White Paper
**Systematic Equity — Active**

**April 2024**

# Systematic Equity — Active Quarterly

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STATE STREET GLOBAL ADVISORS

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# Systematic Equity — Active: Quarterly

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This quarter, we begin with macroeconomic views on the current state of the economy. In this first article, we explore labor productivity, one of the pathways that labor input can impact economic growth. We evaluate whether — according to popular belief — productivity has indeed gone up across countries and sectors alike. Real productivity is crucially important, particularly after 2021 when inflation became a feature globally.

In the second article, we take to task some of the prevailing narratives of supply chain re-orientation. We examine the dynamics before and after the pandemic for key industry groups as well as nation states.

The next paper takes a deep dive into why technological patents may be a useful signal for understanding a company's innovation and future prospects.

In the fourth paper, we explore whether the end of rate hikes has historically been good for systematic factor investing, and where we are finding attractive opportunities as central banks edge ever closer to an interest rate pivot.

Lastly, we conclude with a paper on Emerging Markets, making the case that it is important to be selective, particularly in this macroeconomic environment.

# Macroeconomic Remarks

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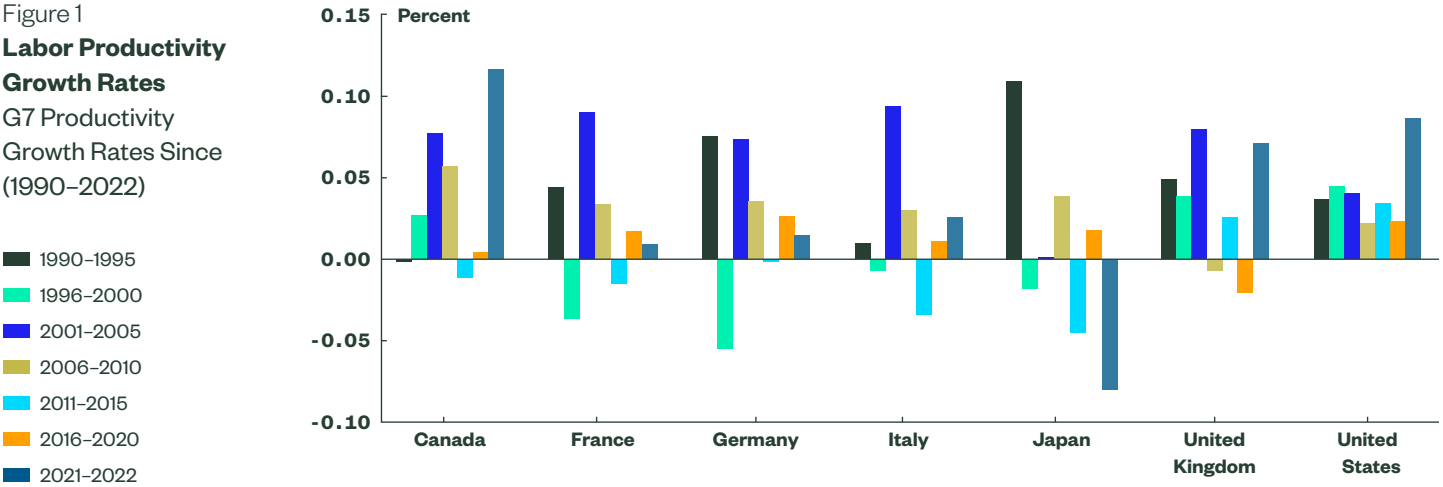
Last quarter, we discussed the neoclassical economic growth model (the Swan-Solow growth model) and tried to ascertain whether there was a justification for valuations, in particular the emphasis on technology and its propagation especially in today's US economy. In this issue, I tackle one of the inputs to the classic growth model. There are two ways the labor input can impact economic growth. The first is the labor force participation: a higher participation rate increases the labor pool, which can contribute to economic growth — if jobs are available to match this workforce. The second pathway is productivity. Increased productivity means that the economy can grow, without necessarily adding more workers, via improvements in technology or skills.

In this article, we focus on the productivity aspect of labor, asking some fundamental questions: 1) how has labor productivity evolved over time, 2) are there any discernable differences across the G7 over time, 3) what sectors have shown the most promise in productivity gains (particularly in the US), and 4) and do those gains line up with the observable valuations?

## Labor Productivity

The labor productivity measure tries to get at the relationship between real output and the labor hours spent in the production of those goods or services. Measures of labor productivity growth show the changes from period to period in the amount of goods and services produced per hour worked. They reflect the joint effects of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; managerial skill etc.

Figure 1
**Labor Productivity Growth Rates**
G7 Productivity Growth Rates Since (1990–2022)

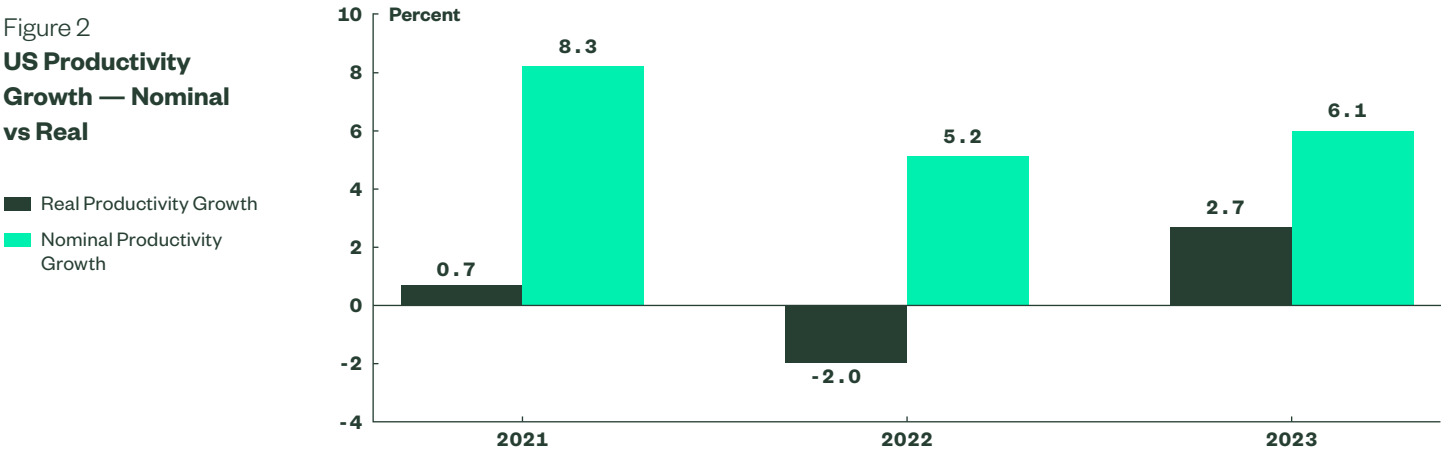



Source: State Street Global Advisors, OECD (2023), *OECD Compendium of Productivity Indicators 2023*, OECD Publishing, Paris, https://doi.org/10.1787/74623e5b-en. As of February 20, 2024.

Over the long term, labor productivity has generally increased over most 5-year periods since 1990. In the 1996–2000 period, France and Germany both experienced sluggish growth but France also was faced with high unemployment and structural issues in the labor market, particularly in certain industries. Japan exhibited a decline in productivity in the 2021–2022 period, but that was mostly driven by yen depreciation amid the Federal Reserve's aggressive tightening stance, so we shouldn't read too much into the decline in dollar terms. The US shows productivity growth in every period, with the largest increase coming in the latest period. One wildcard remains, and that is the debt accumulation that has also taken place over this period. The only sustainable path forward is if there is a technology breakthrough that allows the economy to get to a higher, steady state growth rate with the same inputs. While the jumps in nominal productivity in 2021–2022 look impressive on the surface for the UK and the US, they look weaker when adjusted for inflation in these years. We do not have the final official numbers for 2023 yet, but the quarterly numbers look reasonable and we have annualized them. Also, in real terms, we have not seen much deviation from longer-term averages.

There is a caveat that I make here: we are using a crude measure for productivity by simply dividing GDP by the labor force, rather than labor hours. However, the results are comparable and this methodology makes a neater comparison to the results in the next part of this article on sector productivity.

Figure 2
**US Productivity Growth — Nominal vs Real**

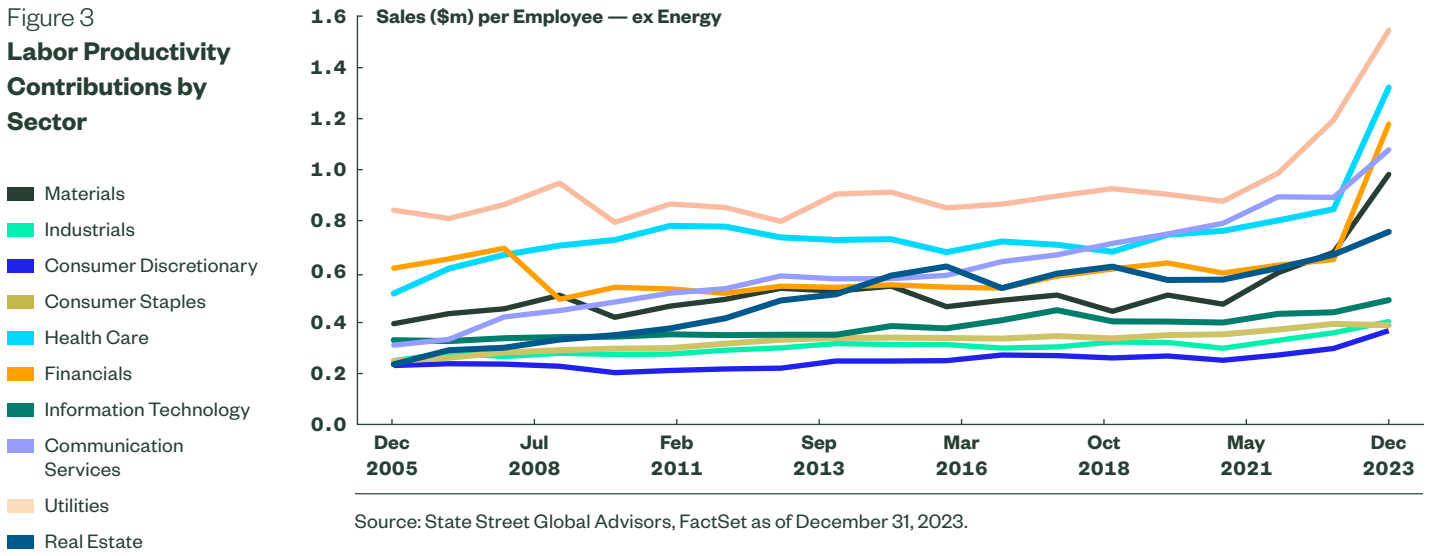



Source: State Street Global Advisors, Macrobond as of December 31, 2023. US productivity measured as year-over-year change in output per hour of nonfarm businesses, seasonally adjusted.

In Figure 2, we take an alternative reading of US labor market productivity by measuring output per hour worked, and illustrate the impact that elevated inflation has had since 2021.

The GDP-per-worker method allows us to neatly compare our country level productivity numbers to the next part of this article on sector productivity. Drilling into the US economy by using the S&P 500 as a proxy, we observe that at the sector level, productivity has improved since 2005 for almost all sectors.

Figure 3
**Labor Productivity Contributions by Sector**




Source: State Street Global Advisors, FactSet as of December 31, 2023.

- Ignoring the volatile Energy sector, Communication Services showed the biggest percentage improvement in productivity over the past 20 years, followed by Real Estate and Health Care.
- Overall, the Tech sector did not show as much improvement in productivity as some may have expected. Revenue was up +151% from 2005 – 2023, while the number of employees was also up +62%.
- The Consumer sectors showed the weakest productivity growth over the past 20 years.
- Relative to the productivity gains, cumulative total returns since 2005 showed that the IT sector had the highest return on investment, compared to the actual revenue gains per employee. This suggests that investors have on average placed a greater emphasis on future promised growth of tech names, rather than focusing on immediate revenues.

For most of the postwar period, productivity growth was swifter in the European Union than in the United States. This pattern continued in the first half of the 1990s. But since 1995, productivity growth has quickened in America, whereas it has decelerated in Europe. According to the Conference Board, these new trends have remained broadly intact during the global slowdown of the past two years.

Real productivity is crucially important, particularly during 2021 and after, when inflation became a feature globally. The key question that arises is whether it is possible to slow debt accumulation while getting to a high growth trajectory or a new S curve (because of a new technological breakthrough). If not, would the productivity experience diminishing returns of scale, with debt overwhelming the economy? We are not forecasters; however, we can assign conditional probabilities as more data is realized.

# Supply Chains Before and After the Pandemic

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The COVID-19 pandemic had a significant impact on global supply chains, particularly after the first shock of the US/China trade war, serving as a catalyst for the reorientation of the factors of production in several countries and even across industry groups.

These initial shocks did originally have an impact on prices/inflation; however, it was not entirely clear what the dynamics might look like in the long term. This is a topic we will explore in this article at a more granular level.

The pandemic served as a reminder that there are significant bottlenecks and vulnerabilities in many supply chains that rely on a single source for all manufacturing or production processes.

The first phase led to a hyper-focus on diversification and the ability to withstand stresses to the supply chain. We seek to answer the following questions:

Did firms diversify their supplier base and invest in building more resilient supply chains that can withstand various stresses? Did firms on average make a deliberate shift towards nearshoring and regionalization? To mitigate risks associated with global supply chains, there have been several claims of noticeable trends towards nearshoring and regionalization. There have also been reports of individual companies who have restructured their supply chains to bring production closer to their local markets as a result diversifying away from distant suppliers. It has been difficult to obtain aggregate data from a bottom-up perspective for these claims, so in this paper, we attempt to take a first pass using our supply chain models within our stock selection apparatus.

In order to tackle the question on whether the global supply chain became more onshore or nearshored since the trade war and COVID, we first need to construct some key measures, outlined below.

We evaluate two static dates, one before the pandemic (January 2, 2018) and one after (December 1, 2023). For each company's suppliers, we mainly look at two metrics:

- Proportion of onshore suppliers out of total. Onshore suppliers are defined as the supplier's country being the same as the customer's country.

- Average distance between suppliers and customers. Here we used country distance for simplicity. Specifically for each pair of customer and supplier, we computed the average physical distance (in kms) between their corresponding countries using data from CEPII (CEPII — GeoDist).[1] It is important to note that depending on the country size, two companies from the same country may still have a non-zero distance.

Once we have constructed the company-level metrics, we can then aggregate them up at either the industry or region or country level. Having done this, we are now ready to examine some preliminary results and, given the sheer number of permutations, we will just highlight the notable ones.

Figure 4
**Changes in Distances by Industry Group**
(Jan 2018–Dec 2023)

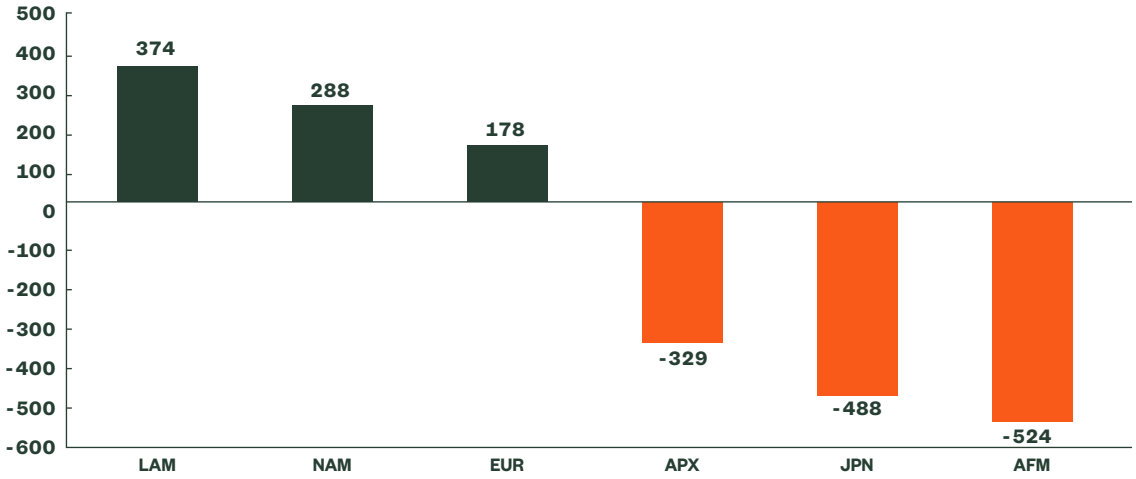

Source: State Street Global Advisors, FactSet, CEPII.

Semiconductors can be considered to be the modern equivalent of crude oil in that they power global economies, serving as the lifeblood for technological advancement and economic growth, particularly in an AI-driven world. It comes as no surprise, therefore, that the semiconductor industry brought their suppliers closer, by about 800 kms on average, over this 5-year period. The same was true for key consumer staples and retail for the domestic consumer, so as to combat inflationary pressures from markets that have the potential to inflict further price shocks, which then in turn could have ramifications for governments wrestling to contain inflation.

On the other side of the scale, less crucial goods such as software, professional services and health care equipment actually led to some specialization and the law of comparative advantage held true, perhaps with some continued outsourcing of goods that were less critical. The one exception to this rule of course is energy, which comes with natural endowment properties: it is hard to insource it or bring suppliers closer if the raw commodities don't exist in the country!

This first set of results begs the question, can we observe any key variations at the regional or country level? It appears on the surface that we look at the average distance between suppliers and customers. NAM (North America which is defined as the US and Canada), LAM (Latin America), and EUR (Europe) did not engage in much nearshoring, whereas JPN (Japan) and APX (Asia Pacific ex Japan) did quite a bit of nearshoring.

Figure 5
**Changes in Distances by Region**
(Jan 2018–Dec 2023)




Source: State Street Global Advisors, FactSet, CEPII.

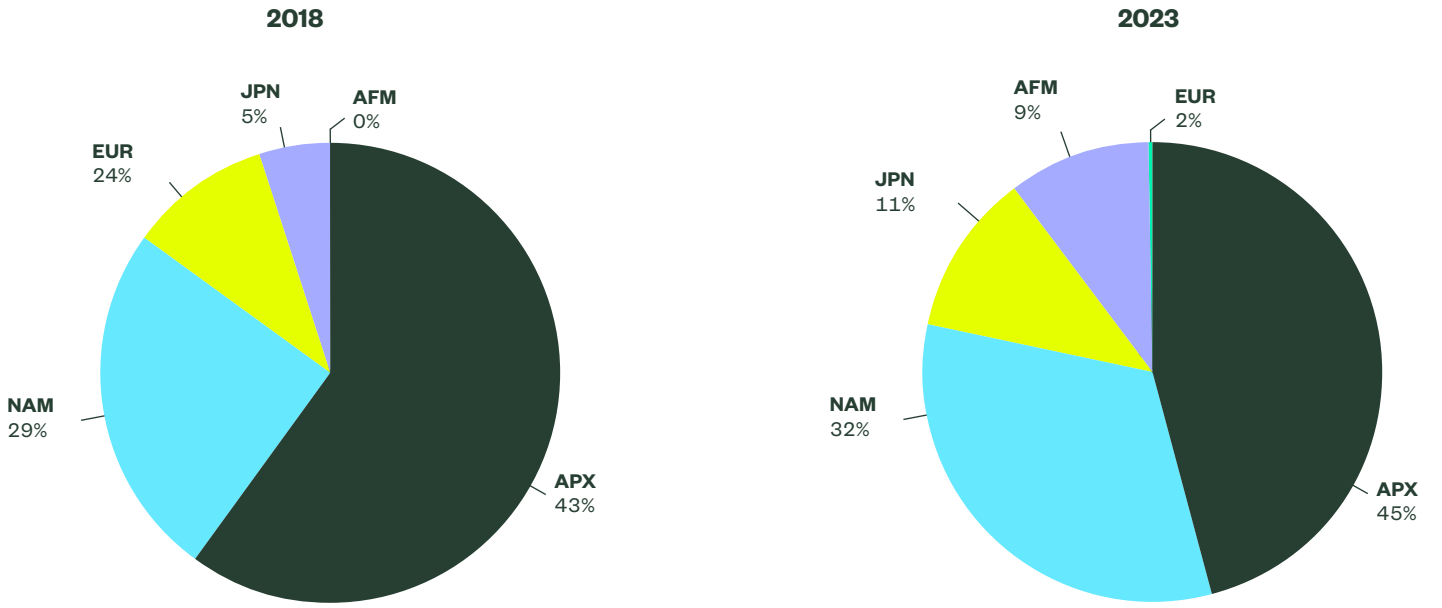
We take the US as an example to better understand what drove the change of supplier distribution. Below is the change in average supplier-customer distance for US companies by industry group. Contrary to popular belief, the majority of US companies shifted their production processes to suppliers that are farther away from the US. Interestingly, despite the heated debates surrounding the reshoring of the auto and semiconductor industries, they are among the top of the list of industries that have exhibited the most distance increases from suppliers.

Figure 6
**Changes in Supplier Distances by US Industries**


Source: State Street Global Advisors, FactSet, CEPII.

This can be further illustrated at the company level, using the example of Nvidia. In 2018, more than half of its suppliers were located in either North America or Europe, but this number dropped to only 34% in 2023, with the proportion of its European suppliers shrinking from 24% to 2%. About 57% of its suppliers came from Asia, including Japan, compared to 47% back in 2018.

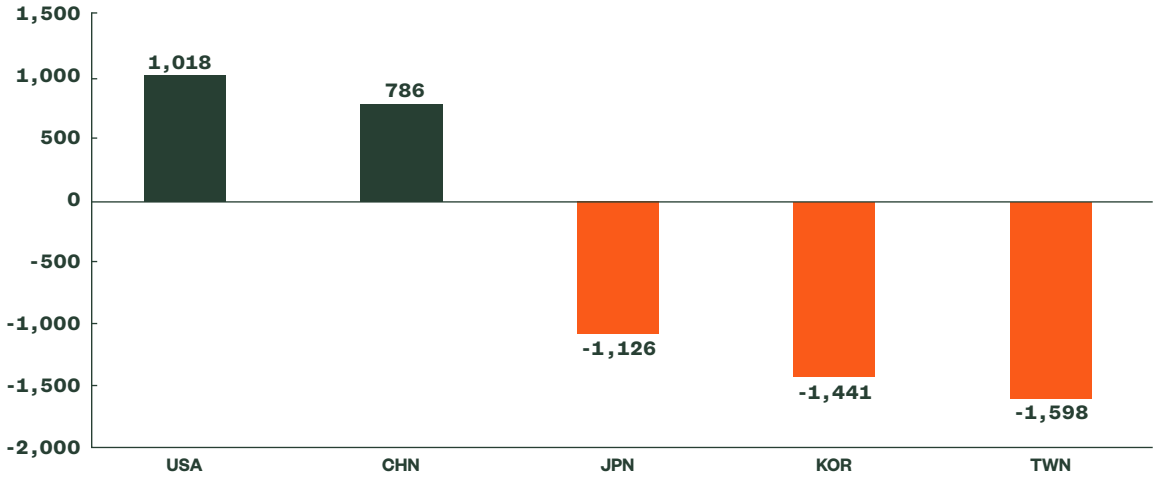
Figure 7
**Nvidia's Suppliers by Region**




Source: Nvidia and State Street Global Advisors.

It turns out that much of the nearshoring in the semiconductor industry look place in Asia. Below is the change in average supplier and customer distances for the top 5 semiconductor manufacturing countries. It is clear Taiwan, Korea and Japan have taken the most initiatives into bringing their suppliers closer, while the U.S. and China have moved in the opposite direction.

Figure 8
**Changes in Semiconductor Customer-Supplier Distance**
(Jan 2018–Dec 2023)




Source: State Street Global Advisors, FactSet, CEPII.

The world never remains static. Once one set of problems has been solved for, the world dishes out a new problem. Will the two wars now raging and the disruptions in Red Sea shipping unleash a new set of puzzles?

In this ever-changing landscape, the countries that build the most adaptable and diverse supply chains will be best placed to react swiftly to changing dynamics, while providing resilience and new pathways to traditional supply chain routes in pandemics, war or other exogenous events.

# Patents: Intangible Assets as a Signal for Innovation and Future Prospects

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As we noted in the last SEA quarterly, technological innovation is a key input and driver of economic growth. Patents, being a critical indicator of a firm's research and development efforts, play an important role in representing a company's innovation and technological advancement. Obtaining a patent is the culmination of substantial investment in R&D, reflecting a commitment to innovation and, if successful, ultimately having a competitive edge in that domain.

Patents are particularly relevant in the pharmaceutical, technology, and renewable energy industries, where the pace of innovation moves at breakneck pace and is often disruptive. Understanding the scale, quality, and strength of a company's patent portfolio is crucial in assessing its long-term prospects and sustainability.

Research has shown that firms with robust patent portfolios tend to experience higher future cash flows and earnings, which are key drivers of stock performance. Additionally, the market often reacts positively to significant patent announcements, reflecting investor recognition of the potential value of these innovations.

The strategic properties of patents, particularly in technology-intensive industries, also has a symbiotic role in mergers and acquisitions, joint ventures, and partnerships. Patents can also provide a competitive ballast, protecting a company's market share and pricing power, which are critical components of long-term value creation and preservation.

## What Does a Firm's Patent Portfolio Reveal?

To test the properties of patent-related data and its implications for asset pricing, we take a multi-faceted analysis approach. We believe that the value and impact of a patent portfolio are not solely determined by its size, but also by the nature of its contents. In order to examine a patent portfolio of a firm, we assess various dimensions of patent data, including the number of patents granted, the frequency and quality of citations, the intrinsic quality of patents, and their alignment with various technological fields. By combining these diverse yet inter-related dimensions of patent data, our goal is to construct a more accurate and forward-looking assessment of a company's innovation profile.

## Innovation Productivity and Quality

Innovation productivity and quality are key concepts in understanding the true value of a company's patent portfolio and its innovation capabilities. Innovation productivity is essentially a measure of a firm's efficiency and effectiveness in generating new and viable ideas. While innovation productivity provides a quantity-based perspective, innovation quality delves into the impact and significance of the patents .It's not just about the number of patents a company holds, but the ongoing influence and quality of those patents in driving future technological advancements.

It's important to understand that innovation productivity is not just about the volume of patents, it's about the consistent generation of valuable, impactful ideas. High innovation productivity suggests that a company is not only investing in R&D but is successfully converting these investments into potentially commercial innovations. This is a vital indicator of a company's long-term sustainability and growth potential, as it reflects an inherent capacity to keep pace with or stay ahead of market trends and technological advancements.

However, this metric alone can be misleading without considering the quality and relevance of these patents. Therefore, we integrate patent citation analysis into our evaluation as a tangible measure of innovation quality. A high number of forward citations are a strong indicator of the patent's quality, significance and influence in the field, reflecting the extent to which a company is contributing to future technological advancements. This is because when a patent is frequently cited, it signifies that subsequent inventors are building upon the patented technology, suggesting that the original invention has foundational value and is widely recognized by peers. Furthermore, patents that are cited across a diverse range of fields are often indicative of groundbreaking innovations with wide-ranging applications and implications. Therefore, forward citations serve as a robust indicator of a company's market leadership and competitive advantage. These metrics of innovation quality are not just a measure of a patent's quality but also of its breadth of influence.

Hence, we believe that a robust patent portfolio born of high innovation productivity and innovation quality often correlates with a company's ability to maintain a competitive edge, attract strategic partnerships, and command market leadership.

## Innovation Momentum

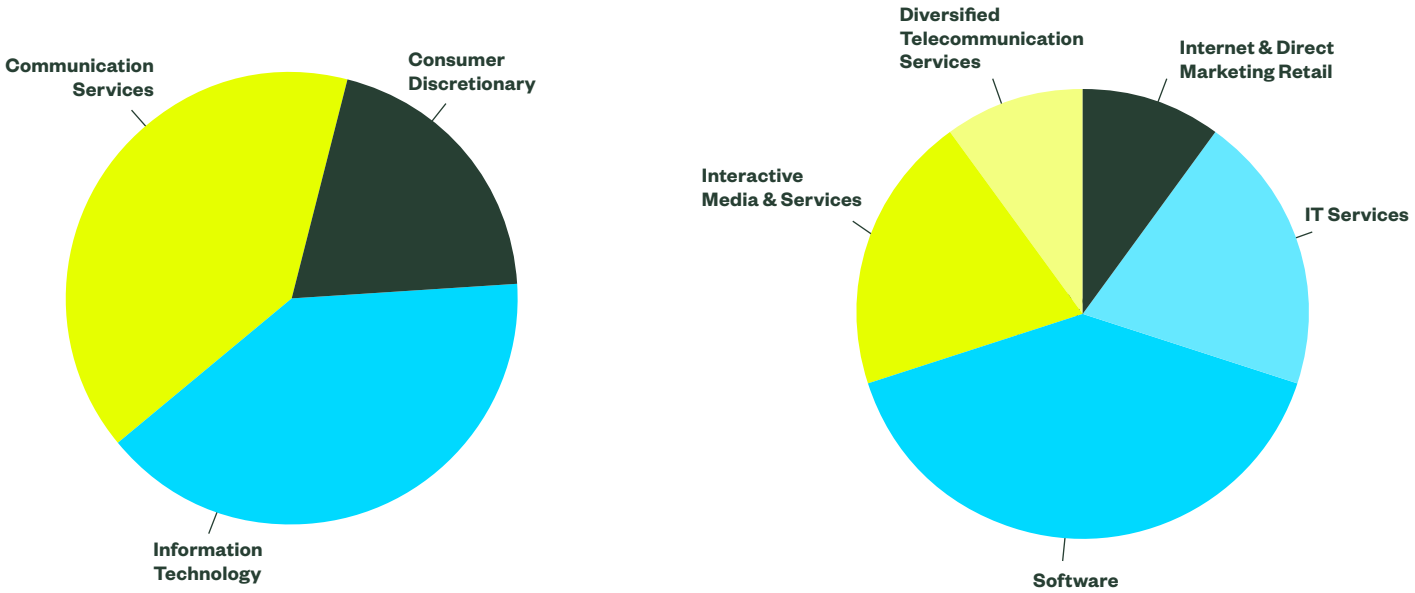
Firms do not exist as solo entities, but are linked to each other through many types of relationships. Some of these links are clear and fundamentally oriented Industry linkages, while others are implicit and less transparent such as Supply-chain based linkages. These connections mean that companies are mutually influential in their operations. Thus, any shock to one firm has a resulting effect on its linked partner. Investors, with their limited attention, overlook the impact of specific information on economically related firms. Their narrow focus disrupts the flow of information, leading to predictable patterns in the returns of related stocks.

Along similar lines, we believe that firms do not pursue their technological research in isolation. In contrast, they frequently interact with each other, leading to an innovation process characterized by common shocks and knowledge spillovers. This trend of innovation diverges significantly even among firms within the same industry. Investors can categorize companies based on their technological similarities by examining patents data.

Patents data uncovers a unique type of interconnectedness between companies that transcends traditional sector or industry boundaries and is typically not readily discernible from firms' financial reports. Firms across diverse sectors may utilize similar technologies, creating a group of 'technology peers.' They might also be working on areas of innovation that substantially overlap with each other and are subject to similar supply-chain linkages, which serve as important transmission channels for common economic shocks. Technology spillovers could occur due to explicit inter-firm collaborations or, more frequently, the existence of overlapping expertise in the same technological domain. Thus, this analysis enables investors to identify technological commonalities between firms across various sectors.

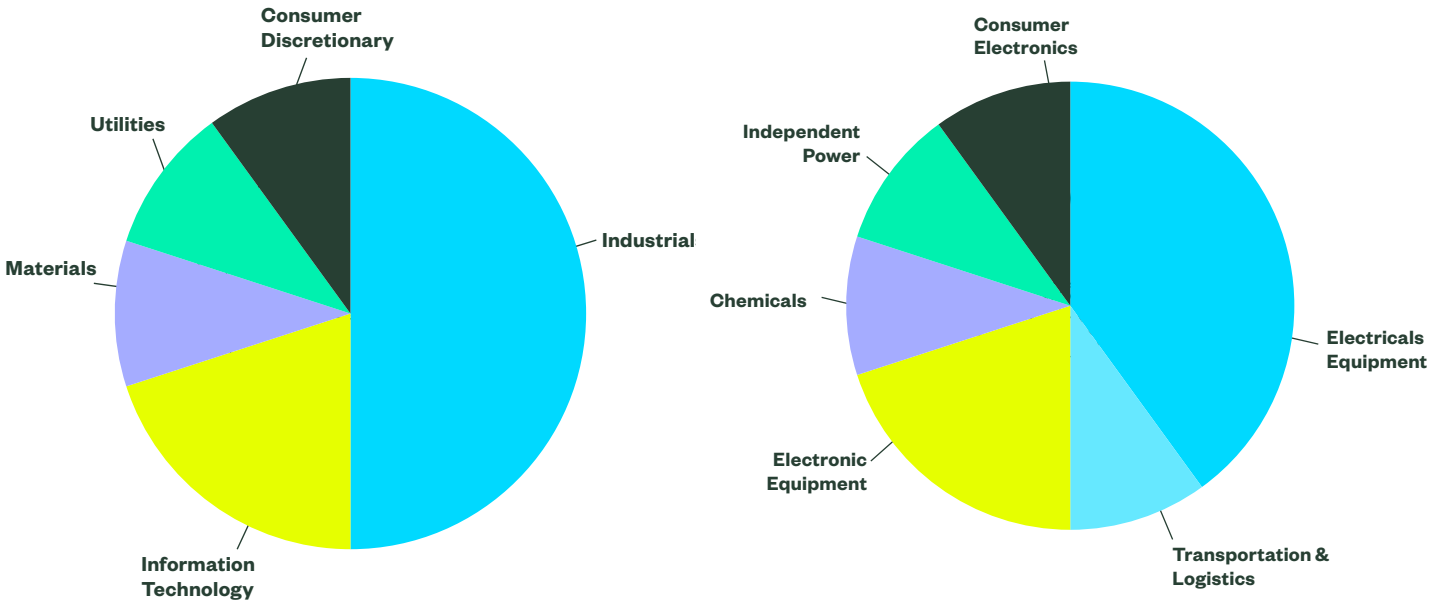
As a case study, we examine the top 10 stocks with highest 'patent portfolio similarity' to a parent stock. We then seek to observe whether patents-data based Innovation linkages tell us anything meaningful about the similarity between firms across sector and industry classifications. Below are two such examples for Amazon and Tesla. In the charts below, the inner concentric circle demonstrates the Industry classification of those top 10 similar firms, while the outer circle demonstrates Sector classification for those top 10 similar firms. We can clearly see that the Innovation profile of Amazon and Tesla, despite both being members of the Consumer Discretionary sector, are quite dissimilar. On one hand, Amazon has the largest Innovation linkages with IT and Consumer Services firms; on the other hand, Tesla has largest Innovation linkages with Industrials and Electronic Equipment. This case study clearly illustrates that patents uncover a unique type of interconnectedness between companies that traditional sector or industry classifications don't capture.

Figure 9
**Amazon Innovation Linkages**
Amazon




Source: State Street Global Advisors, United States Patent and Trademark Office (USPTO).

Figure 10
**Tesla Innovation Linkages**
Tesla




Source: State Street Global Advisors, United States Patent and Trademark Office (USPTO).

Research has shown that there is a correlation in the stock performance of companies within the same industry, as well as those linked by supply chains or analyst networks. Given the critical role intellectual property plays in a company's valuation, we observe that the stock prices of businesses with comparable patent portfolios tend to move together, demonstrating what is known as technologically linked momentum. This distinction provides investors with an additional advantage. By integrating this technology momentum aspect into their existing strategies, investors can potentially gain a better understanding of the dynamics of asset prices that goes beyond traditional sector/industry-based analysis.

# Emerging Market Equities: Choose the Right Target

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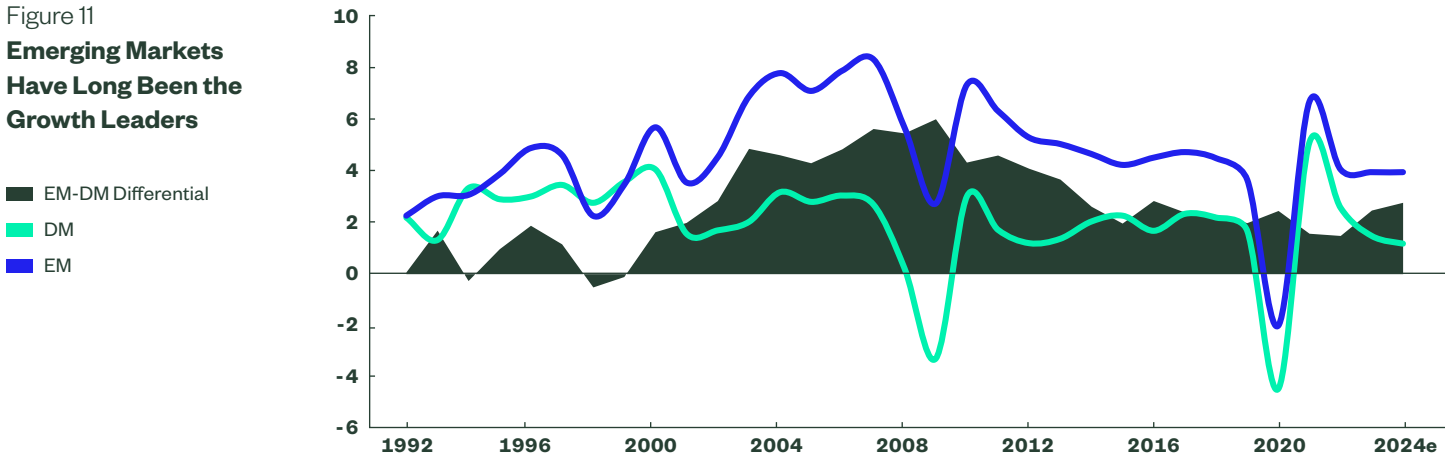
Investment Strategist

Investors are right to look to emerging markets for growth, but in this article we argue that small-cap stocks are the area to focus on in 2024. Macro themes are important to evaluate with all investments, but micro themes often are more important to selecting quality firms.

In virtually every meeting with clients interested in emerging markets (EM), the primary reason we hear for that interest is growth. Other reasons are mentioned, of course – low correlations and valuations – but growth is by far the primary one. Economic growth has propelled strong equity returns in the developed world — so much so that investors have a mindset that economic growth goes hand in hand with corporate profits. And because the developed world has issues with demography, debt, and declining trend growth — developed market (DM) economic activity may only grow at an annualized rate of between 1–2% over the medium term.* This is rather unimpressive compared with its history and versus emerging markets, which the IMF forecasts to grow by 4.1% in 2024.* And surely, the growth in EM is real. Any traveler to Shanghai, Mumbai, Doha, or Dubai will have seen unimaginable improvements over the years.

Figure 11
**Emerging Markets Have Long Been the Growth Leaders**




Source: International Monetary Fund and Bloomberg Consensus, as of January 2024.

* World Economic Outlook Update, January 2024: Moderating Inflation and Steady Growth Open Path to Soft Landing (imf.org)

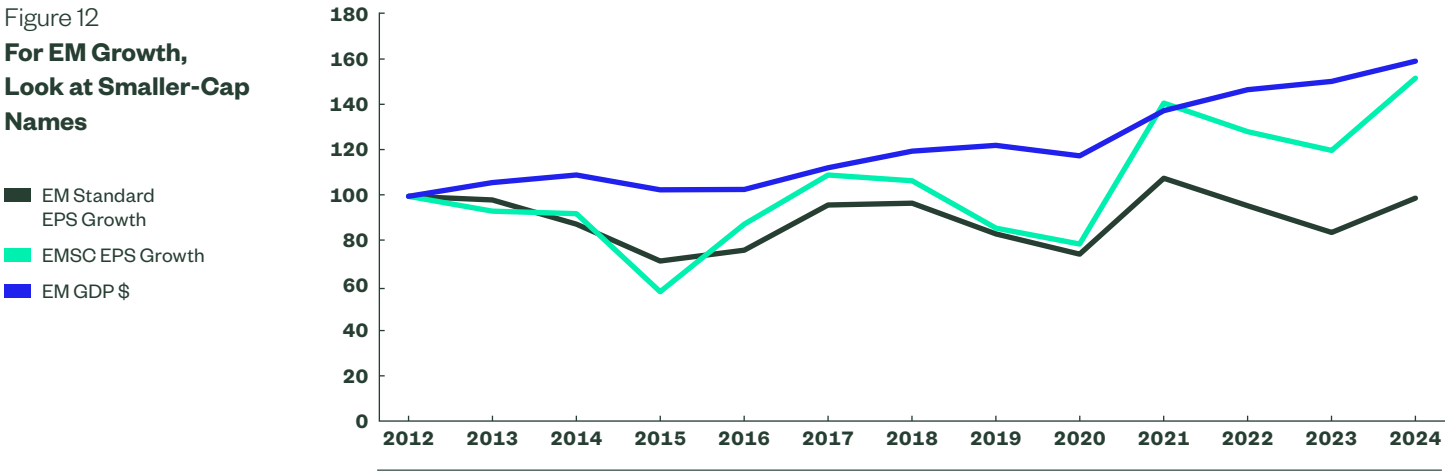
## Overweight EM?

So, if growth drives earnings, is it time to go significantly overweight EM? Well, the real world is more complex. First, and while this may seem painfully obvious, investors often forget that many of the largest EM firms are global. And, painfully obvious second point, as equity investors, we buy stocks — not countries. Many of the largest listed names — TSMC, Samsung Electronics, and Infosys — all impressive companies — don't exactly represent the true economic activity of their country of listing. These types of firms are tied to global growth and face (sometimes brutal) global competition.

And developed market companies have not been asleep at the wheel. Over the past 30 years, there has been enormous change in the business lines of developed market firms. M&A and organic growth have diversified developed market companies — often getting them large EM revenue (or production) exposures.

Now, in 2024, how do we untangle this knot? The first recommendation we give to clients is to choose the right target. If one desires EM growth, identify those companies that benefit from the economic growth of the region.

Figure 12
**For EM Growth, Look at Smaller-Cap Names**




Source: IMF, FactSet, SSGA estimates, as of January 2024.

The graph is a bit sobering, but answers the question as to why EM large-cap returns have been underwhelming of late. We will dive into this in a future article, but the short answer is that economic growth is a necessary, but insufficient, condition for strong equity profitability (and returns).

### Less Dollar Dramatics

One attractive quality of Emerging Market Small Cap firms (EMSC) that we particularly find compelling is the lower relative impact from the US dollar (USD). This goes hand in hand with the pure EM growth play mentioned above, because revenues in EMSC companies are driven more by local demand as opposed to global demand. Consequently, currency rates play a much smaller role than the more globally driven EM local currency (EMLC) names. The most straightforward way to illustrate this relationship is by looking at the correlation between the twelve-month change in USD[2] and the forward one-year estimated EPS growth rate. Using a trailing ten-year window, the correlation for EMSC is marginally negative at -0.2, while the EMLC correlation comes in at -0.6.

It is hard to say where USD rates go from here; certainly a more dovish stance by the Federal Reserve Board (multiple rate cuts in 2024 and decreasing balance sheet roll off) may result in some weakening of the US dollar in the short-term. However, with most if not all major central banks appearing to follow suit, it's hard to say. And therein lies the benefit: irrespective of the direction of future USD foreign exchange rates, earnings growth of EMSC companies is more insulated from unfavorable moves.

**The Case for Overweighting Emerging Market Small Caps**

As investors, how should we interpret this analysis? One key conclusion would be that there are compelling reasons to increase exposure to EM small caps in one's portfolio. This can either be done by allowing flexibility to your large cap EM manager or looking for a dedicated EMSC mandate. We have long advocated for this approach and have been budgeting between 10–20% in our standard products to improve our stock selection opportunity set and reduce the emerging market large cap index concentration problem. (Recall that Alibaba was once 9% of the index; it's now closer to 2%). From an Investible Market Index perspective, a neutral position would be a 16% weight in EMSC. We recommend that investors take that as a starting point.

**Emerging Markets: Time to Be Selective**

While the macroeconomic case for the broad asset class remains lackluster — and the majority of flows going into index-oriented products — we are suggesting investors rethink their exposures. Many of the large index weights — particularly in China — remain at risk to both domestic and global political risks. As one of our colleagues on the EM Fundamental team says — "cheap is the new normal in China." However, we think it is a mistake to ignore opportunities there, but the work to find them is certainly getting harder. We recommend that investors stay diversified and avoid crowded positions.

Figure 13
**Emerging Markets Factor Viewpoints**

| Country | Sector/Industry | Factor |
|---|---|---|
| **Emerging Markets Large Cap** | | |
| **China** | IT/Hardware | Extremely selective: some great Quality names with high Sentiment and at a good price |
| | Industrials/Construction Machinery | Great Value: keys are Sentiment and Quality |
| | Materials/Steel | Good prices, positive Sentiment, reasonable Quality |
| **Taiwan** | IT/Hardware | Attractive Valuations, strong Sentiment |
| | IT/Semiconductors | Still some Good Value, focus on Quality |
| **Korea** | Financials | Great Value, reasonable Sentiment |
| | Consumer Discretionary/Auto Manufacturing | Strong Sentiment at a good price |
| | Consumer Discretionary/Auto Parts | Great Quality, Great Price |
| **Emerging Markets Small Cap** | | |
| **India** | Utilities/Electric Utilities | Excellent Sentiment, well priced, vigilant on Quality |
| | Energy | Attractive on all metrics |
| | Materials/Fertilizer | Good Value, good Quality |
| **Korea** | Financials | Great Value, pay attention to Quality |
| | Consumer Discretionary/Apparel & Luxury Goods | Attractive valuation |
| | Consumer Discretionary/Auto Parts | Good Quality, good Price |
| **Taiwan** | IT/Semiconductors | Some great bargains with high Sentiment, focus on Quality |
| | Real Estate/Development | Well priced, solid Quality, positive Sentiment |
| | Communication Services | Strong Sentiment, good Quality |

Source: State Street Global Advisors.

## The Bottom Line

Downside risks are decreasing as global economic momentum appears to be reasonably strong, albeit with downside risks for 2024. Earnings estimates remain bullish for 2024, but we must caution that some of this is base effects from 2023 downgrades. The case for a structural bull market in EM centers around a repairing of corporate profitability. While there are improvements expected in 2024, we need more signs to get broadly constructive on the whole asset class. For now, look to the smaller, growth-orientated names.

# Alpha Insights: Positioning for Peaking Yields

**Michael Lin**
Investment Strategist

- **The end of rate-hike cycles have historically been good for systematic factor investing**
- **We expect equity returns in 2024 to be less concentrated, i.e. market breadth to improve**
- **Stocks in 'Quality Growth' and 'Defensive' segments have some of the highest expected returns**

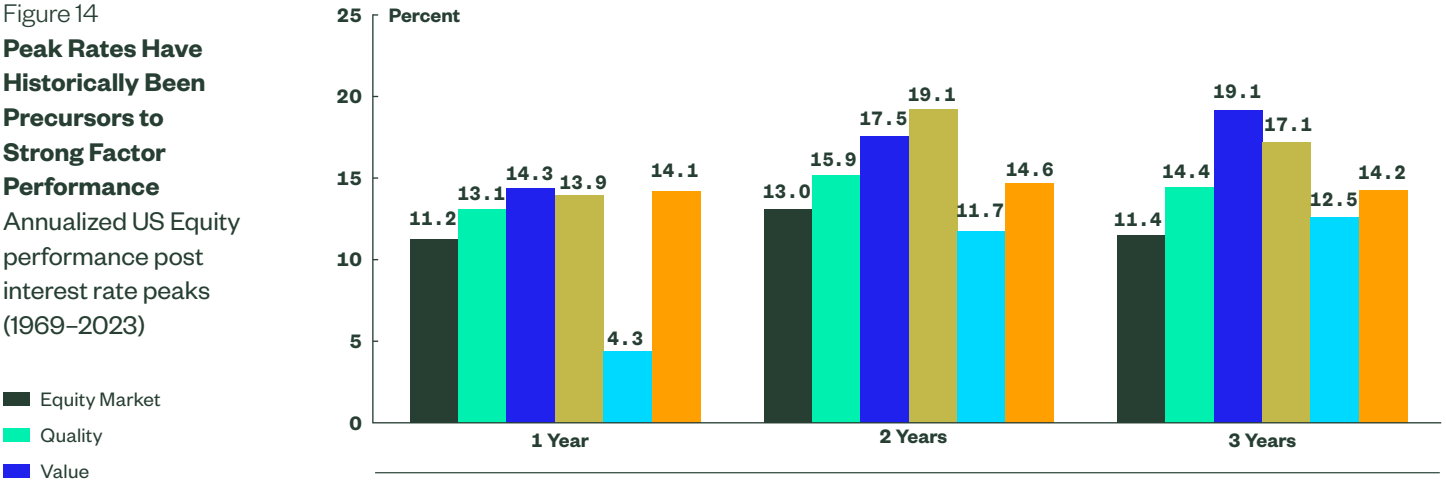
The fundamental drivers that dominated global equities in 2023 continue to persist. The sharpest monetary policy tightening in decades has brought about weakening regional business cycles, stagnating earnings growth, and a highly concentrated equity market (typical ahead of a slowdown). Despite interest rates and bond yields that are now peaking, we anticipate more growth uncertainty ahead due to the lagging impact of monetary tightening –on both the consumer and leveraged corporates — as excess savings and COVID stimulus fade. The IMF estimates that 75% of the rate hikes in the US have been transmitted into the real economy, with the remainder to flow through in 2024. In Europe, rate hikes began later — so the transmission mechanism has further to run. From a corporate perspective, the recent disinflationary trend is increasingly becoming a margin headwind amidst sticky wage trends. In fact, in certain cyclical industries, we see pricing power turning outright deflationary after a period of elevated pricing power.

The late-cycle inflation dynamic bodes well for our systematic alpha-generating process — which favors attractively valued, high-quality companies that are benefiting from improving investor sentiment. While overall equity market returns will likely be dampened amid rich starting valuations and ongoing economic uncertainty, the end of rate hikes will provide a more positive backdrop for active stock selection. Figure 14 shows that the core factors in our active stock selection model — approximated by their academic definitions of Value, Quality (profitability) and Momentum,[3] have historically outperformed in the **1–3 years following the end of rate hikes** in the US.[4] Peaks in rates generally coincide with broad economic slowdowns, which makes investing in high-beta (high-risk) stocks less attractive — and this is evident in their historical underperformance in such periods. In the current environment, we advocate for caution in higher-risk segments of the market, and prefer stocks that occupy the 'goldilocks zone', i.e. reasonably valued, Quality companies that are able to generate more consistent earnings alongside strong balance sheets.

Figure 14

**Peak Rates Have Historically Been Precursors to Strong Factor Performance**

Annualized US Equity performance post interest rate peaks (1969–2023)




Source: Kenneth R. French, State Street Global Advisors. Data from November 30,1969 to December 31, 2023. Annualized returns are calculated from the month when the Fed stops raising rates for peak rates periods in 1969, 1974, 1981, 1984, 1989, 1995, 2000, 2006 and 2018. Equity Market Returns are based on Fama French value weighted methodology: "value-weight return of all CRSP firms incorporated in the US and listed on the NYSE, AMEX, or NASDAQ that have a CRSP share code of 10 or 11 at the beginning of month t, good shares and price data at the beginning of t, and good return data for t." Factor Returns are calculated using the Fama-French equal-weighted methodology and represents stocks within NYSE, AMEX and NASDAQ.

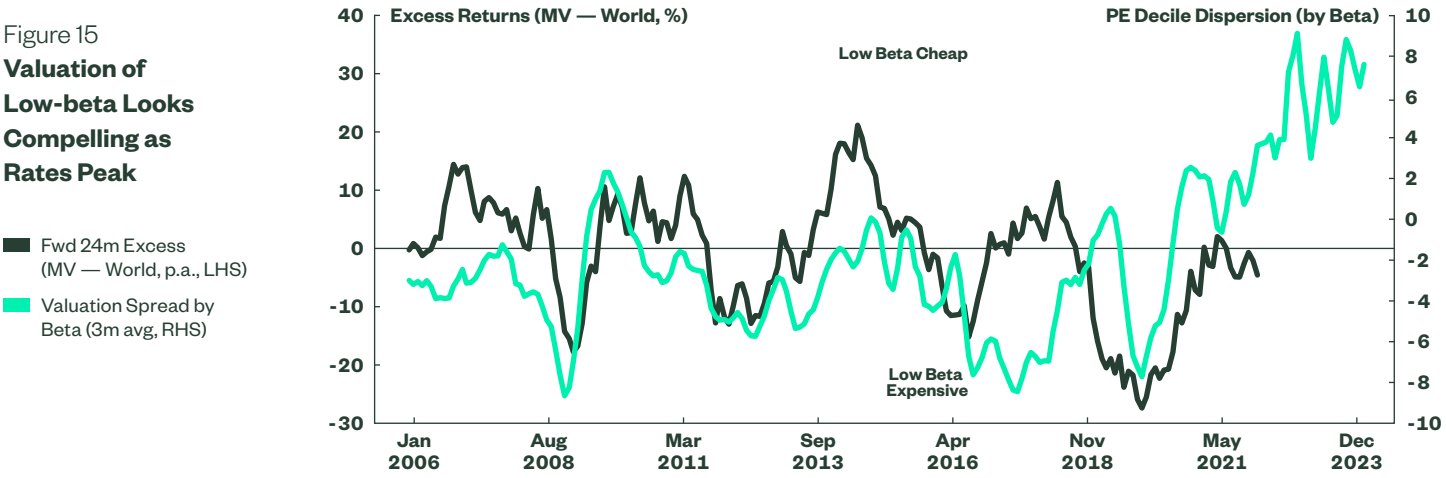
### Peak Rates Favor Quality Companies with Attractive Growth Prospects

Unlike 2023, 2024 will likely see a broadening of alpha opportunities beyond the AI theme. Valuations of US tech giants reached their tech-bubble highs during 2023, pricing in the potential future earnings growth of AI, despite rising discount rates. With discount rates now peaking, we find more compelling opportunities in high-quality stocks with attractive growth profiles in other segments of the market not dominated by the AI hype — notably in Communication Services and Healthcare. Alongside IT, these relatively defensive sectors also have the strongest 2024 EPS growth estimates. Our benchmark-aware portfolios are able to find numerous opportunities within these sectors, where highly attractive Quality scores intersect with strong growth profiles, but without an associated valuation premium. Examples include stocks within Broadcasting, Cable & Satellite, Health Care Distributors, Application Software and Internet Services/Infrastructure.

### Peak Rates Favor Defensive Equities

For 2024, we expect to see the following equity drivers: lower bond yields, softening GDP growth, disinflation and some downside risk to corporate profit expectations. Consistent with historical periods following the end of rate hikes, we expect lower-beta to outperform high-beta equities. With low beta currently trading at its cheapest level relative to high-beta stocks (as per Figure 15) in almost two decades, we see plenty of room for Defensive stocks to re-rate higher this year.

Figure 15
**Valuation of Low-beta Looks Compelling as Rates Peak**




Source: FactSet, State Street Global Advisors as at December 31, 2023. Price-to-earnings (P/E) dispersion is measured as the difference between the P/E (FY1, weighted harmonic average) of the highest beta decile stocks vs the PE (FY1, weighted harmonic average) of the lowest beta decile stocks.

## The Bottom Line

Rich overall market valuations, coupled with wide gaps in valuations and between market leaders and the rest, suggest the market is growing less concentrated, making active stock picking more important. With central banks edging closer to an interest rate pivot and the business cycle moving into slowdown, our models are finding many attractively priced stocks with quality characteristics and capacity for sustained earnings growth. Our research shows that the next one to three years will likely present a positive backdrop for our systematic approach to active stock selection as well as defensive investing in global equities.

## Acknowledgement

Hao Yin and Kishore Karunakaran would like to thank Tim Hughes for data assistance on the Supply Chain paper and Kishore Karunakaran would like to thank Michael Lin and Amruth Davuluri for data assistance on the Macro Remarks section.

## Endnotes

1 The CEPII is the leading French center for research and expertise on the world economy. CEPII — GeoDist.

2 Using the JPMorgan Nominal Broad Effective Exchange Rate Index — United States.

3 Based on Fama-French definitions of Value (HML), Quality (Profitability) and Price Momentum.

4 Note: this analysis expands on a similar analysis in our Q3 2023 Systematic Equity — Active, where a 50/50 Value Quality Blend portfolio was used post start of interest rate tightening periods.

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* Pensions & Investments Research Center, as of December 31, 2022.
† This figure is presented as of December 31, 2023 and includes approximately $64.44 billion USD of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

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ID2074026-6092240.2.1.GBL.RTL 0324
Exp. Date: 03/31/2025