MARSH & McLENNAN COMPANIES | Asia Pacific Risk Center

14 SHADES OF RISK IN ASIA-PACIFIC

Evolving Risk Concerns in Asia-Pacific | Volume 3 | Part 2

MARSH GUY CARPENTER MERCER OLIVER WYMAN

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INTRODUCTION

NAVIGATING THE COMPLEXITIES OF THE ASIA-PACIFIC RISK LANDSCAPE

In a period where the world is witnessing growing protectionism and anti-globalization rhetoric, it is interesting that the countries in the Asia-Pacific (APAC) region are forming an increasingly dense network of business and economic links. For instance, the proposed Regional Comprehensive Economic Partnership (RCEP) between 16 APAC countries, if successful, is expected to create the world's largest trading bloc.[1] The recent renegotiated Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is also another major trade agreement that further foster the link between major economies in APAC with each other and the world.[2]

Despite progress in fostering economic integration, APAC remains a largely heterogenous region where countries remain vastly different from each other in terms of demographics, economic development stages, political institutions, and cultures. Such differences set APAC apart from markets such as the European Union, where arguably these elements are closer to each other, tied together by a set of similar institutional structures. Regional heterogeneity has translated to diversified sets of concerns in different countries/territories.

Correspondingly, businesses, particularly those with international and regional operations, need to be able to deal with more risks from multiple sources. Even where there are similar risks, the nature of the risks can differ significantly and thus necessitates different responses from stakeholders. Not only will businesses have to maintain a clear vision of APAC overarching risk landscape and the region's key vulnerabilities, they also need to be able to navigate the complexities across the region's diverse economies.

Recognizing these strategic concerns, this year's edition of the Marsh & McLennan Companies' Asia-Pacific Risk Center annual "Evolving Risk Concerns in Asia-Pacific" report has been divided into two major publications. The first part, "From Threats to Impact", continues to leverage the Global Risks Report published by the World Economic Forum (WEF), with whom Marsh and McLennan Companies is a strategic partner, to provide businesses with an informed overview of APAC's risk landscape.

This second publication, titled " 14 Shades of Risk in Asia-Pacific", aims to complement the first and provide a more nuanced analysis by delving in the region's diversity. It presents snapshots of 14 key countries/territories across APAC:

- Each contains an overview of the top five risks in each country/territory based on the results of the *WEF's Executive Opinion Survey (EOS) 2018*
- Results of the EOS are complemented with the perspectives of Marsh & McLennan Companies' business leaders on the ground as they identify two additional important evolving risks in each economy
- The snapshots also feature data from Marsh BMI's Political Risk Index, Lloyd's City Risk Index, the Lowy Institute Asia Power Index and the International Telecommunication Union's Global Cybersecurity Index to provide a fuller picture of each countries/territories position in the region
- Finally, the snapshots contain insights from experts across businesses and industries of Marsh & McLennan Companies to provide business leaders with high level key takeaways for each economy to help them set strategic and risk priorities

TOP CONCERNS FOR DOING BUSINESS IN THE NEXT 10 YEARS FOR SELECTED MARKETS IN ASIA-PACIFIC 2017/18*

AUSTRALIA	CHINA**	HONG KONG	INDIA
Energy price shock	Natural catastrophe	Asset bubble	Cyber-attacks
Cyber-attacks	Deflation	Cyber-attacks	Terrorist attacks
Asset bubble	Data fraud/theft	Social instability	Failure of financial institutions
Regional/global governance failure	Illicit trade	Regional/global governance failure	Water crisis
Critical infra. shortfall; Fiscal crisis	Cyber-attacks	Misuse of technologies	High unemployment

INDONESIA	JAPAN	MALAYSIA	NEW ZEALAND
Cyber-attacks	Cyber-attacks	Data fraud/theft	Extreme weather events
Terrorist attacks	Misuse of technologies	Cyber-attacks	Cyber-attacks
Data fraud/theft	Regional/global governance failure	High unemployment	Regional/global governance failure
Food crisis	Illicit trade	Misuse of technologies	Critical infra. shortfall
Misuse of technologies	Natural catastrophe	National Governance failure	Climate adaptation failure

PHILIPPINES	SINGAPORE	SOUTH KOREA
Critical infra. shortfall	Cyber-attacks	High unemployment
National Governance failure	Terrorist attacks	Interstate conflict
Inflation	Data fraud/theft	Cyber-attacks
Climate adaptation failure	Asset bubble	Asset bubble
Regional/global governance failure	Water crisis; Infectious disease	Fiscal crisis

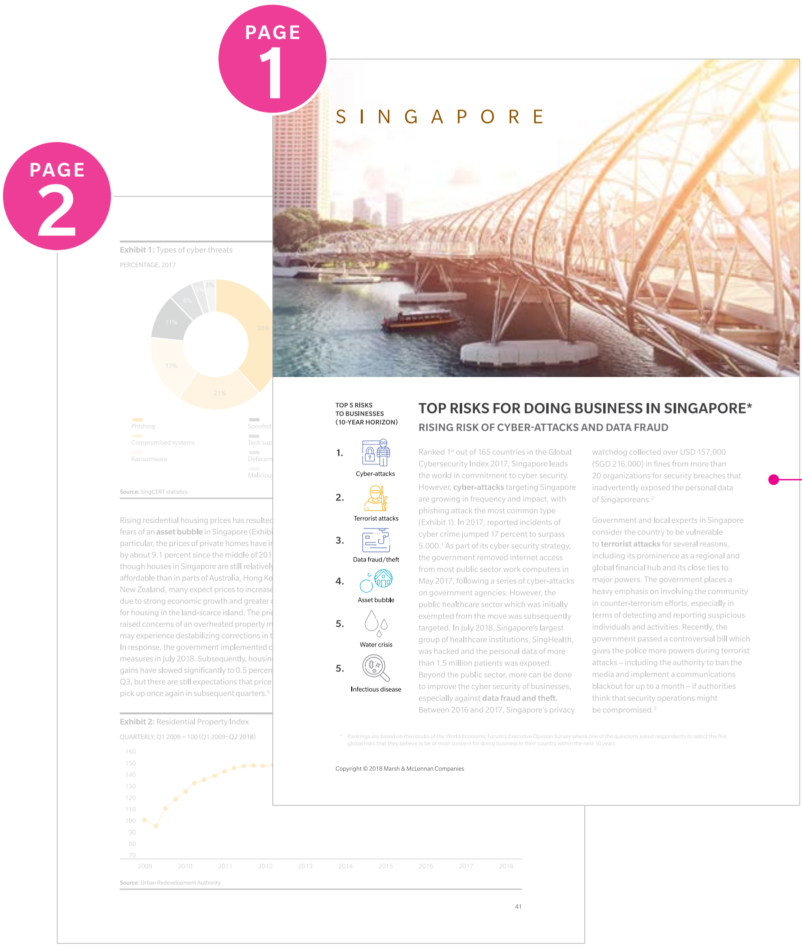
TAIWAN – CHINA	THAILAND	VIETNAM
Interstate conflict	Man-made environmental crisis	Urban planning failure
Energy price shock	National Governance failure	National Governance failure
Asset bubble	Asset bubble	Regional/global governance failure
Extreme weather events	Critical infra. shortfall	Cyber-attacks
High unemployment; Cyber-attacks	Cyber-attacks	Asset bubble

Economic
Environmental
Geopolitical
Societal
Technological

Note: *World Economic Forum Executive Opinion Survey 2018 (~12,500 responses worldwide). Results are based on 2,500 responses across the region. Respondents could choose up to five risks which they viewed as being most important for doing business in their country in the next 10 years. Top regional risks are calculated as the average across all countries of the proportion of respondents in each country identifying each risk as one of their five choices.
** The results for China are based on the most recent available survey data from 2017.

Source: World Economic Forum's Global Risks Report 2018, APRC analysis

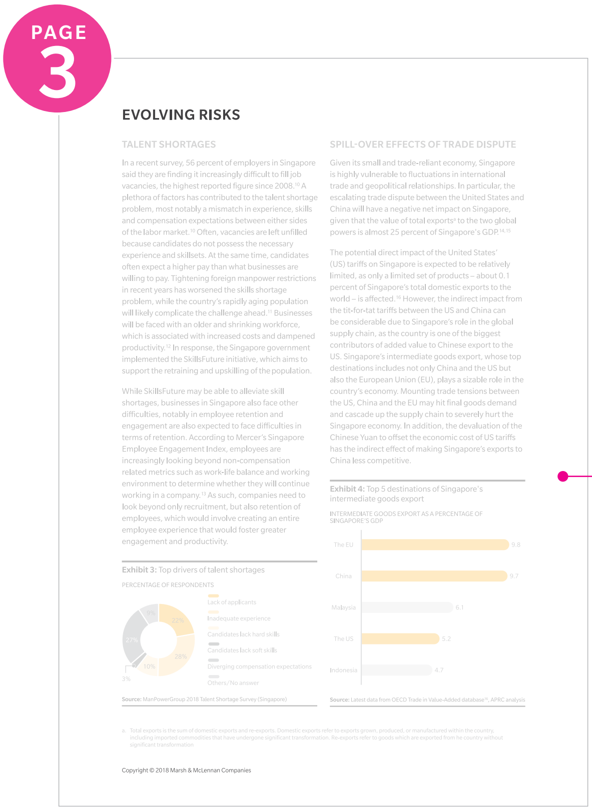
HOW TO READ THE SNAPSHOTS



Analysis of top risks for doing business across economies

To help businesses gain a more nuanced understanding of the risk landscape in each country/territory, we dedicate the first two pages of the snapshot to an analysis of top risks for doing business in that location. The risks are taken from the results of the Executive Opinion Survey (EOS) 2018, in which one question asked respondents to select the top five risks that they believe to be of most concern for doing business in their country/territory in the next 10 years, out of a list of 30 risks *(see apendix for the full description of each risk)*.

The survey is carried out by the WEF, with whom Marsh & McLennan Companies is a strategic partner. Marsh & McLennan Companies is also a contributor to the Forum's global risks agenda, which includes the Global Risk Perception Survey as well as the Global Risk Report. The EOS 2018 yielded approximately 12,500 responses globally, of which nearly 2,500 are from Asia-Pacific



Evolving Risks

In this section, we look at two additional risks that businesses should consider but do not appear in the top 5 risks identified by the EOS results. The two risks are determined based on the collective insights of Marsh & McLennan Companies' top management and experts working in this country/territory.

The two risks found in this page are not ranked. They have not been ordered based on their relative importance, potential impact or probablity of occuring.

Risk in Numbers

This section contains numbers from Marsh's Political Risk Map, Lowy Institute Asia Power Index, International Telecommunication Union's Global Cybersecurity Index and the Lloyd's City Risk Index.[3–6] Use this section to compare how the 14 countries/territories rank on political risk, regional influence, and cyber security. The section also includes a forecast of the "GDP at risk" from disruptive events.

1. **Marsh's Political Risk Map 2018** draws on the data from BMI Research to rate markets on the basis of political and economic stability. A score between 1 and 100 is calculated for each market and a higher score in the index means less political risk

2. **The Lowy Institute Asia Power Index** is an analytical tool to track changes in the distribution of power in the region. It aims to sharpen the debate on geopolitics in Asia.

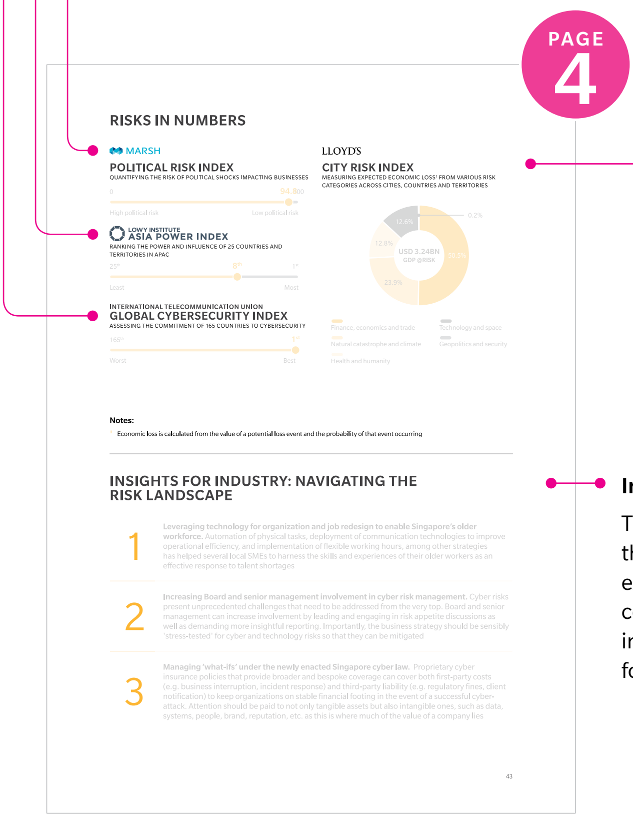
   The Index evaluates state power through 114 indicators across 8 thematic measures: economic resources, military capability, resilience, future trends, diplomatic influence, economic relationships, defence entworks and cultural influence. For the purposes of the Index, power is defined as the capacity of a state or territory to direct or influence the behaviour of other states, non-state actors and the course of international events

3. **The International Telecommunication Union's Global Cybersecurity Index** measures the commitment of countries to cybersecurity.

   The Index assesses each country's level of development or engagement through 5 pillars: legal measures, technical measures, organizational measures, capacity building, and cooperation. Each country is then given an aggregated overall score and ranked accordingly

4. **The Lloyd's City Risk Index** is a comprehensive study measuring the loss of economic output from 22 separate threat categories in 279 cities across the world. The Index has been developed in collaboration with the University of Cambridge and is designed to be a guide for governments, businesses and societies to understand the financial impact of risk, as they look to build resilience.

   Lloyd's City Risk Index calculates GDP@Risk, which is the average annual loss to a selected location's economic output from each threat or threat category. Another way of thinking about GDP@Risk is the amount a city would have to save each year to pay for the costs of the disruptive events in the long run, averaged out over time. GDP@Risk is an 'expected loss' figure: i.e. the value of a possible loss multiplied by the probability of that loss occurring



Insights for Industry

This section provides **3 key business-specific recommendations** that Marsh & McLennan Companies' senior management and experts have for businesses operating or planning to operate in this country/territory. We recommend that business leaders use these insights to make sure their business is more resilient and prepared for the risks discussed earlier.

AUSTRALIA

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. Energy price shock

2. Cyber-attacks

3. Asset bubble

4. Regional/global governance failure

5= Critical infra. shortfall

5= Fiscal crisis

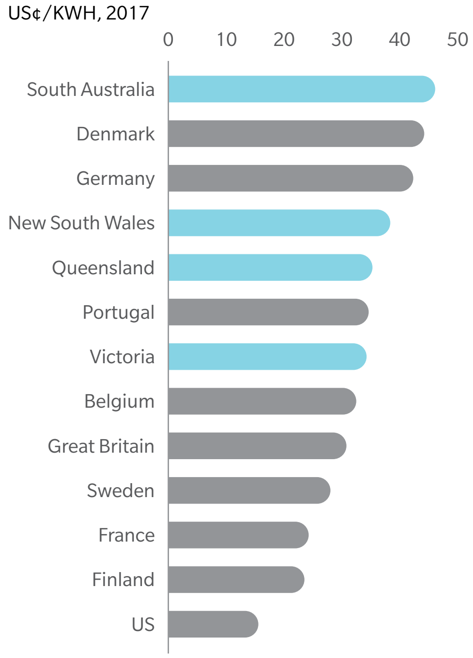
TOP RISKS FOR DOING BUSINESS IN AUSTRALIA*

ECONOMIC RISKS DOMINATE BUSINESS CONCERNS

Australians are paying the highest electricity prices globally even as the country owns the largest coal and natural gas reserves in the world. The **energy price shock** in 2017 saw prices increase by more than 12 percent, and has affected the profitability of many businesses, especially in energy-intensive manufacturing industries.[1,2] The shock is a result of Australia's turbulent attempt at transitioning to renewable energy, in which several major traditional power plants have been decommissioned (such as the Hazelwood power station closure) while renewable energy capacity has not been able to fill the void. The resulting shortage in energy supply has led to a significant price hike. Unclear clean energy policies, stemming from a lack of political unity on the issue at the federal government level have also contributed to the shock.[3] Finally, the lack of competition in the energy industry has exacerbated the increase in energy prices over the past few years, hurting consumers' interests.[4]

Exhibit 1: Retail electricity prices of Australian states vs other advanced markets

US¢/KWH, 2017



Source: Financial Review, MarkIntell, US Energy Information Administration

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

In 2017, there was a 15 percent increase in **cyber-attacks** compared to the year before and cyber crime incidences increased the most for individuals and non-traditional sectors such as accommodation, automotive and hospitality.[5] A major concern is the growing sophistication of the attacks targeting major systems and critical infrastructure. Ongoing improvements in cybersecurity and law enforcement are critical to address and tackle the problem.

Australia's house prices had been rising at their fastest pace since 2009, igniting fears of an **asset bubble.** The market value of homes ballooned to USD 5.6 trillion (AUD 7.3 trillion) in 2018, five times more than Australia's Gross Domestic Product (GDP), and house prices in Sydney and Melbourne are considered amongst the highest in the world.[6] However, this trend has started to reverse since 2018Q1 and house prices are starting to decline. In Sydney, for instance, house prices are down 4.5 percent from June 2017 to June 2018, whereas just a year earlier they have been increasing at an annual pace of 17 percent.[7]

Concurrent to rising house prices, household debt has been generally on the rise in Australia in the past 10 years as investors took advantage of the low interest rate environment to borrow and finance their housing purchases. Household debt to GDP is already at a record high of about 120 percent (Exhibit 2).[8] The ongoing trend of tighter credit conditions coupled with stagnant wage growth may potentially lead to rising defaults.[9] Together with the reversal in house prices, these developments have sparked fears of a potential **fiscal crisis.**

Fractious domestic politics have had a serious impact on Australia's international presence and leadership, as well as created challenges to formulating any coherent policies with regards to key global and regional issues.[10] The instability that marks the country's politics, embodied by recent ousting of Prime Minister Malcom Turnbull over an internal power struggle in the Liberal party, has resulted in a general unwillingness by Australia to take hard stances on global hot button issues, such as energy emissions and foreign aid, resulting in concerns of **regional or global governance failure.**

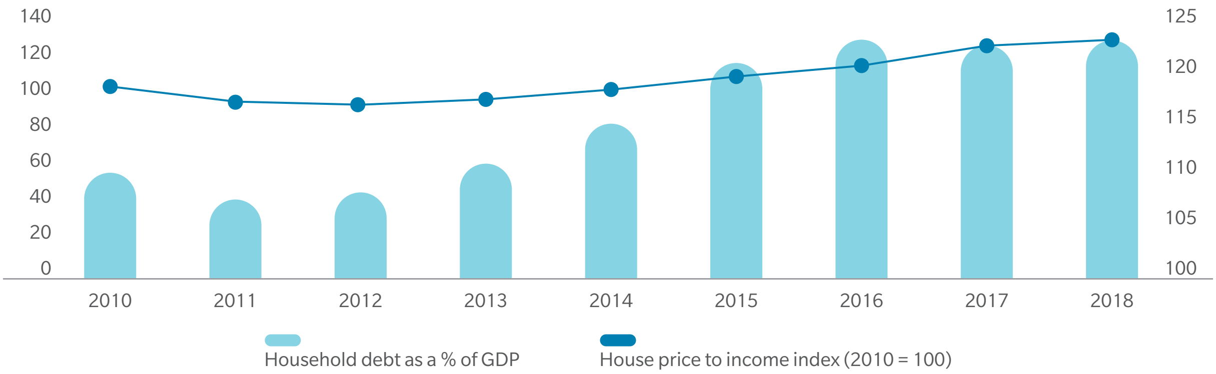
"Australia's risk landscape is heavily influenced by business and consumer confidence, regulatory and corporate governance reviews, the increased pace of change, and the effects of climate change. Businesses that best understand and embrace risk in today's evolving landscape and can modify their governance, strategy and operations to adapt, will not only enhance their social capital and licence to operate, but also develop more value in their business and grow."

Costa Zakis
Executive Director, Risk Consulting, Marsh Pacific

Fueled by high immigration numbers and a rapid population growth in major cities, Australia faces an impending population boom that has led to a **critical infrastructure shortfall.**[11] Between 2006 and 2016, Melbourne added close to 1 million people while Sydney added about 800,000 people.[12] Major cities have insufficient critical infrastructure capacity, including roads, rail networks and hospitals to cope with the rising population numbers. For instance, Melbourne will face elevated pressure on the state's healthcare infrastructure and services as the number of people in the state aged over 85 and over will grow by 220 percent.[13]

Exhibit 2: Rising house price to income ratio amid high households debts

2010–2018



Source: Euromonitor

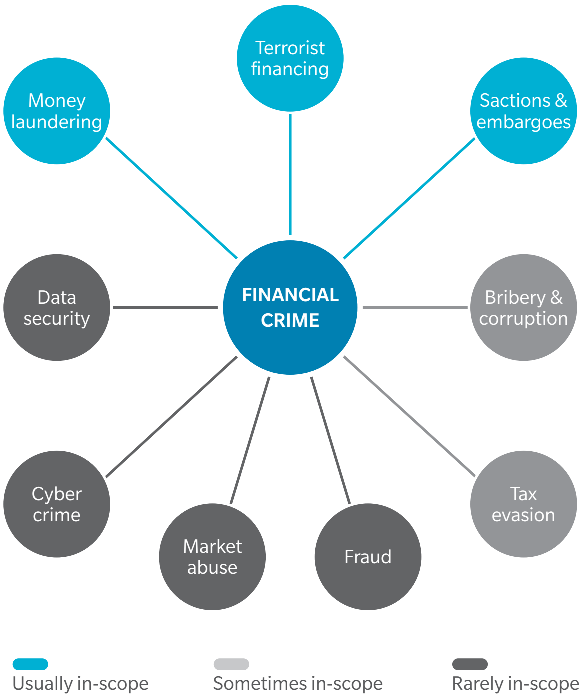
EVOLVING RISKS

INCREASING REGULATORY PRESSURE IN LIGHT OF RECENT FINANCIAL CRIMES

In 2017, one of the Big Four banks in Australia was accused by the Australian Transaction Reports and Analysis Centre (AUSTRAC) of breaches of anti-money laundering and counter-terrorism laws.[14] Recently, the bank agreed to pay USD 530 million (AUD 700 million) fine for the breaches, a reflection of not just the rising costs for financial crimes but also the expectations by regulators that financial institutions, especially banks, should be held accountable for their financial crime risk management practices.

Given the extensive inflow of foreign direct investment into the APAC region, banks must take a more active approach in managing and mitigating the associated risks of financial crimes (Exhibit 3). Violations with respect to some crimes in particular, such as money laundering and sanctions violations, have great potential to cause serious long-term reputational damage and regulatory complications. Despite increasing attention in financial crimes efforts, many banks face immense difficulties improving their control environment to meet international norms. In particular, a scarcity of talent and infrastructure hamper efforts to improve.

Exhibit 3: Aspects of financial crime compliance



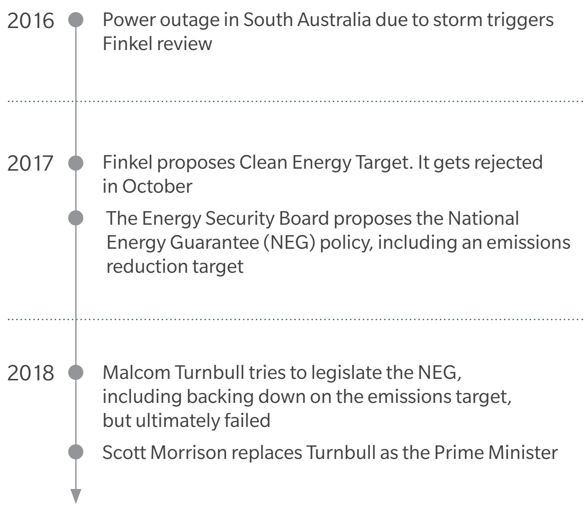
Source: "Fighting Financial Crime – We're all in this together", Oliver Wyman

VOLATILE CARBON REDUCTION POLICY DIRECTIVES

Over the past decade, disagreements within the Australian national government regarding coal and climate change mean that there have been frequent changes to carbon reduction policy directives. Correspondingly, diverging and inconsistent policy directives over the years have created substantial uncertainty in the market and stalled long-term investments such as those in power generation that Australia needs badly.[15]

A clear example of policy volatility is in Australia's national energy policy (Exhibit 4). There was heated debate within the government on how to craft a workable national energy plan after the publication of the Finkel review in June 2017.[16] The subsequent formulation of the National Energy Guarantee has taken a year-long effort from the Turnbull government, only to be scraped when Turnbull was ousted by his own coalition government, with the new prime minister, Scott Morrison declaring the bill "dead".[17] As the attempt for a coherent national energy policy collapses, individual states are trying to push forward with their own programs in a bid to create some stability and certainty for investors and businesses.[18] Ultimately, however, the prospect of a national energy plan remains distant as the issue continues to be highly politicized at the federal level.

Exhibit 4: A timeline of Australia's national energy policy debate



Source: Financial review

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 **74.8** 100

High political risk Low political risk

LOWY INSTITUTE

ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th **6th** 1st

Least Most

INTERNATIONAL TELECOMMUNICATION UNION

GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

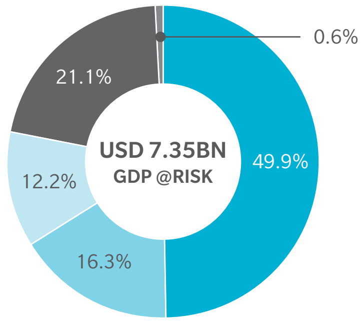
165th **7th** 1st

Worst Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



Finance, economics and trade

Natural catastrophe and climate

Health and humanity

Technology and space

Geopolitics and security

Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Australia is calculated based on the GDP@Risk for six cities: Adelaide, Brisbane, Canberra, Melbourne, Perth, and Sydney.

INSIGHTS FOR BUSINESSES

1

Leverage computation and cooperation to more effectively manage financial crime risks. For instance, banks can invest in analytics and robotic process automation to more effectively monitor transactions and identify likely criminal activity. Furthermore, cooperation within the industry on "best practices" in risk management and the sharing of critical information such as Know-Your-Customer (KYC) requirements will also be beneficial to all institutions involved

2

Ensure a holistic view of the business' input and supply chains. Businesses should go beyond direct contacts to understand the origins and concerns of their entire supply chain. Businesses can suffer from notable disruption to operations or strategic direction by not understanding the vulnerabilities two steps away; such as the collapse of a supplier, regulatory changes, restrictions on supply or the collapse of a market

3

Understand the impact of technological change from the perspectives of customers, suppliers, markets and regulators. This is crucial for businesses to be able to keep pace and remain relevant. Technological change will also have an impact on how business is conducted, how products/services are developed and brought to market and how staff are attracted, trained and retained. Finally, businesses need to challenge how they protect their infrastructure and information within their current system, and look for ways to bolster resilience against potential technological risks

CHINA

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. National catastrophe
2. Deflation
3. Data fraud/theft
4. Illicit trade
5. Cyber-attacks

TOP RISKS FOR DOING BUSINESS IN CHINA*

A COMBINATION OF ENVIRONMENTAL, ECONOMIC AND TECHNOLOGICAL RISKS

In 2017, China suffered a total economic loss of USD 44 billion (CNY 302 billion) from natural catastrophes, incurring 979 fatalities (Exhibit 1). While these numbers are less than those in 2016, they illustrate the persistent threat from **natural catastrophes** to China. Since the devastating 2008 Sichuan Earthquake, the government has worked on strengthening the country's capacity to cope with catastrophic events. These efforts have appeared largely effective with an observed reduction in the impact of natural disasters in 2017, despite some large-scale events such as the Yangtze River flood and a 7.0 magnitude earthquake in the Sichuan province. However, continual efforts in improving the resilience of the country's infrastructure against natural disasters nationwide, especially in rural areas, is essential. Furthermore, even though China is the fastest growing insurance market in the world, the country's catastrophe insurance protection gap remains significant. For example, only 9.8 percent of direct economic losses from storms affecting mainland China in 2017** was insured.[1]

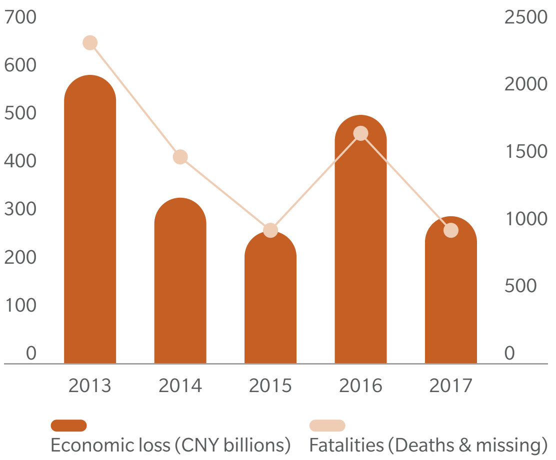
China has a current inflation target of 3 percent (unchanged from 2017). However, with an average year-on-year CPI growth of just 2.05 percent across the first 8 months of 2018 (Exhibit 2),[2] it is unlikely that this target will be met. Ongoing trade tensions between China and the United States (US), with associated tariffs on US imports plus China's currency devaluation have all contributed to price increases in the short run. However, low consumer sentiment levels, and a slowing economy risks dampening demand going forward, leading to concerns of **deflation** in the medium to long-term. As a key driver for the global economy, deflation in China will likely affect other markets globally.

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2017 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

** Storms included are Merbok, Nesat, Haitang, Hato, Pakhar

Exhibit 1: Impact of natural disasters in China

2013-2017



Source: Ministry of Civil Affairs, Guy Carpenter analysis

"China is not a monolithic market but consists of diverse regulatory regimes, different environmental and weather challenges, and local talent base and skill sets. These varying factors make the Chinese market one of the best opportunities but also one of the most challenging."

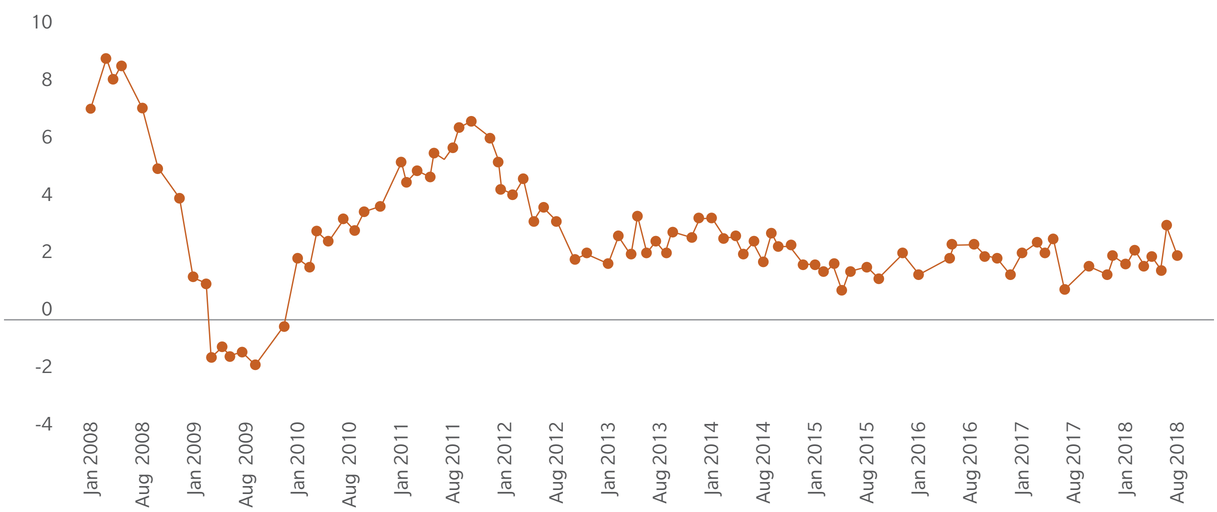
Michael Li
Managing Director and Chief Executive Officer, Marsh China

China has recently been increasing its efforts to combat **illicit trade** such as in counterfeit goods.[3] One of the key aspects of illicit trade is the financing behind these activities, and in response the government has made efforts to clamp down on shadow banking. In 2016, 380 banks dealing with more than USD 135 billion of assets were closed, as part of an effort to stem unofficial financial activities and prevent the risks from cross-border capital flows.[4] Broader policies to tighten capital and financial controls have also been implemented. Progress made in the finance sector as well as in other areas, such as IP protection, has improved China's standing among Asian countries on the Global Illicit Trade Environment Index in 2017, but more is still needed to stem illicit trade.[3]

China is one of the most digitally connected and innovative countries in the world with widespread adoption of digital payments and transaction technologies. This trend has heightened the threats of **data fraud** and **cyber-attacks** in recent years. According to the Kroll Global Fraud Risk Report, 88 percent of respondent companies in China experienced a data incident in 2017, most commonly data breaches.[5] Threats of a major cyber-attack are equally severe. The 2017 WannaCry ransomware attack is estimated to have affected more than 40,000 institutions across the public and private sector.[6] A new cyber security law was introduced in June 2017, marking a step forward in the protection of data. However, there are concerns that the law skews the playing field against foreign firms and this may discourage foreign companies from entering its market.

Exhibit 2: Inflation (CPI) annual growth rate

PERCENTAGE, JANUARY 2008–AUGUST 2018



Source: OECD

EVOLVING RISKS

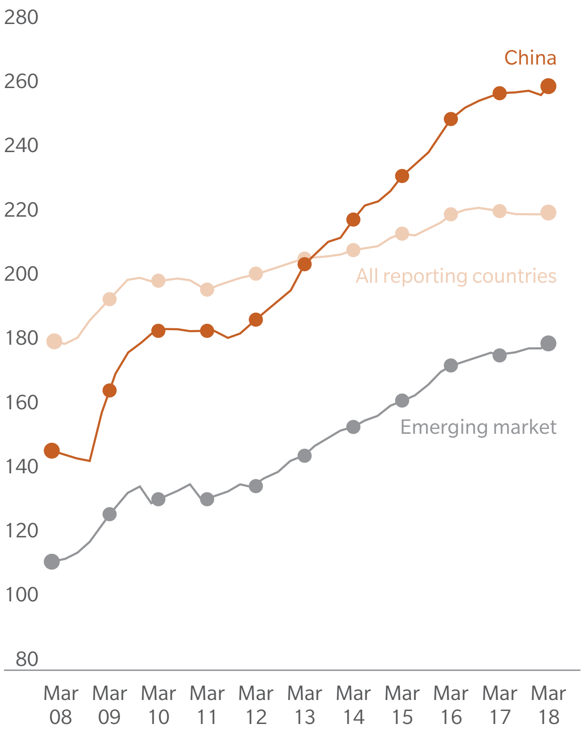
BALANCING THE CHALLENGES OF GROWING DEBT AND SLOWING GROWTH

Over the past decade, China's debt burden has markedly increased, with credit to the non-financial sector reaching 261.2 percent of GDP in the first quarter of 2018 (Exhibit 3).[7] Even though the government has attempted to tighten credit controls, efforts have been moderated by the ongoing trade tensions with the US and fears of an economic slowdown. As a result, China is currently dealing with the dual challenges of maintaining high economic growth and deleveraging the corporate sector.

For the fourth time in 2018, the central bank announced cuts to the commercial bank reserve requirements ratio so as to release credit into the economy.[8] Given the economic slowdown, however, businesses still have trouble refinancing their debts, and turning to the shadow banking has become more difficult due to government crackdowns. The limited availability of credit will likely lead to an increase in corporate defaults. Between July and September of 2018, China experienced 53 defaults with an aggregate exposure of USD 7.52 billion.[9] The large share of state-owned financial institutions in China makes the role of the state in managing potential credit risks all the more critical.

Exhibit 3: Credit to non-financial sector

PERCENTAGE OF GDP, 2008Q1–2018Q1



Source: Bank of International Settlements

RISING INEQUALITY AMID ECONOMIC GROWTH

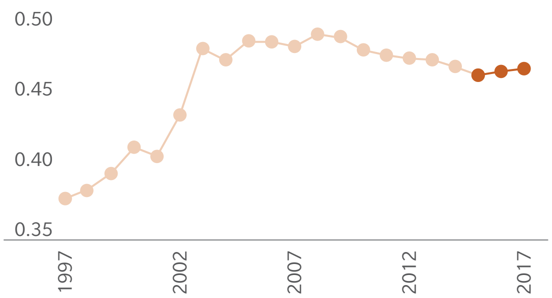
The rapid economic development of China was accompanied by increasing levels of inequality, even as poverty levels significantly declined.[10] A continuation of this trend could threaten potential business disruptions due to heightened social tensions. Rising inequality can also hurt the middle class and become a drag for China's gradual transition to a consumption-led economic model.

In response, the Chinese government has initiated broad policy reforms in areas such as income tax and labor market to address inequality. Income GINI coefficient has subsequently gone down during the period of 2009–2015. In addition, wealth gains from the synchronized global growth in 2017 have also benefited China immensely, as the country saw a significant increase in average and median wealth.[11] The latest income GINI numbers, however, have raised concerns over whether there will be continued progress in reducing inequality. The coefficient has staged a rebound from 2015–2017 (Exhibit 4), which reflects a number of persisting issues:

- The urban/rural divide is still a major problem despite government's efforts. While income disparity was reduced, developmental gaps such as in education persist[12]
- China's change in the nation's economic structure away from heavy industrial manufacturing saw many industrial zones becoming a new "rust belt", adding a geographical dimension to China's poverty issues[13]
- Finally, some have argued that the government's campaign to eradicate poverty has not adequately addressed other aspects of inequality, such as urban poverty among the cities rural migrants[14]

Exhibit 4: Income GINI coefficient* in China

1997-2017



* The income GINI coefficient shows the differences in the distribution of income. Higher Gini coefficients signify greater inequality in income distribution, with 0 implying perfect equality and 1 reflecting complete inequality

Source: National Bureau of Statistics

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 | 80.2 | 100

High political risk | Low political risk

LOWY INSTITUTE
ASIA POWER INDEX

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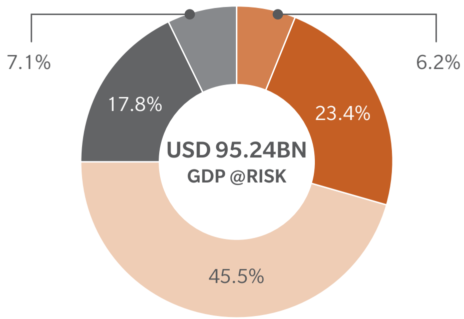

Finance, economics and trade
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Geopolitics and security

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INSIGHTS FOR BUSINESSES

1 **Be prepared for future economic uncertainties.** While businesses have benefited from China's exceptional growth in the last decade, they will face major headwinds in the form of slower growth from the country's shift to a consumption-led economic growth model, as well as global uncertainties such as the trade war with the US. Consequently, businesses will have to become more nimble and agile in responding to potentially unstable market conditions

2 **Effectively incorporate environmental risk due diligence in any new investment decision.** With China's geographic diversity and vulnerability to several types of natural disaster and extreme weather events, businesses need to conduct risk due diligence, including considered site selection and the incorporation of seismic or flood protection features in any new investment decision. For new plants or facilities, advanced natural catastrophe modelling will be helpful to determine potential incurred losses in the event of a natural catastrophe and to inform risk transfer efforts

3 **Build up a multi-dimensional cyber security management system.** Businesses need to go beyond investments in cyber security technologies and regular systems review and risk assessment. A robust cyber security framework should also include external vendor and business partner risk management (third party risk management) and leverage reliable internal and external experts to help manage vendors and provide quick access to market risk information. Other aspects include employee training and communication, and risk transfer via cyber insurance policies. Particularly for multi-national companies, it is extremely important for business leaders to have a clear data management strategy which considers both local laws and the need to protect consumer data for their operations within and outside China

HONG KONG

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Asset bubble
2. Cyber-attacks
3. Social instability
4. Regional/global governance failure
5. Misuse of technologies

TOP RISKS FOR DOING BUSINESS IN HONG KONG*

RISING CONCERNS OF AN ASSET BUBBLE AND CYBERSECURITY RISKS

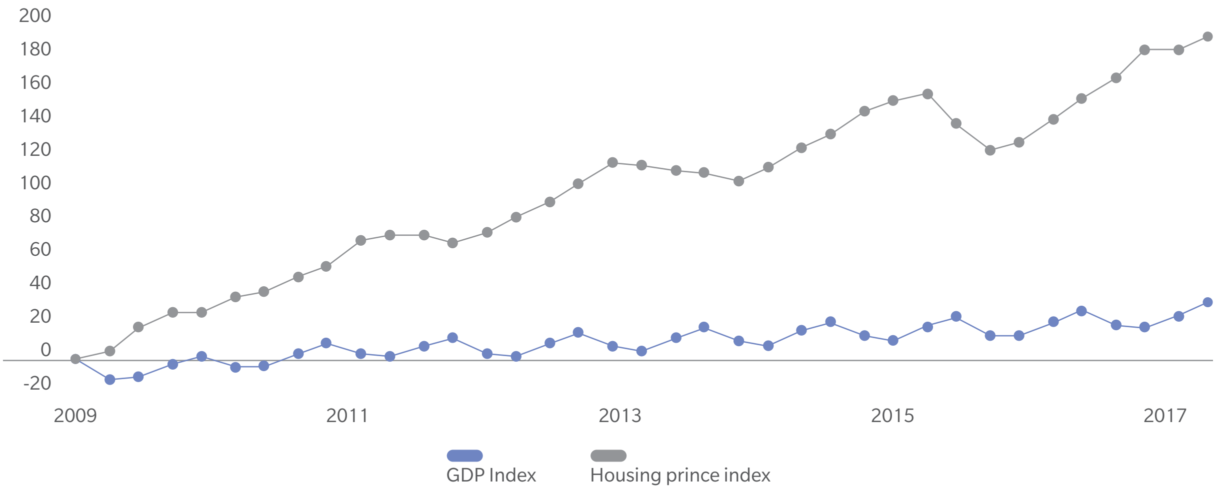
2017 marked the eighth consecutive year that Hong Kong has the world's least affordable housing market. The median price for housing is reported to be 19.4 times the median salary, much higher than the 12.9 times found in the second least affordable city, Sydney.[1] Concerns about the risks of an **asset bubble** in Hong Kong were raised as early as 2009 but prices have continued to increase (Exhibit 1).[2] The surge is believed to be driven by factors such as exceptionally low interest rates, continued inflow of capital into Hong Kong from the mainland, and the mismatch between supply and demand. In addition, there is increased uncertainty in the market due to the upcoming 2047 deadline where the "one-country two-system" framework with China reaches its 50-year limit.[3] In the absence of policy certainty on the governance framework after 2047, financial institutions are finding it difficult to sign new long-term loans or extend existing loans beyond 2047 and this could cause market upheaval.

Hong Kong is one of the most at-risk economies in Asia in terms of cybersecurity issues such as **cyber-attacks** and **misuse of technology**. According to the ESET State of Cybersecurity in APAC Survey, cyber breaches cost small and medium-sized businesses in Hong Kong USD 43,607 per breach on average, higher than the USD 36,690 per breach on average in Singapore (Exhibit 2).[4] Despite the high economic losses incurred, many businesses are still not investing in advanced cyber security

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Housing price and economic growth index

QUARTERLY, 2009–2018Q1



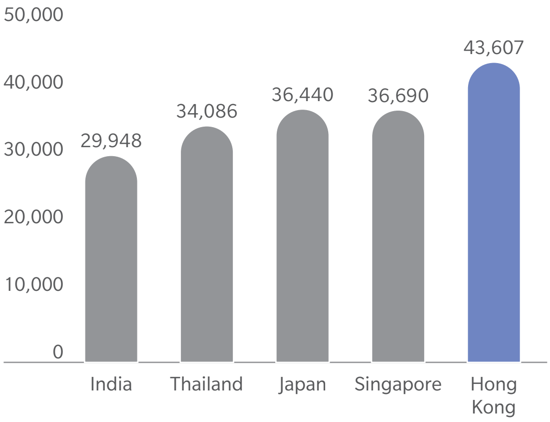
Source: Bloomberg

measures such as threat detection technology. In addition, attempts to spread sensationalised headlines or fake news have the potential to incite unrest within the society if not dealt with swiftly.

In July 2017, on the 20th anniversary of the handover of Hong Kong from Britain to China, thousands marched across Hong Kong to protest against the lack of democracy. Growing protests and public dissatisfaction over a range of issues, such as the existing political system and unaffordable housing, has fuelled **social instability** fears. Tensions with China and increased global uncertainties, such as the fallout from the ongoing trade war between the United States (US) and China, have also raised questions on the **failure of regional or global governance**.

Exhibit 2: Average cost of cybersecurity breach to small and medium enterprises

USD



Source: ESET State of Cybersecurity in APAC

"Talent shortage poses a clear and growing threat to Hong Kong businesses. In some talent categories, such as digital talent, the shortage has reached a severe stage. If not properly manged, the talent gap can significantly slow down businesses' development and transformation."

Billy Wong
Business Leader in Health and MPF, Mercer Hong Kong

EVOLVING RISKS

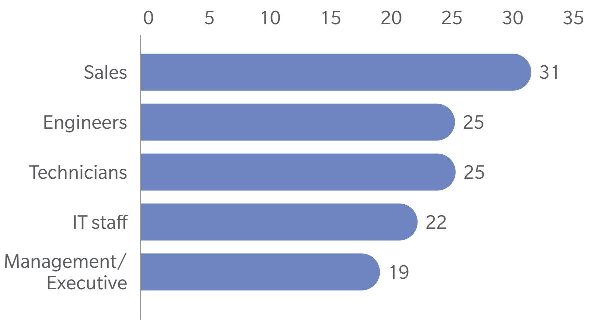
TALENT SHORTAGE, PARTICULARLY WITHIN THE DIGITAL SECTOR

According to the 2018 Talent Shortage Survey, 75 percent of companies found it challenging to fill job vacancies.[5] Rapid economic development, static education systems and shifting demographics have all led to discrepancies between the demand and supply of talent. Ranked top on Mercer's 2018 Cost of Living Index, the high cost of living in Hong Kong for expats has made it even more difficult to attract, recruit and retain the right talent compared to more affordable locations.[6]

Businesses are facing immense challenges in attracting talents for roles where digital knowledge and skills are critical (Exhibit 3). For example, more than 40 percent of mobile application development firms in Hong Kong have to outsource their operations as they do not have sufficient manpower.[7] To tackle the talent shortage issue, the government has introduced programs to attract global talent. One such example is the launch of the pilot Technology Talent Admission Scheme in May 2018 which shortens the processing time of work visas for inno-tech talents.[8] Nonetheless, the private sector needs to do more to address the problem. A Mercer study found that only 42 percent of HR personnel in Hong Kong are confident in helping current employees to reskill for new roles.[9] It is crucial that the private sector be more proactive to achieve their talent needs, such as by providing training and succession planning.

Exhibit 3: Top 5 difficult-to-fill jobs

PERCENTAGE OF RESPONDENTS, 2015



Source: Hong Kong Institute of Human Resource Management

CHANGES IN HONG KONG'S MONETARY ENVIRONMENT

Recent developments in global economics, most notably the US-China trade war, present some serious concerns for the stability of Hong Kong's economy. Hong Kong's monetary and financial stability is tied closely to both the US and China, despite the fact that their economies are going in different directions. Indeed, the American economy is today booming and growing, while China's economy is projected to cool and slow down.[10, 11]

This dynamic has some important implications for Hong Kong's monetary policy. Buoyed by American economic growth, the US Federal Reserve (the Fed) has gradually adjusted its interest rates upward since 2015.[12] The Hong Kong Monetary Authority (HKMA) generally adjusts its rates in tandem with the US Fed to maintain its currency peg between the Hong Kong Dollar and the US Dollar – however, abundant liquidity in Hong Kong's financial system (as a result of both Quantitative Easing in the US and capital flows from mainland China over the last decade) has kept interbank interest rates in Hong Kong low, creating a divergence between the HKD and the USD.[13] In April 2018, the HKD reached its weakest point against the USD since its peg to the greenback began in 1983.[14]

The Hong Kong Monetary authority has already intervened several times this year to defend its currency peg to the dollar by selling their USD reserves – however, Hong Kong's exposure to China's economy means that it may experience a slowdown concurrently with the mainland.[15] If the Chinese economy were to slow at the same time as the US enters an inflationary period, then Hong Kong would not be able to reduce its interest rates to counteract any slowdown in growth while defending its USD currency peg. These dynamics have raised an important fiscal policy question: While the HKMA reserves are sufficiently large for continued intervention, some have started to question the political will to spend them on the currency peg, given the domestic market implications.

RISKS IN NUMBERS[1]

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 — **80.2** — 100

High political risk — Low political risk

LOWY INSTITUTE
ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th — **2nd** — 1st

Least — Most

INTERNATIONAL TELECOMMUNICATION UNION
GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

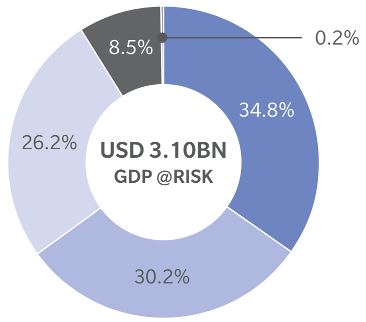
165th — **32nd** — 1st

Worst — Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[2]



- Finance, economics and trade
- Technology and space
- Natural catastrophe and climate
- Geopolitics and security
- Health and humanity

Notes:

[1] The results from the Marsh Political Risk Index, Lowy Institute Asia Power Index, and ITU Global Cybersecurity Index for Hong Kong is taken from China's results.

[2] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring.

INSIGHTS FOR BUSINESSES

1 **Leverage the Greater Bay Area (GBA) combined talent pool.** The different cities in the GBA have different competitive advantages in terms of talent, and businesses can leverage talent across the participating cities. For example, many companies in Hong Kong are starting to tap into Shenzhen as a source of digital talent, especially in the AI space. Businesses can consider several ways of doing so: moving the relevant roles from Hong Kong to Shenzhen, moving the Shenzhen digital talent to Hong Kong, and/or engaging freelancers or contractors who are able to contribute remotely

2 **Increase the use of on-demand or contingent workforces.** Many companies in Hong Kong are already starting to make use of a contingent workforce. Importantly, HR practices will need to evolve with this trend. Companies will need more advanced workforce planning, that can work out the quantity and quality of skill gaps and determine the optimal mix of workforce type to fill the gaps. This would entail adjusting the talent acquisition, contracting, performance management, and rewards models so that companies can accommodate a diverse set of workers and manage the mix dynamically

3 **Conduct stress-testing exercises.** Banks are subject to regular stress testing from the HKMA to ensure that they are able to withstand severe scenarios, such as an extreme outflow of funds over a short period. In the same way, businesses outside the banking industry should also run stress-testing exercises to see the potential impact of the HKD–USD peg breaking on their businesses, as well as other downturn scenarios

I N D I A

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Cyber-attacks
2. Terrorist attacks
3. Failure of financial institutions

4= Water crisis

4= High unemployment

TOP RISKS FOR DOING BUSINESS IN INDIA*

A MIX OF CYBER, SOCIO-POLITICAL AND ECONOMIC RISKS

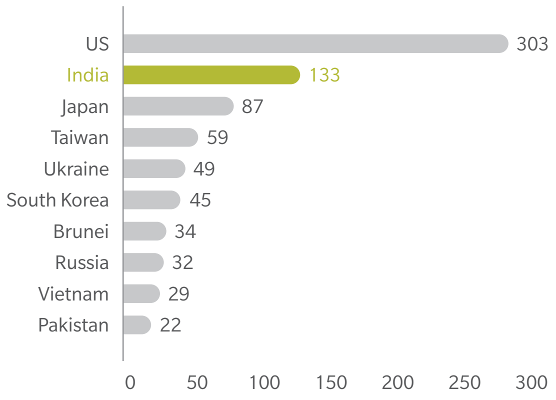
A growing dependency on data and digitization efforts have increased the risks of **cyber-attacks** in India. According to a Symantec security survey, India ranked second in the list of countries with the highest number of reported targeted cyber-attacks between 2015 and 2017 (Exhibit 1). Cyber risks can have wide-ranging implications in terms of threats to infrastructure and the financial economy. It is estimated that more than 50 percent of the reported cyber-attacks caused upwards of USD 500,000 in financial damages resulting from lost revenue, customers and opportunities, as well as out-of-pocket costs.[1] In response to the ever-growing threats, senior figures in India are calling for enhancements to the country's capabilities in terms of conducting regular threat assessments and increasing the country's ability to respond effectively.[2] Many corporates as well as governmental organizations are starting to employ a complex mix of products to protect against cyber risks.

Terrorist attacks have been a major concern for businesses in India. While there have been instances of attacks from ISIS-inspired outfits, most attacks may be better considered as acts of political violence as they mainly stemmed from either the complicated geopolitical relationships in the region or ongoing domestic strife. The Jammu and Kashmir region, for example, saw a 166 percent rise in civilian casualties from attacks in 2017 from a year ago.[3] The geopolitical nature of such incidents is again highlighted by the Indian government response, as it has continued pushing its counterterrorism agenda and has renewed calls for the early adoption of the UN Comprehensive Convention on International Terrorism.[4,5] At the same time, domestic insurgencies have continued, including the ongoing Naxalite movements and other incidents of communal violence.[6,7]

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Top 10 countries affected by targeted cyber-attacks

NUMBER OF REPORTED ATTACKS, 2015–2017



Source: Internet Security Threat Report, Symantec 2018

There have been growing fears of **financial institution failure** due to issues such as a surge in non-performing assets held by banks, bank scandals, and cash crunches in several states. The problem of rising non-performing assets (NPAs), especially in state-run banks, is particularly worrying: India's formal banking sector has accumulated about USD 210 billion worth of bad debt and loans to the industry, particularly those in the metal industry.[8] The government has taken measures to address this problem, most notably with the implementation of the Insolvency and Bankruptcy Code that is expected to facilitate a consolidated and orderly resolution for major NPAs, and a USD 32 billion recapitalization plan for state banks.[9,10] This is a positive development, but it is not enough to address other major problems in the financial sector, such as the risk of a liquidity crisis, observable from the recent series of failures to meet multiple payment obligations by financier Infrastructure Leasing & Financial Services (IL&FS).[11] The situation has put significant pressure on the ability of the Reserve Bank of India (RBI) and the government to work together to prevent a full-blown liquidity crisis, especially when these two institutions have disagreed over a number of issues, including the use of the RBI reserves.[12]

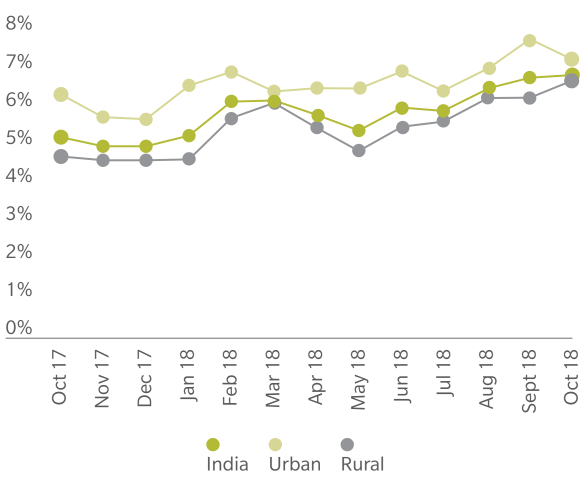
India has a serious **water crisis** on its hands. Average annual per capita water availability fell 15 percent between 2001–2011 and is predicted to fall another 13 percent by 2025,[13] while inadequate supply and water contamination problems already take an average of 200,000 Indian lives every year.[14] The estimated Gross Domestic Product (GDP) loss from water scarcity can be as high as 6 percent, with agriculture severely affected as 80 percent of water is used in this sector.[15] This ongoing water crisis was driven by a number of factors: an increase in water demand from a rapidly growing population, a decline in water supply driven by erratic weather, and poor agricultural practices and management. Heavy reliance on traditional irrigation methods and heavily water-dependent crops such as sugar cane in water-scarce regions have greatly contributed to the problem.[16] At the same time, sustainable water development initiatives have seen slow progress due to poor data management and water pricing practices, even as 80 percent of the country's states have water conservation legislation.

> "While changes in the Indian regulatory environment have increased the ease of doing business, there is also a need to recalibrate competencies and expectations with respect to this new environment and the country's various evolving risks. Historical methods of governance have to be changed, models reworked, and monitoring mechanism improved."
>
> **Preeti Chandrashekhar**
> *Business Leader in Health and Wealth, Mercer India*

India's robust GDP growth has not translated into formal job opportunities as the **unemployment** rate has been steadily rising, according to statistics from the Centre for Monitoring Indian Economy (Exhibit 2).[17] The IT industry, which once drove job creation, has been facing job losses and layoffs as businesses adopt less labor-intensive business models to remain competitive.[18] High unemployment will likely be a trying issue for the current government in 2019 due to its election promise to create 10 million jobs.[19]

Exhibit 2: Unemployment rate in India

OCTOBER 2017 – OCTOBER 2018



Source: Centre for Monitoring Indian Economy

EVOLVING RISKS

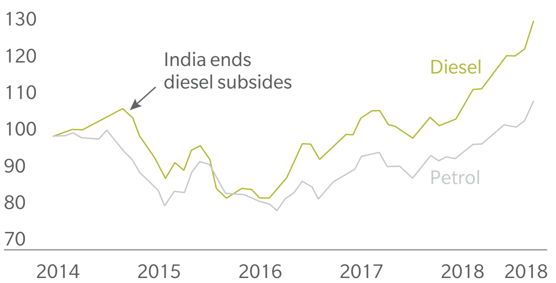
ENERGY PRICE SHOCKS CAN SEVERELY IMPACT THE LOCAL ECONOMY

According to data from 2017, India is the fourth biggest crude oil importer globally. Its oil imports totaled USD 60.2 billion, 6.9 percent of all global crude oil imports. With a rapidly growing economy, projected by the IMF to grow by 7.3 percent for 2018, it is no surprise that energy demand in India will continue to grow.[20] Energy needs in India have been forecast to exceed 10 million barrels per day by 2035, more than doubled the current consumption level. If persisted, this dependence on imported crude oil (estimated to be 80 percent of India's oil needs) will mean that the country is highly exposed to the global oil market fluctuation, which poses a key risk for the economy.[21]

Corresponding to its increasing energy needs, India's energy prices have increased despite the country being exempted from the Iranian oil ban (Exhibit 3). One worry is that this continued increase will add to inflationary pressures that will need to be addressed with monetary policy tightening.[22] These economic vulnerabilities, together with major environmental concerns such as India's serious pollution problem in major cities, have stressed the need for the country to curb oil consumption by moving to other renewable energy sources. One key initiative has been the government's push for a major electric car roll out along with a plan to significantly increase clean energy capacity. However, the government faces the difficult task of balancing this renewable agenda with the country's continued energy demand growth which is still currently reliant on coal and oil. It remains to be seen if the development of the renewable sector in India can catch up with its rapidly growing energy demand.

Exhibit 3: Petrol and diesel prices in India

CONSUMER PRICES (REBASED), 2014–2018



Source: Financial Times

UNHEDGED CURRENCY EXPOSURE CONCERNS DUE TO A WEAKENING RUPEE

The depreciation of the Indian rupee against the United States (US) dollar since the start of 2018 is posing a risk to India's macroeconomic stability (Exhibit 4). A confluence of global trends such as rising global crude oil prices, trade tensions between China and the US as well as a widening current account deficit are likely to further weaken the currency.

Currency depreciation will cause greater financial stress for importers from increasing costs and may threaten foreign capital investment into India. One way that RBI has been able to keep track of the situation is to require banks to monitor their clients' unhedged foreign currency exposure and set out incremental provisioning requirements if total credit exposures go above the standard.[23] RBI has also made hedging mandatory for businesses seeking foreign currency financing from non-Indian lenders in 2016. However, importers themselves are not subjected to such requirements, and many among importers hold unhedged foreign exposures.[24]

Despite RBI's requirements, outstanding risks remain, suggesting that the situation must be continually monitored. Research from India Ratings & Research in 2017 suggests that roughly 60 percent of India's overall forex exposure is unhedged against currency shocks.[25] The high levels of unhedged forex exposure mean that further depreciation could even cause systemic risks as India is a net importing country with the US as well as globally. A more volatile rupee will also increase the cost of hedging even for businesses that do seek to hedge against currency shocks.

Exhibit 4: USD–INR exchange rate

NOVEMBER 2017 – SEPTEMBER 2018

Source: Bloomberg

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 | **77.7** | 100

High political risk | Low political risk

LOWY INSTITUTE

ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th | **4th** | 1st

Least | Most

INTERNATIONAL TELECOMMUNICATION UNION

GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

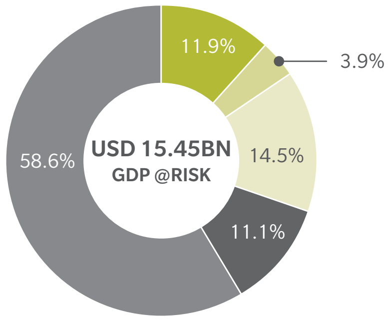
165th | **23rd** | 1st

Worst | Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



Finance, economics and trade
Health and humanity
Technology and space
Geopolitics and security
Natural catastrophe and climate

Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for India is calculated based on the GDP@Risk for ten cities, including Ahmedabad, Chennai, Delhi, Hyderabad, and Mumbai.

INSIGHTS FOR BUSINESSES

1

Implement comprehensive cyber security programs to improve resilience against cyber-attacks. Guarding against cyber crimes requires the recognition that no system is perfectly secure. A well-thought out cyber security program should include not just a security threat assessment, but also contingency plans that address what happens after a cyber incident occurs and the necessary financial protection to cover both direct and indirect losses. Training and upskilling employees in cyber security practices is equally crucial, with the recognition that these efforts should to be calibrated according to the needs of each individual setting

2

Manage rising costs and address new skill requirements for the workforce. For India, a country with a diversified workforce and varied family size and need, corporates today need to focus on the long-term sustainability of their benefit plans. Adopting integrated health and wellbeing strategies, underpinned by innovative insurance solutions, will be critical in managing the rising costs of employee health and benefit programs going forward. In addition, companies will need to continue to upskill their talent to match with the fast-paced development in the digital world. Companies can use analytics to identify skill gaps, and should focus on addressing both technical reskilling, as well as improving soft skills such as empathy

3

Prepare for terrorist attacks. Despite their relatively low likelihood, businesses need to assess the direct and indirect impacts of these events occurring. Models (such as PEST) can be employed to help consider and evaluate the political, economic, social and technological factors that ultimately impact the potential cost of a terrorist incident to businesses, while political or terrorism risk insurance presents a solution for risk transference

I N D O N E S I A

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Cyber-attacks
2. Terrorist attacks

3= Data fraud/theft

3= Food crisis

5. Misuse of technologies

TOP RISKS FOR DOING BUSINESS IN INDONESIA*

TECHNOLOGICAL RISKS DOMINATE BUSINESS CONCERNS

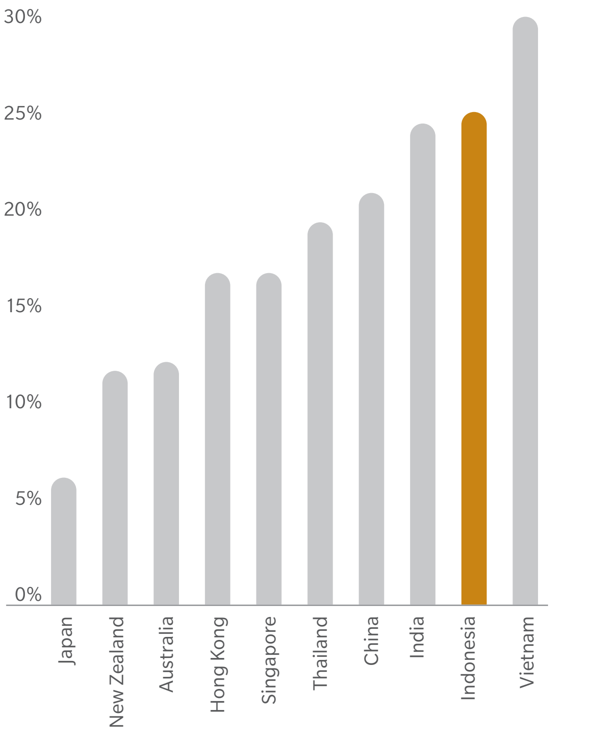
Indonesia ranked 70th out of 195 countries in the International Telecommunication Union's Global Cybersecurity Index 2017, and still trails behind its regional peers – such as the Philippines and Thailand in terms of cyber resilience.[1] In response to the growing frequency of **cyber-attacks,** Indonesia established its National Cyber and Cipher Agency (BSSN) in June 2017.[2,3] While this is a major step in the right direction, it will be difficult for the agency to significantly improve Indonesia's cyber resilience unless key issues, such as a lack of an operating budget and unclear scope of authority, are resolved.[4,5]

Data fraud and theft is another serious problem in Indonesia. According to survey results in Experian's Asia-Pacific Digital Consumer Insights report 2018, the country has the second highest proportion of respondents who have directly experienced fraud (Exhibit 1).[6] Attacks such as ATM-skimming are also prevalent, exacerbated by the lack of security technologies as well as user awareness.[7] To combat the problem, the government has issued new regulations that provide some protection for personal data in electronic systems.[8] However, observers have argued that more needs to be done, including the establishment of a comprehensive data protection framework.[9]

Speculation that ISIS will relocate to Southeast Asia has fueled fears of increased radicalization and **terrorist attacks** in Indonesia.[10] After a series of terror attacks in Java and Sumatra in May 2018, parliament quickly responded by passing a tough anti-terror law within the same month.[11,12] The revised law significantly lengthens the allowable period for detaining suspects and allows prosecution of those joining or recruiting for militant groups. However, the law has been criticized because some revisions are overly broad and could undermine human rights.

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Percentage of respondents who have directly experienced fraud



Source: Digital Consumer Insights 2018, Experian

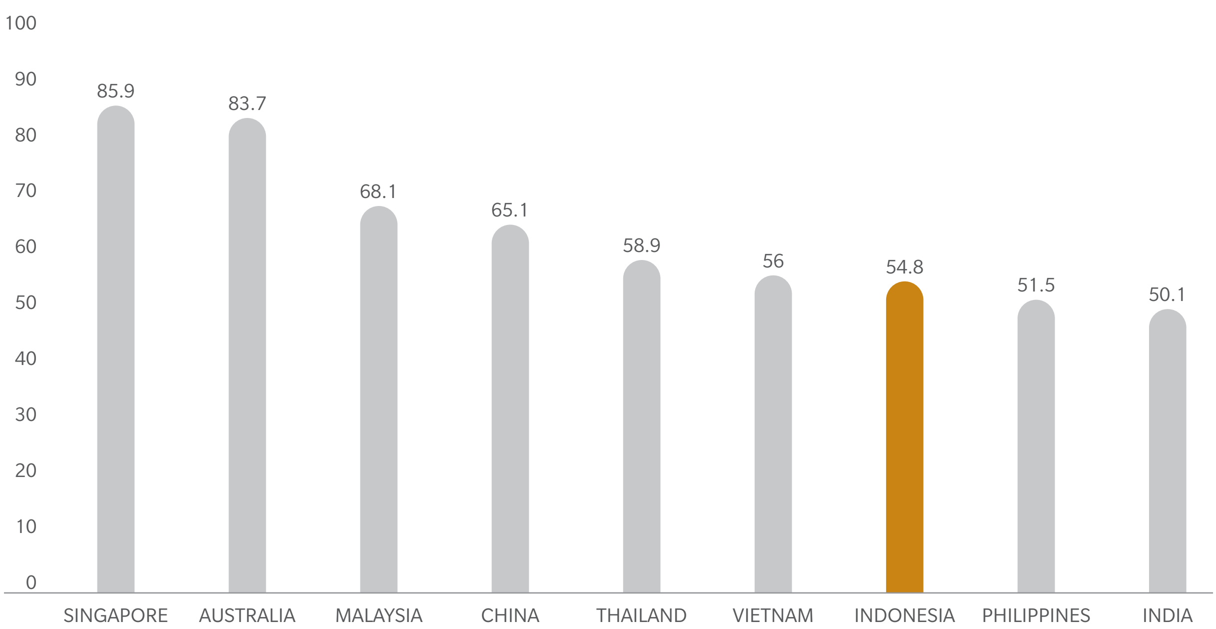
Fear of terrorist activities is closely related to the threat of **misuse of technology.** For example, cyber-jihadist networks such as the Muslim Cyber Army have increased the dissemination of deliberate misinformation and vigilantism with the intention of causing political, social and religious divides.[13] Authorities are also faced with difficulties in actively managing the influx of fake news and online hate speech prior to the upcoming presidential elections in 2019.[14]

"Organizations that work with purpose, create thriving environments to energize employees, and are committed to the well-being of their people will be most successful in unlocking growth potential in the human age."

Bill Johnston
Chief Executive Officer, Mercer Indonesia

Pockets of the Indonesian population still suffer from a lack of adequate food and nutrition, even though Indonesia does not suffer from a **food crisis** at a national level.[15] Correspondingly, Indonesia only ranked 65th out of 113 countries for its overall food security according to the 2018 Global Food Security Index which looks into issues of affordability, availability, quality and safety in countries studied (Exhibit 2).[16] In particular, maternal and infant under-nutrition remains rampant. One of the resulting key health problems being faced is stunting, causing low heights and cognitive issues in children. According to World Bank estimates, more than 37 percent of children under five years old are stunted due to under-nutrition.[17]

Exhibit 2: Food security scores of selected Asia-Pacific economies



Source: Global Food Security Index 2018, The Economist Intelligence Unit

EVOLVING RISKS

DIGITAL TALENT SHORTAGE

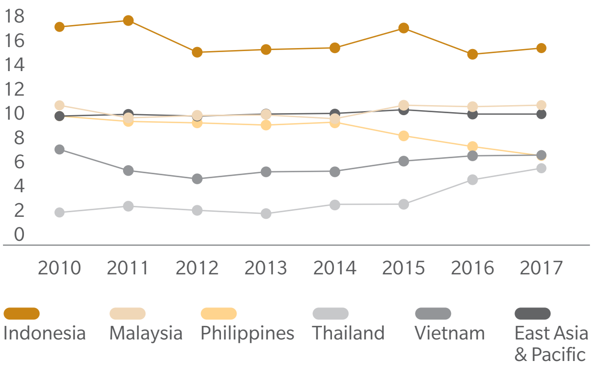
Even though youth unemployment is high in Indonesia, businesses have been finding it difficult to hire suitable talent (Exhibit 3). In particular, the talent shortage problem can be attributed to the mismatch between skills taught in schools and companies' requirements.[17]

Recent new applications of technological advancement have led to a wave of new tech start-ups in Indonesia, and once again highlighted the severity of Indonesian talent scarcity. The e-commerce and ride-hailing boom has been very pronounced in Indonesia, but is hindered by a shortage in tech talent.[18] A recent paper from the Asia-Pacific Economic Cooperation showed that Data Science and Analytics (DSA) topped the chart for skills shortage in Asia, and Indonesia is no exception: 62 percent of Indonesian firms reported that talent shortages in these fields have hindered their ability to deliver quality big data analytics to customers.[19] Business leaders in the country point to Indonesia's education program as part of the problem, as the current system is not designed to train students for these new roles.[20]

While DSA talent shortage has been a pain point for businesses, Indonesia is also facing a wider dearth in skills related to Information and communication technologies (ICT) roles. Even though there are about 200,000 ICT graduates in Indonesia each year, their skill sets often do not match industry needs.[21] As companies embark on their search for talent, they are generally faced with a choice between less experienced local hires who better understand local markets and more experienced foreigners.

Exhibit 3: Youth unemployment rate by country (15-24 years old)

PERCENTAGE, 2010–2017



Source: World Bank

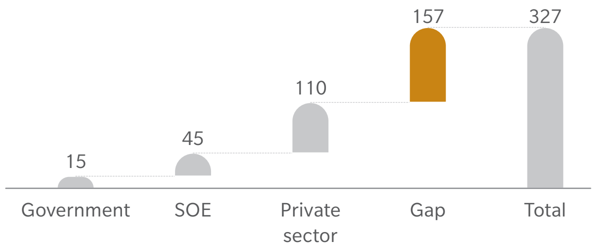
FAILING TO MEET DOMESTIC GROWTH AMBITIONS DUE TO GLOBAL MARKET FACTORS

Indonesia's economy, with its reliance on foreign denominated debt to fund its domestic programs, has become very sensitive to international market developments. As global liquidity levels fall, funds have been leaving Indonesia and Rupiah FX rates have fallen to record low levels.[22,23] In response, the government has been raising interest rates to curb further sell-off of its currency: Indonesia has already raised rates by 1.50 percentage points in the first 9 months of 2018. Even though interest rate hikes may help to prop up its currency, such actions will negatively impact individual's ability to borrow and are also expected to cause solvency challenges for many of Indonesia's domestic businesses and state-owned enterprises. According to estimates from Oliver Wyman, 44 percent of public companies in Indonesia would face difficulties generating sufficient free cash flow to cover their interest expenses if interest rates in the country increases by 2 percent.[24]

Long term growth programs are also being forced to take a back seat to these shorter term defensive measures to stabilize the rupiah. The government is facing challenges to fund its economic agenda and to lift living standards via ambitious domestic spending programs. For example, the Jokowi government is already facing a USD 157 billion funding shortfall for its flagship infrastructure program (Exhibit 4).[25] With a presidential election looming in 2019, funds risk being further allocated away from longer term growth programs, towards shorter term spending programs. If Indonesia is to meet its growth ambitions it must look within, to address structural productivity problems such as labor market efficiency and technological readiness of its population.[26]

Exhibit 4: Sources of funds pledged to Indonesia's infrastructure program

USD BILLION



Source: Bloomberg

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 — **72.9** — 100

High political risk — Low political risk

LOWY INSTITUTE

ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th — **10th** — 1st

Least — Most

INTERNATIONAL TELECOMMUNICATION UNION

GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

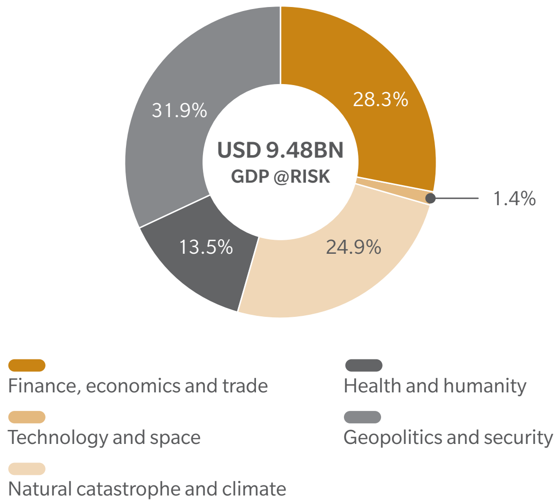
165th — **69th** — 1st

Worst — Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Indonesia is calculated based on the GDP@Risk for four cities: Bandung, Jakarta, Medan, and Surabaya.

INSIGHTS FOR BUSINESSES

1 **Educate leadership on cyber risks and potential responses.** Companies in Indonesia must move quickly to educate key decision-makers on the technical aspects of their cyber protection programs and the extent of current vulnerabilities. The next step is to engage both internal and external experts to quantify the size of the risk and devise appropriate responses, from setting up a holistic cyber security and governance framework to risk transference solutions such as cyber risk insurance

2 **Create a thriving environment.** Companies that have a well-defined purpose and sense of corporate responsibility, will be best placed to inspire employees to drive towards success. Organizations must develop in flatter, more agile structures, that are better able to accommodate change and face challenges. Furthermore, businesses must create an environment where employees can thrive, with access to health and wealth programs, training opportunities, and new talent ecosystems in order to provide a much-needed boost to labor market productivity

3 **Prepare for downside risks in a challenging macroeconomic environment.** Companies should look to improve capabilities to project their balance sheets and performance into the future, and the ability to stress test projections against downside scenarios to understand potential risks. An effective framework will enable firms to take mitigating actions to manage their exposure and ensure levels of risk are within acceptable bounds

JAPAN

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Cyber-attacks
2= Misuse of technologies
2= Regional/global governance failure
4. Illicit trade
5. National catastrophe

TOP RISKS FOR DOING BUSINESS IN JAPAN*

THE CONTINUED RISE OF TECHNOLOGICAL RISKS

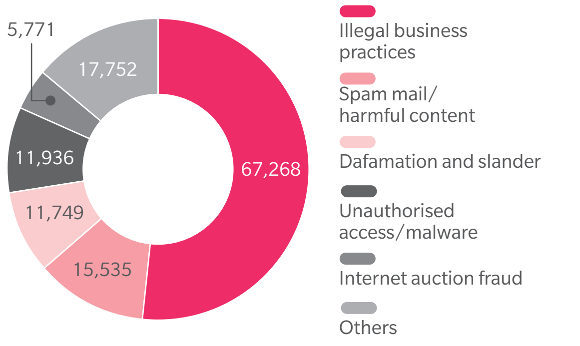
While Japan enjoys a relatively low crime rate, cyber crime is on the rise with a growing number of **cyber-attacks** being reported (Exhibit 1). Large-scale hacks such as the attack on Coincheck, which resulted in USD 530 million of cryptocurrency being stolen, not only highlighted the gaps in legislation for emerging technologies, but also exposed fault lines in cyber security measures that have been implemented.[1] In early 2018, for example, lax adherence to online security rules led to the leak of login details for more than 2,000 government staff.[2] Instances of **misuse of technology** to commit fraud have also risen significantly. In the first seven months of 2017, there were 33 cryptocurrency-related fraud cases reported.[3] Japan's National Police Agency also identified over 20,000 fake shopping sites in operation, designed to swindle money from customers.[4] The government has stepped up its cyber security efforts through new laws, as well as setting up a cyber security taskforce and training center to improve Japan's cyber resilience.

With incumbent Japanese Prime Minister Shinzo Abe securing a third term at the helm, the focus is now on how he will manage the potential for **regional or global governance failure** moving forward. Japan faces headwinds from the United States (US), given the Trump administration's increasingly protectionist attitude towards trade. There are worries that such policies will thwart Japan's longest expansion run since the 1980s.[5] On the other hand, although China is a crucial export destination for Japan, the shape of future relations between the two Asian economic powers remains uncertain.[6] The Japanese government

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Types of cyber crimes reported

NUMBER OF CASES, 2017



Source: Japan National Police Agency

> "Businesses need to embrace digital in a more proactive way, in order to improve efficiencies while addressing labor shortage concerns."
>
> **Seo Young Lee**
> *Head of North Asia, Oliver Wyman*

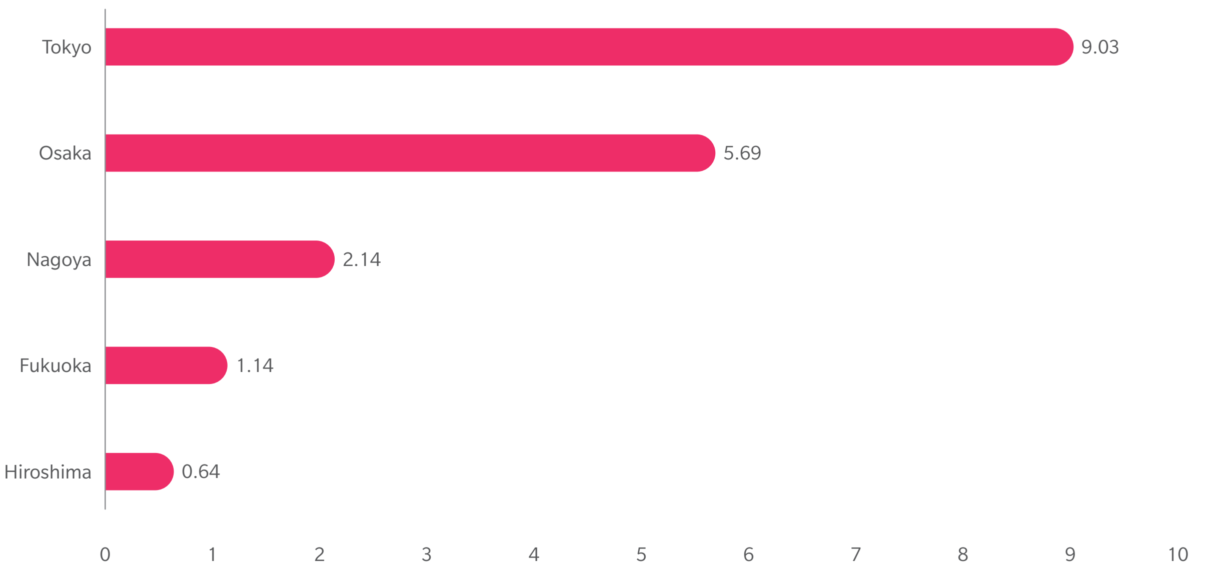
identified China as a major security concern in its 2018 defense white paper, while China claims that Japan has exaggerated the situation in order to expand its military spending budget.[7,8] Japan's military build-up, which includes a new missile shield directed at China, as well as changes to the nation's pacifist constitution, has become a source of tension and hostility between the two countries.

Japan has taken an active role in stemming the **illicit trade** in arms by trying to persuade more countries to ratify the Arms Trade Treaty (ATT). Currently, the treaty has entered into force for 95 states but only 6 countries (including Japan) in Asia Pacific have signed it so far.[9,10] Japan is also facing problems in combatting the illegal ivory trade.[11] Weak legislation and policy loopholes have allowed the smuggling of large quantities of undocumented ivory overseas, mainly to China. A World Wildlife Fund report documented that 2.4 tons of ivory – including elephant tusks, antiques and jewelry – were illegally exported from Japan between 2011 and 2016.

Natural catastrophes are a key threat to Japan as it is one of the most seismically active countries in the world (Exhibit 2). Japan is widely considered as the global leader in disaster preparedness, however it can still improve on its monitoring and forecasting systems – the eruption of Mount Kusatsu-Shirane in January 2018 caught Japan by surprise even though it is kept under constant video surveillance.[12,13,14] Recent natural catastrophe events have also exposed gaps in Japan's efforts to improve its resilience to natural disasters. In September 2018, a 6.7-magnitude earthquake which hit Hokkaido not only claimed 41 lives, but also shut down transportation and power infrastructure, severely disrupting economic activities. In the following month typhoon Jebi also caused serious damage to critical infrastructure in Kansai Airport.[15,16]

Exhibit 2: Expected annual GDP loss* from natural disaster for selected cities in Japan

USD BILLION



* Expected annual GDP loss is calculated from the value of a potential loss event and the probability of that event occurring
Source: Lloyd's City Risk Index 2018

EVOLVING RISKS

TIGHT LABOR MARKET CONDITIONS

Japan is facing an extremely tight labor market with record high job-to-applicant ratio (Exhibit 3). The country's aging population and the record low birth rate in 2017 have led to a total fertility rate of only 1.43, well below the 2.07 rate needed to stabilize the population.[17] Accordingly, Japan's workforce continues to shrink significantly. This is further complicated by the rigid work culture in Japan where mid-career moves are rare, as well as the government's tight immigration policies.[18] Subsequently, Japanese employers are experiencing increasing difficulties in filling necessary positions.

Whilst labor shortage is a key problem for many industries, it is most acute within the cyber security and blockchain technology solutions sectors.[19,20] Despite cyber risks topping the country's concerns, there are limited IT professionals available. In 2017, there was a shortfall of about 130,000 IT professionals and the talent shortage is expected to increase to 193,000 by 2020.[21] The government is working hard to close the skill gaps by cultivating more cyber security talents, nonetheless a prolonged shortage will impede the country's cyber defense capabilities as well as technological advancement.

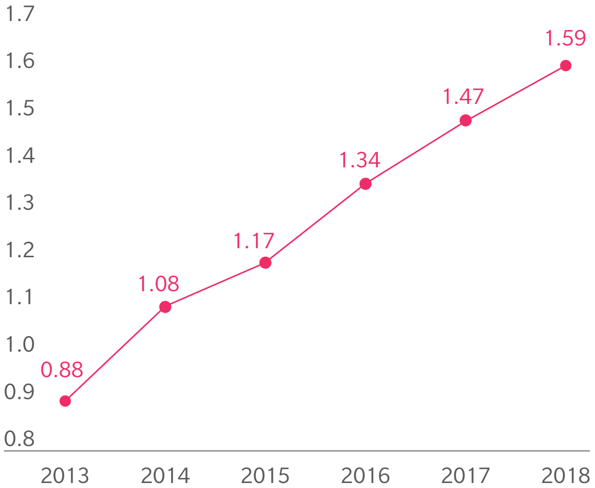
THE LOOMING RISK OF AN ASSET BUBBLE

The Bank of Japan (BOJ) has continued to maintain very low short-term interest rates, as well as implemented quantitative easing (QE) measures since early 2000 to combat deflation.[22] While BOJ has signaled that there may be an upcoming "unwinding" of QE, its policies have become somewhat decoupled from the Fed and its rate rise this year (Exhibit 4).[23] Low short- and long-term rates will continue to be maintained for an extended period, underscoring the government's struggle to meet its 2 percent inflation goal.

As the Japanese economy has picked up, there is a fear that continued QE in an ultra-low-interest rate environment will lead to an asset bubble resurfacing. Average land prices have risen for the first time since the collapse of asset prices in 1991/1992, driven largely by increasing demands for hotels and shops from a booming tourism sector.[24,25] The upcoming Olympics in 2020 has also led to unprecedented growth in Tokyo's real estate market. Against these trends, analysts have cautioned a potential post-Olympic weakening in demand as well as an oversupply in office space in the capital.[26] Preparing against such a downturn and striving towards growth targets will prove to be a difficult balance for the government.

Exhibit 3: Job-to-applicants ratio in Japan

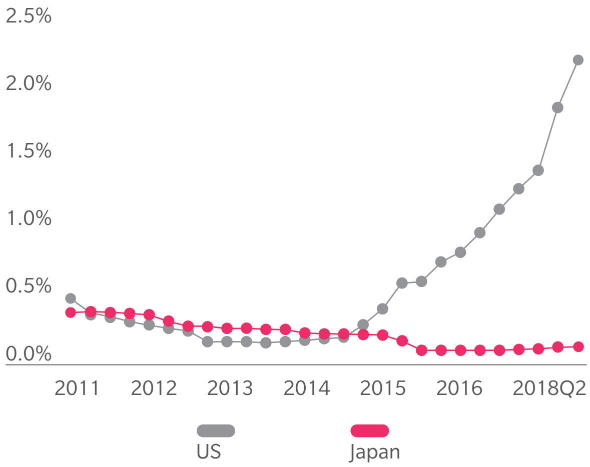
2013–2018



Source: Ministry of Health, Labor & Welfare

Exhibit 4: Quarterly short-term interest rate in Japan and the US

PERCENTAGE, 2011Q4–2018Q2



Source: OECD data

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 **83.1** 100

High political risk — Low political risk

LOWY INSTITUTE

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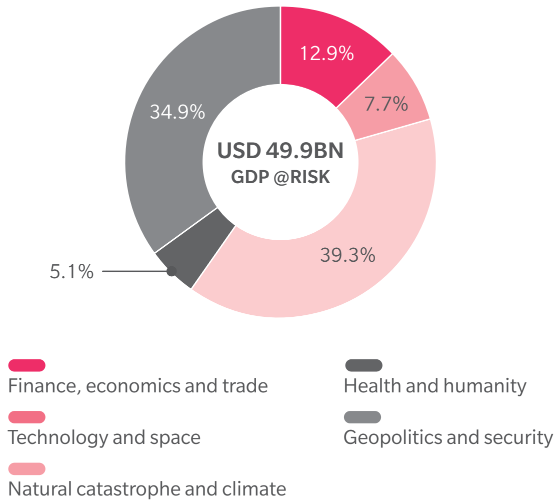


Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Japan is calculated based on the GDP@Risk for seven cities: Fukuoka, Hiroshima, Nagoya, Osaka, Sapporo, Sendai, and Tokyo.

INSIGHTS FOR BUSINESSES

1 **Work culture reform and innovative plans for retirement, savings and healthcare.** Changes to the culture of prevalent overtime work and initiatives to equalize wages between regular and non-regular employees will help empower employees, increase employee loyalty and retention. Successful organizations are also finding innovative ways to implement retirement and healthcare policies. An example is private hospital plans that can be paid for by employers during an employee's tenure but carried forward at the point of retirement and be paid for by the employee post-retirement

2 **Respond and adapt to emerging technologies.** While a key priority is to establish a robust cyber security system that is resilient to the increasing number of cyber-attacks, this should not be Japan's only area of focus. Businesses will also need to anticipate the security, regulatory and ethical implications of other emerging technologies, such as Internet of Things, cloud computing and artificial intelligence to be successful

3 **Understand and manage macro risks.** Businesses in Japan have benefitted greatly from globalization. This means that Japan Inc. now faces two major macro risks: intensifying trade disputes and nationalist economic policies, and systemic risks in the global financial system. It is crucial for businesses in Japan to have a holistic understanding of how these ongoing trends will impact them. For instance, businesses are actively thinking about how recent foreign exchange volatilities in several markets may affect their revenue and bottom-line

M A L A Y S I A

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Data fraud/theft
2. Cyber-attacks
3. High unemployment

4= Misuse of technologies

4= National Governance failure

TOP RISKS FOR DOING BUSINESS IN MALAYSIA*

TECHNOLOGICAL CONCERNS DOMINATE AMID POLITICO-ECONOMIC UNCERTAINTIES

While Malaysia consistently ranks highly in the International Telecommunication Union's annual Global Cybersecurity Index (3rd in 2017), **data fraud and theft** as well as **cyber-attacks** in Malaysia have increased in scale and severity in the past few years (Exhibit 1).[1] For example, in October 2017, it was reported that the data of over 45 million mobile phone users has been leaked since 2014.[2] These incidents suggest that businesses still lack a robust cybersecurity framework for detecting and countering cyberbreaches. Also, Malaysia's existing legislation does not include mandatory data breach notification requirements to inform data subjects when breaches occur. The government is increasingly prioritizing cyber resilience and it set up the CyberSecurity Malaysia agency to lead its cyber security agenda in 2017. A related concern is the **misuse of technology,** whereby social media channels have been used to sway public opinion. Digital Forensic Research, a U.S. based digital media research institute, found that in the weeks leading up to the 2018 national elections over 17,000 bots flooded Twitter with spam messages.[3]

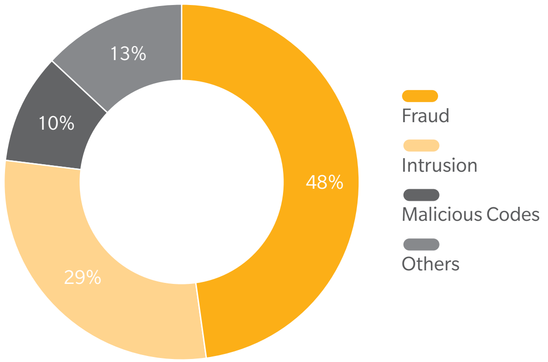
While the headline **unemployment rate** in Malaysia is relatively low at about 3.4 percent over the first eight months of 2018, relatively youth unemployment numbers have been an important concern for businesses. Malaysia's youth unemployment rate has consistently exceeded 10 percent since 2015, and while not as severe as other economies such as Indonesia, is among the highest

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

rates across East and Southeast Asian economies (Exhibit 2).[4] This is reflective of a mismatch between industry needs and skills being taught in educational institutions, as well as limited success in the creation of high-skilled jobs.

Exhibit 1: Reported cyber incidents

PERCENTAGE, 2017



Source: MyCERT Incident Statistics

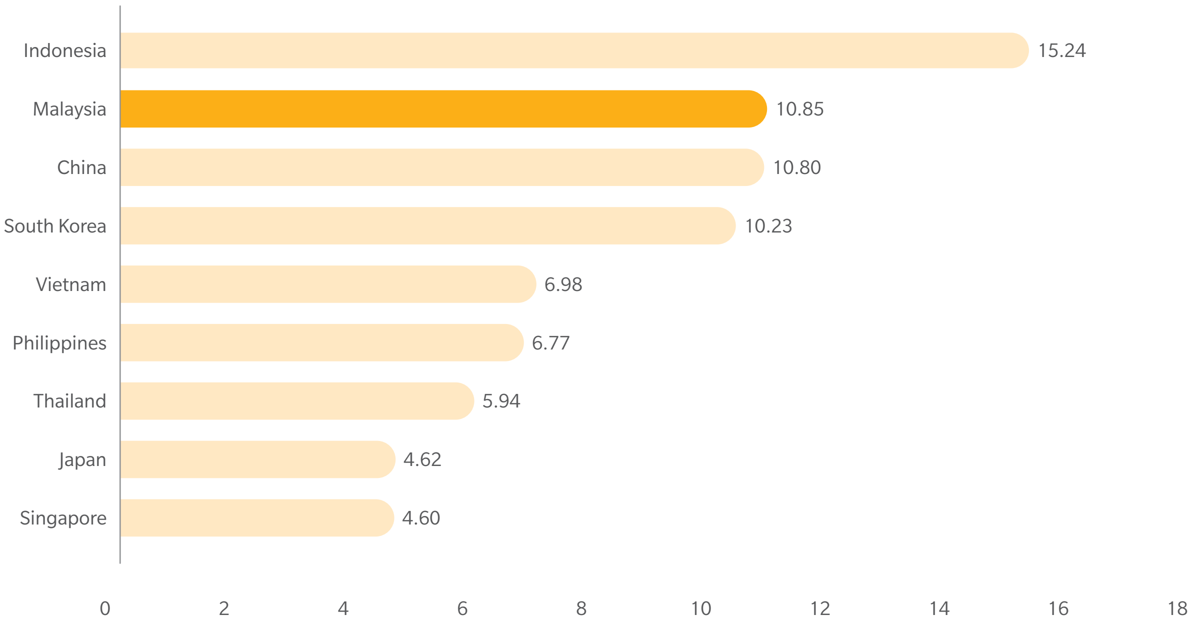
Fears over a **national governance failure** resulted in the defeat of the Najib-led incumbents during the 2018 general elections. In particular, serious allegations of corruption in the 1Malaysia Development Berhad scandal (1MDB) and widespread discontent over inequality and rising living costs dominated debate in the lead up to elections.[5] It was also revealed, after the elections, that the previous administration had understated the federal debt, which stands at about USD 251 billion (MYR 1 trillion).[6] In a bid to reduce the national debt, the new government has scrapped multibillion-dollar projects, reduced ministerial salaries and even set up a fund to collect public donations.[7, 8] While public confidence in the new government has improved, concerns exist that these large-scale changes may affect foreign investments and confidence.

"Talent shortages are significant and create a bottleneck for growth across many industries in Malaysia. Addressing the skill shortage should be a combined effort from both the government and the industry."

Anirudh Singh
Partner and Market Leader, Oliver Wyman Malaysia

Exhibit 2: Youth unemployment rate across major East and Southeast Asian economies

PERCENTAGE OF TOTAL LABOR FORCE AGED 15–24, 2017



Source: World Bank

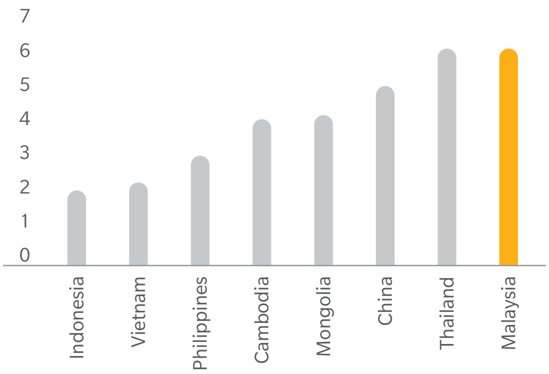
EVOLVING RISKS

TALENT SHORTAGES EXPECTED TO AFFECT PRODUCTIVITY AND COMPETITIVENESS

A key problem faced by businesses in Malaysia is the shortage of skills and talent due to businesses' shifting skills needs. Correspondingly, the time and effort taken to fill professional vacancies in Malaysia is significantly higher than some other major economies in the regions, such as Indonesia, Vietnam and the Philippines (Exhibit 3). In particular, financial services firms are facing difficulties recruiting talents with relevant industry experience that covers evolving financial regulations, as well as data analytics and technology capabilities to meet changing demands (Exhibit 4).[9]

The government's efforts to address talent shortage issues remain inadequate. The Talent Corporation Malaysia Berhad (TalentCorp), which has been mandated with attracting highly-skilled Malaysians working abroad to return to the country, only managed to return 398 Malaysians in 2017, far below its target of 800.[10] Persistent talent shortages will affect the productivity and competitiveness of businesses and hinder Malaysia's goal of becoming a fully developed nation by 2020.[11]

Exhibit 3: Average number of weeks taken to fill professional vacancies



Source: TalentCorp, World Bank data

Exhibit 4: Top 5 Functional areas that are most difficult to fill in Malaysia's financial services industry

Source: Asian Institute of Finance, "Talent Gaps in the Financial Services industry in Malaysia"

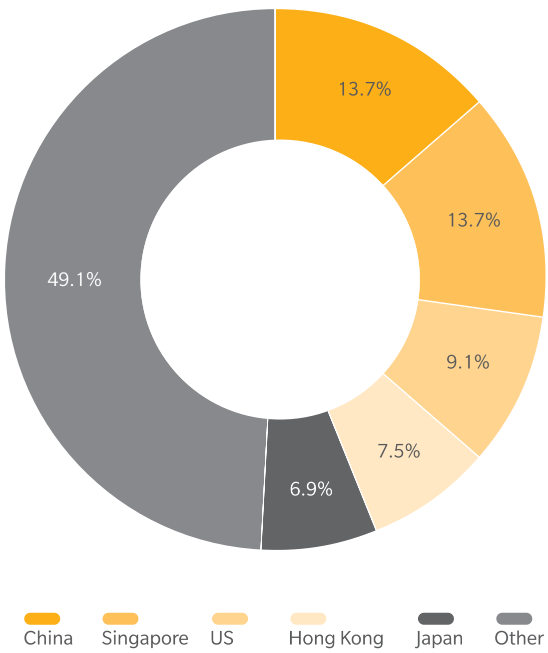
MIXED EFFECTS OF THE US-CHINA TRADE DISPUTE

Since both the United States (US) and China are key export destinations for Malaysia's products, Malaysia will not remain unscathed from the ongoing US-China trade dispute, even though it has chosen to take a neutral policy of non-interference in the fall-out (Exhibit 5). Separate analyses from DBS and OCBC, for instance, have pinpointed Malaysia as one of the most exposed economy in the trade war due to the country's trade openness and its close connection to the global supply chain.[12,13] Sectors that contributed most to Malaysia export, such as electrical and electronic products are expected to be affected, while other up and coming industries such as solar panel and solar panel components manufacturing have already been directly hit by tariff hikes from the US.[14]

At the same time, it is worth nothing that other Malaysian industries are also potential beneficiaries from the trade war. According to a recent analysis by the Economist Intelligence Unit, Malaysia's Information and Communication Technology (ICT) products and the automotive sector will be the biggest winners as manufacturers can readily shift their production from China to Malaysia.[15] While this is generally good news, there is also a risk of missed opportunities if companies cannot take advantage of this windfall.

Exhibit 5: Biggest importers of Malaysia's exports

PERCENTAGE OF TOTAL EXPORTS, JANUARY–OCTOBER 2018



Source: Malaysia External Trade Development Corporation

RISKS IN NUMBERS

MARSH

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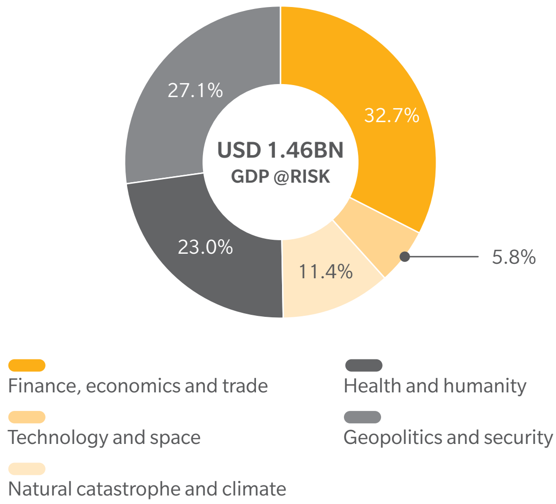


Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Malaysia is calculated based on the GDP@Risk for two cities: Kota Bharu and Kuala Lumpur.

INSIGHTS FOR BUSINESSES

1 **Take a long-term view in fostering, developing and retaining talent.** Human resources should communicate with senior leadership regularly to ensure that talent management objectives align with the business's evolving strategy. Data analytics can also be deployed to support talent management initiatives, such as the use of predictive analytics to assist in identifying high potential individuals or employees in critical areas who are most at risk for leaving the company

2 **Improve employee benefits to retain talent.** One way to do so is to improve healthcare benefits while reducing healthcare spending. Many companies in Malaysia operate their employee healthcare benefits on a self-funded basis. However, without an efficient benefit administering structure combined with general healthcare inflation, rising benefit costs can become a major concern. Implementing a network of preferred providers coupled with advanced analytics and technology can not only give employees more options but also provide tangible savings and reductions in cost growth trajectory

3 **Develop internal capabilities to deal with cyber-related risks.** It is crucial for businesses to improve internal competencies across technical infrastructure, governance, processes, and people skills in order to be more cyber resilient. Given the high potential costs and liabilities associated with cyber risks, it is important for businesses to quantify their cyber risk exposure and consider transferring the potential costs and liabilities via cyber insurance

N E W Z E A L A N D

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. Extreme weather events
2. Cyber-attacks
3. Regional/global governance failure
4. Critical infra. shortfall
5. Climate adaptation failure

TOP RISKS FOR DOING BUSINESS IN NEW ZEALAND*

PERSISTING ENVIRONMENTAL RISKS WITH OTHER SOCIOECONOMIC VULNERABILITIES AT THE HORIZON

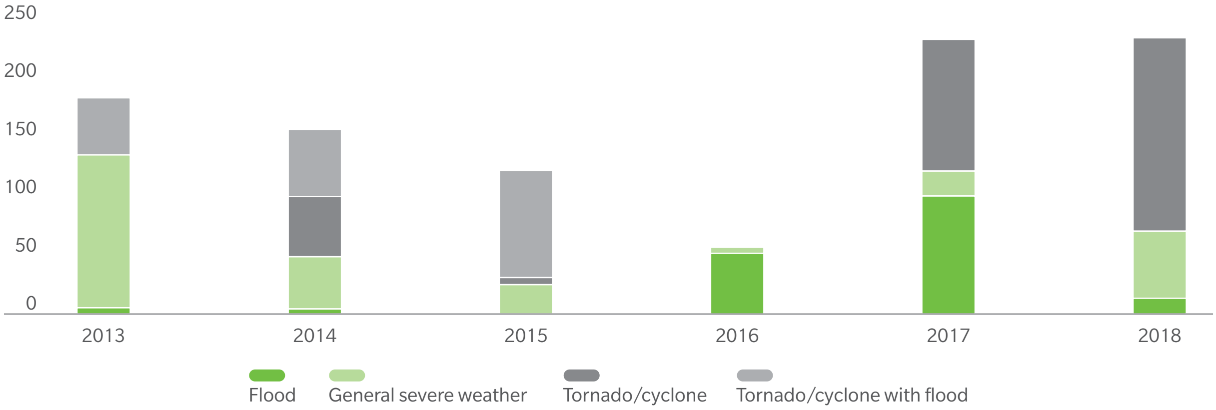
New Zealand's vulnerability to climate-related risks such as **extreme weather events** is rising due to rapid urbanization and an increase in the frequency and severity of these events (Exhibit 1). Key sectors of the economy, such as agriculture, forestry, fishing as well as tourism all depend heavily on the country's climate-sensitive, natural resources. Failure to manage the associated risks effectively could lead to massive economic and non-economic losses. Agriculture, one of the biggest sectors in New Zealand's tradable economy, is particularly lacking in important risk mitigation measures, most notably insurance. This lack of insurance protection against weather events for crop or livestock has been partly caused by the unavailability of subsidized insurance schemes from the government.

New Zealand's Climate Change Adaptation Technical Working Group (CCATWG) estimates that weather events already cost New Zealand's land transport network over USD 59 million (NZD 90 million) per annum.[1] According to the CCATWG report, both the public and private sector have a good understanding of climate risks, but few stakeholders are making material efforts in terms of anticipatory action or adaptation to climate change. As with extreme weather events, climate change is also projected to severely affect New Zealand's agriculture sector. For example, climate change has been flagged as a major threat to the country's kiwi fruit industry.[2] Evidently, New Zealand will need to improve its **climate change mitigation and adaptation** efforts, particularly when changing climate patterns can add on to other serious-related threats including

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Cost of paying claims for damage resulting from natural disasters by the insurance industry

NZD MILLION, 2013–AUG 2018



Source: Insurance Council of New Zealand, APRC analysis

rapid disease spread that can severely impact both human and agricultural activities.[3]

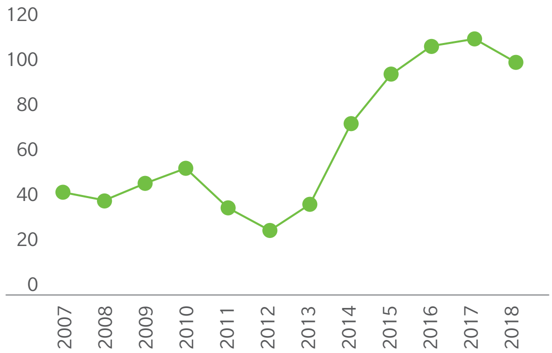
According to New Zealand's National Cyber Security Centre, reported **cyber crimes** more than doubled from 190 in 2014/2015 to 396 in 2016/2017.[4] Roughly a quarter of the population were victims, with combined losses of more than NZD 177 million (USD 116 million) according to 2017 census figures. Exacerbating the losses to businesses from cyber crimes is the low level of insurance among businesses. In New Zealand, only 6 percent of businesses are insured against cyber-attacks.[5] Thus, the Government is now stepping up its efforts in building cyber defense capabilities across government agencies to improve the security of digital infrastructure, and to protect both individuals and businesses against cyber crimes.[6]

Shifting relations in global and regional geopolitics have heightened fears of **regional or global governance failure.** China's rising influence in the Pacific region has heightened sensitivities as New Zealand views its national security to be dependent on regional stability.[7] Ongoing tensions from the US-China trade war are increasing these sensitivities. Between 2011 and 2018, Chinese foreign aid (mostly loans) in the region, exceeded USD 1.2 billion and there are fears that the high level of indebtedness might become unsustainable. To increase its influence in the region and globally, New Zealand established the Strategic International Development Fund in July 2018 to re-shape and increase its aid expenditure.[8]

In recent years, New Zealand has enjoyed record population growth. However infrastructure investment has not kept pace, resulting in concerns of **critical infrastructure shortfall** (Exhibit 2).[9] More frequent incidences of high impact extreme weather events, as well as rising sea levels, have all added pressure to existing infrastructure and increased the need to improve resiliency. Severe weather such as recent storms have caused major outages in the country, highlighting the need for climate-resilient power infrastructure.[10] Even though the government plans to increase spending on infrastructure, it has not been able to quantify the value of the infrastructure deficit or forecast future infrastructure needs.[11]

Exhibit 2: Annual population change in New Zealand

THOUSANDS, 2007–JUNE 2018



Source: Stat NZ

"New Zealand's risk profile aligns closely with the global risk profile, particularly concerning environmental and technological risks. The concern for business, however, lies with the current government's perceived ability to govern the management of these risks"

Marcus Pearson
Country Head,
Marsh New Zealand

EVOLVING RISKS

CONFLICTING PRIORITIES WITH RENEWABLE AGENDA AND ELECTRICITY AFFORDABILITY

Renewable sources such as hydro and geothermal already contribute 85 percent of electricity generation in New Zealand, however the ambitions to supply all of the country's energy needs from renewable sources by 2035 and have zero net carbon emissions by 2050 are not without complications.[12,13] In particular, the push for clean energy could potentially result in price increases for consumers, who are already paying higher energy prices in recent years. The problem may become more acute during dry seasons. Hydropower, which accounts for almost 60 percent of New Zealand's energy generation, is less reliable during dry weather events while at the same time electricity demand peaks. New Zealand's efforts in removing non-renewable energy sources such as coal and gas could create problems in the future, especially during water shortages, resulting in unmet demand and price hikes. Rising electricity prices will undoubtedly affect the competitiveness of other industries.[13] For instance, rising prices would erode the lower baseload power price advantage that the agriculture industry has had over their Australian counterparts.

On the other hand, the renewable energy agenda has also spurred the development of new and improved technologies, that businesses can take advantage of to improve and streamline their process. These includes the increasing prevalence of battery storage facilities, improvements in solar collector technology for water heating and material design, and the continued growth in integrated technologies and systems. A key challenge for businesses, however, is to effectively apply these technologies and streamline their processes to reduce energy usage whilst maintaining production capacity.

POTENTIAL COSTS OF MARKET INQUIRIES

The government of New Zealand is fast-tracking the Commerce Amendment Bill that will significantly empower the Commerce Commission, the government's competition watchdog.[14] The bill will enable major investigations via market studies into the competitiveness of several industries, most notably the retail fuel sector. The government has suggested that the lack of competition in the sector as a key factor contributing to the record highs in petrol prices across the country that has significantly hurt consumers (Exhibit 3).[15] Aside from the fuel industry, however, other businesses are also likely to be affected. In the medium term, industries that are likely to be potential candidates for inquiries include supermarkets and construction companies. In particular, the left-wing Green Party has already called for investigations into the supermarket duopoly which have been accused of engaging in unfair pricing practices for years.[16]

While the bill is part of the government's push for better and fairer competition and more consumer protection, concerns have been voiced over the Commerce Commission's considerable power to initiate market studies independently, and to compel businesses to provide information, even if it is commercially-sensitive, during a market study.[15] The substantial cost associated with this exercise will no doubt become a significant concern for businesses, especially those in the targeted industries.

Exhibit 3: Gasoline expenditure as a percentage of the typical salary across major economies

Q3 2018

COUNTRIES	PERCENTAGE OF SALARY
Canada	2.92
New Zealand	**2.78**
Indonesia	2.19
United States	2.16
Thailand	1.92
Australia	1.53
Japan	1.38
India	1.37
United Kingdom	1.08
China	0.56

Source: Bloomberg

RISKS IN NUMBERS

MARSH

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0 — **82.7** — 100

High political risk — Low political risk

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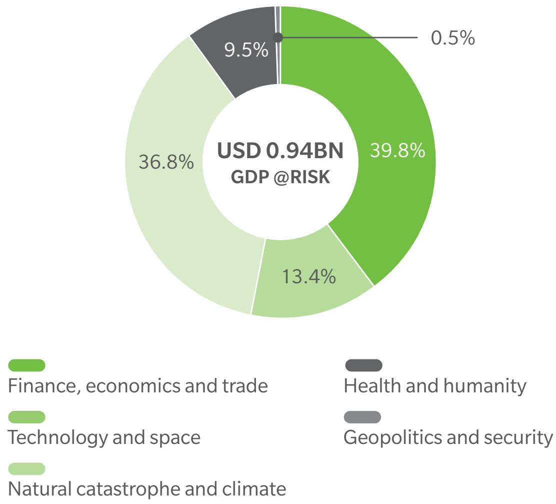
CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for New Zealand is calculated based on the GDP@Risk for two cities: Auckland and Wellington.

INSIGHTS FOR BUSINESSES

1

Anticipate risks and capitalize opportunities with regards to the 2035 renewable energy goal. A key risk that all businesses need to consider is the potential mismatch in supply and demand of renewable energy which could drive up electricity costs. However, there are also significant business opportunities available to contribute to the transition, such as in the development of battery storage as well as improvements to New Zealand's transmission and distribution network

2

Look out for potential changes made by the new government and how the company can maximize benefits and mitigate associated costs. Given that the recently-elected government is focusing on environmental sustainability, market competitiveness and wider social issues such as inequality, businesses should expect a shift in policies towards these directions. This also means that there might be significant regulatory uncertainties where policies may be formulated without consultation with every stakeholder, such as the announcement of a ban on new offshore oil and gas exploration in April 2018 that caught many off-guard. Businesses will need to prepare for similar scenarios in their strategic considerations and respond accordingly to avoid getting blindsided

3

Focus on the well-being of employees. Employers in New Zealand can pursue a host of initiatives to improve employee well-being. Policies can be directed to facilitating ethnicity and gender diversity, as well as equality such as closing the gender pay gap. A third major area is improving employee "financial wellness" through the provision of a range of services from education through to superannuation, home and personal loans and insurance. Targeting these areas of employee well-being will pay dividends not only by producing a healthier and happier workforce, but also by developing a more productive one

PHILIPPINES

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. Critical infra. shortfall
2. National Governance failure
3. Inflation
4. Climate adaptation failure
5. Regional/global governance failure

TOP RISKS FOR DOING BUSINESS IN THE PHILIPPINES*

RISING CONCERNS OVER CRITICAL INFRASTRUCTURE SHORTFALL

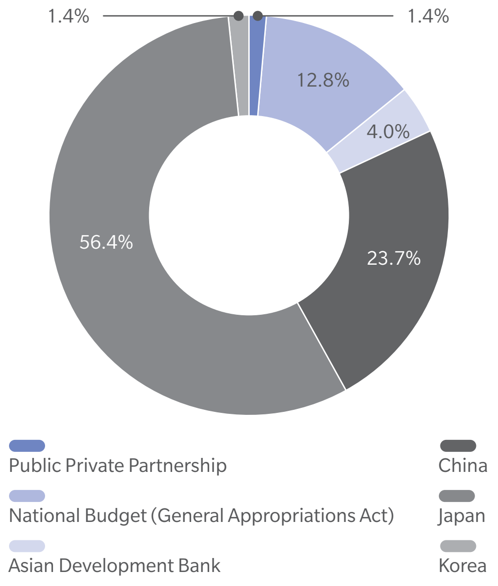
The inadequate supply of infrastructure has long been a key hindrance to conducting business in the Philippines. To address the problem of **critical infrastructure shortfall,** the Duterte administration launched the "Build, Build, Build" infrastructure program which will spend an estimated USD180 billion during his 6-year term in office on infrastructure projects such as the Mega Manila Subway.[1] The government has planned to fund these projects with gains from the recent tax reform as well as loans or grants from foreign governments such as Japan, China, and South Korea (Exhibit 1). However, expected revenue from tax reform is projected to fall short of the government target spending on infrastructure, particularly when considered together with other government spending on other initiatives such as free college education, political and military pay rise and various other subsidies.[2] It is likely that foreign borrowing will increase to close the gap, which raises concerns over the Philippines' ability to manage its foreign debt and a projected widening of current account deficit.[3]

Even though President Duterte enjoys widespread public support for bringing disruption to the status quo through initiatives such as the war on drugs, there have been signs that raise businesses' concerns over a **national governance failure.** According to various international organizations, the Philippines has become a less tolerant environment for dissent, while perceived corruption has increased markedly. The country's ranking in the latest World Press Freedom Index and Corruption Index dropped significantly, placing it near the bottom of these indices.[4,5] There are also concerns over how President Duterte is

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Sources of financing for NEDA approved infrastructure projects

AS OF JULY 2018



Source: National Economic and Development Authority, APRC analysis

navigating the Philippines' relationship with China: the Philippines is increasingly reliant on Chinese money to fund its infrastructure projects amid territorial disputes over the South China Sea. Unpredictable shifts in the Philippines' relationships with China and its long-term ally, the United States, have fueled fears of **regional or global governance failure.**

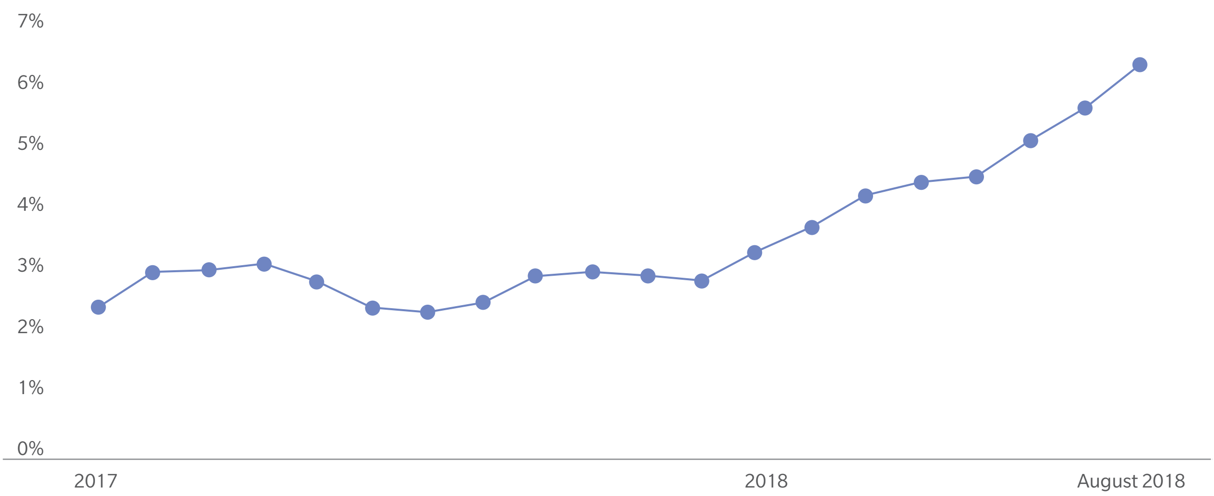
In September 2018, headline **inflation** reached a 9-year high of 6.7 percent while year-on-year GDP growth weakened to 6 percent in the second quarter of 2018, a three-year low (Exhibit 2).[6] Apart from the impact of the government's tax reform program, other factors such as higher global fuel prices, a weakening peso and a mismatch in supply and demand of rice have driven up local prices.

> "The Philippines, despite the headwinds it is currently experiencing, will continue to be resilient and maintain its economic growth forecast. Businesses, however, must be nimble in adapting to the changing regulatory and economic environment."
>
> **Ramon Zandueta**
> *Managing Director and Chief Executive Officer, Marsh Philippines*

More than 70 percent of the Philippines' population are at risk to natural disasters such as typhoons and earthquakes. However, the country continues to lag behind in terms of its **climate change mitigation and adaptation policies.** The government has been working on improving the Philippines' resilience by launching initiatives such as a catastrophe risk insurance program, and planning a sustainable and disaster resilient city.[7,8] However, more must be done to improve the resilience for the rest of the country. For instance, poor land use planning and weak implementation of building codes mean that large proportions of the population, especially the most vulnerable, are likely to suffer disproportionately from the impacts of natural disasters.

Exhibit 2: Inflation rate

MONTHLY, 2017 – AUGUST 2018



Source: Bangko Sentral ng Pilipinas

EVOLVING RISKS

REGULATORY IMPLICATIONS FROM ECONOMIC AND SOCIAL POLICIES

Since assuming office, the Duterte administration has been working extensively to achieve its 10-point socioeconomic agenda which includes promises such as reforming the tax structure, improving competitiveness and the ease of doing business, increasing infrastructure spending, and investing in human capital development. For example, in 2017 the government passed the Universal Access to Quality Tertiary Education Act which exempts students in state and local universities as well as technical-vocational schools from having to pay tuition and other fees.[9] This broad set of policies may incorporate substantial regulatory changes that can impact businesses.

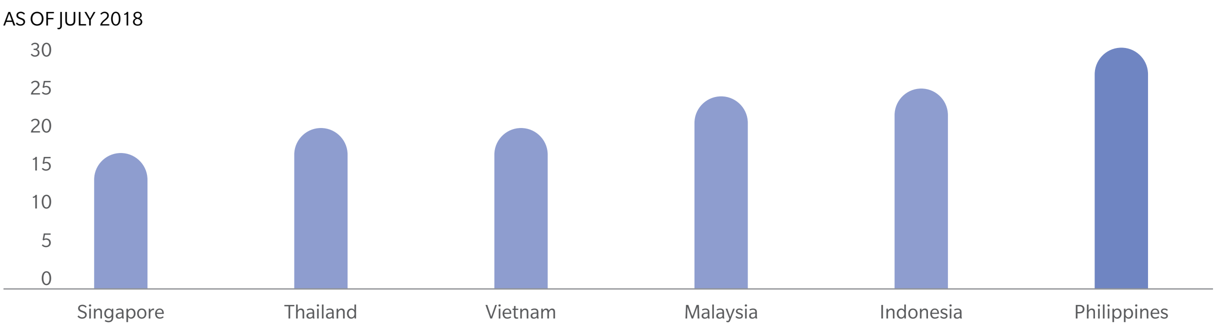
One example is the push for tax reform through the multi-package Comprehensive Tax Program (CTRP). The second package, the Tax Reform for Attracting Better and High-Quality Opportunities bill (dubbed “the Trabaho bill”), which is slated to be fully implemented in 2021, has created some uncertainties as it is not immediately clear how it will affect businesses. On the one hand, the proposed measures to cut corporate tax from 30 percent to 20 percent by 2029 will help the Philippines become more competitive vis-à-vis its ASEAN neighbors (Exhibit 3). On the other hand, the reorganization and removal of tax incentives may offset the gains from the tax cut.[10] Furthermore, policy uncertainties regarding tax reform has heighten business uncertainties in the already volatile regulatory environment. In particular, divergent agendas of the Senate, House of Representatives and various government agencies have led to a lack of clarity and government indecisiveness on the specifics of the bill.[11-13]

THE RISE OF AUTOMATION: PHILIPPINES’ BPO INDUSTRY AT A CROSSROAD

The Business Process Outsourcing (BPO) industry in the Philippines, which directly employs about 1.2 million people, is at a crossroads.[12] Whilst the Philippines is likely to continue enjoying its competitive advantage in the voice process subsection of the BPO industry due to Filipinos' language abilities, lower-skilled jobs in the non-voice BPO subsection will be at risk. Clerical tasks in sectors such as finance, legal or human resources are highly automatable and thus are likely to be taken over by automation or other disruptive technologies. At the same time, the industry is facing difficulties filling up vacancies for higher-skilled jobs. Correspondingly, the IT & Business Process Association of the Philippines (IBPAP) estimates that between 2016 and 2022, about 43,000 low skilled workers can lose their jobs while at least 697,000 middle to high-skilled jobs will be created and need to be filled.[13] The pressure is on for the industry to upskill its workers to meet changing and more complex demands.

Given that the industry has been contributing 9 percent of the Philippines’ GDP growth, the government has shown considerable support for upskilling initiatives in the country’s BPO sector.[14] Under the Trabaho bill, the government will be allocating PHP 5 billion (USD 93 million) annually to support the upskilling for the industry.[15] Similar to other sectors, the BPO industry is also affected by the reorganization of tax incentives, which is projected to lead to some job losses.[16] In response, the government has set up a structural adjustment fund to compensate for those who will be displaced.

Exhibit 3: Corporate Income Tax in selected ASEAN economies



Source: Various national sources

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 | 63.1 | 100

High political risk | Low political risk

LOWY INSTITUTE

ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th | 16th | 1st

Least | Most

INTERNATIONAL TELECOMMUNICATION UNION

GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

165th | 37th | 1st

Worst | Best

LLOYD'S

CITY RISK INDEX

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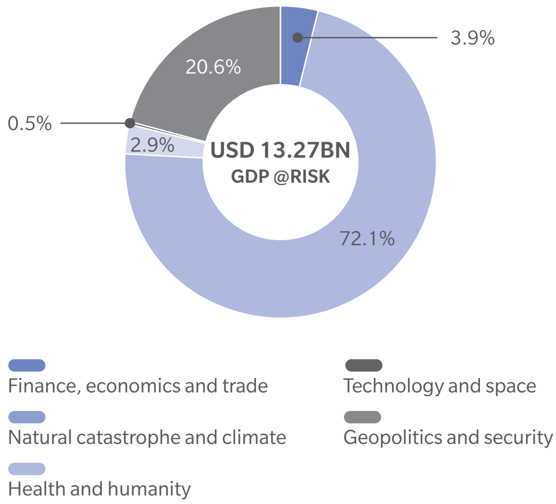


Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Philippines is calculated based on the GDP@Risk for the city of Manila.

INSIGHTS FOR BUSINESSES

1. **Review strategies and response in anticipation of reduced consumption and higher interest rates.** The Philippines is a consumer-driven economy and is highly dependent on public consumption to fuel economic growth. As such, businesses need to be prepared for macroeconomic trends that might affect consumption. Worrying signs include: increases in commodity prices, higher household expenses, rising unemployment, and stagnant income growth. These trends signal a less favorable outlook to the Philippine economy, which will dampen consumer confidence and subsequently put downward pressure on domestic consumption

2. **Take a long-term view of their workforce pipeline.** To identify talent needs, businesses need to have a vision on what their future workforce should look like, taking into account key trends, such as digital transformation, increasing regulatory uncertainties, and shifting employee expectations. By examining how their current workforce match up with this vision, employers can understand and identify the job requirements and benefits that will be needed, in order to upskill the current workforce and attract the right talents

3. **Start assessing and building their climate resilience in order to gain a competitive edge in the long run.** To start, businesses in the Philippines can undertake a geographic portfolio review, mapping demographic and infrastructure vulnerabilities to climate-related risks, and thereby identifying the aggregated weather exposure. These insights will allow them to better choose the type and level of risk mitigation and risk transfer strategies such as natural catastrophe insurance

S I N G A P O R E

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Cyber-attacks
2. Terrorist attacks
3. Data fraud/theft
4. Asset bubble

5= Water crisis

5= Infectious disease

TOP RISKS FOR DOING BUSINESS IN SINGAPORE*

RISING RISK OF CYBER-ATTACKS AND DATA FRAUD

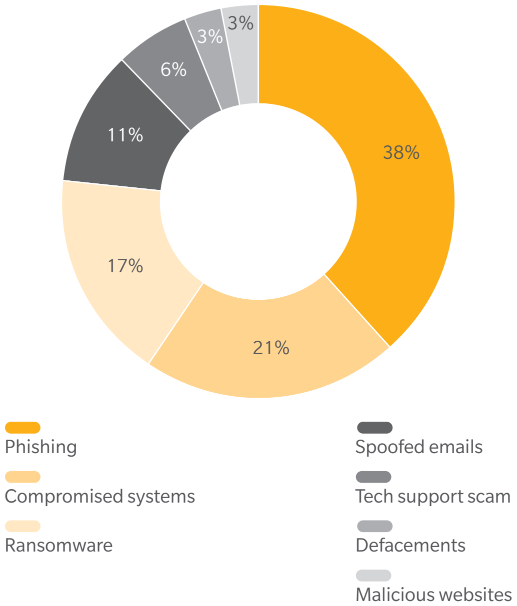
Ranked 1st out of 165 countries in the Global Cybersecurity Index 2017, Singapore leads the world in commitment to cyber security. However, **cyber-attacks** targeting Singapore are growing in frequency and impact, with phishing attack the most common type (Exhibit 1). In 2017, reported incidents of cyber crime jumped 17 percent to surpass 5,000.[1] As part of its cyber security strategy, the government removed internet access from most public sector work computers in May 2017, following a series of cyber-attacks on government agencies. However, the public healthcare sector which was initially exempted from the move was subsequently targeted. In July 2018, Singapore's largest group of healthcare institutions, SingHealth, was hacked and the personal data of more than 1.5 million patients was exposed. Beyond the public sector, more can be done to improve the cyber security of businesses, especially against **data fraud and theft.** Between 2016 and 2017, Singapore's privacy watchdog collected over USD 157,000 (SGD 216,000) in fines from more than 20 organizations for security breaches that inadvertently exposed the personal data of Singaporeans.[2]

Government and local experts in Singapore consider the country to be vulnerable to **terrorist attacks** for several reasons, including its prominence as a regional and global financial hub and its close ties to major powers. The government places a heavy emphasis on involving the community in counter-terrorism efforts, especially in terms of detecting and reporting suspicious individuals and activities. Recently, the government passed a controversial bill which gives the police more powers during terrorist attacks – including the authority to ban the media and implement a communications blackout for up to a month – if authorities think that security operations might be compromised.[3]

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Types of cyber threats

PERCENTAGE, 2017



Source: SingCERT statistics

> "Singapore is highly vulnerable to changes in international trade relationships and political risks. With new trade tariffs and talks of a trade war, businesses are confronted with uncertainties and economic vulnerability."
>
> **Iris Teo**
> *Chief Executive Officer, Marsh Singapore*

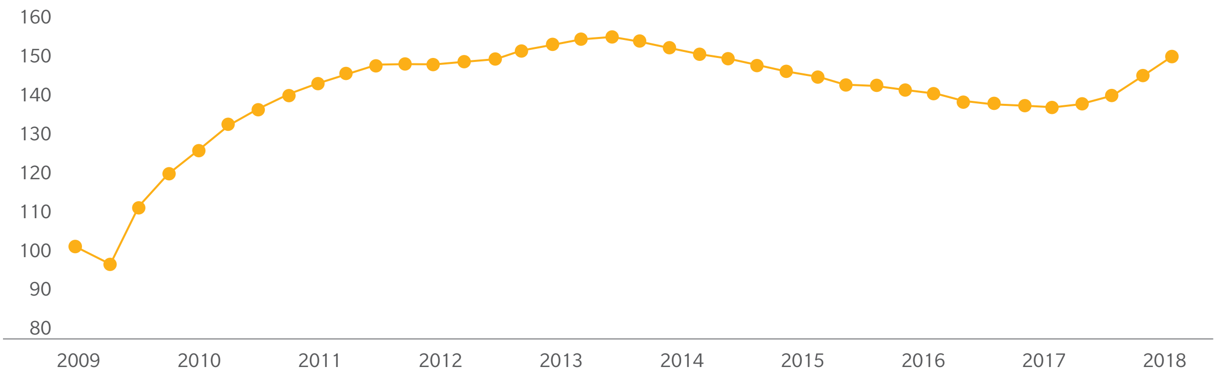
Rising residential housing prices has resulted in renewed fears of an **asset bubble** in Singapore (Exhibit 2). In particular, the prices of private homes have increased by about 9.1 percent since the middle of 2017.[4] Even though houses in Singapore are still relatively more affordable than in parts of Australia, Hong Kong and New Zealand, many expect prices to increase further due to strong economic growth and greater demands for housing in the land-scarce island. The price hike has raised concerns of an overheated property market that may experience destabilizing corrections in the future. In response, the government implemented cooling measures in July 2018. Subsequently, housing price gains have slowed significantly to 0.5 percent in 2018 Q3, but there are still expectations that price growth will pick up once again in subsequent quarters.[5]

Singapore depends heavily on Malaysia for about half of its daily water supply and any changes in the relationship between the two countries, or policy shifts in Malaysia, can have a significant impact on Singapore's water security.[6] Singapore has diversified its water sources through methods such as desalination, however it remains vulnerable to the threat of a **water crisis,** such as during a prolonged El Nino episode. Furthermore, Singapore's increasing reliance on energy intensive desalination methods, would also make it vulnerable to fluctuations in energy prices.

The threat of **infectious diseases** is a major concern for authorities in densely populated Singapore.[7] For example, reported cases of hand, foot and mouth disease have skyrocketed past 21,000 in the first half of 2018, representing a 22 percent increase from the same period the previous year.[8] Climate change is likely to complicate the problem, as warmer temperatures can create more conducive and enabling conditions for infectious diseases to spread.[9] Singapore's health ministry is trying to gain the authority to refuse unvaccinated foreign travelers and return those affected to their places of embarkation without having to offer vaccination, isolation, or surveillance.

Exhibit 2: Residential Property Index

QUARTERLY, Q1 2009–Q2 2018 (Q1 2009 = 100)



Source: Urban Redevelopment Authority

EVOLVING RISKS

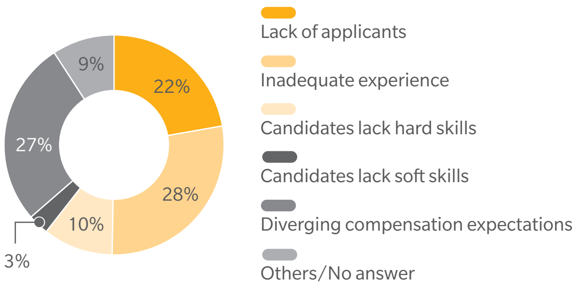
TALENT SHORTAGES

In a recent survey, 56 percent of employers in Singapore said they are finding it increasingly difficult to fill job vacancies, the highest reported figure since 2008.[10] A plethora of factors has contributed to the talent shortage problem, most notably a mismatch in experience, skills and compensation expectations between either sides of the labor market (Exhibit 3).[10] Often, vacancies are left unfilled because candidates do not possess the necessary experience and skillsets. At the same time, candidates often expect a higher pay than what businesses are willing to pay. Tightening foreign manpower restrictions in recent years has worsened the skills shortage problem, while the country's rapidly aging population will likely complicate the challenge ahead.[11] Businesses will be faced with an older and shrinking workforce, which is associated with increased costs and dampened productivity.[12] In response, the Singapore government implemented the SkillsFuture Initiative in 2016 to support the retraining support the retraining and upskilling of the population.

While SkillsFuture may be able to alleviate skill shortages, businesses in Singapore also face other difficulties, notably in employee retention and engagement. According to Mercer's Singapore Employee Engagement Index, employees are increasingly looking beyond non-compensation related metrics such as work-life balance and working environment to determine whether they will continue working in a company.[13] As such, companies need to look beyond only recruitment, but also retention of employees, which would involve creating an entire employee experience that would foster greater engagement and productivity.

Exhibit 3: Top drivers of talent shortages

PERCENTAGE OF RESPONDENTS



Source: ManPowerGroup 2018 Talent Shortage Survey (Singapore)

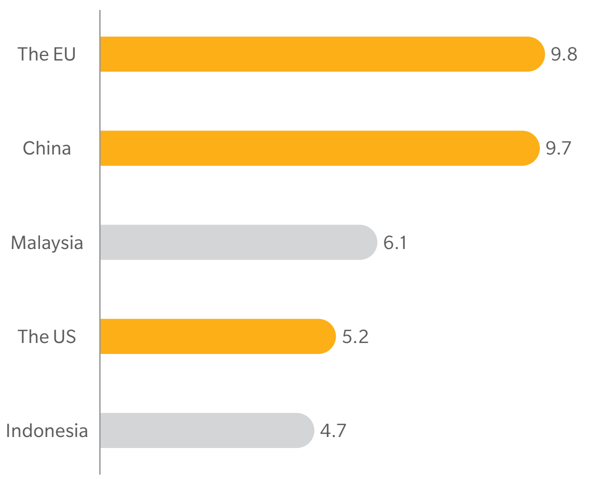
SPILL-OVER EFFECTS OF TRADE DISPUTE

Given its small and trade-reliant economy, Singapore is highly vulnerable to fluctuations in international trade and geopolitical relationships. In particular, the escalating trade dispute between the United States and China will have a negative net impact on Singapore, given that the value of total exports[a] to the two global powers is almost 25 percent of Singapore's GDP.[14,15]

The potential direct impact of the United States' (US) tariffs on Singapore is expected to be relatively limited, as only a limited set of products – about 0.1 percent of Singapore's total domestic exports to the world – is affected.[16] However, the indirect impact from the tit-for-tat tariffs between the US and China can be considerable due to Singapore's role in the global supply chain, as the country is one of the biggest contributors of added value to Chinese export to the US. Singapore's intermediate goods export, whose top destinations includes not only China and the US but also the European Union (EU), plays a sizable role in the country's economy[17]. Mounting trade tensions between the US, China and the EU may hit final goods demand and cascade up the supply chain to severely hurt the Singapore economy. In addition, the devaluation of the Chinese Yuan to offset the economic cost of US tariffs has the indirect effect of making Singapore's exports to China less competitive.

Exhibit 4: Top 5 destinations of Singapore's intermediate goods export

INTERMEDIATE GOODS EXPORT AS A PERCENTAGE OF SINGAPORE'S GDP



Source: Latest data from OECD Trade in Value-Added database[16], APRC analysis

a. Total exports is the sum of domestic exports and re-exports. Domestic exports refer to exports grown, produced, or manufactured within the country, including imported commodities that have undergone significant transformation. Re-exports refer to goods which are exported from he country without significant transformation

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 — **94.8** — 100

High political risk — Low political risk

LOWY INSTITUTE

ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th — **8th** — 1st

Least — Most

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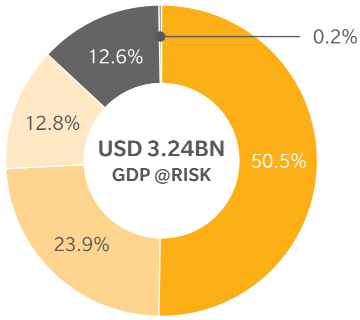


Finance, economics and trade
Technology and space
Natural catastrophe and climate
Geopolitics and security
Health and humanity

Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring.

INSIGHTS FOR BUSINESSES

1 **Leverage technology for organization and job redesign to enable Singapore's older workforce.** Automation of physical tasks, deployment of communication technologies to improve operational efficiency, and implementation of flexible working hours, among other strategies has helped several local SMEs to harness the skills and experiences of their older workers as an effective response to talent shortages

2 **Increase Board and senior management involvement in cyber risk management.** Cyber risks present unprecedented challenges that need to be addressed from the very top. Board and senior management can increase involvement by leading and engaging in risk appetite discussions as well as demanding more insightful reporting. Importantly, the business strategy should be sensibly 'stress-tested' for cyber and technology risks so that they can be mitigated

3 **Manage 'what-ifs' under the newly enacted Singapore cyber law.** Proprietary cyber insurance policies that provide broader and bespoke coverage can cover both first-party costs (e.g. business interruption, incident response) and third-party liability (e.g. regulatory fines, client notification) to keep organizations on stable financial footing in the event of a successful cyber-attack. Attention should be paid to not only tangible assets but also intangible ones, such as data, systems, people, brand, reputation, etc. as this is where much of the value of a company lies

SOUTH KOREA

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. High unemployment
2. Interstate conflict
3. Cyber-attacks
4. Asset bubble
5. Fiscal crisis

TOP RISKS FOR DOING BUSINESS IN SOUTH KOREA*

HEIGHTENED ECONOMIC AND TECHNOLOGICAL RISKS

Unemployment has been rising steadily since 2013, hitting a 17-year high in March 2018, with youth unemployment rate reaching 12.5 percent in August (Exhibit 1).[1,2] While South Korea has the highest proportion of 25 to 34 year olds with a college degree in the world, the country's growth rate in youth unemployment is the highest amongst OECD countries.[3] Korea's youth, with its high level of education has meant that they are too expensive to be deployed in the low-value manufacturing sector. It is also reflective of South Korea's efforts to move its economy from relying on labor intensive manufacturing sectors to higher value-added technology/manufacturing and services. The dominance of chaebols – large family-run corporations – has also made it difficult for smaller businesses to survive, thus limiting entrepreneurship and job creation opportunities.[4]

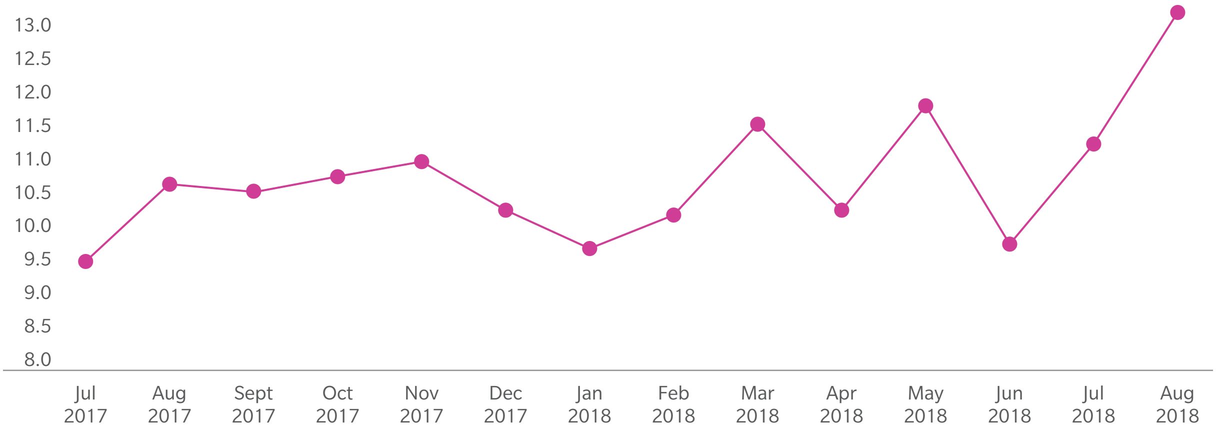
The recent de-escalation of tensions in the Korean Peninsula is a stark contrast to the precarious situation just last year when threats of **interstate conflict** between the two Koreas was intensified.[5,6] While the immediate risk of an armed conflict has diminished, South Korea's northern neighbor continues to pose a substantial security threat. At the same time, territorial disputes over the Dokdo/Takeshima islands with Japan has continued to strain relations between the two countries. More broadly, South Korea continues to be forced to navigate its complicated relationship with the two global super powers, China and the United States (US).

Even though South Korea was ranked 13th on Global Cybersecurity Index, it is still highly vulnerable to **cyber-attacks** (Exhibit 2). Government agencies, businesses and critical infrastructure have

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Unemployment rate among 15–29 years old

PERCENTAGE, JUL 2011–AUG 2017



Source: OECD

been the victims of many large scale cyber-attacks, with the latest hack taking place in June 2018, when an estimated USD 30 million worth of cryptocurrency was stolen from one of the major cryptocurrency exchanges.[7] Cyber-attacks occurring in South Korea are frequently seen to have a geopolitical dimension because they are often attributed to North Korean hackers.[8] Stronger cyber security defenses will need to be developed in order to protect the country from increasingly serious and sophisticated cyber-attacks.

In July 2018, South Korea unveiled plans to impose higher real estate taxes to curb speculation in the domestic housing market. In recent years, the government has employed a variety of financial and administrative measures to rein in a speculative **asset bubble** in the country. Current measures include a ban on bank loans given to multiple-home owners, forbidding people from reselling apartment purchase rights and levying higher taxes on real estate transactions. Despite these cooling measures, however, speculative home buyers have reportedly continued to push housing prices upwards.

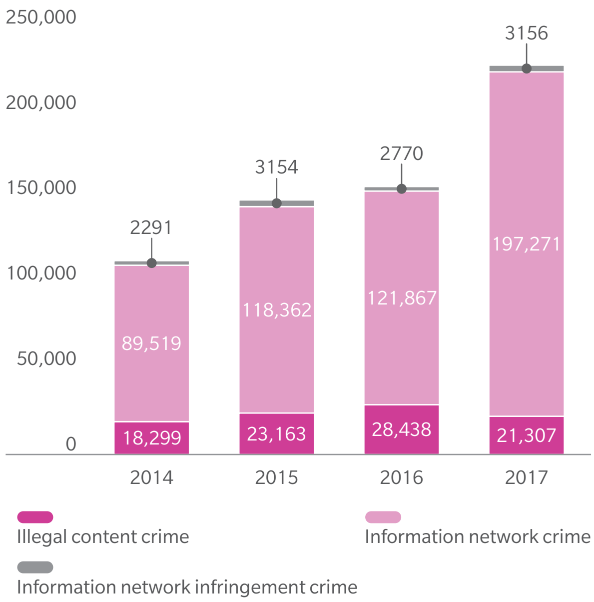
Since being elected into office in May 2017, the Moon Jae-in administration has been trying to pursue economic growth by increasing fiscal expenditure to create more jobs and improve social welfare.[9] However, the deteriorating fiscal balance and lack of positive results from the expansionary policies has resulted in concerns of a **fiscal crisis.** Even though the fiscal balance to GDP ratio was well maintained at 1.7 percent in 2017, the government debt to GDP is relatively high at 39.6 percent.[9] Though the ratio is below the average of OECD countries, alarms have been raised as this represents the fastest pace of increase among major advanced economies.[10]

"The concept of VUCA (Volatility, Uncertainty, Complexity and Ambiguity) represents Korea well. Korean corporations need to have strategic risk management more than ever to deal with the fast changing internal & external uncertainties."

Hyung Koo Lee
Chief Executive Officer,
Marsh South Korea

Exhibit 2: Number of cyber crimes reported

2014–2017



Source: Korean National Police Agency

EVOLVING RISKS

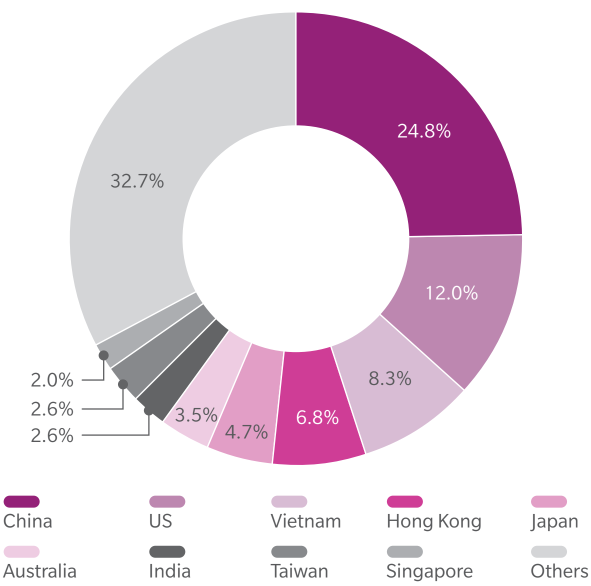
EXPORT-DRIVEN ECONOMY HIGHLY AT RISK FROM THE RISE OF PROTECTIONISM

Since the financial crisis, the world's top 60 economies have adopted more than 7,000 protectionist trade measures, with the US and the European Union (EU) responsible for more than 1,000 of the restrictions.[11] This is highly detrimental to South Korea's export-driven economy, where exports contribute more than 40 percent of the country's GDP. South Korea is also directly affected by the Trump administration's punitive measures against the world's major exporters, given that the US is its second most important export destination (Exhibit 3). The Trump administration's 25 percent tariff on steel products are likely to cause South Korea's exports to the US to drop even further – South Korea's steel exports to the US plummeted by 38 percent between 2014 and 2017 due to existing anti-dumping and countervailing duties.[12]

Compromises between the two countries as a resolution to the trade dispute is also expected to greatly impact South Korea. A report from the Korea International Trade Association estimates that South Korean chip exports will decrease by USD 4 billion, which is equivalent to 0.7 percent of its total exports annually, if China decides to import more chips from the US.[13]

Exhibit 3: Top 10 trading partners of South Korea

PERCENTAGE, 2017



Source: World's Top Exports

THREATS FROM THE FASTEST AGING SOCIETY

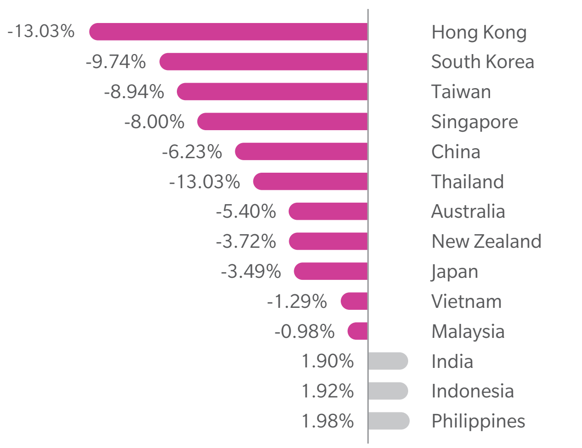
While the elderly population of South Korea (those over 65 years old) constitutes 13.5 percent of the population, this number is set to double by 2050, according to UN projections.[14] South Korea is facing a severe aging population problem, and the country's total fertility rate is one of the lowest in the world. Without appropriation policies and preparation, Korea's rapidly aging society will lead to a host of problems:[15]

A substantial decrease in the labor force. Estimates shows that the working population (aged 15–64) in South Korea will shrink by 9.74 percent from 2015 to 2030 (Exhibit 4). A labor shortage could lead to an economic fallout in the long run.

Increases in medical costs. As a region, Asia-Pacific is expected to add an additional USD 20 trillion in healthcare expenditure by 2030. This number is similarly staggering in South Korea, where healthcare expenditure per capita will increase by an estimated 345 percent between 2015 and 2030.

Pressure on social protection system. The rapidly aging population in South Korea will put pressure on the country's social support systems. According to the latest results from the Melbourne Pension Index (2018) , which measures the adequacy, sustainability and integrity of pension systems, South Korea ranked near the bottom of all 34 countries considered.[16]

Exhibit 4: Shrinking workforce in Asia-Pacific



Source: Change in working population (15–64) between 2015 and 2030 in Asia-Pacific

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 **70.8** 100

High political risk — Low political risk

LOWY INSTITUTE
ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th **7th** 1st

Least — Most

INTERNATIONAL TELECOMMUNICATION UNION
GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

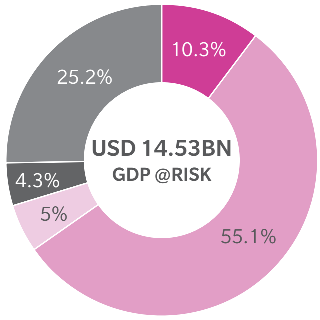
165th **13th** 1st

Worst — Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



- Finance, economics and trade
- Natural catastrophe and climate
- Health and humanity
- Technology and space
- Geopolitics and security

Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for South Korea is calculated based on the GDP@Risk for six cities: Busan, Daegu, Daejon, Gwangju, Incheon, and Seoul.

INSIGHTS FOR BUSINESSES

1. **Revisit current employee benefit programs.** As a rapidly aging society, Korea faces problems in insufficient retirement pensions, rising medical costs, and lack of opportunities for supplementary income and medical coverage after retirement. A comprehensive review of employee benefit programs is necessary to properly manage the cost while meeting the demand from employees, labor unions, government and society

2. **Employ a strategic approach on Human Resources issues.** The current Korean government is driving economic growth with labor friendly policies, such as increases in the minimum wage and limiting the working week to 52 hours. Businesses in Korea will need to navigate a changing regulatory environment amid a tightening labor market

3. **Build capacity to quantify cyber risks and prepare contingency plans.** Cyber risk is the most recognized emerging risk in Korea and with the advent of the fourth industry evolution, cyber risks will get more attention from top management. Current concerns are focused on insuring direct first party exposures, but third-party liabilities cannot be overlooked

TAIWAN – CHINA

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. Interstate conflict
2. Energy price shock
3. Asset bubble
4. Extreme weather events

5= Cyber-attacks

5= High unemployment

TOP RISKS FOR DOING BUSINESS IN TAIWAN*

SOCIO-ECONOMIC RISKS DOMINATE, HEIGHTENED BY REGIONAL UNCERTAINTIES

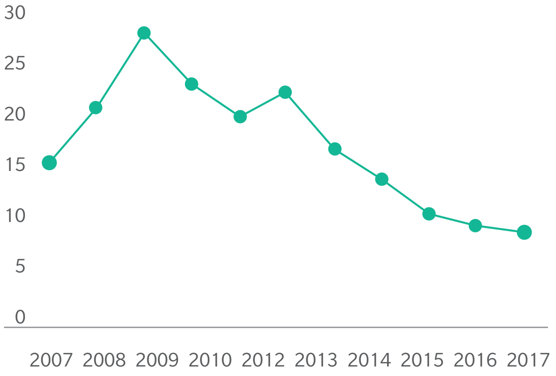
The relationship between Taiwan and China has deteriorated steadily since Tsai Ing-wen, leader of the independence-leaning Democratic Progressive Party, came into power in 2016.[1] China has been increasing pressure on countries to cut ties with Taiwan, which has few official diplomatic allies, and the cross-strait relationship remains extremely complex.[2] The potential for **interstate conflict** has become a major concern, with the number of military drills conducted by both China and Taiwan on the rise, and the United States (US) recently agreeing to help Taiwan build its own fleet of submarines.[3] Rising tensions have also contributed to Taiwan becoming increasingly targeted by China-based cyber-attackers. In 2017, Taiwan experienced a staggering 20–40 million **cyber-attack** attempts on its government, businesses and individuals per month. More broadly, Taiwanese organizations are four times more likely to be susceptible to advanced cyber-attacks than the global average of 15 percent.[4] This has raised concerns around Taiwan's lack of protection and complacency levels toward cyber security in recent years.

Even though electricity prices in Taiwan have remained relatively stable over the years, Taiwan's heavy dependence on energy imports can make it vulnerable to global factors.[5] Increases in the global price of oil, which comprises almost 50 percent of Taiwan's energy imports, would likely lead to an **energy price shock.** In recent months, higher fuel prices and more stringent regulatory requirements have already taken a toll on Taiwan's state-operated power utility company – Taipower recorded a USD 785 million loss in the first half of 2018.[6]

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Energy reserve margin in Taiwan

PERCENTAGE, 2007–2017



Source: Bureau of Energy Taiwan, Energy Statistics Handbook

> "Given Taiwan's position in a major earthquake zone and the concentration of industrial assets, the low catastrophe insurance penetration in Taiwan poses a gap in coverage. For the public sector, the protection gap is a significant factor and the use of public-private risk transfer partnerships can be explored to address the issue."
>
> **Danny Yeung**
> *Country Head, Guy Carpenter Taiwan*

There is also growing public concerns that there might be insufficient supply of power during the summer where the demand for power peaks as there has been declines in Taiwan's energy reserve margin, which refers to its capacity to provide additional energy supply beyond the expected peak demand (Exhibit 1).[7]

Despite a steady decline in residential property prices since 2016, housing affordability is extremely low. The house-price-to-income ratio of Taipei stood at about 15 in 2016, higher than that of London (8.5) and Sydney (12.2), and was just 3 points lower than the world's most unaffordable city, Hong Kong (18.1) (Exhibit 2).[8] A result of stagnant income levels and a lagging social housing policy, the high ratio implies heavy debt burdens and indicates a potential **asset bubble.**[9] Taiwan's rental yield of just 1.57 percent, the lowest in Asia, further indicates that the property market is extremely overvalued.

Exhibit 2: House price-to-income ratio

2004–2014

Source: Ministry of Interior

Taiwan has experienced a series of **extreme weather events** in recent years, which are expected to continue into the future (Exhibit 3). In August 2018, Taiwan experienced extreme torrential rain and flooding, killing 6 and requiring the evacuation of more than 6,000 people.[10] Taiwan is also frequently hit by typhoons and in September 2016 was hit by Typhoon Meranti, one of the most intense tropical cyclones in recorded history. There is also a high-risk of windstorms, earthquakes, and volcano events, and analysts project that fallouts from these events could reach hundreds of millions of USD.

While the **unemployment** rate in Taiwan decreased from 4.18 percent in 2013 to 3.76 percent in 2017, youth unemployment rates have remained at relatively high levels, at around 12 percent. The unemployment rate among people with a university degree or higher has even reached 15 percent, indicating a mismatch between graduate training and the demands of the labor market. In addition, young workers are often paid depressed wages due to slow economic growth.[11] With persistently high youth unemployment, the responsibility of caring for the ageing population will increasingly fall on the government and add pressure to Taiwan's fiscal health.

Exhibit 3: Typhoon and flood events in Taiwan and estimated damage

EVENTS	EVENTS DAMAGE
Typhoon Nari (2001)	Economic loss of USD 5.7 billion Insured loss of USD 590 million
Typhoon Morakot (2009)	700 deaths Insured loss of USD 107 million
Typhoon Soudelor (2015)	Insured loss of USD 85 million
Typhoon Nesat and Tropical Storm (2017)	Insured loss were minimal

Source: Guy Carpenter "Asia-Pacific Catastrophe Report 2017"

EVOLVING RISKS

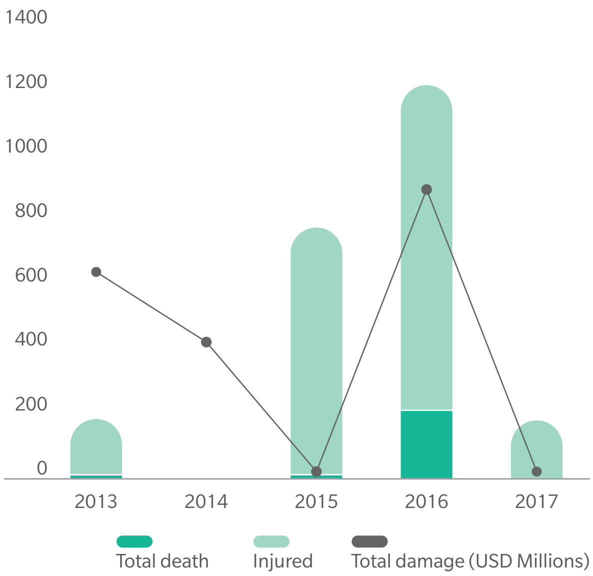
RESILIENCE TO NATURAL DISASTERS

Ranked 7th in the Global Climate Risk Index 2018, Taiwan is considered very vulnerable to natural disasters.[12] Taiwan has been severely hit by earthquakes, storms and floods, which have caused hundreds of deaths and injuries as well as high economic loss (Exhibit 4). The damage is attributable not only to the frequency of these disasters and the densely populated cities, but also to the fact that many building structures, especially older ones, are not seismically resilient and are at high risk of collapsing during earthquakes. Regulators are trying to make it mandatory for commercial buildings to undergo hazard assessments but have not made seismic retrofitting compulsory.[13]

Even though Taiwan has halted operations at one of its nuclear plants due to concerns over safety, there are still 3 nuclear plants that are in operations, and all are located in very high seismic hazard areas.[14] Concerns have been raised following Japan's Fukushima nuclear accident, triggered by a strong earthquake, and experts predict that Taiwan may face a similar experience in the coming years due to cyclical movements of the Earth. Efforts are being made by the government to increase preparedness, such as by pursuing a nuclear-free policy by 2025.

Exhibit 4: Impact of natural disasters

CASUALTY AND ECONOMIC LOSS, 2013–2017



Source: OFDA/CRED International Disaster Database

SHORTAGE OF DIGITAL TALENT

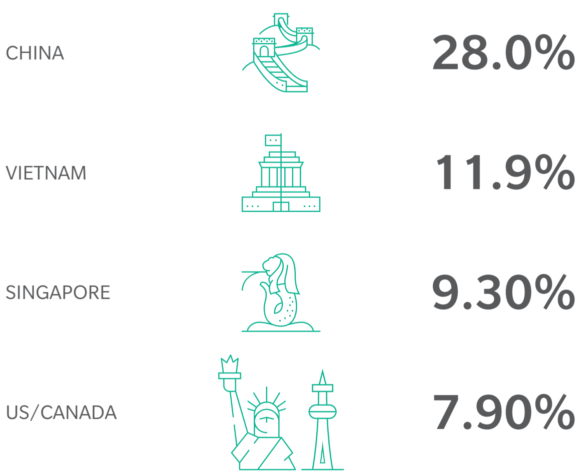
As both multinational and local companies in Taiwan are looking to expand their operations or reinvent themselves through digitization, there has been a significant increase in the supply of jobs in Taiwan.[15] Unfortunately, this surge has not been met with a corresponding increase in the supply of talent, due to factors such as a declining quality of education. As a consequence, the competition for skilled workers, particularly in software, Internet of Things (IoT) and semiconductor industries has been intensifying.

The search for tech-savvy talents has intensified as Taiwan faces fierce competition from China, where the government has announced a 31-incentive scheme to entice Taiwanese talent to come to the mainland (Exhibit 5).[16] These include tax breaks and subsidies for tech companies, research grants and permission to bid for infrastructure projects in China.[17] US companies in Taiwan such as the chip maker Micron Technology have been impacted by these developments, suffering a loss of talent to Beijing-backed rivals.[18]

In response, the Taiwanese government has formulated their own policy counter measures to avoid a brain drain.[16] There has been a clear geopolitical undertone in these exchanges with China, once again emphasizing the historically tense relationship between the two governments.

Exhibit 5: Most popular overseas destinations for Taiwanese talent

MARCH 2018



Source: Focus Taiwan News Channel

RISKS IN NUMBERS

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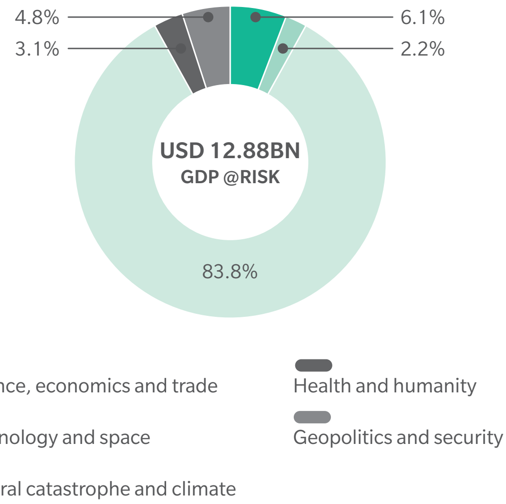


Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Taiwan is calculated based on the GDP@Risk for the city of Taipei.

INSIGHTS FOR BUSINESSES

1 **Manage the risks arising from an expanding supply chain.** Many Taiwanese companies have begun to diversify their operations away from coastal China or Taiwan and into lower cost locations such as Cambodia, Vietnam and even as far as Africa and the Middle East. Companies are hedging against geopolitical risks, supply chain disruptions, and lastly ensuring proper trade credit arrangements and protection are in place

2 **Develop a holistic people strategy.** The war for talent has been more severe than ever before and now extends beyond geographical borders. Besides the gap between graduate training and the demands of the labor market, sluggish salary increases have made attraction and retention of the right talent even more challenging. Companies should develop flexible working arrangements, a meaningful work purpose proposition, continuous up-skilling and clear career paths in order to create a sustainable and innovative workforce

3 **Ensure that management teams are well-informed and local/regional leaders have the power to make decisions to address increasingly frequent changes in manpower legislation.** Recent changes to working hours and leave entitlements have forced corporates to review their fundamental working rules. Increasingly stringent government audits mean that employers are facing a significantly higher risk of penalty and damage to corporate branding. For companies with local HR teams, it is crucial to leverage a trustworthy source of market best practices. For those do not have dedicated HR on the ground, acquiring regular updates to legislation changes is key to reducing the risk

THAILAND

TOP 5 RISKS TO BUSINESSES (10-YEAR HORIZON)

1. Man-made environmental crisis
2. National Governance failure
3. Asset bubble

4= Critical infra. shortfall

4= Cyber-attacks

TOP RISKS FOR DOING BUSINESS IN THAILAND*

A PLETHORA OF ECONOMIC, CYBER, GEOPOLITICAL AND ENVIRONMENTAL RISKS HINDERING ROBUST DEVELOPMENT

The most pertinent **man-made environmental problem** for Thailand in recent years has been its air pollution problems, which have contributed to a variety of health problems such as an increase in upper respiratory tract infections. In February 2018, air quality levels in Bangkok reached 81.3 micrograms per cubic meter, significantly higher than Thailand's safe levels of 50 micrograms, resulting in dense smog across the city.[1] Earlier, Greenpeace publicly appealed to the Thai government to address the pollution issue, which has been blamed over weak enforcement of vehicle emission standards and poor urban planning.[2]

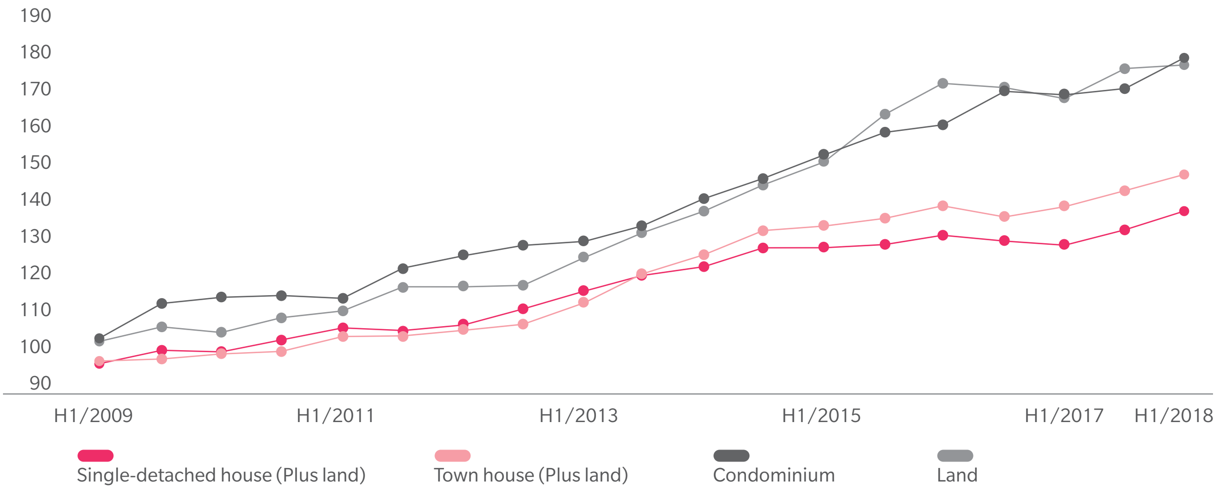
Promises to hold the general elections in February 2019 have renewed hopes that democracy will finally be restored in Thailand after more than four years of military rule.However, there remain fears of **national governance failure** as recent efforts to reduce political instability, such as a revised constitution, have been criticized as curtailing political parties and political involvement in the country.[3] Given the long history of violence and street protests in Thailand before the military rule, there is also uncertainty on whether the overall stability of the country will be affected after a civilian government comes into power after the election.

According to Bank of Thailand statistics, average house and land prices have risen substantially since 2009, with land and condominium prices increasing by around 70 percent each (Exhibit 1).[4] However, experts are in dispute over the possibility of

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Housing Price Index

SEMI-ANNUALLY, 2009–H1 2018, JAN 2009 = 100



Source: Bank of Thailand

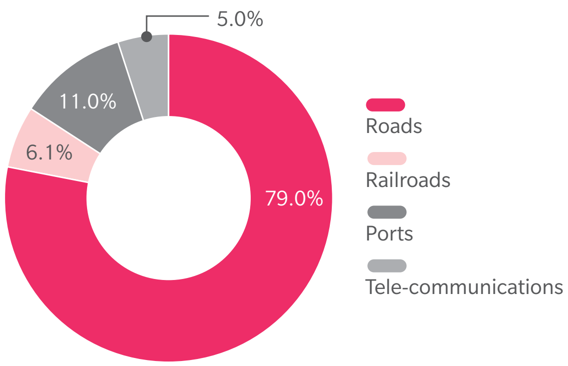
a looming **asset bubble.** The market is reported to be currently overbuilt, with 20 percent of supply unsold but some argue that this surplus will be fully absorbed as demand will likely pick up from the development of the Eastern Economic Corridor (EEC), growth in the tourism industry, as well as improved economic prospects.[5]

Similar to other emerging markets in the region, Thailand has a substantial **critical infrastructure shortfall,** in particular an urgent need to invest in the country's road network to improve connectivity. Based on 2015 investment trends, it was estimated that Thailand will need to invest an additional USD 100 billion to meet infrastructure needs by 2040, 95 percent of which is in the transportation sector (Exhibit 2).[6] In response, the Thai government proposed an ambitious plan in 2018 for infrastructure development in the EEC to support new business and industry clusters, enliven cities and tourism activities and boost productivity.[7]

Thailand is highly susceptible to **cyber-attacks.** In August 2018, two banks in Thailand were targeted by cyber-attackers who stole the non-financial data of about 123,000 customers.[8] Low levels of encryption capabilities amongst businesses, especially small and medium enterprises, mean that they are especially prone to encryption-related cyber breaches. Thailand's strong Bring-Your-Own-Device culture, where employees often use unapproved personal devices for work purposes, also exacerbates Thailand's vulnerability to cyber-attacks. Unless this vulnerability is addressed, Thailand's ongoing efforts to "go digital" will be hampered.[9]

Exhibit 2: Projected infrastructure investment gap by sector as proportion of total investment gap 2015–2040

TOTAL GAP = USD 100 BILLION



Source: Infrastructure Outlook, APRC analysis

"Thailand has a world-class healthcare infrastructure and yet both domestic and multinational companies have been beset with rapid healthcare inflation in recent years. Tackling this issue requires careful review of current employee healthcare coverage for value leakages and cooperation with insurance carriers, brokers, and third-party administrators to reduce waste while maintaining the net benefits received by employees."

Wimon Changthongkham
Employee Health & Benefit Practice Leader
Mercer Marsh Benefits Thailand

EVOLVING RISKS

HIGH LOSSES FROM NATURAL CATASTROPHES

Thailand is highly susceptible to natural disasters, particularly floods. Economic damage from these events not only includes property and infrastructure damage, but also sizable agricultural yields as the country is the world's 2nd largest exporter of rice. Thailand suffered severe flooding in 2011 which left more than 800 people dead and cost USD 45 billion in economic loss (Exhibit 3). Global supply chains were also badly affected: businesses in the automotive production industry had to halt production for several weeks, even months in some instances, and the disruption caused a shortage of key parts globally.[10]

Bangkok's high vulnerability to natural disasters will only increase in the future: rapid urbanization and excessive groundwater pumping have caused Bangkok to sink whilst sea levels are also rising.[11] The government is making efforts to improve flood resilience in the country through initiatives such as catchment management, improving water resource management, and enhancing flood defenses. However, there are concerns that these efforts may leave out, or even increase the vulnerabilities of marginalized communities to natural catastrophe. Flood walls, for instance, tend to skew exposures to flooding as they are often built to protect urban economic areas, and may expose already vulnerable communities such as farmers to greater damage and losses.[12]

Exhibit 3: Selected extreme weather events in Thailand and estimated damage

EXTREME WEATHER EVENTS	DAMAGE
2001 flood	• 800 dead • USD 45 billion in economic loss of which USD 15 billion were insured
December 2016/ January 2017 heavy rainfall	• 100 casualties • 350,000 households affected • USD 3 billion in economic loss
August 2017 monsoon rain and flood	• 27 deaths reported • > 1.5 million people affected • USD 300 million in economic loss of which USD 30 million were insured

Source: Guy Carpenter, "Asia-Pacific Catastrophe report 2017, Thai General Insurance Association

RISING MEDICAL COSTS

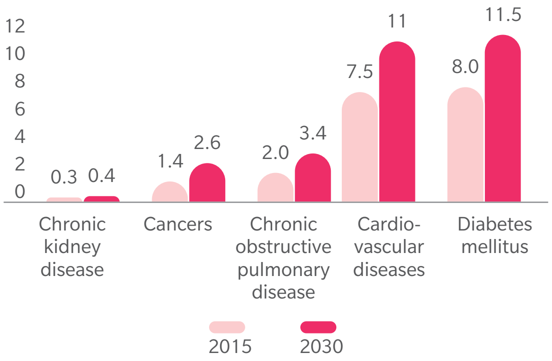
Medical inflation in Thailand is expected to worsen over the years, due to its rapidly aging society, and the associated surge in Non-Communicable Diseases (NCDs). According to the Thailand Development Research Institute, healthcare costs in the country is expected to reach an average of USD 42.6 billion (THB 1.4 trillion) annually by 2032 due to its aging population.[13]. Analysis from APRC suggest that NCD disease prevalence rates for diabetes and cardiovascular diseases will increase by approximately 1.5 times by 2030 compared to 2015 numbers (Exhibit 4). The rise of Thailand as a popular medical tourism destination has also added upward pressure on medical costs, and reduced the accessibility and affordability of good quality hospitals for the local population.[14]

Efforts to educate the public on early detection and treatment as well as the introduction of wellness programs are lagging. Rising prevalence of chronic diseases mean that insurers can be expected to increase premium rates drastically – potentially by 108 percent by 2030. Thus, employers can expect to find. Thus, employers can expect to find difficulties sourcing for affordable and sustainable healthcare programs in future.

With increasing costs, the efficacy of Thailand's public healthcare system has also been called into question. The country's universal healthcare plan puts a heavy burden on the government, as public healthcare expenditure has increased by 12 percent on average per year in the last 12 years.[15]

Exhibit 4: Forecasted rise in NCD cases in Thailand

2015–2030



Source: Marsh & McLennan Companies' Asia Pacific Risk Center, "Societal Aging's Threat to Healthcare Insurance"

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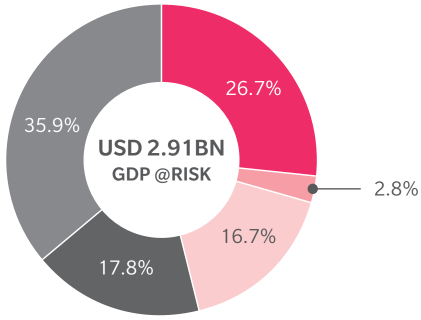

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INSIGHTS FOR BUSINESSES

1 **Develop Business Continuity Measures (BCMs).** The rising frequency and severity of risks, such as cyber-attacks, natural disasters and political unrest, means that BCMs are becoming increasingly important.[16] BCM frameworks should not only cover and be tested for localized risks, but also be reviewed for end-to-end global resilience, while taking into account inter-dependencies across geographies

2 **Review available measures for financial protection and risk transfer.** The disruption in supply chains after the 2011 floods demonstrated the importance of financial protection and risk transfer not only for the property and assets, but also for the potential loss of productivity. Businesses should leverage analytics, such as natural catastrophe modelling, in order to conduct an in-depth financial analysis to determine the revenue and cost impacts of business interruptions as well as potential employee health and benefit costs

3 **Be proactive and innovative in improving healthcare for the workforce.** Employers in Thailand should start encouraging participation in early detection and screening programs to curb the increase of NCDs, regardless of insurer sponsorship. Proactive employer involvement in improving healthcare will in turn reduce the burden of healthcare costs and premiums and hopefully keep Thailand's population healthier

V I E T N A M

TOP 5 RISKS
TO BUSINESSES
(10-YEAR HORIZON)

1. Urban planning failure
2. National Governance failure
3. Regional/global governance failure
4. Cyber-attacks
5. Asset bubble

TOP RISKS FOR DOING BUSINESS IN VIETNAM*

SOCIO-POLITICAL RISKS DOMINATE EXECUTIVES CONCERNS

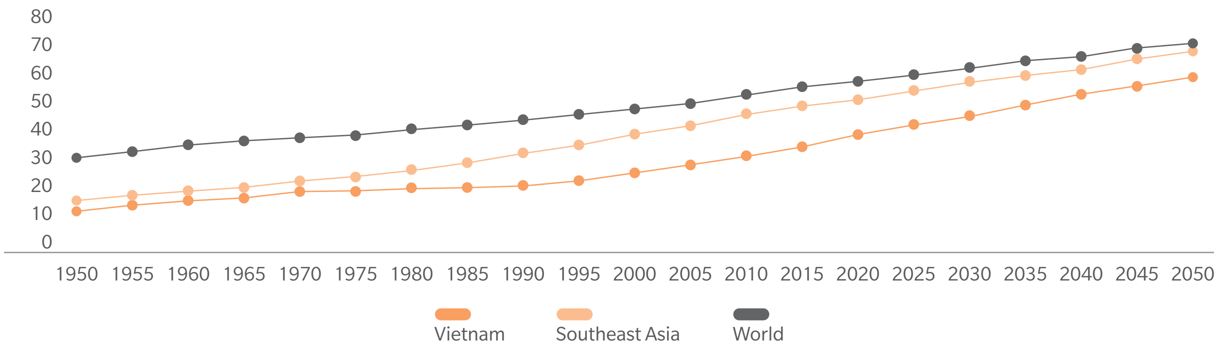
According to the World Bank, Vietnamese cities have added 18 million urban residents between 1986 and 2015, and the country is experiencing rates of urbanization that are amongst the fastest in the region (Exhibit 1).[1] Urban areas have historically been a key driver of productivity and growth, having contributed more than 50 percent of national GDP over the last 30 years, which emphasizes the importance of a well-managed urbanization program.[2] Unfortunately, **urban planning** in Vietnam has not been well executed, as original approved plans either ignored or lacking sustainability as they do not take into account surrounding infrastructures.[3] This has led to a myriad of problems, from poor sanitation, deteriorating environmental quality, rising pollution, a widening gap in access to public services between residents and unregistered migrants, to limited connectivity between cities and markets.[4,5] The need for a rethink in urban design as well as further investment is urgent. As an example, an estimated USD 8.3 billion is needed for adequate wastewater services to the urban population by 2025, reflecting the significant infrastructure gap in Vietnam.[6]

Concerns over **national governance inefficiencies** continue to be a contentious subject in Vietnam. While there have been some recent improvements, the country continues to rank relatively lowly in the Corruption Perception Index 2017 (ranking just 107th out of 180).[7] Survey results also reveal that a large proportion of respondents (40 to 50 percent) believe that officials from all levels of the administration are involved in corruption activities.[8] Alongside this perception of widespread corruption is

* Rankings are based on the results of the World Economic Forum's Executive Opinion Survey 2018 where one of the questions asked respondents to select the five global risks that they believe to be of most concern for doing business in their country within the next 10 years

Exhibit 1: Rapid urbanization in Vietnam kicked in since late 1980s

PERCENTAGE OF POPULATION IN URBAN AREAS, 1950–2050



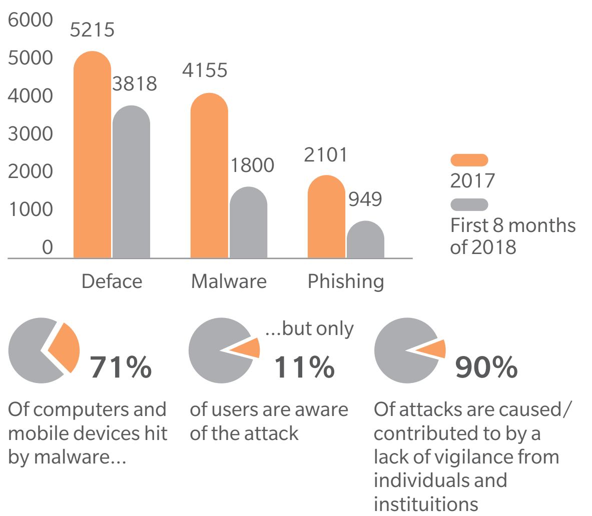
Source: UN World Population Prospect 2018 revision

public frustration with inefficiencies in bureaucratic processes and an environment rampant with red tape. More widely, dissatisfaction with the government's performance also stems from growing nationalistic sentiments against China. Its ascent as a super power has sparked fears of **regional or global governance failure,** and the government has been criticized for its inability to resist influences from Beijing. This is exemplified by the recent violent protests against the proposed Special Economic Zones out of fear that Chinese investors will dominate these areas.[9]

According to the 2017 Global Cybersecurity Index which ranks countries according to their cyber preparedness, Vietnam ranked 101st among 193 countries and territories.[10] The Vietnam Computer Emergency Response Team (VNCERT) reported over 13,300 **cyber-attacks** on Vietnamese website in 2017 and over 6,500 attacks in the first 8 months of 2018, highlighting the seriousness of the problem.[11,12] In response to cyber threats, the government has recently approved a new cyber security law, which also mandates global technology firms to store important users' personal data locally and open offices in the country.[13] While this is a step in the right direction, there are concerns that the law will increase costs, uncertainty and risks for global businesses operating in Vietnam. Another serious problem for cyber security in Vietnam is the general lack of awareness on the issue. According to the Authority of Information Security (AIS), almost all instances of cyber-attacks are caused by a lack of vigilance from individuals and institutions (Exhibit 2).[14] This suggests that governance and education need to play a significantly bigger role in efforts to address cyber risks in Vietnam.

Surges in land prices, due to reasons such as land speculation and access to easy credit, have raised concerns over the emergence of a **property bubble** in Vietnam.[15] Land prices in city suburbs rose quickly in the first five months of 2017, and many properties in outlying districts increased by 30 to 40 percent.[16] To rein in real estate prices, the central bank has mandated banks to be more stringent in assessing real estate loan applications. Banks have also increased mortgage rates and reduced the maximum loan disbursements for each loan application.[17]

Exhibit 2: Cyber-attacks and level of cyber risk awareness in Vietnam



Source: VNCERT Incident Statistics

"While a 7-year run of high annual growth is impressive, the next downturn that hits Vietnam may result in uncontrolled damage as the banking industry, real estate industry, labor market, cyber security and credit infrastructure are still vulnerable. The brighter the light is, the darker the shadow would be."

Il-Dong Kwon
Partner, *Oliver Wyman*

EVOLVING RISKS

SHORTFALL IN INFRASTRUCTURE FINANCING HINDERS DEVELOPMENT

Vietnam has come a long way in developing the country's infrastructure. However, the high pace of economic growth, as well as ongoing urbanization, will require continued high levels of infrastructure investment. According to a 2015 report from Asian Development Bank, Vietnam has spent on average 5.7 percent of its GDP on infrastructure, considerably more than its regional peers (Exhibit 3).[18] Infrastructure in Vietnam has been predominantly from the state (90 percent of total investment), and the government has also relied heavily on funding from foreign multilateral development organizations such as the World Bank. However, Vietnam's graduation to middle income status means that the low-cost loans Vietnam once enjoyed are no longer available to them.[19] This means that the country may be looking at a potential shortfall in infrastructure financing to meet its burgeoning infrastructure demands. The government had planned to increase its infrastructure spending, however delayed payments due to a shortage of public funds has already caused project suspensions and delays.

Recent major power projects such as Marubeni's USD 2.79 billion coal power plant in Thanh Hoa are positive signs that the country remains an attractive destination for foreign investment into infrastructure.[20] These projects also highlighted the potential for public-private partnerships (PPP). However, the government will need to continue providing institutional support and overcome important barriers to PPP such as unclear or opaque processes, project delays and currency risks for the model to gain traction.

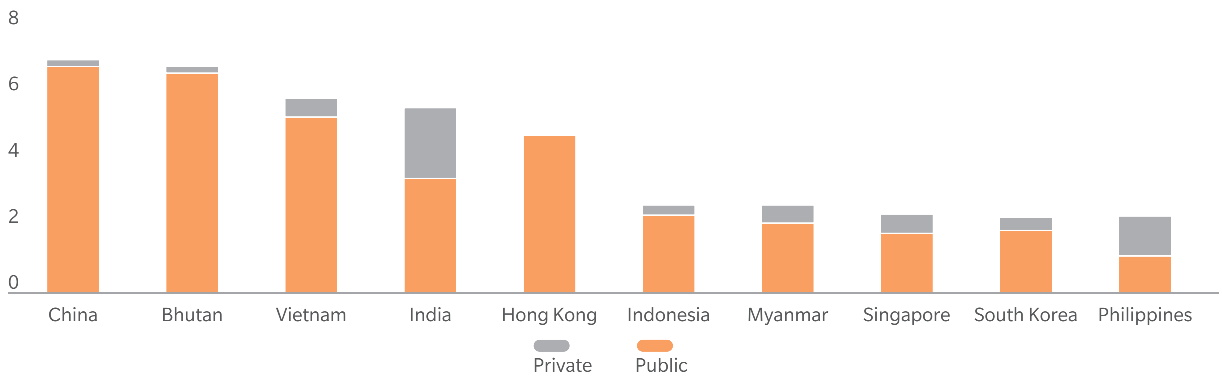
SLOW PROGRESS OF STATE-OWNED ENTERPRISE REFORMS

During negotiations for the Trans-Pacific Partnership, the Vietnamese government promised to overhaul its state-owned enterprises (SOEs) to improve the sector's efficiency and economic performance. The reform has two main objectives. Firstly, the government aims to privatize 137 SOEs over the course of 5 years from 2016 to 2020.[21] There are high hopes for this project and it has been estimated that IPOs and divestment will generate USD 26.3 billion in 2018–2020.[22] The government announced it will divest its entire interest in some of the bigger and more profitable SOEs such as Vietnam Dairy Products (Vinamilk) and Saigon Beer Alcohol Beverage (Sabeco). Secondly, there is a plan to significantly restructure the remaining SOEs, in which ownership will be shifted from ministries and local governments to the centralized State Capital Investment Corporation.

Despite having made significant headway, this major reform has been complicated and delayed due to corruption scandals such as the arrest and sentencing of the chairman of Petrovietnam on embezzlement and other charges in 2017.[23] On the privatization front, while significant progress has been made with 19 IPOs in the first half of the year, experts says that it will be difficult to achieve the government's target of privatizing 85 SOEs in 2018.[22] SOE ownership restructuring has also been moving slowly. The process is reported to have been purposefully stalled by special interest groups, prompting officials to suggest that more drastic measures are needed to hasten the process.[24]

Exhibit 3: Average infrastructure investment rate from national budget and private participation

PERCENTAGE OF GDP, VARIOUS YEARS



*Numbers taken from central government budget only

Source: Asian Development Bank

RISKS IN NUMBERS

MARSH

POLITICAL RISK INDEX

QUANTIFYING THE RISK OF POLITICAL SHOCKS IMPACTING BUSINESSES

0 82.5 100

High political risk Low political risk

LOWY INSTITUTE
ASIA POWER INDEX

RANKING THE POWER AND INFLUENCE OF 25 COUNTRIES AND TERRITORIES IN APAC

25th 13th 1st

Least Most

INTERNATIONAL TELECOMMUNICATION UNION
GLOBAL CYBERSECURITY INDEX

ASSESSING THE COMMITMENT OF 165 COUNTRIES TO CYBERSECURITY

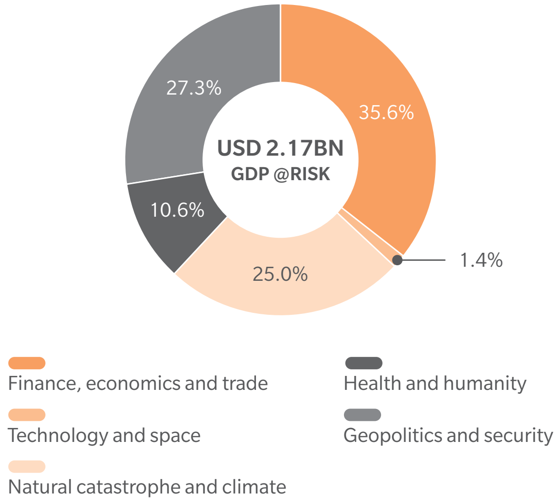
165th 100th 1st

Worst Best

LLOYD'S

CITY RISK INDEX

MEASURING EXPECTED ECONOMIC LOSS FROM VARIOUS RISK CATEGORIES ACROSS CITIES, COUNTRIES AND TERRITORIES[1]



Notes:

[1] Economic loss is calculated from the value of a potential loss event and the probability of that event occurring. The GDP@Risk for Vietnam is calculated based on the GDP@Risk for two cities: Hanoi and Ho Chi Minh.

INSIGHTS FOR BUSINESSES

1 **Embark on an firm-wide Enterprise Risk Management (ERM) program.** Given the plethora of risks that Vietnam is exposed to, it is crucial for businesses to understand how these risks can affect their balance sheet. As such, an ERM program should include every operating department so that it is comprehensive enough for the business to produce a defined and measurable document where risks are adequately an appropriately identified. Annual risk management surveys are also important in identifying and eliminating any substantial risks or threats

2 **Early warning signals, monitoring and actions.** Leading banks in Vietnam are trying to build early warning systems and indicators to detect different types of risk (e.g. weakening of credit quality). The concept is relatively straightforward, but the key will be interpreting those signals appropriately, making quick internal communications/decisions and reacting faster than peers

3 **Ensure sufficient and appropriate risk transfer.** Not all risks can be eliminated, particularly geopolitical risks. As such, business leaders, including those in SOEs, need to understand and determine how much loss their business is willing and able to accept if a risk event materializes. Engaging internal and external experts to determine the appropriate coverage, pricing and security is key to balancing competing priorities and interests of different stakeholders

APPENDIX

DESCRIPTIONS OF GLOBAL RISKS

According to the WEF's *Global Risk Report*, a "global risk" refers to an uncertain event or condition that, if materializes, can potentially result in significant negative impact for several countries, territories or industries within the next decade. Below is a description of the 30 risks used in the Executive Opinion Survey 2018. It should be noted that not all 30 risks are featured in the EOS results for the 14 countries/territories presented in this report.

ECONOMIC	
Asset bubbles in a major economy	Unsustainably overpriced assets such as commodities, housing, shares, etc. in a major economy or region
Deflation in a major economy	Prolonged near-zero inflation or deflation in a major economy or region
Failure of a major financial mechanism or institution	Collapse of a financial institution and/or malfunctioning of a financial system that impacts the global economy
Failure/shortfall of critical infrastructure	Failure to adequately invest in, upgrade and/or secure infrastructure networks (e.g. energy, transportation and communications), leading to pressure or a breakdown with system-wide implications
Fiscal crises in key economies	Excessive debt burdens that generate sovereign debt crises and/or liquidity crises
High structural unemployment or underemployment	A sustained high level of unemployment or underutilization of the productive capacity of the employed population
Illicit trade (e.g. illicit financial flows, tax evasion, human trafficking, organized crime, etc.)	Large-scale activities outside the legal framework such as illicit financial flows, tax evasion, human trafficking, counterfeiting and/or organized crime that undermine social interactions, regional or international collaboration, and global growth
Severe energy price shock (increase or decrease)	Significant energy price increases or decreases that place further economic pressures on highly energy-dependent industries and consumers
Unmanageable inflation	Unmanageable increases in the general price levels of goods and services in key economies
ENVIRONMENTAL	
Extreme weather events (e.g. floods, storms, etc.)	Major property, infrastructure and/or environmental damage as well as loss of human life caused by extreme weather events
Failure of climate-change mitigation and adaptation	The failure of governments and businesses to enforce or enact effective measures to mitigate climate change, protect populations and help businesses impacted by climate change to adapt
Major biodiversity loss and ecosystem collapse (terrestrial or marine)	Irreversible consequences for the environment, resulting in severely depleted resources for humankind as well as industries
Major natural disasters (e.g. earthquake, tsunami, volcanic eruption, geomagnetic storms)	Major property, infrastructure and/or environmental damage as well as loss of human life caused by geophysical disasters such as earthquakes, volcanic activity, landslides, tsunamis, or geomagnetic storms
Man-made environmental damage and disasters (e.g. oil spills, radioactive contamination, etc.)	Failure to prevent major man-made damage and disasters, including environmental crime, causing harm to human lives and health, infrastructure, property, economic activity and the environment

GEOPOLITICAL	
Failure of national governance (e.g. failure of rule of law, corruption, political deadlock, etc.)	Inability to govern a nation of geopolitical importance as a result of weak rule of law, corruption or political deadlock
Failure of regional or global governance	Inability of regional or global institutions to resolve issues of economic, geopolitical or environmental importance
Interstate conflict with regional consequences	A bilateral or multilateral dispute between states that escalates into economic (e.g. trade/currency wars, resource nationalization), military, cyber, societal or other conflict
Large-scale terrorist attacks	Individuals or non-state groups with political or religious goals that successfully inflict large-scale human or material damage
State collapse or crisis (e.g. civil conflict, military coup, failed states, etc.)	State collapse of geopolitical importance due to internal violence, regional or global instability, military coup, civil conflict, failed states, etc.
Weapons of mass destruction	The deployment of nuclear, chemical, biological and radiological technologies and materials, creating international crises and potential for significant destruction
SOCIETAL	
Failure of urban planning	Poorly planned cities, urban sprawl and associated infrastructure that create social, environmental and health challenges
Food crises	Inadequate, unaffordable, or unreliable access to appropriate quantities and quality of food and nutrition on a major scale
Large-scale involuntary migration	Large-scale involuntary migration induced by conflict, disasters, environmental or economic reasons
Profound social instability	Major social movements or protests (e.g. street riots, social unrest, etc.) that disrupt political or social stability, negatively impacting populations and economic activity
Rapid and massive spread of infectious diseases	Bacteria, viruses, parasites or fungi that cause uncontrolled spread of infectious diseases (for instance as a result of resistance to antibiotics, antivirals and other treatments) leading to widespread fatalities and economic disruption
Water crises	A significant decline in the available quality and quantity of fresh water, resulting in harmful effects on human health and/or economic activity
TECHNOLOGICAL	
Adverse consequences of technological advances	Intended or unintended adverse consequences of technological advances such as artificial intelligence, geo-engineering and synthetic biology causing human, environmental and economic damage
Breakdown of critical information infrastructure and networks	Cyber dependency that increases vulnerability to outage of critical information infrastructure (e.g. internet, satellites, etc.) and networks, causing widespread disruption
Large-scale cyberattacks	Large-scale cyberattacks or malware causing large economic damages, geopolitical tensions or widespread loss of trust in the internet
Massive incident of data fraud/theft	Wrongful exploitation of private or official data that takes place on an unprecedented scale

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RECENT PUBLICATIONS FROM THE GLOBAL RISK CENTER

FROM THREATS TO IMPACT: EVOLVING RISK CONCERNS IN ASIA-PACIFIC 2018

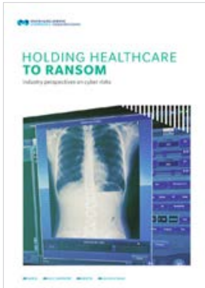
Leveraging the 2018 Global Risk Report, the report build on previous iterations by providing insights regarding the risk landscape for businesses operating in Asia-Pacific. It also drills down into the risks of critical infrastructure failure/shortage and talent shortage, before exploring several options to mitigate such risks going forward.

THE GLOBAL RISKS REPORT 2018

The World Economic Forum highlights the issue that will exacerbate volatility and uncertainty in the next decade – while also presenting opportunities for government and businesses to build resilience and deliver sustainable growth. Marsh and McLennan Companies has been a strategic partner of the report since 2006.

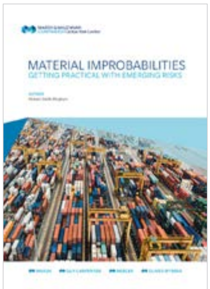
INFRASTRUCTURE ASSET RECYCLING

This report explores how the asset recycling concept has been practically implemented in the context of Australia. From the Australian experience, it discusses the key takeaways for governments that are considering implementing asset recycling schemes. In particular, the report highlights the importance of accounting for public perception in a successful asset recycling program.



HOLDING HEALTHCARE TO RANSOM

This paper highlights some examples of best practices across industries in cyber risk management, and several key areas for healthcare organizations to start focusing on, such as preparedness, prevention, detection, response, and recovery, including the use of cyber risk insurance as a risk-transfer tool.



MATERIAL IMPROBABILITIES

This publication from Global Risk Center sets out how firms can move from generalized concerns to analyses, discussions and actions in response to specific threats that may most disrupt their ambitions and operations, and erode most value. It concludes by reflecting on the opportunities for Risk leaders to reframe the function to meet the needs of the new era.

THE TWIN THREATS OF AGING AND AUTOMATION

The report examines and quantifies the risks of rapid societal aging, and of older workers' susceptibility to automation in fifteen major markets. Older workers today face significant risks of displacement at the hands of emerging technologies, and are often overlooked as viable sources of renewed productivity. It is therefore incumbent on employers to redeploy the unique abilities of older workers as part and parcel of any digital transformation strategy.

CYBER EVOLUTION: EN ROUTE TO STRENGTHENING RESILIENCE IN APAC

The cyber threat landscape is morphing constantly and dramatically. Around the world, cyber dependency grows as increasing digital interconnection among people, things, and organizations expand. Asia-Pacific (APAC) is no different. A collaboration between FireEye and APRC, this white paper aims to help organizations across APAC build and strengthen their enterprise cyber resilience.

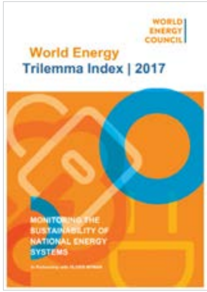
TARGETING A TECHNOLOGY DIVIDEND IN RISK MANAGEMENT

A collaboration between APRC and PARIMA, the report analyses results from The Emerging Tech in Risk Management Survey of 2017, providing insights into how businesses plan to deploy technology in corporate risk management. It contains case studies and perspectives from across Marsh & McLennan Companies' operating companies as well as from our external partners.

RECENT PUBLICATIONS FROM MARSH & MCLENNAN OPERATING COMPANIES

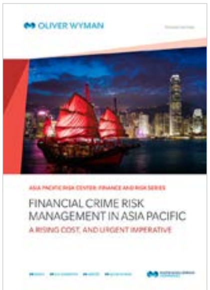
IS THE GOLDEN AGE FOR MNCS OVER?

The report by OW, presented at the Singapore Summit 2018, explores how the current political shift impacts MNCs on various perspectives and how MNCs should fundamentally rethink their business models and governance principles in order to successfully navigate against these headwinds.



WORLD ENERGY TRILEMMA INDEX 2017

A partnership between WEC and OW, the 2017 Energy Trilemma Index tracks the development of the three pillars of the energy sustainability, namely energy security, energy equity, and environmental sustainability across 125 countries. Balancing these three goals constitutes a 'trilemma' and is the basis for prosperity and competitiveness of individual countries.



FINANCIAL CRIME RISK MANAGEMENT IN APAC

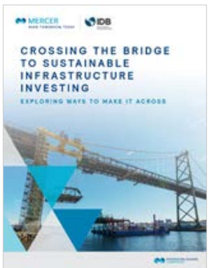
The point of view from OW looks into the major issue of financial crime in APAC to stress the substantial cost it can entail for financial institutions and society at large. The report suggests crucial steps to managing financial crimes from communication, culture, compliance, to coverage, computation and cooperation.

THE NEW IMPERATIVES FOR FINANCIAL SECURITY

Part of the Healthy, Wealthy and Work-Wise program, Mercer's latest report examines why smart companies are using technology to deliver an employee experience that empowers the workforce and improves the physical and financial well-being of individual employees and their families.

DELIVERING THE WORKFORCE FOR THE FUTURE

For many companies, the path toward this future will require a fundamental transformation in the way they think about strategy, business models, HR, and their most critical resource – their staff. This report shares Merce's point of view relating to skills, size, and shape, and provides an outline to guide business leaders as they progress from envisioning to delivering their future workforce.



CROSSING THE BRIDGE TO SUSTAINABLE INFRASTRUCTURE INVESTING

To better understand what is happening on the ground, review the barriers and identify tangible next steps to address the funding gap for sustainable infrastructure, the Inter-American Development Bank (IDB) commissioned Mercer to undertake a multiphase project beginning in mid-2016.

EXCELLENCE IN RISK MANAGEMENT XV

Technology is embedded in nearly every aspect of our lives, including in many businesses' critical functions and risk professionals are tasked with answering critical questions about the risks these new technologies present. A collaboration between Marsh and RIMS, this year's Excellence in Risk Management survey looks into risk professionals' views on their role in innovation as well as their companies' digital approach.

CYBER RISK MANAGEMENT: RESPONSE AND RECOVERY

In the event of a debilitating attack, cyber insurance and associated services can limit an organization's financial losses and help accelerate its recovery. This report from Marsh & McLennan's Global Risk Center and Women Corporate Directors outlines what directors need to know to position cyber insurance within a comprehensive risk management framework.

ACKNOWLEDGEMENTS

To read the **digital version** of Evolving Risks Concerns in Asia-Pacific 2018, please visit
www.mmc/asia-pacific-risk-center.html

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