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# Research Institute

## Asia in Transition



Thought leadership from Credit Suisse Research and the world's foremost experts

# Introduction

The Emerging Asian economic and investment opportunity is undergoing a period of multifaceted, swift and exciting transition. The region's share of global economic output is set to reach 55% by 2050 and its equity and corporate bond markets are on course to assume close to a 30% global share by 2030. Yet the means by which this activity is generated is being transformed, primarily motivated by an intensifying focus on sustainability. Upper-middle-income Asian economies are evolving from manufacturing export-led growth models toward greater output from service sectors, while large pools of domestic savings will progressively fund consumption as the engine of growth, thus rebalancing from debt-fueled investment. Asia's export mix is becoming progressively more value-added with a rise in domestic inputs, while directionally, trade is increasing intra-regionally. The "Made in China 2025" initiative embodies this evolution. However, rising labor costs are likely to encourage a redistribution of China's dominant export share among lower-income regional economies with thriving manufacturing sectors. This may be compounded by supply-chain diversification necessitated by ongoing US-China trade frictions.

Maturing Asian economies are losing their demographic dividends, while other less-developed neighbors will continue to reap the benefits for the next decade(s). However, the rise in wealth creation among Asian households is the fastest of any global region, with 93 million people joining the middle class in the last seven years alone. This has far-reaching implications for spending and investment trends as discretionary income continues to grow. Geopolitically, Asia is witnessing a shift in balance as regional hegemonies projecting both soft and hard forms of power compete for influence with conflicting agendas. China's signature "Belt and Road Initiative" is a natural consequence of rising confidence in its unique economic and political model and a willingness to export it. Smaller nations drawn into this struggle must therefore try to protect their interests with the most favorable economic and security alliances.

Administrative reform programs addressing labor-market inefficiencies and investment in human capital are set to further boost productivity. This, in combination with enhanced governance and quality of institutions, will serve to strengthen corporate profitability and long-term value creation. Growing equity and fixed income supply from the deepening of Asian capital markets will increasingly be absorbed domestically as deposit-saving pools seek higher rates of return in an environment of strengthening retail investment culture. We expect an institutionalization of these assets toward pension, insurance and mutual funds.

Finally, technological innovation and adoption has transformed Emerging Asian economies, with gains in mobile connectivity and internet penetration going hand in hand with increased financial inclusivity. Innovative technologies will continue to enhance efficiencies and expand access to services, thus presenting both exciting opportunities and threats to service-sector incumbents, altering financing, payments and spending habits and acting as a strong disinflationary force.

We hope that our findings prove valuable and wish you an insightful and enjoyable read.

## **Urs Rohner**

Chairman of the Board of Directors  
Credit Suisse Group AG



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# Economic: The path to more balanced growth

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Upper-middle-income Asian economies are evolving from manufacturing export-led growth models toward greater output from service sectors, while large pools of domestic savings will progressively fund consumption as the engine of growth in place of debt-fueled investment.

Emerging Asia's<sup>1</sup> progressively dominant contribution to growth and overall economic output has been an evolving feature of the global economy for decades. Over the last 30 years, Asia (excluding Japan) has added approximately USD 19 trillion (in nominal terms) to annual global gross domestic product (GDP), rising to a 36% share of global output in 2018 from 14% in 1988. Yet the means by which this activity is generated is being transformed, primarily motivated by an intensifying focus on sustainability. The dynamics underpinning this transition are multifaceted and include aging populations, technological advances, burgeoning credit, legacy inefficiencies in capital allocation, deteriorating value creation, environmental degradation and political expediency.

Critical to ensuring uninterrupted trend growth will be regional policymakers' agility in navigating a successful path toward more balanced economic models. A challenge in which success is by no means guaranteed – indeed historical precedent provides helpful examples of the pitfalls to avoid when adjusting output composition. For instance, post-war Japan's investment share of GDP peaked at 36% in 1973, marking the end of a decade during which real GDP

growth averaged 9.3%. Following the 1974 Japanese economic recession triggered by the previous year's global oil shock, the country adopted a less investment-intensive economic model associated with structurally lower growth – over the following 15 years, the investment share of GDP averaged 30% with real GDP growth of 3.6% (just 39% of the rate in the pre-1974 decade).

## **Asia's steady progression toward the engine of global growth**

The genesis of Emerging Asia's economic ascendancy may be traced to Deng Xiaoping's landmark Open Door Policy reforms launched at the third plenary session of the 11th party congress in 1978 (coined by the famous zeitgeist<sup>2</sup> "to get rich is glorious!") and the post-1960s rapid industrialization and sustained growth of the four "Asian Tigers" (including South Korea and Taiwan), which ultimately spawned the so-called "Tiger Cubs" (ASEAN 5).

Driven by superior demographics, urbanizing populations, productivity convergence with mature economies, manufacturing specialization, increasing access to credit and ongoing improvements to governance and regulatory frameworks, Emerging Asia's growth has outpaced that of the rest of the world (heavily weighted toward developed markets)

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1. Asia excluding Japan. The scope of this report is the emerging Asia<sup>12</sup> economies, in alphabetical order: Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam.

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2. Orville Schell (1984) "To Get Rich Is Glorious: China in the 80's," Pantheon Books.

for decades. Indeed, since 1980, Emerging Asia has delivered real GDP growth averaging 7.3% versus 2.2% for the rest of the world, with growth in the Asia region swifter than the remainder of the global economy in every year of those four decades, even including – albeit more marginally – the period during the 1997/8 Asian financial crisis (although this is not the case excluding China and India).

Despite the inexorable moderation in the pace of Chinese GDP growth lowering the outlook for overall Emerging Asia (albeit with a potential uptick in India's growth partially counteracting China's slowdown), the region's superior growth is expected to persist until at least 2023, the current five-year rolling limit of International Monetary Fund (IMF) projections.

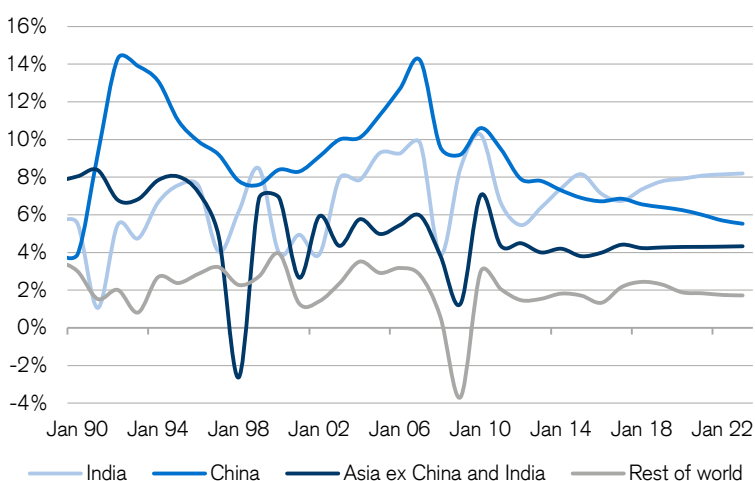
From 2019 through 2023, the IMF estimates that Developing Asia will see regional real GDP growth of 5.9%, still averaging more than three times the rate of the rest of the world at 1.9%, despite the IMF's outlook for Chinese growth slowing to 5.5% from 6.4% over the duration (with India accelerating to 8.2% from 7.8%). Indeed, we expect real growth in Emerging Asian economic activity to continue to outpace that of the developed world for many years to come, and based on (arguably ambitious) projections from economic research firm Oxford Economics, this will remain the case for at least three decades into the future.

Since the global financial crisis, Emerging Asia's contribution to global growth (in real terms) has stabilized close to 42% – plus or minus eight percentage points – almost twice the 22% contribution (with significantly greater volatility) that Asia averaged in the 25 years leading up to 2008. **Figure 2** clearly shows how of late the impact of China alone has come to dominate not just the Asian contribution, but also that of overall global growth, accounting for 28% of the total over the past eight years.

Oxford Economics forecasts that Emerging Asia's share of global growth will continue to increase – albeit modestly – to an average of 44% for the years 2020 through 2023, of which China will account for a stable 28 percentage points (although China's GDP growth is forecast to decelerate, the country's share of total global output continues to rise).

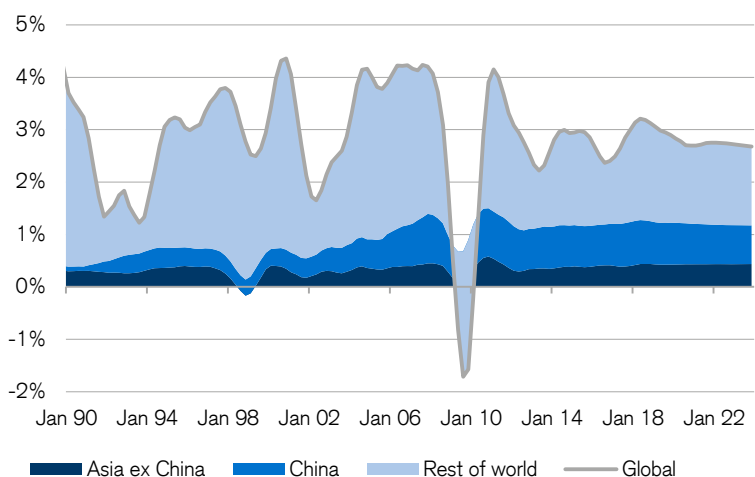
The focus on Emerging Asian economies as the driver of global growth has been emphasized by the succession of global financial and Eurozone crises given that Emerging Asian nations, owing to their then typically superior balance sheets and debt dynamics, were not subject to the same magnitude of private sector deleveraging and public sector fiscal austerity that constrained the growth of economic activity in a number of advanced economies in the period following 2008.

**Figure 1: GDP growth for Asia versus the rest of the world (real terms, year-on-year % change)**



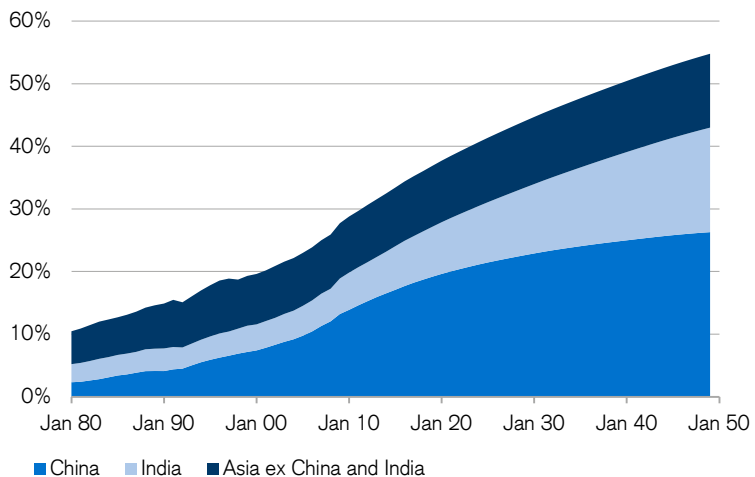
Note: Asia excluding Japan  
Source: IMF forecasts, Credit Suisse research

**Figure 2: Asia's contribution to global GDP growth (% year-on-year, real terms)**



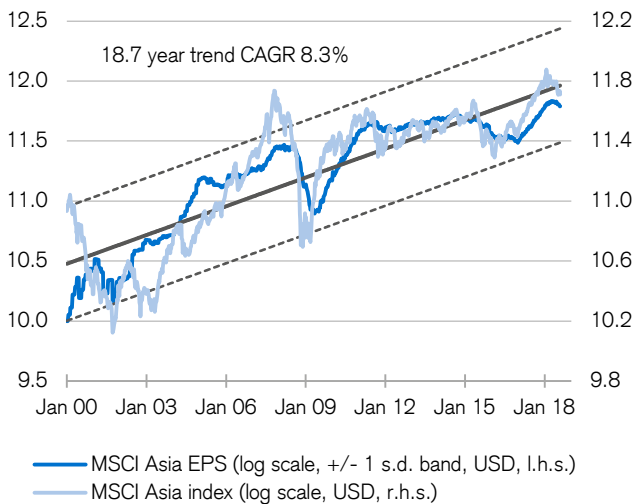
Note: Asia excluding Japan  
Source: Oxford Economics forecasts, Credit Suisse research

**Figure 3: Asian share of global GDP (PPP, % of total)**



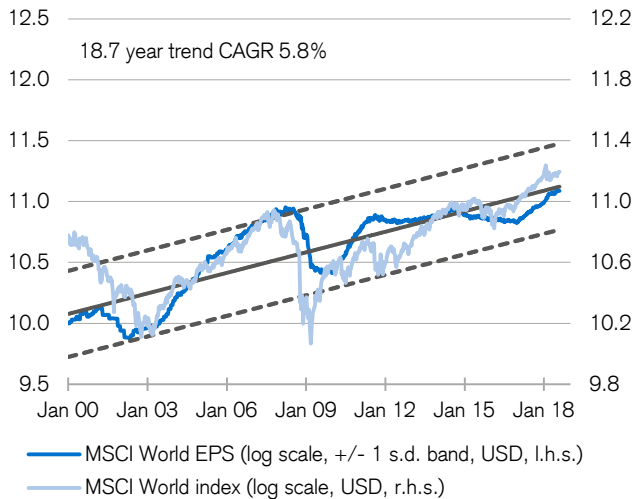
Note: Asia excluding Japan  
Source: Oxford Economics forecasts, Credit Suisse research

**Figure 4: Delivered EPS CAGR vs. year-on-year equity market performance for Asia (in USD log terms)**



Note: Asia excluding Japan  
Source: MSCI, Credit Suisse research

**Figure 5: Delivered EPS CAGR vs. year-on-year equity market performance for rest of the world (in USD log terms)**



Source: MSCI, Credit Suisse research

By 2015, Emerging Asia accounted for a third of global economic output in terms of purchasing power parity (PPP), up from a fifth of the total in 2000 and a tenth in 1980. Oxford Economics forecasts that this proportion will keep rising to 40% by 2023 from the current 36% and will pass 50% by 2039, with China alone accounting for more than a quarter of global GDP in 2050 and India just shy of 17% for a total Asia share of 55%. In contrast, the combined contribution to global output from other emerging economies in Europe, the Middle East and Africa (EMEA) and Latin America has remained in a relatively narrow channel over the past four decades between 23% and 29% and is forecast by Oxford Economics to decline steadily from the current 26% to 21% by 2050. Meanwhile, the share of global (PPP) GDP generated by advanced economies is set to shrink further to just a third of the total by 2026 and a quarter of global output by 2050 based on Oxford Economics projections from close to two thirds of global GDP in 1989.

Instrumental in reinforcing Emerging Asia's scope for continuing to grow its share of global output are superior working-age population dynamics relative to the developed world together with a likely boost in female labor participation rates, and the prospective inclusion of vast sections of the informal sector into the formal economy. This is supported by ample national savings – consistent with running structural current account surpluses – which may increasingly be committed more to consumption than investment together with abundant potential for productivity convergence with advanced economies. We tackle each of these attributes later in this report in greater detail.

### A solid track record of superior corporate earnings growth in Asia

The enduring superior growth dynamics of Emerging Asian economies has translated into a similar long-run pattern of the region's corporate earnings growth outpacing that of developed markets. The two-decade trend compound annual growth rate (CAGR) in MSCI (emerging) Asian US dollar corporate EPS of 8.3% is a touch under one-and-a-half-times the rate recorded in MSCI (developed) World markets of 5.8%.

This is reflected in the 60% US dollar outperformance of the MSCI Emerging Markets Asia equities benchmark relative to the MSCI World developed markets index over the period from January 2000 through January 2018 – although at the time of writing almost half of that outperformance has been retraced given the tactically more challenging macroeconomic environment for emerging markets in 2018 (especially in comparison to the USA riding a wave of fiscal stimulus). Indeed the combination of rising US Treasury yields, a strengthening US dollar and an appreciating oil price – which has played out this year – is typically anathema for emerging market currencies. Monetary policymakers have tightened conditions accordingly to lessen the impact of imported inflation, but have dampened the prospects for corporate earnings growth as a consequence.

### The changing composition of Asian economies

The generation of economic activity in Emerging Asia is migrating toward service industries. Decomposing country-specific gross value added to GDP by sector reveals that, over the past ten years, the contribution to total output from services in Asia has risen by between one and

nine percentage points (for Pakistan and China, respectively). Lower-income economies are typically evolving from agriculture to services (and also manufacturing), while middle-tier-income economies are transitioning from manufacturing and other industry (including construction) toward services. Indeed, of all the Asia 12 economies under consideration in this report, only South Korea and Taiwan recorded a drop (by just two and three percentage points, respectively) in their services contribution to GDP since 2007, although at levels of 58% and 63% they are already toward the higher end of the Asian range.

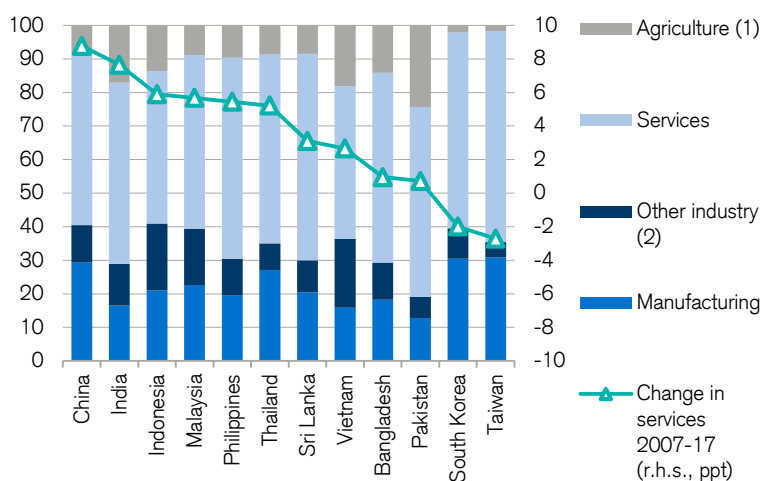
That China is leading this change in economic composition is illustrative of the country's slowing pace of urbanization (and hence requisite infrastructure build), a diminishing profit return on investment, a large and growing urban middle class with increasing discretionary spending on travel and leisure activities, decelerating trend growth in global trade (necessitating a rebalancing away from the manufacturing export sector), further advances in farming mechanization, leaps in (particularly internet) technology and the detrimental (and progressively politicized) environmental impact from China's rapid industrialization.

With a 52% GDP representation, we believe service sectors have scope for further gains in their contribution to the Chinese economy given the (simple) average for the Asia 12 (excluding China) of 55% and the (GDP-weighted) averages of high-income countries defined by the Organisation for Economic Co-operation and Development (OECD) and World Bank, both at 70%. The Indian economy's rotation into services (up by eight percentage points of GDP since 2007) has predominately come at the expense of the contribution from industry (other than manufacturing), which includes mining, construction, and the provision of electricity, water and gas utilities. Meanwhile, for the ASEAN countries of Indonesia, Malaysia, Philippines and Thailand, the 5–6 percentage-point gain in the service-sector composition of GDP over the last decade is mainly due to the declining contributions from their respective manufacturing sectors.

Breaking down the Asia 12's manufacturing sector into its constituent components reveals the proportion of gross value added delivered by medium- and high-technology industries – the highest of which is understandably South Korea at 64% (up from 60% a decade ago), while by far the greatest increase has been recorded in Vietnam (up to 40% from 24% a decade ago).

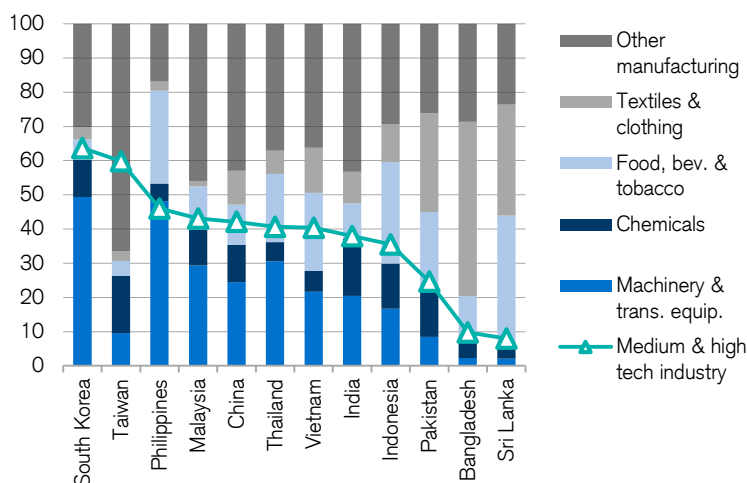
**Figure 7** also clearly highlights the relative product specialization across the region. Bangladesh has a particular concentration of its manufacturing sector in textiles and clothing (51% up from 20% a decade ago), South Korea is skewed toward value add generated by

**Figure 6: Gross value added to GDP decomposition by sector (2017, % of total)**



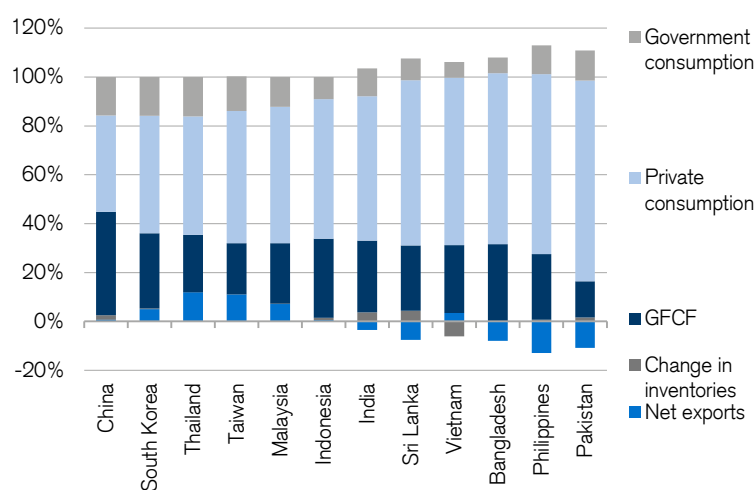
Note: (1) agriculture, forestry, and fishing; (2) including construction  
Source: World Bank national accounts data, Credit Suisse research

**Figure 7: Gross value added in manufacturing by sector (2017, % of total)**



Source: United Nations Industrial Development Organization, Credit Suisse research

**Figure 8: Economic activity by expenditure (2018 % of total, sorted by ascending contribution from private consumption)**



Source: Oxford Economics, Credit Suisse research

machinery and transportation equipment (49% of manufacturing), while fabrication of electronics, components and peripherals accounts for 47% of Taiwan's value add in manufacturing. In contrast, the most diversified manufacturing bases are in China, Malaysia and India, although the latter's relatively high contribution (17%) comes from the chemicals industry.

From an expenditure approach, the most imbalanced economies among the Asia 12 appear to be China – given its skew toward investment – and Pakistan, owing to its lack of investment. We typically consider a sustainable investment share of GDP allowing for sufficient future growth in productive capacity for a developing nation to be in the range of 25%–30%. Below this level (Pakistan is just 15%), persistent under-investing in human and physical capital serves to severely restrict an economy's potential GDP growth by hindering the development of its requisite fixed capital stock, infrastructure and total factor productivity (**Figure 8**).

Underinvestment is typically symptomatic of a low national savings rate, which in many cases (including Pakistan) may in turn be attributed to a pattern of public sector dissaving. Indeed, based on IMF data, Pakistan's government fiscal balance has remained in a deep deficit (between 4% and 9% of GDP) for the past ten years and, problematically, the IMF is not anticipating any near-term substantial change of course, forecasting the deficit to remain at 6% of GDP for at least the next half decade.

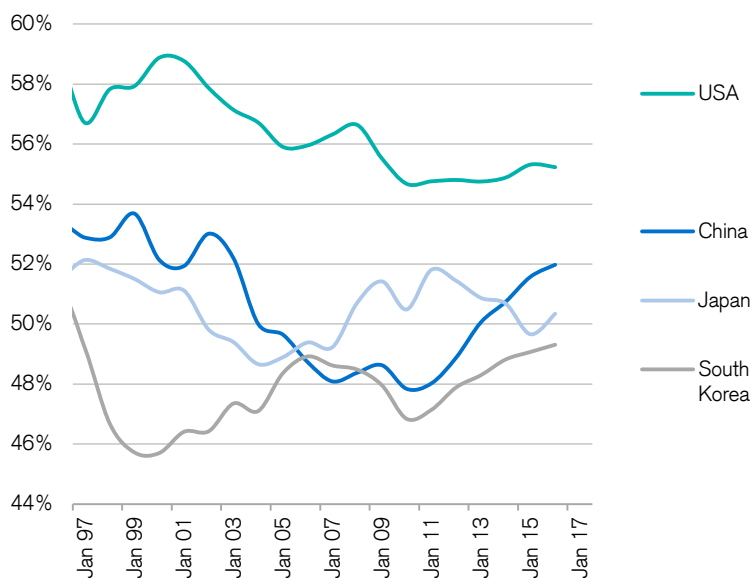
Equally, the shortcomings of China's debt-fueled investment-driven growth model for the last 17 years (since when China's investment share of GDP has consistently remained above 35%) have become more unsettling of late. Evidence of misallocation of capital, over-indebted regional administrations, pervasive corruption, declining bank asset quality, and elevated levels of public and private sector overcapacity abound.

Indeed, over a decade ago in March 2007, then Chinese premier Wen Jiabao cautioned at the spring sessions of the National People's Congress that "the biggest problem with China's economy is that the growth is unstable, unbalanced, uncoordinated and unsustainable." However, the global financial crisis put paid to early attempts at restructuring by the Chinese authorities. In the face of a collapse in external demand and domestic confidence, they were left with little alternative but to increase borrowing to fund the degree of investment necessary to maintain stable economic output, employment and thus importantly, social cohesion.

In recent years, as part of Chinese government initiatives for "supply-side reforms" and "financial de-risking", policymakers have incrementally implemented administrative measures prioritizing the rebalancing of the economy toward consumption and tackling the indebtedness of, in particular, state-owned enterprises. The importance of such reforms was further underscored in the 18 October 2017 speech to the 19th National Congress of the Communist Party of China by President Xi Jinping.

Mechanisms available to Chinese policymakers include a combination of strictly targeted lending by state-owned banks, regulating the investment plans of state-owned enterprises, and the redirecting of public and corporate sector savings toward households. In practice, the government could channel dividends from state-owned enterprises to social security programs and steadily revalue the currency to deplete corporate savings via a lower trade surplus.

**Figure 9: Employee compensation as a share of gross value added**



Note: The OECD definition includes wages and salaries payable in cash or in kind, and the value of social contributions payable by employers.  
Source: OECD, Credit Suisse research



Ultimately, the corollary of a declining profit share of GDP for enterprises is a net transfer to households through a recovery in the wage share of GDP, thus unlocking a reacceleration in disposable income and hence consumption. On the OECD definition of employee compensation as a proportion of gross economic value added, China declined from 54% in 1999 to 48% by 2007 and subsequently recovered over the past decade to 52%, which is higher than that of South Korea or Japan and just three percentage points shy of the USA (Figure 9).

This is consistent with the country's ongoing transition away from manufacturing and other industry toward more labor-intensive service sectors. Moreover, the demographic influences engendered by China's lower fertility rate due to the one child policy shrinking the size of the labor force is stimulating wage growth that is outpacing overall GDP.

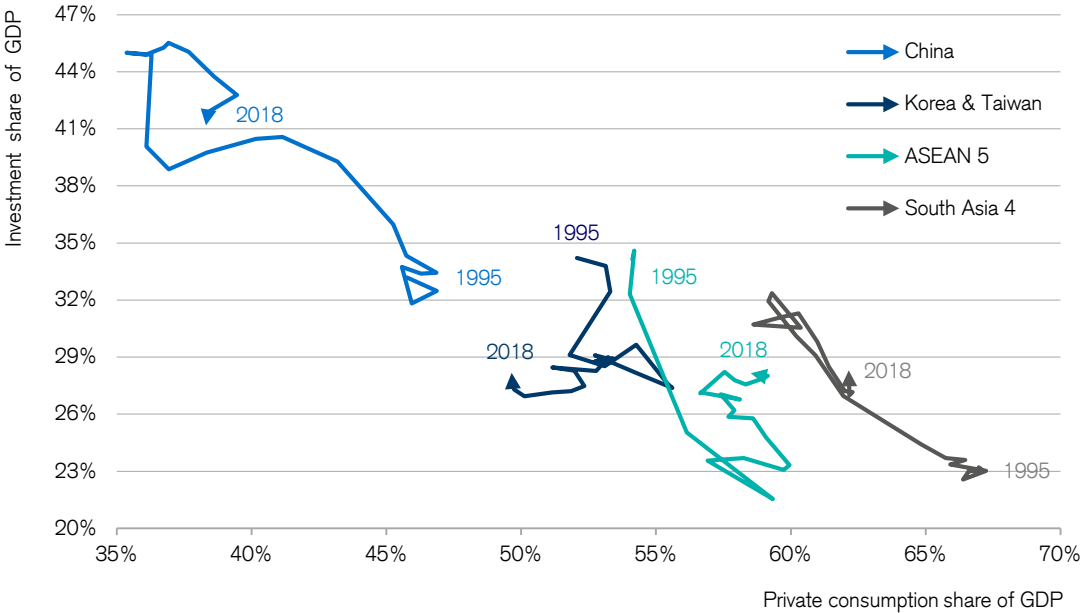
That such measures must be administratively applied rather than allowing for a natural rebalancing from the business cycle (excessive capacity expansion typically leads to falling returns on investment, thus encouraging a pullback in spending) is indicative of the somewhat artificial pricing environment in China – a side effect of the country's command economy. Nevertheless, pockets of excess capacity – diminishing the appetite for additional investment – together with a rising stock of non-performing loans to state-owned enterprises and a slowing overall GDP growth rate will more organically gravitate the

economy toward a higher share of consumption. Encouragingly, this has so far been achieved without meaningfully interrupting a smooth transition toward a slower yet more sustainable overall GDP target, with the focus now on the delivery of quality rather than quantity of growth. There has already been a tangible reduction in the Chinese investment share of GDP from a 2013 peak of 46% to 41% by 2018, which, based on Oxford Economics projections, will fall below 40% by 2020 as savings are commensurately channeled toward private consumption.

Figure 10 shows the progression of the investment and consumption shares of GDP for the Asia 12 countries over the past quarter century aggregated into pertinent sub-regional groupings: the advanced economies of South Korea and Taiwan, ASEAN 5, the Indian subcontinent (South Asia 4) and China. Interestingly, aside from China, the other three Asian sub-regions have seen their investment shares of GDP all stabilize at 28%, albeit with varying levels of contribution from private consumption.

Consumption appears particularly elevated in South Asia (62% of GDP) on account of the sub-region's modestly sized government expenditures and (net) export contribution, with the former attributable to low public sector revenue collection owing to the disproportionately large informal sectors of low-income countries. In contrast, the advanced industrialized economies of South Korea and Taiwan have lower consumption shares of GDP (48% and 54%, respectively) as their export (primarily) and government sectors (secondly) form a more substantial constituent of economic activity.

Figure 10: Asia's regional investment and private consumption share of GDP since 1995



Note: excluding Japan; ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam, South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka  
 Source: Oxford Economics, Credit Suisse research

Nonetheless, since 2010, the consumption share of GDP has risen markedly for not only China (by three percentage points), but also in aggregate for the ASEAN 5 and South Asia 4 regions by two percentage points and four percentage points, respectively.

**The region's elevated savings may increasingly be deployed to fund consumption**

Asian economies are characterized by relatively high savings ratios, even for countries in the lower-middle-income category (World Bank definition) such as Bangladesh, India, Indonesia, Sri Lanka and Vietnam. Among the Asia 12 countries, the only outliers are Pakistan, with a savings ratio of 8%, and to a lesser extent the Philippines (at 16%) – the former of which may be attributed in part to a history of public sector dissaving, with the government fiscal balance in deep deficit (between 4% and 9% of GDP) for the past ten years (as mentioned previously).

The explanation for Asia's large pool of savings appears to be multidimensional. First, there is empirical evidence<sup>3</sup> that rising Asian savings ratios are a consequence of idiosyncrasies in the region's urbanization. In particular, China's Hukou system regulating the country's internal migration restricts benefits (education, health-care, etc.) available to new urban migrants. Moreover, wages for migrants are typically far lower than existing urban dwellers and their perception of unemployment risk is often greater than that in their former rural existence, all of which encourage higher precautionary savings. Thus China's steady and heavily regulated urbanization over the past two decades and significant rural-to-urban wage gaps have contributed to the rise in the country's overall savings rate. With some explanatory nuances, a similar correlation between urbanization and rising savings is observable in other regional economies, e.g. South Korea and India.

Second, the non-financial corporate sector – particularly in China – accrued significant savings between 2003 and 2008, a period when manufacturing exporters were aggressively winning global export market share further up the value chain (both internationally and domestically) due to extremely competitive manufacturing product costs brought about by abundant cheap (and yet skilled) labor and land, tax incentives and low utility bills. The resulting surge in China's current account surplus over the duration – from 2.5% to 10% of GDP – driven by rising net exports led to the swift accumulation of a significant pool of corporate savings.

<sup>3</sup> Wang, Wang and Yao (2015) "The Human Factor: China's Internal Migration and the Saving Puzzle," Stanford Center for International Development.

Third, populations in countries with under-developed government social security programs have a tendency to maintain significantly higher precautionary savings for protection against unemployment, occupational injuries, ill health, maternity, and eventually retirement than would be necessary if these risks were pooled collectively. A 2016 study<sup>4</sup> indicates that, for South Asian countries, programs are typically non-existent or at best employer-liability systems that cover a marginal tranche of the workforce in the formal economy. For instance, of India's USD 238 (in PPP terms) per capita annual spending on healthcare (one-twentieth the rate in developed economies), just a quarter is funded by the public sector. A similar proportion of government spending on healthcare (27%) is evident in Pakistan, with just 15% in Bangladesh. In contrast, the proportion of government-funded healthcare spending in Thailand, China and South Korea (at 77%, 60% and 56%, respectively) is more consistent with that of the developed world (63%). Fittingly, in September 2018, Indian Prime Minister Narendra Modi announced the launch of Ayushman Bharat, potentially the world's largest government-funded healthcare scheme targeting the poorest predominately rural half billion of India's population, significantly raising the number of Indians with health insurance from the current third of the population.

**"Asian economies are characterized by relatively high savings ratios, even for countries in the lower-middle-income category"**

Fourth, higher savings may be associated with better education. Based on the OECD Program for International Student Assessment (PISA) 2015 test results, Taiwan, South Korea, China and Vietnam score between 2% and 6% higher than the OECD's high-income countries' average.

<sup>4</sup> Social Security Programs Throughout the World: Asia and the Pacific, 2016, Social Security Administration Office of Retirement and Disability Policy Office of Research, Evaluation, and Statistics.

Fifth, there may be a cultural element involved with adherence to Confucian ethics both promoting saving and emphasizing the importance of family bonds, thus encouraging greater intergenerational transfers. The East Asian cultural sphere is strongly influenced by Confucianism, including China, Korea, Taiwan and Vietnam, in addition to countries with a large Chinese diaspora such as Malaysia and Indonesia.

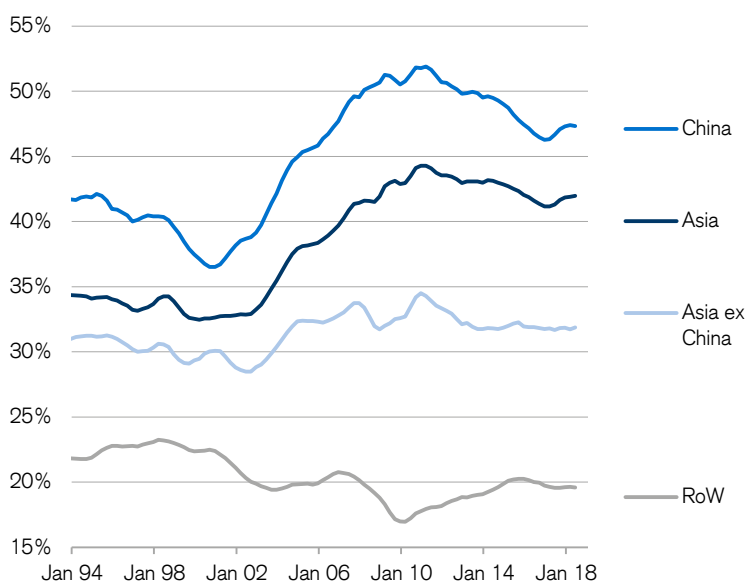
Finally, financial asset dynamics may alter savings patterns. Considerations such as structurally high real deposit rates, restricted access to credit or rising house price-to-income ratios (all of which have featured among the Asia 12 economies of late) would separately or collectively encourage a propensity to accumulative savings.

Asia's (GDP-weighted) savings ratio of 42% remains around the upper end of its 25-year range, the highest at 44% being recorded in Q1 2011. However, the regional aggregate is distorted by the heavy weight of China in the data, which at 47% (versus the Q1 2011 peak of 52%), stands as an outlier with by far the most elevated savings ratio in Asia and indeed globally. Excluding China, the regional savings ratio for Asia has trended broadly sideways over the past quarter century in a  $\pm 6\%$  range, currently at 32%, while the ratio for the rest of world has trended down over the duration and currently stands at just less than 20%.

Unlocking – in particular the precautionary component of – these savings is thus dependent on the expansion of government social security (unemployment insurance and pensions) and healthcare programs, converging rural-to-urban wage gaps (specifically in China and requiring reform to ease the constraints of the Hukou system), lower real deposit interest rates, and regulated property price appreciation (using administrative measures such as restrictions on multiple homes and loan-to-value ratio limits on mortgages rather than interest rate rises).

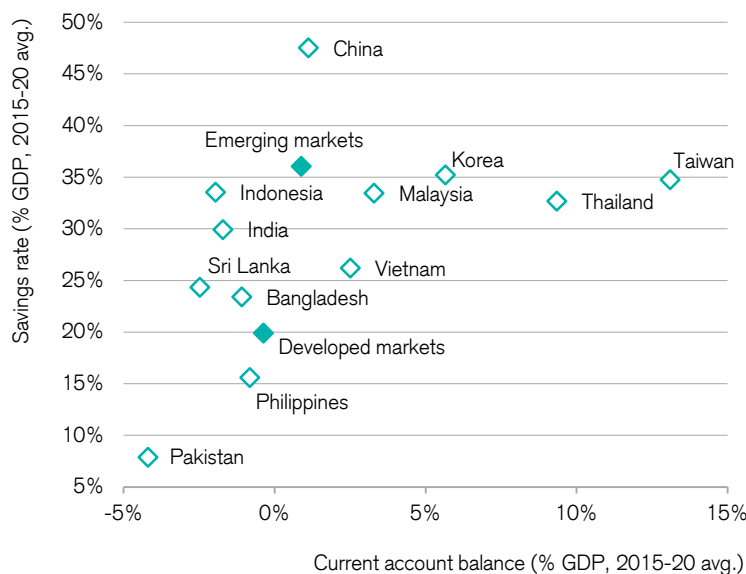
This would progressively generate an additional source of consumption growth consistent with a lowering of the region's structural external surpluses, with potential implications for currency valuation. Indeed, China's current account surplus, having averaged 2.5% of GDP for the past ten years, is projected by the IMF to steadily erode from an estimated 1.1% of GDP in 2019 to just 0.6% by 2023.

**Figure 11: Savings rate of developing Asia versus developed economies (gross national savings as % of GDP)**



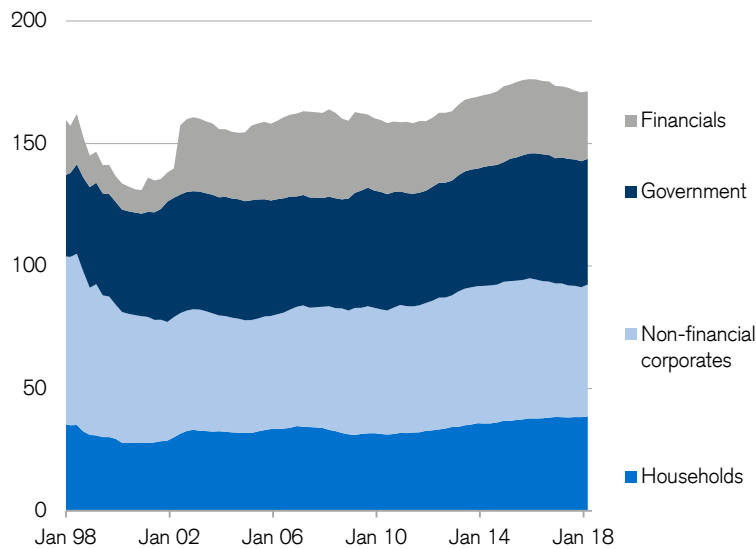
Note: excluding Japan  
Source: Oxford Economics, Credit Suisse research

**Figure 12: Savings rate and current account balance for Asia versus emerging and developed markets aggregate (2015–20 averages)**



Source: Oxford Economics forecasts, Credit Suisse research

**Figure 13: Asia excluding China total debt by sector (% of GDP)**



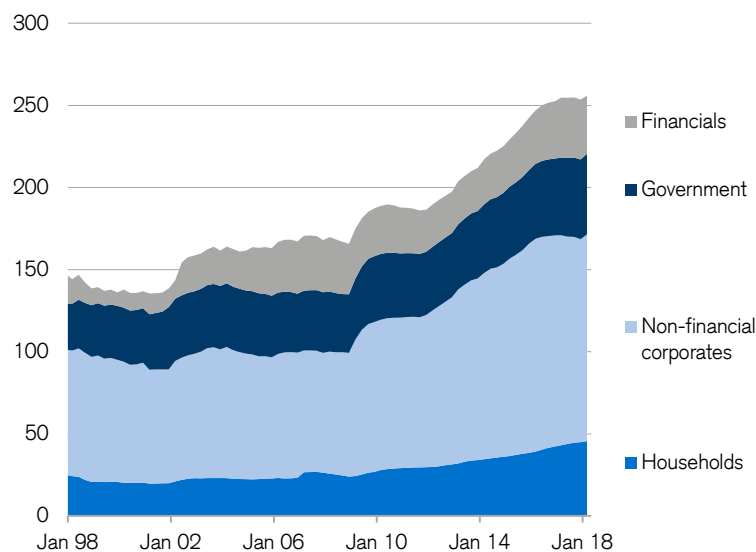
Note: excluding Japan  
Source: BIS, IIF, Credit Suisse research

**Aside from a few notable pockets of concern, regional debt dynamics appear sustainable**

Applying standardized metrics for debt-sustainability analysis, we identify the potential "red flag" areas of concern as being within the Chinese and Vietnamese corporate sectors, South Korean households and the Sri Lankan government sector. Otherwise, the region's borrowing dynamics – as measured by the sectoral composition of total debt as a proportion of GDP – have remained (in aggregate) remarkably stable over the past two decades, with the aggregate increasing only modestly to 171% currently from 163% in January 1998.

Subsequent to a balance sheet contraction by non-financial corporates and a corresponding expansion by the government sector in the years immediately following the 1997/8 Asian financial crisis, the sectoral composition of regional debt (excluding China) has remained broadly unchanged (within two percentage points) for the past fifteen years: non-financial corporates with a 31% share, government at 30%, households at 22%, and financial corporations at 16%.

**Figure 14: Asia total debt by sector (% of GDP)**



Note: excluding Japan  
Source: BIS, IIF, Credit Suisse research

Introducing China into the equation creates a meaningfully different picture. The country's burgeoning credit as a consequence of Beijing's debt-fueled investment-led stimulus measures implemented in the wake of the global financial crisis is well documented in the financial press and concerns relating to its sustainability have been paramount for a number of years for not only regional but global investors across asset classes.

The ratio of China's non-financial corporate sector credit to GDP – heavily concentrated within state-owned enterprises – was at the same level (with some interim fluctuation) of 96% in both December 1998 and December 2008, and subsequently rose to 163% over the following decade. China's household credit-to-GDP ratio has more than doubled over the past ten years to 49% from 19% in 2008, up from just 9% in 1998. Meanwhile, China's public sector debt-to-GDP ratio presently stands at 48%, up by 20 percentage points in a decade and by 27 percentage points since 1998. Finally, China's financial sector credit-to-GDP ratio has climbed by some ten percentage points to 40% over the past ten years.

Altogether, China's total debt burden is 300% of the country's GDP, or 260% for the non-financial sector, which elevates the figures for the overall Asia 12 region to 256% and 221%, respectively. Indeed, China's overall debt-to-GDP ratio is not far off the OECD high-income economy (GDP-weighted) average of 382%, although the sectoral composition in developed economies is more weighted toward the

government and financial sectors than in the Asian economies (excluding Japan).

There are a number of important considerations and idiosyncrasies to take into account when analyzing debt sustainability for the Asia 12 region.

First, for households, a recent BIS study<sup>5</sup> argues that rising household debt boosts consumption and GDP growth in the short term (up to 12 months), but has damaging implications in the longer term with a one percentage-point increase in the household debt-to-GDP ratio typically lowering long-term output growth by up to 0.1 percentage points. Moreover, the study suggests that the negative long-run effects on consumption intensify as household debt crosses a threshold of 60% of GDP, and that long-term overall GDP growth is negatively impacted when the ratio exceeds 80%.

South Korean and Taiwanese households with debt-to-GDP ratios of 96% and 89%, respectively, together with those of Malaysia and Thailand (both at 67%) have the most extended liabilities in the sector among the Asia 12. China's household debt-to-GDP ratio is 49% – although still rising – while household leverage for the likes of India, Indonesia, Pakistan and the Philippines remains relatively low, all with debt-to-GDP ratios lower than 17%. South Korea's household sector is now the most leveraged of any global economy, emerging or developed, having taken over that accolade from the United Kingdom in the summer of 2015. Arguably, a primary motivation for the Bank of Korea to maintain its protracted accommodative monetary policy environment is its concern over the mounting household debt-servicing ratio, which at 13% and climbing, is higher than for any of the larger developed economies.

Nevertheless, we see the principal risk of elevated household sector leverage in South Korea being in regard to the consumption outlook (rather than the risk of default) as discretionary spending becomes increasingly constrained by rising interest expenses. After all, 76% of South Korean household credit is collateralized mortgage borrowing and household balance sheets are typically in good shape following a decade of extremely accommodative interest rates, with large pools of savings on which to draw and close to zero foreign-currency-denominated liabilities.

As a point of concern we note that in contrast to China, Korea, Taiwan and Malaysia, a significant portion of Thailand's household debt is uncollateralized short-duration consumer borrowing subject to short-term interest rate fluctuations.

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5. Lombardi, Mohanty and Shim (2017) "The real effects of household debt in the short and long run," Bank for International Settlements Monetary and Economic Department.

Second, the non-financial corporate sectors in China and Vietnam have debt-to-GDP ratios of 163% and 131%, respectively, which appear as outliers for the Asia 12 region, with South Korea trailing at 99% and Malaysia at 67% (although, with the exception of Vietnam, these ratios have moderated in recent years). Indeed, for China, the focus of policymakers since 2015 has been on issuing directives targeting the potential dangers of its financial system with a succession of "financial de-risking" and "supply-side" reforms tackling the leverage and excess capacity of state-owned enterprises in particular. This is having some measured success: the total stock of corporate debt is not falling, but its proportion of GDP has declined marginally from 167% two years ago. Similarly, both South Korean and Malaysian non-financial sector corporate debt-to-GDP ratios were higher in the last three years at 105% and 69%, respectively.

## **"We believe the pre-conditions are in place for China to deliver a successful deleveraging process"**

Moreover, the underlying causes for elevated corporate leverage in China and Vietnam are symptomatic of the under-utilization of equity corporate financing, a legacy of the countries' transition from socialism to capitalism. The modus operandi during the communist era was for state-owned behemoths, unable to raise capital via issuing equity or bonds, to rely entirely on state-owned bank lending for their financing requirements. We illustrated this in an earlier work<sup>6</sup> by highlighting the comparably low equity book-value-to-GDP ratio in China accompanied by the high level of corporate debt-to-equity ratio versus both developed and other emerging markets.

For China, with a 47% savings ratio, a strong retail investment culture (47% of household wealth is in financial assets), a closed capital account, debt principally in local currency (just seven percentage points of the 163% non-financial corporate debt to GDP is foreign currency denominated) and a command economy, we believe the preconditions are in place for China to deliver a successful deleveraging process (i.e. without material interruptions to GDP growth).

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6. Redman and Sai (2018) "The looming EM debt crisis: myth or reality?", Credit Suisse investment strategy research.

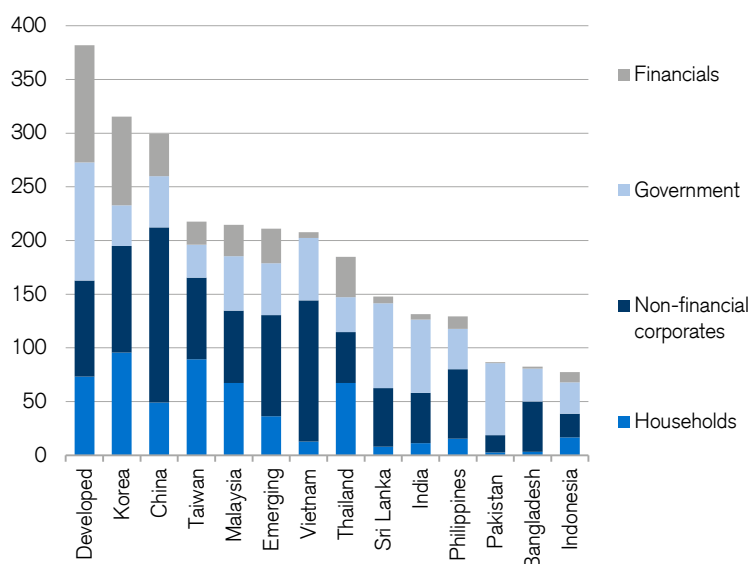
Ultimately, we maintain our belief that the Chinese government retains the capacity to "socialize" its domestic credit problems. The pace of ongoing debt disintermediation into the bond market and large-scale debt for equity swaps needs to be increased, together with steady growth in domestic financial asset demand via pension, insurance and mutual fund subscriptions to absorb the enormous scale of issuance involved. Critical to achieving this goal will be retaining strict capital controls to contain the large pool of domestic savings and the institutionalization of the Chinese capital markets (similar to that achieved in the USA through the 1970s with the introduction of 401(k) defined contribution pension schemes) in order to dampen the boom/bust characteristics of the Chinese equity market (2007 and 2015 retail-driven bubbles).

With per capita GDP in PPP terms approaching the level where participation in financial products and planning typically begins to permeate more deeply and, given that the next generation of retirees is likely to have less intergenerational support in their retirement as a result of the one-child policy, we believe that the demand side of the equation is materializing.

In Vietnam, although there is as yet no official government-initiated commitment to deleveraging, the regulator has not delivered the typical annual second-half increase to bank loan quotas this year. Moreover, a moderation in bank lending appears assured given that, in the absence of a significant recapitalization, Vietnamese banks are increasingly running into capital constraints. Hence a key challenge for policymakers in Vietnam will be to address the overdependence on debt for funding growth. Reforms addressing the inefficiencies of state-owned enterprises would serve to help boost the credit multiplier, in other words maintaining stable economic output with declining credit growth.

Third, according to the IMF's government sector debt sustainability analysis,<sup>7</sup> the debt-to-GDP threshold beyond which the risk of debt distress materially increases is 70% for emerging markets and 85% for advanced economies. Based on this criterion alone, only Sri Lanka (79%) appears within the danger zone, while India (68%) and Pakistan (67%) are on the cusp – although, in the case of the latter two countries, their respective ratios have decreased from a considerably more worrisome 86% in 2003 and from 81% in 2001.

**Figure 15: Total debt by sector (% GDP)**



Source: BIS, IIF, Credit Suisse research

Sri Lanka secured a USD 1.5 billion extended fund facility from the IMF in June 2016 to escape an impending balance of payments crisis, in return committing the Sri Lankan government to a package of fiscal reforms including streamlining the tax code and reducing the swollen deficit. Subsequently, difficulties in Sri Lanka servicing USD 8 billion of infrastructure-related borrowing from China led to the handing over in December 2017 of a controlling equity stake and a 99-year operating lease for the country's second-largest port at Hambantota. Indeed, a significant portion of Sri Lanka's USD 74 billion of public sector debt accumulated as a result of infrastructure projects signed off by the previous Mahinda Rajapaksa administration and associated with China's Belt and Road Initiative, such as the new and now closed international airport (owing to lack of traffic), also at Hambantota.

Hence Asia's hitherto breakneck growth rate of credit extension (including or excluding China) is converging toward developed economy norms. At a 10% (nominal) year-on-year growth rate in credit (or 7% excluding China), loans in Asia are now being extended at one of the slowest paces in at least 15 years. We believe it likely that this pattern

7. Said Bakhache et al (2013) "Public debt sustainability analysis in market-access countries," IMF Strategy, Policy, and Review Department in collaboration with the Fiscal Affairs Department.

of convergence will persist, although we identify below those countries where we believe credit growth will continue to outpace regional peers.

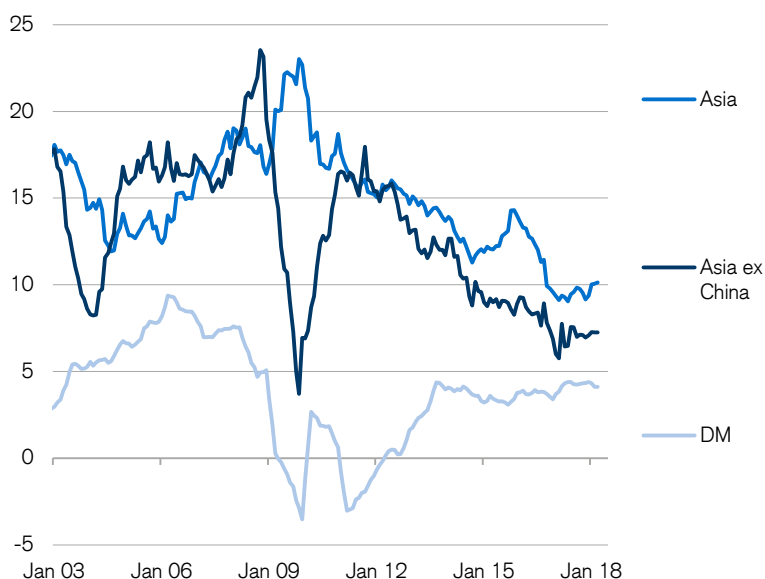
Similarly, credit-to-GDP gaps for the region (i.e. the deviation of non-financial sector – including government – credit-to-GDP ratios from their long-term trend based on the methodology of the Bank for International Settlements (BIS) using a Hodrick–Prescott filter) have closed swiftly over the past two years. Owing to the heavy weighting of China, the aggregate credit-to-GDP gap for the Asia region exceeded the nine percentage-point red flag level that the BIS<sup>8</sup> considers as potentially precipitating a credit event for five years between Q3 2012 and Q3 2017. Excluding China, the only period when Asia broke above the critical nine percentage point credit-to-GDP gap threshold was in the prelude to the 1997/8 Asian financial crisis when it peaked at 15%.

In contrast, the rest of the world (i.e. developed economies) in aggregate has not crossed into the credit gap danger zone, although certain countries in isolation (such as Canada, Hong Kong and Switzerland) have done so in the past, during periods associated with property booms. This was also the case with China, which recorded a peak credit-to-GDP gap of 29% in Q1 2016 in conjunction with a sharp cyclical acceleration in Chinese property sales and price growth, thus precipitating the measures for financial de-risking, which have closed the gap to 13% by Q1 2018 (versus gaps of minus two percentage points and eight percentage points for the region excluding and including China, respectively).

Fortunately, Asian governments and enterprises have typically learnt from painful mistakes precipitating previous emerging market crises and have in more recent years, for the most part, eschewed borrowing denominated in foreign currency. Indeed, unlike in the case of say, Turkey and Argentina, Asia has resisted indulging in so-called emerging market "original sin" over the past decade (i.e. borrowing in foreign currency with the usually misplaced belief that savings incurred on interest expense will more than offset any currency depreciation). China and Asia, excluding China's non-financial and financial corporate sectors, have foreign exchange debt-to-GDP ratios at or below 8% and declining, with the exception of Chinese financials, which at a relatively low ratio of 6% have seen an expansion in foreign currency borrowing over the past decade relative to the size of the Chinese economy.

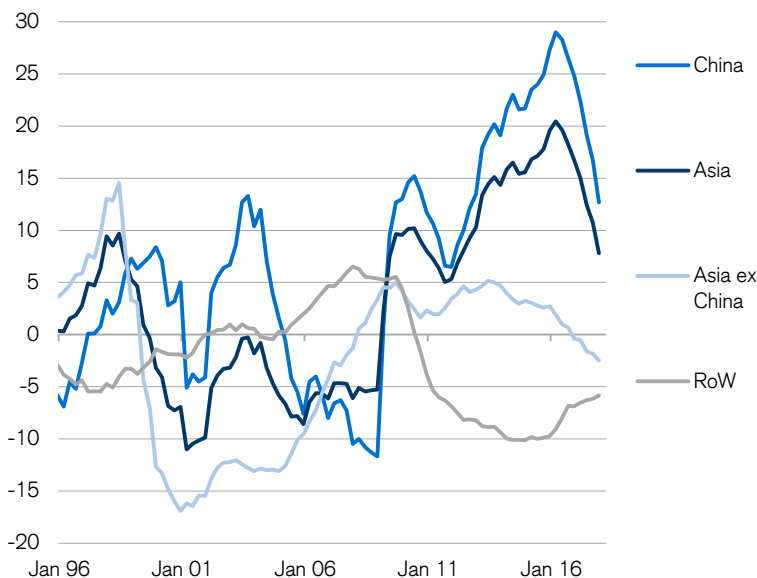
8. Aldasoro, Borio and Drehmann (2018) "Early warning indicators of banking crises: expanding the family," BIS Quarterly Review.

**Figure 16: Private sector loan growth for Asia versus developed markets (nominal, % year-on-year)**



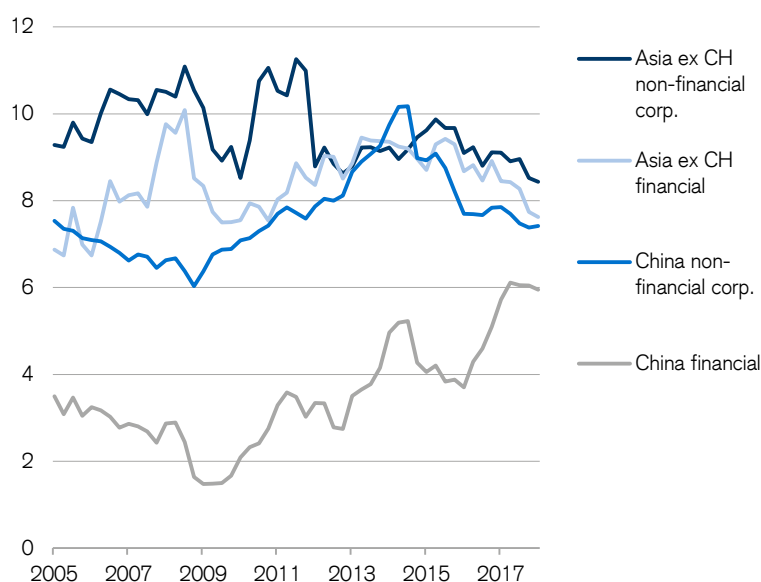
Note: excluding Japan  
Source: IMF - International Financial Statistics, Oxford Economics, Credit Suisse research

**Figure 17: Credit-to-GDP gaps for Asia versus the rest of the world (percentage points of GDP)**



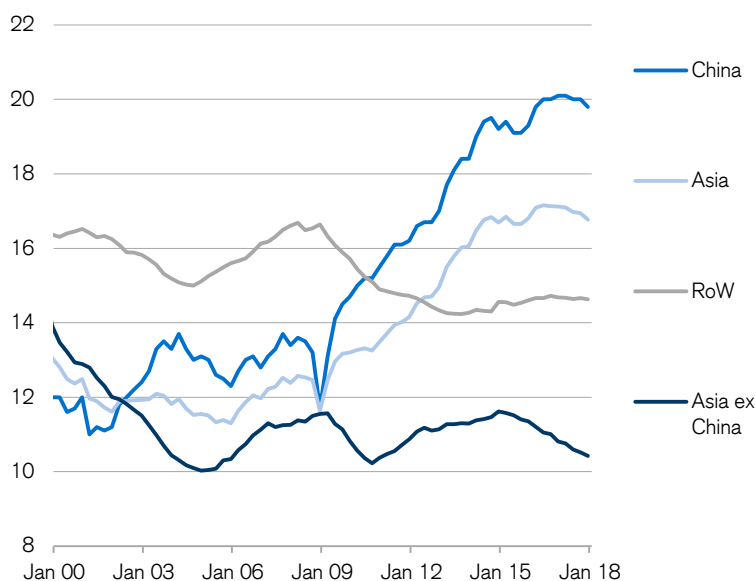
Note: excluding Japan  
Source: BIS, Credit Suisse research

**Figure 18: Asia FX debt to GDP (%)**



Source: BIS, IIF, Credit Suisse research

**Figure 19: Private non-financial sector debt-servicing ratios for Asia versus the rest of the world (%)**



Note: excluding Japan  
Source: BIS, Credit Suisse research

In contrast, Turkey's non-financial corporate sector alone has foreign-exchange-denominated liabilities equivalent to 36% of Turkish GDP, with the financial corporate sector accounting for an additional 11% of GDP of foreign currency borrowing. For Argentina, 80% of government borrowing is foreign-currency-denominated, amounting to 44% of the country's GDP.

A notable Asian exception is Pakistan, where a third of public sector borrowing is in foreign currency, amounting to almost a quarter of GDP. At the time of writing, Pakistan is approaching the IMF to secure a bailout worth up to USD 7 billion.

Moreover, with the exception of some concerns relating to China, the rest of Asia's aggregate private non-financial sector debt-servicing ratio appears manageable at 10%, currently toward the lower end of its two-decade range. Nonetheless, China's deleveraging initiatives have managed to arrest the country's debt-servicing ratio at 20% (albeit above the 18% pre-global financial crisis peak in the USA), with early evidence that the level is beginning to moderate toward global norms (the ratio for developed economies has typically been within the 14%–16% range).

Looking ahead, credit growth in the region will likely be strongest in those underleveraged countries (i.e. with relatively low credit-to-GDP ratios) that have underleveraged banking systems (i.e. with loan-to-deposit ratios below the critical 100% level, thus circumventing the requirement for wholesale funding). Based on this criteria, the South Asian countries of India, Pakistan, Bangladesh and Sri Lanka, in addition to the Philippines, appear well positioned to lead the next phase of regional credit expansion.

However, with the exception of China, South Korea, Thailand and Malaysia, local currency corporate bond markets for the Asia 12 remain relatively shallow versus developed market peers and yet their deepening will prove critical to allowing banks to migrate their asset mix across to the household sector and small and medium-sized enterprises (SMEs), which individually lack sufficient scale to access the bond markets. In other words, corporate loan disintermediation into the bond market will create room on the balance sheet for those banks that are restricted from extending loans owing to their high loan-to-deposit ratios.

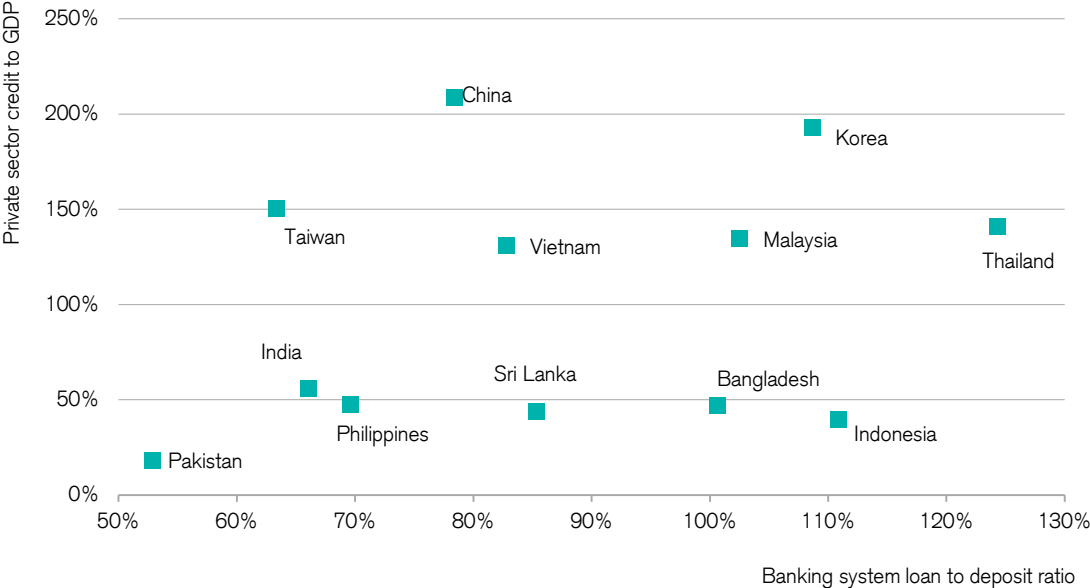
The deepening of Emerging Asia's corporate bond markets will have a considerable impact on how companies finance their operations. Emerging market corporate capital structures have often been skewed toward funding



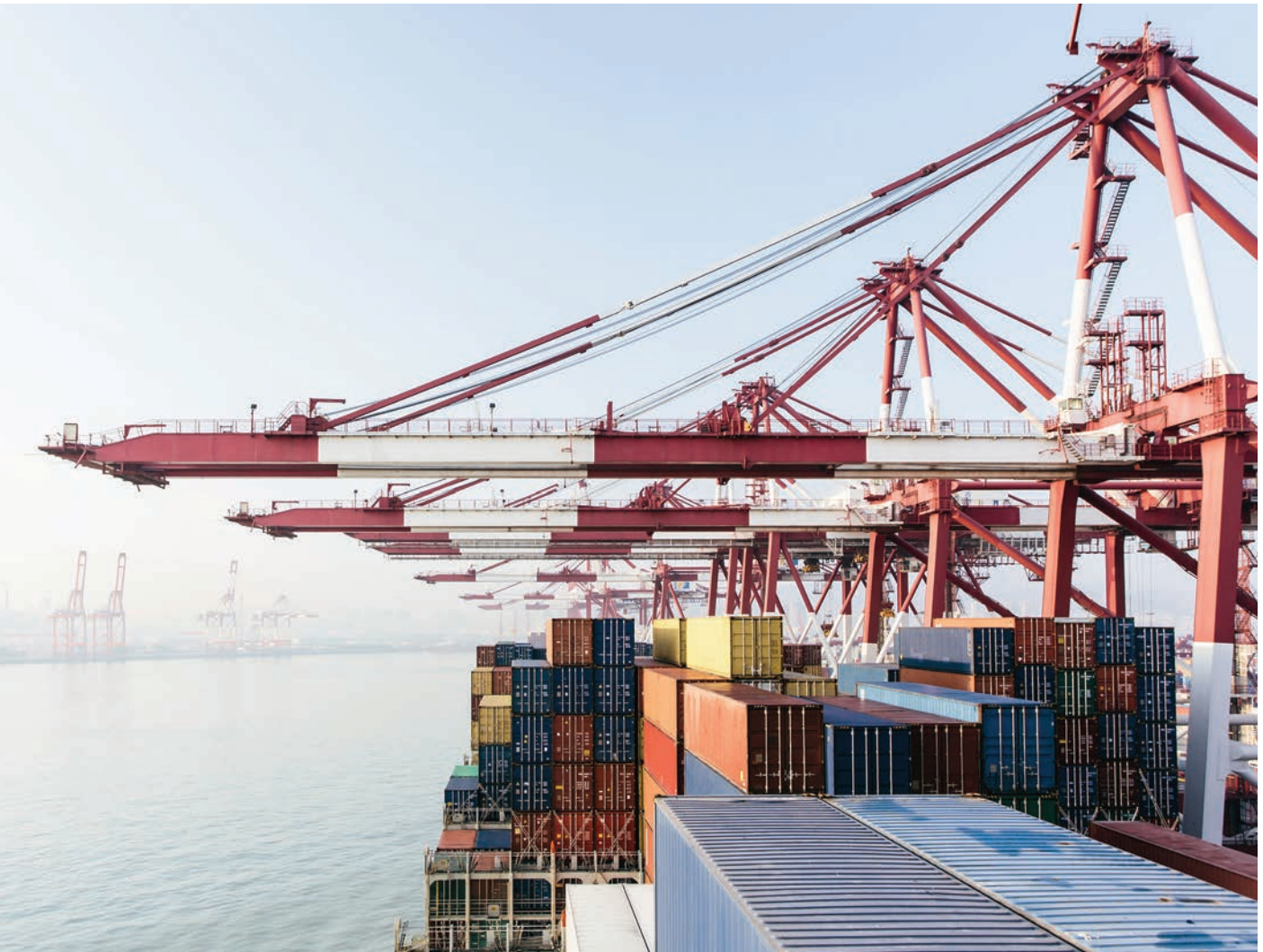
sources and financial vehicles that are more readily accessible (e.g. bank loans) rather than more optimal cost-efficient solutions. Unlike corporate bond markets, where the risk and responsibility of monitoring the business activities of issuers is distributed across a pool of investors, banks incur the cost of monitoring borrowers, thus resulting in a higher cost of debt for borrowers.

With deepening emerging corporate bond markets, we would anticipate the level of disintermediation of bank lending to naturally rise as corporates gravitate toward sources of funding that are not only cheaper, but also more resilient to the business cycle. Ultimately, this trend in increasing share of capital funded from corporate bond markets should serve to depress the weighted average cost of capital (WACC) for emerging market corporates, thus boosting their return on invested capital (ROIC) less WACC spread, consistent with positive momentum in equity market performance.

**Figure 20: Private sector credit-to-GDP versus banking system loan-to-deposit ratio (%)**



Source: IMF International Financial Statistics, BIS, Oxford Economics, Credit Suisse research



# Trade: Asian exports' evolving composition, direction and global share

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Asia's export mix is increasingly value-added with a rise in domestic inputs and directed within the region. The "Made in China 2025" initiative embodies this evolution. But rising labor costs will likely encourage a redistribution of China's dominant export share among lower-income regional economies with thriving manufacturing sectors. This may be compounded by supply chain diversification necessitated by ongoing US-China trade frictions.

Underpinning Emerging Asia's expanding share of global economic activity to date has been the region's manufacturing export sector. Via either product specialization (Taiwan: electronic integrated circuit boards and components; Bangladesh: textiles, apparel and footwear; Vietnam: cellular communications equipment) or sheer breadth and volume (China and Thailand), Asia's growing role as the world's export powerhouse is well established.

Yet, as a share of world (merchandise goods) exports, only China and to a lesser extent Vietnam and South Asia have recorded significant gains over the past two decades. Since 1998, China's global export (excluding services) market share has trebled to 15% from 5% and South Asia's has doubled to 2% from 1%. Gains in global share achieved for the ASEAN 5 sub-region have been more modest, rising to 5% from 4% over the duration – all of which may be accounted for by Vietnam alone, which rose to 1.3% of global share from just 0.2% 20 years ago. South Korea's and Taiwan's collective share of global exports has remained constant at 5%.

Notably, for South Korea and Taiwan, there has been a small gain (around half a percentage point) in the former's global export market share over the past two decades, while the latter's has fallen by a corresponding amount owing to a significant share of Taiwan's manufacturing base being offshored to mainland China over the past two decades. For three years, however, Asia's share of global

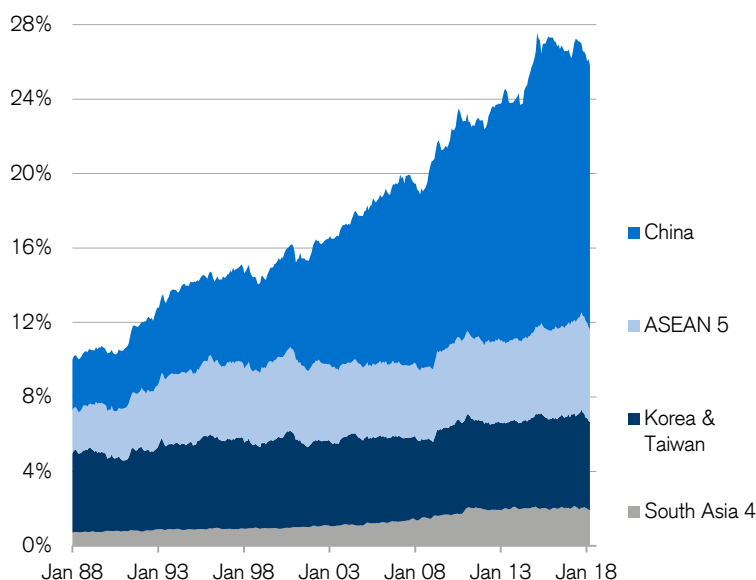
exports has failed to expand since peaking at 27.6% in Q1 2015. Indeed, the latest Q1 2018 IMF Direction of Trade Statistics show Asia's global export market share at 25.8%, a drop of almost two percentage points in three years attributable almost exclusively to China, and which predates the adoption of more mercantilist trade policies under the umbrella of the current US administration's agenda for economic nationalism.

In our view, a confluence of factors has resulted in a plateauing of China's global export market share, which we believe will persist. Ultimately, the endemic comparative advantages of China's manufacturing export sector that were so pivotal in its remarkable 17-year expansion post the country's December 2001 accession to the World Trade Organization (WTO) have been eroded in recent times.

As the IMF Direction of Trade Statistics are collated in US dollar terms, the renminbi's cumulative 12% nominal depreciation (versus the dollar) since mid-January 2014 following the currency's cumulative 34% nominal appreciation from July 2005 to January 2014 is a contributing factor. However, other important influences are at work.

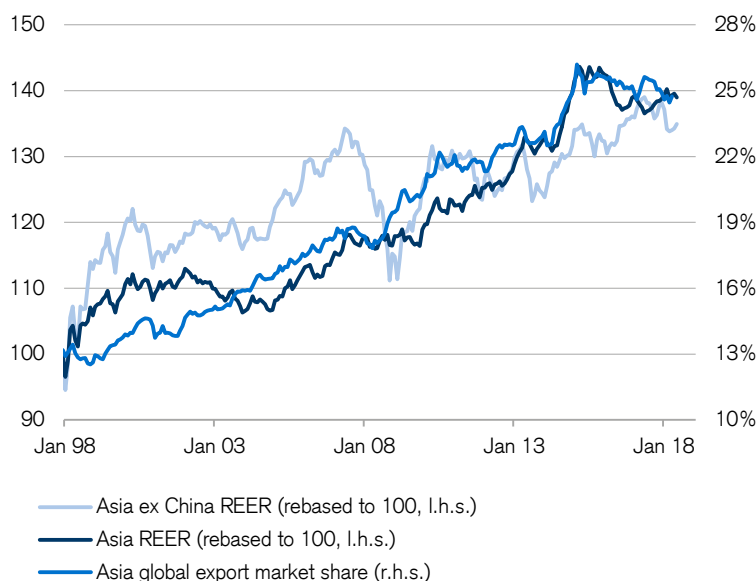
Rising unit labor costs have diverted manufacturing elsewhere (see the corresponding expansion in Vietnam for example), a phenomenon that may gain impetus from customers wishing to diversify their supply chains if the US-China trade frictions persist. Moreover, greater competitive

**Figure 1: Asia's share of world exports (%)**



Note: Only includes merchandise goods, not services; ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam, South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka.  
Source: IMF Direction of Trade Statistics, Credit Suisse research

**Figure 2: Asia's real effective exchange rate (GDP-weighted) versus global export market share**



Note: Asia excluding Japan; only includes merchandise goods, not services.  
Source: IMF Direction of Trade Statistics, Credit Suisse research

pressures and enhanced automation have driven down product prices among a number of China's more value-added sectors.

China's economic transition toward service sectors will also deplete its capacity to grow export market share as services are typically more difficult to export given the WTO's failure over decades to conclude significant deals for service sectors (in fact they are excluded from the IMF merchandise goods data in **Figure 1**). In addition, the country's shift away from investment to consumption-led growth will lead to more of what China produces being consumed at home. Hence we expect to see a progressive rebalancing over the next decade, with China's dominant Asian share of global exports being redistributed among key lower-income regional economies with flourishing manufacturing sectors. Vietnam, the Philippines, Bangladesh and India are prime candidates to win export share at the expense of China.

Importantly, even a stabilization (rather than further decline) in Emerging Asia's aggregate export market share has implications for the future pace of the region's real effective exchange rate (REER) appreciation. Consistent with a country (or region) expanding its global export market share is an appreciation in its REER as improving terms of trade serve to strengthen a country's overall external position and hence its currency (although there is an offsetting benefit from a weaker currency to export competitiveness). Indeed Emerging Asia (with or without China) is illustrative of a region with two decades of structural gains in export market share accompanied by a trend appreciation in its REER – a slowdown in the former will thus likely impact the gradient of the latter.

Nevertheless, a number of attributes still strongly favor structural currency appreciation of the Asia 12 countries in aggregate. First, the region's GDP-weighted negative deviation from PPP (with the USA) of 60% – or 53% excluding China – is indicative of undervalued currencies on a long-term view (the cheapest point being the Q1 2009 global financial crisis trough at 65% and 50%, respectively). Economic theory states that PPP (at least for traded goods and services) will eventually equalize between countries, with the proviso that those economies have efficient competitive markets for the exchange of their goods and services, i.e. necessitating a lack of barriers to trade, transportation costs and other associated transaction costs. Second, aggregate Asia 12 currency strength is buoyed by shorter-term positive influences including the region's current account surplus, structural disinflation, attractive carry on local currency bond yields and superior growth dynamics, all relative to the USA.

### Asian exports are increasingly intra-regional

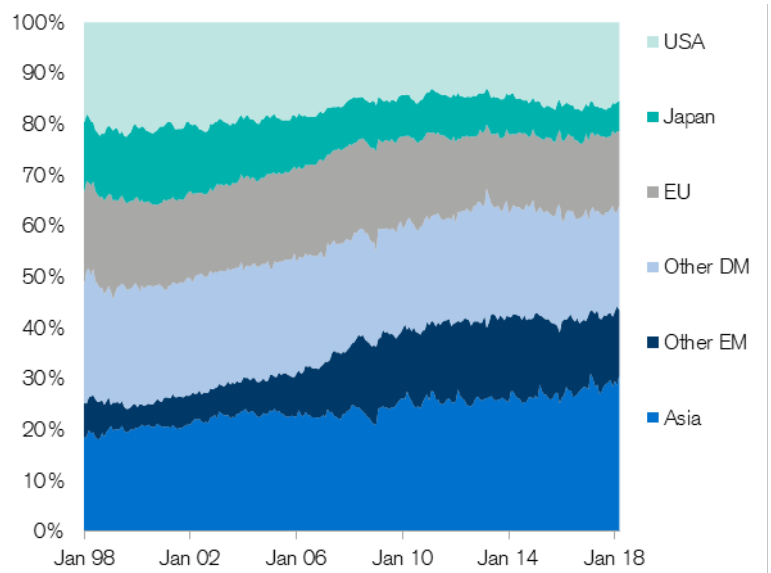
Triggered by the ongoing development of regional free trade blocs, Asia itself is now geographically the largest regional customer for Asian exports. In 2018, according to IMF Direction of Trade Statistics, intra-Asian exports account for 7% of global trade, up from 2% in 1998. The Asia-Pacific Trade Agreement (APTA) – renamed from the original Bangkok Agreement introduced in 1975 – is the oldest regional preferential trade agreement with a total of seven signatories including China, India, South Korea, Bangladesh and Sri Lanka among the Asia 12 countries. Successive negotiations – with the fourth round launched in 2007 – have been aimed at deepening regional tariff concessions.

Most significantly, this was followed by the 1992 signing of the ASEAN Free Trade Area (AFTA) agreement seeking the almost complete elimination of tariffs among participating nations extending across the 10 ASEAN members, of which five countries (Indonesia, Malaysia, Philippines, Thailand and Vietnam) are included in our Asia 12 economies. More recently, the South Asian Free Trade Area (SAARC) agreement reducing tariffs and other trade barriers between the seven countries of the Indian subcontinent plus Afghanistan was reached in 2004 and includes Bangladesh, India, Pakistan and Sri Lanka.

The latest regional free trade initiative, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), only includes Malaysia and Vietnam so far among its original signatories, although all Asia-Pacific Economic Cooperation (APEC) member countries may accede to the CPTPP. To date, eight other Asia 12 countries have announced their intention to join, including Bangladesh, India, Indonesia, Philippines, South Korea, Sri Lanka, Taiwan and Thailand, leaving only China and Pakistan yet to register interest. However, initial feasibility studies highlight that several countries listed would require significant restructuring of existing protectionist policies in order to qualify.

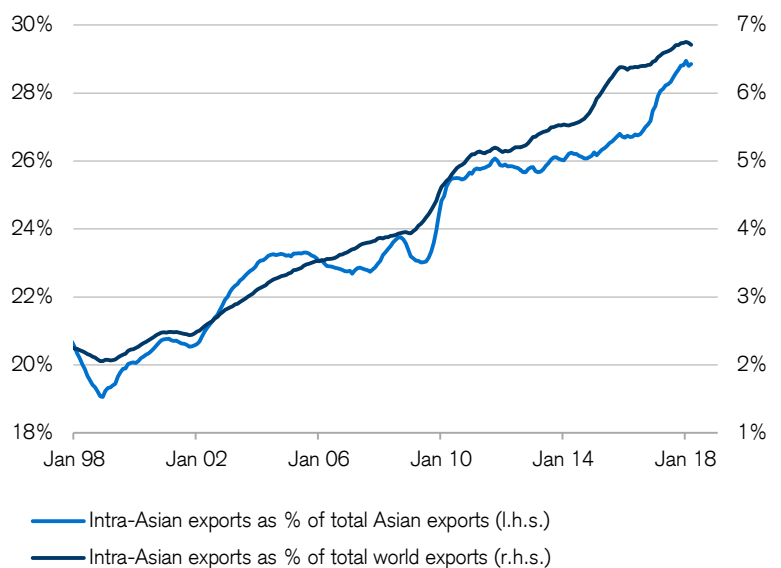
The proportion of exports from the Asia 12 destined for other countries within the group has risen to 29% in 2018 from 19% two decades ago, and we expect this share to continue growing. This trend has arisen at the expense of the share of Asian exports headed for the USA and Japan, which has fallen to 15% and 5%, respectively, from 20% and 15% over the duration. Asia 12 exports destined for "other developed markets" – excluding the USA, EU and Japan, but including the key transshipment ports of Singapore and Hong Kong – have remained approximately the same over the past 20 years at 22%, as they have for the EU at 16%. Meanwhile, other emerging markets (EMEA and Latin America) now account for a 13% share of Asia 12 exports, up from just 7% in 1998.

**Figure 3: Asian exports by destination (% share of total)**



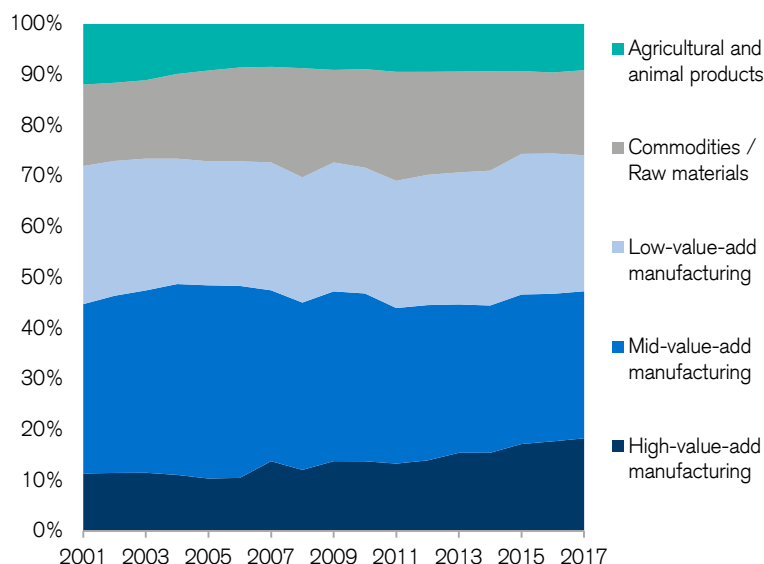
Note: Asia excluding Japan; only includes merchandise goods, not services  
Source: IMF Direction of Trade Statistics, Credit Suisse research

**Figure 4: Intra-Asian trade (% share of Asian and global exports)**



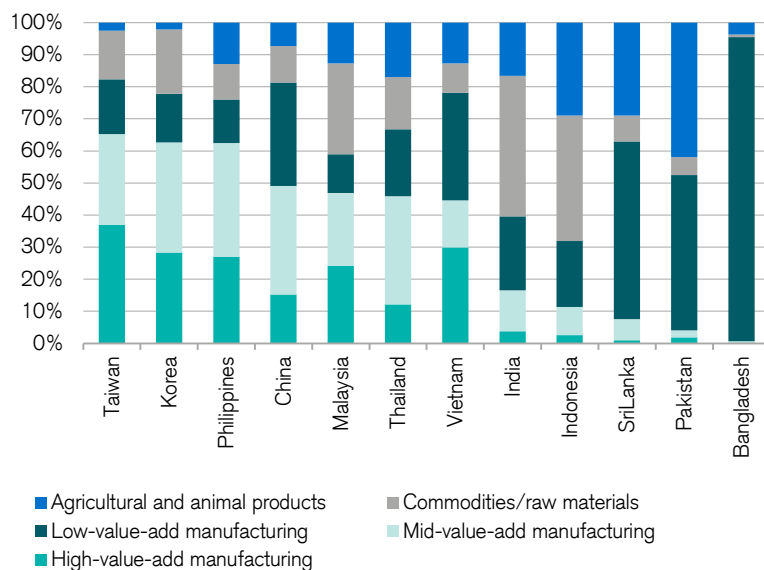
Note: Asia excluding Japan; only includes merchandise goods, not services  
Source: IMF Direction of Trade Statistics, Credit Suisse research

**Figure 5: Asian composition of gross exports progression since 2001 (% of total)**



Note: Only includes merchandise goods, not services; excluding Japan  
Source: International Trade Centre, Credit Suisse research

**Figure 6: Asian composition of gross exports (2017, % of total)**



Note: Only includes merchandise goods, not services  
Source: International Trade Centre, Credit Suisse research

### Asian exports moving up the value chain

In conjunction with their growth in global export market share, the Asia 12 have moved up the value chain in terms of their composition. Moreover, Asian exports are being increasingly fabricated with domestically (or at least regionally) manufactured components, thus significantly increasing their added value and progressing from the era when the Asian manufacturing export sector was geared toward final product assembly using components imported from developed economies.

A 2008 National Bureau of Economic Research (NBER) working paper<sup>1</sup> estimated that China's share of domestic content in exports rose to 60% after the country's 2001 WTO accession from 50% previously, although the authors highlighted that this proportion was understandably lower for higher-technology exports. By our estimates, these proportions will have risen further over the past decade. The stated goal of Chinese Premier Li Keqiang's May 2015 launch of the Made in China 2025 initiative was to further increase Chinese domestic content in the manufacturing sector to 70% by 2025, specifically in relation to the technology and pharmaceutical sectors, which have historically been dominated by foreign suppliers.

Indeed, high-value-added manufacturing now accounts for more than 18% of Asia 12 total merchandise goods (non-services) exports, up from 10% just a decade ago. The proportion is higher still – a quarter or more of exports – for Taiwan, Vietnam, South Korea, the Philippines and Malaysia. The corresponding squeeze has been in the share of mid-value-added manufacturing and raw material exports over the duration.

As middle-income Asian economies further advance the sophistication of their production processes and claim a higher proportion of high-value-added manufacturing among their exports, so should opportunities arise for lower-income regional peers to incrementally assume market share of those labor-intensive low and mid-value-added export areas that are vacated.

Increasingly, China's rising labor costs have become incompatible with maintaining competitive low-value-added manufacturing. For instance, China's global market share of apparel exports peaked in 2013 at 38%, falling to 33% by 2017. Regionally, Bangladesh and Vietnam have rushed in to fill the void with an increase in market share over the same four-year duration of three and two percentage points, respectively.

1. Robert Koopman et al (2008) "How much of Chinese exports is really made in China? Assessing domestic value-added when processing trade is pervasive," National Bureau of Economic Research.

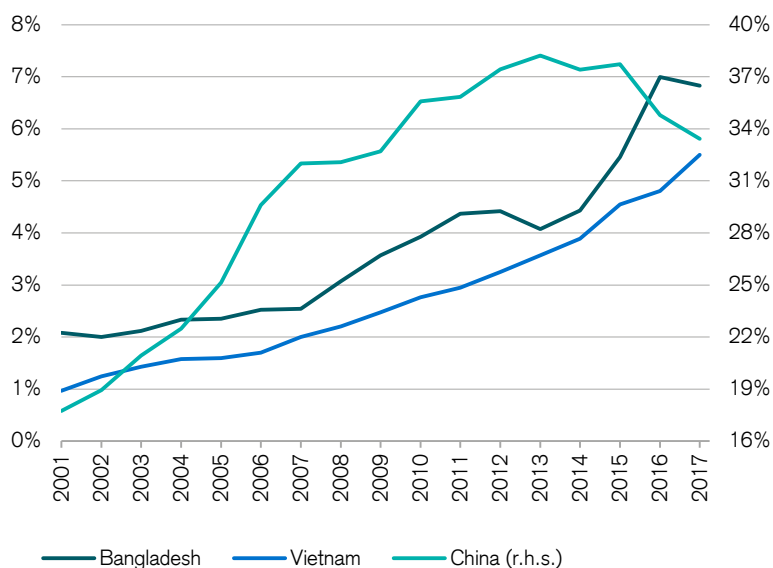
Nevertheless, favorable labor dynamics in isolation are insufficient to guarantee lower-income economies a successful and sustainable manufacturing growth engine. This must ideally be combined with adequate investment in education (to deliver necessary skill sets), infrastructure and communications (to ensure the smooth flow of supply chains), commercial and judicial institutions (to guarantee property rights, enforce contracts and encourage foreign investment), and the regulation and inducement of financial services (to facilitate credit for enterprises). Indeed in a previous work,<sup>2</sup> we highlighted significant evidence for a strong correlation between governance standards (as proxied by an eight-factor measurement framework) and exports expressed as a ratio of GDP for lower-income economies.

Moreover, it is increasingly uncertain whether export-led growth will be as effective as it has been in the past in view of potentially stagnating demand, sizable global output gaps as a legacy of excessive capital expenditure before the global financial crisis, firmly entrenched supply chains reducing potential for easy one-off gains, and growing resistance in some quarters to further globalization, together with the rise of populist protectionism. Arguably, the efficacy of this model has indeed diminished compared to when it was successfully adopted in particular by the Asian Tiger economies and is only part of the solution to delivering sustainable growth in developing economies (the other being to stimulate domestic demand).

Of the Asia 12 economies, Vietnam has seen one of the swiftest and most seismic progressions up the export composition value chain following the implementation of a 2001 ten-year economic plan aimed at facilitating growth of the private sector, and subsequently the country's January 2007 accession to the WTO to make it the organization's 149th member. High-value-added manufacturing now accounts for 30% of Vietnam's exports, up from less than 1% a decade ago, with a corresponding fall in the share of agricultural and raw material (commodity) exports. However, these headline statistics may be distorted by the inclusion of assembly, testing and packaging rather than purely manufacturing of high-value exports.

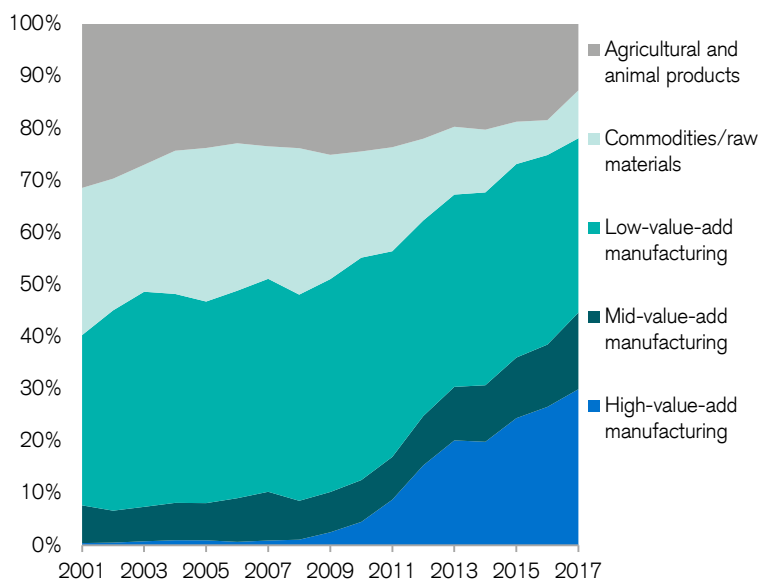
Arguably, given its geographical proximity and competitive unit labor costs, Vietnam is positioned as the country best able to accommodate a diversification of Asian manufacturing supply chains away from China if the current US-China trade frictions were to intensify.

**Figure 7: China versus Bangladesh and Vietnam – market share of apparel exports (%)**



Source: International Trade Center, Credit Suisse research

**Figure 8: Vietnam's composition of gross exports progression since 2001 (% of total)**



Note: Only includes merchandise goods, not services  
Source: International Trade Centre, Credit Suisse research

2. Redman and Sai (2016) "The Next Frontier," Credit Suisse Research Institute.





# Demographic: An erosion in demographic support presents fresh regional challenges

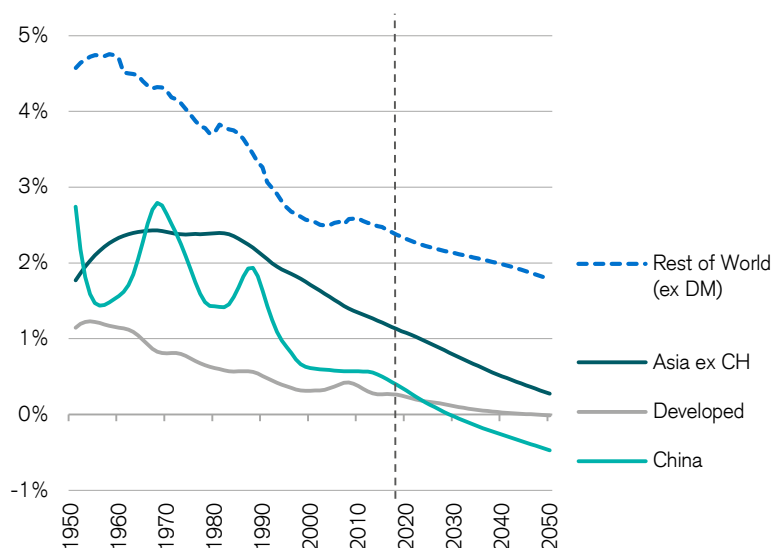
Maturing Asian economies are losing their demographic dividends, while other less-developed neighbors will likely continue to reap the benefits for the next decade(s). Deteriorating age-dependency ratios and the declining pace in urbanization will provide obstacles to future growth.

Changing population dynamics have the ability to significantly influence the trajectory of economic development. While positive demographics in the form of faster population growth with an increasing working-age share of the population could potentially underpin sustainable growth in economic activity, rapid changes in age structures also present challenges when economies are under-prepared for such demographic shifts or indeed when these dynamics reverse with declining and aging populations.

The demographic "sweet spot" (usually a two-to-three decade boost in economic productivity) is characterized by a sharply declining age-dependency ratio (as fertility rates fall due to significant reductions in infant mortality rates), with a large segment of the population moving into the productive working-age cohort. Moreover, the secondary effect of a falling fertility rate is the additional rise in working population brought about by increasing female labor participation.

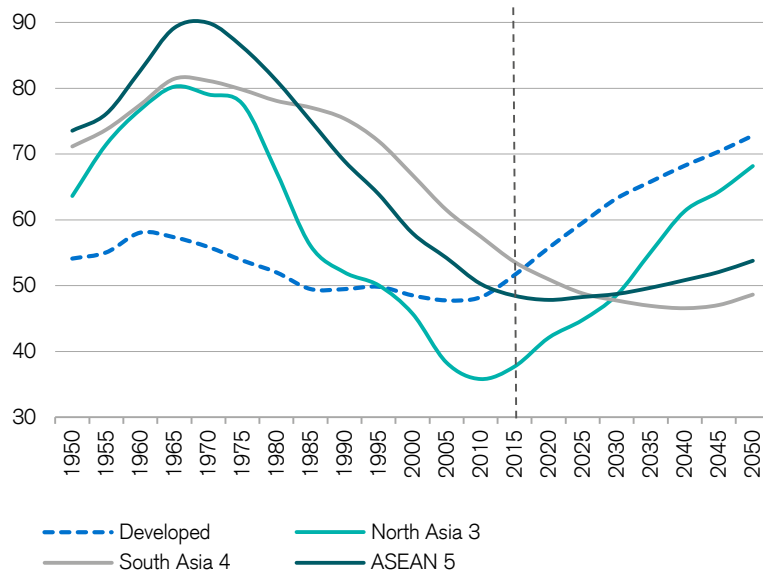
Indeed, for much of the last four decades, Emerging Asia has stood to benefit from faster population growth than the developed world and a sharp moderation in the total dependency ratio (the number of people supported per 100 working-age people) from 81.4 in 1970 to only 46.4 in 2015.

**Figure 1: Asian population growth versus rest of the world (% year-on-year)**



Source: UN Population Division, Credit Suisse research

**Figure 2: Total dependency ratio (ratio of population aged 0–14 and 65+ per 100 of population aged 15–64)**



Note: North Asia 3 = China, South Korea and Taiwan. ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam. South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka  
Source: UN Population Division, Credit Suisse research

However, largely driven by the transition in China’s demographics, the region as a whole appears to be at a crossroads as these positive demographic dynamics continue reversing. Nevertheless, excluding China, and especially in the Indian sub-continent, population growth and working-age dynamics should continue to lead to an expanding labor force, thus providing a key driver of structural growth.

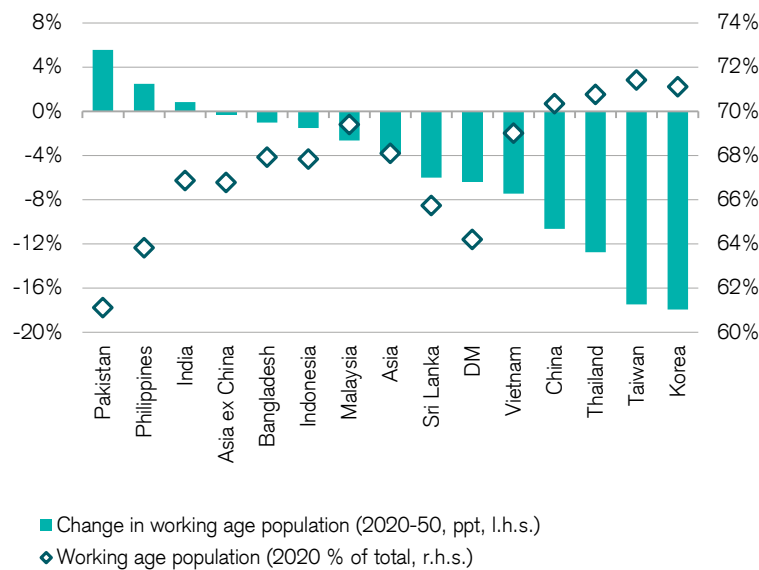
Based on United Nations Population Division (UNDP) forecasts, all global regions should undergo a decline in their absolute population growth rate over the next 30 years. Annual population growth in Emerging Asia excluding China is forecast to slow from 1.2% in 2017 to only 0.3% in 2050, although still growing faster than the developed world over the period. The demographic challenge facing China is evident from the UNDP’s expectations for the total population to begin shrinking in 2030 and decelerate to negative growth of 0.5% by 2050.

**A growing demographic chasm between North and South Asia**

Crucially, the future trajectory of dependency ratios should diverge within Emerging Asia, exposing the challenge faced by the maturing North Asian economies while South Asia continues to reap the benefits of a growing working-age share (15-64) of the population for at least two more decades.

The UNDP forecasts an increasing burden on the working-age cohort in Emerging Asia, with the overall dependency ratio increasing from 46.4 in 2015 to 55.2 by 2050. However this aggregate profile masks significant differences at a regional level. The age-dependency ratio for North Asia is expected to deteriorate rapidly from 37.7 in 2015 to 68.2 in 2050, taking the region close to the dependency ratio of more developed economies at 72.8 at that point. In comparison, South Asia (and in particular Pakistan) should continue to benefit from easing dependency on the working-age population up until 2040, with the ratio falling to 46.6 before marginally increasing to 48.6 over the following decade. As for the ASEAN 5 region, the deterioration of dependency dynamics over the period is expected to be milder, with the ratio picking up from 48.5 in 2015 to 53.8 by 2050.

**Figure 3: Developing Asian markets working-age population dynamics, 2020 through 2050**



Source: United Nations, Department of Economic and Social Affairs, Population Division (2017), Credit Suisse research

At a country level, Pakistan, the Philippines and India stand out as the only countries to benefit from a pickup in working-age share of total population over the next 30 years. Bangladesh, Indonesia and Malaysia fare relatively well in this aspect, with only a marginal drop in their respective working-age share of population from current levels, which are in line with or higher than the emerging Asian average level of 68%.

In contrast, South Korea, Taiwan, Thailand, China and Vietnam are poised to be affected the most by a shrinking working-age share of population. This is particularly worrying in the case of Vietnam, which is a low-income economy with an aging population and low fertility rates largely brought about by the country's de facto two-child policy. Indeed, according to a 2016 World Bank study,<sup>1</sup> Vietnam is about to start aging at an unprecedented pace—by 2040, the number of people 65 and older is projected to almost triple to 18.4 million, and to account for 17% of the population.

**Along with its challenges, an aging population also presents select opportunities**

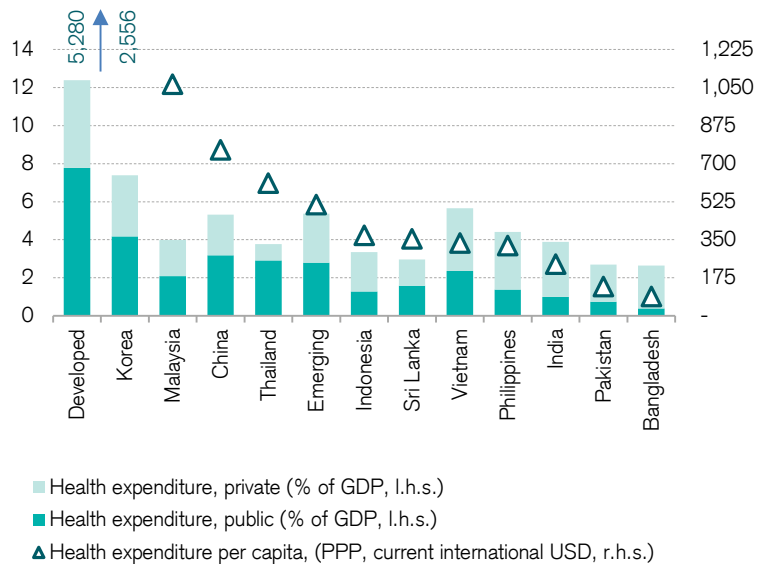
A rapidly aging population introduces opportunities such as financial planning, automation and physical mobility, accessible transport and housing, and most of all with regard to healthcare services and pharmaceutical products.

The opportunity in China's healthcare industry is particularly attractive, with over 100 million people over the age of 70 by 2020, near complete basic insurance coverage, increasing disposable income supporting "out-of-pocket" spending, and a government with expanding public healthcare and encouraging private participation as its stated goals. According to pharmaceutical research firm IQVIA, at USD 123 billion in 2017, China is already the world's second-largest consumer of medicine (26% the size of the US market. Overall expenditure on healthcare is expected to rise to between 6.5% and 7.0% of GDP by 2020 (from 5.3% in 2016) and ultimately to an RMB 16 trillion (USD 2.3 trillion) healthcare market by 2030 according to the State Council's "Healthy China 2030" strategy. A slew of recent reforms introduced by the China Drug Administration such as the agency joining a global federation of regulators, subsequently relaxing additional domestic clinical trial requirements, fast-tracking reviews for select drugs and increasing pressure on low-quality domestic producers, should encourage foreign investment and ease market access.

**Urbanization provides a structural growth driver that can benefit a number of Asian economies in the coming decades**

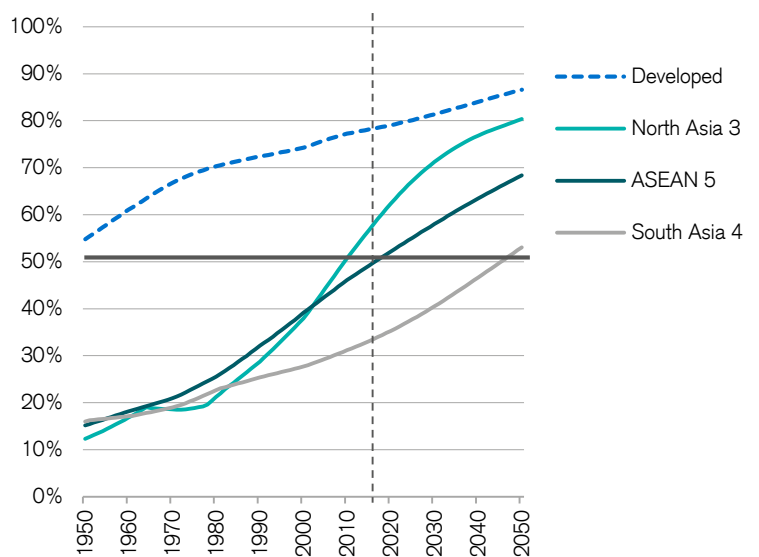
Drawn by the superior economic, lifestyle and social opportunities of urban dwelling, the world's population is migrating from rural areas to cities. By 2050, Emerging Asian countries are expected to add a billion people to their urban populations, with India alone contributing 415 million, followed by China at 255 million over the period. Urbanization is one of the most significant growth drivers for the global economy. Indeed, one of the conclusions reached from an earlier study of emerging

**Figure 4: Asia versus emerging and developed market average healthcare expenditure (2016)**



Source: World Bank Development Indicators, Credit Suisse research

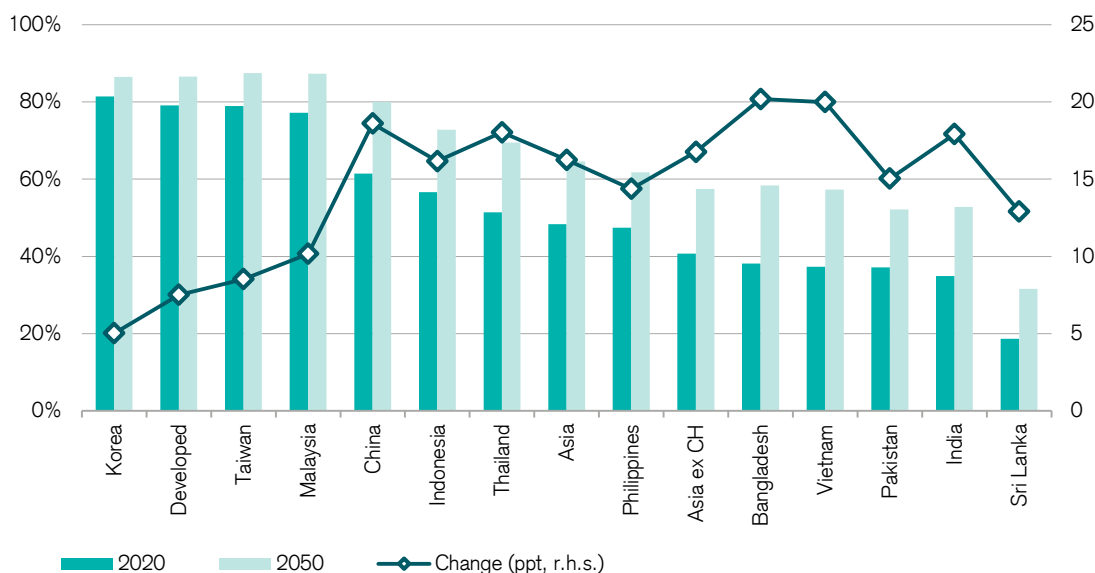
**Figure 5: Urbanization rate of Developing Asian regions versus developed countries (% of total)**



Note: North Asia 3 = China, South Korea and Taiwan. ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam. South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka. Source: UN Population Division, Credit Suisse research

1. Viet Tuan Dinh et al (2016) "Promoting Healthy and Productive Aging in Vietnam", The World Bank in Vietnam.

**Figure 6: Developing Asian countries urbanization rate – 2020 versus 2050 (% total)**



Source: UN Population Division, Credit Suisse research

market urbanization<sup>2</sup> is that, as the share of a country's urban population rises by each incremental five percentage points, there is typically an associated gain in per capita economic activity of 10%.

Moreover, when investigating the relationship between the level of urbanization and real per capita GDP growth at five-year intervals from 1965 to 2015 for a selection of the world's most populous countries at different stages of urbanization, we found evidence of a sweet spot during the progress of urbanization when real per capita GDP growth peaks. The bell curve trend line suggests that, as a country reaches an urbanization level of around 45%, it typically achieves peak real per capita GDP growth of close to 8%. More broadly, this analysis also suggests that urbanization in the range of around 30% to 55% is consistent with in excess of 6% real per capita GDP growth.

The population-weighted average level of urbanization in Emerging Asia is currently 48% (or 41% excluding China), which is at the urbanization sweet spot versus 79% for developed economies. At a regional level, there is significant disparity between North Asia, ASEAN 5 and South Asia placed at the

mature, transitional and nascent stages of urbanization, with urbanization rates of 60%, 51% and 34%, respectively. Six countries from the region currently fall within the 30%–55% urbanization level associated with elevated (on average greater than 6%) real per capita growth in economic activity: India (35%), Pakistan (37%), Vietnam (37%), Bangladesh (38%), Philippines (47%) and Thailand (51%), with the first four expected to be within the range over the next 25 years.

**Unlocking the associated gains is still far from automatic and requires the right policy mix**

It is nevertheless critical that both central and local governments of rapidly urbanizing countries effectively deliver the necessary policy mix, from urban planning with appropriate levels of investment in infrastructure and affordable housing, to social programs allowing more balanced income distribution, which is necessary to ensure that the appropriate level of associated growth potential is unlocked as their populations migrate toward cities.

The key question is whether these six countries would be able to emulate the likes of South Korea and Malaysia to urbanize successfully or fail to achieve the associated gains in per capita economic output like Brazil and South Africa. In our view, the

2. Redman and Sai (2012) "Opportunities in an urbanizing world," Credit Suisse Research Institute.

most crucial differentiating factor between the urbanization experience of the first and last two countries was the prevailing contrasting environment of income distribution. Government policy to improve income distribution and social mobility appears to be equally essential as sufficient infrastructure investment and city planning to ensure successful patterns of urbanization and its associated improvement in living standards.

**"It is critical that both central and local governments of rapidly urbanizing countries effectively deliver the necessary policy mix"**

Until now, China has leveraged its structural administrative advantage to control the progression of urban migration: the strictly monitored Hukou system of residential permits. This restriction on the rapid migration from China's vast rural populations to its cities has ensured that the formation of sprawling slum areas has not materialized to a large extent, but has nevertheless led to growing inequality and marginalization of domestic migrants, particularly with regard to social benefits such as education and access to healthcare. The Hukou reform and progress toward and beyond the State Council's stated aim of expanding urban permits to 100 million migrants by 2020 presents a fresh set of challenges for Chinese policymakers.

In this aspect, Thailand and the Philippines appear better positioned with a multi-year trend of falling income inequality (albeit from a higher level than the Asian average). On the other hand, while it is not too late to make amends, we have reservations about India, Pakistan and Bangladesh's ability to urbanize successfully given rising inequality, under-investment, poor planning and management, and lack of infrastructure development, all of which have thus far characterized the expansion of their cities. With a current 59.2% urbanization rate, China is clearly approaching the maturing stage of its urbanization. Nevertheless, with a UNPD-projected 2050 urbanization rate of 80.0%, the country would still add 255 million people to its urban centers. Hence urbanization remains a key focus area of Chinese policy and an important part of the economic solution being adopted to rebalancing the Chinese economy away from public investment spending and manufacturing exports toward private consumption.



# Wealth: The share of middle-class Asian households is a quarter and rising

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Wealth creation is rising the fastest of any global region among Asian households, with 93 million people joining the middle class in the last seven years alone, although wealth inequality remains a distinct concern. This has far-reaching implications for spending and investment trends as discretionary income continues to increase.

Although the Asia 12 economies exhibit a high degree of per capita income dispersion both at the headline national level and intra-country, they are unified in offering significantly stronger per capita growth rates over at least the next five years than the developed world, based on IMF projections.

At the upper end of the income spectrum, per capita GDP for the North Asian economies of South Korea and Taiwan, in aggregate PPP terms, is forecast to rival that of G7 members Japan, France and the United Kingdom by 2023 and significantly exceed PPP per capita GDP in Italy. Nevertheless the 2018–23 five-year CAGR in (constant dollar) PPP per capita GDP for South Korea and Taiwan at 2.4% and 1.8%, respectively, is still projected by the IMF to exceed the level for overall developed economies at 1.3%, albeit understandably at the lower end of the range for the Asia 12 countries.

According to the IMF, the swiftest PPP per capita GDP growth rate regionally for Emerging Asia in the decade leading up to 2018 was recorded in China at 7.4%, more than doubling the level to USD 16,100 over the duration, and likely to reach USD 21,100 by 2023, which is a level of per capita income three quarters that of, say, Greece.

Although the South Asia 4 countries in aggregate lag behind the region in the level of PPP per capita income at just USD 6,500, the IMF expects India and Bangladesh to lead the charge in Asian PPP per capita GDP growth up to 2023, posting rates of 6.6% and 5.9%, respectively, ahead of China's 5.6% and Vietnam's 5.5%.

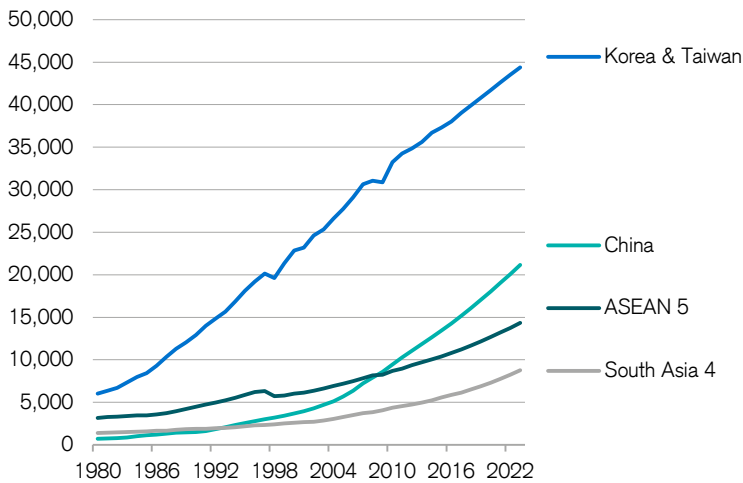
With the exception of Pakistan, the Asia 12's largest economies by population (China, India, Indonesia, Bangladesh, Philippines and Vietnam) will post five-year CAGR in PPP per capita GDP up to 2023 exceeding that of the 3.7% emerging market average, which is being slowed down by more modest growth rates in countries like Brazil (1.6%), Mexico (2.0%), Russia (1.6%) and Turkey (2.4%).

As per capita income increases, so spending habits gravitate from staple items such as food, apparel and fuel toward more discretionary goods and services. A 2017 Credit Suisse study<sup>1</sup> identified income thresholds in per capita GDP (unadjusted for PPP) at which point the demand growth potential for selected consumer items typically accelerates.

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1. Kersley, Klerk, et al (2017) "Emerging Consumer Survey," Credit Suisse Research Institute.

**Figure 1: Asian regional GDP per capita (PPP terms, 2011 dollars, IMF forecasts)**



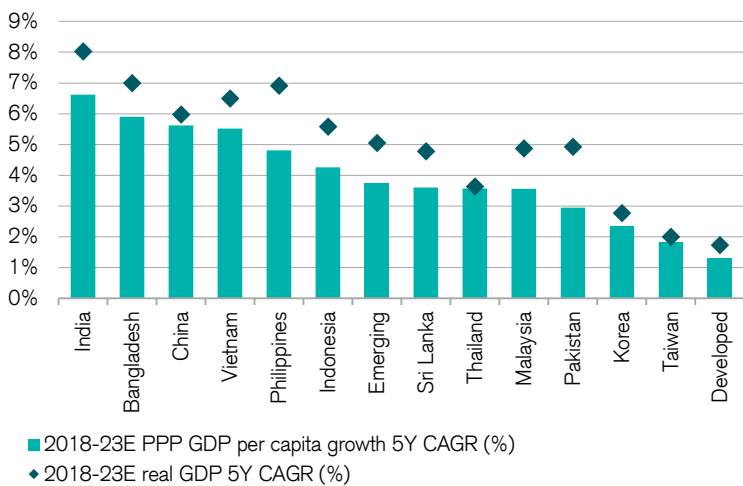
Note: ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam, South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka.  
Source: IMF World Economic Outlook, Credit Suisse research

South Korea and Taiwan already have income levels associated with developed world diversity in spending, while for China, Thailand, Malaysia and Sri Lanka, which are accelerating through the USD 10,000–25,000 per capita GDP band, consumers are focusing increasingly on services such as education, healthcare and tourism. In the USD 5,000–10,000 per capita GDP band, spending is rising to include motor cars, personal computers, beauty products and beverages. Countries crossing this band include Indonesia, the Philippines and Vietnam.

**Wealth inequality is ubiquitous in Asia, but not to the extremes recorded in some Latin American or African economies**

However, as is true for the majority of emerging economies, the dispersion of income distribution within Asian countries is characterized by an elevated level of inequality in comparison to the developed world. Moreover, based on Gini index data assembled from the World Bank, we note that a couple of the Asia 12 economies (China and Indonesia) have recorded a pattern of continued deterioration in the equal distribution of income in recent years.

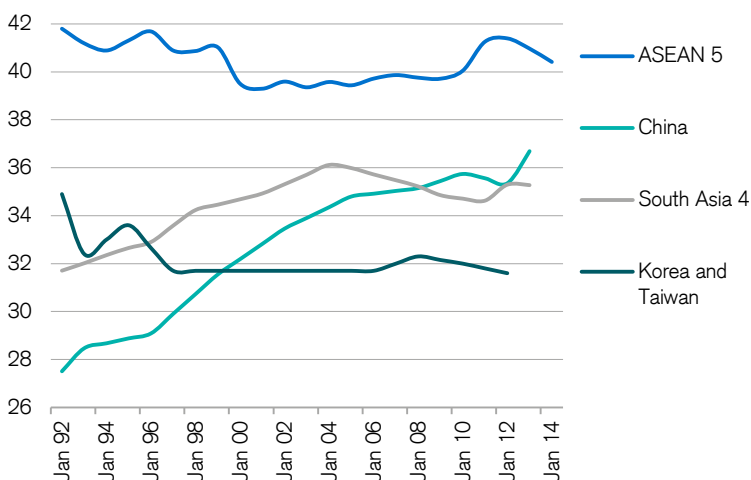
**Figure 2: PPP-adjusted per capita GDP and real GDP 2018–23E 5-year CAGR (%)**



Source: IMF World Economic Outlook, Credit Suisse research

The World Bank Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of zero represents perfect equality, while an index of 100 implies perfect inequality.

**Figure 3: Asian regional Gini indices**



Note: ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam, South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka.  
Source: World Bank Development Indicators, Credit Suisse research

Nevertheless, even the country with the most unequal dispersion of income among the Asia 12 countries – Indonesia with a Gini index level of 43 – is not on the same scale as the egregious income inequality characterized by countries like South Africa (Gini index of 63) or Brazil (51, although at the turn of the century this was as high as 59). In contrast, Malaysia and Thailand have recorded notable improvements in income equality over the past decade.

Progressive taxation of income and wealth, among other redistributive government policies, together with the introduction and effective management of social programs are critical for ensuring successful urbanization (i.e. the avoidance of large scale slums and shanties) as populations increasingly migrate toward cities.



However, governments around the world face challenges from pressures on rising inequality as income from capital continues to outpace income from labor, thus benefiting equity ownership – a phenomenon amplified by rapid technological advances – coupled with the declining influence of unionized labor.

### Average wealth per adult in Asia has nearly tripled since 2000

Since 2000, Asia has posted the swiftest growth in PPP-adjusted US dollar average wealth per adult of any major global region, having multiplied by 2.7 times to USD 40,500 from USD 15,000 in 17 years. In comparison, Europe (East and West) rose by 2.5 times with the USA and Japan both expanding by 1.9 times since 2000.

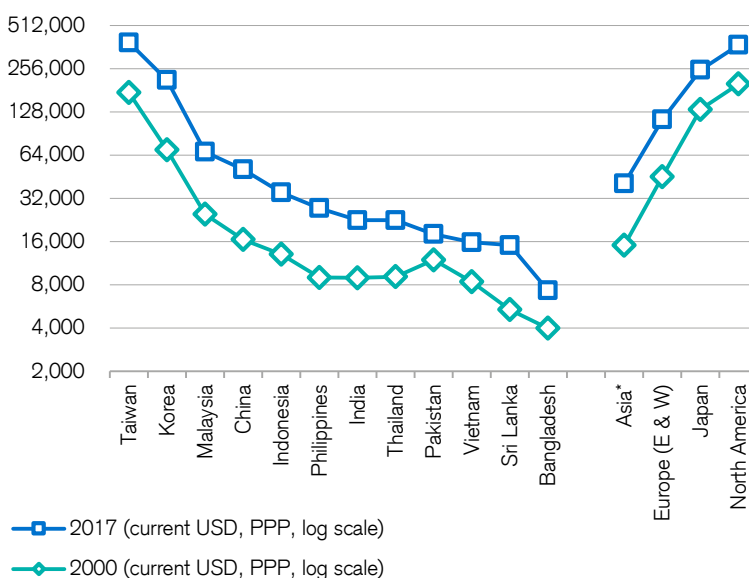
Using country level data from a Credit Suisse global wealth study<sup>2</sup>, we note that the wealth distribution of the Asia 12 countries is as diverse as its income. Taiwan and South Korea, with PPP-adjusted average wealth per adult of USD 390,000 and USD 213,000, respectively, have wealth equivalent to that observed in the USA, Japan or Europe, and yet South Korea (together with China) posted the swiftest gains of any of the Asia 12 countries over the past 17 years, rising by 3.1 times.

At the other end of the scale, the growth in average PPP-adjusted US dollar wealth per adult grew at the slowest rate between 2000 and 2017 in Pakistan and Bangladesh, rising by a more modest multiplier of 1.5 and 1.8 times, respectively. In aggregate, average wealth per adult for the South Asia 4 countries now stands at USD 20,500 on a PPP-adjusted basis, versus USD 30,400 for the ASEAN 5 nations and USD 50,900 for China.

However, wealth is distributed even more unequally than income. Financial assets provide cash flows that are typically subject to lower taxation than salaried income and may then be recycled into additional wealth. Money begets money. Also, although it is not possible to have a negative personal income stream, it is possible to have negative net wealth if liabilities exceed assets.

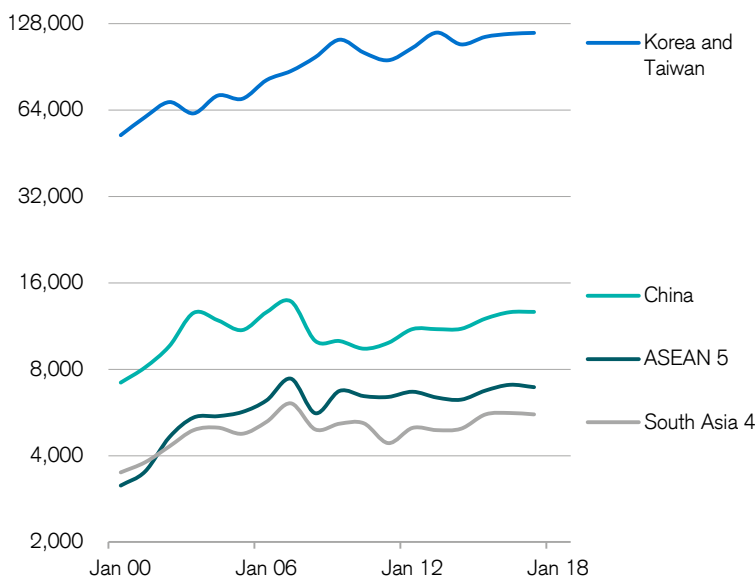
Indeed, the contrast between the progression in average and median wealth per adult is disquieting. Over the past 17 years, the Asia 12 region's median PPP-adjusted wealth per adult has risen by a more modest 1.8 times. Importantly, however, the figure has actually fallen by USD 300 since the 2007 peak of USD 11,700. Such is the disproportionality in

**Figure 4: Average wealth per adult – Asia versus developed regions**



\*Note: excluding Japan.  
Source: Credit Suisse Research Institute Global Wealth Report Databook 2017

**Figure 5: Asian regional median per adult wealth (current USD PPP, log scale)**



Note: ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam, South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka.  
Source: Credit Suisse Research Institute Global Wealth Report Databook 2017

2. Shorrocks, Davis and Lluberas (2017) "Global Wealth Report 2017", Credit Suisse Research Institute.

# Asia in transition

## Countries at a glance

Key country parameters	China	Pakistan	India
GDP 2018 (USD, bn)	13,457	307	2,690
2018-23E real GDP CAGR (%)	5.9%	3.4%	7.7%
Work. age pop. (% tot.): 2020/50	70 / 60	61 / 67	67 / 68
Avg. wealth per adult (USD, PPP)	50,911	18,043	22,543
Urbanization rate (%): 2020/50	61 / 80	37 / 52	35 / 53
Exports (% of GDP)	19%	10%	20%
Ease of doing business score	65	52	61
Priv. sec. debt 2018 (% of GDP)	251%	20%	63%
Govt. debt 2018 (% of GDP)	48%	67%	68%

### Capital market dimension

Equity market cap, USD bn	7,078	60	1,999
Tech. index weight (% of MSCI)	35%	0%	18%
Corp. bond mkt. val., USD bn	7,313	5	42

China

Pakistan

India

Bangladesh

Key country parameters	Sri Lanka	Bangladesh	Thailand
GDP 2018 (USD, bn)	93	286	490
2018-23E real GDP CAGR (%)	4.7%	7.0%	3.6%
Work. age pop. (% tot.): 2020/50	66 / 60	68 / 67	71 / 58
Avg. wealth per adult (USD, PPP)	15,102	7,307	22,520
Urbanization rate (%): 2020/50	19 / 32	38 / 58	51 / 69
Exports (% of GDP)	23%	14%	67%
Ease of doing business score	59	41	77
Priv. sec. debt 2018 (% of GDP)	69%	52%	152%
Govt. debt 2018 (% of GDP)	79%	30%	32%

### Capital market dimension

Equity market cap, USD bn	16	77	559
Tech. index weight (% of MSCI)	0%	0%	1%
Corp. bond mkt. val., USD bn	2	0.6	232

Sri Lanka

Key country parameters	Vietnam	Malaysia	Indonesia	Philippines
GDP 2018 (USD, bn)	241	347	1,005	332
2018-23E real GDP CAGR (%)	6.5%	4.8%	5.2%	6.7%
Work. age pop. (% tot.): 2020/50	69 / 62	69 / 67	68 / 66	64 / 66
Avg. wealth per adult (USD, PPP)	15,823	67,440	35,131	27,318
Urbanization rate (%): 2020/50	37 / 57	77 / 87	57 / 73	47 / 62
Exports (% of GDP)	104%	69%	22%	31%
Ease of doing business score	68	78	66	59
Priv. sec. debt 2018 (% of GDP)	150%	164%	48%	92%
Govt. debt 2018 (% of GDP)	58%	51%	29%	38%

#### Capital market dimension

Equity market cap, USD bn	149	431	459	250
Tech. index weight (% of MSCI)	0%	1%	0%	0%
Corp. bond mkt. val., USD bn	8	200	103	20

South Korea

Taiwan

Thailand

Vietnam

Phillipines

Malaysia

Indonesia

Key country parameters	Taiwan	Sth. Korea
GDP 2018 (USD, bn)	603	1,656
2018-23E real GDP CAGR (%)	2.1%	2.7%
Work. age pop. (% tot.): 2020/50	71 / 54	71 / 53
Avg. wealth per adult (USD, PPP)	389,480	212,990
Urbanization rate (%): 2020/50	79 / 87	81 / 86
Exports (% of GDP)	67%	43%
Ease of doing business score	80	84
Priv. sec. debt 2018 (% of GDP)	187%	277%
Govt. debt 2018 (% of GDP)	31%	38%

#### Capital market dimension

Equity market cap, USD bn	1,085	1,661
Tech. index weight (% of MSCI)	59%	44%
Corp. bond mkt. val., USD bn	195	1,244

wealth distribution, a feature also observable in developed economies after the global financial crisis. The wealthy have become much wealthier, while median wealth has flatlined.

China's median PPP-adjusted wealth per adult has declined by USD 1,100 over the past ten years to USD 12,700, while the ASEAN 5 and South Asia 4 regions have fallen by USD 500 to USD 6,900 and USD 5,600, respectively.

**Asia's middle class is now more than half a billion strong**

If we define membership of the global "middle class" as being qualified by adult wealth in the range of USD 10,000 to USD 100,000, then based on data compiled in a Credit Suisse global wealth study,<sup>3</sup> we find that the middle class in the Asia 12 countries is 520 million strong, from a total population of 2.56 billion, or a fifth of the total. A further 64 million people, or 2% of the population in the Asia 12 countries, have wealth above the USD 100,000 threshold (note that for the sake of comparison these figures are not PPP-adjusted).

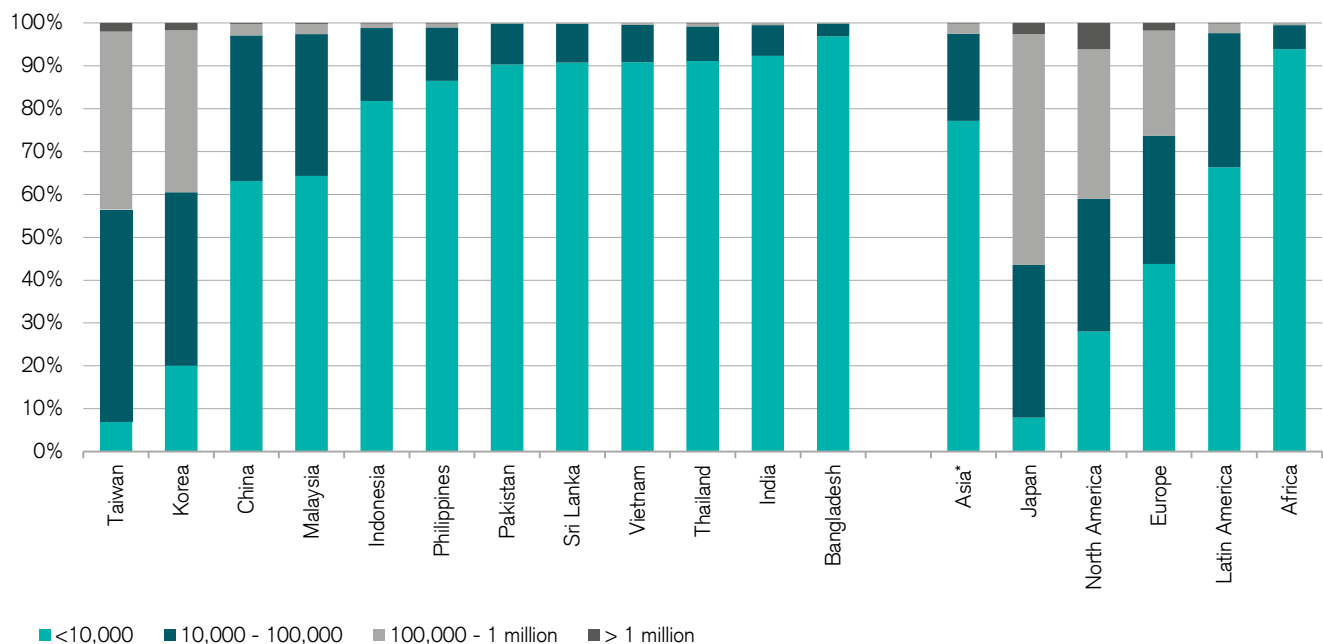
The highest proportions of adult populations belonging to the middle-class tier of wealth or above are in Taiwan (93%), South Korea (80%), China (37%) and Malaysia (36%), while in India, Thailand, Vietnam, Pakistan and Sri Lanka, the proportion is in the range of 8%–10%, falling to just 3% in Bangladesh. Regionally, this compares to proportions in Japan of 92%, North America (72%), Europe (56% – East and West), Latin America (34%) and Africa (6%).

Over the past seven years, the wealth cohort of middle class and above in the Asia 12 countries has grown by 93 million adults versus a fall of 14 million in Europe (East and West), nine million in Africa and one million in North America and a gain of 15 million in Latin America. A 2018 Credit Suisse study<sup>4</sup> corroborates the scale of middle class expansion from an income standpoint, with an increase of approximately 45 million households (rather than individuals) in the middle-income (USD 1,000–2,000 per month) bracket over the last four years in surveyed countries (weighted heavily towards China and India).

3. Shorrocks, Davis and Lluberá (2017) "Global Wealth Report," Credit Suisse Research Institute.

4. Kersley, Klerk, et al (2018) "Emerging Consumer Survey," Credit Suisse Research Institute.

**Figure 6: Distribution of adults by US dollar wealth range (2017, %)**



\*Note: excluding Japan  
Source: Credit Suisse Research Institute Global Wealth Report Databook 2017



# Geopolitical: Shifting economic and political allegiances in an increasingly multipolar world

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Asia is witnessing a geopolitical transformation as regional hegemonies projecting both soft and hard forms of power jostle for influence with conflicting agendas. Freedom of navigation and littoral fishing and mineral extraction rights are under growing dispute. Smaller nations drawn into this struggle must therefore compete to protect their interests with the most favorable economic and security alliances.

Asia-Pacific's post-World War II US-sponsored regional security umbrella is being seismically altered by the rise of China as an economic and military superpower.

Despite Asia's relative ethnic, economic and political heterogeneity, the region is home to a number of the world's most stalwart geopolitical flashpoints. To name some of the most pressing: China's sovereignty claim over Taiwan; the division of the Korean peninsula; China, India and Pakistan's competing territorial claims in Kashmir; competing maritime claims in the South China Sea; and insurgencies in the Southern Philippines and South Thailand. Thus a disturbance in the overall balance of power has the potential to re-ignite political tensions as intra-Pacific political allegiances shift with competing agendas.

**“China is a sleeping giant. Let her sleep, for when she wakes she will move the world” – Napoleon Bonaparte**

China's growing regional and increasingly global influence is a natural consequence of rising confidence in its unique economic and political model and a willingness to export it, encouraged by a potential power vacuum left in the wake of a withdrawal by the West. Post the global financial crisis, the West is increasingly questioning the established liberal (and even democratic) political world order, most evident in its escalating doubts about the benefits of globalization (witness the election of Donald Trump and the United Kingdom's decision to quit the European Union). President Xi Jinping has seized the opportunity to fill the void left behind by the Trump administration's isolationism exemplified by America retrenching from its commitment to Asian (and global) free trade and the decades long implicit US military security guarantee in Asia.

The geopolitical tectonic plates are shifting. While tension is diffusing in the Korean peninsula, it is escalating in the South China Sea – witness the close naval encounters between Chinese and other blue-water and regional navies as the latter press home their freedom of navigation rights under the United Nations Convention on the Law of the Sea (UNCLOS), and China's September 2018 refusal of a port call into Hong Kong by a US Navy ship attributed to growing trade friction. Meanwhile, military ties between China and Russia are deepening as the two countries participated in the largest war games conducted on Russian soil since the end of the Cold War.

However, as growing rivalry between China and the USA develops, it may ultimately serve to frustrate the reconciliatory overtures between North and South Korea, which are respectively in the Chinese and US spheres of influence.

### **China's soft power projection is increasing as disillusionment grows in the West over the established liberal world order**

China's soft power initiatives range from President Xi Jinping's January 2017 Davos speech (in the wake of Donald Trump's election) pitching China as the new champion of globalization and the reform of the Confucius Institutes, a government-affiliated cultural program (analogous with The British Council or Alliance Française) in dozens of countries globally. However, the pinnacle of China's growing influence is the projection of its financial firepower. The strategy is multifaceted yet tightly coordinated. The November 2015 decision to include the Chinese renminbi as one of the (now five) currencies that form the IMF's Special Drawing Rights (SDR) basket effectively internationalizes the renminbi as a reserve asset, allowing China to seek the settlement of a growing component of international trade in its own currency.

## **"The pinnacle of China's growing influence is the projection of its financial firepower"**

With the November 2014 launch of the Stock Connect program (initially between Shanghai and Hong Kong, but extended in December 2016 to Shenzhen and broadened in July 2017 to include fixed income as well as equities), China initiated the liberalization of its heavily restricted capital account to begin an incremental process of more appropriately representing the weight of China's fast-expanding capital markets in global benchmarks. In August this year, the China Securities Regulatory Commission published guidelines for an extension of the program to include the Shanghai London Stock Connect link.

### **The scope of China's showcase foreign policy Belt and Road Initiative is transformational, but has lately been attracting controversy**

By far the most potent manifestation of China's economic heft beyond its borders is President Xi Jinping's September 2013 signature Belt and Road Initiative (BRI), a recreation of the maritime and overland Silk Road routes using debt-financed infrastructure to integrate supply chains stretching from China into Eurasia, thus connecting two thirds of the planet's population.

However, with a reach extending to 78 countries, China's showcase international development program labeled by Xi Jinping as "the project of the century" has increasingly become the subject of controversy. Questions surrounding the sustainability of vast tranches of debt extended to some of the planet's poorest countries and the suitability of infrastructure delivered, together with its valuation, have led some critics to describe it as an example of so-called "debt-trap diplomacy," while also allowing Beijing a platform on which to redistribute excess Chinese building material production capacity across Asia and the environmental degradation that goes with it.

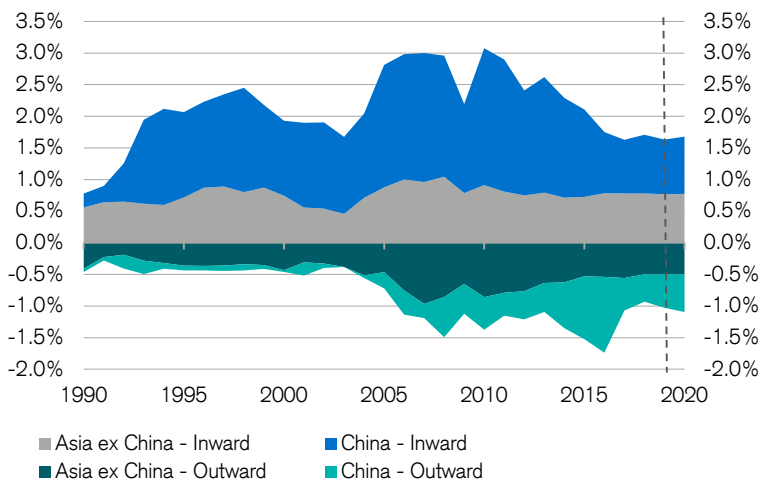
A 2017 study by the Asian Development Bank<sup>1</sup> estimates that to maintain its growth momentum, eradicate poverty, and respond to climate change, Developing Asia will need to invest USD 26 trillion in infrastructure between 2016 and 2030, spending on average USD 1.7 trillion annually. By sector, the greatest investment requirement is for power (USD 14.7 trillion) followed by transport (USD 8.4 trillion), telecommunications including internet fiber optic (USD 2.3 trillion) and finally water and sanitation (USD 800 billion).

The BRI answers this call. With the December 2014 launch of the Silk Road Fund, the Chinese government mobilized an initial USD 40 billion of its foreign exchange reserves to deploy into Eurasian infrastructure investment, supported by other financing vehicles available under its jurisdiction including the extension of loans directly from Chinese state-owned banks or funding provided via joint ventures with Chinese state-owned enterprises. Moreover, the Asian Infrastructure Investment Bank (AIIB), launched by China in October 2013 as a counterweight to the suite of established development banks such as the World Bank and Asian Development Bank, is increasingly being drawn into BRI project financing. However, for an enterprise of such magnitude, the particulars of the BRI remain opaque. The scope of the project is defined by a steering committee reporting to the State Council of the People's

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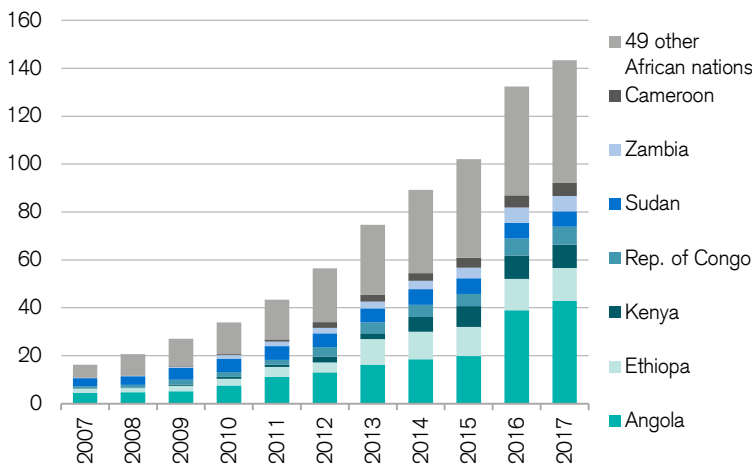
1. Rana Hasan et al (2017) "Meeting Asia's Infrastructure Needs," Asian Development Bank—Development Economics and Indicators Division of the Economic Research and Regional Cooperation Department.

**Figure 1: Asia inward and outward FDI as a % of Asian GDP**



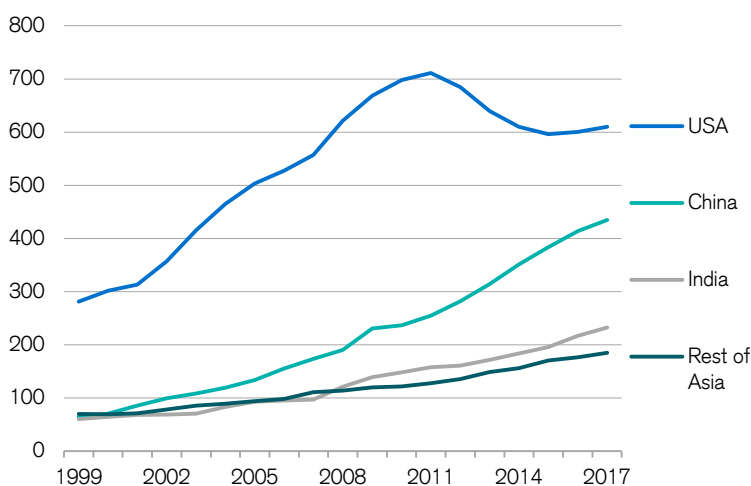
Source: Oxford Economics, Credit Suisse research

**Figure 2: Chinese loans to African governments (cumulative, USD billion)**



Source: Johns Hopkins SAIS China-Africa Research Initiative, Credit Suisse research

**Figure 3: Military expenditure (current PPP USD billion)**



Source: World Bank Development Indicators, Credit Suisse research

Republic of China, but has no formal charter or declarations of principles. Nevertheless, although BRI financing is tricky to disaggregate from China's overall balance of payments and net international investment position data, the shifting pattern of China's foreign direct investment (FDI) flows in recent years illustrate the significant impact of the BRI. Notably, in 2016, China recorded a net FDI outflow for the first time (since at least 1980) of 0.2% of GDP, after having an average net inflow of 1.4% of GDP for the two decades between 1993 and 2013.

A study<sup>2</sup> by the China-Africa Research Initiative at the Johns Hopkins School of Advanced International Studies identifies the scale of China's lending to 56 African nations – cumulatively USD 143 billion since 2000, facilitated principally by the Export-Import Bank of China and the China Development Bank. By sector, close to a third of loans were directed toward financing transport projects, a quarter toward power and 15% earmarked for resource mining including hydrocarbon extraction. Just 1.6% of Chinese loans were dedicated to the education, healthcare, environment, food and humanitarian sectors combined.

Just seven countries – Angola, Cameroon, Ethiopia, Kenya, Republic of the Congo, Sudan and Zambia – accounted for two thirds of total cumulative borrowing in 2017 from China, with Angola alone representing a 30% share, or USD 43 billion (35% of Angolan 2017 GDP). Ultimately, Angola reached a loans-for-oil settlement, with Beijing tying the country's future oil production to shipments to China in order to service the country's burgeoning infrastructure debt. According to an April 2018 IMF study,<sup>3</sup> as of the end of 2017, about 40% of low-income Sub-Saharan African countries are now in debt distress or assessed as being at high risk of debt distress including Ethiopia, the Republic of the Congo and Zambia. However, in a September 2018 speech to the triennial Forum on China-Africa Cooperation in Beijing, President Xi Jinping said Chinese investment came “with no strings attached” and pledged a further USD 60 billion of loans for African infrastructure development over the next three years.

Nevertheless, Asia has seen some losses in economic sovereignty related to China's BRI financing. In Sri Lanka, difficulties servicing USD 8 billion of infrastructure-related borrowing from

2. Atkins, Brautigam, Chen and Hwang (2017) "China-Africa Economic Bulletin #1: Challenges of and opportunities from the commodity price slump," China Africa Research Initiative, Johns Hopkins University School of Advanced International Studies, Washington DC.

3. N'Diaye et al (2018) "Regional Economic Outlook: Sub-Saharan Africa—Domestic Revenue Mobilization and Private Investment," IMF world economic and financial surveys.



China led to the handing over of a controlling equity stake and a 99-year operating lease for the country's second-largest port at Hambantota to a subsidiary of a Chinese state-owned enterprise in December 2017. For Pakistan, more than 90% of revenues generated at the newly developed Gwadar Port at the mouth of the strategically significant Gulf of Oman are collected by the Chinese operator.

Thus some political pushback on China's showpiece foreign policy initiative has begun. For instance, a manifesto pledge by Mahathir Mohamad of Malaysia was to reassess the mass of Chinese BRI-financed infrastructure projects in Malaysia signed off by the Razak administration. On being elected Prime Minister in May 2018, his first foreign trip was to Beijing where he announced the deferral or cancellation of USD 22 billion worth of projects, including the 700-kilometer-long high-speed East Coast Rail Link on which construction had already begun in August 2017, stating that "there is a new version of colonialism happening."

Incoming Pakistani Prime Minister Imran Khan's government has also announced a review of BRI-related projects, specifically related to the planned USD 62 billion China-Pakistan Economic Corridor. At the time of writing, Pakistan is approaching the IMF to secure a bailout worth up to USD 7 billion, with just USD 8 billion left in the central bank's foreign reserves.

### China's rising hard power is shifting regional military alliances

In PPP-adjusted current US dollar terms, Chinese military spending is now close to three quarters of that of the USA, almost double that of India, and more than double that of the rest of Asia combined (excluding India). As recently as 2005, Chinese military expenditure (PPP-adjusted) was just one quarter that of the USA. This is reflected in a strategic build-up of the Chinese People's Liberation Army (PLA) Navy assets, which matched those of the USA by 2015 in terms of the number of ships – albeit not based on total tonnage as the PLA Navy lacks the number of aircraft carriers and other larger ships deployed by the US Navy. Moreover, China's militarization of the South China Sea – specifically PLA outposts on Fiery Cross Reef, Mischief Reef, Subi Reef, and Johnson South Reef among others – to enforce its so-called "nine dash line" claim of maritime sovereignty in direct contravention of the UNCLOS (ratified by China in 1996), demonstrates China's growing assertiveness in projecting its newfound regional hard power.

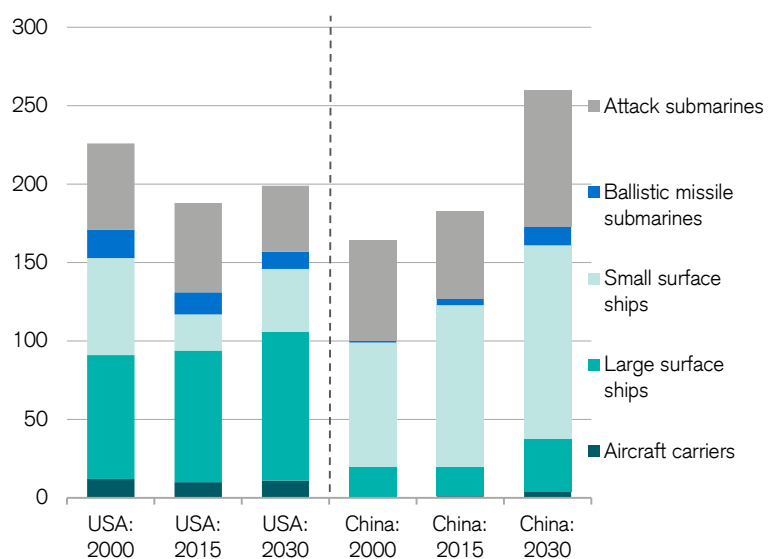
The PLA Navy operates three principal fleets based in Zhanjiang, Ningbo and Qingdao. However, in 2016, the PLA Navy established its first overseas base in Djibouti and may also operate out of

Gwadar, Pakistan. Thus China's progression from green-water to blue-water navy capable of projecting power up to and beyond the second island chain is materializing, which is a strategic objective of the PLA Navy. Indeed, in December 2016, the PLA Navy deployed its only seaworthy Liaoning aircraft carrier beyond the first island chain for the first time. In the midst of this jostling for regional supremacy, entrenched historical allegiances between the minor Asia-Pacific powers are shifting to secure their best interests.

Under President Duterte, the Philippines has buried the hatchet over its territorial dispute with China concerning the Spratly Islands (despite an international UNCLOS tribunal in The Hague ruling in the former's favor), receiving significant inbound investment in the process and thus damaging a generations-old alliance with the USA. Paradoxically, Vietnam is leaning toward embracing the USA to provide security for its littoral fishing and mineral extraction interests in the South China Sea. Indeed, the USS Carl Vinson made a historic port call in Da Nang, Vietnam in March 2018, the first time a US aircraft carrier has docked in the country since the Vietnam War.

Other nations are vying to remain non-aligned despite their natural maritime claims under UNCLOS coming into conflict with China's "nine dash line" (there are also "ten" and "eleven" dash lines). Malaysian Prime Minister Mahathir Mohamad stated in May 2018 that he would follow a neutral foreign policy not favoring any country to maintain access to as many markets as possible.

**Figure 4: US versus Chinese naval strength (number of ships)**



Source: US Office of Naval Intelligence, International Institute for Strategic Studies, Center for a New American Security, Bloomberg, Credit Suisse research



Getty Images, Yuanjing Li / EyeEm

# Reform: Improving governance will yield superior value creation via productivity gains

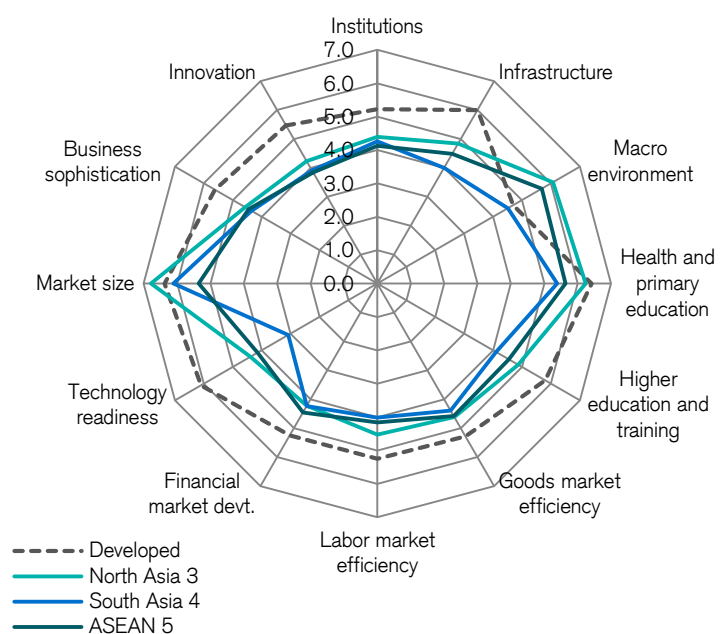
Administrative reform programs addressing labor-market inefficiencies and investment in human capital should boost productivity. In combination with enhanced governance and quality of institutions, this will serve to strengthen corporate profitability and value creation.

Emerging Asia has considerable scope for improvement in competitiveness, labor-market dynamics, human-capital development and governance from both a public and corporate standpoint before converging with developed market standards. On ten of the 12 pillars of the World Economic Forum's Global Competitiveness Index, all three sub-regions (on a GDP-weighted basis) have inferior scores compared to developed economies – the exceptions being North Asia on market size and both North Asia and ASEAN 5 on the macroeconomic environment, thanks largely to their robust external accounts and government-debt dynamics.

The biggest gaps needing improvement are in the areas of technological readiness (technological adoption at a company level and usage of internet and communication technologies), infrastructure (quality of transport and electricity infrastructure), innovation (spending on research and development, along with patents and availability of scientists and engineers) and higher education (prevalence and quality of education and on-the-job training).

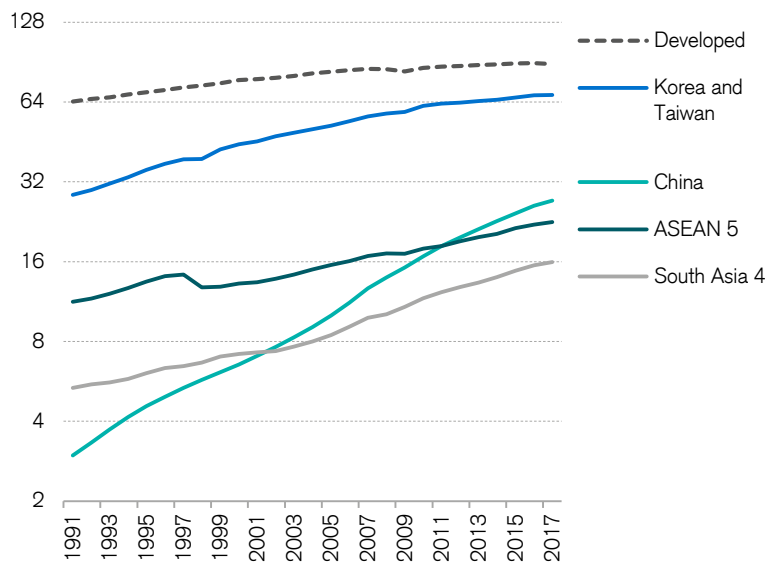
Economic output per worker (expressed in PPP terms) has over the past quarter of a century increased 4.3 times for Emerging Asia, driven largely by China (9.1 times) and India (3.5 times). In comparison, developed economies have seen GDP per worker increase by 38% over the

**Figure 1: World Economic Forum Competitiveness Indicators (GDP-weighted)**



Note: North Asia 3 = China, South Korea and Taiwan. ASEAN 5 = Indonesia, Thailand, Malaysia, Philippines and Vietnam. South Asia 4 = India, Pakistan, Bangladesh and Sri Lanka  
Source: The Global Competitiveness Index Historical Dataset - World Economic Forum, Credit Suisse research

**Figure 2: GDP per person employed (constant 2011 PPP USD, log terms)**



Source: ILOSTAT Database, World Bank population estimates, Credit Suisse Research

duration. However, with the exception of South Korea and Taiwan, Emerging Asian output per worker still has considerable room for improvement – South Asia’s productivity according to Oxford Economics estimates is just 18% of that of developed economies, followed by the ASEAN 5 region at 25% and China at 31%.

Critical to unlocking the full economic potential of the region are reforms to address labor-market inefficiencies and infrastructure bottlenecks, investment in human capital and technological adoption, all leading to structural productivity gains.

**Continued industrialization and formalization of Asian economies**

Emerging Asia has made significant progress in transforming from heavily agrarian to industrialized economies over the past 25 years, with employment in the agricultural sector falling by more than half in the region as a whole and by more than two thirds in China. The convergence toward developed economy levels of agricultural employment is evident in all countries (with the notable exception of Pakistan), with South Asia along with Vietnam, Thailand and Indonesia having the greatest potential for future transition of labor out of the primary and into the secondary and tertiary sectors.

**Figure 3: Employment in agriculture (% of total employment)**



Source: ILOSTAT Database, World Bank population estimates, Credit Suisse Research

Apart from the progression toward more value-adding economic sectors, there remains significant potential for the gradual inclusion of the currently informal sector into the formal economy across Emerging Asia. Indeed, the International Labour Organization (ILO) estimates that more than 70% of non-agricultural employment is in the informal sector in Bangladesh, Indonesia, India, Pakistan and the Philippines. Formalization of the labor force brings with it overall productivity gains including an increased tax base, resulting in improved tangible and intangible infrastructure (education and health-care), reduced corruption, better working conditions, access to formal channels of credit, and training and development opportunities.

**Greater female participation and increased flexibility of labor markets to boost productivity further**

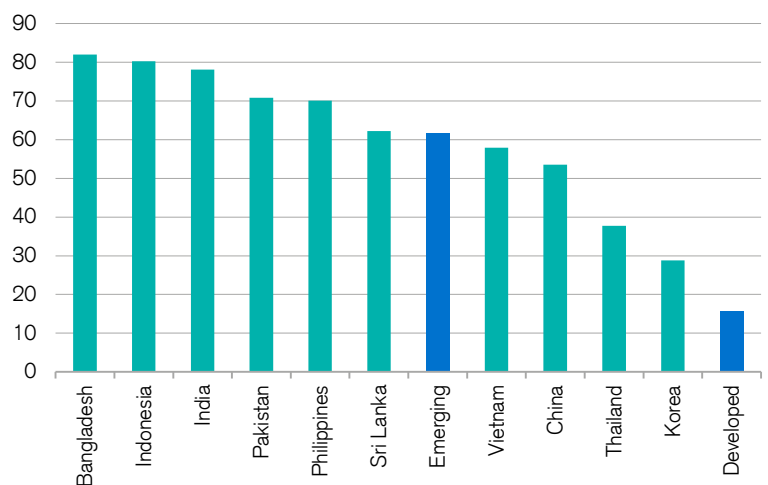
Furthermore, Emerging Asia as a region has the potential for greater female participation in the labor force, with the current rate of 36% compared to the developed world average of 44% – indeed, the opportunity for Pakistan, India and Bangladesh (with female labor participation rates as low as 22%, 25% and 29%, respectively) is considerably greater.

Interestingly, female participation in India has fallen over the last two decades, a period marked by considerable economic progress. This counterintuitive relationship can be explained by

girls staying longer in school, the social stigma attached to working women (especially in blue-collar jobs) that leads them to drop out of the workforce as their family's economic prosperity increases, and the absence of large-scale low-value-added manufacturing (like in Bangladesh and Vietnam) that provides alternative employment to farm labor lost to automation. Nevertheless, with the right policies to aid and encourage female participation in the labor force (including improving access to child care and accessible transportation), India would benefit from a significant boost to its labor force. A rise in female labor participation to emerging market average levels of 38% from the current 25% would add 115 million people to India's workforce.

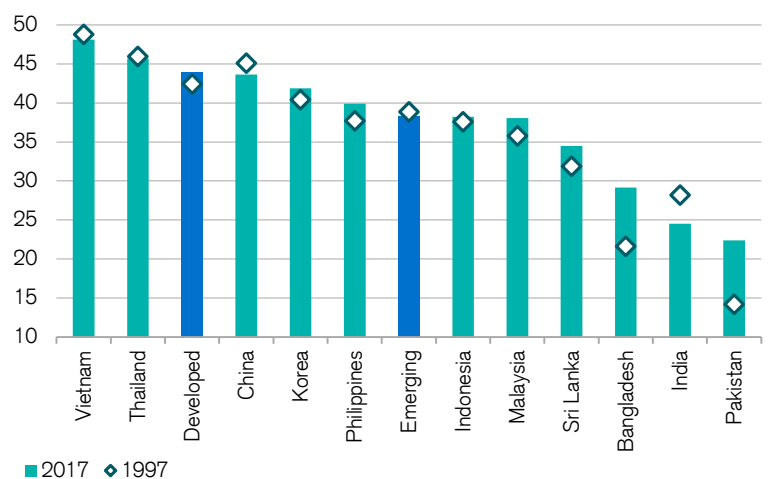
Despite a fair degree of dispersion in labor-market flexibility as measured by the World Economic Forum's indices of flexibility of wage determination and hiring and firing practices, most Emerging Asian countries (with the exception of Malaysia and Taiwan, which are in line with developed market standards) have further room for improvement. While Pakistan, Philippines, Sri Lanka, South Korea and Vietnam are positioned poorly on this framework, none of the countries considered for this study suffer from particularly restrictive (neo-socialist) labor-market dynamics such as those in South Africa or Brazil. Nevertheless, reforms to address labor-market inefficiencies are vital to accommodate an expanding working-age population and reduce structural unemployment.

**Figure 4: Informal employment share of total non-agricultural employment (%)**



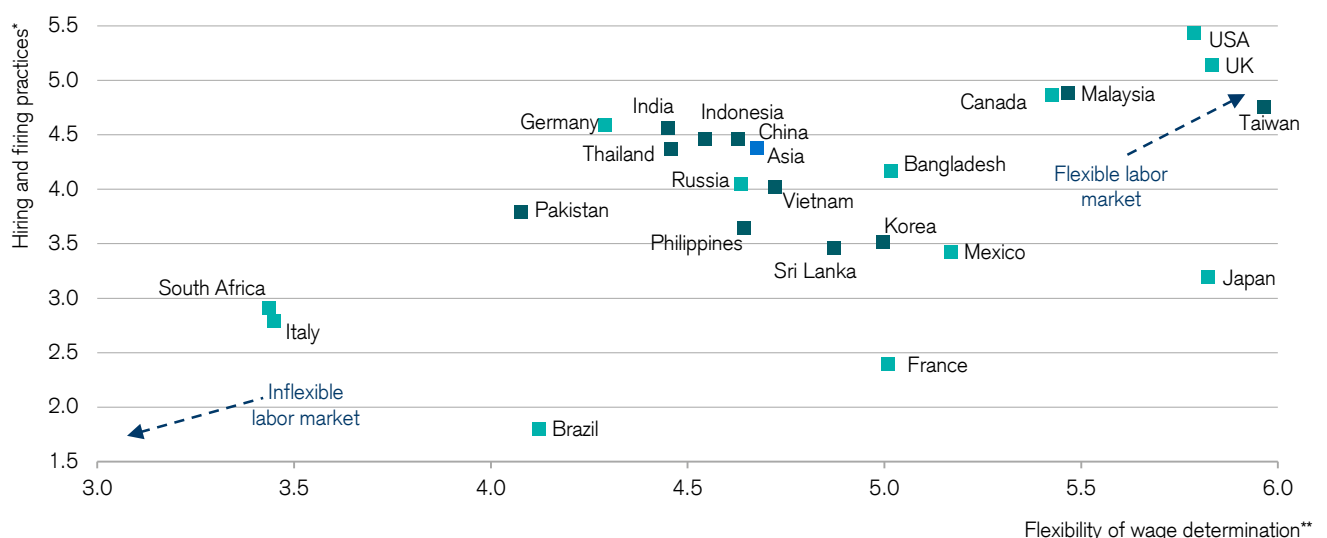
Source: Women and Men in the Informal Economy (ILO 2018), Credit Suisse research

**Figure 5: Female labor force (% of total)**



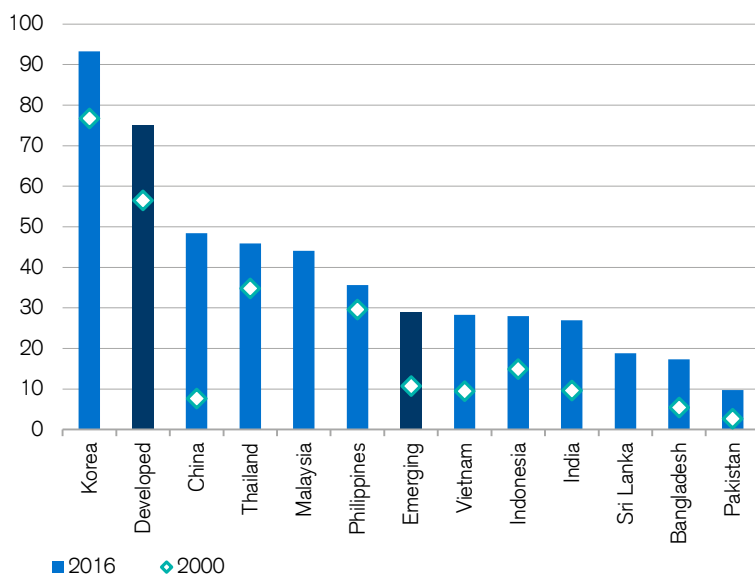
Source: ILOSTAT database, World Bank population estimates, Credit Suisse Research

**Figure 6: Labor-market flexibility of Developing Asia versus other larger economies (2018)**



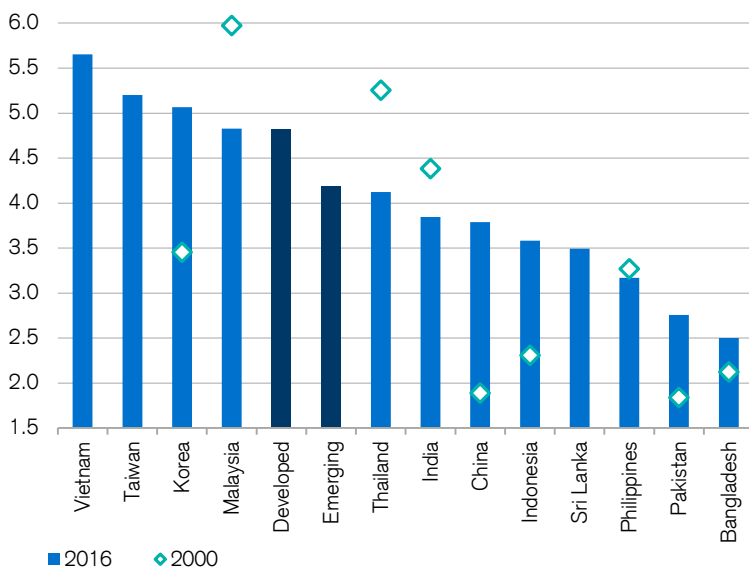
\*1 = heavily impeded by regulations; 7 = extremely flexible \*\*1 = by a centralized bargaining process; 7 = by each individual company  
 Source: The Global Competitiveness Index Historical Dataset - World Economic Forum, Credit Suisse research

**Figure 7: Tertiary education enrollment ratio (%)**



Source: UNESCO Institute for Statistics, Credit Suisse Research

**Figure 8: Government expenditure on education (% of GDP)**



Source: UNESCO, Credit Suisse research

**Investment in human capital plays a key role in sustaining productivity growth**

Critical to the continued growth and development of Emerging Asian economies is the strong association between improved levels of education and gains in economic productivity. Growth in human capital delivered through investment in intangible infrastructure (education and research and development) is arguably as critical to an economy's ultimate success as investment in physical infrastructure.

With advances in mechanized farming (and hence lower agricultural labor intensity), social adaptation (and declining fertility rates) enabling greater female participation in education, coupled with government-sponsored initiatives and investment in improving education and literacy rates, the region has recorded measured gains in its tertiary education enrollment.

The gross enrollment ratio<sup>1</sup> for the Emerging Asian aggregate has expanded to 35% (end-2016) from 10.5% over the last 15 years, with a significant amount of the gains contributed by China and India (from 8% to 48%, and 10% to 27%, respectively, over the period). However, the aggregate figures mask a significant disparity at the country level from South Korea at 93% to Pakistan at only 10%.

Importantly, tertiary education gross enrollment ratios for all countries in the region are progressing in the right direction and, in the case of South Asia, have significant scope for further convergence with at least the emerging market average of 29%.

Of concern, however, is that governments in only four countries (Vietnam, Taiwan, South Korea and Malaysia) spend 4.5% or more of GDP on education – a ratio comparable to developed world levels – with Vietnam being the only low-income economy to do so.

Governments of the Philippines, Pakistan and Bangladesh, spending 3% of GDP or less on education and significantly trailing the emerging market average of 4.2%, need to address this important priority to facilitate their countries' productivity convergence with global norms.

1. Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level (source: World Bank Development Indicators).

**Quality of supporting institutions and endemic corruption are key challenges to Asian economies generating sustainable growth**

Supportive demographics and convergence in productivity levels with the developed world notwithstanding, we believe that an economy's ability to sustainably generate equitable growth relies heavily on the quality of governance and the strength of its institutions.

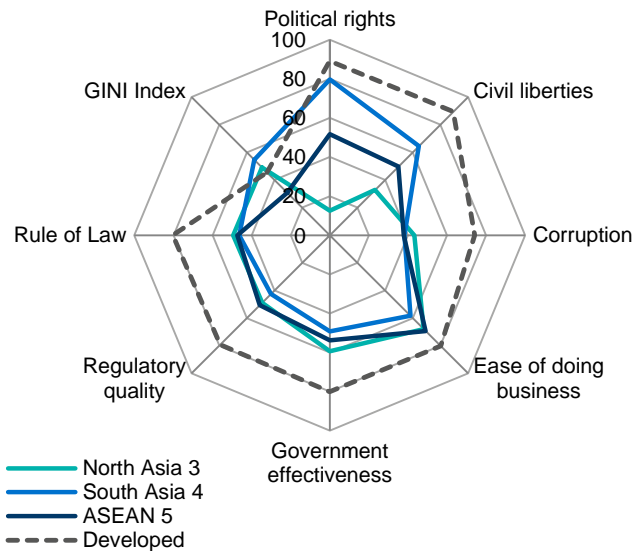
While there is no definitive list of metrics that capture this aspect, we have attempted to construct a framework to compare Emerging Asian economies with developed world standards by combining (1) political and (2) civil liberties as measured by Freedom House, (3) Transparency International's corruption perception index, (4) the World Bank's ease of doing business index, (5) the Worldwide Governance Indicators (WGI) project's scores on government effectiveness, (6) regulatory quality and (7) rule of law, and (8) the Gini index as a measure of inequality.

Our governance framework clearly illustrates that there is a considerable gap between Emerging Asian and developed world standards based on most metrics, with the exception of inequality being in line with that of developed economies in South and North Asia, and South Asian political rights scoring in line with developed world peers. North Asia scores above the other sub-regions on corruption perception, government effectiveness and rule of law, while the ASEAN 5 region fares marginally better on ease of doing business parameters and regulatory quality.

Only South Korea, Taiwan, Malaysia and Thailand have 2018 World Bank ease of doing business rankings that could be described as being world class – ranking in the top 30 positions globally alongside the likes of the USA, the United Kingdom and Germany. However, a number of countries have seen remarkable progress in their rankings over the last decade: Indonesia (up by 51 places), Vietnam (up by 23), India and the Philippines (both up by 20 over the period). Worryingly, both Pakistan (multiplicity of taxes, increased tax rates for small firms and worsening credit conditions) and Bangladesh (increasing cost of business registration, more onerous value-added tax and income tax returns, and constraints over new electricity connections) have slipped considerably from their 2008 rankings (by 71 and 70 places, respectively).

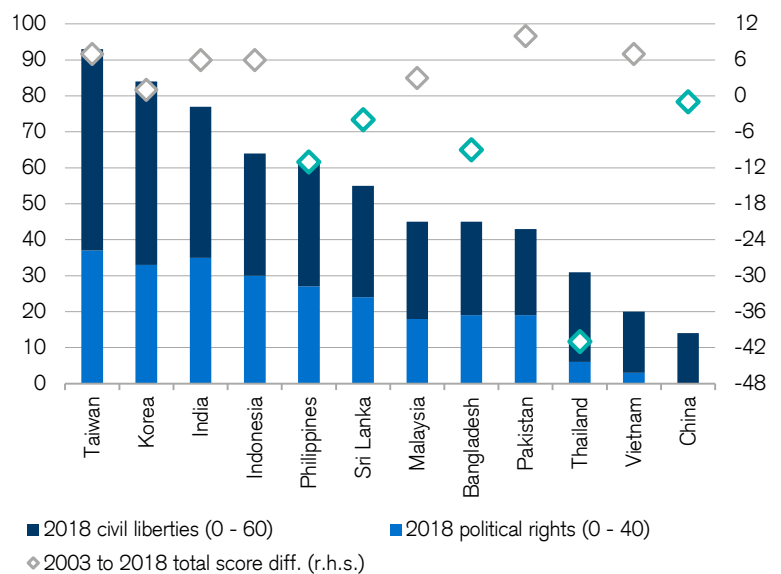
However, political and civil liberties are where the region as a whole lags behind developed world standards the most. An outlier on this parameter is of course China with its differentiated "Beijing Consensus" economic model. Elsewhere, Taiwan, India, Indonesia, Pakistan and Vietnam (albeit from a very low base) have made noticeable progress in

**Figure 9: Asian versus developed markets on governance metrics (0 = weak; 100 = strong)**



Source: Freedom House, Transparency International, World Bank, Credit Suisse research

**Figure 10: 2018 political rights and civil liberties**



Source: Freedom House, Credit Suisse research

this respect over the last 15 years. The stand-out disappointment within the region has been Thailand, which has slipped 42 percentage points over the period following the 2014 coup d'état leading to a junta government.

Endemic corruption is a structural constraint to growth and development, especially in the developing world. Corruption at both the state and company level leads to increased transaction costs, under-investment, misallocation of capital and depressed labor productivity. The World Bank estimates that businesses and individuals pay an estimated USD 1.5 trillion in bribes or about 2% of global GDP each year.

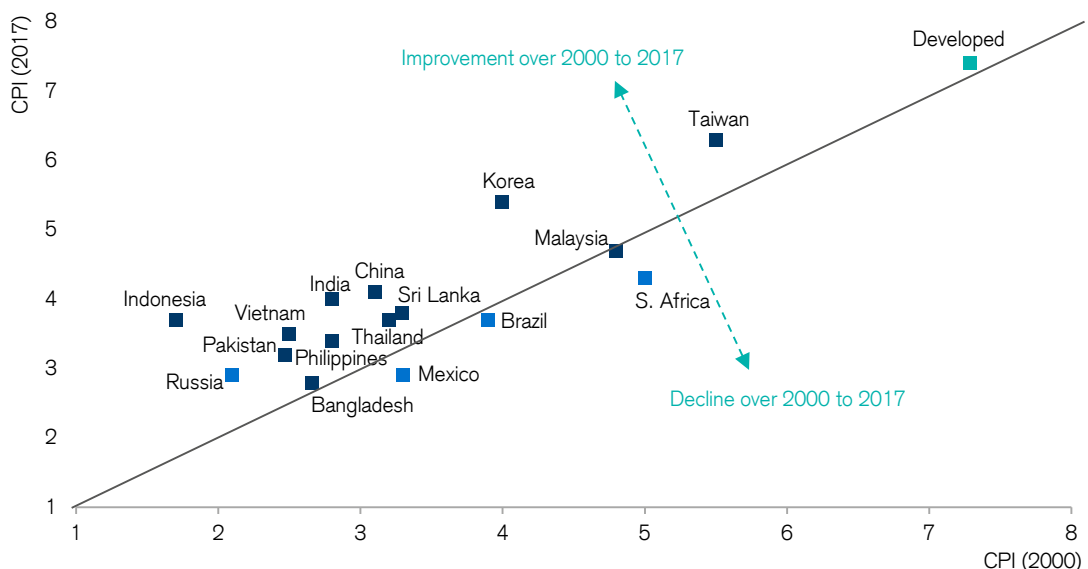
The wide variance in perceived corruption (as collated by Transparency International from analysts, corporate executives and experts) is almost entirely consistent with the varying GDP per capita levels (with an R-squared of 0.93). Nevertheless, even the high-income economies of South Korea and Taiwan lag developed world standards. Encouragingly, all countries in the region have recorded improved scores on the Corruption Perceptions Index since 2000, while a number of other emerging markets such as South Africa, Mexico and Brazil have deteriorated over the period on this measure.

Of note, however, is that the progress made by individual countries since 2000 seems to have almost no correlation with the pace of economic growth achieved over the same period (with

Indonesia and South Korea having improved significantly more than what the change in GDP per capita over the period would suggest, while China and Malaysia have disappointed in this respect). This suggests that progress in terms of minimizing corruption is not an "automatic" byproduct of economic prosperity and requires the concerted action of governments and businesses.

There is indeed potential for an upward shift in the pace of progress on this front within the region, with governments in a number of countries on ostensible anti-corruption drives or recently coming to power in the wake of scandals in previous administrations: China (President Xi's campaign against "tigers and flies"), India (the Modi government's promise to reign in on "black money" and the ensuing 2016 demonetization), South Korea (President Moon's campaign promises of Chaebol reform following the impeachment of President Park on corruption charges), Malaysia (the first political regime change in Malaysia's history following the protracted 1MDB state-owned investment fund scandal) and Pakistan (Prime Minister Khan coming to power following a campaign run primarily on an anti-corruption platform). It is nevertheless critical that anti-corruption measures do not operate at the expense of transparency, and that the policy mix focuses on transparent and effective monitoring and incentivizing change.

**Figure 11: Corruption Perceptions Index (CPI) – change from 2000 to 2017**



Source: Transparency International, Credit Suisse research



**Improved productivity and enhanced corporate governance to lead to superior value creation**

We believe enhanced governance both at a macro and individual enterprise level serves to boost productivity and depress unit labor costs, thus leading to stronger margins and profitability. The improved competitiveness of firms versus their global peers should result in increasing market share of global demand and structural top-line growth. Also, improvements in accounting and corporate governance standards lead to the reduced cost of equity demanded by the market, thus ultimately resulting in superior value creation.

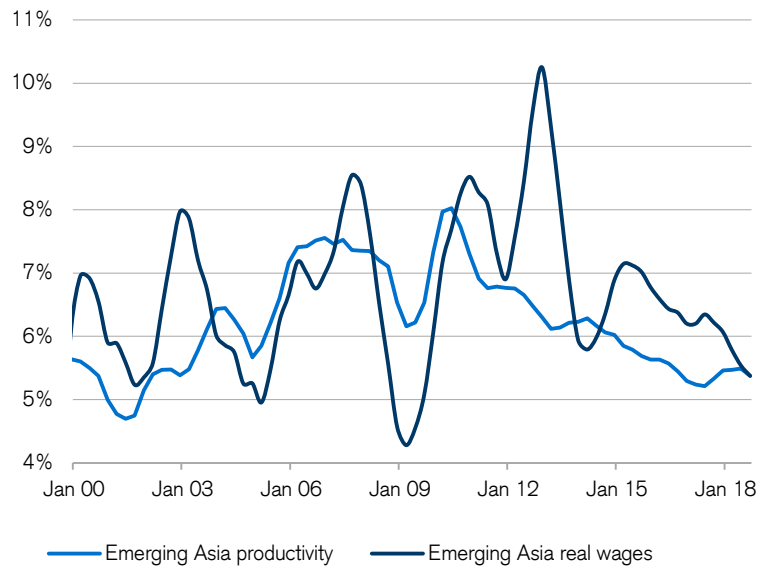
Profit margins are subject to expansion (compression) as growth in productivity outpaces (lags) wage growth in real terms. Apart from operational leverage resulting in higher margins in periods of faster global industrial production growth, we believe this to be one of the key structural drivers of margins.

Emerging Asia in aggregate has struggled to generate productivity growth in excess of real wage growth for the best part of the last decade, leading to rising local currency unit labor costs weighing down on margins. In addition, Chinese corporate margins have eroded structurally since the early 2000s due to a deliberate strategy of driving costs lower and increasing market share in a number of industries, ranging from steel to automobiles and mobile telecom equipment. It is nevertheless commendable that, excluding China, the region has managed to sustain profit margins superior to the rest of the world across the cycle.

However, with productivity growth on the cusp of outpacing real wage growth again (in the region as a whole and in China in particular), this dynamic – if sustained – should aid further margin expansion. Using a three-stage DuPont model to disaggregate profitability of the non-financial sector, we find a contrasting approach between China and the rest of Emerging Asia to generate a similar level of return on equity (12% in line with the rest of the world).

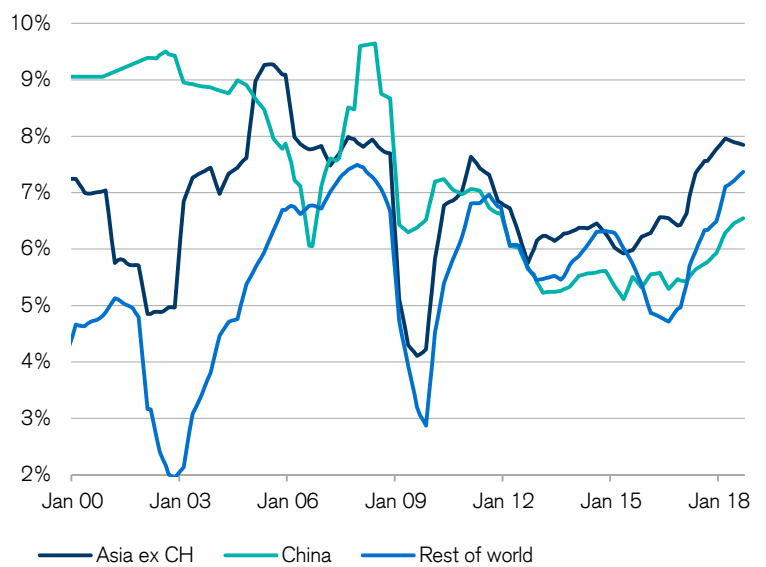
While rising unit labor costs and a focus on increasing market share (especially among state-owned enterprises) have resulted in structural erosion of profit margins, Chinese corporates have increased financial leverage over the period (or rather underutilized equity financing owing to the central role of state banks in funding growth) in line with the rest of the world, thus maintaining profitability. With the focus now turning to a more sustainable and profitable growth model, corporate deleveraging should necessarily be offset by a structural recovery in profit margins.

**Figure 12: Emerging Asian real wages versus productivity (% year-on-year, real local currency terms)**



Source: Thomson Reuters, Credit Suisse research

**Figure 13: Non-financials' net income margins (%)**



Source: Thomson Reuters, Credit Suisse research

**Figure 14: Non-financials' financial leverage (%)**



Source: Thomson Reuters, Credit Suisse research

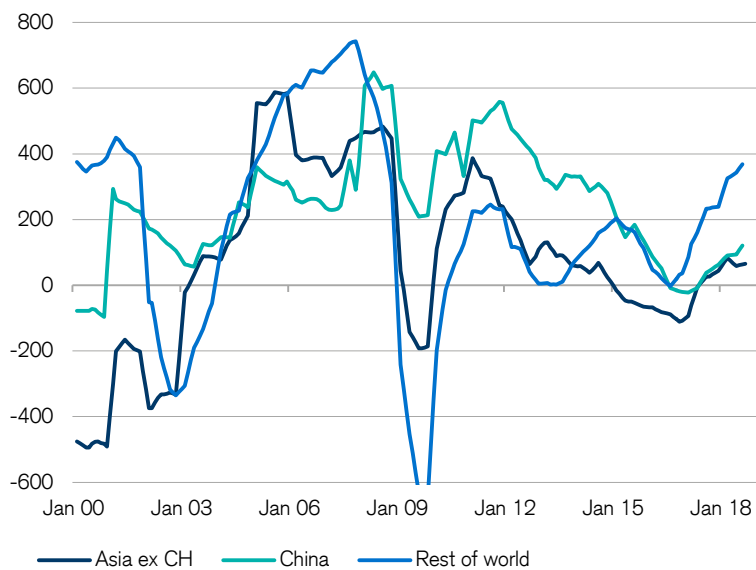
Elsewhere in the region, higher levels of profit margins and asset turnover across the cycle have not translated into superior profitability owing to the underutilization of financial leverage. With the exception of North Asia, Malaysia and Thailand, Emerging Asian corporate bond markets remain at a relatively nascent stage of development versus developed world peers, with corporates relying on bank lending for the bulk of their funding requirements. As Asian capital markets (especially corporate bond markets) continue to deepen (see next chapter), corporates would be incentivized to change their capital structure to boost profitability.

Ultimately, we believe it is value creation (measured as the spread of return on equity less the cyclically adjusted cost of equity for a market) that drives equity market performance over the medium to long term. Worryingly, Emerging Asian equities, both with and without including China, currently generate around 300 basis points of inferior value relative to the rest of the world.

Hence it is imperative that Emerging Asian equities boost profitability through margin expansion and efficient capital structures in order to re-establish superior value creation relative to the rest of the world.

In the long run, it is inevitable that the region's margins, and hence profitability, converge with developed market levels. For now, however, a structurally higher profitability profile is crucial to the investment case to compensate for a higher cost of equity until such time as improving transparency, corporate governance, liquidity and reduced macroeconomic and political uncertainties warrant a lower cost-of-equity hurdle.

**Figure 15: Value creation (ROE less COE, basis points)**



Source: Thomson Reuters, Credit Suisse research



# Investment: The domestic institutionalization of Asian capital markets

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Growing equity and fixed income supply from the deepening of Asian capital markets will increasingly be absorbed domestically as deposit saving pools seek higher rates of return in an environment of strengthening retail-investment culture. We expect an institutionalization of these assets toward pension, insurance and mutual funds, similar to that witnessed in the USA after the introduction of 401(k) pension schemes.

Using methodology outlined in a 2014 study<sup>1</sup> on the future development of emerging capital markets, we project that the Developing Asian share of global equity, corporate bond and sovereign bond markets will expand over the next 12 years to 29%, 29% and 20%, respectively, from their current shares of 20%, 17%, and 13%.

We forecast the absolute and relative dimension and composition of market value up until the year 2030 by extrapolating established historical patterns of growth in emerging and developed capital markets. We find a strong relationship between the historical expansion of developed nation aggregate equity and corporate bond market value relative to GDP and gains in economic productivity, so that using long-term projections of per capita GDP we are able to make estimates for both emerging and developed market equity and fixed income issuance over the period up to 2030.

In current US dollar terms, this represents an additional USD 65 trillion of developing Asian equity market capitalization and USD 33 trillion and USD 10 trillion of regional corporate and sovereign bond market values, respectively, delivered by a combination of new index inclusions, greater issuance (stock free floats are

relatively low in Asia compared with developed markets) and estimates for currency and price performance over the next 12 years.

We believe the deepening of Asian equity and fixed income capital markets will be perpetuated as additional state-owned and other strategic stakes are offered, foreign investment and other regulatory restrictions are relaxed, the cost of equity financing falls gradually, and corporate capital structures in a number of markets increasingly tap equity in preference to debt financing – which is particularly relevant for the heavyweight Chinese state-owned enterprises.

Moreover, we argue that over the next 10–15 years, emerging market populations are likely to adopt an increasingly engaged investment culture, thus further transferring the region's large savings pools into the capital markets as deposit returns yielded from stabilizing low real interest rates become ever less attractive. This will likely be additionally stimulated by aging populations investing for retirement (acutely more pertinent given falling fertility rates leading to less intergenerational support) and a growing middle class with sufficient disposable income for financial products.

However, the pace of expansion in Asian capital markets differs from country to country, resulting in relative shifts within global benchmarks. In equities, we forecast the key winners of index

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1. Redman and Sai (2014) "Emerging capital markets: The road to 2030," Credit Suisse Research Institute.

weight to be China (rising to an 18.9% share of global equity market capitalization from 11.1%), India (to 3.1% from 2.8%) and Indonesia (to 1.5% from 0.7%), while we anticipate the weights in other key Asian markets will remain broadly unchanged: South Korea (1.9%), Taiwan (1.4%), Thailand (0.8%), Malaysia (0.8%) and the Philippines (0.4%).

## "Over the next 10–15 years, emerging market populations are likely to adopt an increasingly engaged investment culture"

In corporate bonds, we forecast the greatest gains within global benchmarks will be in China (rising to a 21.7% share of the global corporate debt market value from 13.3%), India (to 1.3% from 0.1%), Taiwan (to 0.9% from 0.4%) and Indonesia (to 0.5% from 0.2%), while we anticipate that gains will be less remarkable in weight in global corporate bond indices across the other principal Asian capital markets (South Korea, Thailand, Malaysia and the Philippines).

Consistent with China's rising share in global benchmarks is the September 2018 announcement by index provider MSCI for an investor consultation on the next tranche of China A share inclusion into their suite of widely benchmarked indices. This would potentially quadruple constituent inclusion factors to 20% from the existing 5% in two bi-annual index rebalances during 2019, in addition to broadening the criteria for stock inclusion to mid-caps.

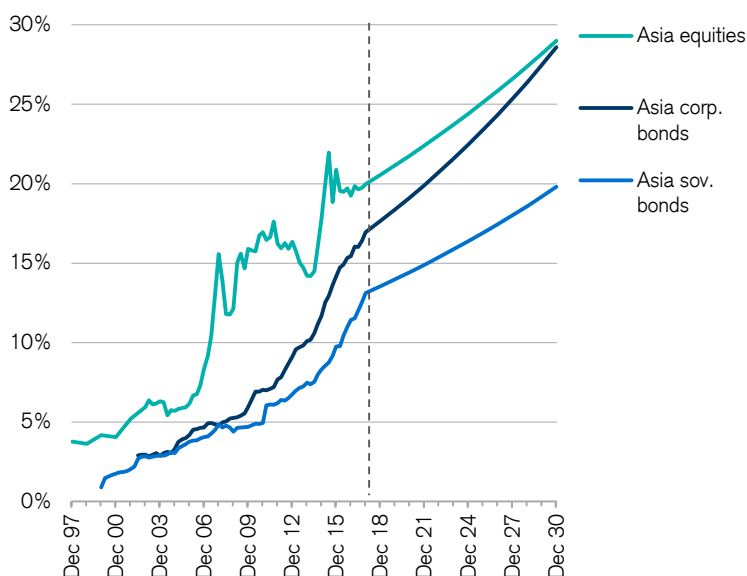
### We expect increased institutionalization of domestic Asian investments

As emerging market pension and insurance funds under management grow, they will need to match their local currency liabilities with a sufficient quantity of suitable local currency assets. Thus we believe that increased institutionalization of Emerging Asian investments in conjunction with rapid economic growth will create the core demand for this incremental domestic equity and fixed income supply. Sustained foreign portfolio inflows will maintain a further source of demand for emerging market equities and bonds.

Moreover, we make the core assumption that the domestic institutionalization of Emerging Asia's investment in local capital markets is on the cusp of an acceleration similar to that seen in the United States between 1970 and the mid-1980s. In the US, this period coincided with the introduction of 401(k) defined contribution pension schemes allowing for tax breaks on deferred income. Over a 17-year period, the portion of the total US equity and corporate bond capital markets owned by institutional investors (mutual, pension and insurance funds) more than doubled (2.1 times) from 28% to 56%, equivalent to compound annual growth in the share of institutional ownership of 4.4%.

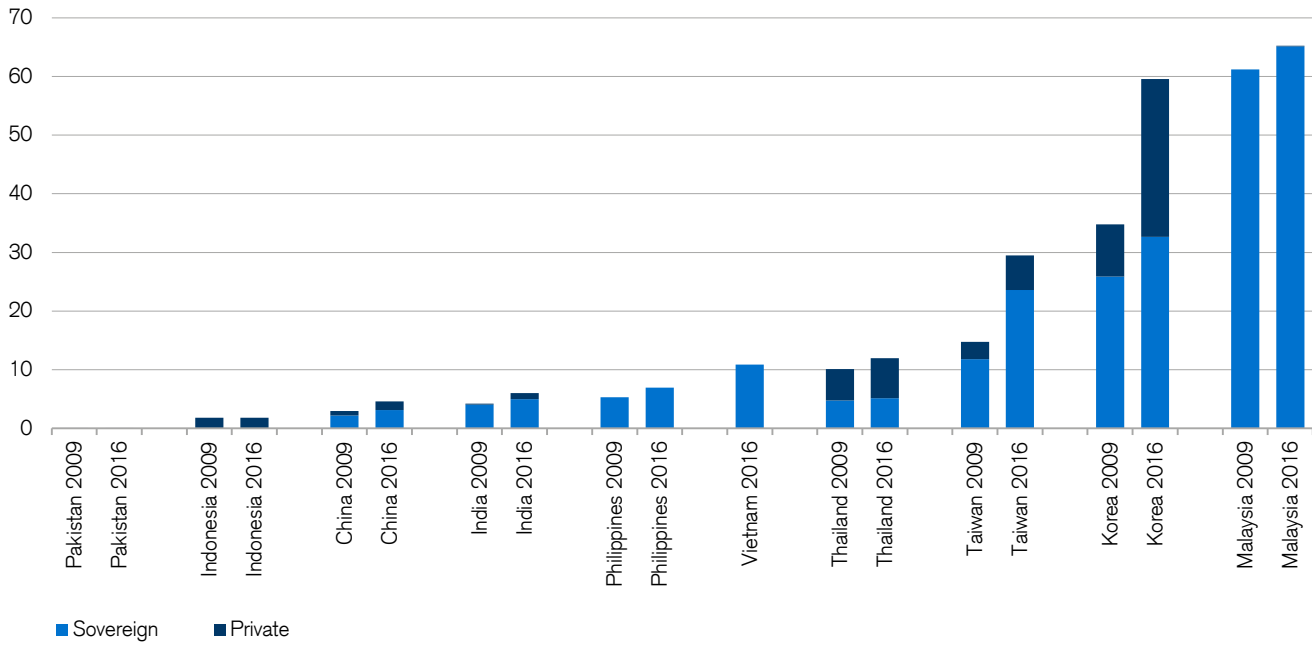
Based on OECD data, Emerging Asia's pension fund assets under management expanded by USD 1.2 trillion (in constant US dollar terms) between 2009 and 2016 to reach USD 1.9 trillion, at a regional seven-year CAGR of 15% – far outstripping GDP growth. The largest regional pool of pension savings (as of the latest 2016 data available) is in South Korea (USD 850 billion) followed by China (USD 515 billion) and Malaysia (USD 200 billion) although the fastest-growing pot over the duration (in US dollar terms) has been in China, up by 19%.

**Figure 1: Asian\* share of global equity and sovereign and corporate bond markets (%)**



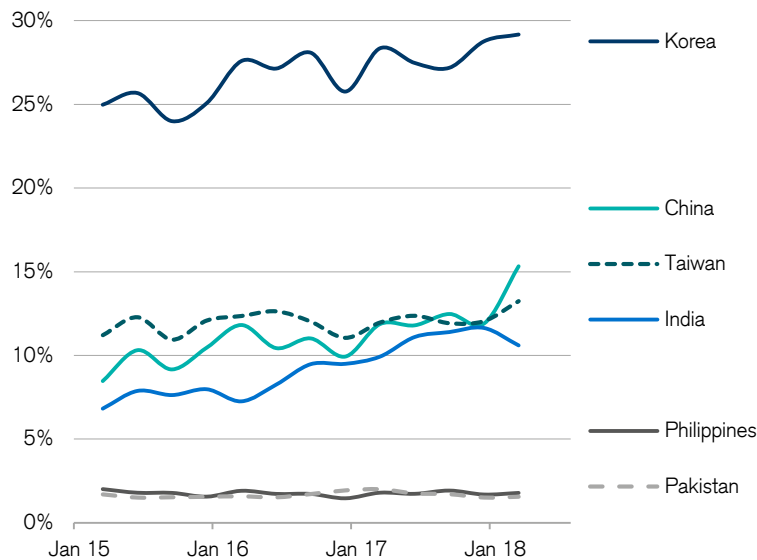
\*Note: Asia excluding Japan  
Source: Thomson Reuters, World Federation of Exchanges, BIS, Credit Suisse research

**Figure 2: Assets of funded sovereign and private pension funds (% GDP, 2009 and 2016)**



Source: OECD Global Pension Statistics, Credit Suisse research

**Figure 3: Asian total net mutual fund assets\* (as % of GDP)**



\*Note: Equity, bond, balanced, money market, ETF and real estate funds. Excluding funds of funds.  
Source: Investment Company Institute, Oxford Economics, Credit Suisse research

All ten Emerging Asian countries for which we have data recorded an increase in their ratios of pension fund assets under management to GDP over the seven years between 2009 and 2016, with the fastest growth in South Korea (up by 25 percentage points) and Taiwan (up by 15 percentage points), versus the regionally weighted average increase of 2.7 percentage points (to 10.8% from 8.1%).

However, as a proportion of overall economic output, the only Emerging Asian countries with pension pots (the combined total of funded sovereign and private plans) of a comparable size to the developed world are Malaysia (at 65% of GDP) and South Korea (60% of GDP). The larger regional economies of China and India – with ratios of pension assets to GDP of 5% and 6%, respectively – have a significant need to further build out schemes to accommodate the requirements of increasingly aging populations.

The growth in Emerging Asia's mutual fund assets under management has been even more rapid, doubling in just three years to USD 2.8 trillion in Q1 2018 from USD 1.4 trillion in Q1 2015, or a CAGR of 26%. The regional growth rate has been bolstered by China (USD 1.9 trillion of assets under management and a CAGR

of 33%). But, even excluding China, the Asian regional growth rate in mutual fund assets under management since 2015 is a respectable 15% in line with the pace of accumulation of pension fund assets, with India's growth rate of 27% making it the country with the second-fastest growth rate regionally.

As a proportion of GDP, mutual fund assets under management have grown to 15% for the overall region (from 10% in Q1 2015), led by South Korea at 29%, China at 15% and Taiwan at 13%.

## "The growth in Emerging Asia's mutual fund assets under management has been rapid, doubling in just three years to USD 2.8 trillion by Q1 2018"

We anticipate a sustained growth rate for Asia's domestic institutional assets under management in the foreseeable future. In our 2014 study on emerging capital markets (referenced previously), we projected that for the largest three Emerging Asian economies alone – China, India and South Korea – institutionally managed assets under management would grow to USD 19.8 trillion by 2030 from USD 2.4 trillion in 2014, representing a

16-year CAGR of 14%. We estimated that China would be the largest and fastest-growing constituent, growing to assets under management of USD 13.8 trillion in institutionally managed pension, mutual and insurance funds from a base of USD 1.2 trillion in 2014, with a CAGR for the duration of 17% (versus India and Korea at 10% and 11%, respectively).

A more recent October 2018 McKinsey & Company study<sup>2</sup> appears to corroborate our forecast, by estimating that traditional institutionally managed fund-based assets under management in China alone will grow by USD 6 trillion over the next five years, resulting in a veritable "great wall of Chinese capital" as deposit savings are increasingly put to work and Chinese regulators increasingly crack down on riskier retail investment products.

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2. Dahl, Katsuki, Kaushik, Sahai and Sengupta (2018) "Will the good times keep rolling for Asia's asset managers?", McKinsey's Global Wealth & Asset Management Practice.





# Technological: Asia's leading role in disruptive technology and the implementation of cleaner energy

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Leapfrogging and disruptive technology provides opportunities, but also threats to service-sector incumbents in an increasingly competitive regional marketplace, altering financing, payments and spending habits and acting as a strong disinflationary force. The region will need to further embrace renewables and cleaner sources of energy to satisfy vast future demand growth as Asia stands to lose disproportionately from the negative impact of climate change.

Technological innovation and adoption has the potential to transform Emerging Asian economies in two significant ways. First, by offering lower-income economies the opportunity to accelerate their progress toward full financial inclusivity and, second, by enabling the middle-income economies to emerge as global leaders in the knowledge-based sectors of the economy. While this presents the region with significant opportunities, the scale and pace of change could severely disrupt traditional incumbents in the service industry.

## **Technological innovation is enhancing efficiencies and expanding access to financial services**

With more than half the world's financially excluded individuals residing in Emerging Asia (20.6% in India and 11.6% in China), continued progress toward full financial inclusivity is an imperative for the region. With continued urbanization, demographics supportive of early technological adoption, a burgeoning middle-class and increasing investment in human capital development, technology-led innovation in financial services plays a key role in achieving this objective.

It is no coincidence that Emerging Asia's gains in mobile connectivity and internet penetration, and financial inclusivity have gone hand in hand. Technological adoption not only reduces the cost

of servicing, but also addresses a number of other impediments to financial inclusion such as geographic challenges, lack of valid identification or credit history, and cumbersome processes that discourage the poorly educated from participating in the traditional banking system.

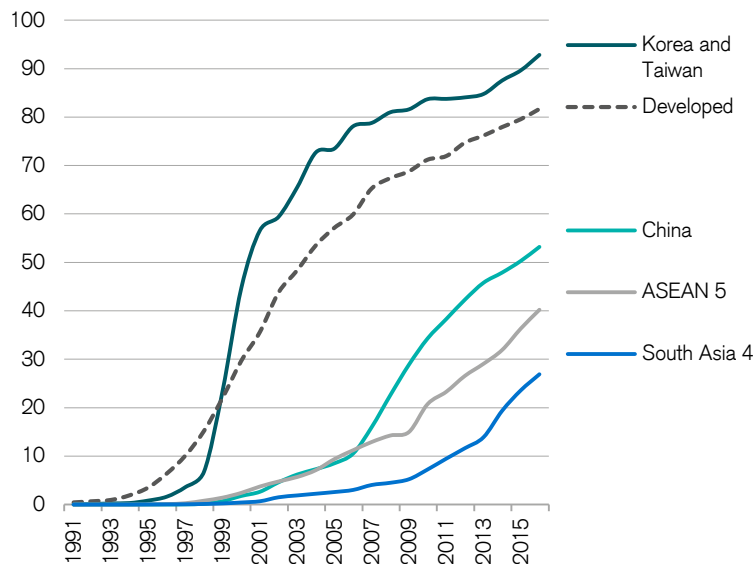
The role of technology in financial services spans across the spectrum from mobile banking and digital money transfers, through digital ecosystems including e-commerce and payment platforms, all the way to full-service internet-only banking. The lower-income economies – especially in South Asia – still stand a lot to gain from its most basic applications. Indeed, the World Bank's 2017 Global Findex Database<sup>1</sup> highlights that two thirds of the world's unbanked adults own a mobile phone (50% in India and 82% in China).

Mobile banking and digital cash services have transformed access to financial services in low-income economies, acting as a gateway to broader financial services. For instance, bKash a mobile payment company launched in Bangladesh in 2011 to offer basic mobile money transfer services, has now expanded

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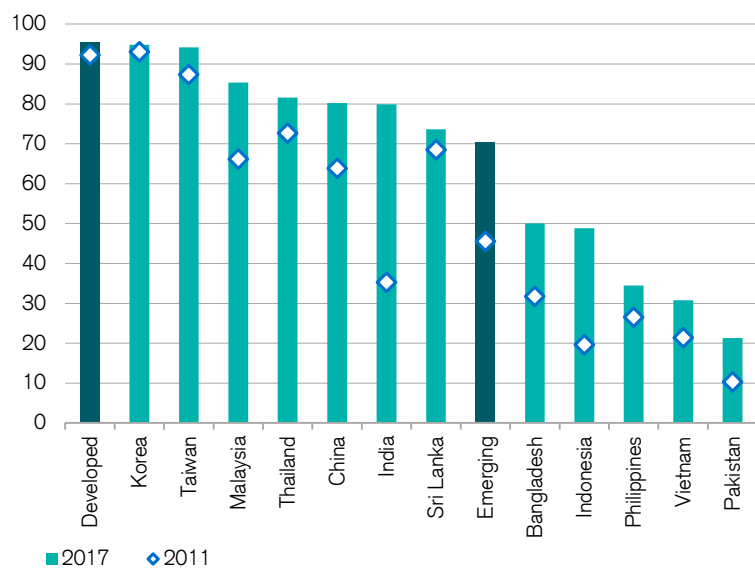
1. Demirguc-Kunt, Asli; Klapper, Leora; Singer, Dorothe; Ansar, Sanjya; Hess, Jake. 2018. Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank. © World Bank.

**Figure 1: Individuals with access to the internet, mobile or computer-based (% of population)**



Source: International Telecommunication Union, World Telecommunication/ICT Development Report, Credit Suisse Research

**Figure 2: Financial account holders\* (% of population aged 15+)**



\* The percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution.  
Source: World Bank Global Findex database 2017, Credit Suisse research

to areas such as foreign remittance and merchant payments. bKash today runs a network of more than 180,000 agents and more than 30,000 merchants who accept QR code-based payments with over 30 million registered users.

Similarly, the success of Go-Jek in Indonesia, an Indonesian-owned-and-run technology startup that specializes in ride-hailing, logistics and digital payments, highlights the synergistic benefits of technology adoption and increasing financial inclusion in a country underbanked by traditional channels. Started as a motorbike-taxi hailing app in 2010, Go-Jek has grown to offer a wide range of services from food and cargo delivery to beauty and massage treatments on demand, emerging as Indonesia's first "unicorn" tech start-up. Go-Pay, its e-wallet service launched in 2016, is already the country's fourth-biggest e-wallet service behind only those run by large incumbent banks and telecom companies. This enables the unbanked to top up their e-money accounts through one of the 400,000 drivers in the country, providing them access to the services offered by Go-Jek. Going beyond incentivizing Go-Jek drivers to open bank accounts for the first time, the company has an active partnership with Indonesia's biggest mortgage lender, Bank Tabungan Negara, to extend loans to individuals who previously would have lacked credible documentation or credit history. Such initiatives highlight the potential of financial technology or "fintech" companies, enabling a wider ecosystem that provides access to financial products and services.

Technology can also play a key role in providing valid identification to the hitherto unbanked through digital ID systems such as India's Aadhaar. Launched in 2009, the national identity program is now the world's largest biometric ID system covering more than 1.23 billion people (or more than 90% of the population). The system enables real-time verification of identities and direct transfer of government subsidies and unemployment benefits, thus reducing corruption and inefficiencies. The CRISIL Inclusix report,<sup>2</sup> which aims to reliably measure the extent of financial inclusion in India, notes in their 2018 edition that the Indian government's so-called J-A-M trinity program (linking Jan Dhan bank accounts, a product of India's financial inclusion program, with Aadhaar unique identity cards and mobile numbers) is having a seminal impact on financial inclusivity. Since the launch of the Jan Dhan scheme in 2014, more than 374 million bank accounts have been opened.

2. CRISIL Inclusix: Financial inclusion surges driven by Jan-Dhan Yojana, Volume 4, February 2018.

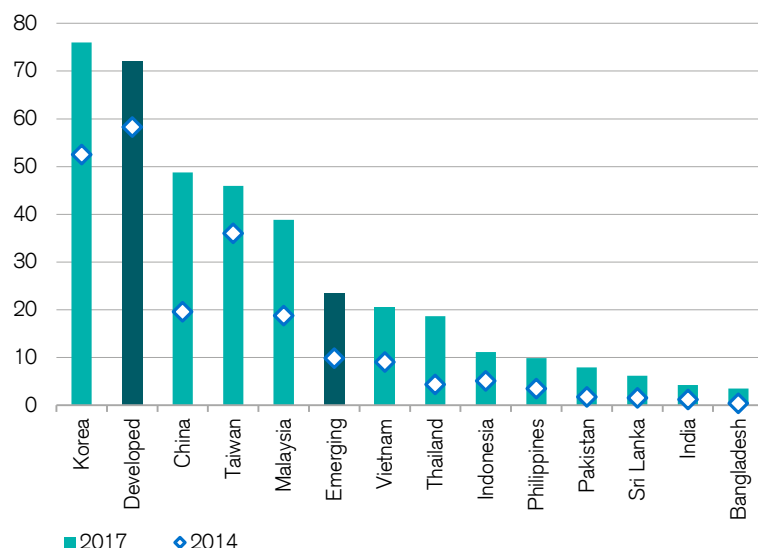
While mobile penetration across emerging Asia has largely converged with developed market levels with the exception of China and South Asia (at 98 and 84 subscriptions per 100 people compared to 126 in the developed world), the region excluding Korea and Taiwan has significant scope for growth in internet penetration. Only 27% of the population have access to the internet through any channel in South Asia, 40% in the ASEAN 5 region, and a little over half the population in China. A steep fall in mobile data costs and a proliferation of affordable mobile data-enabled handsets capable of supporting basic apps (including those of banks and other financial service providers) should underpin sustained growth in the depth and breadth of financial inclusion.

However, the transformational potential of a fintech ecosystem is best exemplified by the rise of the Chinese tech giants Alibaba and Tencent. While Alibaba's foray into payments started with Alipay in 2004 to facilitate payments on its Taobao e-commerce platform, Tencent launched Tenpay in 2005 integrated into QQ, its online message platform. Both Alipay (rebranded to Ant Financial in 2014) and Tenpay have since grown exponentially, helped in part by the under-penetration of alternatives such as credit cards, garnering 54% and 40% of market share of the 2017 mobile transaction volume of RMB 100 trillion (USD 14.5 trillion). iResearch, a market research and consulting company, forecasts the mobile transaction volume to grow to RMB 229 trillion (USD 33 trillion) in 2019, accounting for 85% of online payments from only 4% as recently as 2012.

With mobile transactions and brick-and-mortar merchants accepting QR code-based payments already widespread, it is the evolution of these fintech firms into full-fledged financial services that has serious negative implications for traditional incumbents and has already attracted the attention of regulators keen to prevent destabilizing effects on the current financial system.

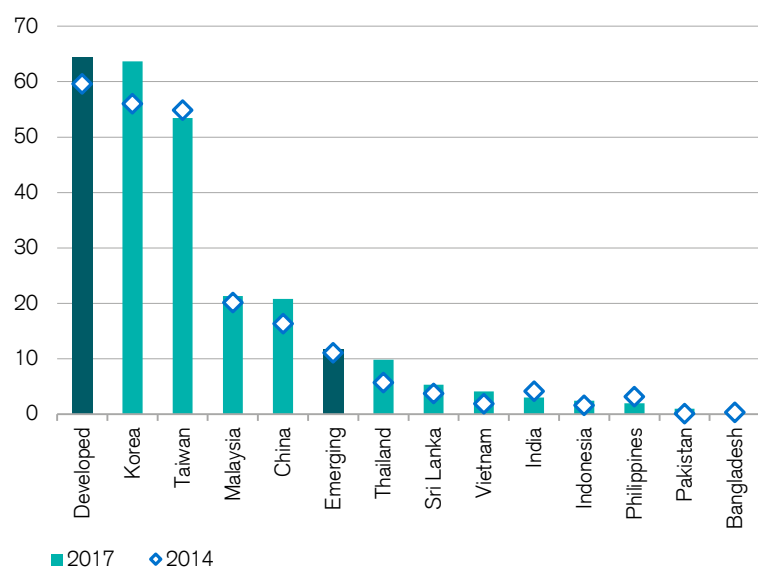
Ant Financial has evolved into a full-service financial services company offering insurance, credit rating and online SME banking. Yu'e Bao, their investment product designed to offer shoppers a small return on idle cash, is already the world's biggest money market fund with USD 220 billion in assets under management. Similarly, Tencent already holds licenses for insurance, microfinancing and mutual funds, enabling them to sell financial products to more than 980 million users of WeChat, its multipurpose messaging and social media "super-app."

**Figure 3: Internet payment usage\* (% of population aged 15+)**



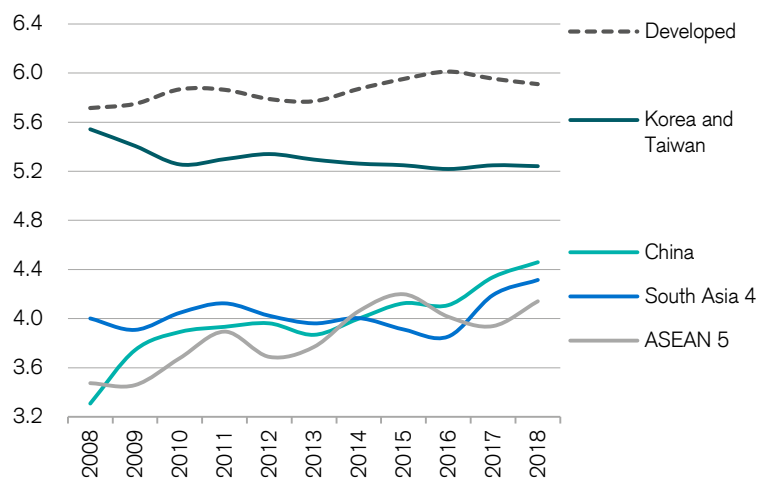
\* The percentage of respondents who report using mobile money, a debit or credit card, or a mobile phone to make a payment from an account, or report using the internet to pay bills or to buy something online, in the past 12 months.  
Source: World Bank Global Findex database 2017, Credit Suisse research

**Figure 4: Credit card ownership\* (% of population aged 15+)**



\* The percentage of respondents who report having a credit card.  
Source: World Bank Global Findex database 2017, Credit Suisse research

**Figure 5: Production process sophistication, 1–7 (best)**

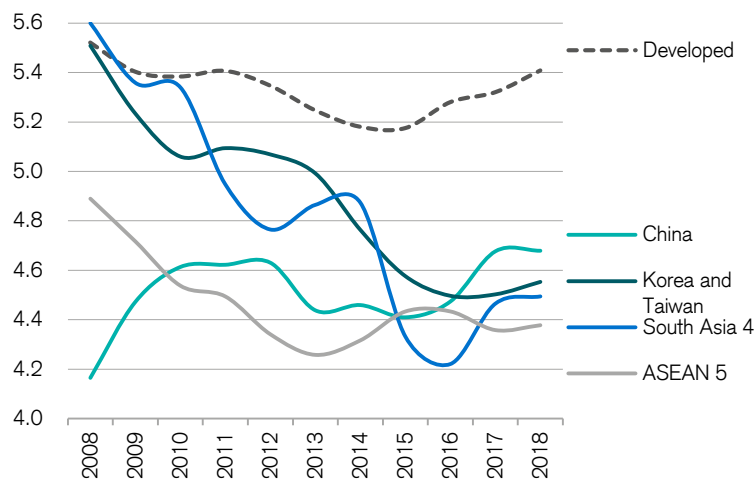


Source: The Global Competitiveness Index Historical Dataset - World Economic Forum, Credit Suisse research

However, concentration of corporates built around digital technology is increasingly raising barriers to entry on the Chinese side of the Great Firewall. Baidu, Alibaba and Tencent have platforms that are so dominant that fresh start-ups have little choice but to link into them and, if successful, are subsumed into one of the big three. Financing for Chinese tech start-ups is therefore coming increasingly from the big three rather than private equity.

While the progression of Asian economies from the predominantly primary (agriculture) and secondary (manufacturing) sectors to the tertiary (services) sector of the economy continues apace, the ability of the mid-high-income economies of the region to make inroads into and compete with the developed world in the so-called "quaternary" or knowledge-based part of the economy is becoming crucial.

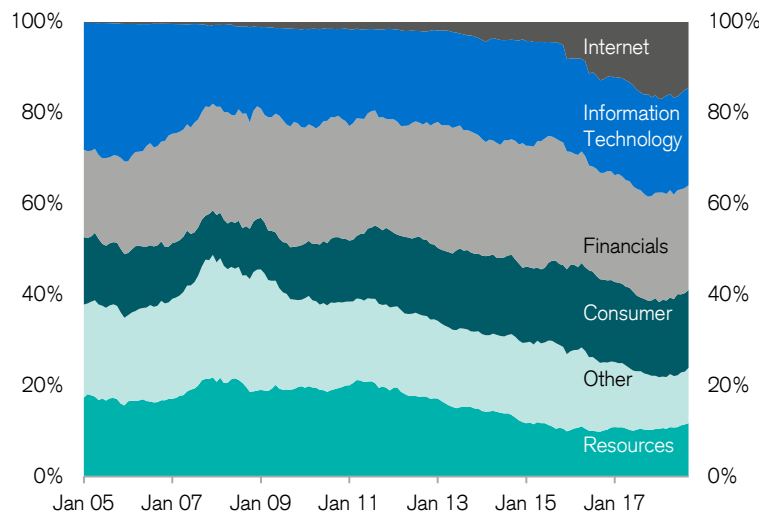
**Figure 6: Availability of scientists and engineers, 1–7 (best)**



Source: The Global Competitiveness Index Historical Dataset - World Economic Forum, Credit Suisse research

While production process sophistication in Emerging Asia (as measured by the World Economic Forum's Global Competitiveness Report 2017–2018) has improved over the last decade (especially in China), the region (with the exception of Korea and Taiwan) still has to make considerable gains before converging with developed world standards. However, it is the trajectory of availability of scientists and engineers in the region (with the exception of China) versus that of the developed world that appears worrying. These trends highlight that the region (especially outside of North Asia) requires a significant and sustained step-up in investment in human capital and research and development before it can meaningfully participate in this emerging sector of the global economy.

**Figure 7: MSCI Emerging Asia sector composition**



Source: MSCI, Credit Suisse research

The Made in China 2025 blueprint aims to leverage big data, cloud computing and robotics in order to shift the Chinese manufacturing industry higher up the value chain, making the economy less reliant on foreign technology. For instance, based on data from the International Federation of Robotics, by 2017, local Chinese brands accounted for a quarter of the country's 36% global market share in the supply of industrial robots up from zero five years earlier. While artificial intelligence (AI) underpins several of the goals stated in this framework, implications of progress in the field go beyond boosting the productivity of the economy through robotics and driver-less vehicles, improvement in healthcare and financial services, into the realms of security and national defense. That AI is an area of strategic focus for the Chinese government is confirmed by the State Council's aim to emerge as a global leader in the field by 2030. For China to succeed in the AI race with the USA it will have to invest more in human capital, attract foreign and returning

Chinese talent, and make further progress in hardware development. Otherwise, it already has the necessary capital and a significant advantage over the USA in terms of data volume to succeed.

This rise of Asian technology is already being reflected in the region's equity investment opportunities. Internet technology and services companies represent 14% of the MSCI Emerging Asia benchmark compared to only 3% in developed equities. Including hardware equipment, software services and semiconductors, the technology sector represents 35% of the investible universe in Emerging Asia compared to around 20% as recently as 2012 and almost twice the 18.5% share of the sector in the developed equity benchmark.

Ultimately, Emerging Asian economies should benefit from the disinflationary effect of disruptive technologies as inefficiencies are reduced and costs in the service industries are driven lower. This in turn should lead to structurally lower interest rates. Also, increased financial inclusion and formalization of economies should lead to an increase in the tax base of countries in question, thus improving delivery of public services. Finally, internet and media connectivity makes for greater accountability, thus incentivizing enhanced governance and improving the quality of institutions over time.

**Renewable energy is key to addressing the challenges of increased energy demand and climate change**

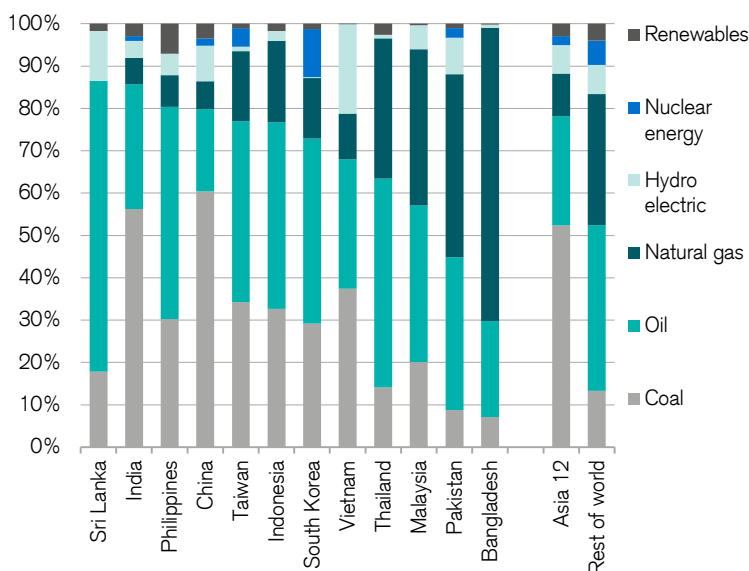
Asia's consumption of the more polluting fossil fuels (coal and oil) accounts for a disproportionate 78% share of its energy mix relative to the rest of the world at 52%. In particular, the region's two largest economies are heavily dependent on coal, accounting for more than 60% of China's primary energy consumption and 56% in India, versus 13% for the rest of the world. Indeed, the region produces 42% of global carbon dioxide emissions, with China and India individually accounting for 28% and 7% of the global total, respectively.

The detrimental effect of this energy policy on the environment and health is a growing concern. An August 2017 study<sup>3</sup> by the Lancet Planetary Health states that South and East Asia accounted for 59% of the global deaths attributed to air pollution in 2015.

This becomes all the more worrying considering the significant additional demand for energy required to sustain growth in the region. In a July

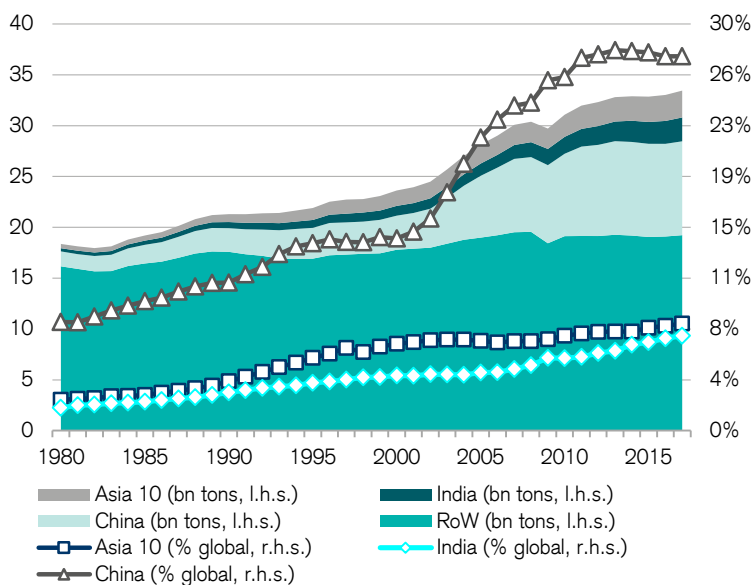
3. Heltonio Carvalho (2017) "The global burden of air pollution-associated deaths—how many are needed for countries to react?", The Lancet Planetary Health.

**Figure 8: Primary energy consumption by fuel type – Asia versus the rest of the world (2017)**



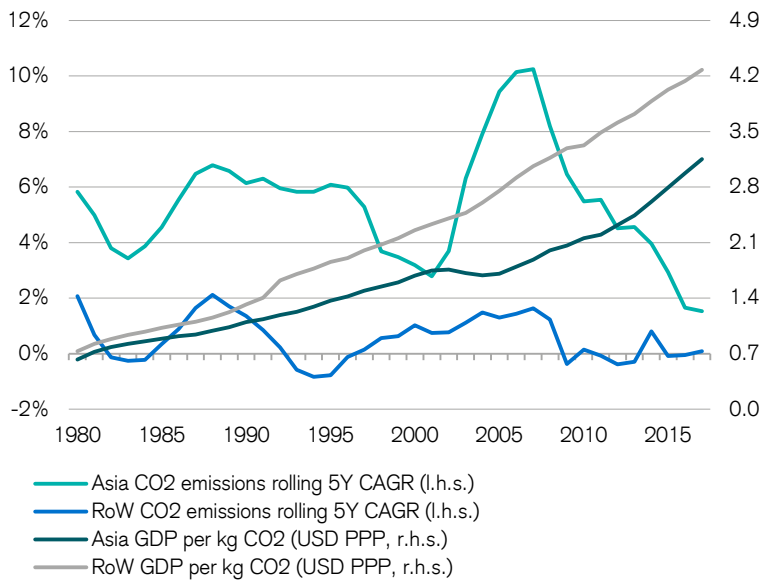
Source: BP Statistical Review of World Energy June 2018, Credit Suisse research

**Figure 9: Annual carbon dioxide emissions – Asia versus the rest of the world**



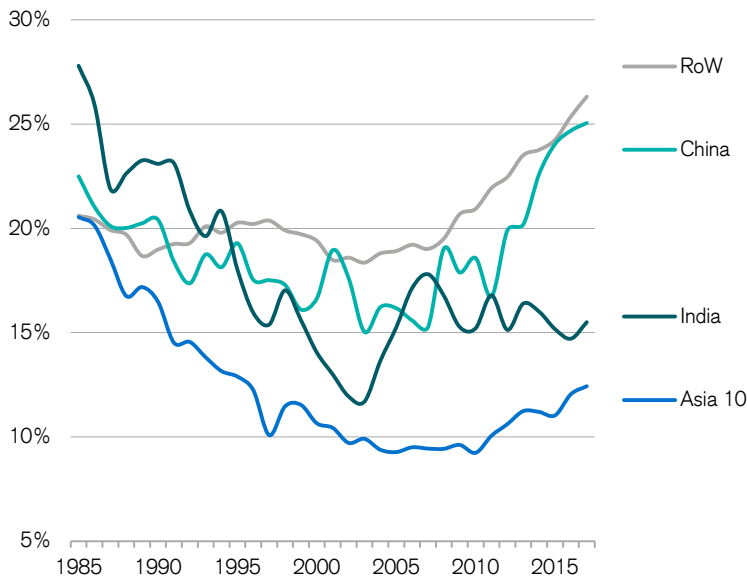
Note: Asia 10 = Bangladesh, Indonesia, South Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam  
Source: BP Statistical Review of World Energy June 2018, Credit Suisse research

**Figure 10: Growth in CO2 emissions and GDP generated per kg of CO2 for Asia versus the rest of the world**



Note: Asia excluding Japan  
Source: BP Statistical Review of World Energy June 2018, Credit Suisse research

**Figure 11: Proportion of electricity generation from renewable sources\* (% of total)**



\*Note: Hydroelectric, solar, wind, geothermal and biomass; Asia 10 = Bangladesh, Indonesia, Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam.  
Source: BP Statistical Review of World Energy June 2018, Credit Suisse research

2018 study,<sup>4</sup> the US Energy Information Administration (EIA) forecast total Asian annual energy demand to grow by 43% by 2040, representing a 22-year CAGR of 1.6%. For China – which in 2018 accounts for half of Asia's regional energy demand – the EIA projects a 22-year CAGR in total energy demand of between 1.2% and 1.3%, depending on how swiftly the economy transitions from industrial investment and export-led growth to a services and consumption-led growth model. For India, this range is a much higher 4.4%–4.6%, again contingent upon the composition of economic growth over the next 22 years. Based on EIA projections, India's annual energy demand will double to a 21% regional share by 2040 from 11% today.

In India's case, however, this magnitude of demand growth is problematic owing to the lack of domestic resources available to generate it. An October 2018 investment report<sup>5</sup> forecasts that, by 2040, India will need to import almost half its energy needs, which, assuming a modest 2% average inflation in energy prices in US dollar terms, would lead to an annual import bill of USD 660 billion by 2040, or 4% of GDP, thus perpetuating a continued strain on the country's external position.

In order to sustainably meet the growing demand for energy and address the challenges from increasing air pollution and climate change, technology plays a key role in reducing the energy intensity of Asian economies and transitioning to renewable sources of energy.

While the GDP generated per unit of CO<sub>2</sub> emission in Emerging Asia has been improving, it is still less than three-quarters that of the rest of the world. This is explained by a lower proportion of electricity generated from renewable sources (especially excluding China) and lower energy efficiency of these economies given the lower share of services compared to the developed world.

It is nevertheless encouraging that a number of Emerging Asian countries (most of all China) have made a concerted effort to adopt renewable energy in order to strengthen energy security and mitigate the effects of climate change.

China has achieved significant progress in increasing the share of electricity generated by renewable sources to 25% from only 15% less

4. Linda Capuano (2018) "International Energy Outlook 2018," US Energy Information Administration.

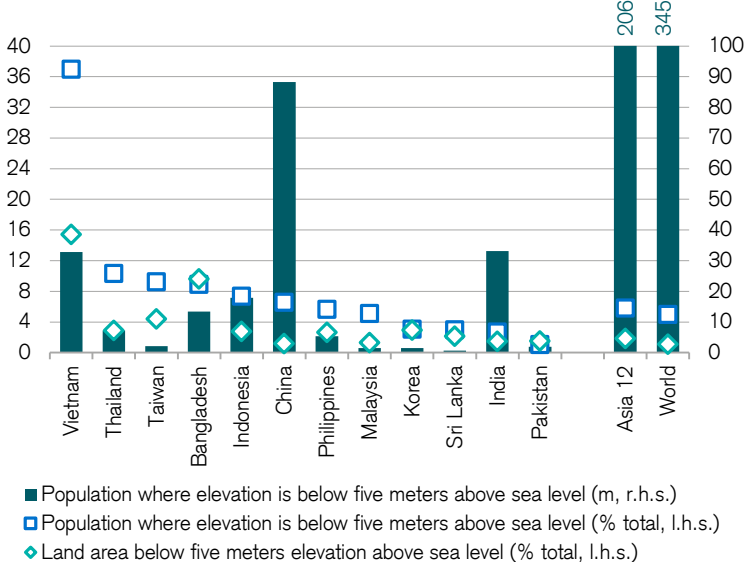
5. Neelkanth Mishra et al (2018) "The limits of growing with borrowed energy," Credit Suisse Indian Market Strategy Research.

than a decade ago. The country already has the world's largest installed capacity of hydroelectric, solar and wind power. The International Renewable Energy Agency (IRENA) estimates that China alone accounts for 43% of the 10.3 million renewable energy jobs in 2017, with a share of more than two thirds in the solar photovoltaic sector. China appears set to extend its leadership position in global renewable and clean energy industries, especially against the backdrop of the current US administration's stated intention to roll back its previous commitment to increase the use of renewable energy through the Clean Power Plan.

India has set itself an ambitious target of having 175 gigawatts of installed renewable energy in the country by 2022. The government anticipates 100 gigawatts of this will come from solar energy compared to the current installed capacity of 23 gigawatts. Achieving this goal would put the country behind only China and the USA in terms of renewable energy capacity. Similarly, the Association of Southeast Asian Nations (ASEAN) has set a target of securing 23% of its primary energy from modern, sustainable renewable sources by 2025, more than a two-fold increase from current levels. Such policy measures from governments are helped by the steadily falling cost of electricity generation from renewable technologies – this is especially true in the case of solar photovoltaics and onshore wind, with the prices of photovoltaic modules and wind turbines falling by 80% and 38%, respectively, since 2010.

An October 2018 study<sup>6</sup> by the Intergovernmental Panel on Climate Change warns that, if global greenhouse gas emissions continue at their present trajectory, global warming from pre-industrial times will exceed the 1.5 degrees Celsius target set by the 2016 Paris Climate Agreement by 2040. The resultant rising sea levels would have a disproportionate negative impact on the region, with 60% of the world's population living in areas where elevation is below five meters being in the Asia 12 countries. This makes tackling climate change by scaling up its commitment to renewable energy all the more critical for Emerging Asia.

**Figure 12: Population and land area at threat of rising sea levels related to climate change, Asia versus world**



Source: World Bank Development Indicators, Credit Suisse research

6. (2018) "Special Report on Global warming of 1.5°C," Intergovernmental Panel on Climate Change.





## About the authors

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