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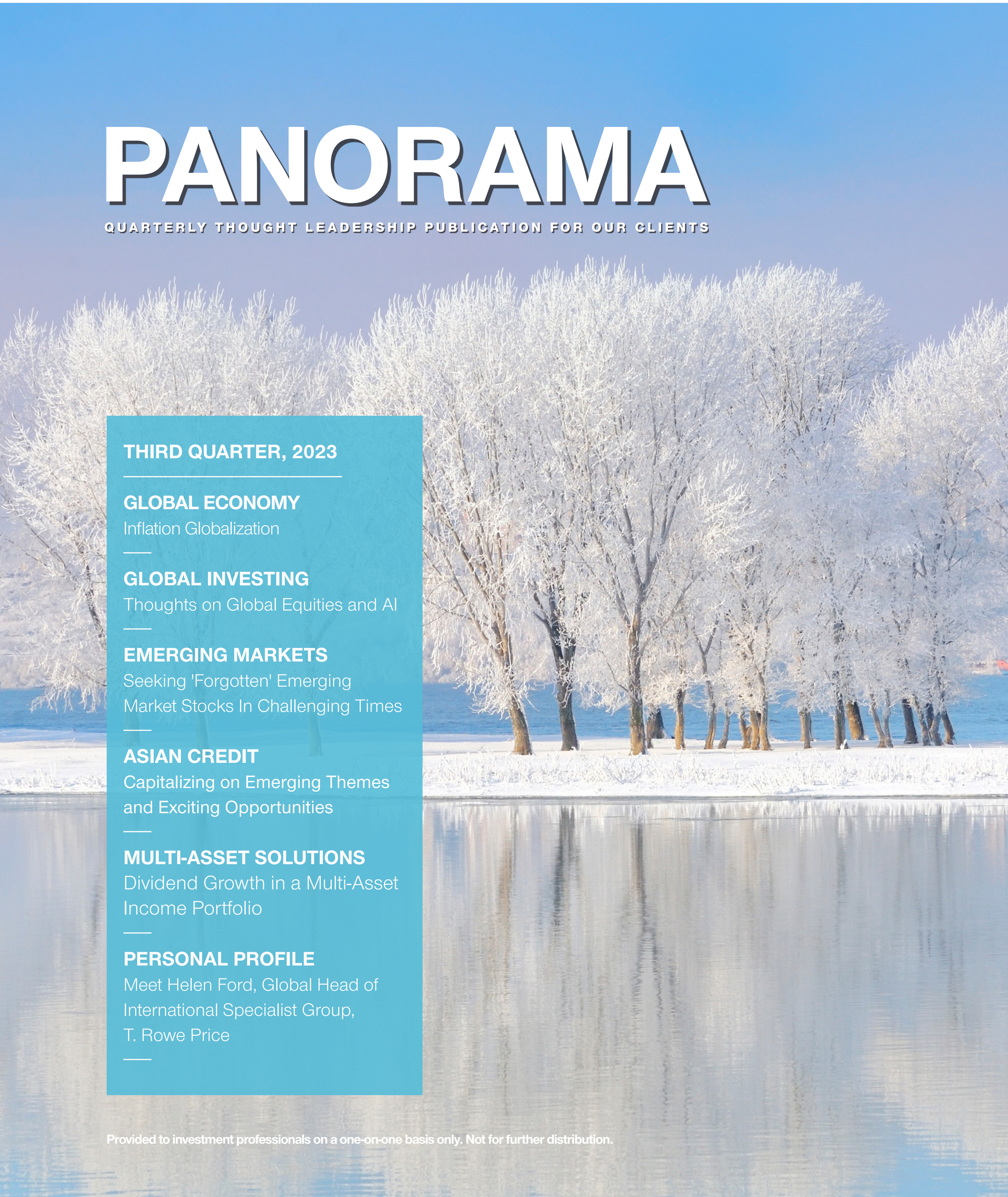

PANORAMA

QUARTERLY THOUGHT LEADERSHIP PUBLICATION FOR OUR CLIENTS

WELCOME......

.........to the third quarter 2023 edition of Panorama, T. Rowe Price's investment magazine for Asian investors.

Despite the much-publicized headwinds, the US economy has been surprisingly resilient in 2023, while the US earnings outlook is currently trending positive, propelled by the new AI theme. With more positives in support, it is quite possible that financial markets may be willing to look through a second-half dip in global economic growth, especially if they believe that monetary tightening by the Fed and other major central banks is close to a peak.

In our opening article, Thomas Poullaouec, Head of Multi-Asset Solutions for Asia Pacific, and his co-authors argue that an understanding of the drivers of domestic and global inflation is paramount for investors to be successful in the current environment. Economy-specific factors will herald the end of high inflation synchronization and may result in tactical investment opportunities. A diversified real assets portfolio may also be an effective way to address both expected and unexpected inflation while simultaneously balancing risk and return considerations.

Next, Portfolio Specialist Rahul Ghosh looks at Artificial Intelligence(AI), the new investment theme that has been driving global equity market performance in recent months. He believes that Generative AI has the potential to make virtually every industry more efficient, and there will be massive boosts to worker productivity across the board. As we've seen throughout history, the eventual impact of a major innovation like AI is likely to be much broader than is currently anticipated.

Ernest Yeung, who manages T. Rowe Price's Emerging Markets Discovery Equity Strategy, takes investors on a " A Journey of Discovery" across the Emerging Market (EM) Universe, seeking 'forgotten' emerging market stocks in challenging times. After a tumultuous period for markets since the pandemic, he believes EM currently offers a good opportunity for those able to take a longer-term view. Focusing on stocks with asymmetrical risk/reward characteristics may serve investors in good stead considering the divergent short-term trends within EM.

In our fixed income spot, Sheldon Chan, who co-manages T. Rowe Price's Asia Credit Bond Strategy, thinks that after some profound structural shifts in the Asian region and in recent years, there are reasons to be optimistic about Asia's economic prospects and the value of investing in the region's bond markets. Asian credit is the higher quality segment of the emerging market bond universe, with investment grade, or IG, issues comprising more than 82% of the J.P. Morgan Asia Credit Index Diversified benchmark.

Dividend compounding has been a powerful driver of long-term equity total returns and steady dividend growers have even outpaced markets over time. Global Multi-Asset Team specialists Richard Coghlan and David Clewell consider dividend growth in a multi-asset global income portfolio, designing an equity sleeve with income, capital, and risk in mind.

Finally, in our Personal Profile interview we spoke with Helen Ford, the Global Head of the International Specialist Group, whose mission is to help the firm retain and grow client assets across equity, fixed income, and multi-asset portfolios in all the markets served by T. Rowe Price.

As always, we welcome any comments and feedback you may have on this edition of Panorama. Our contact details can be found on page 30 of the magazine.

T. Rowe Price Australia

INFLATION GLOBALIZATION

Understanding the drivers of domestic and global inflation.

- Pandemic-induced high inflation exacerbated the 30-year long phenomenon of increasing synchronization, challenging consumers and investors alike.
- Economy-specific idiosyncrasies will both herald the end of high inflation synchronization and result in novel tactical investment opportunities.
- Inflation trends tend to be shared globally over the long term and global inflation-sensitive strategies can be used regardless of investor location.

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Understanding the drivers of domestic and global inflation is paramount for an investor to be successful in the current environment. Over the past decades, inflation correlations across the globe increased as globalization expanded its reach. In recent years, the correlation between U.S. inflation and global inflation reached historically extreme levels after the Covid shock. In the short term, however, we expect inflation dynamics to differ, offering tactical opportunities to distinguish regional exposures. In this paper we investigate different ways of quantifying the synchronization trends of global inflation, offer some potential reasons behind why these trends have emerged, and discuss investment opportunities in the face of elevated inflation levels.

Is Inflation Synchronization an Increasing Trend or Part of the Cycle?

We begin our investigation into global inflation synchronization by quantitatively examining common inflation drivers and trends across countries.

THE DRIVERS OF INFLATION CONVERGENCE

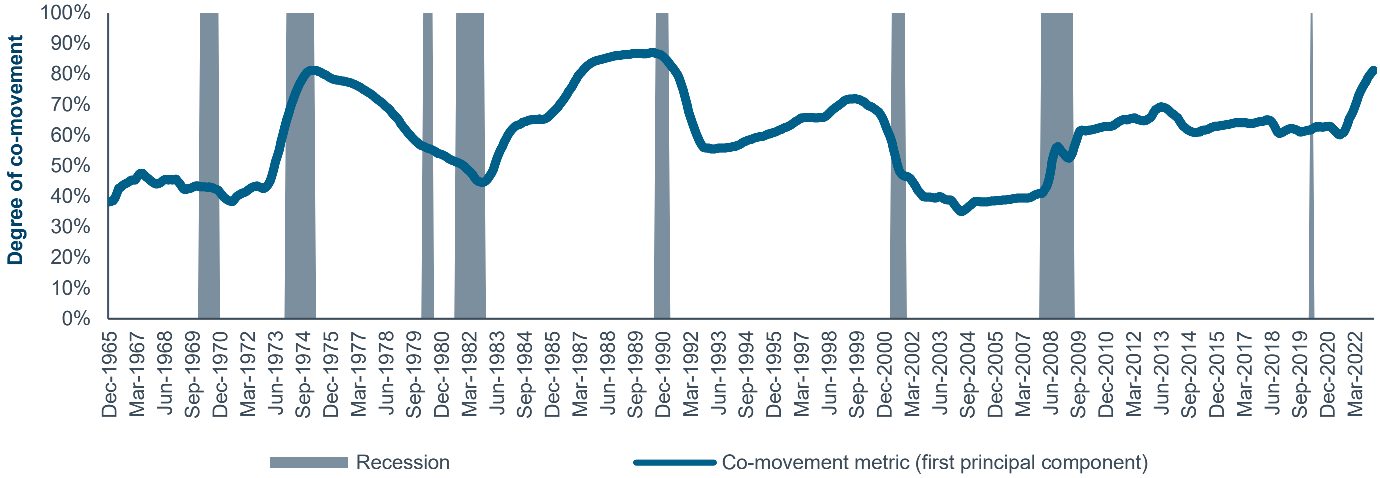
1. **Globalization and supply chain integration:** The increasing interconnectedness of economies through trade and financial flows has led to greater integration and interdependence. The integration of global supply chains has increased efficiency and lowered production costs. However, shocks in one part of the world can quickly spread to other regions, affecting inflation dynamics and leading to greater synchronization in this era of globalization.

2. **Economic policy convergence:** Many countries have adopted similar economic policy frameworks, such as inflation targeting and flexible exchange rates, which aim at price stability and the anchoring of inflation expectations. As more countries pursue similar objectives and adopt comparable monetary policy strategies, their inflation rates tend to converge, contributing to global synchronization (see our work on policy synchronization below).

3. **Capital mobility:** Increased capital mobility has allowed for the swift movement of funds across borders. This has implications for inflation because capital flows can influence exchange rates, interest rates, and asset prices, all of which can have inflationary consequences.

FIGURE 1: Common Component of Global Inflation in G6 Economies

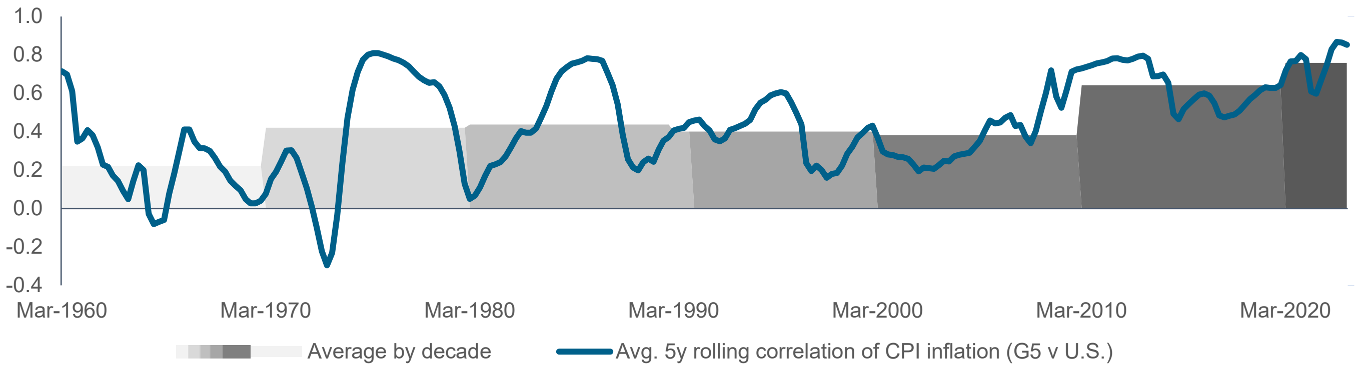
First principal component from G6 CPI inflation



Note: Using year-on-year percentage change in headline inflation from the G6 from December 1965 to January 2023, we calculate the proportion of variance explained by the first principal component in a 10-year rolling window over all countries available for an entire 10-year time horizon. Shaded areas are NBER recessions.
Sources: CPI inflation from U.S. Bureau of Labor Statistics, Statistics Canada, Statistiches Bundesamt, UK Office for National Statistics, Australian Bureau of Statistics, Japan Statistics Bureau, Haver Analytics; analysis by T. Rowe Price.

FIGURE 2: Consumer Price Index (CPI) Inflation Correlations

5-year rolling average correlation of CPI inflation



Source: Haver Analytics. CPI year-on-year percentage change; WTI Cushing (average, in U.S. dollars per barrel) year-on-year percentage change. Oil shock included if year-on-year change was greater than 30 percent. As of March 2023.
Correlation of U.S. CPI inflation with that of the UK, Australia, Canada, Germany and Japan.
Graph shows average over countries. Analysis by T. Rowe Price.

The common drivers of global inflation follow a cyclical pattern (Figure 1).[1] We focus on a five-decade sample of CPI inflation rates for the United States, the United Kingdom, Australia, Canada, Germany, and Japan (G6, henceforth), which altogether account for 71% of the advanced economies' GDP and 41% of global GDP.[2] Significant moves higher in the explanatory power of the first principal component follow large common inflation shocks in the 1970s (commodities) and in the 2020s (Covid-related supply chain disruptions and the expansionary policy response). On average, the common inflation factor produced using PCA explains nearly 60% of the variance in G6 inflation. When large-scale common inflation shocks have occurred in the past, this proportion has reached almost 80%.

A similar cyclical pattern is evident when looking at the correlation of U.S. inflation and other developed economies' inflation. The five-year average rolling correlation of U.S. CPI inflation with that of the UK, Australia, Canada, Germany, and Japan oscillates and substantially increases in response to common shocks. However, greater harmony in global inflation is more than just a product of commodity shocks.[3] Since the mid-1990s, the trend in the five-year rolling average correlation of CPI inflation in global economies to the U.S. has steadily increased (Figure 2).

We found a more pronounced inflation synchronization trend, starting in the 1990s, when using a broader inflation metric.[4] In this case, the inflation factor not only includes a consumer price inflation gauge, but also one for producer price inflation, trade costs or unit value indices, plus inflation sentiment and expectations. Our analysis indicates, similar to the one with CPI inflation, that there has been a marked and steep increase in global inflation synchronization since the 1990s. The unique post-Covid global environment and policy responses have added to the heightened synchronization as the correlation is currently at historical highs (Figure 3).

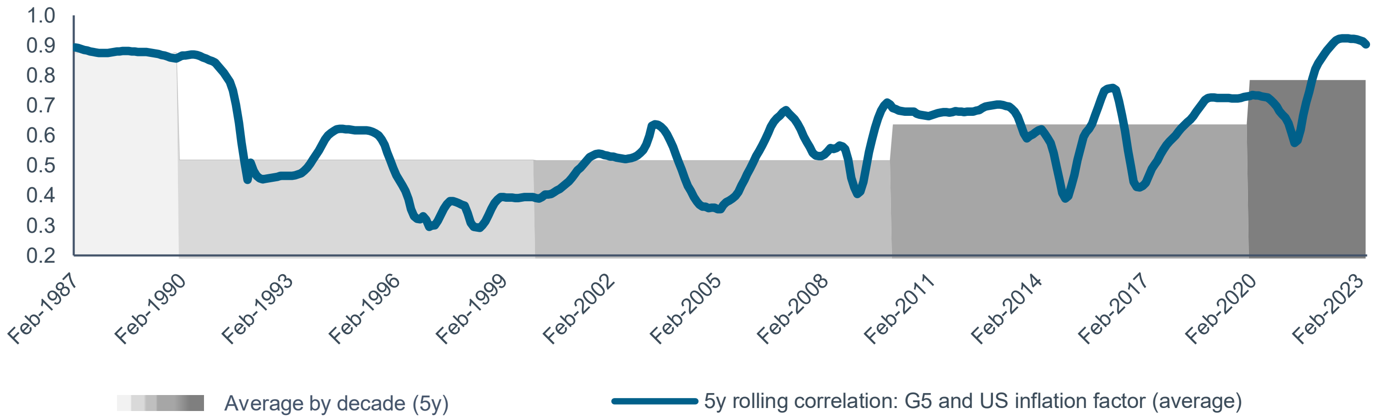
The sustained synchronization in inflation trends among developed markets is likely attributable to globalization and the interconnectedness of economies through trade, global supply chain integration and international capital mobility, as well as economic policy convergence (please refer to the "Drivers" box above).

Tradable Vs. Non-Tradable Inflation

A large portion of global inflation synchronization has historically been driven by tradable goods inflation (food, non-energy commodities and core goods) as opposed to domestic inflation (locally-consumed services) (Figure 4). In the post-Covid world, both domestic and tradable[5] inflation exhibit rapid

FIGURE 3: Correlations Based on a Broader Inflation Factor

5-year rolling average correlations of inflation factors

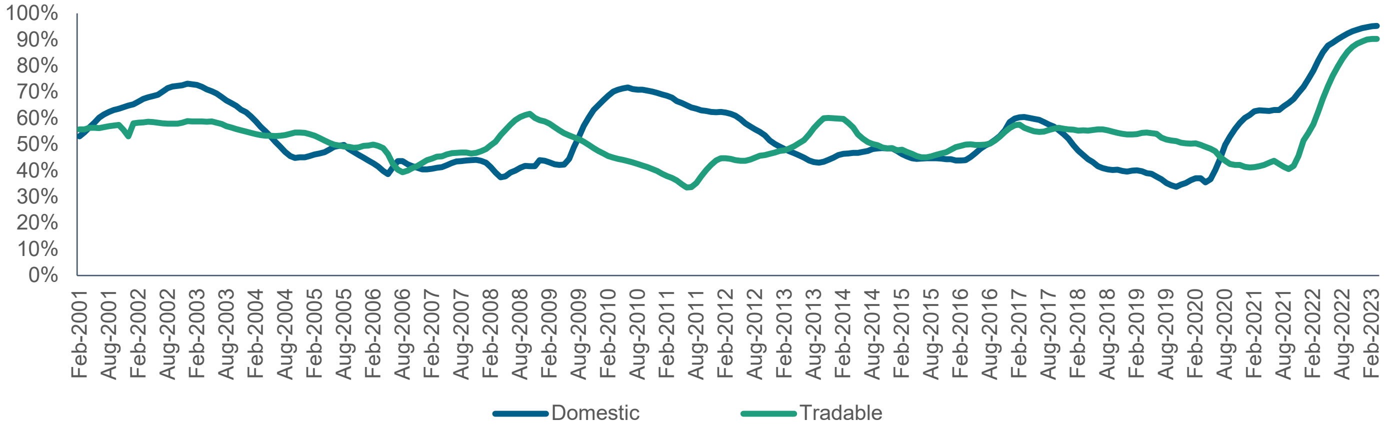


Five-year rolling average of rolling correlations of inflation factors for the U.S., UK, Australia, Canada, Germany, and Japan. Inflation factors are Machine-Learning estimates of the common driver of inflation, expressed as deviations from its 10-year mean.
Sources: DeepMacro, LLC., Analysis by T. Rowe Price. As of April, 2023.

[1] The common drivers of global inflation variation are captured via principal component analysis (PCA), which captures the largest common source of variability in the cross-country inflation data.
[2] IMF World Economic Outlook, April 2023. Data as of end of 2022.
[3] We explored this topic and found that positive oil price shocks of more than 30% were not the only drivers of higher inflation synchronization.
[4] We use DeepMacro's inflation factor. This is a machine learning inflation factor which captures the common driver of a large set of inflation-related data. Inflation inputs range from consumer, producer, and trade inflation as well as inflation sentiment and expectations.
[5] Tradable inflation reflects primarily goods prices impacted by global import and export market dynamics and foreign exchange. It tends to include things classified as core goods. Domestic inflation reflects primarily goods and services prices produced in-country and not subject to pressure from global trade dynamics. These tend to include services and select goods depending on the economy in question. Both explicitly exclude energy.

FIGURE 4: Synchronization in Domestic and Tradable Goods Inflation

First principal component of domestic and tradable goods



Note: Using year-on-year percentage change in domestic prices (locally-consumed services) and tradable goods prices (food, non-energy commodities and core goods) from the G6 economies from February 2001 to February 2023, we calculate the proportion of variance explained by the first principal component in a 10-year rolling window.
Sources: CPI inflation data from U.S. Bureau of Labor Statistics, Statistics Canada, Statistiches Bundesamt, UK Office for National Statistics, Australian Bureau of Statistics, Japan Statistics Bureau, Haver Analytics; analysis by T. Rowe Price.

increases in cross-country synchronicity concurrent with rising alignment in the co-movement in global headline inflation. This pattern is distinctly different to previous post-recessionary episodes. During and after the Global Financial Crisis (GFC), for example, the common drivers of domestic and tradable inflation were negatively correlated.

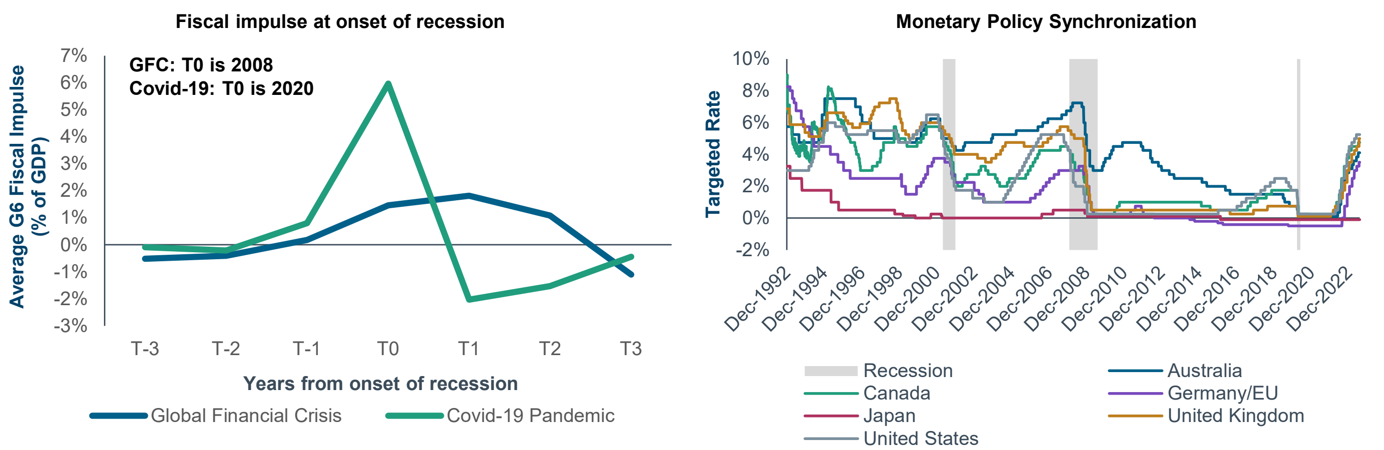
After the Covid shock countries implemented a "sledgehammer" style response with drastically expansionary monetary and fiscal policies (Figure 5). We also observe that rate cuts during the GFC occurred quickly, but nowhere near as quickly and uniformly as in the Covid-19 pandemic. Similarly, rates stayed at zero around the world for significantly longer after the Covid-19 pandemic with much greater uniformity (Figure 5, right-hand chart). These two factors combined with supply side restrictions and labor shortages help to explain the current extreme co-movement not only in tradable goods price inflation, but also in services inflation.

Inflation Divergence Ahead?

As it is commonly said, "What goes up must come down": we expect to see mean reversion in these extreme correlation figures. Going forward, there is reason to believe global inflation synchronization has peaked and might revert, at least partially. In the short run this could be due to structural differences between economies and the way in which their policy responses unwind. Differential reversion could offer tactical investment opportunities, which we will explore in the next section. Here we focus on why the current state of global inflation could shift to one with greater dispersion of inflation rates across countries.

FIGURE 5: Policy Synchrony

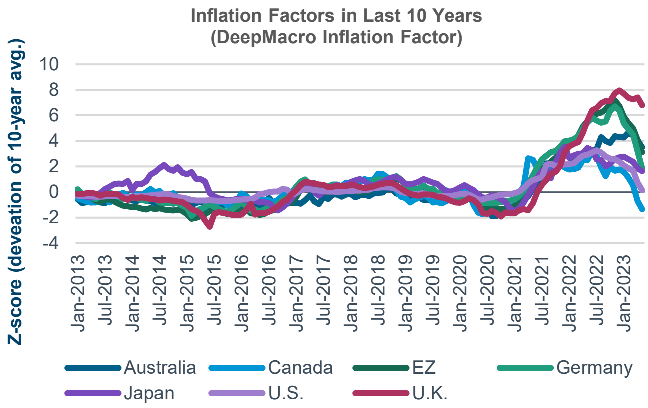
G6 fiscal and monetary policy responses during different recessions



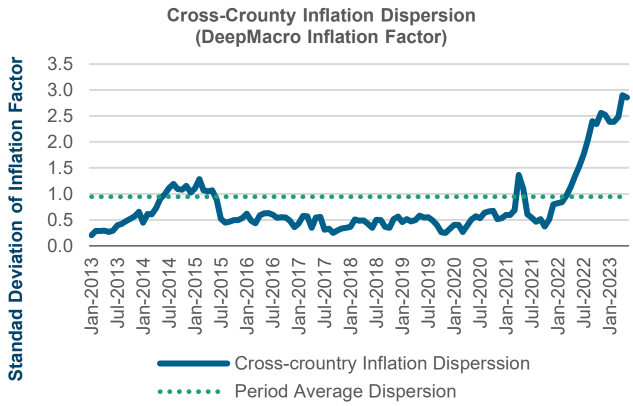
Sources: (LHS) Haver, IMF, analysis by T. Rowe Price. Fiscal impulse is defined as the mean across our G6 sample of the year-over-year change in the cyclically adjusted primary balance as a percent of GDP times minus one such that a positive year-over change in the primary fiscal balance indicates stimulative fiscal policy. (RHS) MacroBond, Federal Reserve, Royal Bank of Australia, Bank of Japan, Bank of England, Bundesbank, ECB, Bank of Canada. Before January 1999, we proxy the EU rate using the German Bundesbank rate.

FIGURE 6: Cross Country Inflation Dispersion Has Increased

Analysis based on Deep Macro's inflation factor



DeepMacro inflation factor. Shown as Z-score deviation from 10-year mean.

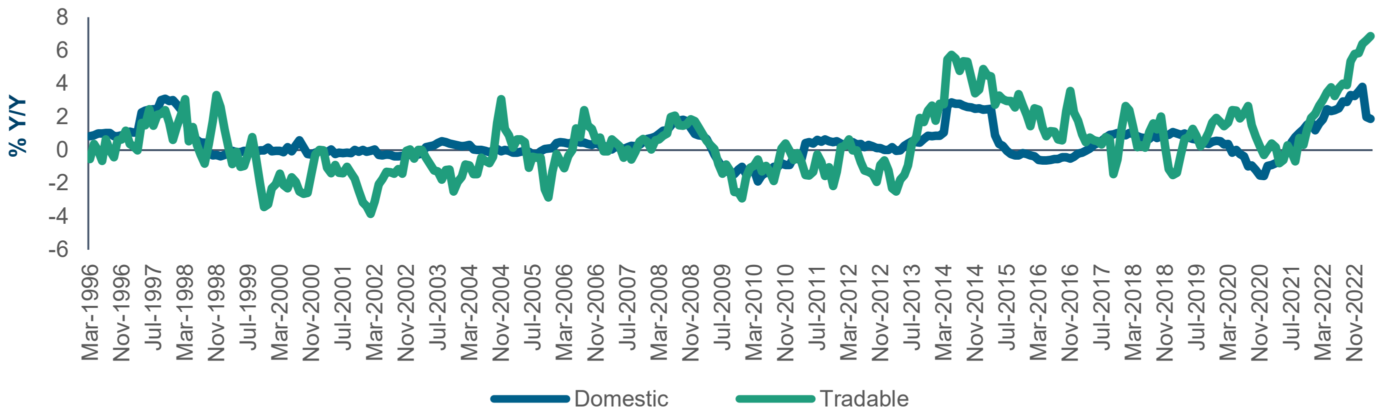


Cross-country standard deviation decile of the DeepMacro inflation factor for Australia, Canada, Eurozone, Japan, United States and the United Kingdom.

Sources: DeepMacro, LLC., Analysis by T. Rowe Price. As of April 2023.

FIGURE 7: Japan's Tradable vs Non-Tradable Inflation

Japan: domestic and tradable CPI



Note: Year-on-year percentage change in domestic prices (locally-consumed services) and tradable goods prices (food, non-energy commodities and core goods) for Japan from March 1996 to March 2023. Data from Japan Statistics Bureau, Haver Analytics; analysis by T. Rowe Price.

At present, the broader cross-country inflation dispersion metric[6] is three times higher than the average for the last 10 years (Figure 6). This highlights two phenomena: the recent rise in inflation is out of the norm for most countries, and this level of shared extremeness is unlikely to persist given structural and geopolitical shifts within economies and differentiated outcomes and policy responses.

In Europe, Russia's sudden invasion of Ukraine changed the gas and energy services supply model of the continent and remains a risk for energy price stability going forward. Moreover, the United Kingdom is facing resilient inflation prints associated with unique labor shortages and higher trade costs due to Brexit.

Japan's monetary policy remains highly accommodative. It is the only country in our sample with a negative interest rate amid relatively lower but still rising inflation. The government introduced temporary subsidies for gasoline and electricity which will continue to help contain its impact on headline inflation.[7] Going forward, the threat to price stability is tradable goods inflation, which continues to steeply increase and is showing no signs of easing (Figure 7). Under this scenario, it is likely that the Bank of Japan will be forced to change its monetary policy stance.

Canada's inflation is moderating faster than in other developed markets, as the Bank of Canada started its rate hiking cycle earlier. We expect Canada, as well as the U.S., to ease its monetary policy stance sooner than the other countries. In the near term,

[6] Cross-country sample standard deviation for the DeepMacro inflation factor.
[7] At least until the third quarter of 2023.

we expect the opposite for Australia. Inflation is expected to remain elevated and sticky. Gasoline and energy inflation will continue to be a large fraction of headline inflation, and the Reserve Bank of Australia has a long way to go in playing catch-up with a fast rise in wage growth.

Going forward, we may see more idiosyncratic policy and inflation responses, suggesting that the current high synchronization across the G6 has peaked, offering geographic diversification of investment opportunities. These differences could be expressed through different positioning on duration, currency, and inflation-sensitive assets.

Tactical Investment Opportunities

Given signs of short-term inflation divergence, potential tactical investment opportunities are expected to emerge. Inflation is coming down faster in Canada, the U.S., and the Eurozone. This could mean that their central banks start easing monetary policy sooner, and that long term bonds in these countries experience the earliest rallies. In the medium-term, the sovereign bonds of the countries with the most favorable inflation dynamics could potentially provide a better inflation adjusted yield return potential, as well as potential for a larger capital gain.[8]

On the other hand, for countries like the UK and Australia, where inflation seems to be more resilient, inflation linked bonds could act as insurance against higher inflation.

What Does This Mean for Inflation Hedging Strategies?

Although we have highlighted some tactical opportunities in the near term to benefit from increasing divergence in local inflation trends, we believe that any portfolio should have a strategic allocation to asset classes reactive to inflation impulse. While there will always be idiosyncratic opportunities in the short term, the key finding of this paper is that it doesn't matter where you are based since inflation trends tend to be shared globally over the long term. Hence, we believe that inflation-sensitive strategies that invest globally can be used effectively by investors in any location.

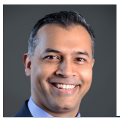
Based on our proprietary research, our multi-asset approach uses two strategic allocations to combat both expected and unexpected inflation regimes. Within the broader fixed income allocation, we use a dedicated allocation to inflation-linked bonds. Within equities, our research suggests that a diversified real assets portfolio may be an effective way to address both expected and unexpected inflation while simultaneously balancing risk and return considerations. This is due in part to the strong pricing power traditionally enjoyed by companies operating in the real assets space and also their inflation-sensitive earnings, which can help to counter some of the negative impacts from inflation.

In a traditional moderate-risk portfolio comprised of 60% stocks and 40% bonds, this approach would result in 3-6% of the broader portfolio being allocated to real assets.

[8] T. Rowe Price (2023). The World Faces a Highly Variable Inflation Outlook.

THOUGHTS ON GLOBAL EQUITIES AND AI

(A)I have seen the future, and it works.[1]



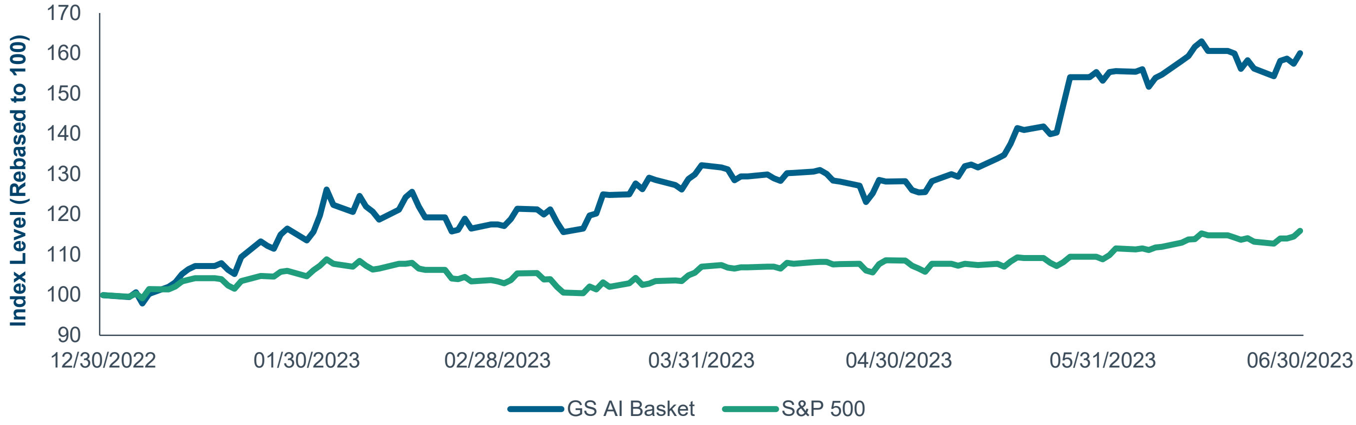
Rahul Ghosh
Portfolio Manager, Global Equity Dividend Strategy

For all the worries at the beginning of the year around U.S. recession, global interest rates, China policy direction (or lack thereof), it required just the spark of a new theme to kindle animal spirits for the markets. That theme was artificial intelligence, or AI. Just to understand how powerful the theme has been, compare the performance of a basket of AI names tracked by Goldman Sachs versus the S&P500, no laggard in itself this year (Figure 1).

Given this extreme outperformance, the natural questions investors are asking are: Is this for real? Or is this mostly hype? Is AI a bubble? Is the AI theme still investible? And in a word, our answer is YES, AI is investable. In this note, we explain why.

[1] Adapting Lincoln Steffens quote post visiting the Soviet Union in 1919.

FIGURE 1: AI Stocks Have Strongly Outperformed the S&P 500 Year-to-Date
The Goldman Sachs U.S. AI basket was up 60% for H1 2023 versus the S&P500 at 16%.



Past performance is not a reliable indicator of future performance.
As of June 30, 2023.
Sources: Goldman Sachs Research, Bloomberg Finance, L.P.

Let's Look At How The AI Theme Is Real

As we've seen throughout history, the eventual impact of a major innovation like AI is likely to be much broader than is currently anticipated. Think back to e-commerce at the turn of the millennium. Then, estimates for the eventual penetration of e-commerce as a share of retail sales in the U.S. typically ranged between 5% and 10%. This is a far cry from the current figure of around 15%, a figure which is still growing at mid- to high- single digits annually.

All forecasts and estimates for AI penetration are necessarily imprecise, given the very rapid changes that we're already seeing. Here are a few areas with wide applications that could see large breakthroughs, just to highlight how pervasive and all-encompassing the AI theme is likely to become:

- **Natural language processing (NLP):** NLP is the ability of machines to effectively understand and process human language. This is critical as it allows machines to interact with human beings in a natural way. Recent breakthroughs in NLP have led to the development of powerful large language models that can generate text, translate languages, and answer questions in an informative way.
- Market expectations currently are that **this could become a USD100 billion opportunity by 2030, up from USD20 billion in 2022)**[2]. Examples of industries that could benefit greatly include healthcare, fintech, media and education for example. Much of the progress here is being driven by companies such as Microsoft/OpenAI, Alphabet, Meta, while the Open Source Community have good AI solutions as well.
- **Computer vision (CV):** CV is the ability of machines to see and understand the world around them. This is being used in a wide variety of applications, such as self-driving cars, facial recognition, and medical imaging. This area of applications is estimated to grow to a **market size of around USD60 billion by 2030**[3]. Companies involved in this space include Nvidia, Tesla and Keyence, to name a few.
- **Machine learning (ML):** ML is the ability of machines to learn from data and improve their performance over time and is a fundamental technology used in many other areas of AI. Recent breakthroughs in ML have led to the development of powerful algorithms that can learn from massive datasets for extremely accurate analysis and predictions. **The total market size here is estimated to be between USD400 to USD500 billion by 2030**[4]. Some examples of tech companies working on ML and already integrating it into their product sets are Microsoft, Amazon, Apple, HubSpot, ZScaler, Adobe, SAP, ServiceNow, and Synopsys, to name but a few.

A Myriad of Real-World AI Applications

Lest one think that AI is a techie's playground only, it's worth reminding ourselves of the myriad of potential real-world applications that appear possible.

- In healthcare, AI could be used to diagnose disease, develop treatments and provide

[2] https://www.fortunebusinessinsights.com/industry-reports/natural-language-processing-nlp-market-101933
[3] Grand View Research. https://www.grandviewresearch.com/press-release/global-computer-vision-market
[4] https://www.grandviewresearch.com/press-release/global-machine-learning-market

personalized health care, e.g. AI-powered medical imaging systems can potentially detect cancer cells with greater accuracy than radiologists.

- In finance, AI can be used for automation, credit and fraud analysis, or even in investment trading.
- In manufacturing industries, AI can be used to automate tasks, improve quality control and optimize production.
- Agriculture is a good example of an industry that one would not traditionally associate with AI. Yet AI could be used to survey crop lands, use data to improve yields, manage pest control, and/or optimize water usage.

While it's difficult to predict with any accuracy who will win the AI race on the application side, we do know that whatever happens at the application layer, there will be significantly more silicon intensity, as **all this AI runs on highly complex chips in the datacenter**. AMD, for example, forecasts that their AI Chip TAM (total addressable market) will increase from USD50 billion in 2023 to USD150 billion in 2027, a 50% CAGR, while a typical AI server consumes up to 8X more DRAM than a traditional server. That is real demand for real products!

The AI 'Hype' vs. 'Reality' vs. 'Bubble' Debate

How does one decide when a new tech investment theme like AI is a fad or something more enduring? One aspect is to look at the robustness of business models and profit possibilities of the innovation. Contrast the Internet bubble with that of the Metaverse. With the former there was the laying of the groundwork and infrastructure that would enable the continued future development of e-commerce, social media platforms, and consumer and enterprise cloud software, while the latter offered us only vague promises of a better tomorrow without the necessary cashflows to discount!

When it comes to the application of AI, business models may not all change dramatically as a result of AI. Rather, it is more the trajectory and revenue/earnings potential that will likely benefit from AI penetration and applications. This is something that can be measured and valued. Let's consider some ways in which companies may potentially benefit from AI.

- **Selling AI-powered products and services:** This is the most obvious way to make money from AI. Companies can develop and sell AI-powered products, such as chatbots, facial recognition software, or eventually self-driving cars. More importantly in the near term, they can up-sell AI-powered services, such as data analytics or machine learning. We are already seeing this in Enterprise Software, with Adobe's Firefly product and Microsoft's Windows Co-Pilot.
- **Monetizing data:** AI can be used to collect and analyze large amounts of data that can be valuable to businesses, who can then use it to improve their products and services, more accurately target their marketing campaigns, or make better investment decisions.
- **Automating tasks:** AI can be used to automate many tasks that are currently performed by people. This can save on labor costs and time, for example, AI can be used to automate customer service tasks and interaction.
- **Consulting services:** As with previous technologies and solutions, there will be a role for business to profit from advising and implementing AI solutions for companies.

Further promising uses for AI will doubtless emerge over time, much as happened with the advent of the internet, e-commerce etc. The potential is enormous.

Do The Costs Involved with AI Make Widespread Adoption Unlikely?

The costs today are significant, there's no denying this. But one has to distinguish between the cost of owning hardware and developing one's own Large Language Model (LLM) versus applying new data sets to existing LLM's.

It is widely understood, for example, that for Facebook LLaMA it took 2,048 A100 GPUs to train the model. These GPUs could cost in the region of USD10,000 to USD15,000 each, so one is looking at up-front costs in excess of USD20 million to train a LLM. Chat GPT on the other hand was trained on 10,000 GPUs. The cost of training more complex models continues to increase.

If the hardware is already paid for, the costs of implementation are much lower. One would probably need a team of two to five data scientists and here the cost is arguably less a factor than availability. While there are no exact numbers, it is estimated that there are only a few thousand data scientists globally with the skills and experience to develop an LLM. They are disproportionately employed by the megacap technology companies.

What is likely to happen for the broader corporate universe is that the hyperscalers (Amazon, Meta, Microsoft, Alphabet etc) will develop products and services that allow companies to use their proprietary data with established LLMs, a much more cost-effective solution than building one's own model.

Further, from a cost perspective one can think of a few other factors that should see costs go down over time. The McKinsey Global Institute for example, estimates that AI costs could decrease by 50-80% by 2030.

- Hardware costs should decrease over time as supply increases to meet demand
- Also on the infrastructure side, the continued growth in cloud computing should also help to drive down costs as one can access AI tools and resources without starting from scratch
- The increasing availability of data will make it easier to train AI models and should drive down the cost of AI training
- Finally, AI algorithms are constantly being improved, which makes them more efficient and less expensive to run.

Over time, we believe AI will be a significantly deflationary force for the economy. It lowers the barriers to entry for many creative and technical roles, or in many cases, jobs may be offshored far more easily. Generative AI has the potential to make virtually every industry more efficient, and there will be massive boosts to worker productivity across the board from copilot-like products.

AI And The Art of Portfolio Management

For all our conviction on the potential that AI can unleash, we as investors are not zealots ignorant of the role of valuation and fundamentals.

As of 6/30/23, the MSCI All Country World Index Information Technology Index was trading at around 24x forward P/E versus Covid era-peaks of ~28x. This is probably reasonable given the substantial and durable improvement in earnings driven by AI (as opposed to the Covid era “pull forward” effect).

On fundamentals, for most of the AI stocks owned in our global portfolios we are seeing organic revenue acceleration along with operating margin expansion and free cash flow conversion improvement as well. That is what gives us comfort to hold them in our global portfolios. And we remain vigilant on watching how these fundamentals evolve. As they do, so will our portfolios.

SEEKING 'FORGOTTEN' EMERGING MARKET STOCKS IN CHALLENGING TIMES

A Journey of "Discovery" in the EM Universe

Ernest Yeung
Portfolio Manager, Emerging Markets Discovery Equity Strategy

An especially rich and fertile time

- Emerging Market (EM) equities is an inefficient asset class within which we can find many 'forgotten' or 'overlooked' stocks.
- After a tumultuous period for markets since the pandemic, we believe EM currently offers a good opportunity for those able to take a longer-term view.
- Although China is not recovering as quickly as investors had hoped, many Chinese stocks appear to be priced for recession and are trading at attractive valuations.

An Improving EM Outlook

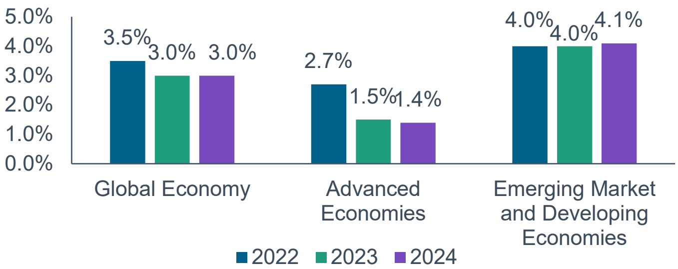
While the global economic environment since 2021 has been challenging for EM, 2023 is likely to witness significant improvement. EM economic growth is expected to exceed developed market (DM) growth by a wide margin. In view of this, we think now is a good time for investors to pause and take stock of their exposure to the EM asset class.

The global economy has been troubled by three major uncertainties associated with tight liquidity and rising interest rates, high inflation, and fears of a U.S. or global recession. Hopefully, DM economies will be able to avoid recession in 2023, though their growth has slowed significantly. Moreover, recent economic data does not suggest that global recession is imminent, U.S. interest rates may be close to a peak, and inflation is gradually declining.

While there is also uncertainty about the growth outlook for EM, China's economic reopening should provide some support. The IMF's latest economic forecasts see the EM growth premium over DM widening to 3.0 percentage points in 2023 and remaining there in 2024, the best level since 2013 (Figure 1). Meanwhile, EM inflation continues to trend lower following prompt, effective action by EM central banks globally, lending weight to their policy credibility.

FIGURE 1: Growth Forecasts Favor EM Over DM in 2023 and 2024

IMF real GDP growth forecasts for advanced and emerging economies



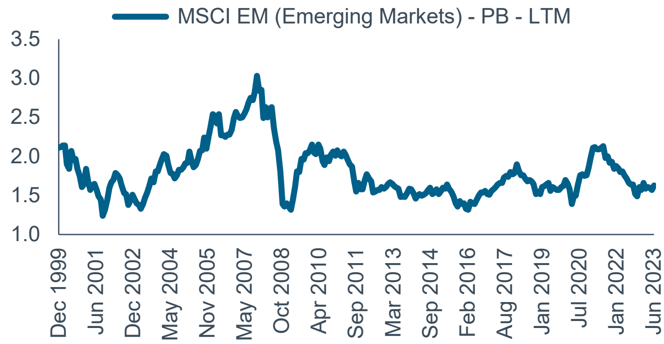
As of March 31, 2023.
Source: IMF, World Economic Outlook, April 2023. There is no guarantee that any forecasts will come to pass.

Historically, EM equities have performed best during the early stages of a global upcycle. We are clearly not there yet, as the DM economies are slowing, experiencing below-trend growth with only a modest pickup forecast for 2024. But after the strong outflows from active EM funds in 2022, current positioning is light and valuations look attractive (Figure 2), standing at a big discount to global equity markets. In these circumstances, a relative improvement in the EM business environment should be enough to attract portfolio flows back to EM as some portfolio managers may look to move early.

We anticipate that China's economic reopening, a pickup in intra-regional trade, and the trend towards greater supply chain resilience will foster a new investment cycle in EM. Such a scenario is expected

FIGURE 2: EM Stocks Are Cheap Relative to History

MSCI EM last 12-month Price to Book Value (X)



As of June 30, 2023.
Source: Bloomberg L.P.

to promote a shift in investment style towards many of the 'forgotten' stocks in EM that have fallen out of favor since the pandemic, resulting in a further period of outperformance from EM value stocks.

A Different Approach to EM Equity Investing

The core of our Emerging Market Discovery strategy comprises the search for "forgotten" or out-of-favor companies within the EM universe. Unloved and cheap, "forgotten" stocks tend to be under-researched and under-owned by mainstream investors, with low sell-side analyst coverage. In this search, it is T. Rowe Price's extensive global research platform that is our key source of strength.

While value is an important consideration, our Emerging Market Discovery style of investing differs from a typical value portfolio. We see little role for ranking EM stocks via value screens as screening methods do not work well in inefficient emerging markets. Many poorly managed, uncompetitive companies are to be found in the lower ranks of EM indices. Such stocks are classic 'value traps' that can stay cheap for years such that the market dynamic for mean reversion in EM share prices is relatively weak. In view of this, it is essential to have a strong EM analyst team to provide in-depth fundamental research, with "boots on the ground" in the key EM regions.

Investing early in "forgotten" EM stocks that possess catalysts for fundamental improvement can potentially unleash the power of re-rating while limiting potential downside risk since the stocks were out of favor at the time of purchase, reflected in a low acquisition price. Many "forgotten" stocks appear to possess this kind of asymmetric risk-return profile. We view a low valuation as a by-product of having been "forgotten" or overlooked by the market rather than as the starting point for analysis. That said, we require a credible investment thesis on why the stock can be expected to re-rate and outperform and will not buy or hold a stock merely because it is cheap.

In today's post-pandemic markets we intend to stick to our philosophy of seeking "forgotten" stocks, particularly companies that have undertaken "self-help" measures, or those with restructuring stories that will enable them to thrive in the post-pandemic world. Self-help measures are clearly internal to the firm, such as cost cutting, management changes, improved dividend and buyback plans, or asset sales. There are also external factors, including longer-term trends or cycles, that can work in favor of EM "forgotten" stocks.

Our search for "forgotten" stocks in EM Discovery can result in significant active weights at the country and sector level (Figure 3) together with a high active share for the portfolio overall. Investment rotation by country or sector is a feature of our hunt for "forgotten" stocks. This is because across investment cycles there will tend to be some sectors that are more attractively valued than the rest of the market.

We have a track record of identifying such "forgotten" sectors and stocks. For example, in April 2020 at the height of the Covid-19 pandemic, it appeared to investors that the world was about to enter a deep recession. With the energy market well supplied, the crude oil price plunged to USD20 per barrel in the spot market, while the near-term futures oil price actually turned negative due to the lack of storage capacity. As a result, the energy sector was shunned by investors, it was clearly "forgotten".

However, we took the view that a recovery in energy prices was only a matter of time since an oil price below USD20 per barrel was unsustainable, the result of a market in disequilibrium. With the only direction for oil prices in May 2020 being upwards, we went overweight energy for the first time in the Strategy's history. In terms of changes to country exposure, as China outperformed we trimmed and added to Brazil which had lagged.

More recently, the portfolio has seen an increase in the weight of materials following China's reopening.

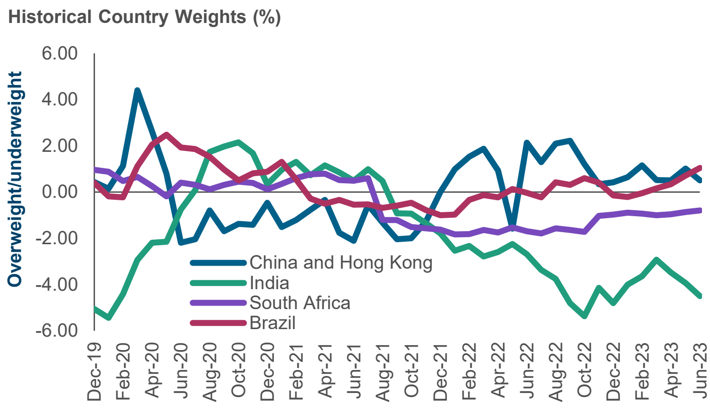
In 2023 it is China stocks that have fallen out of favor and which risk being "forgotten", as investors' doubts have grown over the durability of China's economic recovery and the threat of geopolitical tensions with the U.S. The Chinese economy is clearly not recovering as quickly as many investors had earlier hoped or expected. It does face challenges with property, geo-politics and weak investor sentiment in general. However, we can still discover many attractive pockets of opportunity within China's deep investment universe, for example the domestic reopening of travel. Many Chinese stocks appear to be priced for recession and are trading at very attractive valuations.

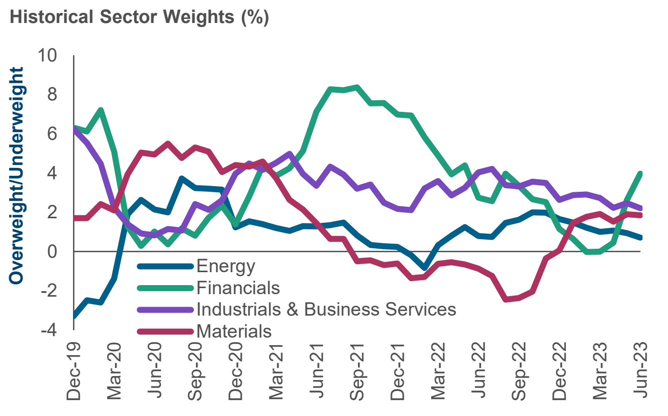
EM's Long-Term Attractions

Looking beyond the short-term challenges facing EM in 2023, we believe the medium- to longer-term investment case remains intact and has not been significantly damaged by the pandemic. We expect global risk appetite for EM to recover along with renewed investor interest in China as that country

FIGURE 3: Our Active Stock Choices Drive Portfolio Allocation

Emerging Markets Discovery Equity Representative Portfolio versus MSCI Emerging Markets Index Net





As of June 30, 2023.

The representative portfolio is an account in the composite we believe most closely reflects current portfolio management style for the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio shown may differ from those of other accounts in the strategy. The GIPS® Composite Report is available upon request.

Analysis by T. Rowe Price. T. Rowe Price uses the current MSCI/S&P Global Industry Classification Standard (GICS) for sector and industry reporting. Effective 17 March 2023, the GICS structure changed. Sector/industry diversification data prior to that date have not been restated. Please see Additional Disclosures page for information about this MSCI and this Global Industry Classification Standard (GICS) information.

delivers on its promise of a successful economic reopening in 2023.

EM had become structurally stronger in the decade prior to the pandemic. It was this improvement in fundamental strength that helped many EM economies to weather the storm of the pandemic years. The post-COVID global rebound brought with it a surge in developed market inflation and interest rates, yet EMs proved a lot more resilient than many expected. They suffered less than the DM economies during the global inflation surge in 2021/2022 created by supply chain bottlenecks, COVID lockdowns, and excessive demand stimulus.

In another example of EM resilience, the U.S. regional banking turmoil that erupted in March this year had little negative impact on EM banks, which tend to have more conservative loan-to-deposit ratios and more diversified depositor bases. There were few signs of contagion. China proved relatively immune, as its banks are mostly state-owned and subject to direct government scrutiny.

The long-term positive trends for EM still hold good, in our view. EMs in aggregate are home to over 80% of the world's population, account for over 40% of global merchandise exports, and according to April's World Economic Outlook forecasts from the IMF, are expected to account for around two-thirds of global GDP growth in the coming years, even with slower trend Chinese growth. Still central to the EM investment thesis is the rise of China's middle class, which has seen the addition of 635 million mass consumers to the global economy since 2005.

EM equity markets hold tremendous promise, in our view. We believe that T. Rowe Price's extensive analyst coverage of over 1,000 liquid, investible names in 24 countries provides us with an edge in the search for good bottom-up investment ideas. Expansive coverage across sectors, countries, and market cap helps us to implement our Emerging Market Discovery strategy of seeking to identify "forgotten" EM stocks with solid improvement potential and an asymmetric risk-reward ratio. ■

ASIA CREDIT MARKETS: CAPITALIZING ON EMERGING THEMES AND EXCITING OPPORTUNITIES

Sheldon Chan
Co-Portfolio Manager,
Asia Credit Bond Strategy

The last few years have witnessed major themes and events played out which resulted in profound structural shifts in the Asian region and its bond markets. While government crackdowns and property meltdowns may first come to mind, we have also seen exciting new opportunities emerge, particularly for active managers. A closer look could reveal plenty of reasons to be optimistic about Asia's economic prospects and the value of investing in the region's bond markets.

In this recent Q&A, Sheldon Chan, co-portfolio manager of Asia Credit Bond Strategy, reflected on how he navigated the markets in the past and review key lessons learned.

Q1: Beginning with China, what are the key events that have driven the investment landscape?

China is a natural starting point for this discussion, being the biggest market in the opportunity set and an important bellwether for the wider region. In China, the past five years have been characterized by mounting geopolitical uncertainty as well as significant domestic policy shifts. Therefore, we believe it is critical to consider the impacts of both the external and internal backdrops when investing in Chinese offshore credit.

In geopolitics, intensifying strategic competition between China and the United States (U.S.) has obviously emerged as a major theme. Relations began to strain when the Trump administration launched its "trade war" in 2018, which quickly escalated into a multi-layered dispute encompassing multiple issues. Tensions between the two countries continue to simmer amid differing stances on various issues, including the Ukraine-Russia conflict. All these likely suggest that the China-U.S. competition is structural and will remain in the headlines for years to come.

While geopolitical concerns tend to dominate headlines, changes to China's domestic policies merit attention too. We have been through a longer-than-usual period of regulatory tightening as part of Beijing's "common prosperity" goal, with strict scrutiny on large internet and platform companies as well as the private education sector. Recent trends seem to imply that we may be past the worst, but bonds from private sector companies are likely to remain volatile for now. Meanwhile, monetary policy changes, such as tightening in the shadow banking sector, were also critical. We think policymakers were attempting to reduce moral hazard and introduce more efficient pricing of credit, given how previous views of state-owned enterprises (SOEs) as effectively guaranteed by the state led to limited dispersion in the pricing of U.S. dollar (USD)-denominated SOE bonds.

Of course, the real estate sector has probably been the worst affected by Beijing's deleveraging drive. Tighter regulatory and monetary conditions have led to almost irrevocable scarring in China property high yield bonds – more than 60% of developers have defaulted or have bonds trading at distressed valuations.[1] In the past, housing was an important channel policymakers would use to stimulate the economy, but it is increasingly evident that this is no longer the case.

Q2: We have seen growing activity in the environmental, social and governance (ESG) space in the Asian region. What is driving this momentum?

We have indeed seen an acceleration in ESG-labelled bond issuances, clearly reflecting growing demand to finance ESG initiatives across Asia (Figure 1). We believe there are clear structural factors at play. For instance, there has been more social bond issuances post-COVID as governments and the private sector sought funding for social reforms. However, the green bond segment has undoubtedly grown the fastest, fueled by the massive funding needs associated with the region's energy transition. Energy intensity is inevitably rising as populations grow and economies continue to develop, but this conflicts with many

FIGURE 1: Credit Markets Play Key Role to Fund Energy Transition

Rising Asia energy consumption

50%+ of global CO_2 emissions, peaking toward the end of the decade	Energy generation to rise 3.9% per year until 2030
Coal continues to represent the dominant fuel source	Renewable energy capacity in China, India, ASEAN to grow 3x by 2030

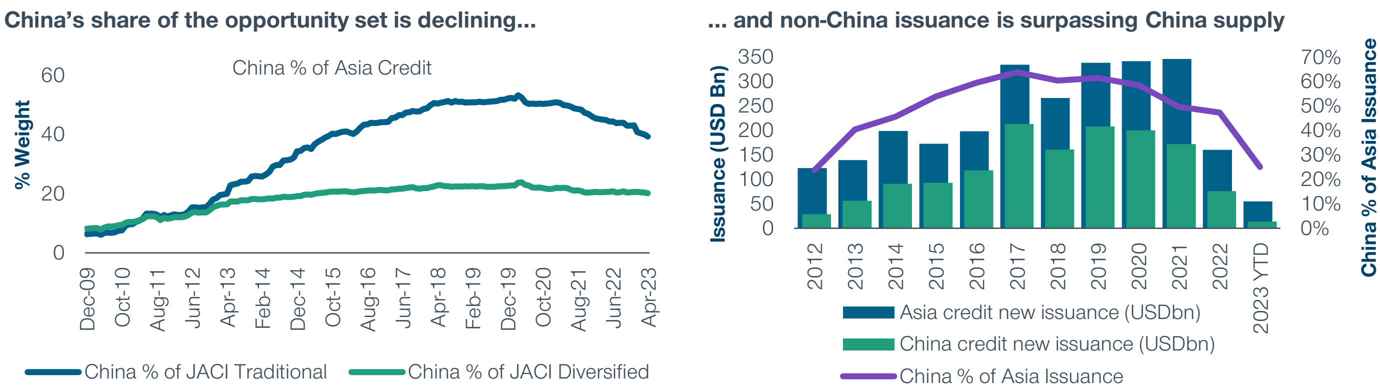
Source: ADB (September 2022), JP Morgan.

Continued growth in ESG bond issuance

As of May 31, 2023.

[1] Source: Bloomberg Finance L.P. and JP Morgan. As of 21 March 2023. Please refer to the Additional Disclosures section.

FIGURE 2: Asia Credit is Becoming More Diverse



As of April 30, 2023. As of May 10, 2023.
Source: Bloomberg Finance L.P; J.P Morgan Chase. Please refer to the Additional Disclosures section.

governments' commitment to reduce fossil fuels. Consequently, many countries will need to ramp up their renewable energy capacity to meet future needs, opening immense opportunities to increase issuance of green debt. An example is India's renewables sector, which is already about USD10 billion in size but is expected to expand rapidly given New Delhi's ambitious sustainability targets.

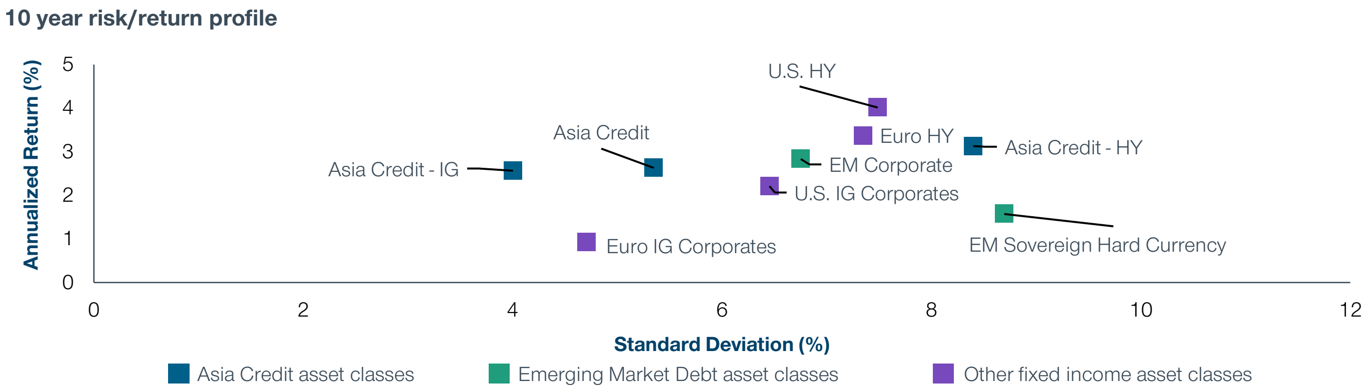
We believe a disciplined approach remains vital when investing in ESG-labelled bonds. As a relatively young asset class, certification or labeling standards still vary. Thus, to differentiate between "good" and "bad" green bonds, an investor should consider each issue based on: (i) transparency and disclosures; (ii) adherence to taxonomies; and (iii) direct and measurable impact. Investors should also look closely at each structure to ensure they invest in issuers who truly embed sustainability in their corporate strategy, rather than those that are merely paying lip service to raise capital.

Q3: How have the developments mentioned above influenced the evolution of Asian credit markets over the past five years?

In short, the makeup of the Asian fixed income investible universe today looks considerably different from five years ago, with meaningful changes in the market's composition. As of April 2023, China's share of the Asian credit market stood at approximately 40%, down from more than 50% five years ago (Figure 2, left chart). Similarly, while mainland corporates accounted for over 60% of Asian bond issuances in 2018, that proportion has dropped to about a quarter so far in 2023, though this is partially also a function of increased offerings from other parts of Asia (Figure 2, right chart).

In light of these shifts, we believe that Asian credit bonds continue to offer several compelling long-term advantages for investors:

FIGURE 3: Attractive Risk Adjusted Returns and Downside Protection



As of April 30, 2023.

Past performance is not a reliable indicator of future performance.

U.S. IG Corporates: Bloomberg U.S. IG Corp. I.G. Index; U.S. HY: Bloomberg U.S. High Yield; EM Sovereign Hard Currency: J.P. Morgan Emerging Market Global Diversified Bond Index; EM Corporate: J.P. Morgan CEMBI Broad Diversified; Euro IG Corporates: Bloomberg Euro Aggregate Corporate Total Return Index Value Unhedged EU; Euro HY: Bloomberg Pan-European High Yield; Asia Credit: J.P. Morgan Asia Credit Index Diversified Index; Asia Credit IG: J.P. Morgan Asia Credit Index Diversified IG; Asia Credit HY: J.P. Morgan Asia Credit Index Diversified HY. This chart is shown for illustrative purposes only and does not represent the performance of any specific security, product or service. It is not possible to invest in an index. Source: Bloomberg Index Services Limited, JP Morgan, T. Rowe Price. Please refer to the Additional Disclosures section.

FIGURE 4: The Structural Case for Asian Credit

The universe has grown to **US$1.0 trillion** now – an asset class that we believe investors should not overlook

~ 75% of USD bond issuance is purchased by Asian investors, helps explain why Asia credit has been relatively resilient to market setbacks

~ 82% of the index consists of **investment-grade (IG)** issues. The ratio is higher than the wider emerging markets bonds universe*

We believe **Security selection** among BBB-B rated securities is key to differentiated performance

Asia credit can offer **attractive risk adjusted return** and can act as **lower-volatility diversifier**

Asia credit spans a **diverse** set of markets and issuer types, offering a wide range of opportunities.

As of April 30, 2023.

Past performance is not a reliable indicator of future performance.

* J.P. Morgan Asia Credit Index Diversified (which includes both hard currency sovereigns and corporates) has a higher IG weight than both the J.P. Morgan Emerging Markets Bond Index Global Diversified (hard currency sovereigns) and the J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (hard currency corporates).

Source: T. Rowe Price. This material is provided for informational purposes only and is not intended to be investment advice or a recommendation to take any particular investment action. The views contained herein are as of the date shown and may have changed since that time.

1. The size of the Asian credit bond market has grown to USD1 trillion as of April 2023, roughly comparable to the U.S. high yield market.
2. Asian credit is the higher quality sub-segment of the wider emerging market bond universe, with IG issues comprising more than 82% of the benchmark, J.P. Morgan Asia Credit Index Diversified.
3. Asian credit functions as a diversifier within global fixed income portfolios, offering attractive risk-adjusted returns and better downside protection due to attractive yields and the region's unique credit cycle (Figure 3).

Q4: Despite the promising long-term prospects, uncertainty and volatility characterize today's markets. What is your outlook for the rest of 2023?

On the whole, we think global risk sentiment is still largely cautious. Much of the uncertainty stems from an unpredictable trajectory for the U.S. economy, inflation and interest rates. Recent stresses within the banking sector may also exacerbate the impact of tighter financial conditions.

That said, we expect Asian economies, and therefore risk assets in Asia, to be better anchored. The region's growth prospects appear brighter relative to both developed markets and non-Asia emerging markets. India and Indonesia remain important growth engines for the region, while China's reopening should continue to provide further support.

While we expect China's post-reopening rebound to continue, recent data points to a somewhat bifurcated recovery so far. Certain segments, including consumption of travel and services, are seeing strong momentum, whereas other areas, such as the property sector, have remained lacklustre. As a result, investors should continue to be selective, favoring credits and sectors that they think will benefit the most. For instance, there are opportunities in the consumer-related sectors that are likely to gain from rising domestic spending. Hardware technology is another area that we believe could be well-placed to benefit from recovering consumption.

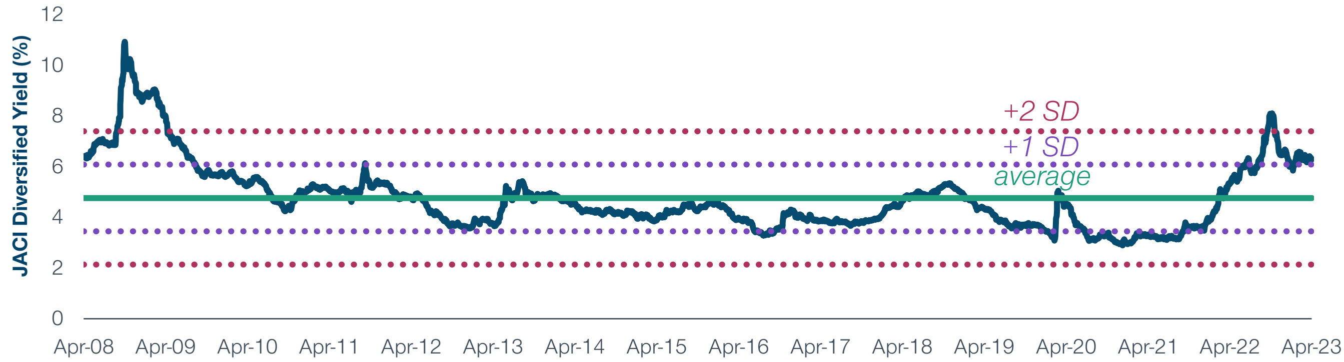
We also remain optimistic about companies in South and Southeast Asia. Notably, we have observed healthy banking sector liquidity in several major markets, such as Indonesia, India and the Philippines. Corporate issuers in these markets thus have ample access to alternative sources of financing, which may soothe worries about upcoming maturities. In fact, some companies have even accessed loan markets to repay bonds ahead of time.

Finally, in terms of valuations, all-in yields offered within the Asian credit segment look compelling, especially when compared against long-term historical levels. At present, yields across the asset class are still in excess of 6% (as of April 30, 2023), the highest in over a decade, presenting investors with timely opportunity for income accrual from a largely investment grade universe (Figure 5).

Q5: Finally, what do you think are longer-term themes that will drive the markets, and what are some factors that would position Asian bond investors for success?

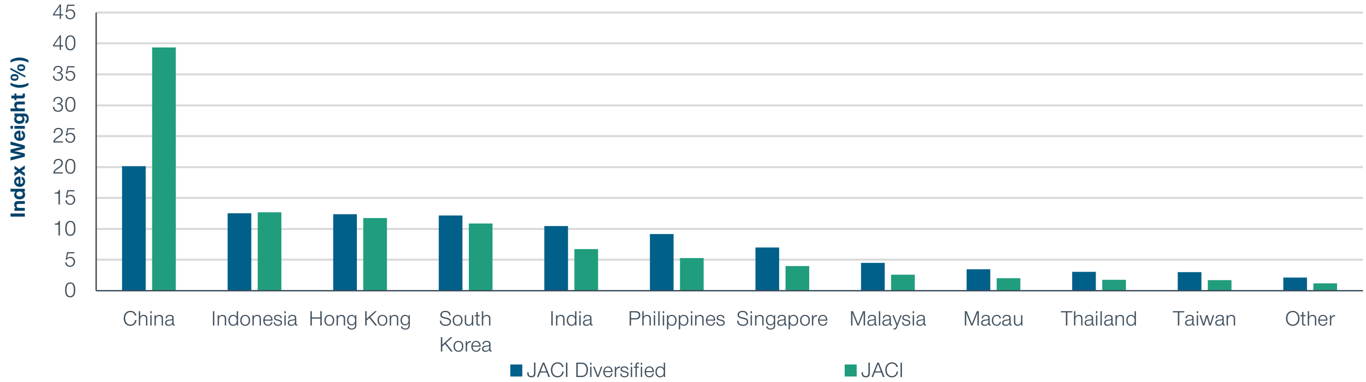
Looking ahead, it is clear we are entering an environment where global central banks are operating

FIGURE 5: All-in Yields are Attractive



As of April 30, 2023.
Past performance is not a reliable indicator of future performance.
Source: J.P. Morgan. Please refer to the Additional Disclosures section.

FIGURE 6: A More Prudent Approach to Investing in Asian Credit



Source: Bloomberg Finance L.P; J.P Morgan Chase. Please refer to the Additional Disclosures section.

with a more constrained toolkit. Higher-for-longer interest rates and conditions of tighter liquidity are likely to contribute to persistently high levels of uncertainty and volatility. Investors thus need to be nimble in terms of identifying opportunities and allocating capital while seeking to mitigate downside risks.

From a more tangible perspective, investing in Asian credit based solely on market value today would result in a portfolio that is heavily exposed to China (Figure 6). We believe, however, that pursuing a diversified approach is more prudent; not only to lower concentration risks from the Chinese market, but also for investors to take advantage of exciting opportunities arising from other dynamic markets across Asia.

DIVIDEND GROWTH IN A MULTI-ASSET INCOME PORTFOLIO

Designing an equity sleeve with income, capital, and risk in mind.

- Dividend compounding has been a powerful driver of long-term equity total returns. Steady dividend growers have even outpaced markets over time.
- We see above-trend inflation magnifying the importance of dividends and dividend growth. However, high but unsustainable dividend yields warrant caution.
- We favor a multi-asset income strategy with a dividend growth-focused equity allocation as we pursue sustainable income, capital growth, and drawdown management.

Richard Coghlan
Portfolio Manager,
Global Multi-Asset Team

David Clewell
Associate Portfolio Manager,
Global Multi-Asset Team

Heightened inflation and market volatility have increased the challenges for investors seeking a reliable stream of income, whether for retirement or other needs. We see the complex environment calling for a flexible multi-asset investment approach to achieve sustainable income and capital growth, while managing downside risk.

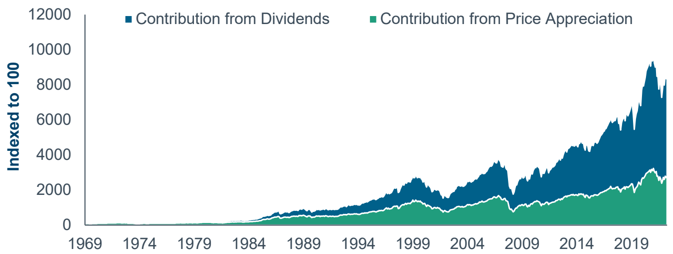
But not all multi-asset income strategies are equal. Under the hood, the compositions of their equity, bond, and other asset class allocations can look distinctly different. We think an equity allocation focused on dividend growth can help in the pursuit of these goals.

Why Dividend Growth?

Dividends, especially reinvested dividends, have been a powerful driver of long-term equity total returns. In fact, the value of dividends to investors tends to increase when markets waver or decline. Since 1970, compounded dividends made up more than 65% of global equity total returns (Figure 1).

FIGURE 1: Dividends Have a Powerful Compounding Effect

MSCI World Index net total return composition



Past performance is not a reliable indicator of future performance.
Data from December 31, 1969, to March 31, 2023.
Source: MSCI/Haver Analytics (see Additional Disclosures).

Moreover, we think dividend growth sends important signals about corporate health and governance. Broadly speaking, dividends reflect managements' commitment to safeguard shareholder value. To ensure there is enough cash to pay dividends, managements will likely need to be disciplined in allocating capital and managing debt responsibly. Further, companies that grow their dividends are typically focused not only on returning capital to shareholders, but also investing productively to boost long-term earnings and cash flows.

The combination of returning capital to shareholders and growing earnings is an attractive value proposition for investors —the long-term outperformance of dividend growers versus their markets reflects this. U.S. dividend growers, represented by the S&P 500 Dividend Aristocrats Index, generally outran the S&P 500 Index since 1990 (Figure 2).

Admittedly, dividend growers have encountered hiccups in the past few years. Before resurgent inflation became a global concern, near-zero interest rates had fueled a rally in mega-cap technology stocks, which buoyed broader markets and left dividend growers behind. Investors were willing to reward companies displaying outsized future growth potential with increased valuations, even if they did not generate profits or dividends.

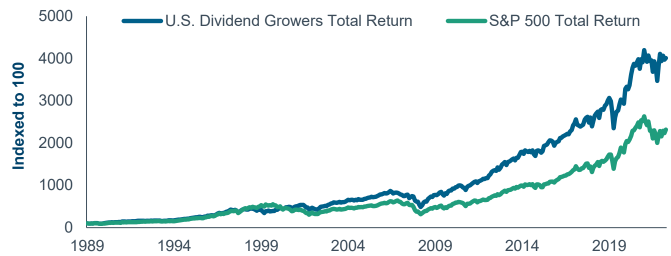
What Has Inflation Changed?

However, a new inflation regime has changed the market narrative. We expect above-trend inflation in the medium term to increase the appeal of dividends and dividend growth.

To be sure, inflation in the U.S. has started to ease recently amid a slower, though positive economic backdrop, and we see risks to cyclical growth in the next six to 12 months. Financial markets began to price in a possible approaching recession in the first quarter of 2023. In the real economy, goods demand slowed as businesses held back investments and consumers moderated COVID-related spending. Meanwhile, tighter monetary conditions hit the banking sector, contributing to stricter lending standards and bank failures. So far, forward-looking economic indicators have signaled an impending slowdown, along with a further drop in inflation in the coming months.

FIGURE 2: U.S. Dividend Growers Have Shown Long-Term Outperformance

Total returns for U.S. dividend growers versus the S&P 500 Index



Past performance is not a reliable indicator of future performance.
U.S. dividend growers: S&P 500 Dividend Aristocrats Index, which represents S&P 500 companies that have increased dividends every year for the last 25 consecutive years.
Data from December 31, 1989, to March 31, 2023.
Source: T. Rowe Price analysis using data from Bloomberg Finance L.P. (see Additional Disclosures).

Nonetheless, taking a three to five-year view, we expect inflation to remain elevated relative to the pre-pandemic years, though lower than recent peaks. Market forecasts that see inflation coming close to the U.S. Federal Reserve's 2% target by late 2024 require a rapid rate of disinflation that looks unrealistic to us. Even continuing the recent pace of decline would be a rare feat, comparable with what happened in the aftermath of steep interest rate hikes that quashed the Great Inflation in the early 1980s.

If the next recession arises from financing and destocking shocks, we think it may be short. This will likely leave the economy supply-constrained in the subsequent recovery and exposed to another inflation squeeze as demand returns. Already, we believe the real economy has sustained a lack of

> *Data points to the relative strength of dividend and dividend growth stocks when inflation is above trend.*
>
> **— David Clewell**
> **Assistant Portfolio Manager,**
> **Global Multi-Asset Team**

investment in the last two decades. For example, global mining and energy companies have only started recently to increase investments in ESG-critical metals.[1] A housing shortage also persists in the U.S.

Data points to the relative strength of dividend and dividend growth stocks when inflation is above trend. In periods when U.S. headline inflation exceeded the historical trend, dividends composed the bulk of global equities' total return (Figure 3). There were three such occasions since 1970—the 1970s, the 2000s, and the period from April 2021.

In the 1970s, when inflation was above trend over 90% of the time, the MSCI World Index's net total return was 74%. Of this, approximately 31% came from price gains and 43% came from dividends. This meant that dividends accounted for over half of the total return.

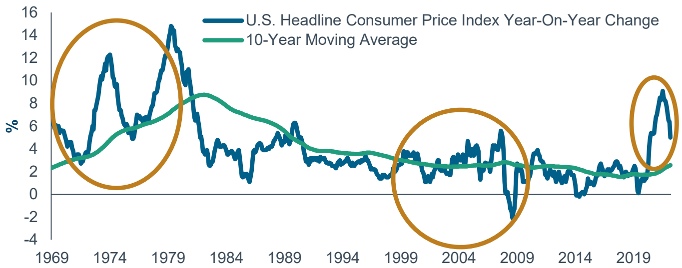
More recently, when inflation was above trend throughout the period from April 2021 to March 2023, the net total return was slightly above 2%. It would have dropped nearly 1% if not for a 3% return from dividends.

In another analysis, dividend growers mostly outshone their markets when inflation exceeded the historical trend (Figure 4). In the 2000s, U.S. dividend growers gained around 88%, whereas the S&P 500 fell 9%, translating to an outperformance of 97%. Between April 2021 and March 2023, U.S. dividend growers also fared better, albeit by a smaller 4%.

What might lie behind the general resilience of dividend stocks when inflation runs hotter than usual? We see market and corporate factors at work. Using a discounted cash flow model, a higher discount rate is typically warranted during periods of elevated inflation. All other things being equal, this will lower the accrued benefit of long-dated cash flows that characterize the valuations of many growth-oriented and non-dividend-paying companies. As a result, the valuations for these companies are likely to be materially lower than during a period of low inflation. By contrast, during periods of higher inflation, the valuations of companies with near-term cash flows, including those that pay dividends,

FIGURE 3: Dividends Have Dominated Returns in Times of Above-Trend Inflation

U.S. headline inflation trends and MSCI World Index return breakdown in various inflation environments



Time Period	MSCI World Net Total Return	Price Return	Dividend Return	Contribution from Dividend	% of Time Inflation was Above Trend
1970–1979	74.0%	31.1%	42.9%	58.0%	90.8%
1980–1989	458.3%	332.7%	125.5%	27.4%	20.2%
1990–1999	195.0%	150.4%	44.5%	22.8%	9.2%
2000–2009	-2.4%	-17.8%	15.4%	100.0%	56.3%
2010–2019	147.1%	101.8%	45.3%	30.8%	37.0%
2020–March 2023	24.5%	18.4%	6.2%	25.1%	68.4%
January 2020–March 2021	21.6%	19.2%	2.4%	11.1%	14.3%
April 2021–March 2023	2.4%	-0.7%	3.1%	100.0%	100.0%

Past performance is not a reliable indicator of future performance.
Data from December 31, 1969, to March 31, 2023.
Source: Bureau of Labor Statistics/Haver Analytics, MSCI/Haver Analytics, T. Rowe Price analysis (see Additional Disclosures).

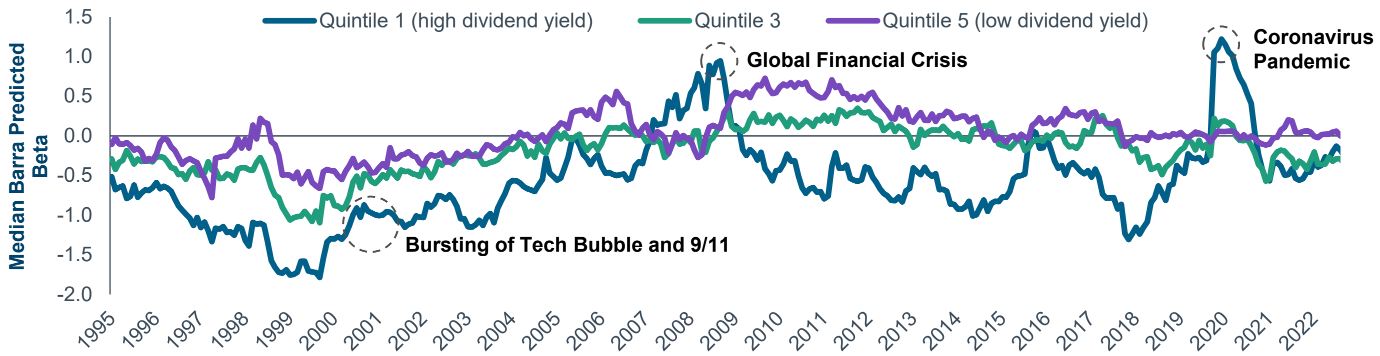
[1] ESG: Environmental, social, and governance.

FIGURE 4: U.S. Dividend Growers Have Mostly Outperformed Amid Above-Trend Inflation
Total returns for U.S. dividend growers versus the S&P 500 Index in various inflation environments

Time Period	U.S. Dividend Growers Total Return	S&P 500 Total Return	Difference	% of Time Inflation is Above Trend
1990–1999	313.2%	432.8%	-119.6%	9.2%
2000–2009	87.5%	-9.1%	96.6%	56.3%
2010–2019	296.0%	256.7%	39.3%	37.0%
2020–March 2023	30.7%	34.1%	-3.4%	68.4%
January 2020–March 2021	17.9%	25.7%	-7.8%	14.3%
April 2021–March 2023	10.9%	6.7%	4.2%	100.0%

Past performance is not a reliable indicator of future performance.
U.S. dividend growers: S&P 500 Dividend Aristocrats Index, which represents S&P 500 companies that have increased dividends every year for the last 25 consecutive years. Data from December 31, 1989, to March 31, 2023.
Source: Bureau of Labor Statistics/Haver Analytics, T. Rowe Price analysis using data from Bloomberg Finance L.P. (see Additional Disclosures).

FIGURE 5: The Highest Dividend Yielders Have Reeled Harder in Stressed Markets
Beta by dividend yield quintile for companies in the Russell 1000 Index



Past performance is not a reliable indicator of future performance.
Data from June 30, 1995, to December 31, 2022.
Sources: Barra MSCI, Compustat, FTSE/Russell, and Refinitiv (see Additional Disclosures). © 2023 Refinitiv. All rights reserved. Analysis by T. Rowe Price Quantitative Equity Division. Beta measures the volatility of a stock relative to the broad market. Barra predicted beta is one-year forward-looking model that seeks to quantify potential relative volatility by comparing a stock's historical returns against those of a benchmark using company and industry risk factors. Here, the Barra predicted beta for each quintile of dividend payers in the Russell 1000 Index is based on the equally weighted median. The universe of stocks is sorted by indicated dividend yield, which extrapolates the most recent dividend per share at a point in time out for the next four quarters.

should be penalized less, causing these firms to outperform on a relative basis.

From a corporate perspective, the rates on loans used to finance new purchases are likely to increase in a higher inflation environment. This higher cost of capital can restrict the growth of younger companies that are just starting to build their capabilities. Comparatively, established companies that already have a strong asset base may be able to grow their earnings and increase investment without externally sourced capital. As a result, it will be harder for younger companies to compete against more mature firms. Ultimately, as the cost of capital increases due to inflationary pressures, the larger and more established firms may be in a place to continue to pay and increase dividends as their assets generate incrementally more positive cash flow.

Beware High Dividend Yields?

Some income investors may naturally gravitate toward stocks with the highest dividend yields. But we would be cautious about such an approach.

In the U.S., the highest yielding stocks have shown more volatility in periods of market stress, indicated by spikes in their beta (Figure 5). This may partly reflect concerns about dividend cuts or cancellations, especially by companies that prioritized dividend payouts at the expense of vital business investments. We see higher odds of such companies sacrificing their dividends in hard times, which may lead to unexpected share price declines.

By comparison, we prefer durable dividend growers. We think companies that can continue to raise their dividends even amid market challenges tend to be high-quality businesses with compounding earnings and free cash flow, healthy balance sheets, strong growth prospects, and shareholder-oriented managements.

Importantly, we believe it takes discerning active investors to identify and avoid stocks with high but unviable yields, while leaning into those with the potential to grow their dividends.

How Does Dividend Growth Fit in a Multi-Asset Portfolio?

We think an actively managed multi-asset strategy can help investors seeking an enduring stream of income. Specifically, we designed our Multi-Asset Global Income (MAGI) strategy to pursue the goals of sustainable income, capital growth, and drawdown management

The strategy's main building blocks reflect our philosophy. The fixed income allocation of MAGI targets a stable income across a global investment opportunity set. The strategy also has an active overlay program to manage portfolio drawdown risk and implement specific multi-asset views.

> *The equity allocation is focused on both capital growth and modest dividend income through dividend growth names...*
>
> **— Richard Coghlan**
> **Portfolio Manager,**
> **Global Multi-Asset Team**

The equity allocation is focused on both capital growth and modest dividend income through dividend growth names, given our belief in their potential to drive outperformance against the market across market cycles.

Further, given our assessment of a heightened inflation environment, we believe investors will be challenged to seek a reliable stream of income. Focusing on dividend growers instead of absolute dividend yield should help investors to push through the uncertainty with more attractive risk-adjusted returns potential.

MEET HELEN FORD

An interview with Helen Ford
Global Head of International Specialist Group, T. Rowe Price.

*Helen Ford
Global Head
of International
Specialist Group,
T. Rowe Price.*

BIOGRAPHY

Career

Helen Ford is the global head of the Investment Specialist Group (ISG). She also is a vice president of T. Rowe Price Group, Inc., and T. Rowe Price International Ltd.

Helen's investment experience began in 1988, and she has been with T. Rowe Price since 2007, beginning as a portfolio specialist covering the U.S. large-cap equity franchise in the ISG department.

In 2014, Helen became the regional head of ISG for EMEA and APAC before moving into her current role in 2020. Prior to T. Rowe Price, Helen was head of U.S. equities for nearly three years with the Kuwait Investment Office (KIO).

Before KIO, she was the financial and health care portfolio manager on the global equity team at Cazenove and the head of U.S. equities at SLC Asset Management.

Professional & Education

Helen earned a B.Sc., with honors, in economics and politics from The Open University. She also has earned the Chartered Financial Analyst designation.

Helen, can you start by telling us a bit about your background?

Well, I came from a fairly modest family background, one that was a stranger to the world of finance and asset management. No member of my immediate family had ever worked in finance, so I had no point of reference when it came to choosing a career. Neither my parents nor myself went to university. My first job was with the Bank of England, in more of an operational capacity than anything to do with monetary policy.

From there, I switched jobs to go and work for an asset manager, really knowing very little about what that entailed, or what I was walking into. So I could say that my career was not planned but was really the result of a 'happy accident.' In my second job, I soon saw the fascination of asset management, finding myself in a world where you must study economics, markets, politics, and business in order to understand what makes a company work, which companies make good investments, and which do not.

I was fortunate to have joined a fairly small investment firm, which opened up opportunities for me more quickly than would have been possible at a much larger firm. Since I had an aptitude and passion for the business, after time spent learning the ropes, I was given the opportunity to become a portfolio manager. So I definitely did not travel by the traditional route to a career in finance! But I must say, it was a career route that was a lot of fun for me along the way, and one which I thoroughly enjoyed.

Why did you move from a small boutique firm to T. Rowe Price, a large global asset manager?

I'd worked for various small asset managers and was looking for a new opportunity and a way to leverage my experience in a different capacity. I was excited about the opportunity to take on the role of portfolio specialist, as this was something where I felt I could personally add value. Also, I could see that there were more career opportunities at a large asset manager. After joining T. Rowe Price in 2007 I soon realized that I could build a career here and make it my 'forever home' in asset management. T. Rowe Price wants good people to stay and build successful careers with the firm.

In the sixteen years that followed, I progressed from being a portfolio specialist for a range of U.S. Large Cap Equity strategies, to being a player-coach and ultimately to being appointed head of the global Investment Specialist Group, managing a large team of investment experts around the world. Over this lengthy period, I found that T. Rowe's collaborative culture contributed a lot to a successful career development path. At each key step in my career at T. Rowe Price, I was given the support and encouragement that I needed.

Relaxing with my husband in Hawaii.

How difficult was it switching from a client-facing investment role as portfolio specialist to a managerial and leadership role?

When it was suggested that I should transition from portfolio specialist, a role that I enjoyed, to more of a management role, I was initially unsure. However, I received such strong support and mentorship from within T. Rowe Price, that I was able to act as 'player-coach,' combining both roles for about three years. Eventually, I had to decide between the two roles and chose 'management.' In 2014 I was appointed head of the Investment Specialist Group for EMEA (Europe, Middle East and Africa) and Asia Pacific. Then in 2020 I was asked to lead the whole global team. Having a strong leadership team around me has been essential in delivering for the team, the firm, and our clients.

I have not regretted my decision to move into management. As one of the firm's leaders, you get to understand more about corporate strategy and how the firm operates. Now a senior leader myself, I have sought to be a mentor to others and help them with their career development.

My advice to young jobseekers today would be to find a job that you are passionate about and which you really enjoy doing. Also, do not hesitate to seize any good promotion opportunities that are offered to you, as you probably have more to contribute than you realize.

You are global head of the Investment Specialists Group at T. Rowe Price. What does the team do? How do you keep track of over 100 dedicated investment experts located around the globe?

Well, first of all I should stress that the Investment Specialist Group (ISG) has strong regional managers who help me to manage the global team. So I do not have 100 portfolio specialists, investment specialists and portfolio analysts based in six countries all reporting directly to me in person. As a global firm, I am keenly aware that we are dealing with colleagues from many different countries and backgrounds, with different cultural norms. It is thus very important to be able to understand the other person's perspective, i.e. the view from the other side of the desk.

Turning to what the team does, at the highest level, our mission is to help the firm retain and grow client assets across equity, fixed income, and multi-asset portfolios in the markets that we serve. We closely support global distribution efforts by fielding experienced investment professionals with a deep knowledge of our strategies, products and capital markets who possess exceptional communication and analytical skills. Our team is tasked with helping clients to make good investment decisions and achieve their long-term objectives. In such a key client-facing role, the ISG team also helps T. Rowe Price's portfolio managers to maintain their focus on delivering performance for our clients. In FY2022, the ISG team fielded over 7,800 client engagements globally, with 62% in the Americas, 21% in EMEA, and 21% in Asia Pacific.

How important are DEI (Diversity, Equity and Inclusion) concerns to your role as head of the Investment Specialist Group (ISG) at T. Rowe Price?

I strongly believe that we need to consciously embrace DEI within the team. Whenever I am recruiting for the ISG team, I always like to consider a diverse slate of candidates for key positions. In the world of investing, it is always very important to avoid 'group think', which never ends well. At T. Rowe Price, diversity goals have been set at Board level, which I see as a very positive development for our firm.

Finally, Helen, can you tell us a bit about your personal interests. How do you usually relax outside work?

My family is really important to me and although my son and daughter are all grown up, I try to spend as much time with them as possible. I'm also into fitness and most weekdays I start early at the gym while at the weekends I like to get in long hikes in the countryside. At the more relaxed end of the spectrum I am a real book worm and love spending quiet time reading. And of course, my husband and I love to travel and eat out. We keep busy for sure!

When it comes to work/life balance, in asset management there will inevitably be times when it seems that work takes over everything, bringing with it considerable stress. I think it is important for everyone to acknowledge this and take appropriate, timely action. Each person needs to decide what is right for them in managing potentially heavy work demands with those of home and family, especially female colleagues with young children.

Finding ways to cope with stress is the key. Here, different people may resort to different solutions, such as making time to visit the gym, taking a yoga course, or to just sit quietly reading a book. There will also be times when some assistance/additional resources may be necessary at work. Associates should not be afraid to approach their manager and discuss such concerns proactively, as the culture at T. Rowe Price prides itself on being supportive.

I strongly believe time management is a very important skill for anyone who works as an investment professional. A good tip is to take charge of your office calendar via active diary management, blocking some time off for yourself while cutting back on activities that are less essential.

ABOUT US

T. Rowe Price is a global independent investment management firm. We are solely focused on long-term results for our clients, managing a full range of investment strategies in multiple asset classes. For over 80 years, our consistent investment approach has helped us focus on promising opportunities while at the same time carefully managing risk.

We established our Tokyo office and Hong Kong office in 1982 and 1987 respectively, and since then we have expanded our business by operating in Australia and Singapore. Today we have more than 300 associates based locally.

INDEPENDENT ASSET MANAGER
Our sole business is managing our clients' interests

ALIGNMENT OF INTERESTS
We are a publicly listed company with substantial employee ownership

FINANCIAL STRENGTH
We carry no outstanding long-term debt and maintain substantial cash reserves

GLOBAL EXPERTISE
Continually growing global team of investment professionals

Founded in
Baltimore, USA in 1937

USD1.40
trillion in assets under management[1, 2]

827
investment professionals worldwide[3]

Local presence in
17
markets

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[1] *Firmwide preliminary AUM includes assets managed by T. Rowe Price Associates, Inc. and its investment advisory affiliates.*
[2] *As at 30 June 2023.*
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