management have also done well. More than 60% of EM all cap core equity managers outperformed the same index on a trailing one-, three-, and five-year basis. This number reaches an astounding 93% for the trailing 10 years. Value managers haven't fared quite as well over shorter time periods but acquit themselves well over the longer term.

**Exhibit 3: Active Strategies Have Outperformed in EM**

Source for data: eVestment. The illustrations are not sponsored by, endorsed by or prepared by eVestment. The universe includes both gross and net returns and is based on manager reference and has survivorship bias. **Past performance does not guarantee future results.**

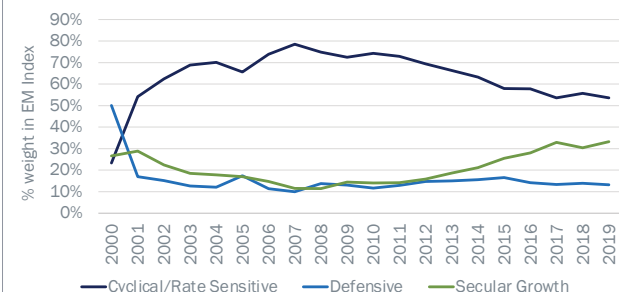
Number of managers in each universe:

|  | 1-Yr | 3-Yr | 5-Yr | 10-Yr |
|--|------|------|------|-------|
| eVestment Global Emerging Mkts All Cap Core Equity   | 178  | 170  | 149  | 82    |
| eVestment Global Emerging Mkts All Cap Growth Equity | 68   | 60   | 56   | 27    |
| eVestment Global Emerging Mkts All Cap Value Equity  | 53   | 46   | 40   | 18    |

We think growth leadership over the past 10 years, as demonstrated by its superior performance relative to the other categories, in part reflects the inherent construction of the EM index, namely its value bias and backward-looking cap-weighted construct, which has made it easier for growth managers to outperform.

Investing in a passive or overly diversified EM portfolio with a low tracking error relative to the MSCI EM index requires owning many cyclical rate-sensitive companies and relatively few growth companies. Exhibit 4 shows that the growth leaders of yesteryear—financials, energy, materials, industrials, telecom, and consumer cyclical—made up 54% of the index as of December 31, 2019. Furthermore, the index fails to reflect the dynamism and opportunities that exist in emerging markets: Sectors with strong latent growth potential, such as healthcare, information technology, media, entertainment, consumer internet, and luxury goods, were a mere 33% of the index at the end of 2019.

**Exhibit 4: MSCI Emerging Markets Index Is Skewed Toward the “Old Economy”**



Source: MSCI and Factset; Categories are defined by Jennison using GICS sectors, industries, and industry groups.

**Cyclical/Rate Sensitive** includes financials, materials, communication services/diversified telecom services and wireless telecom services, energy, industrials, and consumer discretionary (except internet and direct marketing), retail, and textiles apparel and luxury goods.  
**Defensive** includes real estate, consumer staples, health care/pharmaceuticals, and utilities.  
**Secular Growth** includes information technology, health care (except pharmaceuticals), communication services/entertainment, interactive media and services, media, consumer discretionary/internet and direct marketing, retail, and textiles apparel and luxury goods.

China Mobile is a case in point. It was the EM index's largest constituent in 2010 and remained one of the index's top 10 positions at the end of 2019, even though its earnings were flat over the past decade.<sup>9</sup>

## Concentrated Portfolios Offer Significant Long-Term Alpha-Generation Potential

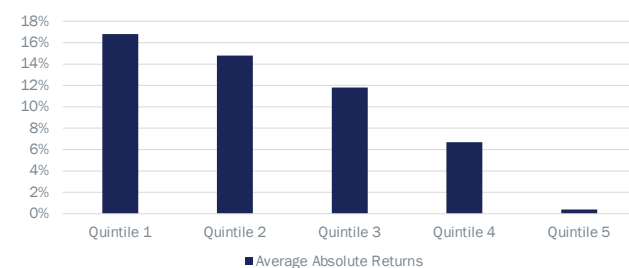
Some strategies emphasize regional or country asset allocations with the rationale that, done well, they can offset shortfalls at the security selection and generate alpha. We believe that EM investing demands a sharper toolkit because the fundamental revenue and earnings power of companies within regions will diverge meaningfully. According to a study published in the Journal of Financial Economics, of nearly 26,000 common stocks listed on the New York Stock Exchange, American Stock Exchange, and NASDAQ from 1926

to 2015, fewer than half generated a positive return during their time in the relevant index.<sup>10</sup> The positive performance of the overall market was attributable to the large returns of relatively few stocks. Astoundingly, the 86 top-performing stocks—less than one-third of 1% of all stocks—accounted for half of the overall stock market's gain, and less than 4% accounted for 100% of the stock market's gain.

Intrigued by these findings, we replicated this analysis for the MSCI EM index and found that over the last 20 years, 4% of companies in the index accounted for 100% of its return. This strongly suggests that investing in the right companies at meaningful weights is an important path to alpha generation.

Which companies are the “right” companies? Historically, they've been companies with superior earnings growth. Exhibit 5 shows that from 2002 through 2019 (time frame based on data availability), MSCI EM Index companies with the highest 5-year historical earnings growth (Quintiles 1 and 2) significantly outperformed companies with lower earnings growth (Quintiles 4 and 5) over 5-year rolling periods. Our analysis found that the relationship between earnings growth and total return was linear across quintiles.

**Exhibit 5: Average Absolute Returns in EM Index**



Source: FactSet, MSCI. Chart was created by Jennison using FactSet data for the MSCI Emerging Markets Index. Data for periods ending 12/31/19 is preliminary. See Disclosures for index definitions. **Past performance does not guarantee future results.**

The companies in the top two quintiles were innovators and disruptors that re-imagined the way people live, work, play, and communicate. Skill, investment experience, and extensive industry knowledge are necessary to identify these early-stage-growth companies. Quintile 1 includes tech giants like Tencent and Alibaba along with Asian Paints and HDFC Bank, which are capitalizing on Asia's growing middle class. By contrast, Quintile 5 is full of energy, mining, and

materials companies who in general demonstrated mediocre growth profiles and modest stock price performance.

As sell-side research coverage of EM companies is less extensive than coverage of developed market companies, consensus views of EM companies often either focus excessively on the short term or fail to fully price in the magnitude and duration of a company's growth potential. Active EM growth managers find opportunity by discovering exploitable price differentials between their estimates of a company's longer-term intrinsic value and shorter-term consensus expectations.

Fundamental investors examine company and industry prospects over short and long terms, working to anticipate how industries and businesses will change over time. Managers with a large and flexible opportunity set, may fare better as they engage a broader spectrum of companies including those that leverage or create a disruptive technology, product, or service; a new product cycle or market expansion; industry growth; an increase in an addressable market; leadership in a particular niche; or restructuring synergies. These types of companies with sustainable growth profiles are more likely to lead to superior results over time, in our view.

### Innovation and Domestic Consumption Growth Drive New EM Growth Opportunities

Is the pool of EM growth opportunities large enough to sustain an EM equity growth strategy?

Yes, for two key reasons:

- **Innovation and disruption** are characteristics abundant in developing markets. Faced with the challenge of catching up to developed markets with less developed infrastructure, many EM companies leading the charge are no longer content with emulating Western solutions, but actually looking to leapfrog and get ahead of world standards. In particular, smartphones and e-commerce have enabled EM consumers to transact securely whenever and wherever they want. Companies have embraced these new platforms, leveraging technology to grow sales and create new demand. Local companies are bucking the traditional view of EM as low-value-add industrial centers as they become true global leaders,

originating innovative ways to transact with their customers at scale. We expect digital transformation to be a powerful driver of growth in the EM investment opportunity set.

- **EM demographics, notably the growing middle class, are a long-term catalyst for growth.**

## CASE STUDY 1

### Made in EM: The Super App

China's internet giants are relatively young companies that owe part of their explosive growth to super apps, which were conceived and created in the emerging markets. Super apps provide a single portal to a wide range of virtual products and services, bundling together online messaging, social media, marketplaces, and services—the rough equivalent of consolidating WhatsApp, Facebook, eBay, and Uber into one app. The model is growing rapidly throughout Asia and is increasingly serving as a strategic blueprint for many companies in developed markets. The largest super apps now include payments systems that are eclipsing expensive and inefficient domestic banks.

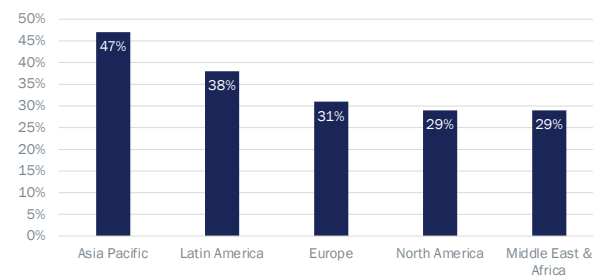
Internet conglomerate Tencent owns four of China's top 10 apps and has more than 1 billion monthly active users. Its WeChat app is the de-facto communication tool in China and its other apps include gaming, text messaging, social media, music, payment, and video. Gaming and advertising are currently the company's most profitable businesses, but payments is its fastest-growing division: WeChat is already one of China's two largest payment companies.

Digital adoption is creating still-nascent investment opportunities well beyond China. Southeast Asia, a region of 650 million people or about half the population of China, has a young and growing populace—a very attractive demographic for regional mobile gaming and e-commerce companies. Adding to the opportunity is a bricks-and-mortar retail industry that is inefficient, fragmented, and dominated by disorganized

players.

As smartphone and mobile payment penetration increases beyond rates shown in Exhibit 6, we expect that e-commerce will significantly disrupt Southeast Asian retail as it has in other parts of the world.

**Exhibit 6: Mobile Payments Are Popular in EM**



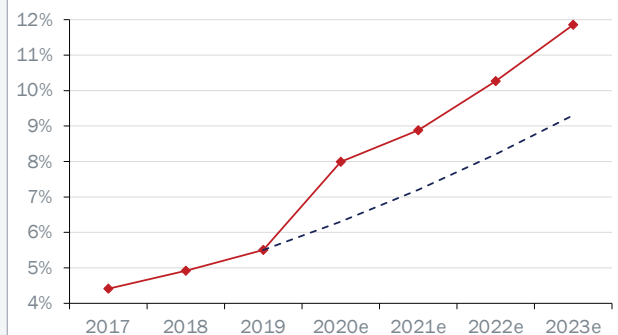
As of December 31, 2018. Source: Statista

Latin America's expanding internet penetration rates and low e-commerce share of the retail market create another area poised for more growth. We anticipate online sales will accelerate significantly in countries such as Argentina and Brazil, benefitting companies running online marketplaces and retailers that

diversify their physical footprint with virtual stores.

Companies with strong execution that can attract new customers are among the best positioned, in our view. Exhibit 7 shows that e-commerce penetration rates in Brazil accelerated during COVID-19. We expect this acceleration to persist as once consumers adopt behaviors that make their lives more efficient, they are unlikely to revert back to pre-pandemic patterns.

**Exhibit 7: Brazil e-commerce penetration pre- and post COVID-19**



Source: HSBC estimates, Euromonitor, IBGE

## CASE STUDY 2

### Chinese Healthcare: Growth Opportunities Abound

The United States, the world's largest healthcare and pharmaceutical market, is a leader in healthcare innovation with a strong pipeline of sophisticated drugs and therapies. Healthcare stocks in the S&P 500 Index advanced at an annual average of 14.7% over the 10 years ended December 31, 2019, outperforming the 10.5% annual return of the overall market.<sup>1</sup>

Already the world's second-largest healthcare market, China remains one of the fastest-growing major healthcare markets with a 5-year compound annual growth rate of 11%—almost triple the U.S. rate of 4%<sup>2</sup> and these estimates do not account for the significant enhancements since the coronavirus outbreak.

We see several catalysts for compelling long-term growth in Chinese healthcare.

#### Demographic trends: Getting older, sicker, and richer

China's one-child policy, introduced in 1979 to control population growth, has led to an aging society with health issues. By 2050, it is estimated that 487 million people in China—35% of its population and more than the entire U.S. population—will have reached the age of 65.<sup>3</sup> At the same time, China's middle and upper classes are growing, and with rising disposable incomes, they're increasingly willing to pay for better therapies.

- **Government reforms: Encouraging speed and affordability**

An aging population and the accelerating rate of disease has created an urgent need to improve the nation's medical care. Chinese leaders have implemented various reforms to make healthcare an integral element of China's transformation into an epicenter of innovation.

China's State Drug Administration has created regulation to encourage innovation, such as instituting "priority review" of cutting-edge foreign drugs to speed up approvals. The new system is similar to the review process used by the U.S. Food and Drug Administration, which emphasizes efficacy and safety. China's entry into the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Humans in June 2017 also signaled to the world that it would adhere to higher global pharmaceutical standards, reducing skepticism about the quality of Chinese-made drugs and therapies.

The Chinese government has instituted a more formal reimbursement process and started paying for more novel drug treatments, opening up commercial opportunities for both Chinese and foreign healthcare companies. In 2017, for the first time in eight years, the National Reimbursement Drug List (NRDL) added 340 new medicines, including 130 foreign drugs. By 2019, the National Reimbursement Drug List (NRDL) expanded to cover over 2,700 drugs.<sup>4</sup> While foreign companies agree to charge significantly lower prices for drugs distributed in China versus other countries as a result of being placed on the NRDL list, they tend to make up for it in larger volumes of drugs sold.

- **Investment and incentives: Attracting capital and talent**

Despite plans to transform its economy, China continues to play catch-up with other nations. China currently spends only 5% of its gross domestic product on healthcare, compared with 17% in the U.S. and 12% in aggregate for the 36 countries belonging to the Organization for Economic Cooperation and Development.<sup>5</sup> That gap is expected to narrow as China continues to increase spending on its healthcare system to foster a positive environment for innovation and growth.

In April 2018, as part of its effort to increase incentives to local talent and attract additional capital into the sector, Hong Kong began allowing pre-revenue/pre-profit companies to list their shares on its stock exchange. This decision has led to an influx of capital into China's healthcare and biotechnology sectors and has enticed Chinese health care experts to return from abroad to start biotech companies. This talent pool is chiefly returning to China from the United States and the European Union. These entrepreneurs are bringing with them Western approaches to drug discovery, helping China's pharmaceutical industry catch up in research and development.

While the Chinese healthcare market is still young and largely unproven, we believe that China's promising drug research in recent years combined with ongoing support from the Chinese government can provide the country's healthcare market with a solid foundation for innovation and long-term investment opportunities.

<sup>1</sup> Source: FactSet

<sup>2</sup> As of December 31, 2016. Source: World Health Organization

<sup>3</sup> Source: Statista, National Bureau of Statistics of China; United Nations

<sup>4</sup> Source: World Health Organization, NCBI

<sup>5</sup> Source: Statista, OECD



## Conclusion

Generally speaking, an investor's primary motivation for making a portfolio allocation to emerging market equities is the desire to tap into superior structural growth. However, equity market returns rarely correlate tightly to economic growth. There are many attractive secular growth companies in emerging markets—and they exist regardless of the economic growth conditions of their domestic economies. Investors wanting to tap into the powerful long-term benefits of superior structural growth trends can benefit from seeking out highly active strategies. In our experience, a strategy succeeds by continuously seeking out innovative companies with superior growth trajectories. A clear and consistent investment philosophy and repeatable investment process can help to ensure that a portfolio reflects bottom-up decisions that incorporate the superior growth available in EM equities.

The growth opportunity set is bigger than is generally thought. EM companies face challenges and problems different from those of their developed market counterparts, but their distinct circumstances often spur them to innovate and disrupt existing practices. EM companies are moving up the value chain, from export-oriented business models built on low-cost labor and cheap manufacturing to higher-value-added businesses based on technological and scientific innovation. Low recognition of these dynamics by investors and indexes creates an opportunity for growth-minded investors. Add to the mix companies that execute well to exploit a superior economic growth backdrop, and the opportunity set expands.

## Endnotes

<sup>1</sup> Source: eVestment

<sup>2</sup> Source: International Monetary Fund

<sup>3</sup> Source: International Monetary Fund

<sup>4</sup> Source: MSCI and FactSet

<sup>5</sup> Source: Company Reports

<sup>6</sup> Source: MSCI and Company Reports

<sup>7</sup> Source: FactSet

<sup>8</sup> Source: FactSet and International Monetary Fund

<sup>9</sup> Source: MSCI, FactSet, Company reports

<sup>10</sup> Bessembinder, H. (2017). Do Stocks Outperform Treasury Bills? Journal of Financial Economics.

## Disclosures

All data is as of December 31, 2019 unless otherwise noted.

The financial indexes referenced herein are provided for informational purposes only. All indexes referenced are registered trade names or trademark/service marks of third parties. References to such trade names or trademark/service marks and data are proprietary and confidential and cannot be redistributed without Jennison's prior consent. Investors cannot directly invest in an index.

Certain third party information in this document has been obtained from sources that Jennison believes to be reliable as of the date presented; however, Jennison cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. Jennison has no obligation to update any or all such third party information. There is no assurance that any forecasts, targets, or estimates will be attained.

Jennison uses the Global Industry Classification Standard (GICS®) for categorizing companies into sectors and industries. The Global Industry Classification Standard (GICS®) is the exclusive intellectual property of MSCI Inc. (MSCI) and Standard & Poor's Financial Services, LLC (S&P). Neither MSCI, S&P, their affiliates, nor any of their third party providers ("GICS Parties") makes any representations or warranties, express or implied, with respect to GICS or the results to be obtained by the use thereof, and expressly disclaim all warranties, including warranties of accuracy, completeness, merchantability and fitness for a particular purpose. The GICS Parties shall not have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of such damages.

Certain information contained in this product or report is derived by Jennison in part from MSCI's MSCI Emerging Markets Index (the "Index Data"). However, MSCI has not reviewed this product or report, and MSCI does not endorse or express any opinion regarding this product or report or any analysis or other information contained herein or the author or source of any such information or analysis. Neither MSCI nor any third party involved in or related to the computing or compiling of the Index Data makes any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event shall

MSCI or any third party have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information. Any use of the Index Data requires a direct license from MSCI. None of the Index Data 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.

The **MSCI Emerging Markets Index** is used to measure equity market performance in global emerging markets. The **index** captures mid and large caps in 26 countries including China, India, Korea, Mexico, Taiwan, and the United Arab Emirates. The MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 711 constituents, the index covers about 85% of this China equity universe.

### Important Information

This material is only intended for investors which meet qualifications as institutional investors as defined in the applicable jurisdiction where this material is received. This material is not for use by retail investors and may not be reproduced or distributed without Jennison Associates LLC's permission.

These materials are for informational or educational purposes only. The information is not intended as investment advice and is not a recommendation about managing or investing assets. Jennison makes no representations regarding the suitability of any securities, financial instruments or strategies described in these materials. In providing these materials, Jennison is not acting as your fiduciary. These materials do not purport to provide any legal, tax or accounting advice.

Jennison Associates LLC ('Jennison') has not been licensed or registered to provide investment services in any jurisdiction outside the United States. The information contained in this document should not be construed as a solicitation or offering of investment services by Jennison or a solicitation to sell or a solicitation of an offer to buy any shares of any securities (nor shall any such securities be offered or sold to any person) in any jurisdiction where such solicitation or offering would be unlawful under the applicable laws of such jurisdiction. Please visit [jennison.com/important-disclosures](http://jennison.com/important-disclosures) for important information, including information on non-US jurisdictions.

In the United Kingdom, and various European Economic Area jurisdictions, information is issued by PGIM Limited. PGIM Limited registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR is authorised and regulated by the Financial Conduct Authority of the United Kingdom (registration number 193418) and duly passported in various jurisdictions in the EEA. Jennison Associates LLC & PGIM Limited are wholly owned subsidiaries of PGIM, Inc. the principal investment management business of Prudential Financial, Inc. ('PFI'). PFI of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom. This information is intended only for persons who are professional clients or eligible counterparties as defined in Directive 2014/65/EU (MiFID II), investing for their own account, for fund of funds, or discretionary clients.

©2020 Prudential Financial, Inc. ('PFI'). PGIM and the Rock symbol are service marks of PFI and its related entities, registered in many jurisdictions worldwide.



# JENNISON ASSOCIATES



Jennison Associates LLC  
[www.jennison.com](http://www.jennison.com)



466 Lexington Avenue, New York, New York 10017  
One International Place, Suite 4300, Boston, MA 02110



212-421-1000  
617-345-6850