

The Changing Face of
Asia Pacific

WHITE PAPER 2014



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FOREWORD

We are pleased to have commissioned *The Changing Face of Asia Pacific*. This is the latest in a series of in-depth independent reports, variously on the economic prospects for selected regions of the world, and on subjects of major importance to business leaders, investors, and governments.

Over the past several decades the world economy has undergone profound change, including the globalisation of international trade and finance, the evolution of a global oil market, the IT revolution, and a shifting balance of power between the West and the East.

The Asia Pacific region has been centrally involved. There has been the remarkable rise of the Asian tigers, the emergence of both China and India as global powers, and increasingly-strong linking of the Asia Pacific economies through international trade. Asia's average annual GDP growth over the past 10 years has been consistently above the world average.

The counterpart to this regional development – the corresponding (relative) decline in the importance of the United States and Europe – was hastened by the 2008 global financial crisis. In the years following, Asian economies generally performed markedly better than the advanced economies of the West, continuing to expand while the more developed economies have struggled to return to growth.

In some cases, brisk growth in Asia has been sustained by the export of manufactured intermediate inputs, particularly to China. In other cases it has been exports of primary commodities, with their associated high prices, that have supported growth. Australia in particular has ridden the wave of what has been for it a particularly rambunctious resource boom. In other countries, however, economic progress has been achieved notwithstanding a comparatively low natural-resource endowment, sustained instead by a sense of national pride and destiny, a strong entrepreneurial spirit, and openness to international trade. And now even previously-isolated or quarantined economies, such as Myanmar, are starting to join in.

Importantly, the set of factors that have underpinned growth in Asia Pacific are likely to endure. Populations are expanding (in some countries very rapidly), trade linkages are deepening, investment is growing, know-how is circulating, urbanisation is increasing, service and financial sectors are maturing, and macroeconomic and structural policy implementation and institutional capacity are strengthening.

Nevertheless, as with all regions undergoing structural change, Asia Pacific must confront a number of major challenges if its economies are to maximise their potential and grow sustainably. Not least of these are: to better manage available energy and fuel resources which stimulate both demand and supply; to develop regional and country-specific infrastructure, particularly in energy and transportation; and in many cases to escape an undue dependence on credit-driven growth. For the smaller Asia Pacific countries in particular, reaching this potential depends importantly on their progressively strengthening and deepening their trade linkages, both with one another and with the larger economies.

These issues are considered at length in this report, which demonstrates the extent of the opportunities in this part of the world – particularly, we believe, for well-positioned, flexible, and forward-looking companies, such as Puma Energy.

Puma Energy has global momentum and a unique business model – we have a special relationship with our parent Trafigura and key shareholders. By operating under the overall umbrella of a large and still-expanding trading house, we benefit from the widening reach, substantial pricing power, and security of supply that that brings. But our independence within this business configuration also allows us to operate with exceptional agility in taking advantage of new opportunities. We are proud to be more capable of adapting to changing market conditions than other larger conglomerates, and of our strong growth, which continued even during the global financial crisis.

Puma Energy is ahead of the competition in the global market, having invested heavily in mid- and down-stream assets in a number of fast-growing frontiers. Our presence in diverse regions, ranging from Central and South America to Sub-Saharan Africa, and across to South East Asia and Oceania, is critical. We believe that there are not enough of the right kind of infrastructure assets in key locations where oil demand is growing – such as in developing Asia, where the demand for oil is expected to approximately double over the coming 20 years – and have worked hard to improve access to the global supply network. In 2013 we invested \$1bn in Australia alone. We have built up a strong position structured around our highly efficient distribution network, capable of delivering high quality fuel, safely, quickly, reliably, and at a fair price.

We are executing a carefully-planned strategy, designed to capture higher shares of the mid- and down-stream markets in our target regions. We employ over 6,700 people in close to 40 countries across 5 continents, handling over 22 million m³ of oil products with 4.8 million m³ in storage. A powerful commitment to employing local people and local resources is the foundation of our strength in solving complex problems for our customers in a variety of regulated and unregulated market conditions.

We trust that you will find this report instructive, and that you will come to appreciate the significant opportunity that lies ahead for a unique independent firm such as Puma Energy.

AUTHORS' NOTE

Asia Pacific is full of contrasts. It is a vast geographical area that encompasses some of the world's most densely populated territories as well as some of its least. The pace of growth differs across the region, with mature economies juxtaposed with middle-income nations, and others still at a much earlier stage of development. What is more, numerous social, cultural, and political differences are in evidence, as indeed are some highly varied historical experiences that continue to exert an influence over present-day hopes, fears, and expectations.

As a result, it is impossible to assess Asia Pacific as a single entity. Most general rules fall foul of important exceptions. That said, it is clear that the outlook for the region is bright, in both relative and absolute terms. With the exception of North Korea, the continent is more accessible than ever, due to cheaper communications and more efficient international transport links. Regional consumer markets and service sectors are expanding as per capita incomes rise. The more distant and isolated areas are increasingly being opened up as rail, road, and air networks expand, foreign direct investment searches out new resource-related and other opportunities, education standards and skills improve, and new international trade agreements come into force.

At the same time, and notwithstanding its many diversities, much of Asia is subject to similar forces, and faces similar challenges in attempting to continue its development and increase the wealth and happiness of its populations. The most important economic and political challenge now is to make sure that government policies – both macroeconomic and supply-side – continue to encourage the constructive processes that have brought the region this far, and temper any obstacles to further progress. Ensuring the provision of adequate infrastructure and efficient energy supply are key aspects of this.

To bring out a number of the main issues clearly, it is necessary to 'fly over the subject at the right height'. This we hope we have done even if in so doing we have had to truncate the paper in various areas, each of which could have been a subject of study on its own.

Authors:

Russell Jones, John Llewellyn, and Preston Llewellyn

EXECUTIVE SUMMARY

The fundamentals (I)

- The Asia Pacific region occupies about 18% of earth's land surface. A diverse region, it is home to some 3.4bn people – about 50% of the world's population.
- The region includes three of the world's ten largest economies, produces around 30% of global GDP (over \$20trn), and is exerting an increasingly important influence on the global economy. The informal sector is large.
- Countries within this vast region are at very different stages of development, and on average, per capita incomes are comparatively low.
- Asia is the world's fastest-growing region, and has been for nearly three decades. Growing interrelationships are becoming central to growth sustainability.

Recovery from the Global Financial Crisis (II)

- Few if any countries escaped the 2008 global financial crisis. Export-dependent Asia was hit hard, but weathered the crisis well.
- Sound economic and financial fundamentals allowed an aggressive macro policy response, limiting output losses, and impelling its predominantly domestic-demand-driven recovery. Recoveries have proved robust.
- Asia Pacific's GDP is now some 40% larger than on the eve of the crisis. Domestic demand, rather than exports, continues to drive expansion, with South East Asia significantly outperforming the especially-trade-dependent newly-industrialising economies.
- Policymakers face a balancing act in addressing both short- and medium-term challenges. For some, the structural policy agenda in particular looks challenging.

Australia: a special case (III)

- Australia, the tenth richest economy in the world (in GDP per capita terms and on a purchasing-power-parity (PPP) basis), has long been a success story.
- Australia's outperformance was underpinned by sound policymaking and a surge in the terms of trade.
- Australia's latest mining boom is now winding down and growth has slowed somewhat. Macroeconomic policy has been recalibrated, and the exchange rate has adjusted down.
- Macro stability will require a combination of non-mining business investment, personal consumption, housing investment, and government purchases to fill the bulk of the spending gap.
- As highlighted by the OECD, new supply-side policy initiatives are needed: major structural policy adjustments are required in infrastructure and finance, FDI, and innovation to raise productivity.
- Top-quality infrastructure is especially important in geographically expansive countries, with populations and production centres so widely dispersed, and so far from major markets.
- Australia's most obvious shortfalls are in energy, transport, communications, and water. Infrastructure therefore needs to be at the core of any future re-orientation of fiscal policy towards expansion.

The future of energy demand (IV)

- Fossil fuels will continue to dominate, likely accounting for around 75% of world energy consumption in 2035.
- Asia's demand for energy is set to rise dramatically, by around 50%; and oil by 40%. In Developing Asia, demand for oil is expected approximately to double, and its oil imports nearly to triple.
- OECD energy demand, by contrast, is expected scarcely to increase, and demand for oil is expected to fall, by around 20%.

The pressures on potential (V)

- Middle-income economies (MIEs) are particularly prone to a slowing of their growth trajectories. But the 'Middle-Income Trap' is a risk, not a certainty.
- A number of factors often contribute to the risk in hitherto rapidly-growing, increasingly-sophisticated, but less than fully advanced economies:
- Institutions, demographics, infrastructure (road networks and communication networks in particular), macroeconomic policies, and trade structure.
- Encouragingly, much of Asia Pacific is apparently less vulnerable than are other developing regions. But there is little room for complacency.
- To sustain development, a shift is needed from factor-accumulation-based growth, and towards that based on increasing productivity, driven by quality improvements of human and other capital, and by innovation.

Challenges ahead: the demand side (VI)

- The Asia Pacific economy has substantial positive growth momentum. But the growth of demand needs progressively to become driven more by domestic demand, rather than exports – so-called 'rebalancing'.
- Demand for consumer durables and services will burgeon as incomes rise, and infrastructure shortfall, particularly in rural areas, is alleviated. China's auto market outgrew that of the US about 5 years ago.
- Saving rates stand to fall as social security systems are established, boosting household consumption.
- Exports will nevertheless continue to be an important driver of demand, particularly in Asia Pacific's smaller economies. Continued and improved access to the large export markets will be of central importance.
- Rebalancing is difficult for smaller economies individually: collectively however, by linking to one another and to the larger economies via international trade, they can grow much as the larger economies do.

Challenges ahead: the supply side (VII)

- Asia Pacific's underlying supply-side potential too is considerable, and the envy of much of the world. That said, Asia's countries are at very different stages of development, and there is much to do.
- Investment is a particularly important component of Asia Pacific's growth and, were it to falter, the impact on growth would be severe.
- Continual structural reform is vital to optimising economic performance, and overlooked by governments and investors at their peril.
- But reform is complex, multi-faceted, demanding, and is never finished. Execution is often politically fraught. Successful reform therefore means getting a lot of things right, including incentive structures.

Infrastructure

- Where infrastructure is recognised to be good, Asian trade has expanded rapidly.
- Asia Pacific's continued development, and the realisation of its growth potential, depends on efficient, reliable infrastructure. Infrastructure is both a source and a facilitator of sustainable growth.
- Good infrastructure boosts supply-side potential by enhancing competition, facilitating trade, improving access to resources and public services, and fostering the dissemination of ideas and innovation.
- Some of the region's infrastructure is world class, but a significant proportion is poor, and is a bottleneck for growth. Shortfalls in energy and transport infrastructure are particularly acute.
- Investment spending across the Asia Pacific region is expected to continue growing robustly.
- Around 80% of the \$8trn of infrastructure projected outlays for the remainder of this decade in emerging Asia are likely to be in the areas of energy and transport, of which more than half will be energy focused.

Innovation (and ageing)

- Asia needs to progress from being an absorber of technology to being an innovator.
- Effective innovation capabilities require a business environment that facilitates entrepreneurship, and provides the access to finance necessary for the creation and growth of innovative firms.
- Such an environment needs to be supported by effective university and research institutions with strong links to industry.
- Dependency ratios are set to rise across Asia Pacific in the coming decades, necessitating a number of important structural changes, and adding to the need for productivity increases.
- But Asia Pacific's economies are less hemmed in than the OECD economies by legacy commitments made decades ago with scant regard to demographic trends, and have more space to shape the policy response.

The quality of public spending

- Sustaining growth will require greater efficiency in Asia Pacific's government spending.
- There is often little transparency around public spending decisions, distortionary subsidies continue to take up an undue proportion of many budgets, and allocations to health and welfare are typically low.

Trade and regional integration

- Intra-regional integration in Asia Pacific has increased significantly since the 1990s. Integration among the sub-regions is strong: 36% of East Asia's trade, and 25% of South East Asia's trade, is within the region itself.
- Fostered by growing integration, and trade linkages fuelled by China-focused supply chains, the region's business cycles have become more synchronised with those of China.
- As Asia Pacific consumer markets deepen, the service trade develops, and new trade deals come into force, intra-regional trade is evolving, reducing vulnerability to external demand shocks.
- Much scope remains, however, for continued integration in regional service trade. Asia is now the only region of the world that has a level of service trade intensity comparable to its goods trade intensity.

The financial system (VIII)

- The efficiency of Asia Pacific's financial system, including importantly the efficient channelling of credit to businesses and consumers, is vital to its development and growth.
- Considerable improvements have been made to Asia Pacific's financial sector architecture and institutions since 1997. Important shortcomings nevertheless remain, not least where finance for small and medium-sized enterprises (SMEs) and infrastructure is concerned.
- SMEs in the middle-income ASEAN formal economies account for 30%-60% of GDP, for 50%-80% of total employment, and are crucial to sustaining innovative growth. Finance access is one of their main concerns.

50%

of the world's
population

This area contains more than 50% of the world's population, accounts for around 40% of global energy demand, and produces around 30% of world GDP.

40%

of global energy
demand

30%

of world GDP

OVER THE COMING 20 YEARS

- Asia Pacific's demand for energy is likely to rise by around 50%, and oil by 40%.
- Developing Asia's demand for oil is expected to approximately double.
- OECD energy demand, by contrast, is expected scarcely to increase, and the demand for oil to fall, by around 20%.



PUMA ENERGY'S PRESENCE IN ASIA PACIFIC



CHAPTER ONE

ASIA PACIFIC'S FUNDAMENTALS

Asia, a diverse and populous region, has exerted an increasingly important influence on the global economy.

- Since 1980, Asia has been the world's most conspicuous economic success story
- China and India have latterly been the region's star economic performers
- And East Asia as a whole has been the world's fastest-growing region for nearly three decades
- However, individual countries are at very different stages of development
- And on average the region remains comparatively poor in per capita income terms
- Japan has become the region's biggest disappointment

ASIA PACIFIC'S EXTENSIVE HETEROGENEITY

Asia is a vast, populous, and diverse region

Asia is the world's largest and most populous continent. Geographically, it is often defined as the territory bounded by the Suez Canal in the west, the Pacific Ocean in the east, the Indian Ocean to the south, and the Arctic Ocean to the north. In this study, however, the Middle East, Russia and the 'Stans' are excluded, Asia being defined as the area that embraces China, India, the Newly-Industrialising Economies (NIEs), the ASEAN economies, and Australia.¹

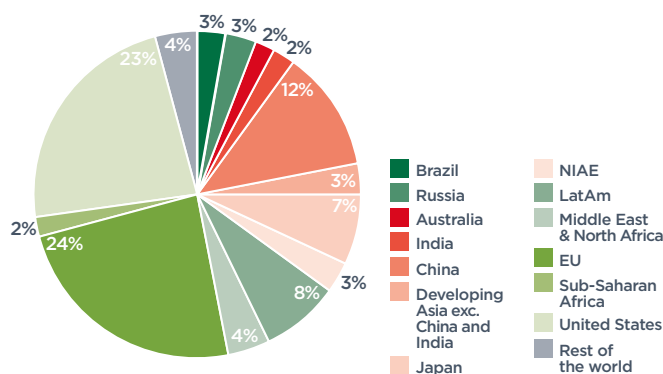
With a surface area of 28m sq. km. (10.4m sq. miles), Asia thus defined occupies about 18% of earth's land surface. It is also home to around half of the world's population – some 3.4bn out of a global total of 6.8bn. Indeed, Asia can boast four of the world's ten most populous countries (China, India, Indonesia, and Japan) and three of the world's ten largest economies (China, Japan, and India). In total, Asia produces over \$20trn of output (GDP), around 30% of the global total (figure 1). The informal sector, however, is large – accounting for perhaps 25% of the total economy, compared with around 15% in most developed nations.²

The region embraces an array of cultures, religions, languages, environments and histories. In a study of 820 ethnic groups (in 160 countries) that made up at least 1% of a country's population in the early 1990s, Fearon (2003) calculates an index of cultural – including linguistic – fractionalisation. In his schema, a score of zero represents complete homogeneity, and a score of 1, complete diversity. Asia's score of 0.44 is more than double the 0.19 for the so-called West (basically the United States and Western Europe), and no region is significantly more diverse than Asia. If linguistic divergence is ignored, Asia (0.33) is the most divergent of all the major regions of the world, bar sub-Saharan Africa.³

Its economic diversity is noteworthy

In terms of income per capita, Asia taken as a whole remains comparatively poor (figure 2). There are however wide differences across the region, so the average figure is not particularly meaningful. Whereas annual income per capita in Australia, Japan, Singapore, and Hong Kong ranges from \$30–70,000 and Taiwan and South Korea are not far behind, in many Asian economies it remains below \$10,000, and in some cases significantly so. Indeed, across the region as a whole, income per capita ranges by a factor of more than 35. This compares with a figure of around 3 in Europe.

FIGURE 1: SHARE OF WORLD GDP, 2013



Source: IMF World Economic Outlook, October 2013
 Notes: NIAE refers to Newly Industrialised Asian Economies (Hong Kong, Singapore, South Korea, and Taiwan).

Chapter one:
Asia Pacific's fundamentals

Adjusting the per capita income figures for differences in purchasing power – a modification that in low per capita income economies, generally raises the measured value of output of the non-internationally-traded, mainly services, sector – changes this picture, but only slightly. Income differentials still range by a factor of nearly 20.

Hence, Asia's economic profile is as diverse, if not more so, than its other major characteristics. Individual economies are at very different stages of development. And this in turn underlines the region's immense potential, especially if the authorities can, in the years ahead, get the mix of macroeconomic and structural adjustment policies right.

MORE THAN THREE DECADES OF EXTRAORDINARY GROWTH

Asia's relative position in the world is changing

This is not to deny, however, that Asia Pacific has already proved something of an economic success story. Since the early 1980s it has enjoyed more than three decades of extraordinary growth, in the process considerably exceeding the expansion rate of the developed world and achieving considerable 'catch up'.

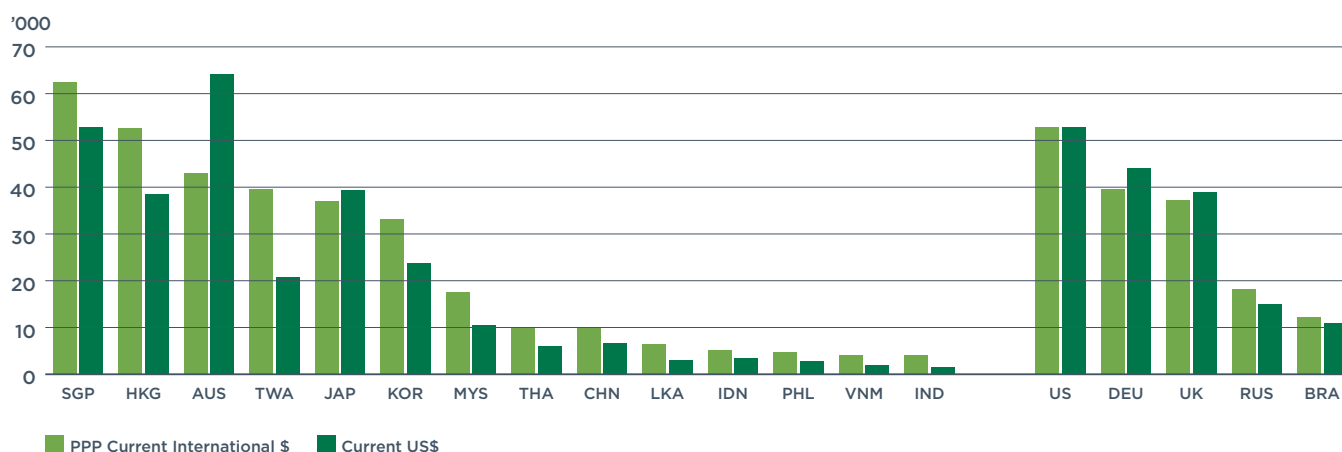
With the exceptions of China and Japan, real GDP per capita has grown at strikingly similar rates across nearly all of Asia's economies to 2013, the only 'blip' occurring during the Asian Crisis of the late 1990s (figure 3).

China and India have been star performers ...

In terms of absolute growth rates, however, China and India have clearly been the star performers (figure 4). China's real GDP has grown at almost 10% per year since economic reform began in earnest in 1978, with the relaxation of the policy of economic independence and the opening of the economy to international trade. Meanwhile, until the past few years, India's real GDP growth had accelerated every business cycle since the country achieved independence in 1947, reaching 7.2%, on average, between 2000 and 2007.

However, the strong performance is not confined to the two giants. East Asia as a whole has now been the world's fastest growing region for nearly three decades: South Korea, Hong Kong, Singapore and Taiwan – the NIEs or 'the Asian tigers' – averaged annual growth of 6% between 1980 and 2008 and in many respects today should be considered, in development terms, to be on a par with much of the 'old world' of Europe, the US, and Japan.

FIGURE 2: GDP PER CAPITA, 2013



Source: IMF World Economic Outlook, October 2013

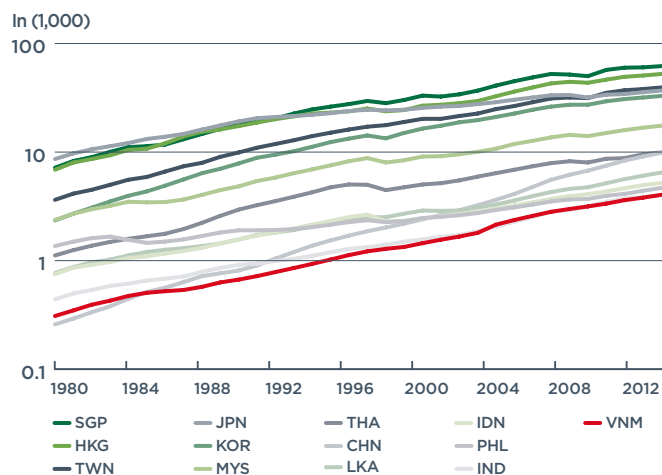
... while Japan is a conspicuous laggard

What is more, Australia, spurred on by an impressive series of policy reforms and a rambunctious resource boom, has over the past two and a half decades proved to be very much the exception to the advanced-economy rule of sluggish growth. Its annual real GDP growth during this period has averaged some 3.3%, and throughout the economy has avoided recession. This is an impressive performance.

The most conspicuous area of disappointment within the Asian region has been Japan. During the 'Japan Miracle' of the 1960s, 70s and 80s it registered exuberant growth, and was at the time the envy of the West. Since the collapse of the asset-inflation-fuelled 'Bubble Economy' in 1990, however, it has suffered a remarkable and extended fall from grace. Beset by persistent deflation, extended banking crises, and a series of deep, often protracted, recessions, it has struggled to grow at all in nominal terms. Average real GDP growth since 1980 has been a mere 2% and its economic and political clout within the region, and for that matter across the world, has suffered.

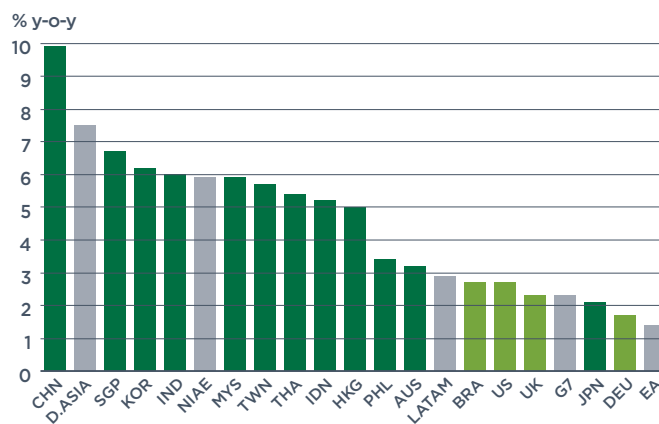
Notwithstanding Japan's travails, however, taking all its economies together, Asia is on the way to reassuming a weight in the world economy more proportionate to its demographic profile. That said, the region is only part of the way there. If recent growth rates are maintained over the remainder of this decade, Asia in 2020 will account for some 40% of the world economy (on a PPP basis). Although similar to its standing in the mid-1800s, before the industrial revolution had spread outwards from the UK, this would nevertheless still be below Asia's (50%-odd) share of global population.

FIGURE 3: REAL GDP PER CAPITA (PPP CURRENT INT. \$), 1980-2013



Source: IMF World Economic Outlook, October 2013

FIGURE 4: REAL GDP GROWTH, AVERAGE 1980-2013



Source: IMF World Economic Outlook, October 2013
Notes: NIAE refers to Newly Industrialised Asian Economies (Hong Kong, Singapore, South Korea, and Taiwan).

CHAPTER TWO

RECOVERY FROM THE GLOBAL FINANCIAL CRISIS

Improved economic fundamentals served the region well.

- The region was hit hard by the Global Financial Crisis, but recovered rapidly
- Asia Pacific's improved fundamentals gave policymakers room to stimulate domestic demand in 2009 and 2010
- Balance sheet repair following Asia Pacific's late 1990s debacle facilitated strong monetary and fiscal policy responses
- Asia's cyclical downtrend, although initially precipitous, was therefore relatively short-lived
- Economic activity rebounded sharply, although the pace of growth has since moderated somewhat
- With OECD economies now picking up, the immediate outlook for growth remains positive, if unspectacular
- And policymakers face a delicate balancing act of addressing both short-term and medium-term challenges

BIG SHOCK, SHORT-LIVED EFFECTS

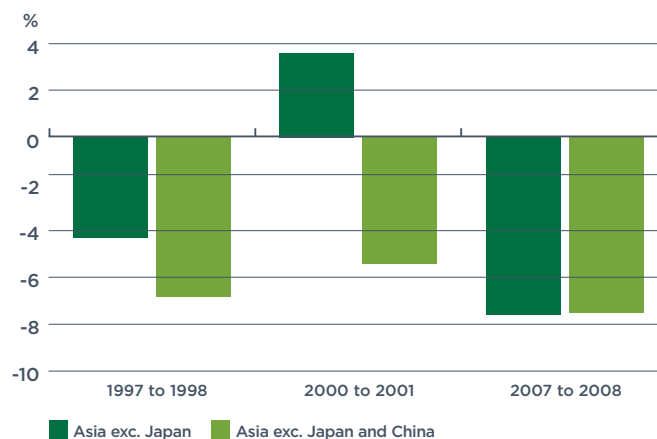
Output fell more than it did after the Asian Crisis

Between the end of the 1990s and 2006, real growth had averaged about 6% across the region, and 7.2% excluding Japan. The expectation was for growth to decelerate in 2007 and 2008, but only slightly. What is more, the dominant view was that Asia Pacific would prove relatively immune from any malign global forces that might become manifest.

In the event, such hopes proved to be wishful thinking. What followed was a global recession. The volume of global output expanded a mere 2.7% in 2008 (the prior 20-year average was 3.6%, and in the years 2005 to 2007 world growth was around 5%) and then declined by 0.4% in 2009. At the same time, the volume of world trade fell in a manner that had not been witnessed since the 1930s. Global trade in goods and services, having expanded at an average annual rate of more than 7% per year between 1995 and 2007, expanded only 2.8% in 2008, and then contracted by more than 10.5% in 2009.

In this poisonous international environment, Asia was hit hard. Indeed, Asia's downturn was deeper than that which followed the region's own crisis at the end of the 1990s (see Box: The Asian Crisis of 1997–98). Peak-to-trough, the fall in Asia-ex-Japan's GDP was 4¼% in the 1997–98 crisis. But in the 2007–08 Global Financial Crisis (GFC) it was a much more substantial 7½% (figure 5).

FIGURE 5: PEAK-TO-TROUGH CHANGE IN REAL GDP



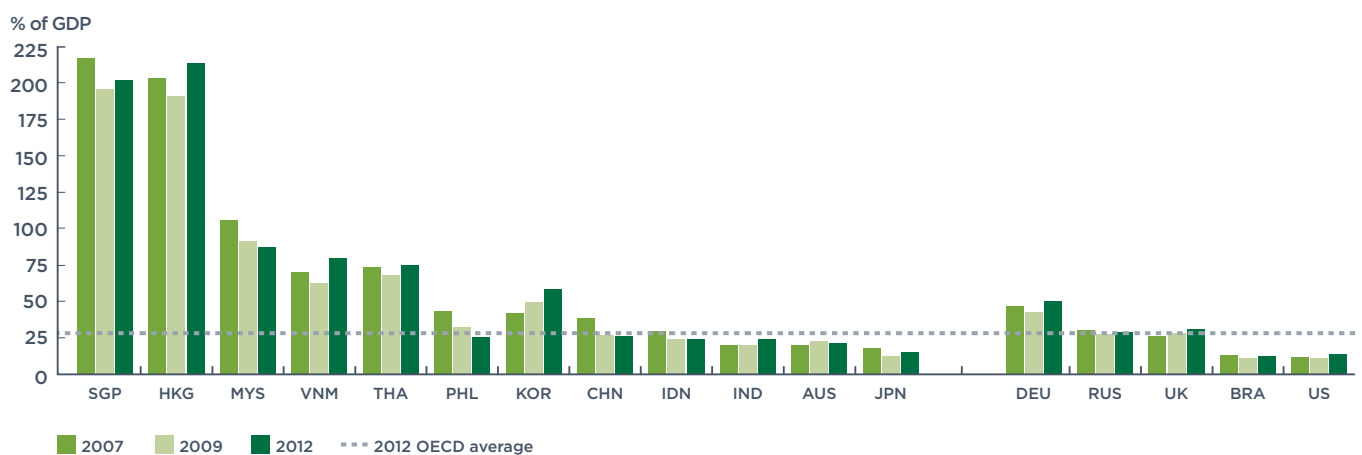
Source: CEIC, Eurostat, OECD and Nomura Global Economics

Chapter two:
Recovery from the global
financial crisis
Declining exports hit the
region hard

Much of the reason that Asia Pacific was hit so hard lies in its high degree of economic integration with the rest of the world (figure 6). By the time of the GFC, exports as a proportion of GDP in almost all Asian countries were well above the 30%-odd average of the OECD economies. Figures of 50% of GDP and above are not uncommon; and in Singapore and Hong Kong, exports account for around 200% of GDP.

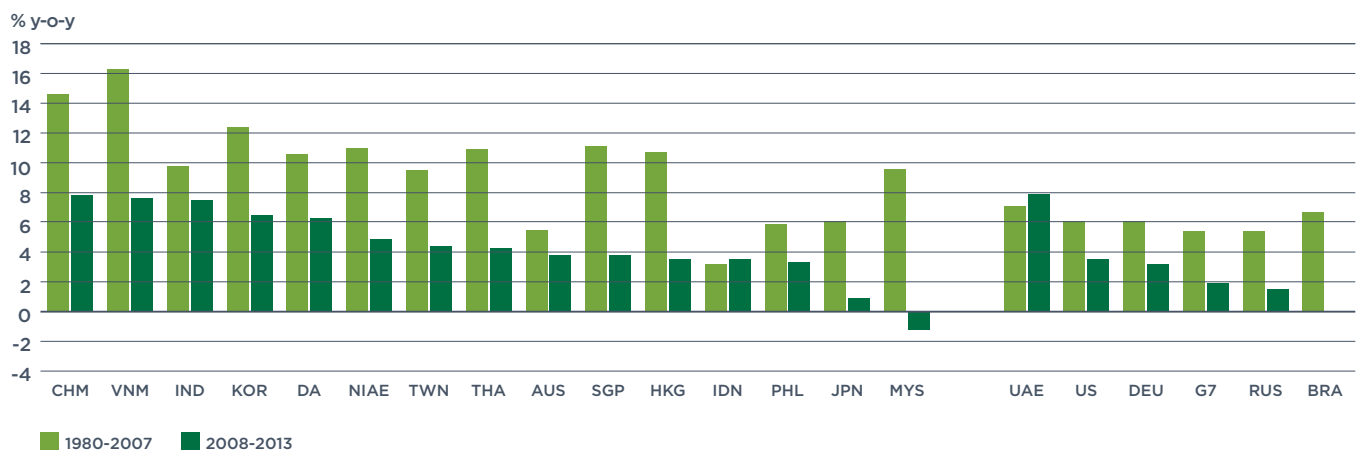
The expectation that the rapid expansion of intra-regional trade would enable Asia to isolate itself from developments in the advanced economies of the West proved misplaced. A large proportion of Asia's intra-regional trade – more than 70%, according to estimates by the Asian Development Bank (ADB)⁴ – consists of intermediate goods used in intra-industry processing and assembly through vertically-integrated production chains, and more than 40% of Asia's final output is eventually consumed in the US, the EU, and Japan.

FIGURE 6: EXPORTS OF GOODS AND SERVICES, AS A % OF GDP



Source: Macrobond

FIGURE 7: REAL EXPORTS OF GOODS AND SERVICES, AVERAGE GROWTH RATES



Source: Macrobond

The downturn
was magnified by
financial factors

But Asia escaped
the worst ...

... due largely to
domestic demand

The expansion of intra-regional trade was all very well, but in many ways its structure acted to magnify the impact of the global shock rather than to attenuate it. The collapse of demand in the advanced economies propagated rapidly across the region via its network of integrated supply chains. And the spillover effects were further amplified by Asia's product mix. Much of Asia specialised in the types of goods – medium-technology manufactures, in particular motor vehicles and electronic goods – that were hit hardest by the sharp slowdown in private consumption.

Asia's exports plummeted. Indeed, between September 2008 and February 2009, exports in the emerging economies of the region declined at an annualised rate of 70%, almost three times faster than during the Asian crisis. The drying-up of trade finance as the global financial system went into cardiac arrest hit durable goods exports – Asia's 'bread and butter' – particularly hard. Moreover, Asian capital markets experienced a major withdrawal of international loans by European banks. Although both factors were short-lived, their effects while they lasted were acute (figure 7).

Asia's economies had never, in the 70 years since the Second World War, been subjected to a shock of this type or magnitude.

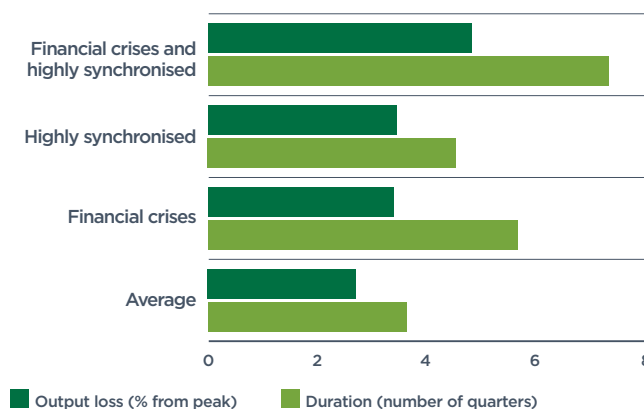
RAPID RECOVERY

Following the work of Reinhart and Rogoff,⁵ it is now widely accepted that financially-driven and synchronised recessions are generally the most severe and enduring, and that recoveries from such episodes tend to be relatively slow (figure 8). For the most part, the downturn that followed the GFC did indeed exhibit these characteristics, and in spades. But Asia Pacific offered something of an exception.

Although it suffered a major set-back in late 2008 and 2009, Asia performed far better than the advanced economies, many of which had suffered downturns the scale and duration of which were unprecedented since the Great Depression of the early 1930s. Asia's cyclical downswing was nothing like as serious. Moreover, as discussed in the next chapter, even in an environment where international trade volumes struggled to regain their previous dynamism, Asia's recovery trajectory was much steeper than that of the advanced economies.

All this represented an important change from the customary historical pattern whereby Asian cyclical pick-ups had tended to be driven by export demand, not least from the West. Recovery in 2009 and 2010, by contrast, was driven predominantly by domestic demand.

FIGURE 8: DURATION AND AMPLITUDE OF RECESSIONS



Source: IMF World Economic Outlook 2009 and Nomura

BOX: THE ASIAN CRISIS OF 1997-98

The perspective of hindsight

With the benefit of hindsight, the Asian Crisis of 1997-98 now appears to have been merely a temporary set-back for the region's development. However, at the time it felt much more serious, and there is little doubt that it involved serious economic and social costs for those economies that were caught up in the vortex. Thailand, Indonesia, South Korea, and Malaysia were hit especially hard, although no economy in the region escaped its effects. In this context, the crisis also acted as the catalyst for a serious intensification of Japan's long-running financial sector problems.

The main features of the crisis were:

- A sudden reversal of investor sentiment and an abrupt withdrawal of international capital, especially from those countries that were running large external deficits;
- Doubts about the soundness of financial institutions and corporates;
- A vicious circle of capital outflows, the abandonment of fixed and quasi-fixed exchange rate pegs, sharp devaluations, and crippling balance sheet effects;
- A collapse in private sector demand, rapidly reflected in plummeting output; and
- The lack of social safety nets to protect those most exposed, which greatly exacerbated the social and economic effects.

Going into the crisis, many Asian economies were beset by structural shortcomings, not least their narrow dependence on capital accumulation to generate growth, and more generally in their regulatory and institutional architectures. However, its proximate cause was an unsustainable credit and asset price boom, reminiscent in some ways of the Japanese 'Bubble Economy' of the 1980s. This manifested itself in large external deficits and the build-up of onerous levels of external debt. Moreover, the fixed and quasi-fixed exchange rates that were then common in the region were a source of huge foreign exchange risk for corporate and financial sectors. These pegs were initially defended through a combination of interest rate hikes and the use of foreign exchange reserves but, when they were broken by market pressure, the result was a massive increase in foreign currency liabilities in local currency terms that led to a catastrophic surge in corporate and financial sector bankruptcies.

Such was the severity of the crisis, that there was no realistic alternative for these economies but to seek external financial assistance, and in particular the intervention of the IMF. There was, after all, no Asia-based international institution with the resources to help. The network of central banks in the region was neither mature enough, nor wealthy enough, to make much of a difference. Besides, with almost every country in the region to some extent caught up in the events of the day, each had to focus on its own particular problems.

The IMF's response was to tie financial support to tough 'structural adjustment' programmes, which amounted to draconian fiscal and monetary restraint and the announcement of wide-ranging institutional and supply-side reforms, not least where financial sectors were concerned. The logic was that international investor confidence had to be re-established in the respective currencies, and that the way to do this was to revert to the most conservative of macroeconomic values, while at the same time encouraging systems of governance and incentive structures that would help not only to attract overseas capital, but also to make it stick.

The medicine prescribed by the IMF attracted some vitriolic criticism. Indeed, it has continued to do so ever since, with some commentators even characterising it as 'neo-colonialism'. There is no doubt that, at least initially, the extent of fiscal and monetary adjustment imposed exaggerated the downturn and generated considerable misery for many across the region, including those who probably deserved it least. On the other hand, there was no obvious viable alternative. To have allowed the various depreciations to continue would have been to risk complete financial collapse and hyperinflation. To have resorted to a siege economy behind trade and capital controls might have stabilised matters temporarily, but would have been distortionary, hard to unwind, and would have solved nothing. Indeed, it could have set these economies back decades. As for the structural reforms, even if their timing was less than optimal, they were overdue and much needed if this part of the world was to successfully integrate itself into the global economy.

Ultimately, the IMF's medicine worked, in that the incipient threats to social, political, and financial stability were overcome: certainly, within a few years the Asian region had recovered sufficiently to resume its position as a dynamic and increasingly important force in the global economy (by 2003 GDP in every crisis country had surpassed its pre-crisis level). However, there were unintended consequences to the IMF's bitter medicine. Most pertinently, it encouraged a strong desire on the part of the governments of the crisis-hit economies never to be placed in such an ignominious position again. This, in turn, fostered a greater sense of regional identity and shared economic destiny. But it also encouraged a form of modern-day mercantilism, whereby export growth and the accumulation of huge stockpiles of foreign exchange reserves became unduly important in policymaking.

Such priorities became a primary source of the global macro imbalances that developed ahead of the global financial crisis (GFC). Moreover, these 'war chests' came in time to be seen as an alternative to the persistent-reform agenda suggested by the IMF. Hence, much of the region remains haunted by numerous enduring institutional shortcomings and deficiencies in the area of governance. They are thereby still more vulnerable to a loss of foreign investor confidence than they might otherwise have been.

Although, Japan apart, the direct and immediate impact of the Asian Crisis on the advanced economies was limited, it encouraged a sharp decline in oil prices, which a year later was a major catalyst for Russia's devaluation and sovereign default. This in turn resulted in the collapse of the Long-Term Capital Management hedge fund.

ASIA PACIFIC HAD SAVED FOR A RAINY DAY

In Asia Pacific, as in much of the rest of the world, the policy response to the Global Financial Crisis (GFC) was substantial. Indeed, it was unprecedented. And it had to be.

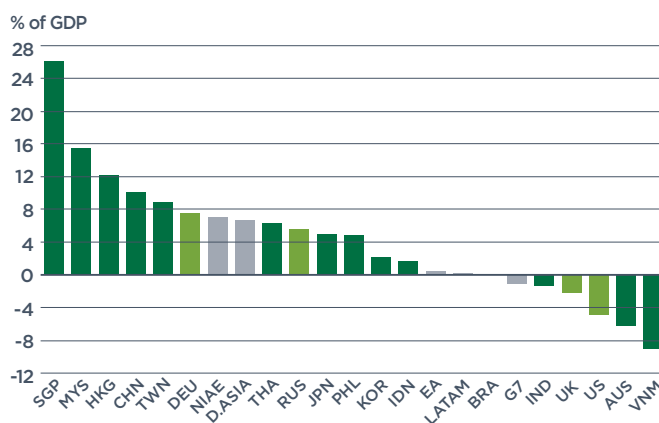
But Asia was unique, in that its underlying economic fundamentals were, by most metrics, in considerably better shape than elsewhere.

- **Balance of payments.** Over the preceding decade, exports, aided by undervalued currencies, had grown at double-digit rates. Hence most Asian economies had run substantial current account surpluses. Those of Singapore (26.1% of GDP), Malaysia (15.4%), Hong Kong (12.3%), and China (10.1%) were particularly large (figure 9).
- **Foreign exchange reserves.** The build-up of large current account surpluses together with persistent net capital inflows had resulted in the accumulation of substantial foreign exchange (FX) reserves. China's accumulation was particularly substantial – reaching US\$1.5trn by 2007. But foreign exchange reserves were large elsewhere in Asia too, not only in absolute terms, but also relative to imports and GDP. Almost all of the Asian economies had foreign exchange reserves sufficient to cover at least six months of imports – a figure generally considered to be adequate, if not more than adequate.
- **External debt.** Most Asian countries had reduced their outstanding foreign debt over the previous decade. Moreover, in all economies except Hong Kong and South Korea the level of combined current account surpluses/deficits and foreign exchange reserves exceeded short-term debt and inward security investments, such that even a sudden reversal of all short-term loans and security investments could be covered by domestic sources.
- **Public sector finances.** Many Asian economies entered the crisis with significant room for counter-cyclical fiscal policy support. The ratio of gross public debt to GDP in Developing Asia, at some 35%, was less than half what it was in the major advanced economies, albeit with considerable differences across economies (figure 10).
- **Domestic private sector leverage** in the region was low. The loan-to-deposit ratio across nearly all the major Asian economies was below 1 – frequently taken to be a critical value – South Korea being the only exception, with a ratio of 1.4.
- **Financial sector soundness.** Asian banks entered the crisis with generally-strong capital positions, and typically held fewer of the various types of problematic assets than did their counterparts in the West.

Accordingly, when the 2007–08 crisis started to unfold, the region had ample scope to respond. Sound macroeconomic fundamentals in general, and good public sector finances in particular, both enabled the region to implement significant discretionary policy stimulus and magnified its effects.

Official interest rates were slashed to historical lows, where for the most part they have remained, while in 2009 the discretionary fiscal expansions implemented across the region were larger on average than in the G-20 (figure 11).

FIGURE 9: CURRENT ACCOUNT BALANCES IN 2007



Source: Macrobond

Asia's output losses were limited

Exports were a less important driver of recovery

Discretionary measures were particularly needed in Asia because most of its economies do not boast the extensive 'automatic stabilisers' (most notably in the form of mature unemployment benefit systems) that are such a feature of many Western economies, and that quickly provide support to aggregate demand when output and employment weaken.

Relative to the G-20 as a whole, the stimulus packages in the Asian G-20 countries were more heavily weighted towards spending, with a particular emphasis on investment and infrastructure and less on social safety nets. The huge Chinese fiscal stimulus, of about RMB 4trn (nearly 3% of 2009 GDP, and around 12% of GDP over three years), was especially investment-focused, and was also supported by a vast credit expansion. Between 2007 and 2009, gross fixed capital formation in China rose from 39% to 45% of GDP, and fixed asset investment from 52% to 66% of GDP.

THE CONSEQUENCES FOR OUTPUT

Recessions entail not only cyclical, but also permanent, losses in output. Following a typical recession, GDP may grow faster than trend in the early stages of recovery, but it does not normally make up anything like all of the 'lost ground'. Even seven years after a major financial crisis, output is typically around 10% below where it would have been had it remained on its pre-crisis trend.

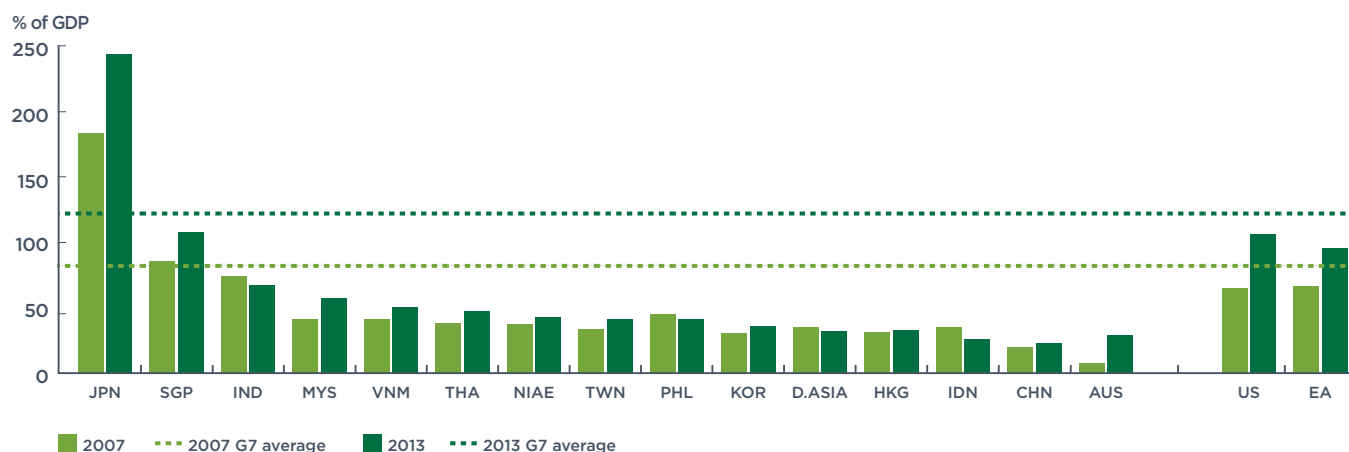
This GDP loss stems mainly from reductions in the main factors of production: labour (initially via unemployment, and subsequently through a deterioration in skills) and capital, mainly through investment foregone. Investment, which is typically more volatile than consumption, usually falls following financial crises by about 30% relative to its pre-crisis trend – around twice the fall in consumption.

Such experiences have been repeated across much of the OECD since 2008 and, on the basis of plausible projections, even 10 years after the onset of the downturn, output in the US and EU is likely to be many percentage points below the extrapolated pre-crisis trend.

Asia's experience, however, has been fundamentally different. Despite the sluggishness of the global recovery, and hence of world trade, and with the exception of Japan (at least until 2013), Asia's economic performance has been much more impressive than that of the advanced economies. Cyclical downturns associated with the crisis were short-lived. Where output fell, it tended to rebound quickly, and the loss of output relative to trend was limited as initial recoveries proved impressively robust (figures 12 and 13).

China and India were the obvious outperformers, but right across the region the growth rates achieved in the second half of 2009 and in 2010 were impressive. What was also particularly noticeable was that exports were much less to the fore than usual in this cyclical upswing.

FIGURE 10: GROSS GENERAL GOVERNMENT DEBT



Source: Macrobond

Chapter two:

Recovery from the global financial crisis

However, growth has decelerated since 2011

There are external and indigenous risks

Both China and India have slipped a gear or two ...

GROWTH MODERATES

Asia Pacific's initial dramatic rebound was not surprisingly, followed by something of a slowdown. Since 2011, growth has moderated across much of the region, as the impact of various policy stimuli has waned, and the two most dynamic economies have performed less well – India in particular. Meanwhile, South East Asia has significantly outperformed the Newly Industrialising Economies (NIEs), which are especially trade dependent.

Nevertheless, by global standards the region's overall economic performance has remained impressive. Asia's total GDP is now some 40% larger than it was on the eve of the crisis. A number of OECD economies, not least those in the euro area periphery, have yet to see output return to their previous peaks. Furthermore, even allowing for significant variations in the precise dynamics and composition of growth across countries, and some overall deceleration of late, it has been domestic demand, rather than exports, that has continued to drive the expansion.

Consumption and investment are both being supported by favourable labour market conditions. Unemployment is in many cases running at multi-year lows, although it is noteworthy that investment in the ASEAN-4 (Indonesia, Malaysia, the Philippines, and Thailand) has slowed. Financial conditions can still be characterised as accommodative, although they have been subject to some volatility recently, reflecting uncertainties around the US Federal Reserve's unconventional policy stance.

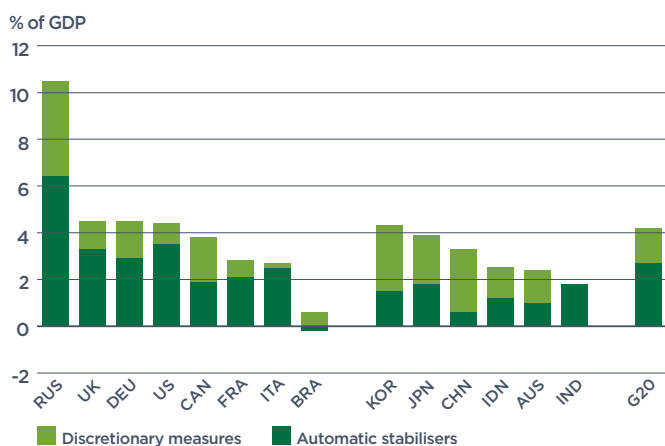
This is not to suggest that exports have played no role in the recovery however. The intra-regional demand spillovers emanating from China and the latest bout of fiscal and monetary stimulus in Japan have been significant. Moreover, as outlined in more detail in chapter 8, there is evidence of growing regional integration in the final consumer goods trade. And, of course, the cyclical upswing in the US, and latterly even in Europe, now appears to be gathering momentum.

The potential impact of external shocks on Asia's still-highly-open economies remains considerable therefore, especially at a time when central banks in the advanced economies may soon begin to scale back the unrestrained monetary stimulus of the past six years. Financing conditions are set to become increasingly less sympathetic.

There are moreover, a number of potential threats and challenges originating within the region itself. Financial imbalances and asset price excesses have been fuelled by strong credit growth and the overall laxity of financial conditions (see Box: The credit intensity of growth). Other regional threats are harder to anticipate, but could prove disruptive given Asia's highly integrated supply chains and developing dependence on regional demand and finance. These include trade disruptions from natural disaster, increased geopolitical tensions, a loss of confidence in Japan's ability to escape its deflationary quagmire, or some sort of major trauma in China, where the challenges of restructuring such a large and diverse economy should not be underestimated.

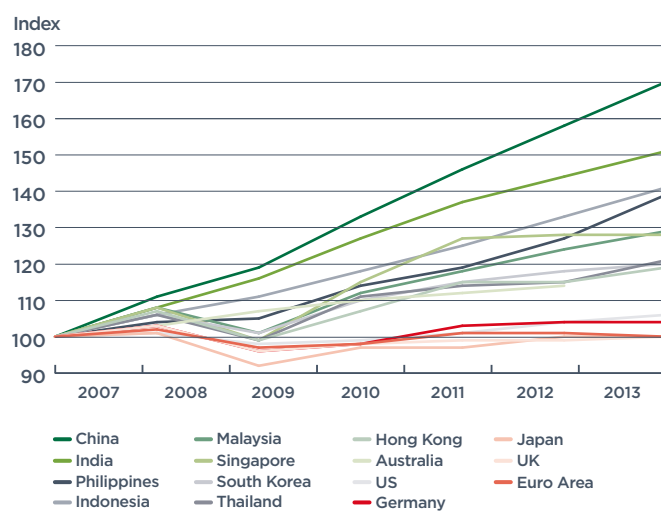
Growth in China has slipped considerably from its 1991–2010 average of around 10%, to between 7% and 8%. Fears of a hard landing have latterly subsided somewhat, but the economy's continued reliance on rapid credit growth and investment, not least property investment, to fuel growth, and the lack of a meaningful acceleration in consumer spending, remain of concern.

FIGURE 11: 2009 FISCAL STIMULUS



Source: Nomura

FIGURE 12: REAL GDP LEVELS, 2007 Q1 = 100



Source: Macrobond



... although Japan has proved a pleasant surprise

Price pressures are generally of limited concern

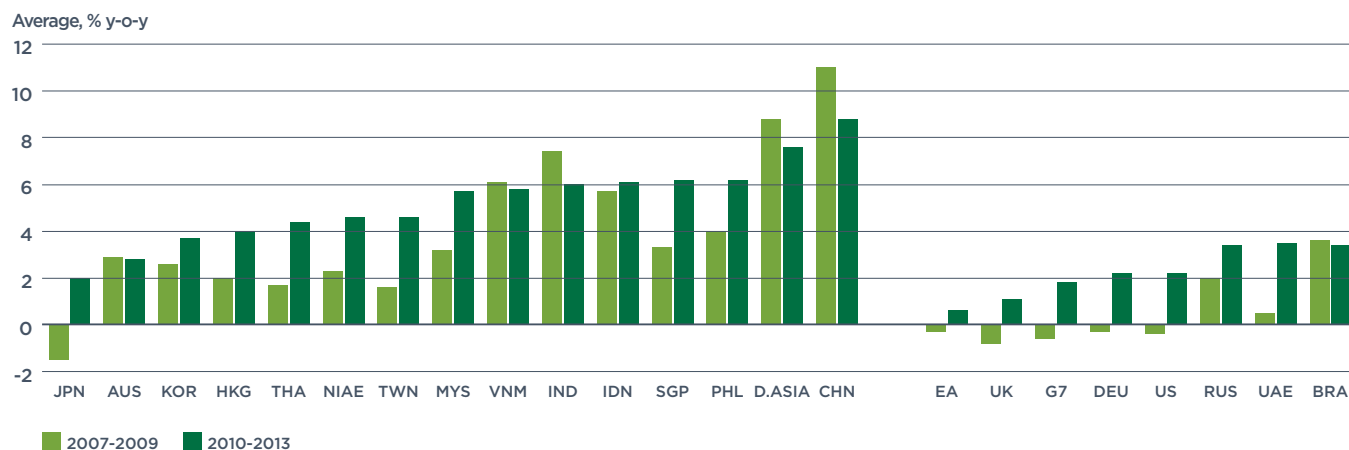
In India, structural problems across a number of areas of the domestic economy are holding back growth, which in 2012 and 2013 dropped to not much more than half its recent average. Moreover, the country's sizeable twin deficits leave it acutely vulnerable to slowdowns in the flow of global capital. Efforts at reform are continuing, not least at the central bank, where the widely respected economist Raghuram Rajan has taken over the reins, but the politics of structural adjustment are complex, especially ahead of the forthcoming general election.

Japan's growth, on the other hand has been something of a bright spot over the past year. Real GDP growth approached 2% in 2013 as 'Abenomics' at least temporarily reignited the economy, and even began to make apparent inroads into the chronic deflation that has characterised Japan over the past 25 years. However, whether this resurrection can be sustained is another matter, especially once fiscal policy becomes more restrictive later this year. (See Box: Abenomics and Asia).

INFLATION REMAINS SUBDUED

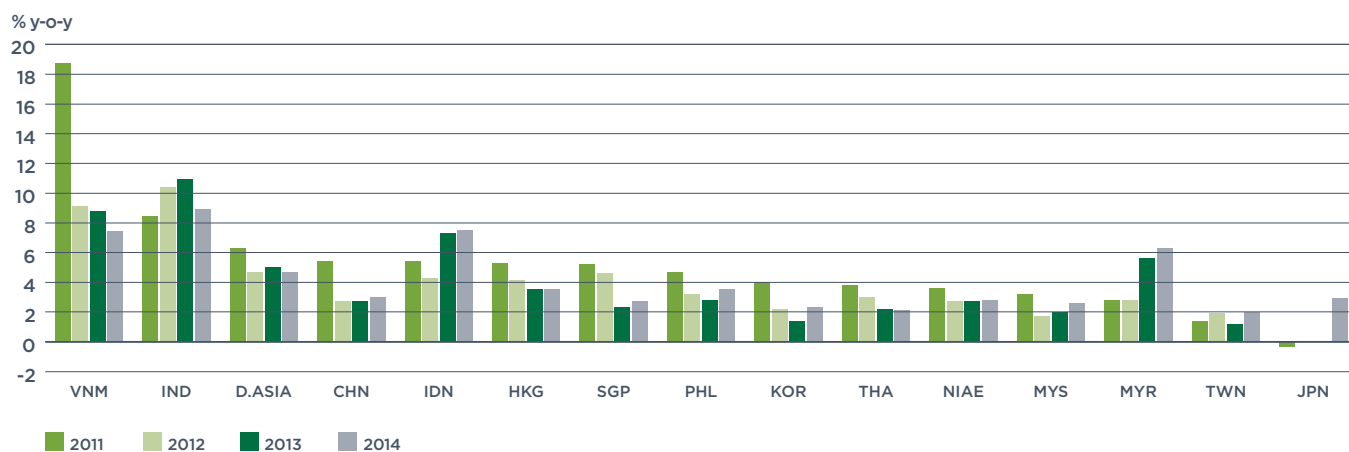
Since the GFC, Asian inflation has generally remained low by historical standards, and this has afforded most regional central banks considerable flexibility to support demand (figure 14). Headline CPI inflation rates are at or below explicit or implicit targets in Thailand, South Korea, Taiwan, Malaysia, Singapore, the Philippines, Australia, New Zealand, China, and Japan. However, price pressures remain more elevated in a small minority of countries, in particular Indonesia, India, and Vietnam, where there is a requirement for relatively restrictive monetary policy stances

FIGURE 13: REAL GDP GROWTH DURING AND AFTER THE GLOBAL FINANCIAL CRISIS



Source: Macrobond

FIGURE 14: INFLATION RATES



	VNM	IND	DA	CHN	IDN	HKG	SGP	PHL	KOR	THA	NIAE	MYS	MYR	TWN	JPN
1980-2007	68.9	7.8	7.7	5.9	11.1	4.9	2.0	9.8	5.9	4.6	4.6	3.2	20.1	2.9	1.2
2008-2010	13.0	10.6	5.2	2.8	6.6	2.4	3.3	5.4	3.5	2.6	2.7	2.6	7.3	1.2	-0.2

Source: Macrobond

BOX: THE CREDIT INTENSITY OF GROWTH

Productivity growth is falling amid rising leverage and financial vulnerability

The average credit intensity of growth has risen significantly of late. Indeed, with the exception of India and South Korea it has risen right across the region. The increase in China, Hong Kong, Malaysia, Singapore, Taiwan, and Thailand has been especially pronounced and credit to GDP ratios now stand some way beyond where they were prior to the Asian Financial Crisis of 1997-98. Hence, growth in these economies is now very sensitive to a credit slowdown once monetary conditions begin to be progressively tightened. Furthermore, over a sustained period of time, rapid credit growth has tended to serve as a useful indicator of future financial stress, if not an out and out economic crisis. And financial sector trauma invariably involves additional large-scale burdens on public sector balance sheets.

This rise in Asia's private sector debt burdens has also gone hand in hand with high levels of investment and construction spending (often with a strong skew towards residential or commercial property), falling saving rates, deteriorating external balances, evidence of asset bubbles, and a decline in total factor productivity, as it appears that resources have been channelled into relatively unproductive areas. The declining marginal impact of credit on growth at least in part reflects the growing inefficiency of much of the investment supported by the new credit creation.

Governments need to wean these economies off their credit addiction. China is the most conspicuous case in point.

China's huge fiscal expansion in the wake of the Global Financial Crisis (GFC) was buttressed by extremely loose monetary policy. The net result was a vast credit expansion, which raised debt burdens across all sectors of the economy. According to the World Bank, total credit flows doubled from 21% of GDP in 2007 to 40% of GDP in 2009. Bank loans, which provide the bulk of new credit (around 60% of it in 2012), more than doubled between 2008 and 2009. But perhaps most worryingly, so-called alternative credit instruments (entrust loans, trust loans, bankers acceptances, and corporate bonds held by the banks) all grew significantly in importance, indicating growing resort to China's shadow banking system. Indeed, it is estimated that about a third of all credit originated from China's shadow banking system between 2008 and 2012.¹

Shadow banking in China has long been encouraged by four factors: households' desire to diversify away from bank deposits, the interest rates on which have been highly regulated; the relatively low cost of borrowing for corporates; the inability of corporates' huge demand for funds to be met entirely by the banks; and the efforts of the banks themselves to avoid restrictions on their activities such as credit quotas, loan to deposit caps, and capital adequacy ratios. Crude estimates of the absolute size of China's shadow banks range from anything from 24% to 69% of GDP, although the World Bank considers a figure of 50% of GDP to be its best guess.² The problem is that it is poorly regulated, it operates with the support of significant implicit guarantees from the mainstream banks and local governments, and therefore if it gets into trouble, its difficulties are going to be very difficult to ring-fence.

¹ World Bank (2013). *East Asia and Pacific Economic Update: Rebuilding Policy Buffers, Reinvigorating Growth*. Pps 28-37.

² *Ibid.*

The latest build-up of credit has left China's ratios of both gross fixed capital formation (45%) and fixed asset investment (66%) to GDP high by comparison to countries with similar development strategies during equivalent periods in their history, countries with similar income levels and, for that matter the major advanced economies or developing nations. What is more, the outstanding capital stock appears, at more than 750% of GDP, similarly bloated (although it should be stressed that it looks much less so in per capita terms). Furthermore, numerous microeconomic studies have found considerable evidence of inefficient investment spending within sectors and misallocation of investment outlays across sectors.

All this points to a build-up of vulnerabilities in the financial system and enhanced risks to financial stability. Credit growth must be reined in, particularly where the shadow banking system is concerned. This is in large part a question of macro policy prioritisation, and the Chinese authorities seem increasingly to be focused on debt reduction, but it also in turn points to the necessity for the following reforms:

- Greater resort to the use of interest rates as the primary monetary policy instrument;
- Deposit rate deregulation;
- Stronger regulation and supervision;
- Rationalisation of municipal finance;
- Introduction of deposit insurance and a formal resolution mechanism for failing financial institutions to address the moral hazard problem rooted in implicit guarantees; and
- The use of macroprudential action in areas such as the way that capital gains on homes are taxed, minimum down payments for house purchase, lower loan to value ratios, and reductions in the maximum terms for personal loans.

A similar menu of policy adjustments would, of course, also pay dividends in the other Asian economies exhibiting similar excesses.

FIGURE A: CREDIT INTENSITY OF GDP GROWTH



Source: BIS, IMF

Notes: Absolute change in total credit (to private non-financial sector) to absolute change in nominal GDP.

BOX: 'ABENOMICS' AND ASIA PACIFIC

Japan's new policy regime could exert wide-ranging effects on the region

In early 2013, the Japanese authorities embraced a comprehensive new economic policy regime, christened 'Abenomics' after Prime Minister Shinzo Abe, with the aim of finally bringing to an end the country's extended period of economic underperformance. In the process, not only would deflationary pressures be arrested, but the nation's public finances would be brought under control and its underlying growth potential enhanced.

There are three elements (or 'arrows') to Abenomics: a new, more expansionary, monetary policy framework; a flexible approach to fiscal policy that would initially support growth, before aiming at large primary budget surpluses in an effort to bring the nation's unenviable public sector debt dynamics under control; and supply-side measures designed, to address a range of issues, including the effects of the nation's rapidly ageing population structure.

In April 2013, the Bank of Japan (BOJ) embarked on a policy of so-called 'Quantitative and Qualitative Monetary Easing'. This aims at increasing the monetary base at an annual pace of JPY60-70trn, with an initial target of JPY270trn by the end of 2014 (approximately 55% of GDP), although the policy has no set end date. Rather, the scale and the duration of the BOJ's asset purchases will be determined over the longer term by the likelihood of the central bank's 'price stability target' being hit. This has now been set at 2% for the year-on-year rate of change in the consumer price index. The April 2013 regime also widened the scope of the government bonds and private sector assets that qualify for its purchase operations.

The fiscal pillar of the strategy was reflected in the announcement of a large (2% of GDP) fiscal stimulus package in January 2013, the effects of which were extended into 2014 by a further package of public works spending and other measures (equivalent to 1% of GDP) designed to mitigate the impact of the first part of a two-stage hike in indirect taxes (the consumption tax will rise from 5% to 8% in April).

As regards structural policy, progress so far has been limited, with government initiatives short on substance, not least in respect of key areas of immigration and female participation.

Notwithstanding its extended economic difficulties, Japan still accounts for some 5.5% of global economic output and 4.0% of global goods and service imports. Moreover, China and India aside, its economy remains significantly larger than the rest of developing Asia, while it remains at the core of supply chains in the global electronics industry, which is so important to those economies in its hinterland. Hence, the ultimate impact of Abenomics on the region could be considerable, especially when asset market and financial considerations are taken into consideration.

Naturally, the effects will depend on the success of the policy in achieving its goals. Successful reflation will entail not just a return to consistently positive inflation, but more than likely higher growth, a further depreciation of the yen, and perhaps lower long-term interest rates than would otherwise be the case. This in turn suggests that the spillovers into Asia will occur through several channels.

Continued monetary easing and a rising external surplus would be a recipe for capital outflows, but on the basis of previous experience, only a modest proportion would find their way to the rest of Asia, where they would depress interest rates and encourage currencies to appreciate. However, successful reflation could reduce Japanese investors' home bias and encourage portfolio rebalancing, involving higher allocations to Asian assets. Over recent years Japan's banks have already stepped in to replace retreating European banks in the region, and there has been a notable pick up in Japanese FDI. According to the IMF, a 1% rise in Japanese FDI boosts growth by around $\frac{1}{2}$ to $\frac{3}{4}$ of a percentage point of GDP in recipient economies.

Stronger growth in Japan would benefit those countries that supply it with final goods. However, the impact of a weaker yen is more complex. Countries that compete with Japan in third markets would suffer a reduction in competitiveness. Also many countries in Asia import intermediate goods from Japan, which become cheaper with yen depreciation, although possibly at the expense of domestic suppliers to exporters. For example, Japan accounts for one fifth of world semiconductor production (constituting more than 50% of US and Chinese imports) and for more than one-third of worldwide exports of machinery and wafers (more than 35% of US and Chinese imports). Thus the spillover effects of yen depreciation are far from uniform, and depend on a country's position in the supply chain.

The zero bound is within sight in some economies

POLICY RATES ARE ALSO GENERALLY HISTORICALLY LOW

The zero bound is no longer just a potential policy constraint in OECD economies. Historically-low inflation across much of the region has encouraged central banks to reduce policy rates to similarly depressed levels (figure 15), in part as an insurance policy against negative tail risks. Near-zero short term interest rates are observable in a number of economies, including South Korea, Taiwan, the Philippines and, of course, Japan, where, as noted above, the central bank has belatedly adopted an especially aggressive variant of quantitative easing.

Policy rates are in general slightly lower than the historical reaction functions of regional central banks would have suggested. This is reflected in real policy rates significantly undershooting average pre-crisis levels, and has also led to concerns that monetary laxity may be encouraging future problems, not least where financial sector and asset price excesses are concerned, and when the ability of macro-prudential policies to deal with such issues is largely unproven.

That said, sharp exchange rate depreciations and related jumps in headline inflation rates have necessarily resulted in tighter monetary stances in India and Indonesia.

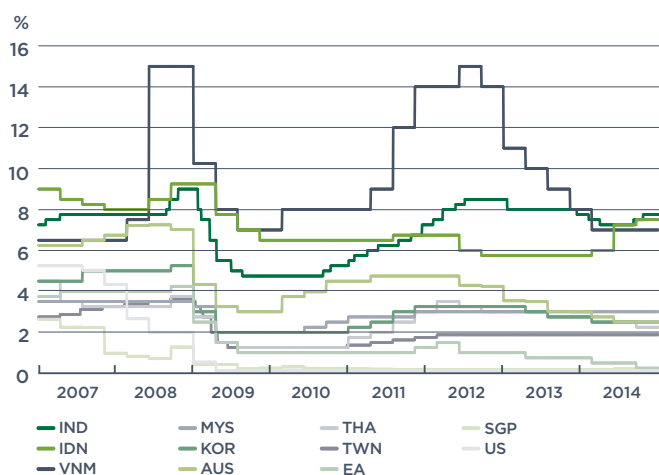
CORPORATE BALANCE SHEETS ARE ROBUST

Corporate debt levels are now manageable

Leverage too has remained moderate by historical standards. The debt-to-equity ratio for non-financial corporates remains below its median 2002-07 level (figure 16). This reflects significant deleveraging in the aftermath of the Global Financial Crisis on top of the balance sheet adjustments that followed the earlier Asian crisis.

Debt-to-equity ratios for Asian corporate sectors are generally below those observed in the US, the euro area and, to a lesser extent, emerging economies in Latin America. Furthermore, in most Asian economies, businesses have stronger liquidity positions than those in other regions. And the share of foreign currency debt is generally moderate.

FIGURE 15: POLICY RATES



Source: Macrobond

Chapter two:

Recovery from the global financial crisis

Current account surpluses have declined

EXTERNAL BALANCES HAVE MODERATED

Before the GFC, in 2007, the Asian Pacific economies were huge exporters of capital, even though to many outside observers this made little economic sense, given that they were typically fast-growing developing countries with considerable catch-up potential.

Most Asian countries continue to run current account surpluses, but acutely-depressed real activity in much of the OECD world, regional policy stimulus focused to a significant extent on domestic investment, and a tendency towards real exchange rate appreciation have encouraged a significant degree of adjustment, both as regards trade and more broadly defined external imbalances (figure 17).

The total Asia ex-Japan current account surplus is now in the region of 2% of GDP, as compared with some 7% in 2007, and the degree of external adjustment over this period has typically exceeded that in other developing regions of the world. Furthermore, the recent easing of commodity prices has exerted a negative influence on the terms of trade of the raw material exporters, not least Australia.

While China has played a prominent role in the external adjustment process, external balances have also deteriorated significantly in Japan, the leading ASEAN economies, and India. Indeed, in mid-2013 the burgeoning current account deficits of India and Indonesia generated considerable concern among international investors.

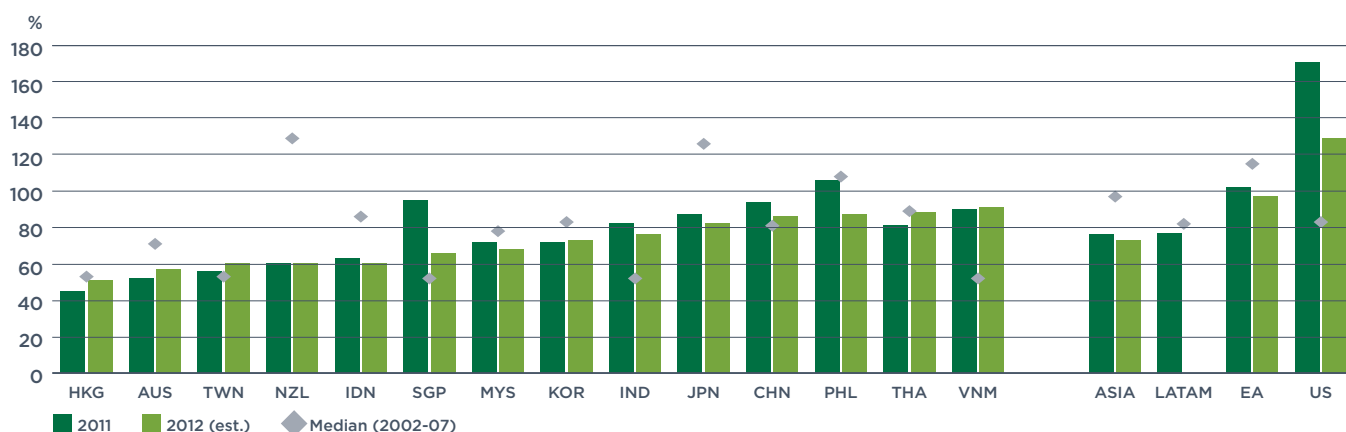
EXCHANGE RATES CONTINUE TO BE CLOSELY MANAGED

There remains a reluctance to let currencies rise

Regional real effective exchange rates have typically risen since the GFC, although recent periods have seen some volatility, and in some cases significant corrections from the highs (figure 18). In particular, uncertainty over the timing and pace of the scaling back of the Federal Reserve's asset purchase programme, and of unorthodox monetary policies in the OECD economies in general, have led to the currencies of countries with external deficits coming under downward pressure. The Indian Rupee and Indonesian Rupiah came under particular duress in mid-2013, to the extent that their respective central banks had to tighten monetary policy in response.

Overall, however, the predominant foreign exchange policy priority in Asia Pacific remains a desire to temper any tendency towards currency appreciation. Since the Asian crisis of the late 1990s, Asian monetary authorities have sought to micro-manage their currencies, using FX reserve accumulation to prevent what are considered to be excessive currency revaluations. Indeed, many countries have in effect pursued 'neo-mercantilist' policies, specifically aimed at sustaining exports and generating enduring structural external surpluses. Such strategies have generated distortions within individual economies, and been associated with broader global macroeconomic imbalances and the so-called 'global savings glut'.

FIGURE 16: ASIA, NON-FINANCIAL CORPORATE DEBT-TO-EQUITY RATIOS



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Market-cap weighted mean. New Zealand, India, Australia, and Japan 2012 estimate from CVU. Other countries' 2012 estimate based on Credit Edge. Asia 2012 is weighted by market-cap of 2011 from CVU. Latin America is a market-cap weighted mean of Argentina, Brazil, Chile, Colombia, Peru, and Venezuela. Euro Area 2012 estimate excludes Cyprus, Slovenia and Malta.

As the dominant developing economy in the region, China's attitude to exchange rate management and capital account liberalisation will set the tone of future policy in this area for other economies. Hints have emerged from Beijing over recent months of a willingness to embrace faster capital account liberalisation and greater exchange rate flexibility, although it remains to be seen how far and how fast this process will progress, especially in an environment in which China's growth potential appears to be waning and the domestic economy is beset by a number of structural challenges.

FOREIGN EXCHANGE RESERVES REMAIN MORE THAN ADEQUATE

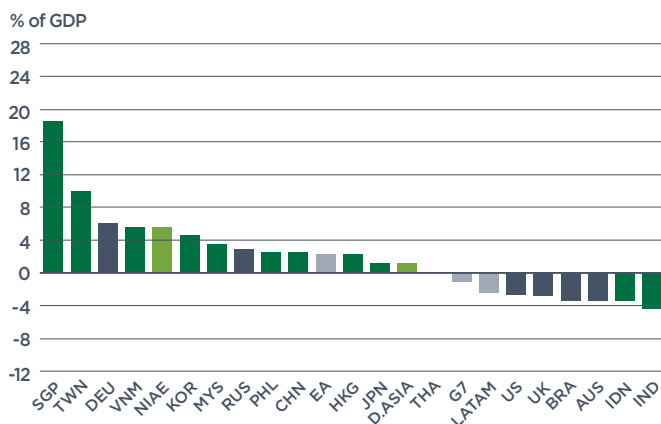
The rise in FX reserves has slowed

The tendency towards external surpluses and the efforts to mitigate currency appreciation have long encouraged a build-up of foreign exchange reserves in Asia. There have been some falls in reserves since the GFC – most notably of late in Indonesia, Thailand, and Malaysia – but these typically represent only a fraction of the previous accumulations, and holdings in general are some way above where they were in September 2008, and far in excess of levels prior to the Asian Financial Crisis of 1997-98.

What is more, almost all the major Asian economies still retain foreign exchange reserves sufficient to cover at least six months of demand for overseas products, and more than enough to cover their short term debt obligations. China and Japan have particularly large 'war chests', the overwhelming majority of which are held in the form of US government assets. But there has been a greater willingness to diversify into other currencies and a broader array of securities over recent years.

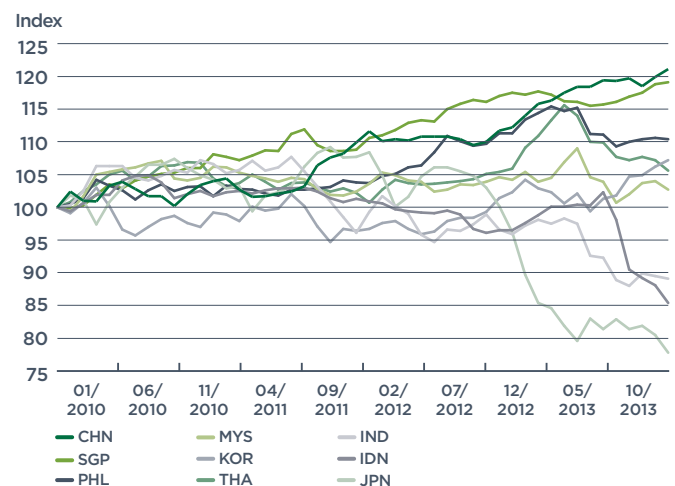
The People's Bank of China has latterly talked of less-regular FX intervention, as part and parcel of a general strategy of allocating a greater role to market forces. However, as long as China runs an external surplus and retains such a plethora of restrictions on its capital account, upward pressure on the renminbi is likely to continue, and it is difficult to imagine that the authorities will entirely eschew its long-standing habit of managing the rise.

FIGURE 17: CURRENT ACCOUNT BALANCES, 2013



Source: Macrobond

FIGURE 18: REAL EFFECTIVE EXCHANGE RATE INDICES, JANUARY 2010=100



Source: Macrobond

**Budget deficits are yet
to improve**

PUBLIC SECTOR STIMULUS HAS SWELLED BUDGET DEFICITS

Prior to the GFC, a number of governments across the region ran budget surpluses. These were particularly large in the NIEs. Developing Asia in general was running a broadly-balanced budget. Japan, Malaysia, and India were in deficit. Not surprisingly given the widespread resort to discretionary fiscal expansion after 2008, budget balances deteriorated subsequently across Asia, although even as Developing Asia ran moderate deficits and larger shortfalls opened up in India and Japan, the NIEs remained in surplus (figure 19).

In 2013, budget deficits proved reluctant to fall, and the prevailing imbalances remain very large in India and Japan, and above 4% of GDP in Malaysia. Nevertheless, public sector debt ratios remain low in an international context. Australia, China, Hong Kong, Indonesia, and Korea have particularly small burdens of public sector liabilities. The average for Developing Asia is estimated by the IMF at 31% of GDP, as compared with close to 110% of GDP on average in the advanced economies.

GROWTH: SIMMERING BUT OFF THE BOIL

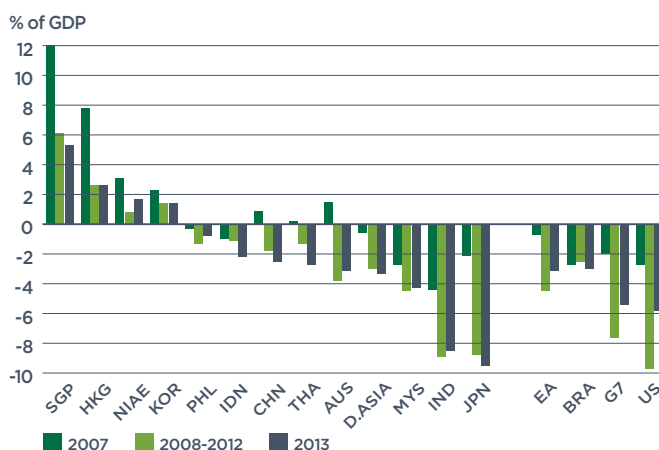
The prospect of somewhat tighter external funding conditions, waning policy stimulus, a need to bear down on excessive credit growth, and burgeoning structural impediments in some economies, including in China and India, are all likely to weigh on Asia's growth in the near term. However, counteracting forces, including the prospect of continuing recovery in the advanced economies, some tempering of currency strength since the middle of 2013, and the resilience of domestic labour markets is likely to remain in evidence.

The IMF puts growth in the emerging Asian economies at between 6% and 6.5% for the coming two years, which would leave it comfortably the most rapidly expanding region of the global economy. South East Asia's relative outperformance is likely to diminish as growth in the OECD continues to recover and debt problems, external vulnerabilities, and political uncertainties in Thailand and Indonesia make their presence felt. Any downside surprises in Chinese, Indian or Japanese growth stand to impact regional commodity producers disproportionately, not least Australia.

As for Japan, the growth rate of around 2% in 2013 is unlikely to be repeated in 2014 or 2015. Waning construction spending, higher indirect taxes, and the requirement for an extended period of fiscal consolidation will act as powerful headwinds from mid-2014 and beyond.

The sorts of growth trajectories outlined here, combined with a generally benign picture for global commodity prices, are likely to keep inflation rates for the most part within the comfort zones of central banks, although India, Indonesia, and some lower-income countries such as Vietnam are likely to continue to face higher and more persistent inflation.

FIGURE 19: GENERAL GOVERNMENT BUDGET BALANCES



Source: Macrobond

POLICY CHALLENGES ARE MANY AND VARIOUS

Monetary and fiscal adjustments beckon

Asia Pacific's policymakers thus face a delicate balancing act as they seek to address both the near-term outlook and longer-term challenges. Although subdued regional inflation is a comfort for now, monetary policy settings are undeniably accommodative, and will at some stage have to be normalised. The pace and degree of adjustment will differ substantially from country to country, depending on shifting growth risks and the developing threats to financial stability, especially in the context of the sort of capital flow volatility that could accompany a normalisation of monetary policy in the US and other OECD economies.

Macro-prudential initiatives will also no doubt prove important in this context, although the jury is still very much out on their ability to substitute for more conventional macro stabilisation policies where asset bubbles are concerned.

Meanwhile, it would make sense to program fiscal stances progressively to re-establish the room for discretionary policy manoeuvre that was so welcome in Asia during the Global Financial Crisis. This also suggests that greater efforts should be made to improve automatic stabilisers and to ensure that future fiscal burdens are suitably shared across income groups.

The structural-policy agenda is demanding

Finally, there is the matter of achieving balanced and sustainable growth beyond the immediate horizon, and making the most of the region's undeniable supply-side potential. Here structural policies stand to be important. However, as considered in Chapter 8, the structural-policy agenda differs considerably from country to country, ranging from the requirement for reductions in barriers to entry in product markets and job protection reforms to curb labour market dualism, to energy sector deregulation and subsidy reform, the need for improved infrastructure, and broader over-arching institutional change.

CHAPTER THREE

AUSTRALIA – A SPECIAL CASE

A wealthy, resource-rich OECD economy, Australia is different from much of the rest of the Asia Pacific region.

- Having enjoyed a rambunctious mining boom, the economy now faces challenging structural adjustment
- Sound policymaking and a surging terms of trade underpinned an extended period of outperformance
- But Australia's latest mining boom is now winding down, and growth has slowed significantly
- Macroeconomic policy has been recalibrated and the exchange rate has adjusted lower
- But major structural policy initiatives are required in infrastructure, FDI and innovation to raise productivity

Australia is a very successful OECD primary exporter

EXCEPTIONAL IN MANY WAYS

Australia is something of a special case in the Asia Pacific region. Covering a huge land area, it is itself a continent, and geographically the sixth largest country in the world. It is by any measure wealthy. Indeed, according to the IMF, it is the tenth-richest economy in the world in (PPP adjusted) GDP per capita terms. It can also boast low levels of poverty, a high level of economic freedom, and it scores well on most-commonly-used measures of quality of life, health, education, and civil liberties.

However, what really marks Australia out is that it is also a huge supplier of industrial raw materials and agricultural products, especially to the rest of Asia. Indeed, China accounts for almost a third of Australia's exports, Japan for almost 20%, Korea around 8%, and India close to 5%. Its regional neighbours as a whole take more than three quarters of the total (figure 20).

The Australian economy has long been a success story relative to the rest of the OECD economies. It has not suffered a major decline in output since the early 1990s, and over the intervening period GDP growth has averaged around 3.3% per year, while underlying CPI inflation has for the most part remained under control (figures 21 and 22).

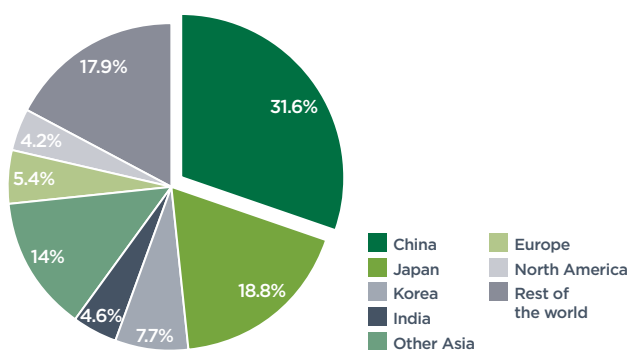
The economy also managed to avoid the worst ravages of the Great Recession, both where its financial sector was concerned and more generally. Aside from a short, sharp, contraction in GDP in the immediate aftermath of the Lehman Brothers debacle (Q4 2008), the economy expanded throughout and, unlike in many advanced nations, the absolute level of real GDP has not just returned to its pre-crisis peak, but has passed significantly beyond it. Hence, even though it has latterly edged upwards, by international standards the unemployment rate remains relatively low, at around 6.0% of the workforce.

POLICY SUCCESSSES

Part of its success reflects good policies ...

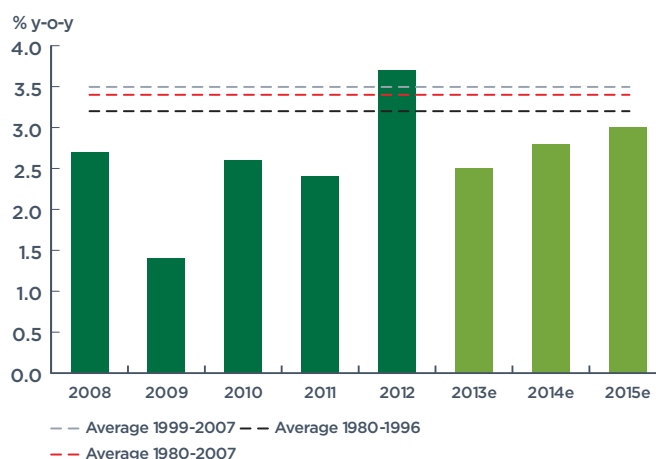
That part of this impressive performance can be ascribed to good policy is beyond doubt. The 1980s and early 1990s saw the implementation of a range of successful structural reforms that exerted an enduring positive influence on the supply side of the economy. These extended to the deregulation of the financial system and labour markets and the privatisation of many previously-state-owned sclerotic businesses. In addition, important stability-enhancing improvements were made to the nation's monetary and fiscal policy frameworks, and this was followed in 2000 by a major reform of the tax system, extending to the introduction of goods and services tax.

FIGURE 20: AUSTRALIA, BREAKDOWN OF EXPORTS, 2012-2013



Source: Australian Bureau of Statistics, December 2013
 Notes: Other Asia includes Taiwan, Singapore, Malaysia, Thailand, Indonesia, Hong Kong, Vietnam, and Philippines. Europe refers to the UK, the Netherlands, Germany, Belgium, France, and Italy. North America includes Canada and the US.

FIGURE 21: AUSTRALIA, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013



... but also a vibrant resource boom

Australia's Reserve Bank has proved one of the more successful practitioners of flexible inflation targeting, while the net public sector debt ratio is at a mere 12.9% of GDP, now one of the lowest in the developed world. The Australian government can claim to be one of the few remaining 'Triple A'-rated sovereign credits.

THE RESOURCE BOOM

However, during the latter half of this 20-odd year period of economic success, the most important driver of Australia's macroeconomic outperformance was the sizeable boom in the nation's resource sector. Australia's economic development has always been significantly influenced by the prices of its natural resource exports, and over time it has experienced successive periods of boom and bust as a result. Latterly, the economy has become a vital supplier of raw material inputs for the rapidly-developing northern Asian economies and China especially.

Taken as a whole, the Asia Pacific region is not particularly resource rich, while it is currently going through its most commodity-intensive stage of development, with the demand underpinned by a range of factors ranging from urbanisation to increasing demand for protein-rich foodstuffs. Australia has thus been a prime beneficiary of the progressive shift in the world's centre of economic gravity from West to East. The past decade has seen the country's terms of trade (the ratio of export prices to import prices) surge to a 140-year high (figure 23).

Aside from during periods of serious oil price volatility, the potential for the terms of trade to shape the contours of the business cycle and dictate the path of national income and living standards is often underappreciated in the northern hemisphere. But the relative prices of exports and imports are of over-riding importance in a commodity-producing economy, especially when secondary effects on capital flows and the exchange rate are taken into account.

Between 2005 and 2012, for example, the Australian mining industry doubled its share of total output to more than 10%, and tripled its share of business investment to more than 40%, while the manufacturing sector's influence declined to less than 8% of total nominal gross value added. Over the same period, exports of coal and iron ore increased by 100% in value terms, and resource exports grew to account for some 60% of the total. Similarly, mining sector employment expanded rapidly, whereas it fell in other export industries and in some areas of the domestic economy.

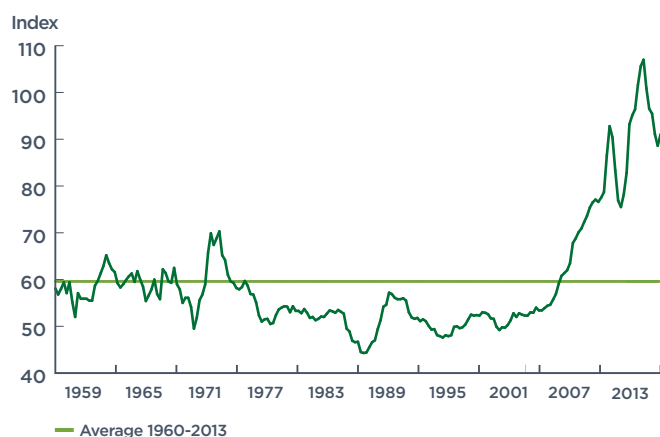
The RBA estimates that, from the middle of the past decade until recently, the mining-related economy (broadly-defined) had been growing at around a 7.5% annual rate, while the rest of the economy grew at an altogether less impressive 2.5% clip.

FIGURE 22: AUSTRALIA, CPI INFLATION



Source: IMF World Economic Outlook, October 2013

FIGURE 23: AUSTRALIA, TERMS OF TRADE



Source: Macrobond
Notes: 2009-2010 average = 100.

NEW CHALLENGES LOOM

All this is now starting to change. The terms of trade have already corrected by some 15% from their highs, and Australia's resource boom is showing every sign of beginning to wind down. Mining-related outlays have peaked and will now trend lower. Mining investment outlays are projected to drop from 8% of GDP to less than 3% of GDP by 2018.

In the meantime, GDP growth has slipped below trend. Large changes in relative prices are never comfortable experiences, economically, socially, or politically. The latest episode represents a huge test for Australian policymakers, who are now faced with sustaining overall macroeconomic stability while securing a rotation to the other sources of final demand that have been so subdued over recent periods.

Of course, high export volumes will help the adjustment process. Iron ore volumes are already expanding at about a 15% annual rate, and natural gas shipments will grow strongly from 2015, although prices will probably be lower as alternative sources of supply in the US, Africa, and beyond are tapped. Also, a significant part of the resource sector's investment outlays were supplied by imports, and these stand to be commensurately lower in future years. Consistent with all this, Australia recorded a trade surplus at the end of 2013, and exports contributed strongly to GDP growth over the year as a whole.

Nevertheless, reasonable macro stability will be possible in the years ahead only if some combination of non-mining business investment, personal consumption, housing investment, and government purchases fills the bulk of the gap left by lower resource related investment.

The exchange rate has long proved a vital equilibrator for the Australian economy as it has ridden the international commodity price cycle, and the trade weighted Australian dollar's recent depreciation of some 15-20% will, especially if it continues, serve as an important mechanism of structural adjustment (figure 24). However, the task of achieving the necessary degree of recalibration in the economy is complex and should not be underestimated.

Australia's manufacturing sector has been in persistent decline over the past 50 years, both in terms of its share of output and its share of employment. Its ability to drive a revival in non-resource capital investment is therefore questionable.

House prices and building approvals have been trending upwards lately, but the Australian housing market appears, on any number of commonly-touted valuation metrics, to be richly priced. Depending on a strong pick-up in housing as a means to rebalance the economy would therefore seem fraught with danger. The risk is of boom followed by bust, with considerable collateral damage both to financial and to non-financial balance sheets.

FIGURE 24: TRADE-WEIGHTED AUSTRALIAN DOLLAR



Source: Macrobond

Road train in
outback Australia



After a sharp rise in leverage in the 1990s and 2000s, the household sector's total debt and debt service ratios remain onerous at close to 150% and 10% of disposable income respectively (figure 25). Hence, the responsiveness of the consumer to official interest rate reductions must be questionable. The RBA has already delivered 225bps of rate cuts since November 2011, yet the impact to date has been muted.

It is generally reckoned that a tight fiscal/loose monetary policy mix is the best combination to deliver the exchange rate adjustment that Australia requires to rebalance. Consistent with this, Australia has, since 2010, tightened fiscal policy by some 2.5 percentage points of GDP in total, broadly in line with the OECD average.

However, when private sector debt burdens are hampering the effectiveness of monetary policy, it could be that a continuation of such an austere bias in fiscal policy will prove excessively burdensome to domestic spending. Existing plans are for a slower pace of underlying fiscal policy adjustment in the years ahead, and even this may need to be implemented with a degree of flexibility.

Notwithstanding the prospective positive influence of the resource boom on trade performance, the economy's current account balance remains in structural deficit, as it has been for the past 50 years, while its net external debt accounts for approaching 100% of GDP. This external financing requirement and accumulation of overseas liabilities could constrict policy flexibility during periods of global risk aversion.

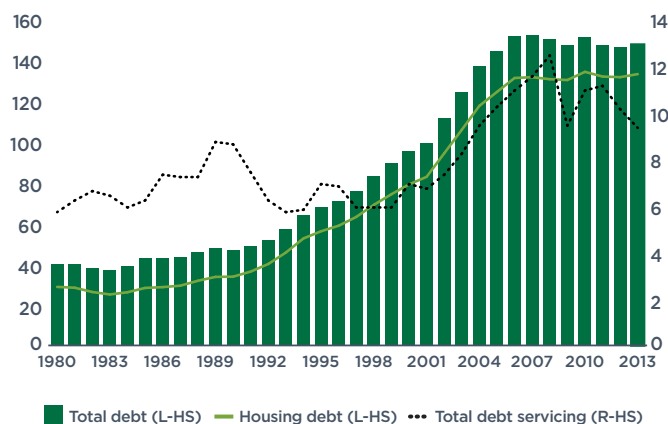
Australia also remains acutely exposed to trauma in the Chinese economy, where various imbalances and disequilibria, and not least the excessive credit intensity of growth, continue to cast a shadow over the pace and sustainability of its development.

All in all, Australia appears to face a tougher set of circumstances than has been the case for some time, with the requirement for new sources of demand suggesting that growth will struggle to match potential. Indeed, there is a chance that new shocks could cause growth to stall altogether.

This in turn points to a number of over-riding conclusions:

- With inflation well contained, the bias in Australian monetary policy looks likely to remain towards ease for some time to come.
- This also points to further weakness in the Australian dollar over the medium term, and it should be remembered that in the past the Australian currency has exhibited a propensity to overshoot both on the upside and the downside.
- Fiscal policy may have to become more supportive of growth.
- There is a strong requirement for new structural, or supply-side, initiatives.

FIGURE 25: AUSTRALIA, HOUSEHOLD SECTOR DEBT
(% OF DISPOSABLE INCOME)



Source: Macrobond

Notes: The figures shown refer to the annual average. Total debt servicing refers to the ratio of interest payment (for the total debt) to disposable income.

THE STRUCTURAL AGENDA

And structural policy changes are needed too

Notwithstanding its impressive aggregate growth performance and resilience to the GFC, Australia's recent productivity record has been disappointing, although almost certainly this in part reflects temporary effects linked to the mining boom.

Overall, however, in the new, more challenging, environment confronting the country, it will be vital for Australia to retain its flexible markets and to eschew protectionist and interventionist palliatives.

Further tax reforms would also pay dividends. For example, the consumption tax burden remains relatively low in an international context, while it would make sense for the load on the corporate sector, and especially SMEs, to be reduced.

There are three other areas of structural policy in particular that require attention: infrastructure; foreign direct investment; and innovation.

Infrastructure is a key area in need of improvement ...

Infrastructure can exert a number of longer-term positive influences on an economy's supply-side potential by enhancing competition, encouraging trade and integration, improving access to resources and public services, and fostering the dissemination of ideas and innovation. (This is considered further in Chapter 9.) But establishing top-quality infrastructure is especially important in a geographically expansive country such as Australia, where the dispersion of the population and production centres is so great, and the distance from major markets so extended.

Key are energy, transport, water, communications

According to the World Economic Forum, Australia's infrastructure capability currently ranks 18th globally. The most obvious shortfalls are in energy, transport, communications, and water. Meanwhile, the OECD has highlighted the need for across-the-board improvements in infrastructure planning and finance. Consistent with the new government's apparent emphasis on this issue, infrastructure ought to therefore be at the core of any future re-orientation of fiscal policy towards a more expansive bias, although greater resort to user and congestion fees warrant consideration to ease the finance burden.

Meanwhile, the screening procedures on foreign direct investment are very stringent by comparison with the rest of the OECD countries. It has been suggested that Australia apply to other countries the lighter screening procedures granted to the US, and that it should provide for the formal involvement of specialised agencies (e.g. national security) in the screening process to enhance transparency.

As regards innovation, numerous studies suggest that its impact on economic growth can be powerful. The OECD, for example, has suggested that each 0.1% of GDP increase in private sector R&D spending may raise overall GDP by as much as 1.2%. Although Australia scores well on R&D spending per head and higher education, the intensity of R&D spending in Australia is low. Relatively few scientists are employed in business, there is limited collaboration between firms and universities, and the patent system is deemed to have its shortcomings.

CHAPTER FOUR

THE FUTURE OF ENERGY DEMAND

Just as over the past 25 years, the bulk of future global energy demand will focus on fossil fuels.

- Asia Pacific's vast economic potential puts it at the forefront of future energy consumption growth
- The share of fossil fuels in total energy consumption will remain as high as 75% in 2035
- China and India in particular will dominate energy demand growth over this period
- Asia is likely still to prioritise coal, oil, and natural gas, although there will be sub-regional variations
- China and India are expected to build 40% of the world's new electricity generating capacity to 2035
- There will be larger commercial opportunities for companies involved in energy supply and distribution

FOSSIL FUELS WILL CONTINUE TO DOMINATE GLOBAL ENERGY DEMAND

Coal, oil, and gas will stay the main energy sources

Fossil fuels have accounted, over the past 25 years, for some 82% of global energy demand. The International Energy Agency (IEA) forecasts large absolute increases in the recourse both to renewables and to nuclear power sources over the period to 2035. But nevertheless, the share of fossil fuels in global energy demand is expected to drop only to 76% over this period (figure 26).⁶

ASIA PACIFIC WILL BE THE PRIMARY ENGINE OF ENERGY DEMAND GROWTH

China and India will lead energy demand growth

The emerging world is expected to dominate energy demand growth over the coming 20-odd years as it continues to enjoy rates of GDP growth far in excess of those of the OECD economies. But Asia Pacific's share of projected global energy consumption leaves those of Latin America, the Middle East and Africa in the shade. China will be the main driver in the current decade. But in all likelihood India will take over in the 2020s (figure 27).

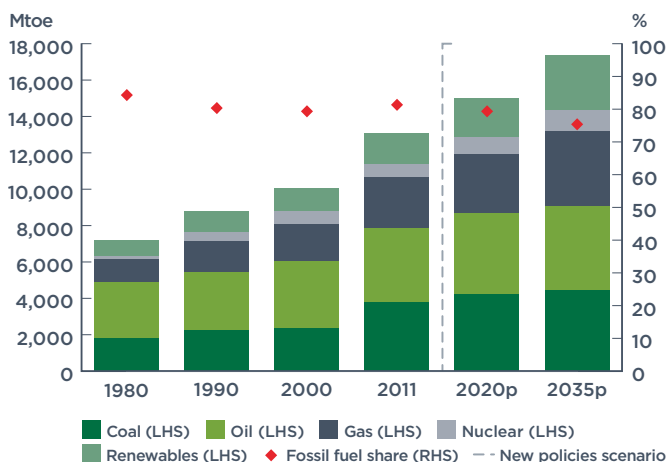
ASIA WILL ACCOUNT FOR OVER HALF OF GLOBAL ENERGY DEMAND BY 2035

Asia will become the dominant energy consumer

In 2011, Developing Asia, a grouping which China and India dominate, accounted for just over one third of global primary energy consumption. Looking ahead, assumptions about the energy intensity of production — essentially changes in the physical quantity of energy used to generate each unit of GDP — exert big effects on forecast demand. It is customarily assumed there will be at least some decrease in energy intensity, given prevailing concerns about, and policies in respect of, climate change.

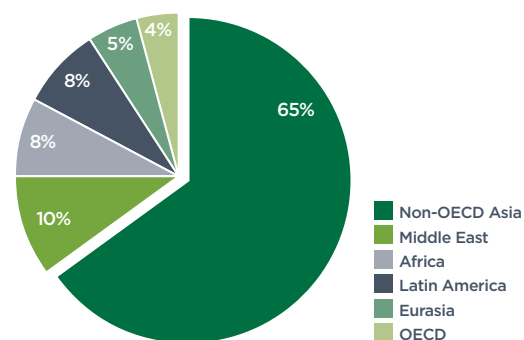
If Asian energy consumption per capita develops in line with the International Energy Agency's (IEA's) central projections, the developing economies' share of global energy consumption is set to increase to more than 40% by 2035. However, if the energy intensity of production fails to decline as the IEA expects, this figure could feasibly exceed 50%. Either way, the bottom line is that Asia's share of global primary energy consumption is set to rise dramatically (figure 28), and China and India will be at the forefront of that development.

FIGURE 26: GROWTH IN TOTAL PRIMARY ENERGY DEMAND



Source: IEA World Energy Outlook 2013

FIGURE 27: SHARE OF GLOBAL GROWTH IN PRIMARY ENERGY DEMAND, 2012-2035



Source: IEA World Energy Outlook 2013

COAL, OIL, AND NATURAL GAS WILL DOMINATE ASIA PACIFIC'S ENERGY DEMAND

Most of the expected two-fold increase in Asia's energy consumption over the course of the period to 2035 is projected to derive from fossil fuels. Coal use in developing Asia is expected to increase by more than 80%, while oil consumption approximately doubles and natural gas usage more than triples. The use of renewables is set to increase, but will probably make a relatively small contribution to total 2035 energy requirements. The same goes for nuclear power (figure 29).

All this said, sub-regional differences in energy demand and the energy mix will almost certainly be substantial by 2035. Coal stands to play a much larger role in East and South Asia than in Central Asia, South East Asia, or the Pacific. Natural gas is expected to take a much bigger cut of the energy mix in Central Asia than in other sub-regions. Demand in the Pacific islands will, in most countries, be met principally by oil and natural gas.

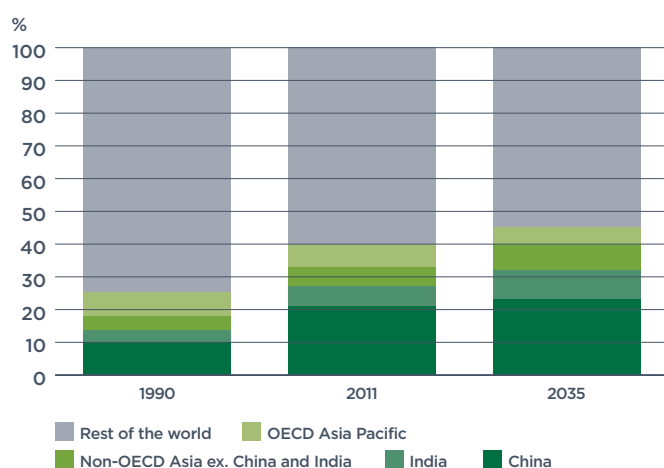
MOST ECONOMIES ARE MAJOR ENERGY IMPORTERS

Few economies will be self-sufficient in 2030

Relatively few Asia Pacific countries are expected to be close to energy self-sufficiency in 2035, and a number of these are small economies. Of the larger economies, Australia, Indonesia, India, and China are best placed in this regard. Much of East Asia, on the other hand, is likely to outsource almost its entire energy requirement by that date. Japan, Taiwan, Hong Kong, and Korea are, for example, still likely to be importing between 80% and 100% of their needs (figure 30).

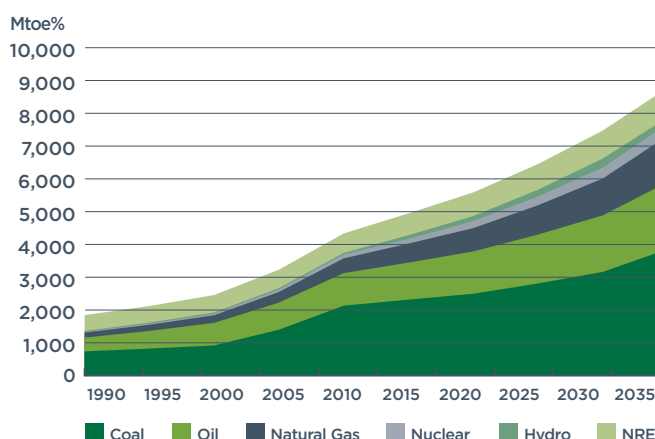
In 2010, Asia imported nearly half of all crude oil traded on international markets. If crude oil demand grows as projected by the Asian Development Bank, and even taking into account indigenous Asian production, oil imports are likely to triple: from 11 million barrels to over 31 million barrels per day by 2035. This implies an annual growth rate of some 4.2%.

FIGURE 28: ASIA'S SHARE IN GLOBAL PRIMARY ENERGY CONSUMPTION



Source: IEA World Energy Outlook 2013

FIGURE 29: COMPOSITION OF DEVELOPING ASIA'S ENERGY DEMAND



Source: Asian Development Bank (2013), Asia's Energy Challenge
Notes: NRE = New and renewable energy.

ASIA WILL DOMINATE INCREASES IN POWER-GENERATING CAPACITY

Asia's demand for new generation capacity is huge

Over the coming 20-odd years, around 60% of power generation capacity constructed in the OECD economies will be to replace retired capacity. The requirement to replace existing capacity in the developing world is of course much lower. China and India in particular are on track to put in place 40% of the world's new electricity generating capacity over the period to 2035 (figure 31).

OPPORTUNITY KNOCKS

The potential for energy companies is similarly large

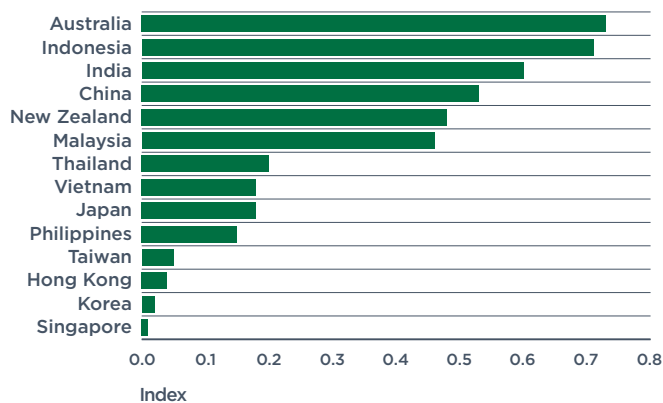
The message from all this is clear: the global demand for additional power sources and fossil fuels will remain strong over the next generation, and Asia will be at the forefront of this demand. Hence, companies that are intricately involved in the exploration, extraction, supply, and distribution of these resources stand to develop commensurately.

IN DEVELOPING ASIA

Oil demand is set to double

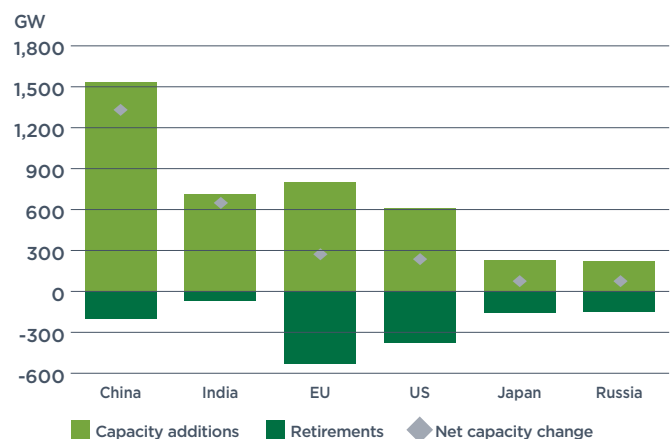
Oil imports will likely triple

FIGURE 30: PROJECTED ENERGY SELF-SUFFICIENCY IN 2035



Source: Asian Development Bank (2013), *Asia's Energy Challenge*
 Notes: The self-sufficiency index formula accounts for the share of renewable resources projected to be available, projected demand for conventional fuels, and corresponding depletion of conventional fuels given the country's endowment.

FIGURE 31: POWER GENERATION CAPACITY ADDITIONS AND RETIREMENTS, 2013-2035.



Source: IEA World Energy Outlook 2013

CHAPTER FIVE

THE PRESSURES ON POTENTIAL

There is active debate about how fast Asia's economies can now be expected to grow.

- Historically, many middle-income economies have suffered a period of relative stagnation
- There is growing evidence that China and India's growth potential has begun to decline
- Slowing total factor productivity growth is evident not just in China and India, but across the region
- The threat of the 'Middle-Income Trap' warrants being taken seriously
- Encouragingly, however, much of Asia seems to be less vulnerable than other developing regions

IS EMERGING ASIA SHIFTING TO SHALLOWER TREND GROWTH?

Notwithstanding Asia's impressive economic performance over recent decades, and the region's latter-day cyclical ebbs and flows, the precise nature of its medium-term growth prospects is a focus of intense debate. Despite near-universal confidence within Asia itself that the region will, for the foreseeable future, be 'driving the world economy', there is burgeoning evidence that the underlying rate of growth in both China and India has declined since the Global Financial Crisis. Furthermore, many commentators judge that this represents the onset of a persistent process, in the sense that the slower underlying trends reflect enduring rather than temporary factors, and that this trait may extend across the region.

More broadly, as per capita incomes rise, and economies become more complex, the risk of trauma, or at least of a major setback, increases. The challenge of sustaining fast-trajectory growth becomes more multifaceted, and thereby more difficult. This is not mere a priori reasoning: there is considerable evidence that middle-income economies (MIEs) are prone to slow-downs in their growth trajectories.⁷

There is evidence of a middle-income trap

CHINA'S TREND GROWTH APPEARS TO HAVE PEAKED

The IMF has employed a number of techniques to assess potential growth in China and elsewhere:⁸

- A purely statistical estimate of tendencies in the economic growth data;
- A model-based multivariate filter designed to capture the growth rate consistent with keeping unemployment at its 'natural rate' and inflation on target;
- A production function approach from the trend contributions to growth of technology and factor inputs.

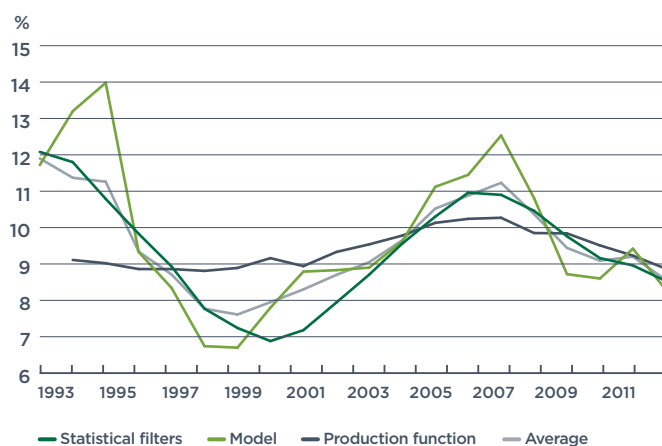
The evidence of slower growth is powerful in China

All these approaches have their limitations, not least that their information content is backward-looking. But, as can be seen in figure 32, they all tell broadly the same story: China's trend growth peaked in 2006-07 at more than 10% per year, and has since gradually declined to below 8%.

TFP offers the primary explanation

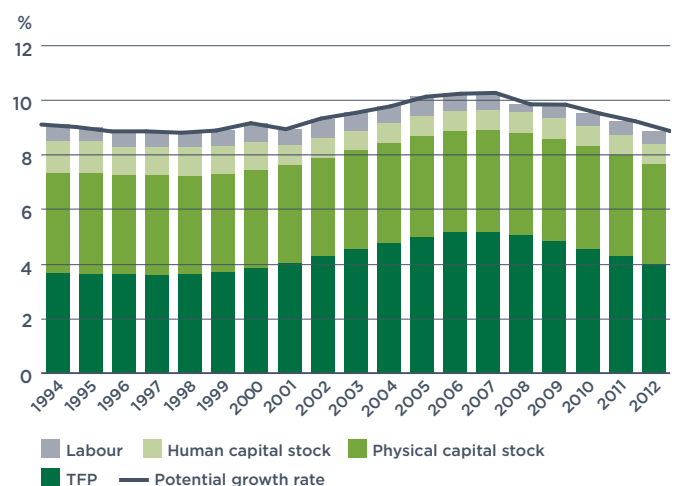
Furthermore, from a production function perspective, as can be seen in figure 33 China's slowdown appears to have been driven largely by a fall in trend total factor productivity (TFP) growth. The contribution of the human capital stock has also been in gradual long-term decline. The other contributors to growth have been more stable.

FIGURE 32: CHINA'S TREND GROWTH, VARIOUS APPROACHES



Source: IMF Asia and Pacific Regional Outlook 2013

FIGURE 33: CHINA'S ESTIMATED TREND GROWTH AND COMPONENTS



Source: IMF Asia and Pacific Regional Outlook 2013

Chapter five:

The pressures on potential

The signals are a little less clear in India ...

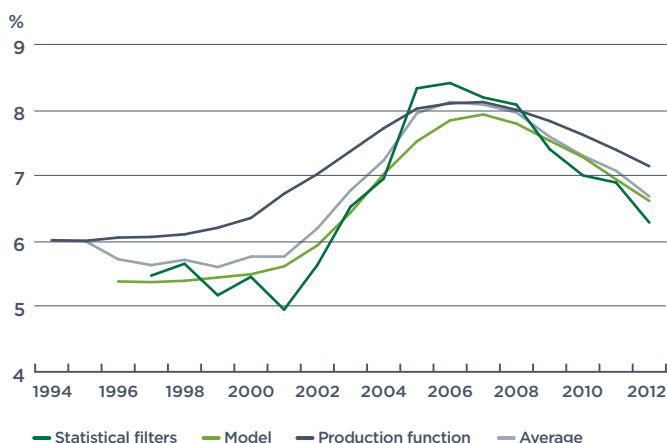
... but again TFP growth seems to have slipped

INDIA'S TREND GROWTH ALSO SEEMS TO HAVE PEAKED

As with China, so for India: the methods employed by the IMF deliver a broadly consistent message for India's growth potential – in short, it is slowing (figure 34). However, there is somewhat greater divergence in the results. The statistical filters suggest the most pessimistic conclusion, while the production function approach is somewhat more encouraging.

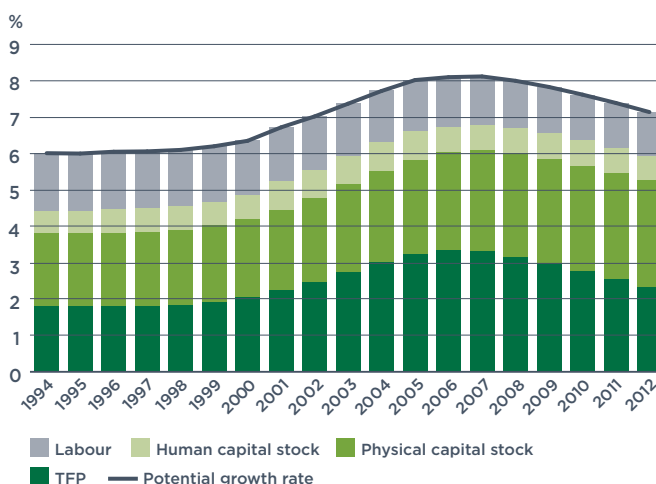
On balance, it seems reasonable to conclude that India's trend growth peaked just before the GFC at around 8%, and is now running at around 6-7%. As was the case with China, the production function approach suggests that the primary consideration behind the slowdown in growth potential is a decline in the growth of total factor productivity (figure 35), something that, notwithstanding the limited quality of much of the data, appears to be observable across the region. Indeed, the World Bank recently remarked that: "...productivity gains have either declined or stagnated since the middle of the last decade" (figure 36).

FIGURE 34: INDIA'S TREND GROWTH, VARIOUS APPROACHES



Source: IMF Asia and Pacific Regional Outlook 2013

FIGURE 35: INDIA'S ESTIMATED TREND GROWTH AND COMPONENTS



Source: IMF Asia and Pacific Regional Outlook 2013

FIGURE 36: ASIAN PRODUCTIVITY, PRE- AND POST-CRISIS

	Output/Worker 2000-07	Output/Worker 2010-13
China	9.8	8.7
Hong Kong	4.2	1.6
Indonesia	3.5	4.4
Korea	3.3	2.0
Malaysia	2.9	0.8
Philippines	2.8	4.6
Singapore	3.0	2.3
Taiwan	3.2	2.9
Thailand	2.9	3.6

Source: Asian Productivity Organisation Databook, 2013

FIGURE 37: FREQUENCY OF SECULAR SLOWDOWNS



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Low income threshold = US\$2,000 and high income threshold = US\$15,000 in PPP terms. It is robust to a range of alternative thresholds.

THE CHALLENGES FACING MIDDLE-INCOME ECONOMIES

Middle-income slowdowns are not uncommon

These developments are giving rise to questions about the risk, or the likelihood, of Asia Pacific economies entering the so-called 'Middle-Income Trap'.

As to definition, the IMF adopts a fairly broad, so-called '2/15', approach in defining middle-income economies – that is to say, average per capita income between US\$2,000 and US\$15,000, in 2005 PPP dollars.⁹

Proportionately more secular economic slowdowns have occurred in this income bracket than in the income brackets above or below (figure 37). In particular, many hitherto rapidly-growing developing economies in Latin America have tended towards stagnation at middle-income levels. Mexico, Peru, and Brazil in particular, as well as some other Latin American economies, all experienced a long period of inertia in relative living standards after growth durably slowed in the 1970s and early 1980s (figure 38).

A number of Asian economies fall within this 'middle-income' range, including: Laos, India, and Vietnam (US\$3,000); Indonesia and the Philippines (US\$4,000), Mongolia (US\$5,000); China (US\$8,000); and Thailand (US\$8,000). The question is whether they too will start to slow down materially,

Some Asian economies have avoided this ...

There is, of course, nothing automatic about middle-income status resulting in economic slowdown. The Middle-Income Trap is a risk, not a certainty. And some Asian countries have already made it all the way to high-income status: Japan, Hong Kong, Singapore, South Korea, and Taiwan all continued to grow rapidly after attaining middle-income status, and are now as wealthy, if not more wealthy than countries in the G7 (figure 39).

... although others remain at risk

However, reflecting in part the transitory impact on living standards of the late 1990s Asian Crisis, others have done less well. Malaysia has been more successful than Indonesia, with Thailand falling in between. But in all three convergence with the advanced economies stalled for a decade after the crisis, regaining momentum only in recent years. China's trajectory has so far outstripped even that of the earlier East Asian success stories. But despite its increasingly manifest global importance, China is still at a relatively early stage of its convergence process.

FIGURE 38: PAST GROWTH TRAJECTORIES

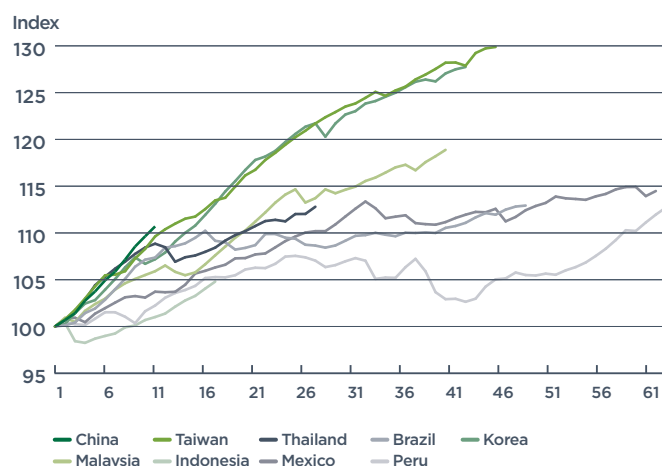
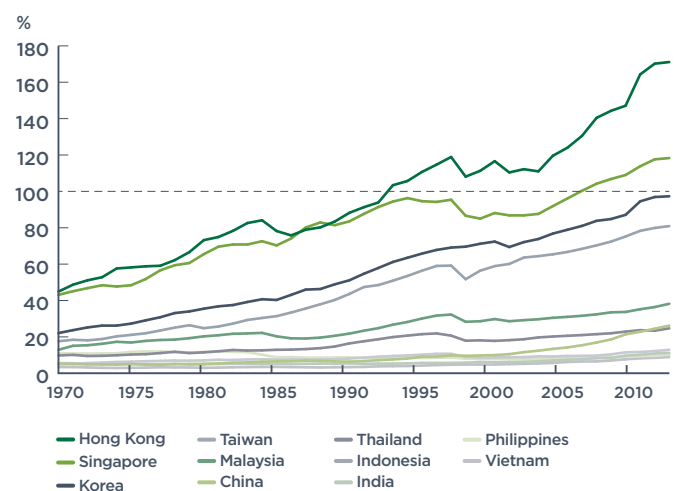


FIGURE 39: PPP GDP PER CAPITA AS PERCENTAGE OF G7 AVERAGE
PPP GDP PER CAPITA



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: GDP per capita is in 2005 PPP adjusted terms. Log scale indexed. The slope of each series reflects the growth rate. Period 1 is defined as the year when GDP per capita for the country considered reached US\$ 3,000 in PPP terms.

Source: IMF Asia and Pacific Regional Outlook 2013

The causes are many
and various

Asia's MIEs look less
vulnerable than many

THE CAUSES OF THE MIDDLE-INCOME TRAP

The IMF has identified five specific areas, and within them a range of factors, that could be expected to contribute to the risk of economic slowdown in a hitherto rapidly-growing, increasingly sophisticated but less than advanced economy.¹⁰

These key considerations are:

- **Institutions:** the (change in) *Size of Government*; *Strength of Rule of Law*, and *Weight of Regulation* – the larger the value, the greater the vulnerability.
- **Demographics:** the *Dependency Ratio* (dependants to workers) and the (change in) the *Sex Ratio* (men to women) – the larger the figure, the greater the probability of growth slowdown.
- **Infrastructure:** *Road Networks and Telephone Lines* – the lower the (per capita) value, the greater the vulnerability.
- **Macroeconomic environment and policies:** (the rate of) *Gross Capital Inflows* (the higher the value, relative to GDP, the greater the risk of serious decline or even reversal); the *Investment Share* – the higher the value, the greater the risk; and *Trade Openness and Sectoral Diversity* – the higher the values, the lower is the vulnerability.
- **Trade structure:** *Distance from major markets* and *Regional Integration* – the smaller a country's GDP-weighted distance from potential trade partners, and the greater its Regional Integration, the lower is the risk of sustained slowdown.

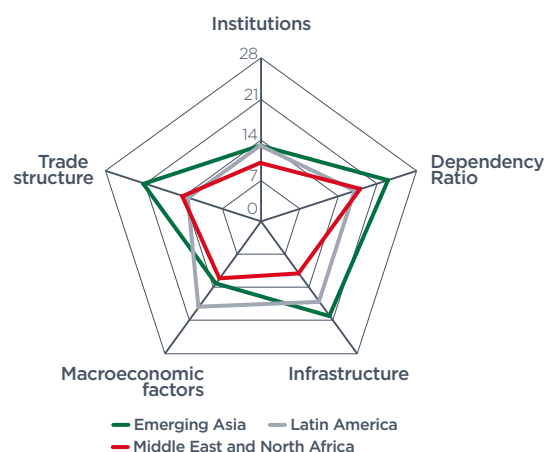
However, this is by no means an exhaustive list of active considerations. Education too has been shown to be an important consideration – the higher the proportion of the population with at least secondary-level education, the lower tends to be the probability of a slowdown.

Income inequality can also contribute to a middle-income trap. And a range of other issues can provoke political disruption and thereby economic slowdown: in modern-day Asia these may include pollution; and emerging centres of domestic economic power, including particularly in the growing and proliferating industrial cities.

The IMF has also quantitatively assessed how the MIEs in various regions of the world perform in each of these categories:¹¹

- Emerging Asia scores highly relative to the Middle East and North Africa on institutions. In terms of dependency ratios, trade structure (regional integration and vertical supply chains) and infrastructure, Emerging Asia scores highly relative both to Latin America, and Middle East and North Africa, although the region exhibits residual shortcomings in communication infrastructure, and in some cases also power generation, public transit systems, freight, and ports (figure 40¹²).
- Asia underperforms Latin America on some macroeconomic factors, including:
 - Excessive capital inflows; and
 - An unduly high ratio of investment to GDP.
- There is also much heterogeneity across the Asian region where these metrics are concerned.
- And there remains ample room to ease regulations in product and labour markets.

FIGURE 40: SPIDER'S WEB FOR EMERGING ASIA, LATIN AMERICA, AND MIDDLE EAST & NORTH AFRICA



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Latest available observations on each individual variable, with the exception of dependency ratios, which are projected 2020 values.

But there is little room for complacency

The requirement is to improve productivity ...

... and to build up service sectors

Within Asia itself, the results are equally illuminating (figures 41 and 42):

- China performs well on dependency, infrastructure, and trade structure, but is less impressive where institutions and macro factors are concerned. The post-crisis increase in investment is a particular risk.
- India's trade structure is encouraging, but its dependency ratio and infrastructure are problematic, and its institutions need some work.
- Vietnam scores well on its dependency, macro factors, infrastructure, and institutions, but its trade structure is something of a constraint.
- Thailand scores well on all the specified metrics bar infrastructure.
- Indonesia falls short of best practice apart from where infrastructure is concerned.
- Malaysia's infrastructure and institutions are impressive, but it scores less highly elsewhere, with its macro factors (especially strong capital inflows) and dependency ratio the largest vulnerabilities.
- The Philippines does least well of the four countries considered here and, again like Malaysia, its dependency ratio appears to be its biggest constraint.

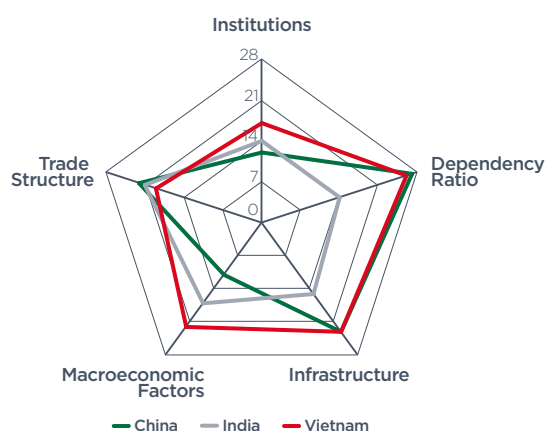
EXPANSIVE POLICY AGENDA

To sustain development beyond the middle-income trap range of per capita income, economies need progressively to shift away from growth that is accomplished primarily by factor – labour and capital – accumulation. There is a need instead to embrace 'extensive' growth based on productivity increases driven by improvements in the quality of human and other capital, and by innovation.

Such a shift entails substantial changes in economic structures, and increasingly the development of technology-intensive sectors. It also implies a greater role for service sectors, which account for much smaller shares of both output and employment in Asia than in OECD economies. Indeed, in some of Asia's MIEs, these shares have actually fallen since the mid-1990s.

What is more, service activities tend to be concentrated in low productivity activities. This, in turn, in part reflects regulatory barriers to entry that stifle competition and inhibit investment, and the educational and skill shortcomings of many regional workforces.

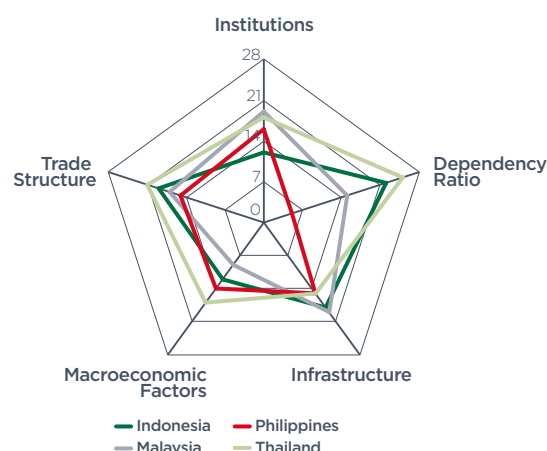
FIGURE 41: SPIDER'S WEB FOR CHINA, INDIA AND VIETNAM



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Latest available observations on each individual variable, with the exception of dependency ratios, which are projected 2020 values.

FIGURE 42: SPIDER'S WEB FOR INDONESIA, MALAYSIA, PHILIPPINES AND THAILAND



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Latest available observations on each individual variable, with the exception of dependency ratios, which are projected 2020 values.



CHAPTER SIX

CHALLENGES AHEAD: THE DEMAND SIDE

To fulfil its potential, Asia will have to embrace a better-balanced growth of aggregate demand.

- Asia Pacific's development has long been export-led, with domestic spending relegated to second place
- Any enduring rebalancing of growth will involve adjustments, both in Asia and its trading-partners
- But within Asia, the process is much easier for larger economies to achieve than for smaller economies
- Some countries also need to recalibrate domestic spending away from investment towards consumption
- In addition to short-term monetary and fiscal policy, faster currency appreciation would pay dividends

Chapter six:
Challenges ahead:
the demand side

Fulfilling Asia's potential is
not straightforward

Asia's growth has been led
largely by exports

Domestic demand has
grown much more slowly

REBALANCING DEMAND

Notwithstanding the limited slowdown of the past several of years, and the specific problems of India and Indonesia, the Asia Pacific economy has recovered well from the Global Financial Crisis (GFC): it enjoys substantial positive momentum, and can boast considerable potential.

The challenge now is to fulfil this potential, and not fall foul of the middle-income and other traps and traumas. To make the most of its underlying capacity for growth, policymakers will have to succeed both with structural policy (considered in the next chapter) and with demand management policy.

On the demand side, it is necessary not only to secure relatively rapid growth of overall nominal spending power, but also for the configuration of that spending power to be sustainable over the medium term. Moreover, even that is not sufficient in itself fully to mobilise the economy's supply-side potential: an additional requirement is that exchange rates be allowed to adjust appropriately.

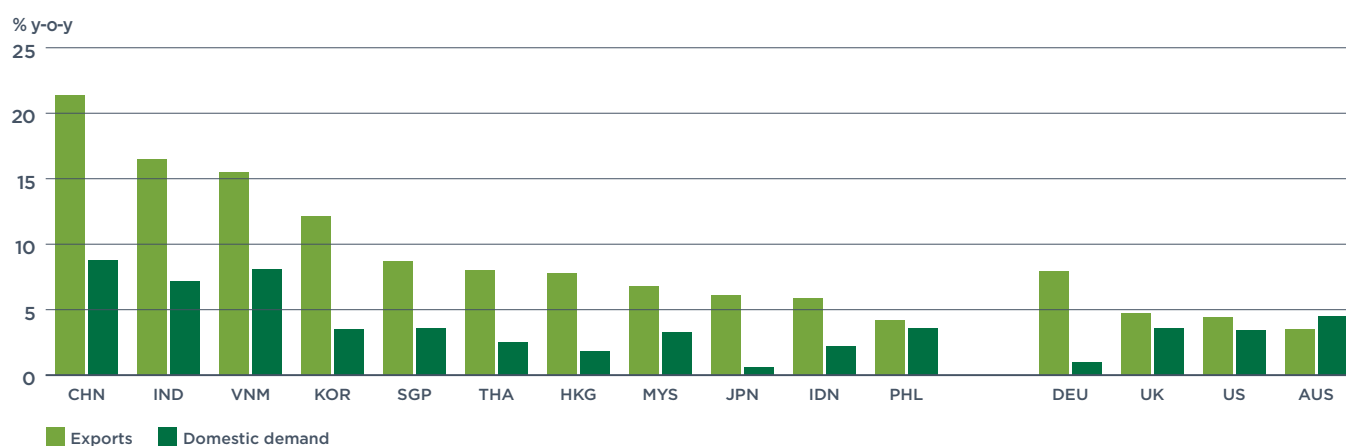
ASIA PACIFIC'S HISTORICAL EXPORT-LED BIAS

As noted in earlier parts of this study, notwithstanding the role played by domestic demand in encouraging recovery from the GFC, in past decades Asia's growth has been driven largely from abroad – that is, by the rapid growth of (mainly Western) demand for Asia's exports. This 'export-led model' has proved highly successful, with (real) aggregate demand, and thereby real GDP, growing at some 6% per year on average across Asia as a whole since the 1980s. (See Box: What is meant by export-led growth?).

Several considerations have contributed to this success, including: undervalued currencies, vis-à-vis the Western economies in particular; increasing trade liberalisation across Asia; and the establishment of an elaborate cross-country production network. These factors have combined to enable Asia to develop and exploit comparative advantages in the production of consumer durable goods, increasingly in high-tech industries.

From the end of the 1990s until the GFC, exports grew, on average, by nearly 10% per year across the main Asian economies. The growth of domestic demand was, by contrast, relatively modest, rising at slightly less than half the pace of exports (figure 43).

FIGURE 43: EXPORTS AND DOMESTIC DEMAND: AVERAGE GROWTH RATES, 1999-2007



Source: Macrobond

BOX: WHAT IS 'EXPORT-LED GROWTH'?

This phrase should be interpreted carefully: short- and long-run meanings differ

The term 'export-led growth' is frequently used to characterise the process that has 'underpinned', or 'caused', or 'led', growth in a number of economies, including Japan, Germany and, more recently, a range of Asian countries. What is to be understood by the term is, however, not always as obvious as it might seem.

Forecasters frequently present tables that show the contribution that the change in each of the components of demand has made, or is expected to make, to the change in (real) aggregate demand year-to-year. For example:

FIGURE A: CHANGE IN MAIN COMPONENTS OF DEMAND

KOREA					
Variable (unit)	2007	2008	2009	2010	2011
Private Consumption	2.7	0.5	0.1	2.7	2.3
Government Consumption	0.8	0.6	0.7	0.3	0.6
Construction	0.2	-0.3	0.5	-0.2	0.2
Business Investment	1.0	-0.1	-0.8	1.0	0.3
Change in Stocks	-0.3	0.8	-4.0	2.7	0.3
Exports of Goods and Services	5.2	2.6	-0.5	4.8	3.8
Imports of Goods and Services	4.5	1.5	-3.7	5.8	3.6
Net Trade	0.7	1.1	3.3	-0.9	0.3
Residual error	0.0	-0.3	0.4	0.0	0.1
GDP	5.1	2.2	0.2	5.5	4.0

Source: CEIC, Nomura Global Economics

The values are obtained by multiplying each component's (year-on-year) growth rate by its previous-year weight in GDP. Thus, the figure of 2.7 for the contribution of private consumption in 2007 is obtained by multiplying the growth rate of consumption in 2007 (5.1%) by the 2006 share of consumption in GDP (0.54). This calculation implicitly assumes that the components of demand are independent of one another. And that would be basically the case in a closed, or near-closed, economy.

Once exports are introduced, however, the meaning becomes less clear. Suppose export demand in a given year turns out 1 percentage point stronger than South Korea's exporters had initially expected. It might seem reasonable to assume that the sole consequence would be to raise the growth rate of GDP by that 1 percentage point multiplied by the share of exports in South Korea's GDP i.e. $(1 * 0.45) = 0.5$ percentage points. However, the effects of this export stimulus are unlikely to stop there; over the longer term there will be consequences. For example, the increase in exports is likely to require at least some increase in imported inputs. In principle, this is captured, in the 'Imports' line. Other components, however, particularly investment, are less straightforward. And here it is necessary to switch from growth rates to levels.

Suppose that this unexpected increase in South Korea's export orders is worth US\$10bn. If Korea's exporters can meet this out of existing capacity, they may well do so. If, however, they do not have the spare capacity, or if they expect further growth in export orders, they will wish to add to capacity. With the capital/output ratio typically around 3, this implies additional investment spending of the order of $(3 * \text{US\$10bn} = \text{US\$30bn})$. And they will also hire additional labour.

Similarly, some additional rise in consumption and other components of aggregate demand will flow from the income growth of those newly employed in export industries – sometimes called the 'multiplier effect' of exports on domestic demand. Thus, part of the reason why the figures for investment and other components of demand have the values they do, and hence part of their calculated contribution to GDP, is attributable, indirectly, to export growth. Were exports not as high as they are, expenditures on consumption, housing investment, and other components of demand, too, would not be as high as they are. Thus the export-contribution figure understates the true causal contribution of exports to GDP.

It is empirically difficult to separate the part of expenditure on investment and other components of aggregate demand that results from exports from that which is to the result of purely domestic components of demand. However, input-output evidence suggests that around one-third of industrial output, and slightly more of imports, are typically attributable to exports.

Current account
imbalances have built up

Policymakers wish to see
a global rebalancing

As Asia's export volumes grew, their weight in GDP increased in most countries, and is now typically relatively high in a global context (figure 44). However, the figures differ considerably from country to country.

The exports of Singapore and Hong Kong, both major entrepôt ports, are more than twice the size of their respective GDPs. South Korea, Thailand, Vietnam, and Malaysia are in a middle band, with export shares of between 50% and 100% of GDP. The export shares of China, India, and Indonesia are, at between 24% and 26%, some of the lowest in the region, although around the OECD average. Japan is the striking exception in Asia: its export share is a mere 15% or so of GDP.

Asia's export bias has been sustained in the context of considerable structural change. As manufacturing production has become geographically more integrated across Asia, China has increasingly become the major export destination for other Asian economies' exports. China is now the major regional hub for processing and assembling components into finished consumer goods, increasingly becoming Asia's 'exporting platform' to the rest of the world.

The international aspect

Again, as noted in Chapter 3, Asia's rapid export growth has led to many economies running large surpluses on the current accounts of their balance of payments. While these have declined somewhat lately, they were nevertheless recently running at around 4% of GDP on average in 2013, and for the most part contrast starkly with the less robust external positions in most of the advanced economies.

India and Germany have been the principal exceptions to this rule: The former is currently running a deficit of some 4% of GDP, while in 2013 the latter ran a surplus of almost 7% of GDP.

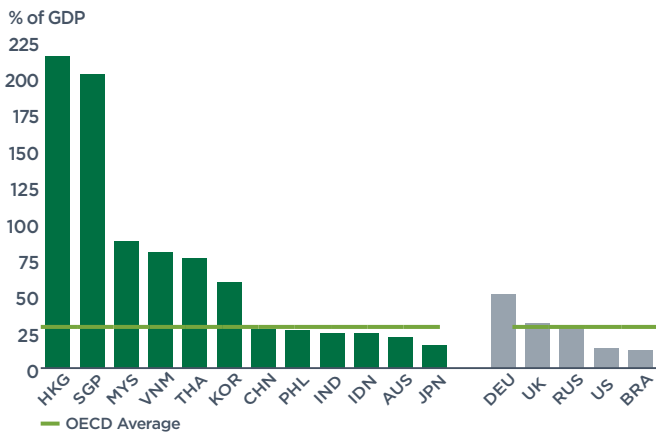
This pattern of global external imbalances that has accompanied Asia's export-led growth is regarded by many, particularly, but not exclusively in the West, as a principal cause of the GFC.

Moreover, such adjustment as had taken place in these imbalances over the past few years contains a significant cyclical element: a concern of many policymakers, particularly in the West, is that, unless fundamental changes are made, the imbalances will likely endure and indeed expand again once the world economy fully normalises.

Whatever the ultimate conclusion about the importance of global imbalances in causing the recent financial and economic crisis, many policymakers wish to see continued so-called 'rebalancing' in the global pattern of demand. In broad terms, this would involve:

- In the West, and particularly in the US: slower growth of domestic demand accompanied by faster growth of exports; and
- In Asia (particularly China): faster growth of domestic demand, in combination with slower growth of exports.

FIGURE 44: EXPORTS OF GOODS AND SERVICES, 2012



Source: World Bank



Chapter six: Challenges ahead: the demand side

Asia needs to become
more domestically-led

Rebalancing is easier for
large economies

US and Indian growth has
been domestically-led

Whatever the validity or justice of this analysis, policymakers in Asia would probably be wise to plan on contributing to this process. Trade tensions between East and West are already fermenting. In particular, it would seem wise for China not to plan on having as rapid a growth of exports to the West as it has had in the past. This implies significant consequences for future growth (figure 45).

To illustrate, suppose that US import growth from China were, for whatever reason, to halve (in volume terms) from its 12%-odd rate of the past decade to a (still-vigorous) 6½%. This could slow China's GDP growth by around ½ a percentage point per year, on average. A halving of the European import growth from China would exert a similarly negative effect. Thus, a halving of China's export growth to both the US and to Europe could take at least a percentage point per year off overall Chinese GDP growth, on average. This would be significant.

Offsetting a downward effect of slower export growth on China's GDP growth need not, however, be an insuperable challenge. China, and for that matter Asia in general, has considerable scope for domestic demand to take over from slower export growth.

The goals of accelerated domestic demand growth and decelerated export growth would need to be pursued jointly. However, economic reasoning and experience point to important differences in how this needs to be achieved across Asia's differently-sized economies.

Size matters

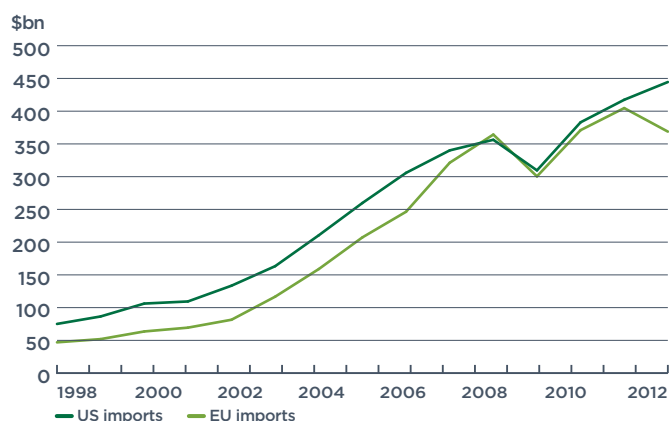
In the larger Asian economies, it is considerably more feasible than in the smaller ones for development and growth to be based on the growth of domestic demand. This is for two main reasons:

- Large economies, with their large (actual or potential) domestic consumer markets, need not look abroad for markets big enough to warrant setting up large-scale, high-productivity plants. And they are likely, partly as a result, to have relatively small imports of manufactures.
- Large economies are usually also geographically expansive, and so can generally source a greater proportion of their raw material requirements domestically than smaller economies can. Hence, their import propensity tends to be smaller (figure 46). (See Box: China: an interesting anomaly).

Probably the most pertinent Western example of a large economy that has successfully achieved domestic-demand-led economic growth is the US. Until only relatively recently – the early 1960s – US exports accounted for less than 5% of US GDP.

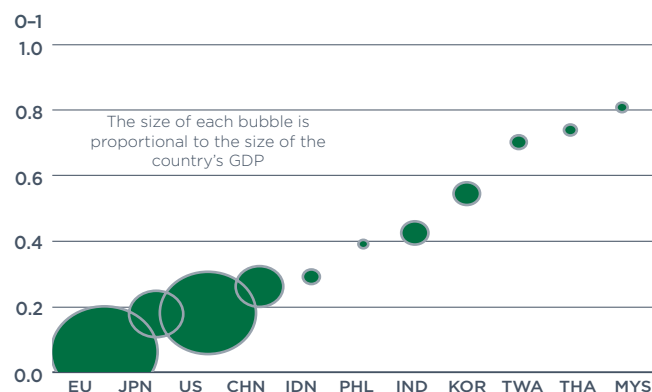
In the East, India is probably the most clear case of domestic-demand-led growth. India's remarkable post-Independence (1947) growth, which, at least until the GFC, accelerated every cycle, has been driven largely by the expansion of internally, rather than externally, generated spending. Domestic demand has grown solidly (by around 5% on average) over the past 50 years, and accelerated from the mid-1990s. Exports have grown at much the same rate as domestic demand (around 7% per year on average), thereby playing a comparatively minor role, and account for only around 8% of GDP, on average.¹³

FIGURE 45: US AND EU IMPORTS FROM CHINA



Source: Macrobond

FIGURE 46: MARGINAL PROPENSITY TO IMPORT



Source: Nomura

Notes: Calculations are for the period 2000 to 2008. EU imports data are our Nomura's estimate of Extra EU imports (i.e. excluding intra-EU trade).

BOX: CHINA: AN INTERESTING ANOMALY

The search for domestically-led growth

China is an interesting anomaly. Given its continental dimension (with a land area of more than 9.6m sq km, China is geographically much the same size as the US), the economy might have been expected to have experienced domestic-led economic development broadly similar to that of the US and India.

The reason that China's expansion has not been as 'home-grown' as its size might suggest lies largely in its past policies. The formation of the People's Republic of China in 1949 caused China's trading links to become heavily concentrated with the USSR and other communist countries. As relations with the USSR soured and the European countries, Japan, and the US imposed trade embargoes at the end of 1950, China's share of world trade plunged and it was cut off from foreign investment. In this environment, resources were allocated by government fiat, with market forces playing a negligible role. Domestic demand stagnated.

With the emergence of the new political leadership in the mid-1970s, the direct role of government in financing and controlling development changed fundamentally and opportunities to participate in world trade increased rapidly. State monopoly of foreign trade and the policy of economic self-reliance were abandoned after 1978. The economy progressively embraced the benefits that many other Asian countries had already been deriving from an expanding world economy with an undervalued currency helping considerably. And in 2001 its integration into the global economy was effectively completed with its accession to the World Trade Organization (WTO).

Whereas Chinese exports had only doubled in volume from 1952 to 1978, they rose 28-fold from 1978 to 2003 (figure 39). In the 25 years from 1978 to 2003 GDP rose nearly seven-fold and labour productivity four-fold. Population growth decelerated sharply and per capita real income rose nearly five-fold. Yet even so, China's GDP per capita today is only around the level of Japan in the 1970s, when that economy was in 'take-off' mode.

China now almost certainly has the potential to achieve sustained acceleration of domestic demand growth, so that the economy can 'pull itself up by its own bootstraps':

- China's large, potentially enormous, domestic market offers the prospect of considerable economies of scale in production;
- This in turn implies that a relatively small proportion of domestic demand will leak abroad through expenditure on imports of manufactures; and
- The country's large area means that it should be able to source a significant proportion of its raw materials domestically – China has huge reserves of many things, from people to coal.

Achieving sustainably faster growth of Chinese domestic demand will not, however, be straightforward. It will depend in large part on the issue that has been overshadowing international policy discussion for many years: China's policy towards its currency.

Real per capita income is rising faster in China than practically anywhere else in the world, and this increase will inevitably find its way into the economy, in one way or another – either through faster domestic inflation or through a nominal appreciation of the renminbi.

The authorities' policy to date of intervening to temper currency appreciation is an implicit tax on China's consumers – one estimate made in 2009 is that it has been equivalent to an import tariff of 50-60% – and is one of a number of subsidies to the country's producers.¹ This may be considered an appropriate way to contribute to financing China's massive investment, which is approaching 50% of GDP. And China's consumers are unlikely to be aware of the hidden tax that they are paying; given that their real incomes are in any case rising so fast.

Indeed, a more serious problem for the authorities may be that their FX intervention is restricting their control over domestic monetary conditions.

In India by contrast, growth has been primarily domestic-demand-led, and the need to rebalance is not as critical. Nevertheless, to the extent that India develops elements of a social security safety net, this will lower the incentive to save and should further encourage consumption, particularly in rural areas. Rupee appreciation would also strengthen domestic demand. Here, India, like most Asian countries, is likely to take its cue from the speed of renminbi appreciation.

¹ Aliber, R., "Tariffs can persuade Beijing to free the Renminbi", *Financial Times*, 8 December, 2009

Small economies struggle
on their own ...

... but together they can
expand via trade linkages

Indonesia and the Philippines, too, have enjoyed domestic-demand-led growth: domestic consumption currently generates around 70% or more of GDP in both countries. Moreover, Indonesia is less reliant than many Asian countries on (primarily commodity) exports.

Small is problematic

Economic history also offers lessons – though quite different ones – for smaller economies. The situation facing the Asian economies collectively today is analytically – though not politically – similar in key respects to that faced by the economies of Europe after the Second World War.

The European experience of the late 1940s was that any single-country economic recovery tended to draw in a wave of desperately-needed imports, most of which were denominated in scarce US dollars, and thereby create a balance-of-payments crisis. Given the prevailing regime of fixed exchange rates, this obliged the authorities to snuff the recovery out through a tightening of policy to contain aggregate demand. This succeeded in preventing balance-of-payments crises, but it also prevented recovery from getting underway in neighbouring economies.

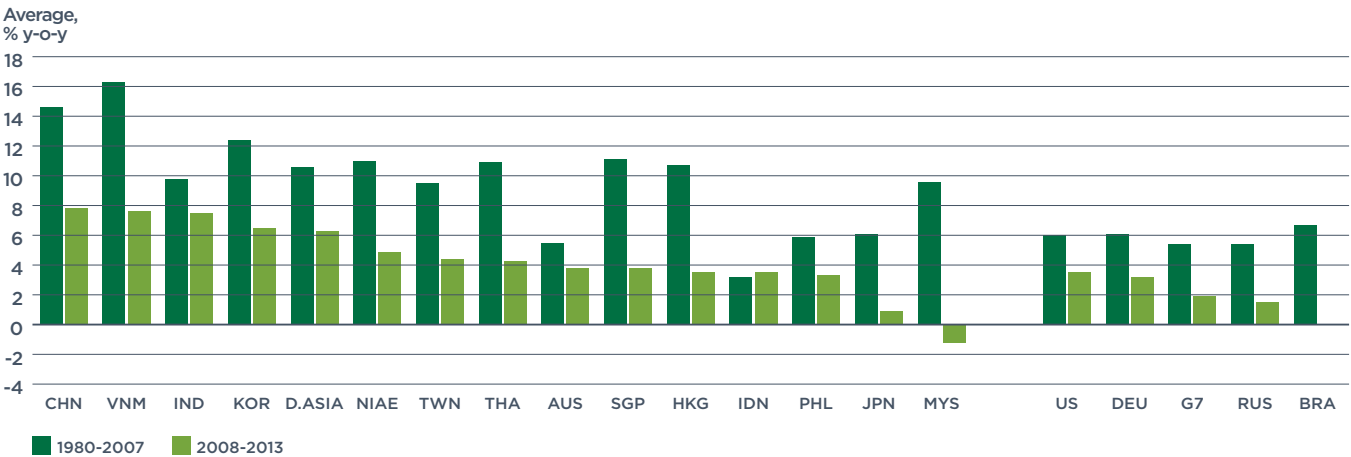
The situation was transformed, however, by the great economic insight that was the cornerstone of the Marshall Plan – that one country’s imports are a partner-country’s exports. A range of countries – in Europe especially but also further afield – progressively came to see that, by linking themselves together through international trade, economies could together achieve growth that they could not achieve individually.

This experience has applicability for the smaller economies of Asia. Individually, these are almost all too small to be able to base their future economic growth on the expansion of domestic demand. Their domestic markets are individually too restricted to offer large economies of scale in production; they have to import a large proportion of their raw materials; and a large proportion of their final demand is perforce satisfied by imports rather than domestic production.

Collectively, however, the smaller Asian economies amount to nearly 6% of world GDP. Hence, to the extent that they can link themselves via international trade to one another (as well as to the larger economies), they can thereby grow in concert much as the larger economies can grow individually.

As in India and China, productivity in the smaller Asian economies is growing faster than in most countries in the West. This will result either in faster domestic inflation, relative to abroad, or nominal currency appreciation. Individually, a number of the smaller Asian economies are somewhat wary of currency appreciation because of the presumed consequences for their international competitiveness. However, were the Chinese authorities to allow the renminbi to appreciate more significantly, most of the smaller Asian economies would probably be prepared to see their currencies appreciate at a broadly similar rate.

FIGURE 47: EXPORT VOLUMES



Source: Macrobond

Japan's economy
has never been
domestically-led

Japan – a different case

Japan is something of a special case. With its high per-capita-income population of more than 125m people, Japan's huge domestic market offers producers the potential for considerable economies of scale. Its manufacturing plants are large. And Japan's import propensity is fairly low in relation to the size of its economy, notwithstanding the country's being only thinly endowed with raw materials.

Most fundamentally, however, Japan's economy has never been substantially driven by domestic demand. Japan's basic economic culture since the end of the Second World War has been that the way – and by implication the only way – to prosper materially is to export. That it is as possible to become as prosperous serving the domestic market as it is to serve foreign markets is not appreciated in Japan in the way that it is in the US and in some parts of the EU.

Shifting an economy's 'culture' from export growth to consumption growth is not easy: Germany, like Japan, has never really effected that change, just as the United Kingdom has never really successfully shifted its culture from consumption growth to export growth (figure 48).

For whatever reason, Japan's policymakers have long proven reluctant to engage in the supply-side policy reforms that are needed to spur strong and sustained domestic demand. In the longer term, this experience may constitute something of a warning to the rest of Asia.

THE DOMESTIC REBALANCING ISSUE

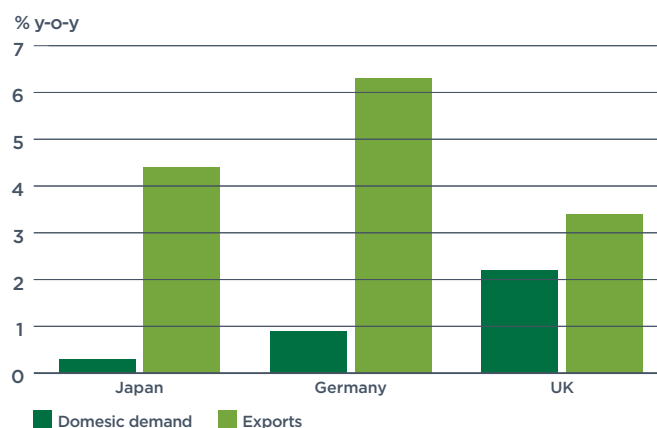
Domestic demand also
needs to be recalibrated ...

Not only does a rebalancing of export demand and domestic demand need to take place across countries, it may also be necessary, at some stage and in some cases, for there to be a change in the configuration of growth within the components of domestic demand – particularly between consumption and investment.

This has not, at least until the past year or two, been a major issue in most Asian countries: consumption in many has grown faster than investment over the past decade or so and, in most, the share of investment in GDP is between 15% and 25% – comparable with the US and the EU.

However, the two fastest-growing economies – India and China – have been exhibiting a different pattern of growth. Their investment shares have been much higher than most countries within the region and elsewhere (figure 49). Moreover, the past few years have seen their investment shares if anything rise further.

FIGURE 48: EXPORTS VERSUS DOMESTIC DEMAND: TWO CULTURES



Source: Macrobond

Notes: Annual average growth for period 1998 to 2012, except for Japan where data is up to 2011.

Chapter six:
Challenges ahead:
the demand side

... especially in China

An investment slowdown
would hit growth hard

Investment: A double-edged sword

Investment is a 'double-edged sword': it adds to supply, but it is also an important component of demand. Moreover, investment adds to demand before it adds to supply. Thus, consumption and investment need to grow at broadly appropriate relative rates. If they do not, the stability of economic growth can be put at risk.

China and India – like all particularly-fast-growing economies – are potentially vulnerable here. Even before the recent global crisis, China's authorities were concerned about the dependence of aggregate demand on investment expenditure. But this dependence increased as a result of the policy action taken to support the growth of domestic demand in the face of the weakening of exports to the West – the share of investment expenditure in China's GDP is now around 50%. Admittedly, much of this latest investment surge has been in infrastructure investment, rather than in industrial capacity expansion, but, nevertheless, China's growth is vulnerable to any slowdown, for whatever reason, in investment growth.

This vulnerability can be seen from the following stylised economic arithmetic, which owes to Sheard (2009). Suppose that the economy has:

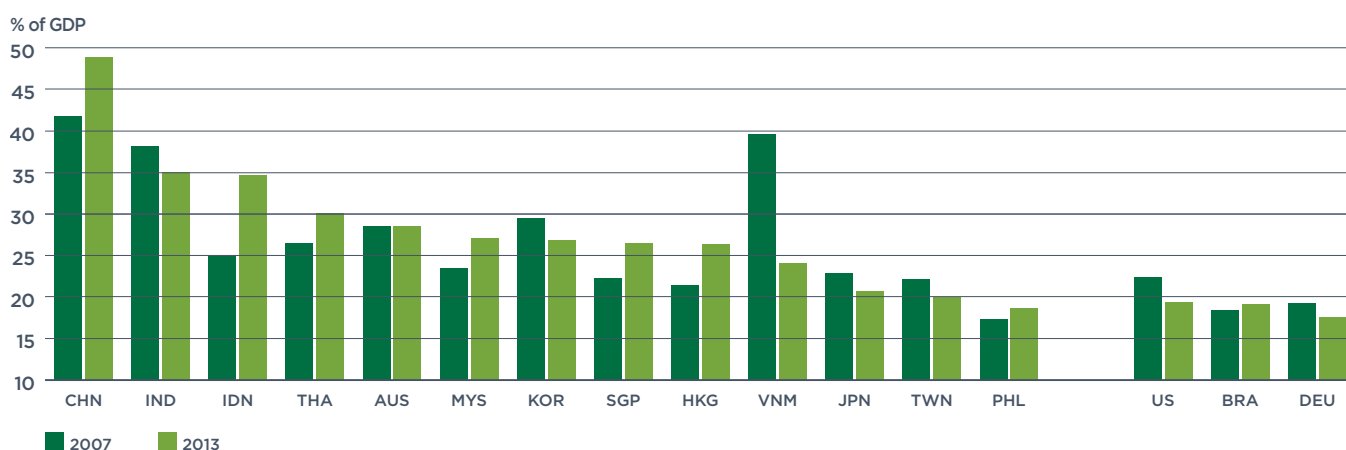
- An investment share in GDP of 50%;
- Investment growing at 20% per year;
- Consumption growth contributing 5 percentage points to GDP growth; and
- Net exports subtracting 5 percentage points from GDP growth.

The overall growth rate of GDP is thereby 10% per year.

Now suppose that, one year, investment growth slows to zero and (for the sake of argument) that the other components of GDP continue to net out to a zero contribution. The rate of growth of GDP falls to zero. If investment were to fall by, say, 10% (all else equal), GDP would decline, by around 5% – with the year-to-year swing in GDP growth being a hefty 15pp.

It is virtually inconceivable that China's consumption growth could accelerate sufficiently in the short run to offset such a downturn in investment. With private consumption accounting for only around 35% of GDP (figure 50), its growth rate would have to accelerate by an unimaginable near-30 percentage points to offset the impact on growth of a flat-lining investment growth (and by 43 percentage points in the investment-slump case).

FIGURE 49: INVESTMENT, SHARE OF GDP



Source: IMF World Economic Outlook, 2013

A lower carbon economy would help China

Even if, as could well happen after a prolonged investment boom, investment were to fall by only 10-20%, the impact on overall growth would be severe.

China thus faces a difficult policy challenge. To maintain the sort of rate of growth that it has achieved over the past several decades, investment expenditure needs to continue to grow at something like its historical rate. But that leaves it vulnerable to the risk of slowdown should growth expectations falter.

On the positive side, China is aided by the fact that a significant amount of its investment is undertaken by quasi-state enterprises. These can, to some extent at least, be 'instructed' to invest. Sustainability over the longer term requires that this investment be viable: but a good part of it is likely to be, given that a considerable proportion of investment is now going to the underdeveloped central and western regions of China.

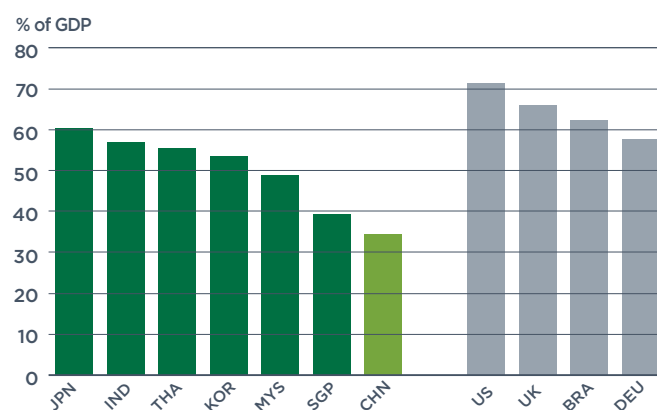
It may also be that the challenges provided by the need to reduce domestic pollution, and to reduce emissions worldwide, will be of particular benefit to China. The country's authorities face significant and growing domestic discontent over pollution. And they know from their own scientists both how important it is that global warming be limited and that, given its large and growing size in the world economy, China controls, to some extent at least, its own destiny. This may provide an underpinning to certain types of investment to satisfy domestic demand.

Longer term, it will become appropriate for China's consumption to rise as a proportion of GDP, and for the share of investment correspondingly to fall. But at what pace it is appropriate for that rebalancing to take place is in large part a matter of judgement for the authorities, and will depend importantly on the rate of growth that they wish to see for the economy as a whole.

India's heavy dependence on investment expenditure, by contrast, is fairly recent. It was only between 2003 and 2009 that its investment rate increased from 25%-odd of GDP to nearly 40%, (and the figure has already corrected somewhat over the past couple of years). Much of this take-off stems from the substantial capacity invested in manufacturing.

India's forward-looking challenge is the lack of adequate investment in infrastructure, which contributes to major supply bottlenecks. And the stretched nature of the public finances implies that the government sector may not have the firepower to counter any major slowdown in private sector investment.

FIGURE 50: HOUSEHOLD CONSUMPTION, SHARE OF GDP



Source: Macrobond

Notes: Data for 2012, except Japan, China, and the US where data is for 2011.

Chapter six: Challenges ahead: the demand side

Consumption is already important in China ...

Consumption: A growing role

All the fast-growing Asian economies have the potential to accelerate the pace of consumption growth. But China in particular has considerable scope to rebalance the structure of its demand in this way. And, if it does, it could have important implications for the structure of growth in the rest of the region and beyond.

That said, although household consumption in China accounts for a comparatively small share of GDP (35%, compared with more than 50% in the rest of Asia and 60-70% in most OECD economies) this is not to deny that it has been an important secondary engine of China's growth, even if it has been eclipsed by extremely rapid investment growth.

Over the past two decades, China's nominal household consumption has averaged 15% per year, while investment (gross fixed capital formation) grew by more than 18%. As a result, household consumption has already been making a strong contribution (3.5 percentage points per year, on average) to real GDP growth – just marginally below the 4 percentage point contribution of investment (figure 51).

The low share of consumption in Chinese GDP has thus been the result not so much of weak consumption as the exceptionally rapid growth of investment. This is common in fast-growing economies.

When per capita income is low, most of it is spent on subsistence – food, clothing, and shelter. The share of consumption in GDP is therefore high. But as income begins to rise and households begin to earn more than is needed just for subsistence, some income typically is saved. The share of household consumption in GDP thereby declines, while that of investment rises.

Ultimately, however, there comes a point when the share of consumption starts to increase again and the share of investment starts to fall. This U-shaped trajectory of the share of household consumption in GDP has been observed in the US and Japan, for example. Similarly, Korea may well be at or near the bottom of the U. If China follows suit, its consumption-to-GDP ratio will soon bottom out (figure 52).

FIGURE 51: CONTRIBUTIONS TO CHINESE REAL GDP GROWTH



Source: Macrobond
Notes: Percentage point contributions to growth.

FIGURE 52: HOUSEHOLD CONSUMPTION TO GDP RATIO



Source: Macrobond
Notes: For Korea, year 1 is 1970; for China, year 1 is 1991; GDP per capita ≈ \$2,000.

... but it needs to come even more to the fore

Consumer goods and services offer great potential

A lower saving rate would also help

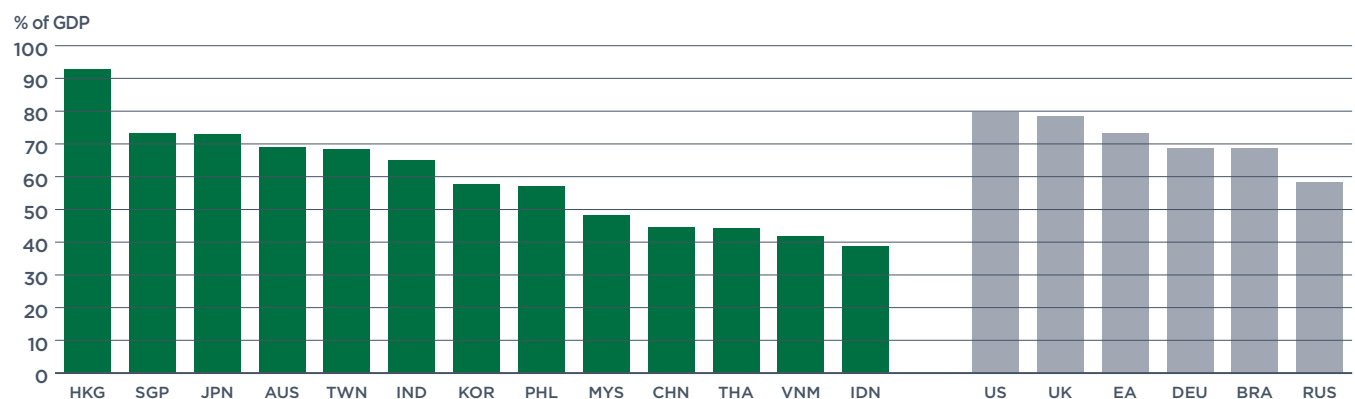
Consumption in India is also well-placed to take off

There is almost certainly considerable scope for China's consumption to grow significantly faster than it has done, and in a broad-based way, over the medium term. China is still a poor country – in 2012 GDP per capita was only \$9,000 on a PPP basis, and only two thirds of that figure when measured at international prices. Some of the areas with the greatest growth potential include:

- **Consumer durables.** China is at the point where, as income grows, demand for durable consumer goods surges. Demand for motor vehicles has already begun to soar. Indeed, in 2009 China's auto market became larger than that of the US. Assuming that China follows the path of Korea and Japan, motor vehicle ownership, which in 2008 stood at just 30 per 1,000 people, could reach 600 per 1,000 people by 2030.
- **Stronger demand from rural areas.** More than half of the Chinese population lives in rural areas, where the penetration of consumer goods is still low. Although almost every Chinese urban family owns a washing machine, a refrigerator, and an air conditioner, fewer than half of their rural counterparts enjoy such luxuries. It is likely that, as infrastructure bottlenecks are removed and income increases, demand for consumer durables in the rural areas will burgeon.
- **Stronger demand from central and western China (CWC).** The central and western regions are less industrialised and urbanised than are the eastern regions. However, in recent years there has been substantial (mainly government) investment in infrastructure. This should pave the way for an industrial take-off and economic growth in CWC. Given that CWC is home to nearly 60% of China's 1.3bn population, there is clearly much potential for rapid growth of household demand.
- **Service sector.** China's service sector currently represents less than 45% of GDP, compared with around 65% in India and 60-80% in many higher-income economies (figure 53). However, although food is still the biggest expenditure item for Chinese consumers, as is normally the case in a developing economy, household demand for services can be expected to start to increase hand-in-hand with the increase in income.
- **Reduction in the saving rate.** China's household saving rate, at around 32% of GDP, is similar to that of India (28%), but markedly higher than in the US, the UK, and Korea (figure 54). One of the main reasons is the weakness of (and in some areas the lack of) a significant social security net. However, there seems to be a strong political commitment to develop and expand the existing social security system. This would reduce the need for precautionary savings for healthcare and retirement, and thereby free up resources for other purposes. It is notable that, in urban areas where a social security system has started to be established, the propensity to save has dropped steadily from the mid-1990s.

In India, consumption has risen broadly in line with real GDP per capita, while investment has grown considerably faster. This has gradually lowered the share of consumption, from more than 80% of GDP during the 1960s, to 55% of GDP currently, putting India's consumption share between that of China and of the US.

FIGURE 53: SIZE OF THE SERVICE SECTOR, 2012



Source: CIA, Eurostat

Notes: Data for the Euro area are for 2010. Services cover government activities, communications, transportation, finance, and all other private economic activities that do not produce material goods.

Good policies are vital ...

... and not just for demand
management ...

India's consumption patterns have undergone the basic shifts characteristic of rapidly-growing economies, notably a rising share of urban consumption and higher consumer spending on services relative to subsistence items. The current share of consumer durables in the total consumption basket is about 12%, while food and other non-durable items account for 43%, and services a hefty 45%.

Rising incomes are creating a large middle class with higher disposable income, both in China and in India, spurring consumer demand. This stands to be supported by easier availability of retail financing, a growing credit culture, rising aspirations and the youthfulness of the population. And although food currently dominates the consumption basket in rural areas (60%-70%), this stands to change progressively, with growing expenditure on healthcare and communication in particular.

POLICY CHALLENGES

The extent to which Asia Pacific economies continue, over the coming decade and beyond, along the path to full realisation of their considerable economic potential will depend largely on their success in implementing appropriate policies. Good policies do not guarantee good economic performance, but bad policies almost always result in poor economic performance.

Demand-side policies

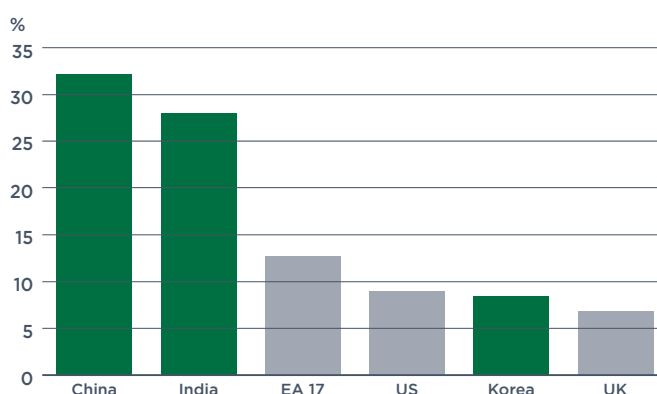
In the largest of the developing economies, particularly China, India, and Indonesia, a range of policies will be needed to foster the sustained growth of domestic demand. The establishment of a social safety net, which would permit a lower rate of personal precautionary saving, stands out. Then, as the household saving rate starts to fall, the development of the banking system, allowing people to borrow from savers to finance major purchases – particularly houses and cars – will become increasingly urgent.

Among Asia's smaller developing economies, too, a range of policies to sustain domestic demand growth will in many cases be quite important. But export growth is likely to continue to be the main driver of their demand. Continued access to large export markets will therefore be essential, so that trade policy, particularly with respect to the large Asian economies, will be of central importance. Significant trade agreements have been concluded in recent years; but more policy work remains to be done.

In Japan, export competition from its lower-wage-cost neighbours is likely to circumscribe the growth of exports, so that policies that foster the growth of domestic demand stand, as they have for many years, to be of prime importance. However, as one of the highest-productivity, highest-real-wage economies in the world, the policies required to spur domestic demand in Japan are quite different from those appropriate for China and other export-led Asian economies. Many are supply-side policies.

Thus appropriate policies will have to include: structural policies to maintain the growth of productive potential; demand-management policies to ensure that that potential is taken up; and an additional set of policies, some operating on the supply side, others on the demand side, to allow or encourage needed change in the structure of the economy. One key element in this latter respect is exchange rate policy.

FIGURE 54: GROSS HOUSEHOLD SAVING RATES, 2012



Source: OECD, CEIC, Bank of Korea, and Fred
Notes: Per cent of gross household disposable income.

... China's currency policy
will be crucial

Exchange rate policy

The high international competitiveness of China and a number of other Asian economies has for many years threatened to provoke a protectionist response from Western economies. Unless addressed, this stands to damage the growth and development of many economies in Asia.

This is a similar challenge to that which was faced, not altogether successfully, by Japan in the 1980s, when its exports reached levels that had major – and increasingly politically-unacceptable – consequences in Western importing economies. Japan progressively found its exports to the West being curbed, including by so-called 'Voluntary Export Restraints' (VERs). Japan's economic growth slowed as a consequence, and the economy by and large failed to achieve an offsetting acceleration of growth in domestic demand.

China's policy to date of intervening to temper currency appreciation not only risks trade frictions with its Western trading partners; it produces other problems, too. It represents an implicit tax on China's consumers, and a subsidy to its producers. In the longer term, an alternative financing channel for investment will likely have to be developed.

Moreover, China's extremely fast growth of productivity and per capita incomes will eventually find its way into the economy. There are just two routes: through an acceleration of China's inflation relative to that abroad (unlikely, given its still-vast supply of labour); or via appreciation of the renminbi.

The third problem, that continual intervention in the foreign exchange market to prevent the RMB from appreciating restricts control over domestic monetary conditions, is also a matter of concern for the authorities. Some Western economic commentators argue that China's authorities would not only be well advised to acquiesce in faster appreciation of the renminbi, but may in fact have little option but to do so. (See Box: The Impossible Trinity).

Securing appreciation of the renminbi in a manner satisfactory to all will not be straightforward. The experience of economies as diverse as those of Japan, Korea, and Mexico is that when a country opens itself to an initial one-way bet of currency appreciation, capital inflows can be substantial, and asset prices can rise markedly, leading to the exchange rate overshooting and then a reversal, possibly massive. These cases have been well studied, however, and China's authorities will likely move only in careful steps as part of a process of internationalisation of the currency.

These considerations apply to a number of Asia's other economies that are keen to avoid any significant appreciation of their currencies vis-à-vis the renminbi. To the extent that the renminbi appreciates, however, these economies could be expected to acquiesce more readily in a broadly commensurate appreciation of their currencies vis-à-vis the currencies of the West.

BOX: THE IMPOSSIBLE TRINITY

Policymakers in Asia are facing real economic pressure to prioritise basic economic objectives

It is widely recognised today¹ that a country cannot simultaneously achieve all three of the following objectives:

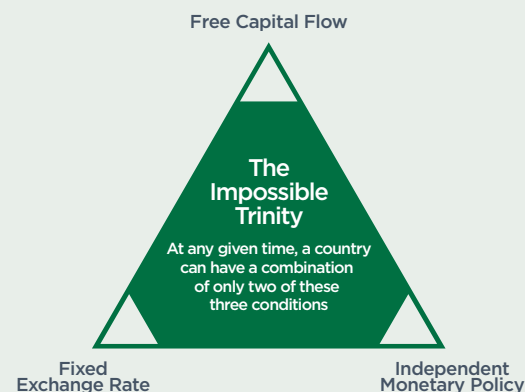
- Exchange rate stability;
- Unrestricted (cross-border) movement of capital; and
- Independent monetary policy.

Often called the 'Impossible Trinity', or 'Unholy Trinity', this situation is depicted in figure A. A country's authorities are obliged, in principle, to decide which two objectives out of the three they wish to meet. They can:

- **Maintain the autonomy of monetary policy, and allow unrestricted movement of capital.** But this comes at the cost of being unable to control the country's exchange rate.
 - Most OECD countries operate broadly within this regime, being characterised by free capital movement and an independent monetary policy, with their currencies left free to float on the foreign exchange markets.
 - This frequently results in large currency swings (for example between the yen, the dollar, the euro, and sterling).
- **Fix the exchange rate, and maintain the autonomy of monetary policy.** But this comes at the cost of having to control (cross-border) flows of capital.
 - Many countries in Asia historically have operated broadly within this basic regime. They have kept their exchange rate fixed or quasi-fixed so that, in order to maintain an autonomous, independent monetary policy, they have had to impose controls on (cross-border) capital flows.
 - This means, however, that the allocation of (cross-border) capital is undertaken administratively, rather than by firms operating in a market. Moreover, the pressures on the capital controls system can become intense.
- **Fix the exchange rate, and liberalise (cross-border) capital flows.** But this comes at the cost of being unable to maintain the autonomy of monetary policy.
 - A number of countries in Asia are moving in the direction of liberalising their capital accounts, whether because they wish to see a more market-driven allocation of capital, or because they find that the pressures on the capital account too strong to withstand.
 - These countries have been finding, however, that they are de facto importing the (easy) monetary conditions set by the Fed. These may be appropriate for the US, at a time when that economy is only just emerging from recession, but they are currently less appropriate for the booming economies of Asia.

¹ Following Mundell (1963) and Oxelheim (1990)

FIGURE A: THE IMPOSSIBLE TRINITY



Source: Nomura

CHAPTER SEVEN

CHALLENGES AHEAD: THE SUPPLY SIDE

Asia Pacific's underlying supply-side potential remains considerable, and is the envy of much of the rest of the world.

- Realising Asia's potential depends on interaction of globalisation and institutional and structural reform
- Institutions, the rules of the game of a society, do much to determine its incentive structure
- Structural policy reform facilitates the flow of resources to an economy's most productive areas
- It is a continual, many-faceted, demanding process; and its execution is both complex and politically fraught
- It extends to many areas: technology, infrastructure, competition and trade, education, and social protection

IN SEARCH OF STRUCTURAL INTEGRITY

It was emphasised in Chapter 7 that the extent to which Asia Pacific's economies continue to realise their considerable economic potential, over the coming decade and beyond, will depend importantly on their success in implementing a wide range of policies. That chapter focused on policies that affect the demand side of the economy.

Good demand management, including counter-cyclical, policies can only do so much, however. Equally necessary is a multi-faceted approach to the implementation of appropriate structural, or supply-side, programmes. This has become all the more important and urgent now that there is evidence that productivity growth across the Asian region is waning.

The starting point of any consideration of Asia's supply-side potential is that it is better placed than most regions of the world:

- Domestic saving rates are high;
- Investment rates too are high in some economies;
- Urbanisation rates are still low;
- Demographic trends are still favourable in a number of countries;
- Labour is underutilised in most countries;
- Education and skill levels are in many cases low, albeit rising in many;
- Health systems offer considerable scope for improvement; and
- Service industries, many of which are inefficient and over-regulated, have scope to improve.

Ensuring that this potential translates into anything approaching optimal economic performance, however, is neither automatic nor straightforward. It will depend not only on good macro policy, but also on the interaction of the forces of globalisation and, most importantly of all over the longer term, on ability to enact – and to continue to enact – institutional and broader structural reform.

Time for clarity

'Structural reform' is an often lazily-employed phrase. While widely recognised as a 'good thing', it is seldom delineated or explained. Many commentators merely dub their pet dislikes in countries' structural make-ups or policy regimes as 'structural problems', with the implication that, if resolved to the commentator's satisfaction, economic performance would thereby be significantly improved. If only it were that simple.

So, what does structural reform really amount to? What does it imply for companies and individuals? And what is its role in policymaking, especially in today's vexed circumstances, when globalisation is pervasive, and many advanced economies are not only still cyclically depressed, but also face serious constraints on their longer-term growth potential, if not the threat of secular stagnation?

A little historical context helps. During the initial post-Great-Depression, post-World War II heyday of Keynesian stabilisation policy, the overwhelming priority of policymakers in the advanced economies, and especially in the so-called Anglo-Saxon world, was the maintenance of aggregate demand. This involved calibrating fiscal and monetary policy settings, together with whatever supplementary controls on capital flows, trade, or incomes were deemed necessary to ensure the full employment of resources, particularly labour. The implicit assumption was that, if demand management was successful, aggregate supply would largely take care of itself.

By the 1970s, however, the post-war boom was drawing to a close, and the shortcomings of this approach were becoming increasingly evident. The major economies had considerable difficulty absorbing two large oil shocks. Trend growth and productivity were slowing. Inflation had accelerated alarmingly, and was proving politically and socially costly to tame. Unemployment appeared to be on a secular upward trend. Policies, including labour, social, and in some cases industrial, put in place to make society a 'better' place, had proved to have unforeseen consequences, including inhibiting the capacity of economies to adjust, and diminishing their resilience to shocks.

In some countries this technical judgement coincided with a developing political view that the influence of the State in everyday activities had become overbearing. By the end of the decade, conventional wisdom was that: too much had become expected of demand management policy; the supply-side had been unduly neglected; there was a need to address burgeoning inefficiencies and scleroses; and government intervention should be scaled back or at least redesigned.

Priority was therefore given to so-called structural reforms and developing institutions that could encourage economic dynamism. This priority has been applied not just to the advanced economies but also, especially in the wake of various financial crises and in the context of globalisation, to the developing world. (see Box: Globalisation and Asia Pacific).

Managing change

While what is to be understood by 'structural reform' is seldom elucidated, our working definition is:

"Policies that encourage, or at least do not inhibit, the flow of resources from declining and less productive activities to growing and more productive activities, and which leave economies better able to absorb shocks".

In short, policies that improve the institutional architecture and increase economies' and societies' capacity to adapt to change.

Implicit in such a definition is the recognition that economies are always in transition. There are continual changes in relative prices, the pattern of consumption, and the structure of production – the result of the advance of technology, increasing per capita income and wealth, and the emergence of new global suppliers. Thus structural adjustment too has to be continual: structural reform is never complete.

Making it work

Making structural reform work can be complex and challenging, for a number of reasons.

First, the optimum moment for action is rarely obvious. Cyclical downturns are often considered to be politically the wrong time to impose additional, potentially disruptive, changes; while during an upswing, when the economy is doing well, why bother?

Second, the costs of structural reform are typically narrowly focused and immediate. Furthermore, the casualties of reform are frequently those with vested interests, who are powerful and vocal; and of course the reallocation of 'resources' usually includes people too. Adjustment is painful for those directly in the firing line, and can often take a generation.

A third inconvenient truth is that the benefits of structural reform are spread thinly across society and accrue only over time – they may take a decade or more to manifest themselves fully. Hence the gains are often reaped not by the reforming government but by the opposition. Equally unfortunate is the obverse: short-term populist measures such as subsidies, protectionism, and increased regulation can offer governments much more immediate economic and political gains, even if their longer-term influence is malign.

As if all that is not problematic enough, it is necessary also to calibrate macroeconomic policy with the reform process. This may mean a requirement to sustain aggregate demand, and in particular investment spending, during the early, potentially contractionary, phases. Indeed, failure to do so may undermine the entire process. However, the obverse may be true as the more expansionary elements become manifest, especially if dormant animal spirits revive.

Success will depend much on specific circumstances, but some combination of the following will help: a simple, easily-understood agenda; broad support across government; an opposition that is either not deeply entrenched against the strategy, or is too weak to make much difference; 'points of light' across society who provide vocal and credible support; the ability to assess progress, both quantitatively and qualitatively; and initiatives to temper the costs and/or compensate those who lose out as a result of these policies.

It is important throughout to sustain the momentum of change. And while a detailed sequencing of reform is in principle desirable, it is often unfeasible.

The reality of all this is that reforming governments generally have to settle for delivering what they can, when they can.

Structural reform facilitates the flow of resources

It is many-sided, demanding, and never complete

Execution is complex and politically difficult

BOX: GLOBALISATION AND ASIA PACIFIC

Globalisation is essentially the process by which national and regional economies become integrated via networks of trade and capital flows; communications; immigration and transportation. It has long been impelled by human innovation and the assimilation of technological progress, but its tempo and complexion have also been intricately bound up with the economic cycle. For example, cyclical downswings tend to recalibrate it, slow it down, or even temporarily send it into reverse, and while major recessions can be a spur to innovation, business investment is often the biggest casualty of a collapse in demand.

Globalisation has come particularly to the fore over the course of the past three or four decades as a catalyst for economic, social, and political change, and has necessitated significant policy responses on both the demand and the supply side.

Perhaps the two most impressive aspects of the latest phase of globalisation have been:

- A collapse in communication costs; and
- The increasing assimilation of the developing world and, in particular, rapidly-growing, populous, and often geographically large, economies.

Asia has been at the forefront of both of these developments. The world is no longer dominated by the OECD economies. The emerging world now accounts for around half of total global GDP, developing Asia for around a quarter, and China and India for about four fifths of this.

Globalisation has exerted a range of influences across societies, but the major considerations can be summarised as follows:

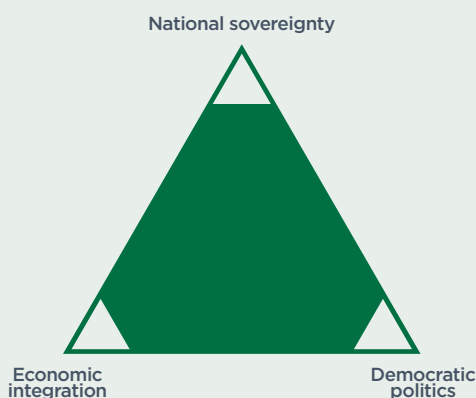
- Greater competition;
- Enhanced productivity via economies of scale and the division of labour;
- Geographic dispersion of production;
- The creation of larger and more diversified markets;
- Increased access to capital technology and cheaper imports; and
- Increased demand for exports.

Each of these factors has helped to propel economic growth and raise living standards. But they have also caused dislocations and, as with all change, there have been some losers from the process. These disturbances and their associated casualties have often been exacerbated by weak institutions, compromised balance sheets, poor incentive structures, and wrong-headed policy responses. Such considerations tend to be particularly common in emerging economies, and Emerging Asia is no exception to this. The key policy priority therefore is to maximise the benefits and minimise the costs. This in turn necessitates a persistent policy of structural adjustment along the lines outlined in Chapter 8.

Countries that have eschewed globalisation have tended to lag in the development race. Hence, there is a need for policy continually to encourage structural transformation. However, this can generate some difficult choices for governments.

As illustrated in the graphic below, democracy, national sovereignty, and global economic integration are incompatible. It is possible to combine only any two of the three – never all three simultaneously. The likely outcome is compromise, with globalisation proceeding in fits and starts, with the process never entirely completed.

FIGURE A: THE GLOBALISATION TRILEMMA



Source: Llewellyn Consulting

Down to some specifics

In framing a programme of structural reform, experience points to the benefits of overlapping, reinforcing initiatives. In general terms these extend to:

- **Embracing technology.** New technology acts to destroy low-productivity, low-skill, low-wage jobs while opening up the possibility of high-productivity, high-skill, better-paid jobs. But absorbing new technologies takes time, and involves considerable organisational change. It can: require large research and development outlays; investment in education and training; and an appropriate infrastructure of standards, protocols, and protections of rights and data. Macro instability, and subsidies or restrictive practices that reduce the pressure for change, all inhibit technology absorption.
- **Facilitating infrastructure.** Coherence and consistency in government infrastructure policy, not least in its approach to the long-term planning and assessment of projects, the regulatory environment, and private sector financial involvement, can encourage: trade; the division of labour; competition in markets; the diffusion of technology; better organisational practices; and better access to new resources, both physical and human.
- **Encouraging entrepreneurship.** Entrepreneurship may benefit from: reductions in regulations that discourage the entry of new firms; reduced subsidies to larger firms; better access to government research and development; secure intellectual property rights; the minimisation of government corruption; job creation and training schemes; a highly skilled workforce and good infrastructure; improved access to export credit schemes; and ready access to seed, venture, and equity capital.
- **Constraining non-wage costs.** The reduction of social security/tax ‘wedges’ – the gap between the cost to an employer of hiring and the wage received by the worker – helps to correct bias to unwarrantedly capital-intensive production.
- **Employment protection.** A balance has to be struck such that, while sensible rights of workers are safeguarded, unavoidable structural adjustments are not prevented.
- **Competition policy.** Competition is fundamental to the functioning both of factor and of product markets. This can be fostered by: lowering trade barriers; minimising collusion and cartelisation; and encouraging foreign direct investment that brings not just jobs and physical investment, but also latest technology and management techniques.
- **Education.** Good education is vital to the achievement of a highly skilled, motivated, flexible, and productive labour force. The requirement goes beyond a decent basic education to the tertiary level, vocational training, and life-time learning schemes.
- **Active labour market policies.** Government-sponsored programmes to help the unemployed find work and offer relevant training schemes facilitate labour force flexibility and dynamism. They are initially expensive: but they are a constructive improvement on mere passive income support, and pay dividends over the longer term.
- **Tax and benefit systems.** These need to be as simple as possible and, where the purpose is to affect the distribution of income, designed so as to minimise distortions in the allocation of productive resources.

Today's challenge

The overriding message is that structural issues are vital to economic performance, and are overlooked by governments and investors at their peril. The success or failure of structural policy will do much to determine Asian countries' growth rates over the coming decade.

Most countries' civil servants know, from several decades of experience and assessment, whether of their own or of other economies, what works and what does not. They also know that structural policy involves getting a lot of things right, and sticking with these initiatives for a long time. Politically, however, that message is often less well understood, or at least not implemented because of electoral considerations.

The breadth and specifics of structural shortcomings differ from country to country and change over time, not least because of the different stages of development at which countries find themselves.

As regards contemporary Asia, the quality and implementation of structural policies will be central in determining which economies will best meet the region's key challenges – effecting the shift from growth based on factor accumulation ('perspiration') and towards growth based on productivity improvements and driven by higher quality

FIGURE 55: STRUCTURAL POLICY PRIORITIES

Country	Priority area	Policy focus
Australia	Infrastructure	Planning, financing, and using infrastructure more efficiently
	Productivity	Improving innovation performance and promoting stronger competition
	Labour market	Maintaining a decentralised, highly skilled, and flexible labour market
China	Competition policy	Lowering barriers to entry for private firms
	Labour market	Reducing barriers to labour mobility
	Education	Enhancing outcomes and equity in education
Hong Kong	Land policy	Ensuring more land is made available for residential use
	Productivity	Enhancing SME productivity and raising the efficiency of innovation policy
	Labour	Strengthening life-long learning to develop human capital and increase labour flexibility
India	Infrastructure	Developing infrastructure, including through more effective regulation
	Competition policy	Reducing barriers to trade and foreign direct investment
	Labour market	Reforming employment protection legislation
Indonesia	Infrastructure	Developing infrastructure, bolstering natural disaster management, and strengthening the regulatory environment
	Labour market	Reforming labour regulation to help reduce duality in labour markets
	Competition policy	Easing barriers to entrepreneurship and investment
Japan	Labour market	Strengthening policies to support female labour participation
		Reforming job protection and upgrading training programmes
	Competition policy	Easing barriers to entry for domestic and foreign firms in the services sector
Malaysia	Labour market	Increasing female labour force participation
	Productivity	Improving the productivity of SMEs
	Education	Improving secondary education enrolment rates for girls and standards in education system
Myanmar	Infrastructure	Developing infrastructure in electricity, telecommunications, and (in particular) transportation
	Education	Increasing primary education attainment rates and lengthening the period of compulsory education
	Competition policy	Creating a business enabling environment
Philippines	Infrastructure	Developing infrastructure to reduce vulnerability to disasters and upgrade transport
	Competition policy	Fostering a business environment conducive to private-sector growth, job creation, and a decline in poverty
	Productivity	Improving agricultural productivity by adopting new technologies, and increasing related R&D
Singapore	Productivity	Enhancing SME productivity and raising the efficiency of innovation policy
	Labour market	Strengthening life-long learning to improve labour market flexibility
	Land policy	Optimising land use and allocation, by incorporating a green growth strategy
South Korea	Labour market	Strengthening policies to support female labour participation
		Reforming employment protection to reduce labour market duality
	Competition policy	Reducing barriers to entry for domestic and foreign firms in network industries and services
Taiwan	Productivity	Enhancing SME productivity in particular
		Raising the efficiency of innovation policy
	Labour market	Strengthening life-long learning to increase labour market flexibility
Thailand	Education	Improving the national curriculum and teaching standards
	Infrastructure	Improving institutional co-ordination across key sectors and between central and local government
	Productivity	Increasing agricultural productivity through modernisation and education
Timor-Leste	Infrastructure	Promoting infrastructure, particularly in transport and energy sectors
	Education	Developing human capital by increasing access to education and the quality of teaching
	Private sector development	Creating a business environment conducive to private-sector growth
Vietnam	Infrastructure	Improving infrastructure, particularly in transport and energy sectors
	Education	Enhancing outcomes and equity in education
	Private sector development	Promoting an equitable and stable business environment

Source: OECD and Llewellyn Consulting

Fuel truck leaving storage
depot in Vietnam



Infrastructure is central to development

It is a vital facilitator of growth

human and other capital and innovation ('inspiration'). This in turn involves climbing up the value added scale of production, developing more technology-intensive industries, and expanding the service sector.

To achieve these ends a range of specific structural issues in Asia's economies warrant particular attention (figure 55). High amongst these are:

- Infrastructure;
- Population ageing;
- Technology and innovation;
- The quality of public spending; and
- Trade and regional integration.

INFRASTRUCTURE

In the broad, infrastructure includes both physical (tangible) and non-physical (non-tangible) assets.

A country's infrastructure is central to the functioning of its economy and the welfare and development of its population. It can be thought of as the economic arteries and veins that enable people, capital, manufactured goods, commodities, water, energy, information, and more to move efficiently both within, and into and out of, the country.

It includes the assets that underpin the economy's networks for transport; energy generation, distribution and storage; communications; waste management; and water distribution and treatment.

Arguably, the most important elements extend to: major roads, railways, airports, seaports, power lines, pipes and wires; electricity and gas; electronic communications, including broadband; water, sewerage and waste; flood defences; and intellectual capital.

Most economists would also include 'social infrastructure' in the list, namely housing; hospitals; schools; universities; the legal system; government research institutions, and more.

Whether publicly or privately sponsored, infrastructure investment contributes directly to growth in the short term. But its role goes beyond this: over its lifetime it facilitates the delivery of the goods and services that promote prosperity and contribute to quality of life; and it adds to the productive capacity of the economy.

Moreover, empirical analysis suggests that infrastructure can have effects on economic growth over and above those arising from simply adding to the capital stock. It facilitates:

- Trade and the division of labour;
- Competition in markets;
- More efficient allocation of activity across regions;
- Trade and cross-country growth spill-overs;
- The diffusion of technology;
- Better organisational practices; and
- Access to new resources, both physical and human.

(see Box: Macroeconomic effects of infrastructure spending)

BOX:

MACROECONOMIC EFFECTS OF INFRASTRUCTURE SPENDING

The relationship between infrastructure and output is difficult to estimate precisely and, causality can be hard to determine empirically. Important influences on the observed relationship, both in the near term and over the longer term, include:

- The precise nature of the spending;
- Its longevity;
- The stance of monetary policy;
- The state of the business cycle;
- The health of the financial sector and prevalence of credit constraints on the household and business sectors; and
- Externalities and spill-over effects.

Such caveats aside, there is suggestive evidence that infrastructure enhances growth in ways that go beyond the direct effect on the capital stock. These include economies of scale, network externalities, and the potential for increased competition. The construction of a new airport for example, can generate benefits to the economy that go way beyond the initial capital outlay.

The results of empirical studies suggest that effects differ both across countries and sectors, and that they vary over time, with episodes of under- and over-provision, and efficient and inefficient use of investment. But, as is to be expected, infrastructure appears to exert a stronger long-term impact on growth at lower levels of provision.¹ In practice, achieving a value for the multiplier – defined as the increase in GDP following a 1% increase in infrastructure spending – of much above 1 will depend on the nature and quality of the investment, and in particular on the potential for long term impacts on productive potential and productivity.

It is, however, likely that multipliers are larger for public investment than for other fiscal policy measures, and they are also likely to be larger when, as in current circumstances, the stance of monetary policy is easy, the private sector is unable or unwilling to borrow, unemployment is high, and the economy is working below full capacity.

¹ See: Egert, B., Kozluk, T. and Sutherland, D., 2009. *Infrastructure and growth: empirical evidence*. OECD Economic Department Working Paper No. 685.

Some of Asia's infrastructure is world class

But in some Asian countries it is poor

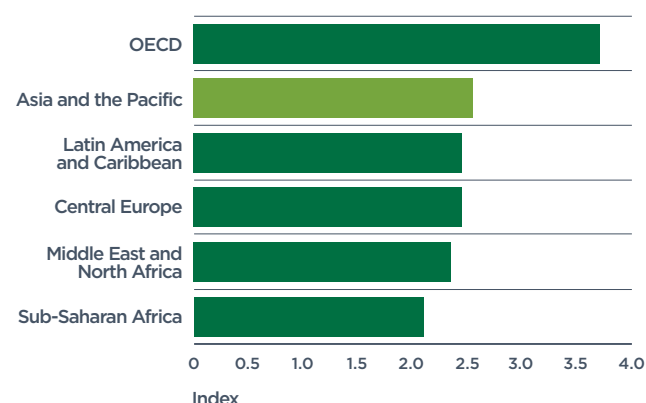
Asia's mixed infrastructure performance

There can be little doubt that Asia's continued development and realisation of its underlying growth potential will depend importantly on efficient and reliable infrastructure. Studies also suggest that roads and electricity pay particular dividends in reducing poverty. However, while parts of the region's infrastructure are world class, a significant proportion is below average, and represents a bottleneck to growth. Much of the region's potential is untapped because of these shortcomings.

The World Bank's 'Logistics Performance Index' ranks regional infrastructure capability from 1 to 5. The 'Asia and the Pacific' score of 2.55 is, as might be expected, much lower than scores attained by the OECD economies. Relative to other emerging regions, however, Asia and the Pacific's performance is generally better (figure 56).

Country-by-country, infrastructure capability varies considerably across the region. Singapore, Hong Kong, and Japan are among the best performers globally. Taiwan, Korea, China, and Malaysia also score just below the OECD average, and well above the average for the Asia and Pacific region. Thailand and India too score above the average for the region. The Philippines, Vietnam, and Indonesia however score around the average; and the remainder score poorly (figure 57). A more detailed survey of infrastructure undertaken by the World Economic Forum gives similar results, although India is reckoned to do rather less well (figure 58).

FIGURE 56: REGIONAL INFRASTRUCTURE SCORES



Source: Asian Development Bank, Economics Working Paper Series, No. 294
Notes: Japan, Korea, and Mexico are not included in the OECD figure.

FIGURE 57: INFRASTRUCTURE SCORES, SELECTED COUNTRIES

Country	Score	Global rank
Singapore	4.2	4
Japan	4.2	5
Hong Kong	4.0	13
Taiwan	3.6	22
Korea	3.6	23
China	3.5	27
Malaysia	3.5	28
Thailand	3.2	36
India	2.9	47
Philippines	2.6	64
Vietnam	2.6	66
Indonesia	2.5	69
Cambodia	2.1	114
Lao PDR	2.0	132
Myanmar	1.9	134
OECD	3.7	
Asia and Pacific	2.6	

Source: Asian Development Bank, Economics Working Paper Series, No. 294

FIGURE 58: BREAKDOWN OF INFRASTRUCTURE CAPABILITY

	All infrastructure		Roads		Rail		Ports		Air transport		Electricity		Mobiles/100 pop.	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Hong Kong	1	6.7	5	6.2	3	6.5	3	6.6	2	6.7	1	6.8	1	228
Singapore	2	6.4	7	6.2	10	5.7	2	6.8	1	6.8	8	6.7	18	153
Japan	9	6.0	12	6.0	1	6.7	30	5.2	37	5.4	34	6.0	73	109
Korea	11	5.9	15	5.8	8	5.7	21	5.5	22	5.8	39	5.7	70	110
Taiwan	14	5.8	14	5.9	9	5.7	29	5.3	41	5.4	28	6.2	43	126
Malaysia	29	5.2	23	5.4	18	4.8	24	5.4	20	5.8	37	5.8	27	141
Thailand	47	4.5	42	4.9	72	2.6	56	4.5	34	5.5	58	5.2	49	120
China	48	4.5	54	4.5	20	4.7	59	4.5	65	4.5	67	5.1	116	81
Indonesia	61	4.2	78	3.7	44	3.5	89	3.9	68	4.5	89	4.3	62	115
Vietnam	82	3.7	102	3.1	58	3.0	98	3.7	92	4.0	95	4.0	21	149
Lao PDR	84	3.7	65	4.2	N/A	N/A	137	2.6	76	4.3	61	5.2	90	102
India	85	3.7	84	3.7	19	4.8	70	4.2	61	4.8	111	3.2	123	69
Philippines	96	3.4	87	3.6	89	2.1	116	3.4	113	3.5	93	4.0	81	107
Cambodia	101	3.3	80	3.7	91	2.0	81	4.0	90	4.1	112	3.2	38	132
Myanmar	141	2.0	138	2.4	104	1.8	136	2.6	146	2.2	118	2.9	148	11

Source: World Economic Forum, Global Competitiveness Report, 2013-2014
Notes: Rankings are global. Mobiles = mobile phones per 100 population.

The challenges ahead

Spending on infrastructure across the Asia Pacific region is almost universally expected to continue to grow robustly. There is widespread belief that the costs of improved infrastructure will be far less than the benefits of reduced road accidents, human trafficking, human displacement, and environmental damage.

Moreover, there is a strong consensus that the key areas of investment for the coming decade are likely to be energy and transport, although water and housing quality in urban areas are important also (figure 59). Much of the spending is likely to be in advanced technologies, including ‘clean energy’, and there will most likely be growing private sector involvement, although this will also often require government guarantees and a sympathetic regulatory structure.

The creation of an ‘Asian infrastructure fund’ to help mobilise Asian and international finance, and meet the challenges of preparing and financing ‘bankable’ regional infrastructure projects, would be helpful. Its capital could come from a variety of sources, including governments, sovereign wealth funds, multilateral development banks, and private investors. Having its own independent legal identity would enable such a fund to finance projects through its own resources, as well as by issuing bonds or through co-financing arrangements with other entities, including private investors.

Around 80% of the US\$8trn of infrastructure outlays projected for the remainder of this decade are likely to be in the areas of energy and transport, of which more than half of the total will be energy focused (figure 60).

Traditionally, Asian infrastructure projects have been funded by domestic governments or domestic banks. However, following the GFC, restrictions on foreign investment into the region were eased somewhat, and a growing number of projects involve public-private partnerships (PPPs). McKinsey estimates that, over the coming decade, \$1trn of the \$8trn (12.5%) of projected infrastructure projects will be open to private investors through PPPs.

Much, however, remains to be done to encourage PPPs. Political pressures and environmental issues often cause long delays between initial planning and final project approval. Many Asian governments still have rather ill-defined PPP policies that, because of their vagueness, inhibit private participation. Capital controls also frequently deter investors who worry that they might not be able to repatriate cash flows. Weak regulatory and legal systems intensify risk, and shallow, illiquid capital markets complicate exit strategies.

Better infrastructure can strengthen trade linkages in Asia

As impediments to trade have declined across the region, the importance of infrastructure shortcomings to Asian trade networks has become more obvious. Where infrastructure is recognised as good, Asian trade has expanded rapidly, with East Asia the most obvious case in point. However, where infrastructure is less impressive, such as in southern Asia and between some sub-regions, trade flows are less expansive. Correcting these infrastructure shortcomings will both lower the cost of trade and increase trade volumes.

FIGURE 59: ASIAN INFRASTRUCTURE IN PERSPECTIVE

Infrastructure area	Issues	Annual growth in investment spending, 2008-2018, %	
Energy	0.8bn in Asia have no access to basic electricity	Infrastructure	Clean energy
	1.8bn still rely on basic biomass for cooking and heating	Global	10.9
Water	1.8bn lack basic sanitation	Asia Pacific	18.9
	600m lack safe drinking water		
	High climate change risk		
Transport	Half of roads are unpaved		
	In some countries 30-40% of villages are without all-weather road access		
	Tens of millions have no access to affordable and convenient transport services		
Urban	505m slum dwellers in Asia		

Source: Asian Development Bank, 2011

Traditionally, Asia's trade has been dominated by sea freight, with inland areas and land-locked countries benefitting the least. Also, as goods have become lighter and higher value added in nature, and inter-regional trade in parts and components for regional supply chains has expanded, air, rail, and road networks have become more important. Developing these areas of infrastructure will be of particular importance for Asia's growth potential.

AGEING

Demographic forces can be highly influential

Output is determined by both aggregate demand and aggregate supply. Demographic effects operate on aggregate demand through expenditures that are affected by the number of people demanding goods and services, either privately or via government spending on their behalf. And as regards aggregate supply, the quantity and quality of the labour force plays a key role, along with associated savings and investment.

From around 1965 onwards, Asia enjoyed a large demographic dividend. The sharp increase in working-age populations, plus the associated savings, investment, and human capital accounted for as much as a third of regional growth.¹⁴ The Asia Pacific region is still benefiting from relatively rapid population growth and associated low dependency ratios (the ratio of the population aged 0-14 and 65 and over relative to that aged between 15 and 64).

However, with fertility rates declining and life expectancy rising, working-age population growth is set to slow, and dependency rates to rise. Indeed, East Asia and the Pacific faces the most rapid population-ageing process ever seen. Several Asian economies will experience, over just 30 years, a change in age composition that took a century or more to unfold in OECD economies. Moreover, many of these economies are still very poor. These declines in the share of working age population stand to be a drag on Asia's economic performance, although the impacts are likely to differ considerably from country to country.

Asia's population dynamics are due to change ...

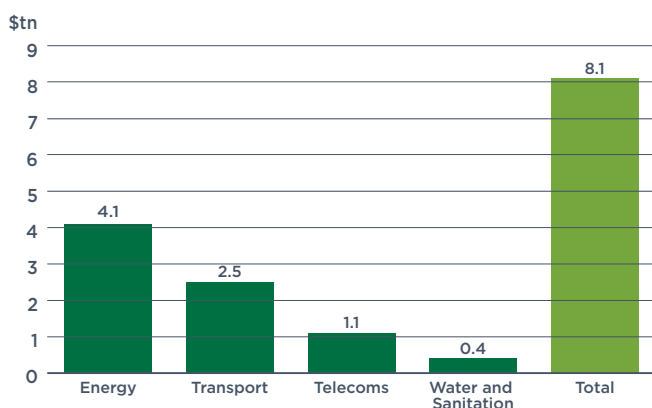
Japan already has the oldest population in the world. Dependency ratios will increase in China, Thailand, and Vietnam over the coming decade, although they will continue to dip in India, the Philippines, and Indonesia. Beyond the 10-year horizon, dependency ratios will rise everywhere in Asia, with the exceptions of India and the Philippines. China and Thailand will be particularly hard hit (figure 61).

This less helpful demographic environment for growth in the region will place an increasing onus on capital deepening and maximising productivity performance to drive growth, again underlining the importance of structural reforms and the search for more efficient utilisation of resources.

... necessitating major structural policy responses

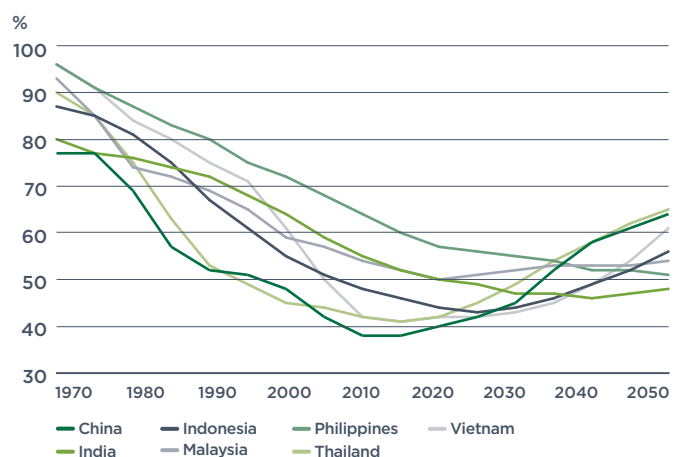
The reform process will necessarily have to extend to labour force issues themselves. In an echo of the challenges already facing many OECD economies (not least Japan), developing-Asia governments will need to sustain the skills of ageing workers, extend productive working lives, increase retirement ages, and recalibrate public pension and health systems, where long-term care will become an increasing priority. They will also have to facilitate higher female participation, and look to other untapped labour resources. All this will involve significant adjustments to tax systems and transfer incomes.

FIGURE 60: INFRASTRUCTURE NEEDS IN EMERGING ASIA



Source: ADB, McKinsey
Notes: Estimates for period 2010-2020.

FIGURE 61: RATIO OF POPULATION AGED 0-14 AND 65+ TO AGED 15-64



Source: IMF Asia and Pacific Regional Outlook 2013
Notes: Dependency ratio projected using the U.N. medium fertility scenario.

Innovation impacts capital,
labour, and MFP

Asia needs to
innovate more

Education standards need
to improve ...

... and more investment is
needed in R&D

Although there are some important existing policy commitments, not least in the form of defined-benefit pensions, the Asian economies are less hemmed in than are OECD economies by legacy commitments made decades ago with scant regard to demographic trends. In relative terms, Asian governments have more space to shape an appropriate response to ageing. And for some, there remains a helpful demographic window for considered policy formulation.

TECHNOLOGY AND INNOVATION

Innovation contributes to the three underlying principal drivers of economic growth: capital, labour, and (multi-factor) productivity (MFP). Economies that have grown fastest have typically drawn the most people into employment, accumulated the most capital, improved the quality of their workforces, and enjoyed the most rapid MFP growth.

The contribution of technology and innovation to MFP has long been recognised by economists. The MFP of an economy reflects the efficiency with which labour and capital are utilised, and this in turn is driven by technological and non-technological innovation – improved management practices, organisational changes, and better ways of producing goods and services in response to evolving consumer and societal needs. (see Box: The technology revolution).

Moreover, innovation creates new products that become part of the capital stock used by firms in generating their own economic output. For example, companies in the IT sector, which have provided the most dynamic component of business investment and made significant contributions to economic growth in many fast-growing economies, have themselves experienced extremely high rates of technological innovation over recent decades.

Asia must evolve from technology absorption to innovation

Asia, like most developing regions, has long been a borrower and a copier of technology. However, if the region is to maximise its growth potential, there is a sense that it must move beyond technology absorption and undertake more innovation for itself.

The importance of education

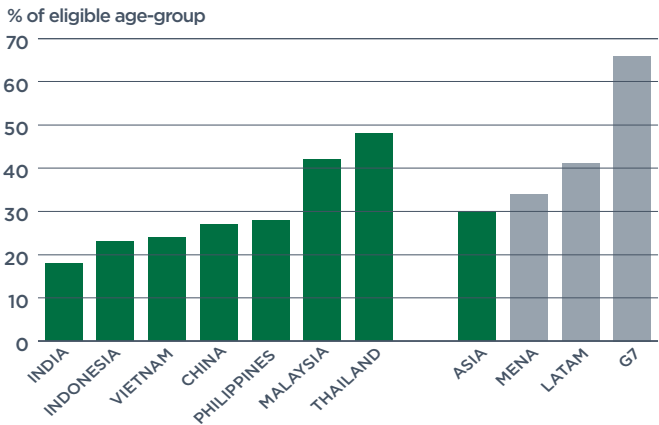
Increased tertiary education enrolment can be an important facilitator of this process. In aggregate terms, Asian tertiary education enrolment is lower not just than in the advanced economies, but also than in the Middle East and North Africa (MENA) and in Latin America. Malaysia and Thailand can boast the highest tertiary education enrolment within the region, and China is catching up. India however is a long way behind. Indonesia and Vietnam also have work to do (figure 62).

The region needs to follow China's lead on R&D

Expenditure on research and development is investment in knowledge that can translate into new technologies and more efficient ways of using existing resources. Evidence suggests that there is a significant effect of R&D activity on economic growth, with private sector R&D particularly powerful.

Seeking to raise R&D spending both through direct provision and through indirect measures such as tax incentives and protection of intellectual property rights is therefore another priority for Asia governments.

FIGURE 62: TERTIARY EDUCATION ENROLMENT



Source: IMF Asia and Pacific Regional Outlook 2013
Notes: China, Thailand, and Vietnam data are as of 2011; India, Indonesia, and Malaysia, 2010; the Philippines, 2009; Latin America, 2005-11; Middle East and North Africa, 2008-11; G7 (excluding Germany), 2009-10.

BOX: THE TECHNOLOGY REVOLUTION

Technological development is progressing as fast today as it has over the past 40 years. Indeed, it has been said that the technology revolution of today is bigger than the Industrial Revolution of the 19th and early 20th centuries.

- The number of transistors on a microcircuit has doubled every two years since the early 1970s, notwithstanding expectations that the pace would slow.
- The ‘Baumol’ effect whereby prices of labour-intensive services rise continually relative to those of capital intensive goods, will continue to be a powerful force, driving the substitution of technology-intensive products for services and in the process transforming sectors, markets and whole economies.
- There is also the likelihood of more disruptive technologies that force deep and rapid change, often in a manner that is difficult to predict in advance such as digital technology and the internet.

Capital-intensive goods and services are set to grow dramatically. The likely impact of this will be:

- Increasing research and development and products that offer capital-intensive substitutes for traditionally labour intensive services, such as healthcare.
- Increasing use of technology beyond ‘traditional’ sectors. The more advanced cousins of current-generation robots (typically confined to factories doing difficult, dirty or dangerous tasks) will soon be able to undertake tasks safely in office- and home-based environments.
- Increasing penetration of automation/computerisation into all aspects of the supply chain, across all sectors, bringing cumulative labour productivity gains.
- Increasing vulnerability of IT systems. Much network infrastructure was not designed with security in mind; it is difficult to make such systems secure retrospectively.
- The economically-disruptive technologies set to transform the economic landscape could include: automation of the office clerk, cloud technology, advanced robotics, autonomous and near-autonomous vehicles, next-generation genomics, energy storage, 3-D and 4-D printing, advanced materials, advanced oil and gas exploration and recovery, and renewable energy.

Technology-driven change will challenge policymakers, in the process endangering existing structures. Some of the policy-focused developments to watch for in the years ahead include:

- Growing political pressure to address technology-driven threats, such as the hollowing out of middle-skilled jobs as a result of automisation and computerisation; the ‘rise of the robots’ spreading from manufacturing to low-skilled service sector jobs, and into homes; and new and emerging security threats.
- ‘Onshoring’ of manufacturing due to advances in 3-D and 4-D printing, particularly for SMEs.
- Step-change advances in battery technology – which would be potentially key to unlocking renewable energy and the electric car.
- Increasing demand for, and potential scarcity of, rare earths and metals.
- Increasing public policy support for IT infrastructure and networks.
- The inability of governments and businesses to adapt policy and implement change quickly enough.

Chapter seven:
Challenges ahead –
the supply side

The role of government is
set to increase ...

... underlining need for a
focus on efficiency

Some countries are
rationalising subsidies

More sophisticated, higher value-added products such as consumer electronics, ICT equipment, and pharmaceuticals are heavily dependent on research and development. Effective innovation capabilities require a business environment that facilitates entrepreneurship and provides access to the finance necessary for the creation and growth of innovative firms. Such an environment needs to be underpinned by effective university and research institutions with strong links to industry.

R&D spending in Asia is especially low in Indonesia and the Philippines. Vietnam and Thailand also score poorly. China and India, on the other hand, are investing in R&D to a greater extent than are most emerging economies; and China outperforms its peers in the arena of innovation by some margin. Indeed it now compares with the advanced economies in terms both of inputs and of outcomes (figure 63).

THE QUALITY OF PUBLIC SPENDING

General government outlays amount to a little under 25% of GDP on average in Asia, much below the 40%-plus figure characteristic of the developed world, and Europe in particular. Asia Pacific's figure will no doubt rise as its economies continue to develop, population structures age, and state provision of pensions, health care, and other social support mechanisms increases.

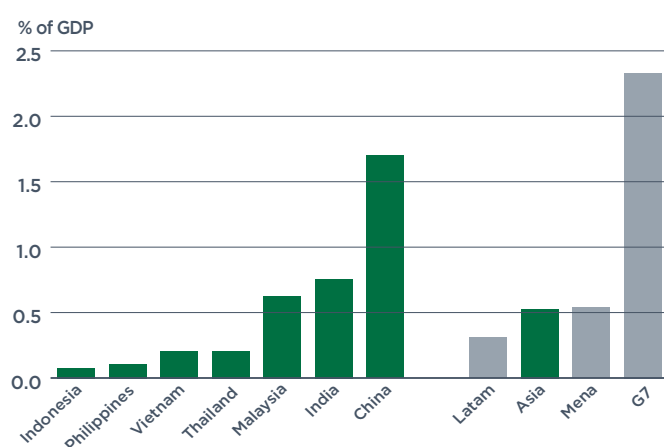
Issues around Asian public spending relate not only to its overall share of output but also to its quality. In many Asian economies there are serious weaknesses in respect of government efficiency and the breakdown of spending. Corruption and overbearing bureaucracies hinder business development across much of the region, not least in the middle-income economies. In some instances, public investment is financed via non-transparent local government financing vehicles and opaque PPPs.

Furthermore, notwithstanding relatively poor health conditions, low education levels, and a rising per capita income, government spending on health and education has barely increased as a proportion of GDP over the past decade, and remains much lower than in other developing regions and in the advanced nations. Nor does private health spending make up the gap. Pressure for change seems bound to rise.

Food and energy subsidies are a particular source of concern

Subsidies in Asian economies often represent a much larger share of total government spending than in the OECD economies, while the weight of social benefits is typically lower. Indeed, despite a number of reforms over the past few years, in some countries public sector expenditures on food and, especially, energy subsidies continue to impose substantial budgetary costs. In Indonesia, for example, the fiscal cost of oil and food subsidies, some 4% of GDP, is close to total government outlays on health and education (figure 64).

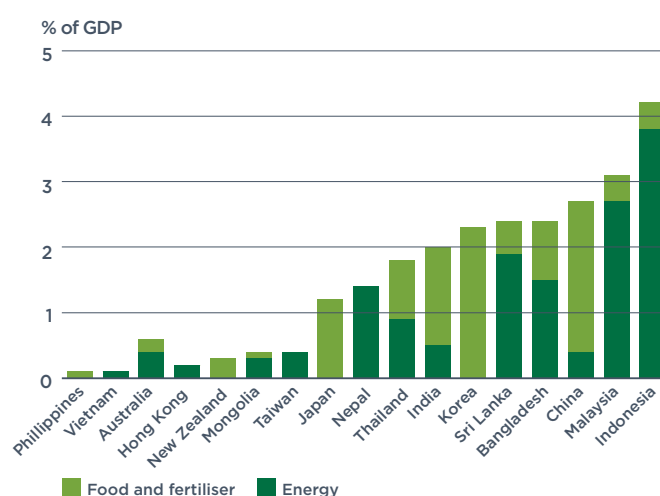
FIGURE 63: R&D SPENDING



Source: IMF Asia and Pacific Regional Outlook 2013

Notes: Latest available data: Malaysia, 2006; India, the Philippines, and Thailand, 2007; China and Indonesia, 2009; Vietnam, 2010; Latin America, 2006–10; Middle East and North Africa, 2009–11; G7, 2009–10.

FIGURE 64: FOOD AND ENERGY SUBSIDIES



Source: IMF Asia Pacific Regional Outlook 2013

Notes: For non-OECD economies, food subsidies refer to fiscal costs reported in the budget, including transfers to loss-making energy producing companies. For OECD economies and China, food subsidies are from OECD and include also foregone revenues.

Asia's diversity has bred integration ...

... which is reflected in a number of metrics

Another common and related problem is the revenues that are foregone as a result of the preferential tax treatment of energy products. In India, these are estimated to be of the order of 1 to 1 ½% of GDP. Subsidies also create distortions and other economic costs, can be damaging to the environment, and often benefit higher income groups more than the poor.

A number of countries, including Indonesia, Malaysia and Thailand, are trying to rationalise their subsidy regimes, but the process has some way to go.

TRADE AND REGIONAL INTEGRATION

Asia Pacific's diversity is a major element of its strength, providing opportunities for trade, investment, and economic growth. And the region has clearly benefited from a long-established process of integration that has been accelerated from time to time by bouts of global uncertainty and crisis. In the face of adversity, Asia's economies have often looked to one another for support.

International supply chains and other burgeoning networks today span the area, enhancing each country's comparative advantage, while the protracted weakness in economic activity in the OECD economies is currently providing further impetus for the process.

Regional integration unleashes a number of important processes, encouraging:

- Efficient allocation of resources;
- Expansion of markets and the sources of inputs; and
- Economies of scale.

All of these processes can combine to raise productivity.

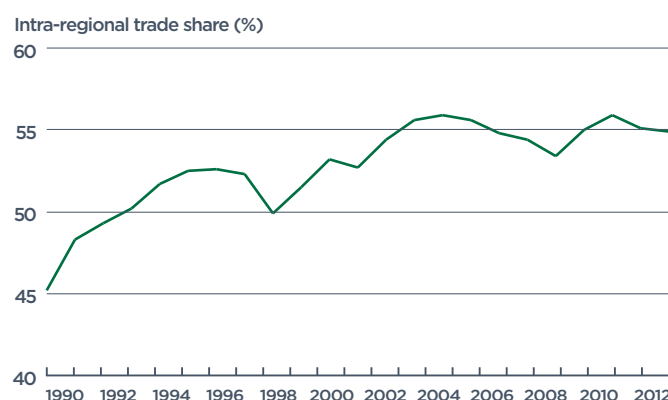
Intra-regional integration in Asia has increased significantly since the 1990s

Intra-regional trade has risen from 45% of the region's total trade in 1990, to 55% in 2012 (figure 65). East Asia and South East Asia exhibit the highest degree of cross-border flows relative to other sub-regions: 36% of East Asia's trade and 25% of South East Asia's trade was within itself, compared with single-digit shares elsewhere.

Other intra-regional metrics, including the amount of foreign direct investment, international portfolio flows, bank credit, migration, and tourism have also trended upwards over this period.

Almost 17% of East Asia's equity flows were within its own region (figure 66). These cross-border equity flows have slowed modestly since 2010, despite still-growing intra-regional foreign direct investment, bond holdings, and tourism. However, it seems likely that this will prove to be a temporary hiatus rather than a decisive reversal of trend.

FIGURE 65: ASIAN REGIONAL TRADE INTEGRATION



Source: IMF Directions of Trade Statistics

Chapter seven:
Challenges ahead –
the supply side
The process has centred
on China and electronics

This caused problems at
the time of the GFC

Business cycles have
become more synchronous

Trade with China has been at its core

This development of intra-regional Asian linkages has been fuelled particularly importantly by rapidly-growing trade in parts, components, and intermediate products, based on the segmentation of production processes and focused in particular on the East Asian electronics industry (figure 67).

While progressively moving up the value added chain and embracing higher and higher-value technology, the East Asian economies have been supplying parts and components to China; and China in turn has been exporting final goods to the rest of the world, in particular the US, Japan, and the EU.

Thus, notwithstanding the region's growing integration, the nature of its intra-regional linkages and its ultimate export dependence on the OECD economies has endured; and this proved a major weakness at the time of the GFC. Export contraction in China as demand from the West dried up in late 2008 and early 2009 reverberated around the rest of the region. As noted in Chapter 3, the decoupling hypothesis was thereby shown to be a myth. In 2009 and 2010, the drop in intra-regional trade was less important than the drop in extra-regional trade, resulting in an increase in the former's trade share.

Business cycle synchronicity and sub-regional linkages

All this can be seen in business cycle correlation coefficients (figure 68) and various other indicators of intra- and inter-regional assimilation (figure 66). Business cycles in emerging Asia have become more synchronised with those of China over the past two decades. This has been particularly the case for the NIEs although, interestingly, the degree of co-movement with Japan has remained higher. Asia also became more closely synchronised with the US after 2003, having previously decoupled somewhat in the ten years after 1993.

FIGURE 66. PROGRESS IN REGIONAL INTEGRATION (2008-2012)

	Intra-regional						
	Production Networks and Trade		Capital Markets		Macroeconomic links	Migration	
	FDI (%)	Trade (%)	Equity holdings (%)	Bond holdings (%)	Output correlations	Tourism (%)	Migrant to population ratio (%)
Central Asia	N.A.	5.9	0.4	N.A.	0.3	28.1	1.6
East Asia	56.7	35.9	16.6	3.4	0.6	74.3	0.3
South Asia	N.A.	4.4	0.5	15.0	0.2	12.0	0.5
Southeast Asia	16.6	24.5	6.8	8.4	0.5	69.7	0.7
The Pacific and Oceania	0.3	7.9	N.A.	N.A.	0.1	3.5	0.1
	Inter-regional						
	Production Networks and Trade		Capital Markets		Macroeconomic links	Migration	
	FDI (%)	Trade (%)	Equity holdings (%)	Bond holdings (%)	Output correlations	Tourism (%)	Migrant to population ratio (%)
Central Asia	N.A.	22.8	12.0	N.A.	0.3	5.4	N.A.
East Asia	6.0	17.3	4.4	6.1	0.4	9.8	N.A.
South Asia	21.3	30.2	19.9	5.7	0.3	34.5	N.A.
Southeast Asia	46.6	42.5	39.3	32.1	0.4	20.9	N.A.
The Pacific and Oceania	13.6	62.0	N.A.	N.A.	0.2	12.1	N.A.
Total (Intra + Inter) Asia	45.6	54.9	25.8	12.3	0.33	80.0	0.5

Source: Asian Development Bank 2013, *Progress in Regional Cooperation and Integration*.

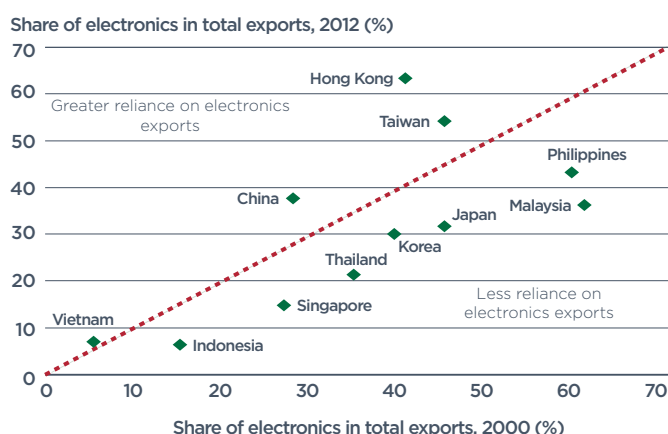
Notes: The percentages shown refer to the share of intra- (within sub-region) and inter- (across sub-regions) regional flows. FDI refers to foreign direct investment. Red shaded areas refer to a decrease from the 2000-07 average. Light green shaded areas refer to an increase from the 2000-07 average. Non-shaded = no change from previous average.

Intra-regional trade in consumption goods is taking off

There are however growing signs that the pattern of intra-regional trade is evolving in such a way as to render Asia less vulnerable in future to the sort of external demand shock delivered in 2009 and 2010. In particular, there are some indications of a drop in the share of intermediate products in the total, and of China losing some of its dominance as a regional production base as its cost advantage gradually diminishes.

Moreover, as the middle class expands, wealth effects from property and other asset holdings increase, and households become both willing and able to shoulder higher levels of debt, China and other regional economies are beginning to emerge as increasingly deep and diverse consumer markets (figure 69).

FIGURE 67: SHARE OF ELECTRONICS IN TOTAL EXPORTS, 2012



Source: IMF Asia and Pacific Regional Outlook 2013

FIGURE 68: BUSINESS CYCLE CORRELATION COEFFICIENTS

	1993Q1-2003Q1	2003Q1-2013Q2	1993Q1-2013Q2
CHN-Emerging Asia 9	0.4	0.5	0.42
CHN-NIAE	0.31	0.62	0.48
CHN-ASEAN4	0.54	0.32	0.36
CHN-India	0.1	0.72**	0.55
CHN-US	-0.12	0.34**	0.17
JPN-Emerging Asia 9	0.63	0.72	0.64
JPN-NIAE	0.64	0.76	0.67
JPN-ASEAN4	0.78	0.74	0.64
JPN-India	0.06	0.57**	0.43
JPN-US	-0.03	0.85**	0.59
JPN-CHN	0.5	0.45	0.46
US-Emerging Asia 9	0.12	0.66**	0.36
US-NIAE	0.29	0.68**	0.49
US-ASEAN4	-0.18	0.69**	0.18
US-India	0.66	0.43	0.5

Source: ADB, 2013, *Progress in Regional Cooperation and Integration*.
Notes: ** indicates that the 2003Q1-2013Q2 statistic is significantly higher than the 1993Q1-2003Q1 statistic.

Chapter seven:
Challenges ahead –
the supply side
... as is trade in services

Further trade liberalisation
is on the agenda

The growing importance of trade in services

Although Asian service sectors typically account for a much smaller share of GDP and employment than in the advanced economies, trade in services is a further area of growth and importance to the region's future development and resilience. Asia is now the only region of the world that has a comparative level of service trade intensity to goods trade intensity (figure 70). Perhaps more than anything else this reflects Chinese as a shared language, and the archipelagic nature (the limited number of common land borders) of the region.

On the other hand, service activities are still concentrated in relatively low-productivity areas such as wholesale and retail trade. More sophisticated, higher productivity, services such as finance, ICT, and business services are less to the fore. Furthermore, regulatory and other barriers to entry in service sectors remain high, and relatively few regional service trade agreements (RTAs) have been negotiated thus far. There is considerable upside for regional service trade integration.

The Trans-Pacific Partnership (TPP)

The events of recent years have also served to enhance Asia's interest in regional dialogue and integration. Trade co-operation in an effort to develop an 'Asian Market' has become a particular focus.

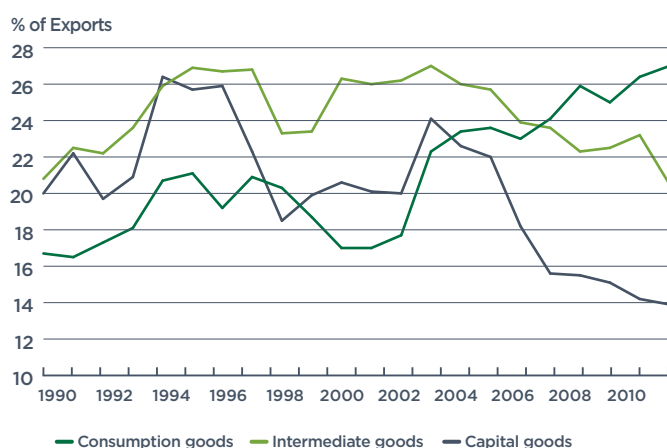
Nowhere is this more in evidence than in the Trans-Pacific Partnership (TPP). This free trade agreement designed to link Asia and the Americas more closely involves Australia, Brunei, Chile, Canada, Japan, Malaysia, Mexico New Zealand, Peru, Singapore, the US, and Vietnam, countries that between them are responsible for 40% of global GDP and a quarter of world trade flows. Furthermore, numerous other Asia nations, including Taiwan, South Korea, the Philippines, Indonesia, Thailand, and India have expressed an interest in joining, although to date China, so important for regional integration, remains outside the scheme.

The TPP represents a comprehensive free-trade agreement, designed to stimulate trade in goods and services, strengthen intellectual property rights, and improve government procurement and competition policies. It is intended to eliminate tariff and non-tariff barriers to trade, and harmonise a broad range of regulations.

The main obstacles still to be overcome extend to: intellectual property; the role of state-owned enterprises; some areas of market access, not least in Japan and in particular its agricultural sector; dispute-resolution procedures; and tobacco. At a more general level there has been some criticism that the TPP will strengthen the power of multinational companies, many of which are US-based, at the expense of regional sovereigns.

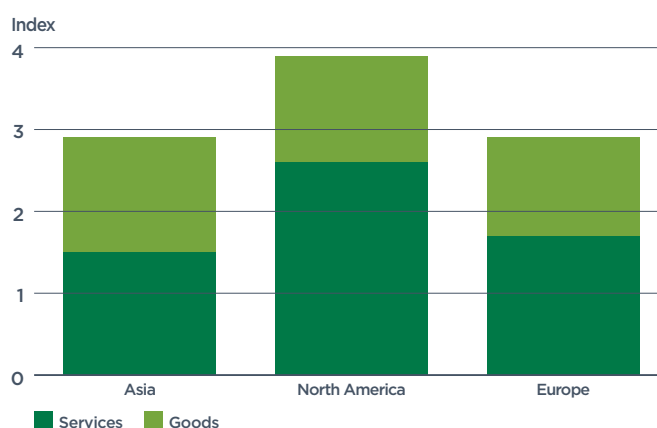
Over the longer term, the full benefits of Asia's size and diversity can be fully realised only by the creation of a single market, in which goods, services, capital, information and people move freely. Moving towards this vision of a seamless Asia will require considerable political leadership.

FIGURE 69: ASEAN 5 INTRA-REGIONAL EXPORTS, % OF TOTAL EXPORTS



Source: IMF Asia and Pacific Regional Outlook 2013
Notes: % of total exports in each category.

FIGURE 70: INTRA-REGIONAL TRADE INTENSITY, 2010



Source: Asian Development Bank, Asian Economic Integrator Monitor
Notes: Asia refers to China, Hong Kong, Japan, Singapore, and South Korea. North America refers to Canada, Mexico, and the US. Europe refers to France, Germany, Italy, the Netherlands, Spain, and the UK.

CHAPTER EIGHT

THE FINANCIAL SYSTEM

The efficiency of Asia Pacific's financial system is vital to its development, and is in the midst of considerable change.

- Nevertheless, important shortcomings remain, especially the financing of small and medium-sized enterprises
- Efficient channelling of credit to businesses and consumers plays a key role in economic growth
- Considerable improvements have been made to Asia's financial sector architecture and institutions since 1997
- Monetary policy and macro-prudential frameworks have been significantly improved
- However, more needs to be done if the standards of the developed economies are to be reached

Healthy, diverse financial sectors are key to growth

Asia Pacific's financial system weathered the GFC well

But numerous shortcomings endure

These are especially obvious for the SME sector

ASIA PACIFIC'S FINANCIAL SYSTEM IS GROWING UP

Asia Pacific's ability to make the most of its considerable development potential will depend importantly on the capabilities of the region's financial systems. Credit will need to be channelled efficiently, and on financially sound terms, to the sectors and businesses that lead the transformation of the economy.

Moreover, such sectors and businesses will often have characteristics that are different from those to whom credit has traditionally been directed. Increasingly sophisticated economies will need to be served by greater diversity in financial instruments and facilities, while financial institutions and markets will need to come to terms with the management of the new risks associated with this evolution.

Considerable progress has been made since the 1997-98 Asian financial crisis in improving the soundness of Asia's banks and other financial institutions, and in developing a wider array of financial outlets. One consequence was that the region's financial system weathered the 2008 global financial crisis (GFC) reasonably well. The crisis did relatively little damage to regional banks' profitability and liquidity, and non-performing loans are currently less of a problem than in other regions (not least many within OECD economies) and have recently been on a declining trend.

Since the crisis the biggest concern has been the credit intensity of growth across much of the region (see Box: Credit intensity of growth is a worry, in Chapter 3). In response, many Asian economies have resorted to a broad range of macro-prudential measures, often focussing on the stability risks arising from overheated property markets. Measures including tighter loan-to-value ratios have enjoyed some success in curbing land and property price increases, but they are working against the grain of what are still typically very accommodative monetary stances. Serious risks related to excessive lending and debt remain.

It is not just in the area of excessive credit that further financial policy adjustments are required. More needs to be done to address a range of shortcomings:

- Efficiency and competition in banking systems is still limited in some countries, due in part to restrictions on private sector or foreign participation in the sector.
- Capital markets, especially bond markets, are comparatively underdeveloped, perpetuating the concentration of financial risks in the banking system, and leaving households and businesses with relatively few indigenous stores of value and safe havens.
- The diversity and sophistication of financial instruments and services – e.g. consumer credit, financial derivatives for managing risks, and vehicles for longer-term investment in areas such as infrastructure development and retirement savings – is still limited.
- Key segments of the population and business community – notably SMEs – are under-served by access to credit and to the particular financial services and instruments that they need.
- The international integration of domestic financial systems in the region is incomplete, due in part to residual capital controls.

The region's SME sector continues to lack adequate financial support

Given the key contribution that small- and medium-sized enterprises (SMEs) will make to further development in the region, improving their access to finance needs to be a key priority in efforts to strengthen financial systems.

SMEs in the formal sector in middle-income ASEAN countries account for between one-third and nearly 60% of GDP, and between 50% and 80% of total employment. SMEs work as sub-contractors to large exporting firms, and play an important role in the expanding network of intra-regional trade. SMEs are also fundamental to sustaining innovative growth and development – in part because highly innovative enterprises so frequently start out as SMEs.

SMEs in developing economies typically face a number of barriers to their development. Limited access to financing is one of the largest hindrances. In emerging Asia, financing barriers seriously constrain SMEs' ability to compete in regional or international markets, and to participate in regional production chains.

Monetary stability frameworks have been improved

The difficulties that Asian SMEs face in this regard stem in part from their comparatively high risk (due to some extent to their limited management capabilities). However, they are aggravated by their lack of acceptable sources of collateral, information asymmetries, the abilities of banks and other financial institutions to assess the risks associated with SMEs, and the proportionately high costs of lending to smaller borrowers.

The limited development of capital markets further constrains the development of innovative SMEs with high growth potential by retarding venture capital facilities.

Some Asian countries have sought to strengthen the institutional underpinnings for venture capital, but SME access to credit could be further strengthened by: broadening acceptable collateral to include receivables and intangible property; increasing the coverage of credit registries and bureaus; improving credit guarantee schemes; and developing micro-credit facilities.

In a broader context, private financing, and in particular the requirements of SMEs, would be well served by the maintenance of macroeconomic and financial stability. Considerable progress in monetary policy frameworks was made in the wake of the Asian Financial Crisis, with explicit inflation-targeting regimes spreading across the region, and with other countries, including China, India, and Malaysia, also gradually acting to refine their more eclectic approaches to monetary management.

Monetary and macro-prudential frameworks have been improved

Monetary policies in Asia are now for the most part implemented through instruments such as central bank lending rates and reserve requirements, which influence the economy through market signals rather than direct controls.

Regional central banks have also made considerable efforts to improve the transparency of their policies through periodic reports, press statements, and the like, and they enjoy much closer relationships with each other than they did in the past. This in turn has led to the establishment of a network of regional currency swap agreements and other areas of co-operation designed to reduce market and other aspects of instability in the face of shocks.

Macro-prudential initiatives have been employed

Considerable progress has also been made in broadening financial stabilisation frameworks to include macro-prudential initiatives, with the basic elements of international 'best practice' increasingly in place. The responsibility for monitoring these initiatives has in general been placed in the hands of central banks or, where it exists, a unified financial regulatory authority.

CHAPTER NINE

COUNTRY PAGES

Summary Macroeconomic outlooks

AUSTRALIA

A challenging period of structural adjustment

Australia is unique: wealthy, advanced, yet also a major supplier of commodities.

Growth. Unlike most of its OECD partner countries, Australia has not experienced a major economic downturn since the early 1990s. It weathered the Global Financial Crisis (GFC) very well (notwithstanding a short but sharp contraction in output in late 2008) and, unlike in much of the developed world, the absolute level of output is now significantly above its pre-crisis peak.

Part of this can be attributed to good policymaking. Australia successfully implemented a range of structural reforms in the 1980s and 1990s, including the liberalisation of its labour and capital markets and the privatisation of numerous public enterprises. Moreover, its financial sector has long been regulated conservatively. The Reserve Bank of Australia (RBA) has also proved to be one of the more successful practitioners of flexible inflation targeting.

Meanwhile, the economy's ability to generate sustained growth led to a series of budget surpluses in the late 1990s and early to mid-2000s, which in turn caused the country's public sector indebtedness to decline consistently. By the time of the GFC, the net debt ratio was one of the lowest in the developed world, and this afforded the government considerable latitude to deliver a large discretionary fiscal policy boost in 2009.

However, the main catalyst for Australia's macroeconomic outperformance of the past two decades or so has been the investment boom in its resource sector, and in particular the coal, iron ore, and liquid petroleum gas industries. With the nation's terms of trade (export prices relative to import prices) reaching a 140-year high, and the encouragement of significant inward flows of foreign direct investment, economic activity in sectors related to mining grew on average by 7.5% per year between mid-2004 and the end of 2012. Non-mining activity, by contrast, expanded only about a third as fast.

However, the resource boom is now beginning to wind down. Mining investment's share in GDP is set to decline, from more than 7% of GDP to less than 3% by 2018. Australia is therefore confronted by a potentially challenging period of structural adjustment in which growth is expected to slow, the exchange rate to be persistently lower, and macro policy settings necessarily more supportive of real activity.

Real GDP growth appears to have slowed to around 2.5% in 2013 and a similar, or perhaps slightly higher, outturn is in prospect for this year and 2015.

Inflation. Having briefly moved some way above the RBA's 2-3% target range in 2008, inflation came back to heel in the wake of the GFC and, notwithstanding some recent feed-through from a weaker currency, it has remained largely benign. CPI inflation is expected to remain well within the central bank's target range, at around 2-2.5% in 2014 and 2015.

Macroeconomic policy. As the mining boom has begun to wind down, growth has slowed, and the labour market has weakened, macroeconomic policy has necessarily become more supportive of growth.

Since late 2011, the Reserve Bank has provided considerable stimulus, with cuts in official interest rates totalling 225bps. This encouraged a significant depreciation of the Australian dollar, which has long acted as an important counterbalance to the regular and large swings in the economy's terms of trade. However, beyond the mortgage market, credit growth is recovering only slowly.

Monetary accommodation is boosting a real estate sector that is already richly priced on the basis of a number of commonly-used metrics. However, given that inflation is likely to remain within target, monetary policy is expected to remain accommodative over the forecast period.

Fiscal policy has been consolidative since 2010, but deficits have tended consistently to overshoot official forecasts, and the broadly-defined deficit has stabilised at around 2.5% of GDP. Given the economy's structural challenges, a flexible attitude to the re-establishment of budget surplus is warranted: the automatic stabilisers will probably be allowed to function unhindered.

External Position. Exports, and in particular resource exports, have recently added significantly to GDP growth, while a record trade surplus was recorded at the end of 2013. The prospect is for some narrowing of the country's long-standing and large structural current account deficit, and perhaps a decline in its onerous net external debt, which is equivalent to almost 65% of GDP.

Structural policy. The widely-praised reforms of the 1980s and 1990s are doubtless still helping to facilitate the economy's structural adjustment, but the reform process has recently lost momentum. In this context, and notwithstanding the economy's impressive growth performance, productivity has proved disappointing and a source of some disquiet to successive governments.

FIGURE A: MAIN MACROECONOMIC INDICATORS

AUSTRALIA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	3.2	3.5	3.4	2.7	1.4	2.6	2.4	3.7	2.5	2.8	3.0
Unemployment (%)	8.3	5.8	7.5	4.3	5.6	5.2	5.1	5.2	5.6	6.0	6.0
CPI inflation (%)	6.3	3.0	4.8	4.4	1.8	2.9	3.3	1.8	2.2	2.5	2.5
Budget balance (% of GDP)	-1.6	1.2	-0.2	-1.1	-4.6	-5.1	-4.5	-3.7	-3.1	-2.3	-0.8
Current account (% of GDP)	-4.0	-4.8	-4.2	-4.5	-4.3	-3.0	-2.3	-3.7	-3.4	-3.5	-3.3

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment figures for the periods 1980-1996 and 1980-2007 refer to the periods 1988-1996 and 1988-2007, respectively.

Priorities:

- **Planning, financing, and using infrastructure more efficiently**, not least to reduce bottlenecks and facilitate exports.
- **Boosting productivity growth** by improving innovation performance and the promotion of more intense competition.
- **Strengthening a decentralised, highly skilled, and flexible labour market**, by improving higher education, encouraging vocational training, reducing minimum labour costs, and increasing the incentives for workforce participation.
- **Implementing tax reform and improving the efficiency of the tax system** by rebalancing the burden of taxation away from direct taxes on the corporate sector and towards higher indirect taxes on consumers.

FACTS: AUSTRALIA

Population above 22m.

The world's second-largest coal exporter and gold producer, behind China.

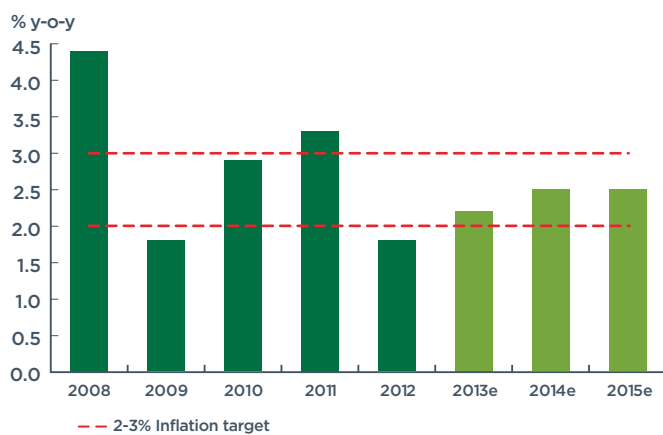
Just under 60% of the country's roads are paved.

FIGURE B: AUSTRALIA, REAL GDP GROWTH



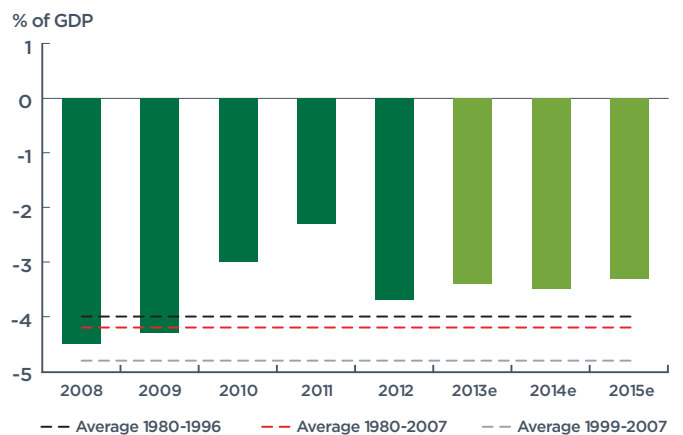
Source: IMF World Economic Outlook, October 2013

FIGURE C: AUSTRALIA, CPI INFLATION



Source: IMF World Economic Outlook, October 2013

FIGURE D: AUSTRALIA, CURRENT ACCOUNT BALANCE



Source: IMF World Economic Outlook, October 2013

CHINA

Managing the journey to maturity

China, long the star performer and powerful Asian locomotive, faces myriad challenges.

Growth history. China's economy has expanded rapidly since the late 1970s. Indeed, between 1980 and 2007, real GDP growth averaged some 10% per annum. China displaced Japan as the world's second largest economy in 2010 and could overtake the US within the next 10 years. The main catalyst for this remarkable pace of development was rapid growth in exports, particularly to the US and Europe, supported by huge investment spending. Export volumes have recently grown by around 15% per year, while the current account surplus has averaged over 4% of GDP, reaching a peak of more than 10% of GDP in 2007 before subsiding in the post-crisis period.

China is now the leading trading partner for 124 countries and is the world's largest manufacturing economy. It has the biggest automobile industry. It consumes over half of the world's semiconductor output and produces 75% of mobile phones, 87% of personal computers and 52% of colour televisions. It is also world's largest consumer of base metals.

Bolstered by rapid credit growth (total credit has increased by an amount equivalent to the US commercial banking sector in just five years) the share of investment in GDP has latterly reached almost 50%. In contrast, household consumption has not been a major driver of growth. Indeed, consumption's share in GDP has trended consistently lower since 1980, and is much less than in the developed world and in much of the rest of Asia.

China's economy weathered the Global Financial Crisis (GFC) very well: real GDP continued to expand at close to a double-digit rate throughout, due in large part to a massive public investment stimulus underpinned by loose monetary policy. Since 2012, however, economic growth has slowed, and there is also gathering evidence, not least in the form of softer total factor productivity growth, that the country's underlying growth potential is now in decline.

Furthermore, China's development model is in transition, with a desire on the part of the authorities to reduce the economy's dependence on exports, investment, and credit, and to shift the balance of expansion (as smoothly as possible) towards more consumption and service sector-led growth. However, managing this process will be challenging, and the risk is of a sharper slowdown in GDP growth than currently expected, if not some more serious trauma.

Growth prospects. China's GDP growth is expected to continue to moderate in the near term. In 2013, the expansion rate is officially estimated to have been 7.7%, in line with the authorities' target, and a similar figure to that recorded in 2012. In 2014 and 2015, however, growth is forecast at 7.3% and 7.0% respectively.

Furthermore, risks have accumulated in the Chinese economy. The key risk is a disorderly rebalancing of domestic demand. The second threat is that investment spending is increasingly dependent on credit growth and persistently low borrowing costs. The third is that rapid credit growth has inflated the level of local government debt and boosted the contingent liabilities of the public sector. The government acknowledges that the economy is facing some headwinds, but judges that the risks are manageable, and has announced a series of reforms to moderate these vulnerabilities.

Inflation outlook. Inflation has been highly volatile over the past decade or so, largely because of large swings in food prices. Core inflation has remained much more stable. Having averaged almost 6% in 2008, headline CPI inflation dropped into negative territory in 2009, before moving sharply higher again in 2010 and 2011. However, 2012 and 2013 witnessed a renewed bout of disinflation, and price pressures ended 2013 on a subdued note and well below the government's 3.5% target. Indeed, the annual rate of inflation is now running around 2.5%, and is expected to remain at 3.0% or under in 2014 and 2015.

Macroeconomic policy. China's macroeconomic policy has to strike a balance between maintaining growth and guarding against various forms of financial instability. Latterly the focus has shifted towards tighter monetary conditions and containing the risks associated with previous rapid credit growth and a large increase in local government debt, much of it in the form of bank loans and an array of informal financing conduits, such as trusts.

The authorities are apparently keen to rein in credit growth from the 20%-odd annual rises seen in recent years. But this process is likely to prove complex, and risks provoking a sharper slowdown than the authorities are willing to tolerate. On the other hand, failing to come to grips with the problem now would threaten a much larger future tightening of policy and a more difficult and costly banking sector clean-up.

There is considerable debate about how much fiscal space China has to respond to shocks. For example, 'augmented' IMF (rather than official) figures, which include off-budget local government infrastructure expenditure, suggest that the public sector as whole is currently running an underlying budget deficit equivalent to some 9% of GDP – and that figure does not take into account various broader public sector contingent liabilities. On the other hand, China's huge foreign exchange reserves, which now amount to more than US\$3.7trn, provide considerable scope to respond to shocks and to absorb banking losses. Policymakers also retain the option of tightening capital controls, if needs be.

FIGURE A: MAIN MACROECONOMIC INDICATORS

CHINA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	10.2	10.2	10.1	9.6	9.2	10.4	9.3	7.7	7.6	7.3	7.0
Unemployment (%)	2.6	3.8	3.1	4.2	4.3	4.1	4.1	4.1	4.1	4.1	4.1
CPI inflation (%)	11.0	1.3	5.1	5.9	-0.7	3.3	5.4	2.7	2.7	3.0	3.0
Budget balance (% of GDP)	-1.8	-2.0	-1.9	-0.7	-3.1	-1.5	-1.3	-2.2	-2.5	-2.1	-1.5
Current account (% of GDP)	0.3	4.2	1.8	9.3	4.9	4.0	1.9	2.3	2.5	2.7	3.0

Source: IMF World Economic Outlook, October 2013

Notes: The average inflation figures for the periods 1980-1996 and 1980-2007 refer to the periods 1990-1996 and 1990-2007, respectively. The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1982-1996 and 1982-2007, respectively.

FIGURE B: CHINA, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

External position. In addition to its large war-chest of foreign exchange reserves, China continues to run a current account surplus, although this has declined substantially over recent years from its 2007 peak of 10.1% of GDP. It is set to average around 2% or 3% of GDP in the years ahead. China's net external assets are estimated at around 40% of GDP.

Structural policy. Progress has been made in a number of areas of structural policy over recent years. For example, administrative burdens on companies have been reduced, the rights of migrants have been strengthened, infrastructure has been upgraded, and R&D spending is relatively high. Furthermore, the government has recently emphasised that market forces must now play a 'decisive' role in shaping the economy. In the process, it announced a desire to liberalise the financial system, enhance the role of SMEs, liberalise the 'Hokou' system of registration, and relax the one-child policy in an effort to address population ageing.

With the trend rate of growth now in decline, and productivity growth slowing, turning these principles for reform into practical realities is crucial if potential is to be maximised over the medium term: China faces a period of challenging structural adjustment.

Priorities:

- **Further developing the country's infrastructure**, especially in the areas of transport and energy.
- **Lowering barriers to entry** for private firms by opening the state-controlled sector to more private investment.
- **Reducing barriers to labour mobility**, for example by continuing to strengthen migrants' social protection and rights.
- **Enhancing outcomes and equity in education** by raising low participation in upper secondary schooling and reducing large regional human capital differentials.

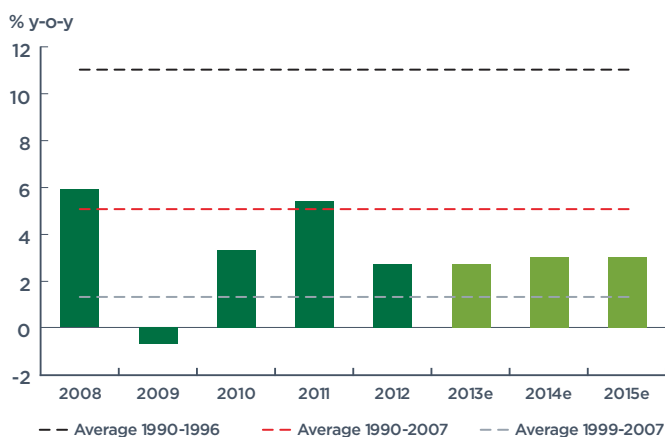
FACTS: CHINA

Population above 1.3bn.

The world's second-largest net importer of crude oil, after the US. It is expected to overtake the US in 2014.

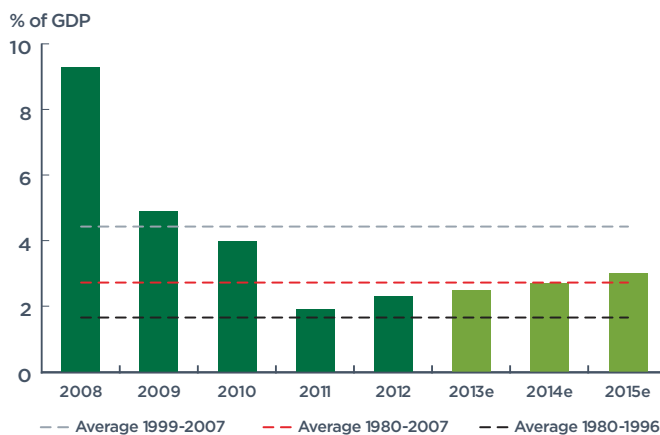
The world's top coal producer, consumer, and importer, accounting for around half of global coal consumption.

FIGURE C: CHINA, CPI INFLATION



Source: IMF World Economic Outlook, October 2013

FIGURE D: CHINA, CURRENT ACCOUNT BALANCE



Source: IMF World Economic Outlook, October 2013

HONG KONG

A high-income economy still enjoying strong growth

Hong Kong's proximity to China has served it well, but credit growth and asset price inflation are concerns.

Growth prospects. Having been pulled along by China's coat-tails, and rebounding strongly in 2010, Hong Kong's economic growth slowed in 2011 and 2012. In 2013, growth is estimated to have increased to 3%, and a further pick-up to around 4.5% is projected for 2014 and 15. This would be impressive by the standards of other high-income economies.

However, the credit intensity of recent growth, an overheating housing sector, and uncertainties over external developments are risks, as indeed is the threat of an abrupt slowdown in China.

Inflation outlook. As a small, open economy operating a currency board regime, Hong Kong's Composite CPI year-to-year inflation has long been volatile. Inflation has fallen since 2010 when it temporarily increased to 5.3%, and averaged just over 4.0% in 2013. Similar, if not slightly lower, rates are expected over the coming two years.

Macroeconomic policy. With the currency firmly pegged to the US dollar via its currency board, Hong Kong Dollar interest rates follow developments in the US, with its hitherto unambiguously expansionary monetary policy setting. The low nominal rate environment and abundant liquidity associated with this policy regime have fuelled asset prices in general, and the property market in particular. And in turn, overheating in the property market presents risks for the banking sector. In response, the Hong Kong Monetary Authority (HKMA) has resorted to various macroprudential measures: for example, banks have been required to tighten underwriting criteria for mortgage loans. However, with US policy rates unlikely to rise significantly for some time, further macroprudential measures will probably be necessary if asset price rises are to be contained.

Hong Kong has ample room to use discretionary fiscal policy should policymakers need to respond to an external shock. Government budget surpluses are expected to run in the region of 3-4% of GDP over the next two years.

External position. Hong Kong's foreign exchange reserves also provide a large potential buffer against shocks. The current stockpile of more than US\$300bn is one of the ten highest in the world. The current account surplus, though lower than in the past, is nevertheless expected to remain around 3% of GDP over the next few years. Hong Kong's net external assets exceed 350% of GDP, and are the highest relative to national output in the world.

Structural policy. Hong Kong's structural policy performance is encouraging. Its overall infrastructure is consistently ranked amongst the best in the world, as is its education system. However, productivity growth has slowed since the Global Financial Crisis (GFC) and, as in other Asian economies, further structural initiatives are needed to sustain medium-term growth potential.

Priorities:

- **Ensuring more land is made available for residential use** over the coming 4-5 years, both for public and private development: property price rises have been a long-standing issue for the authorities, and housing supply has perennially fallen short of demand.
- **Boosting productivity growth**, particularly among SMEs, and raising the efficiency of innovation policy.
- **Strengthening life-long learning** to develop human capital and increase labour flexibility.

FIGURE A: MAIN MACROECONOMIC INDICATORS

HONG KONG											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	6.4	5.0	5.5	2.1	-2.5	6.8	4.9	1.5	3.0	4.4	4.4
Unemployment (%)	2.6	5.9	3.7	3.5	5.2	4.3	3.4	3.3	3.2	3.1	3.1
CPI inflation (%)	8.1	-1.2	4.9	4.3	0.6	2.3	5.3	4.1	3.5	3.5	3.5
Budget balance (% of GDP)	1.9	0.1	1.0	0.1	1.5	4.2	3.9	3.2	2.6	3.3	3.7
Current account (% of GDP)	2.6	8.7	4.3	13.4	8.4	5.4	5.2	2.7	2.3	2.5	3.1

Source: IMF World Economic Outlook, October 2013

Notes: The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1991-1996 and 1991-2007, respectively.

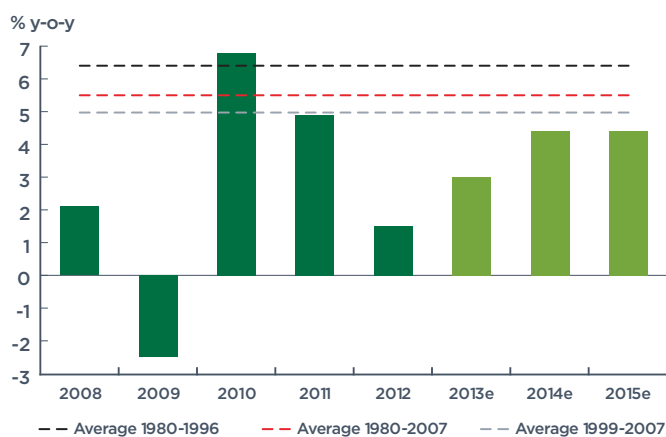
FACTS: HONG KONG

Population above 7m.

All of Hong Kong's electricity demand is met from fossil fuels.

It is ranked the third-best business location after Switzerland and Singapore.

FIGURE B: HONG KONG, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

INDIA

Enormous potential but difficult policy decisions required if it is to be fulfilled

A raft of structural reforms are needed if India is to sustain its enviable track record for growth.

Growth history. Like China, India has grown extremely rapidly over recent decades, proving to be something of an over-achiever within the region. Between 1980 and 2007, real GDP growth averaged some 6% per annum, and the economy has avoided any serious downturns. Growth was particularly strong between 2003 and 2007, averaging around 9%. However, in contrast to China, the main catalyst for this rapid rate of expansion has been domestic demand: exports have been less to the fore. What is more, the public sector's influence on the country's development has been pervasive.

India weathered the Global Financial Crisis (GFC) remarkably well. GDP growth rebounded strongly after the initial adverse shock, averaging close to 10% in both 2009 and 2010. More recently, however, the economy has slowed considerably, the expansion rate dipping some way below potential, which itself appears to have declined in the face of weak investment and softer productivity growth. Output growth averaged a little under 3.5% per annum in 2012 and 2013.

Growth prospects. India's growth is expected to re-accelerate in the coming years, not least because of stronger agricultural output, although an increasing focus on the reduction of inflation means that there is unlikely to be any early return to the stellar expansion rates of 2009 and 2010: a gradual pick-up towards around 6% is more likely. Furthermore, the nation's 'twin (public sector and current account) deficits' are likely to remain large in the short term, and a number of other enduring structural shortcomings continue to represent important downside risks.

Inflation outlook. India's CPI inflation rate has averaged 10.5% per year over the past five years, and the near-term outlook remains challenging by the standards both of its Asian neighbours and of the OECD economies. However, with monetary policy now more restrictive, and moves afoot to grant the central bank greater autonomy and a less conflicted mandate, CPI inflation may well moderate gradually from the 2013 average of more than 11% towards 8% by the end of 2014.

Macroeconomic policy. India's macroeconomic policy space is limited. Inflation, financial instability risks, and a lack of fiscal space are all constraints. However, the appointment of Raghuram Rajan as central bank governor offers hope of greater monetary policy coherence and a stronger focus on price stability in future.

India's macroeconomic policy settings have recently been forced to adjust significantly to a reversal in portfolio investment flows, a deterioration in the country's external balance, a fall in the rupee, and rising price pressures. Mid-2013 saw a sharp tightening of monetary conditions, and a further 25bp repo rate hike was necessitated by renewed market turmoil at the outset of 2014. Monetary conditions are now expected to remain tight for some time in order to guard against financial instability. Easing price pressures may, however, provide greater monetary flexibility later in 2014 and beyond.

India's fiscal policy latitude is rather limited. The post-crisis fiscal-stimulus packages increased the broadly-defined budget deficit substantially, which averaged more than 8.5% of GDP between 2010 and 2013. At some 67% of GDP, India's public sector debt ratio is also more than twice the Asian average. The bias of fiscal policy will need to shift towards consolidation once this year's elections are past but, as matters stand, deficits of in excess of 8% of GDP are likely to endure.

External position. India's reliance on potentially volatile external funding is also large, and this is troubling at a time when a progressive exit from unconventional monetary policy may soon be seen in OECD economies. The current account deficit has consistently exceeded 4% of GDP over recent years, and is expected to remain at similar levels in the years immediately ahead. However, on a more positive note, the country boasts the world's tenth highest war-chest of foreign exchange reserves, at approaching US\$300bn.

Structural policy. Progress has been made in a number of important areas of structural policy, not least in education and in competition policy. R&D spending is also high by Asian standards. On the other hand, much still needs to be done. Besides the enduring shortcomings in its macroeconomic policymaking institutions, India significantly underperforms other developing Asian countries in areas such as infrastructure. Hence, a range of overlapping and reinforcing structural reforms has become increasingly urgent if India is to maximise its growth potential over the medium-term.

FIGURE A: MAIN MACROECONOMIC INDICATORS

INDIA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	5.5	7.2	6.0	3.9	8.5	10.5	6.3	3.2	3.8	5.1	6.3
Unemployment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CPI inflation (%)	9.3	4.5	7.8	9.1	12.4	10.4	8.4	10.4	10.9	8.9	7.5
Budget balance (% of GDP)	-6.2	-7.9	-7.1	-10.0	-9.8	-8.4	-8.5	-8.0	-8.5	-8.5	-8.3
Current account (% of GDP)	-1.6	-0.1	-1.1	-2.3	-2.8	-2.7	-4.2	-4.8	-4.4	-3.8	-3.4

Source: IMF World Economic Outlook, October 2013

Notes: There is no data available for the unemployment rate figure. The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1988-1996 and 1988-2007, respectively.

Priorities:

- **Developing infrastructure**, in part through more effective regulation. There is a particular need to streamline land acquisition processes, and to improve land registration.
- **Reducing barriers to trade**, for example by completing the move to a 5% tariff on all manufactured goods, including cars.
- **Reducing barriers to foreign direct investment**, particularly by further easing FDI restrictions in aviation, multi-brand retail, and other sectors.
- **Reforming employment protection legislation**, (where little has been done) by reducing discrimination against large firms through easing stringent dismissal requirements.
- **Enhancing the effectiveness of the education system** via improved teaching and national assessment systems to raise standards.

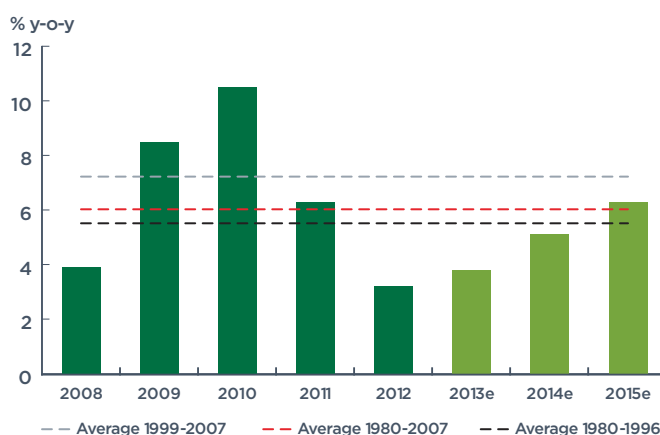
FACTS: INDIA

Population above 1.2 bn.

With more than 1.2bn inhabitants, India is the world's second most populous country. It may overtake China by 2030.

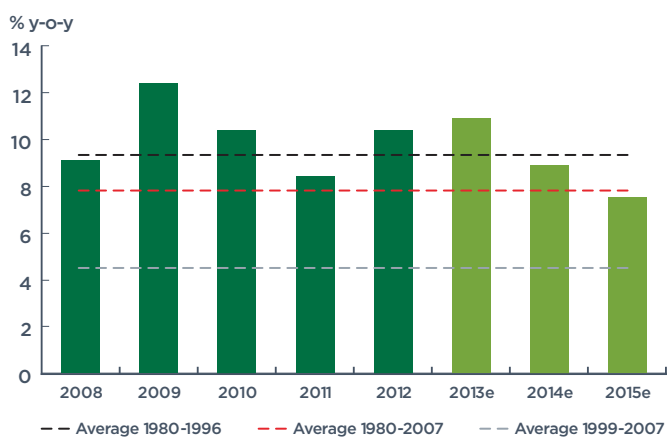
India has the second largest number of mobile phones, estimated at almost 900m.

FIGURE B: INDIA, REAL GDP GROWTH



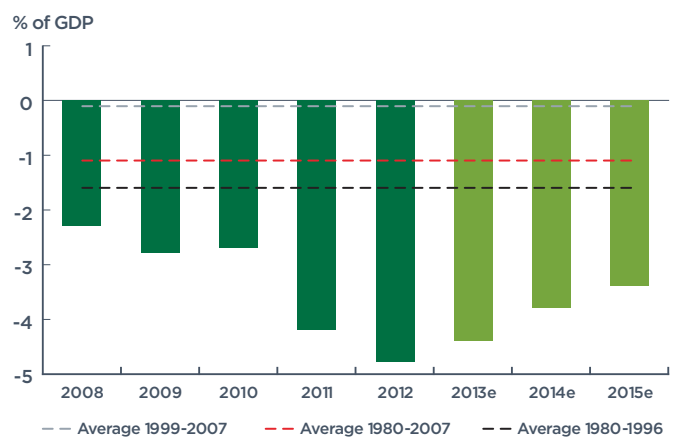
Source: IMF World Economic Outlook, October 2013

FIGURE C: INDIA, CPI INFLATION



Source: IMF World Economic Outlook, October 2013

FIGURE D: INDIA, CURRENT ACCOUNT BALANCE



Source: IMF World Economic Outlook, October 2013

INDONESIA

Striking a balance between growth and guarding against financial instability
After a difficult 2013, Indonesia should resume its impressive expansion.

Growth prospects. Despite a challenging period of capital outflow in 2013, the Indonesian economy is expected to continue to expand. However, the economy's 'twin (public sector and current account) deficits' remain risks. Real GDP is estimated to have increased by 5.8% in 2013: a slower growth rate than in recent years. This reflects sluggish investment, softer demand for commodities, and tighter financial conditions. Over the next two years, however, growth is expected to pick up to 5.5% and then 6.0%. However, the current account and public sector deficits, even if relatively modest by international standards, will persist, and financial volatility and capital outflows could re-intensify, perhaps leading to a rather less positive outcome.

Inflation outlook. Inflation in Indonesia is set to remain elevated relative to the rest of the region and the OECD economies, although softer global commodity price pressures have diminished the upside risks somewhat. Headline CPI inflation has recently increased to more than 8%, and averaged 7.3% in 2013 as a whole, well above the rates of the recent past. The jump in reported inflation reflected the impact on the price level of a 20% currency depreciation as uncertainty built over the future trajectory of US monetary policy, together with increases in administered food and fuel prices, and minimum wages. Core inflation has been much better behaved, at around 4.5%. In 2014, headline CPI inflation is projected to average much the same as 2013 before moderating to less than 6.0% in 2015. Hence, it will remain above the central bank's 3.5%-5.5% target range. However, such outcomes would remain low in a longer-term historical context.

Macroeconomic policy. During 2013, Indonesia's macroeconomic policy had to be recalibrated significantly in the face of the substantial reversal in portfolio investment flows, deterioration in the external balance, the fall of the rupiah, and associated price pressures. Bank Indonesia was obliged to raise policy rates several times, and the government to make important adjustments to subsidies and other administered prices.

With the threat that the major central banks look increasingly to disengage from unconventional monetary stimulus and gradually normalise policy rates in the years ahead, the risk is that financial volatility and capital outflows re-intensify, especially should domestic fundamentals and the external balance once again deteriorate. In this context, Bank Indonesia cannot afford to relax its guard; monetary policy is likely to remain relatively restrictive.

As matters stand, the budget balance is likely to remain in modest deficit, equivalent to around 2% of GDP over the next two years, while public debt is low.

External position. The current account deficit is likely to remain in the region of 3% of GDP over the forecast horizon. Indonesia's net external liabilities stand at more than 36% of GDP. However, the country has accumulated foreign exchange reserves of just over US\$100bn.

Structural policy. Besides the revisions to subsidy policy, progress has been made recently in a number of important areas of structural reform, most notably in education and in infrastructure. Furthermore, in contrast to most Asian economies, Indonesia's productivity performance has held up well. Nevertheless, further broad-based and overlapping initiatives will be required if the economy's medium-term growth potential is to be maintained, with infrastructure, education, labour markets, and competition particular priorities.

Priorities:

- **Developing infrastructure**, with a focus on improving transportation and electricity generation, bolstering natural disaster management and protection, and generally strengthening the regulatory environment for projects.
- **Reforming labour regulation**, so as to reduce duality in labour markets, introduce a comprehensive system of unemployment benefits, ease dismissal procedures, and moderate severance payments.
- **Easing barriers to entrepreneurship and investment**, with emphasis on lowering excessive administrative burdens and the restrictions on foreign direct investment.
- **Raising educational standards and improving equity**. The initial priorities should be widening access for low-income households and improving the quality of teachers.

FIGURE A: MAIN MACROECONOMIC INDICATORS

INDONESIA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	6.4	4.5	5.1	6.0	4.6	6.2	6.5	6.2	5.3	5.5	6.0
Unemployment (%)	3.2	8.8	5.5	8.4	7.9	7.1	6.6	6.1	5.9	5.8	5.5
CPI inflation (%)	9.2	10.1	11.1	9.8	4.8	5.1	5.4	4.3	7.3	7.5	5.8
Budget balance (% of GDP)	0.3	-1.0	-0.7	0.0	-1.8	-1.2	-0.6	-1.7	-2.2	-2.5	-2.3
Current account (% of GDP)	-2.7	3.1	-0.6	0.0	2.0	0.7	0.2	-2.7	-3.4	-3.1	-2.8

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment figures for the periods 1980-1996 and 1980-2007 refer to the periods 1984-1996 and 1984-2007, respectively. The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1993-1996 and 1993-2007, respectively.

FACTS: INDONESIA

Population above 250m.

The world's fourth most populous country, with over 530 languages and dialects.

Annual car sales more than doubled, to nearly 790,000, between 2005 to 2012. Less than 60% of the roads are paved.

FIGURE B: INDONESIA, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

JAPAN

'Abenomics' confronts long-term decline

The jury is out on "Abenomics". Macroeconomic stimulus must be backed up by more adventurous structural reforms.

Growth history. A combination of reconstruction, technological catch-up, demographic factors, a sound education system, well-developed institutions, and an undervalued currency triggered rapid export-led growth in the decades following World War II. The boom was sustained by extraordinary asset-price inflation in the 1980s, but the subsequent collapse of the early 1990s ushered in a prolonged period of financial distress, stagnation, intermittent deflation, and sky-rocketing public sector indebtedness. Between 1992 and 2007, real GDP growth averaged just 1.1%, and CPI inflation a mere 0.2%.

The economy was hit hard by the Global Financial Crisis (GFC), and then again by a series of natural and man-made disasters. Real GDP fell markedly in 2009 and 2011, and suffered a further setback in 2012; deflation deepened alarmingly; and the liabilities of the public sector surged to unprecedented highs for a peacetime OECD economy.

However, 2013 saw something of a turnaround, especially in the first half of the year, as a new government embarked on an extraordinary regime of monetary and fiscal policy stimulus backed by structural reform – 'Abenomics' – which in turn encouraged a sharp 20% depreciation of the yen. Business confidence recovered to levels not seen since before the 2008 crisis, and sustained employment gains drove the unemployment rate back down to 4%. For 2013 as a whole real GDP growth approached 2%, driven by strong export growth and an increase in consumer spending.

Growth prospects. The positive impetus to output from monetary expansion and the drop in the exchange rate is now starting to wane, while fiscal policy is set to turn restrictive from the middle of the year through higher indirect taxes and the ending of existing public works programmes. Growth is expected to fall back to well below 2% this year, and to around 1% in 2015, when a second hike in indirect taxes is planned.

Inflation outlook. The one-off shock to the price level from the currency's 20% decline in the first half of 2013 acted to at least temporarily push reported consumer price inflation back well into positive territory. The three percentage point increase in the consumption tax scheduled for April 2014 will exert a further transitory positive influence on the price level and this will be followed by an additional positive shock from the two percentage point indirect tax increase planned for 2015.

That said, with wage pressures negligible, the underlying inflation rate is likely to remain below the Bank of Japan's target of 2% over the next two years.

Macroeconomic policy. In April 2013, the Bank of Japan set a price stability target of 2% for the year-on-year rate of change in the consumer price index, to be achieved within about two years. To facilitate this, the BOJ embraced a strategy of 'Quantitative and Qualitative Monetary Easing' (QQE) with the aim of increasing the monetary base, mainly via purchases of government bonds, at an annual pace of JPY60-70tn, with an initial target of JPY270trn for end-2014. However, the policy has no formal end date, and it may continue, if not be enhanced, until the target is met. As matters stand, the prospect is for the announcement of additional asset purchases later this year.

The second element of Abenomics was a 'flexible fiscal policy'. In practice this amounted to short-term stimulus, mainly in the form of public works spending, followed by an extended period of consolidation, the initial centrepiece of which is the two-stage hike in the consumption tax to 10% mentioned above. The objective is to set Japan's onerous public sector debt ratio (currently at around 230% of GDP) on a downward trajectory; this will require the achievement of a significant primary budget surplus over years to come. The fiscal policy impulse will be negative, to the tune of 1.5-2.0 percentage points of GDP, in both 2014 and 2015. Clearly, Japan now has precious little fiscal policy flexibility with which to counter any new shocks.

External position. A combination of demographic forces and major changes in energy policy has resulted in Japan beginning to record persistent trade deficits. However, its overall external position remains comfortable. A positive invisibles balance has left the current account in surplus of around 1% of GDP, and such a figure is expected to endure in the period immediately ahead. Japan's net external assets, the result of many earlier years of surplus, are equivalent to some 56% of GDP, and it can fall back on a huge US\$1.3trn pool of foreign exchange reserves.

Structural policy. Given Japan's extended economic malaise and unenviable demographic profile – it has the oldest population structure in the world – the structural reform element of Abenomics is in many ways potentially its key aspect. However, progress to date, has been rather disappointing.

Japan's main structural policy successes have been in the fields of education, infrastructure, and the liberalisation of some product markets. Japan's infrastructure is consistently ranked amongst the best in the world. Its education system ranks similarly in OCED international tests. And competition in domestic markets has been considerably enhanced since the 1980s. On the other hand, some outstanding issues, particularly those relating to the labour market, are long-standing.

Priorities:

- **Strengthening labour market policies** to support female labour participation, reform job protection, and upgrading training programmes.
- **Improving competition policy** by easing barriers to entry for domestic and foreign firms in the services sector.
- **Reducing producer support for agriculture** (which stands at more than twice the OECD average).
- **Improving the efficiency of the tax system.**

FACTS: JAPAN

Population above 127m.

The world's largest importer of liquefied natural gas, second-largest coal importer, and third-largest net oil importer.

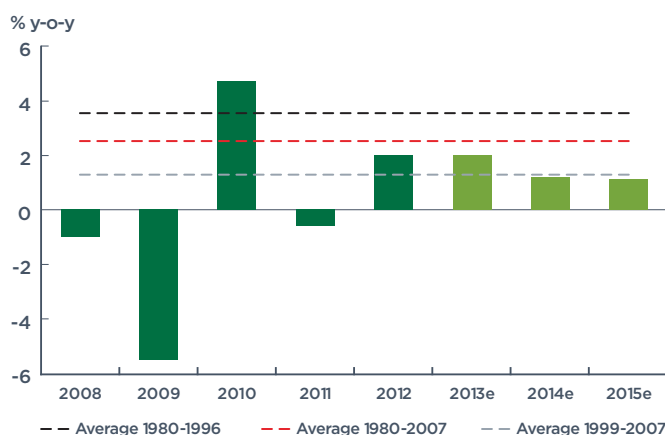
Tokyo, with around 36.5m inhabitants, is the world's biggest urban agglomeration.

FIGURE A: MAIN MACROECONOMIC INDICATORS JAPAN

	VARIABLE (UNIT)				
	Real GDP growth (%)	Unemployment (%)	CPI inflation (%)	Budget balance (% of GDP)	Current account (% of GDP)
1980-1996	3.5	2.5	2.1	-2.0	2.1
1999-2007	1.3	4.7	-0.3	-6.0	3.3
1980-2007	2.5	3.3	1.2	-3.5	2.5
2008	-1.0	4.0	1.4	-4.1	3.3
2009	-5.5	5.1	-1.3	-10.4	2.9
2010	4.7	5.1	-0.7	-9.3	3.7
2011	-0.6	4.6	-0.3	-9.9	2.0
2012	2.0	4.4	0.0	-10.1	1.0
2013e	2.0	4.2	0.0	-9.5	1.2
2014e	1.2	4.3	2.9	-6.8	1.7
2015e	1.1	4.3	1.9	-5.7	1.9

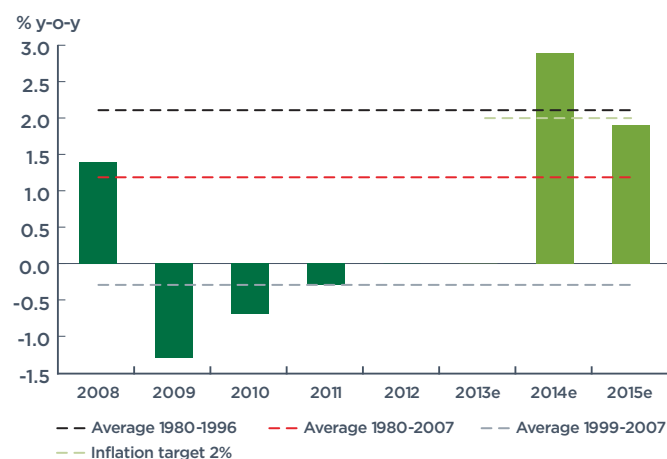
Source: IMF World Economic Outlook, October 2013

FIGURE B: JAPAN, REAL GDP GROWTH



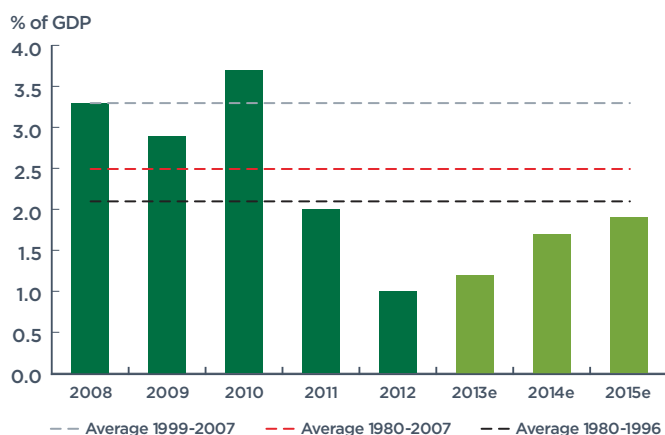
Source: IMF World Economic Outlook, October 2013

FIGURE C: JAPAN, CPI INFLATION



Source: IMF World Economic Outlook, October 2013
Notes: Japan introduced an inflation target of 2% in April 2013.

FIGURE D: JAPAN, CURRENT ACCOUNT BALANCE



Source: IMF World Economic Outlook, October 2013

SOUTH KOREA

Still an impressive performer

Korea's growth looks set to remain impressive for a high-income economy, but rapid credit growth remains a concern.

Growth prospects. Having rebounded strongly in 2010, South Korea's growth slowed markedly in 2011 and 2012. However, with the active support of fiscal and monetary policy, the outlook brightened in 2013, and at 3.9% year-on-year, the expansion in the fourth quarter of 2013 was the fastest in almost three years. For the full year, growth came in at 2.8%, about one percentage point below the average for the past decade. The export sector led the upswing, which in turn helped to reverse a decline in investment spending and boost employment.

Over the coming several years, and notwithstanding headwinds from high household debt and a soft property market, growth is forecast to accelerate to 4% which, although hardly stellar by Korea's past standards, would be impressive relative to the rest of the OECD world.

Credit growth has been strong following the Global Financial Crisis (GFC) – hence the high level of household sector debt (164% of disposable income at the end of 2012), which is an enduring source of vulnerability. As in much of the rest of the region, productivity growth has also disappointed of late. Moreover, with exports accounting for more than 50% of GDP, Korea is particularly sensitive to external developments: a major slowdown in neighbours China and Japan, or a large appreciation of the Won, represent further potential downside risks.

Inflation outlook. Headline CPI inflation has for two years been some way below the 3% mid-point of the Bank of Korea's target range. Core CPI inflation is also soft, currently running around 2%. The near-term outlook for inflation is benign: inflation is expected to edge up from its historically low base, but remain below 3% over the next two years.

Macroeconomic policy. South Korea's macroeconomic policy is set to remain accommodative, and policymakers have room for manoeuvre if necessary. Policy rates were lowered again, to 2.5%, in 2013, and are historically low, although not as low as in the immediate aftermath of the GFC. Given the contained outlook for inflation, monetary policy is expected to remain accommodative, with a rate hike unlikely before 2015, at the earliest.

Apart from a brief dip into deficit post the GFC, the South Korean government's budget balance has been consistently positive over the past decade, with the surplus running around 1½ percentage points of GDP in 2013. As a result, the gross government debt ratio now is equivalent to a little over one third of GDP. Little change is expected in the budget position over the next few years but, should growth disappoint, there is ample scope to provide discretionary support.

External position. The country's external position is also relatively healthy. Foreign exchange reserves of around US\$350bn (the eighth largest in the world), provide a buffer against shocks, as does the country's persistent current account surplus, which is expected to run at around 3% or 4% of GDP over the next two years. However, Korea remains an external debtor, with net liabilities of some 18% of GDP.

Structural policy. South Korea's structural policy settings are good in a number of areas. The country's infrastructure is consistently ranked amongst the best in the world, as is education system. Spending on R&D is also high by OECD standards. However, as is the case across the region, continued reform efforts are needed to continue to raise productivity and sustain growth potential over the medium term.

Priorities:

- **Supporting female labour force participation** (the third lowest amongst OECD countries) to mitigate effects of ageing, including by expanding the availability of high-quality, affordable childcare, and encouraging maternity and parental leave.
- **Reforming employment protection** policy to reduce labour market duality.
- **Reducing barriers to entry** for domestic and foreign firms in network industries and services.
- **Attracting FDI** into services.
- **Reducing obstacles to cross-border mergers and acquisition.**
- **Enhancing transparency of tax policies.**

FIGURE A: MAIN MACROECONOMIC INDICATORS

SOUTH KOREA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	8.4	5.8	6.9	2.3	0.3	6.3	3.7	2.0	2.8	3.7	4.0
Unemployment (%)	3.2	4.0	3.6	3.2	3.7	3.7	3.4	3.2	3.2	3.2	3.2
CPI inflation (%)	7.6	2.7	5.9	4.7	2.8	2.9	4.0	2.2	1.4	2.3	3.0
Budget balance (% of GDP)	2.5	2.0	2.1	1.6	0.0	1.7	1.8	1.9	1.4	1.7	1.9
Current account (% of GDP)	-0.5	2.6	0.9	0.3	3.9	2.9	2.3	3.8	4.6	3.9	3.4

Source: IMF World Economic Outlook, October 2013

Notes: The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1995-1996 and 1995-2007, respectively.

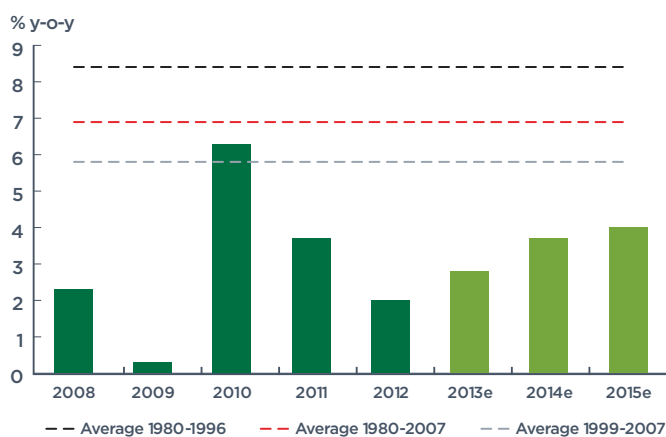
FACTS: SOUTH KOREA

Population above 48m.

Asia's third-largest economy and the tenth-largest consumer of refined petroleum products.

Babies are registered as being one year old at birth, instead of zero as in most other cultures.

FIGURE B: KOREA, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

MALAYSIA

Looking to break free of the 'Middle-Income Trap'

Malaysia's impressive development is likely to continue, although the credit intensity of growth is a concern.

Growth prospects. Malaysia ended 2013 on a solid note, and GDP grew by 4.7% for the year as whole. This is somewhat slower than the outturn in 2012, due largely to some weakness in exports. Over the coming few years, growth is expected to remain around 5%. Despite a movement towards fiscal consolidation, domestic demand, and in particular investment, is likely to continue to be the major driver of growth, although exports should respond to rising demand from the advanced economies. There is a strong pipeline of investment spending under the government's Economic Transformation Programme, which aims to elevate the country to developed-nation status by 2020. A total of 220bn ringgit (22% of GDP) worth of projects had been agreed as of late last year.

However, the economy has its vulnerabilities. Since the Global Financial Crisis (GFC) credit growth has been rapid, the household debt burden has risen sharply, to some 85% of GDP, and productivity growth has slowed. Were China to slow more dramatically than expected, the outlook would undoubtedly be adversely affected.

Inflation outlook. Headline CPI inflation has ticked up above 3.0% of late, not least because of higher food prices and electricity tariffs. These influences will continue in the near term, but thereafter inflation will probably gradually subside. Over the next few years, it is forecast to run around 2.5%, which would be well within the central bank's comfort zone.

Macroeconomic policy. Notwithstanding a healthy external position, Malaysia's macroeconomic policy space is somewhat limited. Policy interest rates are off their 2009 lows but, at 3%, they remain depressed in an historical context. Some moderate increases over the next year or so would be unsurprising.

Meanwhile, there is less scope for fiscal policy to support demand than there has been over recent years. The budget deficit has been running above 4% of GDP since 2009 and, at some 56% of GDP, the overall public sector debt burden is higher than in most other Asian economies. Expenditures on subsidies, particularly fuel, also remain substantial and the government is currently looking to gradually tighten the fiscal stance through expenditure restraint over the next few years.

External position. Malaysia's foreign exchange reserves provide a strong buffer against shocks. Moreover, although the current account of the balance of payments is now some way below its elevated post-Asian financial crisis norms, it is likely to remain around 3.5% of GDP over the coming few years.

Structural policy. Progress has been made in a number of areas of structural policy recently, but most notably in infrastructure and in the development of institutions, where Malaysia now scores relatively favourably compared with other middle-income economies. However, in addition to continued efforts to improve infrastructure, a further raft of structural reforms is needed to raise productivity and sustain growth potential over the medium term. The stakes are high. Success could mean that Malaysia, like other Asian economies before it, breaks out of middle-income status.

Priorities:

- **Increasing female labour force participation**, which remains well below male rates, and is the lowest in South East Asia.
- **Improving the productivity of SMEs**, not least by facilitating better access to finance.
- **Improving the quality of education.** International comparisons suggest that secondary education enrolment for girls should be raised, and that the standard of educational attainment in general can be increased.
- **Widening the tax base** by improving tax administration and compliance, thereby reducing dependence on the large contributions to government revenues of the oil and gas sectors.

FIGURE A: MAIN MACROECONOMIC INDICATORS

MALAYSIA											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	7.4	5.6	6.3	4.8	-1.5	7.4	5.1	5.6	4.7	4.9	5.2
Unemployment (%)	5.2	3.4	4.3	3.3	3.7	3.3	3.1	3.0	3.1	3.0	3.0
CPI inflation (%)	3.7	2.1	3.2	5.4	0.6	1.7	3.2	1.7	2.0	2.6	2.6
Budget balance (% of GDP)	0.7	-4.0	-1.5	-3.6	-6.2	-4.5	-3.8	-4.5	-4.3	-4.4	-4.0
Current account (% of GDP)	-4.1	12.3	1.7	17.1	15.5	10.9	11.6	6.1	3.5	3.6	3.5

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment rate figures for the periods 1980-1996 and 1980-2007 refer to the periods 1985-1996 and 1985-2007, respectively. The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1990-1996 and 1990-2007, respectively.

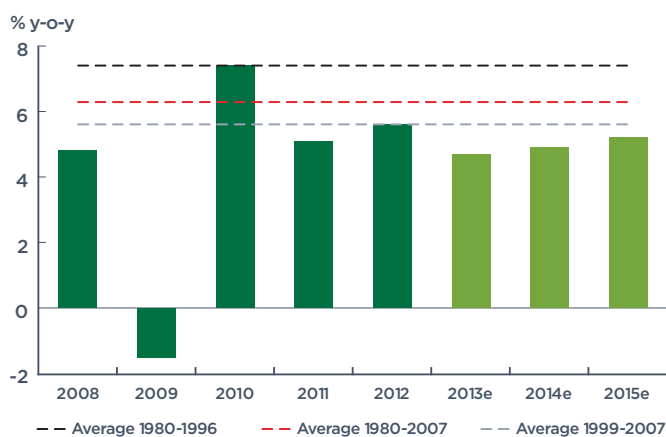
FACTS: MALAYSIA

Population above 29m.

Penang Valley is the region's 'Silicon Valley' – semiconductor giants such as Dell and AMD are based there.

92% of Malaysia's electricity demand is met from fossil fuels.

FIGURE B: MALAYSIA, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

MYANMAR

A long-isolated economy seeking to maximise its enormous potential

Myanmar has re-joined the international community and, if it gets policy right, should grow rapidly in the years ahead.

Growth prospects. Myanmar's GDP growth has strengthened progressively since 2008, driven mainly by gas production, construction, and services (not least tourism), although the rates recorded have been markedly lower than those seen immediately prior to the Global Financial Crisis (GFC).

Foreign direct investment flows have been strong. The near-term outlook remains encouraging, with growth expected at around 7.0% over the next two years and gas production expected to increase significantly. That said, the nation's 'twin deficits' (i.e. fiscal and current account), both of which are in excess of 4% of GDP, are a major source of risk in the event of a 'sudden stop' in international capital flows.

Inflation outlook. Inflation has been extremely volatile over the past decade. Since early 2000, inflation has recorded sharp spikes: in 2002 and 2007, for example, inflation jumped to 58% and 31%, respectively. Over the next two years inflation is expected to be in the region of 6%, around the average rate recorded since 2008.

Macroeconomic policy. Myanmar's macroeconomic policy challenges are huge. Policymaking mechanisms are very much a 'work in progress'. However, a law was enacted in July 2013 to grant the Central Bank more operational autonomy, which should help with containing inflationary pressures over the medium term. And progress has been made on exchange rate unification.

On the other hand, the country's resilience to shocks is constrained by its 'twin deficits'. Fiscal flexibility is constrained by a public sector budget deficit in excess of 5% of GDP.

External position. The current account deficit of more than 4% of GDP is a source of vulnerability, and the nation's war chest of foreign exchange reserves, currently around US\$4.6bn, or 3.7 months of imports, is modest by the standards of many of its Asian neighbours. On a more positive note, however, recent years have seen the resolution and restructuring of much of the nation's outstanding external debt.

Structural policy. After such a long period of isolation from the international community, and limited exposure to market mechanisms, Myanmar's development is in its early stages, and many of its institutions are lacking in maturity by the standards of the rest of Asia. On the other hand, many development partners, including the World Bank, are increasing their support, following the country's efforts to re-engage with the outside world. In the near term, much hinges on capacity of the government to remain focused on the reform agenda ahead of watershed elections scheduled for 2015.

Infrastructure ranks particularly poorly in an international context (road density and quality are poor compared with other emerging Asian economies, and the rail network is a major constraint on growth); the development of skills is essential to enhance human capital; and a solid institutional framework and healthy competition are necessary for creating a business-enabling environment and attracting further foreign direct investment.

The outstanding structural policy agenda is long and wide-ranging if growth is to reach anything like its potential, which is considerable.

Priorities:

- **Developing infrastructure:** transport, electricity, and telecommunications.
- **Deepening human capital** by increasing primary education attainment rates, and lengthening the period of compulsory education. Allocations of government expenditure to education remain low.
- **Creating a robust legal and regulatory framework**, and encouraging a stable and efficient market-based financial system.

FIGURE A: MAIN MACROECONOMIC INDICATORS

MYANMAR											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	n.a.	12.7	n.a.	3.6	5.1	5.3	5.9	6.4	6.8	6.9	6.9
Unemployment (%)	n.a.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
CPI inflation (%)	n.a.	22.1	n.a.	11.5	2.2	8.2	2.8	2.8	5.6	6.3	6.0
Budget balance (% of GDP)	n.a.	-4.1	-4.2	-2.4	-4.9	-5.4	-4.6	-3.7	-5.1	-4.8	-4.8
Current account (% of GDP)	n.a.	0.1	-1.4	-4.2	-1.3	-1.9	-2.4	-4.4	-4.3	-4.5	-4.6

Source: IMF World Economic Outlook, October 2013

Notes: No data are available for GDP growth and CPI inflation before 1999. The average unemployment rate, average budget balance and average current account balance figures for the period 1980-2007 refer to the period 1998-2007, respectively.

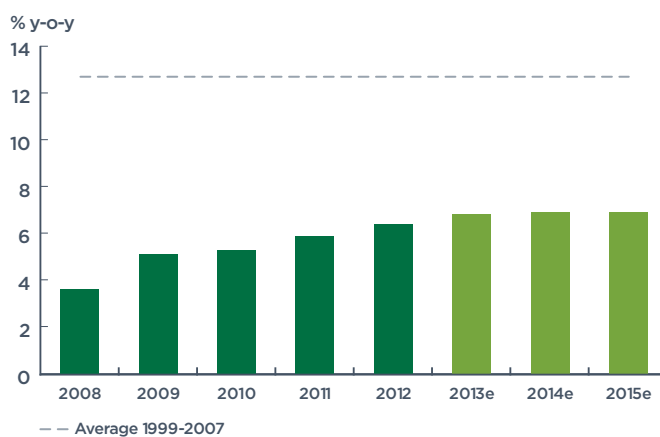
FACTS: MYANMAR

Population above 55m.

Only about 20% of Myanmar's population has access to electricity.

Mobile phone penetration is only around 10% of the population.

FIGURE B: MYANMAR, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

THE PHILIPPINES

Reconstruction spending should sustain growth

The Philippines has proved resilient to Typhoon Haiyan, and seems set to grow impressively.

Growth prospects. The Q4 2013 GDP report suggests that the economy came through the disruption caused by Typhoon Haiyan reasonably well. GDP growth slowed only slightly in year-on-year terms to 6.5%, from a revised 6.9% rate in Q3. Indeed, there was some acceleration in sequential terms. Growth for the year as a whole came in at 7.2%, making the Philippines one of the fastest-growing economies in the region.

Reconstruction spending will almost certainly sustain growth over the course of 2014 and 2015. However, the rate of expansion seems set to moderate a little, to between 5.5 and 6%. Nevertheless, this would be a positive outcome relative to the broader historical record.

Inflation outlook. Typhoon damage to crops raised food prices sharply at the end of 2013, and headline inflation has latterly moved above 4.0%, its highest in two years. Nevertheless, it remains within the central bank's target range of 3-5% and, if history is anything to go by, the food-related spike should prove short-lived.

Over the next few years inflation is expected to run around 3.5%, which would be well within the comfort zone of policymakers.

Macroeconomic policy. Official interest rates are extremely low by historical standards, and have been for some time. Nevertheless, to help reconstruction, it is unlikely that there will be a significant change in the thrust of monetary policy anytime soon. This could prove a recipe for asset price excess.

The requirement for reconstruction means that fiscal policy is also expected to support growth in the near term. The scope for discretionary action has been enhanced by the fact that the budget deficit has diminished to negligible proportions over the past few years. Furthermore, the public sector debt burden has fallen dramatically since 2003, now standing at just under 40% of GDP.

External position. The Philippines' external position is also relatively healthy. The foreign exchange reserves have risen consistently over recent years and, at US\$84bn, are sufficient comfortably to cover short-term debt and imports. Furthermore, the current account surplus, while declining since 2005, is expected to average around 2% of GDP over the next two years. The resulting lack of dependence of external financing limits the country's vulnerability to sudden capital outflows. Net external debt amounts to a manageable 10% of GDP.

Structural policy. The Philippines enjoys one of the more positive demographic profiles in the region. The working-age population is expected to rise by more than 40% over the period 2010 to 2030. Nevertheless, structural reform is still vital to enhance the sustainability of growth and to ensure that the economy remains flexible and resilient to future shocks.

Some progress has been made in education and other areas of late, and productivity has not fallen post the Global Financial Crisis (GFC), as it has in many Asian countries. However, the Philippines underperforms other middle-income Asian countries in a number of areas, not least infrastructure and institutions.

Priorities:

- **Developing infrastructure.** There is need to improve the resilience to natural disasters and the capacity of the authorities to respond rapidly to them. The transport infrastructure, particularly in rural provinces, leaves much to be desired.
- **Fostering a business environment** that is conducive to private-sector growth, job creation, and a sustainable decline in poverty. Key elements are the simplification of rules and regulations, especially for small and medium-sized enterprises, and the enhancement of competition, particularly in the tourism and manufacturing sectors.
- **Improving agricultural productivity** by adopting new technologies, and increasing related R&D.

FIGURE A: MAIN MACROECONOMIC INDICATORS

THE PHILIPPINES											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	2.3	4.7	3.1	4.2	1.1	7.6	3.6	6.8	6.8	6.0	5.5
Unemployment (%)	9.8	10.4	10.0	7.4	7.5	7.3	7.0	7.0	7.0	7.0	7.0
CPI inflation (%)	12.7	4.8	9.8	8.2	4.2	3.8	4.7	3.2	2.8	3.5	3.6
Budget balance (% of GDP)	0.0	-2.4	-1.6	0.0	-2.6	-2.5	-0.6	-0.9	-0.8	-0.8	-0.8
Current account (% of GDP)	-2.4	0.5	-1.4	2.1	5.6	4.5	3.2	2.9	2.5	2.2	1.7

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment rate figures for the periods 1980-1996 and 1980-2007 refer to the periods 1994-1996 and 1994-2007, respectively.

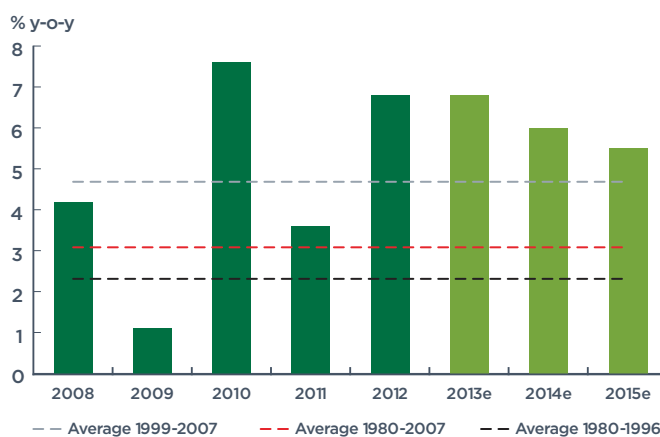
FACTS: THE PHILIPPINES

Population above 105m.

One of the most youthful countries in the region: median age: 23.3 years.

Household consumption accounts for more than 70% of GDP, an unusually high ratio for the region.

FIGURE B: THE PHILIPPINES, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

SINGAPORE

Slower growth beckons for an increasingly wealthy and mature economy
Excessive credit growth and high trade openness represent risks, but Singapore is highly flexible and resilient.

Growth prospects. As one of the most open economies in Asia, if not the world, Singapore was hit hard by the collapse in world trade that accompanied the Global Financial Crisis (GFC). However, it has long demonstrated its flexibility and resilience, and activity rebounded sharply in 2010, with real GDP rising by almost 15%. Since then, not surprisingly, growth has moderated, as both exports and household consumption outlays have softened.

The economy's expansion rate is expected to stabilise over the next few years at around 3.5%, which would be only around half the recent historical average. Private sector credit has grown disturbingly strongly over recent years, and the household sector is struggling to come to terms with an onerous burden of debt. These considerations have sparked fears in some circles of major trauma for the banking sector and the economy at large. Meanwhile, the economy's high trade exposure leaves it vulnerable to any setback in the recovery of the OECD economies, or a sharp slowdown in China, which would constrain export growth.

Inflation outlook. At the end of 2013 CPI inflation slowed to 1.5%, having averaged 4.6% in 2012. For 2014 and 2015 the outlook is relatively benign, with inflation likely to average between 2.5% and 3%.

Macroeconomic policy. Rather than directly targeting inflation, as is the case with most central banks, the Monetary Authority of Singapore (MAS) instead seeks to manage the trade-weighted Singapore dollar within a gradually appreciating band against a basket of (undisclosed) foreign currencies. This regime has functioned satisfactorily over time, and has delivered undeniably positive results, but it has latterly left domestic monetary conditions very accommodative. Short-term interest rates have been at the zero lower bound for some time, and abundant liquidity has in turn exerted upward pressure on asset prices, not least in the property sector. It would therefore take a serious negative shock for there to be any further loosening of monetary policy.

As regards fiscal policy, the broadly-defined budget surplus is expected to remain around 5% of GDP over the next few years. The government therefore enjoys ample fiscal space should there be a requirement to take discretionary action.

Singapore's external position is also enviable. Its foreign exchange reserves of approaching US\$275bn provide a large buffer against shocks, while the current account surplus is expected to remain above 16% of GDP over the next two years. The country's net external assets are some way in excess of 200% of GDP, making them the second largest in the world relative to national output.

Structural policy. Singapore's structural policy settings are generally very good. The nation's infrastructure and education are consistently ranked amongst the best in the world. However, continued reform efforts would help to increase productivity and sustain potential growth over the medium term.

Priorities span productivity, the labour market, and, despite its excellence, infrastructure.

Priorities:

- **Encouraging innovation** and better-coordinating SME assistance programmes.
- **Strengthening life-long learning**, which would improve labour market flexibility.
- **Improving land use and allocation**, and embracing a greener-growth strategy by improving the co-ordination of planning agencies.

FIGURE A: MAIN MACROECONOMIC INDICATORS

SINGAPORE											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	8.2	6.3	7.2	1.7	-0.8	14.8	5.2	1.3	3.5	3.4	3.6
Unemployment (%)	3.3	3.0	3.1	2.2	3.0	2.2	2.0	2.0	2.1	2.3	2.6
CPI inflation (%)	2.7	0.9	2.0	6.6	0.6	2.8	5.2	4.6	2.3	2.7	2.6
Budget balance (% of GDP)	12.1	6.9	8.8	6.5	-0.5	7.4	9.6	7.4	5.3	4.8	4.6
Current account (% of GDP)	3.9	18.5	9.6	15.1	17.7	26.8	24.6	18.6	18.5	17.6	16.8

Source: IMF World Economic Outlook, October 2013

Notes: The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1990-1996 and 1990-2007, respectively.

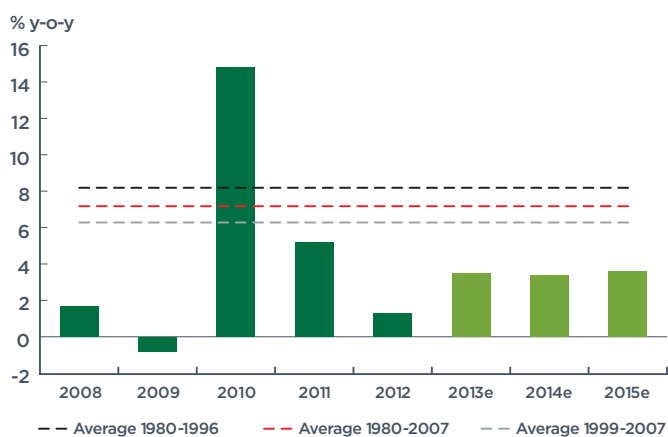
FACTS: SINGAPORE

Population above 5m.

One of the world's major oil refining and distribution centres, despite possessing minimal natural resources.

The world's 18th-largest oil exporter, with the world's busiest port.

FIGURE B: SINGAPORE, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

TAIWAN

Another Asia Pacific economy that has joined the club of mature advanced nations
Growth is set to return to trend, but inflation remains uncomfortably low.

Growth prospects. The Taiwanese economy suffered a particularly deep recession during the Global Financial Crisis (GFC), but also enjoyed an equally spectacular recovery. The growth rate reached double figures in 2010. Not surprisingly, the pace of expansion has slowed markedly since, dropping as low as 1.3% in 2012. In 2013 there was something of a pick-up, and the year ended on a solid, domestically-driven, note, so that growth for the year averaged 2.2%. However, this is some way below the average of 4.1% recorded over the previous decade.

Over the coming few years, growth is expected progressively to return more or less to its previous average. The primary worries are that credit growth has been very strong of late and that, as in many Asian economies, productivity growth has disappointed post-GFC (albeit not as much as in some of Taiwan's competitors). In addition, a slowdown in China, or relative currency strength, could constrain any recovery in an export sector that has been noticeably weak since early 2012.

Inflation outlook. Taiwan's near-term inflation outlook is benign, to say the least. Headline CPI inflation fell to a mere 0.3% year-on-year at the end of 2013, and the core measures are similarly depressed. Inflation should gradually head back towards 2% over the next two years, but is generally likely to remain the least of policy-makers' concerns. Indeed, in the event of a further negative demand shock, or sharp appreciation of the currency, it could turn negative.

Macroeconomic policy. Monetary policy is expected to remain accommodative for some time. Policy rates are already historically low and hence cannot fall much further. The discount rate has been kept at 1.875% since the middle of 2011, and is unlikely to move higher for some time. Moreover, when it does rise, the pace of tightening is likely to be very gradual.

As regards fiscal policy, Taiwan has recorded persistent budget deficits over recent years as real activity has slowed, and shortfalls in the order of 3% of GDP are expected over the next two years, even though the bias of policy is moving towards consolidation. On the other hand, should the growth outlook deteriorate, there would be room for discretionary stimulus, given that the outstanding burden of public sector debt remains low.

External position. Taiwan's external position is also healthy. At more than US\$420bn, the country's foreign exchange reserves provide a large buffer against shocks, while large current account surpluses approaching 10% of GDP are expected over the next two years. Taiwan's stock of net external assets amounts to more than 150% of GDP, and on this basis is the third largest in the world.

Structural policy. Taiwan's structural policy settings score highly in many key areas. In particular, the country's overall infrastructure and education stand well in international comparison. However, as in the rest of Asia, further initiatives are required to increase productivity and sustain potential growth over the medium term. The priorities span labour markets, competition policy, and SMEs.

Priorities:

- **Enhancing SME productivity.** Taiwan is particularly dependent on small and medium-sized companies, so prioritising the enhancement of productivity in these areas will have a broader impact on the economy as a whole.
- **Strengthening life-long learning,** further improving education and skill levels across all age groups will help to address the challenges of an ageing population structure.
- **Raising the efficiency of innovation policy,** competition from region and elsewhere means that Taiwan must continue climb up the value-added scale through the application of state of the art technology.

FIGURE A: MAIN MACROECONOMIC INDICATORS

TAIWAN											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	7.4	4.6	6.3	0.7	-1.8	10.8	4.1	1.3	2.2	3.8	3.9
Unemployment (%)	1.9	4.1	2.7	4.1	5.9	5.2	4.4	4.2	4.2	4.2	4.1
CPI inflation (%)	4.3	0.8	2.9	3.5	-0.9	1.0	1.4	1.9	1.2	2.0	2.0
Budget balance (% of GDP)	-4.4	-3.7	-4.3	-2.6	-6.2	-5.0	-4.0	-4.3	-3.2	-3.0	-2.7
Current account (% of GDP)	7.1	6.3	6.5	6.9	11.4	9.3	8.9	10.5	10.0	9.6	9.3

Source: IMF World Economic Outlook, October 2013

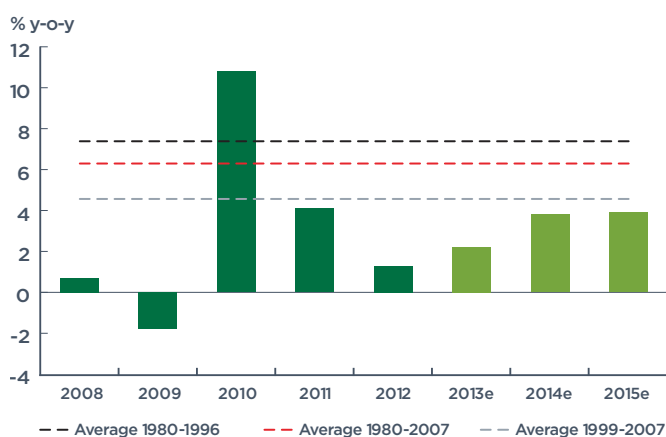
FACTS: TAIWAN

Population above 23m.

More mobile phones than people (1.3 per person).

In 2013 the number of people accessing the internet using smart-phones and tablet computers doubled, to 8.5m.

FIGURE B: TAIWAN, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

THAILAND

Political uncertainty is proving an active constraint on growth

Growth is running well below potential, and Thailand has less policy space than many of its competitors.

Growth prospects. Thailand's economic growth has been volatile of late. A rapid recovery from the Global Financial Crisis (GFC) was followed by another sharp slowdown in 2011, before growth again accelerated to around 6.5% in 2012. The following year saw a more modest, sub-potential, pace of expansion of 3%.

Political uncertainty has latterly exerted a malign influence on the Thai economy, and the concern is that it will continue to do so. Business and consumer confidence have weakened, and initial indications are that activity slowed considerably at the end of 2013, especially as exports continued to struggle. Another year of 3% growth or lower seems to have been the result.

Prolonged political uncertainty could disrupt both key public infrastructure projects and inflict serious damage on the tourism industry; but assuming that it dissipates over the course of the 2014, growth is expected to pick up to between 4% and 5% over the next few years, driven by private demand and higher public spending. Politics aside, the biggest worries are the country's vulnerability to a credit wobble, given high household sector debt, or a slowdown in China. On the other hand, Thailand's productivity performance has held up better than most in the region.

Inflation outlook. Both headline and core inflation have trended downwards since 2011, and the near-term outlook is benign. Inflation is expected to remain stable at around 2% over the next two years, which would be comfortably within the central bank's 0.5–3.0% target range.

Macroeconomic policy. With economic growth soft, inflation low, and political uncertainty elevated, the Bank of Thailand trimmed its policy interest on two occasions in 2013. At 2.25% rates are now historically low, if somewhat higher than in the immediate aftermath of the GFC. Monetary policy is expected to remain accommodative, if not become more than accommodative, given the outlook for growth and inflation.

On the fiscal side, Thailand has run a series of moderate budget deficits since the GFC, and its public-sector debt ratio has drifted up towards 50% of GDP. However, the current political and economic situation is unlikely to be conducive to early budgetary consolidation. Automatic stabilisers will need to be allowed to operate if downside risks to growth materialise; and there may also be some resort to discretionary action.

External position. Thailand's foreign exchange reserves provide a buffer against shocks, although the ratio of reserves to short-term external debt is lower than in India and Indonesia. Meanwhile, Thailand's current account position has deteriorated since the GFC, with earlier large surpluses dissipating. The external balance is expected to remain broadly balanced over the next two years, but any persistent tendency to move into deficit would represent an additional source of vulnerability.

Structural policy. Progress has been made over recent years in important areas, including infrastructure and education. Thailand is now among the better-performing developing Asian countries in infrastructure, while both access to education and enrolment rates have increased at all levels. Nevertheless, further structural initiatives are vital if growth potential is to be sustained over the medium term.

Priorities:

- **Developing human capital** by improving the national curriculum, introducing an effective performance assessment system, and improving teaching standards, including through merit-based incentive structures and teacher training.
- **Increasing agricultural productivity** by increasing mechanisation, applying new technologies in farming methods, and improving the transfer of the resulting knowledge and experience to all agricultural communities.
- **Bolstering infrastructure** by improving institutional co-ordination across key sectors and between central and local government.

FIGURE A: MAIN MACROECONOMIC INDICATORS

THAILAND											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	7.8	5.0	5.9	2.5	-2.3	7.8	0.1	6.5	3.1	5.2	5.0
Unemployment (%)	n.a.	n.a.	1.6	1.4	1.5	1.1	0.7	0.7	0.7	0.7	0.8
CPI inflation (%)	5.5	2.2	4.6	5.5	-0.9	3.3	3.8	3.0	2.2	2.1	2.0
Budget balance (% of GDP)	2.9	-1.3	-1.1	0.1	-3.2	-0.8	-0.7	-1.7	-2.7	-3.2	-3.8
Current account (% of GDP)	-5.1	3.8	-1.5	0.8	8.3	3.1	1.7	0.0	0.1	-0.2	-0.2

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment rate figure for the period 1980-2007 refers to the period 2001-2007. The average budget balance figures for the periods 1980-1996 and 1980-2007 refer to the periods 1995-1996 and 1995-2007, respectively.

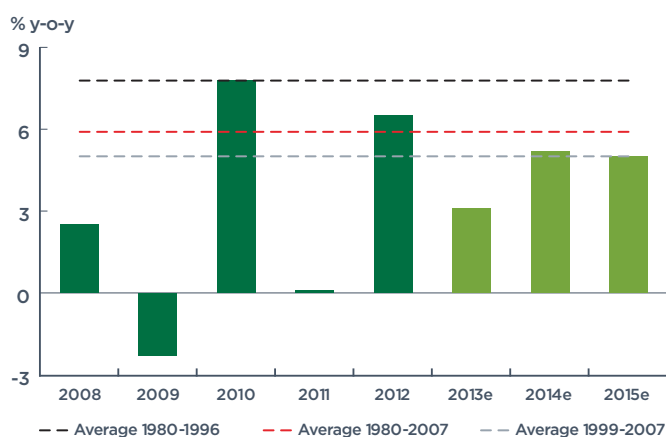
FACTS: THAILAND

Population above 67m.

Almost a third of global crude oil movements pass through the South China Sea and the Gulf of Thailand.

Almost 90% of Thailand's electricity requirements are met from fossil fuels.

FIGURE B: THAILAND, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

TIMOR-LESTE

An oil-rich relatively underdeveloped nation desperate to catch up

Timor-Leste, one of the most underdeveloped countries in the region, is expected to continue growing strongly.

Growth prospects. Timor-Leste is a small, oil dependent economy. Coffee is its only significant non-oil export. The public sector has accounted for up to three quarters of non-oil growth in recent years. Economic data are few and far between.

Growth is projected at around 8% per year over the coming two years. This would be somewhat slower than between 2008 and 2011, but well above the average in the years before the Global Financial Crisis (GFC).

Such a small and narrowly-based underdeveloped economy is necessarily beholden to the vicissitudes of oil prices and the global business cycle.

Inflation outlook. Inflation has been relatively high, in both a regional and historical comparison, since the GFC. Despite softer food prices and a relatively strong US dollar (the country's currency), CPI inflation is estimated to have been 10.6% in 2013. This is down somewhat from the rates recorded in 2012 and 2013, but significantly above the Asian average. However, inflation is likely to moderate somewhat over the next two years, dipping to between 8.5 and 9.0%.

Macroeconomic policy. Timor-Leste's economic policy architecture is very much a 'work in progress', and the challenges are considerable. Battling inflation is likely to continue to be the dominant preoccupation of policymakers in the near term, but the outcome will remain dependent in large part on the performance of the dollar. Budget execution has proved disappointing. On the other hand, there is ample fiscal space to respond to shocks. Large-scale oil revenues have encouraged public sector budget surpluses in excess of 30% of GDP, and similar surpluses are expected for the coming few years.

External position. The external position is also a source of comfort. Petroleum revenues support a current account surplus that is expected to remain at an enormous 30% or so of GDP in both 2014 and 2015. The Petroleum Fund, Timor-Leste's sovereign wealth fund, reached a value of US\$14bn in mid-July 2013, which is equivalent to more than ten times 2012 non-oil GDP, and up from US\$11.8bn at the end of 2012. At the same juncture, official reserves were US\$620m, or equivalent to eight months of imports.

Structural policy. Timor-Leste's structural policy development is in the early stages, and relatively few comparable data are available. Nevertheless, it is important to put in place institutions and incentive structures to encourage sustainable development and ensure that at least some diversification of activity. The country's basic priorities are similar to those of other relatively poor Asian economies.

Recent periods have seen the introduction of an International Finance Corporation (IFC) 'one-stop shop' for business registration, a draft mining law, progress on the establishment of land and procurement laws, and some deregulation of the telecoms market. Public-private partnerships are also planned for airport and port facilities.

Priorities:

- **Promoting infrastructure** in transport and energy sectors in particular.
- **Developing human capital** by increasing access to education and the quality of teaching.
- **Creating more jobs for sustainable poverty reduction** by fostering a business environment conducive to private-sector growth.

FIGURE A: MAIN MACROECONOMIC INDICATORS

TIMOR-LESTE											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	n.a.	n.a.	3.3	14.6	12.8	9.5	12.0	8.3	8.1	8.0	7.7
Unemployment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CPI inflation (%)	n.a.	n.a.	4.7	7.6	0.1	4.5	11.7	13.1	10.6	9.5	8.1
Budget balance (% of GDP)	n.a.	n.a.	8.4	44.9	31.3	37.9	42.7	47.0	36.2	37.1	33.4
Current account (% of GDP)	n.a.	n.a.	6.4	45.6	39.0	39.8	40.4	43.5	34.3	32.1	27.0

Source: IMF World Economic Outlook, October 2013

Notes: The average GDP growth and CPI inflation figures for the period 1980-2007 refer to the period 2001-2007.

No data are available for average unemployment rate. The average budget balance and current account balance figures for the period 1980-2007 refer to the period 2000-2007, respectively.

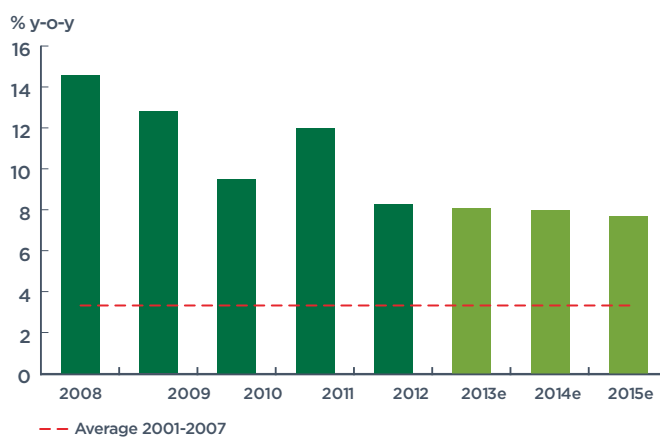
FACTS: TIMOR-LESTE

Population above 1m.

Timor-Leste declared national independence only in 2002. Since then, infrastructure has been developing steadily.

Petroleum income accounts for about 90% of government revenue and almost 80% of national income.

FIGURE B: TIMOR-LESTE, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

VIETNAM

Greater macroeconomic stability but an extensive reform agenda

Vietnam has achieved a welcome fall in inflation, while exports continue to expand rapidly.

Growth prospects. Vietnam's export-driven economy avoided a contraction in output during the Global Financial Crisis (GFC) and rebounded rapidly afterwards. However, against a background of sluggish global activity, growth has slowed somewhat since 2010. The economy expanded by 5.4% in 2013, which represented a marginal improvement on 2012, but modest global growth and a disappointing pace of structural reform have proved constraints. This is about two percentage points slower than was typical in the pre-2008 period.

Continued growth around the same 5%-plus rate is expected for the coming two years. The main risks to the outlook emanate from the banking sector, where non-performing loans remain an issue, and limited policy space to respond to external demand shocks.

Inflation outlook. Vietnam has for some time proved to be more inflation-prone than the rest of Asia, or for that matter most developing economies. However, the inflation situation has improved considerably since 2011, when the annual rate of change in the CPI peaked at more than 23%. With food price pressures absent, CPI inflation dropped towards 6% at the end of 2013 and has moved lower still at the beginning of 2014. However, this may prove to be a low point and the expectation is that it will pick up once again towards 7.5% over the next two years.

Macroeconomic policy. Official interest rates were slashed aggressively in 2012 and early 2013 to sustain growth as inflation fell. The government also introduced a number of expansionary fiscal measures, including tax cuts to assist struggling enterprises. However, credit activity remains subdued as impaired balance sheets and the poor financial health of the state-owned enterprises (SOEs) have constrained banks' willingness to lend, and the corporate sector generally seems reluctant to borrow. Hence, the ability of the central bank to stimulate the economy through further interest rate cuts may be limited in the near term. This could be especially so should further monetary stimulus add to concerns about credit quality.

Vietnam's public finances have come under duress over recent years on account of slower growth, a lack of revenue buoyancy, tax breaks, and increased stimulus spending. The government's fiscal deficit has expanded to more than 4% of GDP, and the public sector debt ratio has risen to more than 50% of GDP. Limited improvement is expected in these metrics in the period ahead and, as a result, the government's ability to respond to any future negative shocks would be somewhat constrained. Moreover, further banking sector difficulties would add to the limitations on policy activism.

External position. Vietnam's foreign exchange reserves have increased sharply over recent years, and are now estimated at US\$32bn, or the equivalent of three months of imports. Exports have been supported by strong foreign direct investment, and the economy's export composition is increasingly moving up the value-added scale into the electronics sector. Also helped by substantial external remittances, Vietnam has recently run a substantial current account surplus, amounting to some 6% of GDP in 2012 and 2013. However, this is expected to fall over the next two years.

Structural policy. Progress has been made over recent years, not least in education. However, the pace of overall reform has disappointed, and the list of policy shortcomings remains extensive.

Priorities:

- **Promoting infrastructure** in transport and energy sectors in particular.
- **Developing human capital** by increasing access to education, developing vocational education and training to enhance labour force quality, and improving job-related and cognitive skills.
- **Creating a more level playing field between private and state-owned companies**, not least by easing access to credit and lowering transaction and transportation costs for private sector.

FIGURE A: MAIN MACROECONOMIC INDICATORS

VIETNAM											
Variable (unit)	1980-1996	1999-2007	1980-2007	2008	2009	2010	2011	2012	2013e	2014e	2015e
Real GDP growth (%)	6.2	6.9	6.5	5.7	5.4	6.4	6.2	5.2	5.3	5.4	5.4
Unemployment (%)	9.5	5.7	7.3	4.7	4.6	4.3	4.5	4.5	4.5	4.5	4.5
CPI inflation (%)	110.4	4.6	68.9	23.1	6.7	9.2	18.7	9.1	8.8	7.4	7.7
Budget balance (% of GDP)	n.a.	-1.7	-1.5	-0.5	-6.6	-2.8	-2.9	-4.8	-4.0	-4.0	-3.4
Current account (% of GDP)	-5.3	-1.2	-4.0	-11.0	-6.0	-3.8	0.2	5.8	5.6	3.3	1.0

Source: IMF World Economic Outlook, October 2013

Notes: The average unemployment rate figures for the periods 1980-1996 and 1980-2007 refer to the periods 1990-1996 and 1990-2007, respectively. The average budget balance figure for the period 1980-2007 refers to the period 1998-2007.

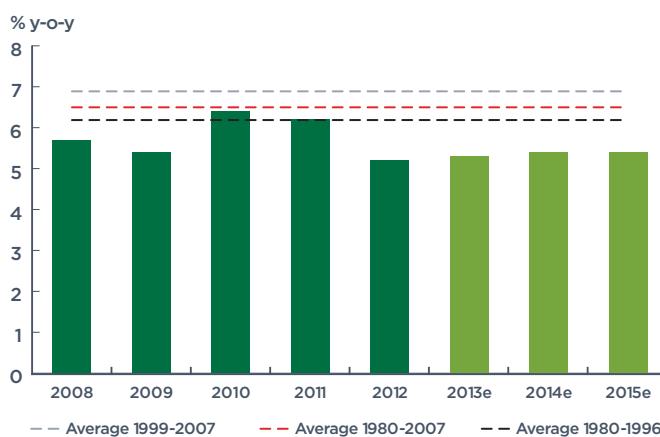
FACTS: VIETNAM

Population above 92m.

Possesses the third-largest crude oil reserves in Asia, behind China and India.

Oil reserves are estimated at 4.4 billion barrels as of 2013 (up from half a billion barrels in 2011).

FIGURE B: VIETNAM, REAL GDP GROWTH



Source: IMF World Economic Outlook, October 2013

END NOTES

- ¹ The ASEAN, or Association of South East Asian Nations, economies comprise: Indonesia, Malaysia, Singapore, Thailand, the Philippines, Brunei, Myanmar, Cambodia, Laos, and Vietnam. Timor Leste has also applied to join. The NIEs, or Newly Industrialised Economies, comprise: Hong Kong, Singapore, Taiwan and Korea.
- ² Schneider, F (2002), Size and Measurement of the Informal Economy in 110 Countries around the World, World Bank.
- ³ Fearon, J.D. (2003), 'Ethnic and Cultural Diversity by Country', Journal of Economic Growth, 8, pp. 195–222.
- ⁴ Asian Development Bank (2007), 'Uncoupling Asia: myth and reality', Asian Development Outlook 2007.
- ⁵ C.M. Reinhart and K.S. Rogoff (2010). This time is different. Eight centuries of financial folly, Princeton university press.
- ⁶ IEA (2013), World Energy Outlook.
- ⁷ Aiyar, S., Duval, R., Puy, D., Wu, Y., Zhang, L., March 2013. Growth Slowdowns and the Middle-Income Trap [pdf] IMF working paper 13/71. Available at: < <http://www.imf.org/external/pubs/ft/wp/2013/wp1371.pdf>>
- ⁸ IMF, April 2013. Asia and Pacific Regional Outlook 2013.
- ⁹ Aiyar, S., Duval, R., Puy, D., Wu, Y., Zhang, L., March 2013. Op .cit.
- ¹⁰ IMF, April 2013. Op. cit.
- ¹¹ Ibid.
- ¹² In the three 'spider's web' figures, 'Institutions' includes small government involvement in the economy, strong rule of law, and light regulation; 'Infrastructure' includes telephone lines and road networks; 'Macroeconomic factors' includes low gross capital inflows, the changeover 2008–12 in capital inflows and trade openness, and the (negative of the) change in the investment-to-GDP ratio; 'Trade structure' includes strong regional integration and low GDP-weighted distance. Numbers in the panels represent a simple average of the rankings along each individual variable.
- ¹³ See Llewellyn, J., Subbaraman, R., Newton, A. and Varma, S. (2007).
- ¹⁴ Bloom, D and Canning, D, "How demographic change can bolster economic performance in developing economies", World Economics 4 (4) (October–December) 1–14.

REFERENCES

Works that have informed this Study, and which have in most cases been explicitly cited, include:

- Asian Development Bank, October 2013.** Asian Development Outlook 2013 Update, Governance and Public Service Delivery. [Pdf] Available at: <<http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery>>
- Asian Development Bank, October 2013.** Asian Economic Integration Monitor. [Pdf] Available at: <<http://www.adb.org/publications/asian-economic-integration-monitor-october-2013>>
- Asian Development Bank, April 2013.** Asian Development Outlook 2013: Asia's Energy Challenge. [Pdf] Available at: <<http://www.adb.org/publications/asian-development-outlook-2013-asias-energy-challenge>>
- Bank of Korea, 2009.** 2007 Annual Input-Output Tables (in Korean).
- Bergsten, C. F., Freeman, C., Lardy N. R., and Mitchell D.J., 2008.** China's Rise: Challenges and Opportunities. Peterson Institute for International Economics.
- Dow, C., 1995.** Major Recessions: Britain and the World 1920-1995. Oxford University Press.
- Faruqee, H., 2002.** Population Aging and Its Macroeconomic Implications: A Framework for Analysis. IMF Working Paper WP/02/16.
- Fearon, J.D., 2003.** Ethnic and Cultural Diversity by Country. Journal of Economic Growth, 8, pp. 195-222.
- IEA, 2013.** World Energy Outlook 2013, IEA. Doi: 10.1787/weo-2013-en.
- IMF, October 2013.** IMF World Economic Outlook October 2013. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2013/02/pdf/text.pdf>>
- IMF, October 2013.** IMF Regional Economic Outlook Update October 2013, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2013/apd/eng/areo1013.pdf>>
- IMF, April 2013.** IMF World Economic Outlook April 2013. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2013/01/pdf/text.pdf>>
- IMF, April 2013.** IMF Regional Economic Outlook April 2013, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2013/APD/eng/areo0413.htm>>
- IMF, October 2012.** IMF World Economic Outlook October 2012. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2012/02/pdf/text.pdf>>
- IMF, October 2012.** IMF Regional Economic Outlook October 2012, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2012/apd/eng/areo1012.pdf>>
- IMF, April 2012.** IMF World Economic Outlook April 2012. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2012/01/pdf/text.pdf>>
- IMF, April 2012.** IMF Regional Economic Outlook April 2012, Asia and Pacific. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/reo/2012/APD/eng/areo0412.pdf>>
- IMF, September 2011.** IMF World Economic Outlook September 2011. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2011/02/pdf/text.pdf>>
- IMF, October 2011.** IMF Regional Economic Outlook October 2011, Asia and Pacific. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/reo/2011/APD/eng/areo1011.pdf>>
- IMF, April 2011.** IMF World Economic Outlook April 2011. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2011/01/pdf/text.pdf>>
- IMF, April 2011.** IMF Regional Economic Outlook April 2011, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2011/apd/eng/areo0411.pdf>>
- IMF, October 2010.** IMF World Economic Outlook October 2010. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2010/02/pdf/text.pdf>>
- IMF, October 2010.** IMF Regional Economic Outlook October 2010, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2010/apd/eng/areo1010.pdf>>
- IMF, April 2010.** IMF World Economic Outlook April 2010. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2010/01/pdf/text.pdf>>
- IMF, April 2010.** IMF Regional Economic Outlook April 2010, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2010/apd/eng/areo0410.pdf>>

- IMF, October 2009.** IMF World Economic Outlook October 2009. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2009/02/pdf/text.pdf>>
- IMF, October 2009.** IMF Regional Economic Outlook October 2009, Asia and Pacific. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2009/apd/eng/areo1009.pdf>>
- IMF, May 2009.** IMF Regional Economic Outlook Asia and Pacific May 2009. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/reo/2009/apd/eng/areo0509.pdf>>
- IMF, April 2009.** IMF World Economic Outlook April 2009. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2009/01/pdf/text.pdf>>
- IMF, November 2008.** IMF Regional Economic Outlook Asia and Pacific November 2008. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/reo/2008/apd/eng/areo1108.pdf>>
- IMF, April 2008.** IMF Regional Economic Outlook Asia and Pacific April 2008. [Pdf] Available at: <<https://www.imf.org/external/pubs/ft/reo/2008/APD/ENG/areo0408.pdf>>
- IMF, October 2007.** IMF Regional Economic Outlook Asia and Pacific October 2007. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/reo/2007/APD/ENG/areo1007.pdf>>
- Krugman, P., 1994.** The Myth of Asia's Miracle Foreign Affairs. November/December 1994, Vol. 73, Issue 6.
- Kynge, J., 2006.** China Shakes the World: The Rise of a Hungry Nation. Weidenfeld & Nicholson.
- Llewellyn, J., Subbaraman, R., Newton, A., and Varma, S., 2007.** India: Everything to Play for. Lehman Brothers.
- Llewellyn, J., 2007.** The Business of Climate Change: Challenges and Opportunities. Lehman Brothers.
- Llewellyn, J. and Chaix, C., 2007.** The Business of Climate Change II: Policy is accelerating, with major implications for companies and investors. Lehman Brothers.
- Llewellyn, J. and Chaix-Viros, C., 2008.** The Business of Ageing. Nomura International plc.
- Maddison, A., 2007.** Chinese Economic Performance in the Long Run, Second Edition, Revised and Updated 960–2030 AD. Development Centre Studies of the OECD.
- Maddison, A., 2001.** The World Economy. Development Centre Studies of the OECD.
- Maddison, A., 1998.** Chinese Performance in the Long Run. Development Centre Studies of the OECD.
- Mundell, R., 1963.** Capital Mobility and Stabilisation Policy. Canadian Journal of Economics and Politics.
- Newton, A. and Subbaraman, R., 2002.** China: Gigantic Possibilities, Present Realities. Lehman Brothers.
- OECD, 2013.** Economic Outlook for Southeast Asia, China and India 2014, Beyond the Middle-Income Trap. OECD Publishing. Doi: 10.1787/saeo-2014-en.
- OECD, 2013.** OECD Economic Outlook, Vol. 2013/2. OECD Publishing. Doi: 10.1787/eco_outlook-v2013-2-en.
- OECD, 2013.** OECD Economic Outlook, Vol. 2013/1. OECD Publishing. Doi: 10.1787/eco_outlook-v2013-1-en.
- OECD, 2013.** OECD Economic Surveys: China 2013. OECD Publishing. Doi: 10.1787/eco_surveys-chn-2013-en.
- OECD, 2013.** OECD Economic Surveys: Japan 2013. OECD Publishing. Doi: 10.1787/eco_surveys-jpn-2013-en.
- OECD, 2012.** OECD Economic Surveys: Korea 2012. OECD Publishing. Doi: 10.1787/eco_surveys-kor-2012-en.
- OECD, 2012.** OECD Economic Surveys: Australia 2012. OECD Publishing. Doi: 10.1787/eco_surveys-aus-2012-en.
- OECD, 2004.** Understanding Economic Growth. [Pdf] Available at: <<http://browse.oecdbookshop.org/oecd/pdfs/free/1104011e.pdf>>
- OECD, 2003.** Emerging Risks in the 21st Century, An Agenda for Action. [Pdf] Available at: <<http://www.oecd.org/futures/globalprospects/37944611.pdf>>
- OECD, 2002.** China in the World Economy, The Domestic Policy Challenges. [Pdf] Available at: <<http://www.oecd.org/futures/globalprospects/37944611.pdf>>

Sheard, P., 2009. China's challenging GDP arithmetic. Global Weekly Economic Monitor, Nomura.

Subbaraman, R. and Sun, M., 2006. The Impossible Trinity. Lehman Brothers Global Economics.

Swan, T.W., 1955. Longer-Run Problems of the Balance of Payments. The Australian Economy: A Volume of Readings. Melbourne: Cheshire Press, 1963, pp 384-95.

World Bank, October 2013. World Bank East Asia and Pacific Economic Update October 2013. Rebuilding Policy Buffers, Reinvigorating Growth. [Pdf] Available at: <<http://www.worldbank.org/content/dam/Worldbank/document/EAP/region/eap-update-october-2013.pdf>>

Country pages and facts

Adam, S., Moestafa, B., Manurung, N., January 2014. Indonesia Population Approaching U.S. Revives Birth Control. Bloomberg. [Online] Available at: <<http://www.bloomberg.com/news/2014-01-27/indonesia-facing-populace-larger-than-u-s-revives-birth-control.html>> [Accessed 06 February 2014].

Asian Development Bank, October 2013. Asian Development Outlook 2013 Update, Governance and Public Service Delivery. [Pdf] Available at: <<http://www.adb.org/publications/asian-development-outlook-2013-update-governance-and-public-service-delivery>>

Asian Development Bank, October 2013. Asian Economic Integration Monitor. [Pdf] Available at: <<http://www.adb.org/publications/asian-economic-integration-monitor-october-2013>>

CIA, 2013. The World Factbook 2013. [Online] Available at: <<https://www.cia.gov/library/publications/the-world-factbook>> [Accessed 05 February 2014].

Department of Statistics Malaysia, 2014. Monthly Manufacturing Statistics. [Pdf] Available at: <http://www.statistics.gov.my/portal/download_Manufacturing/files/MANUFACTURING/2013/MMS_NOV2013.pdf>

General Statistics Office of Vietnam, 2014. Social and economic situation in January, 2014. [Online] Available at: <<http://www.gso.gov.vn/default.aspx?tabid=622&idmid=8&ItemID=14813>> [Accessed 07 February 2014].

Geoscience News and Information Taiwan, 2014. [Online] Available at: <<http://geology.com/world/taiwan-satellite-image.shtml>> [Accessed 05 February 2014].

Gomez, K., 2014. 48 Interesting Facts About Malaysia. [Online] Available at: <<http://www.kgomez.com/malaysia>> [Accessed 06 February 2014].

IEA, 2013. World Energy Outlook 2013, IEA. Doi: 10.1787/weo-2013-en.

IMF, 2011. IMF Executive Board concludes 2010 Article IV Consultation with the Democratic Republic of Timor-Leste. [Online] Available at: <<http://www.imf.org/external/np/sec/pn/2011/pn1131.htm>> [Accessed 07 February 2014].

IMF, October 2013. IMF World Economic Outlook October 2013. [Pdf] Available at: <<http://www.imf.org/external/pubs/ft/weo/2013/02/pdf/text.pdf>>

Jiang, E., and Hsin-Yin, L., September 2013. Over one-third of Taiwanese use mobile Internet, studies show. [Online] Available at: <<http://focustaiwan.tw/news/ast/201309260033.aspx>> [Accessed 05 February 2014].

Lloyds List Intelligence, 2014. Tankers. [Online] Available at: <<http://www.lloydslistintelligence.com/lint/tankers/index.htm>> [Accessed 06 February 2014].

Lonely Planet, 2014. [Online] Available at: <<http://www.lonelyplanet.com/>> [Accessed 05 February 2014].

Mobile Marketing Association, 2013. The Mobile Internet Consumer – Malaysia 2013. [Online] Available at: <<http://www.slideshare.net/scamboy/mobile-internetconsumer-malaysia>> [Accessed 06 February 2014].

National Geographic, 2014. [Online] Available at: <<http://travel.nationalgeographic.co.uk/travel/countries/>> [Accessed 07 February 2014].

Nations Online, 2014. Countries Index. [Online] Available at: <<http://www.nationsonline.org/oneworld/countries.html>> [Accessed 07 February 2014].

OECD, 2013. Economic Outlook for Southeast Asia, China and India 2014, Beyond the Middle-Income Trap. OECD Publishing. Doi: 10.1787/saeo-2014-en.

Organisation Internationale des Constructeurs d'Automobiles, 2013. Production Statistics. [Online] Available at: <<http://www.oica.net/category/production-statistics/>> [Accessed 06 February 2014].

- Rediff Business, 2011.** 25 Facts on Singapore's Amazing Success. [Online] Available at: <<http://www.rediff.com/business/slide-show/slide-show-1-facts-on-singapores-amazing-success/20110606.htm>> [Accessed 05 February 2014].
- Revenue Watch Institute, 2014.** Timor-Leste. [Online] Available at: <<http://www.revenuewatch.org/countries/asia-pacific/timor-leste/overview>> [Accessed 05 February 2014].
- Tan, T., 2013.** 11 Facts About Indonesia That Indonesians Can Be Proud Of. [Online] Available at: <<http://www.indoboom.com/2013/stories/11-facts-about-indonesia-that-indonesians-can-be-proud-of.html>> [Accessed 06 February 2014].
- Thai National Broadcasting and Telecommunications Commission, 2014.** [Online] Available at: <<http://www.nbtc.go.th/wps/portal/NTC/eng>> [Accessed 05 February 2014].
- The Economist Intelligence Unit, 2014.** Hong Kong. [Online] Available at: <<http://country.eiu.com/Hong+Kong#>> [Accessed 05 February 2014].
- The Heritage Foundation, 2014.** Index of Economic Freedom. [Online] Available at: <<http://www.heritage.org/index/>> [Accessed 06 February 2014].
- Tourism Authority of Thailand, 2014.** Fast Facts. [Online] Available at: <<http://www.tourismthailand.org/Thailand/fast-facts>> [Accessed 31 January 2014].
- UNDP, 2013.** Statistical tables from the 2013 Human Development Report. [Online] Available at: <<http://hdr.undp.org/en/data>> [Accessed 07 February 2014].
- United Nations International Telecommunications Union, 2014.** 2006 – 2013 ICT data. [Online] Available at: <<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>> [Accessed 07 February 2014].
- United States Energy Information Administration, 2014.** EIA Database. [Online] Available at: <<http://www.eia.gov>> [Accessed 05 February 2014].
- United States Geological Survey, 2013.** Mineral Commodity Summaries. [Pdf] Available at: <<http://minerals.usgs.gov/minerals/pubs/commodity/gold/mcs-2013-gold.pdf>> [Accessed 31 January 2014].
- World Bank, 2013.** Gross Domestic Product ranking table. [Online] Available at: <<http://data.worldbank.org/data-catalog/GDP-ranking-table>> [Accessed 11 February 2014].
- World Economic Forum, 2013.** The Global Competitiveness Index. [Pdf] Available at: <http://www3.weforum.org/docs/GCR2013-14/GCR_Rankings_2013-14.pdf> [Accessed 11 February 2014].

(The cut-off date for information in this study is 19 February 2014.)

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