Global Emerging Markets

Outlook 2023

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Key points

- While emerging markets underperformed developed markets in 2022, if you strip out China, emerging markets actually performed in line with the developed world. We expect emerging markets to bounce back in 2023. In addition to trough valuation and light investor positioning, the growth differential between emerging and developed markets is set to expand on the back of favourable demographics, manufacturing capabilities, and availability of critical resources.
- China is at a critical juncture and faces three principal challenges: geopolitical rivalry with the US, the ongoing fallout from Covid-19, and issues in its property sector. Chinese equities are approximately 25% cheaper compared to the historical average on the MSCI China index. We expect the Chinese market to perform in 2023 if the economy re-opens and policymakers successfully stabilise the property sector.
- While investors are likely to focus excessively on the impact of the re-opening of China's economy, the prospect of a less hawkish US Federal Reserve, and possibly rate cuts in the latter half of 2023, we are taking a much longer view on investing in emerging markets as we have lower conviction in the sustainability of the current market narrative. This report, therefore, looks beyond the near-term momentum and focuses on opportunities and challenges that are likely to materialise over the medium- to long-term.

Although emerging markets (EM) underperformed developed markets (DM) in 2022, if you strip out China, EMs actually performed in line with the developed world.[1] While China grapples with its own unique challenges, emerging markets, generally, have proven resilient despite the spectre of inflation. Moreover, inflation in emerging markets was lower than in the developed world in 2022, bucking the historical trend. Many years of loose monetary policy, rising debt, shrinking workforces, and structural imbalances borne of onerous welfare commitments, have left developed markets vulnerable; and the crises of the last few years have exposed that vulnerability.

In contrast, emerging market policymakers are used to dealing with inflationary environments and a certain degree of market volatility and have pursued prudent macro policies.

Markets are set to rebound in 2023, after demand was supressed last year by aggressive policy tightening in much of the world. However, the challenges of decarbonisation, de-globalisation, uneven demographics, and record high debt burdens will continue to dominate the agenda in developed economies. In particular, the developed world's supply-side vulnerability is likely to result in medium-term inflation settling higher and growth at lower than historical levels.

We expect emerging markets to do well in 2023. In addition to trough valuation and light investor positioning, we expect the EM-DM growth differential to expand driven by favourable demographics, manufacturing capabilities, and availability of critical resources, all underpinned by supply-side reforms and investment in infrastructure. Growth, however, will be challenging as central banks unwind loose monetary policies and governments are unable to pursue large-scale fiscal stimulus. Against this backdrop, we expect emerging markets to perform initially boosted by the re-opening of China as the Beijing authorities abandon zero-Covid, as well as a rebound in South Korea, Taiwan and Brazil, and supported by the stability of India, Indonesia and Mexico.

Chinese equities are approximately 25% cheaper compared to the historical average.[2] The Chinese market can perform in 2023 if the economy re-opens and policymakers successfully stabilise the property sector. As the US Federal Reserve begins to slow the pace of interest rate hikes, headwinds from a strong US dollar are likely to subside. Having started the tightening process early, we expect several Latin American economies to ease monetary policy in 2H23. Asian economies ex-China are likely to lag initially but most will probably catch up in the second part of the year as the global slowdown begins to bottom out. We expect South Korea to benefit from stabilising global growth, considering that the market substantially sold off in dollar terms (-31%)[3] in 2022 and we expect Taiwan to benefit from a rebound in the semiconductor cycle in 2H23. Economies in the Middle East are likely to prosper as the re-opening of China stabilises global growth, driving the energy sector, which is also constrained by a long-term lack of investment and the Organisation of the Petroleum Exporting Countries' (OPEC) renewed grip on supply.

Over the medium- to long-term, we forecast a shift in the investment environment, which we anticipate will be decisively different from the previous decade.

[1] MSCI EM ex-China index (-19.3%) compared to MSCI World (-19.5%) as at 31 December 2022

[2] MSCI China P/B 1.3x vs. historical average 1.75x as at 31 December 2022

[3] MSCI Korea in US dollars as at 31 December 2022

Underpinning this shift will be higher-than-normal inflation and cost of capital, along with sticky supply-side constraints (energy, commodities, and labour), to which investors will have to adapt. The shift is likely to create winners and losers at the global, regional, and sectoral levels. While developed economies are learning to adjust to inflation, emerging economies have a golden opportunity to improve their competitiveness – and capitalise on their position as leaders of global growth, utilising demographic advantages, manufacturing prowess, and access to resources.

While the market is likely to focus excessively on the impact of the re-opening of China's economy, and the prospect of a less hawkish US Federal Reserve, as well as possible rate cuts in the latter half of 2023, we are taking a much longer view on investing in emerging markets as we have lower conviction in the sustainability of the current market narrative. We are, therefore, dedicating our time and effort to looking beyond the near-term momentum and focusing on opportunities and challenges that are likely to materialise over the medium- to long-term and are positioned accordingly across ten themes:

1. China: Opportunities beyond re-opening

2. India: A bright decade ahead

3. Brazil: A lost opportunity or time to get constructive?

4. Memory: From cyclical to structural

5. Supply chains: relocation to create long-term winners

6. Commodities and energy: A long-term perspective

7. Electric Vehicles: A multi-year opportunity

8. Global tourism: Hopeful in 2023 and beyond

9. Inflation: Will China's re-opening drive price rises?

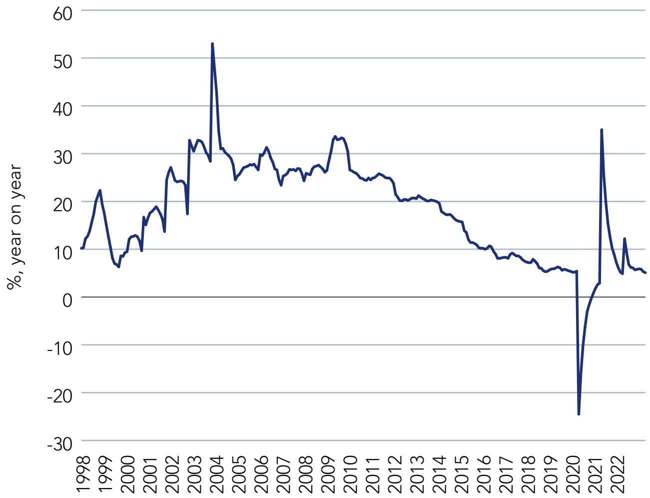
10. ESG: Relevance for EMs in a complex world

China: Opportunities beyond re-opening

China is at a critical juncture and faces three principal challenges: geopolitical rivalry with the US, the ongoing fallout from Covid-19, and issues in its property sector. These huge challenges will test the resolve of the Beijing leadership.

The debt-fuelled model that drove growth in the past is now irrelevant; and, therefore, historical valuations are less meaningful. We are focused on how China is likely to evolve beyond the initial re-opening boost to trade. We believe that China is unlikely to grow annually at more than 6-6.5% in real GDP (gross domestic product) terms, and a mid to low single-digit annual growth figure is feasible considering the constraints under which the country is operating. Fixed asset investment, a vital driver of Chinese GDP, has been moderating over the last few years.

Figure 1: China fixed asset investment (%, year on year)



Source: Bloomberg as at 19 January 2023

Beyond the issues at the surface, the Chinese economy is undergoing a more profound transformation that we believe presents unique and exciting investment opportunities for long-term investors. We believe focusing on these themes will offer investors a long runway for growth:

- **Digitisation:** In several industries, China is at an early stage of digitisation and cloud adoption. We believe that as the long-term growth rate of China slows, enterprises will look towards increasing digitisation to find new avenues for growth and boost operational efficiency and productivity. Regulations in China are also likely to promote the adoption of advanced technologies to move up the value chain.
- **Renewable technologies:** China remains an undisputed global leader in solar and energy storage technologies and has a sizeable wind turbine manufacturing supply chain. Companies exposed to the renewable industry will benefit from growth in China and rising overseas demand. China has advantages from economies of scale in several renewable sectors, giving it a significant head start against global competitors.

- **Biotechnology:** Growing relevance of biotech over traditional chemicals-based drugs is helping contract drug discovery and manufacturing organisations (CDMO). China is building scale and expertise in biotech across the value chain and emerging as a committed long-term player for big pharma, local champions, and biotech start-ups.
- **Financialisation of savings:** Property sector weakness is likely to discourage some Chinese households from putting most of their wealth into real estate and a likely outcome is that additional household savings could be invested in a wider array of financial products, encouraging the diversification of the country's financial sector.
- **Metaverse:** We believe there is room for technology to develop and grow while the Chinese government observes and plans the future of immersive technologies. In November 2022, the regulator released the first national-level policy that supports metaverse development in the country – the four-year action plan aims to encourage the integration of virtual reality technology with industrial applications, signalling a positive attitude towards the industry.
- **Localisation:** Rising geopolitical tensions with the US, which have held back global tech ambitions, have encouraged a focus on localising critical technologies. The development presents exciting investment opportunities for investors in chip design, manufacturing, software, and related industries.

Despite the opportunity, investors need to avoid pitfalls associated with China, some of which are unique to the country. It is crucial to avoid any sectors related to geopolitical issues, such as the US entity list. In addition, we are avoiding low-quality companies in cyclical industries, especially those with excessive leverage and generating returns below the cost of capital. We believe that the world looks increasingly resource-constrained and that such companies will remain vulnerable to input cost inflation. In addition, monetary policy is unlikely to stay as loose as it was in the past, which may make it more expensive or more difficult to refinance debt.

While China has made commendable progress in multiple fields, there is potential for the economy to achieve more. However, progress in the future will depend on the pace of economic reforms and the further opening of the economy. This will heavily depend on how quickly the Chinese leadership can reform its state-owned enterprises (SOEs), making them competitive and relevant for the future.

Globally, economies rarely cross the US$10,000 per capita income without reforms at an institutional level. China has already crossed this level thanks to its previous growth model, a focus on exports, and infrastructure development. As some of these drivers unwind; and excessive leverage and property sector weakness remain an issue, China will have to quickly assemble new drivers to sustain income levels and ensure a higher quality of life for its people.

Sungrow Power Supply

Sungrow Power is one of the world's largest manufacturers of solar inverters, with a global market share of approximately 25%.[4] There is a global urgency to accelerate the deployment of renewable capacity to meet carbon-neutral commitments and minimise the impact of climate change. Europe is enhancing its investment in renewable capacity to reduce the dependency on Russia's oil and gas. The US has an ambitious renewables roadmap to catch up with China and Europe. Sungrow, a significant supplier of cost-competitive inverters, is well-positioned to capitalise on the growth in the renewables market.

The energy storage business is another promising vertical that the company considers its primary growth driver over the next few years. The business is relatively new as global deployment is still at an early stage and is project-specific. However, costs have declined to an acceptable level, which justifies a more rapid deployment of the storage systems. Sungrow believes that the energy storage business will double annually over the next few years growing from approximately 10% of sales at present to more than 40% in four to five years.

Hangzhou Tigermed Consulting

Tigermed is China's largest contract research organisation (CRO), focusing on clinical trials. Historically the demand for consulting and clinical trial services mainly came from overseas companies, but since 2015, when the government introduced supportive policies to rebuild its pharma and biological sectors, the trend has started to reverse. Following the reforms, domestic pharma and biotech companies have begun to expand their presence in the drug innovation field with the aim of becoming competitive in the international market. Tigermed helps domestic biotech companies accelerate their route to market by offering comprehensive clinical trial and consulting services. The company also offers speedy approval and access to China's market for overseas pharma companies.

According to US consulting firm Frost & Sullivan, clinical trials in China grew from US$1.3bn in 2015 to US$3.7bn in 2019 and are likely to reach US$13.7bn in 2024, implying a CAGR of 30%.[5] By acquiring other clinical and preclinical platforms across the globe, the company is paving a route for innovative domestic companies to have faster access to the international arena.

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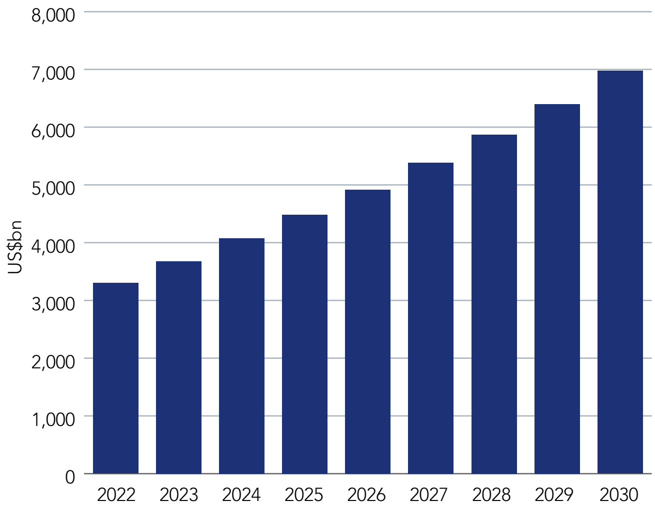
[4] Sungrow Annual Report 2021: Revenue Increases by 25.15% and Global Market Share Exceeds 30% | SUNGROW (sungrowpower.com)

[5] https://equalocean.com/analysis/2022080318655

India: A bright decade ahead

The India story is likely to gain even greater prominence over the next decade. While the US and China will remain just as important, the rise of India's economy is a force to watch. India is now the fifth largest economy in the world and will likely be the third largest in the next seven years, with its GDP more than doubling from the current US$3.3tn. According to our analysis, India is forecast to add more than US$400bn to its GDP annually, a scale that only the US and China surpass.

Figure 2: India's GDP is on track to surpass the UK, Germany, and Japan



Source: Federated Hermes analysis as at January 2023. Forecast cannot be guaranteed

For context, it took India 31 years from 1991 to 2022 to increase its GDP by US$3tn. According to our projections, it will take another seven years for its GDP to grow by an additional US$3tn.

A confluence of factors, including a stable political environment, ongoing reforms, current geopolitics, demographics, and local dynamism, should ensure India's economy continues to compound growth at a high rate.

Favourable demographics are an essential growth driver. India's working-age (15-64) population is set to increase by more than one-sixth between 2020 and 2050.[6] Around 10-12 million workers are set to join the workforce annually, contributing to a declining dependency ratio and providing a long runway for growth.

Since 2014, India has benefited from an effective and stable federal government, allowing it to implement reforms and drive structural changes. Policy focus has shifted away from redistribution and towards boosting investment and job creation. Prime Minister Narendra Modi enjoys high approval ratings, even after eight years in power, and his Bharatiya Janata Party (BJP) is likely to be re-elected in the 2024 general election, supporting further reforms.

Key reforms over the last few years include:

- **'Bottom-of-the-pyramid' policies** (financial inclusion, direct benefit transfers, and electricity for all)
- **Far-reaching economic reforms** (a nationwide goods and services tax creating a unified domestic market, corporate tax cuts, real estate regulatory act, bankruptcy code, digital reforms, privatisation)
- **Market-friendly fiscal priorities** (record government capital investment, focus on infrastructure, and manufacturing incentives)

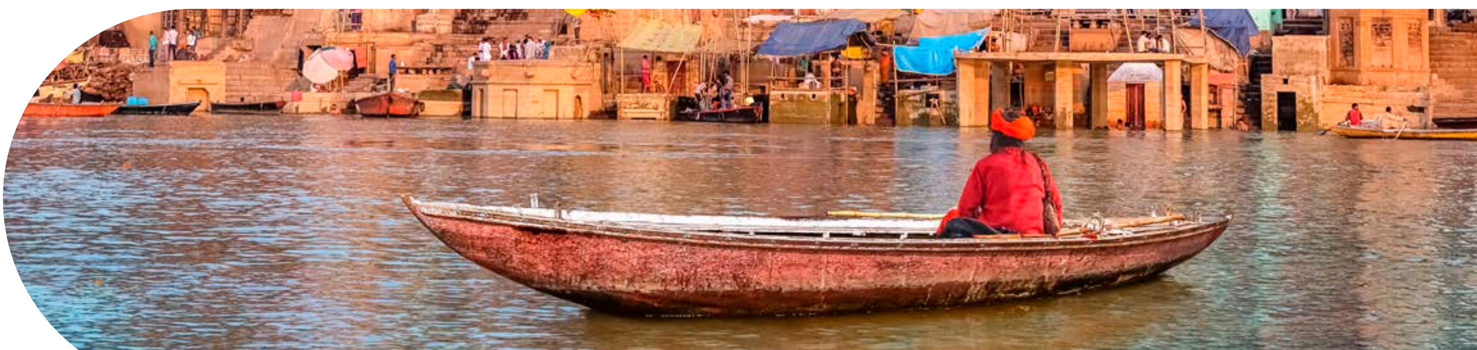
For instance, India's tax reforms are helping to reduce the cash economy and fund capital expenditure. Tax collection by the government for the financial year ending March 2022 grew by 34% to more than Rs27tn ($330.7bn),[7] which is more than 2x that of nominal GDP growth. The government has increased capital expenditure (capex) at a compound annual growth rate of 30% over the last four years compared to 7% for the previous four years.

Recent geopolitical events are also conducive to India's growth. The country is a viable destination for the 'China+1' push (see Supply chains: Relocation to create long-term winners below [LINK]) as companies diversify their supply chains away from China. While there are contenders such as Vietnam, Mexico, and Malaysia, India offers compelling benefits not just on the cost front with cheap labour and a large talent pool but also a vast fast-growing domestic market. The government's initiatives to reduce red tape and increase foreign investment have also improved the nation's appeal to global companies. Its ambitious Production Linked Incentive (PLI) scheme has targeted 15 sectors – including electronics, autos, pharmaceuticals, semiconductors, green hydrogen, solar cells, electric batteries, and electric vehicles[8] – offering more than US$30bn in incentives to establish manufacturing operations in the country, yielding early successes. The new factories will likely increase employment in the formal sector and, crucially, raise productivity, creating a virtuous cycle of sustained growth.

[6] https://www.weforum.org/agenda/2020/01/demographics-china-india-diverging/

[7] www.cga.nic.in

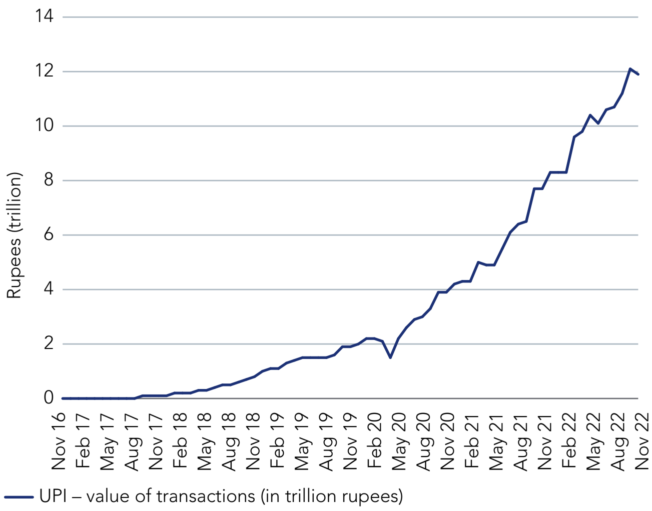
[8] pli scheme investment: PLI scheme draws investment of Rs2.34 lakh crore in 14 sectors – The Economic Times (indiatimes.com)



Consumer discretionary spending is gaining a share in total consumption, with per-capita GDP now having crossed the critical US$2,000 level.[9] Penetration levels of several consumer goods, particularly discretionary products and services, remain low. For example, while India recently became the world's third-largest car market[10] with annual sales of more than four million vehicles, car penetration is less than 30 per 1000 people (compared to more than 200 in China). Rising urbanisation (approx. 35% currently[11]), higher income levels (approx. US$2,500 per capita, 10% CAGR[12]), and a gradual shift away from agriculture (still the country's largest employer employing about 40% of the population[13]) to better paid work will drive penetration levels for various goods and services.

While India is playing catch-up on physical infrastructure (roads, railways, airports, and ports), in digital infrastructure, India has taken a progressive developmental approach. Unlike other economies where private networks dominate, India has built out a unique public digital infrastructure. The digital identification system (Aadhaar) can be a catalyst for the success of broader digital infrastructure initiatives. Further investments are being made, leveraging this digital infrastructure to match consumers and businesses better, facilitate transactions, and reduce business costs. The United Payment Interface (UPI) is now the world's largest real-time payment network, with transactions hitting US$1tn in 2021-2022.[14]

Figure 3: India United Payment Interface (UPI) transactions



Source: National Payments Corporation of India as at 31 December 2023

Another aspect of the Indian story is the dynamism of its people. This dynamism can be evidenced in the number of multinationals run by CEOs of Indian origin. One of the country's strengths is its vibrant entrepreneurial culture, which has spawned a thriving start-up ecosystem. The number of unicorns – start-ups with a US$1bn valuation – topped 100 in 2022.[15]

Household savings and domestic investment in financial markets are increasing, indicating a broadening of the market base. In 2022, as foreign investors sold net US$17bn worth of stocks in India, the country was still among the best-performing markets as domestic transactions matched the foreign selling. Equities as a percentage of household net worth remain at around 5%[16] and, therefore, have significant room to rise.

Towards its net zero target of 2070, India has also pledged to generate half of its installed electric power from non-fossil fuel-based energy by 2030. Private investment will expand India's renewable capacity. The country is highly dependent on fossil fuels and has made ambitious investment commitments in green energy production, including solar and green hydrogen. As the world's third-biggest oil importer, India also hopes that investing in renewables will bring greater energy independence.

The long-term trends of demographics, deglobalisation, digitalisation, and decarbonisation are lining up well for India. It has the conditions for an economic boom over the coming decade.

9 Jefferies
10 India beats Japan to become world's third-largest vehicle market – Times of India (indiatimes.com)
11 India – Urbanization 2021 | Statista
12 Federated Hermes analysis
13 Jefferies
14 Unified Payments Interface (UPI) Product Statistics | NPCI
15 https://startuptalky.com/top-unicorn-startups-india/
16 Jefferies

Pidilite Industries

Pidilite's consumer brands, products such as adhesives and sealants, account for about 80% of its revenue. The remaining 20% of revenue comes from the company's B2B business, focused on industrial resins, construction chemicals, and pigments. The company has been good at targeting underserved areas of the market and developing awareness of its brands. Pidilite's 'Fevicol' adhesive, for instance, consistently ranks among the country's most trusted brands. In the construction chemicals segment, it has experienced similar success with its waterproofing solutions. Pidilite's marquee brands and strong distribution network give it a competitive advantage and strong pricing power that is not easily replicable by rivals.

The Indian property market, meanwhile, has hit a turning point after suffering a downturn since 2013. India is currently one of the world's least urbanised countries and is set to add around 400 million urban dwellers over the next 25 years, taking the proportion of the country's urban population from 33% to 50%.[17]

This trend, supported by India's growing middle class, will drive demand to upsize and upgrade properties, which will create a structural tailwind for the Indian housing market and support demand for Pidilite's products.

State Bank of India (SBI)

State-owned SBI is India's largest domestic bank and a market leader in retail loans. It is a household name with more than 450 million customers. SBI boasts industry-leading subsidiaries, allowing access across multiple growth segments such as insurance, asset management, credit cards, and other services. Unlike other state-owned banks, SBI has managed to hold into its market share over the past decade (about 23%) and has made progress towards reducing stubbornly high costs and improving its employees' productivity. SBI's digitisation strategy is significantly advanced compared to state-owned peers and even some private-sector peers, and its industry-leading super app, Yono, is one of the largest digital lenders in India. The bank's strong franchise, regional diversification, and reach (including digital) drive growth in deposits, including low-cost current account deposits, that make up approximately 45% of total deposits. This has allowed the bank to have the largest dposit franchise and boast one of the lowest costs of disintermediation in the industry. In light of our positive outlook for the Indian economy, we believe the banking sector should benefit from improving credit demand, rising margins, and a benign credit costs environment. Given its scale and reach, SBI is a strong proxy for economic growth in India. In a rising interest rate environment, SBI's dominant deposit franchise also should play its part and have a meaningful impact on future profitability.

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[17] Jefferies

Brazil: A lost opportunity or time to get constructive?

The years between 2017 and 2021 – aside from the short, sharp shock of Covid-19 – were a period of relative respite for Brazilian investors; interest rates reached record low levels, there was comparative fiscal conservativism, a steady drip of microeconomic reforms, and an unprecedented initial public offering (IPO) boom. However, the last two years have seen the return of two familiar old devils to the Brazilian economy: high inflation and the threat of a fiscally-induced meltdown in government bond markets.

The central bank has reacted by hiking rates dramatically: spreads above already-rising US rates have expanded across the yield curve, and equity prices have tumbled.

The bad news is that Brazilian fiscal policy continues to be highly consequential for investors but also unpredictable. It is consequential because the state is oversized relative to the economy, as is the resultant government debt. Brazil's obligations to its citizens are likely to grow faster than GDP, meaning that the country may struggle to manage its fiscal position in years to come. Government policy is also unpredictable because of the inherent instability of the political system in Brasília. For investors, it’s likely there will be ongoing volatility related to these factors, which can be expected to worsen when conditions in global markets become challenged.

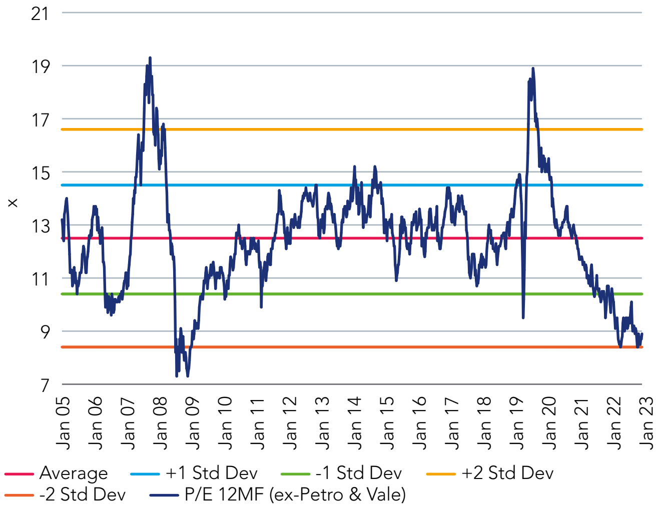
However, there is also some good news. Brazil has not abandoned its commitment to fiscal discipline altogether: the new finance minister has repeatedly spoken about the need for a 'fiscal anchor', which means a plan to balance the books. The commitment may partly come as a result of a pro-growth tax reform which could be transformative for Brazil. The Brazilian tax system is extremely arcane and vastly inefficient. We haven't met a business leader who wasn't enthusiastic about the prospect of a major overhaul in this regard. We also subscribe to the belief that Brazil's institutions are ultimately strong enough to prevent irreparable damage to Brazil's economy. Brazil's banking system is much more resilient today than it was during the previous politically-induced crisis in 2015-2016. Brazil’s independent central bank is acting to quell inflation, and the institution was significantly ahead of the curve, compared with other central banks around the world. Without further fiscal disruption, it seems reasonable to expect Brazil to begin cutting rates ahead of most developed countries, with nominal rates at 13.75% and real rates at over 7%.

Figure 4: Brazil *ex ante* real interest rates

Source: Bloomberg as at 13 January 2023

The other significant good news for investors is that the market has moved quickly and dramatically to price in the new 'macro' scenario. The stock market sits at record low valuations, and our modelling suggests significant margins of safety even when fully accounting for very high discount rates. Therefore, we are reasonably hopeful of positive shareholder returns in the years ahead. The companies we own in our fund are not only trading at low valuations but are highly resilient to whatever the economy throws at them, given that they are highly cash-generative market leaders. We believe they offer a good combination of resilience and upside potential in years to come.

Figure 5: Low valuations and upside potential



Source: BTG Pactual as at January 2023. **Past performance is not a reliable indicator of future performance**

Over the long term, we believe three key factors will determine the growth outlook for the Brazilian economy:

- **Commodity Prices:** For better or worse, Brazil's comparative advantage is in commodity production – iron ore, steel, oil, pulp, soybeans, sugar, ethanol, and animal proteins are all vital to the economy. Without oversimplifying, Brazil's period in the sun (2002-2010) coincided with rising commodity prices, and its years in the doldrums (2011-2016) overlapped with a sharp fall in commodity prices. In the event that we are entering a period of higher commodity prices, Brazil's economy will probably benefit, resulting in higher levels of investment, a stronger currency, and more robust tax revenues.
- **Infrastructure:** Brazil desperately needs more physical infrastructure. The country is heavily reliant on its road system (as opposed to waterways and railroads), but about 90% of roads are unsurfaced. The previous government made headway in improving infrastructure, including passing a bill to ensure more than 100 million people get access to wastewater services over the next decade. The new government is expected to use policy banks – state lenders focused on government priorities – more aggressively; we hope they will direct some of this capital towards transformative infrastructure projects that could boost Brazil's competitiveness and create a more dynamic internal market.
- **Further reforms:** Alongside tax reform, we would like to see significant reforms to Brazil's failing education system (quite possible under the new government of President Lula), which could have significant long-term implications on productivity, as well as a broader public sector reform to lower the burden that Brazil's inefficient state has on its economy. We are not that hopeful on this front, but President Lula has surprised people many times, so we will continue to be vigilant.

Itausa

Itausa is an investment vehicle holding a controlling stake in Itau, Brazil's leading private bank. Over the last few years, the holding company has become increasingly active after a change in management. It acquired several good-quality assets at distressed prices during the Brazilian crisis. Since then, the company has continued building its strategy and M&A teams, moving key personnel from Itau bank to the holding company. In the future, we see Itausa (and its partners, which include Brookfield and GIC) as ideally placed to help solve Brazil's long-standing infrastructure deficit. It has already made investments in gas distribution, roads, rail, airports, and the sanitation sector, and we expect further similar investments in the future.

Itausa is currently trading at a price-to-book multiple close to the level it reached during the Brazilian economic crisis (2015-2016). Back then, there were concerns about the banking system's solvency, however, no such concerns exist today and Itausa is trading at an attractive valuation. We believe Itausa will continue to deliver attractive returns in the years to come while helping to address one of Brazil's key societal problems: its lack of quality infrastructure.

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Memory: From cyclical to structural

Since 2001, the semiconductor memory chip industry has undergone massive consolidation. Initially, 14 companies competed aggressively on prices, but by 2020 the industry had consolidated to just three major corporates – South Korean conglomerates Samsung and SK Hynix and US group Micron. As a result, the structure of the memory market improved with better industry cross-cycle profitability and product expansion. The average cross-cycle gross profit margin strengthened from approximately 20% between 2007-2014 to about 40% in 2015-2022.[18] At its peak in 2009, the personal computer market represented about 60% of the industry[19] and was the primary driving force for the memory demand. Between 2010-2020 the need for memory expanded to smartphones and servers, which became the largest memory consumers. In the future, automotives, infrastructure, and edge computing will be additional drivers of the industry's structural transformation.

Short Term Concerns

Lockdowns and Covid-19 created significant dislocations in semiconductor inventories. Three key factors led to historically high inventory levels, supply-demand imbalances, and inflationary pressures:

- **China-centric supply chain:** China plays a huge role in the semiconductor supply chain and there were significant disruptions due to ongoing lockdowns and the inability to procure components. The industry began to experience double- and triple-ordering, which led to component cost inflation, extremely high freight rates, and a willingness to pay higher prices.
- **Aggressive demand uptick:** Working and studying from home triggered additional demand for personal computers (PCs). The shift towards electric vehicles (EVs) gained momentum (EVs have 2-3x semiconductor content vs. internal combustion engine cars), and businesses accelerated their digital transformation, resulting in rapid growth in artificial intelligence (AI) data centres which are extremely reliant on semiconductors. The 4G to 5G upgrade cycle created additional demand for semiconductors. Finally, the push for decarbonisation and automation has increased the demand for semiconductors, particularly mature technologies.
- **Underinvestment in mature technologies:** The major bottleneck was underinvestment in plants manufacturing simple semiconductors with older designs ('mature nodes'). These chips cost as low as 10 cents (US$), so companies didn't want to commit significant capital expenditure towards these mature nodes because of the impact on their income statements from the depreciation of the equipment and plants. What happened during the pandemic was abnormal and unpredictable, and the

[18] Micron Investor Day presentation 12 May 2022

[19] Gartner December 2022

industry was not ready. The automotive sector felt the most substantial effects of the underinvestment in mature technologies (mainly power semiconductors) in the form of long lead times. The renewable energy sector also fell victim to the lack of these power chips.

To summarise, a perfect storm led to a historic supply-demand imbalance. Other apparent consequences include inventory overbuild, stretched lead times, record order books, and unfavourable commitments.

What we are seeing today is a rapid unwinding of the imbalances. The capacity (i.e. supply) started to come on board, and at the same time, demand weakened throughout 2022, which led to severe oversupply in the memory industry. To address the surplus and high levels of inventory upstream and downstream, Micron and SK Hynix committed to unprecedented capital investment cuts to reverse the excess supply and stabilise the market during the first half of 2023. The industry is also expecting rapid digestion of inventories throughout 1H23 with the expectation that the sector will enter a healthier 2H23.

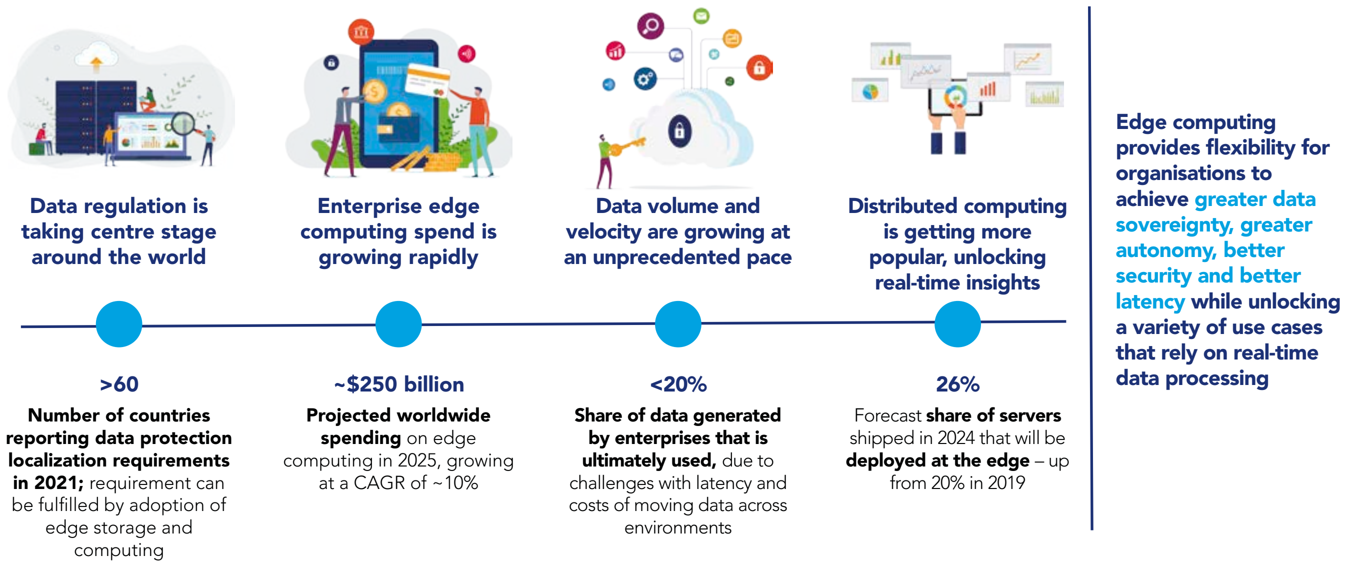
Mid to Long-term Opportunities

After a cyclical correction and inventory digestion, which we think will reach an inflection point in 2H23, the memory industry is well-positioned to capture structural trends such as digitalisation, growth in AI data centres, autonomous driving, and edge computing. The memory industry is one of the critical enablers of these structural changes, which is why the memory market is the fastest-growing part of the semiconductor industry. The market is likely to double in size by 2030.[20] In our opinion, the memory industry will gradually shift to become less consumer-centric and more focused on industry/business demand, making it less cyclical in the future.

- **Data centres:** We have an ongoing conversation with large corporates that buy memory chips in the US and globally. One of the major cloud providers told us that memory is crucial to their long-term plans to deploy AI data centres of the future. AI data centres are extremely hungry for computing power, and a new protocol that the industry is currently implementing will help address computing constraints with the help of memory. Additionally, with the growth in data centres and digital data in general, the demand for storage will increase exponentially, supporting a solid long-term need for memory.
- **Autonomous driving:** We spoke to a few automakers currently working on the next-generation technologies that demand large volumes of memory chips. We do not expect a significant uptick in demand until 2025, but we are confident that memory will play an important role. The auto industry talks about six levels of autonomy, each with a specific set of requirements. For instance, on level 0, there is no automation, but at level 5, a vehicle can have a completely hands-off experience. Most cars sold today are level 1 and 2, with only a limited amount of memory required. Some cars introduced in 2022 are level 3 capable with a significant memory increase. The demand for memory to support data processing in real-time, vehicle-to-vehicle communication, internet connection, and several other functions will only increase. According to Micron, the automotive segment will be the major revenue contributor on par with servers in the next ten years.
- **Edge computing:** With billions of industrial Internet of Things devices connected to the cloud, edge computing – an architecture in which data is processed at the network close to the source instead of a centralised data storage location – will bridge enterprise and industrial systems in markets such as factory automation, oil and gas, smart cities, healthcare, surveillance, and others. The consultancy IDC estimates that by 2025, the world will generate 10x the amount of data than in 2016. Edge computing has multiple benefits, such as increased performance, reduced operation costs, better efficiency, regulatory compliance, and ultra-low latency. With the growth in edge computing, the demand for memory and storage will increase. Data at the edge require a millisecond response. Processors will require higher-performance memory to support more efficient machine learning execution. Memory will also play an essential role in security and data integrity.

[20] Micron Investor Day presentation 12 May 2022

Figure 6: Edge computing could soon become indispensable

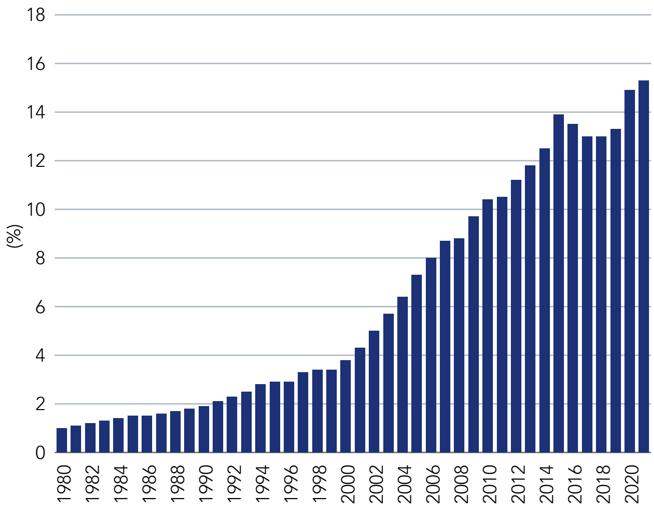


Source: McKinsey Technology Trends Outlook 2022.

Supply chains: Relocation to create long-term winners

In 2000, China accounted for 4% of global exports, but by 2021 it was the dominant force in international trade with a share of around 15%. Moreover, the country dominates manufacturing supply chains by an even greater margin, commanding a share of over 25%.[21]

Figure 7: China exports as a percentage of world exports



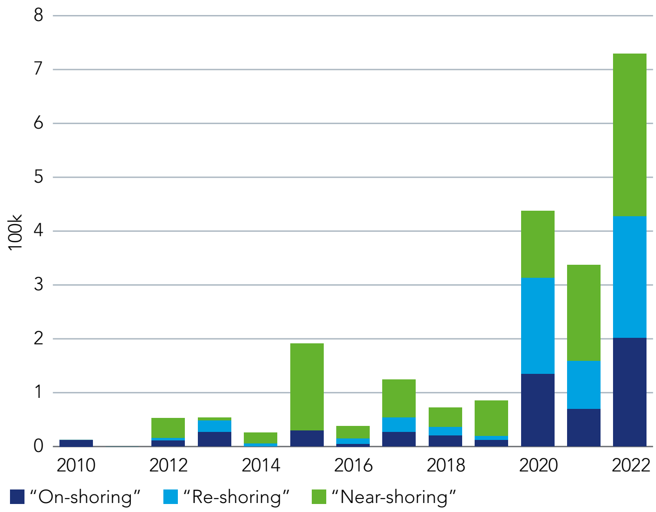
Source: CLSA, IMF Direction of Trade Statistics as at 15 November 2022

However, today China faces six critical challenges to its position as the world's dominant exporter and largest manufacturing hub:

- **Politics:** A political backlash against China's growing export dominance led by the US, previously under former president Donald Trump and continued by the administration of President Joe Biden. The actions have a recent precedent. Back in the 1980s, as Japan approached around 10% of global exports, the country faced rising protectionist pressures, resulting in the Plaza Accord of 1985, which effectively marked the peak of Japan's export dominance (and opened the door for other Asian countries to pick up the slack).
- **Geopolitics:** Geopolitics is moving up the agenda after Russia's invasion of Ukraine. Geopolitics is affecting not only China but also Taiwan. Newspapers and companies are now more focused on China-Taiwan risks and China's interests in the South China Sea. When we visited Taiwan in November 2022, we found that local businesses were slightly bemused by the sudden focus of Western investors on geopolitics in Asia. From their point of view, very little had changed.
- **Covid:** China's erratic Covid-19 policies have made CEOs more aware of supply chain concentration risks as Chinese factories shut down, roads closed, and ports shut down.
- **Population:** China's population is ageing, and its working-age population began shrinking in 2017. According to the UN, China's working-age population will continue to shrink at over 1% each year.
- **Higher wages:** It is interesting to note that in 2011, Chinese workers' wages were roughly 50% higher than Mexican workers, but by 2021, they were over 3x the cost per hour.
- **Decarbonisation:** China's policies are pushing some heavy industry to other countries, such as Indonesia.

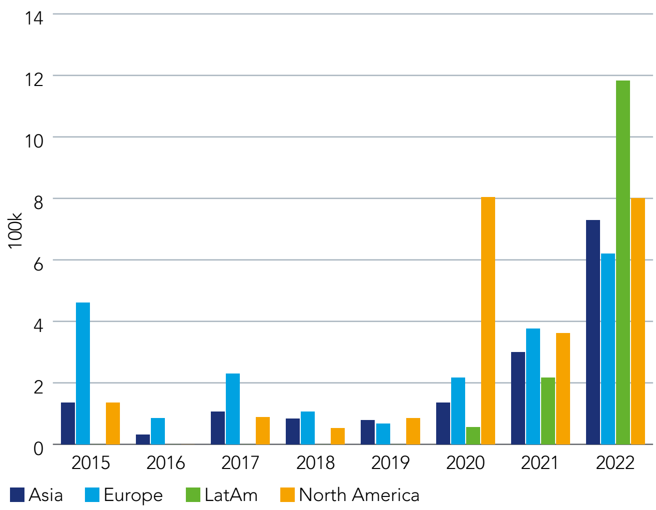
We know there are growing demands from Western customers for more diversified supply chains. We repeatedly hear from companies we speak to about new 'China+1' sourcing policies and 'just in case' supply chains (as opposed to 'just in time'). Western companies' management is increasingly talking about changing supply chains on quarterly calls.

Figure 8: Company mentions of…



Source: HSBC, Asian Economics as at January 2023

Figure 9: 'Shoring'-term mentions by region



Source: HSBC, Asian Economics as at January 2023

[21] CLSA as at 15 November 2022

We see four significant beneficiaries in our universe:

- **Vietnam:** We recently returned from Vietnam and found an economy with enormous potential. GDP per capita is just US$3,750; 62% of Vietnam's 98 million people live in the countryside[22] – but the country is rapidly urbanising. The government is investing vast sums of money in infrastructure and continues to reform economic policies. Economic growth will likely remain above 6%, even in 2023 amid a global slowdown. Most importantly, Vietnam is a highly open economy with exports of nearly 100% of GDP and foreign direct investment (FDI) of around 7% of GDP.[23] South Korean and Japanese companies have a sizable presence, with Samsung alone accounting for almost 20% of Vietnam's exports.[24] Apple has recently ramped-up the production of AirPods in Vietnam, and plans to start producing MacBooks in the country.
- **Malaysia (and Singapore):** Malaysia benefits from its unique position of having a sizeable Chinese and English language-speaking population, its proximity to advanced manufacturing hub Singapore, and its key role in the manufacturing supply chain for semiconductors and electronics. Companies such as Intel, Bosch, and Broadcom have a longstanding presence in the region, supporting an effective supply chain and large talent pool of workers. On a visit to Penang in March 2022, we saw evidence of an investment boom in this key export hub. Every company we spoke to was scrabbling to expand its manufacturing footprint as quickly as possible. FDI in Malaysia's electronic manufacturing sector in 2021 was 5x the previous five years.[25] On a visit to Taipei in November '22, several companies mentioned expansion in Malaysia and Singapore as the most viable alternative to China/Taiwan (citing talent, language, and work culture, among other factors). We expect to see Malaysia's electronics and manufacturing exports continue to grow for the foreseeable future.
- **India:** More than any other Asian country, India has the potential to expand its manufacturing base. At present, India accounts for only 1.9% of global goods exports.[26] With a population of 1.4 billion, it has a vast potential workforce; 350 million people are aged under 15.[27] Infrastructure is improving quickly – for instance, the national highway network has grown by more than 50% since 2014.[28] In 2021, the government announced a major US$30bn+ initiative (the Production Linked Incentive scheme) to attract manufacturing investment. Samsung and Foxconn have jumped at the opportunity to manufacture and assemble phones in India. Some of our investees are expanding production capacity substantially in India from a low base (for example, electrical equipment companies Delta Electronics and WEG).
- **Mexico:** Mexico should directly benefit from US 'nearshoring' policies. The country's manufacturing exports already contribute 40% of GDP,[29] but its US$400bn exports to the US are considerably smaller than China's almost US$600bn.[30] Morgan Stanley recently estimated that Mexico could seize a further US$150bn of export value in the next five years due to market share gains in existing export categories (autos, electronics, metals, and machinery). The Inflation Reduction Act, which privileges companies producing EVs in the US-Mexico-Canada free trade zone, could also benefit Mexico substantially, particularly given existing labour shortages and wage pressure in the US. The world's largest battery manufacturer, CATL, is reportedly eyeing a massive facility in Mexico.

[22] World bank https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=VN

[23] Urban population (% of total population) – Vietnam | Data (worldbank.org)

[24] World Bank, Foreign direct investment, net inflows (BoP, current US$) – Vietnam | Data (worldbank.org)

[25] CLSA and CEIC

[26] India is likely to be the world's fastest-growing big economy this year | The Economist

[27] World Bank

[28] National Highways' increased by 54% since April 2014 till date: Nitin Gadkari - BusinessToday

[29] Morgan Stanley, Mexico Equity Strategy & Economics: Mexico's Nearshoring Opportunity & Challenges Amid a New Era of Geopolitics (ms.com)

[30] Mexico Equity Strategy & Economics: Mexico's Nearshoring Opportunity & Challenges Amid a New Era of Geopolitics (ms.com)

Figure 10: Large emerging economies are rapidly industrialising

Rank	1980	1990	2000	2010	2020
1	USA	USA	USA	USA	**China**
2	Germany	Japan	Japan	**China**	USA
3	Japan	Germany	Germany	Japan	Japan
4	United Kingdom	Italy	**China**	Germany	Germany
5	France	United Kingdom	United Kingdom	Italy	**South Korea**
6	Italy	France	Italy	**Brazil**	**India**
7	**China**	**China**	France	**South Korea**	Italy
8	**Brazil**	**Brazil**	**South Korea**	France	United Kingdom
9	Spain	Spain	Canada	United Kingdom	France
10	Canada	Canada	**Mexico**	**India**	**Russia**
11	**Mexico**	**South Korea**	Spain	**Russia**	**Mexico**
12	Australia	**Mexico**	**Brazil**	**Mexico**	**Indonesia**
13	Netherlands	**Turkey**	**Taiwan**	**Indonesia**	Ireland
14	Argentina	**India**	**India**	Spain	**Turkey**
15	**India**	**Taiwan**	**Turkey**	Canada	Canada

Source: Zero Hedge Analysis, IHS Global Insight, McKinsey Global Institute analysis, World Bank.

Therefore, we can see that global manufacturing companies are diversifying their supply chains, which will likely benefit countries where we already have investments. However, it is also worth noting that this does not make China unattractive as a place to invest. Since 2010, international trade has diminished in relevance as a driver of China's GDP, and the country is partly a 'victim' of its successes. Wages are too high for China to have the same importance to global exports going forwards as it had in the past. Instead, China's economy is likely to be increasingly driven by services, consumption and higher-end manufacturing (as opposed to manufacturing mass-market products or basic goods). These 'new' growth areas present many opportunities for investors.

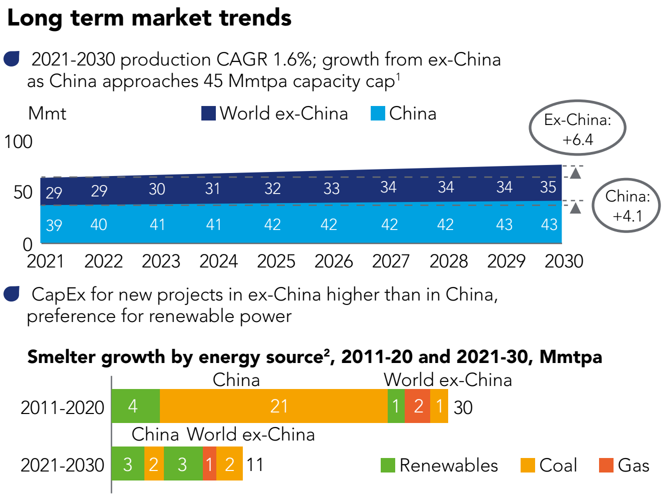
Commodities and Energy: A long-term perspective

It is hard to say anything particularly useful about commodity prices in the short term. There are too many factors at play: the war in Ukraine, US monetary policy, China's re-opening, the depth of recessions in the West, and temporary supply disruptions, to name but a few. However, we can make more saliant insights about the medium-term outlook for commodities.

The world economy will become significantly more reliant on copper as we electrify transport, industry, and heating, build out renewable energy and expand the grid. However, the pipeline for new copper projects beyond 2025 is almost non-existent. We see significant difficulties sourcing sufficient copper for several years after 2024, and the earliest we see a resolution of this theoretical supply deficit is 2028-2029 (assuming projects are announced in 2023).

We believe that the effort to reduce carbon emissions will result in fewer new aluminium projects. The metal is energy-intensive and primarily produced using gas and coal today. However, its strength, durability, and lightweight nature make it an irreplaceable part of any future economy we can imagine. China is the primary producer of 'dirty' aluminium and has capped production to lower its emissions, and new potential hydro-powered projects are thin on the ground. Chinese actions increase the probability of supply deficits in the second half of the decade.

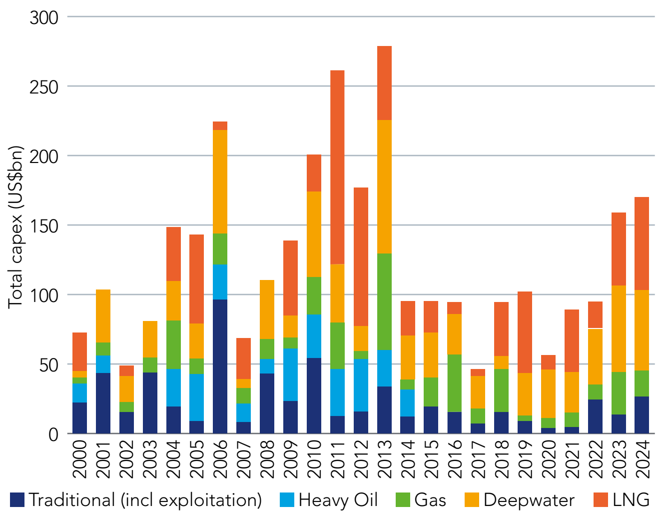
Figure 11: Global aluminium growth trends



Source: Alcoa as at 16 November 2022

Overall, oil and gas capital investment collapsed after 2013. Capital investment in top projects averaged around $200bn in 2010-2013 but fell to under $100bn per annum between 2014-2022.[31] Globally, oil rig counts today are 40% below 2011, and we see little evidence of overall supply growth in years to come. Yet over the medium term, oil demand will continue to be resilient. It appears that OPEC has regained the initiative in managing the oil price, and US production may have peaked. As a result, oil prices are likely to remain higher and be more volatile over the next five years than they were over the last ten years.

Figure 12: LNG capacity on the rise



Source: Goldman Sachs as at 13 December 2022

We believe there is an element of collective denial about the practical necessity of gas as a transition fuel, particularly in Asia, where coal-fired power plants dominate. In addition to Asia, the need for gas is high in Europe and the US, and governments remain tentative about investing in nuclear power. We expect to see significant bottlenecks in the ramp-up of renewables, not least the difficulty in making the necessary adjustments to existing infrastructure. The net result of these judgment errors is an underinvestment in gas capacity. Gas reserve replacement rates have gone from 180% in the 2000s to 90% today.[32] The situation has been made considerably worse by the conflict between Russia and Ukraine.

Reallocation of supply chains, a new focus on energy security, and the pressure to decarbonise inherently mean a more capex-intensive economy and, therefore, a more resource/material-intensive economy (in the medium term).

The risk of structural supply issues in key commodity markets in years ahead is an issue that we think is underappreciated by investors and policymakers, creating risks and opportunities that we will continue to monitor.

The critical risk is essentially more volatile inflationary and monetary policy dynamics in years to come as supply shortages appear regularly at a given level of economic growth. It is worth noting, for instance, that the oil price has an 0.88 correlation with US five-year inflation expectations.[33]

[31] Goldman Sachs
[32] Predictions for global energy in 2023 – Thunder Said Energy
[33] Jefferies, Asia Maxima Q1 2023

In our view, a more volatile macro backdrop will increase the importance of (a) high-quality active management of portfolios, (b) holding good quality businesses that can manage their margins through input cost volatility, and (c) valuation discipline from the stock analyst.

Exciting investment opportunities exist in the metals and mining space and the equipment suppliers to the mining/ Liquified Natural Gas (LNG) industry. In addition, the countries producing those commodities are also interesting, most of which are in the EM universe (Brazil, Indonesia, Chile, South Africa, and Middle Eastern countries).

Press Metal

Press Metal is a Malaysian low-carbon aluminium producer and 80% of the power used in its smelting process comes from a large hydropower plant in Sarawak on the island of Borneo. As a result, the power is low cost (even compared to Chinese peers) and secured on a long-term contract that runs until the mid-2030s, meaning that the company is a beneficiary of the soaring energy costs that have affected various coal and gas-powered global competitors.

Applying carbon pricing to the aluminium market (or meaningful green premiums paid by consumers) would be a further positive for the company, given its low carbon intensity relative to the industry. We also believe that the company may be able to expand production when new hydropower dams are completed in Sarawak. Moreover, Press Metal has historically built smelters with comparatively low capital outlays compared to European and Chinese peers.

We believe that the aluminium price at the present time does not reflect the real cost of production (in a high energy-cost environment), and we believe we are likely to see further smelter curtailments that will reduce supply. We also note that Chinese aluminium inventories are low. Both factors (alongside long-term supply issues) make us optimistic about the outlook for Press Metal over the coming years.

Gaztransport et Technigaz (GTT)

GTT is the dominant player in LNG carrier membranes, boasting a 100% market share. It's cryogenic membrane technology is patent-protected. GTT's business is asset-light, with South Korean and Chinese shipbuilders paying royalties to the company to use its technology in LNG transport ships. We believe the LNG market will grow because of rising global demand for natural gas as a transition fuel, particularly in Asia, as countries look to wean themselves off coal.

We can see that there are record order books for new LNG tankers as more LNG projects come on stream in the second half of the decade. GTT's business model (unlike the shipbuilders) enables it to grow revenues with a comparatively fixed cost base.

GTT also benefits from efforts to decarbonise shipping as its membrane technology is a viable alternative in LNG-fuelled ships. In 2021, it had an order flow equivalent to half of all new large container ship orders for this technology. We are also encouraged that GTT is expanding its investments in green hydrogen and investing in the largest electrolyser production base in France, allowing the company to keep growing its business beyond natural gas and in preparation for a zero-carbon future.

The above does not represent all of the securities held in the portfolio and it should not be assumed that the above securities were or will be profitable.

This information does not constitute a solicitation or offer to any person to buy or sell any related securities or financial instruments.

Electric Vehicles: A multi-year opportunity

Electric vehicle (EV) sales grew by more than 60% in 2022 as environmental awareness, high fuel prices, policy incentives, better choices, longer ranges per battery charge, and lower prices continued to drive demand. As of 2022, around 25 million EVs were on the road globally, representing about 1.5-2% of the global fleet.[34] EVs currently represent a low-double-digit percentage of overall car sales but this is set to increase significantly. According to Bloomberg New Energy Finance (BNEF), over 60% of passenger vehicle sales must be zero-emission vehicles by 2030 in order to remain on track to meet net zero targets – the proportion of zero-emission vehicles must rise to 93% by 2035 and 100% by 2038. As a result, there is no doubt that the EV market will see rapid growth in the years to come.

China is undoubtedly an EV superpower. It has the world's largest lithium-ion battery producer, CATL, and its associated supply chain. It has the largest EV manufacturer in the world, BYD, and the world's largest EV consumer market – accounting for 53% of global EV sales.[35] China's original equipment manufacturers (OEMs) have moved from supplying heavily subsidised cars in the local market to large exporters of their products to international markets. As a result, Chinese companies enjoy an early mover advantage in a market forecast to be worth US$9tn by 2030 and US$53-82tn by 2050.[36]

Although the increasingly protectionist policies adopted by the US would appear to be a challenge to China's leadership in the EV supply chain, the reality is that major Chinese suppliers and automakers have limited exposure to the US market. The same automakers and suppliers are increasingly investing in local production in Europe and the rest of the world to avoid geopolitical issues in the future. We also believe it will be difficult for the US to completely circumvent the Chinese supply chain, given the country's dominance in specific components used in battery manufacture.

[34] EVO Report 2022 | BloombergNEF | Bloomberg Finance LP (bnef.com)

[35] Bloomberg New Energy Finance (BNEF)

[36] Bloomberg New Energy Finance (BNEF)

There are three critical drivers behind China's EV sector:

- **Growing global presence:** BYD has plants in Japan, the US, Hungary, and Brazil; and is constructing a plant in Thailand and planning another plant in France. CATL, the world's largest EV battery maker, is expanding in Germany, Hungary, and Indonesia and is planning capacity in Mexico and the US.
- **A recovery in the domestic auto market:** The overall auto market has been weak since 2018 and is probably getting close to a new replacement cycle. Auto sales are likely to recover to higher levels than we have seen for a number of years.
- **Rising EV penetration:** We expect EV penetration in China to continue growing from today's 28% level for the foreseeable future.

However, we also see critical challenges in the near term:

- **Subsidies are rolling over:** EV sales subsidies ended in December 2022. We know this tends to pull forward demand and could create some hangover in 2023.
- **Automakers may have overexpanded:** There are vast amounts of new capacity coming on stream in 2023. For instance, Nio is planning a 4x growth in production, BYD over 3x, GAC 4x, and Tesla a 67% increase. There is a risk of simply too many new cars coming onto the market in 2023. A similar story is unfolding in battery manufacturing, with all major players expanding capacity dramatically.
- **Rising inventories:** Inventories have been growing since in the second half of 2022.

Over the longer term, the EV industry's demand drivers are clear, and some world-leading companies are in China. We are hopeful that we can take advantage of any temporary mismatch between demand and supply to make sound long-term investments in world-leading companies.

LG Chem

While LG Chem started as a petrochemicals company, it has used cash flows to build a leading energy solutions business over the last decade. As climate change and decarbonisation become an increasing global priority, the electrification of transportation is set to play a significant role.

The rapid growth in Electric Vehicles (EVs) suggest they will make up the majority of vehicle sales in the next 20-25 years. Government regulations (addressing demand and supply) will support this transition as carbon reduction targets and timelines move closer. Automakers are also fast-tracking their EV strategies and investing significantly in dedicated EV platforms. Batteries are at the heart of the EV revolution, but the market is likely to remain limited to a few battery manufacturers, given stringent requirements for performance, technology, safety and reliability, as well as long-standing OEM partnerships.

LG Energy Solutions (82% owned by LG Chem) is a leading battery manufacturer and has a global manufacturing footprint at scale. It is the only battery manufacturer with the top-three market share across all three applications – IT and consumer electronics (small batteries), automotives, and ESS (large batteries). The company has demonstrated technological innovation in high energy-density NMC batteries with a leading patent position. South Korean manufacturers are preferred in the US and Europe due to geopolitical issues surrounding China. LG Chem aims to raise advanced materials' revenue 3x over the next five years, with 70% of the business coming from EV battery materials (cathodes, separators, binders). It plans to raise cathode self-sufficiency to 40-50% over the next five years from 20%. LG Chem's goal is to foster battery materials as its main growth engine. LG Chem aims to make its business net-zero by 2050 and has a RE100 target for LG Energy Solutions by 2030. The company is investing in new technologies such as carbon capture and e-furnaces to reduce carbon emissions and focus on biodegradable plastic development.

Wuxi Lead Intelligent

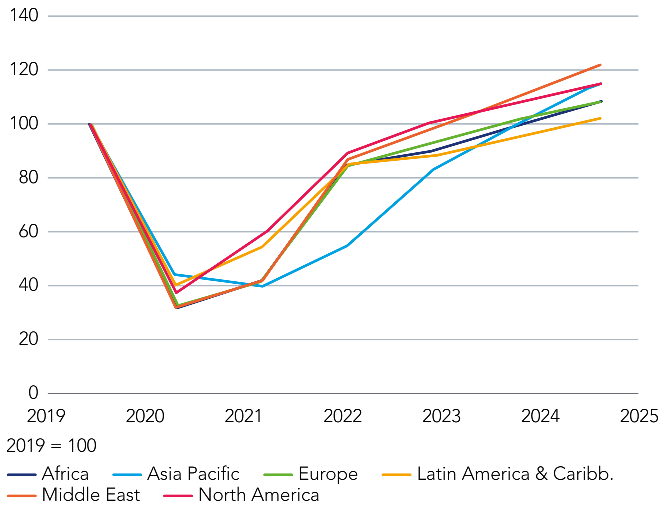
Wuxi Lead is a key beneficiary from global EV battery capacity growth. The company is the major supplier of battery manufacturing equipment to CATL, the world's largest EV battery manufacturer. The company recently started gaining more business from Tier 2 suppliers in China, which are aggressively ramping up capacity. Various estimates suggest that between FY23-25, the combined capacity of the Tier 2 battery manufacturers in China will exceed that of CATL.

Building good relationships with Tier 2 suppliers as they expand capacity will help diversify Wuxi's business model, avoiding dependency on CATL. EV battery capacity in Europe is also growing fast. Swedish battery developer Northvolt, for example, relies on Wuxi Lead's turnkey solutions. Following the successful integration of Wuxi Lead's equipment at Northvolt, German carmaker Volkswagen placed orders with the company. We think Europe's ambition to manufacture batteries domestically will benefit Wuxi Lead.

Global tourism: Hopeful in 2023 and beyond

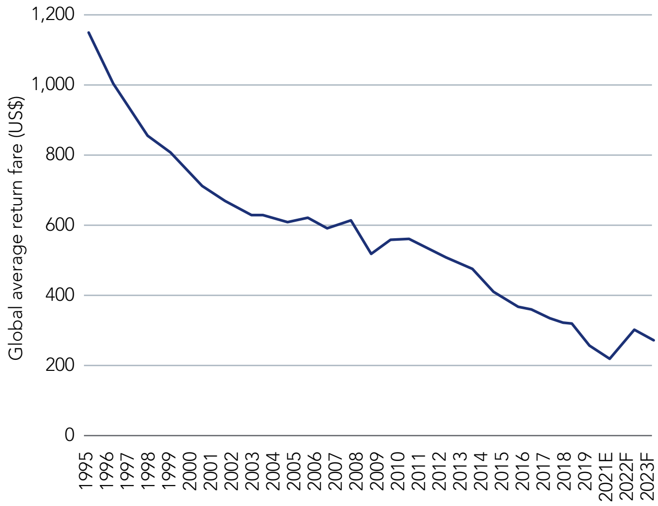
The growth of global air travel was temporarily paused by the Covid-19 pandemic in 2020 and has been in recovery mode ever since. This recovery has been somewhat uneven, with travel in the Americas and Europe returning significantly faster than in Asia. Asian governments were generally far more cautious about re-opening their countries to tourists and business travellers but have been gradually removing restrictions throughout 2022. The final 'coup de grace' to pandemic travel restrictions came in January 2023 as China effectively removed its international travel restrictions. Therefore, we expect 2023 (despite presumed recessions in Europe and the US) to see continued growth in global passenger volumes on a relatively low post-pandemic base.

Figure 13: Global air traffic forecast to reach pre-Covid levels in 2024



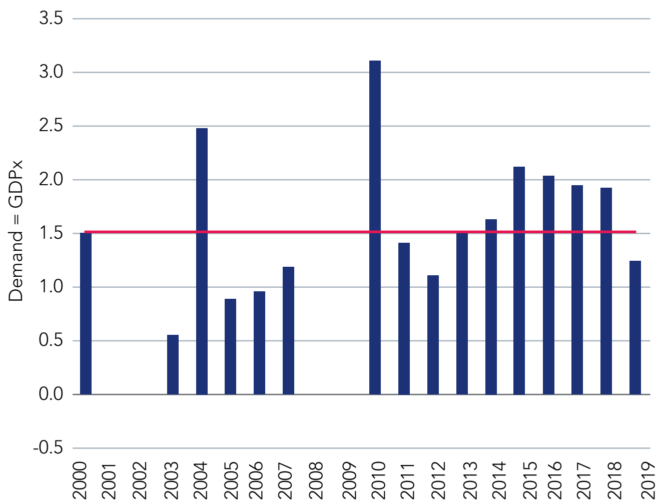
Source: IATA Economics as at December 2022

Figure 14: Global average return fare (US$), 1995-2023F



Source: IATA as at 2 January 2023

Figure 15: Global GDP vs. passenger volume – trends at 1.5x



Source: IATA, IMF as at 2 January 2023

We think that the growth of global tourism is not just a 're-opening' theme but a long-term trend with important investment implications. Before the pandemic, China's airport traffic had been growing at 11% CAGR (2010-2019[37]), and Indian domestic capacity had been growing at similar levels (around 11% CAGR 2009-2019[38]). The main long-term drivers of growth are rising incomes and the availability of affordable travel as a direct result of the rapid expansion of low and ultra-low-cost airlines. The big picture is that, over the long term, airfares have fallen. The internet has made it easier for consumers to research and book travel, and passenger volumes have grown at around 1.5x global GDP. We expect both underlying drivers to continue supporting this trend for the foreseeable future.

We expect the multiplier of passenger volumes to GDP to be higher in the coming years due to a 'catch-up' in passenger volumes after the pandemic and the upward growth trend to continue, providing healthy long-term growth expectations for air passenger volumes.

[37] ROIC Contenders Beyond Reopening – Initiate Cathay at Buy, D/G SIA to Sell, QAN Neutral (22 December 2022)

[38] Bank Of America, Indigo, Ready Set Go as at December 2021

Samsonite

Samsonite is the world's largest travel luggage business. The platform includes its core Samsonite brand, with a heritage that extends over 100 years, the mass-market brand American Tourister and the premium brand Tumi. We see Samsonite's key competitive advantages as its manufacturing economies of scale, meticulous quality control, excellent product development capabilities, wide-ranging distribution, and well-regarded brands. We believe that Samsonite's growing capabilities in sustainable product development will set it further apart from the rest of its fragmented market. More than 60% of Samsonite's newly developed products use recycled materials (up from just 5% in 2019). We see Samsonite's business as a great way to get exposure to the consistent growth in demand for travel, particularly in emerging markets, as well as the tendency of consumers in these countries to 'trade up' and 'premiumise' as they get wealthier. We are confident that Samsonite's business growth will outstrip the increase in global passenger volumes. We also believe that it is probable that Samsonite will add to its stable of brands through M&A over the medium term, providing another leg to the company’s long-term growth story.

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Inflation: Will China's re-opening fuel inflation?

The consensus is that inflation will moderate in 2023, partly due to high base effects from 2022 and the fact that there has been no additional major oil or food price shock; so the year-on-year comparison will likely trend downwards. This view is further strengthened by slowing economic activity with demand already contracting across the globe, especially in advanced economies suffering from record inflation and as a result, hawkish central bank action.

We agree with the prevailing view that inflation will moderate somewhat in 2023. However, we are also watching the impact of China's re-opening. After hitting a 12-month low of US$7,000 per metric ton in July 22, copper rallied to more than US$9,000 per metric ton,[39] fuelled by likely demand from China's stabilising economy and the property sector. Oil has risen by about 10% since late 2022, partly driven by China, but remains comfortably below the level seen in mid-2022 (US$120 a barrel[40]). Oil prices might react throughout 2023 as mobility indicators begin to improve in China and domestic and international travel picks up meaningfully in Asia.

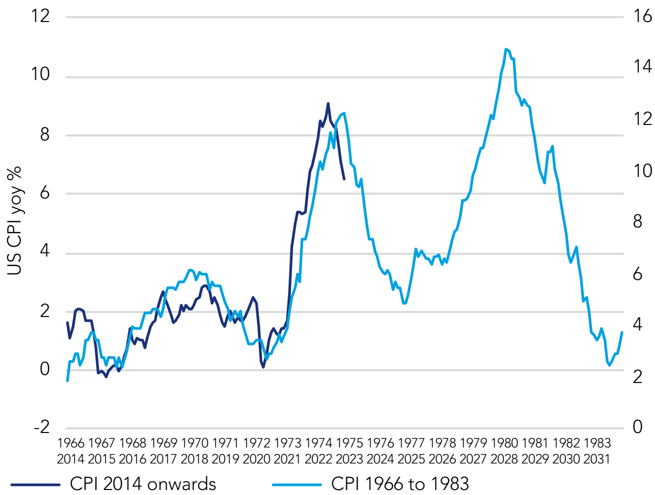
China is a major consumer of commodities globally, and the re-opening is likely to act as a stimulus, albeit mitigated by slowing US and EU economies. While the consensus assumption is that

the re-opening will remove existing bottlenecks rather than creating new ones, disruption to supply chains in the form of lost production and shipping delays cannot be ruled out entirely as Covid is now running high in China.

There is a risk, albeit limited, that inflation and commodity prices will remain higher in 2023, supporting our preference for holding on to our investments in copper, aluminium and holdings in key commodity-producing nations such as Chile, Peru, South Africa, and Brazil.

In addition to the China factor, we would caution against any benign rate-cut assumption globally. We do not see an easy resolution to tight labour markets in advanced economies where workforce availability is a structural issue due to ageing populations. Until we see any significant reform to retirement ages, immigration policies, or job losses, wage inflation will remain an issue. The rise of industrial action in certain parts of the world suggests rising anxiety due to pay levels and working conditions. In some cases, the balance of power could shift towards the workers.

Figure 16: US consumer price index (CPI) – year-on-year %



Source: Bloomberg as at 31 January 2023

Over the medium term, we believe that inflation will remain sticky as the world enters a resource-heavy transformation towards decarbonisation coupled with a demand-supply mismatch for critical resources. Energy is also a potential contributor to inflation over the medium term due to the absence of meaningful investments in expanding production over the last few years, coupled with OPEC’s renewed aggression in managing supply.

[39] Bloomberg as at 16 January 2023
[40] Bloomberg as at 16 January 2023

ESG relevance for EM in a complex world

As the world faces growing social and environmental challenges, such as climate change, biodiversity loss, the cost-of-living crisis, and social inclusion, environmental, social, and corporate governance (ESG) concerns have particular relevance in emerging markets, where many of these challenges are most acute.

On the flip side, EMs also offer some of the most exciting ESG opportunities, many of which are intrinsically linked to the UN's Sustainable Development Goals (SDGs).

In terms of opportunities, renewables and other enablers of the carbon transition will only grow in relevance as EMs address the need to transition while capitalising on global demand for products, services and commodities essential for a net-zero world (SDG 7) – in particular, 'green' metals and copper. The world needs more copper for electrification, yet copper reserves are under pressure. Some ESG investors are reluctant to hold certain names, citing environmental damage and human rights risks. In contrast, we believe responsible investors are needed to ensure robust stewardship and risk mitigation. Meanwhile, investment in renewables such as solar continues to be a key lever. Yet, investors need to be mindful of the labour risks associated with solar panel manufacturing and set expectations for robust human rights due diligence (SDG 8).

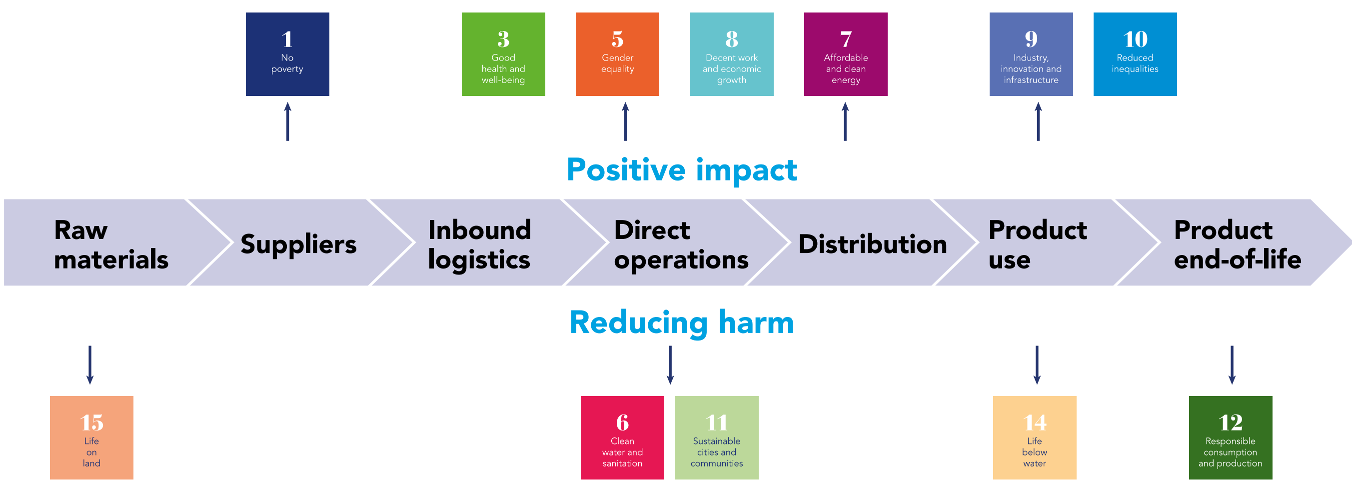
Financial inclusion will also be a considerable challenge and opportunity in 2023 and beyond, with around 1.4 billion people still unbanked globally and about half of these living in Asia.[41] As well as opening up new markets, this is an opportunity to enhance gender equality (SDG 5) since a significant portion of the unbanked are women. We are seeing leaders in this space target products specifically for women and other underserved groups, helping to navigate some of the barriers they face. Expanding health insurance coverage in EM is also a great opportunity with far-reaching benefits for under-served populations, including in countries with fast-growing middle-class populations such as India.

On the social side, digital rights will be in the spotlight, covering areas such as user privacy, content moderation, the ethical use of artificial intelligence (AI), and digital well-being, particularly for minors. Digital inclusion will also feature, given its importance in addressing some of the world's most pressing socio-economic challenges, including ensuring access to health (SDG 3), education (SDG 4), and banking. Technology companies in Asia and beyond have great opportunities and responsibilities in this space.

In terms of risk, 2023 could bring exacerbate supply chain pressures in EM, impacting worker rights and well-being, including cases of modern slavery. With the hangover of supply chain shocks coupled with the cost-of-living crisis, the risk is that cost pressures will pass down the supply chain to the workers who can least afford them. Investors need to be alert to this and to ensure companies have robust and responsible sourcing programs that protect the most vulnerable.

Good corporate governance will always feature, not least, since an effective board is fundamental to creating sustainable value – including the proper oversight of material sustainability risks and opportunities. While there are examples of leadership, EMs lag behind global peers on corporate governance indicators, including protecting minority shareholders and ESG disclosure. For instance, we have seen an increase in cross-shareholdings in South Korea, which can disadvantage minority shareholders and is a practice we do not endorse. While we look at each case, we see board independence and diversity as crucial factors in ensuring effective challenge and avoidance of groupthink. This is reflected in our voting policy, leading us to vote against management on board composition items at over 50% of companies in the emerging markets strategy in 2022.

Figure 17: Company impact on UN SDGs (global and EM)



Source: Federated Hermes

[41] The Global Findex 2021: Interactive Executive Summary Visualization (worldbank.org)

KB Financial Group

South Korea's KB Financial has a robust ESG strategy, driven and overseen by a 78% independent board and led by an independent Chair, Suk Ho Sonu, supported by fully independent audit and compensation committees. KB has an overall ambition to be net zero by 2050, with SBTI-verified targets[42] including a commitment to reducing its financed emissions intensity by 33% and 61% by 2030 and 2040, respectively. KB also plans to achieve KRW50tn in sustainable finance by 2030, including KRW25tn for environmental projects, energy efficiency, biodiversity, and renewable energy. It is advanced in introducing ESG policies for its project finance and loan portfolios. For example, it has an exclusions policy on coal financing (it will not finance any new projects at home or abroad) and unconventional oil and gas – and has set financed emissions targets for critical sectors, including iron and steel.

KB has also made notable improvements in its approach to workforce diversity. It was previously lagging in this area, but was the first South Korean company to sign up to the UN's Women Economic Empowerment Principles. Several initiatives are underway to deliver on a target for women to account for at least 20% of management positions and 30% of front office and corporate banking leadership positions by 2027, as well as a target for 15% of recruits to be from 'diverse' backgrounds. The company is also showing strong performance on financial inclusion, with KB Kookmin Bank, KB Miso Microfinance Foundation, and KB Hope Finance Plaza all supporting vulnerable groups through various deposit and loan products.

WEG SA

As a leading manufacturer of industrial electric motors and generation, transmission and distribution equipment, WEG is a Brazilian manufacturing success story while also playing a pivotal role in enabling the carbon transition at home and globally. Electric motors consume about half of the world's electricity, so energy-efficient motor manufacturers are vital contributors to the carbon transition while benefitting from ever-increasing efficiency standards and regulations. Against a backdrop of a world needing to increase renewables capacity, WEG also sells wind turbines, hydro turbines, solar kits, and biomass generators and has a specialist business in transformers for renewables applications (a necessity for connecting renewables projects to the grid). The company has also recently entered the energy storage business. More renewable energy in the grid means more intermittency, and more of a gap between peak supply and peak demand, and as a result, a compelling need for more energy storage.

WEG's significant contribution to the carbon transition goes hand in hand with solid ESG operational performance with lower carbon intensity versus the industry and a recently announced net-zero commitment by 2050. However, as with all companies, WEG has opportunities to enhance its performance, recognising that ESG is an ongoing journey. We are engaging with the company on disclosing its Scope 3 emissions, which are likely the most material ones, but also on its supply-chain due diligence and increasing board gender diversity. WEG has begun the search for a female board member and is working with external consultants on measuring Scope 3 emissions, and we look forward to seeing the results.

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[42] The Science Based Targets initiative (SBTI) provides companies with a clearly defined pathway to future-proof growth by specifying how much and how quickly they need to reduce their greenhouse gas emissions

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