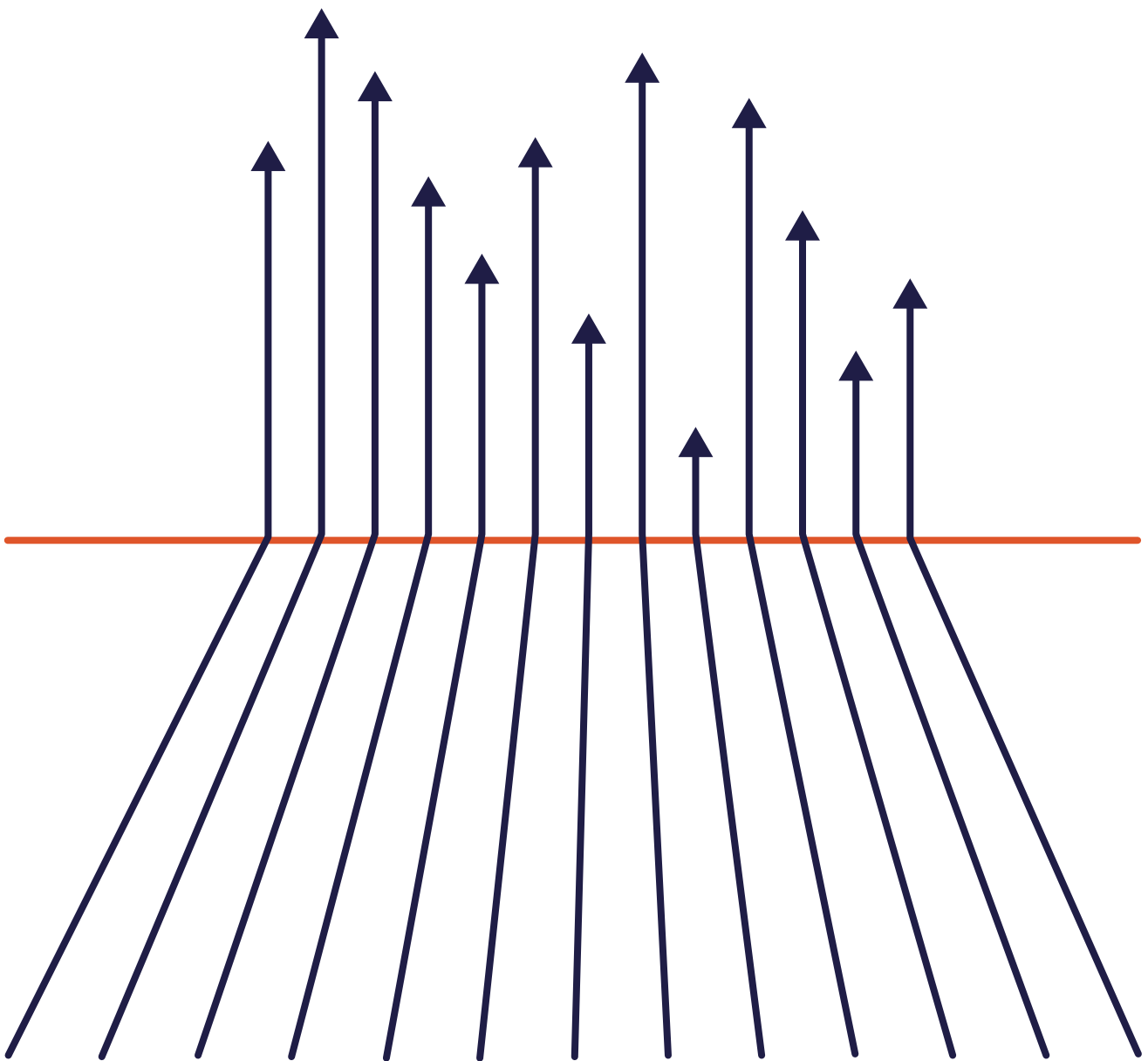


THE INEVITABLE RESURGENCE OF EMERGING MARKETS



OXFORD
METRICA

ABOUT OXFORD METRICA

Oxford Metrica is a strategic advisory firm, offering informed counsel to boards.

Our advisory services are anchored on evidence-based research in risk and financial performance.

Our work includes statistical analysis and index construction for banks and insurers, risk and performance analytics for asset managers, due diligence support in mergers and highly customised services for corporate boards.

ABOUT POLUNIN CAPITAL PARTNERS

Polunin was founded in 2001 to manage emerging equity portfolios for global institutions.

With offices in London and Singapore the firm manages US\$4.5 billion for approximately 200 institutions.

The Firm's sole objective since inception has been to manage emerging equity portfolios in a manner true to the founders' successful replacement cost investment methodology, focusing on absolute performance and free from the organisational interference typical of larger firms.





THE INEVITABLE
RESURGENCE
OF EMERGING MARKETS



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FOREWORD

Dr Rory Knight, is the Chairman of Oxford Metrica. Rory is a member of the John Templeton Foundation where he chaired investments. Formerly he was Dean of Templeton College, Oxford University's business college and before that the Vize-Direktor at the Schweizerische Nationalbank (SNB), the Swiss Central Bank.

Oxford Metrica is delighted to present, in association with Polunin Capital Partners, this report on the financial prospects and strategies for Emerging Markets, exploring the ways international investors may currently best benefit from the opportunities while mitigating the numerous risks in this important asset class. Global investors' allocations to Emerging Markets are currently well below the twenty-year average; this derives from the relative under-pricing of the asset class and a conscious investor risk aversion.

Emerging Markets delivered spectacular returns for the first decade of the millennium and then fell behind developed markets for the following dozen years. Yet even after the dismal performance of equities everywhere in 2022, the Emerging Markets cumulative performance, millennium to date, is about equal to the US, admittedly with a higher volatility.

The global economic conditions that prevailed during the last dozen years of this under performance were driven to a large extent by the expansive monetary policies adopted by Central Banks as a reaction, *inter alia*, to the global financial crisis and the great Covid lock-down. These policies largely took the form of quantitative easing which has caused central bank balance sheets to increase tenfold. The result was zero or negative interest rates, ballooning asset prices and an all-time high in the value of the dollar measured in terms of the real effective exchange rate (REER).

We argue that 2022 has introduced a new era for the global economy as the spectre of inflation rises and central banks begin to reverse their policies. Taken together with political dislocations and de-globalization, conditions will again provide valuable opportunities for discerning investors within the Emerging Market asset class. In short, we argue that Emerging Markets deserve a reset to occupy a larger allocation in institutional portfolios. We have focussed on a selection of fifteen of these markets within which exist attractive emergent opportunities and which set of countries is home to nearly 50% of the world's population.

The report is organised in six main sections: After a re-introduction to Emerging Markets, we examine three major myths surrounding investing in this asset class; we then review the five major change vectors driving markets; thereafter we review the state of key aspects of these economies relative to the developed markets; the penultimate section reviews the performance of these equity markets with an analysis of the major risks. The paper concludes with reflections on some of the investment policy implications of the analysis presented. A carefully informed discerning allocation is key to investing in Emerging Markets; it will be a roller-coaster ride but a highly exciting and potentially enormously profitable one. We hope that this report will provide a helpful and insightful guide.



Dr Rory Knight
Chairman
Oxford Metrica

PREFACE

Progress in the investing business is impossible without the ability to question our inherent biases and beliefs. Over the last fifteen years we and our peers in this industry have adapted to a world of almost infinite liquidity. For some this period encompasses the bulk of their investing career, which inevitably makes the reversing of positions a lengthy, and costly, psychological process.

The assumptions upon which investors built over a decade's worth of portfolios are being severely tested. A regime change in markets, if that is what we are facing, requires asset owners to differentiate and choose between comfortable outcomes that they hope for and understand, and others they dislike and are less well prepared for.

Is it realistic, or even desirable, to expect a return to the easy liquidity conditions we have become accustomed to? Or is the evidence of change too robust to ignore? No asset class suffered more than emerging equities under the post 2008 regime. For reasons we all know too well, the so called "everything bubble" bypassed them entirely.

Using MSCI country equity indices, only Taiwan and India are above their 2007/08 price levels in USD terms. But valuations are an entirely different matter. Taiwan's 10.2x PE is the lowest since its market inception in 1988 (equalling December 2008) and its 2.1x PB is well below its long-run average.

Even India's 24.3x PE is below its 2008 peak of 27.6x and a fraction of its Japan-like multiples in the early 1990s. Yet these are the best performing countries in the EM universe.

The majority are at single digit earnings multiples, and below 1x PB. This might be justifiable if profitability were especially poor, or the outlook for earnings weak. But with an ROE of 22% and dividend yield of 3.5% in emerging markets are not at the bottom of a protracted earnings or cash flow cycle; more likely they are near the bottom of a valuation cycle.

In this paper we aim to set the scene for this apparent valuation anomaly before suggesting some scenarios which might lead to a gradual elimination of the scepticism around this asset class.

The process of reversing the universally negative investor psychology toward developing equity markets will be protracted and volatile. But history suggests this asset class can offer valuable diversification benefits during cyclical inflection points and, for early backers, significant absolute profit potential.



Julian Garell-Jones
Founder and Portfolio Manager
Polunin Capital Partners Limited

Julian Garell-Jones is a founder and portfolio manager at Polunin Capital Partners Limited. He started his investment career at Rothschild Asset Management in London as an analyst in the financial institutions group before moving to the Emerging Markets equity team. In 1996 he joined Douglas Polunin and Paul Parsons on the Pictet Asset Management Emerging Markets equity team where they built a successful institutional business. Douglas, Julian and Paul founded Polunin Capital Partners with Aditya Mehta, a colleague from Credit Suisse Asset Management. Julian holds a Diploma in Hispanic Studies from Madrid University and later graduated with an MA Honours (First Class) in Spanish and Portuguese at Edinburgh University. He has been an Associate Member of the Association of Investment Management and Research (AIMR) and the CFA Institute since 1994. He speaks French and Portuguese fluently as well as being bi-lingual in English and Spanish.

(RE)INTRODUCING EMERGING MARKETS

2022 was a bad year for equity markets with the S&P500, the MSCI ACWI and the MSCI Emerging Market index all recording significant losses in US Dollars of -19.4%; -18.4% & -20% respectively, not much difference across all regions. However, the Emerging Markets (EM) equity as an asset class has had a bad press of late as a result of a rather sluggish performance in dollar terms over the last decade in comparison to the S&P500; exacerbated by the strengthening dollar over this period. Using history as a guide, one would expect EM equity to fall harder and faster than US or global equity markets as they correct. However, that is not quite the scenario one can actually see developing. In fact, as the 2022 performance suggests, the MSCI EM benchmark has performed broadly in line with the MSCI ACWI, despite a vertiginous drop following the start of the war in Ukraine. One reason for this may be that the last twelve years of EM under-performance have resulted in low investor positioning. Global equity investors' allocation to EM equity now stands at 6.4% versus a 20-year average of 8.9%, which could mitigate any impact from the withdrawal of foreign capital compared with past inflection points. The strength of selected EM bond markets this year is another signal that investors are supportive of the actions of EM central banks, most of whom moved decisively ahead of the curve in 2021 in contrast to the Federal Reserve. Our analysis suggests that this negative view of Emerging Markets' investing needs to be reviewed. The factors driving this differential performance - principally monetary policy led by the US Federal Reserve - have significantly changed. The appearance of inflation and the prospect of a US recession *inter alia* will set a different course for the next few years. Notwithstanding Sir John Templeton's warning: *The four most expensive words in the English language are 'This time it's different'*, we suggest that the future of EM performance is not what it used to be.

THREE MYTHS OF EM INVESTING

Three myths surrounding EM investing which we address in this paper are:

Myth 1: Emerging Markets are not resilient.

Myth 2: Emerging Markets are too risky.

Myth 3: Emerging Market currencies are a barrier to investing.

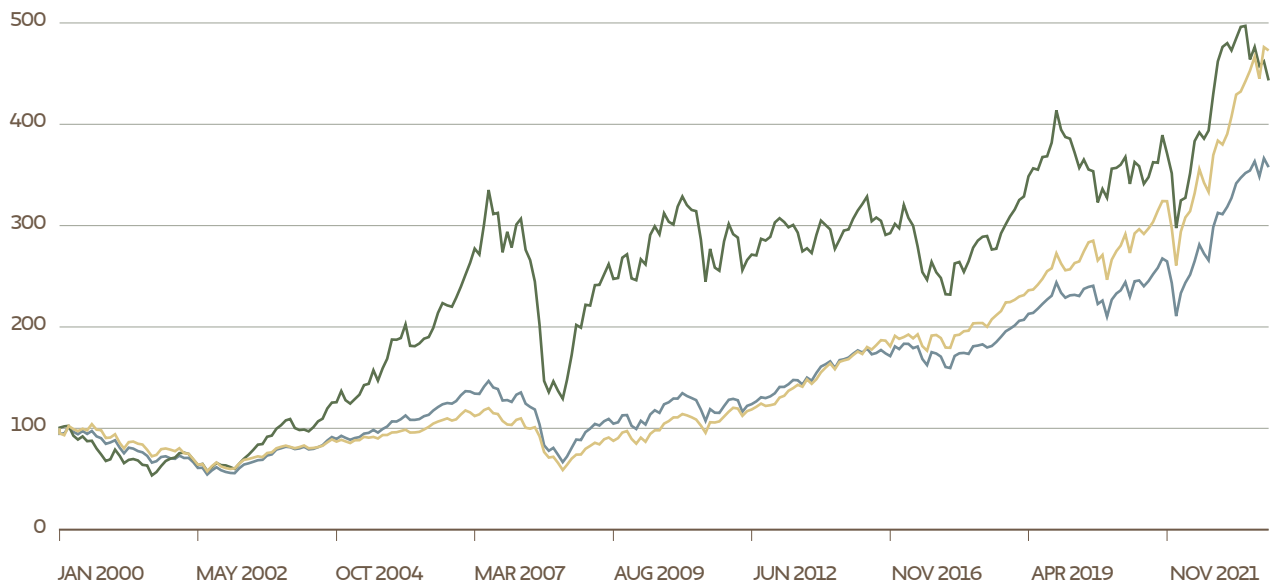
1. EMERGING MARKETS ARE NOT RESILIENT

Figure 1 presents the performance in US\$ of EM against the S&P500 and the MSCI ACWI over the twenty-two-year interval from the start of the millennium. The end point of the series has been set to the date that the S&P500 finally equalled the EM index since the start date. Taking the long view \$100 invested in each of the markets at the start of the millennium would have been worth \$460 at the end of October 2021. During this whole period, the EM index value dominated the S&P500, despite the fact that EM have suffered a number of economic shocks emanating from the tail-end of the Asian financial crisis, the great financial crisis, the Covid lockdowns, the Ukraine war and US-China tensions. These factors have generally had a greater adverse effect on the EM universe compared to the developed markets.

Whilst, the S&P500 has been buoyed by the burgeoning value of the US dollar, in turn largely fuelled by the Quantitative Easing policies of the last decade, overall EM equities have held up on a cumulative basis. Although 2022 is a different story and likely to be a pivotal year which will be discussed below. Nevertheless, it is clear that the twenty-two-year period is a story of two halves and the causes and performance consequences of these differences will be examined in more detail.

FIGURE 1. EM equity market performance
January 2000 to November 2021

— MSCI ACWI
— MSCI EM
— S&P 500



2. EMERGING MARKETS ARE TOO RISKY

There is no doubt that using volatility in return as a metric, the MSCI EM Index exhibits approximately 40% more risk than the S&P500 (21% & 15% respectively) – amplified to some extent by the volatility introduced by the variation in currency exchange rates. However, the observed volatility in EM is mitigated by the lack of correlation between EM returns and the S&P 500. As a US investor allocates to EM the marginal impact on the S&P500 volatility is about 30% less than the total EM volatility due to the effects of diversification deriving from the lack of perfect correlation between the US and EM. We demonstrate that the correlation has been declining in recent years ameliorating the negative perception of the risk of investing in EM. The correlation aspect is expanded on below.

We argue that EM investing will become an important part of diversifying home market risk in the next few years. Furthermore, EM countries are generally trending better than the developed markets with respect to three important elements; (1) government finances; (2) trade & reserves, and (3) GDP growth.

The developed markets are exhibiting a more rapidly declining state in their government finances than the EM economies. Government expenditure to GDP is increasing more rapidly, from a higher level, in the developed economies; similarly, government deficits are increasing in the developed markets where as a consequence government debt to GDP is ballooning.

Furthermore, EM have considerably higher reserves to GDP; lower central bank assets/(liabilities) and stronger current account balances.

Finally, the *pièce de résistance* for the EM against developed markets is the spectacular growth in GDP.

Looking to the next decade given the inflation spectre over the developed markets and the potential for a declining dollar, we do not believe EM equities to be as risky as their current volatility might suggest.

3. EMERGING MARKET CURRENCIES ARE A BARRIER TO INVESTING

EM currencies have indeed lost ground against the US\$ which means that US based investors on average received a haircut to average local equity returns in EM. However, investment decisions should not be made on the average experience. It is true that in the last decade the dollar has strengthened against the basket of EM currencies, however the amount is a surprisingly low 0.6% per annum. However, in cases where the loss has been greater many EM exporters (including tourism firms) have enjoyed a competitive advantage and they have benefitted considerably from the weaker currency. These firms have enjoyed higher equity returns in local currency, thus with careful selection investors are able to enjoy a natural hedge against currency risk by setting off currency market losses with gains in local equity returns.

Secondly, we observe that currency returns and equity returns in local currency units are largely uncorrelated in EM markets reflecting the increase in competitiveness of these markets internationally. Counter-intuitively perhaps, we suggest that explicit hedging of currency risk in EM is a costly redundancy since an element of currency risk is removed naturally through diversification between currency and equity returns. A recent case in point is the weakness of the Turkish Lira and the returns to tour operators.

FIVE CHANGE VECTORS

Returning to the time after the onset of Covid in early 2021 we identified five key vectors of change for the global economy, as follows:

1. Geopolitical factors
2. Inflation
3. Regulatory forces
4. Social factors
5. Technological change.¹

These remain in our opinion the major drivers of markets and will continue to have a significant effect. Clearly, the war in Ukraine is a human tragedy which has not only disrupted food and energy supplies it has shaken confidence in what we thought was a new world order, political risk has not been a major factor in equity pricing for the last few decades; it is now. A recent survey by UBS shows that 55% of investors rank geopolitical risk a top concern.²

After an initial set-back in early 2020, the market recovered from Covid and was above the pre-Covid high in a year. The start of the Ukraine war in February 2022 caused another drop from the new high and to date more than half of this loss has been recovered.

US-China tensions together with the Ukraine war have caused much fragmentation and de-globalization, which not only slows world growth with trade tariffs but is highly inflationary for monetary reasons. The Chinese long lock-down has weighed equally heavily on world growth. The combination of these factors has conspired to fuel inflation which has prompted central banks to hike interest rates, and governments to re-program fiscal policies largely in response to lockdown-induced debt. The emergence of inflation is causing central banks some consternation not least because the incumbent Governors have little experience of high inflation levels not seen in more than a decade. Climate change is gathering momentum as a powerful social force which will have considerable implications for investors. We argue that 2022, is a pivotal year for markets and as equities begin the road to recovery EM equity is well placed to re-emerge from the doldrums of the last decade. Now is the time to consider a review of allocations to EM. The five change vectors are likely to ensure that markets will not revert to the *status quo ante bellum*.

EM Investing Templetonian Origins

*“The time of maximum pessimism
is the best time to buy”*
— Sir John Templeton

Sir John was one of the world’s earliest EM investors - and arguably the most successful. He was investing in these geographies before the term Emerging Market was coined by Dr Antoine Van Agtmael of the IFC in 1981. The IFC was marketing an investment fund of diversified so-called “third world” markets and the term Emerging Markets proved popular. Essentially a marketing brand has taken on an important meaning that now constitutes a unique if diverse asset class. The Emerging Market asset class represents a grouping of largely heterogenous country markets which enter the group as relatively poor but which have the wherewithal to deliver a significant growth in GDP. A growth potential much greater than in the developed markets is the common characteristic, and in many cases the only common factor. The MSCI Emerging Market Index included 25 markets before recently removing Russia. These markets include economic

powerhouses such as Korea and Taiwan and much smaller markets such as Chile. Sir John invested in Korea immediately after the Korean war and it is a great example of a successful emerging market. Korea had an annual per capita GDP of \$67 in 1953, which has now grown to more than \$35,000. After years of spectacular growth Korea now enjoys the characteristic of a developed market but it is still classified as emerging. An important sub-set of the EM class is the BRICS grouping which is an acronym for the constituents (Brazil, Russia, India, China & South Africa) representing the major regions of the world and a third of its population. The author of the BRICS acronym is Dr Jim (now Lord) O’Neill who in the early 90’s was Chief Economist at Goldman Sachs. As with the Emerging Market brand the BRICS acronym was the brand name for an investment fund. BRICS has now itself become an asset class and an important political bloc.

The MSCI Emerging markets index consisted of the following 25 countries:³

LATAM	EMEA	ASIA
Brazil*	Czech Republic	China*
Chile*	Egypt	India*
Colombia	Greece	Indonesia*
Mexico*	Hungary	Korea*
Peru*	Kuwait	Malaysia*
	Poland	Philippines*
	Qatar	Taiwan*
	Russia*	Thailand*
	Saudi Arabia	
	South Africa*	
	Turkey*	
	United Arab Emirates	

*These 15 countries are included in the briefing.

WE ARE ALL EMERGING MARKETS NOW – CHANGE IS THE GREAT EQUALISER

The change vectors referred to above are effectively acting as the great equaliser of markets as reflected in the collective 2022 performance. We provide a broad *tour d'horizon* of the macro trends and current status of EM against the key developed markets to review the resilience of the markets for the changes ahead. Two areas are considered; government finances and selected economic indicators.

1. GOVERNMENT FINANCES, FISCAL & MONETARY POLICY

Most developed market countries have experienced a significant increase in government expenditure as a proportion of GDP, whereas the emerging markets on average have not. Figure 2 shows the development of government expenditure to GDP (%) over the last twenty-two years, showing the value at the start of the millennium, in 2007 immediately before the great financial crisis, in 2019 immediately before the Covid lockdown and in 2021 immediately before the Ukrainian war. In the case of EM the metric has remained in a tight range in the low 20's for the whole period, whereas the US & the UK have seen an increase from around 30% in 2000 to approximately 45% in 2021. In 2020 these exceeded 50% (not reported), which is now the case in the EU. Japan has shown a more moderate growth from a higher base. In cases where the government accounts for half the economy the auguries for growth are not good and in this respect EM are better placed for future growth.

This increase in government expenditure/GDP, moderate and otherwise has had consequences for government deficits and debt for most countries but less so for emerging markets. These two metrics are reported in Figures 3 and 4 respectively for the same periods as in Figure 2.

FIGURE 2 Government expenditure/GDP

2000 to 2021
 ● 2000
 ● 2007
 ● 2019
 ● 2021

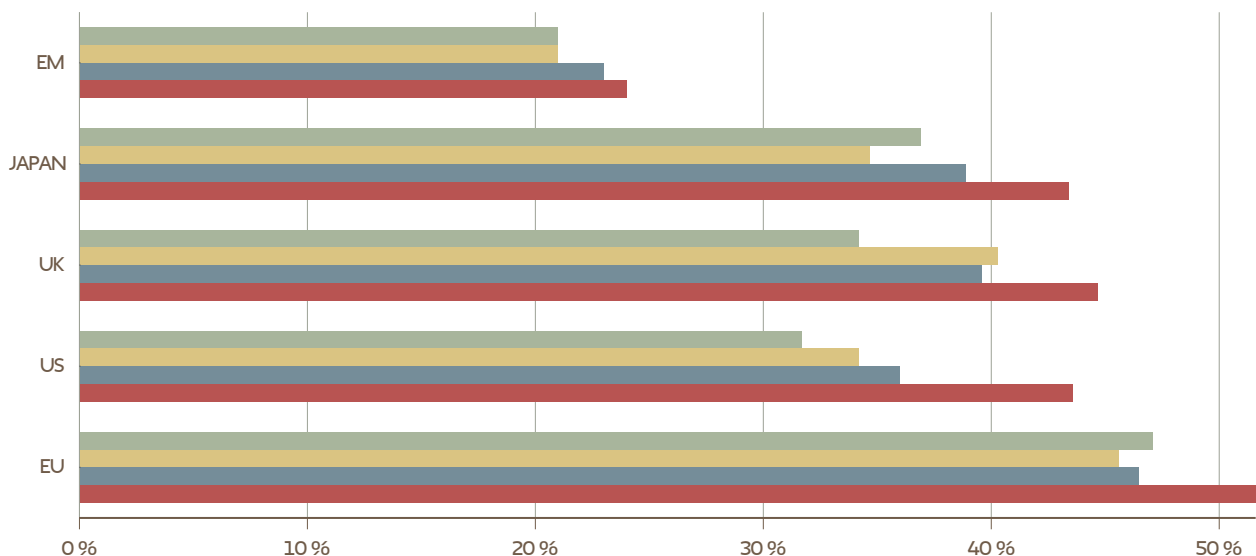


FIGURE 3 Government deficit/GDP 2000 to 2021

- 2000
- 2007
- 2019
- 2021

Figure 3 reveals that EM on average have not experienced a significant increase in deficit spending in sharp contrast to the developed markets that have seen large increases. The UK & US went from a small surplus of 1.4% and 2.3% respectively in 2000 to massive deficits of 5.7% and 16.7% respectively in 2021. The inevitable tax burden implications could slow growth in the developed markets in the years ahead.

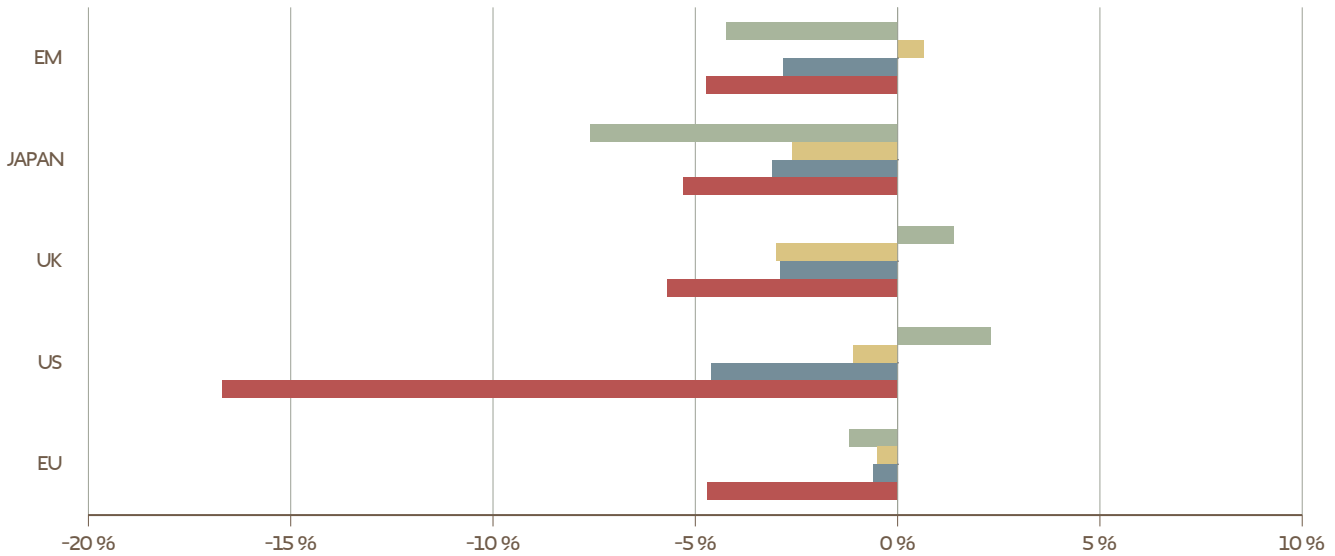
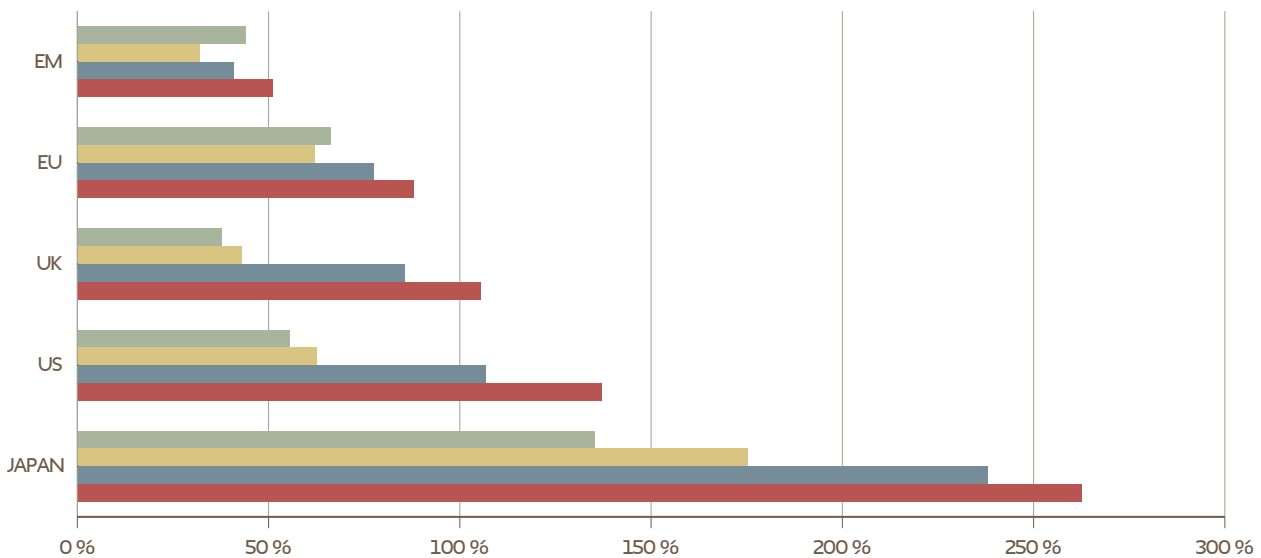


Figure 4 reveals that there has also been a significant increase in government debt in the developed markets to a far greater extent than in the EM. The state of government debt in the US and the UK is again burdensome for future tax policy and not only inflationary, as the problem will be exacerbated by the increasing cost of servicing the debt as interest rates rise. The influence of Germany (70%) on the EU average hides the fact that many of the larger EU economies have a debt/GDP well above 100%. Clearly, the reluctance of central bankers to increase rates for this reason will have unavoidable consequences. In the US the percentage of debt to GDP has gone from 55% in 2000 to a staggering 140% currently. Note that the US debt is now on a scale and greater than Japan (135%) had at the start of the millennium and Japan's dismal growth record since then is well chronicled.

FIGURE 4 Government debt/GDP 2000 to 2021

- 2000
- 2007
- 2019
- 2021



The UK debt levels are causing unprecedented increases in taxes which are at their highest level in seventy years. Again, a poor indicator for growth.

Finally, turning to monetary policy it will be seen in Figure 5 that central banks have shown little restraint with respect to quantitative easing (QE) which has resulted in central bank assets (which are really liabilities since they hold government debt) in aggregate increasing tenfold from \$3.8 trillion to \$38 trillion.

FIGURE 5 Central bank assets (US\$ Billion)

2000 to 2021
 ● 2000
 ● 2007
 ● 2019
 ● 2021

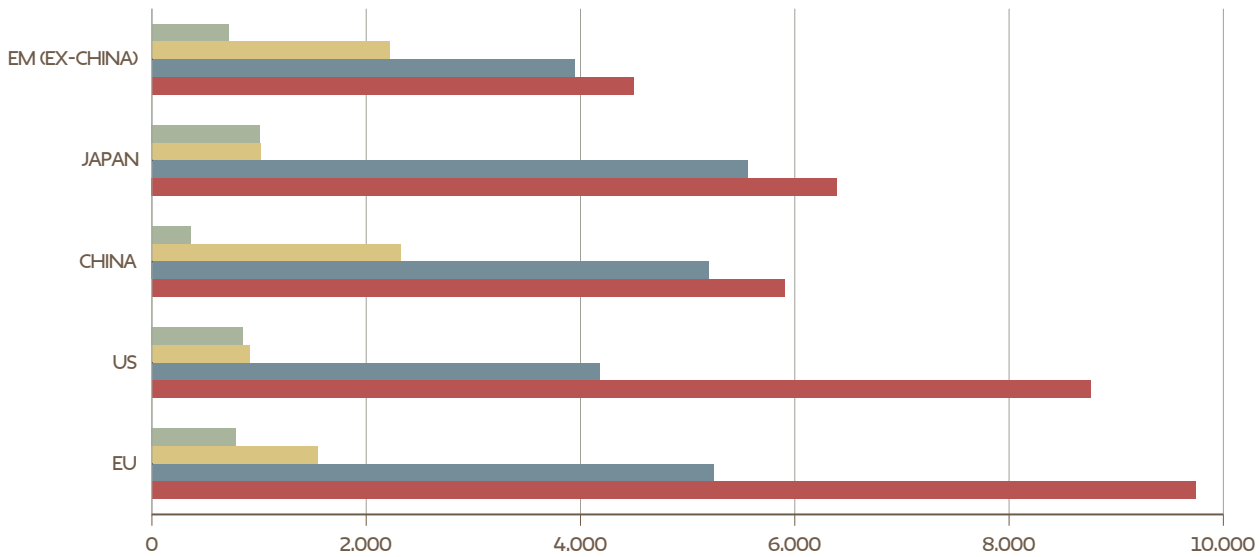
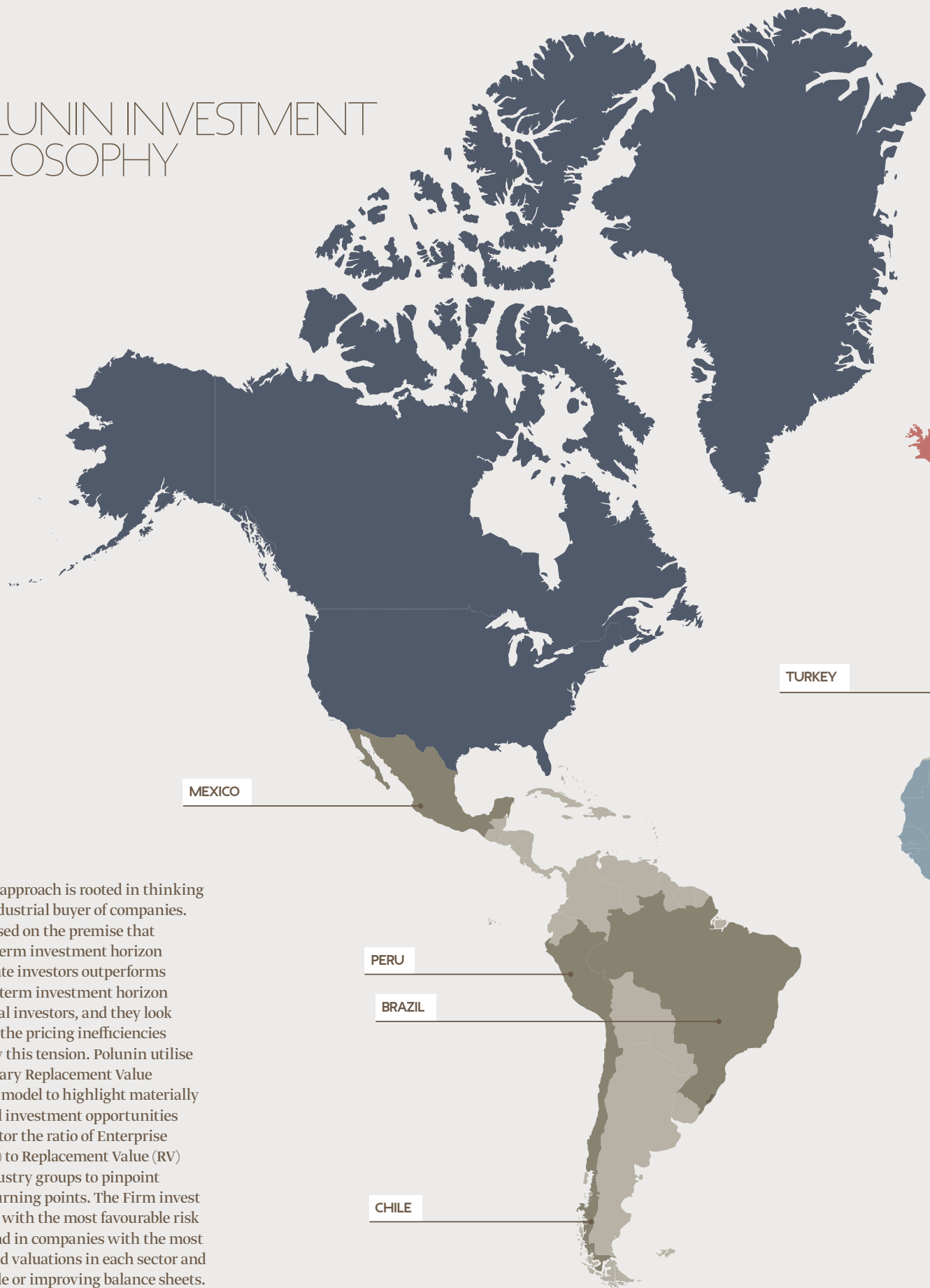
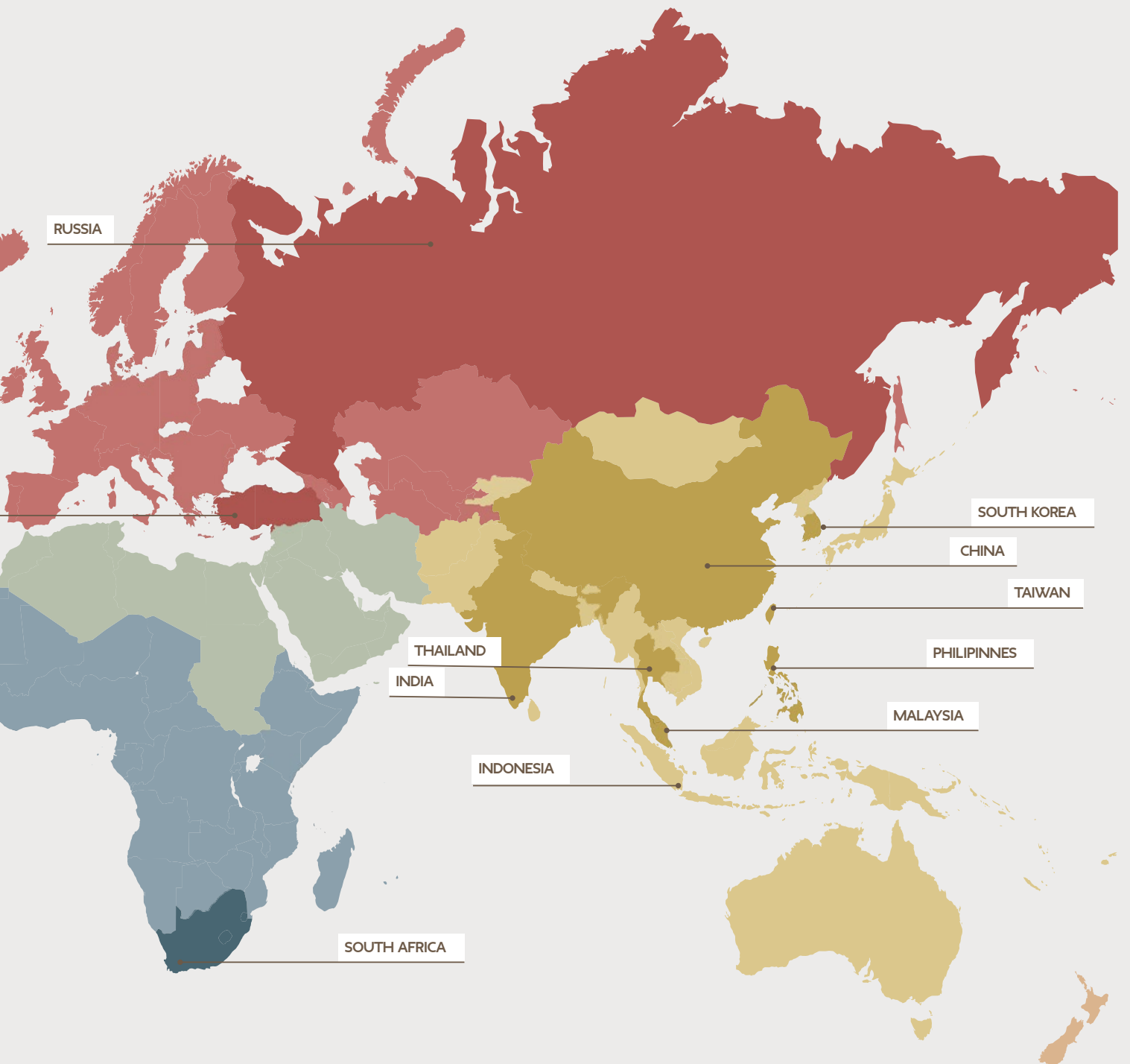


Figure 5 presents these data for the same periods as the previous charts. This phenomenon has appeared in two waves, firstly in the aftermath of the financial crisis and then in the aftermath of the Covid lockdown. Although central bankers prefer not to define QE as printing money it has the same consequences. The alternative tool to contain inflation *viz.* interest rate increases, is likely to be amplified by a necessary reversal of QE as the central bank balance sheets deflate. A process that has begun in the US without great publicity. The QE culprits have been the developed markets and China. Most EM do not have this sword of Damocles hanging over them as the spectre of global inflation looms.

POLUNIN INVESTMENT PHILOSOPHY



Polunin's approach is rooted in thinking like an industrial buyer of companies. This is based on the premise that the long-term investment horizon of corporate investors outperforms the short-term investment horizon of financial investors, and they look to exploit the pricing inefficiencies created by this tension. Polunin utilise a proprietary Replacement Value valuation model to highlight materially mispriced investment opportunities and monitor the ratio of Enterprise Value (EV) to Replacement Value (RV) in 40 industry groups to pinpoint cyclical turning points. The Firm invest in sectors with the most favourable risk reward and in companies with the most discounted valuations in each sector and with stable or improving balance sheets. Polunin's overarching mission is to consistently find mispriced, compelling recovery opportunities at the right point in the sector cycle to drive long-term outperformance.



RUSSIA

SOUTH KOREA

CHINA

TAIWAN

THAILAND

PHILIPPINES

INDIA

MALAYSIA

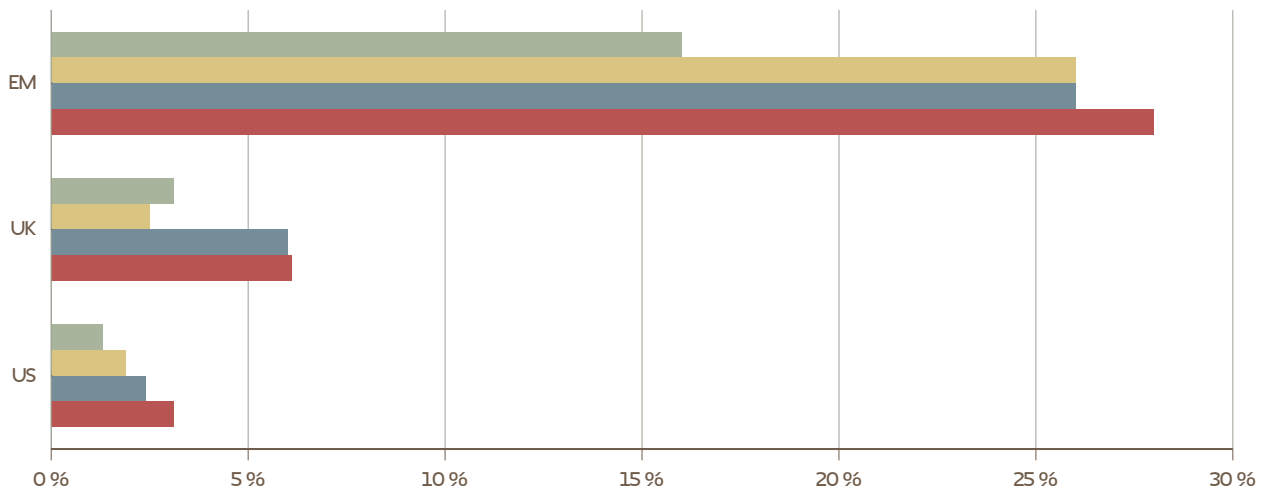
INDONESIA

SOUTH AFRICA

This brief review of fiscal and monetary policies shows that at a time of increasing inflation and rising interest rates EM are in a surprisingly stronger position to withstand the conditions than the developed markets and generally speaking the EM central banks have been rather nimble at responding to the changed inflation expectations.

FIGURE 6 Total reserves/GDP

2000 to 2021
 ● 2000
 ● 2007
 ● 2019
 ● 2021

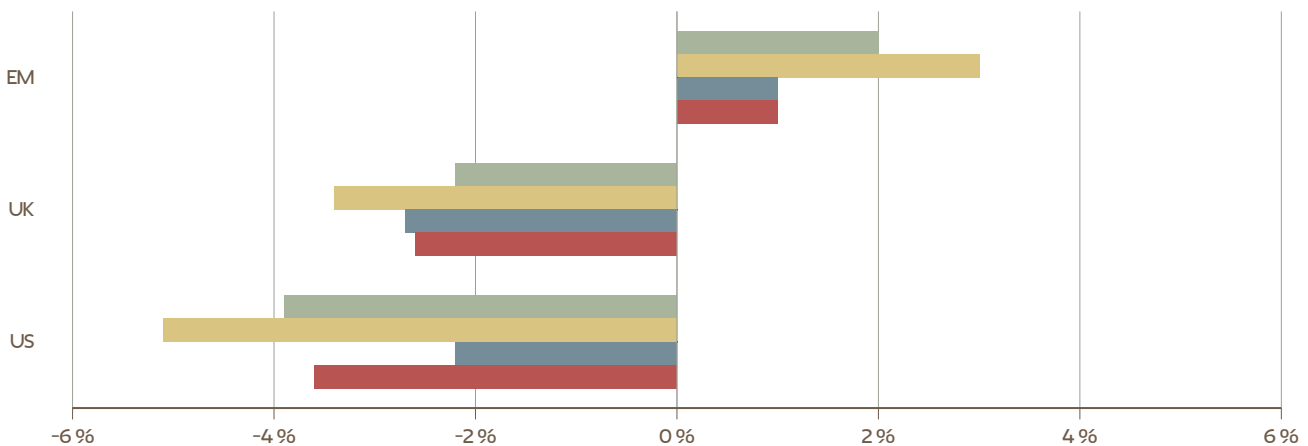


2. SELECTED ECONOMIC INDICATORS

Emerging Markets have on average held increasing reserves relative to GDP. Figure 6 shows the evolution in reserves as a percentage of GDP for EM against the US and the UK. EM hold on average 28% of GDP in reserves compared to 3.1% and 6.1% for the US & UK respectively. Another metric which shows that EM are resilient and not as badly off as current equity levels might suggest.

FIGURE 7 Current account/GDP

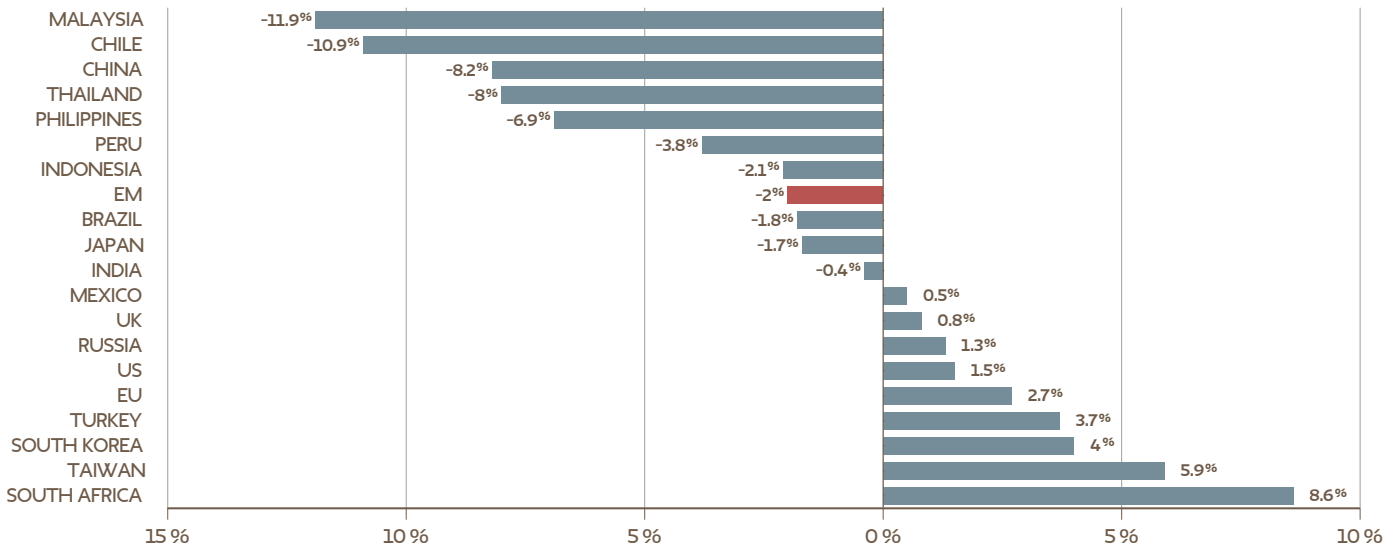
2000 to 2021
 ● 2000
 ● 2007
 ● 2019
 ● 2021



Foreign reserves are of course accumulated through current account surpluses. Figure 7 shows that EM have on average enjoyed current account surpluses in contrast to the UK and US which have current account deficits. The EU has enjoyed surpluses in recent years, but these have sharply narrowed. It is unclear whether such surpluses will ever return given increasing trade tensions with China, its largest export market, and the likely permanent removal of Russia as its cheap energy supplier.

Figure 8 shows the change in current account from 2007 to 2021 for selected countries. (See Table 2 in the Appendix).

FIGURE 8 Changes in current account/GDP 2007 to 2021



In order to provide more detail Figure 9 provides a chart of the relationship between government deficit/GDP% against current account/GDP% for selected EM and developed market countries. It is highlighted that aside from Chile, most EM dominate both the US & the UK in both dimensions displayed.

FIGURE 9 Government deficit/GDP versus current account/GDP 2021

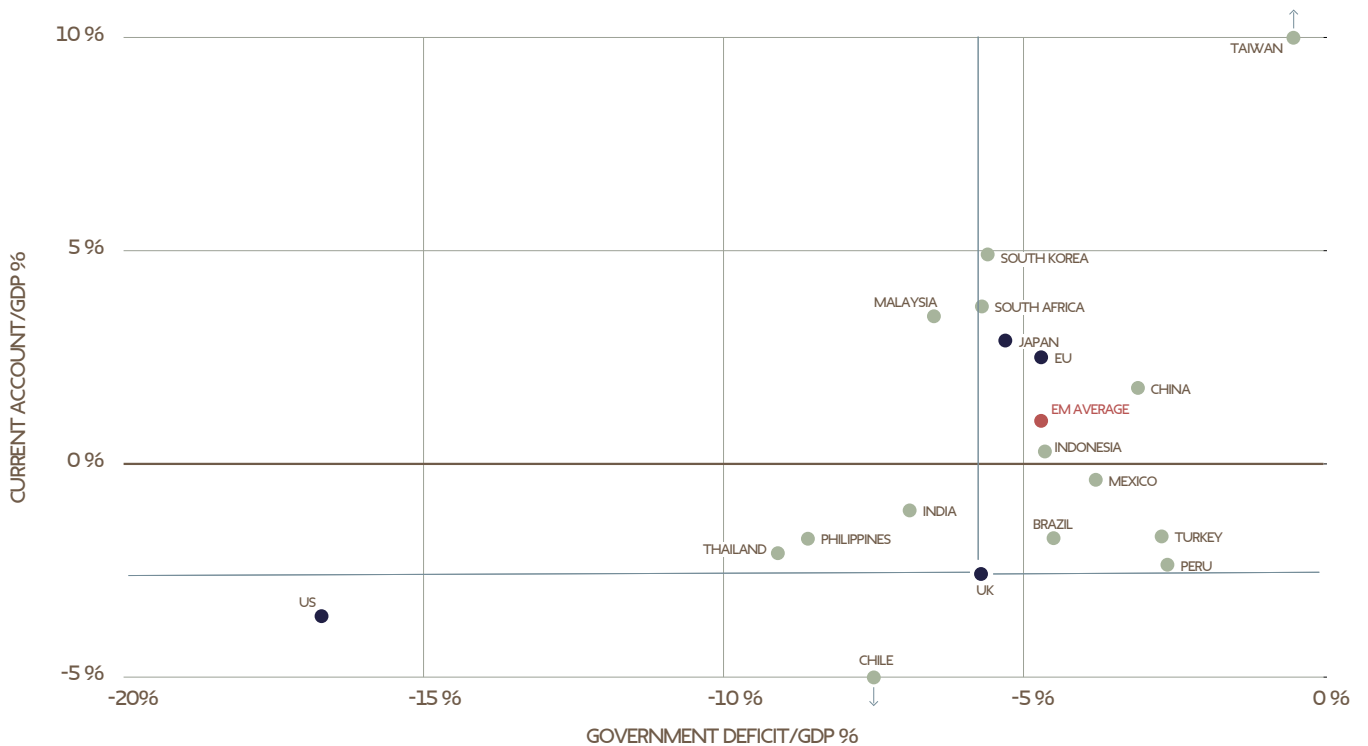
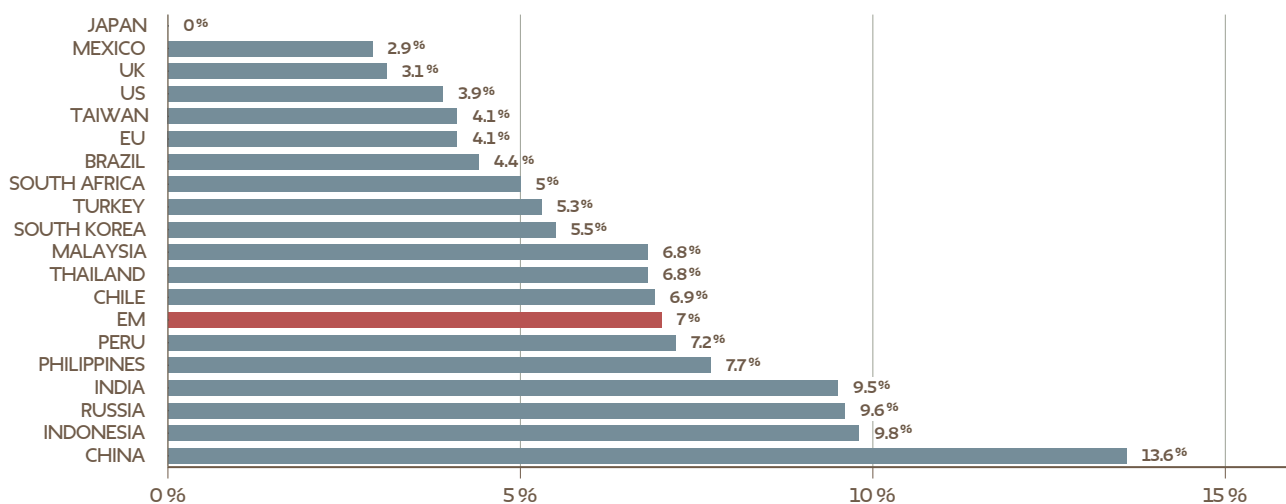


FIGURE 10 Annualised GDP growth
2000 to 2021

Finally, the dominance by EM in respect of growth in GDP versus developed market countries is illustrated in Figure 10 which shows the annualised growth in GDP from 2000 to 2021. The EM average is 7% which is more than double the UK and almost double that of the US.



The real benefit of higher growth, in the coming decade of higher interest and inflation rates, will be the flexibility it provides EM countries to manage their debt/GDP ratios and pay down their debt, in sharp contrast to the developed world.

In the de-globalized, high interest rate and high-inflation environment that the world economy faces, the US dollar dominance with booming US equity markets is unlikely to be the norm as experienced in the past twelve years. The relative cheapness of the EM markets make them a potential area to seek out potential well priced opportunities. Furthermore, a greater allocation to EM could provide greater shelter from potential developed market risk. The next section provides a more detailed review of EM relative performance.

But what if we are wrong? What if the change vectors do level up the perceived risk differentials between emerging and developed countries, but investors remain reluctant to give EM equities as a group the performance premium they deserve? As the Performance Review section will show, the diversification benefits of an investment in the EM benchmark continue to apply, regardless of the direction or relative attraction of EM. Perhaps as importantly, many active EM equity managers have proven that there are good profits to be made, even in a lacklustre overall environment for EM. The key word here is “active”. Active investment funds that in practice hug their benchmarks are unlikely to deviate substantially from the index returns. No investor can harvest excess returns without taking some risk, otherwise the proverbial ‘free lunch’ would genuinely exist.

An industry wide focus on the secular growth investing style has blinded EM investors to the inherent cyclicality of this asset class. As this report has already demonstrated, it is such a heterogenous asset class that cyclicality can be identified not just at the asset class level, but at both the industry and country level too. Individual sectors such as energy or airlines can and do perform on a completely different cycle to the rest of the EM asset class. Likewise, entire countries often move on entirely disconnected news cycles to their neighbours, even within the same continent. This leads to significant dispersion of returns within the asset class. Investors need look no further than 2022, when the MSCI Turkey index returned over 90% in US\$ terms whereas MSCI Hungary returned -31%. At the regional level MSCI Latam rose +9% whereas MSCI EMEA fell -28%. Within sectors EM Utilities fell -4% when EM Info Tech declined -33%. It is perhaps no

coincidence that the dispersion witnessed in 2022 comes in parallel with the potential regime change suggested within this report. It also carries echoes of the status quo that persisted prior to the 2008 financial crisis when inflation and interest rates were more in line with historical norms and, coincidentally, EM equities were outperforming the US and other Developed Markets.

In EM, active managers are blessed with a plethora of opportunities for active risk taking when assets deviate from their long-term fundamental value. These opportunities usually arise when the cyclical characteristics of most EM assets wrong foot financial investors into the herding behaviour that is a pre-requisite for mispriced risk. The benign and necessary forward-looking nature of equity investors eventually succumbs to a destructive extrapolation trend which drives asset prices at the top and bottom of the cycle to extremes that can be exploited by more disciplined investors. Companies in EM are the ultimate beneficiaries. They observably use this volatility to their advantage, selling their equities and bonds to global financial investors when asset prices are high, repurchasing the same assets from the same investors when they capitulate at the bottom of the cycle. Some financial investors have likewise demonstrated an ability to invest countercyclically alongside this corporate investor cycle, thereby avoiding the herding behaviour of most financial investors.

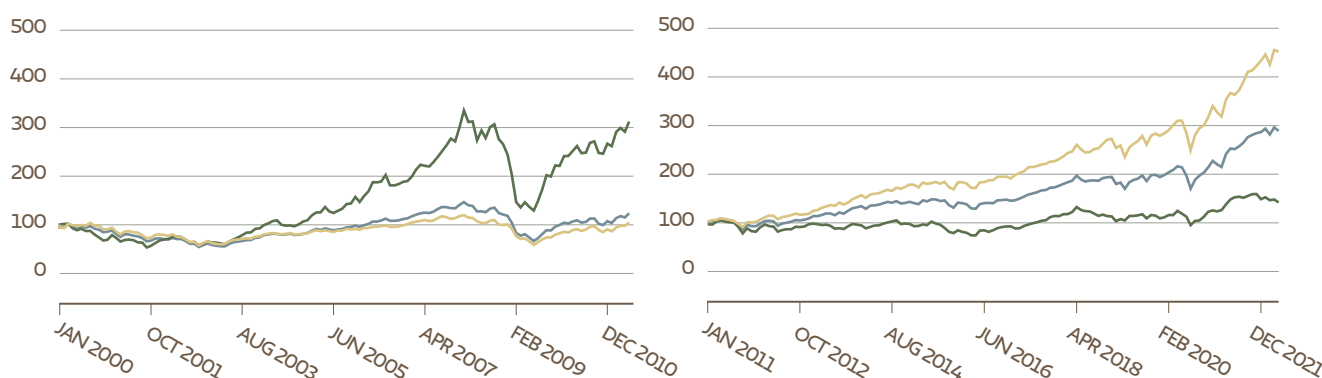
PERFORMANCE REVIEW – RISK, RETURN AND CORRELATION

1. A GAME OF TWO HALVES

Figure 1 shows that the twenty-two-year performance history from the year 2000 ended in a dead heat between EM and the US in dollar terms. However, it is a period of two distinct halves which are presented separately in Figure 11. In the first half EM dominate and turn in an annual average return of 13.5%, in comparison to the US return of 1.8%. After the global financial crisis however the picture completely reverses, and for the second half the US annual return is 15.1% and the EM 4.9%. Clearly the world was a different place in the second half driven chiefly by an era of very low interest rates, no inflation and unprecedented quantitative easing by most central banks. These indicators were highlighted in the previous section and account for a strong dollar which boosted US equities in comparison to EM. The charts on pages 20 & 21 show the performance of selected equities by region. The pattern is a first half of rising prices and a second half of more or less flat performance. The next decade could easily see another switch as 2022 performance portends.

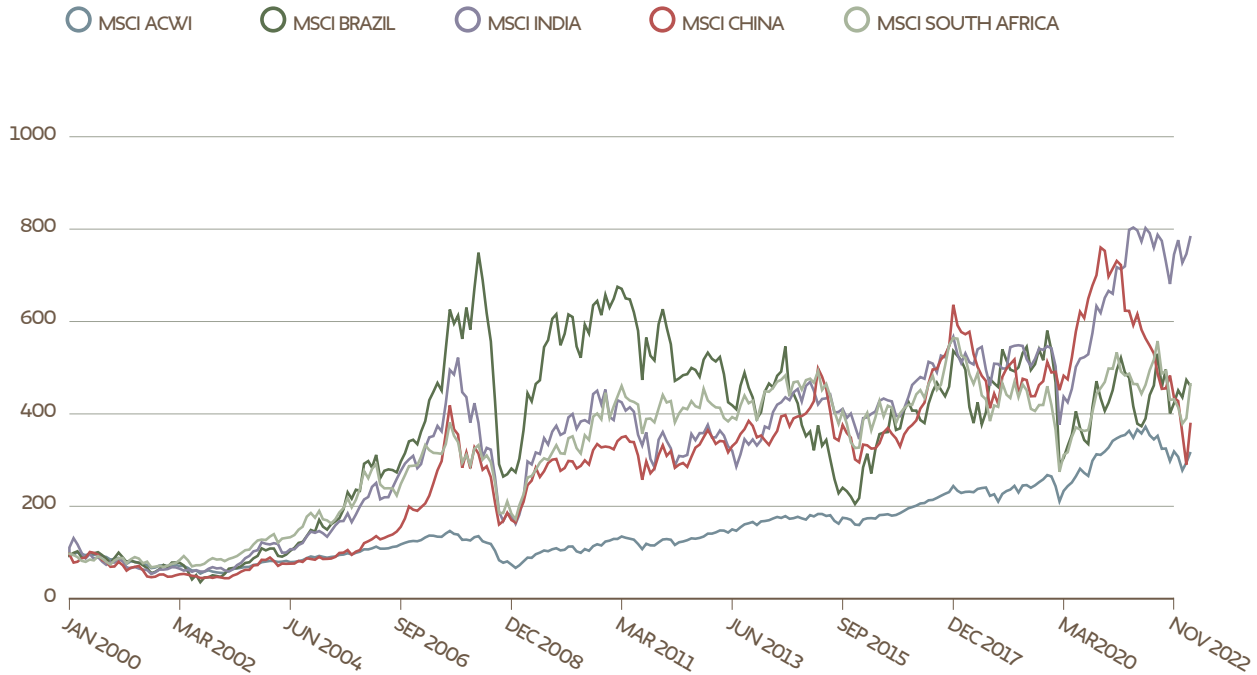
FIGURE 11 EM equity market performance
2000 to 2010 & 2011 to 2021

- MSCI ACWI
- MSCI EM
- S&P 500

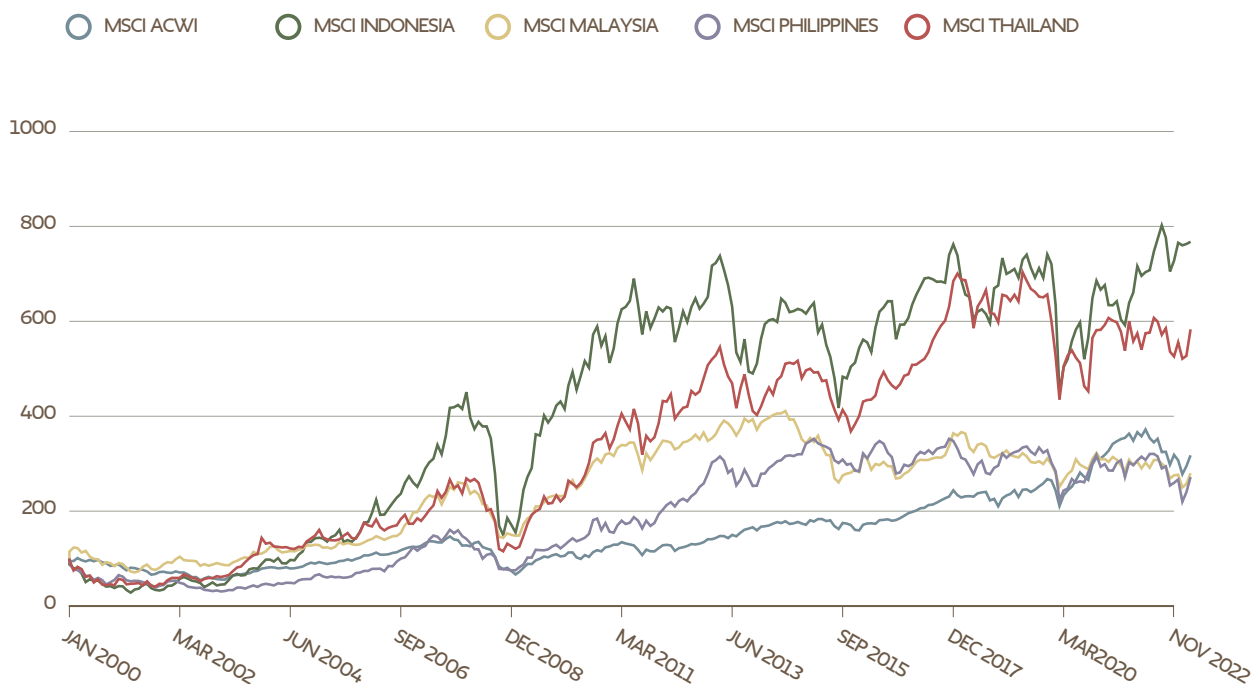


EM COUNTRY PERFORMANCE (2000 TO 2022)

BICS



SOUTH EAST ASIA



LATAM



EAST ASIA

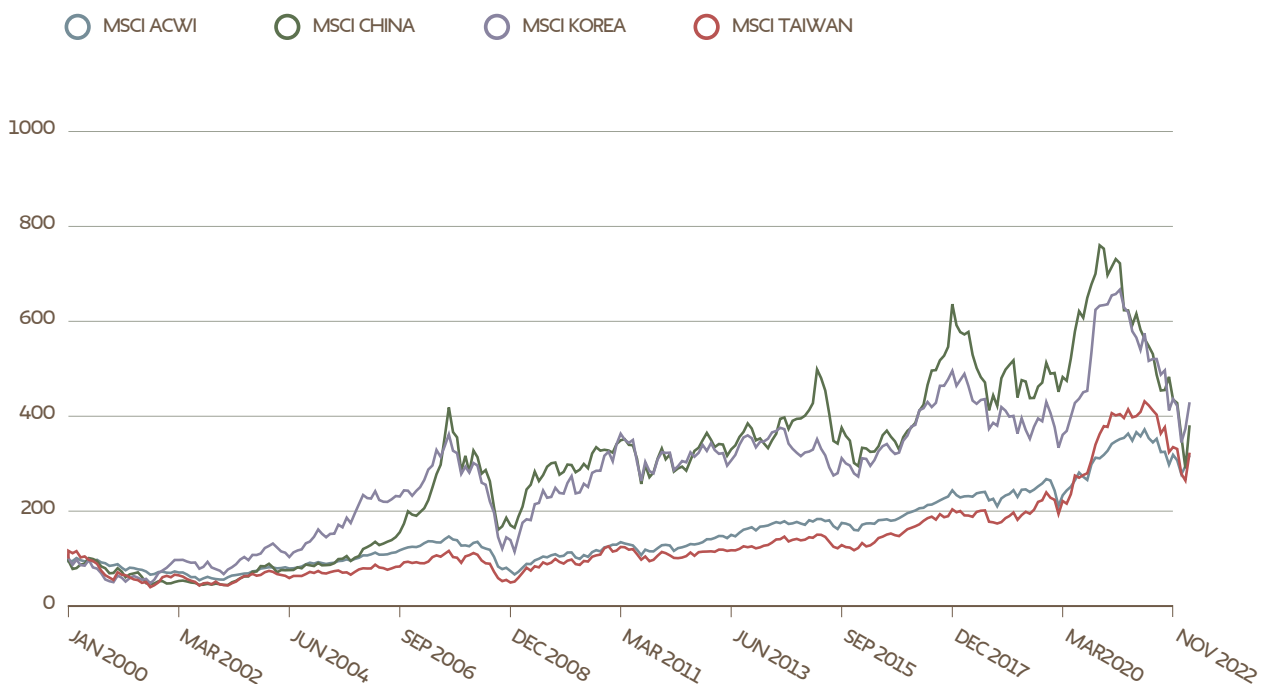
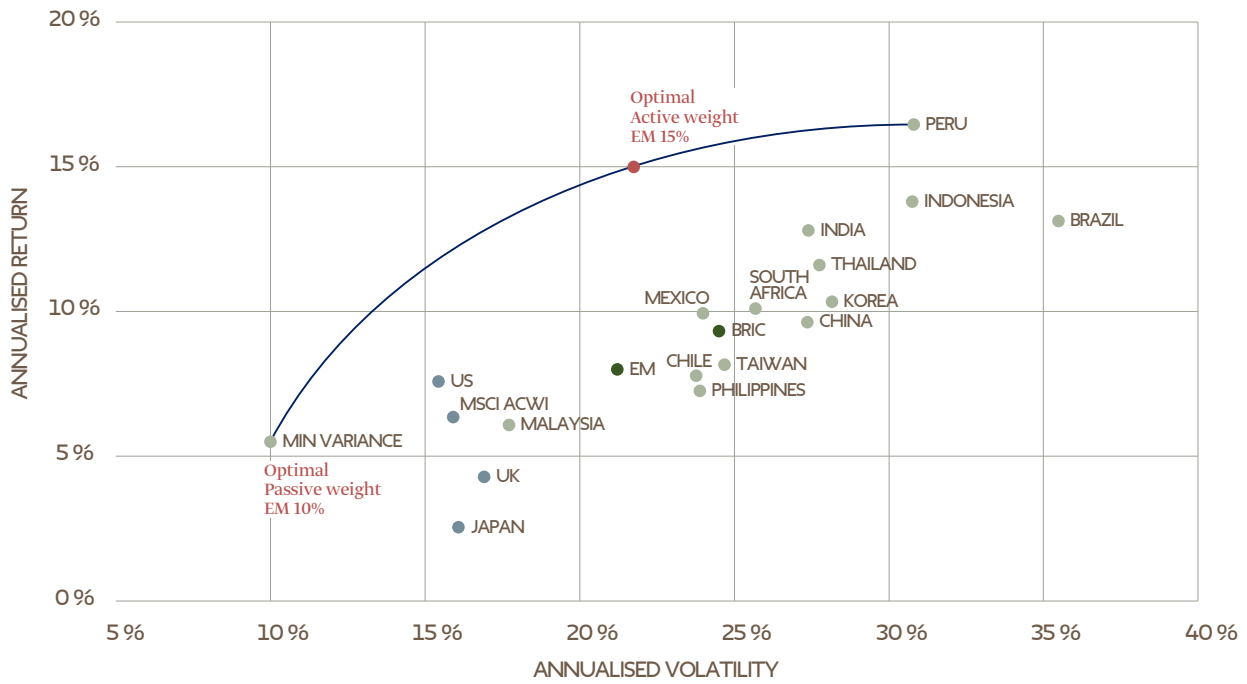


FIGURE 12 EM risk and return
2000 to 2022

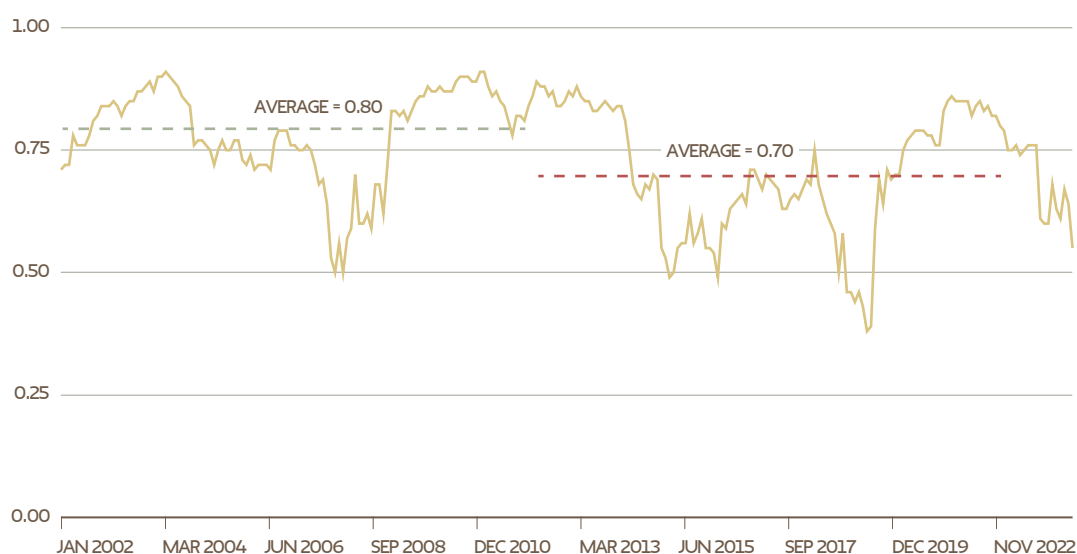
2. RISK & RETURN

Figure 12 presents the risk and return data for the various markets and indices for the full period since 2000. As earlier charts report, return over time has varied however relative risk has remained consistently high in the case of EM. All EM (marked green) cluster to the right of the chart all of which exhibiting a volatility in return greater than all of the developed markets (marked blue). Notice though that the volatility in the EM index is lower than the average EM volatility. This reflects the effect of diversification across these markets.



Therefore, a passive investment in EM would have considerably less risk than all but one of the individual markets. Furthermore, the correlation between the EM index and the US has dropped appreciably in the second half of the period, which affords further diversification benefits. Figure 13 reports the rolling twenty-four month pairwise correlation between the MSCI Emerging Market Index and the S&P500 Index for the entire period. It will be noticed that the average has dropped from around 0.8 (2000 to 2011) to around 0.7 (2012 to 2021) which is significant in terms of its effects on the potential for diversification, making EM more attractive from a risk management perspective.

FIGURE 13 Rolling 24 month correlation between MSCI EM & S&P500 2000 to 2021



3. THE DIVERSIFICATION BENEFITS OF EM INVESTING

Figure 12 also shows an efficient frontier which is a composite of multiple optimisations based on varying time periods. It is emphasised that these are not the results of Monte Carlo or other probability-based simulations as all the estimates were made consistently on empirical data. The results are illustrative of the benefits to a US investor for allocating EM to their portfolio. The results show that the aggregate minimum variance portfolio consistently allocates 10% to EM. This may be counter intuitive. In order to construct a portfolio of less risk than a domestic US portfolio represented here by the S&P500 the investor would allocate 10% to an apparently riskier asset class. This is due to the lack of correlation between the S&P500 and individual EM, which on a pairwise basis averaged around 50%. The pairwise correlations with the S&P500 and the individual markets are reported in the Appendix.

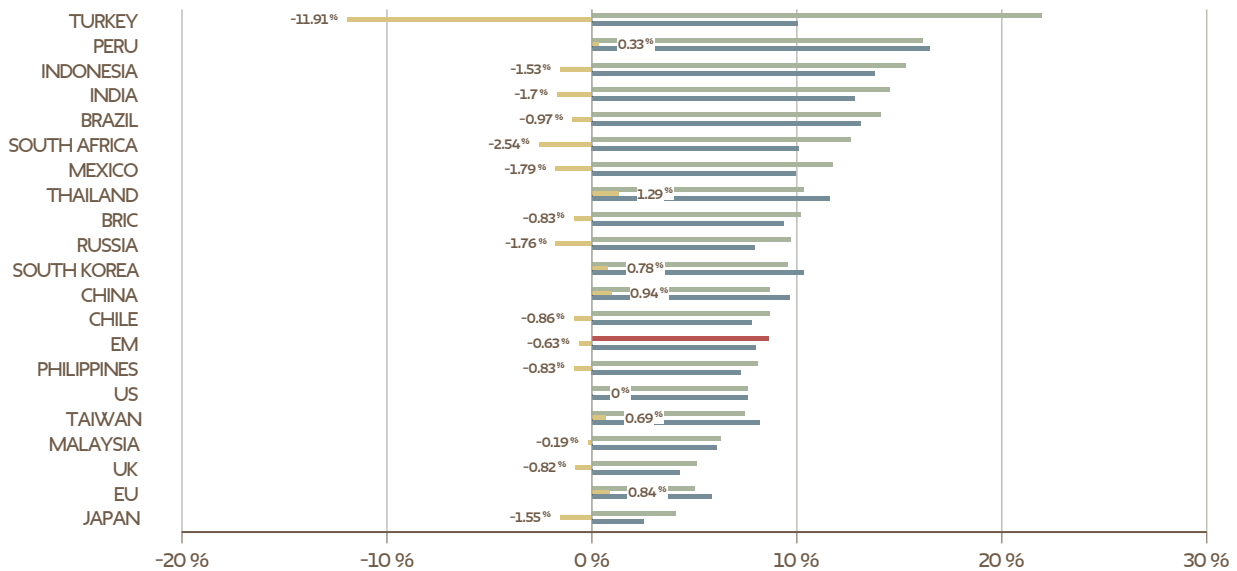
The minimum variance portfolio is unique among efficient portfolios in that its composition is invariant to return estimates and as such it avoids the optimism bias and other errors. Consequently, it is remarkably stable over time, however it is of course the portfolio with the lowest expected return on the frontier. The 10% allocation may be thought of as the optimal for a completely passive and risk averse US allocation, and yet it is almost double the current average institutional allocation, although almost exactly the long-term average. Further up the frontier we find the efficient portfolio with the highest return to risk ratio. Although somewhat less stable it would suggest that a more active allocator would extract the benefits of EM diversification with an optimal allocation of around 15%.

4. CURRENCY RISK ANALYSIS

Currency uncertainty is an integral part of EM investing. Clearly, dollar-based investors subject every dollar of their investment to both local equity market risk and the risk of adverse changes in the bilateral exchange rate between the dollar and the local currency. Figure 14 summarises the experience of a US investor who invested in each of the selected markets at the beginning of 2000. The annualised average return is reported in US dollars and decomposed into the local equity return in local currency (the pure equity component) and the total gain or loss from currency movements (the currency effect). The average equity return in US dollars was 10.3% being made up of a local equity return of 11.7% and a currency loss of 1.4%. Although the average loss is relatively small two caveats are necessary. Firstly, the 1.4% loss may seem small but considering the compounding effect over twenty three years the dollar impact is sizeable, around 37% over the period. Secondly, there are individual currencies that have done particularly badly, the Turkish Lira is a case in point.

FIGURE 14 Currency impact on EM equity performance 2000 to 2022

- EQUITY RETURN % (LOCAL)
- CURRENCY EFFECT %
- EQUITY RETURN % (USD)



There are however three costless ways of mitigating the currency risk in EM investing. Firstly, there is an integral effect which derives from the fact that the exchange rate returns are not perfectly correlated with the local equity markets, so that the fully hedged position would have a hedge ratio less than 100% - much of the currency risk is diversified and therefore should not be hedged in duplicate. Secondly, as a corollary to the first point, some local firms benefit directly from a weaker currency which means in formal terms the correlation referred to is negative - so not only is the currency risk removed, elements of the local equity risk are eliminated too, this we call a natural hedge. An example of this is provided in the Appendix. Finally, the third mitigation is to diversify across currencies. In summary therefore the need for hedging instruments in EM investing is costly and does not reduce volatility since forward rates (futures) exhibit the same level of volatility as the spot rates - in short it is a futile exercise. There is a case to be made for using hedging instruments if there is a known date of disinvestment and it may be sensible to remove the short-term uncertainty. A number of statistics relative to currency risk and correlation are provided in the Appendix. Currency risk needs to be taken seriously, however the empirical evidence suggests that it should not be an insurmountable barrier to EM investing for institutional investors.

CONCLUSION AND INVESTMENT POLICY IMPLICATIONS

2022 heralds a potential change in the dynamic of the world economy which has repositioned EM relative to developed markets. Inflation with the attendant high interest rates, sluggish growth in developed markets with a weaker dollar will place EM in a more competitive position vis à vis developed markets in the coming years. The Templeton paradox of trouble is opportunity applies.

The EM macro fundamentals are relatively stronger, the equity market technical measures currently imply pessimistic valuations in these countries which in short presents an opportunity for the long-term investor.

Allocations to EM are at an all-time low, which is a consequence of both the relative under-pricing of the asset class and a conscious risk aversion on the part of institutional investors. Political strains with two of the BRICS countries has certainly not helped allay these fears. The analysis we present seeks to provoke investors to consider increasing their allocations to EM from the current average levels of around 6% to around 15% which is higher than the twenty-year average level of 8.9%. The main motivation for this policy is two-pronged; the diversification benefits to hedge the risks of the developed markets and the return opportunities of specific equities in these markets.

We propose a highly focused approach which seeks out individual stocks in these markets taking into consideration their growth opportunities and natural protection from inflation and currency risks. These markets are bristling with such opportunities.

We recommend against a passive allocation as each of these markets continue to carry much risk. In particular, if Japan's economy should falter further there could be negative repercussions for the EM due to the depreciation of the Yen.

On a positive note, the vectors of change we identify may have a significant upside. An easing of the geopolitical tensions and the taming of inflation in the coming year could lift all markets.

APPENDIX SUMMARY STATISTICS

EM annualised performance (%) (2000 to 2022)

MARKET	EQUITY (\$)	EQUITY (LOCAL)	CURRENCY V US\$	CORRELATION (S&P500)	EQUITY VOLATILITY (\$)
	FIGURE 12		FIGURE 14		FIGURE 12
BRAZIL	13.1	14.1	-1.0	59	35.5
CHILE	7.8	8.7	-0.9	54	23.8
CHINA	9.6	8.7	0.9	54	27.4
INDIA	12.8	14.5	-1.7	55	27.4
INDONESIA	13.8	15.3	-1.5	45	30.7
MALAYSIA	6.1	6.3	-0.2	48	17.7
MEXICO	9.9	11.7	-1.8	71	24.0
PERU	16.5	16.1	0.3	46	30.8
PHILIPPINES	7.3	8.1	-0.8	48	23.9
EM	8.0	8.6	-0.6	74	21.2

EM panel data economic indicators (2000 to 2021)

TABLE 1	GOVERNMENT EXPENDITURE/GDP % (FIGURE 2)				GOVERNMENT DEFICIT/GDP % (FIGURE 3)				GOVERNMENT DEBT/GDP % (FIGURE 4)			
MARKET	2000	2007	2019	2021	2000	2007	2019	2021	2000	2007	2019	2021
BRAZIL	34.6	37.7	37.4	36.0	-3.4	-2.7	-5.9	-4.5	55.2	56.7	74.4	80.3
CHILE	21.5	16.9	24.5	31.4	-0.7	8.8	-2.5	-7.5	13.1	3.9	28.3	36.3
CHINA	15.4	17.9	25.0	23.0	-2.8	0.6	-2.8	-3.1	23.0	29.2	57.2	71.5
INDIA	15.4	15.3	13.4	15.9	-5.5	-2.5	-4.7	-6.9	57.3	50.1	47.6	56.3
INDONESIA	16.1	17.4	14.6	16.3	-1.1	-1.3	-2.2	-4.7	87.4	32.3	30.6	41.2
MALAYSIA	19.3	21.3	20.9	21.7	-5.5	-3.2	-3.4	-6.5	35.2	40.1	52.4	63.3
MEXICO	18.5	21.5	23.7	25.6	-0.9	0.0	-1.6	-3.8	19.9	17.9	45.1	49.6
PERU	22.2	19.1	21.3	23.7	-2.1	3.1	-2.7	-2.6	44.4	31.9	27.1	36.0
PHILIPPINES	17.5	16.0	19.4	24.1	-4.0	-0.1	-3.4	-8.6	62.1	51.6	39.6	60.4
RUSSIA	24.6	31.0	33.9	35.7	2.5	5.5	1.9	0.8	62.1	7.2	12.4	18.2
SOUTH AFRICA	21.5	22.5	29.4	29.4	-1.4	1.1	-6.9	-5.7	43.3	28.3	63.3	69.9
SOUTH KOREA	19.8	19.0	23.7	27.5	1.1	3.5	-1.9	-5.6	17.1	28.7	40.0	46.9
TAIWAN	30.5	17.2	15.4	15.5	-4.5	-0.3	-1.8	-0.5	25.5	28.0	28.5	26.6
THAILAND	16.8	18.4	17.1	20.0	-2.4	-1.1	-1.8	-9.1	57.8	38.7	41.1	59.6
TURKEY	27.8	22.7	22.9	21.6	-33.0	-1.5	-2.9	-2.7	51.6	37.8	32.6	42.0
EM (AVERAGE)	21.4	20.9	22.8	24.5	-4.2	0.7	-2.8	-4.7	43.7	32.2	41.3	50.5
EU	47.1	45.6	46.5	51.6	-1.2	-0.5	-0.6	-4.7	66.3	62.2	77.5	88.1
JAPAN	36.9	34.7	38.9	43.4	-7.6	-2.6	-3.1	-5.3	135.4	175.3	238.0	262.5
UK	34.2	40.3	39.6	44.7	1.4	-3.0	-2.9	-5.7	37.7	43.1	85.5	105.6
US	31.7	34.2	36.0	43.6	2.3	-1.1	-4.6	-16.7	55.6	62.6	106.8	137.2

MARKET	EQUITY (\$)	EQUITY (LOCAL)	CURRENCY V US\$	CORRELATION (S&P500)	EQUITY VOLATILITY (\$)
	FIGURE 12		FIGURE 14		FIGURE 12
RUSSIA	7.9	9.7	-1.8	44	42.7
SOUTH AFRICA	10.1	12.6	-2.5	62	25.7
SOUTH KOREA	10.3	9.6	0.8	68	28.1
TAIWAN	8.2	7.5	0.7	60	24.7
THAILAND	11.6	10.3	1.3	54	27.7
TURKEY	10.0	21.9	-11.9	50	43.4
JAPAN	2.5	4.1	-1.6	65	16.1
UK	4.3	5.1	-0.8	83	16.9
US	7.6	7.6	0.0	100	15.4
EM	8.0	8.6	-0.6	74	21.2

TABLE 2	CENTRAL BANK ASSETS (USD BN) (FIGURE 5)				TOTAL RESERVES /GDP % (FIGURE 6)				CURRENT ACCOUNT/GDP % (FIGURE 7)			
MARKET	2000	2007	2019	2021	2000	2007	2019	2021	2000	2007	2019	2021
BRAZIL	128	421	857	770	5.0	12.9	19.1	22.5	-3.8	0.0	-3.5	-1.7
CHILE	26	38	43	93	19.2	9.8	14.6	16.2	-1.1	4.3	-5.2	-6.6
CHINA	362	2,317	5,200	5,902	14.2	43.6	22.6	19.3	1.7	9.9	0.7	1.8
INDIA	32	101	238	383	8.8	22.7	16.4	20.1	-1.0	-0.7	-1.1	-1.1
INDONESIA	N/A	90	176	251	17.8	13.2	11.5	12.2	4.8	2.4	-2.7	0.3
MALAYSIA	39	128	111	132	30.5	52.7	28.4	31.4	9.0	15.4	3.5	3.5
MEXICO	73	120	204	238	5.0	8.3	14.4	16.1	-2.6	-0.9	-0.3	-0.4
PERU	N/A	29	76	95	16.8	27.2	29.7	36.8	-3.0	1.4	-0.7	-2.4
PHILIPPINES	20	47	100	149	18.0	21.6	23.8	27.6	-2.7	5.2	-0.8	-1.8
RUSSIA	35	387	711	722	10.6	36.8	32.8	35.6	17.5	5.6	3.9	6.9
SOUTH AFRICA	13	37	66	66	5.1	9.9	14.2	13.7	-0.1	-4.9	-2.6	3.7
SOUTH KOREA	103	346	426	501	16.7	22.4	24.8	25.8	1.8	0.9	3.6	4.9
TAIWAN	121	277	550	651	33.7	67.6	79.0	71.5	2.7	8.9	10.6	14.8
THAILAND	46	108	252	289	25.8	33.3	41.2	48.6	7.4	5.9	7.0	-2.1
TURKEY	75	85	134	151	8.6	11.2	13.9	15.3	-3.7	-5.4	0.7	-1.7
EM (AVERAGE)	51	158	282	321	15.7	26.2	25.7	27.5	1.8	3.2	0.9	1.2
EU	785	1,547	5,243	9,739	N/A	N/A	N/A	N/A	-0.4	-0.2	2.4	2.5
JAPAN	1,008	1,015	5,562	6,394	7.3	21.3	25.8	28.5	2.6	4.6	3.4	2.9
UK	36	155	796	1,273	3.1	2.5	6.0	6.1	-2.2	-3.4	-2.7	-2.6
US	850	915	4,174	8,756	1.3	1.9	2.4	3.1	-3.9	-5.1	-2.2	-3.6

FOOTNOTES

1. Five change vectors that will impact your portfolio in 2021, Oxford Metrica 27 January 2021

2. UBS Investor Sentiment Survey, November 2022

3. The excluded European countries are less representative of a typical EM as they now fall economically and politically under the umbrella of the EU. Membership of the EU essentially backstops the degree to which they can deviate at the extremes, both politically and economically. The Gulf states, likewise, do not display the typical characteristics of an EM and are only included in the MSCI benchmark because the stock markets may not qualify for advanced MSCI ACWI status due to technicalities such as prohibition of shorting and stock borrowing, disclosure requirements, market regulation etc. On all other measures but most specifically factors such GDP/capita they have very little in common with other EMs. Egypt and Colombia were likewise omitted as smaller markets.

A note on Russia: As described in the MSCI Q&A document on the Reclassification of the MSCI Russia Indexes to Standalone Markets Status, the MSCI Russia Indexes were reclassified from Emerging Markets to Standalone Markets status in one step as of the close on March 9, 2022. Accordingly, the impact of this reclassification on the MSCI Emerging Markets Indexes, along with other affected indexes such as the MSCI BIC Index, became effective from the close of March 9, 2022 onwards, with no retroactive impact on the indexes before this date.

FIGURE SOURCES

FIGURE 1: Bloomberg (MSCI Data)

FIGURE 2: Trading Economics, government agencies & OECD

FIGURE 3: Trading Economics, government agencies & OECD

FIGURE 4: Trading Economics, government agencies & OECD

FIGURE 5: Central Bank annual reports

FIGURE 6: The World Bank

FIGURE 7: The World Bank

FIGURE 8: The World Bank & Oxford Metrica

FIGURE 9: The World Bank, Trading Economics, government agencies & OECD

FIGURE 10: The World Bank & Oxford Metrica

FIGURE 11: Bloomberg (MSCI Data)

FIGURE 12: Bloomberg (MSCI Data) & Oxford Metrica

FIGURE 13: Bloomberg (MSCI Data) & Oxford Metrica

FIGURE 14: Bloomberg (MSCI Data) & Oxford Metrica

OXFORD METRICA CLIENTS

BANKING

BNY Mellon
Credit Suisse
Deutsche Bank
Invesco
Schroders
Templeton & Phillips
UBS

ENERGY & MINING

BP
De Beers
Exxon Mobil
Gold Fields
Royal Dutch Shell

FOOD

DongA One
General Mills
Nestlé

FOUNDATIONS

John Templeton Foundation
TWCF

HEALTH CARE

Baxter
Bristol-Myers Squibb
Johnson & Johnson
Merck Serono
Natura Cosmetics
Novartis
Novo Nordisk
Solvay

INDUSTRIAL

ABB
Aker Solutions
BAA
BAE Systems
General Electric
INI
Jardine Matheson
Kone

INSURANCE

AIG
Aviva
EM Global
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ING Group
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OIL
RSA
SCOR
Swiss Life
Swiss Re
Zurich Insurance Group

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